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February 27, 2023

Troy Charpentier
Partner
Kean Miller LLP
400 Convention Street, Suite 700
Baton Rouge, Louisiana 70802

Preliminary Report - Chemical Fingerprint of Oils
Westlake Sulphur Dome Study

Dear Mr. Charpentier,

NewFields is pleased to provide you with this summary of chemical fingerprinting results for five samples relevant to the investigation of the Westlake US 2 LLC (Westlake) salt dome caverns in the Sulphur Mines oil field, Calcasieu Parish, Louisiana.

Not all of the facts are known to me presently, but from our conversation(s) I understand the study was conducted as one piece of Westlake's investigation into the cause(s) for a pressure drop within a salt cavern. The cavern was solution mined from the late 1950's to 1980's, at which point it was used to store crude oil as part of the Strategic Petroleum Reserve (SPR) for a few years. SPR oil storage also ended and solution mining of the cavern resumed until 2001 at which time the cavern was idled.

Samples

An inventory of the five samples submitted for study is provided in **Table 1**. The descriptions in Table 1 were provided by Mr. Scott Himes (ERM), who also collected the samples. The samples were collected on January 25, 2023, held securely and chilled, and then shipped via overnight carrier on January 30, 2023 to NewFields alliance laboratory, Alpha Analytical (Mansfield, Massachusetts, USA), where they arrived safely on January 31, 2023. A copy of the chain-of-custody received with the sample is found in **Attachment 1.**

Objectives

The objective of the study was to determine the specific chemical character of the oil recovered from within the cavern and compare it the other four oils collected from the site (Table 1).
Of specific interest was to;

(1) determine if the cavern oil (7B) was consistent or inconsistent with the stock tank oil (Stock Tank), which was known to have been used as a "blanket" within the brine-filled cavern and, if inconsistent, was the cavern oil consistent with the oil within the annulus of a nearby Yellow Rock salt disposal well (110159); and

(2) determine if the oil found floating within a brine well excavation (Brine well 22 BS) was consistent with the stock tank oil (Stock Tank) or oil within the annulus of a nearby Yellow Rock salt disposal well (110159).

These objectives were pursued using specific chemical fingerprinting analyses and interpretation protocols employed in oil spill identification studies, as described in the following sections and referenced attachments.

Chemical Fingerprinting Analyses
The five samples were prepared and analyzed in a single analytical batch using well-established and previously published chemical fingerprinting methods tailored for oil spill identification.[1] Detailed descriptions of these methods are found in **Attachment 2**.

Data Interpretation
The chemical fingerprinting data collected were evaluated using current geochemical practice utilized in oil spill investigations.[2] The chemical fingerprinting data collected were evaluated using a multi-tiered approach based upon the Centre for European Norms (CEN) oil spill identification protocol, which is used worldwide by many laboratories (Fig. 1).[3] This protocol relies on qualitative and quantitative (statistical) comparisons between spill and field samples to yield one of four possible conclusions, viz., *Positive match, Probable match, Inconclusive* or *Non-match* (Fig. 1), which are defined and described in detail in **Attachment 3**. A modification of the strict statistical criteria was used to accommodate the fact that the present investigation does not involve a known source oil spilled into the environment.

Results & Discussion
The complete Alpha Environmental Testing Report (ETRs) including all sample preparation data, instrument calibrations, QC data and chromatograms is maintained on file by NewFields (ETR L2305221). The tabulated results for the targeted compounds in each analysis performed are contained in **Attachment 4**. The full-size GC/FID chromatograms obtained in the Tier 1 (modified EPA Method 8015D) analysis are provided in **Attachment 5** and selected extraction ion profiles (EIPs) obtained in the Tier 2 (modified EPA Method 8270D) are provided in **Attachment 6**.

Specific results most relevant to the study's objectives are presented in **Tables 2 and 3** and **Figures 2 through 5**. Per your instructions any discussion of these results is not provided in this preliminary report but can be offered later if appropriate.

Summary of Findings
Based upon the data collected to date the following conclusions can be offered.

First, regarding the general nature of the oil within the samples studied:

(1) The oil recovered from within the cavern (7B) is an unweathered crude oil.

(2) The site's stock tank oil (Stock Tank) is an unweathered crude oil.

(3) The oil recovered from the brine well 22 excavation (Brine well 22 BS) is a severely weathered crude oil.

(4) The oil collected from the Yellow Rock well 110159 (110159) is a moderately weathered crude oil.

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[1] Stout, S.A. and Wang, Z. (2016). Chemical fingerprinting methods and factors affecting petroleum fingerprints in the environment. In: *Standard Handbook of Oil Spill Environmental Forensics: Fingerprinting and Source Identification*, 2nd Ed., S.A. Stout and Z. Wang, Eds., Elsevier Publishing Co., Boston, MA, p. 61-130.
[2] *Standard Handbook of Oil Spill Environmental Forensics: Fingerprinting and Source Identification*, 2nd Ed. (2016),, S.A. Stout and Z. Wang, Eds., Elsevier Publishing Co., Boston, MA, 1107 p.
[3] Kienhaus, P.G.M. et al. 2016. CEN methodology for oil spill identification. In: *Standard Handbook of Oil Spill Environmental Forensics: Fingerprinting and Source Identification*, 2nd Ed., S.A. Stout and Z. Wang, Eds., Elsevier Publishing Co., Boston, MA, p. 685-728.

(5) The sheen collected at the request of LDNR (Central Pond) contained no petroleum but was instead comprised of naturally-occurring biogenic material.

Second, regarding comparisons of weathering-independent features among the oils studied:

(6) The cavern oil and stock tank oil are highly comparable and are classified as “probable matches” to one another. Multiple statistical differences preclude them from being classified as “positive matches”. Both these oils are completely dissimilar and “non-matches” to the brine well 22 excavation oil and the Yellow Rock well 110159 oil.

(7) The brine well 22 excavation oil and the Yellow Rock well 110159 oil are highly comparable and are classified as “probable matches” to one another. Multiple statistical differences preclude being classified as “positive matches”. As per (6), both of these oils are completely dissimilar and “non-matches” to the cavern oil and stock tank oil.

(8) The statistical differences noted in (6) cannot be attributed to mixing of the stock tank oil with the Yellow Rock well 110159 oil. As such, the differences evident are more likely attributable to some variation in the specific character of the stock tank oil in use over time or mixing of the stock tank oil with a small amount of a different oil (e.g., residual former Strategic Petroleum Reserve oil) within the cavern. Regardless, if there is a different oil admixed with the stock tank oil within the cavern, as noted above (#7), this different oil cannot be the Yellow Rock well oil.

Synthesis of these results argues that, at present;

(9) There is no evidence that locally-produced crude oil, as represented by the Yellow Rock well 110159 oil sample, is present in the cavern.

(10) The oil found within the excavation at brine well 22 is comprised of locally-produced crude oil, as represented by the Yellow Rock well 110159 oil sample, and not stock tank or cavern oil.

Please let me know if you have any questions.

Sincerely,

Scott A. Stout, Ph.D., P.G.
Sr. Geochemist

Attachments:
1: Chain-of-custody
2: Analytical Methods
3: Interpretive Method
4: tabulated PIANO, TPH/SHC, PAH, and biomarker concentrations
5: full size GC/FID chromatograms
6: selected GC/MS extraction ion profiles

Table 1: Inventory of oil samples studied.

Client/ Field ID	Lab ID	Matrix	Date Collected	Description of Sample
7B*	L2305221-04	Oil	1/25/2023	Cavern oil from brine well 7B; oil was collected after being removed from the cavern during its transfer to another cavern
110159	L2305221-02	Oil	1/25/2023	Oil from nearby salt disposal well** (Serial #110159); contained oil under pressure within the casing annulus that was sampled
STOCK TANK	L2305221-03	Oil	1/25/2023	Stock tank oil used within the cavern to “blanket” brine; reportedly a "refined crude oil"
BRINE WELL 22 BS*	L2305221-01	Teflon Net	1/25/2023	Surface oil from brine well 22 "bubble site"; floating oil was collected from small excavation near a brine well 22 pad and (also reportedly) near an old oil well
CENTRAL POND	L2305221-05	Teflon Net	1/25/2023	Surface sheen from central pond collected at the direction of LDNR

* sample was prepared and analyzed in duplicate

** Operated by Yellow Rock, LLC

Table 2: CEN diagnostic ratios for the samples studied versus 7B Cavern Oil.

CEN Diagnostic Ratios	CEN Diagnostic Ratios per Alpha Abbreviations	7B Cavern Oil	7B Cavern Oil (Dup)	7B Cavern Oil (Avg; n=2)	Well 110159 Oil	Stock Tank Oil	Brine Well 22 BS Oil	Brine Well 22 BS Oil (Dup)
NR-C17/pris	C17/Pr	2.35	2.42	2.38	0.24	1.96	ndp	ndp
NR-C18/phy	C18/Ph	2.18	2.16	2.17	0.57	**2.17**	ndp	ndp
NR- pris/phy	Pr/Ph	1.02	0.99	1.01	3.16	1.20	ndp	ndp
NR-4-MD/1-MD	4-MDBT/1-MDBT	2.15	2.14	2.14	3.80	**2.16**	1.85	1.51
NR-2-MP/1-MP	2-MP/1-MP	0.99	1.02	1.01	**1.14**	**1.10**	0.66	0.57
NR-27Ts/30ab	T11/T19	0.23	0.24	0.23	0.14	**0.21**	0.19	0.19
NR-27Tm/30ab	T12/T19	0.28	0.29	0.29	0.21	**0.26**	0.25	0.25
NR-28ab/30ab	T14a/T19	0.20	0.20	0.20	0.05	0.10	0.06	0.05
NR-29ab/30ab	T15/T19	0.81	0.87	0.84	0.62	**0.74**	0.69	0.67
NR-30O/30ab	T18/T19	0.04	0.04	0.04	0.10	0.09	0.18	0.18
NR-31abS/30ab	T21/T19	0.59	0.60	0.59	0.26	0.41	0.26	0.26
NR-27dbR/27dbS	S4/S5	0.52	0.47	0.50	0.59	**0.48**	0.60	**0.54**
NR-27bb/29bb	(S14+S15)/(S26+S27)	0.86	0.84	0.85	0.69	**0.77**	0.58	0.56
NR-SC26/ RC26+SC27	TAS09/TAS01	0.13	0.13	0.13	0.33	0.18	0.28	0.31
NR-SC28/RC26 + SC27	TAS02/TAS01	0.70	0.69	0.69	**0.80**	**0.78**	0.82	0.85
NR-RC27/RC26+ SC27	TAS03/TAS01	0.76	0.74	0.75	0.61	**0.74**	0.57	0.59
NR-RC28/RC26+SC27	TAS04/TAS01	0.59	0.57	0.58	**0.63**	**0.66**	**0.64**	0.71
DR-Ts/Tm	T11/T12	0.84	0.80	0.82	0.69	**0.79**	**0.78**	**0.77**
DR-29Ts30ab	T16/T19	0.20	0.22	0.21	**0.24**	**0.20**	0.32	0.32
DR-29bb/29aa	(S26+S27)/(S25+S28)	1.16	1.14	1.15	0.85	**1.22**	0.90	0.86
DR-C2-dbt/C2-phe	DBT2/PA2	2.29	2.28	2.28	0.30	1.97	0.27	0.28
DR-C3-dbt/C3-phe	DBT3/PA3	2.63	2.62	2.62	0.42	**2.35**	0.43	0.44
DR-C28C29/30ab	T7 to T10/T19	0.18	0.20	0.19	0.07	0.13	0.09	0.09
DR-29aaS/29aaR	S25/S28	1.41	1.30	1.36	1.12	**1.34**	1.06	**1.32**
DR-C20TA/C21TA	TAS05/TAS06	0.97	0.93	0.95	1.36	**0.99**	1.12	**0.92**
DR-TA21/ RC26+SC27	TS06/TAS01	0.49	0.49	0.49	0.18	0.42	0.14	0.14
DR-30ba/30ab	T20/T19	0.07	0.07	0.07	0.20	0.15	0.20	0.20
Conclusion:					Non-Match	**Probable Match**	Non-Match	Non-Match

red: indicates statistical non-match to the 7B Cavern Oil (Avg)

green: indicates statistical match to the 7B Cavern Oil (Avg)

Dup: sample prepared and analyzed in duplicate

Avg: average of duplicate ratios

ndp: no determination possible/division by zero

Table 3: CEN diagnostic ratios for the samples studied versus Brine Well 22 BS Oil.

CEN Diagnostic Ratios	CEN Diagnostic Ratios per Alpha Abbreviations	Brine Well 22 BS	Brine Well 22 BS (Dup)	Brine Well 22 BS (Avg)	Well 110159 Oil	Stock Tank Oil	7B Cavern Oil	Cavern Oil 7B (Dup)
NR-C17/pris	C17/Pr	ndp	ndp	ndp	0.24	1.96	2.35	2.42
NR-C18/phy	C18/Ph	ndp	ndp	ndp	0.57	2.17	2.18	2.16
NR- pris/phy	Pr/Ph	ndp	ndp	ndp	3.16	1.20	1.02	0.99
NR-4-MD/1-MD	4-MDBT/1-MDBT	1.85	1.51	1.68	3.80	2.16	2.15	2.14
NR-2-MP/1-MP	2-MP/1-MP	0.66	0.57	0.62	1.14	1.10	0.99	1.02
NR-27Ts/30ab	T11/T19	0.19	0.19	0.19	0.14	**0.21**	0.23	0.24
NR-27Tm/30ab	T12/T19	0.25	0.25	0.25	0.21	**0.26**	**0.28**	0.29
NR-28ab/30ab	T14a/T19	0.06	0.05	0.06	**0.05**	0.10	0.20	0.20
NR-29ab/30ab	T15/T19	0.69	0.67	0.68	**0.62**	**0.74**	0.81	0.87
NR-30O/30ab	T18/T19	0.18	0.18	0.18	0.10	0.09	0.04	0.04
NR-31abS/30ab	T21/T19	0.26	0.26	0.26	**0.26**	0.41	0.59	0.60
NR-27dbR/27dbS	S4/S5	0.60	0.54	0.57	**0.59**	0.48	**0.52**	0.47
NR-27bb/29bb	(S14+S15)/(S26+S27)	0.58	0.56	0.57	0.69	0.77	0.86	0.84
NR-SC26/ RC26+SC27	TAS09/TAS01	0.28	0.31	0.30	**0.33**	0.18	0.13	0.13
NR-SC28/RC26 + SC27	TAS02/TAS01	0.82	0.85	0.83	**0.80**	**0.78**	0.70	0.69
NR-RC27/RC26+ SC27	TAS03/TAS01	0.57	0.59	0.58	**0.61**	0.74	0.76	0.74
NR-RC28/RC26+SC27	TAS04/TAS01	0.64	0.71	0.68	**0.63**	**0.66**	0.59	0.57
DR-Ts/Tm	T11/T12	0.78	0.77	0.78	**0.69**	**0.79**	**0.84**	**0.80**
DR-29Ts30ab	T16/T19	0.32	0.32	0.32	0.24	0.20	0.20	0.22
DR-29bb/29aa	(S26+S27)/(S25+S28)	0.90	0.86	0.88	**0.85**	1.22	1.16	1.14
DR-C2-dbt/C2-phe	DBT2/PA2	0.27	0.28	0.27	**0.30**	1.97	2.29	2.28
DR-C3-dbt/C3-phe	DBT3/PA3	0.43	0.44	0.43	**0.42**	2.35	2.63	2.62
DR-C28C29/30ab	T7 to T10/T19	0.09	0.09	0.09	0.07	0.13	0.18	0.20
DR-29aaS/29aaR	S25/S28	1.06	1.32	1.19	**1.12**	**1.34**	1.41	**1.30**
DR-C20TA/C21TA	TAS05/TAS06	1.12	0.92	1.02	1.36	**0.99**	**0.97**	**0.93**
DR-TA21/ RC26+SC27	TS06/TAS01	0.14	0.14	0.14	0.18	0.42	0.49	0.49
DR-30ba/30ab	T20/T19	0.20	0.20	0.20	**0.20**	0.15	0.07	0.07

red: indicates statistical non-match to the Brine Well 22 BS (Avg)

green: indicates statistical match to the Brine Well 22 BS (Avg)

Conclusion: **Probable Match** | Non-Match | Non-Match | Non-Match

Dup: sample prepared and analyzed in duplicate

Avg: average of duplicate ratios

ndp: no determination possible/division by zero

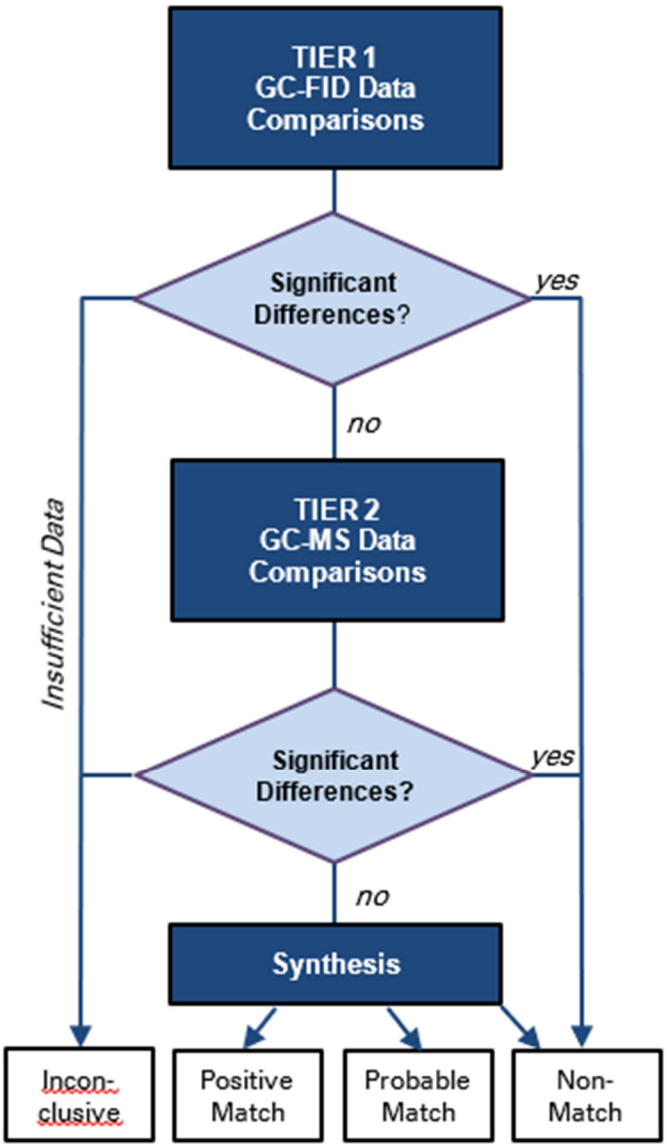

Figure 1: Simplified flowchart depicting the CEN (2012) oil spill identification protocol.

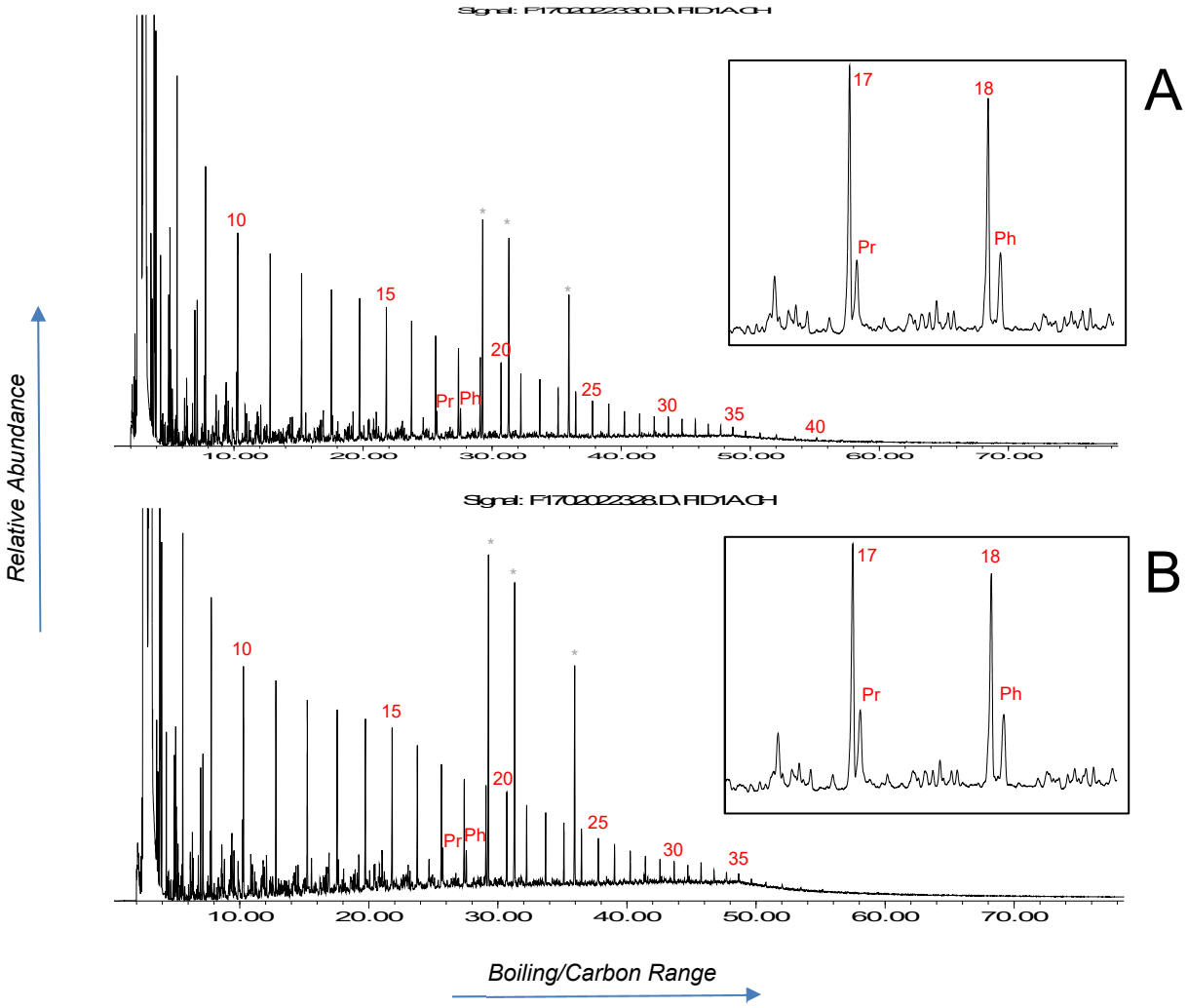

Figure 2: GC/FID (C8+) chromatograms for the oil samples studied. (A) 7B Cavern Oil, (B) Stock Tank Oil, (C) Well 110159 Oil, (D) Brine Well Bubble Site 22 BS, and (E) Central Pond Sheen. Insets show further expanded view of C17-C18 range. #: n-alkane carbon number; Pr: pristane; Ph: phytane; UCM: unresolved complex mixture; *: internal standard.

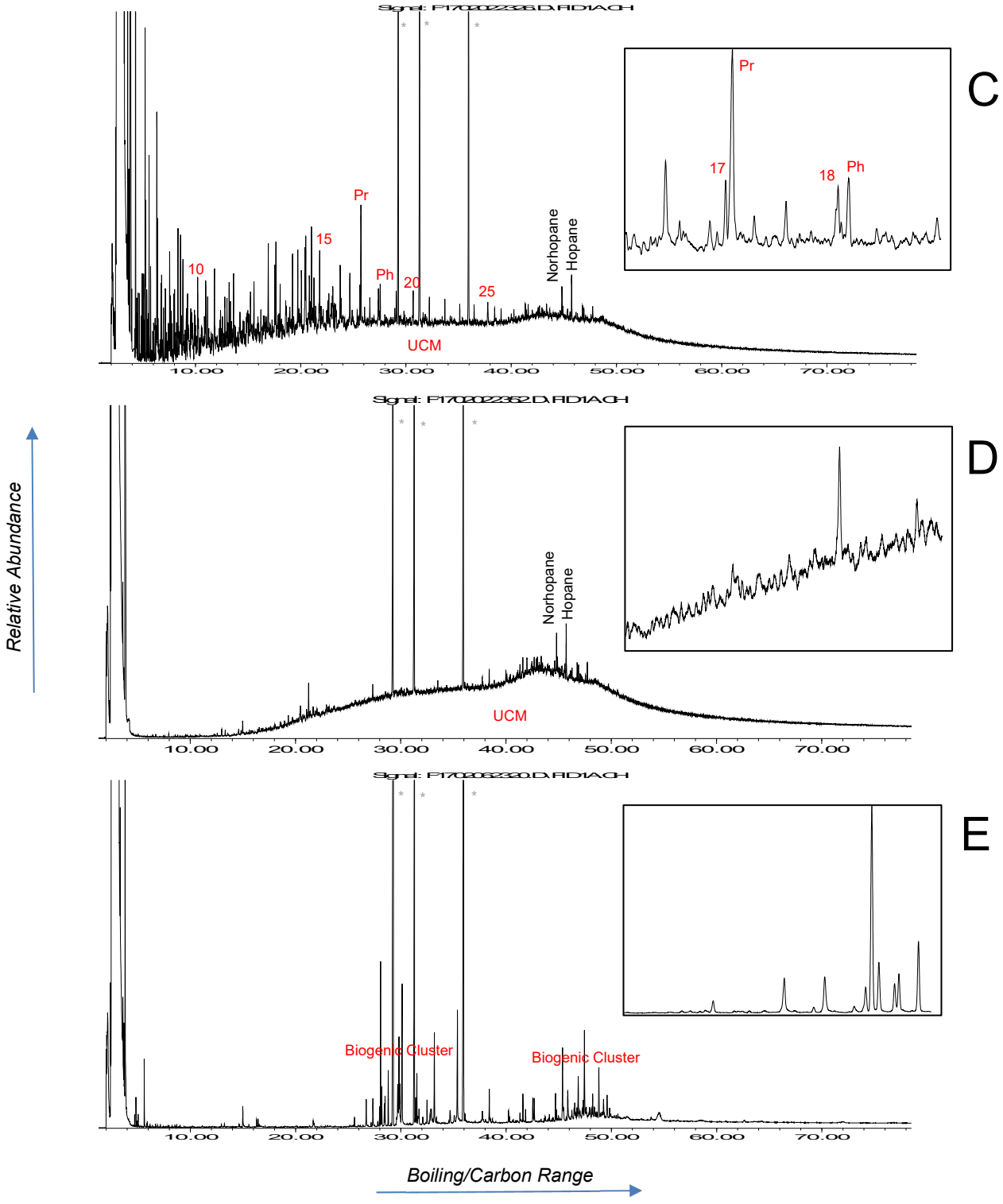

Figure 2: continued

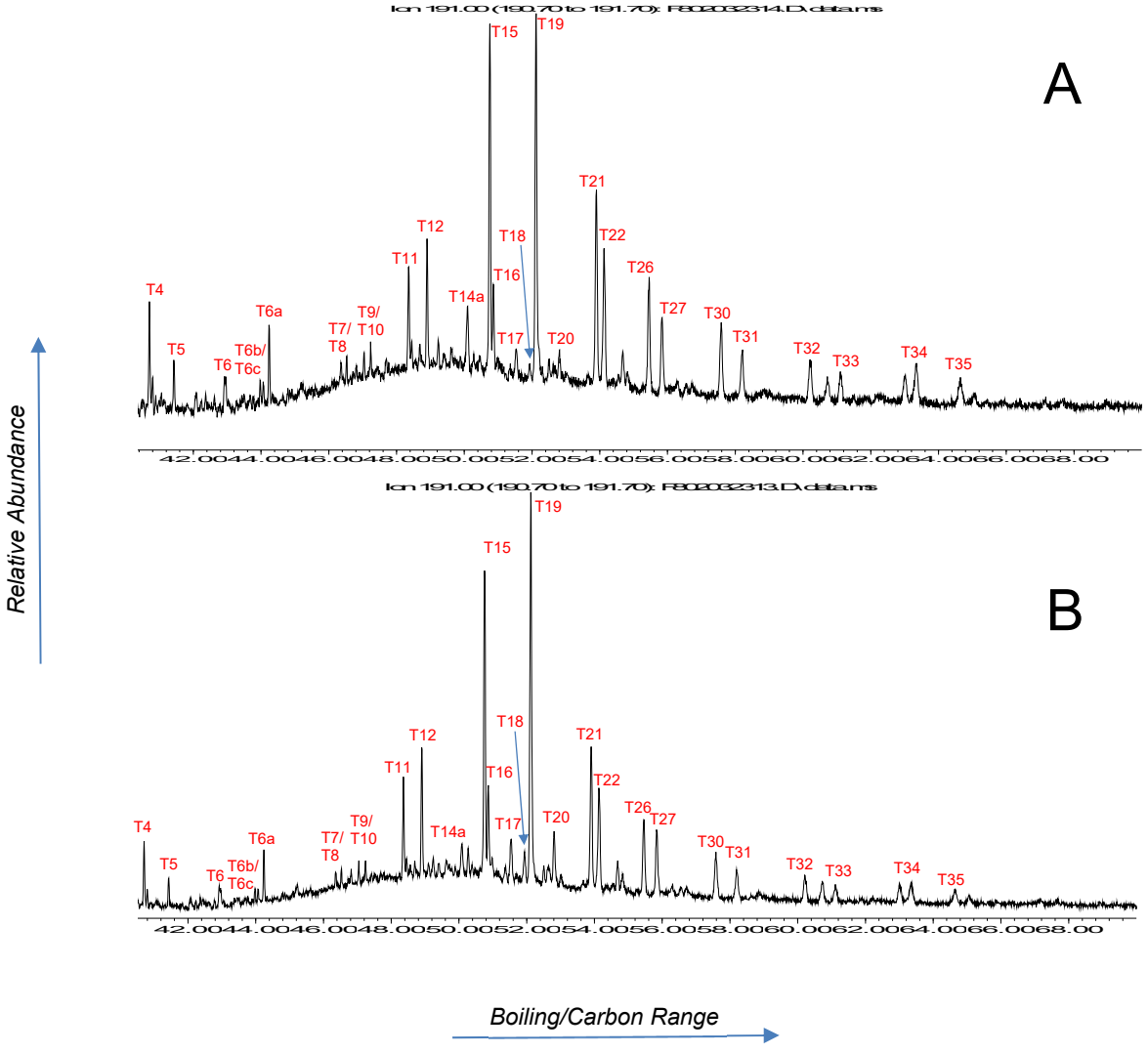

Figure 3: Partial extracted ion chromatograms (*m/z* 191) for the samples studied. (A) 7B Cavern Oil, (B) Stock Tank Oil, (C) Well 110159 Oil, (D) Brine Well Bubble Site 22 BS, and (E) Central Pond Sheen. red labels: various triterpane biomarkers, see Attachment 4, Table 4-4 for compound names.

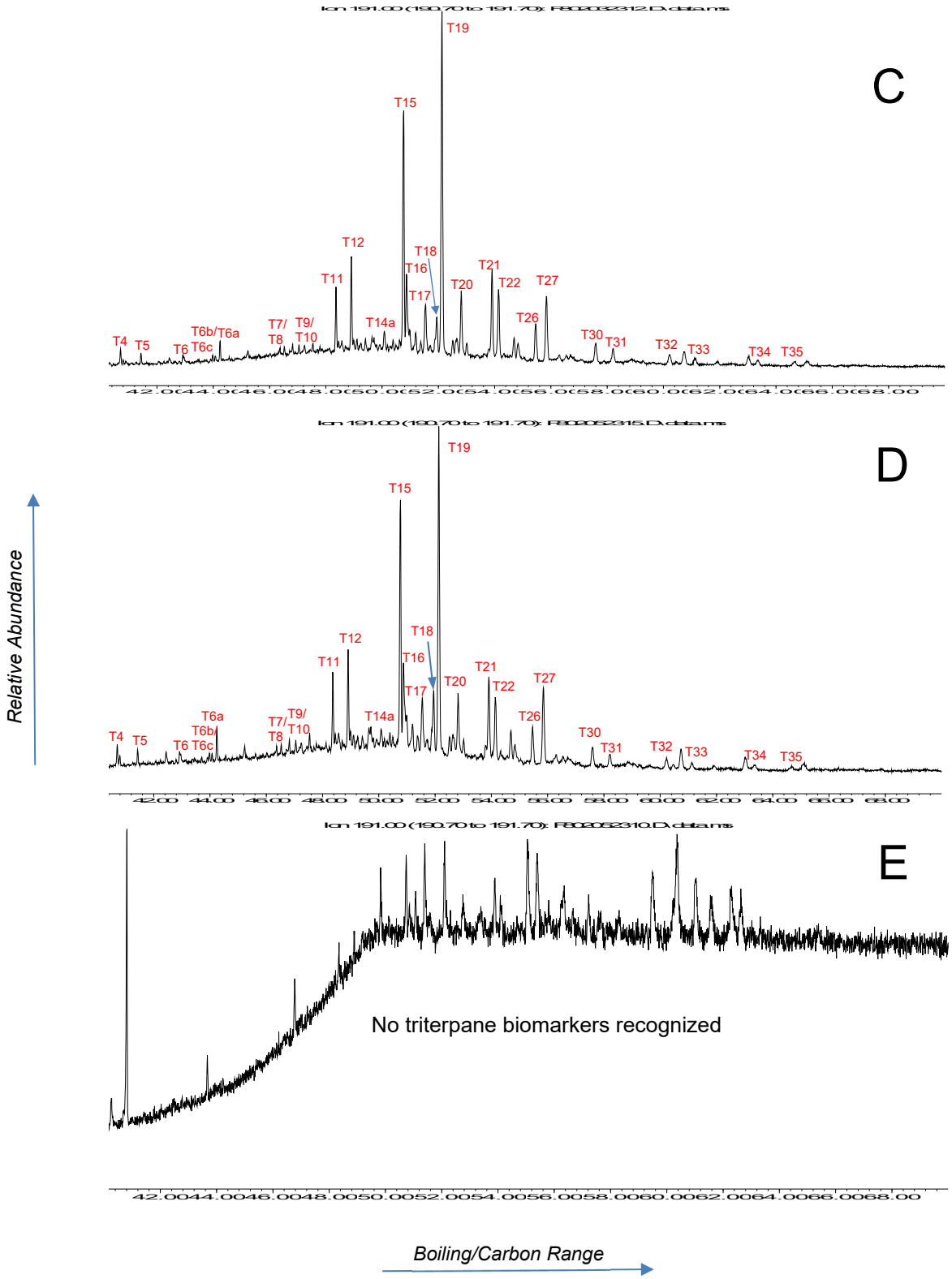

Figure 3: continued

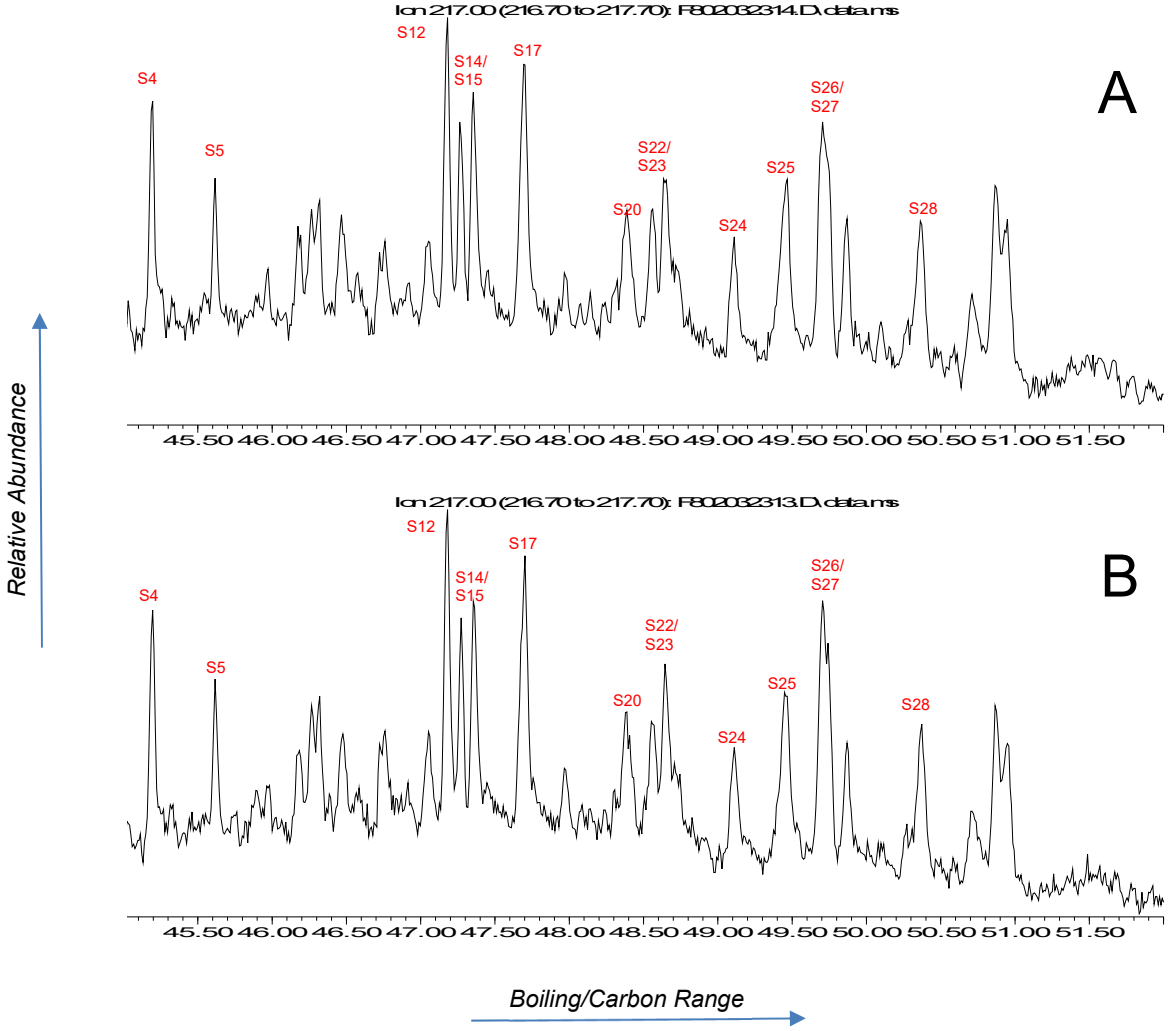

Figure 4: Partial extracted ion chromatograms (*m/z* 217) for the oil samples studied. (A) 7B Cavern Oil, (B) Stock Tank Oil, (C) Well 110159 Oil, (D) Brine Well Bubble Site 22 BS, and (E) Central Pond Sheen. #: n-alkane; red labels: various sterane biomarkers, see Attachment 4, Table 4-4 for compound names.

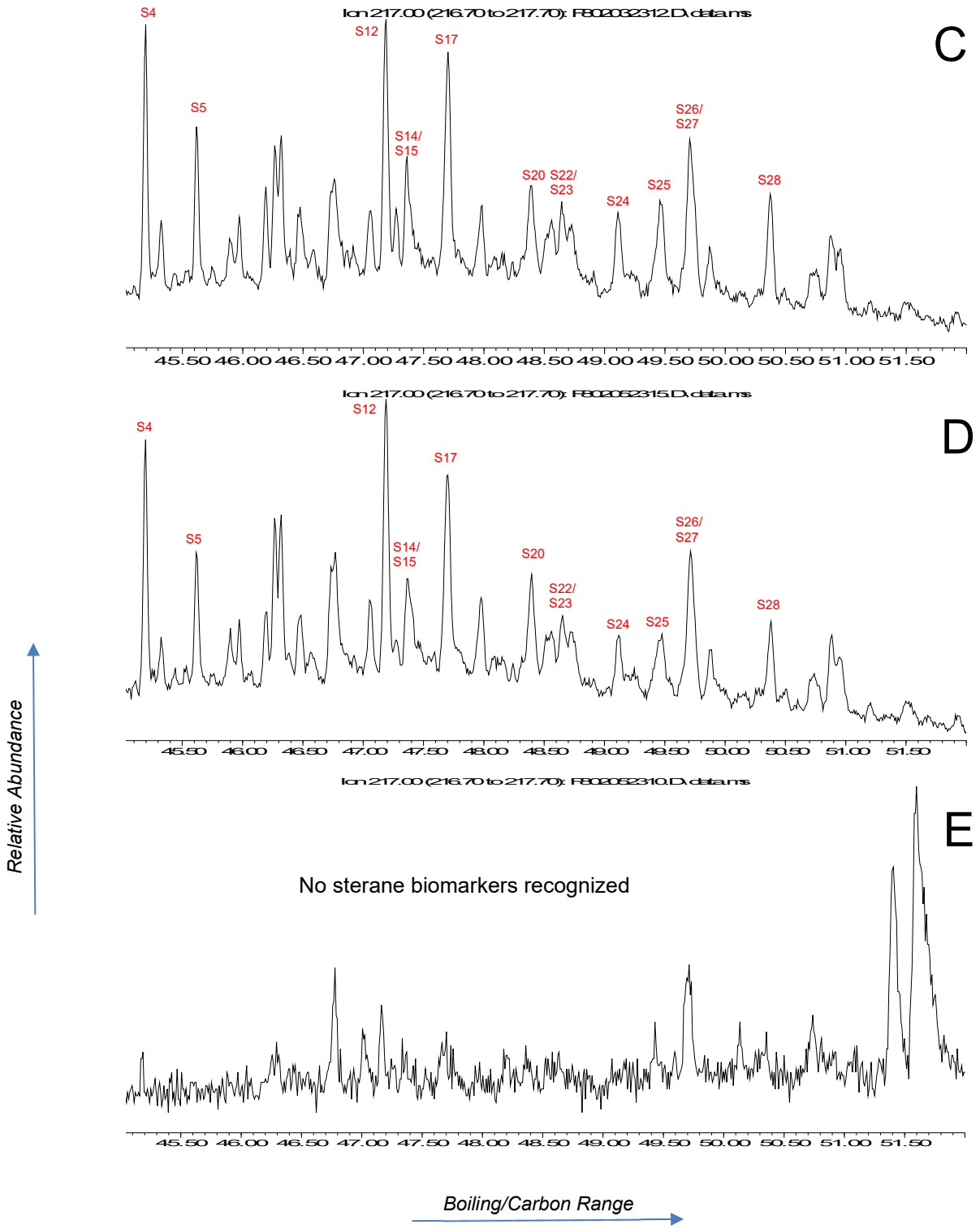

Figure 4: continued

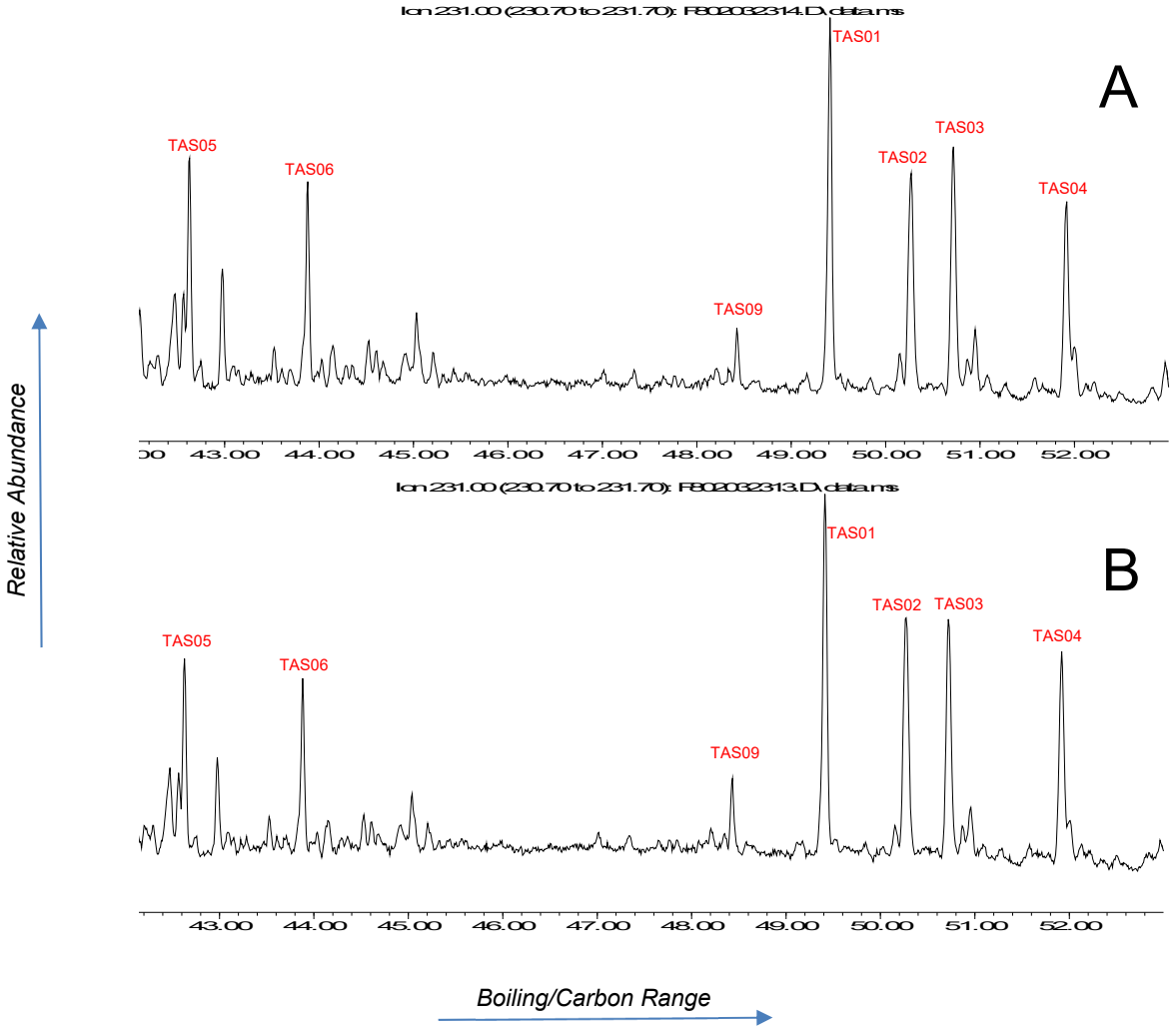

Figure 5: Partial extracted ion chromatograms (*m/z* 231) for the samples studied. (A) 7B Cavern Oil, (B) Stock Tank Oil, (C) Well 110159 Oil, (D) Brine Well Bubble Site 22 BS, and (E) Central Pond Sheen. #: n-alkane; red labels: various triaromatic steroid biomarkers, see Attachment 4, Table 4-4 for compound names.

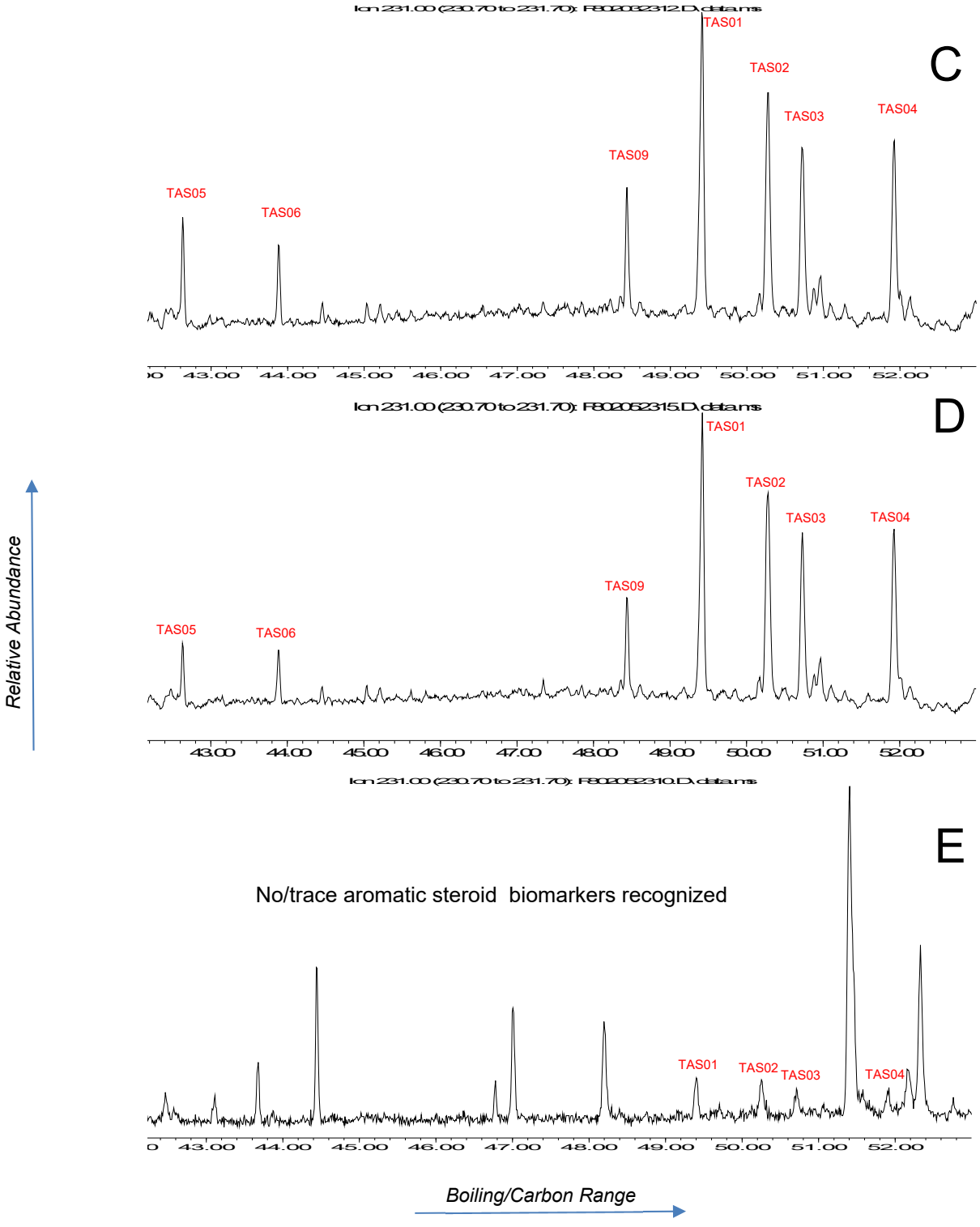

Figure 5: continued

ATTACHMENTS

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Chain of Custody

Environmental Forensics Practice LLC

Proj. No	Proj. Name
0677804	Sulphur Dome

SAMPLERS: Signature

Scott Himes

DATE	TIME	LAB ID	CLIENT ID	SAMPLE DESCRIPTION	MATRIX (* see below)	GC-FID-TPH (C_5+)	GCMS-Alkyl PAH	GCMS-Biomarkers	PIANO - VOA	Organic Lead	METALS	PCB	Pesticides	PRESERVED	Total Number of Containers
1/25/23	1200		Brine Well 22 B5	Sheen	O	X	X		X						1
1/25/23	1500		110159	Oil	O	X	X		X						2
	1520		Stock Tank	Oil	O	X	X		X						2
	1530		7B	Oil	O	X	X		X						2
↓	1630		Central Pond 8	Sheen	O	X	X		X						1

ANALYSIS REQUESTED→ "NUMBER OF CONTAINERS"

Relinquished by:	Date/Time	Received by:	Date/Time
	1/30/23 1600	Fedex	
Relinquished by: Fedex	Date/Time	Received by:	Date/Time 1/31/23 11:27
Relinquished by:	Date/Time	Received by:	Date/Time

* O=Oil
SO=Soil
SE=Sediment
T=Tissue
W=Water

Samples to be shipped to: Alpha Laboratory
320 Forbes Blvd.
Mansfield, MA 02048
Tel: (508) 844-4117
Attn: Sue O'Neil

Comments: Contact Scott Stout for further details.

Attachment 1

Chain-of-Custody

Attachment 2

Analytical Methods

Sample Preparation

An aliquot (~100 mg) of each oil sample was diluted in dichloromethane (DCM: 10 mg/mL). A 1.0 mL aliquot of the extract was then spiked with recovery internal surrogates (RIS; 5 a-androstane, acenaphthene-d10, chrysene-d12) and surrogate internal standards (SIS; o-terphenyl, n-tetracosane-d50, 2-methylnaphthalene-d10, pyrene-d10, benzo(b)fluoranthene-d12, and 5b(H)-cholane) prior for instrument analysis. Net samples were spiked with RIS and serially-extracted (3x) using fresh DCM on a shaker table. The extracts were combined, passed through glass wool, dried with sodium sulfate, concentrated to 1.0 ml, and spiked with SIS prior to instrument analysis. No silica-gel cleanup of the sample extracts was performed.

Each analytical batch included a procedural blank (PB; 1 mL of DCM), a laboratory control sample (LCS) and LCS duplicate (LCSD), each consisting of 1 mL of DCM spiked with selected hydrocarbons in known concentrations to monitor method accuracy, a reference (North Slope) crude oil standard, and at least one sample duplicate (i.e., a single oil prepared twice) as a measure of precision and reproducibility of the data.

Sample Instrument Analysis

Two analytical methods were employed in the chemical analysis of the oil and net extracts. These methods are routinely employed in oil spill investigations and are modifications of US EPA methods. The modifications include; (1) expansion of the prescribed target analyte lists to include many additional (conventionally, non-target analyte) hydrocarbons that are useful in distinguishing differences between and changes in petroleum after its release into the environment and (2) increasing the sensitivity of the instrumentation used through adjustments that lower the method detection limit (MDL) for targeted analytes providing few “non-detections” among the results.

In brief, the samples were analyzed using a (1) modified EPA Method 8015B and (2) modified EPA Method 8270D as described in the following paragraphs. The latter analysis was performed twice, once on the whole extract targeting PAHs and related compounds and once on the F1 fraction targeting aliphatic biomarkers. Additional details of these methods are described elsewhere.[1]

Modified EPA Method 8015D was conducted via gas chromatography-flame ionization detection (GC-FID; Agilent 6890) equipped with a Restek Rtx-5 (60m x 0.25 mm ID, 0.25 μm film) fused silica capillary column. Extracts were injected (1 μL, pulsed splitless) into the GC programmed from 40°C (1 min) and ramped at 6°C/min to 315°C (30 min) using H_2 (~1 mL/min) as the carrier gas. This analysis was used to determine the concentrations of GC-amenable total petroleum material (TPH; C_9-C_{44}) and individual *n*-alkanes (C_9-C_{40}) and (C_{15}-C_{20}) acyclic isoprenoids. Prior to sample analysis a minimum five-point calibration was performed to demonstrate the linear range of the analysis. The calibration solution was composed of selected aliphatic hydrocarbons within the *n*-C_9 to *n*-C_{40} range. Analyte concentrations in the standard solutions ranged from 1 ng/μL to

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Douglas, G.D., Emsbo-Mattingly, S.D., Stout, S.A., Uhler, A.D., and McCarthy, K.J. (2015) Hydrocarbon Fingerprinting Methods. In: *Introduction to Environmental Forensics, 3rd Ed.*, B. Murphy and R. Morrison, Eds., Academic Press, New York, pp. 201-309.

200 ng/μL. Target analytes that were not in the calibration solution had the average response factor (RF) of the nearest eluting compound(s) assigned as follows: RF of *n*-C_{14} assigned to C_{15} isoprenoids, *n*-C_{15} assigned to C_{16} isoprenoids; *n*-C_{17} assigned to nor-pristane, and *n*-C_{40} assigned to *n*-C_{39}. All calibration solution compounds that fall within the window were used to generate the average RF for TPH. TPH was quantified by integrating the total C_9-C_{44} area after blank subtraction. Calibration check standards representative of the mid-level of the initial calibration and the instrument blank were analyzed every 10 samples. The check standard's response was compared versus the average RF of the respective analytes contained in the initial calibration. All authentic samples and quality control samples were bracketed by passing mid-check standards.

Modified EPA Method 8270D was conducted via gas chromatography-mass spectrometry (GC-MS; Agilent 7890 GC with 5975c MS) with the MS operated in the selected ion monitoring (SIM) mode for improved sensitivity. The oil and net extracts were injected (1 μL, pulsed splitless) into the GC containing a 60m x 0.25 mm ID, 0.25 μm film, Phenomenex ZB-5 capillary column and the oven programmed from 35°C (1 min) and ramped at 6°C/min to 315°C (30 min) using He as the carrier gas.

The analysis was used to determine the concentrations of 79 parent and alkylated decalins, polycyclic aromatic hydrocarbons (PAH), and sulfur-containing aromatics, as well as 62 petroleum biomarkers, including tricyclic and pentacyclic triterpanes, regular steranes, rearranged steranes, and triaromatic steroids.

In each analysis, prior to sample analysis, the GC-MS was tuned with perfluorotributylamine (PFTBA) at the beginning of each analytical sequence. A minimum 5-point initial calibration consisting of selected target compounds was established to demonstrate the linear range of the analysis. Analyte concentrations in the standard solutions ranged from 0.01 to 10.0 ng/μL for PAH and 0.01 to 20.0 ng/μL for biomarkers. Quantification of target compounds was performed by the method of internal standards using average response factor (RF) determined in the 5-point initial calibration. Alkylated PAHs were quantified using the RF of the corresponding parent, triterpanes were quantified using the RF's for 17α(H),21β(H)-hopane, and steranes and triaromatic steroids were quantified using the RF of 5β(H)-cholane. Biomarker identifications were based upon comparison to selected authentic standards (*Chiron Laboratories*), elution patterns in the peer-reviewed literature, and mass spectral interpretation from full scan GC/MS analyses conducted at Alpha.

Aliquots of each sample extract were used to determine the gravimetric weight of the recoverable oil, thereby allowing the concentrations of target analytes in the oil and net samples to be reported on an oil weight basis (mg/kg_{oil}). All concentrations are not surrogate corrected.

Attachment 3

Interpretation Methods

Data Interpretation

The chemical fingerprinting data collected were evaluated using current geochemical practice utilized in oil spill investigations.[2] For those objectives requiring detailed comparison among samples, the chemical fingerprinting data collected were evaluated using a multi-tiered approach based upon the Centre for European Norms (CEN) oil spill identification protocol, which is used worldwide by many laboratories.[3] Tier 1 involved a qualitative review of each sample's overall (GC/FID) fingerprint that determined the character, boiling range, and weathering state of any oil present. Tier 2 was a 2-step comparison whereupon (a) the first step involved a qualitative review of each sample's PAH (GC/MS EIPs, *m/z* 198, 192, 216, and 242) and biomarker fingerprints (GC/MS EIPs, *m/z* 83, 85, 191, 177, 217, 218, and 231) and (b) the second step utilized the CEN protocol's statistical comparison of diagnostic ratios calculated from PAH and/or biomarker concentrations.[4] Finally, a synthesis of the Tier 1 and Tier 2 results serve to as a confirmation check, before reaching one of the following conclusions:

Positive Match: the samples are considered to match to a high degree of scientific certainty; any differences are explained by weathering and/or are less than the precision of the method.

Probable Match: the samples are considered to match to a reasonable degree of scientific certainty; any differences are possibly explained by weathering, mixing, and/or sample heterogeneity.

Inconclusive: the samples results preclude any other conclusion, often owing to small sample size leading to low data quality.

Non-Match: the samples are considered to not match to a high degree of scientific certainty; any differences are not explained by weathering and/or are greater than the precision of the method.

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[2] Stout, S.A. and Wang, Z. (2016). Chemical fingerprinting methods and factors affecting petroleum fingerprints in the environment. In: *Standard Handbook of Oil Spill Environmental Forensics: Fingerprinting and Source Identification*, 2nd Ed., S.A. Stout and Z. Wang, Eds., Elsevier Publishing Co., Boston, MA, p. 61-130.

[3] Kienhaus, P.G.M. et al. 2016. CEN methodology for oil spill identification. In: *Standard Handbook of Oil Spill Environmental Forensics: Fingerprinting and Source Identification*, 2nd Ed., S.A. Stout and Z. Wang, Eds., Elsevier Publishing Co., Boston, MA, p. 685-728.

[4] The quantitative (statistical) comparisons relied upon the 95% confidence level ($r_{95\%}$) for each diagnostic ratio wherein:

$$r_{95\%} = 2.8 * RSD_R \text{ where } RSD_R = 5\% \text{ standard error, thus}$$

$$r_{95\%} = 14\%$$

If the $r_{95\%}$ between the measured diagnostic between two samples <14% the ratios were considered to statistically **match**, and *vice versa*.

Attachment 4

Tabulated Concentrations

Table 4-2: Concentrations (mg/kg) of n-alkanes and isoprenoids in the samples studied.

Client ID	7B	7B (Dup)	110159	STOCK TANK	BRINE WELL 22 BS	Brine Well 22 BS (Dup)	CENTRAL POND
Lab ID	L2305221-04	WG1740064-5	L2305221-02	L2305221-03	L2305221-01	WG1740214-5	L2305221-05
Analytes	Result	Result	Result	Result	Result	Result	Result
n-Nonane (C9)	9,530	9,610	438	7,050	10	10	nd
n-Decane (C10)	8,570	8,680	860	6,610	nd	nd	58
n-Undecane (C11)	8,120	8,270	966	6,460	9	8	33
n-Dodecane (C12)	7,530	7,570	773	6,120	nd	nd	48
n-Tridecane (C13)	6,840	6,990	1,200	5,780	nd	nd	42
2,6,10 Trimethyldodecane (1380)	1,330	1,370	1,190	1,210	61	55	nd
n-Tetradecane (C14)	6,270	6,370	1,310	5,370	82	77	42
2,6,10 Trimethyltridecane (1470)	1,890	1,920	1,920	1,840	nd	nd	88
n-Pentadecane (C15)	6,240	6,450	1,470	5,700	nd	nd	329
n-Hexadecane (C16)	5,310	5,380	1,080	4,580	nd	nd	50
Norpristane (1650)	1,180	1,200	1,160	1,090	nd	nd	26
n-Heptadecane (C17)	4,550	4,620	631	3,850	nd	nd	544
Pristane	1,940	1,910	2,680	1,960	nd	nd	nd
n-Octadecane (C18)	4,150	4,140	488	3,560	274	289	1,720
Phytane	1,900	1,920	849	1,640	nd	nd	nd
n-Nonadecane (C19)	3,750	3,840	512	3,280	nd	nd	112
n-Eicosane (C20)	3,530	3,620	515	3,110	nd	nd	29
n-Heneicosane (C21)	2,820	2,880	404	2,490	nd	nd	63
n-Docosane (C22)	2,430	2,480	386	2,160	nd	nd	55
n-Tricosane (C23)	2,040	2,040	304	1,780	nd	nd	807
n-Tetracosane (C24)	1,940	1,950	281	1,740	nd	nd	64
n-Pentacosane (C25)	1,970	2,020	703	1,880	202	205	1,040
n-Hexacosane (C26)	1,450	1,480	247	1,310	nd	nd	99
n-Heptacosane (C27)	1,170	1,180	210	1,020	nd	nd	730
n-Octacosane (C28)	1,010	1,010	143	860	nd	nd	196
n-Nonacosane (C29)	993	988	158	797	nd	nd	1,320
n-Triacontane (C30)	882	893	nd	689	nd	nd	244
n-Hentriacontane (C31)	794	800	nd	604	nd	nd	1,540
n-Dotriacontane (C32)	817	807	787	706	943	909	203
n-Tritriacontane (C33)	644	661	323	500	328	332	696
n-Tetratriacontane (C34)	620	592	341	462	371	369	nd
n-Pentatriacontane (C35)	590	586	nd	410	nd	nd	533
n-Hexatriacontane (C36)	325	321	nd	219	nd	nd	1,880
n-Heptatriacontane (C37)	352	380	nd	238	nd	nd	nd
n-Octatriacontane (C38)	323	332	nd	191	nd	nd	nd
n-Nonatriacontane (C39)	273	277	nd	147	nd	nd	78
n-Tetracontane (C40)	263	262	nd	134	nd	nd	nd
Total Saturated Hydrocarbons	104,000	106,000	22,300	87,500	2,280	2,250	12,700
Total Petroleum Hydrocarbons (C9-C44)	629,000	640,000	731,000	705,000	660,000	661,000	348,000

Table 4-2: Concentrations (mg/kg) of PAHs, related compounds and petroleum biomarkers in the samples studied.

	Client ID	7B	7B (Dup)	110159	STOCK TANK	BRINE WELL 22 BS	Brine Well 22 BS (Dup)	CENTRAL POND
	Lab ID	L2305221-04	WG1740064-5	L2305221-02	L2305221-03	L2305221-01	WG1740214-5	L2305221-05
	Analytes	Result	Result	Result	Result	Result	Result	Result
D0	cis/trans-Decalin	236.0	235.0	802	227	1.37	1.35	10.5
D1	C1-Decalins	349.0	352.0	1000	348	13.9	13.3	40.8
D2	C2-Decalins	282	281	818	347	122	130	23.4
D3	C3-Decalins	162	169	470	264	157	150	nd
D4	C4-Decalins	149	166	551	288	290	292	nd
BT0	Benzothiophene	10.70	10.50	7.37	9.15	nd	nd	nd
BT1	C1-Benzo(b)thiophenes	49.9	49.7	27.3	43.5	3.14	3.22	nd
BT2	C2-Benzo(b)thiophenes	171.00	173.00	25.5	150	8.28	6.84	nd
BT3	C3-Benzo(b)thiophenes	296.0	302.0	41.7	264	27.5	26.7	nd
BT4	C4-Benzo(b)thiophenes	216.0	220.0	26.5	191	nd	nd	nd
N0	Naphthalene	276.0	275.0	192	235	0.224	nd	15.2
N1	C1-Naphthalenes	842	851	836	709	1.50	1.36	14.7
N2	C2-Naphthalenes	1220	1240	1460	1070	9.21	7.07	58.7
N3	C3-Naphthalenes	971	986	1090	857	29.0	26.8	14.4
N4	C4-Naphthalenes	528	535	602	494	102	102	nd
B	Biphenyl	49	50	53.4	56.9	nd	nd	20.3
DF	Dibenzofuran	29.3	30	46.9	24.6	nd	nd	18.8
AY	Acenaphthylene	4.98	4.06	8.12	4.67	3.10	2.84	1.20
AE	Acenaphthene	10.1	10.5	15.8	13.3	2.76	2.66	6.82
F0	Fluorene	59.3	61.3	60.8	47.2	nd	nd	5.27
F1	C1-Fluorenes	158	160	164	133	16.1	16.0	7.99
F2	C2-Fluorenes	249	254	252	228	69.7	70.1	nd
F3	C3-Fluorenes	246	250	203	242	127	125	nd
A0	Anthracene	10.3	10.6	8.29	10.1	3.15	3.26	6.89
P0	Phenanthrene	128.0	130.0	133	110	4.10	3.01	45.6
PA1	C1-Phenanthrenes/Anthracenes	328	330	286	283	30.1	28.4	39.0
PA2	C2-Phenanthrenes/Anthracenes	368	379	310	342	99.0	98.2	15.9
PA3	C3-Phenanthrenes/Anthracenes	260	270	199	243	119	122	nd
PA4	C4-Phenanthrenes/Anthracenes	127.0	134.0	95.3	124	94.8	91.4	nd
RET	Retene	nd	nd	60.3	nd	nd	nd	nd
DBT0	Dibenzothiophene	282.0	282.0	27.4	200	nd	nd	3.90
DBT1	C1-Dibenzothiophenes	628.0	642.0	95.1	488	7.71	10.0	6.43
DBT2	C2-Dibenzothiophenes	841	863	93.2	675	26.6	27.4	13.6
DBT3	C3-Dibenzothiophenes	683	707	82.6	570	51.2	53.6	nd
DBT4	C4-Dibenzothiophenes	349.0	359.0	42.8	303	36.0	35.4	nd
BF	Benzo(b)fluorene	nd	nd	4.13	5.34	2.86	2.95	8.01
FL0	Fluoranthene	1.80	1.33	3.60	2.88	1.70	1.79	65.1
PY0	Pyrene	11.5	11.7	8.56	14.9	4.75	4.66	61.4
FP1	C1-Fluoranthenes/Pyrenes	53.5	53.5	42.4	60.4	32.8	35.0	33.3
FP2	C2-Fluoranthenes/Pyrenes	112.0	113.0	65.1	112	70.7	67.7	26.8
FP3	C3-Fluoranthenes/Pyrenes	148.0	151.0	80.4	140	113	146	nd
FP4	C4-Fluoranthenes/Pyrenes	126.0	130.0	67.9	121	108	131	nd
NBT0	Naphthobenzothiophenes	65.30	66.60	8.30	48.7	3.12	2.70	12.6
NBT1	C1-Naphthobenzothiophenes	215.0	220.0	24.9	170	23.1	29.5	12.2
NBT2	C2-Naphthobenzothiophenes	321.0	328.0	33.0	261	38.0	44.8	20.0
NBT3	C3-Naphthobenzothiophenes	286.0	294.0	24.0	237	41.8	48.2	21.0
NBT4	C4-Naphthobenzothiophenes	203.0	208.0	25.1	176	37.7	51.0	nd
BA0	Benz[a]anthracene	1.49	1.79	1.69	3.63	1.24	0.900	33.2
C0	Chrysene/Triphenylene	19.6	20.8	11.3	20.2	12.8	12.7	56.5
BC1	C1-Chrysenes	48.2	49.2	29.6	57.9	28.1	27.3	16.8
BC2	C2-Chrysenes	77.7	78.0	43.0	88.6	51.2	54.3	nd
BC3	C3-Chrysenes	104.0	110.0	55.0	112	91.1	87.6	nd
BC4	C4-Chrysenes	80.7	83.4	39.0	80.8	72.5	69.8	nd

Table 4-2: continued

	Client ID	7B	7B (Dup)	110159	STOCK TANK	BRINE WELL 22 BS	Brine Well 22 BS (Dup)	CENTRAL POND
	Lab ID	L2305221-04	WG1740064-5	L2305221-02	L2305221-03	L2305221-01	WG1740214-5	L2305221-05
	Analytes	Result	Result	Result	Result	Result	Result	Result
BBF	Benzo[b]fluoranthene	3.48	3.84	2.10	3.70	2.12	2.30	55.0
BJKF	Benzo[j]fluoranthene/Benzo[k]fluoranthene	nd	nd	nd	nd	nd	nd	34.0
BAF	Benzo[a]fluoranthene	nd	nd	nd	nd	nd	nd	6.31
BEP	Benzo[e]pyrene	8.50	9.08	2.90	9.24	4.72	4.40	41.4
BAP	Benzo[a]pyrene	1.44	1.92	1.89	4.02	1.24	1.11	39.6
PER	Perylene	nd	nd	7.48	5.53	8.56	9.24	10.1
IND	Indeno[1,2,3-cd]pyrene	nd	nd	0.790	1.09	nd	nd	32.6
DA	Dibenz[ah]anthracene/Dibenz[ac]anthrace	nd	nd	nd	1.01	nd	nd	8.21
GHI	Benzo[g,h,i]perylene	3.20	2.80	1.59	2.86	2.07	1.98	41.4
CAR	Carbazole	6.76	6.12	nd	3.68	nd	nd	3.82
4MDT	4-Methyldibenzothiophene	266.0	268.0	34.6	203	3.30	3.65	2.91
2MDT	2/3-Methyldibenzothiophene	228.0	232.0	46.1	177	nd	nd	nd
1MDT	1-Methyldibenzothiophene	124.00	125.00	9.10	93.9	1.78	2.41	1.70
3MP	3-Methylphenanthrene	59.0	60.0	67.3	54.7	5.80	5.98	nd
2MP	2-Methylphenanthrene	74	75	64.7	64.7	3.80	3.32	5.69
2MA	2-Methylanthracene	2.53	2.38	4.35	3.79	3.12	3.17	3.84
9MP	9/4-Methylphenanthrene	114.0	117.0	86.6	93.1	9.24	8.63	nd
1MP	1-Methylphenanthrene	74.8	73.2	56.6	59.0	5.77	5.81	nd
2MN	2-Methylnaphthalene	738	747	882	638	1.06	0.886	14.7
1MN	1-Methylnaphthalene	663	669	501	541	nd	nd	7.01
26DMN	2,6-Dimethylnaphthalene	606	615	889	548	1.51	nd	87.9
235TMN	2,3,5-Trimethylnaphthalene	153	128	158	117	nd	nd	nd
PY2	2-METHYLPYRENE	3.77	3.69	3.13	7.11	2.28	2.98	3.10
PY4	4-METHYLPYRENE	13.9	13.8	5.71	14.6	4.96	4.68	2.84
PY1	1-METHYLPYRENE	8.33	8.51	3.46	10.3	3.55	3.66	2.08
T4	C23 Tricyclic Terpane	21.60	20.00	16.7	22.1	27.8	26.7	nd
T5	C24 Tricyclic Terpane	10.50	10.20	11.1	10.1	18.1	17.1	nd
T6	C25 Tricyclic Terpane	13.3	11.8	17.5	15.4	25.8	21.2	nd
T6a	C24 Tetracyclic Terpane	14.60	13.00	20.9	16.7	40.0	38.5	nd
T6b	C26 Tricyclic Terpane-22S	4.98	3.9	5.61	3.95	11.6	9.73	nd
T6c	C26 Tricyclic Terpane-22R	4.52	3.93	6.26	3.96	8.56	8.26	nd
T7	C28 Tricyclic Terpane-22S	3.86	3.34	6.82	6.02	10.1	11.8	nd
T8	C28 Tricyclic Terpane-22R	4.39	5.5	10.7	6.62	12.3	12.7	nd
T9	C29 Tricyclic Terpane-22S	5.59	5.3	9.75	7.25	15.4	19.0	nd
T10	C29 Tricyclic Terpane-22R	4.52	5.13	10.5	5.67	14.4	11.8	nd
T11	18a-22,29,30-Trisnorneohopane-TS	23.2	23	79.2	39.5	116	115	nd
T11a	C30 Tricyclic Terpane-22S	5.78	6.84	13.0	7.72	29.6	27.5	nd
T11b	C30 Tricyclic Terpane-22R	6.67	6.83	8.19	6.78	11.0	12.1	nd
T12	17a(H)-22,29,30-Trisnorhopane-TM	27.6	28.7	115	49.7	148	150	nd
T14a	17a/b,21b/a 28,30-Bisnorhopane	20	19.4	30.1	19.7	36.3	32.5	nd
T14b	17a(H),21b(H)-25-Norhopane	nd	nd	10.6	3.87	17.7	19.0	nd
T15	30-Norhopane	81.2	84.6	339	140	416	410	27.3
T16	18a(H)-30-Norneohopane-C29Ts	20.3	21.7	130	38.7	191	197	nd
X	17a(H)-Diahopane	nd	nd	26.9	8.65	51.0	48.6	nd
T17	30-Normoretane	9.47	8.9	95.6	27.0	121	126	nd
T18	18a(H)&18b(H)-Oleananes	4.07	3.48	56.1	17.2	108	111	nd
T19	Hopane	99.9	97.3	549	190	604	612	33.5
T20	Moretane	7.03	6.46	109	28.3	118	120	21.5
T21	30-Homohopane-22S	58.5	58.5	143	77.8	158	158	21.1
T22	30-Homohopane-22R	44.5	45.4	126	67.1	142	138	23.3

Table 4-2: continued

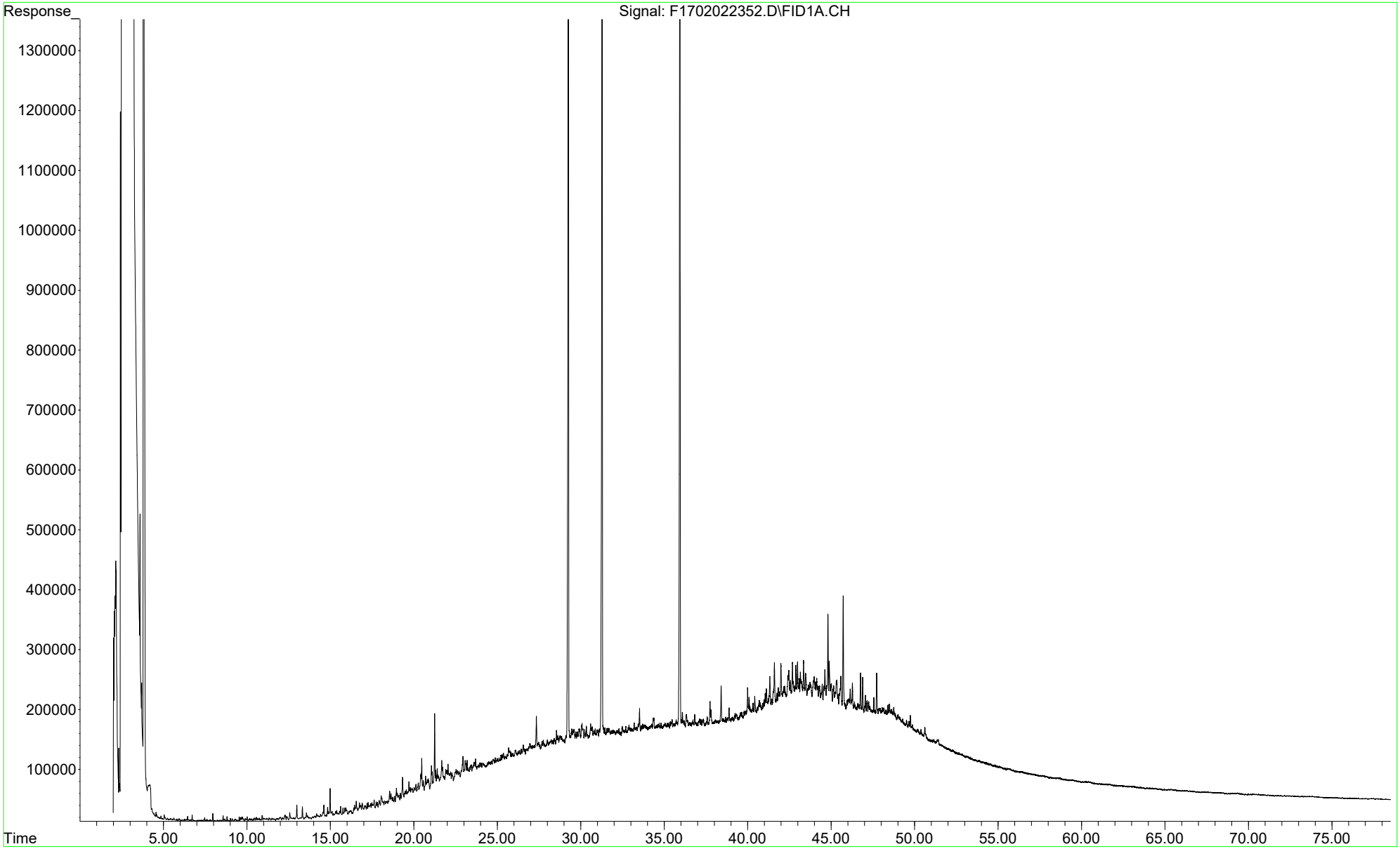
	Client ID	7B	7B (Dup)	110159	STOCK TANK	BRINE WELL 22 BS	Brine Well 22 BS (Dup)	CENTRAL POND
	Lab ID	L2305221-04	WG1740064-5	L2305221-02	L2305221-03	L2305221-01	WG1740214-5	L2305221-05
	Analytes	Result	Result	Result	Result	Result	Result	Result
T22A	T22a-Gammacerane/C32-diahopane	11.2	10.5	32.6	15.7	63.5	63.8	nd
T26	30,31-Bishomohopane-22S	36.6	36.3	72.4	44.3	88.4	85.8	53.3
T27	30,31-Bishomohopane-22R	26.8	27.1	129	38.0	182	182	nd
T30	30,31-Trishomohopane-22S	25.8	27.1	45.8	33.1	50.7	48.7	nd
T31	30,31-Trishomohopane-22R	16.1	19.6	31.2	25.0	34.0	33.0	nd
T32	Tetrakishomohopane-22S	20.1	20.2	26.2	21.9	36.3	33.0	nd
T33	Tetrakishomohopane-22R	12.3	15	21.4	13.0	19.7	25.6	51.2
T34	Pentakishomohopane-22S	20.1	17.3	15.1	16.6	15.4	18.5	nd
T35	Pentakishomohopane-22R	13.8	13.2	14.8	14.2	16.7	15.2	nd
S4	13b(H),17a(H)-20S-Diacholestane	27.8	27.0	66.5	32.3	95.8	102	nd
S5	13b(H),17a(H)-20R-Diacholestane	14.5	12.7	39.3	15.4	57.9	55.1	nd
S8	13b,17a-20S-Methyldiacholestane	15.0	12.1	34.7	15.5	60.3	65.8	nd
S12	14a(H),17a(H)-20S-Cholestane/13b(H),17a	33.6	35.6	71.4	41.0	127	129	8.67
S17	14a(H),17a(H)-20R-Cholestane/13b(H),17a	43.7	45.1	80.2	43.7	118	118	nd
S18	Unknown Sterane (S18)	8.2	8.8	22.0	11.5	41.3	47.3	nd
S19	13a,17b-20S-Ethyldiacholestane	3.6	3.9	3.32	2.79	4.63	4.37	nd
S20	14a,17a-20S-Methylcholestane	20.3	22.9	38.1	23.1	63.8	67.5	nd
S24	14a,17a-20R-Methylcholestane	19.0	17.8	30.3	21.9	33.6	35.6	nd
S25	14a(H),17a(H)-20S-Ethylcholestane	37.2	36.6	44.6	36.5	52.6	62.5	nd
S28	14a(H),17a(H)-20R-Ethylcholestane	26.3	28.1	39.9	27.2	49.4	47.2	nd
S14	14b(H),17b(H)-20R-Cholestane	31.0	31.4	23.0	29.6	21.5	20.8	nd
S15	14b(H),17b(H)-20S-Cholestane	31.8	30.4	26.4	30.4	32.0	32.2	nd
S22	14b,17b-20R-Methylcholestane	25.5	29.2	25.7	26.6	32.5	31.0	nd
S23	14b,17b-20S-Methylcholestane	33.3	34.7	33.5	33.3	49.8	54.7	nd
S26	14b(H),17b(H)-20R-Ethylcholestane	45.4	44.2	40.6	51.3	59.7	57.1	11.9
S27	14b(H),17b(H)-20S-Ethylcholestane	28.0	29.8	31.2	26.5	32.4	36.8	6.23
TAS05	C20 PREGNANE	93.1	92.2	62.5	82.6	70.6	56.3	nd
TAS06	C21 20-METHYLPREGNANE	95.5	99.2	45.9	83.2	63.2	61.5	nd
TAS07	C22 20-ETHYLPREGNANE (A)	35.2	37.6	12.7	32.0	25.2	20.7	nd
TAS08	C22 20-ETHYLPREGNANE (B)	18.9	18.1	13.2	14.0	22.7	19.4	nd
TAS09	C26,20S TAS	26	26.3	81.3	34.9	126	132	nd
TAS01	C26,20R+C27,20S TAS	194	202	250	198	446	427	20.9
TAS02	C28,20S TAS	135	140	199	155	366	362	23.7
TAS03	C27,20R TAS	148	150	153	146	253	250	16.4
TAS04	C28,20R TAS	114	116	158	130	287	304	13.0
TAS10	C29,20S TAS	52.3	56.2	57.9	45.8	106	98.3	nd
TAS11	C29,20R TAS	24.7	23	40.3	19.6	71.7	62.8	nd

Attachment 5

GC/FID Chromatograms

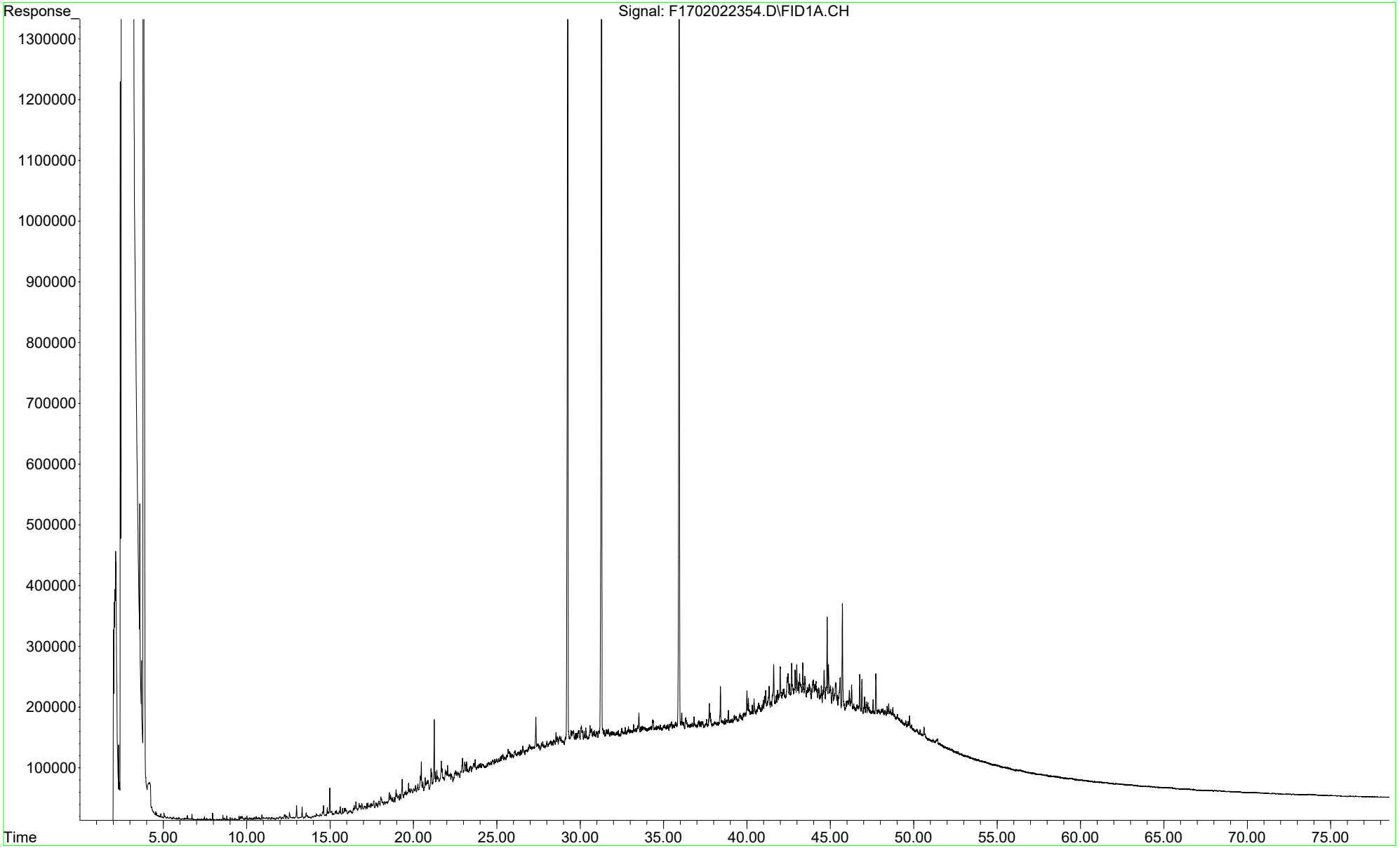
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\SH
... C\F1702022352.D
Operator : FID17:WR
Instrument : FID17
Acquired : 04 Feb 2023 2:08 am using AcqMethod FID17A.M
Sample Name: l2305221-01,42,,
Misc Info : WG1740267,WG1740214,ICAL19667

BRINE WELL 22 BS
L2305221-01



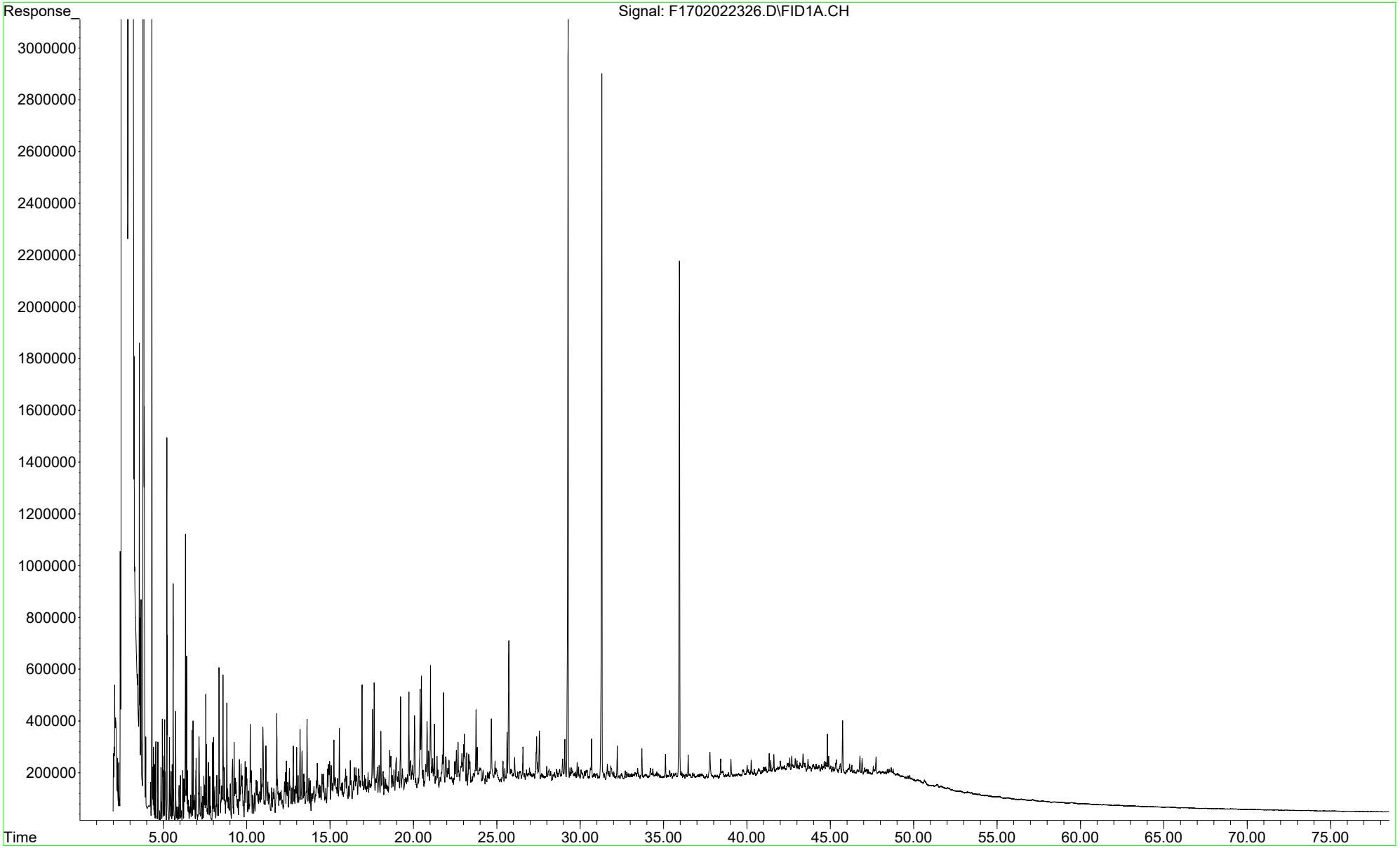
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\SH
... C\F1702022354.D
Operator : FID17:WR
Instrument : FID17
Acquired : 04 Feb 2023 3:37 am using AcqMethod FID17A.M
Sample Name: WG1740214-5,42,,
Misc Info : WG1740267,WG1740214,ICAL19667

BRINE WELL 22 BS Duplicate
WG1740214-5



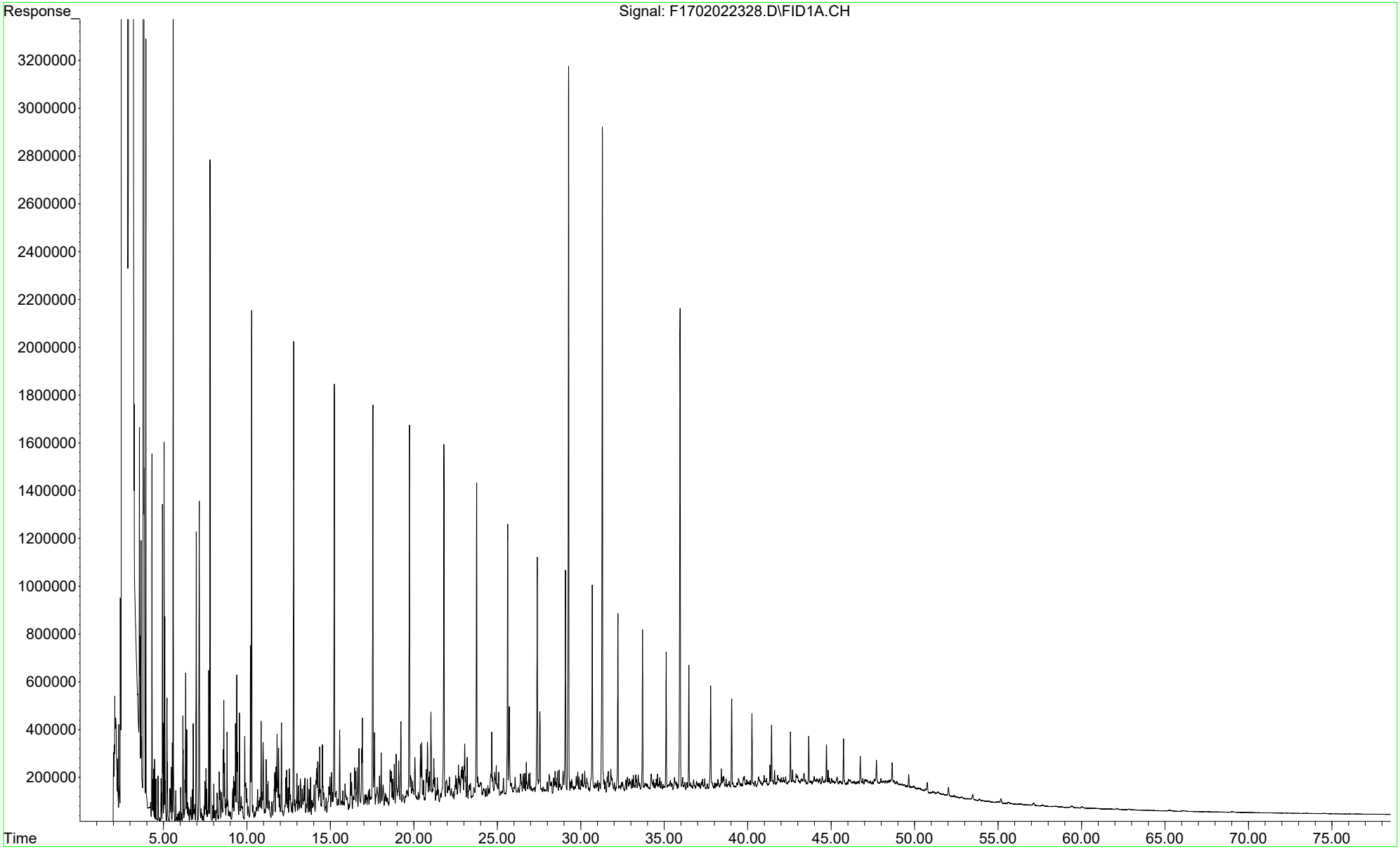
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\SH
... C\F1702022326.D
Operator : FID17:WR
Instrument : FID17
Acquired : 03 Feb 2023 6:42 am using AcqMethod FID17A.M
Sample Name: l2305221-02,42,,
Misc Info : WG1740267,WG1740064,ICAL19667

110159
L2305221-02



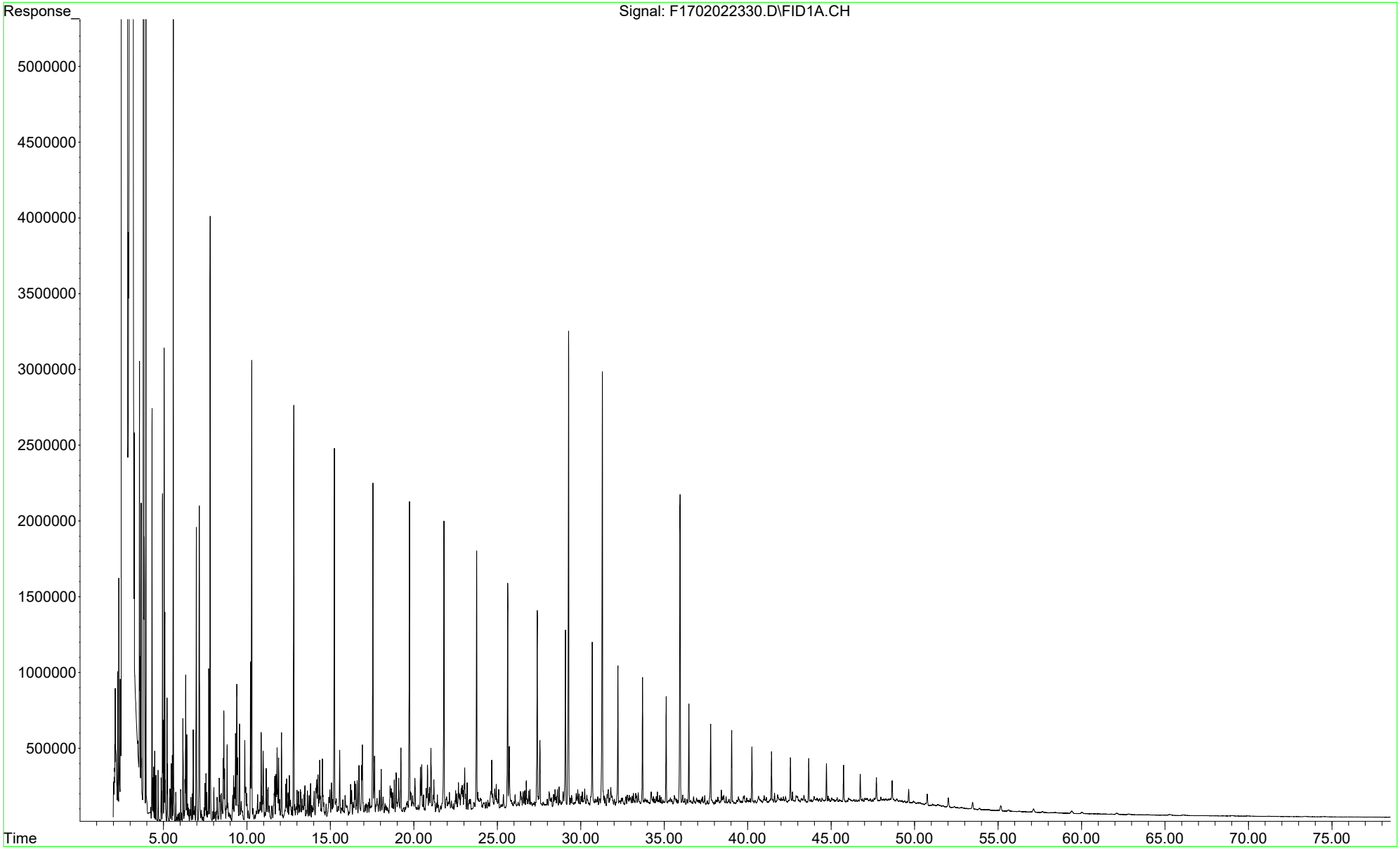
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\SH
... C\F1702022328.D
Operator : FID17:WR
Instrument : FID17
Acquired : 03 Feb 2023 8:12 am using AcqMethod FID17A.M
Sample Name: l2305221-03,42,,
Misc Info : WG1740267,WG1740064,ICAL19667

STOCK TANK
L2305221-03



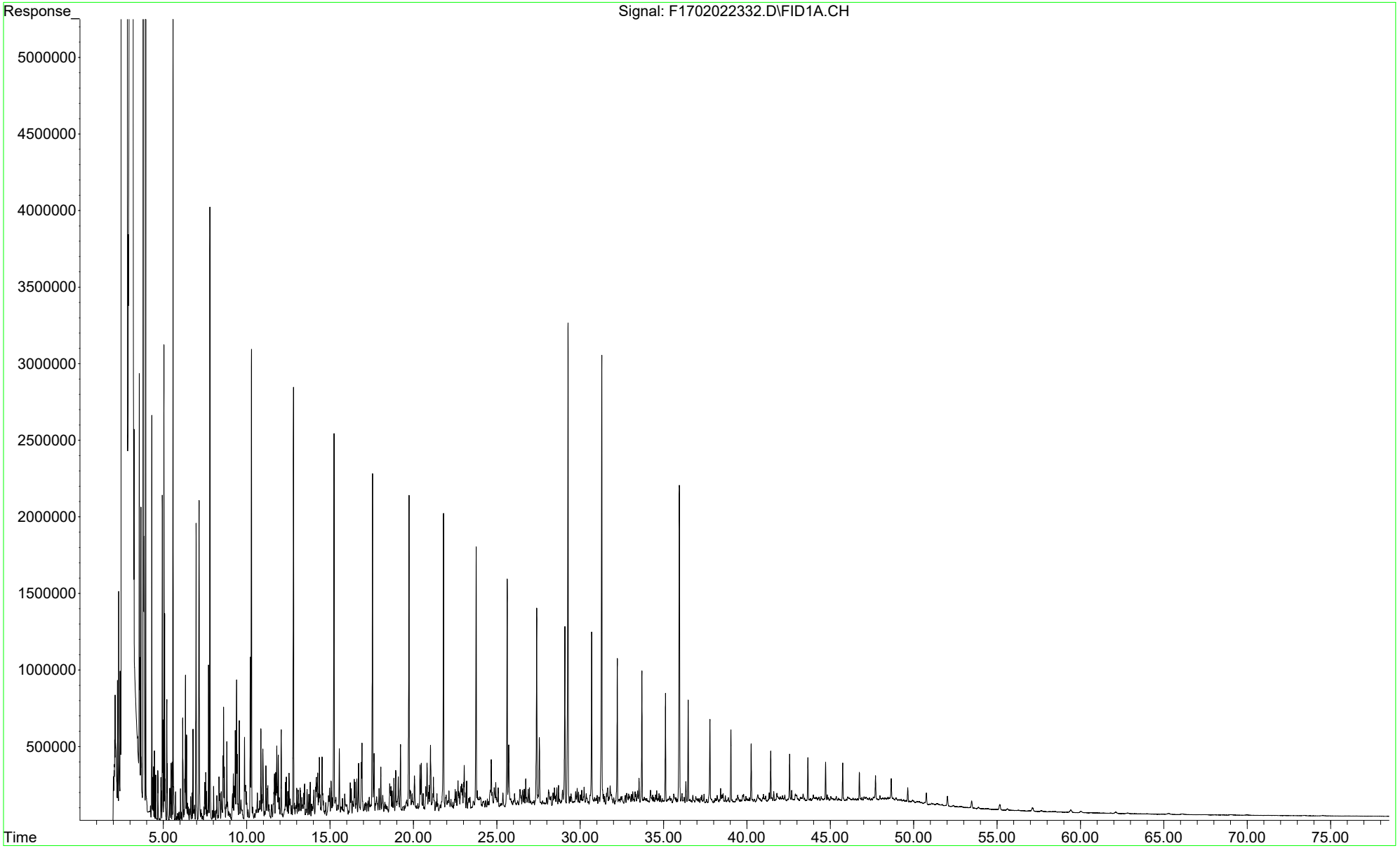
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\SH
... C\F1702022330.D
Operator : FID17:WR
Instrument : FID17
Acquired : 03 Feb 2023 9:43 am using AcqMethod FID17A.M
Sample Name: l2305221-04,42,,
Misc Info : WG1740267,WG1740064,ICAL19667

7B
L2305221-04



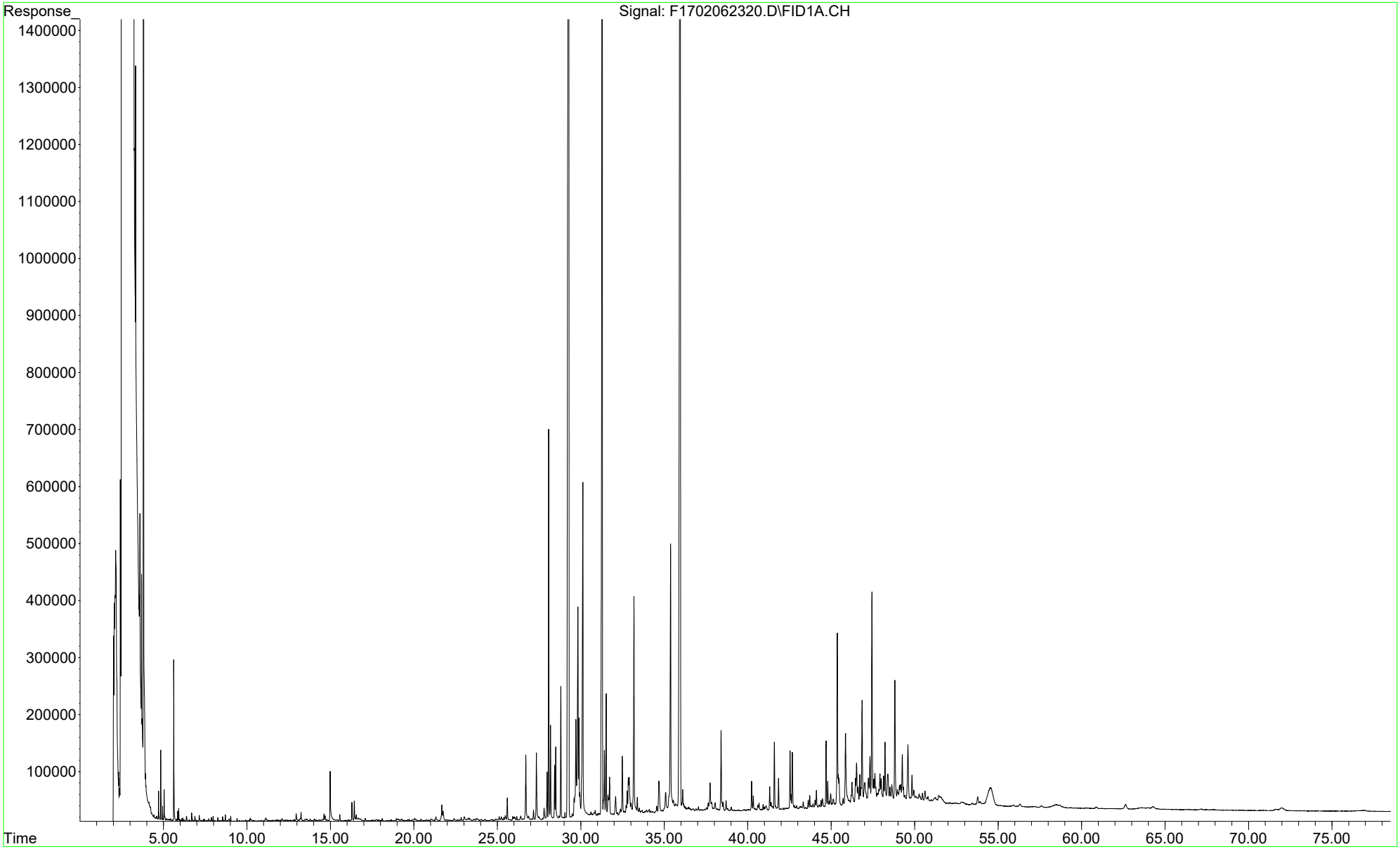
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\SH
... C\F1702022332.D
Operator : FID17:WR
Instrument : FID17
Acquired : 03 Feb 2023 11:13 am using AcqMethod FID17A.M
Sample Name: WG1740064-5,42,,
Misc Info : WG1740267,WG1740064,ICAL19667

7B Duplicate
WG1740064-5



File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\SH
... C\F1702062320.D
Operator : FID17:WR
Instrument : FID17
Acquired : 07 Feb 2023 1:42 am using AcqMethod FID17A.M
Sample Name: l2305221-05,42,,
Misc Info : WG1741452,WG1740246,ICAL19667

CENTRAL POND
L2305221-05

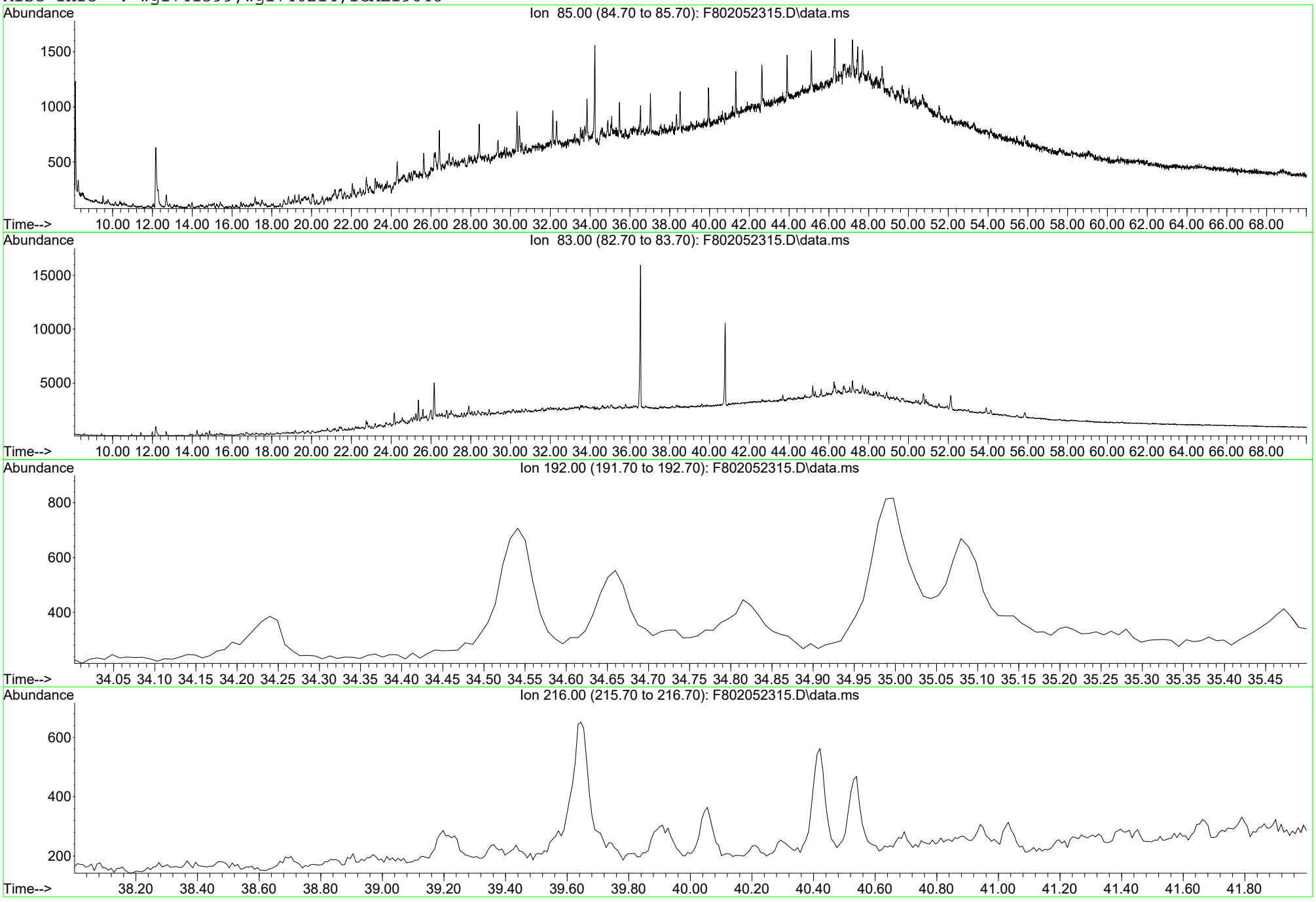


Attachment 6

GC/MS Extracted Ion Profiles

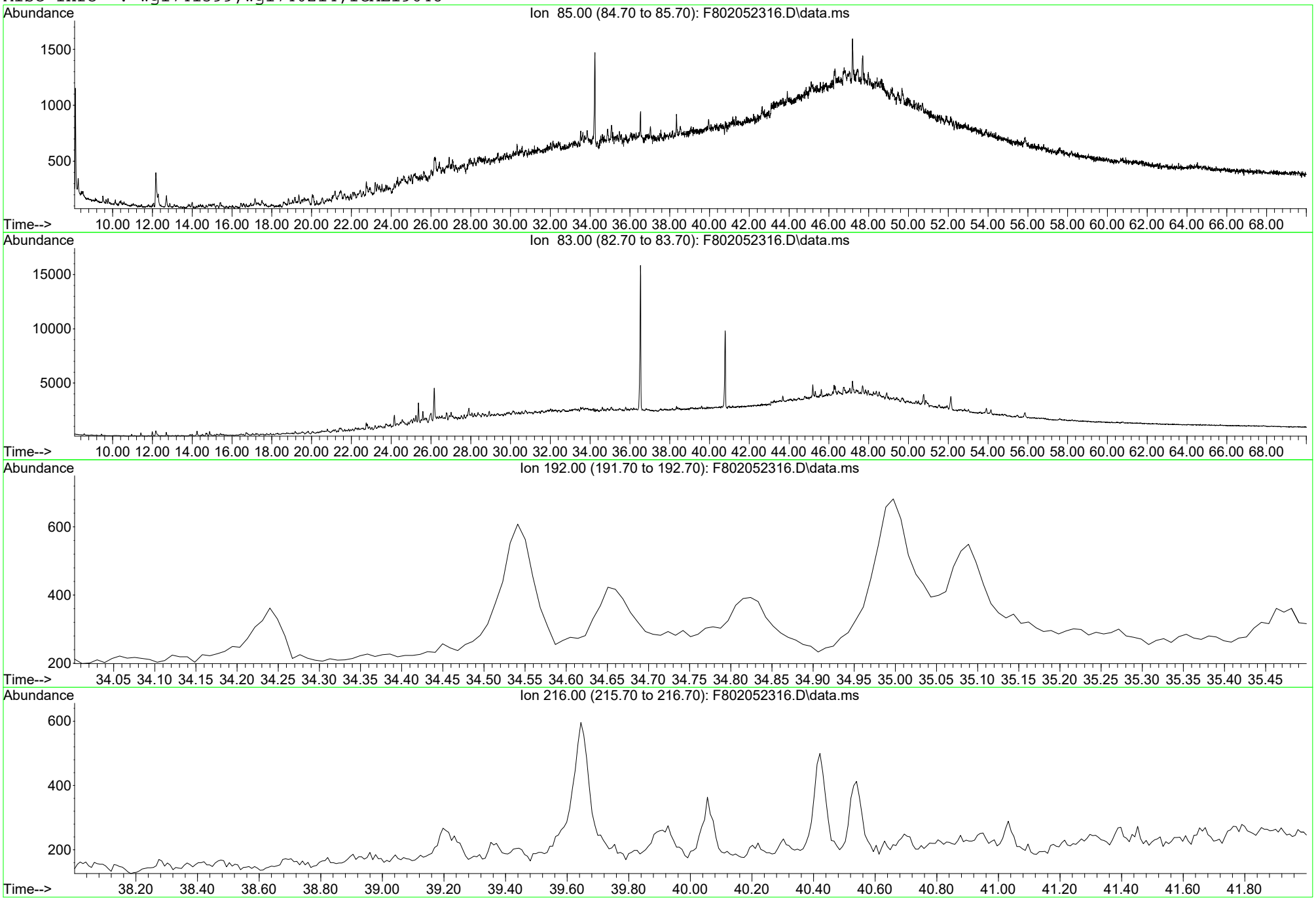
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802052315.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 6 Feb 2023 7:01 am using AcqMethod FRNC8A.M
Sample Name: l2305221-01,32,,
Misc Info : wg1741399,wg1740214,ICAL19648

BRINE WELL 22 BS
L2305221-01



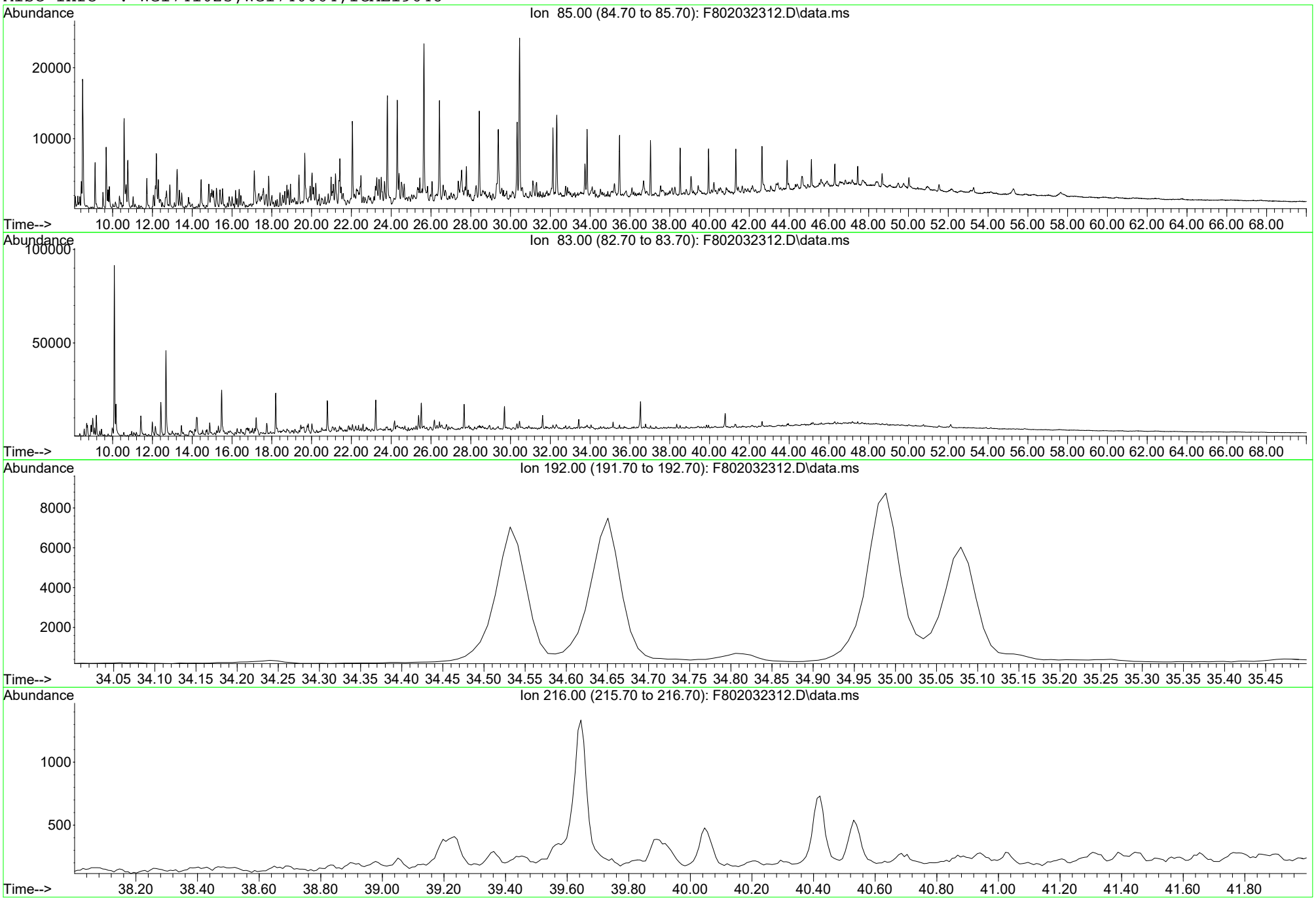
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802052316.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 6 Feb 2023 8:27 am using AcqMethod FRNC8A.M
Sample Name: wg1740214-5,32,,
Misc Info : wg1741399,wg1740214,ICAL19648

BRINE WELL 22 BS Duplicate
WG1740214-5



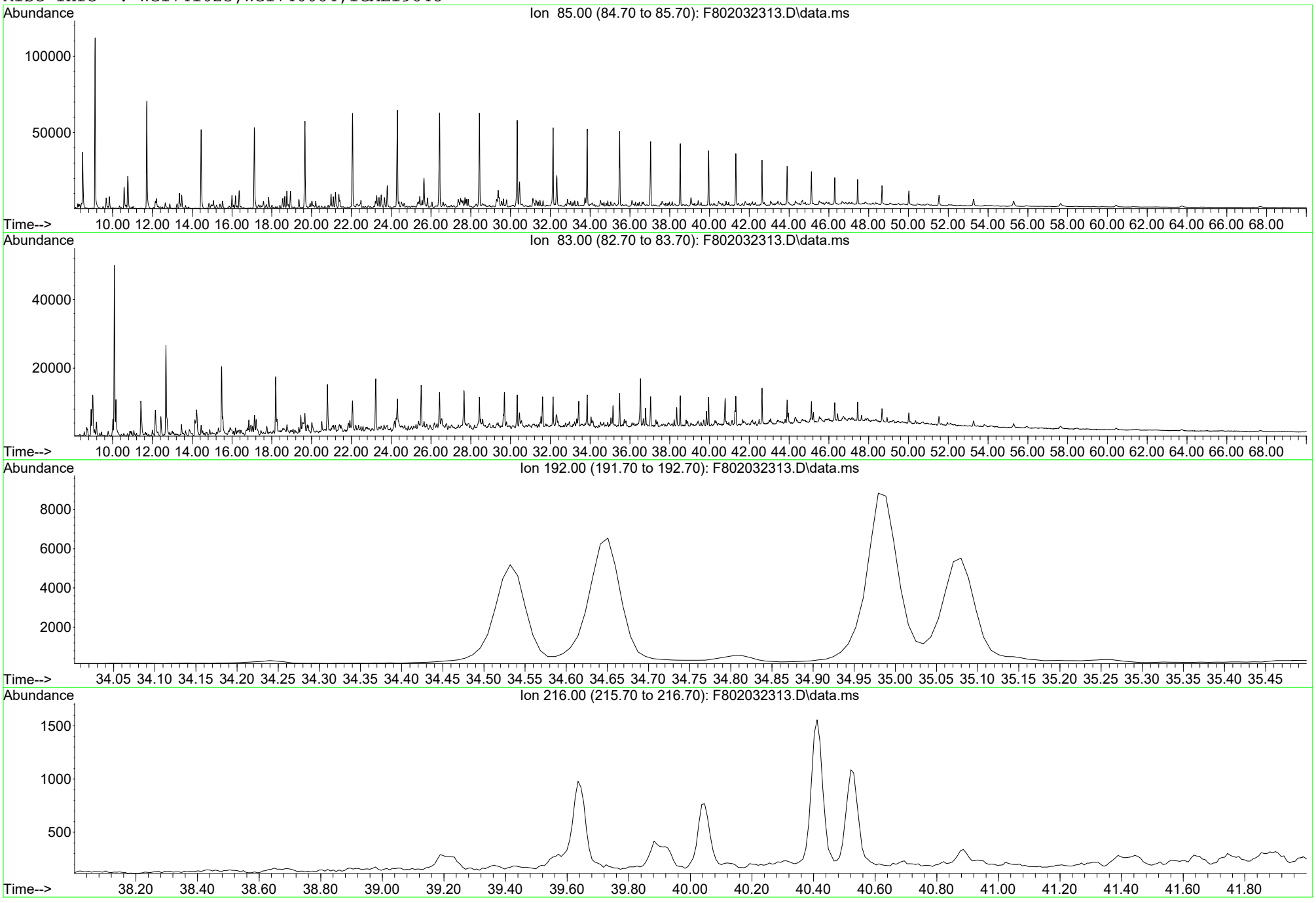
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802032312.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 4 Feb 2023 1:27 am using AcqMethod FRNC8A.M
Sample Name: L2305221-02,32,,
Misc Info : WG1741025,WG1740064,ICAL19648

110159
L2305221-02



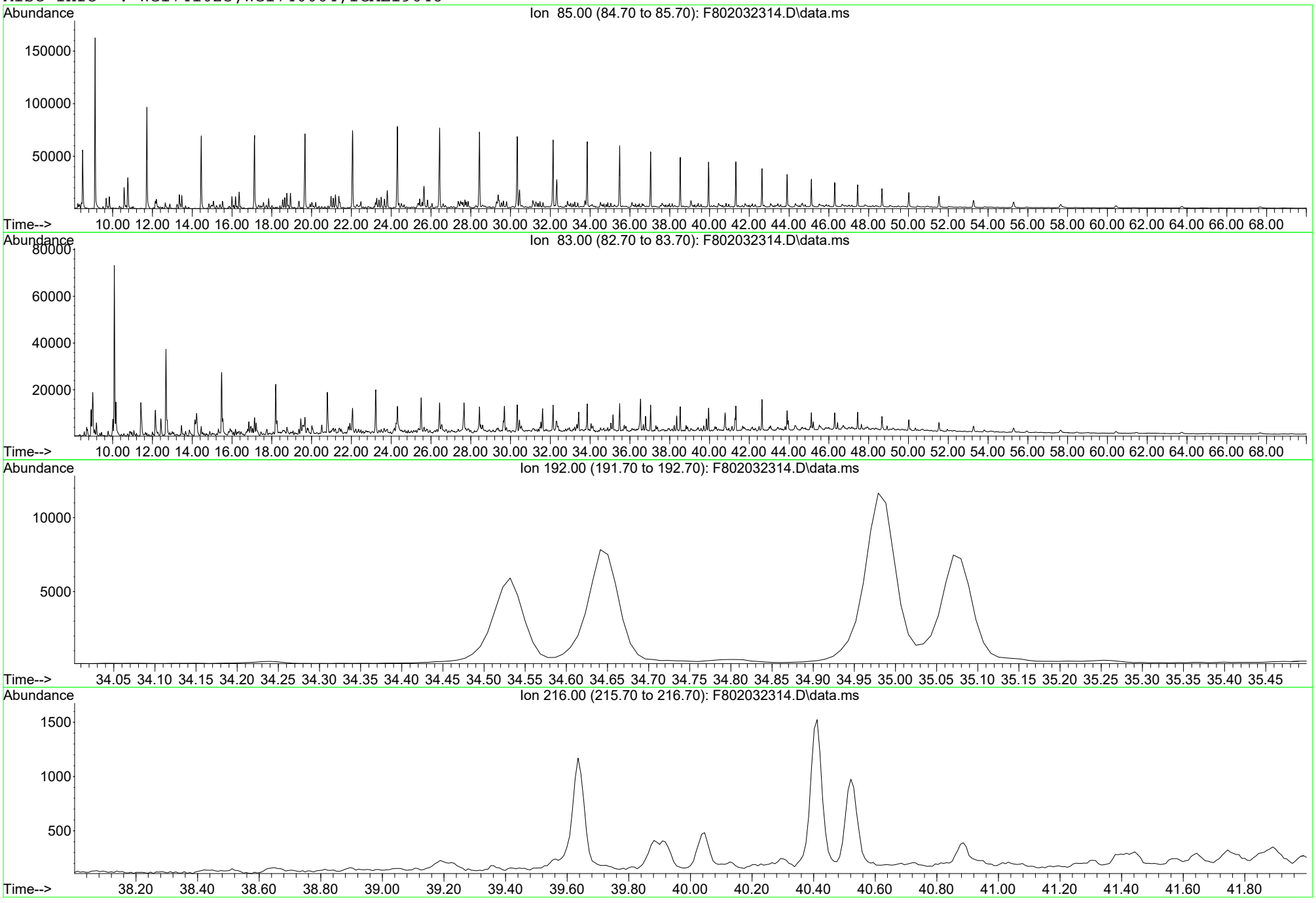
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802032313.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 4 Feb 2023 2:52 am using AcqMethod FRNC8A.M
Sample Name: L2305221-03,32,,
Misc Info : WG1741025,WG1740064,ICAL19648

STOCK TANK
L2305221-03



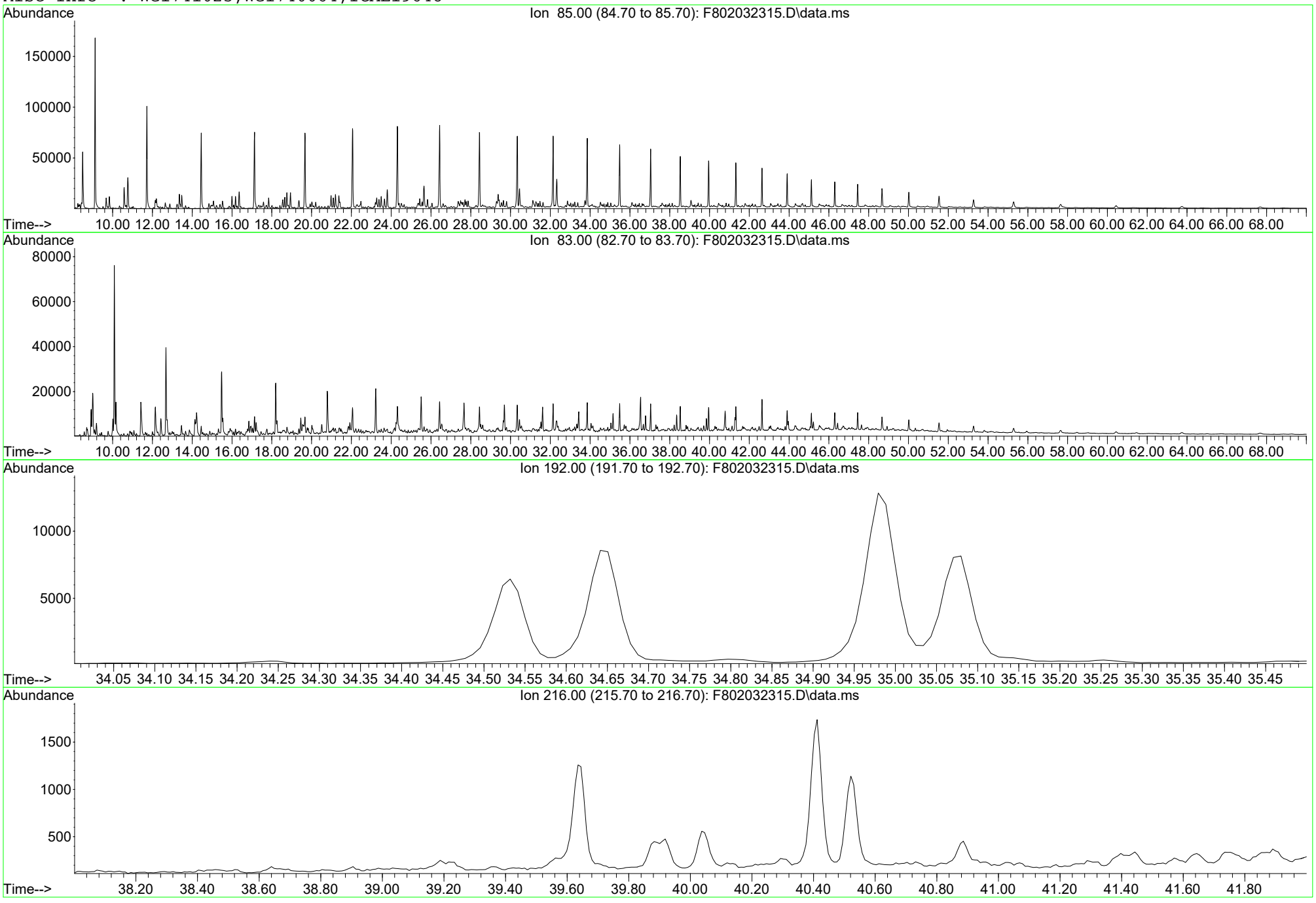
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802032314.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 4 Feb 2023 4:15 am using AcqMethod FRNC8A.M
Sample Name: L2305221-04,32,,
Misc Info : WG1741025,WG1740064,ICAL19648

7B
L2305221-04



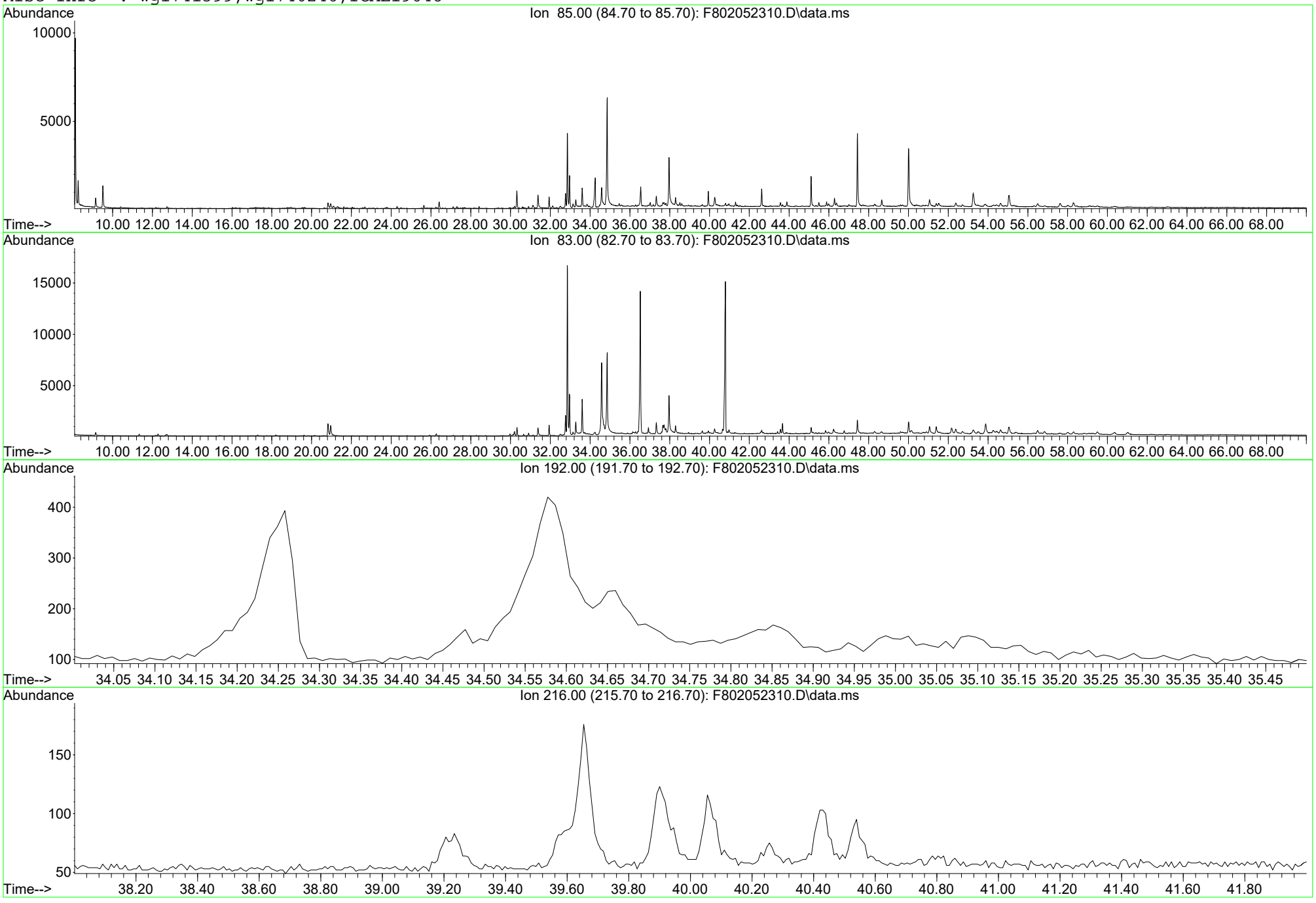
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802032315.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 4 Feb 2023 5:39 am using AcqMethod FRNC8A.M
Sample Name: WG1740064-5,32,,
Misc Info : WG1741025,WG1740064,ICAL19648

7B Duplicate
WG1740064-5



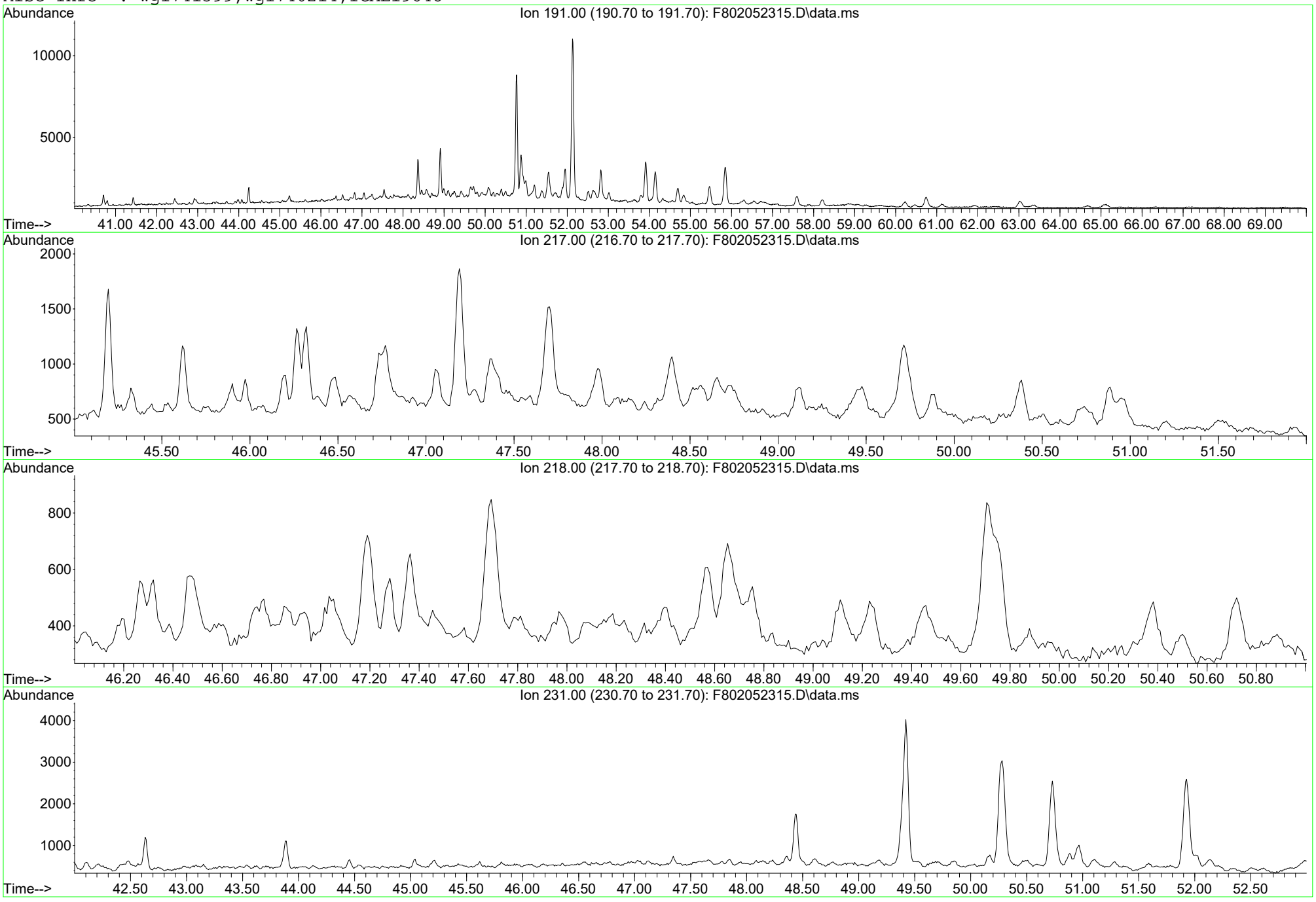
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802052310.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 5 Feb 2023 11:51 pm using AcqMethod FRNC8A.M
Sample Name: l2305221-05,32,,
Misc Info : wg1741399,wg1740246,ICAL19648

CENTRAL POND
L2305221-05



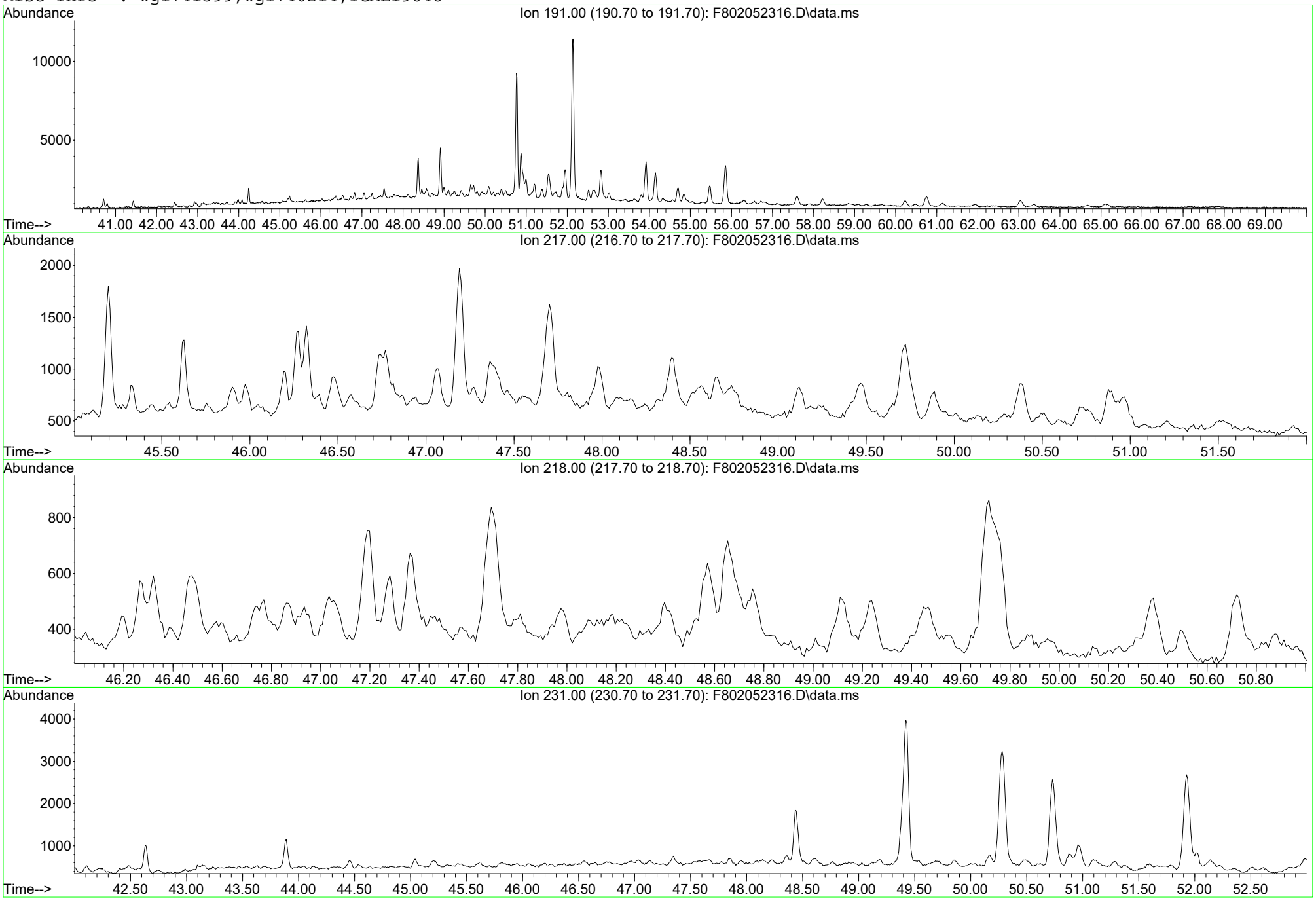
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802052315.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 6 Feb 2023 7:01 am using AcqMethod FRNC8A.M
Sample Name: l2305221-01,32,,
Misc Info : wg1741399,wg1740214,ICAL19648

BRINE WELL 22 BS
L2305221-01



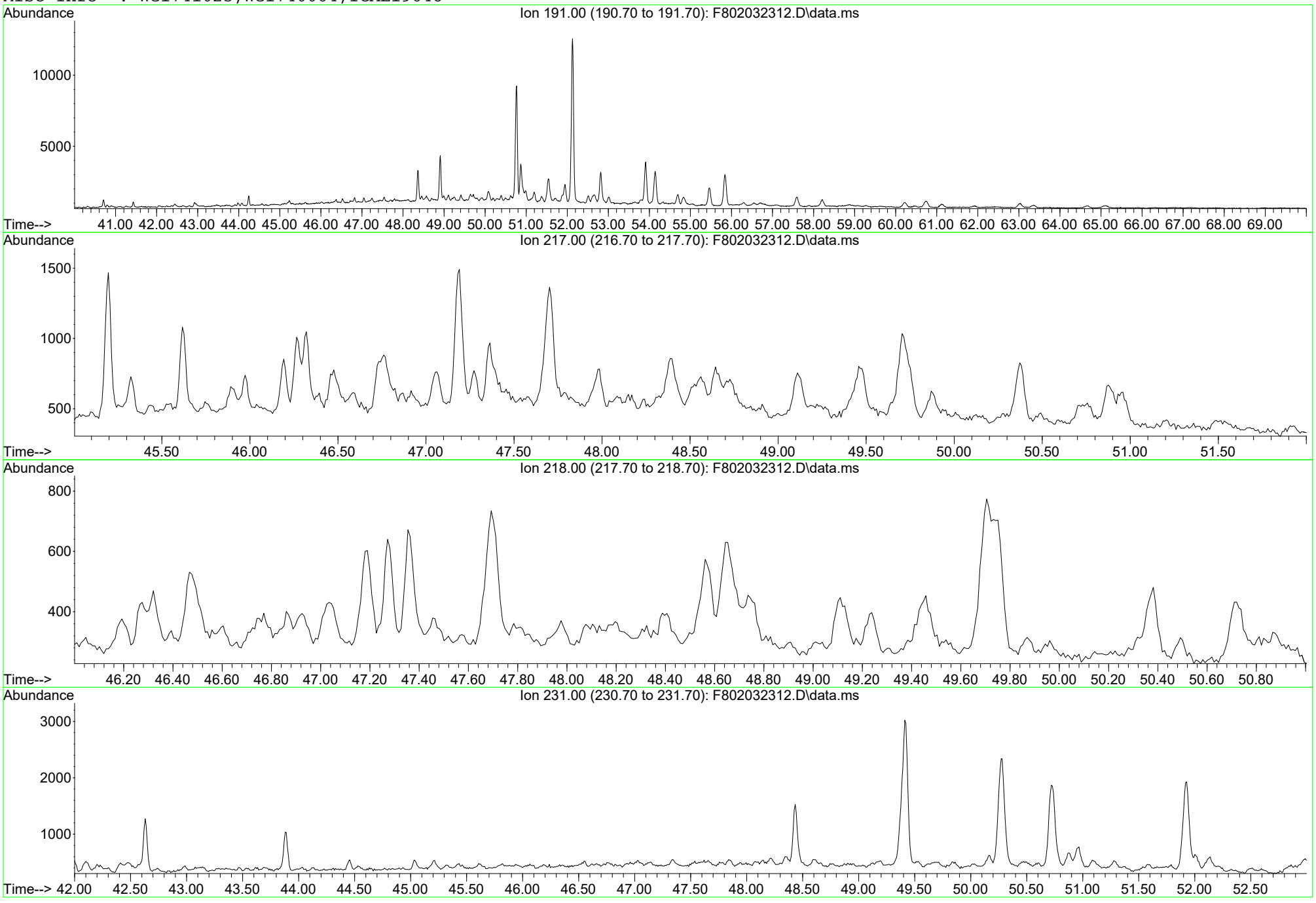
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802052316.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 6 Feb 2023 8:27 am using AcqMethod FRNC8A.M
Sample Name: wg1740214-5,32,,
Misc Info : wg1741399,wg1740214,ICAL19648

BRINE WELL 22 BS Duplicate
WG1740214-5



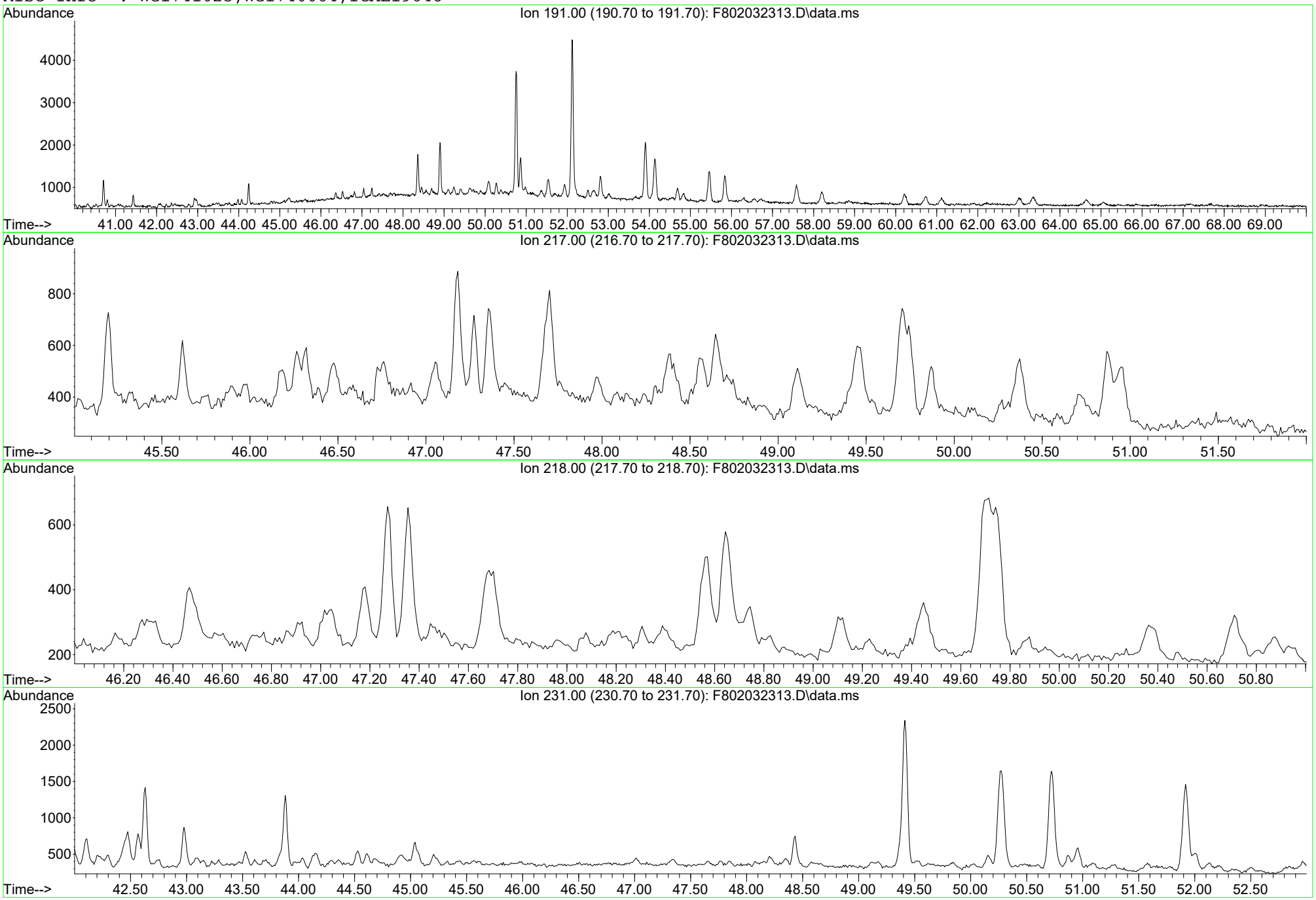
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802032312.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 4 Feb 2023 1:27 am using AcqMethod FRNC8A.M
Sample Name: L2305221-02,32,,
Misc Info : WG1741025,WG1740064,ICAL19648

110159
L2305221-02



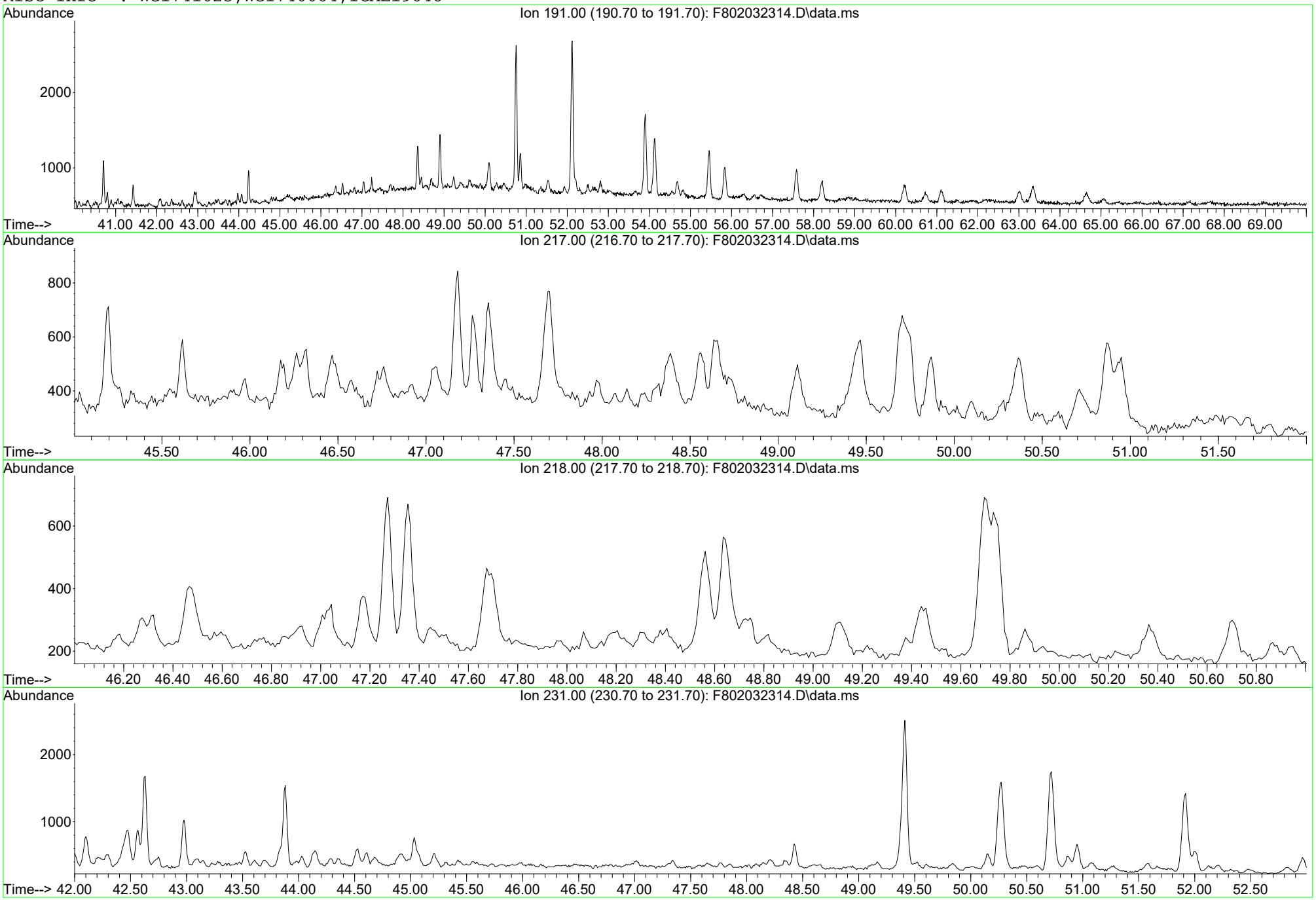
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802032313.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 4 Feb 2023 2:52 am using AcqMethod FRNC8A.M
Sample Name: L2305221-03,32,,
Misc Info : WG1741025,WG1740064,ICAL19648

STOCK TANK
L2305221-03



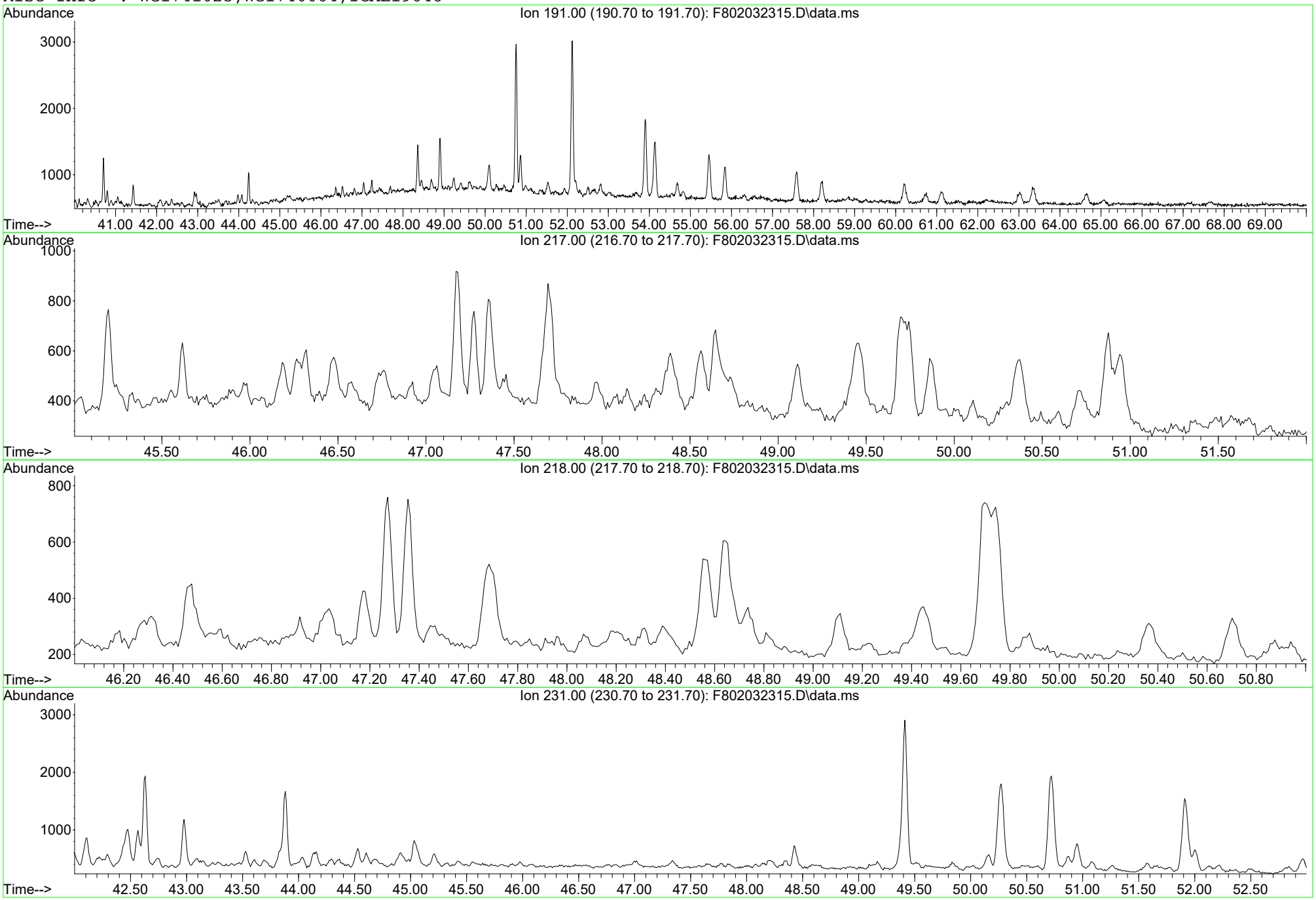
File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802032314.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 4 Feb 2023 4:15 am using AcqMethod FRNC8A.M
Sample Name: L2305221-04,32,,
Misc Info : WG1741025,WG1740064,ICAL19648

7B
L2305221-04



File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802032315.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 4 Feb 2023 5:39 am using AcqMethod FRNC8A.M
Sample Name: WG1740064-5,32,,
Misc Info : WG1741025,WG1740064,ICAL19648

7B Duplicate
WG1740064-5



File :D:\West Lake Salt Dome_850.000079.023\Alpha Data\L2305221\AL
... KPAH\F802052310.D
Operator : PAH8:CNC
Instrument : PAH8
Acquired : 5 Feb 2023 11:51 pm using AcqMethod FRNC8A.M
Sample Name: l2305221-05,32,,
Misc Info : wg1741399,wg1740246,ICAL19648

CENTRAL POND
L2305221-05