



October 28th, 2022

Roger Brewer
Hawaii Department of Health
919 Ala Moana Boulevard
Honolulu, HI 96813

Cc: Eric M. Jensen
Tetra Tech, Inc.
Honolulu, HI 96813

Dr. Brewer,

This memo provides supplemental analytical data in support of the fuel study conducted by Alpha Analytical and NewFields Environmental Forensics on behalf of the Hawaii Department of Health. The fuel variants considered in this study were obtained from NewFields' forensic reference material library. More information on the reference fuels can be provided upon request. This study included the analysis of the following fuel variants:

Fuel Category	Fuel Variant
Gasolines	E10 87 Octane E10 91 Octane E10 93 Octane
Middle Distillates	Heating Fuel Road Diesel JP-5 JP-8
Residual Fuels	Waste Oil (auto) Bunker C

Alpha Analytical tested the fuel samples for volatile petroleum hydrocarbons (VPH) by Massachusetts Department of Environmental Protection (MADEP) VPH Method 2.1, and volatile paraffins, isoparaffins, aromatics, naphthenes and olefins (PIANO) by a modification of EPA Method 8260D. Using open column chromatography, the fuel samples were separated into aliphatic (F1), and aromatic (F2) fractions. The aliphatic, aromatic, and the whole extracts were then analyzed for total petroleum hydrocarbons (TPH C₉-C₄₄) by EPA Method 8015D. The Alpha data can be found attached to this report. Newfields, using Agilent's EnviroQuant™ data processing software further analyzed the VPH (C₅-C₈), and TPH (C₈-C₃₂) raw data to generate concentrations for the following carbon ranges from the aliphatic, aromatic and combined extracts:

Carbon Range		
C5-C6 Aliphatics	>C8-C10 Aromatics	>C8-C10 Combined
>C6-C8 Aliphatics	>C10-C12 Aromatics	>C10-C12 Combined
>C8-C10 Aliphatics	>C12-C16 Aromatics	>C12-C16 Combined
>C10-C12 Aliphatics	>C16-C21 Aromatics	>C16-C21 Combined
>C12-C16 Aliphatics	>C21-C32 Aromatics	>C21-C32 Combined
>C16-C21 Aliphatics		
>C21-C32 Aliphatics		

This report includes carbon range concentrations (mg/kg_{oil}), flame ionization detector (FID) chromatograms (aliphatic, aromatic, and combined extracts), and the detailed raw data quantitation reports that record the integration of each carbon range. I am available to discuss this data further at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric Litman".

Eric Litman, M.S.
Senior Consultant
NewFields Environmental Forensics

Attached:

- Attachment A: Carbon Range Data Report
- Attachment B: FID Chromatograms - Whole Extract
- Attachment C: FID Chromatograms Aliphatic Fraction
- Attachment D: FID Chromatograms Aromatic Fraction
- Attachment E: FID Chromatograms VPH
- Attachment F: Quantitation Raw Data Reports
- Attachment G: Alpha Analytical Data Package L2240634

Attachment A: Carbon Range Data Report

Project Name: Hawaii DOH - Fuel Study

	Duplicate			
Client ID	GASOLINE 87	GASOLINE 87	GASOLINE 91	GASOLINE 93
Matrix	OIL	OIL	OIL	OIL
Reference Method	VPH/8015D(M)	VPH/8015D(M)	VPH/8015D(M)	VPH/8015D(M)
Batch ID	WG1676301	WG1676301	WG1676301	WG1676301
Date Collected	7/26/2022	7/26/2022	7/26/2022	7/26/2022
Date Received	7/29/2022	7/29/2022	7/29/2022	7/29/2022
Date Prepped	8/17/2022	8/17/2022	8/17/2022	8/17/2022
Date Analyzed	8/18/2022	8/18/2022	8/18/2022	8/18/2022
Sample Size(wet)	0.1054	0.1054	0.1027	0.1125
% Solid	100	100	100	100
File ID	f1708172220	f1708172220	f1708172224	f1708172226
Lab ID Combined:	L2240634-01	WG1676301-4	L2240634-04	L2240634-07
Lab ID F1:	L2240634-02	WG1676456-4	L2240634-05	L2240634-08
Lab ID F2:	L2240634-03	WG1676458-4	L2240634-06	L2240634-09
Units	mg/kg	mg/kg	mg/kg	mg/kg

Fraction	Analytes	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Aliphatic	C5-C6 Aliphatics	23,395		22,500	23,910		22,500	23,948		21,900	16,578	J	21,400
Aliphatic	>C6-C8 Aliphatics	40,765		22,500	35,492		22,500	34,839		21,900	22,557		21,400
Aliphatic	>C8-C10 Aliphatics	36,595		3,130	42,871		3,130	38,359		3,210	33,345		2,930
Aliphatic	>C10-C12 Aliphatics	11,737		3,130	13,428		3,130	11,464		3,210	9,562		2,930
Aliphatic	>C12-C16 Aliphatics	2,667	J	3,130	2,843	J	3,130	2,275	J	3,210	2,069	J	2,930
Aliphatic	>C16-C21 Aliphatics		U	3,130		U	3,130		U	3,210		U	2,930
Aliphatic	>C21-C32 Aliphatics		U	3,130		U	3,130		U	3,210		U	2,930
Aromatic	>C8-C10 Aromatics	73,977		3,130	74,732		3,130	62,778		3,210	65,763		2,930
Aromatic	>C10-C12 Aromatics	26,981		3,130	27,755		3,130	22,066		3,210	24,006		2,930
Aromatic	>C12-C16 Aromatics	4,315		3,130	4,564		3,130	3,524		3,210	3,847		2,930
Aromatic	>C16-C21 Aromatics		U	3,130		U	3,130		U	3,210		U	2,930
Aromatic	>C21-C32 Aromatics		U	3,130		U	3,130		U	3,210		U	2,930
Combined	>C8-C10 Combined	182,369		6,260	173,957		6,260	163,348		6,430	163,372		5,870
Combined	>C10-C12 Combined	56,742		6,260	53,742		6,260	46,601		6,430	47,722		5,870
Combined	>C12-C16 Combined	10,283		6,260	9,868		6,260	8,099		6,430	8,118		5,870
Combined	>C16-C21 Combined		U	6,260		U	6,260		U	6,430		U	5,870
Combined	>C21-C32 Combined		U	6,260		U	6,260		U	6,430		U	5,870

Project Name: Hawaii DOH - Fi

Client ID	HEATING FUEL	ROAD DIESEL	JP-5	JP-8
Matrix	OIL	OIL	OIL	OIL
Reference Method	VPH/8015D(M)	VPH/8015D(M)	VPH/8015D(M)	VPH/8015D(M)
Batch ID	WG1676301	WG1676301	WG1676301	WG1676301
Date Collected	7/26/2022	7/26/2022	7/26/2022	7/26/2022
Date Received	7/29/2022	7/29/2022	7/29/2022	7/29/2022
Date Prepped	8/17/2022	8/17/2022	8/17/2022	8/17/2022
Date Analyzed	8/18/2022	8/18/2022	8/18/2022	8/18/2022
Sample Size(wet)	0.1122	0.1118	0.02	0.02
% Solid	100	100	100	100
File ID	f1708172228	f1708172230	f1708172232	f1708172240
Lab ID Combined:	L2240634-10	L2240634-13	L2240634-16	L2240634-19
Lab ID F1:	L2240634-11	L2240634-14	L2240634-17	L2240634-20
Lab ID F2:	L2240634-12	L2240634-15	L2240634-18	L2240634-21
Units	mg/kg	mg/kg	mg/kg	mg/kg

Fraction	Analytes	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Aliphatic	C5-C6 Aliphatics		U	8,550		U	5,990		U	1,650		U	1,650
Aliphatic	>C6-C8 Aliphatics	1,526	J	8,550	1,406	J	5,990		U	1,650	780	J	1,650
Aliphatic	>C8-C10 Aliphatics	23,794		2,940	31,373		2,950	60,460		1,650	151,534		1,650
Aliphatic	>C10-C12 Aliphatics	80,983		2,940	61,092		2,950	278,612		1,650	180,422		1,650
Aliphatic	>C12-C16 Aliphatics	203,122		2,940	196,045		2,950	315,662		1,650	234,688		1,650
Aliphatic	>C16-C21 Aliphatics	166,328		2,940	212,713		2,950	2,264		1,650	20,794		1,650
Aliphatic	>C21-C32 Aliphatics	33,481		2,940	35,117		2,950		U	1,650		U	1,650
Aromatic	>C8-C10 Aromatics	6,507		2,940	22,417		2,950	7,506		1,650	30,291		1,650
Aromatic	>C10-C12 Aromatics	30,293		2,940	42,287		2,950	55,836		1,650	39,115		1,650
Aromatic	>C12-C16 Aromatics	111,016		2,940	110,031		2,950	90,500		1,650	73,316		1,650
Aromatic	>C16-C21 Aromatics	82,640		2,940	75,319		2,950	1,696		1,650	5,797		1,650
Aromatic	>C21-C32 Aromatics	15,036		2,940	12,839		2,950		U	1,650		U	1,650
Combined	>C8-C10 Combined	49,868		5,880	84,424		5,900	106,536		6,600	285,428		6,600
Combined	>C10-C12 Combined	152,064		5,880	137,585		5,900	440,808		6,600	295,541		6,600
Combined	>C12-C16 Combined	357,797		5,880	363,823		5,900	460,178		6,600	364,544		6,600
Combined	>C16-C21 Combined	263,613		5,880	317,428		5,900		U	6,600	29,586		6,600
Combined	>C21-C32 Combined	56,726		5,880	52,789		5,900		U	6,600		U	6,600

Project Name: Hawaii DOH - Fi

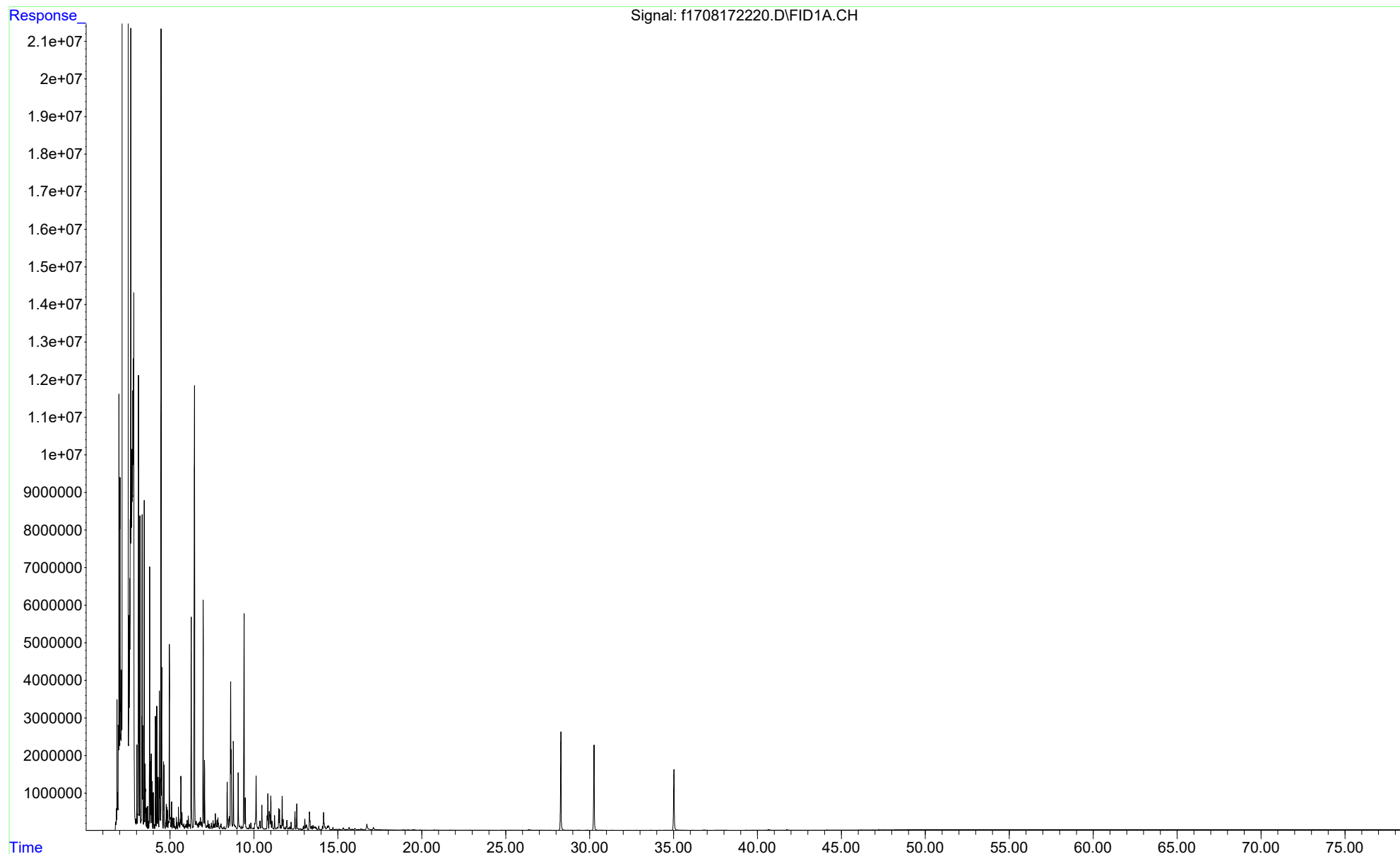
Client ID	BUNKER C	WASTE OIL (AUTO)
Matrix	OIL	OIL
Reference Method	VPH/8015D(M)	VPH/8015D(M)
Batch ID	WG1676301	WG1682983
Date Collected	7/26/2022	7/26/2022
Date Received	7/29/2022	7/29/2022
Date Prepped	8/17/2022	9/2/2022
Date Analyzed	8/18/2022	9/7/2022
Sample Size(wet)	0.1035	0.1119
% Solid	100	100
File ID	f1708172244	f1709062236
Lab ID Combined:	L2240634-25	L2240634-32
Lab ID F1:	L2240634-26	L2240634-33
Lab ID F2:	L2240634-27	L2240634-34
Units	mg/kg	mg/kg

Fraction	Analytes	Result	Q	RL	Result	Q	RL
Aliphatic	C5-C6 Aliphatics		U	855		U	248
Aliphatic	>C6-C8 Aliphatics		U	855	597		248
Aliphatic	>C8-C10 Aliphatics		U	3,190		U	2,950
Aliphatic	>C10-C12 Aliphatics	14,228		3,190		U	2,950
Aliphatic	>C12-C16 Aliphatics	51,074		3,190	1,822	J	2,950
Aliphatic	>C16-C21 Aliphatics	68,425		3,190	9,434		2,950
Aliphatic	>C21-C32 Aliphatics	182,967		3,190	652,672		2,950
Aromatic	>C8-C10 Aromatics		U	3,190	2,177	J	2,950
Aromatic	>C10-C12 Aromatics	6,891		3,190	3,629		2,950
Aromatic	>C12-C16 Aromatics	30,159		3,190	4,970		2,950
Aromatic	>C16-C21 Aromatics	37,074		3,190	6,738		2,950
Aromatic	>C21-C32 Aromatics	84,564		3,190	60,655		2,950
Combined	>C8-C10 Combined		U	12,800	3,762	J	5,900
Combined	>C10-C12 Combined	59,346		12,800	5,203	J	5,900
Combined	>C12-C16 Combined	189,840		12,800	7,246		5,900
Combined	>C16-C21 Combined	222,386		12,800	15,089		5,900
Combined	>C21-C32 Combined	568,242		12,800	622,151		5,900

Attachment B: FID Chromatograms - Whole Extract

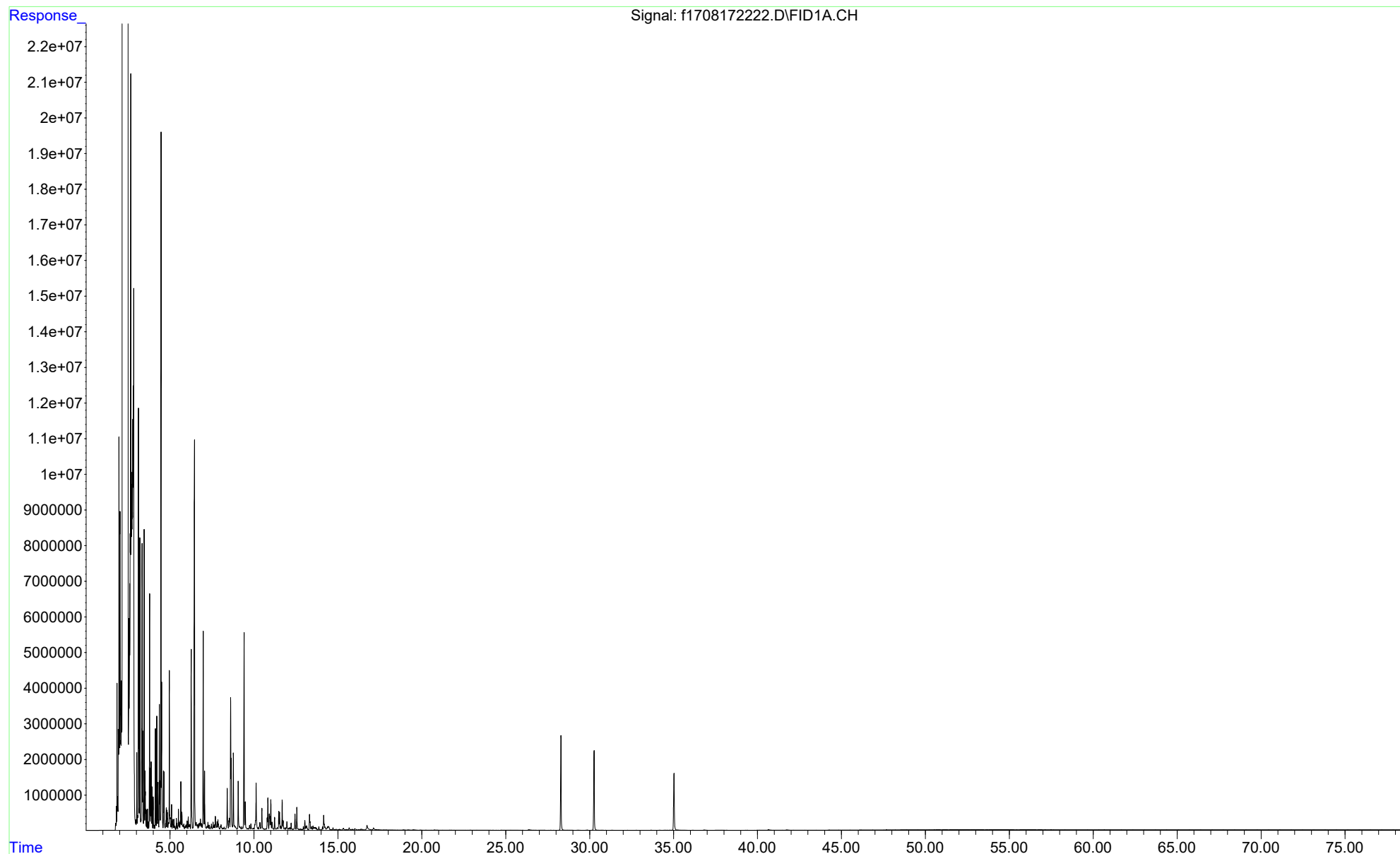
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172220.D
Operator : FID17:WR
Instrument : FID17
Acquired : 18 Aug 2022 1:41 am using AcqMethod FID17A.M
Sample Name: L2240634-01,42,,
Misc Info : WG1676467,WG1676301,ICAL18753

Whole Extract
GASOLINE 87
L2240634-01
Product



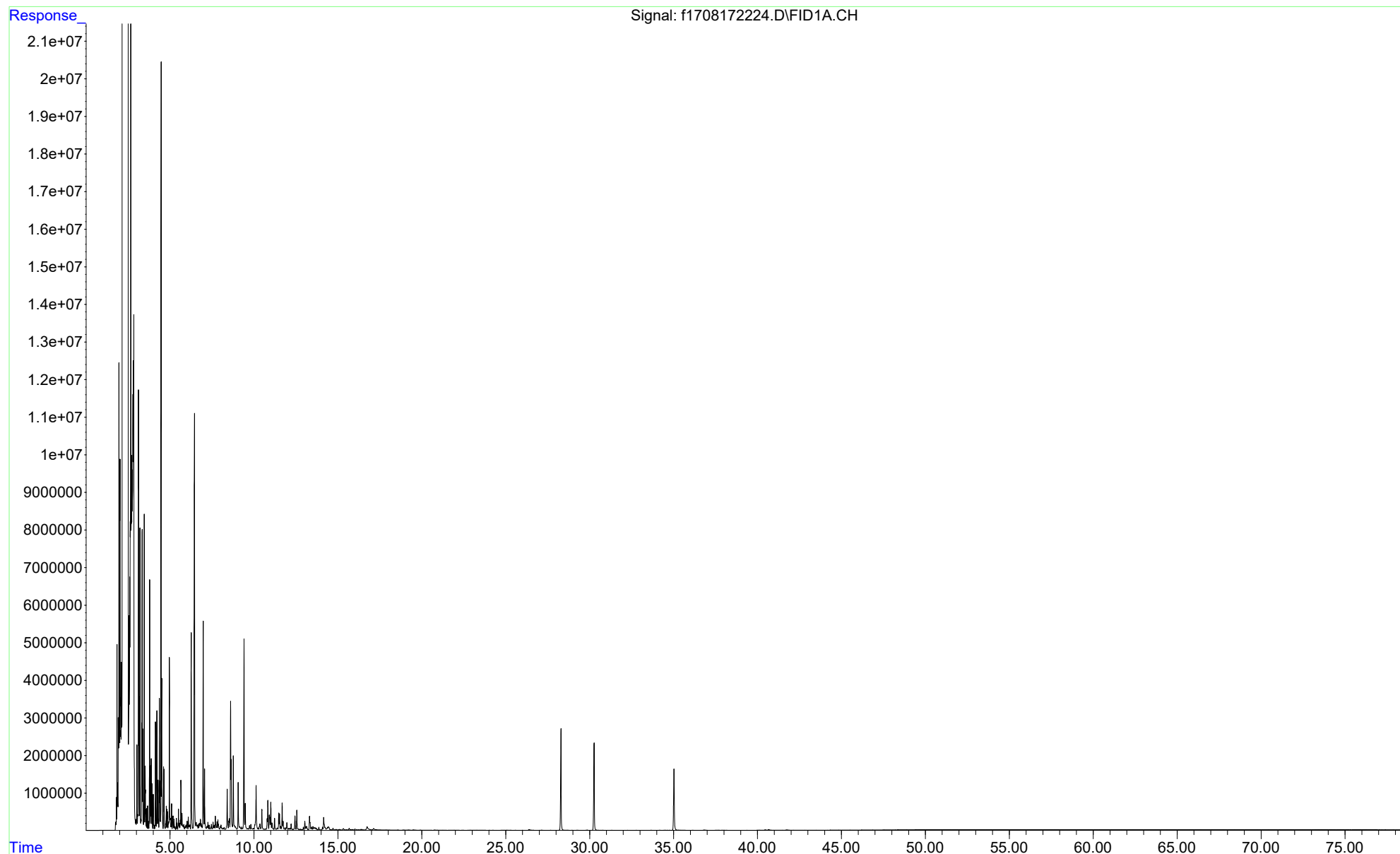
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172222.D
Operator : FID17:WR
Instrument : FID17
Acquired : 18 Aug 2022 3:10 am using AcqMethod FID17A.M
Sample Name: WG1676301-4,42,,
Misc Info : WG1676467,WG1676301,ICAL18753

Whole Extract
GASOLINE 87 Duplicate
L2240634-01
Product



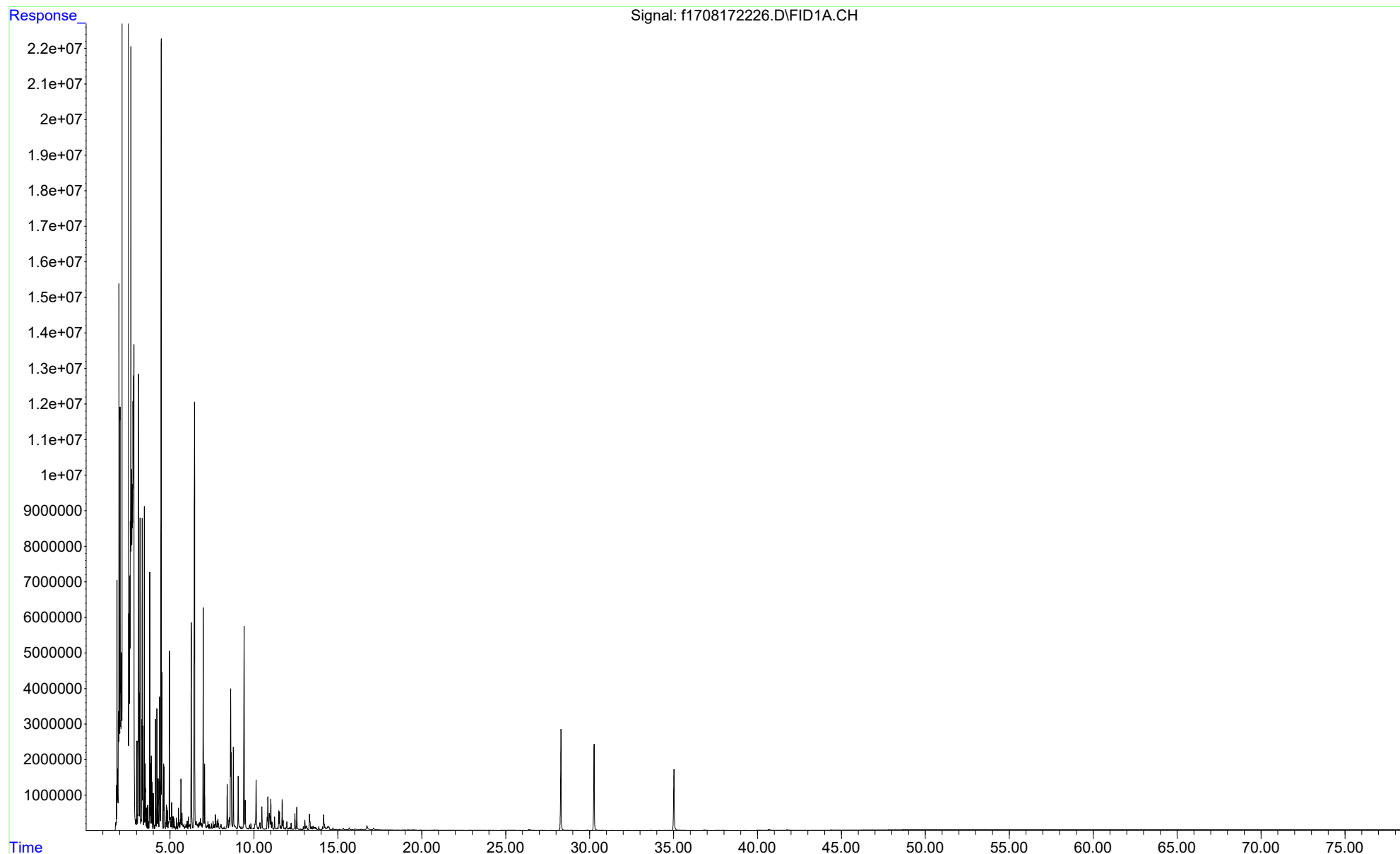
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172224.D
Operator : FID17:WR
Instrument : FID17
Acquired : 18 Aug 2022 4:40 am using AcqMethod FID17A.M
Sample Name: L2240634-04,42,,
Misc Info : WG1676467,WG1676301,ICAL18753

Whole Extract
GASOLINE 91
L2240634-04
Product



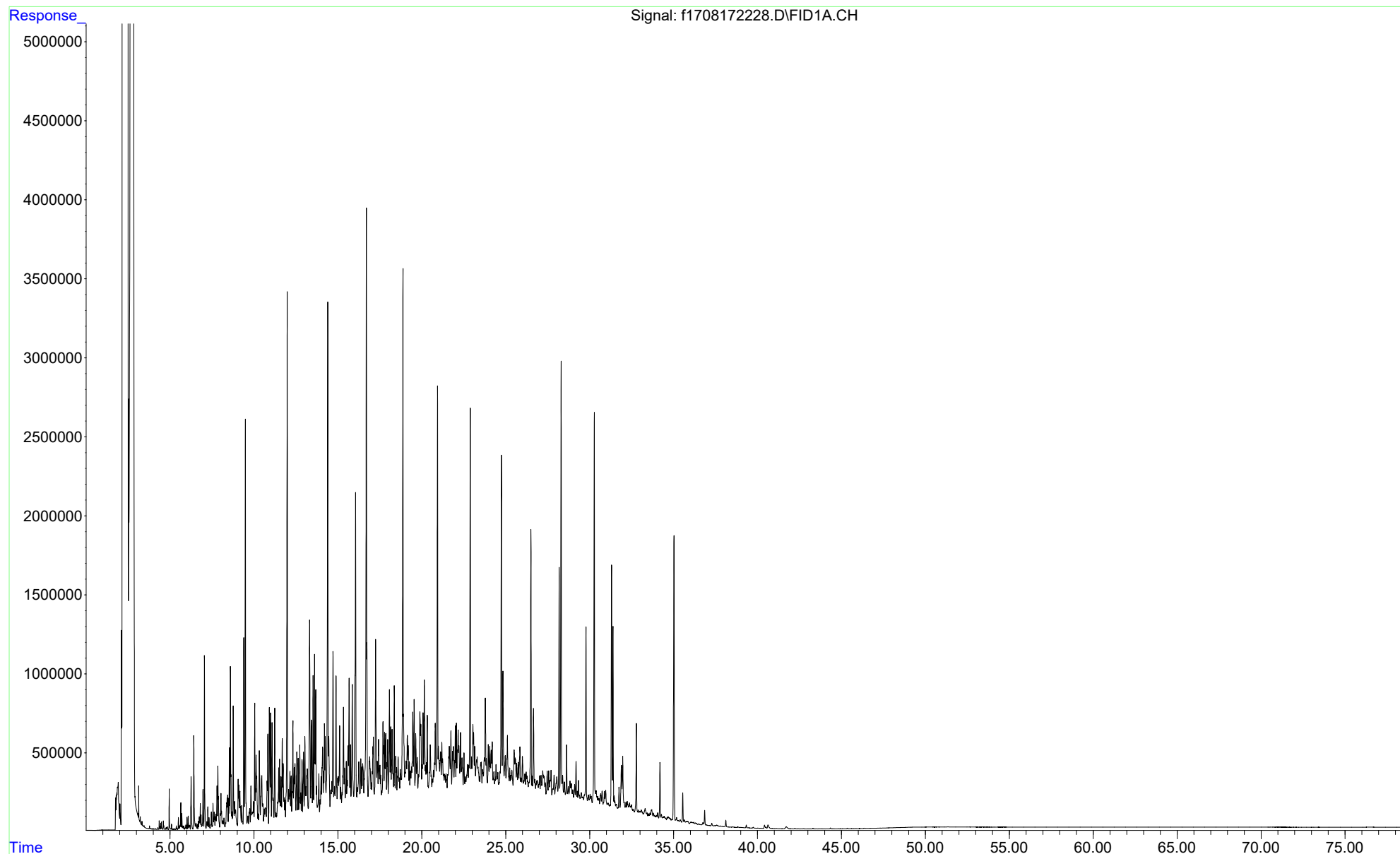
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172226.D
Operator : FID17:WR
Instrument : FID17
Acquired : 18 Aug 2022 6:10 am using AcqMethod FID17A.M
Sample Name: L2240634-07,42,,
Misc Info : WG1676467,WG1676301,ICAL18753

Whole Extract
GASOLINE 93
L2240634-07
Product



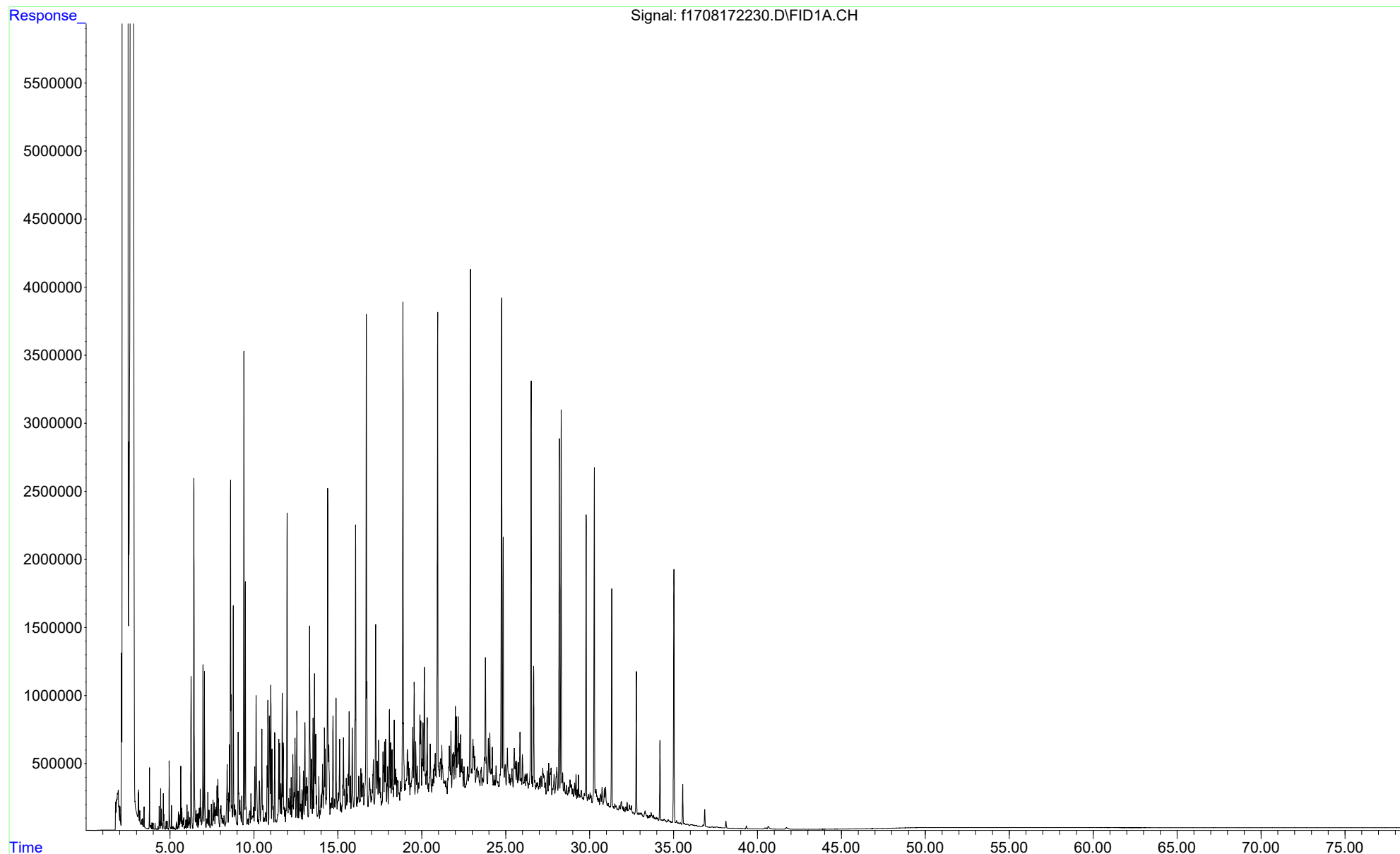
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172228.D
Operator : FID17:WR
Instrument : FID17
Acquired : 18 Aug 2022 7:40 am using AcqMethod FID17A.M
Sample Name: L2240634-10,42,,
Misc Info : WG1676467,WG1676301,ICAL18753

Whole Extract
HEATING FUEL
L2240634-10
Product



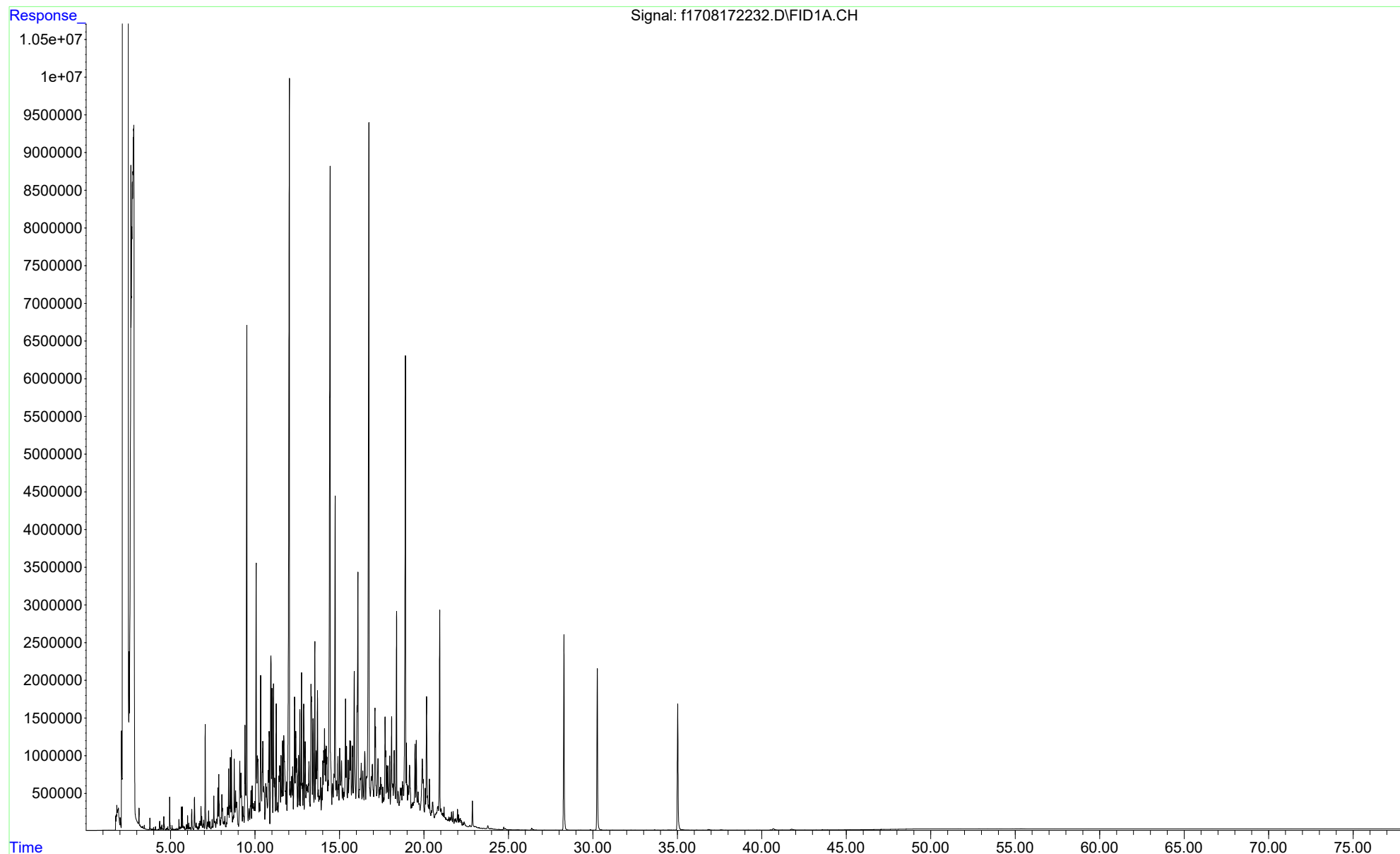
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172230.D
Operator : FID17:WR
Instrument : FID17
Acquired : 18 Aug 2022 9:10 am using AcqMethod FID17A.M
Sample Name: L2240634-13,42,,
Misc Info : WG1676467,WG1676301,ICAL18753

Whole Extract
ROAD DIESEL
L2240634-13
Product



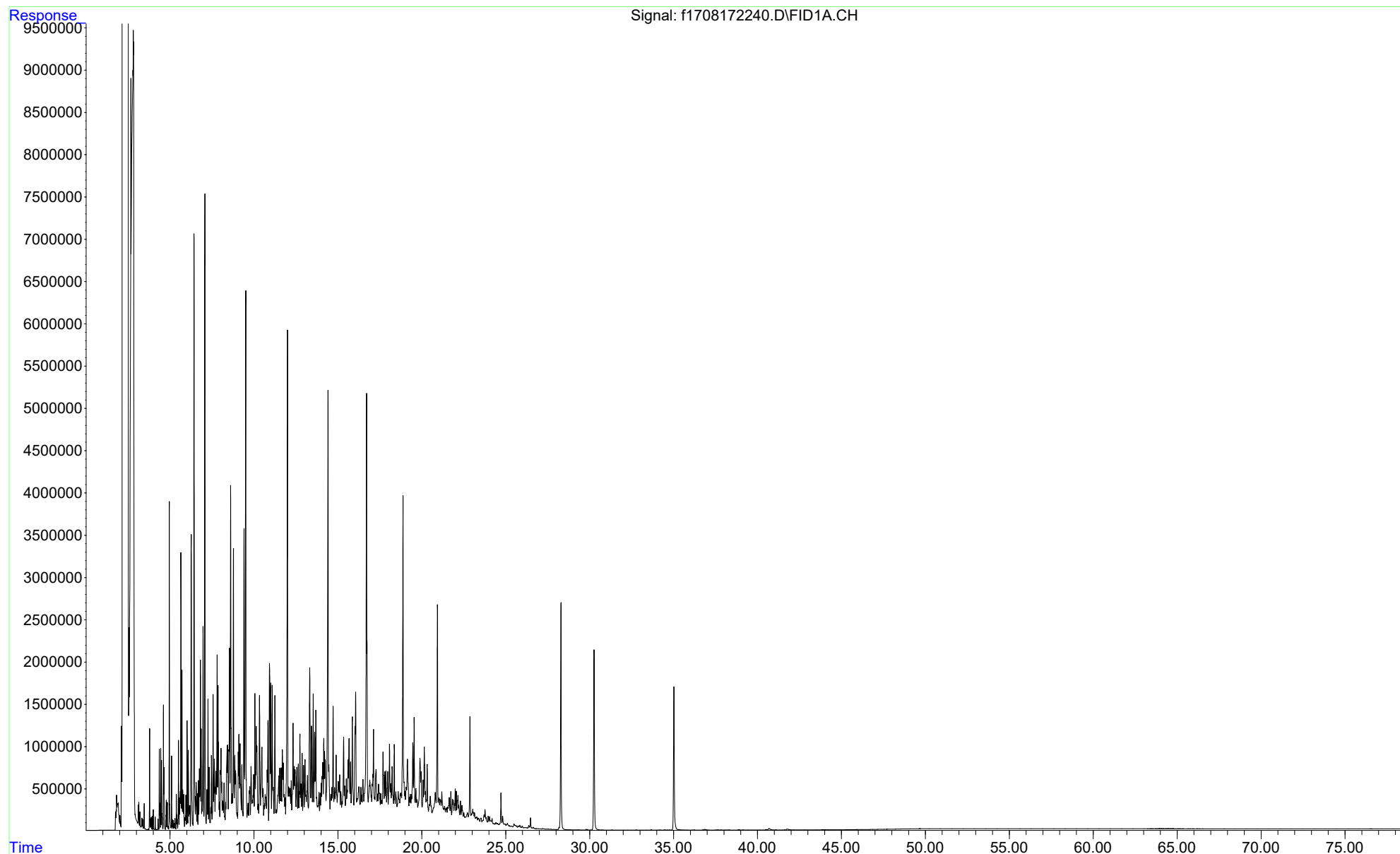
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172232.D
Operator : FID17:WR
Instrument : FID17
Acquired : 18 Aug 2022 10:41 am using AcqMethod FID17A.M
Sample Name: L2240634-16,42,,
Misc Info : WG1676467,WG1676301,ICAL18753

Whole Extract
JP-5
L2240634-16
Product



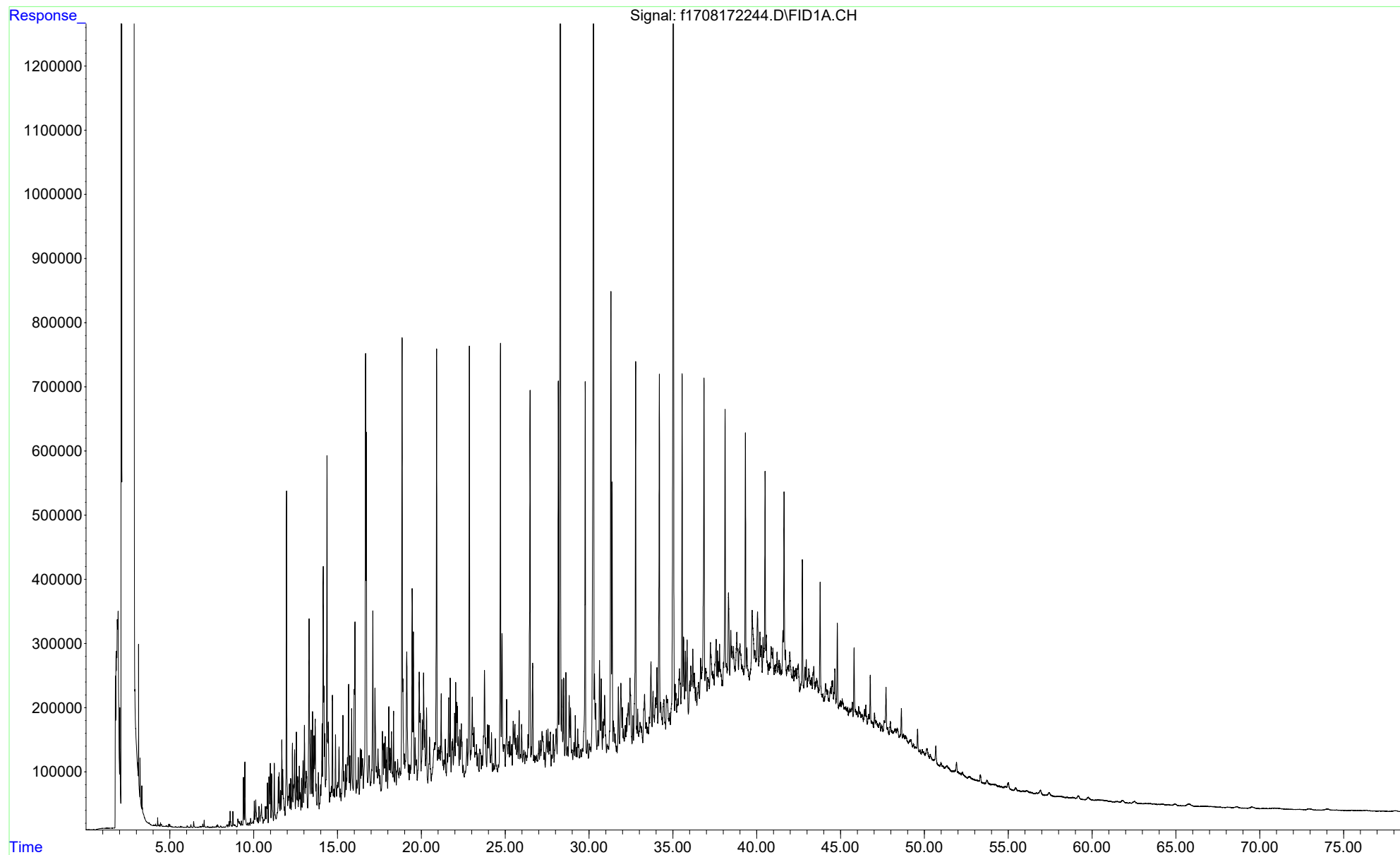
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172240.D
Operator : FID17:WR
Instrument : FID17
Acquired : 18 Aug 2022 16:46 pm using AcqMethod FID17A.M
Sample Name: L2240634-19,42,,
Misc Info : WG1676467,WG1676301,ICAL18753

Whole Extract
JP-8
L2240634-19
Product



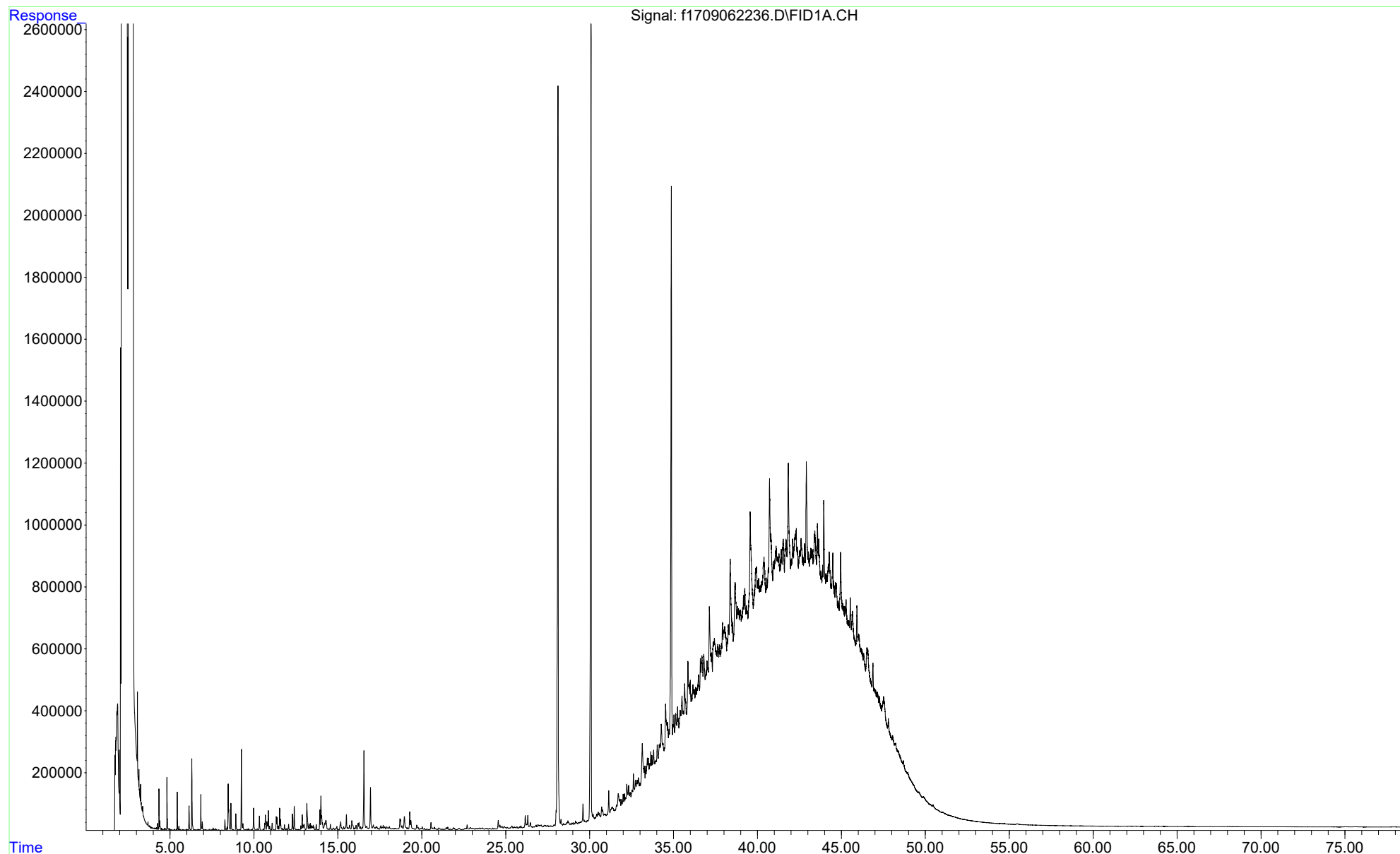
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172244.D
Operator : FID17:WR
Instrument : FID17
Acquired : 18 Aug 2022 19:48 pm using AcqMethod FID17A.M
Sample Name: L2240634-25,42,,
Misc Info : WG1676467,WG1676301,ICAL18753

Whole Extract
BUNKER C
L2240634-25
Product



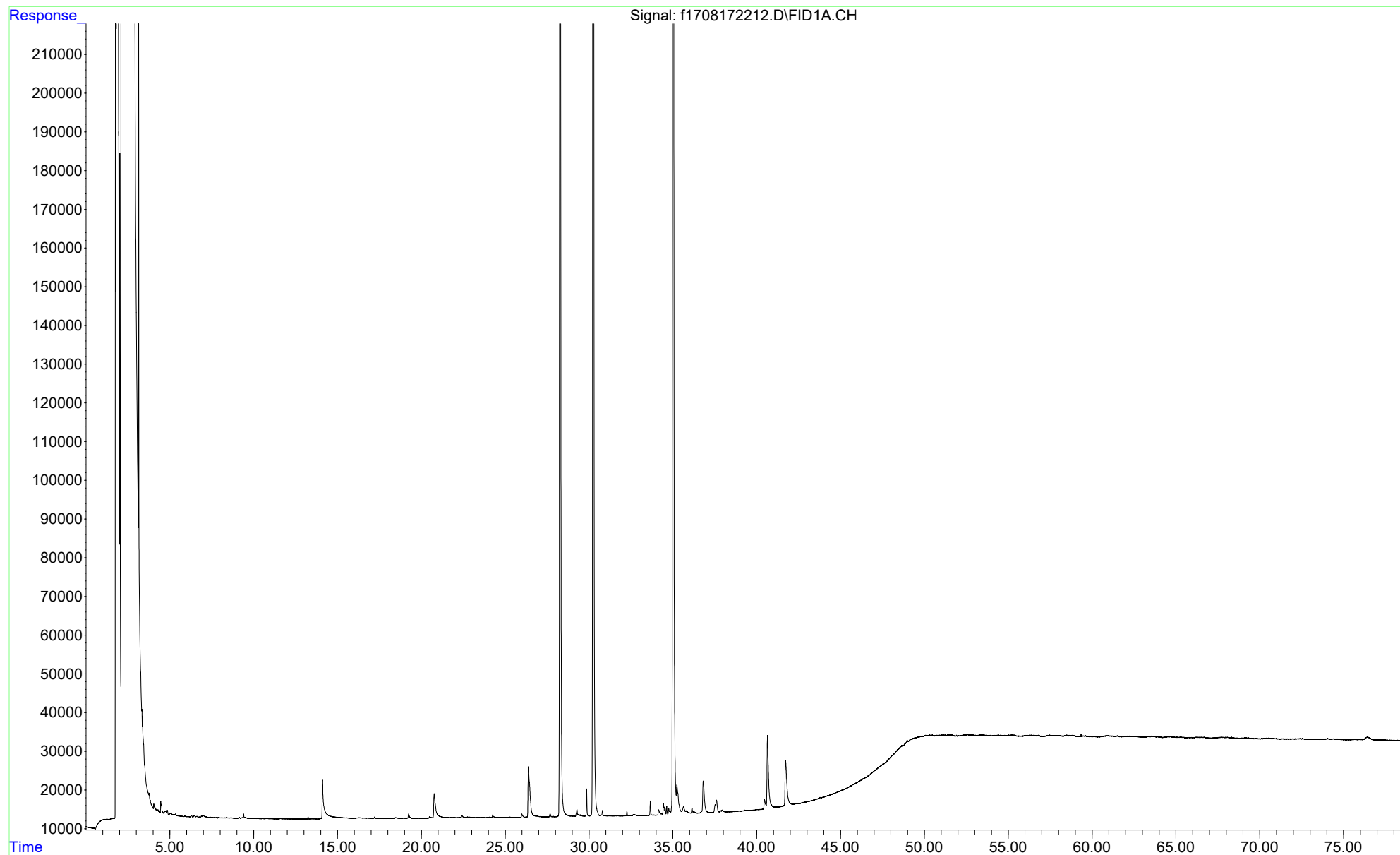
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1709062236.D
Operator : FID17:WR
Instrument : FID17
Acquired : 07 Sep 2022 16:05 pm using AcqMethod FID17A.M
Sample Name: L2240634-32,42,,
Misc Info : WG1684077,WG1682983,ICAL18753

Whole Extract
WASTE OIL (AUTO)
L2240634-32
Product



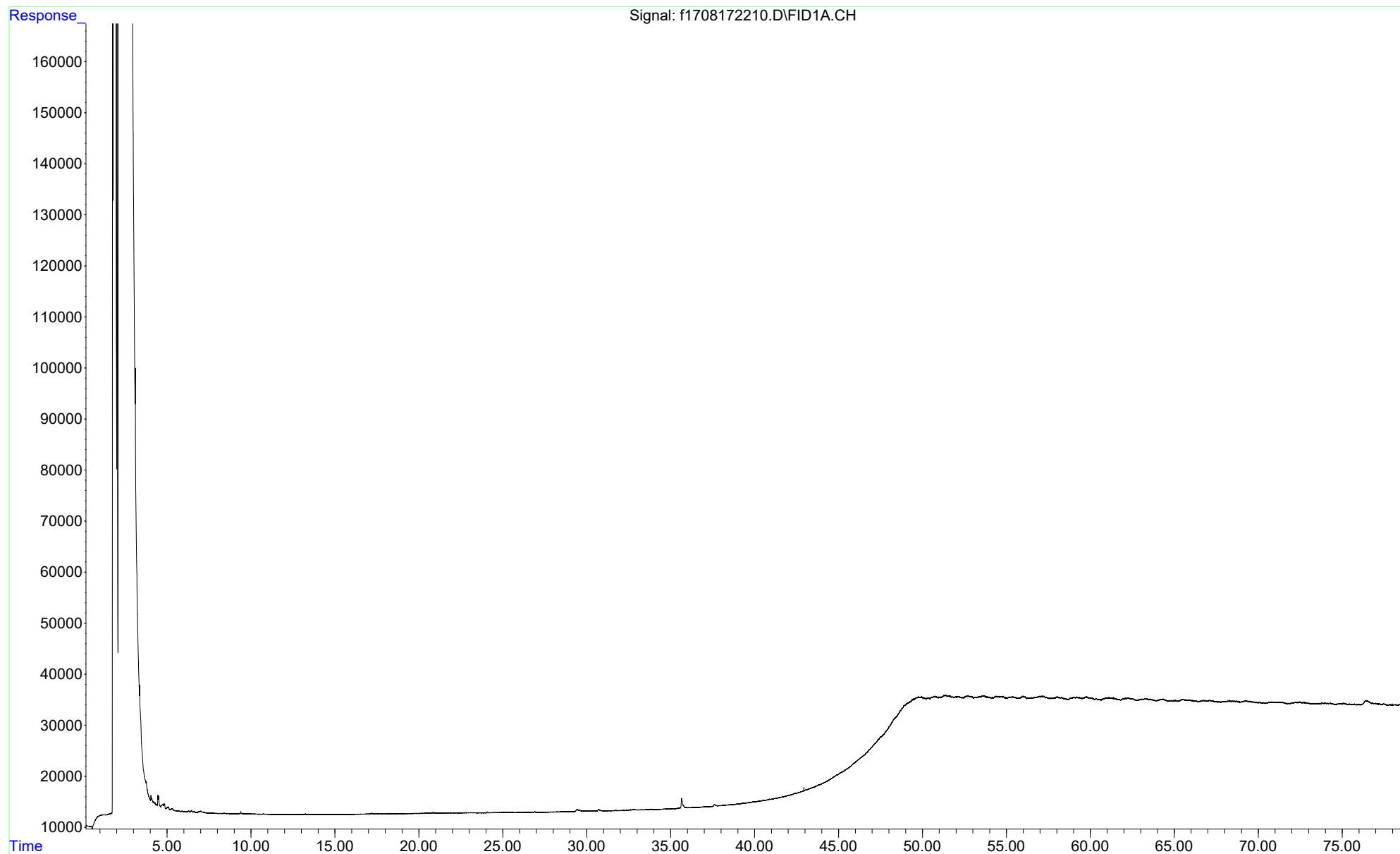
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172212.D
Operator : FID17:WR
Instrument : FID17
Acquired : 17 Aug 2022 19:40 pm using AcqMethod FID17A.M
Sample Name: WG1676301-1,42,,
Misc Info : WG1676467,WG1676301,ICAL18753

Whole Extract
Method Blank



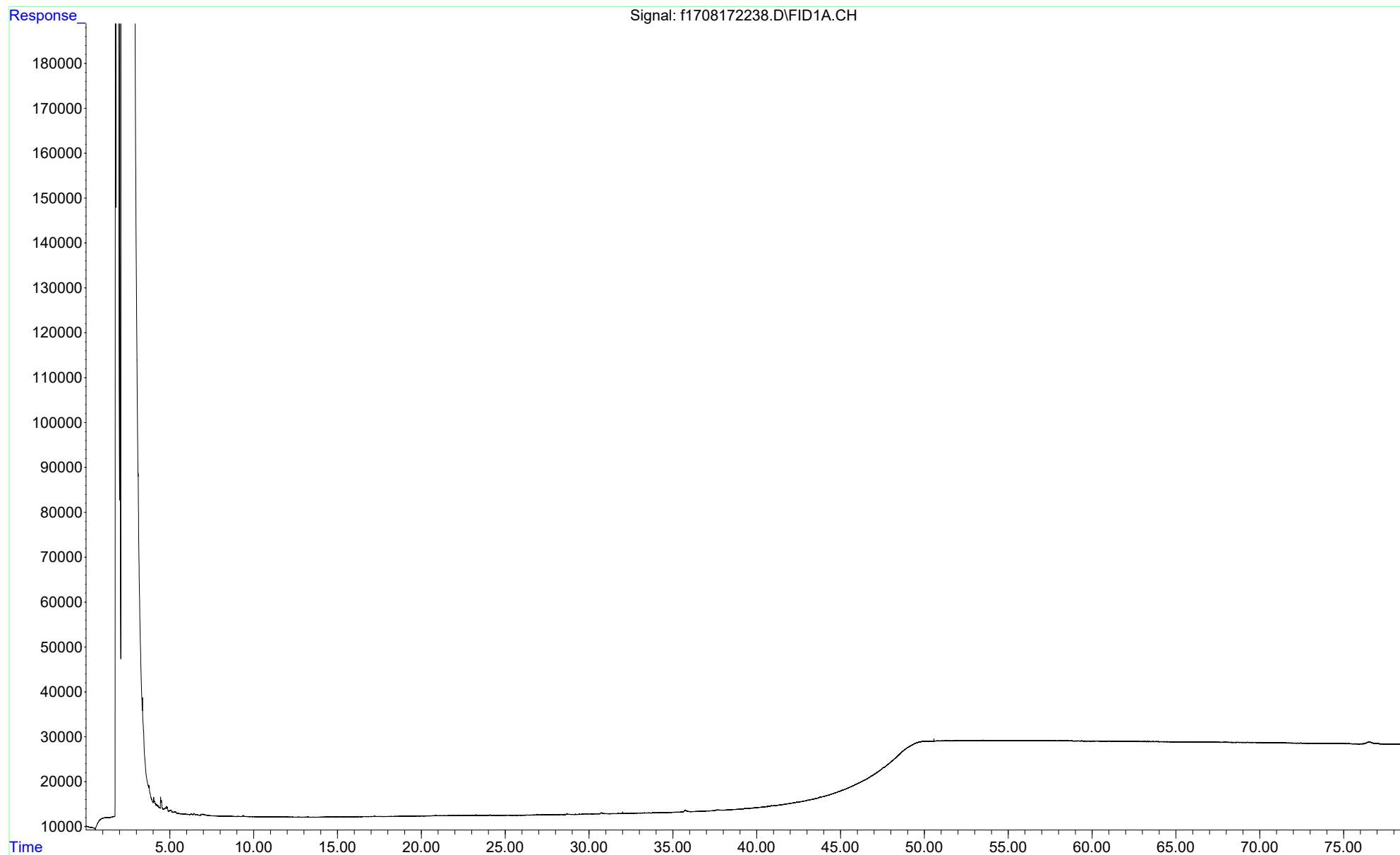
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172210.D
Operator : FID17:WR
Instrument : FID17
Acquired : 17 Aug 2022 18:10 pm using AcqMethod FID17A.M
Sample Name: IB1708172201F
Misc Info :

Whote Extract
Instrument Blank



File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172238.D
Operator : FID17:WR
Instrument : FID17
Acquired : 18 Aug 2022 15:14 pm using AcqMethod FID17A.M
Sample Name: IB1708172202F
Misc Info :

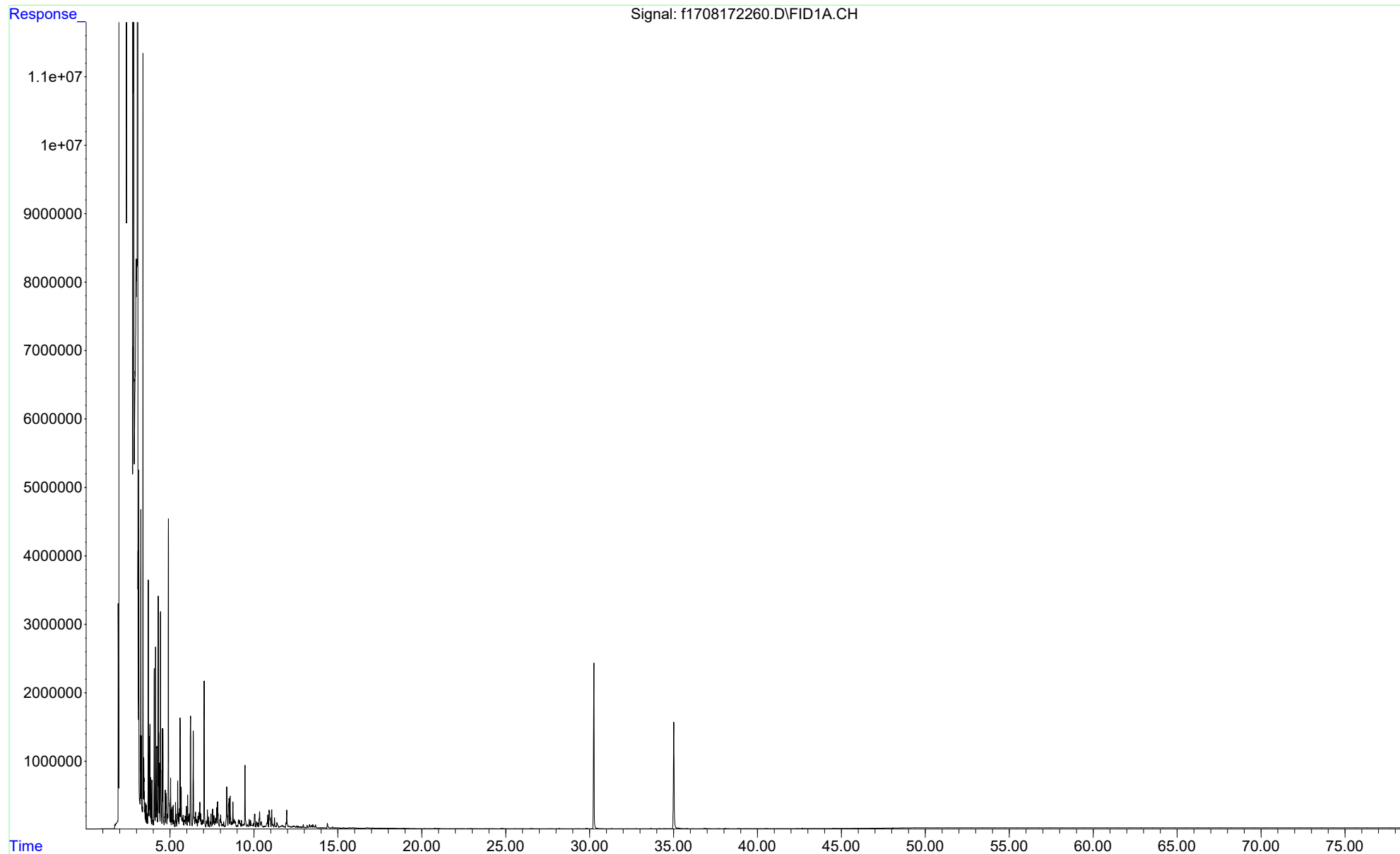
Whote Extract
Instrument Blank



Attachment C: FID Chromatograms Aliphatic Fraction

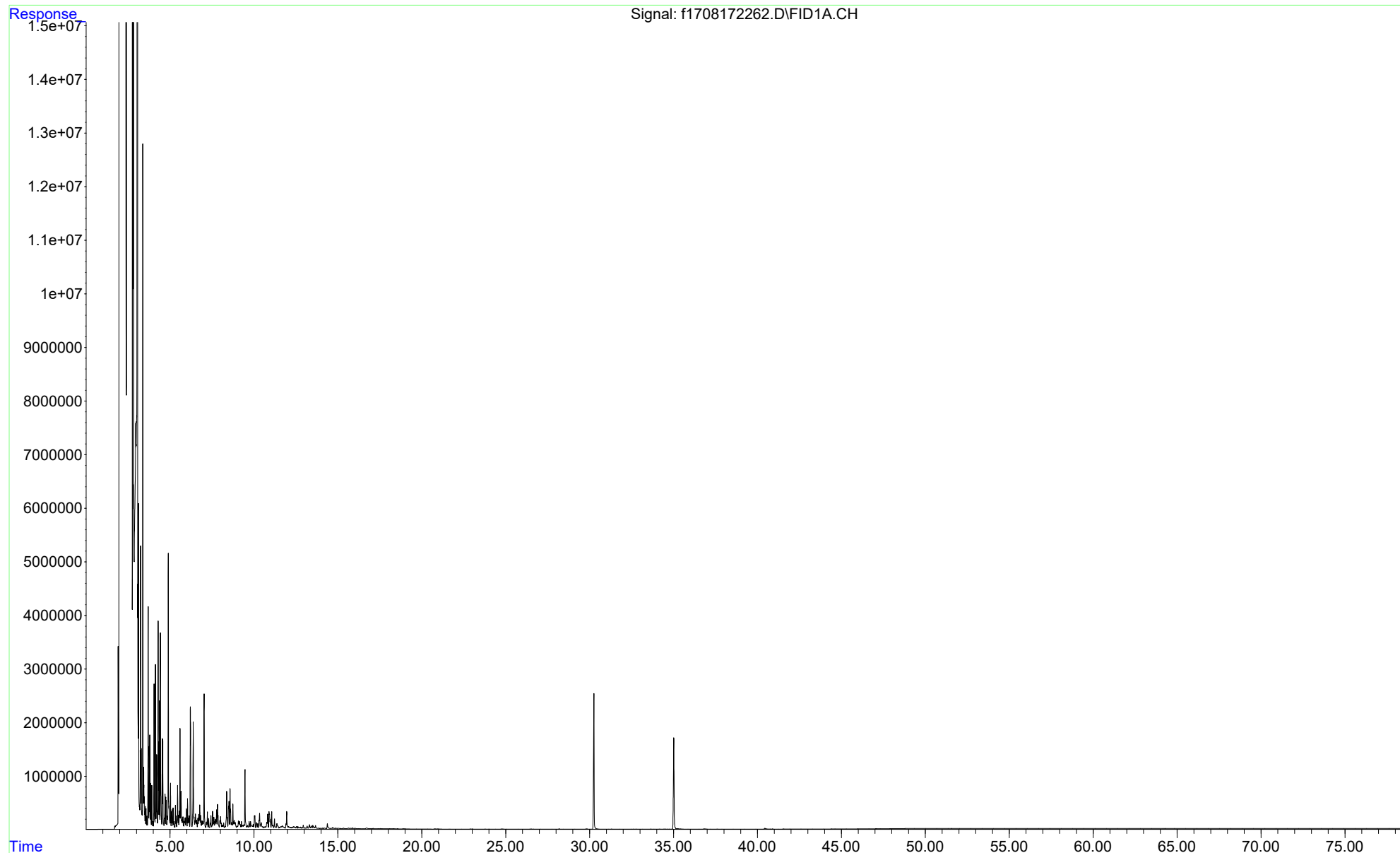
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172260.D
Operator : FID17:WR
Instrument : FID17
Acquired : 19 Aug 2022 7:48 am using AcqMethod FID17A.M
Sample Name: L2240634-02,42,,
Misc Info : WG1676467,WG1676456,ICAL18753

F1-Aliphatic
GASOLINE 87 F1
L2240634-02
Product



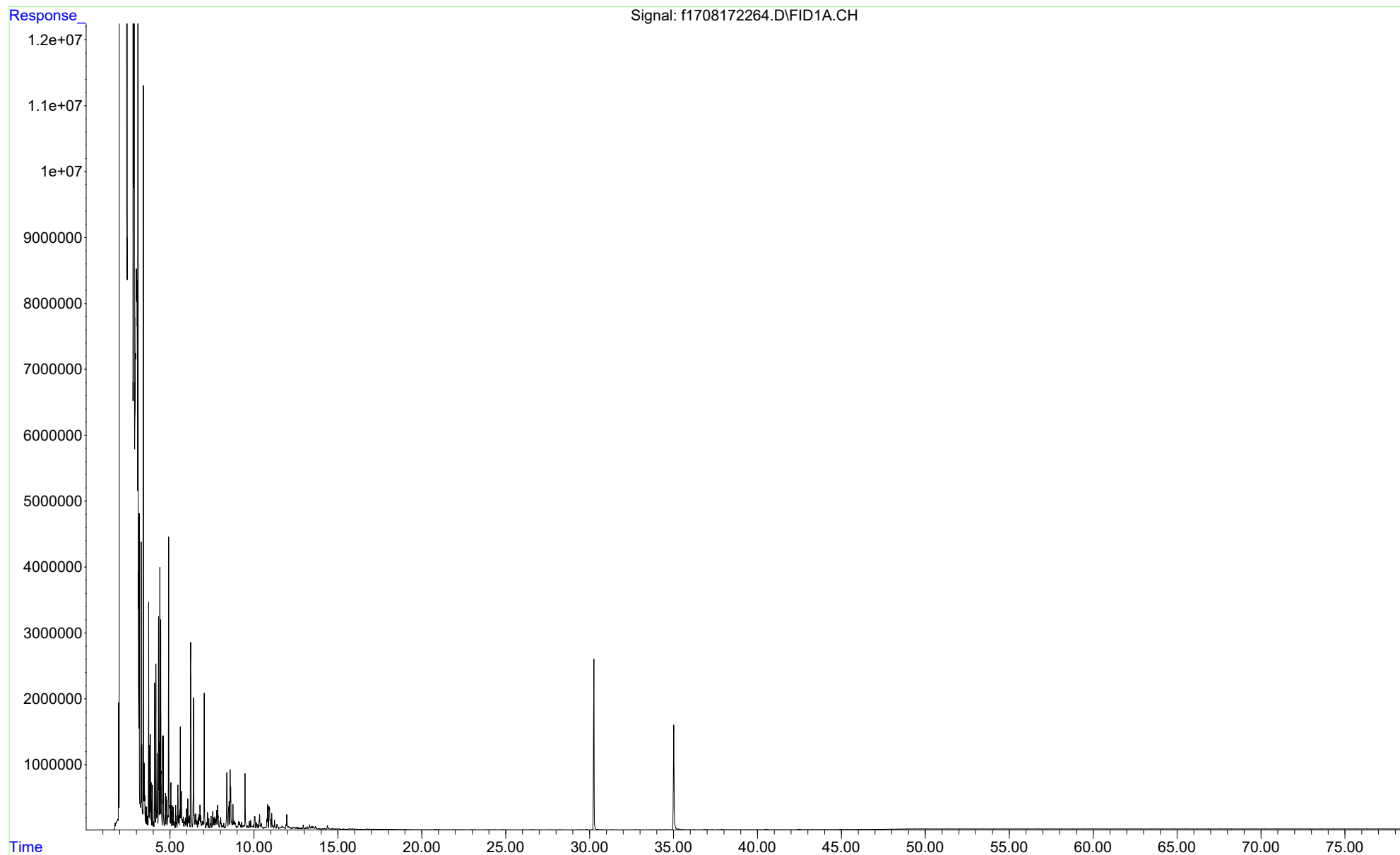
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172262.D
Operator : FID17:WR
Instrument : FID17
Acquired : 19 Aug 2022 9:18 am using AcqMethod FID17A.M
Sample Name: WG1676456-4,42,,
Misc Info : WG1676467,WG1676456,ICAL18753

F1-Aliphatic
GASOLINE 87 F1 Duplicate
L2240634-02
Product



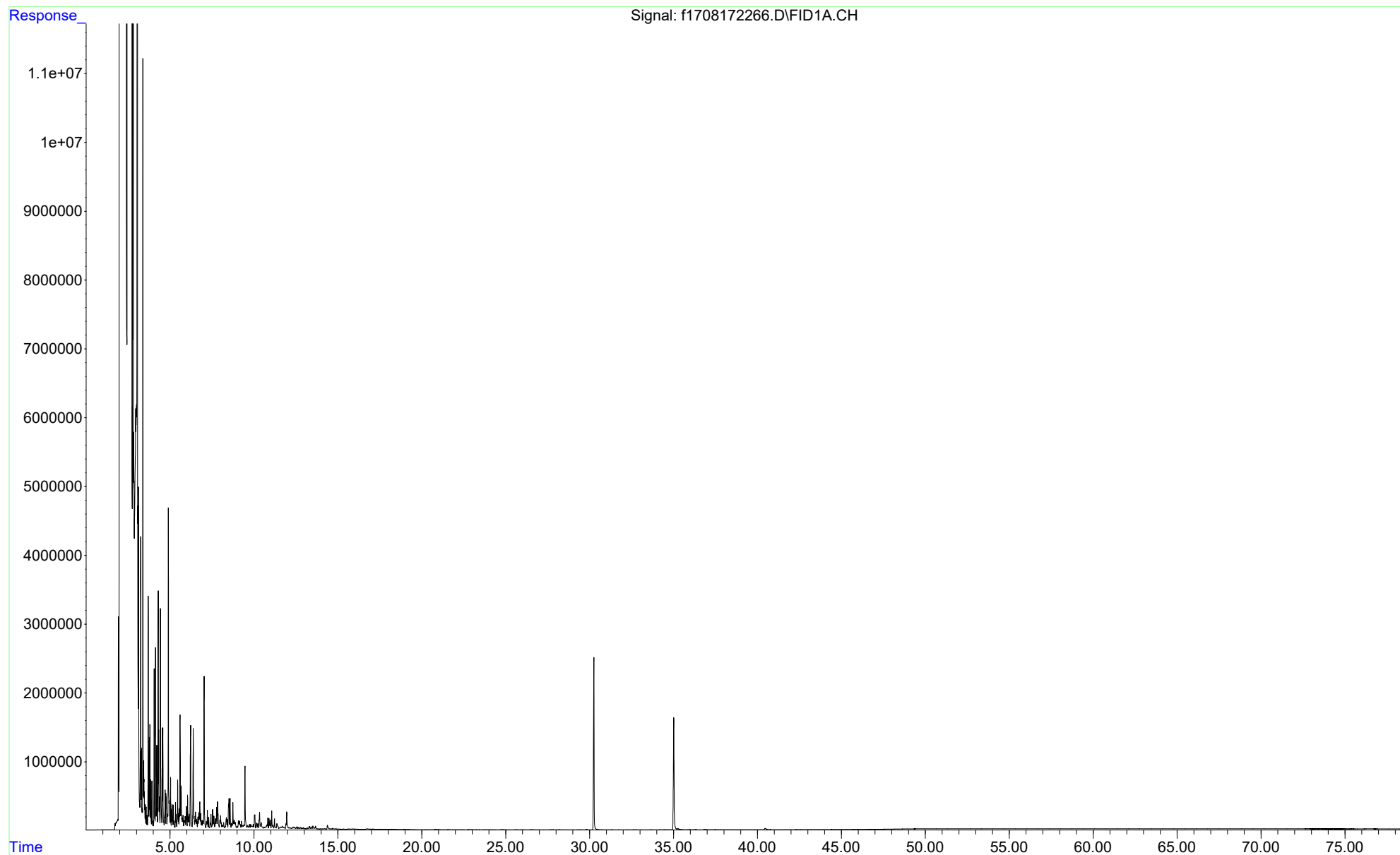
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172264.D
Operator : FID17:WR
Instrument : FID17
Acquired : 19 Aug 2022 10:49 am using AcqMethod FID17A.M
Sample Name: L2240634-05,42,,
Misc Info : WG1676467,WG1676456,ICAL18753

F1-Aliphatic
GASOLINE 91 F1
L2240634-05
Product



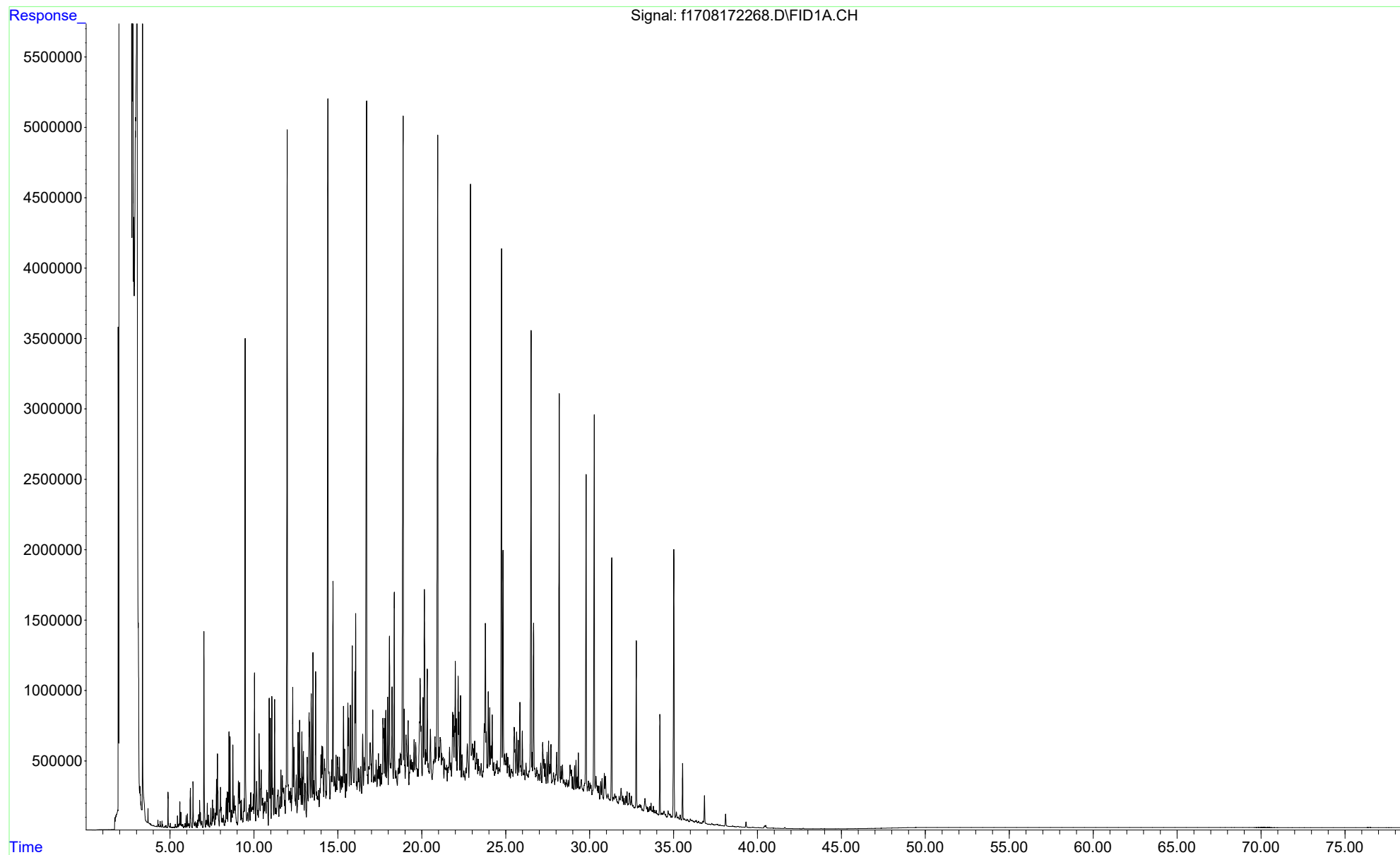
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172266.D
Operator : FID17:WR
Instrument : FID17
Acquired : 19 Aug 2022 12:21 pm using AcqMethod FID17A.M
Sample Name: L2240634-08,42,,
Misc Info : WG1676467,WG1676456,ICAL18753

F1-Aliphatic
GASOLINE 93 F1
L2240634-08
Product



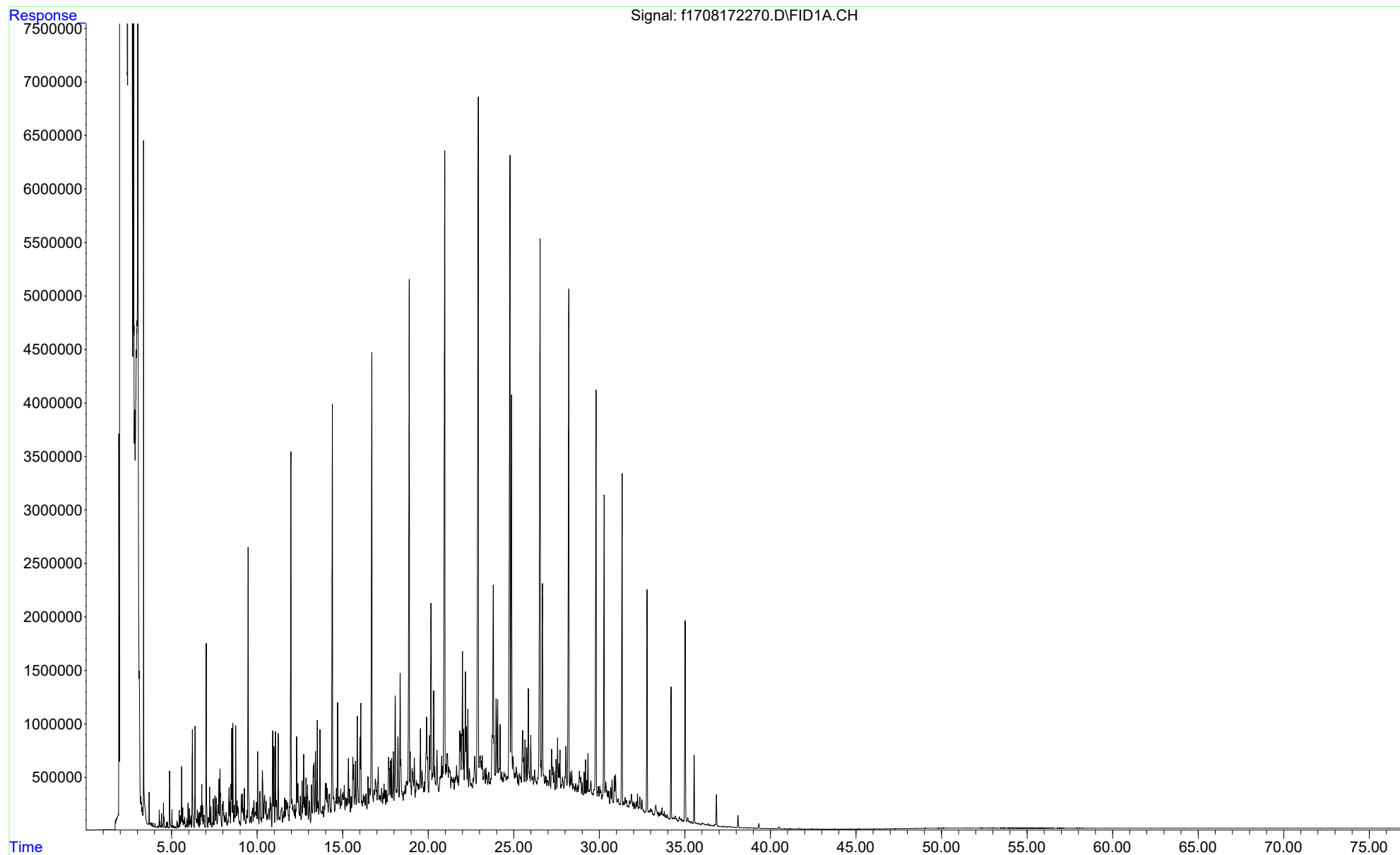
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172268.D
Operator : FID17:WR
Instrument : FID17
Acquired : 19 Aug 2022 13:52 pm using AcqMethod FID17A.M
Sample Name: L2240634-11,42,,
Misc Info : WG1676467,WG1676456,ICAL18753

F1-Aliphatic
HEATING FUEL F1
L2240634-11
Product



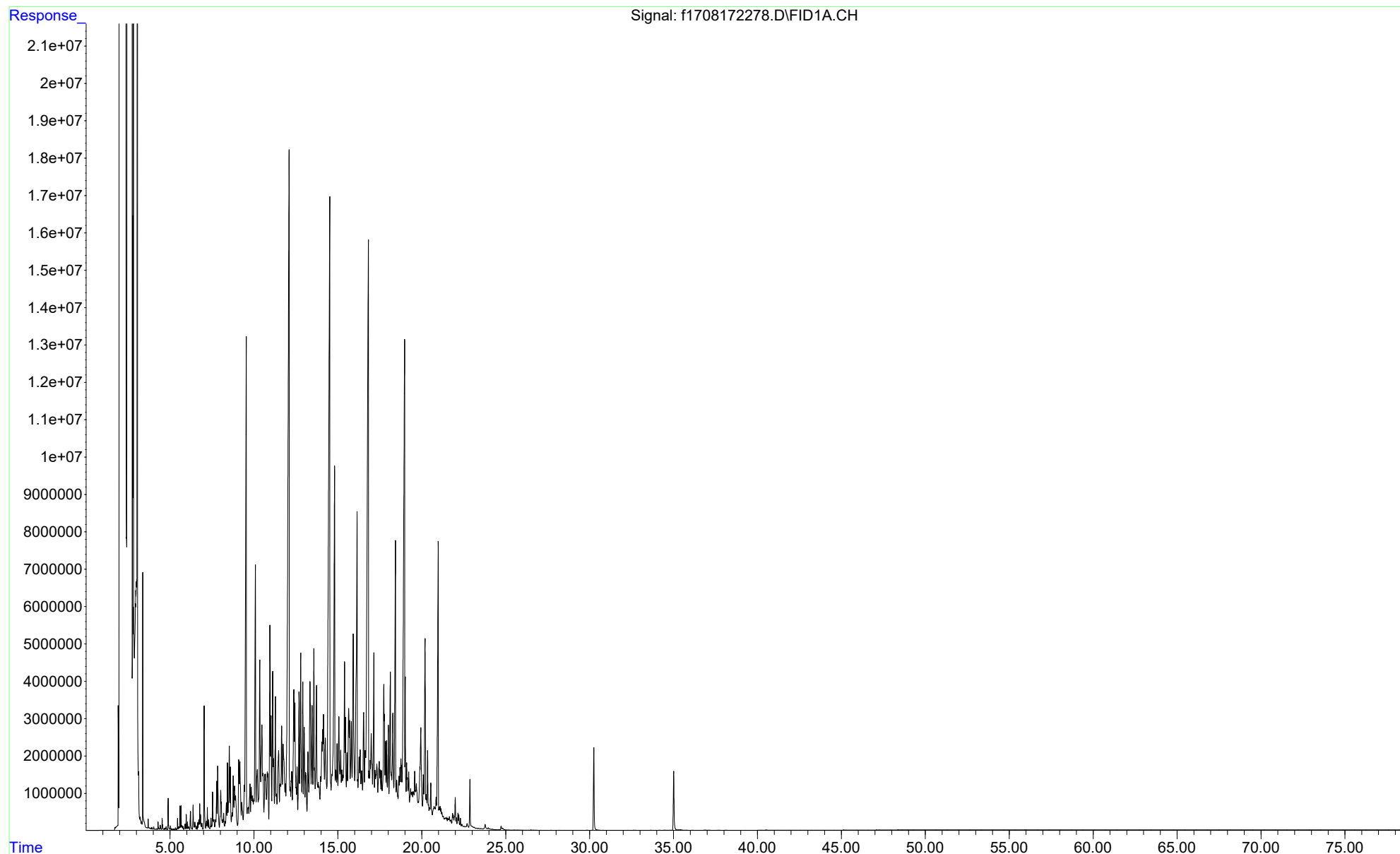
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172270.D
Operator : FID17:WR
Instrument : FID17
Acquired : 19 Aug 2022 15:24 pm using AcqMethod FID17A.M
Sample Name: L2240634-14,42,,
Misc Info : WG1676467,WG1676456,ICAL18753

F1-Aliphatic
ROAD DIESEL F1
L2240634-14
Product



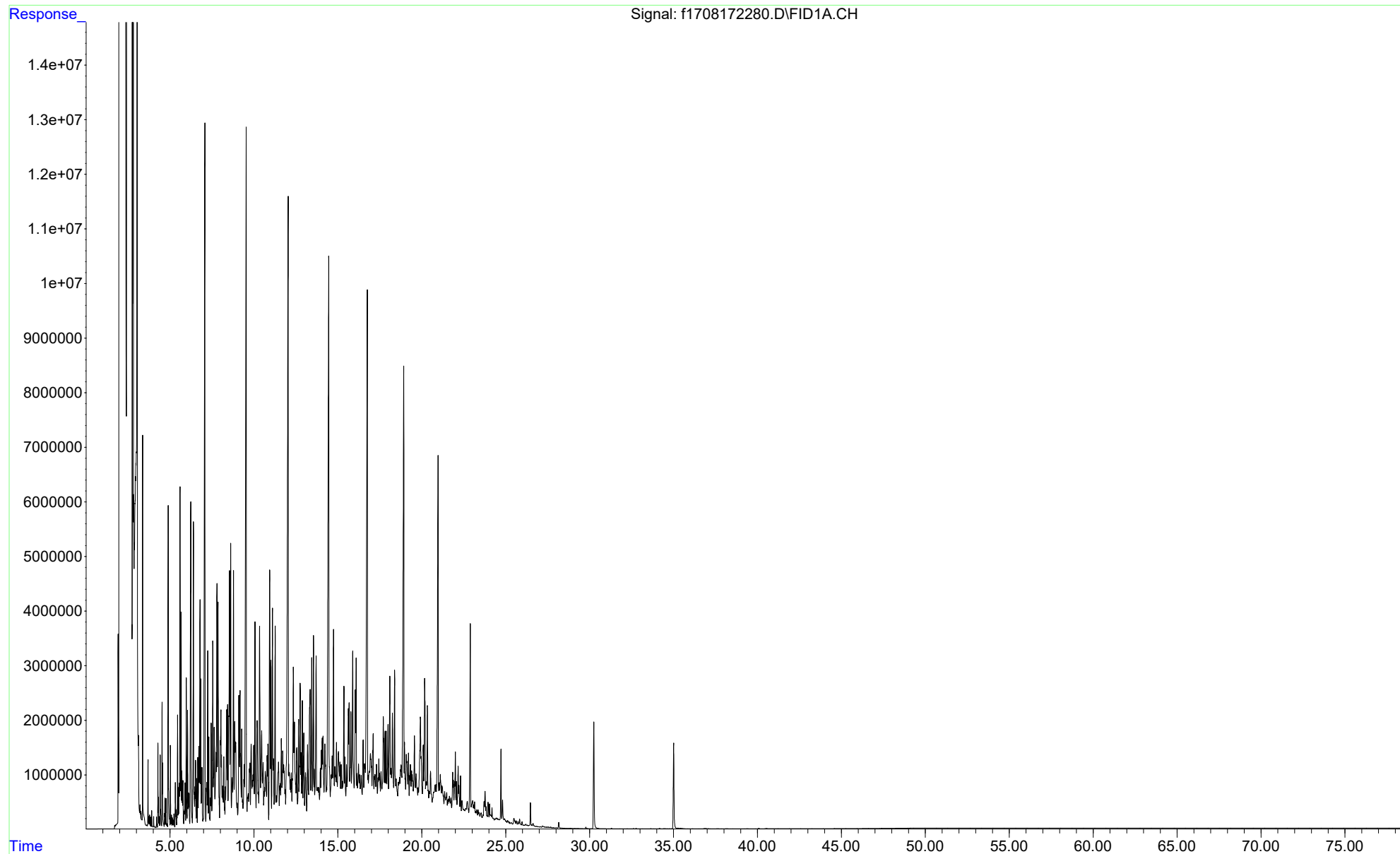
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172278.D
Operator : FID17:WR
Instrument : FID17
Acquired : 19 Aug 2022 21:29 pm using AcqMethod FID17A.M
Sample Name: L2240634-17,42,,
Misc Info : WG1676467,WG1676456,ICAL18753

F1-Aliphatic
JP-5
L2240634-17
Product



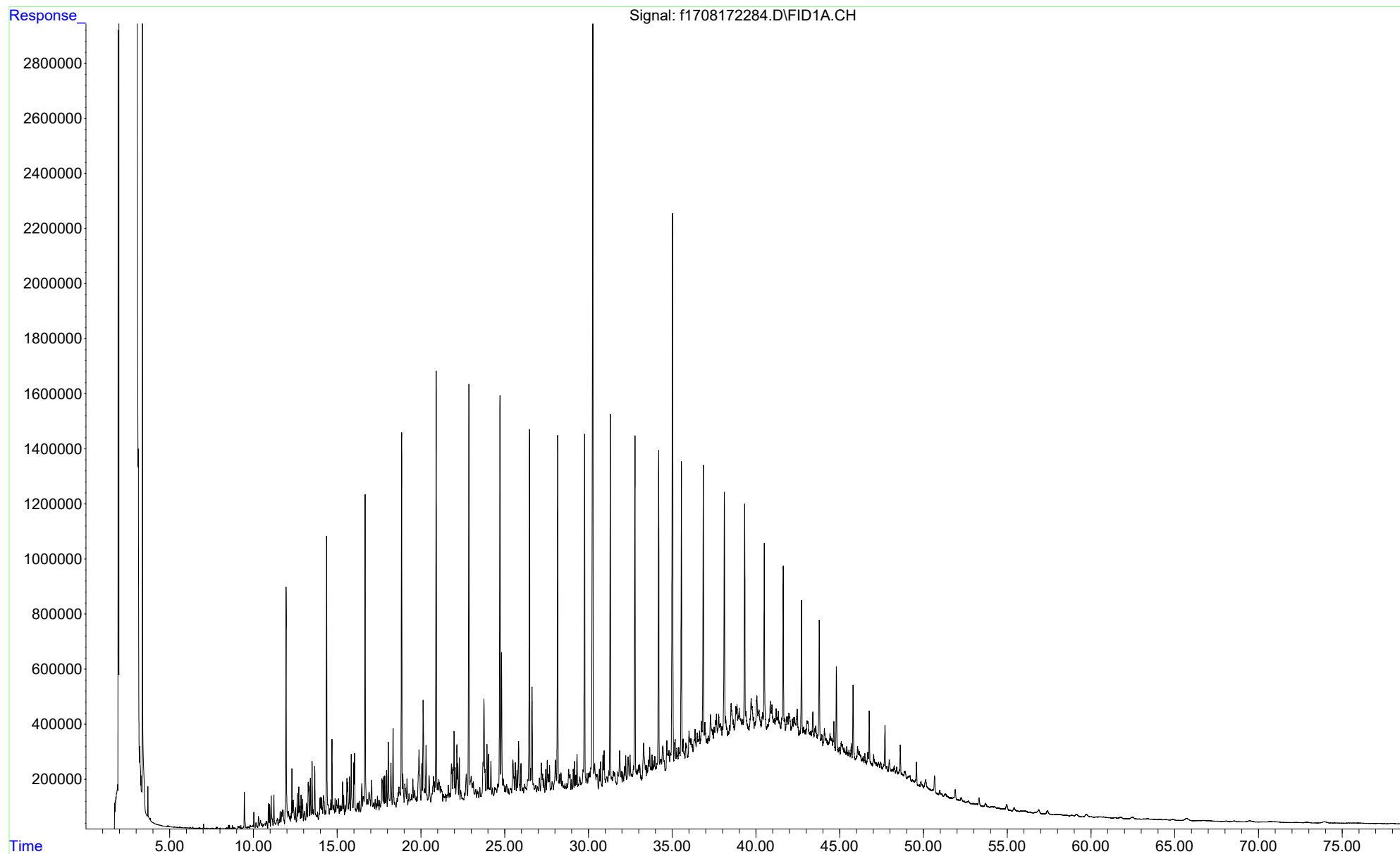
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172280.D
Operator : FID17:WR
Instrument : FID17
Acquired : 19 Aug 2022 23:00 pm using AcqMethod FID17A.M
Sample Name: L2240634-20,42,,
Misc Info : WG1676467,WG1676456,ICAL18753

F1-Aliphatic
JP-8
L2240634-20
Product



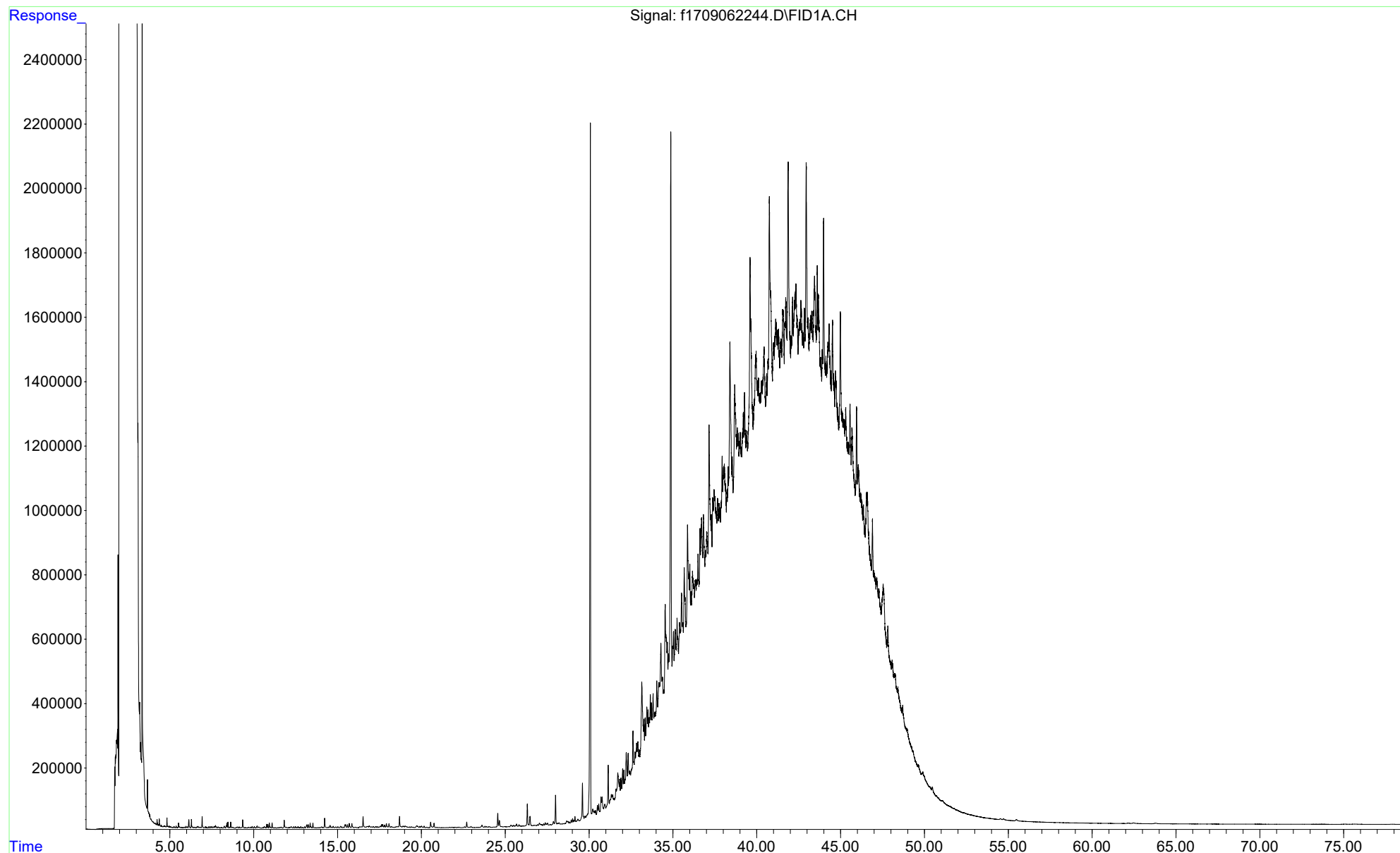
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172284.D
Operator : FID17:WR
Instrument : FID17
Acquired : 20 Aug 2022 2:01 am using AcqMethod FID17A.M
Sample Name: L2240634-26,42,,
Misc Info : WG1676467,WG1676456,ICAL18753

F1-Aliphatic
BUNKER C
L2240634-26
Product



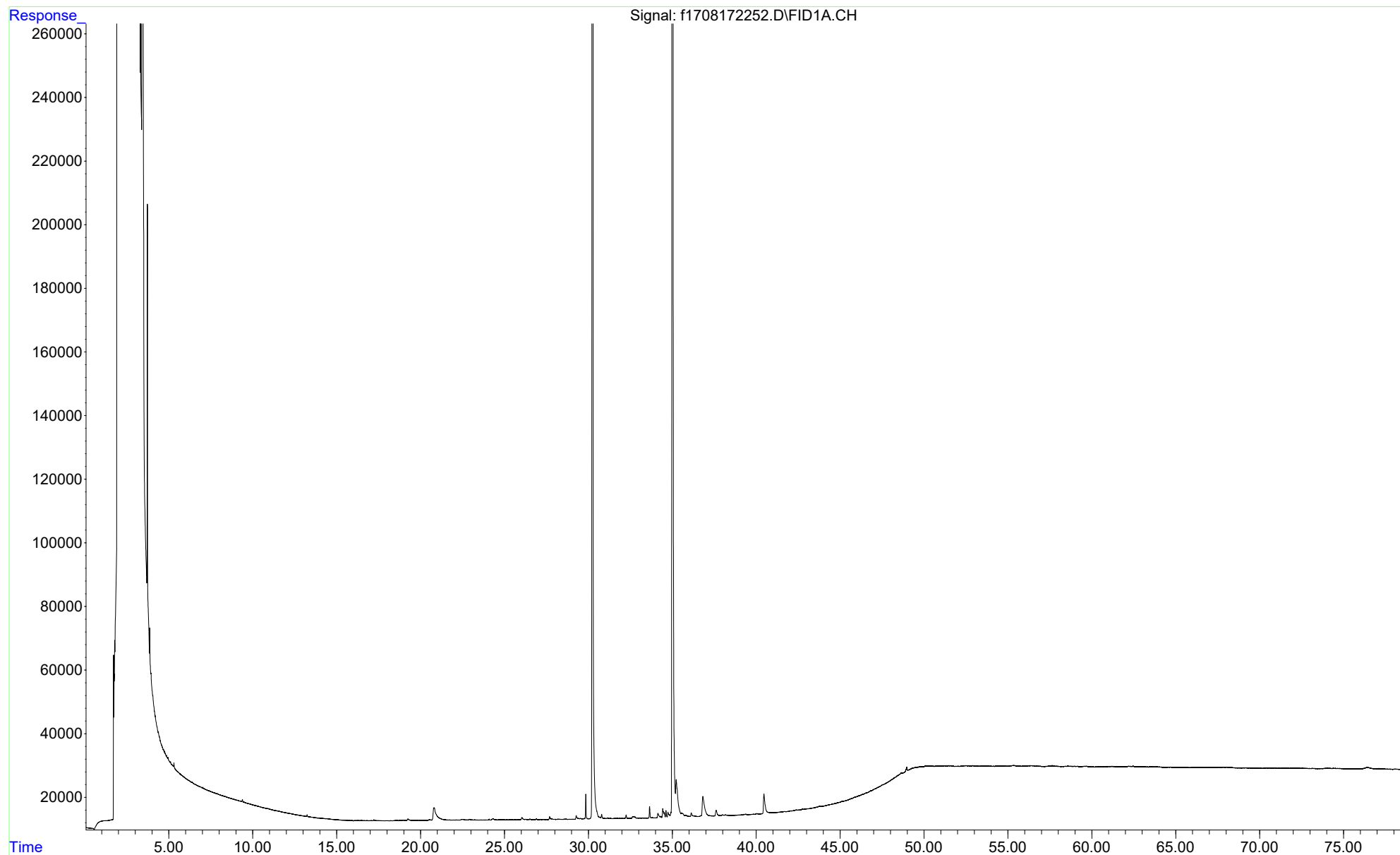
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1709062244.D
Operator : FID17:WR
Instrument : FID17
Acquired : 07 Sep 2022 22:05 pm using AcqMethod FID17A.M
Sample Name: L2240634-33,42,,
Misc Info : WG1684077,WG1682989,ICAL18753

F1-Aliphatic
WASTE OIL (AUTO) F1
L2240634-33
Product



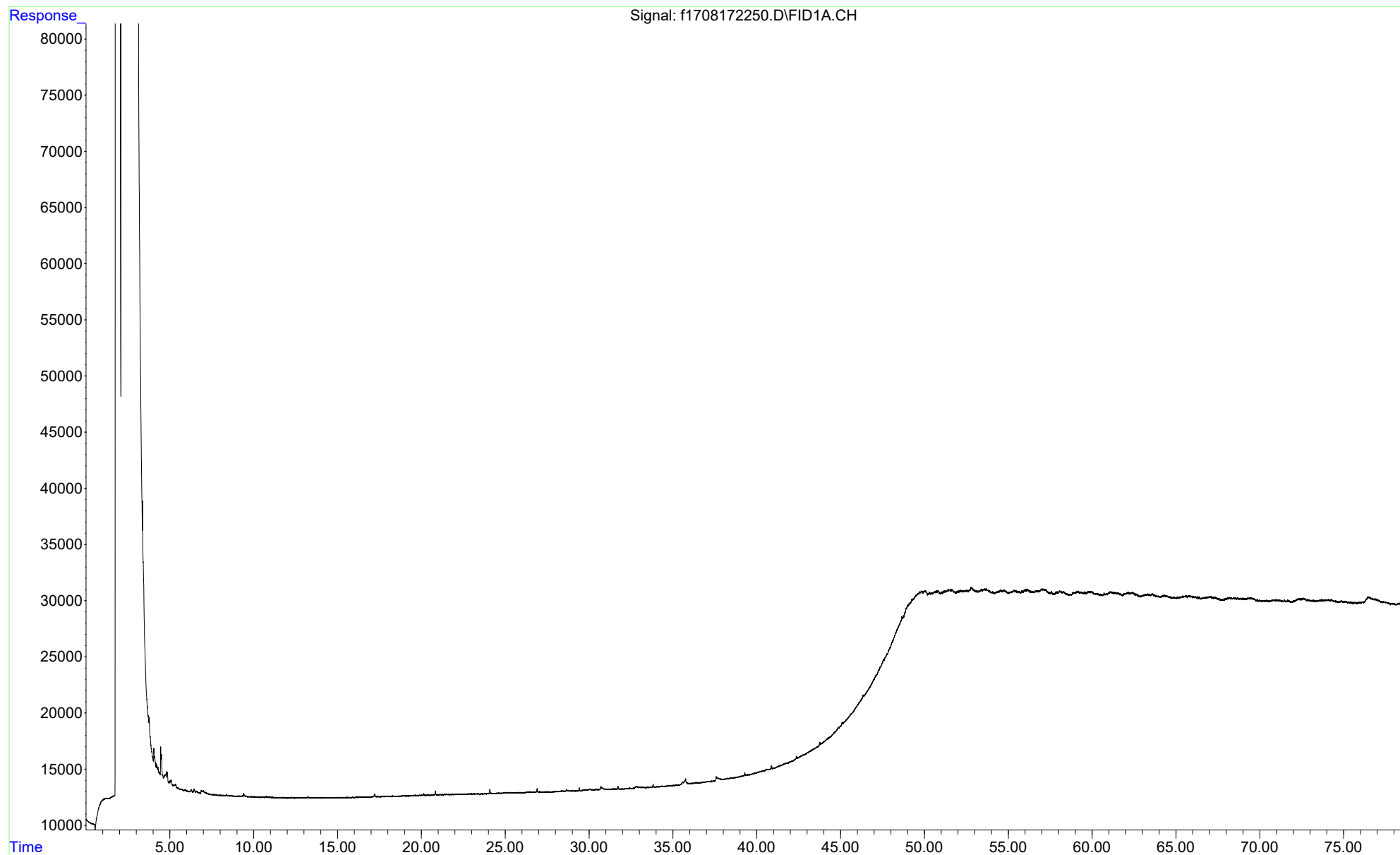
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172252.D
Operator : FID17:WR
Instrument : FID17
Acquired : 19 Aug 2022 1:49 am using AcqMethod FID17A.M
Sample Name: WG1676456-1,42,,
Misc Info : WG1676467,WG1676456,ICAL18753

F1-Aliphatic
Method Blank



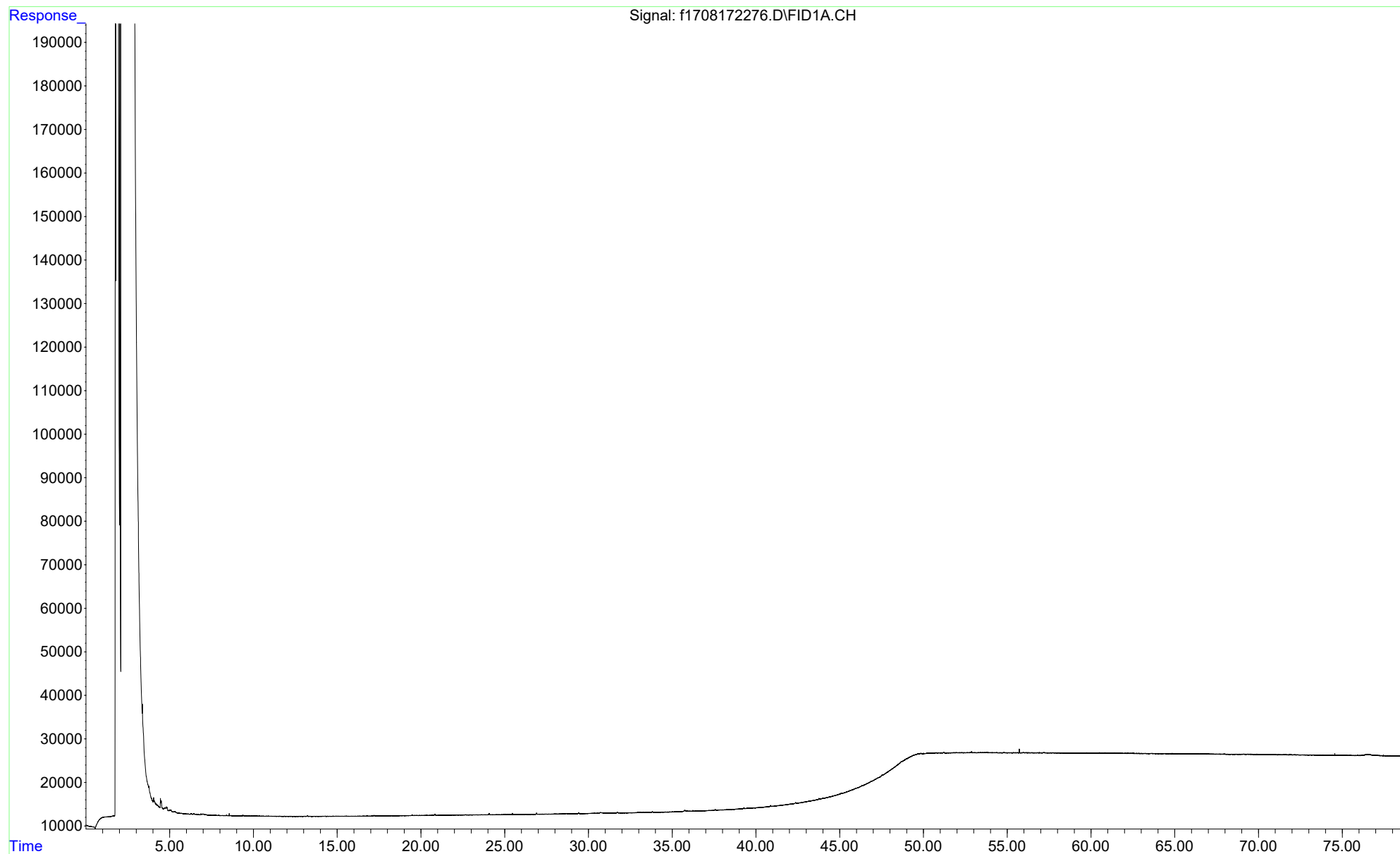
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172250.D
Operator : FID17:WR
Instrument : FID17
Acquired : 19 Aug 2022 0:19 am using AcqMethod FID17A.M
Sample Name: IB1708172203F
Misc Info :

F1-Aliphatic
Instrument Blank



File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\f1708172276.D
Operator : FID17:WR
Instrument : FID17
Acquired : 19 Aug 2022 19:58 pm using AcqMethod FID17A.M
Sample Name: IB1708172204F
Misc Info :

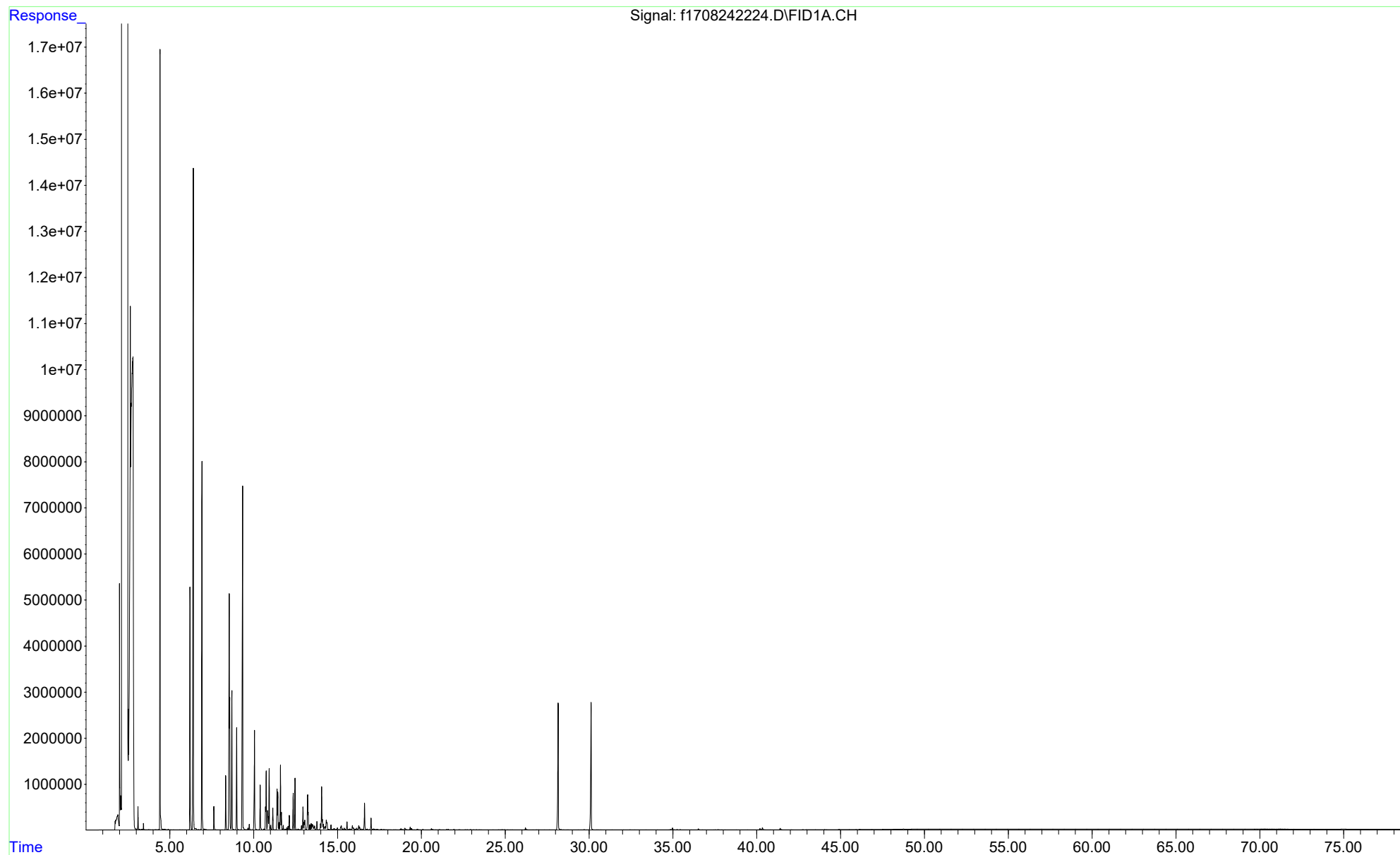
F1-Aliphatic
Instrument Blank



Attachment D: FID Chromatograms Aromatic Fraction

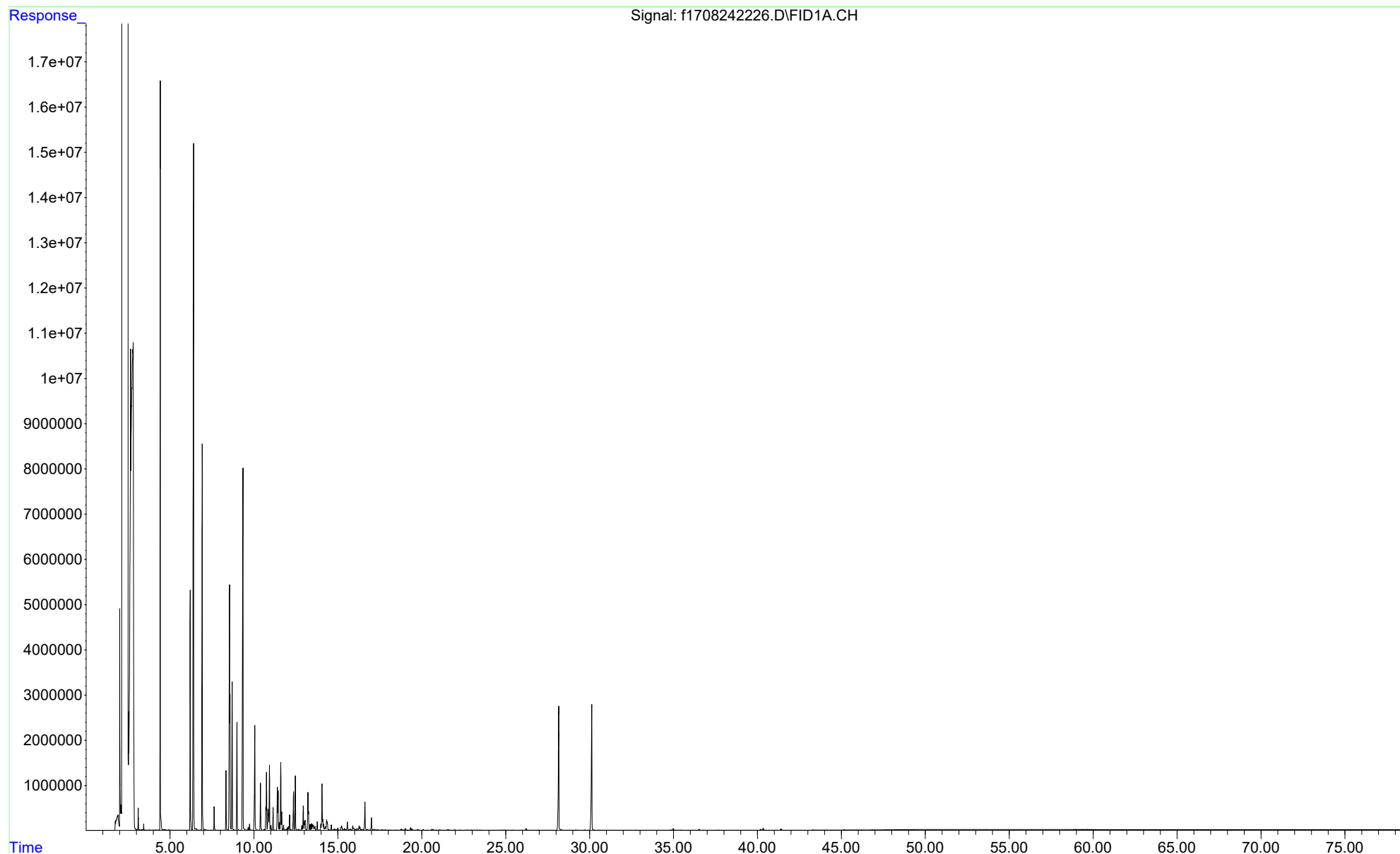
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\Alpha TPH\f1708242224.D
Operator : FID17:WR
Instrument : FID17
Acquired : 25 Aug 2022 19:02 pm using AcqMethod FID17A.M
Sample Name: L2240634-03,42,,
Misc Info : WG1679263,WG1676458,ICAL18753

F2-Aromatic
GASOLINE 87 F2
L2240634-03
Product



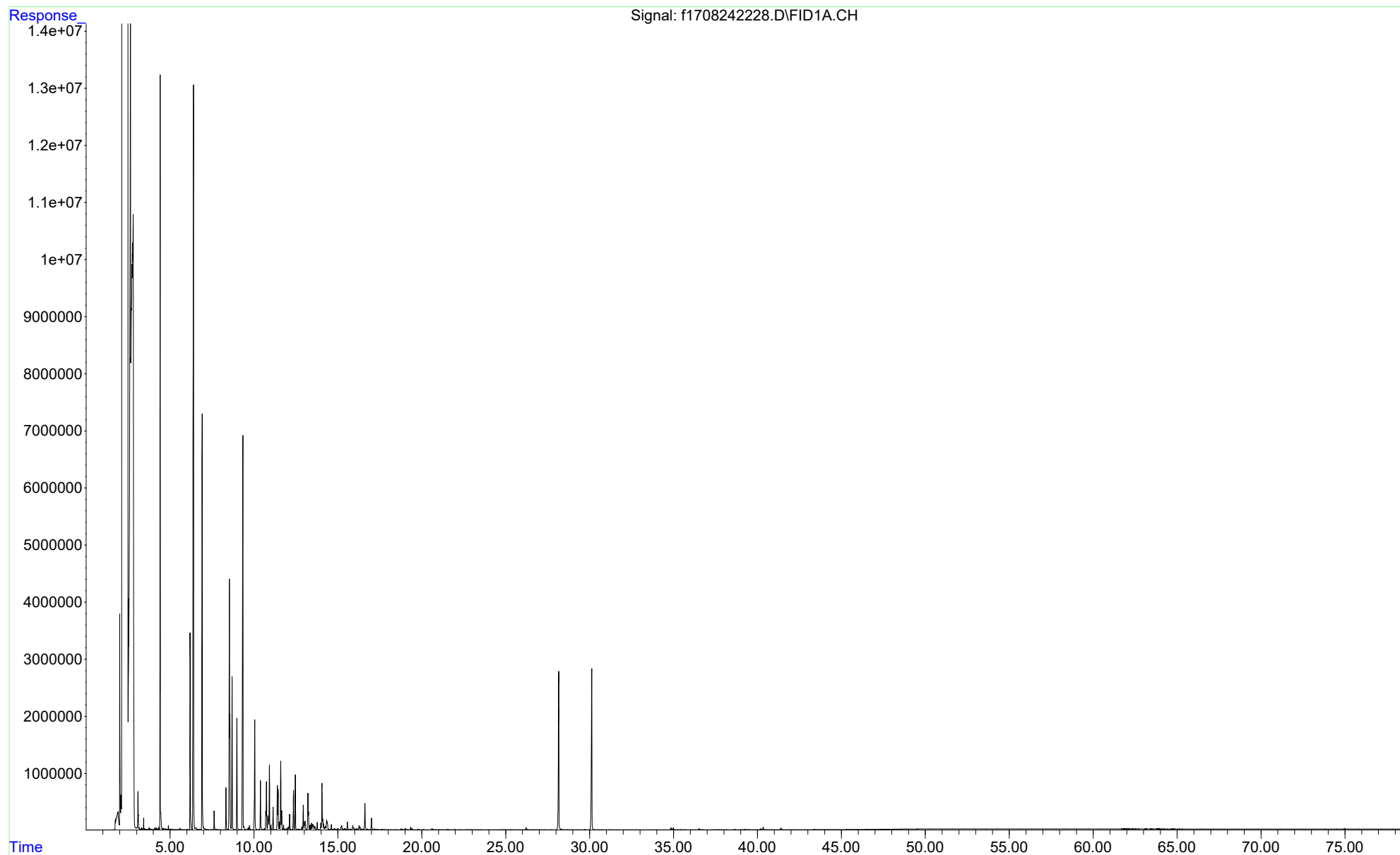
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\Alpha TPH\f1708242226.D
Operator : FID17:WR
Instrument : FID17
Acquired : 25 Aug 2022 20:32 pm using AcqMethod FID17A.M
Sample Name: WG1676458-4,42,,
Misc Info : WG1679263,WG1676458,ICAL18753

F2-Aromatic
GASOLINE 87 F2 Duplicate
L2240634-03
Product



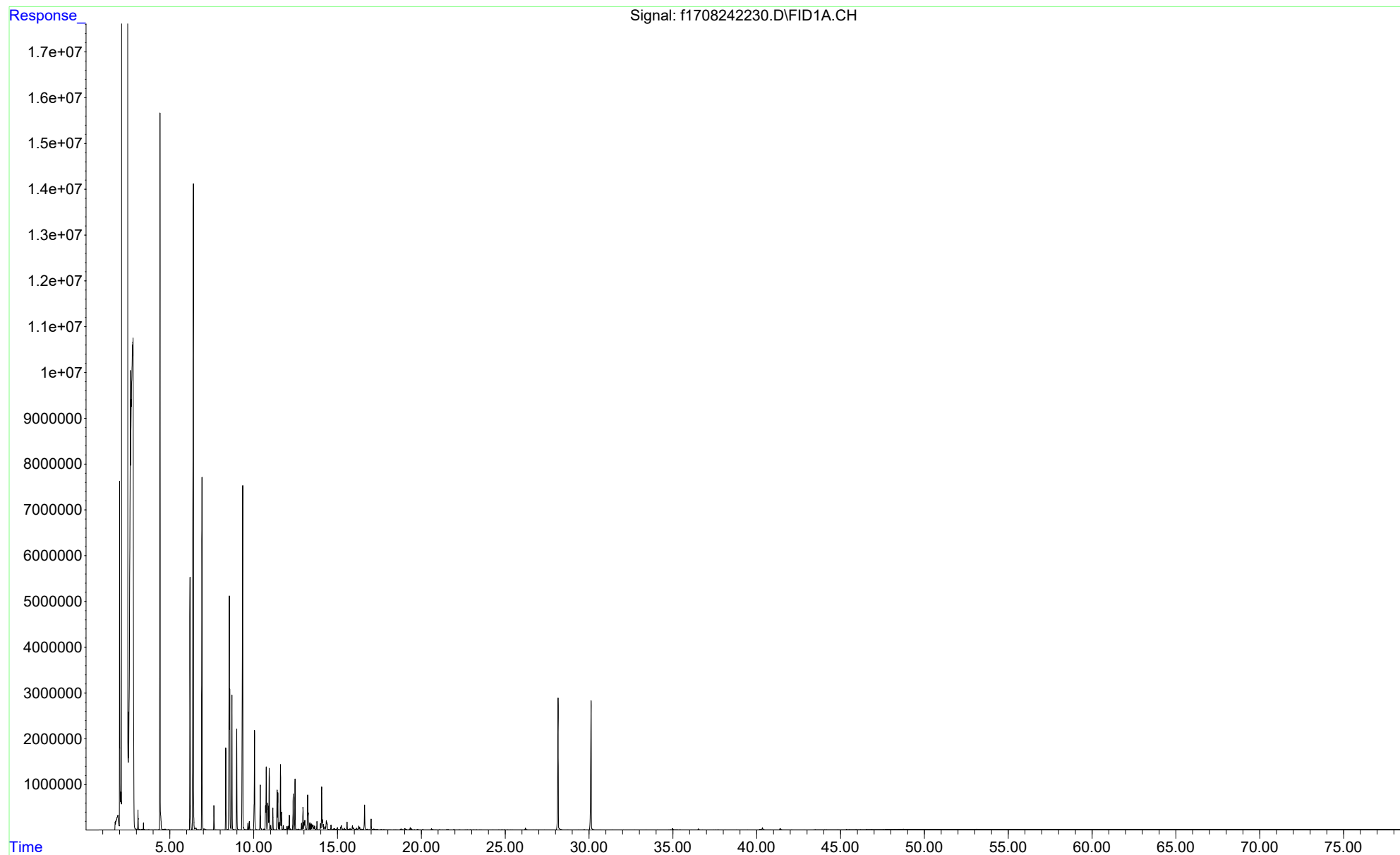
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\Alpha TPH\f1708242228.D
Operator : FID17:WR
Instrument : FID17
Acquired : 25 Aug 2022 22:03 pm using AcqMethod FID17A.M
Sample Name: L2240634-06,42,,
Misc Info : WG1679263,WG1676458,ICAL18753

F2-Aromatic
GASOLINE 91 F2
L2240634-06
Product



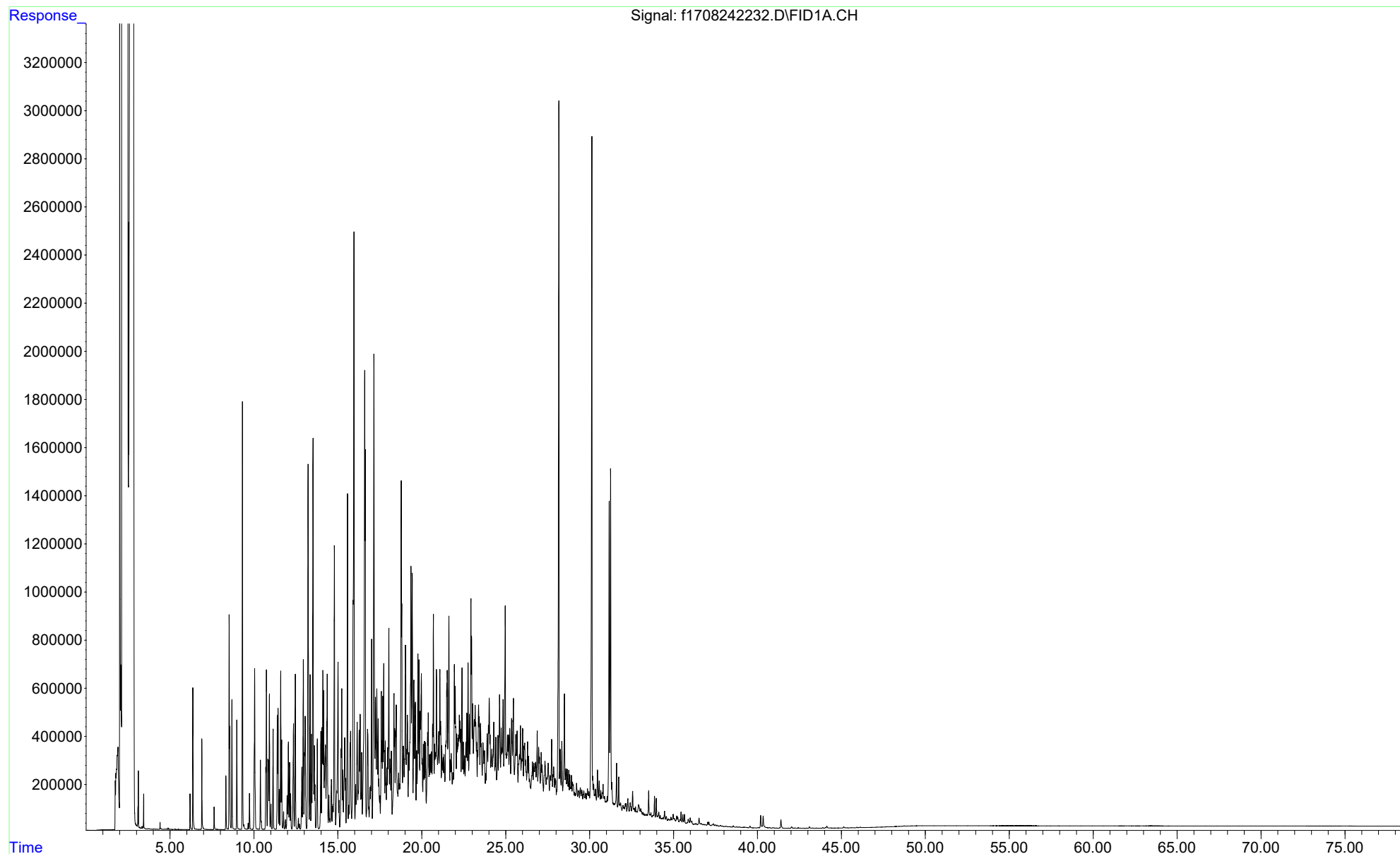
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\Alpha TPH\f1708242230.D
Operator : FID17:WR
Instrument : FID17
Acquired : 25 Aug 2022 23:34 pm using AcqMethod FID17A.M
Sample Name: L2240634-09,42,,
Misc Info : WG1679263,WG1676458,ICAL18753

F2-Aromatic
GASOLINE 93 F2
L2240634-09
Product



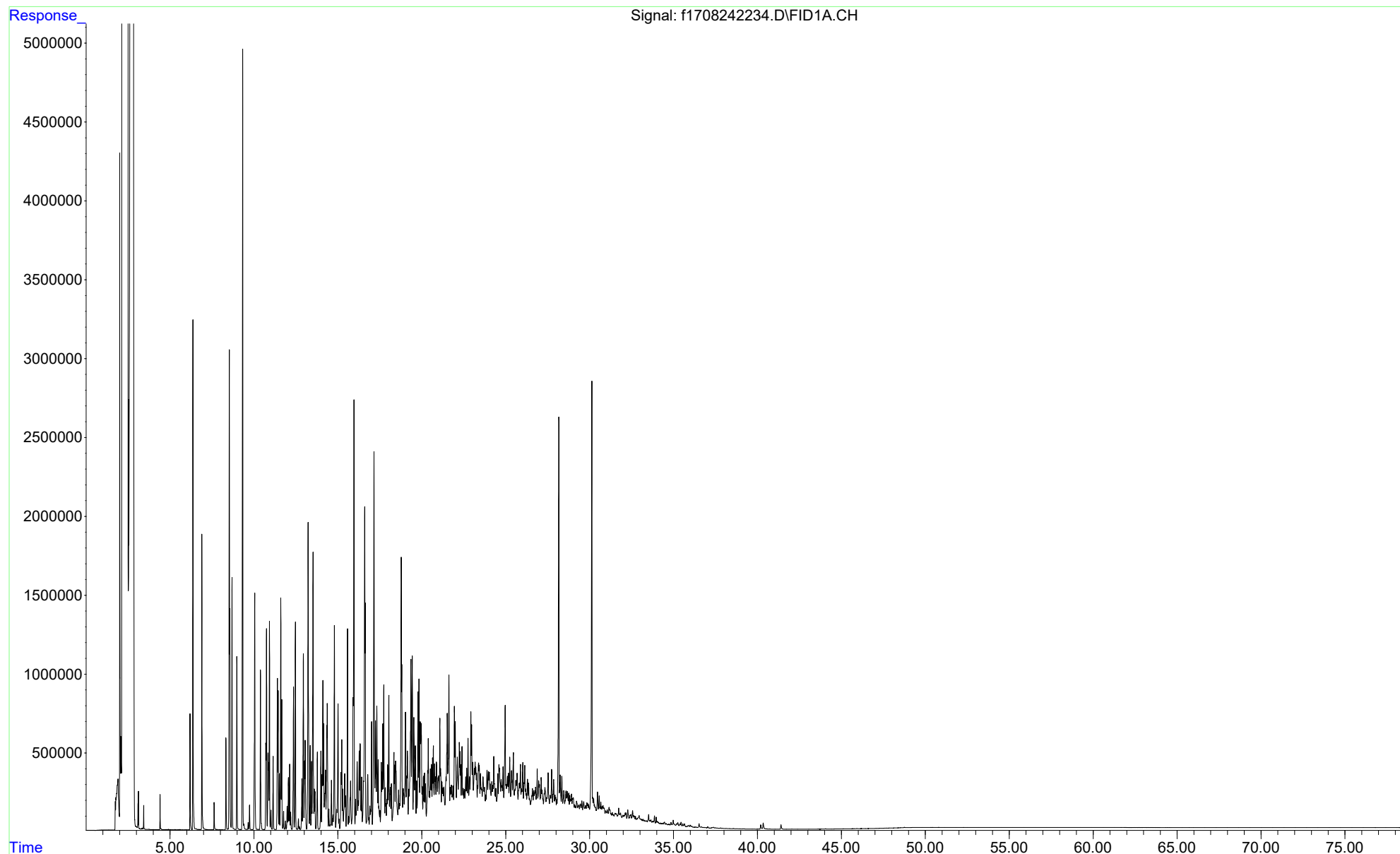
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\Alpha TPH\f1708242232.D
Operator : FID17:WR
Instrument : FID17
Acquired : 26 Aug 2022 1:04 am using AcqMethod FID17A.M
Sample Name: L2240634-12,42,,
Misc Info : WG1679263,WG1676458,ICAL18753

F2-Aromatic
HEATING FUEL F2
L2240634-12
Product



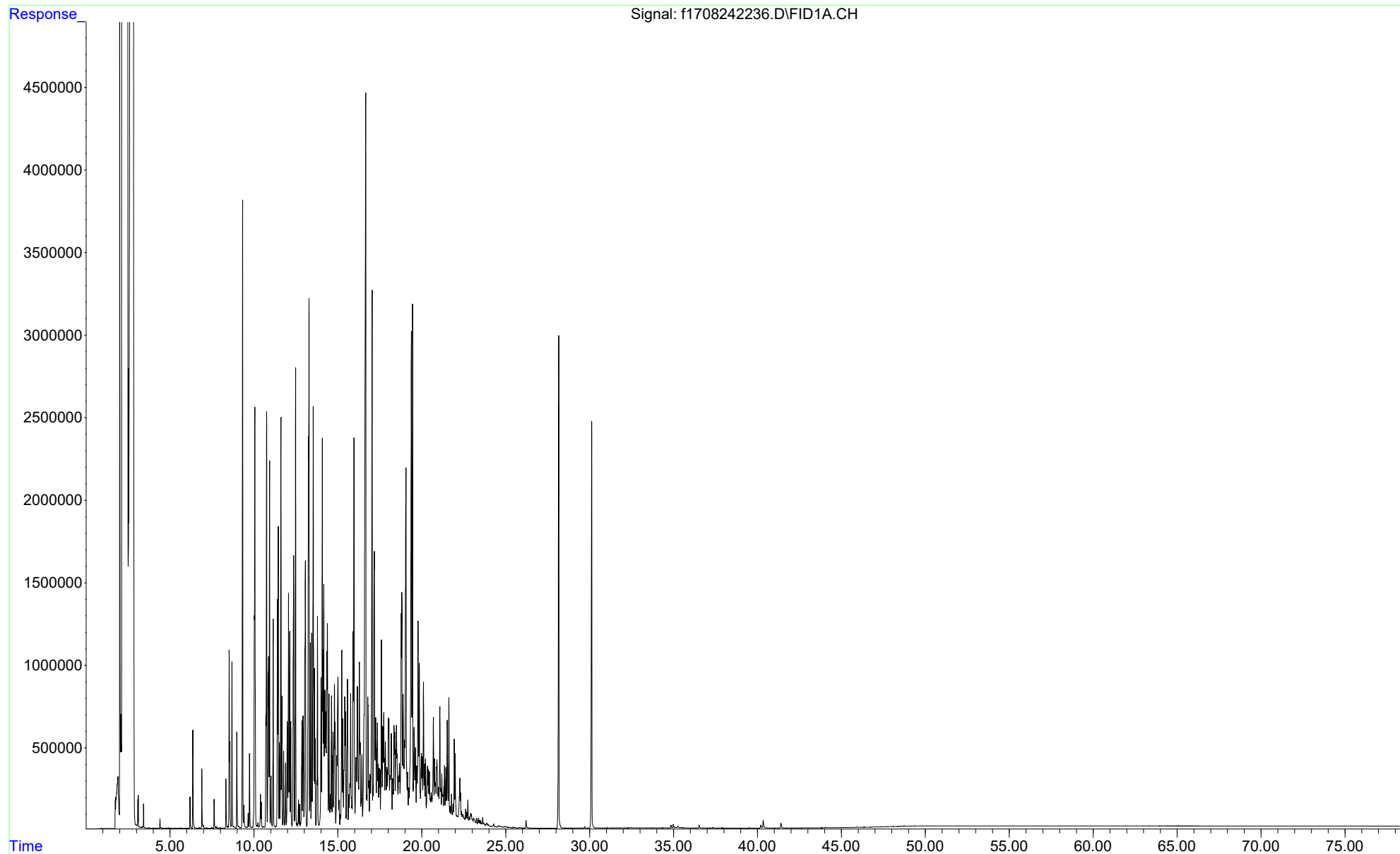
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\Alpha TPH\f1708242234.D
Operator : FID17:WR
Instrument : FID17
Acquired : 26 Aug 2022 2:34 am using AcqMethod FID17A.M
Sample Name: L2240634-15,42,,
Misc Info : WG1679263,WG1676458,ICAL18753

F2-Aromatic
ROAD DIESEL F2
L2240634-15
Product



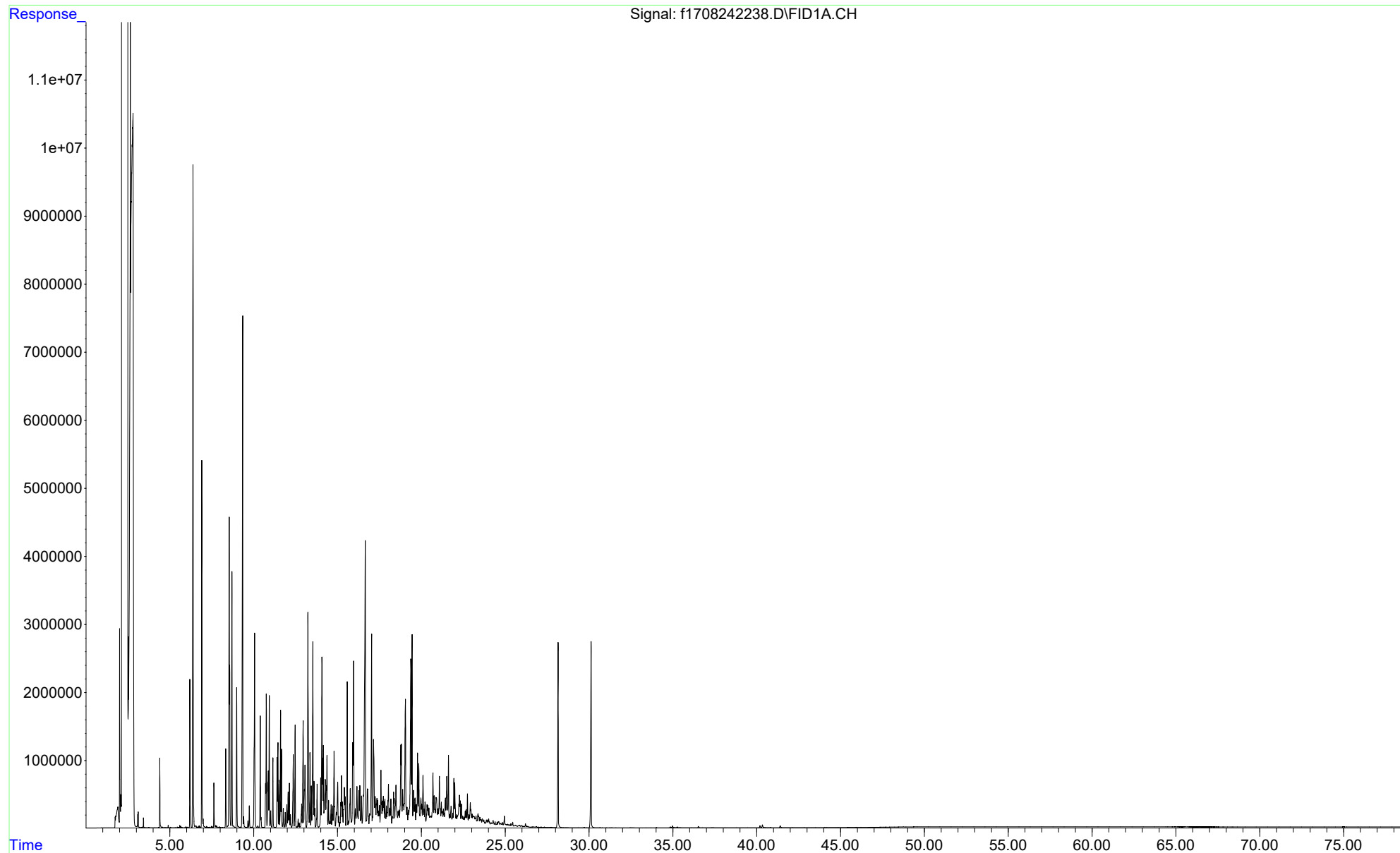
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\Alpha TPH\f1708242236.D
Operator : FID17:WR
Instrument : FID17
Acquired : 26 Aug 2022 4:05 am using AcqMethod FID17A.M
Sample Name: L2240634-18,42,,
Misc Info : WG1679263,WG1676458,ICAL18753

F2-Aromatic
JP-5 F2
L2240634-18
Product



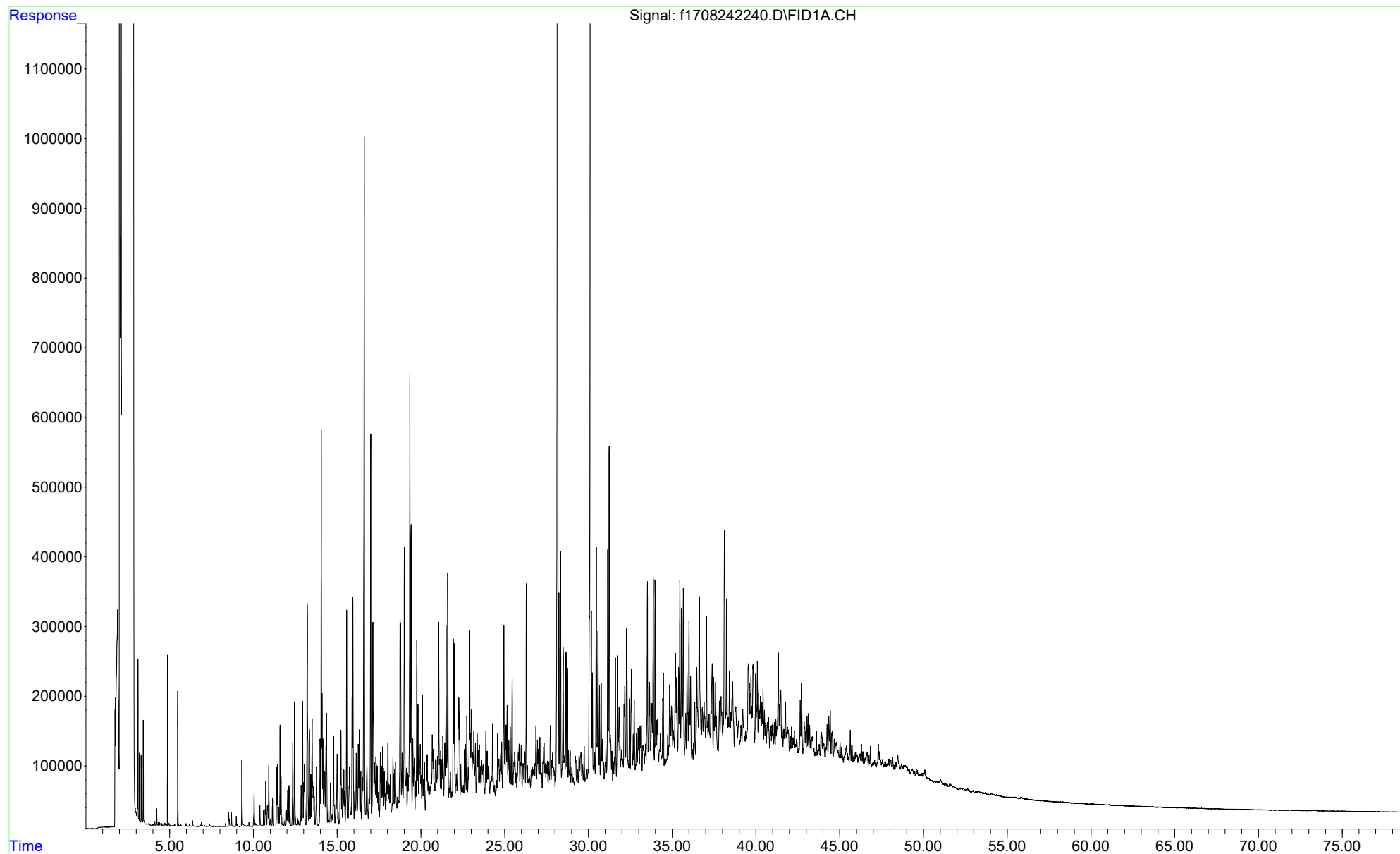
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\Alpha TPH\f1708242238.D
Operator : FID17:WR
Instrument : FID17
Acquired : 26 Aug 2022 5:35 am using AcqMethod FID17A.M
Sample Name: L2240634-21,42,,
Misc Info : WG1679263,WG1676458,ICAL18753

F2-Aromatic
JP-8 F2
L2240634-21
Product



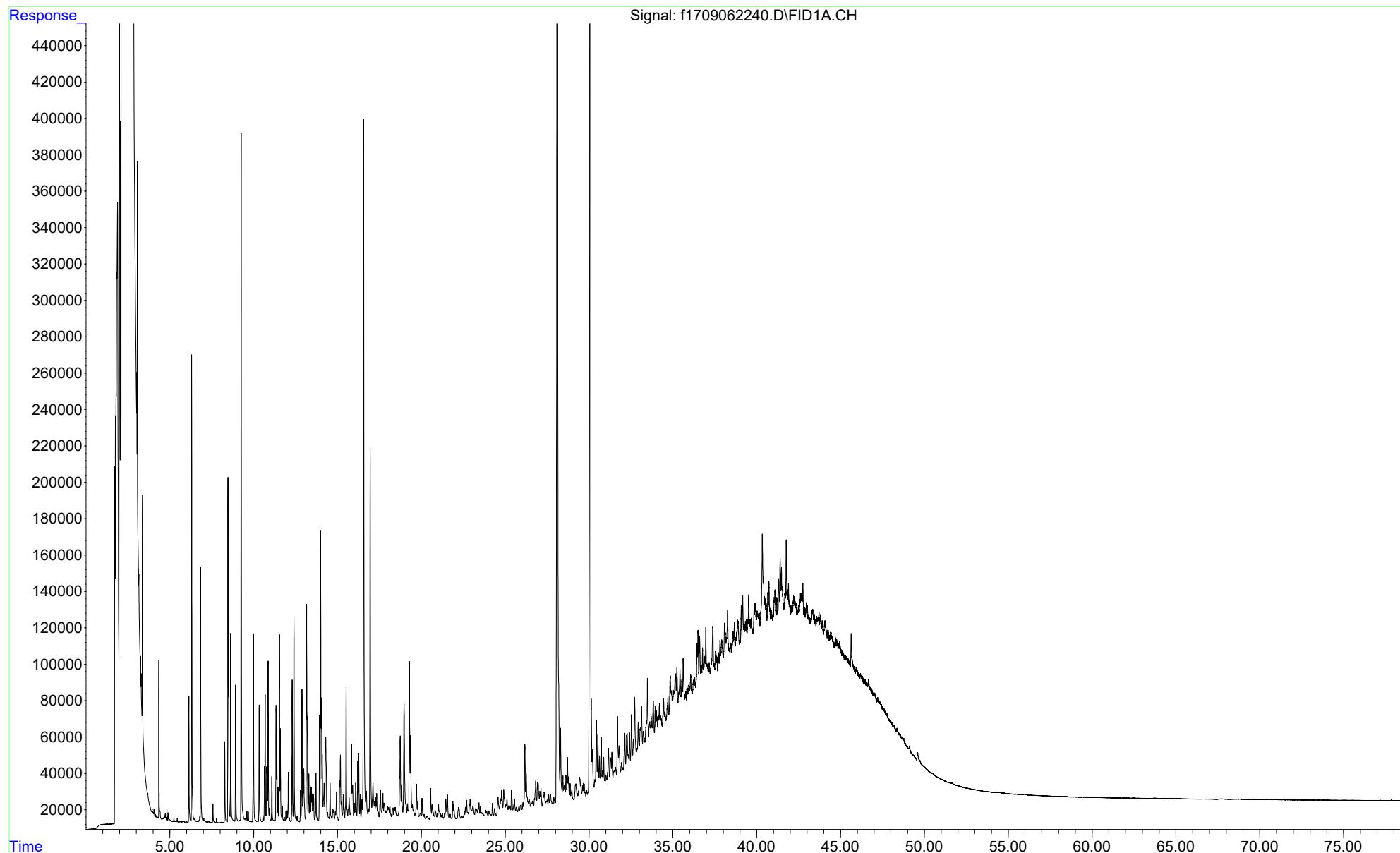
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\Alpha TPH\f1708242240.D
Operator : FID17:WR
Instrument : FID17
Acquired : 26 Aug 2022 7:05 am using AcqMethod FID17A.M
Sample Name: L2240634-27,42,,
Misc Info : WG1679263,WG1676458,ICAL18753

F2-Aromatic
BUNKER C F2
L2240634-27
Product



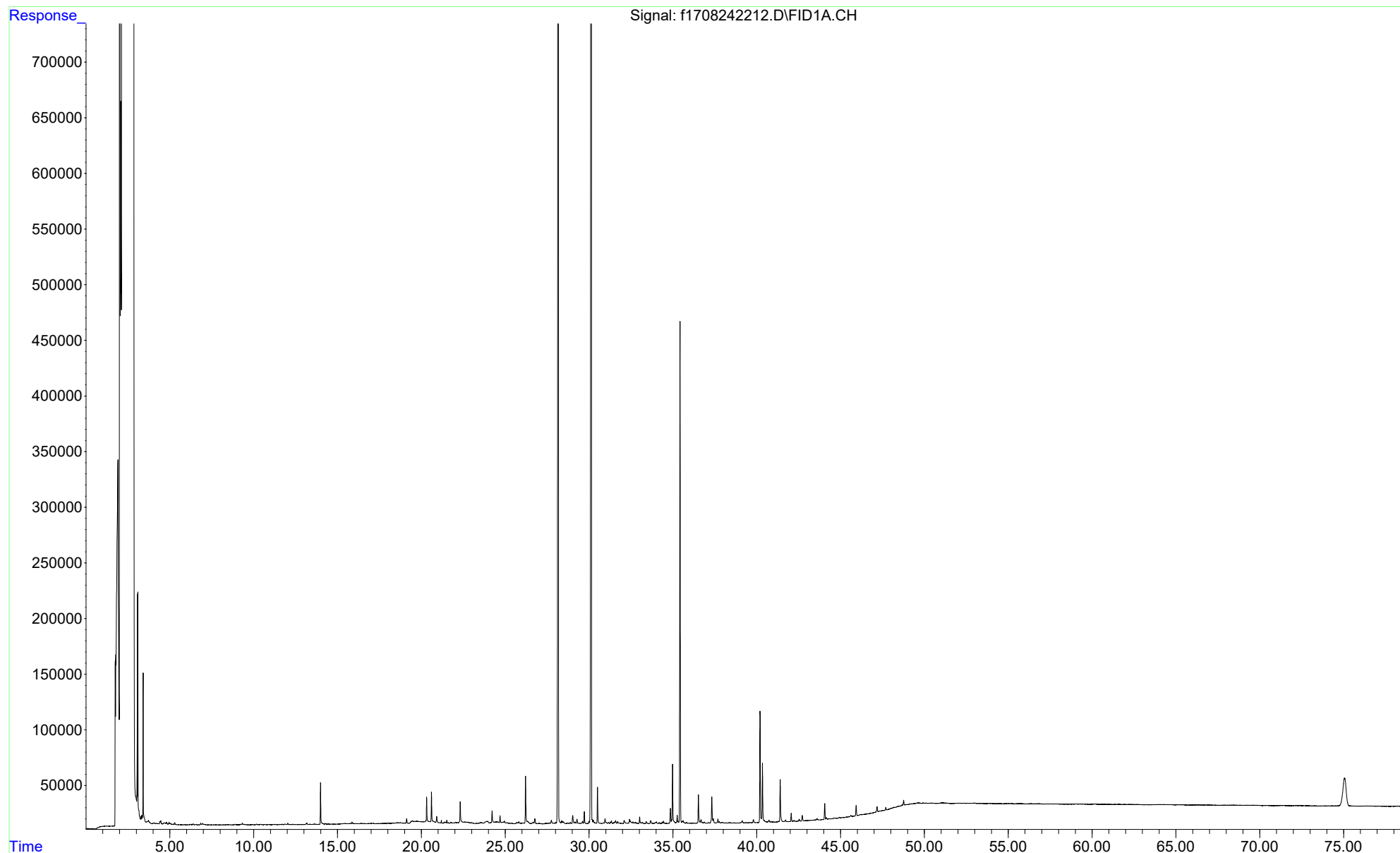
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\Alpha TPH\f1709062240.D
Operator : FID17:WR
Instrument : FID17
Acquired : 07 Sep 2022 19:05 pm using AcqMethod FID17A.M
Sample Name: L2240634-34,42,,
Misc Info : WG1684077,WG1682993,ICAL18753

F2-Aromatic
WASTE OIL (AUTO) F2
L2240634-34
Product



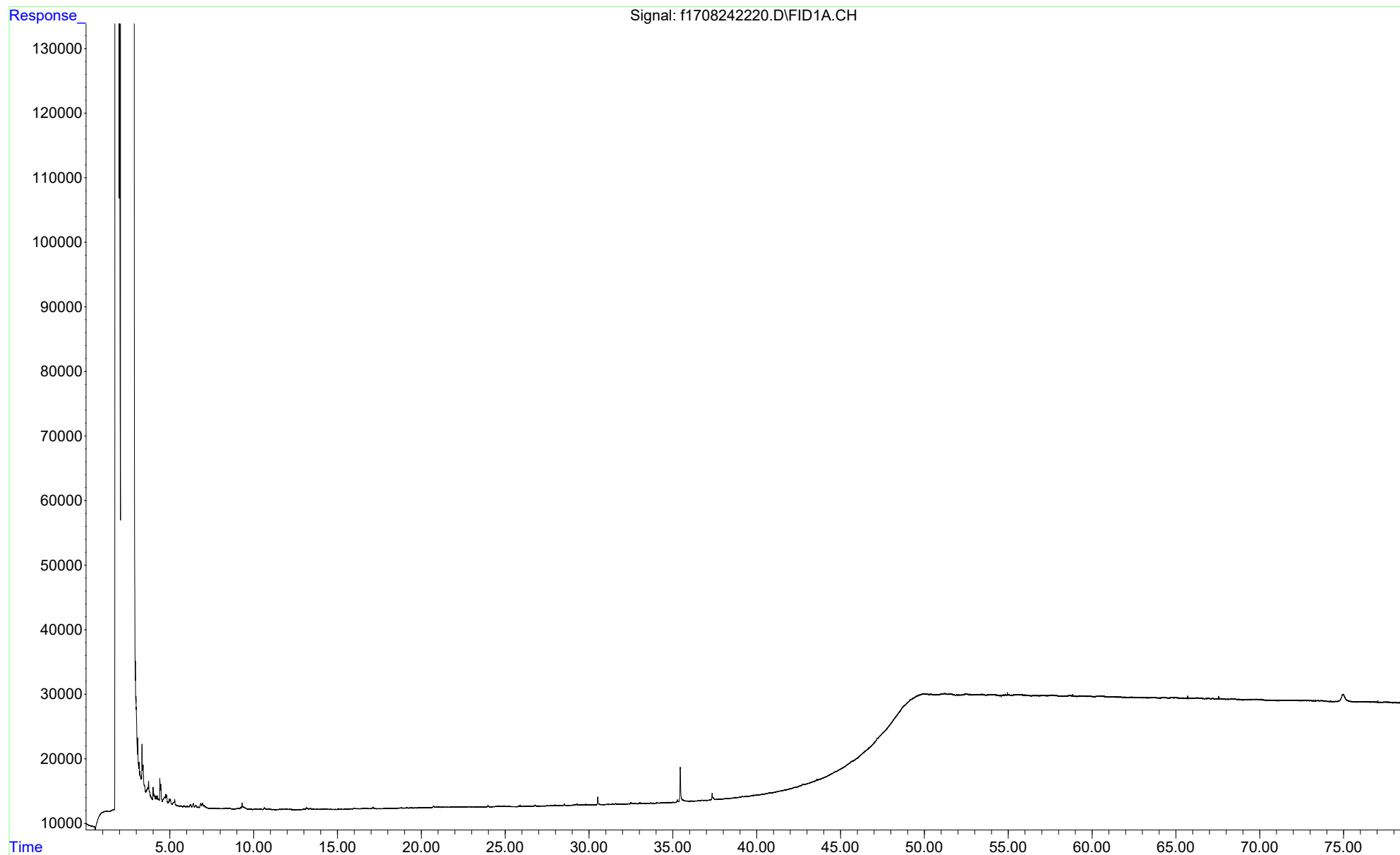
File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\Alpha TPH\f1708242212.D
Operator : FID17:WR
Instrument : FID17
Acquired : 25 Aug 2022 9:53 am using AcqMethod FID17A.M
Sample Name: WG1676458-1,42,,
Misc Info : WG1679263,WG1676458,ICAL18753

F2-Aromatic
Method Blank



File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\Alpha TPH\f1708242220.D
Operator : FID17:WR
Instrument : FID17
Acquired : 25 Aug 2022 15:59 pm using AcqMethod FID17A.M
Sample Name: IB1708242202F
Misc Info :

F2-Aromatic
Instrument Blank



Attachment E: VPH Chromatograms and
Quantification Reports

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Dat:
 Data File : P220902A05.D
 Signal(s) : FID2B.ch
 Acq On : 2 Sep 2022 11:00 am
 Operator : PVPH:BAD
 Sample : WG1684889-4,41,10,1,0.100,,
 Misc : WG1684889,ICAL19300,VPH-50
 ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Sep 16 09:08:53 2022
 Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF Ali
09152022.m
 Quant Title : VPH ALIPHATIC
 QLast Update : Fri Sep 16 09:02:50 2022
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
8) s 2,5-Dibromotoluene-FID	22.455	10942410	270.693	
Spiked Amount	250.000	Recovery = 108.28%		
Target Compounds				
9) A1 C5-C8 Aliphatics	5.404f	30443172	270.398	m
10) A2 C5 - C6 Aliphatics	5.626f	9158246	81.344	m
11) A2 > C6 - C8 Aliphatics	7.578f	4966763	44.115	m
12) A1 > C8-C10 Aliphatics	13.678	1462338	11.735	m
13) A2 C8 - C10 Aliphatics	13.678	1419622	11.392	m
14) A2 > C10 - C12 Aliphatics	18.050f	3457053	27.742	m

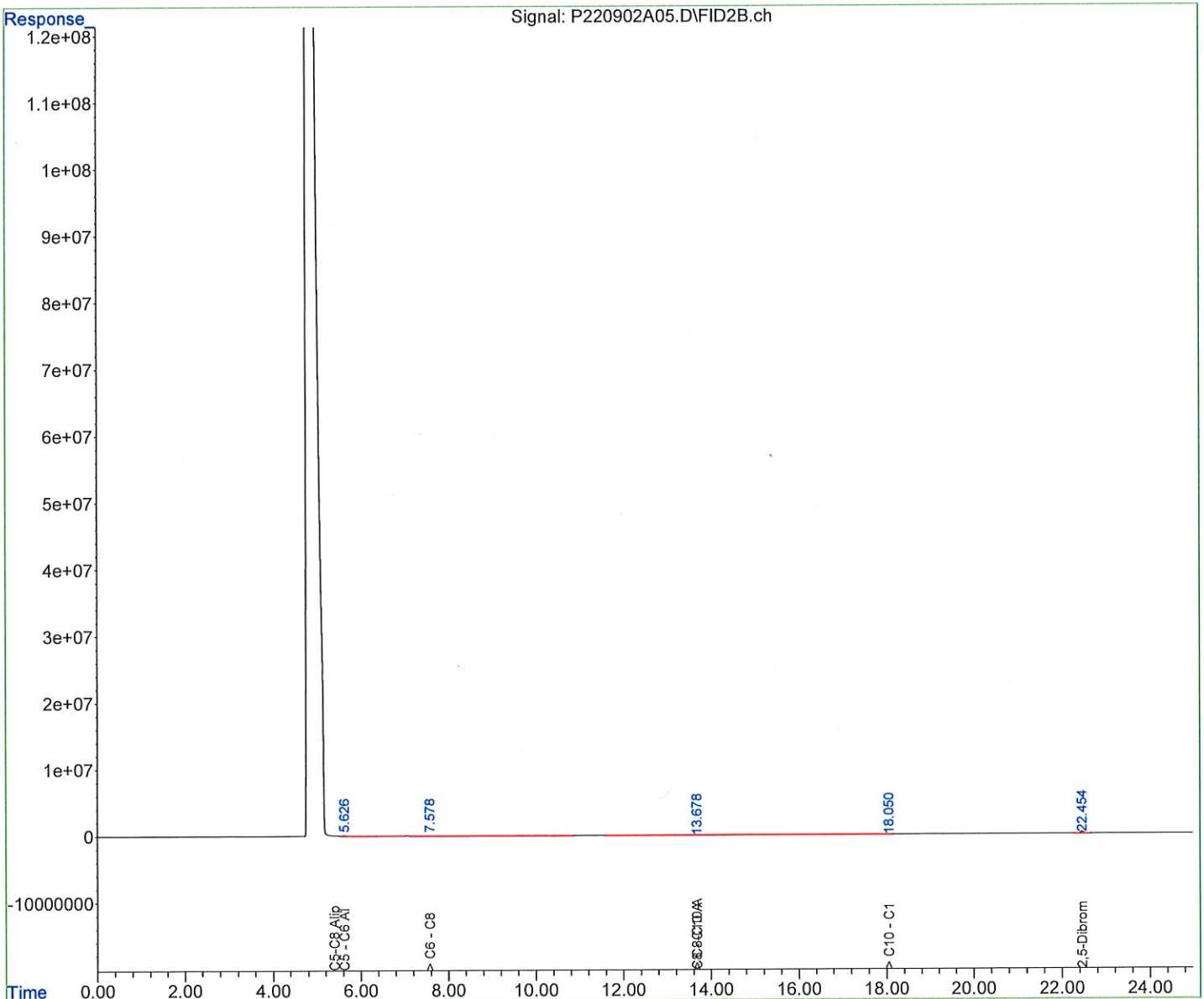
(f)=RT Delta > 1/2 Window (m)=manual int.

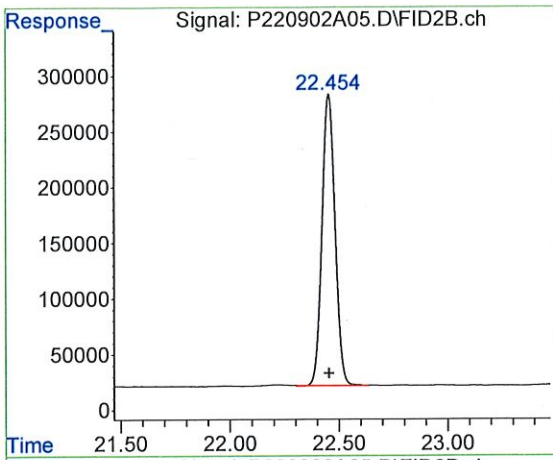
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Da
Data File : P220902A05.D
Signal(s) : FID2B.ch
Acq On : 2 Sep 2022 11:00 am
Operator : PVPH:BAD
Sample : WG1684889-4,41,10,1,0.100,,
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 16 09:08:53 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF A
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

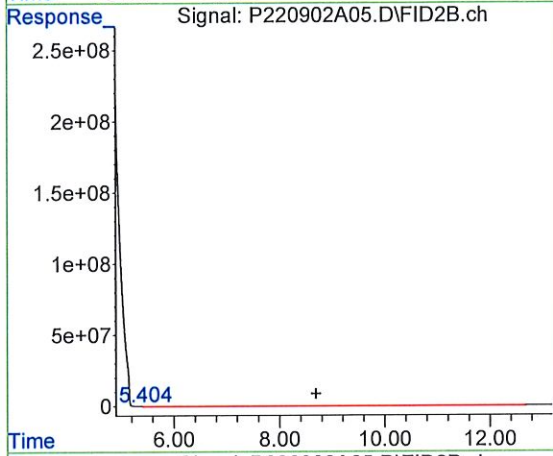
Volume Inj. :
Signal Phase :
Signal Info :





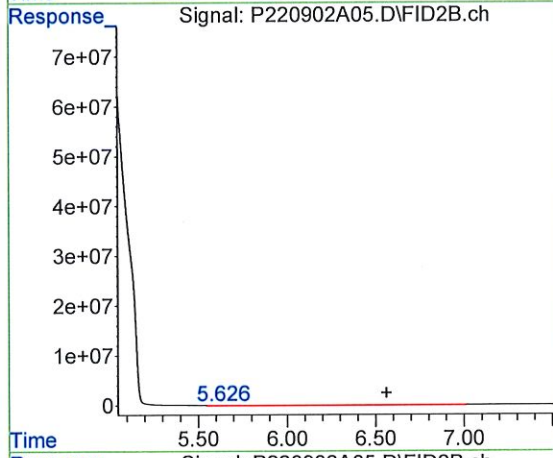
#8 2,5-Dibromotoluene-FID

R.T.: 22.455 min
 Delta R.T.: 0.001 min
 Response: 10942410
 Conc: 270.69



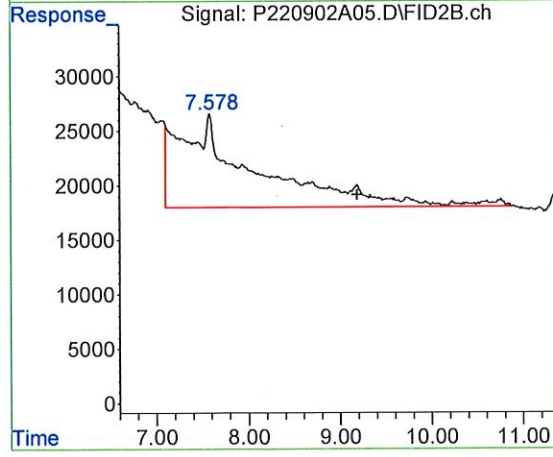
#9 C5-C8 Aliphatics

R.T.: 5.404 min
 Delta R.T.: -3.290 min
 Response: 30443172
 Conc: 270.40 m



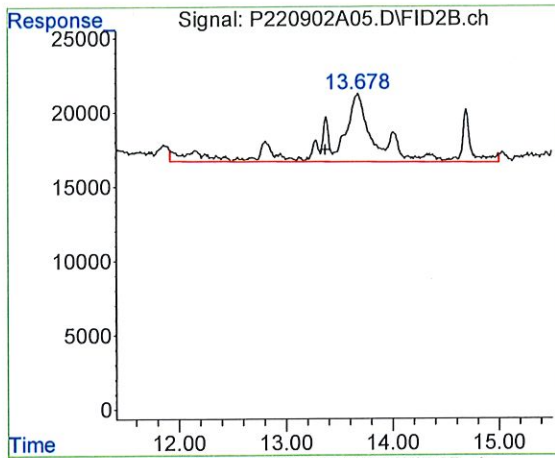
#10 C5 - C6 Aliphatics

R.T.: 5.626 min
 Delta R.T.: -0.935 min
 Response: 9158246
 Conc: 81.34 m



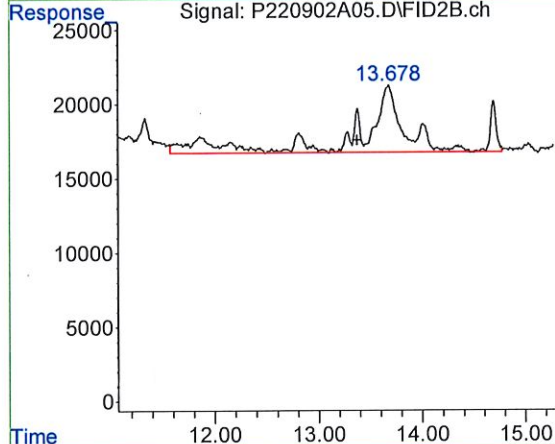
#11 > C6 - C8 Aliphatics

R.T.: 7.578 min
 Delta R.T.: -1.608 min
 Response: 4966763
 Conc: 44.11 m



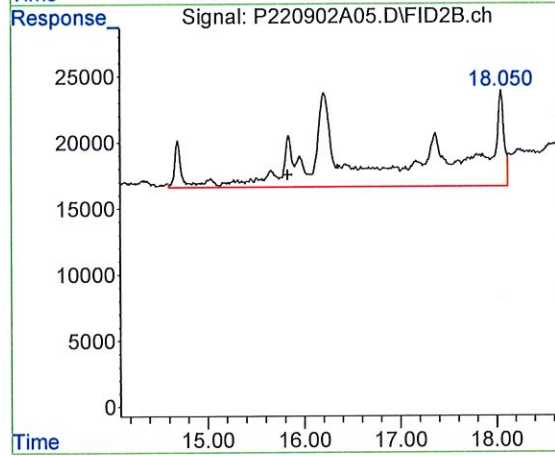
#12 > C8-C10 Aliphatics

R.T.: 13.678 min
 Delta R.T.: 0.307 min
 Response: 1462338
 Conc: 11.74 m



#13 C8 - C10 Aliphatics

R.T.: 13.678 min
 Delta R.T.: 0.304 min
 Response: 1419622
 Conc: 11.39 m



#14 > C10 - C12 Aliphatics

R.T.: 18.050 min
 Delta R.T.: 2.220 min
 Response: 3457053
 Conc: 27.74 m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Dat
Data File : P220902A21.D
Signal(s) : FID2B.ch
Acq On : 2 Sep 2022 7:24 pm
Operator : PVPH:BAD
Sample : I2240634-01d,41,10,1.11,0.0002,,w
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 21 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 20 12:41:34 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF Ali
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
----------	------	----------	------	-------

System Monitoring Compounds

Target Compounds	R.T.	Response	Conc	Units
9) A1 C5-C8 Aliphatics	11.330f	304347979	2703.231	m
10) A2 C5 - C6 Aliphatics	5.656f	60440510	536.835	m
11) A2 > C6 - C8 Aliphatics	9.189	121166480	1076.206	m
12) A1 > C8-C10 Aliphatics	11.330f	255768658	2052.512	m
13) A2 C8 - C10 Aliphatics	11.330f	254301055	2040.735	m
14) A2 > C10 - C12 Aliphatics	15.830	74746720	599.833	m

(f)=RT Delta > 1/2 Window

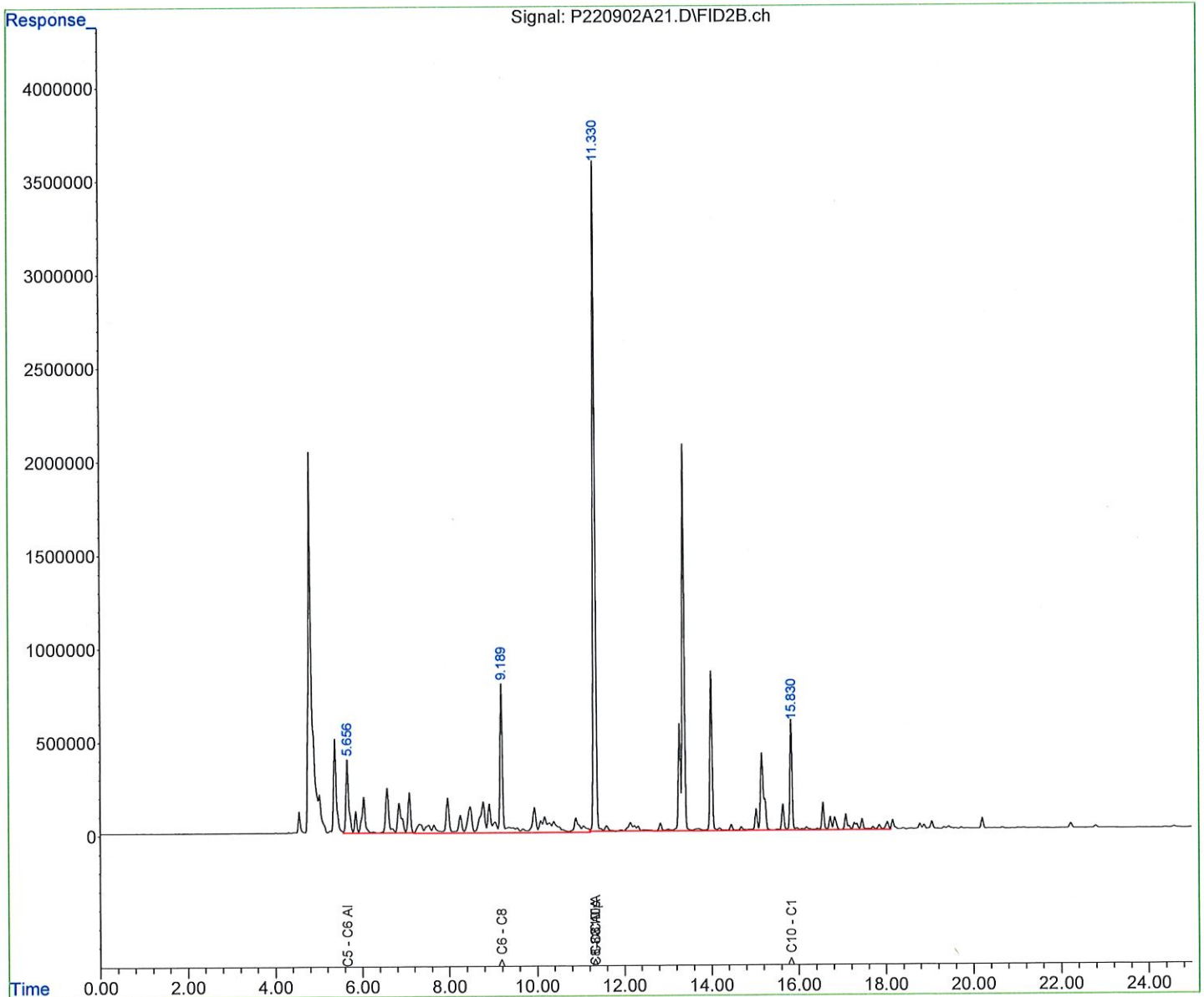
(m)=manual int.

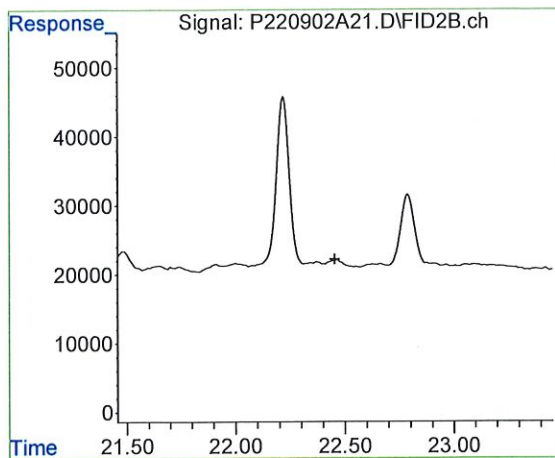
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Da
Data File : P220902A21.D
Signal(s) : FID2B.ch
Acq On : 2 Sep 2022 7:24 pm
Operator : PVPH:BAD
Sample : I2240634-01d,41,10,1.11,0.0002,,w
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 21 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 20 12:41:34 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF A
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

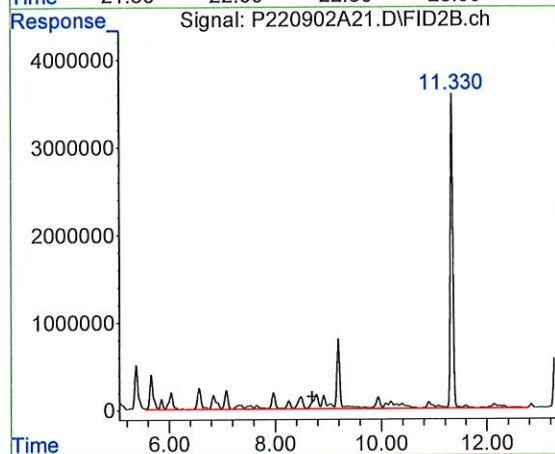
Volume Inj. :
Signal Phase :
Signal Info :





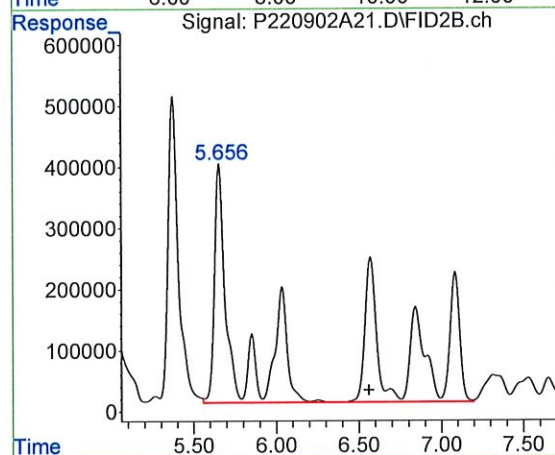
#8 2,5-Dibromotoluene-FID

R.T.: 0.000 min
 Exp R.T. : 22.454 min
 Response: 0
 Conc: N.D.



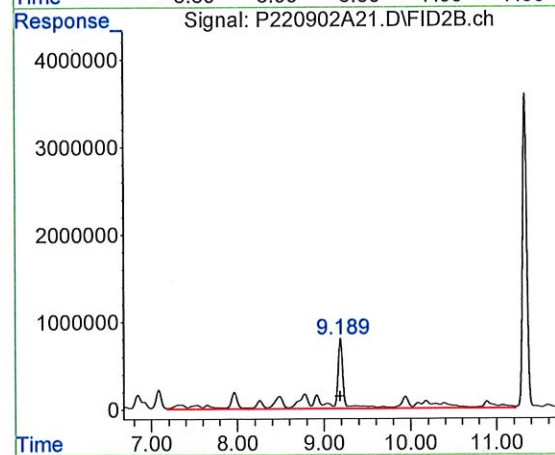
#9 C5-C8 Aliphatics

R.T.: 11.330 min
 Delta R.T.: 2.636 min
 Response: 304347979
 Conc: 2703.23 m



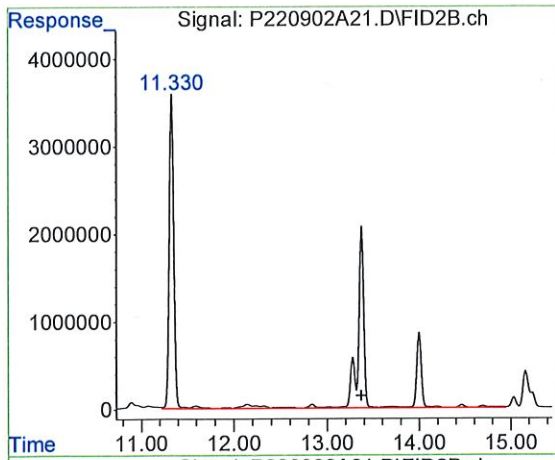
#10 C5 - C6 Aliphatics

R.T.: 5.656 min
 Delta R.T.: -0.905 min
 Response: 60440510
 Conc: 536.84 m



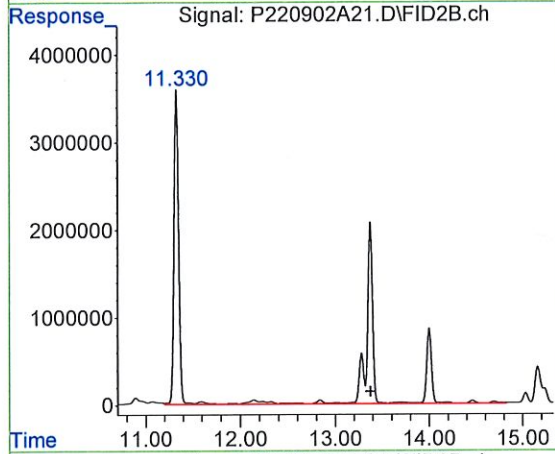
#11 > C6 - C8 Aliphatics

R.T.: 9.189 min
 Delta R.T.: 0.003 min
 Response: 121166480
 Conc: 1076.21 m



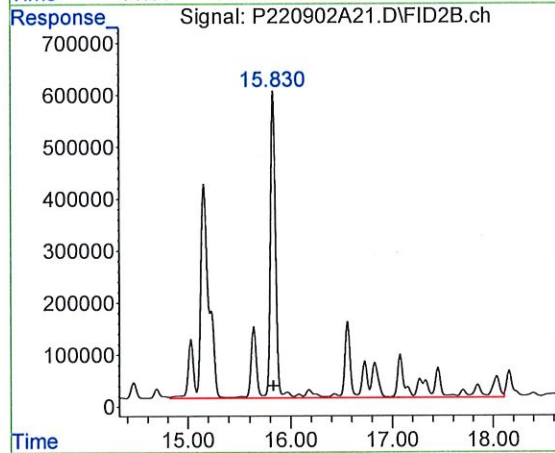
#12 > C8-C10 Aliphatics

R.T.: 11.330 min
 Delta R.T.: -2.041 min
 Response: 255768658
 Conc: 2052.51 m



#13 C8 - C10 Aliphatics

R.T.: 11.330 min
 Delta R.T.: -2.044 min
 Response: 254301055
 Conc: 2040.73 m



#14 > C10 - C12 Aliphatics

R.T.: 15.830 min
 Delta R.T.: 0.000 min
 Response: 74746720
 Conc: 599.83 m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Data
 Data File : P220902A23.D
 Signal(s) : FID2B.ch
 Acq On : 2 Sep 2022 8:24 pm
 Operator : PVPH:BAD
 Sample : WG1684889-6,41,10,1.11,0.0002,,w
 Misc : WG1684889,ICAL19300,VPH-50
 ALS Vial : 23 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Sep 16 13:35:50 2022
 Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF Ali
09152022.m
 Quant Title : VPH ALIPHATIC
 QLast Update : Fri Sep 16 09:02:50 2022
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc Units
----------	------	----------	------------

System Monitoring Compounds

Target Compounds

9) A1 C5-C8 Aliphatics	11.330f	300192561	2666.323 m
10) A2 C5 - C6 Aliphatics	5.655f	61735358	548.336 m
11) A2 > C6 - C8 Aliphatics	9.189	107967308	958.970 m
12) A1 > C8-C10 Aliphatics	11.330f	251296740	2016.626 m
13) A2 C8 - C10 Aliphatics	11.330f	250868515	2013.189 m
14) A2 > C10 - C12 Aliphatics	15.830	70683996	567.230 m

(f)=RT Delta > 1/2 Window

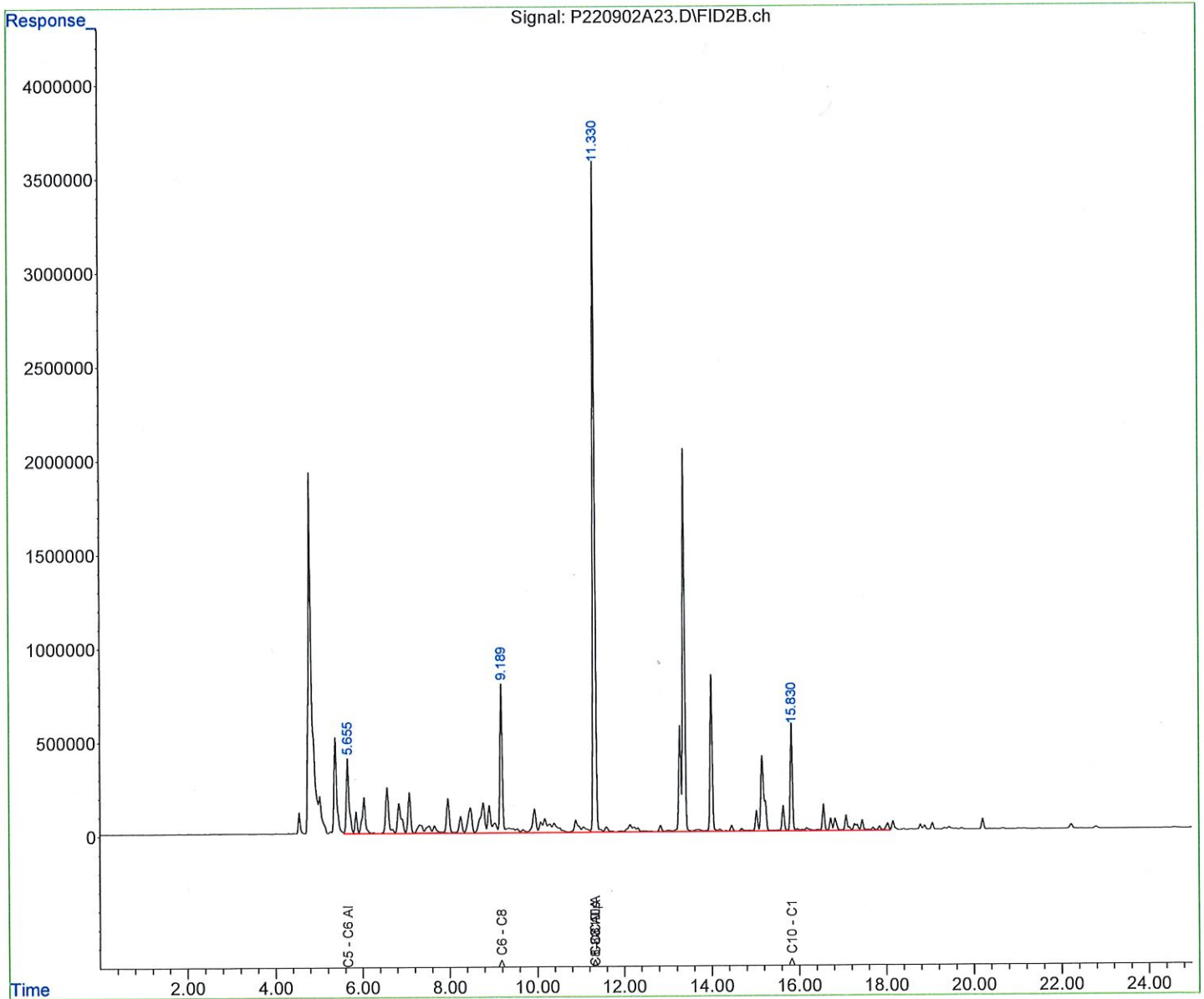
(m)=manual int.

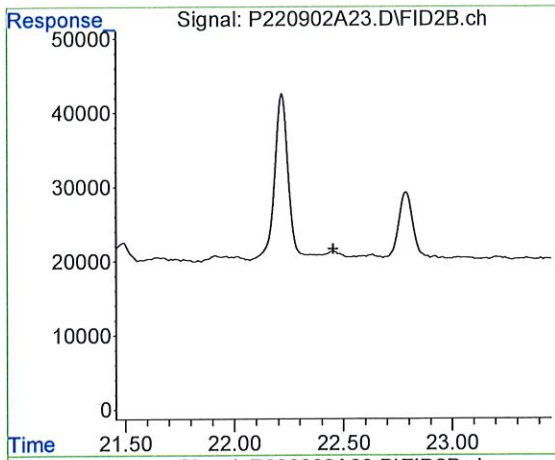
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Da
Data File : P220902A23.D
Signal(s) : FID2B.ch
Acq On : 2 Sep 2022 8:24 pm
Operator : PVPH:BAD
Sample : WG1684889-6,41,10,1.11,0.0002,,w
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 23 Sample Multiplier: 1

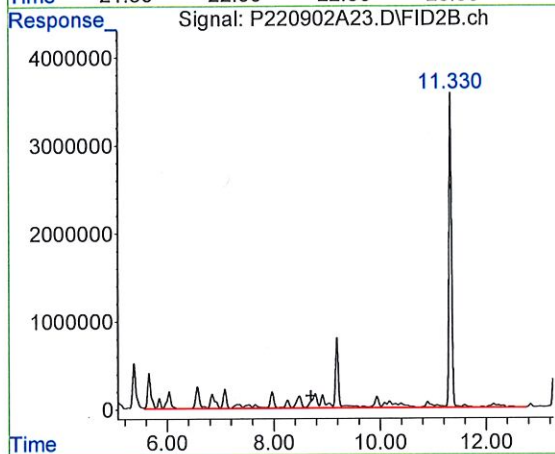
Integration File: autoint1.e
Quant Time: Sep 16 13:35:50 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF A
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

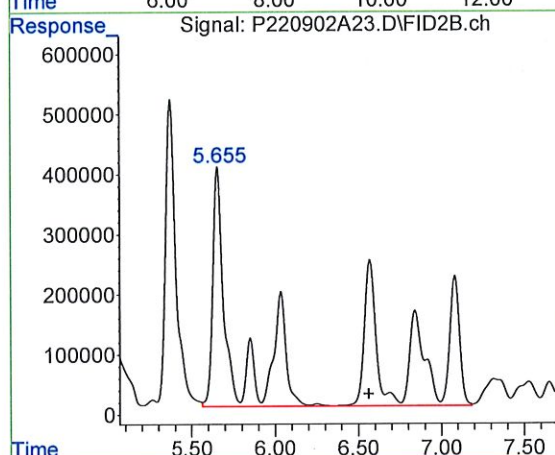




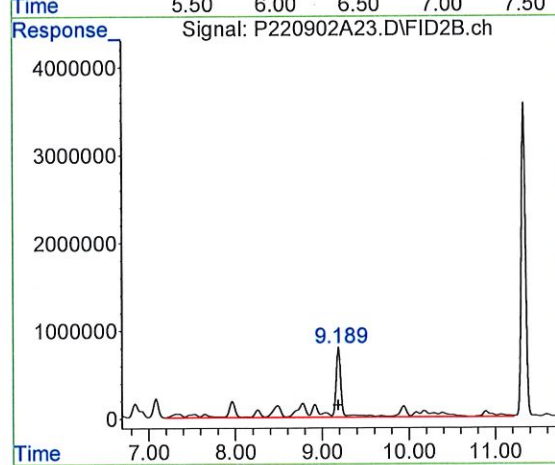
#8 2,5-Dibromotoluene-FID
 R.T.: 0.000 min
 Exp R.T. : 22.454 min
 Response: 0
 Conc: N.D.



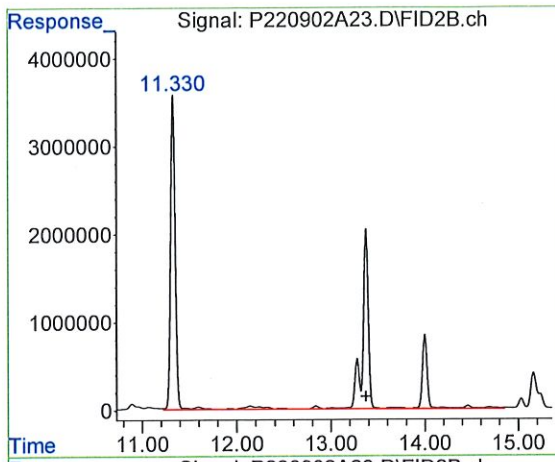
#9 C5-C8 Aliphatics
 R.T.: 11.330 min
 Delta R.T.: 2.636 min
 Response: 300192561
 Conc: 2666.32 m



#10 C5 - C6 Aliphatics
 R.T.: 5.655 min
 Delta R.T.: -0.906 min
 Response: 61735358
 Conc: 548.34 m

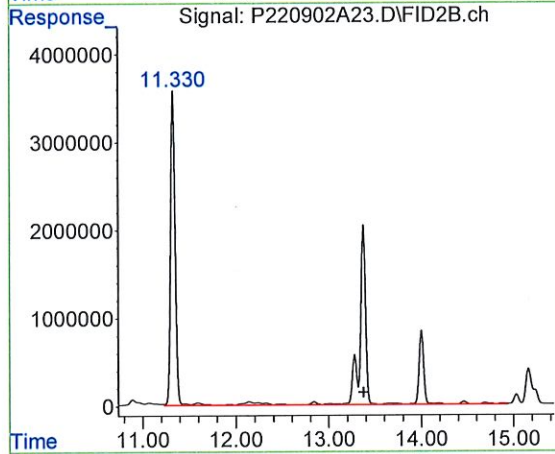


#11 > C6 - C8 Aliphatics
 R.T.: 9.189 min
 Delta R.T.: 0.003 min
 Response: 107967308
 Conc: 958.97 m



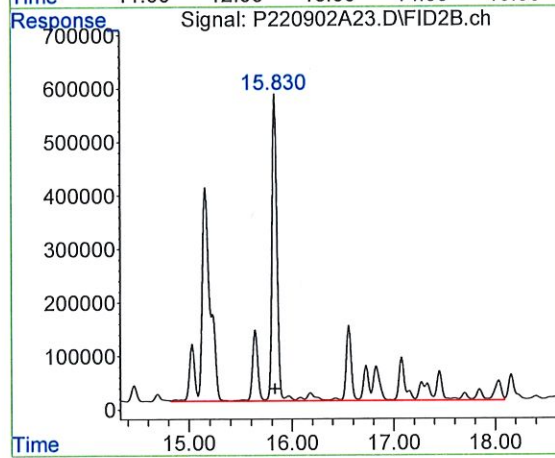
#12 > C8-C10 Aliphatics

R.T.: 11.330 min
 Delta R.T.: -2.041 min
 Response: 251296740
 Conc: 2016.63 m



#13 C8 - C10 Aliphatics

R.T.: 11.330 min
 Delta R.T.: -2.044 min
 Response: 250868515
 Conc: 2013.19 m



#14 > C10 - C12 Aliphatics

R.T.: 15.830 min
 Delta R.T.: 0.000 min
 Response: 70683996
 Conc: 567.23 m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Data
 Data File : P220902A25.D
 Signal(s) : FID2B.ch
 Acq On : 2 Sep 2022 9:23 pm
 Operator : PVPH:BAD
 Sample : I2240634-04d,41,10,1.14,0.0002,,w
 Misc : WG1684889,ICAL19300,VPH-50
 ALS Vial : 25 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Sep 16 11:02:10 2022
 Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF Ali
09152022.m
 Quant Title : VPH ALIPHATIC
 QLast Update : Fri Sep 16 09:02:50 2022
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units
----------	------	----------	------	-------

System Monitoring Compounds

Target Compounds

9) A1 C5-C8 Aliphatics	11.330f	310179084	2755.023	m
10) A2 C5 - C6 Aliphatics	5.655f	63527232	564.251	m
11) A2 > C6 - C8 Aliphatics	9.189	109378360	971.503	m
12) A1 > C8-C10 Aliphatics	11.330f	255951261	2053.977	m
13) A2 C8 - C10 Aliphatics	11.330f	253222488	2032.079	m
14) A2 > C10 - C12 Aliphatics	15.830	67246649	539.646	m

(f)=RT Delta > 1/2 Window

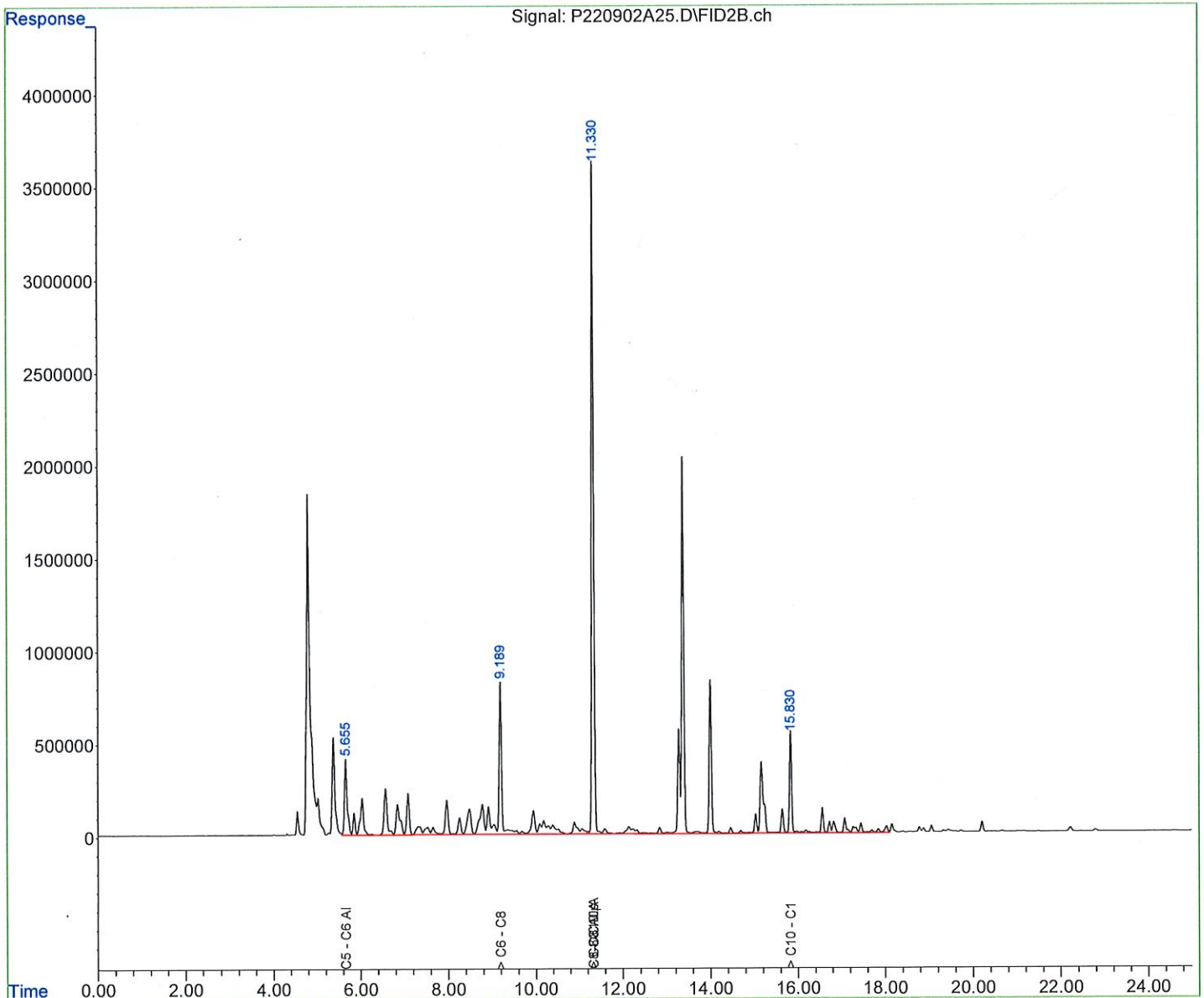
(m)=manual int.

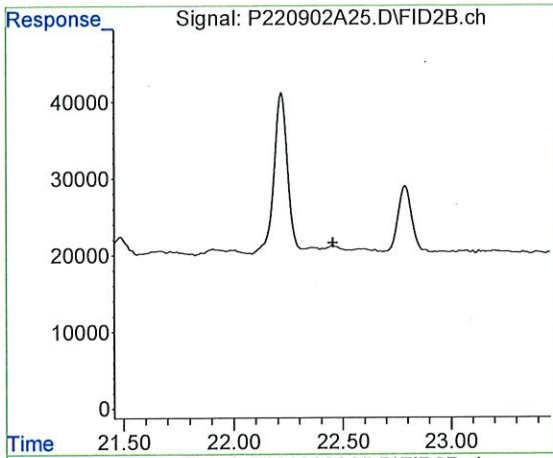
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Da
Data File : P220902A25.D
Signal(s) : FID2B.ch
Acq On : 2 Sep 2022 9:23 pm
Operator : PVPH:BAD
Sample : I2240634-04d,41,10,1.14,0.0002,,w
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 25 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 16 11:02:10 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF A
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

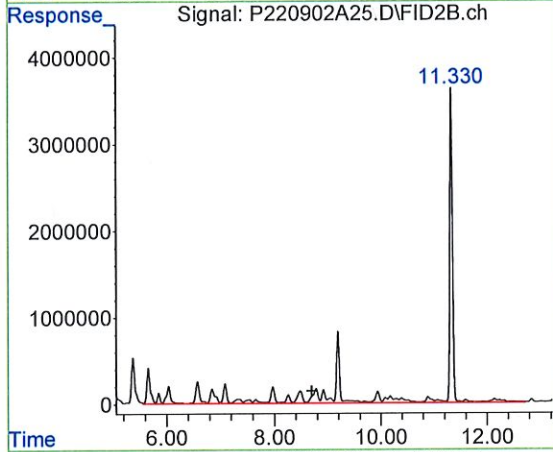
Volume Inj. :
Signal Phase :
Signal Info :





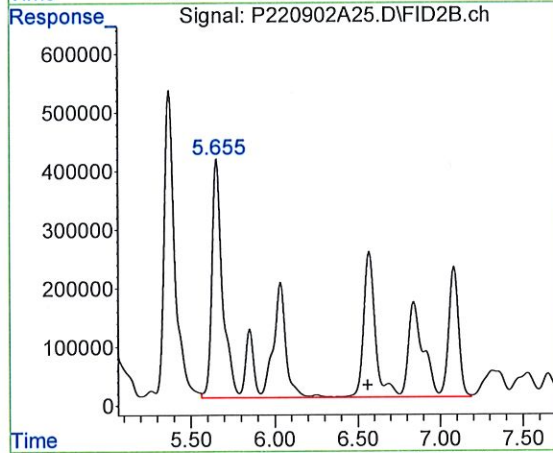
#8 2,5-Dibromotoluene-FID

R.T.: 0.000 min
 Exp R.T. : 22.454 min
 Response: 0
 Conc: N.D.



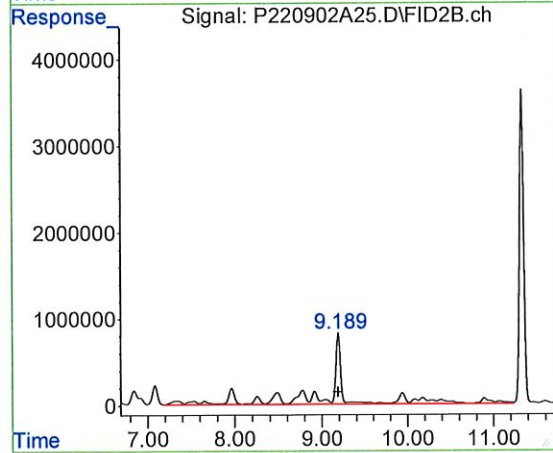
#9 C5-C8 Aliphatics

R.T.: 11.330 min
 Delta R.T.: 2.636 min
 Response: 310179084
 Conc: 2755.02 m



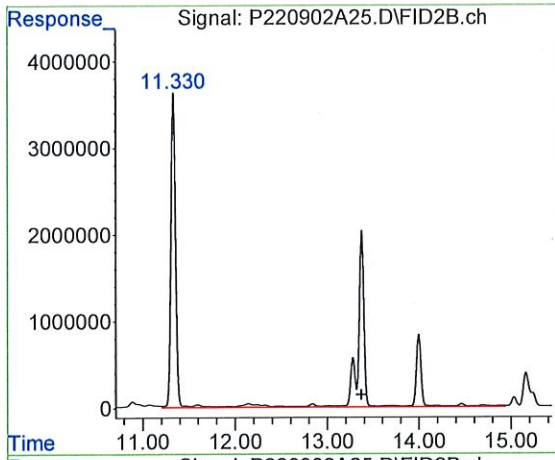
#10 C5 - C6 Aliphatics

R.T.: 5.655 min
 Delta R.T.: -0.906 min
 Response: 63527232
 Conc: 564.25 m



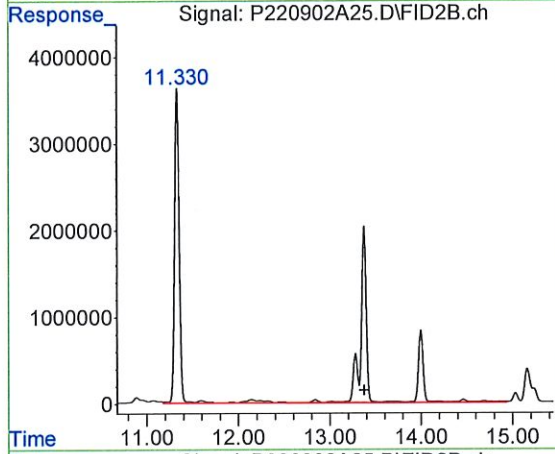
#11 > C6 - C8 Aliphatics

R.T.: 9.189 min
 Delta R.T.: 0.003 min
 Response: 109378360
 Conc: 971.50 m



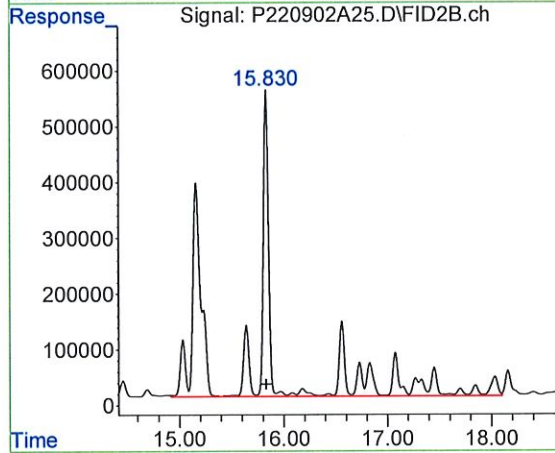
#12 > C8-C10 Aliphatics

R.T.: 11.330 min
 Delta R.T.: -2.041 min
 Response: 255951261
 Conc: 2053.98 m



#13 C8 - C10 Aliphatics

R.T.: 11.330 min
 Delta R.T.: -2.044 min
 Response: 253222488
 Conc: 2032.08 m



#14 > C10 - C12 Aliphatics

R.T.: 15.830 min
 Delta R.T.: 0.000 min
 Response: 67246649
 Conc: 539.65 m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Data
 Data File : P220902A27.D
 Signal(s) : FID2B.ch
 Acq On : 2 Sep 2022 10:23 pm
 Operator : PVPH:BAD
 Sample : I2240634-07d,41,10,1.17,0.0002,,w
 Misc : WG1684889,ICAL19300,VPH-50
 ALS Vial : 27 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Oct 26 17:03:23 2022
 Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF Ali
09152022.m
 Quant Title : VPH ALIPHATIC
 QLast Update : Fri Sep 16 09:02:50 2022
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc Units
----------	------	----------	------------

System Monitoring Compounds

Target Compounds

9) A1 C5-C8 Aliphatics	11.330f	235266727	2089.649 m
10) A2 C5 - C6 Aliphatics	5.655f	45220918	401.654 m
11) A2 > C6 - C8 Aliphatics	9.189	78082300	693.530 m
12) A1 > C8-C10 Aliphatics	11.330f	212562718	1705.790 m
13) A2 C8 - C10 Aliphatics	11.330f	212907744	1708.559 m
14) A2 > C10 - C12 Aliphatics	15.830	54931074	440.815 m

(f)=RT Delta > 1/2 Window

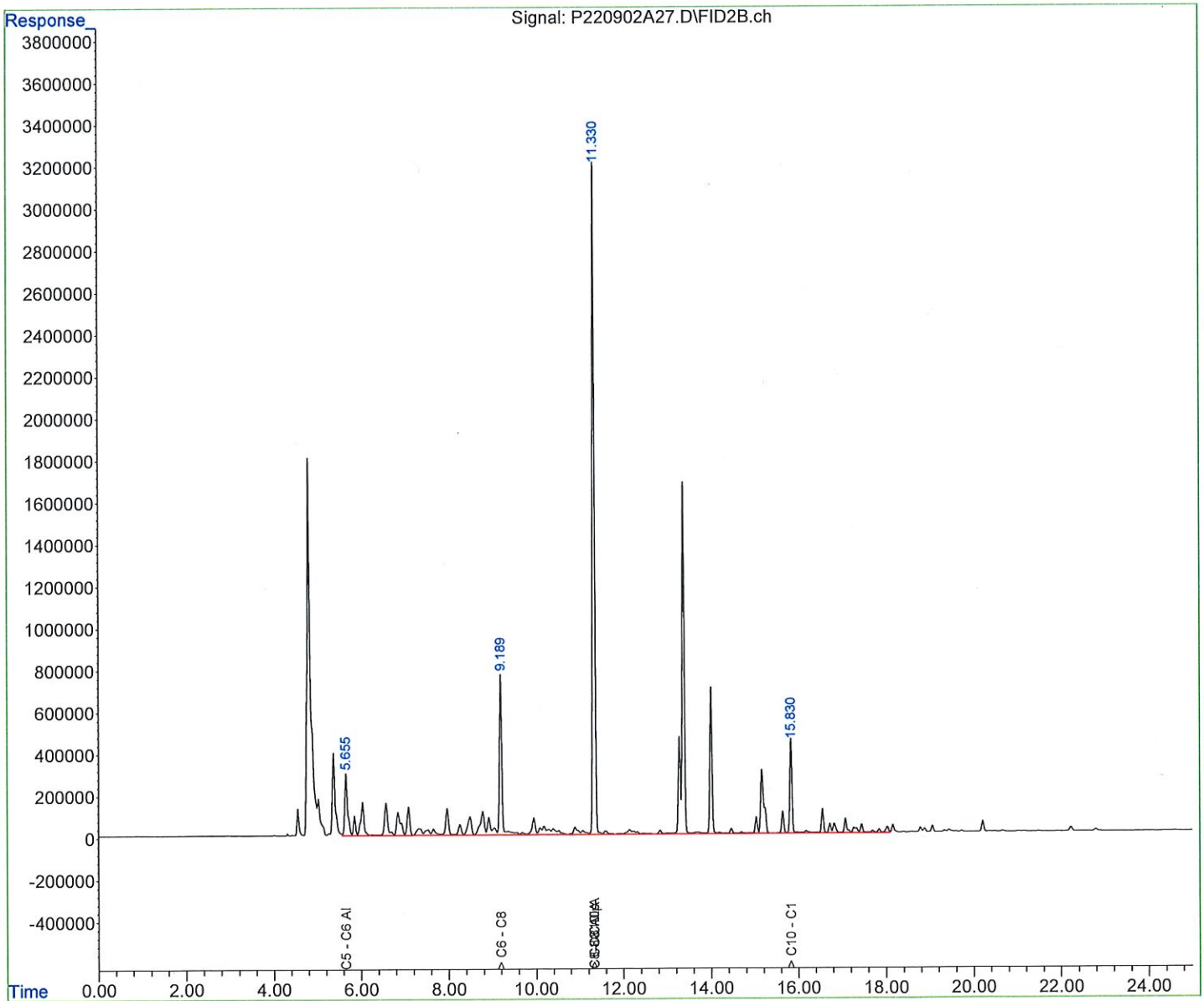
(m)=manual int.

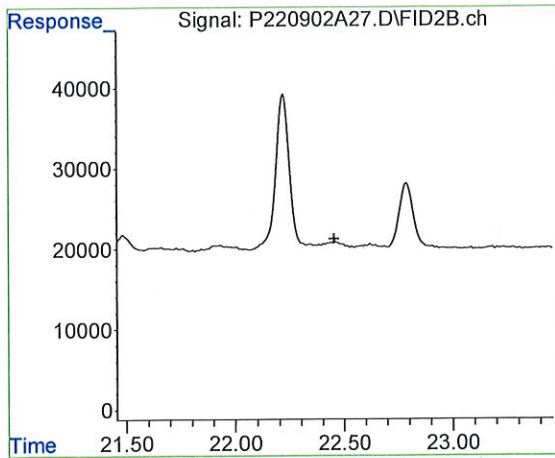
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Da
Data File : P220902A27.D
Signal(s) : FID2B.ch
Acq On : 2 Sep 2022 10:23 pm
Operator : PVPH:BAD
Sample : I2240634-07d,41,10,1.17,0.0002,,w
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 27 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 26 17:03:23 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF A
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

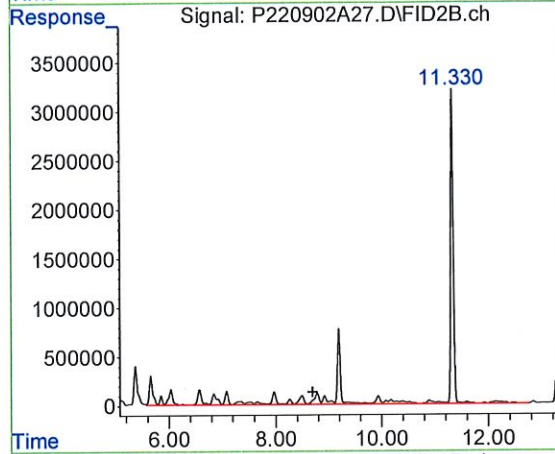
Volume Inj. :
Signal Phase :
Signal Info :





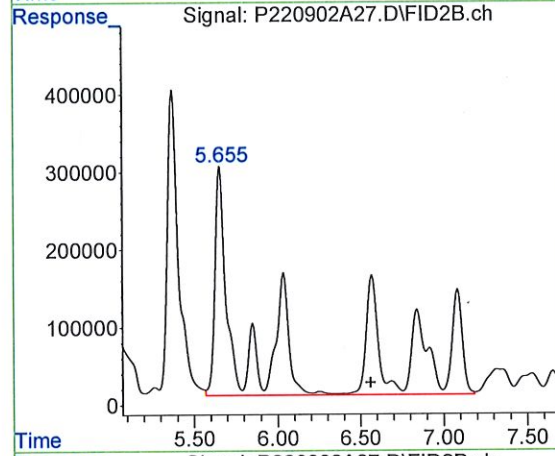
#8 2,5-Dibromotoluene-FID

R.T.: 0.000 min
 Exp R.T. : 22.454 min
 Response: 0
 Conc: N.D.



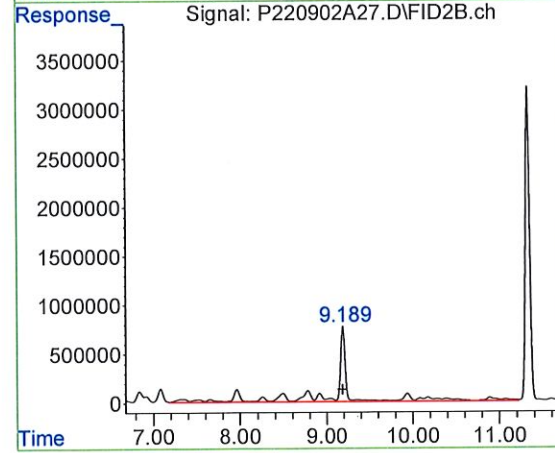
#9 C5-C8 Aliphatics

R.T.: 11.330 min
 Delta R.T.: 2.636 min
 Response: 235266727
 Conc: 2089.65 m



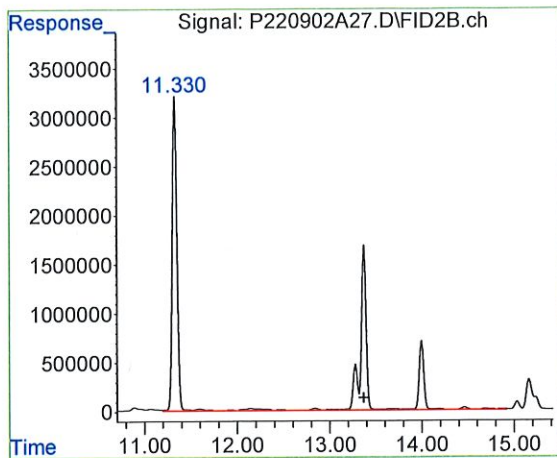
#10 C5 - C6 Aliphatics

R.T.: 5.655 min
 Delta R.T.: -0.906 min
 Response: 45220918
 Conc: 401.65 m



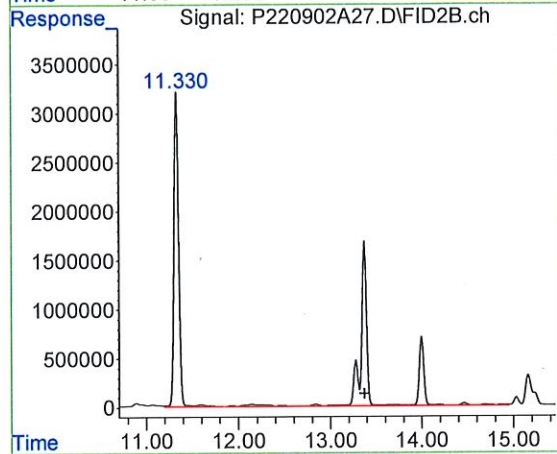
#11 > C6 - C8 Aliphatics

R.T.: 9.189 min
 Delta R.T.: 0.003 min
 Response: 78082300
 Conc: 693.53 m



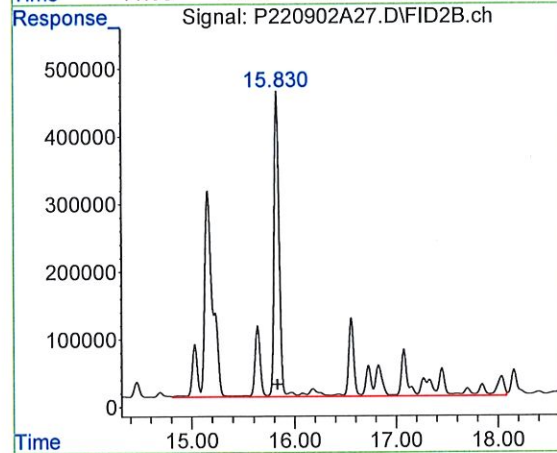
#12 > C8-C10 Aliphatics

R.T.: 11.330 min
 Delta R.T.: -2.041 min
 Response: 212562718
 Conc: 1705.79 m



#13 C8 - C10 Aliphatics

R.T.: 11.330 min
 Delta R.T.: -2.044 min
 Response: 212907744
 Conc: 1708.56 m



#14 > C10 - C12 Aliphatics

R.T.: 15.830 min
 Delta R.T.: 0.000 min
 Response: 54931074
 Conc: 440.82 m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Data
Data File : P220902A29.D
Signal(s) : FID2B.ch
Acq On : 2 Sep 2022 11:23 pm
Operator : PVPH:BAD
Sample : I2240634-10d,41,10,1.17,0.0005,,z
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 29 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 21 11:44:02 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF Ali
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
----------	------	----------	------	-------

System Monitoring Compounds

Target Compounds

9) A1 C5-C8 Aliphatics	12.138f	38324948	340.404	m
10) A2 C5 - C6 Aliphatics	5.656f	2454292	21.799	m
11) A2 > C6 - C8 Aliphatics	10.887f	10108723	89.786	m
12) A1 > C8-C10 Aliphatics	14.689f	176571573	1416.965	m
13) A2 C8 - C10 Aliphatics	14.689f	164212163	1317.782	m
14) A2 > C10 - C12 Aliphatics	15.830	338492923	2716.364	m

(f)=RT Delta > 1/2 Window

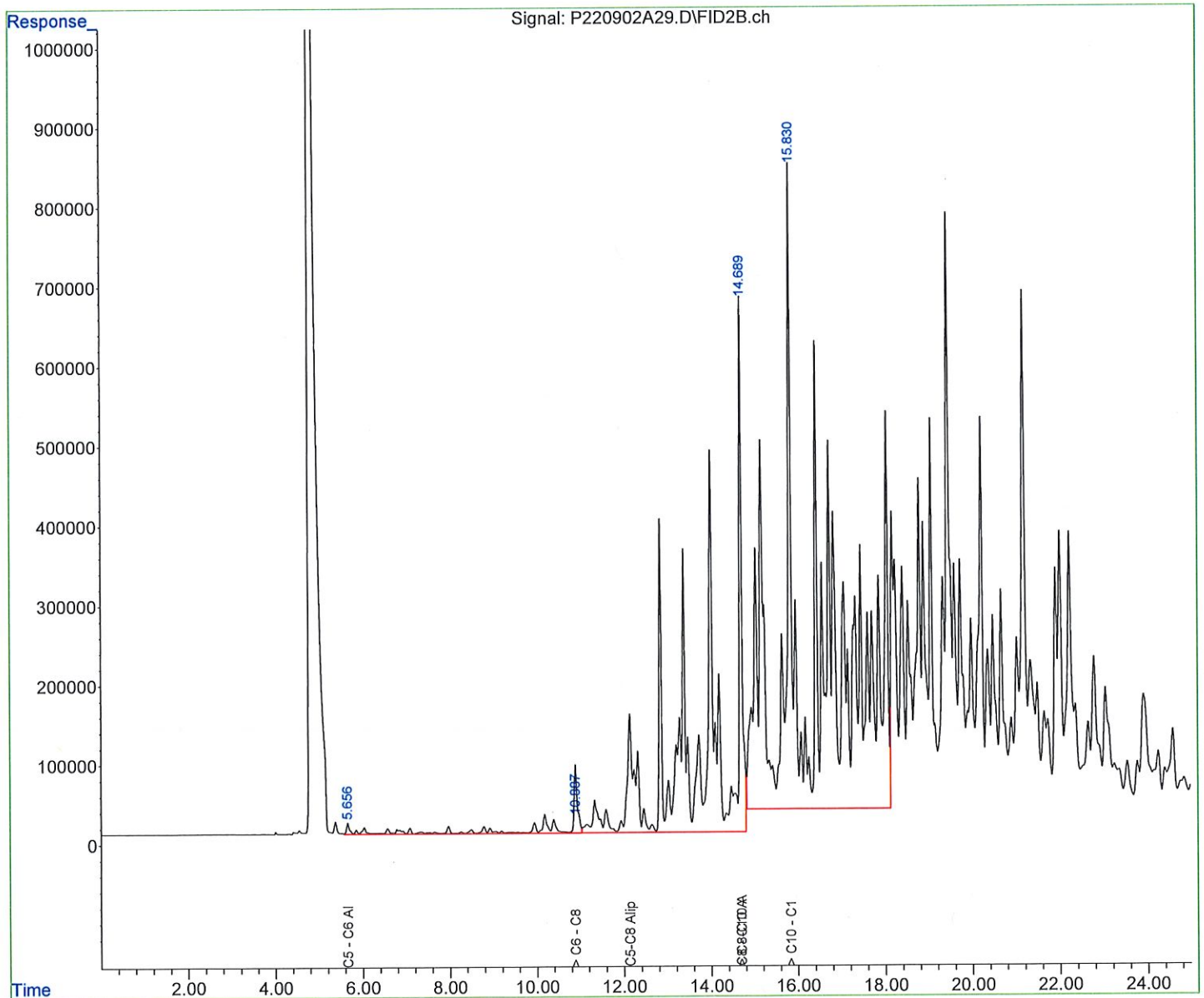
(m)=manual int.

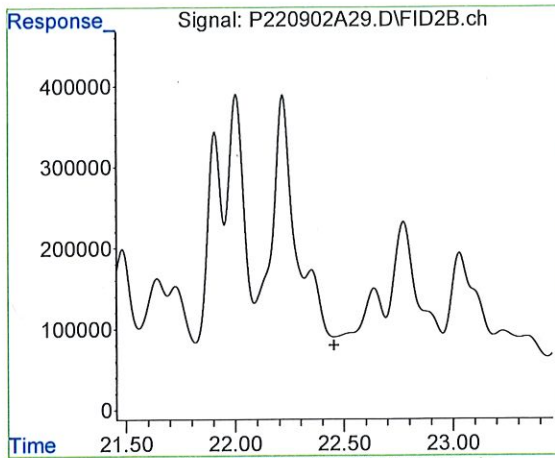
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Da
Data File : P220902A29.D
Signal(s) : FID2B.ch
Acq On : 2 Sep 2022 11:23 pm
Operator : PVPH:BAD
Sample : I2240634-10d,41,10,1.17,0.0005,,z
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 29 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 21 11:44:02 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF A
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

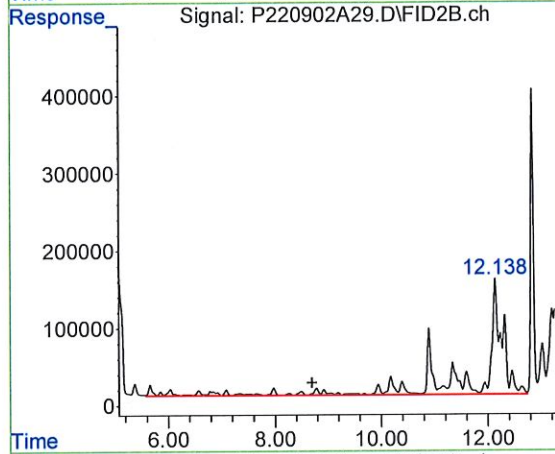
Volume Inj. :
Signal Phase :
Signal Info :





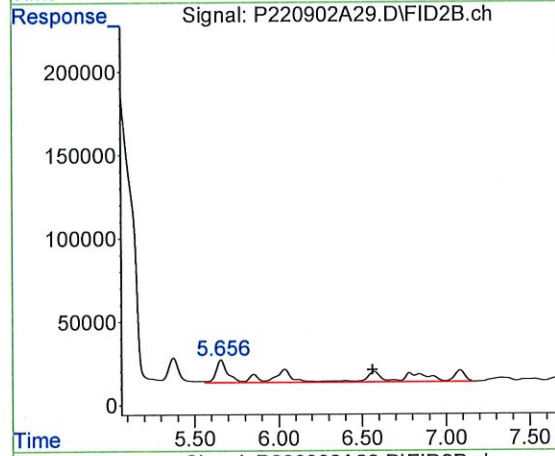
#8 2,5-Dibromotoluene-FID

R.T.: 0.000 min
 Exp R.T. : 22.454 min
 Response: 0
 Conc: N.D.



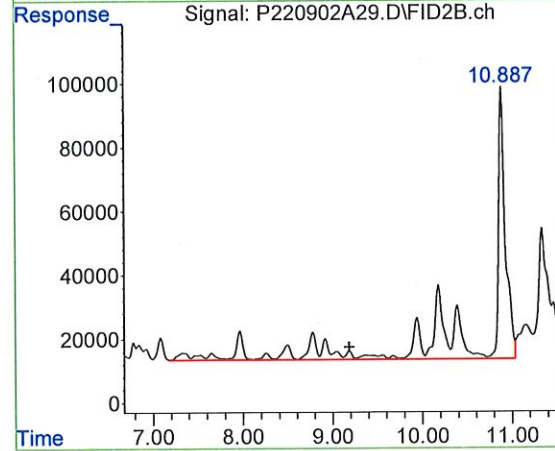
#9 C5-C8 Aliphatics

R.T.: 12.138 min
 Delta R.T.: 3.444 min
 Response: 38324948
 Conc: 340.40 m



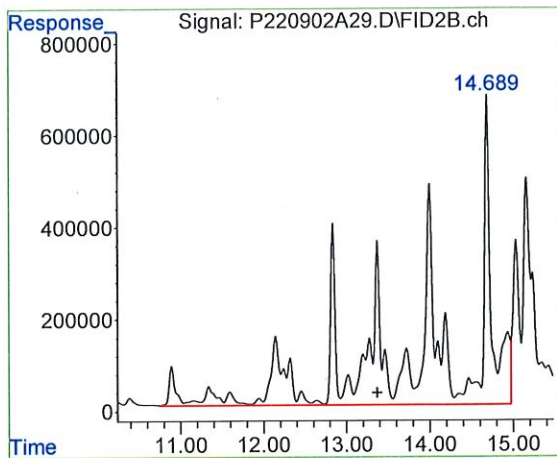
#10 C5 - C6 Aliphatics

R.T.: 5.656 min
 Delta R.T.: -0.905 min
 Response: 2454292
 Conc: 21.80 m



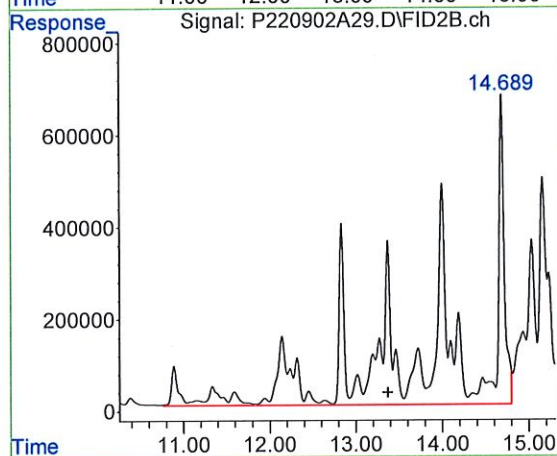
#11 > C6 - C8 Aliphatics

R.T.: 10.887 min
 Delta R.T.: 1.701 min
 Response: 10108723
 Conc: 89.79 m



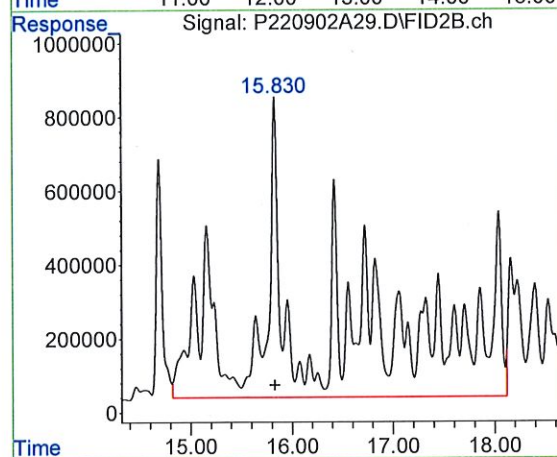
#12 > C8-C10 Aliphatics

R.T.: 14.689 min
Delta R.T.: 1.318 min
Response: 176571573
Conc: 1416.97 m



#13 C8 - C10 Aliphatics

R.T.: 14.689 min
Delta R.T.: 1.315 min
Response: 164212163
Conc: 1317.78 m



#14 > C10 - C12 Aliphatics

R.T.: 15.830 min
Delta R.T.: 0.000 min
Response: 338492923
Conc: 2716.36 m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VP\INF Data\Aliphatic Data
 Data File : P220902A31.D
 Signal(s) : FID2B.ch
 Acq On : 3 Sep 2022 12:23 am
 Operator : PVPH:BAD
 Sample : I2240634-13d,41,10,1.67,0.0005,,w
 Misc : WG1684889,ICAL19300,VPH-50
 ALS Vial : 31 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Sep 16 14:57:20 2022
 Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VP\INF Data\NF Ali
09152022.m
 Quant Title : VPH ALIPHATIC
 QLast Update : Fri Sep 16 09:02:50 2022
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units
----------	------	----------	------	-------

System Monitoring Compounds

Target Compounds

9) A1 C5-C8 Aliphatics	11.330f	41789542	371.176	m
10) A2 C5 - C6 Aliphatics	5.654f	1574382	13.984	m
11) A2 > C6 - C8 Aliphatics	9.937	13911422	123.562	m
12) A1 > C8-C10 Aliphatics	13.373	179764104	1442.585	m
13) A2 C8 - C10 Aliphatics	13.373	181295100	1454.871	m
14) A2 > C10 - C12 Aliphatics	15.830	354633889	2845.893	m

(f)=RT Delta > 1/2 Window

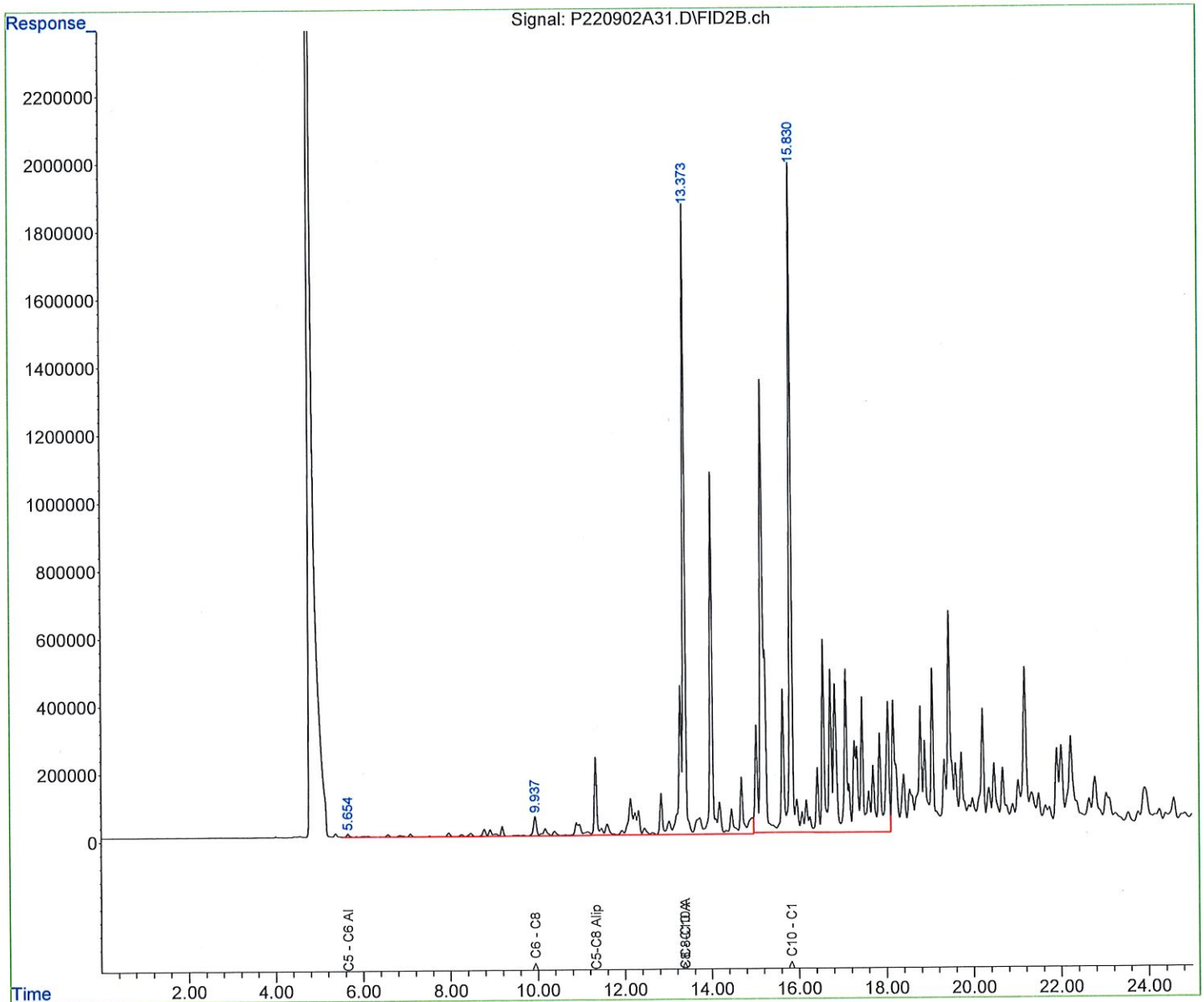
(m)=manual int.

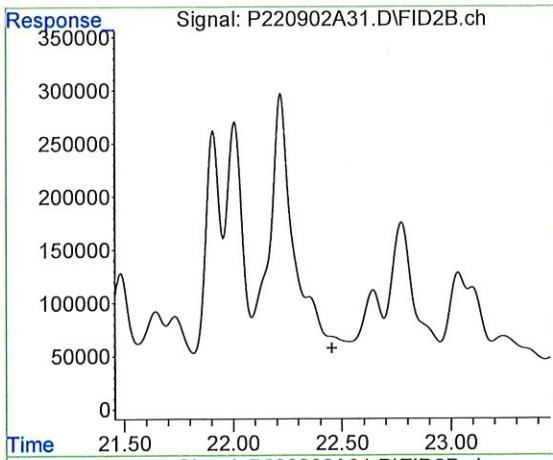
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Da
Data File : P220902A31.D
Signal(s) : FID2B.ch
Acq On : 3 Sep 2022 12:23 am
Operator : PVPH:BAD
Sample : I2240634-13d,41,10,1.67,0.0005,,w
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 31 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 16 14:57:20 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF A
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

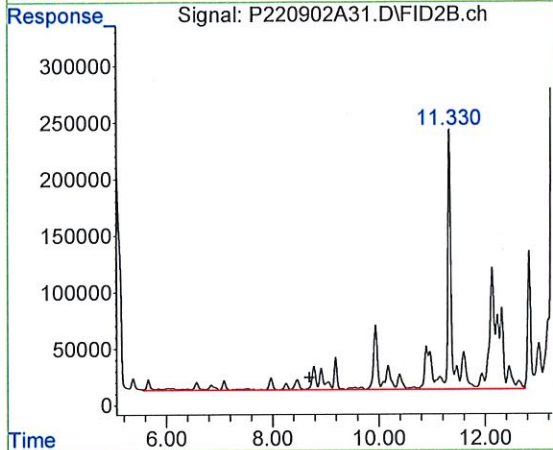
Volume Inj. :
Signal Phase :
Signal Info :





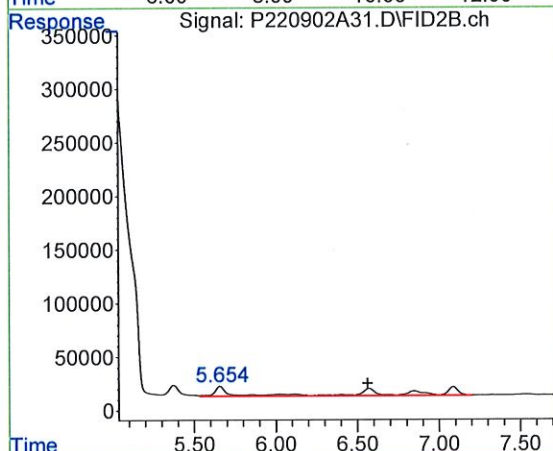
#8 2,5-Dibromotoluene-FID

R.T.: 0.000 min
 Exp R.T. : 22.454 min
 Response: 0
 Conc: N.D.



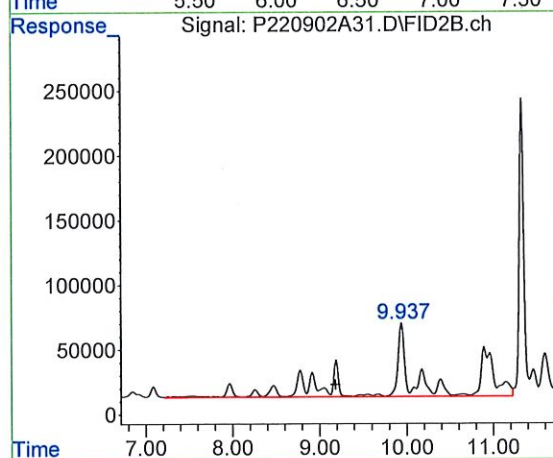
#9 C5-C8 Aliphatics

R.T.: 11.330 min
 Delta R.T.: 2.636 min
 Response: 41789542
 Conc: 371.18 m



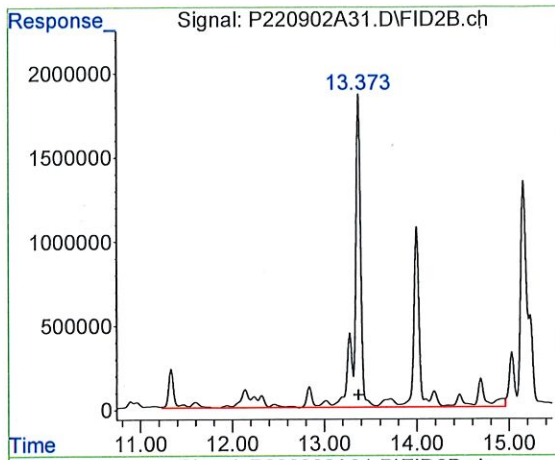
#10 C5 - C6 Aliphatics

R.T.: 5.654 min
 Delta R.T.: -0.907 min
 Response: 1574382
 Conc: 13.98 m



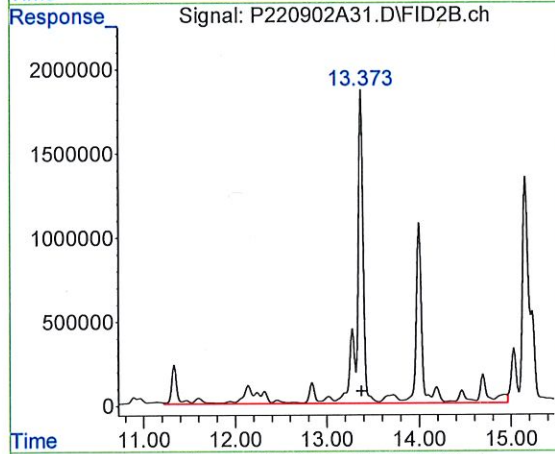
#11 > C6 - C8 Aliphatics

R.T.: 9.937 min
 Delta R.T.: 0.751 min
 Response: 13911422
 Conc: 123.56 m



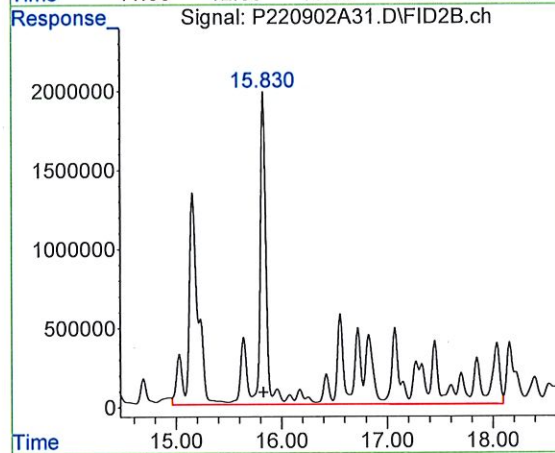
#12 > C8-C10 Aliphatics

R.T.: 13.373 min
Delta R.T.: 0.002 min
Response: 179764104
Conc: 1442.58 m



#13 C8 - C10 Aliphatics

R.T.: 13.373 min
Delta R.T.: 0.000 min
Response: 181295100
Conc: 1454.87 m



#14 > C10 - C12 Aliphatics

R.T.: 15.830 min
Delta R.T.: 0.000 min
Response: 354633889
Conc: 2845.89 m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VP\NF Data\Aliphatic Data
Data File : P220902A33.D
Signal(s) : FID2B.ch
Acq On : 3 Sep 2022 1:23 am
Operator : PVPH:BAD
Sample : I2240634-25d,41,10,1.17,0.005,,w
Misc : WG1684889,ICAL19300,VP-50
ALS Vial : 33 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 21 11:46:04 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VP\NF Data\NF Ali
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units

System Monitoring Compounds				
8) s 2,5-Dibromotoluene-FID	22.355f	18998220	469.977	
Spiked Amount	250.000	Recovery = 187.99%		
Target Compounds				
9) A1 C5-C8 Aliphatics	12.140f	10589513	94.056	m
10) A2 C5 - C6 Aliphatics	6.777	1817701	16.145	m
11) A2 > C6 - C8 Aliphatics	10.888f	3040048	27.002	m
12) A1 > C8-C10 Aliphatics	14.688f	45405379	364.373	m
13) A2 C8 - C10 Aliphatics	14.688f	40299446	323.398	m
14) A2 > C10 - C12 Aliphatics	18.042f	628687699	5045.142	m

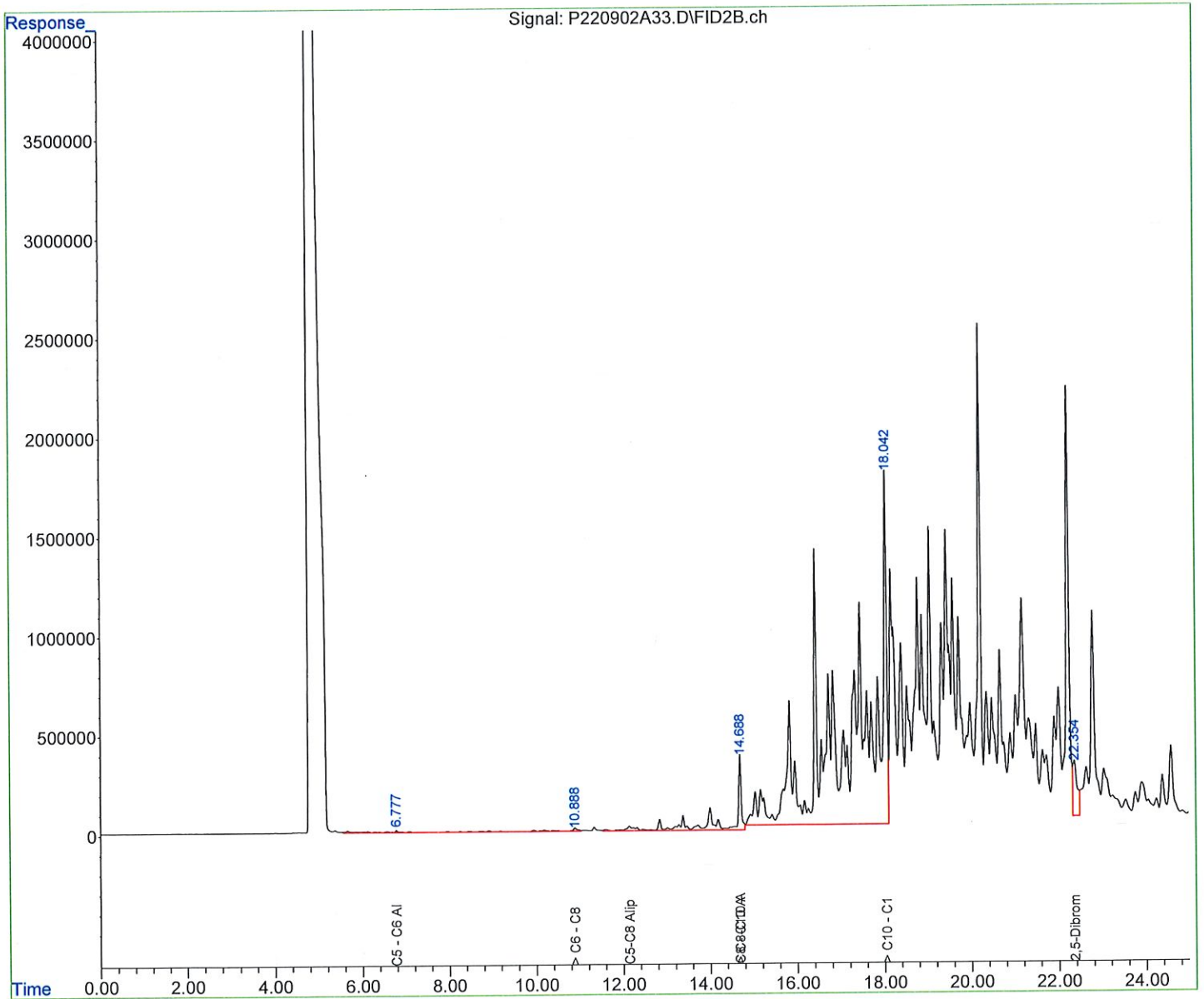
(f)=RT Delta > 1/2 Window (m)=manual int.

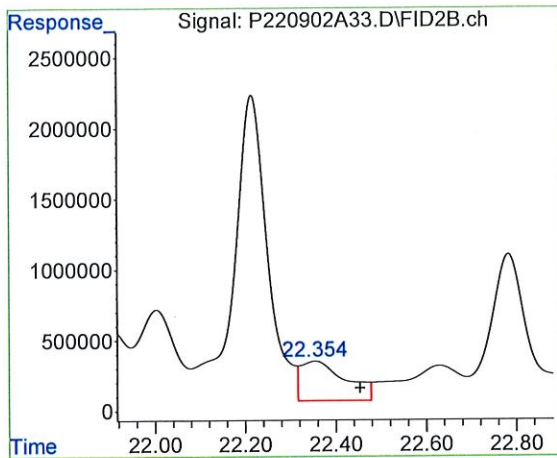
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Da
Data File : P220902A33.D
Signal(s) : FID2B.ch
Acq On : 3 Sep 2022 1:23 am
Operator : PVPH:BAD
Sample : I2240634-25d,41,10,1.17,0.005,,w
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 33 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 21 11:46:04 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF A
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

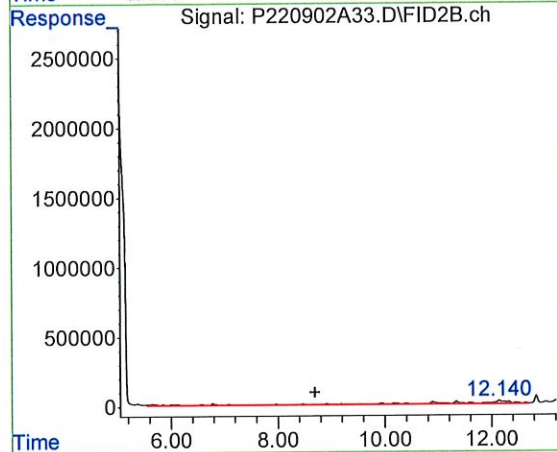
Volume Inj. :
Signal Phase :
Signal Info :





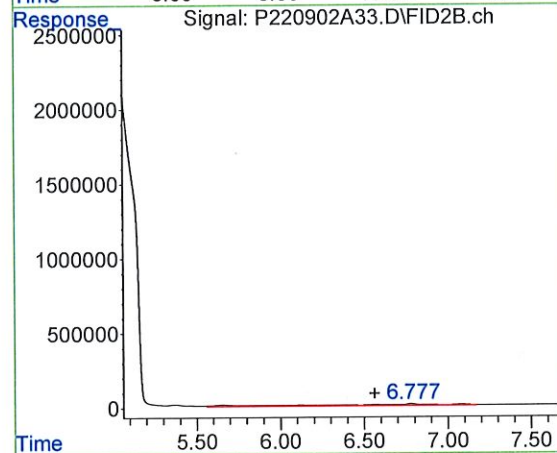
#8 2,5-Dibromotoluene-FID

R.T.: 22.355 min
 Delta R.T.: -0.099 min
 Response: 18998220
 Conc: 469.98



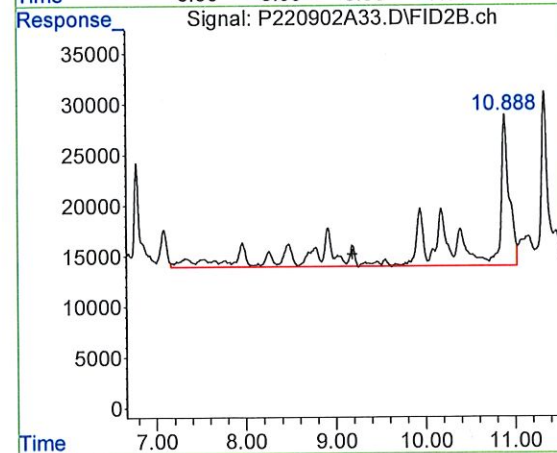
#9 C5-C8 Aliphatics

R.T.: 12.140 min
 Delta R.T.: 3.446 min
 Response: 10589513
 Conc: 94.06 m



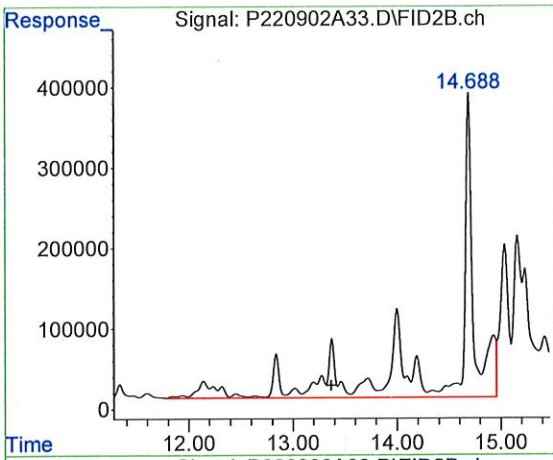
#10 C5 - C6 Aliphatics

R.T.: 6.777 min
 Delta R.T.: 0.216 min
 Response: 1817701
 Conc: 16.14 m



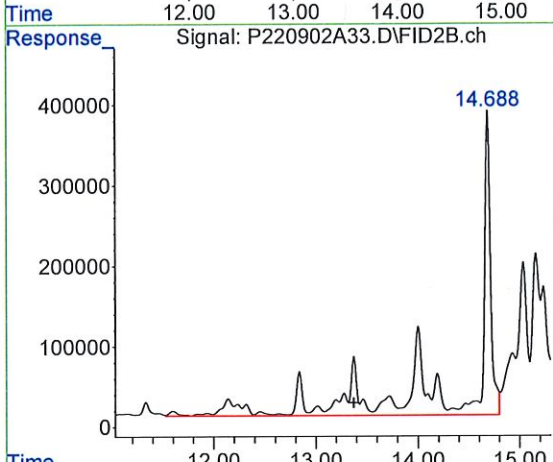
#11 > C6 - C8 Aliphatics

R.T.: 10.888 min
 Delta R.T.: 1.702 min
 Response: 3040048
 Conc: 27.00 m



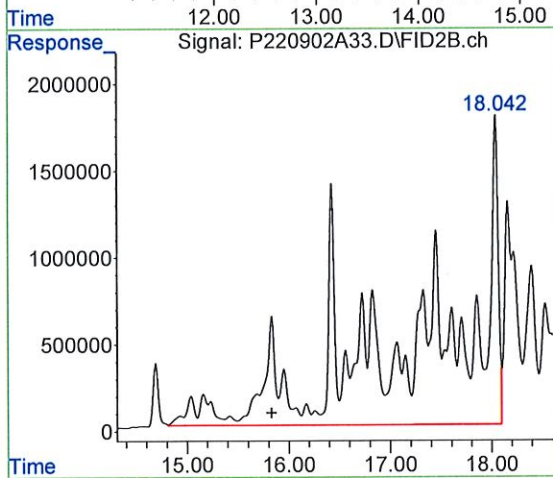
#12 > C8-C10 Aliphatics

R.T.: 14.688 min
 Delta R.T.: 1.317 min
 Response: 45405379
 Conc: 364.37 m



#13 C8 - C10 Aliphatics

R.T.: 14.688 min
 Delta R.T.: 1.314 min
 Response: 40299446
 Conc: 323.40 m



#14 > C10 - C12 Aliphatics

R.T.: 18.042 min
 Delta R.T.: 2.212 min
 Response: 628687699
 Conc: 5045.14 m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Data
 Data File : P220902A35.D
 Signal(s) : FID2B.ch
 Acq On : 3 Sep 2022 2:22 am
 Operator : PVPH:BAD
 Sample : I2240634-32d,41,10,1.01,0.02,,z
 Misc : WG1684889,ICAL19300,VPH-50
 ALS Vial : 35 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Oct 21 11:48:01 2022
 Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF Ali
09152022.m
 Quant Title : VPH ALIPHATIC
 QLast Update : Fri Sep 16 09:02:50 2022
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units
----------	------	----------	------	-------

System Monitoring Compounds

Target Compounds

9) A1 C5-C8 Aliphatics	11.329f	286089755	2541.061	m
10) A2 C5 - C6 Aliphatics	6.851	22433507	199.255	m
11) A2 > C6 - C8 Aliphatics	8.907	138597802	1231.031	m
12) A1 > C8-C10 Aliphatics	13.373	352626722	2829.786	m
13) A2 C8 - C10 Aliphatics	13.373	458724925	3681.211	m
14) A2 > C10 - C12 Aliphatics	15.830	702543749	5637.827	m

(f)=RT Delta > 1/2 Window

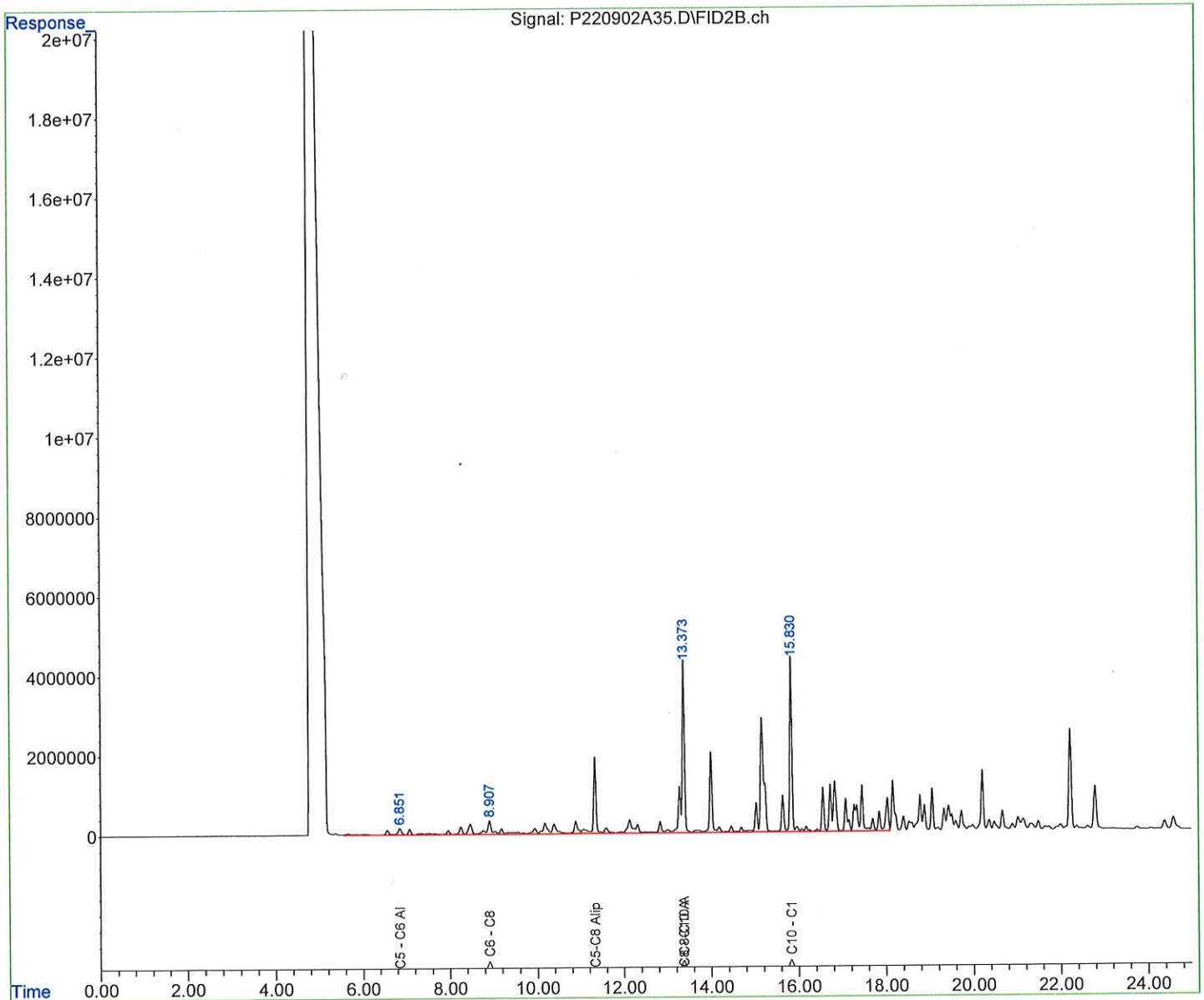
(m)=manual int.

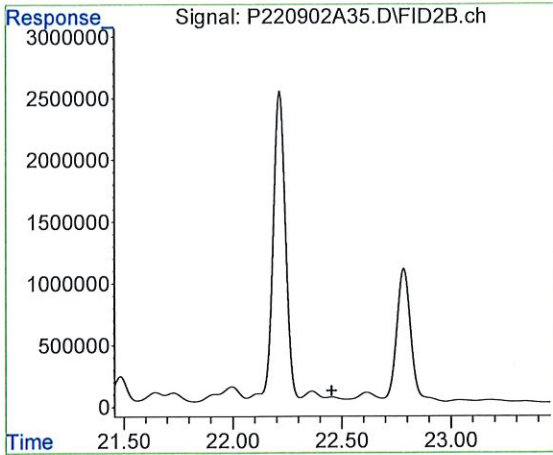
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Da
Data File : P220902A35.D
Signal(s) : FID2B.ch
Acq On : 3 Sep 2022 2:22 am
Operator : PVPH:BAD
Sample : I2240634-32d,41,10,1.01,0.02,,z
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 35 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 21 11:48:01 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF A
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

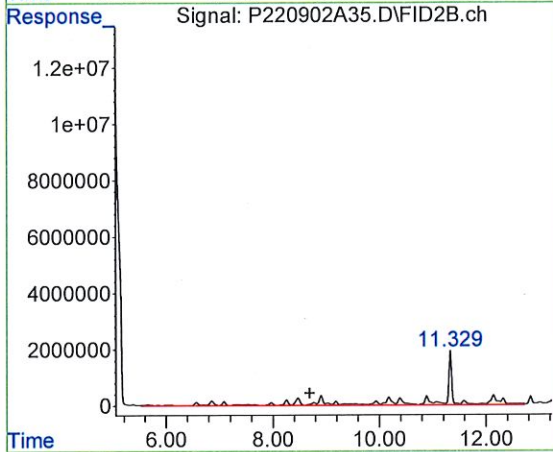
Volume Inj. :
Signal Phase :
Signal Info :





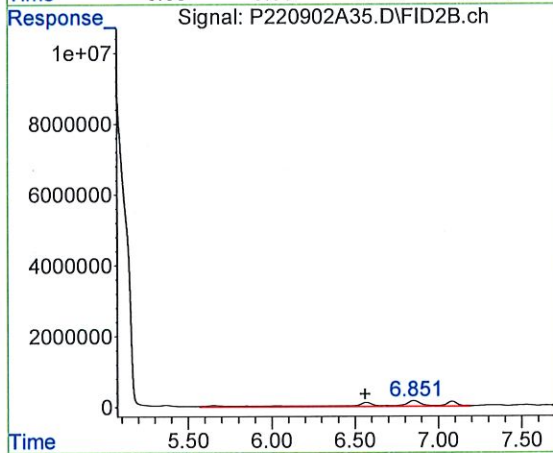
#8 2,5-Dibromotoluene-FID

R.T.: 0.000 min
 Exp R.T. : 22.454 min
 Response: 0
 Conc: N.D.



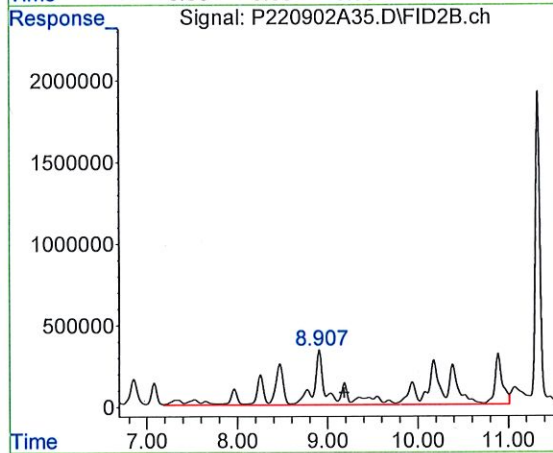
#9 C5-C8 Aliphatics

R.T.: 11.329 min
 Delta R.T.: 2.635 min
 Response: 286089755
 Conc: 2541.06 m



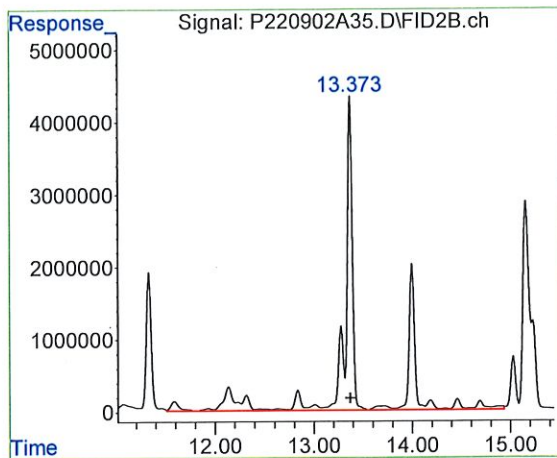
#10 C5 - C6 Aliphatics

R.T.: 6.851 min
 Delta R.T.: 0.290 min
 Response: 22433507
 Conc: 199.26 m



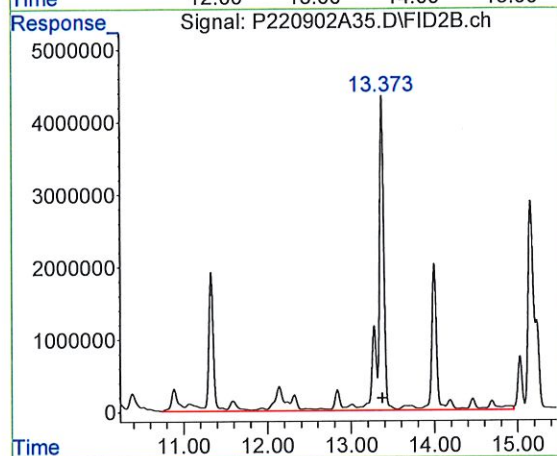
#11 > C6 - C8 Aliphatics

R.T.: 8.907 min
 Delta R.T.: -0.279 min
 Response: 138597802
 Conc: 1231.03 m



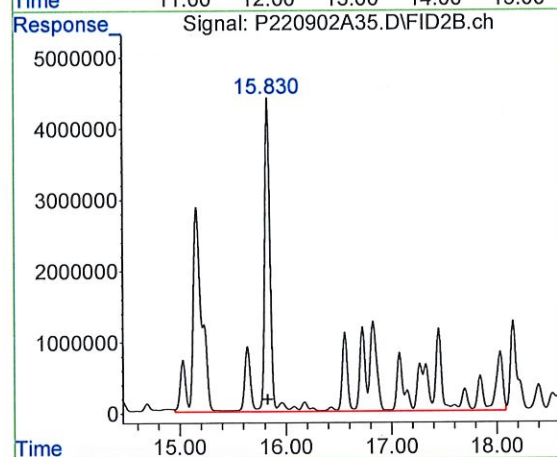
#12 > C8-C10 Aliphatics

R.T.: 13.373 min
 Delta R.T.: 0.002 min
 Response: 352626722
 Conc: 2829.79 m



#13 C8 - C10 Aliphatics

R.T.: 13.373 min
 Delta R.T.: -0.001 min
 Response: 458724925
 Conc: 3681.21 m



#14 > C10 - C12 Aliphatics

R.T.: 15.830 min
 Delta R.T.: 0.000 min
 Response: 702543749
 Conc: 5637.83 m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VP\NF Data\Aliphatic Data
 Data File : P220908A07.D
 Signal(s) : FID2B.ch
 Acq On : 8 Sep 2022 12:54 pm
 Operator : PVPH:BAD
 Sample : I2240634-30d,41,10,0.51,0.05,,w
 Misc : WG1685081,ICAL19300,VP-50
 ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Sep 16 15:06:12 2022
 Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VP\NF Data\NF Ali
09152022.m
 Quant Title : VPH ALIPHATIC
 QLast Update : Fri Sep 16 09:02:50 2022
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
8) s 2,5-Dibromotoluene-FID	22.452	21754166	538.153	
Spiked Amount	250.000	Recovery = 215.26%		
Target Compounds				
9) A1 C5-C8 Aliphatics	12.148f	95472227	847.988	m
10) A2 C5 - C6 Aliphatics	5.645f	5590013	49.651	m
11) A2 > C6 - C8 Aliphatics	10.887f	26673691	236.917	m
12) A1 > C8-C10 Aliphatics	14.689f	556275720	4464.044	m
13) A2 C8 - C10 Aliphatics	14.689f	507962715	4076.338	m
14) A2 > C10 - C12 Aliphatics	16.426	1840868984	14772.748	m

(f)=RT Delta > 1/2 Window

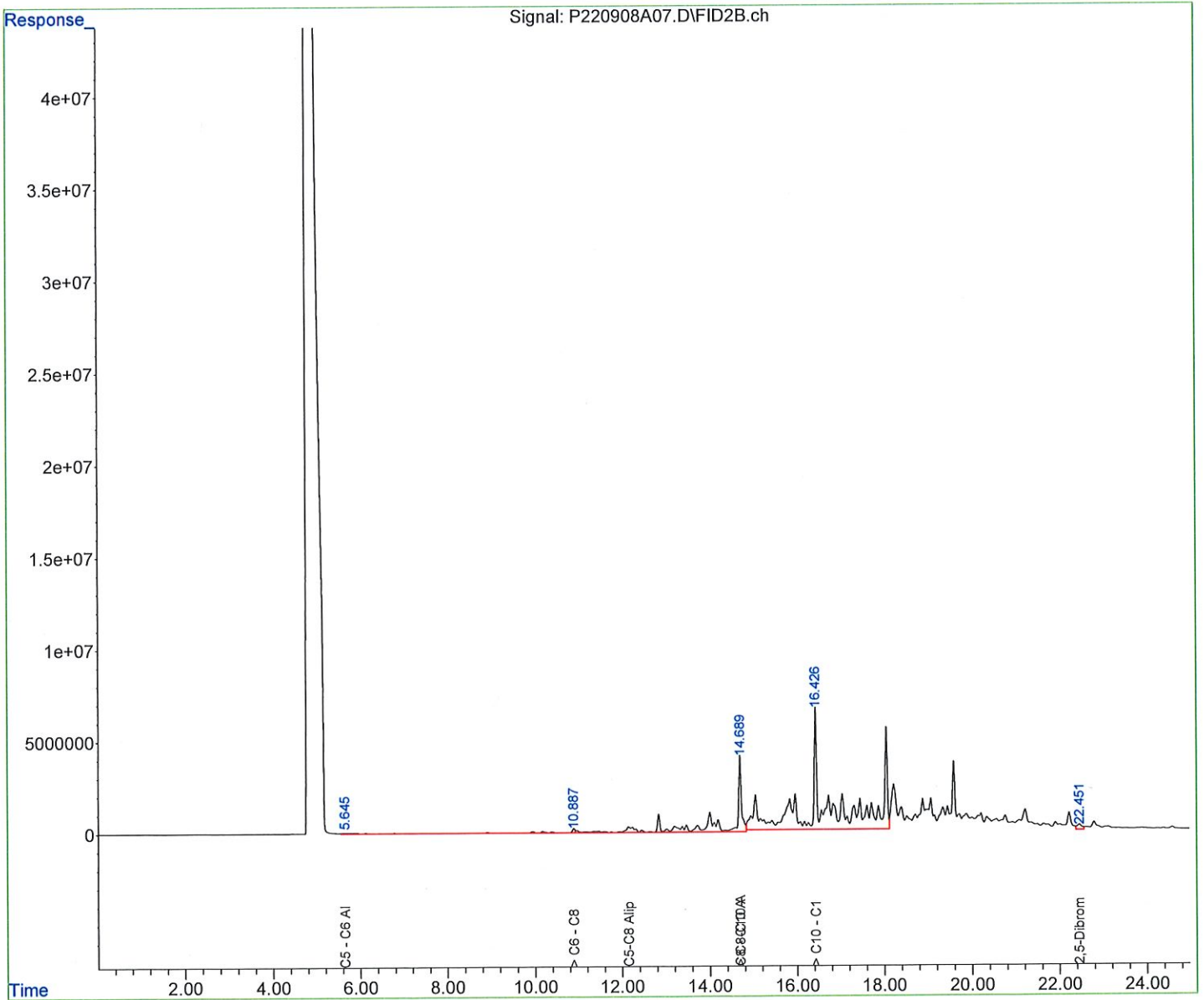
(m)=manual int.

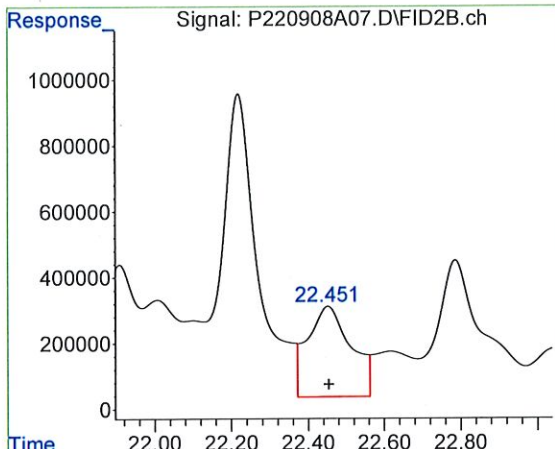
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Da
Data File : P220908A07.D
Signal(s) : FID2B.ch
Acq On : 8 Sep 2022 12:54 pm
Operator : PVPH:BAD
Sample : I2240634-30d,41,10,0.51,0.05,,w
Misc : WG1685081,ICAL19300,VPH-50
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 16 15:06:12 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF A
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

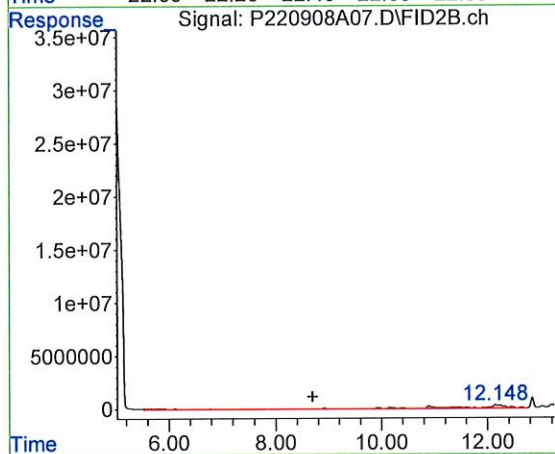
Volume Inj. :
Signal Phase :
Signal Info :





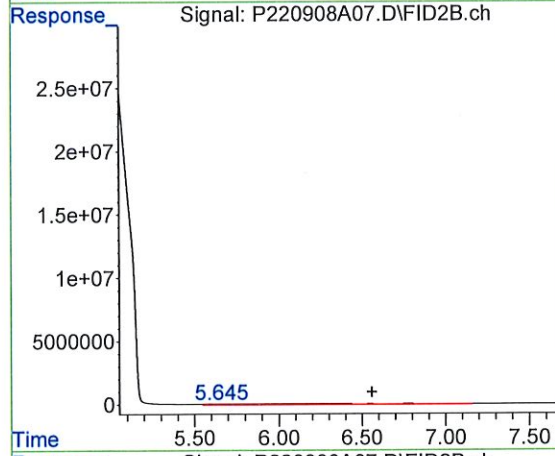
#8 2,5-Dibromotoluene-FID

R.T.: 22.452 min
 Delta R.T.: -0.002 min
 Response: 21754166
 Conc: 538.15



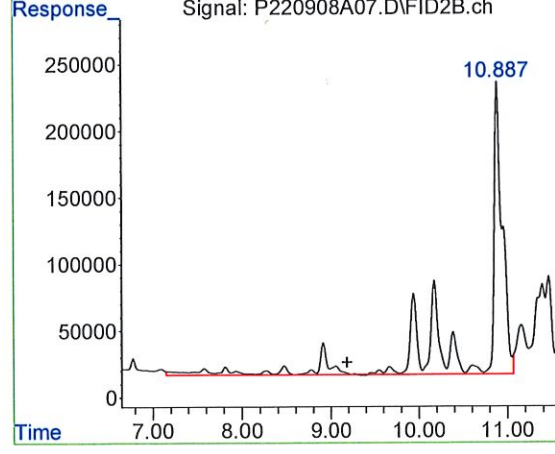
#9 C5-C8 Aliphatics

R.T.: 12.148 min
 Delta R.T.: 3.454 min
 Response: 95472227
 Conc: 847.99 m



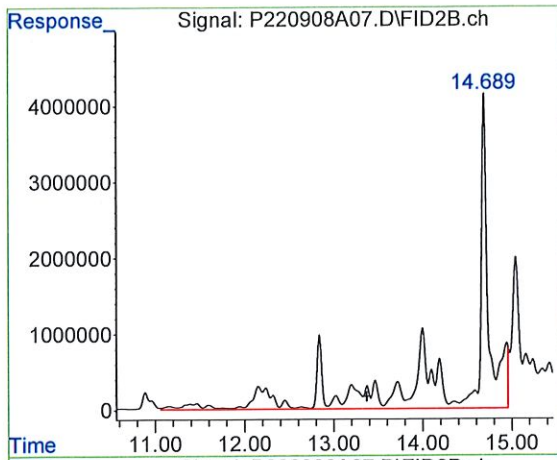
#10 C5 - C6 Aliphatics

R.T.: 5.645 min
 Delta R.T.: -0.916 min
 Response: 5590013
 Conc: 49.65 m



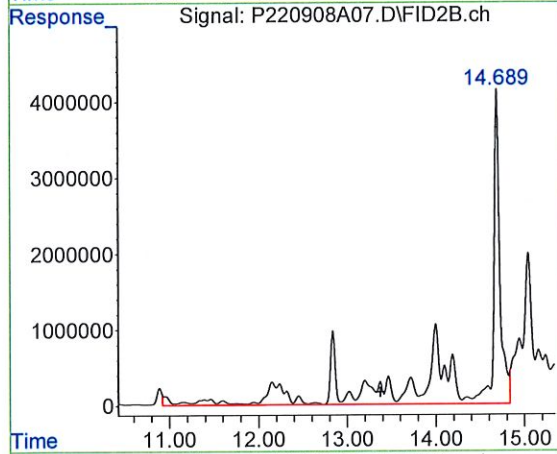
#11 > C6 - C8 Aliphatics

R.T.: 10.887 min
 Delta R.T.: 1.701 min
 Response: 26673691
 Conc: 236.92 m



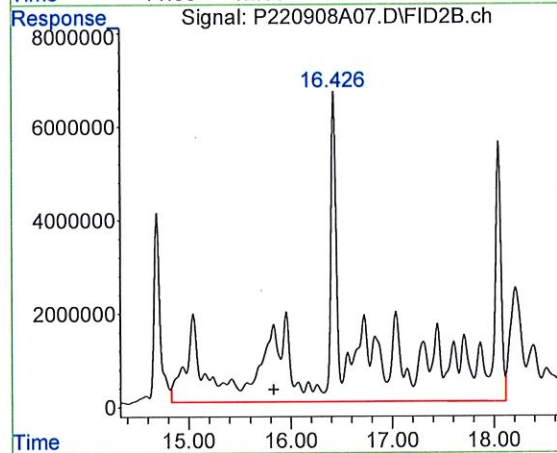
#12 > C8-C10 Aliphatics

R.T.: 14.689 min
 Delta R.T.: 1.318 min
 Response: 556275720
 Conc: 4464.04 m



#13 C8 - C10 Aliphatics

R.T.: 14.689 min
 Delta R.T.: 1.315 min
 Response: 507962715
 Conc: 4076.34 m



#14 > C10 - C12 Aliphatics

R.T.: 16.426 min
 Delta R.T.: 0.596 min
 Response: 1840868984
 Conc: 14772.75 m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Data
 Data File : P220908A09.D
 Signal(s) : FID2B.ch
 Acq On : 8 Sep 2022 1:53 pm
 Operator : PVPH:BAD
 Sample : I2240634-31d,41,10,0.50,0.05,,w
 Misc : WG1685081,ICAL19300,VPH-50
 ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Sep 16 15:19:25 2022
 Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF Ali
09152022.m
 Quant Title : VPH ALIPHATIC
 QLast Update : Fri Sep 16 09:02:50 2022
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
8) s 2,5-Dibromotoluene-FID	22.453	16252552	402.054
Spiked Amount	250.000	Recovery = 160.82%	
Target Compounds			
9) A1 C5-C8 Aliphatics	12.142f	724538586	6435.381 m
10) A2 C5 - C6 Aliphatics	5.648f	6097109	54.155 m
11) A2 > C6 - C8 Aliphatics	10.887f	219533316	1949.904 m
12) A1 > C8-C10 Aliphatics	13.373	1699941144	13641.819 m
13) A2 C8 - C10 Aliphatics	13.373	1616382725	12971.273 m
14) A2 > C10 - C12 Aliphatics	15.829	1095003172	8787.266 m

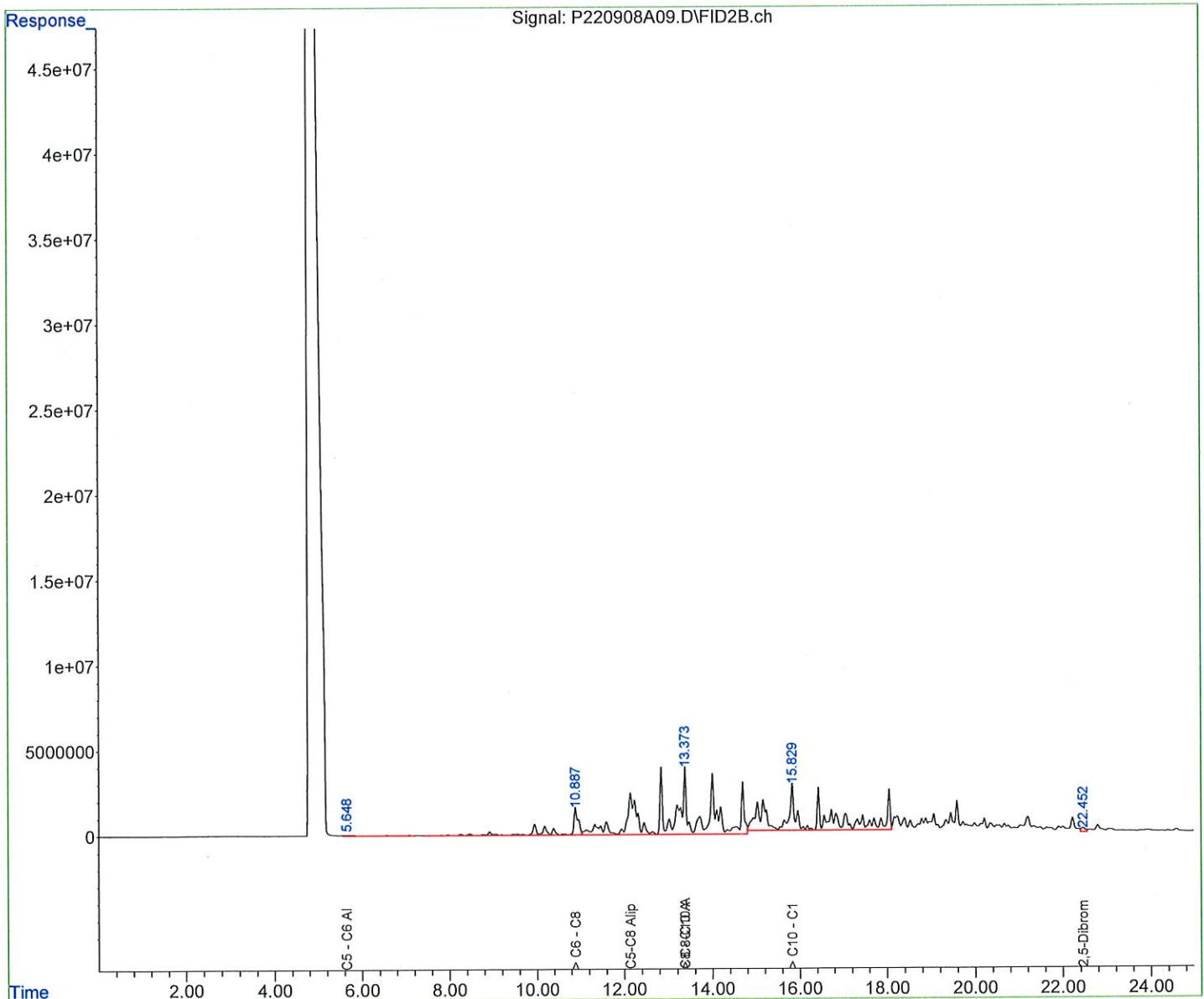
(f)=RT Delta > 1/2 Window (m)=manual int.

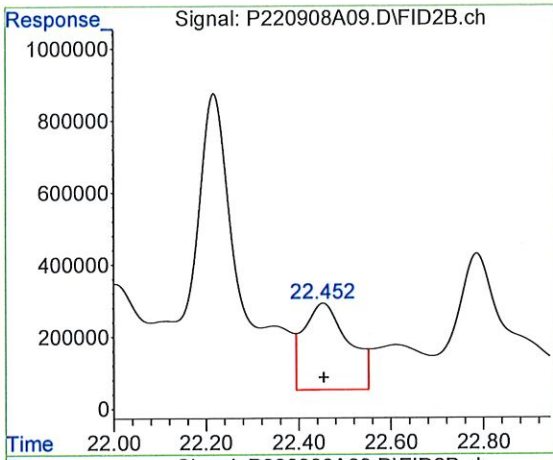
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\Aliphatic Da
Data File : P220908A09.D
Signal(s) : FID2B.ch
Acq On : 8 Sep 2022 1:53 pm
Operator : PVPH:BAD
Sample : L2240634-31d,41,10,0.50,0.05,,w
Misc : WG1685081,ICAL19300,VPH-50
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 16 15:19:25 2022
Quant Method : C:\Projects\Aquiver Hawaii\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\VPH\NF Data\NF A
... .09152022.m
Quant Title : VPH ALIPHATIC
QLast Update : Fri Sep 16 09:02:50 2022
Response via : Initial Calibration
Integrator: ChemStation

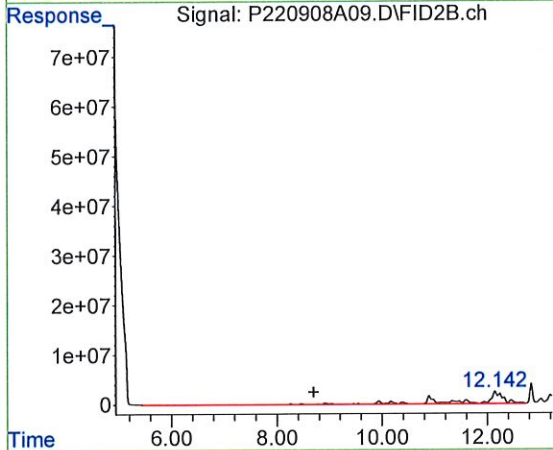
Volume Inj. :
Signal Phase :
Signal Info :





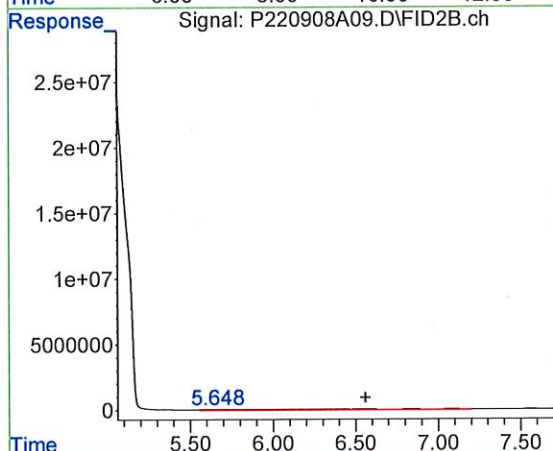
#8 2,5-Dibromotoluene-FID

R.T.: 22.453 min
 Delta R.T.: 0.000 min
 Response: 16252552
 Conc: 402.05



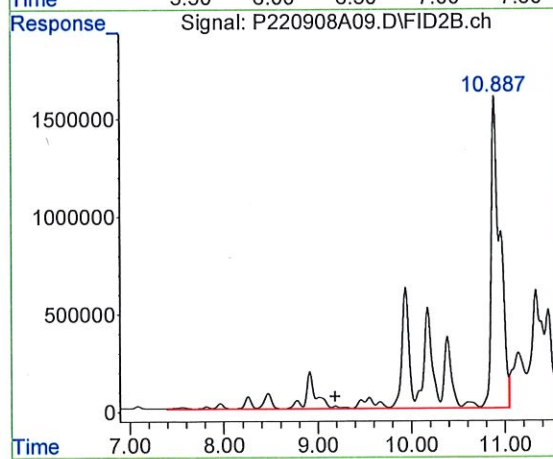
#9 C5-C8 Aliphatics

R.T.: 12.142 min
 Delta R.T.: 3.448 min
 Response: 724538586
 Conc: 6435.38 m



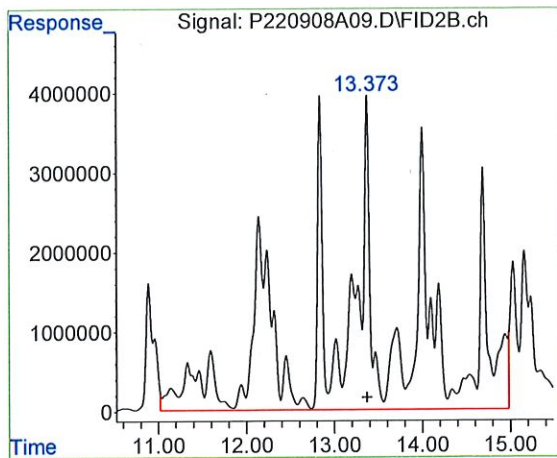
#10 C5 - C6 Aliphatics

R.T.: 5.648 min
 Delta R.T.: -0.913 min
 Response: 6097109
 Conc: 54.15 m



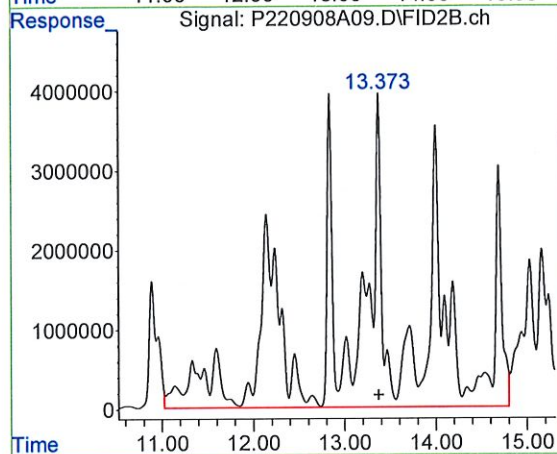
#11 > C6 - C8 Aliphatics

R.T.: 10.887 min
 Delta R.T.: 1.701 min
 Response: 219533316
 Conc: 1949.90 m



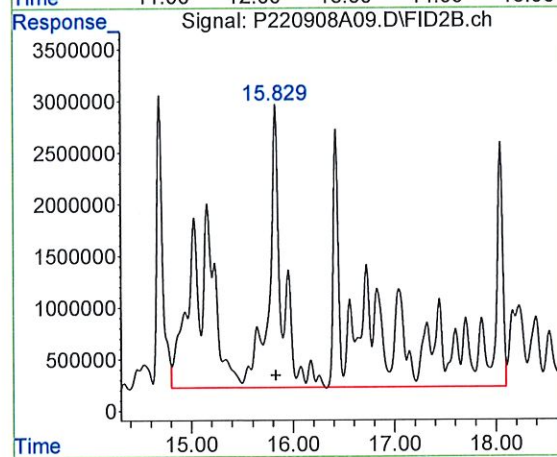
#12 > C8-C10 Aliphatics

R.T.: 13.373 min
Delta R.T.: 0.002 min
Response: 1699941144
Conc: 13641.82 m



#13 C8 - C10 Aliphatics

R.T.: 13.373 min
Delta R.T.: -0.001 min
Response: 1616382725
Conc: 12971.27 m



#14 > C10 - C12 Aliphatics

R.T.: 15.829 min
Delta R.T.: 0.000 min
Response: 1095003172
Conc: 8787.27 m

Attachment F: TPH Quantitation Raw Data Reports

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
 Data File : f1708172212.D
 Signal(s) : FID1A.CH
 Acq On : 17 Aug 2022 19:40 pm
 Operator : FID17:WR
 Sample : WG1676301-1,42,,
 Misc : WG1676467,WG1676301,ICAL18753
 ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Oct 23 16:37:45 2022
 Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH (
 Quant Title : FID Forensics
 QLast Update : Fri Sep 23 15:53:13 2022
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	30.266	59394365	50.000 ug/mLm
System Monitoring Compounds			
2) s ortho-terphenyl	28.290	63504659	51.145 ug/mLm
Spiked Amount	50.000	Range 50 - 130	Recovery = 102.29%
3) s d50-Tetracosane	35.019	49108277	50.020 ug/mLm
Spiked Amount	50.000	Range 50 - 130	Recovery = 100.04%
Target Compounds			
4) h > C8 to C10 Aliphatics	7.072	1364421	1.219 ug/mLm
5) h > C10 to C12 Aliphatics	11.977	1105234	0.988 ug/mlm
6) h > C12 to C16 Aliphatics	16.687	2063524	1.844 UG/MLm
7) h > C16 to C21 Aliphatics	28.293	17976833	16.065 UG/MLm
8) h > C21 to C32 Aliphatics	32.798	27247290	24.350 UG/MLm

SemiQuant Compounds - Not Calibrated on this Instrument

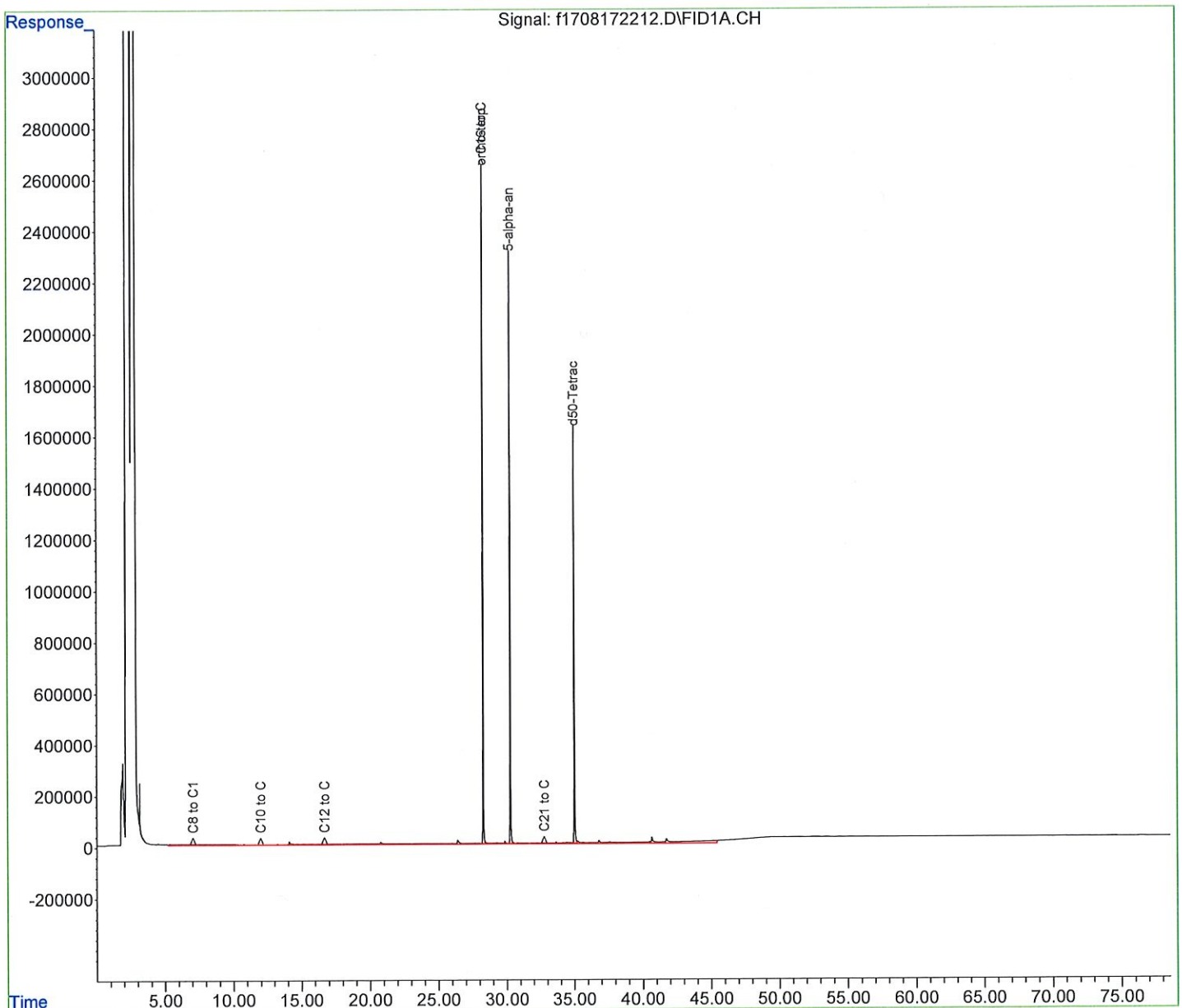
(f)=RT Delta > 1/2 Window (m)=manual int.

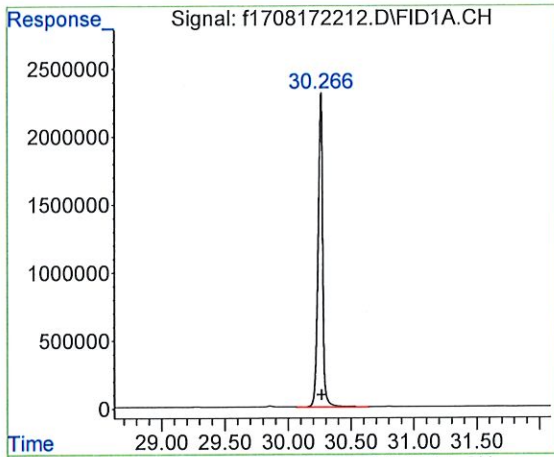
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172212.D
Signal(s) : FID1A.CH
Acq On : 17 Aug 2022 19:40 pm
Operator : FID17:WR
Sample : WG1676301-1,42,,
Misc : WG1676467,WG1676301,ICAL18753
ALS Vial : 6 Sample Multiplier: 1

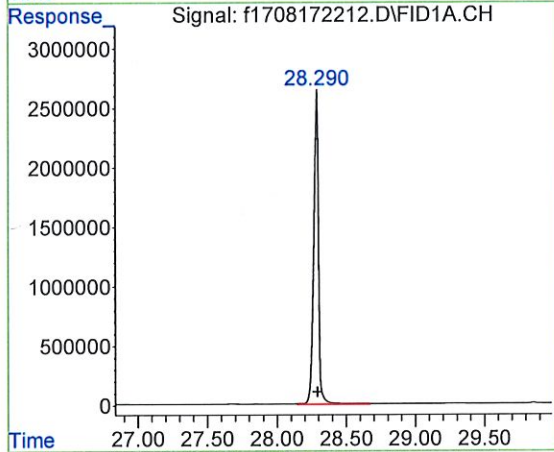
Integration File: autoint1.e
Quant Time: Oct 23 16:37:45 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

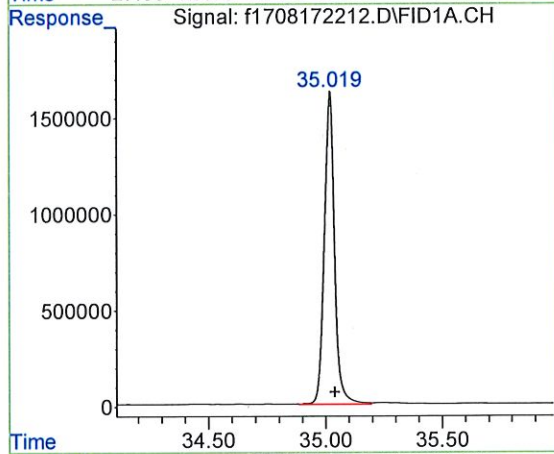




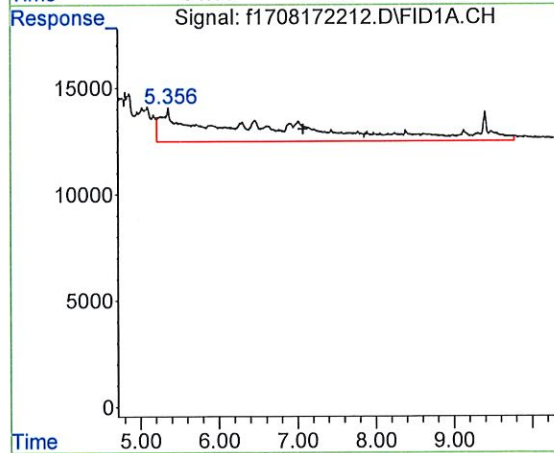
#1 5-alpha-androstane
 R.T.: 30.266 min
 Delta R.T.: -0.004 min
 Response: 59394365
 Conc: 50.00 ug/mL m



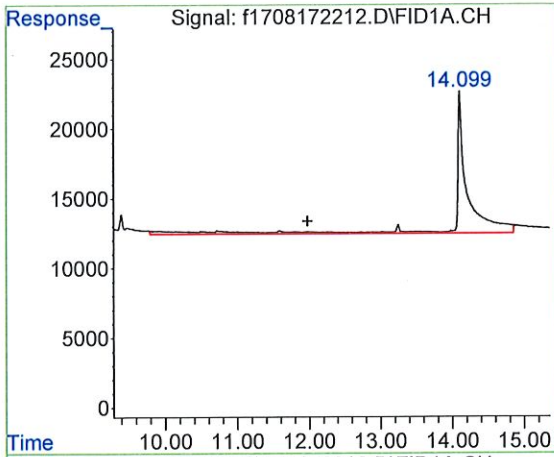
#2 ortho-terphenyl
 R.T.: 28.290 min
 Delta R.T.: -0.003 min
 Response: 63504659
 Conc: 51.14 ug/mL m



#3 d50-Tetracosane
 R.T.: 35.019 min
 Delta R.T.: -0.020 min
 Response: 49108277
 Conc: 50.02 ug/mL m

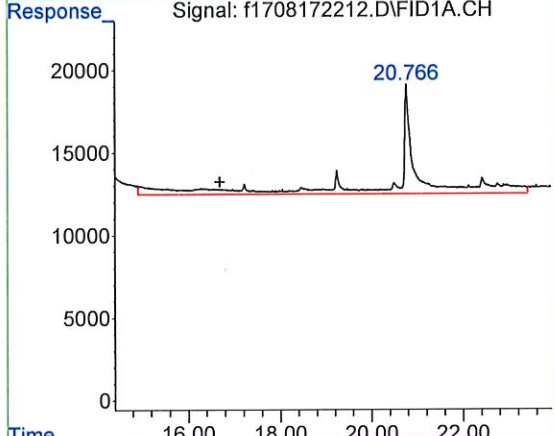


#4 > C8 to C10 Aliphatics
 R.T.: 7.072 min
 Delta R.T.: 0.000 min
 Response: 1364421
 Conc: 1.22 ug/mL m



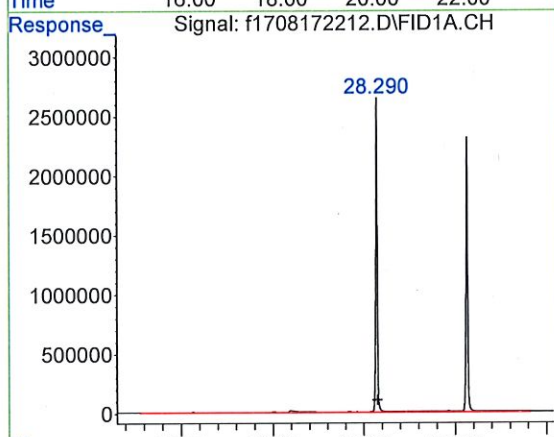
#5 > C10 to C12 Aliphatics

R.T.: 11.977 min
 Delta R.T.: 0.000 min
 Response: 1105234
 Conc: 0.99 ug/ml m



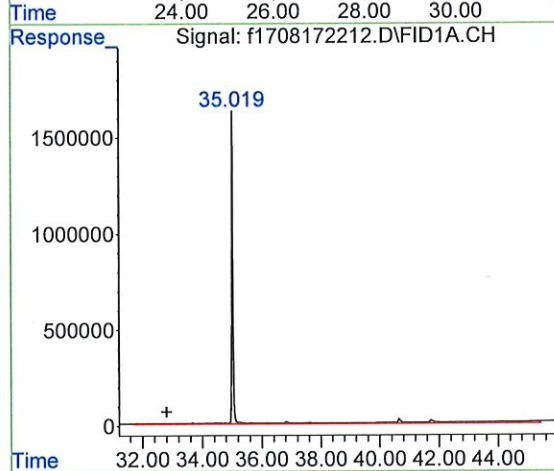
#6 > C12 to C16 Aliphatics

R.T.: 16.687 min
 Delta R.T.: 0.000 min
 Response: 2063524
 Conc: 1.84 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.293 min
 Delta R.T.: 0.000 min
 Response: 17976833
 Conc: 16.07 UG/ML m



#8 > C21 to C32 Aliphatics

R.T.: 32.798 min
 Delta R.T.: 0.000 min
 Response: 27247290
 Conc: 24.35 UG/ML m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172220.D
Signal(s) : FID1A.CH
Acq On : 18 Aug 2022 1:41 am
Operator : FID17:WR
Sample : L2240634-01,42,,
Misc : WG1676467,WG1676301,ICAL18753
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 23 16:45:45 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH (
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	30.263	62914638	50.000 ug/mLm
System Monitoring Compounds			
2) s ortho-terphenyl	28.289	67077447	50.999 ug/mLm
Spiked Amount	50.000	Range 50 - 130	Recovery = 102.00%
3) s d50-Tetracosane	35.024	51803250	49.813 ug/mLm
Spiked Amount	50.000	Range 50 - 130	Recovery = 99.63%
Target Compounds			
4) h > C8 to C10 Aliphatics	7.072	1140268388	961.985 ug/mLm
5) h > C10 to C12 Aliphatics	11.977	354604380	299.161 ug/mlm
6) h > C12 to C16 Aliphatics	16.687	65383861	55.161 UG/MLm
7) h > C16 to C21 Aliphatics	28.293	16180616	13.651 UG/MLm
8) h > C21 to C32 Aliphatics	32.798	29067199	24.522 UG/MLm

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

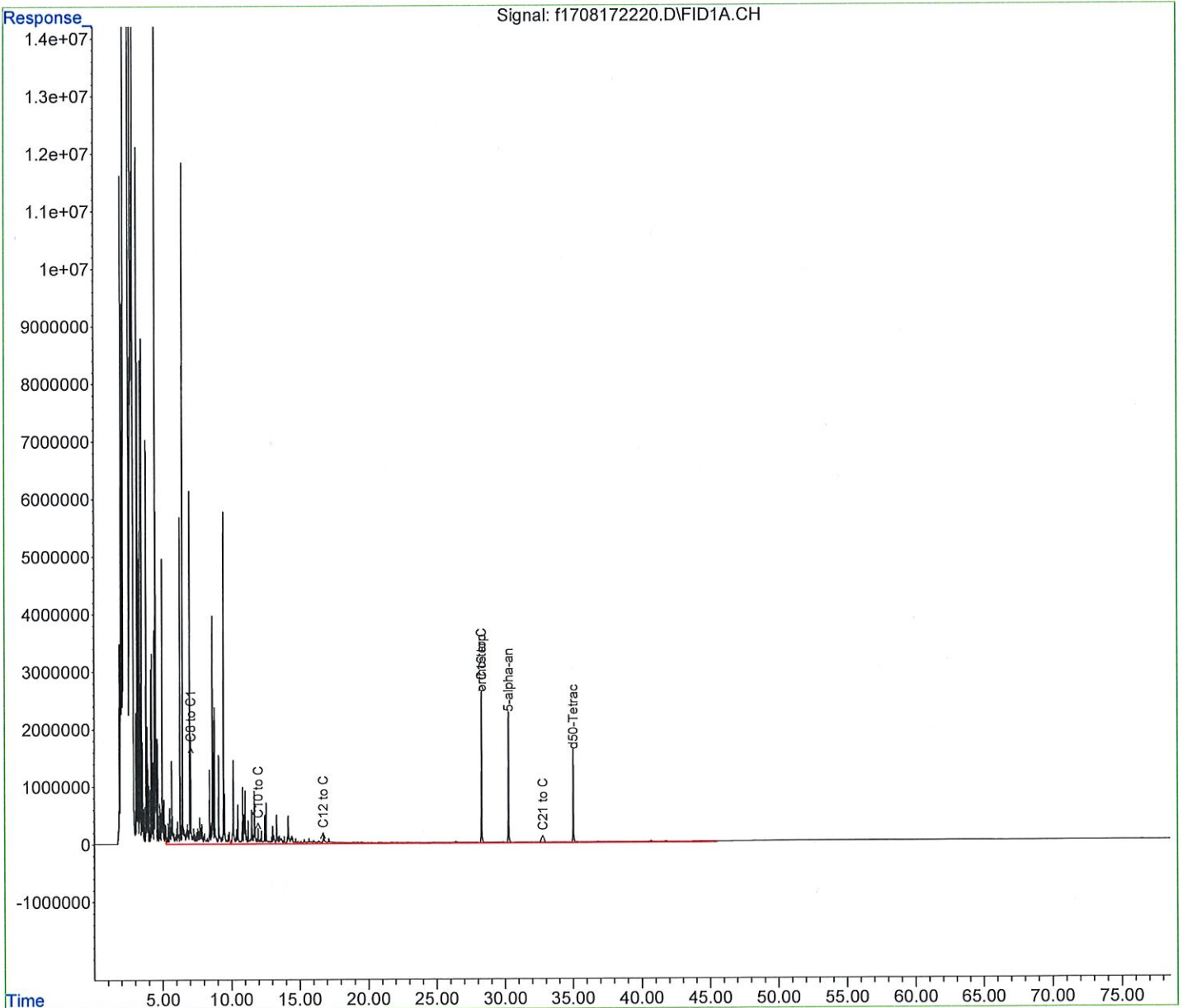
(m)=manual int.

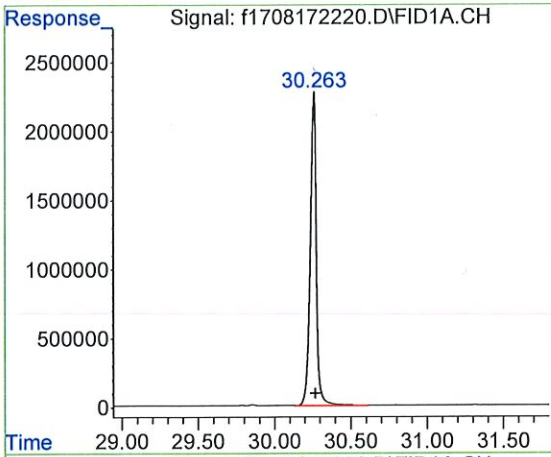
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172220.D
Signal(s) : FID1A.CH
Acq On : 18 Aug 2022 1:41 am
Operator : FID17:WR
Sample : L2240634-01,42,,
Misc : WG1676467,WG1676301,ICAL18753
ALS Vial : 10 Sample Multiplier: 1

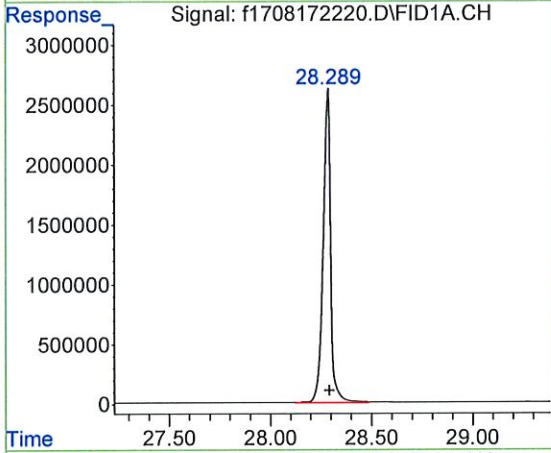
Integration File: autoint1.e
Quant Time: Oct 23 16:45:45 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

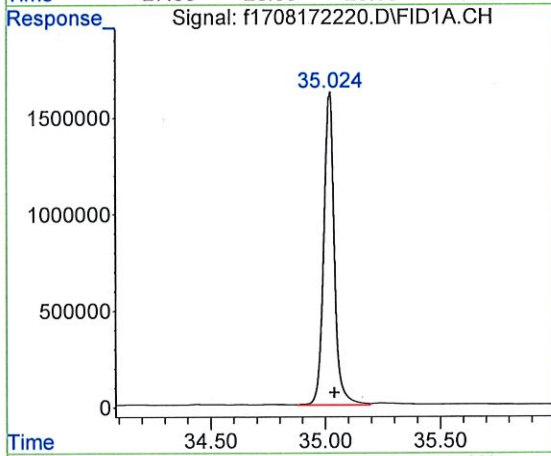




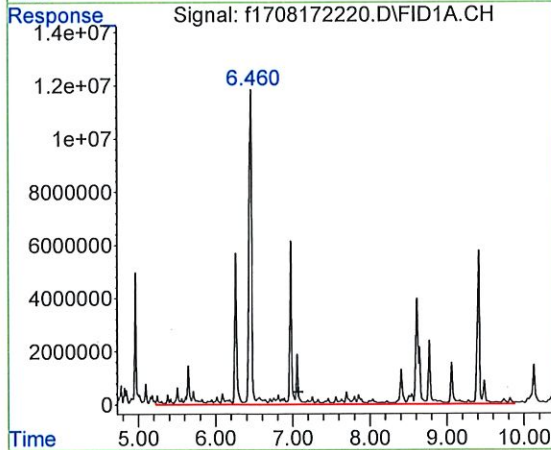
#1 5-alpha-androstane
 R.T.: 30.263 min
 Delta R.T.: -0.006 min
 Response: 62914638
 Conc: 50.00 ug/mL m



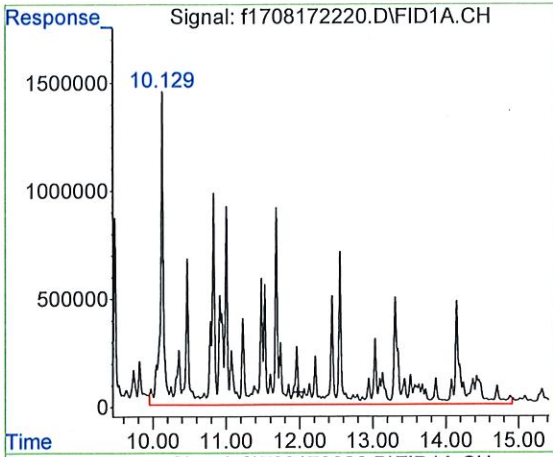
#2 ortho-terphenyl
 R.T.: 28.289 min
 Delta R.T.: -0.004 min
 Response: 67077447
 Conc: 51.00 ug/mL m



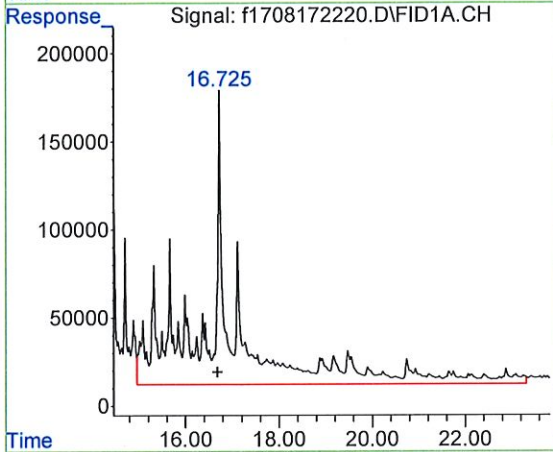
#3 d50-Tetracosane
 R.T.: 35.024 min
 Delta R.T.: -0.015 min
 Response: 51803250
 Conc: 49.81 ug/mL m



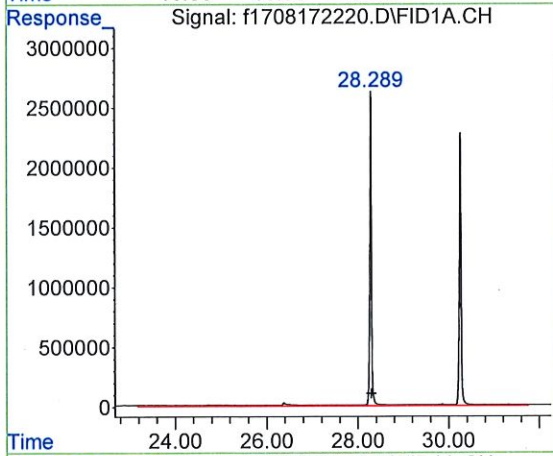
#4 > C8 to C10 Aliphatics
 R.T.: 7.072 min
 Delta R.T.: 0.000 min
 Response: 1140268388
 Conc: 961.99 ug/mL m



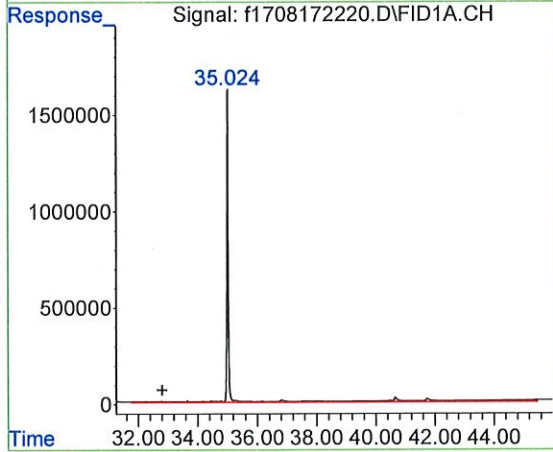
#5 > C10 to C12 Aliphatics
 R.T.: 11.977 min
 Delta R.T.: 0.000 min
 Response: 354604380
 Conc: 299.16 ug/ml m



#6 > C12 to C16 Aliphatics
 R.T.: 16.687 min
 Delta R.T.: 0.000 min
 Response: 65383861
 Conc: 55.16 UG/ML m



#7 > C16 to C21 Aliphatics
 R.T.: 28.293 min
 Delta R.T.: 0.000 min
 Response: 16180616
 Conc: 13.65 UG/ML m



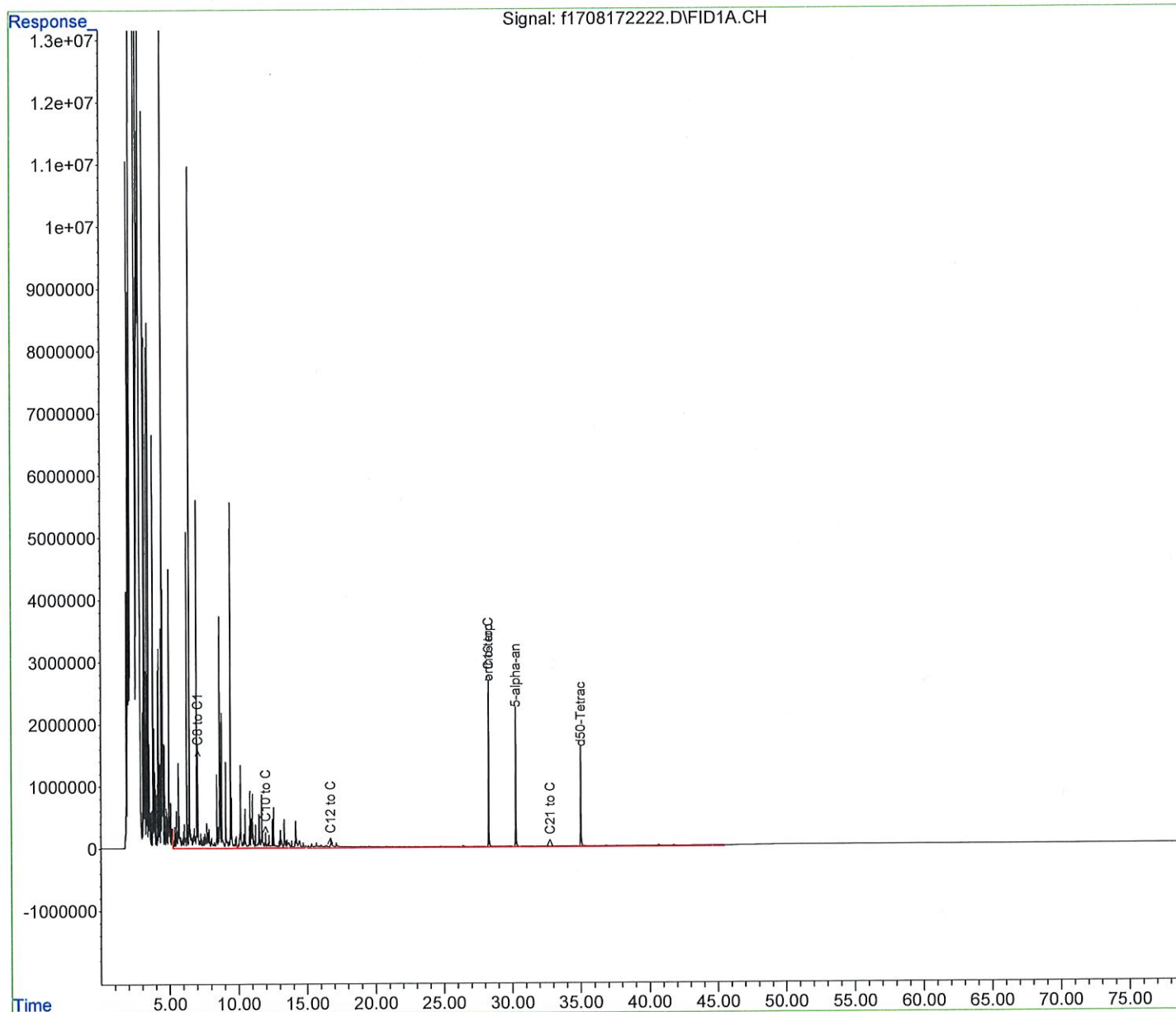
#8 > C21 to C32 Aliphatics
 R.T.: 32.798 min
 Delta R.T.: 0.000 min
 Response: 29067199
 Conc: 24.52 UG/ML m

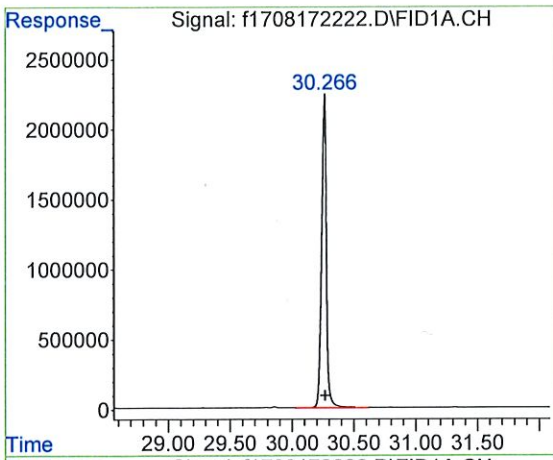
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172222.D
Signal(s) : FID1A.CH
Acq On : 18 Aug 2022 3:10 am
Operator : FID17:WR
Sample : WG1676301-4,42,,
Misc : WG1676467,WG1676301,ICAL18753
ALS Vial : 11 Sample Multiplier: 1

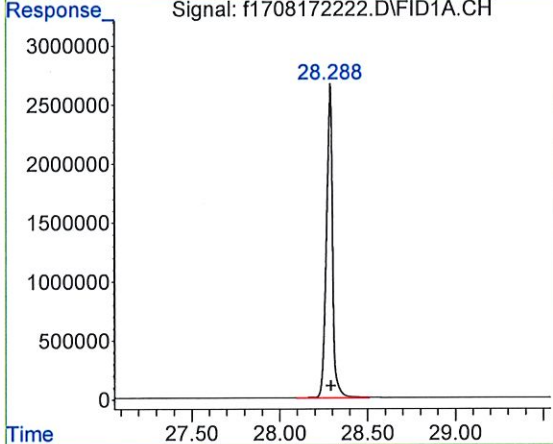
Integration File: autoint1.e
Quant Time: Oct 23 16:51:17 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

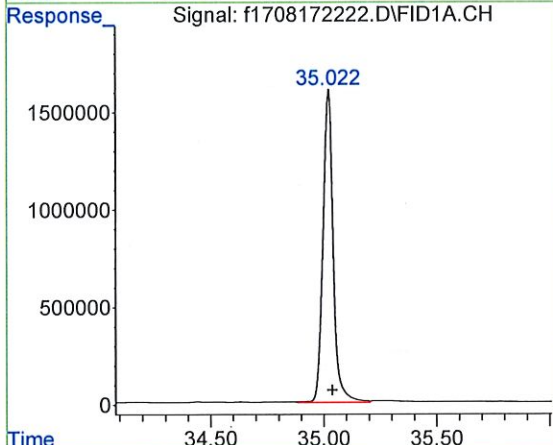




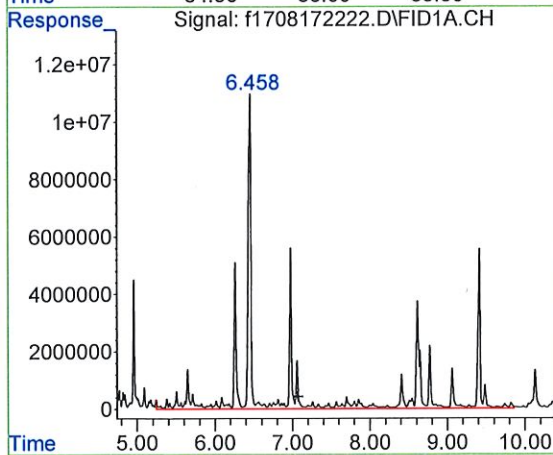
#1 5-alpha-androstane
 R.T.: 30.266 min
 Delta R.T.: -0.004 min
 Response: 60681820
 Conc: 50.00 ug/mL m



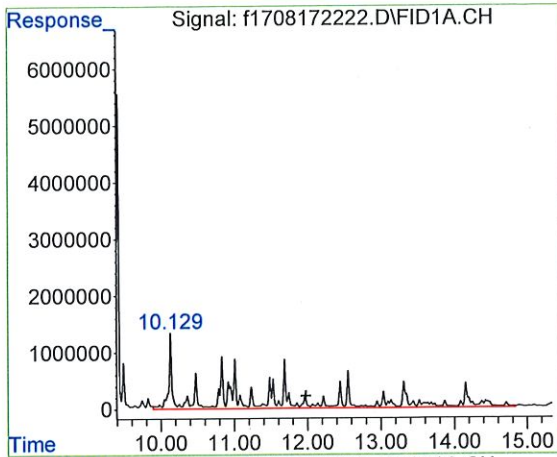
#2 ortho-terphenyl
 R.T.: 28.288 min
 Delta R.T.: -0.005 min
 Response: 64853135
 Conc: 51.12 ug/mL m



#3 d50-Tetracosane
 R.T.: 35.022 min
 Delta R.T.: -0.017 min
 Response: 50427755
 Conc: 50.27 ug/mL m

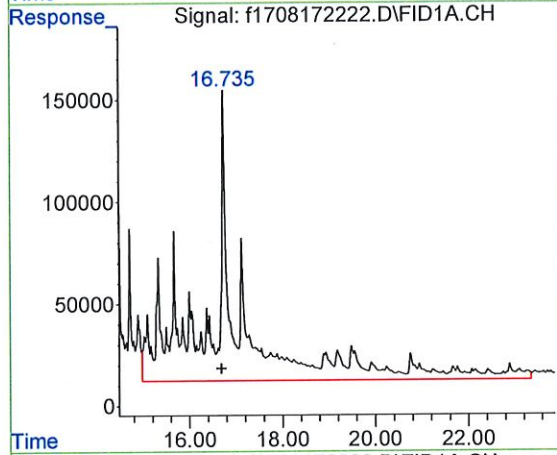


#4 > C8 to C10 Aliphatics
 R.T.: 7.072 min
 Delta R.T.: 0.000 min
 Response: 1049161063
 Conc: 917.69 ug/mL m



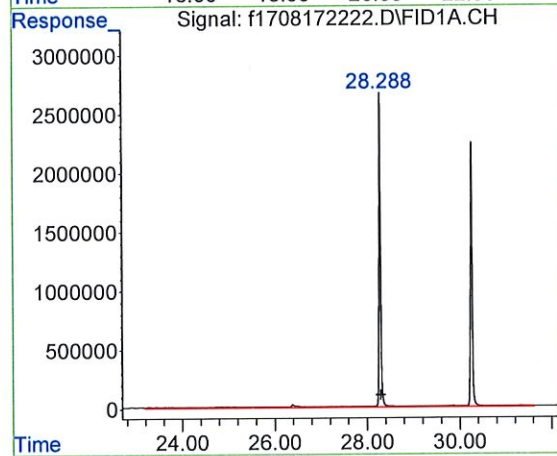
#5 > C10 to C12 Aliphatics

R.T.: 11.977 min
 Delta R.T.: 0.000 min
 Response: 323945728
 Conc: 283.35 ug/ml m



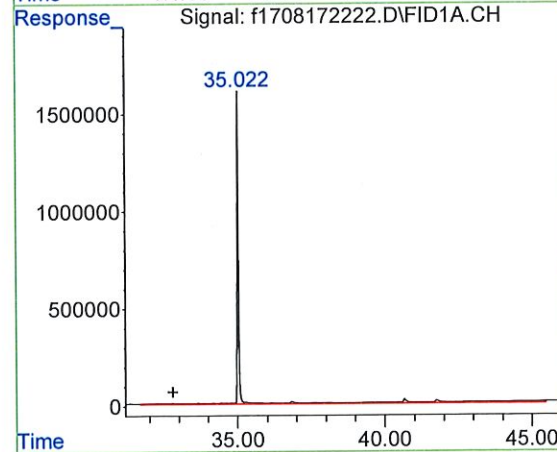
#6 > C12 to C16 Aliphatics

R.T.: 16.687 min
 Delta R.T.: 0.000 min
 Response: 60603128
 Conc: 53.01 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.293 min
 Delta R.T.: 0.000 min
 Response: 15274127
 Conc: 13.36 UG/ML m



#8 > C21 to C32 Aliphatics

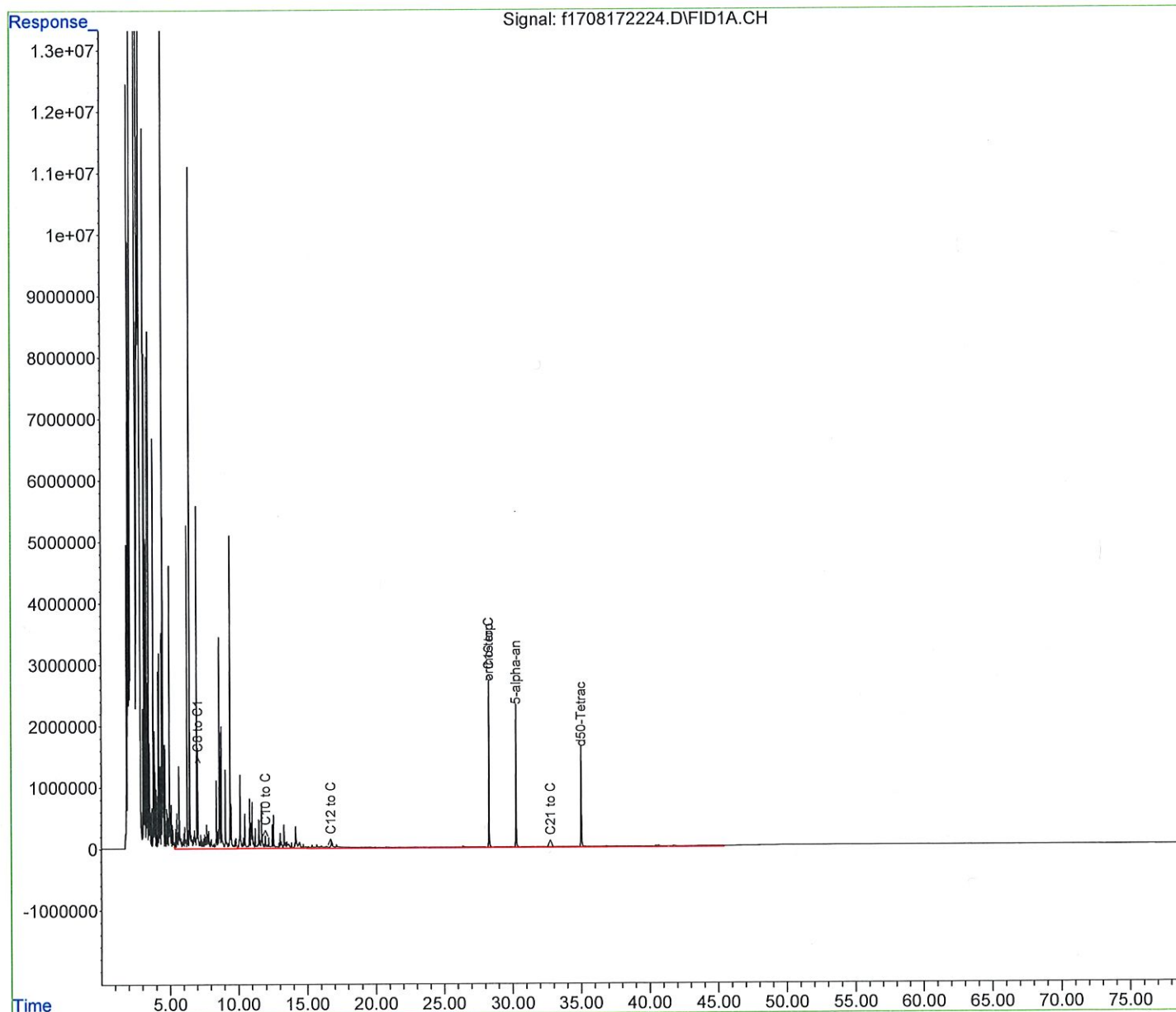
R.T.: 32.798 min
 Delta R.T.: 0.000 min
 Response: 28156051
 Conc: 24.63 UG/ML m

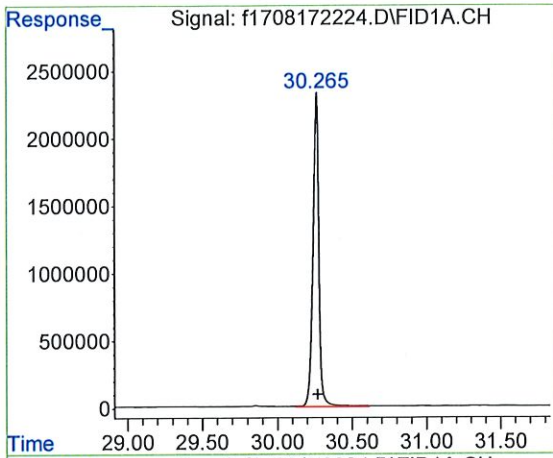
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172224.D
Signal(s) : FID1A.CH
Acq On : 18 Aug 2022 4:40 am
Operator : FID17:WR
Sample : L2240634-04,42,,
Misc : WG1676467,WG1676301,ICAL18753
ALS Vial : 12 Sample Multiplier: 1

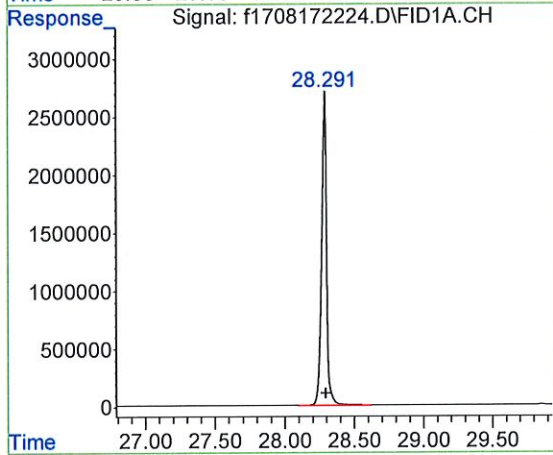
Integration File: autoint1.e
Quant Time: Oct 23 17:33:14 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

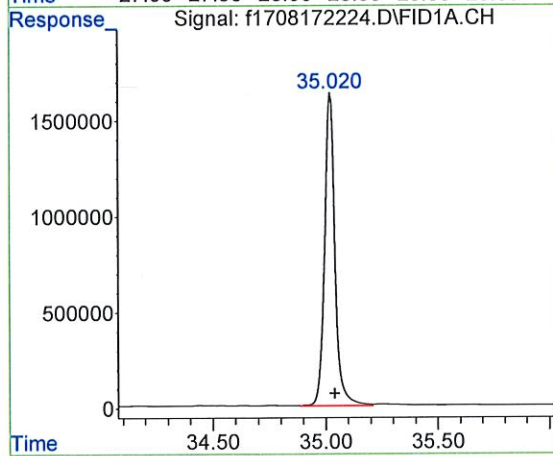




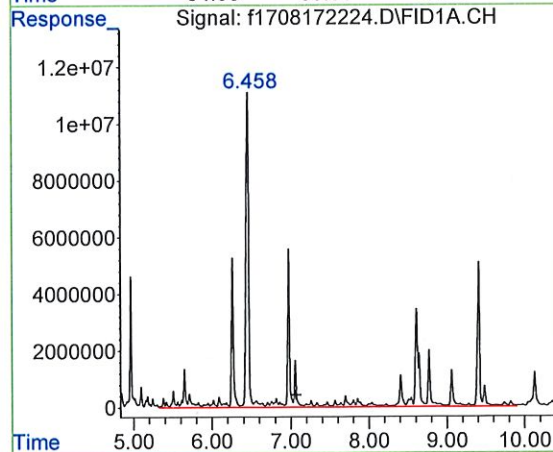
#1 5-alpha-androstane
 R.T.: 30.265 min
 Delta R.T.: -0.004 min
 Response: 62919262
 Conc: 50.00 ug/mL m



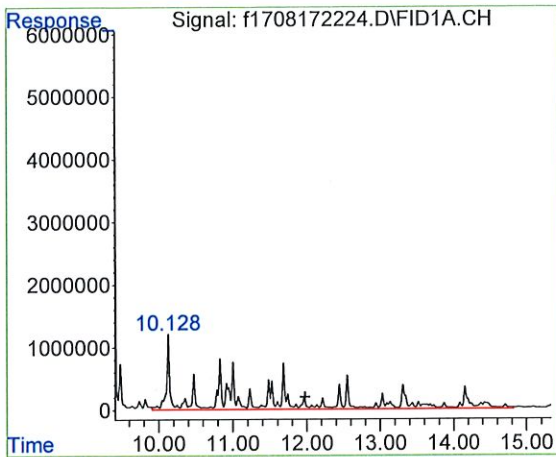
#2 ortho-terphenyl
 R.T.: 28.291 min
 Delta R.T.: -0.002 min
 Response: 67286922
 Conc: 51.15 ug/mL m



#3 d50-Tetracosane
 R.T.: 35.020 min
 Delta R.T.: -0.019 min
 Response: 52130181
 Conc: 50.12 ug/mL m

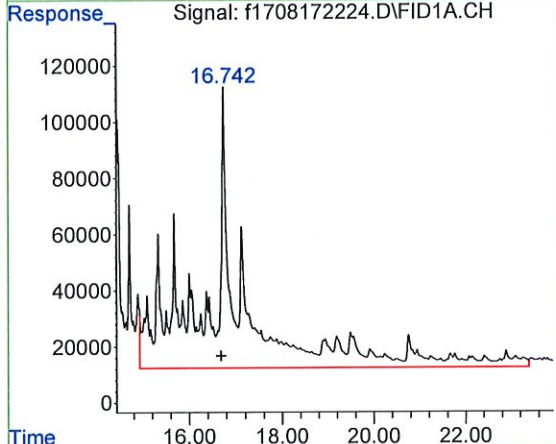


#4 > C8 to C10 Aliphatics
 R.T.: 7.072 min
 Delta R.T.: 0.000 min
 Response: 995389305
 Conc: 839.70 ug/mL m



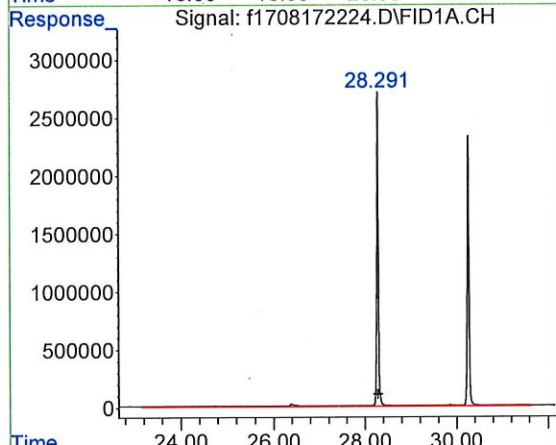
#5 > C10 to C12 Aliphatics

R.T.: 11.977 min
 Delta R.T.: 0.000 min
 Response: 283823166
 Conc: 239.43 ug/ml m



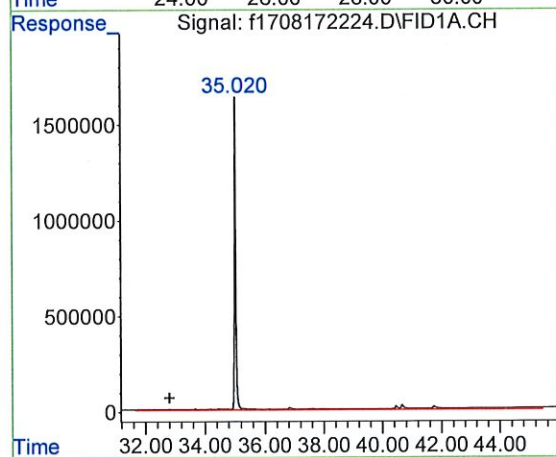
#6 > C12 to C16 Aliphatics

R.T.: 16.687 min
 Delta R.T.: 0.000 min
 Response: 50448201
 Conc: 42.56 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.293 min
 Delta R.T.: 0.000 min
 Response: 13104180
 Conc: 11.05 UG/ML m



#8 > C21 to C32 Aliphatics

R.T.: 32.798 min
 Delta R.T.: 0.000 min
 Response: 28029786
 Conc: 23.65 UG/ML m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
 Data File : f1708172226.D
 Signal(s) : FID1A.CH
 Acq On : 18 Aug 2022 6:10 am
 Operator : FID17:WR
 Sample : L2240634-07,42,,
 Misc : WG1676467,WG1676301,ICAL18753
 ALS Vial : 13 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Oct 23 17:43:31 2022
 Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
 Quant Title : FID Forensics
 QLast Update : Fri Sep 23 15:53:13 2022
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	30.265	66306484	50.000 ug/mLm
System Monitoring Compounds			
2) s ortho-terphenyl	28.292	71426738	51.528 ug/mLm
Spiked Amount	50.000	Range 50 - 130	Recovery = 103.06%
3) s d50-Tetracosane	35.022	55360507	50.510 ug/mLm
Spiked Amount	50.000	Range 50 - 130	Recovery = 101.02%
Target Compounds			
4) h > C8 to C10 Aliphatics	7.072	1149074725	919.825 ug/mLm
5) h > C10 to C12 Aliphatics	11.977	335489692	268.557 ug/mlm
6) h > C12 to C16 Aliphatics	16.687	58193772	46.584 UG/MLm
7) h > C16 to C21 Aliphatics	28.293	14679873	11.751 UG/MLm
8) h > C21 to C32 Aliphatics	32.798	27942125	22.367 UG/MLm

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

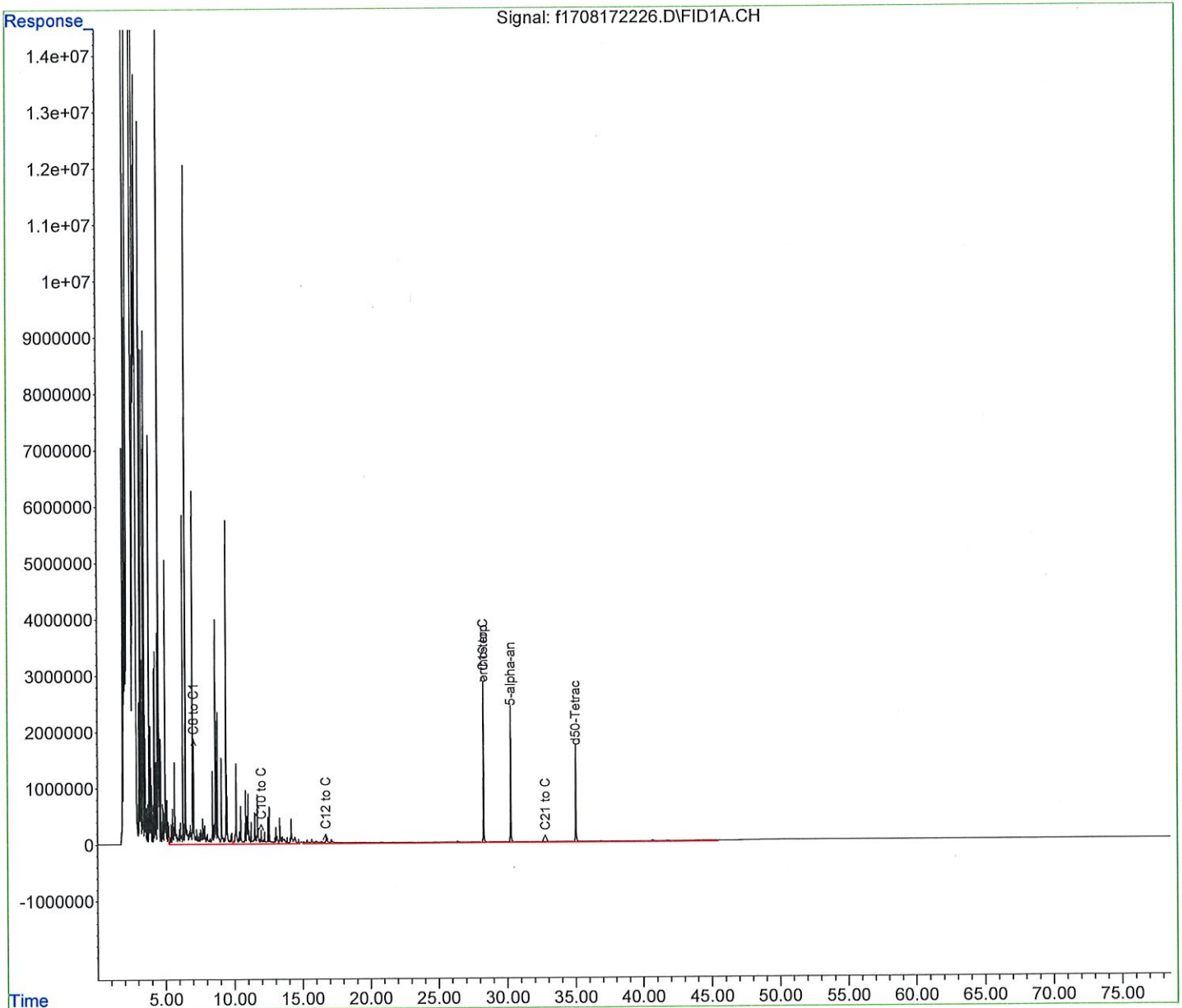
(m)=manual int.

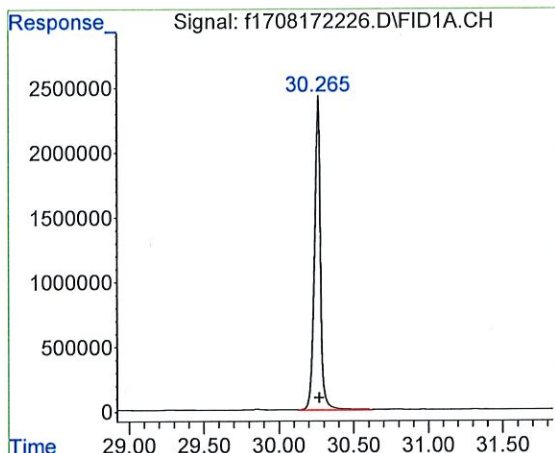
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172226.D
Signal(s) : FID1A.CH
Acq On : 18 Aug 2022 6:10 am
Operator : FID17:WR
Sample : L2240634-07,42,,
Misc : WG1676467,WG1676301,ICAL18753
ALS Vial : 13 Sample Multiplier: 1

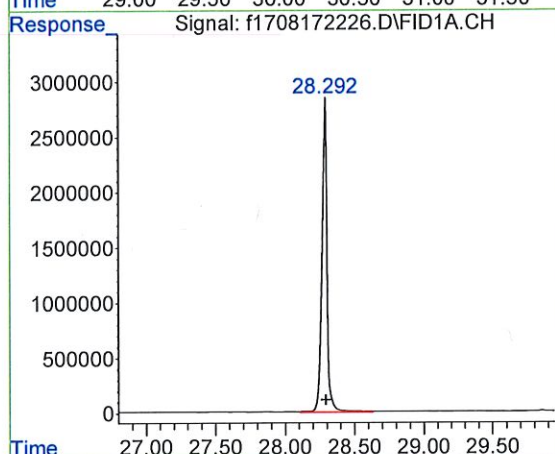
Integration File: autoint1.e
Quant Time: Oct 23 17:43:31 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

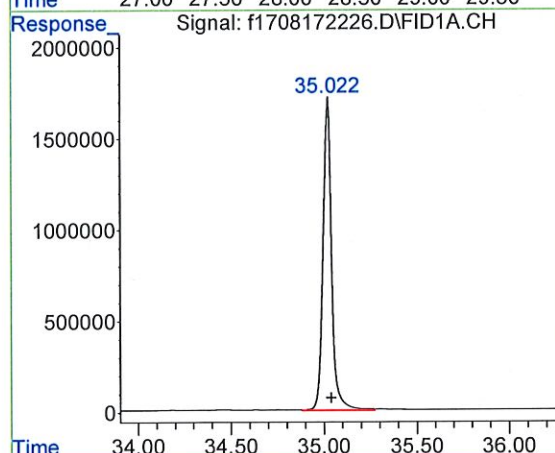




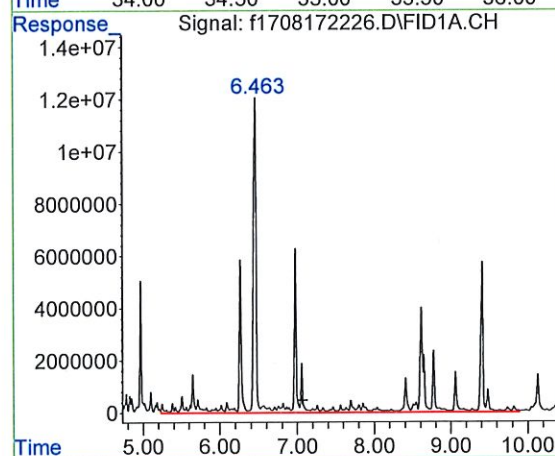
#1 5-alpha-androstane
 R.T.: 30.265 min
 Delta R.T.: -0.005 min
 Response: 66306484
 Conc: 50.00 ug/mL m



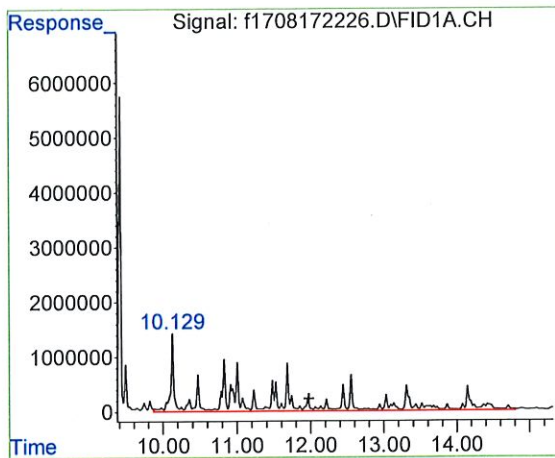
#2 ortho-terphenyl
 R.T.: 28.292 min
 Delta R.T.: 0.000 min
 Response: 71426738
 Conc: 51.53 ug/mL m



#3 d50-Tetracosane
 R.T.: 35.022 min
 Delta R.T.: -0.017 min
 Response: 55360507
 Conc: 50.51 ug/mL m

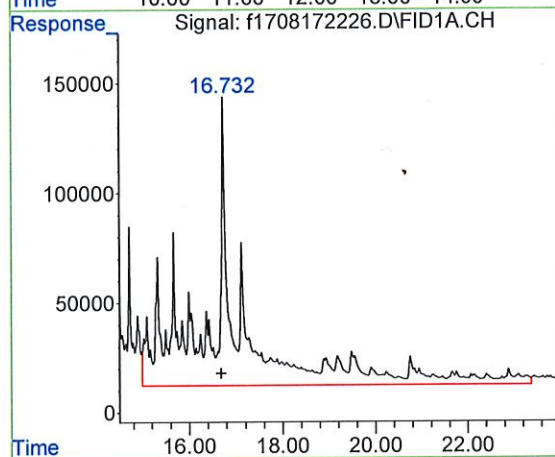


#4 > C8 to C10 Aliphatics
 R.T.: 7.072 min
 Delta R.T.: 0.000 min
 Response: 1149074725
 Conc: 919.82 ug/mL m



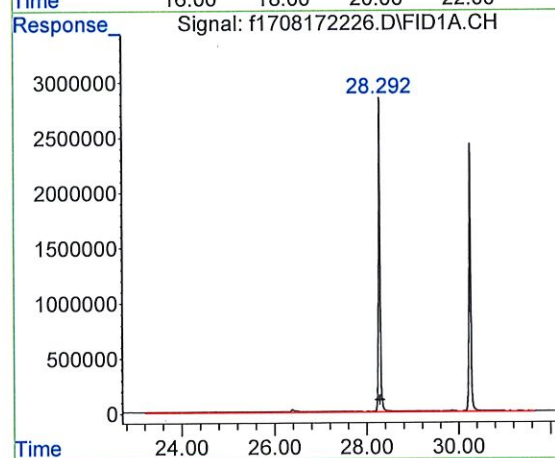
#5 > C10 to C12 Aliphatics

R.T.: 11.977 min
 Delta R.T.: 0.000 min
 Response: 335489692
 Conc: 268.56 ug/ml m



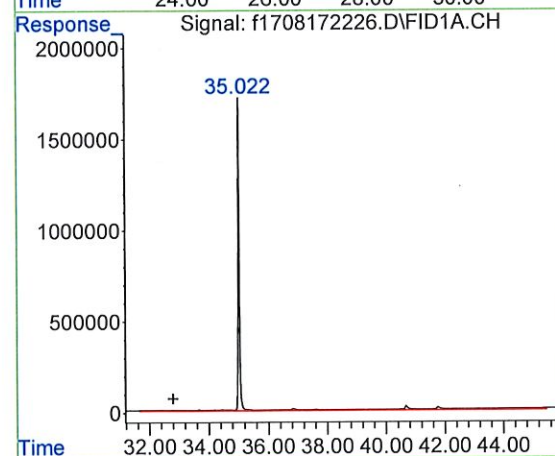
#6 > C12 to C16 Aliphatics

R.T.: 16.687 min
 Delta R.T.: 0.000 min
 Response: 58193772
 Conc: 46.58 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.293 min
 Delta R.T.: 0.000 min
 Response: 14679873
 Conc: 11.75 UG/ML m



#8 > C21 to C32 Aliphatics

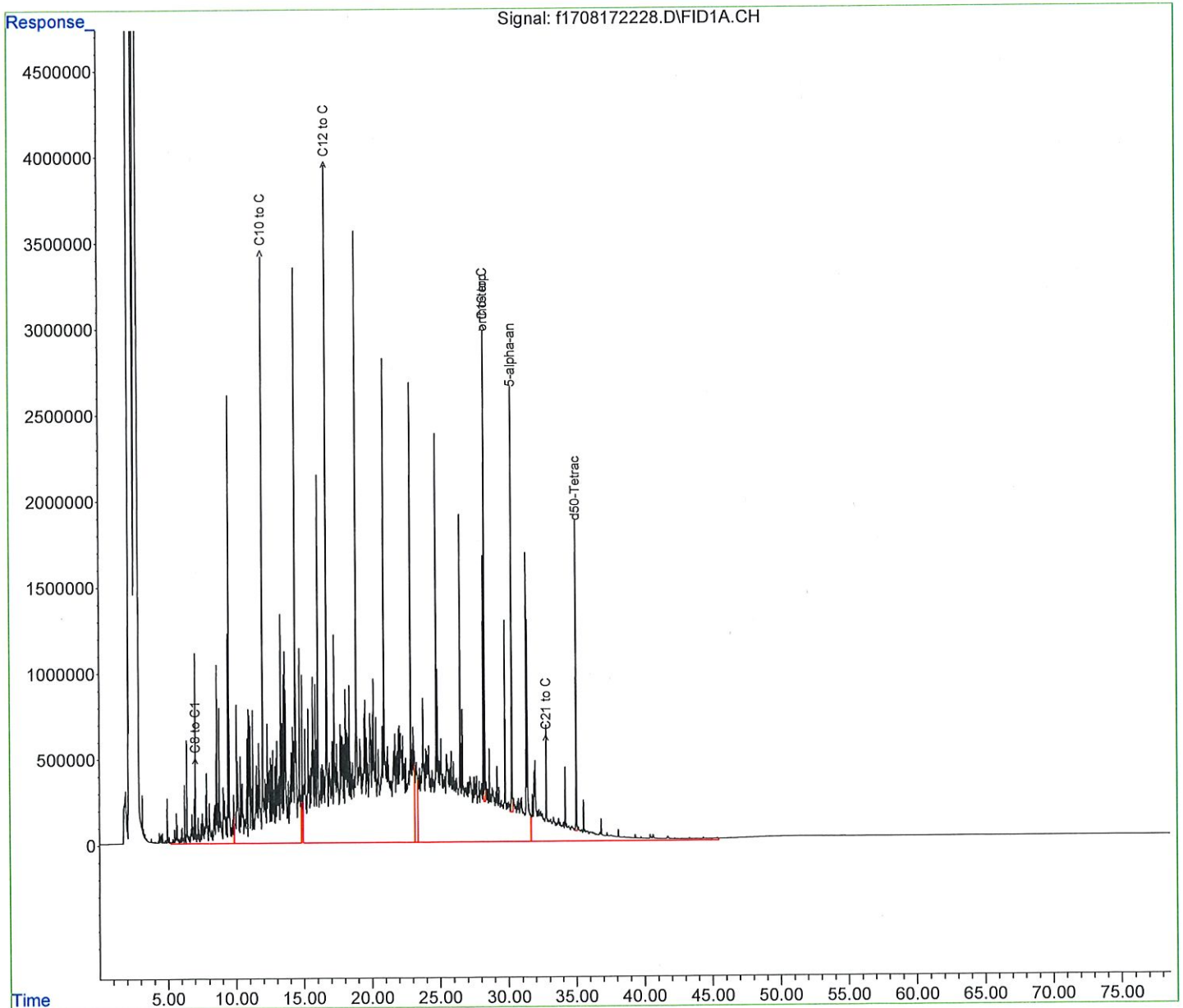
R.T.: 32.798 min
 Delta R.T.: 0.000 min
 Response: 27942125
 Conc: 22.37 UG/ML m

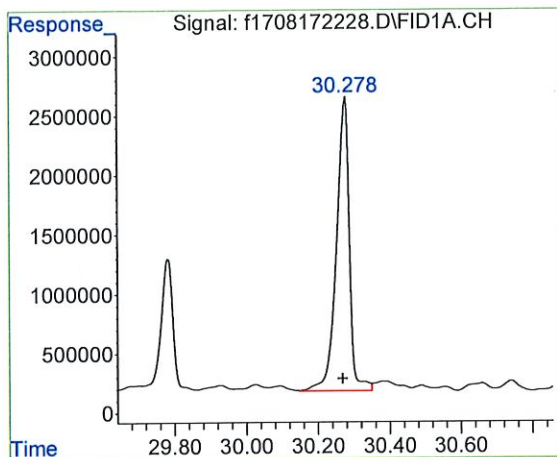
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172228.D
Signal(s) : FID1A.CH
Acq On : 18 Aug 2022 7:40 am
Operator : FID17:WR
Sample : L2240634-10,42,,
Misc : WG1676467,WG1676301,ICAL18753
ALS Vial : 14 Sample Multiplier: 1

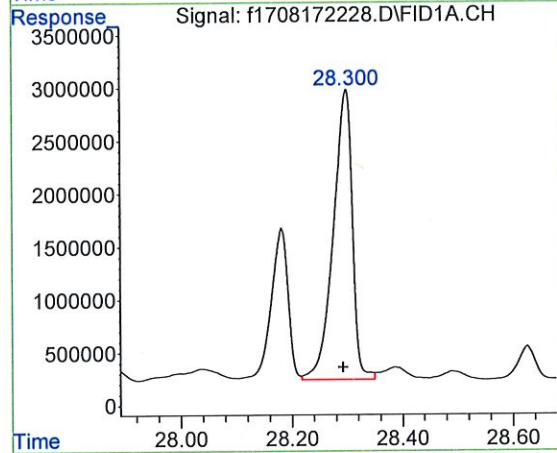
Integration File: autoint1.e
Quant Time: Oct 23 17:52:47 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

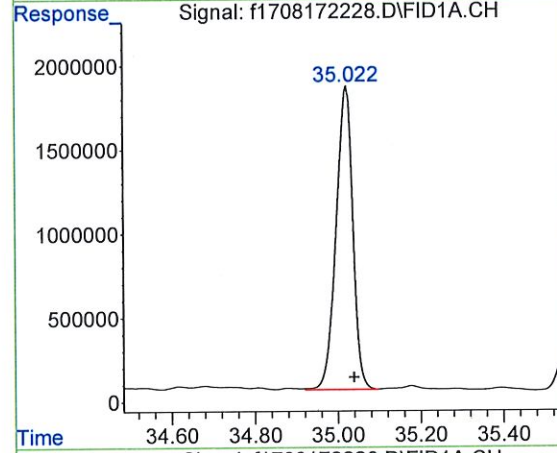




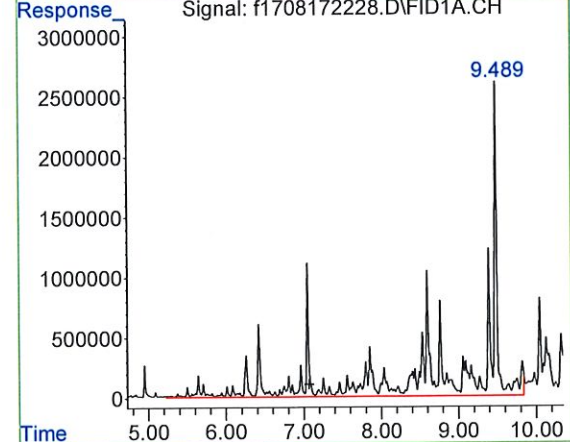
#1 5-alpha-androstane
 R.T.: 30.278 min
 Delta R.T.: 0.009 min
 Response: 62079088
 Conc: 50.00 ug/mL m



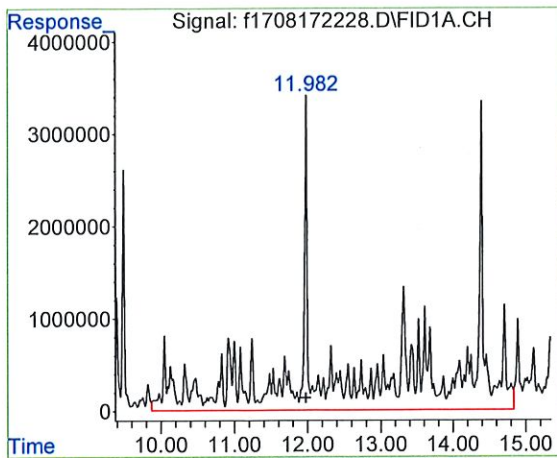
#2 ortho-terphenyl
 R.T.: 28.300 min
 Delta R.T.: 0.007 min
 Response: 65512801
 Conc: 50.48 ug/mL m



#3 d50-Tetracosane
 R.T.: 35.022 min
 Delta R.T.: -0.017 min
 Response: 50542749
 Conc: 49.25 ug/mL m

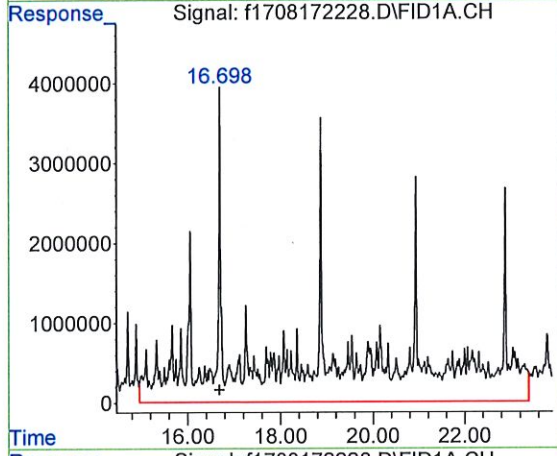


#4 > C8 to C10 Aliphatics
 R.T.: 7.072 min
 Delta R.T.: 0.000 min
 Response: 328285868
 Conc: 280.69 ug/mL m



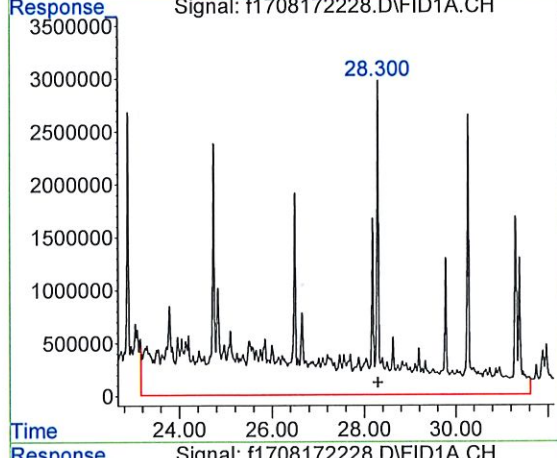
#5 > C10 to C12 Aliphatics

R.T.: 11.977 min
 Delta R.T.: 0.000 min
 Response: 997894203
 Conc: 853.20 ug/ml m



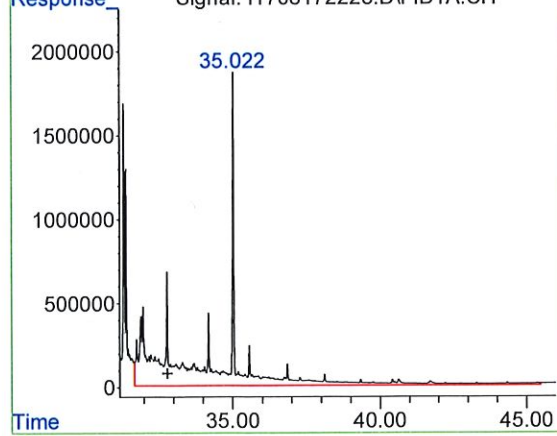
#6 > C12 to C16 Aliphatics

R.T.: 16.687 min
 Delta R.T.: 0.000 min
 Response: 2348760899
 Conc: 2008.20 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.293 min
 Delta R.T.: 0.000 min
 Response: 1732349970
 Conc: 1481.16 UG/ML m



#8 > C21 to C32 Aliphatics

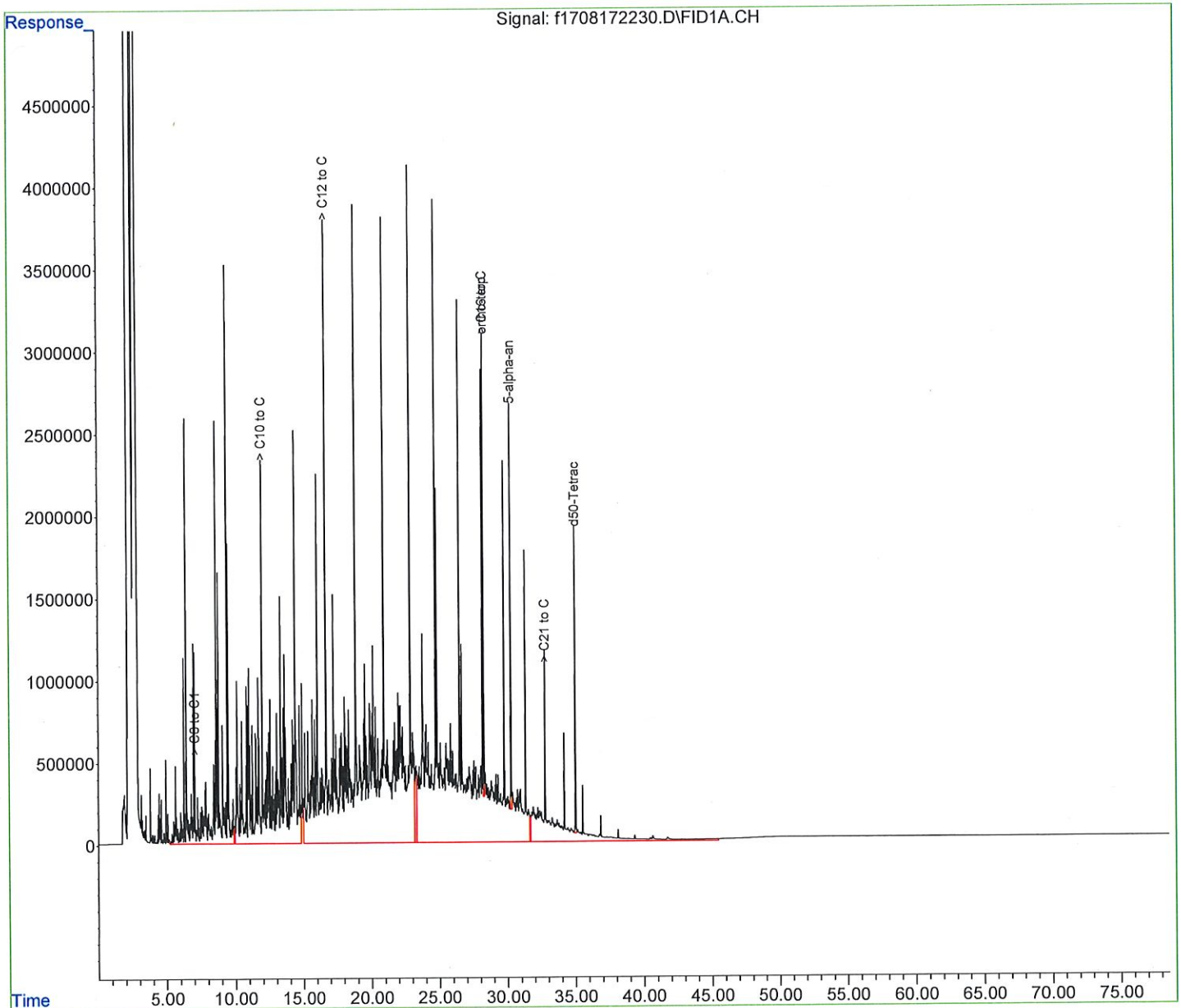
R.T.: 32.798 min
 Delta R.T.: 0.000 min
 Response: 394378981
 Conc: 337.20 UG/ML m

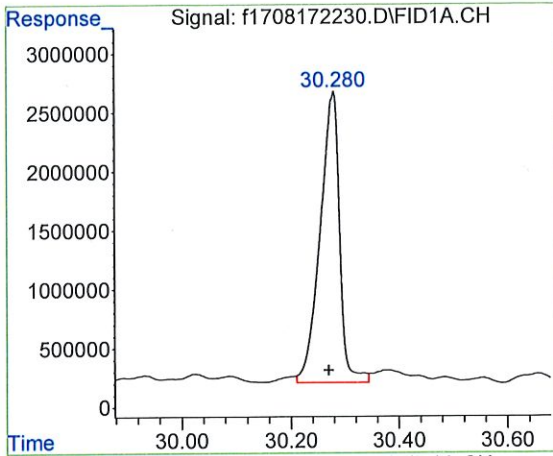
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172230.D
Signal(s) : FID1A.CH
Acq On : 18 Aug 2022 9:10 am
Operator : FID17:WR
Sample : L2240634-13,42,,
Misc : WG1676467,WG1676301,ICAL18753
ALS Vial : 15 Sample Multiplier: 1

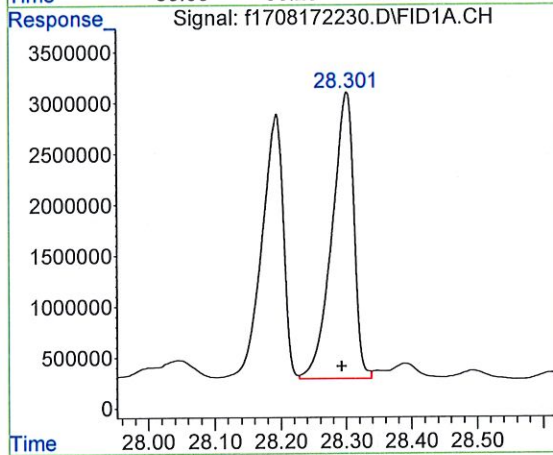
Integration File: autoint1.e
Quant Time: Oct 23 18:00:55 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

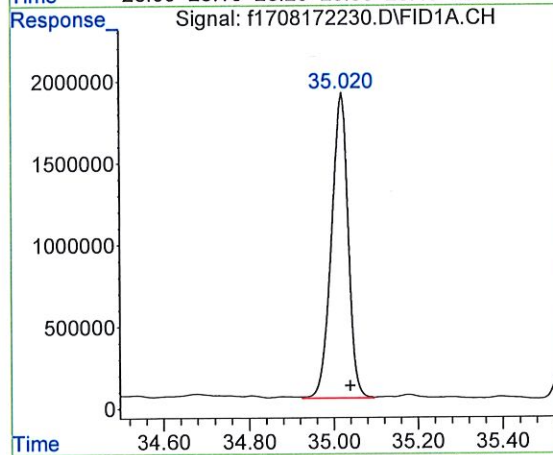




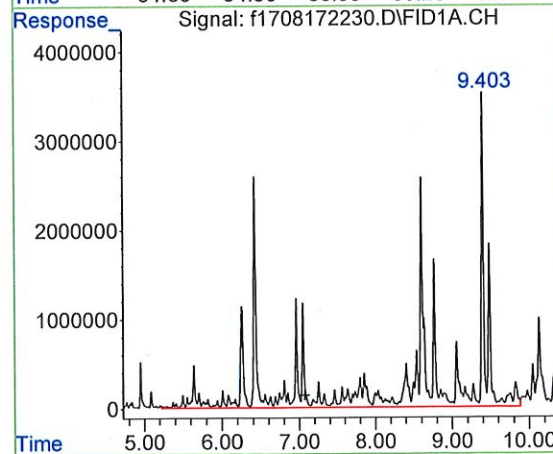
#1 5-alpha-androstane
 R.T.: 30.280 min
 Delta R.T.: 0.010 min
 Response: 61549067
 Conc: 50.00 ug/mL m



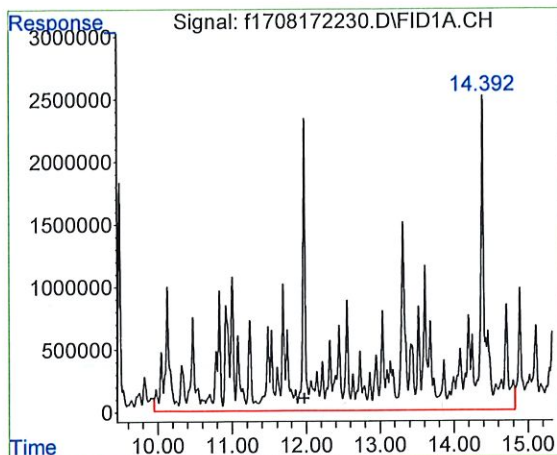
#2 ortho-terphenyl
 R.T.: 28.301 min
 Delta R.T.: 0.009 min
 Response: 65613942
 Conc: 50.99 ug/mL m



#3 d50-Tetracosane
 R.T.: 35.020 min
 Delta R.T.: -0.019 min
 Response: 51390182
 Conc: 50.51 ug/mL m

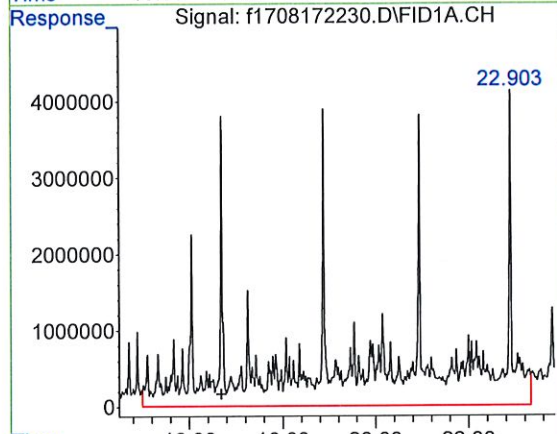


#4 > C8 to C10 Aliphatics
 R.T.: 7.072 min
 Delta R.T.: 0.000 min
 Response: 548329739
 Conc: 472.86 ug/mL m



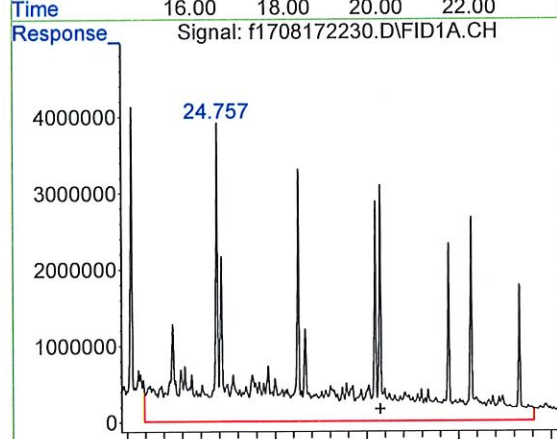
#5 > C10 to C12 Aliphatics

R.T.: 11.977 min
 Delta R.T.: 0.000 min
 Response: 891993370
 Conc: 769.22 ug/ml m



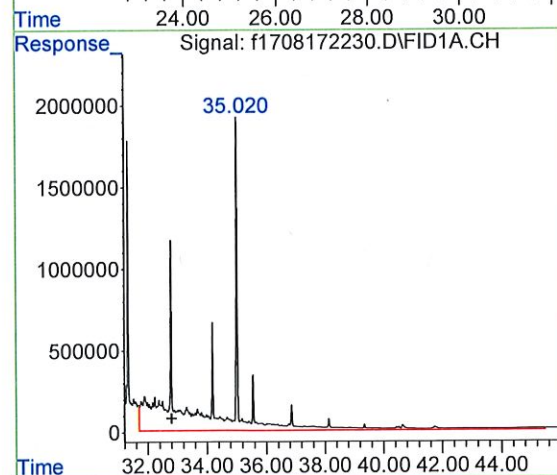
#6 > C12 to C16 Aliphatics

R.T.: 16.687 min
 Delta R.T.: 0.000 min
 Response: 2359478728
 Conc: 2034.73 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.293 min
 Delta R.T.: 0.000 min
 Response: 2060299682
 Conc: 1776.73 UG/ML m



#8 > C21 to C32 Aliphatics

R.T.: 32.798 min
 Delta R.T.: 0.000 min
 Response: 364368418
 Conc: 314.22 UG/ML m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172232.D
Signal(s) : FID1A.CH
Acq On : 18 Aug 2022 10:41 am
Operator : FID17:WR
Sample : L2240634-16,42,,
Misc : WG1676467,WG1676301,ICAL18753
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 23 18:23:44 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH (
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	30.261	65118623	50.000 ug/mLm
System Monitoring Compounds			
2) s ortho-terphenyl	28.287	69523879	51.070 ug/mLm
Spiked Amount	50.000	Range 50 - 130	Recovery = 102.14%
3) s d50-Tetracosane	35.020	54760510	50.874 ug/mLm
Spiked Amount	50.000	Range 50 - 130	Recovery = 101.75%
Target Compounds			
4) h > C8 to C10 Aliphatics	7.072	654593826	533.556 ug/mLm
5) h > C10 to C12 Aliphatics	11.977	2704146725	2204.134 ug/mlm
6) h > C12 to C16 Aliphatics	16.687	2823958271	2301.792 UG/MLm
7) h > C16 to C21 Aliphatics	28.293	31709527	25.846 UG/MLm
8) h > C21 to C32 Aliphatics	32.798	28077442	22.886 UG/MLm

SemiQuant Compounds - Not Calibrated on this Instrument

(f)=RT Delta > 1/2 Window

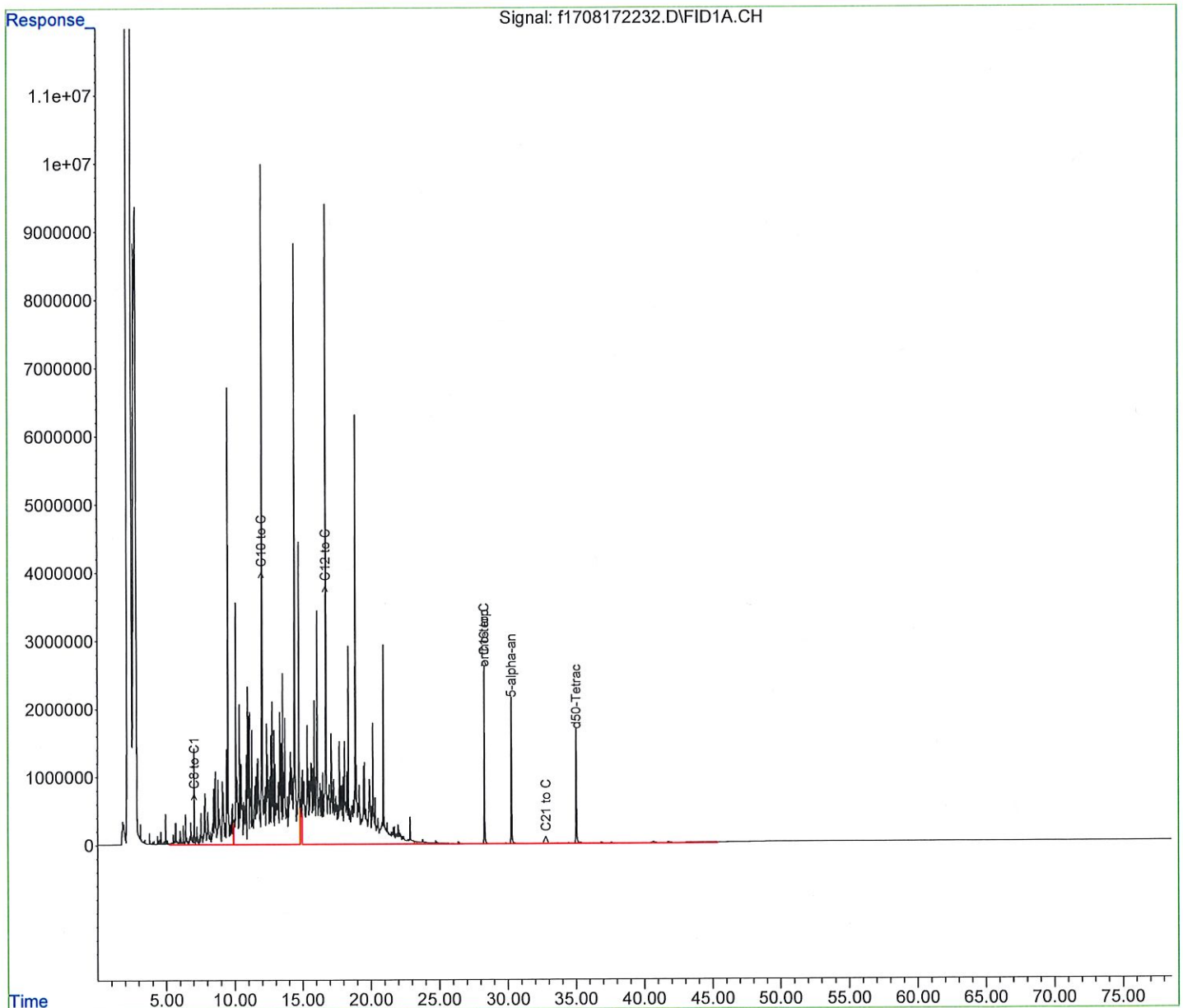
(m)=manual int.

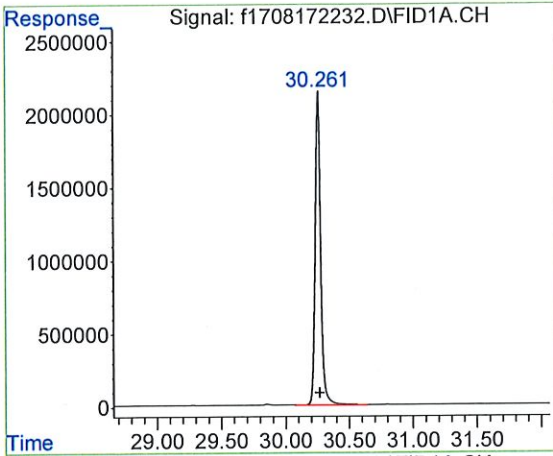
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172232.D
Signal(s) : FID1A.CH
Acq On : 18 Aug 2022 10:41 am
Operator : FID17:WR
Sample : L2240634-16,42,,
Misc : WG1676467,WG1676301,ICAL18753
ALS Vial : 16 Sample Multiplier: 1

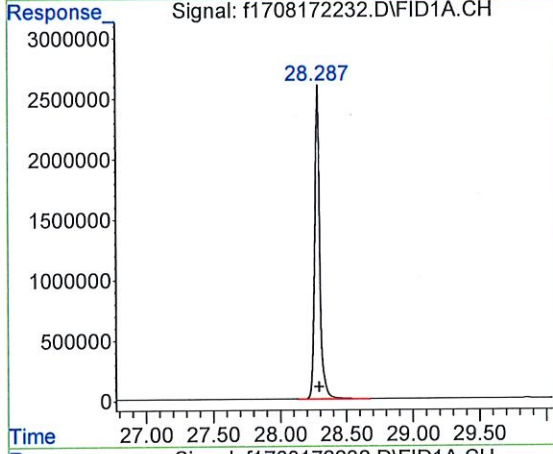
Integration File: autoint1.e
Quant Time: Oct 23 18:23:44 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

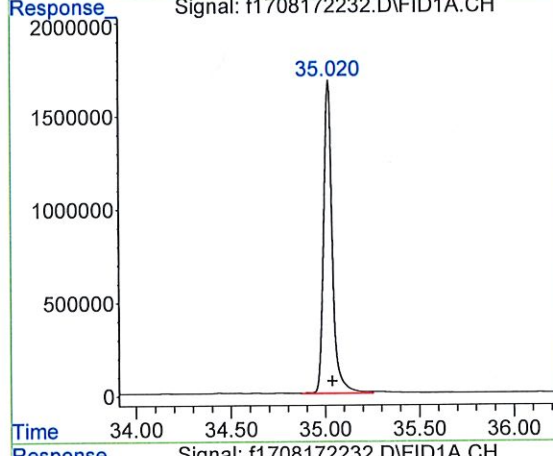




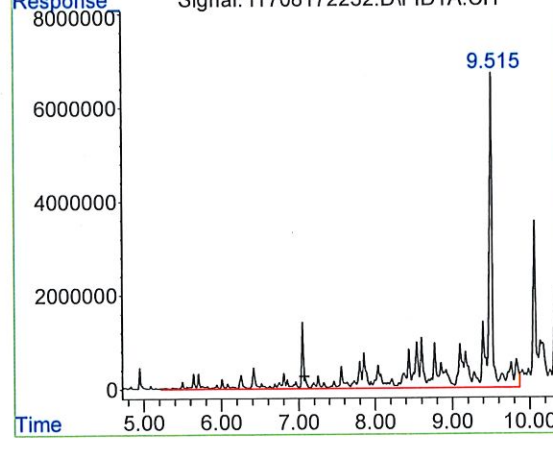
#1 5-alpha-androstane
 R.T.: 30.261 min
 Delta R.T.: -0.008 min
 Response: 65118623
 Conc: 50.00 ug/mL m



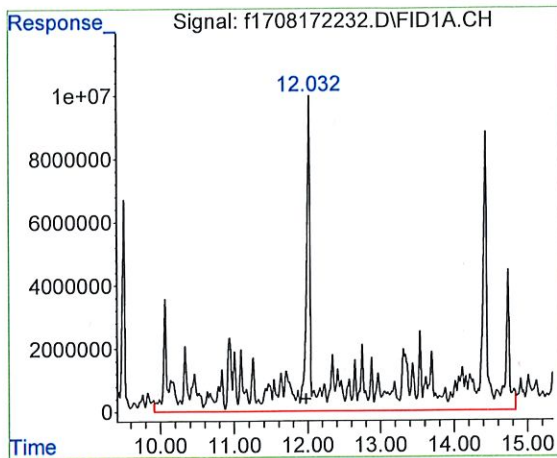
#2 ortho-terphenyl
 R.T.: 28.287 min
 Delta R.T.: -0.006 min
 Response: 69523879
 Conc: 51.07 ug/mL m



#3 d50-Tetracosane
 R.T.: 35.020 min
 Delta R.T.: -0.019 min
 Response: 54760510
 Conc: 50.87 ug/mL m

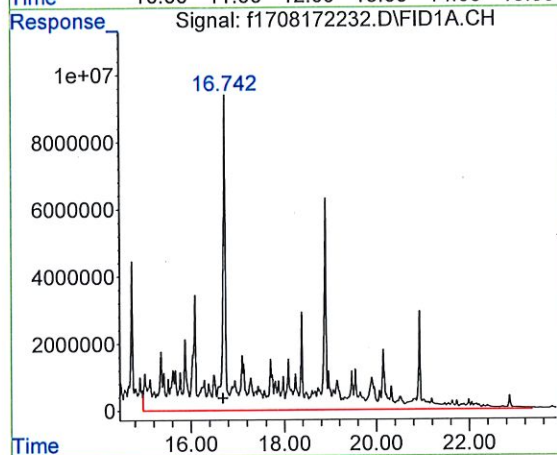


#4 > C8 to C10 Aliphatics
 R.T.: 7.072 min
 Delta R.T.: 0.000 min
 Response: 654593826
 Conc: 533.56 ug/mL m



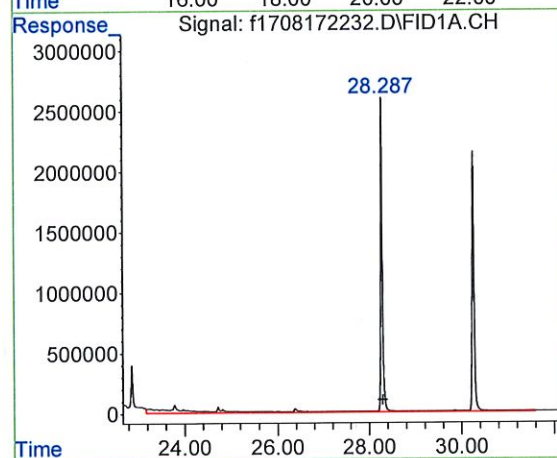
#5 > C10 to C12 Aliphatics

R.T.: 11.977 min
 Delta R.T.: 0.000 min
 Response: 2704146725
 Conc: 2204.13 ug/ml m



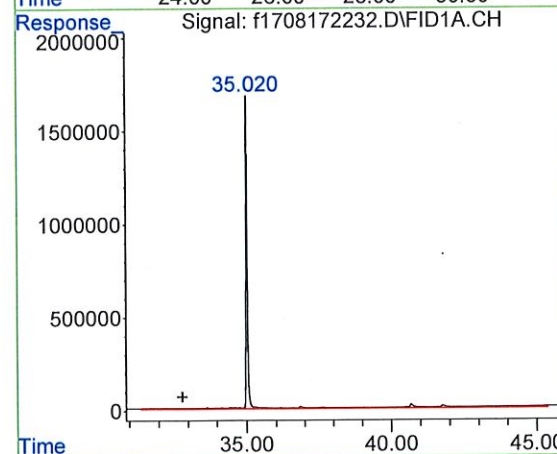
#6 > C12 to C16 Aliphatics

R.T.: 16.687 min
 Delta R.T.: 0.000 min
 Response: 2823958271
 Conc: 2301.79 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.293 min
 Delta R.T.: 0.000 min
 Response: 31709527
 Conc: 25.85 UG/ML m



#8 > C21 to C32 Aliphatics

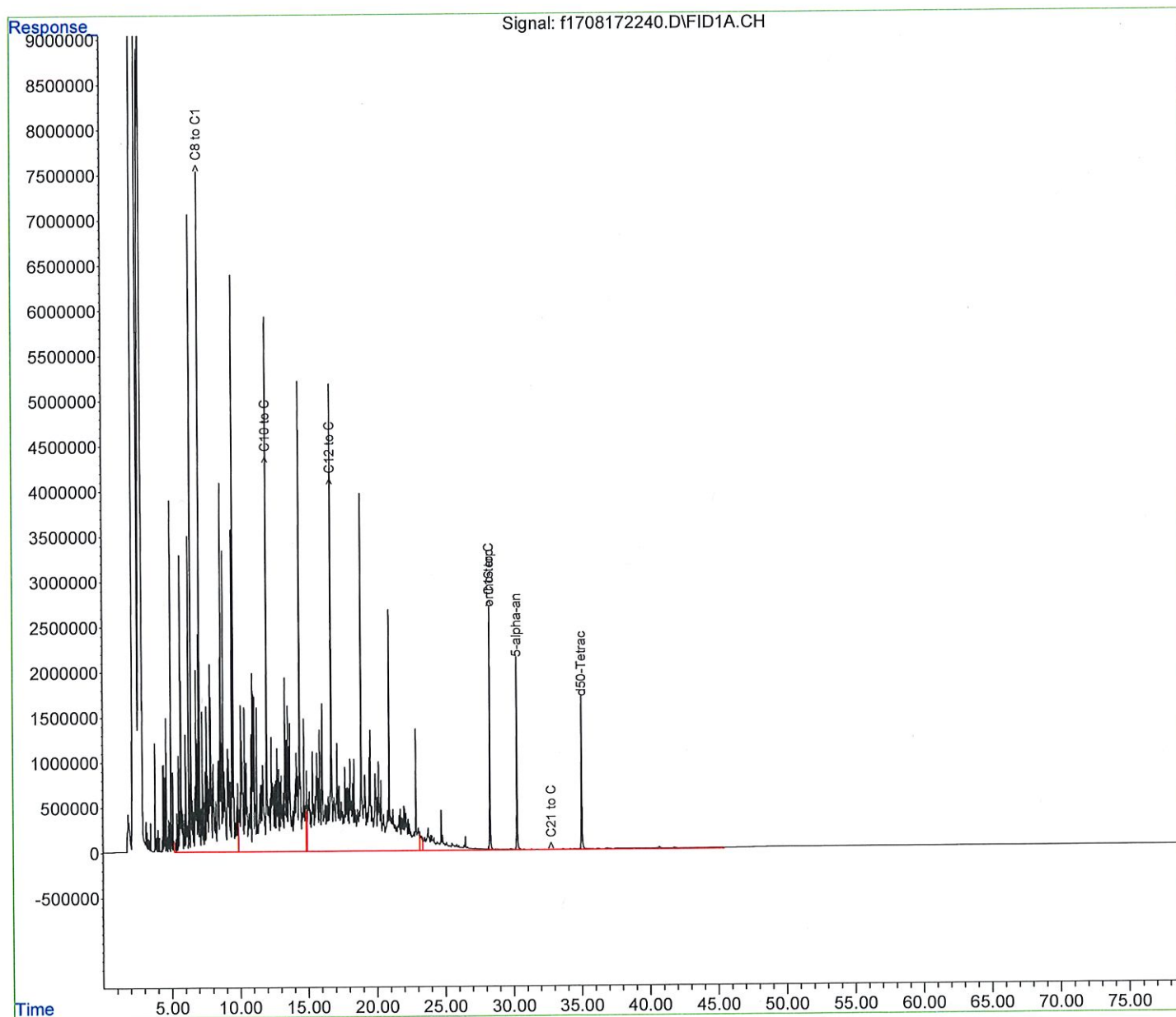
R.T.: 32.798 min
 Delta R.T.: 0.000 min
 Response: 28077442
 Conc: 22.89 UG/ML m

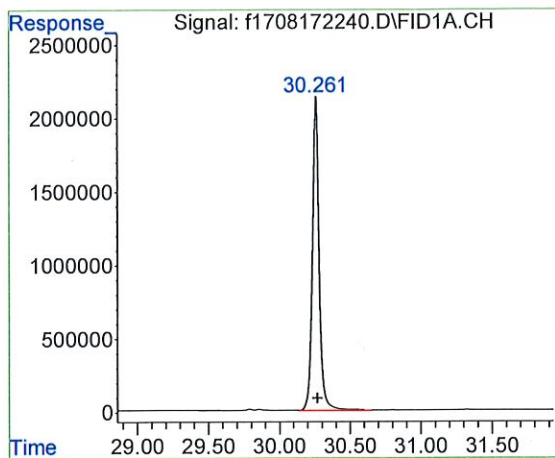
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172240.D
Signal(s) : FID1A.CH
Acq On : 18 Aug 2022 16:46 pm
Operator : FID17:WR
Sample : L2240634-19.42,,
Misc : WG1676467,WG1676301,ICAL18753
ALS Vial : 20 Sample Multiplier: 1

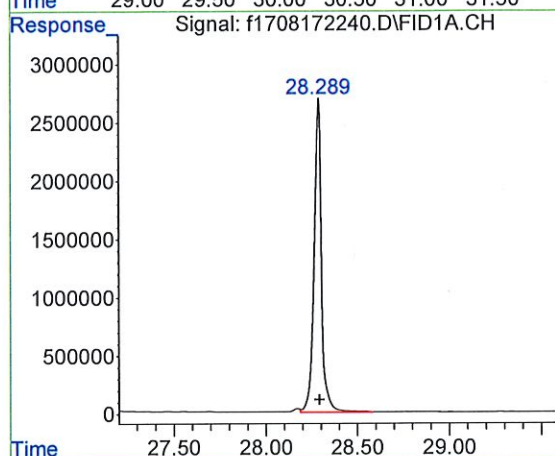
Integration File: autoint1.e
Quant Time: Oct 23 18:38:30 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

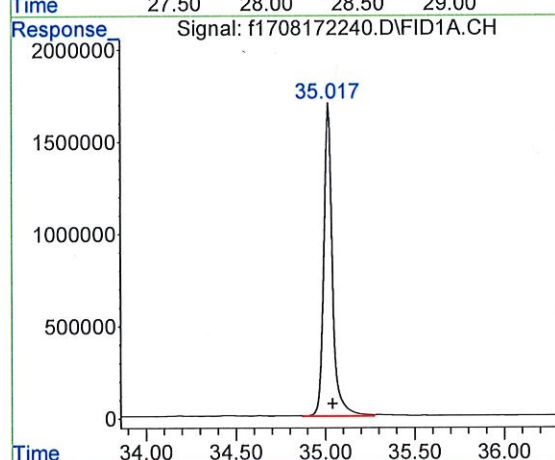




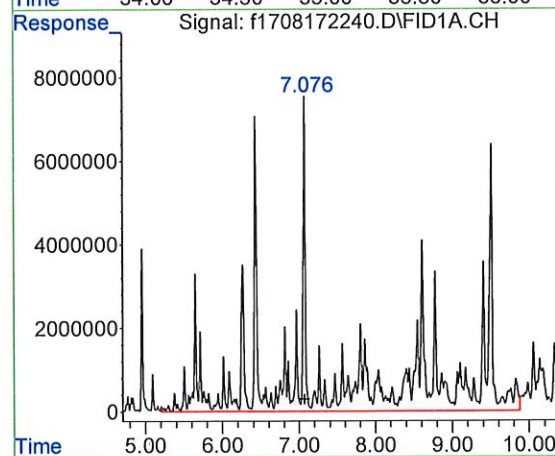
#1 5-alpha-androstane
 R.T.: 30.261 min
 Delta R.T.: -0.008 min
 Response: 69177027
 Conc: 50.00 ug/mL m



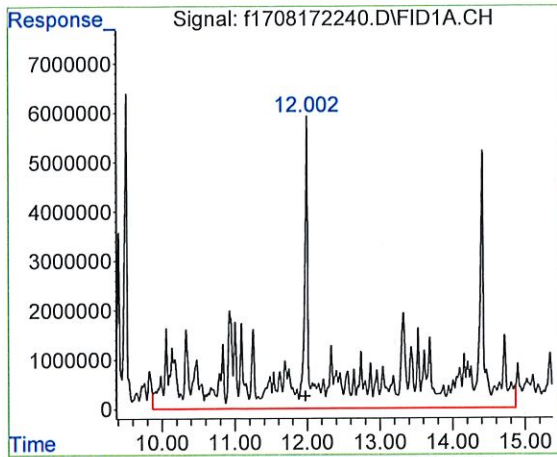
#2 ortho-terphenyl
 R.T.: 28.289 min
 Delta R.T.: -0.003 min
 Response: 73601155
 Conc: 50.89 ug/mL m



#3 d50-Tetracosane
 R.T.: 35.017 min
 Delta R.T.: -0.022 min
 Response: 56914459
 Conc: 49.77 ug/mL m

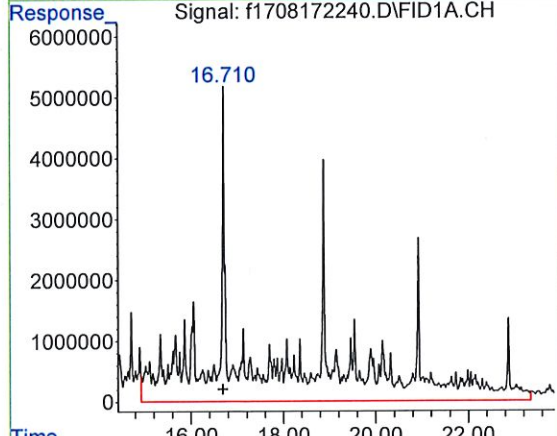


#4 > C8 to C10 Aliphatics
 R.T.: 7.072 min
 Delta R.T.: 0.000 min
 Response: 1860931675
 Conc: 1427.85 ug/mL m



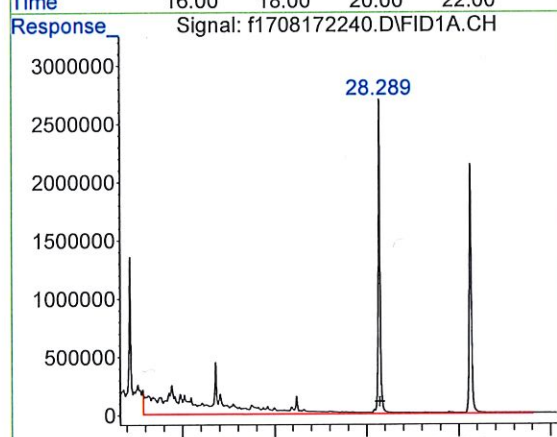
#5 > C10 to C12 Aliphatics

R.T.: 11.977 min
 Delta R.T.: 0.000 min
 Response: 1926067589
 Conc: 1477.82 ug/ml m



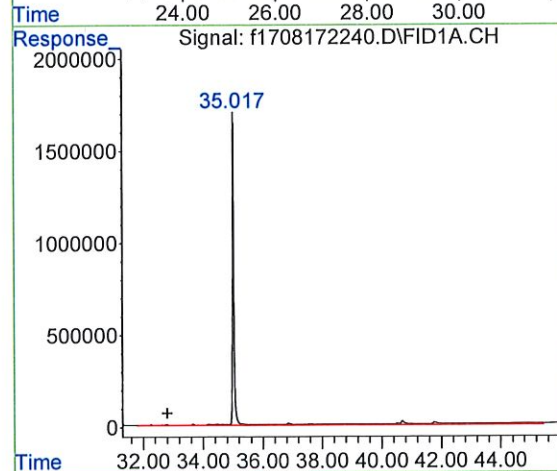
#6 > C12 to C16 Aliphatics

R.T.: 16.687 min
 Delta R.T.: 0.000 min
 Response: 2376840066
 Conc: 1823.69 UG/ML m



#7 > C16 to C21 Aliphatics

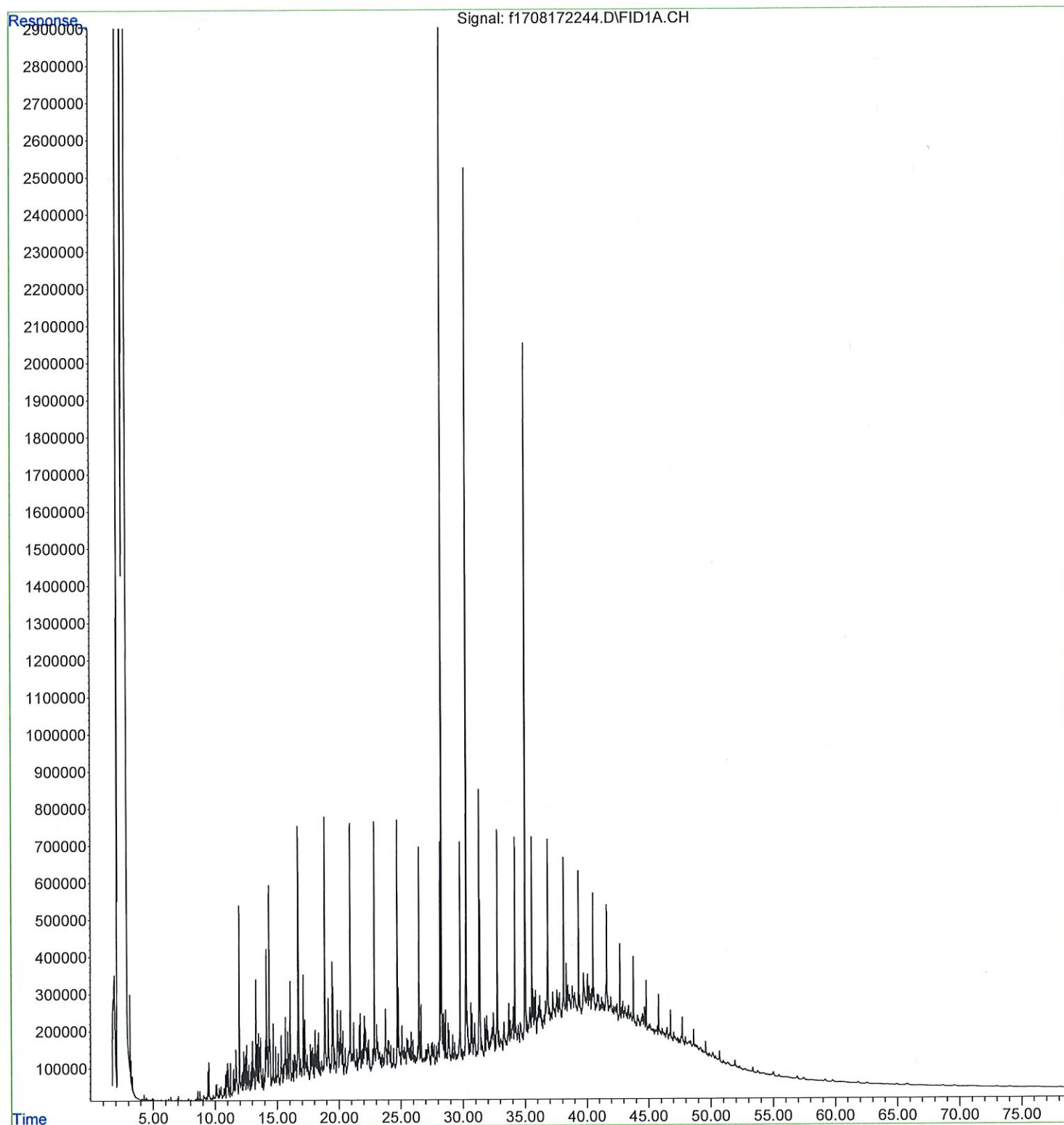
R.T.: 28.293 min
 Delta R.T.: 0.000 min
 Response: 194138497
 Conc: 148.96 UG/ML m

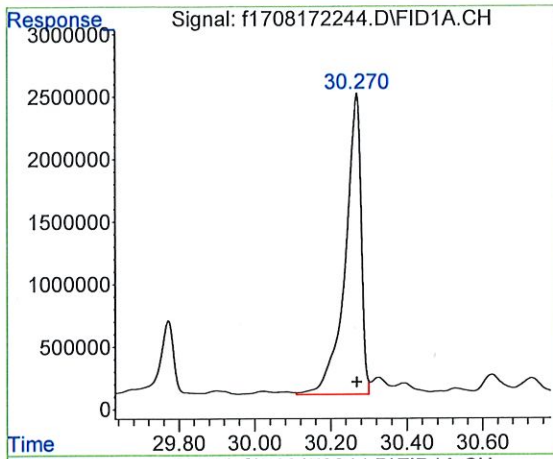


#8 > C21 to C32 Aliphatics

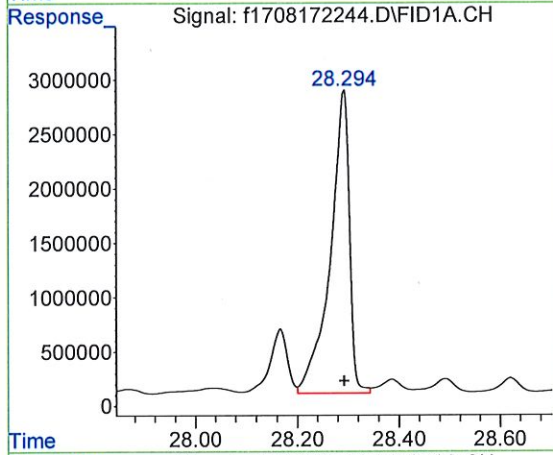
R.T.: 32.798 min
 Delta R.T.: 0.000 min
 Response: 24985414
 Conc: 19.17 UG/ML m

File :C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range
... Study\L2240634\TPH\NF TPH\1708172244.D
Operator : FID17:WR
Instrument : FID17
Acquired : 18 Aug 2022 19:48 pm using AcqMethod FID17A.M
Sample Name: L2240634-25,42,,
Misc Info : WG1676467,WG1676301,ICAL18753

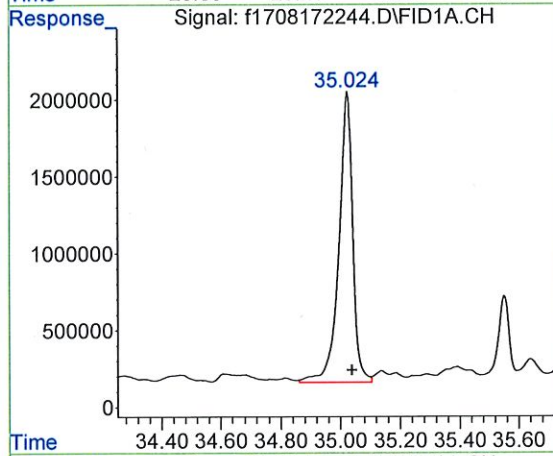




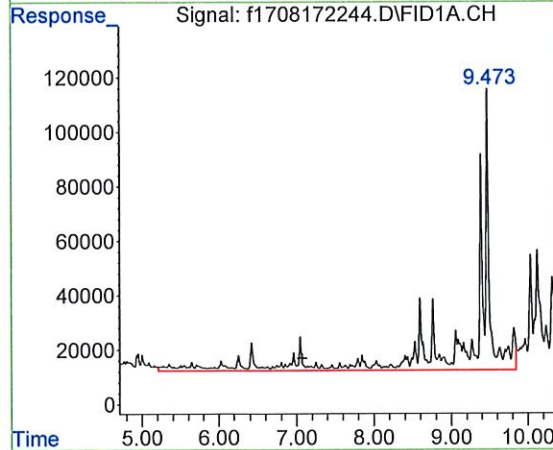
#1 5-alpha-androstane
 R.T.: 30.270 min
 Delta R.T.: 0.000 min
 Response: 69299970
 Conc: 50.00 ug/mL m



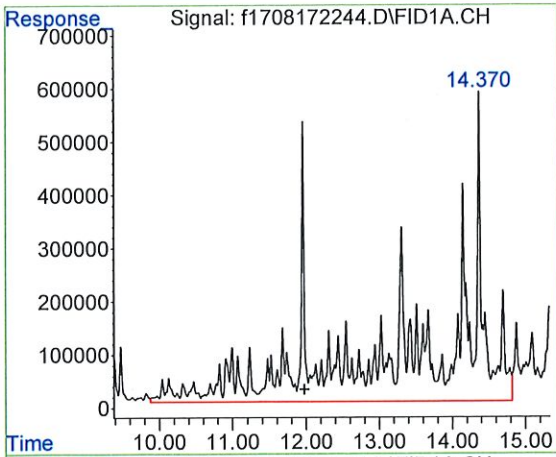
#2 ortho-terphenyl
 R.T.: 28.294 min
 Delta R.T.: 0.000 min
 Response: 73139576
 Conc: 50.48 ug/mL m



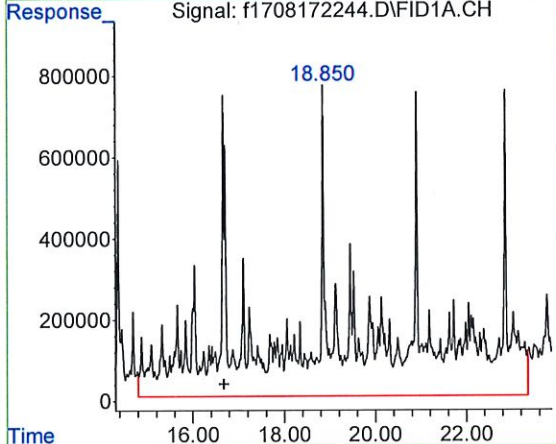
#3 d50-Tetracosane
 R.T.: 35.024 min
 Delta R.T.: -0.015 min
 Response: 60804744
 Conc: 53.08 ug/mL m



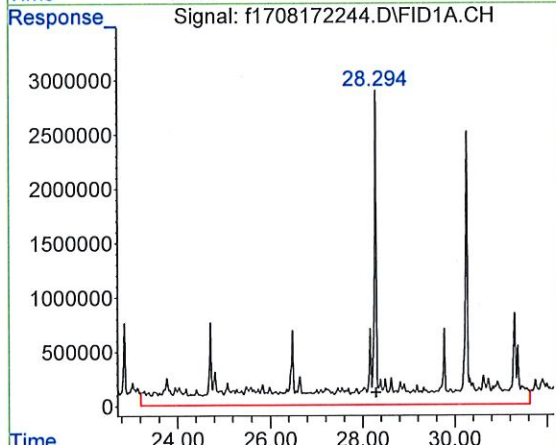
#4 > C8 to C10 Aliphatics
 R.T.: 7.072 min
 Delta R.T.: 0.000 min
 Response: 12357325
 Conc: 9.46 ug/mL m



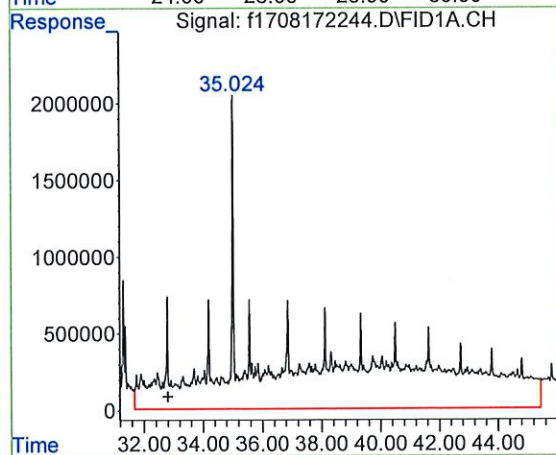
#5 > C10 to C12 Aliphatics
 R.T.: 11.977 min
 Delta R.T.: 0.000 min
 Response: 200670480
 Conc: 153.70 ug/ml m



#6 > C12 to C16 Aliphatics
 R.T.: 16.687 min
 Delta R.T.: 0.000 min
 Response: 642632413
 Conc: 492.20 UG/ML m



#7 > C16 to C21 Aliphatics
 R.T.: 28.293 min
 Delta R.T.: 0.000 min
 Response: 752619422
 Conc: 576.44 UG/ML m



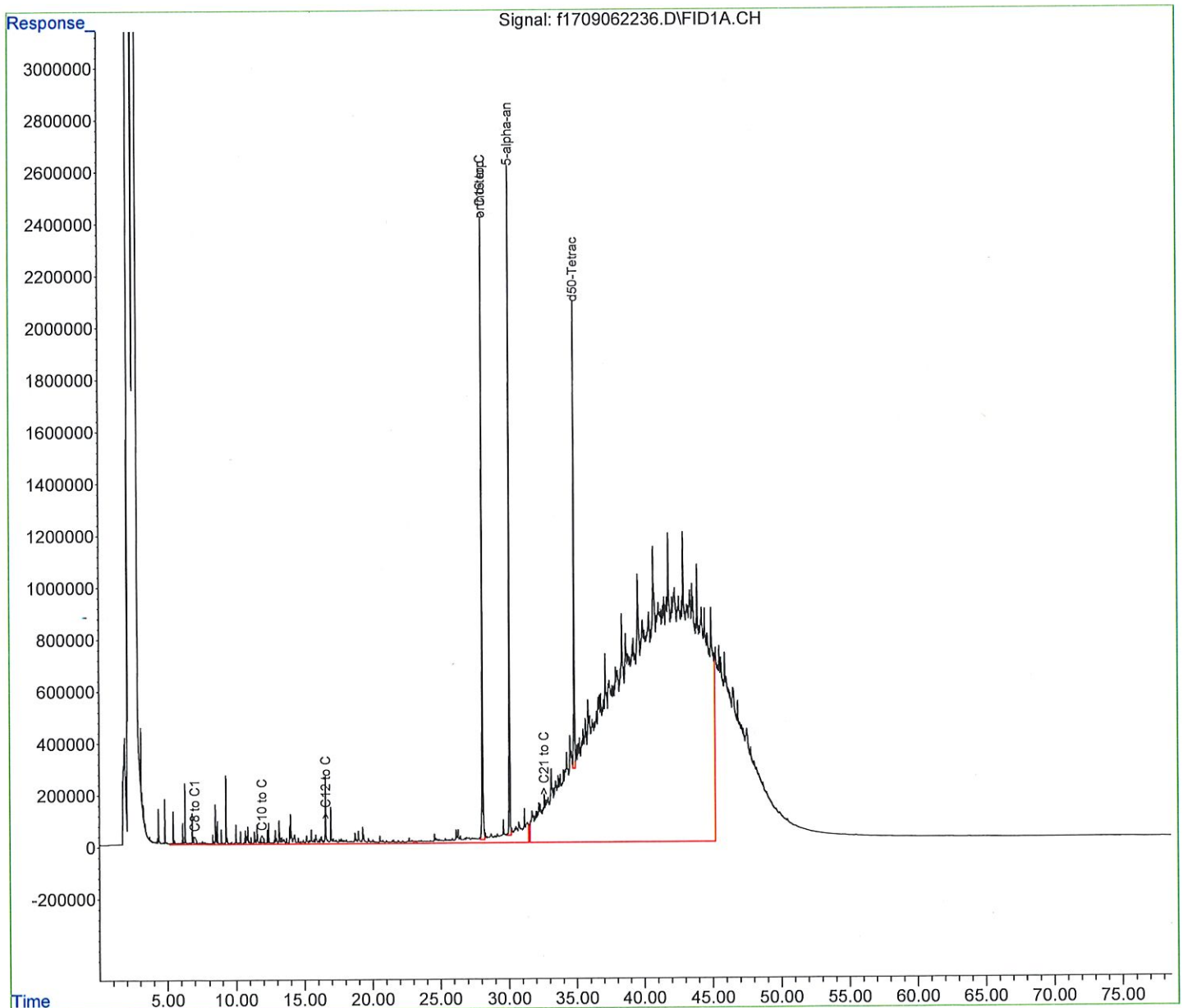
#8 > C21 to C32 Aliphatics
 R.T.: 32.798 min
 Delta R.T.: 0.000 min
 Response: 1935070135
 Conc: 1482.10 UG/ML m

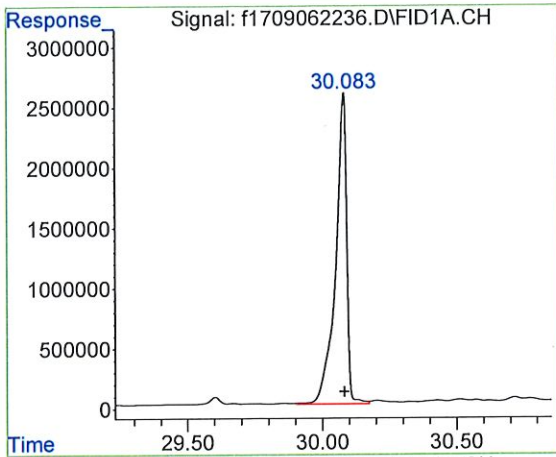
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1709062236.D
Signal(s) : FID1A.CH
Acq On : 07 Sep 2022 16:05 pm
Operator : FID17:WR
Sample : I2240634-32,42,,
Misc : WG1684077,WG1682983,ICAL18753
ALS Vial : 18 Sample Multiplier: 1

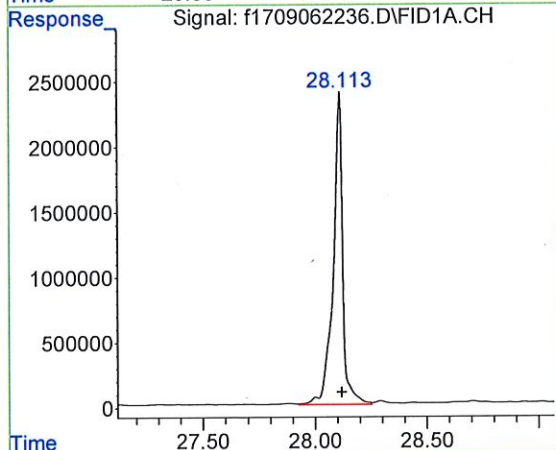
Integration File: autoint1.e
Quant Time: Oct 23 19:21:04 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Sun Oct 23 18:48:52 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

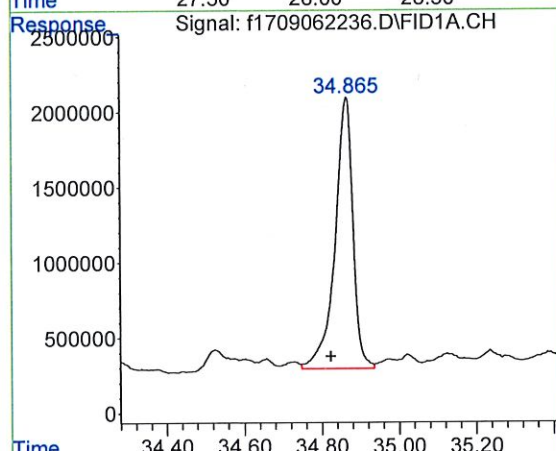




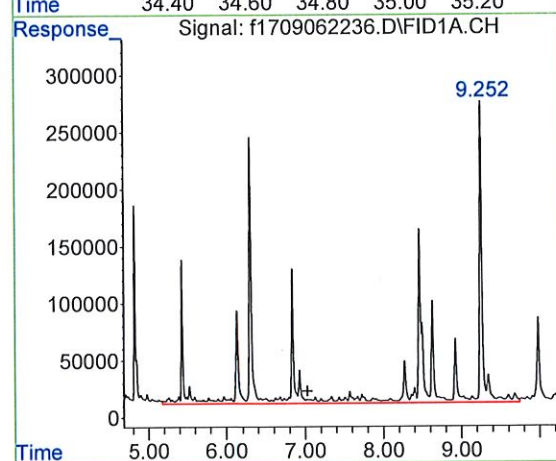
#1 5-alpha-androstane
 R.T.: 30.083 min
 Delta R.T.: 0.000 min
 Response: 74106757
 Conc: 50.00 ug/mL m



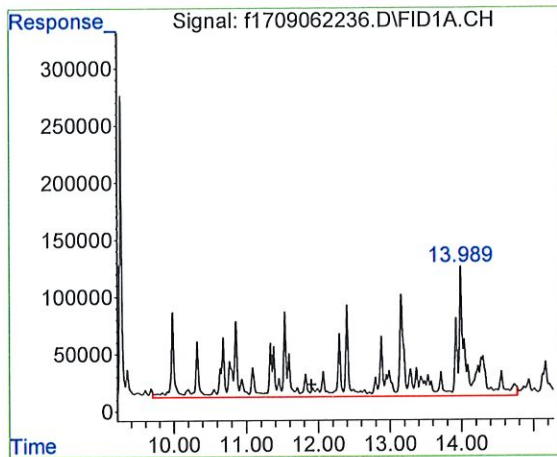
#2 ortho-terphenyl
 R.T.: 28.113 min
 Delta R.T.: -0.006 min
 Response: 70607308
 Conc: 45.58 ug/mL m



#3 d50-Tetracosane
 R.T.: 34.865 min
 Delta R.T.: 0.041 min
 Response: 57756883
 Conc: 47.15 ug/mL m

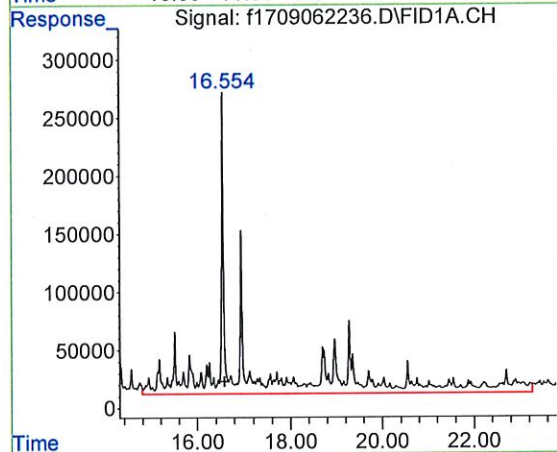


#4 > C8 to C10 Aliphatics
 R.T.: 7.029 min
 Delta R.T.: 0.000 min
 Response: 30357146
 Conc: 21.74 ug/mL m



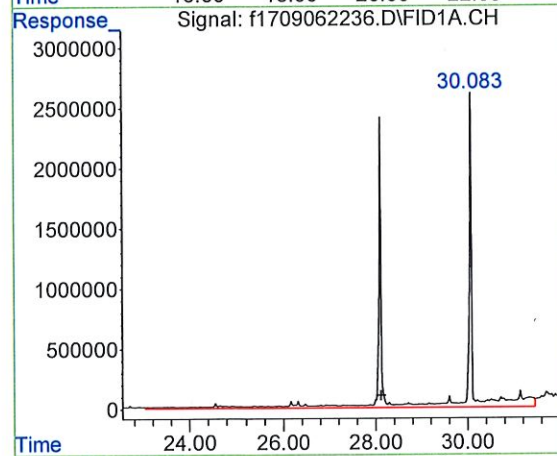
#5 > C10 to C12 Aliphatics

R.T.: 11.903 min
 Delta R.T.: 0.000 min
 Response: 40921226
 Conc: 29.31 ug/ml m



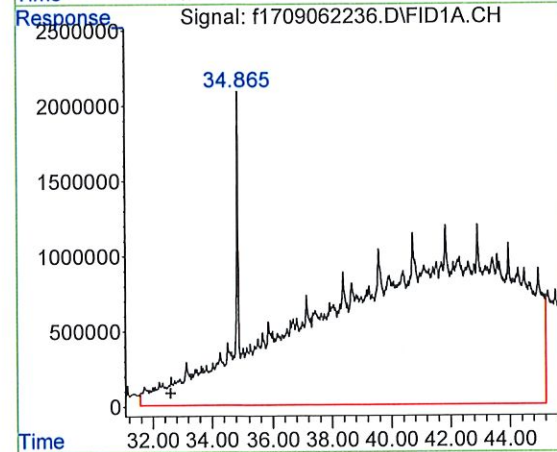
#6 > C12 to C16 Aliphatics

R.T.: 16.584 min
 Delta R.T.: 0.000 min
 Response: 57780945
 Conc: 41.38 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.119 min
 Delta R.T.: 0.000 min
 Response: 119151760
 Conc: 85.34 UG/ML m



#8 > C21 to C32 Aliphatics

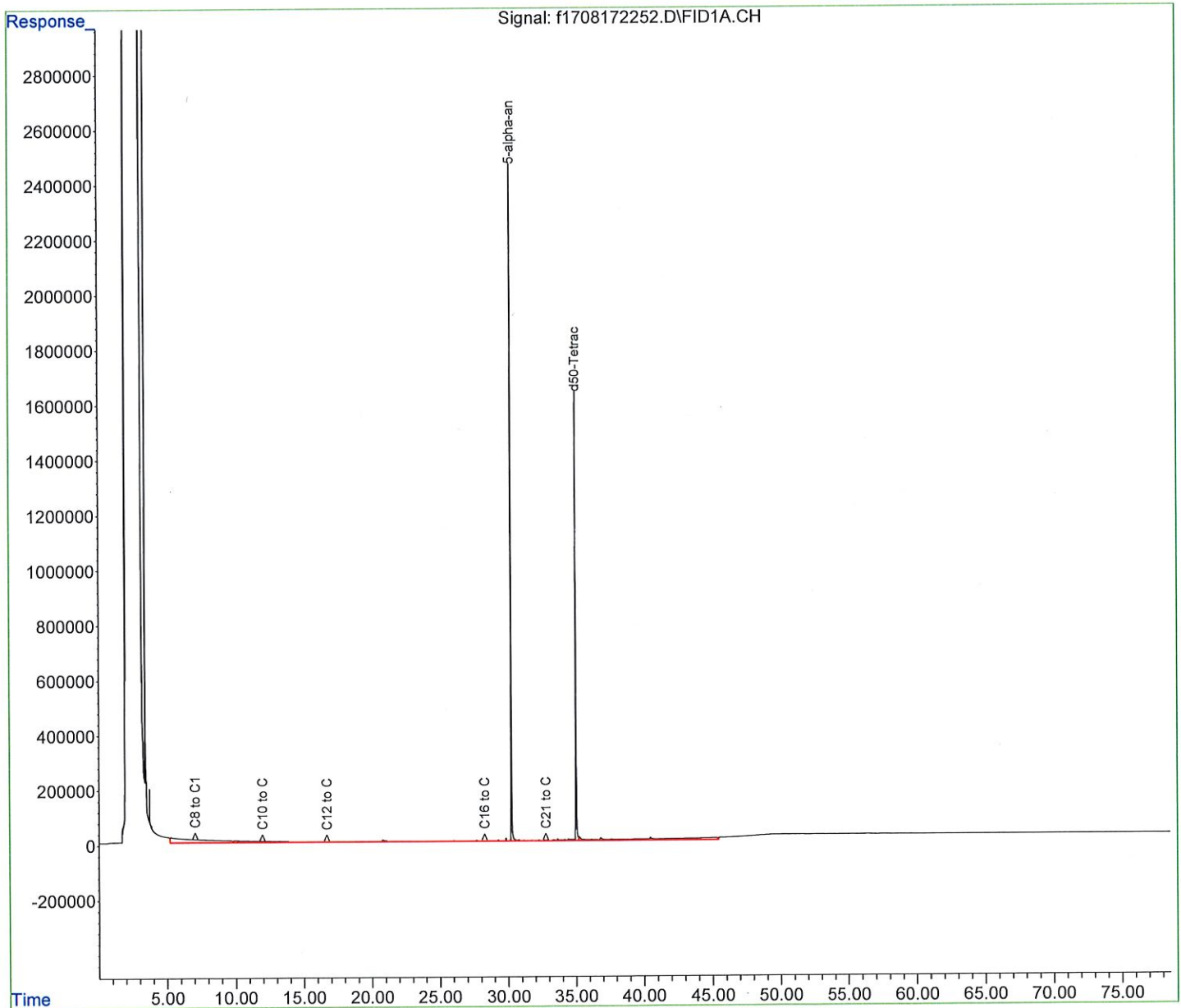
R.T.: 32.596 min
 Delta R.T.: 0.000 min
 Response: 4873232031
 Conc: 3490.38 UG/ML m

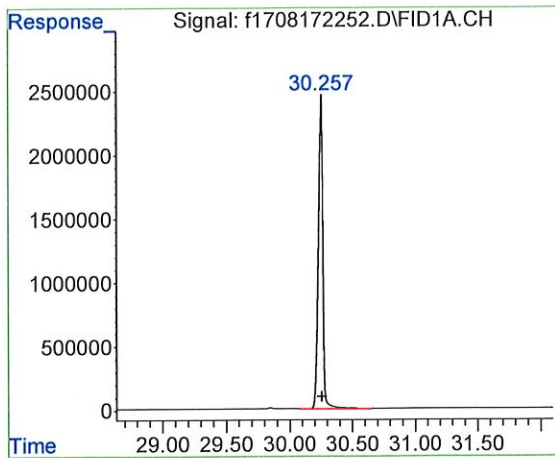
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172252.D
Signal(s) : FID1A.CH
Acq On : 19 Aug 2022 1:49 am
Operator : FID17:WR
Sample : WG1676456-1,42,,
Misc : WG1676467,WG1676456,ICAL18753
ALS Vial : 26 Sample Multiplier: 1

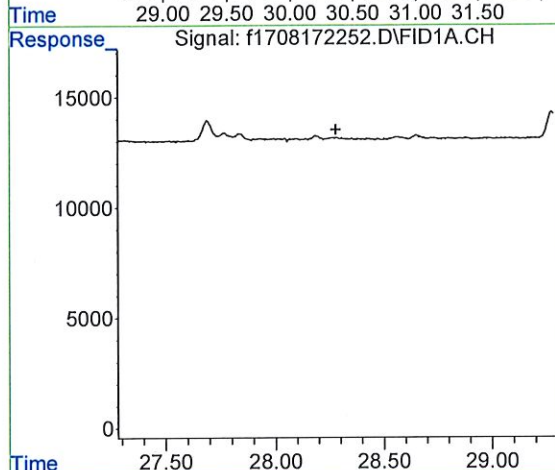
Integration File: autoint1.e
Quant Time: Oct 21 17:12:14 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

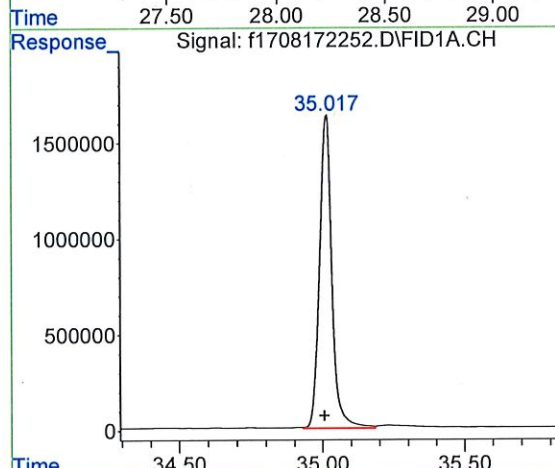




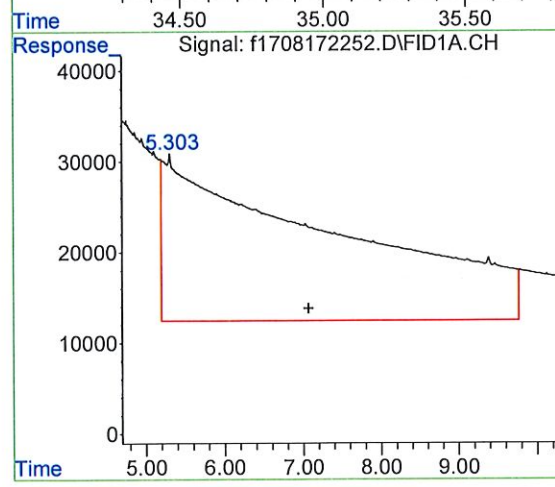
#1 5-alpha-androstane
 R.T.: 30.257 min
 Delta R.T.: 0.000 min
 Response: 60790287
 Conc: 50.00 ug/mL m



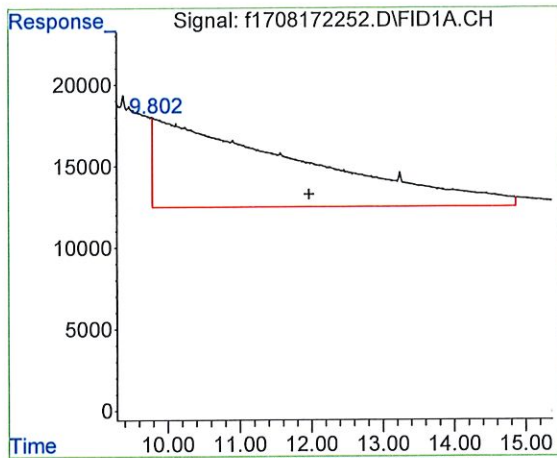
#2 ortho-terphenyl
 R.T.: 0.000 min
 Exp R.T. : 28.281 min
 Response: 0
 Conc: N.D.



#3 d50-Tetracosane
 R.T.: 35.017 min
 Delta R.T.: 0.010 min
 Response: 49093075
 Conc: 48.86 ug/mL m

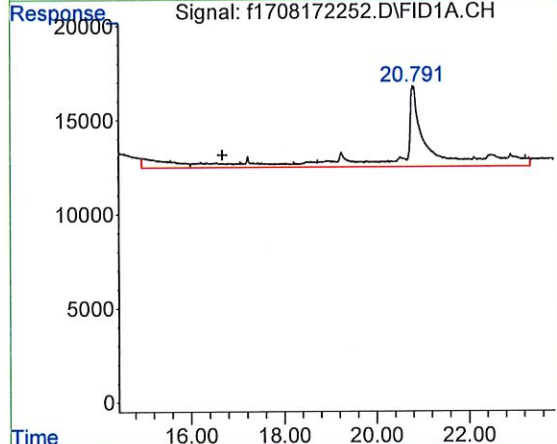


#4 > C8 to C10 Aliphatics
 R.T.: 7.069 min
 Delta R.T.: 0.000 min
 Response: 27481478
 Conc: 23.99 ug/mL m



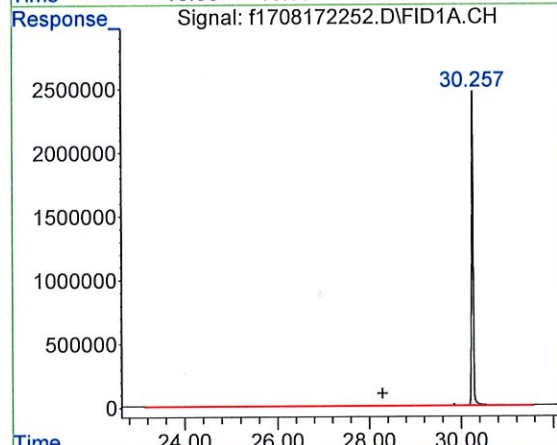
#5 > C10 to C12 Aliphatics

R.T.: 11.972 min
 Delta R.T.: 0.000 min
 Response: 7681627
 Conc: 6.71 ug/ml m



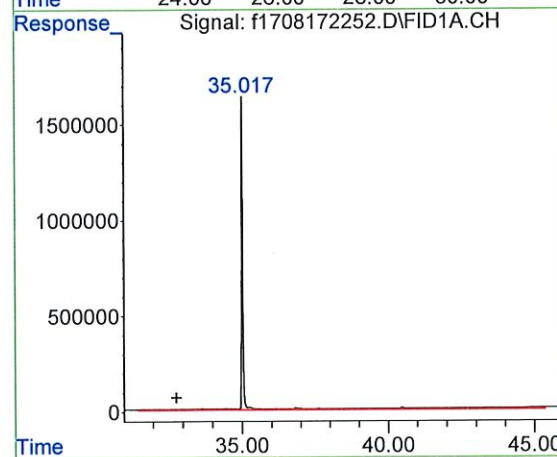
#6 > C12 to C16 Aliphatics

R.T.: 16.680 min
 Delta R.T.: 0.000 min
 Response: 2006465
 Conc: 1.75 UG/ML m



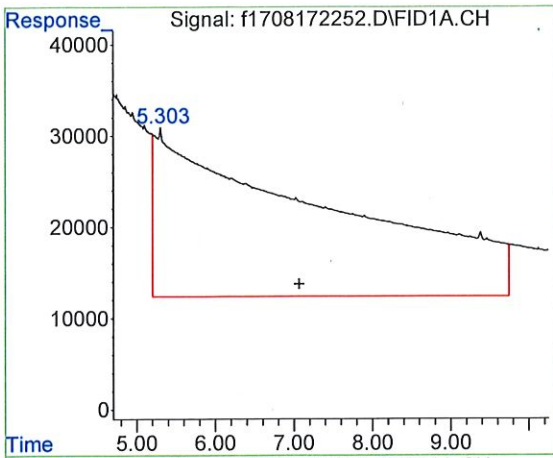
#7 > C16 to C21 Aliphatics

R.T.: 28.281 min
 Delta R.T.: 0.000 min
 Response: 4168073
 Conc: 3.64 UG/ML m



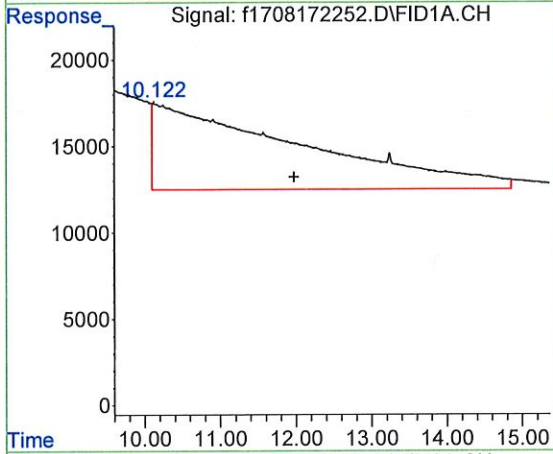
#8 > C21 to C32 Aliphatics

R.T.: 32.785 min
 Delta R.T.: 0.000 min
 Response: 23445315
 Conc: 20.47 UG/ML m



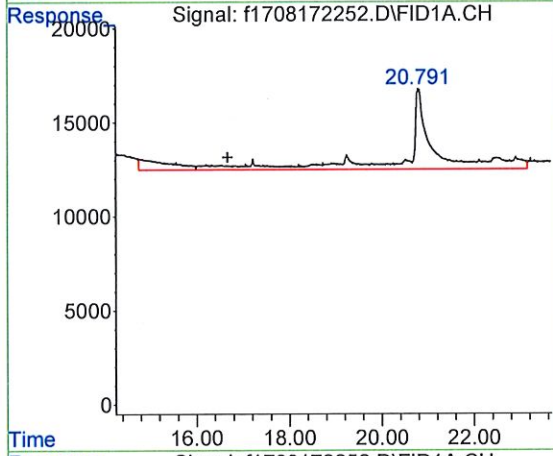
#9 > C8 to C10 Aromatics

R.T.: 7.069 min
 Delta R.T.: 0.000 min
 Response: 27566135
 Conc: 24.07 UG/ML m



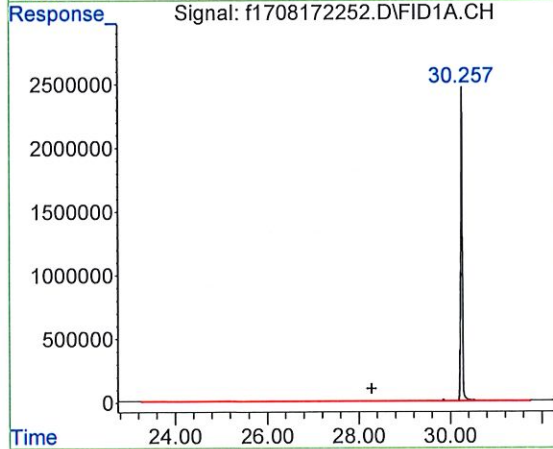
#10 > C10 to C12 Aromatics

R.T.: 11.972 min
 Delta R.T.: 0.000 min
 Response: 6721338
 Conc: 5.87 UG/ML m



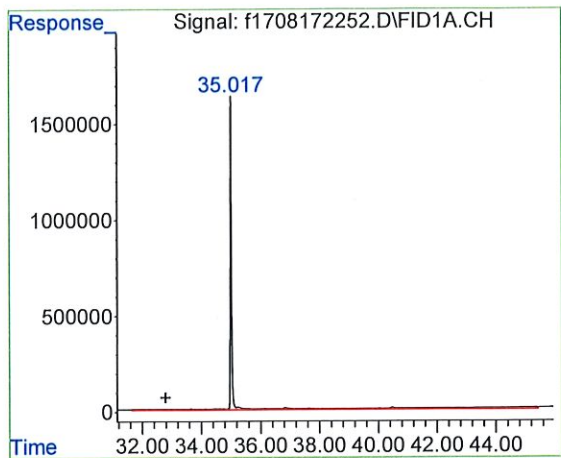
#11 > C12 to C16 Aromatics

R.T.: 16.680 min
 Delta R.T.: 0.000 min
 Response: 2039906
 Conc: 1.78 UG/ML m



#12 > C16 to C21 Aromatics

R.T.: 28.281 min
 Delta R.T.: 0.000 min
 Response: 4238839
 Conc: 3.70 UG/ML m



#13 > C21 to C32 Aromatics

R.T.: 32.785 min
Delta R.T.: 0.000 min
Response: 23633302
Conc: 20.63 UG/ML m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
 Data File : f1708172260.D
 Signal(s) : FID1A.CH
 Acq On : 19 Aug 2022 7:48 am
 Operator : FID17:WR
 Sample : L2240634-02.42,,
 Misc : WG1676467,WG1676456,ICAL18753
 ALS Vial : 30 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Oct 21 17:20:14 2022
 Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH (
 Quant Title : FID Forensics
 QLast Update : Fri Sep 23 15:53:13 2022
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) l 5-alpha-androstane	30.253	61167035	50.000 ug/mLm
System Monitoring Compounds			
3) s d50-Tetracosane	35.010	48645471	48.113 ug/mLm
Spiked Amount 50.000 Range 50 - 130 Recovery = 96.23%			
Target Compounds			
4) h > C8 to C10 Aliphatics	7.069	446712270	387.635 ug/mLm
5) h > C10 to C12 Aliphatics	11.972	142759669	123.880 ug/mlm
6) h > C12 to C16 Aliphatics	16.680	33496124	29.066 UG/MLm
7) h > C16 to C21 Aliphatics	28.281	11600857	10.067 UG/MLm
8) h > C21 to C32 Aliphatics	32.785	23860579	20.705 UG/MLm

SemiQuant Compounds - Not Calibrated on this Instrument

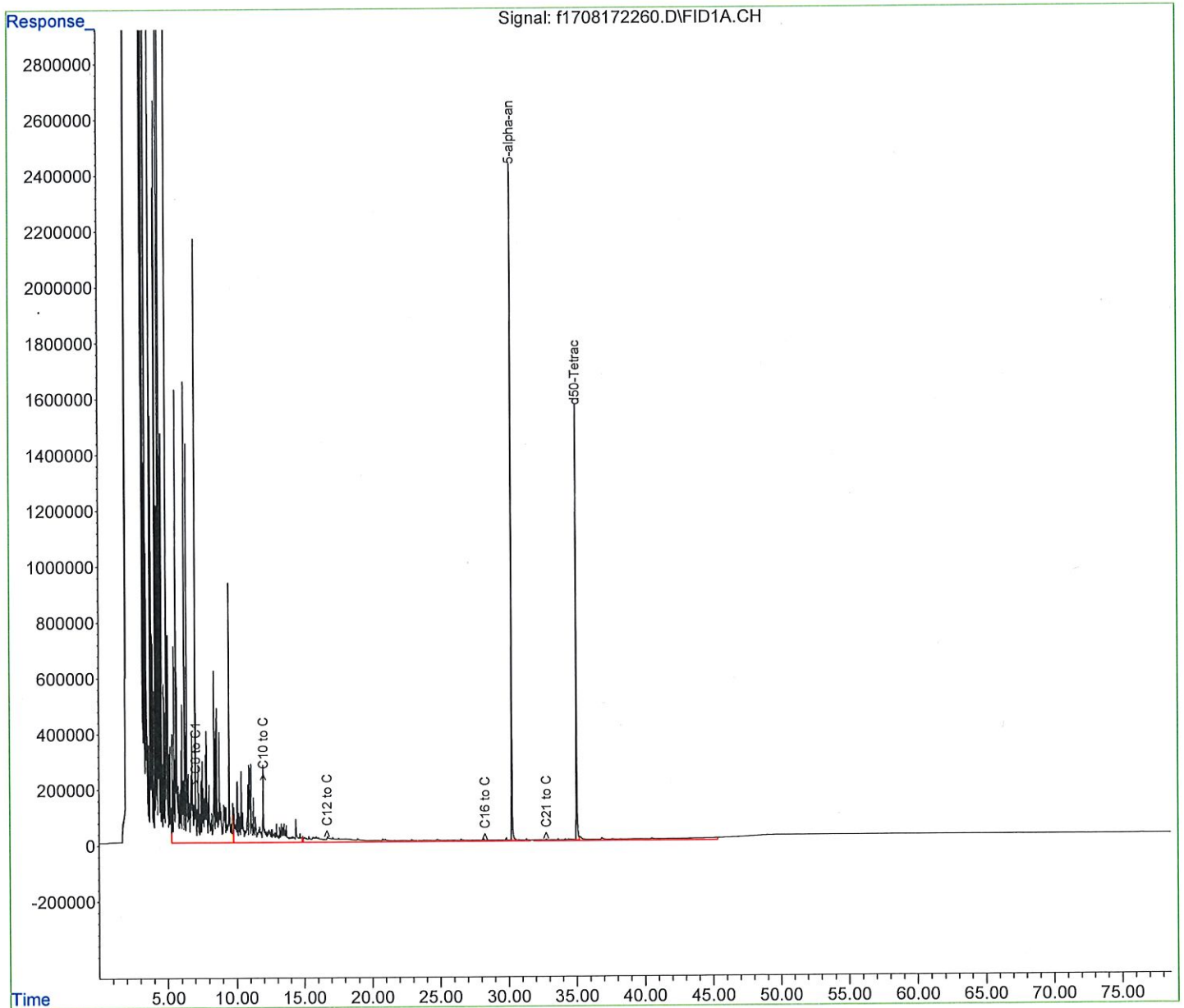
(f)=RT Delta > 1/2 Window (m)=manual int.

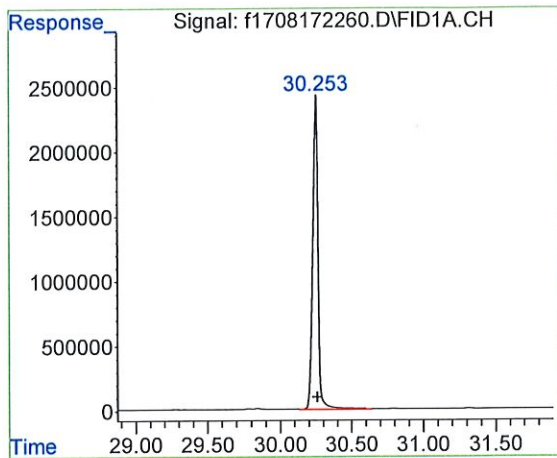
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172260.D
Signal(s) : FID1A.CH
Acq On : 19 Aug 2022 7:48 am
Operator : FID17:WR
Sample : L2240634-02.42,,
Misc : WG1676467,WG1676456,ICAL18753
ALS Vial : 30 Sample Multiplier: 1

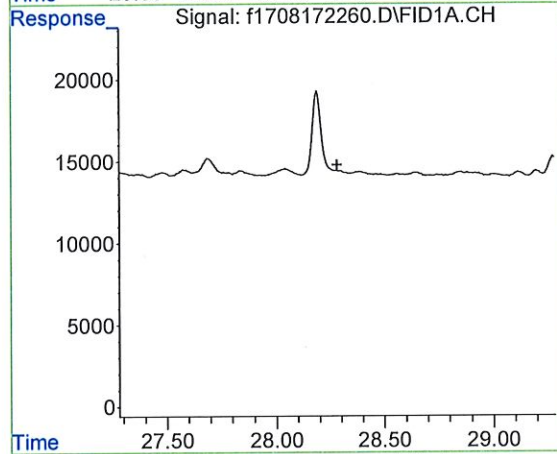
Integration File: autoint1.e
Quant Time: Oct 21 17:20:14 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

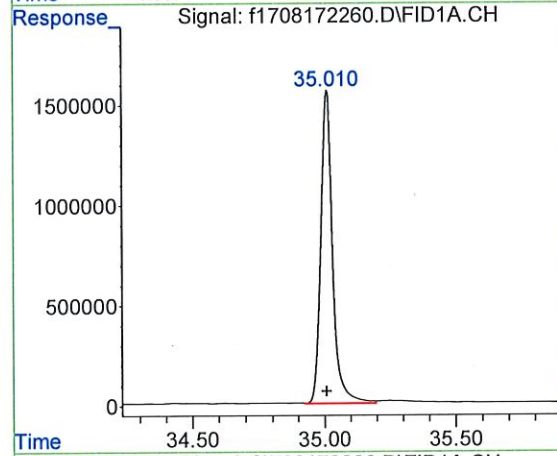




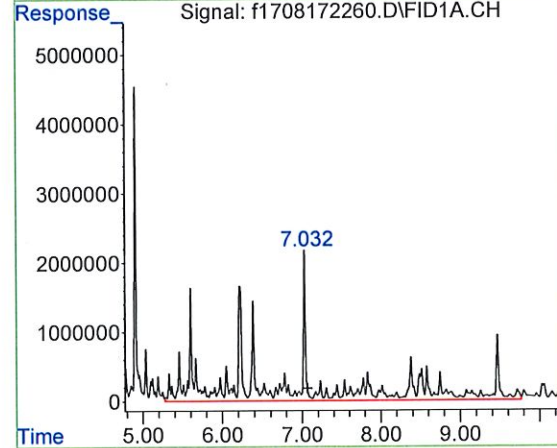
#1 5-alpha-androstane
 R.T.: 30.253 min
 Delta R.T.: -0.003 min
 Response: 61167035
 Conc: 50.00 ug/mL m



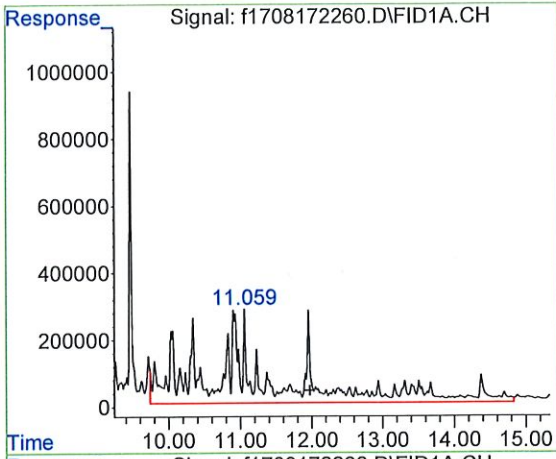
#2 ortho-terphenyl
 R.T.: 0.000 min
 Exp R.T. : 28.281 min
 Response: 0
 Conc: N.D.



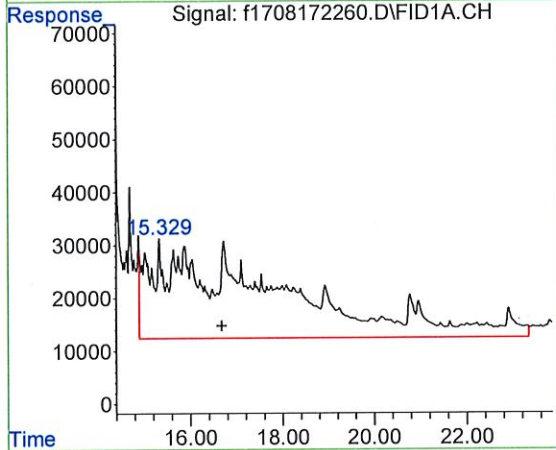
#3 d50-Tetracosane
 R.T.: 35.010 min
 Delta R.T.: 0.004 min
 Response: 48645471
 Conc: 48.11 ug/mL m



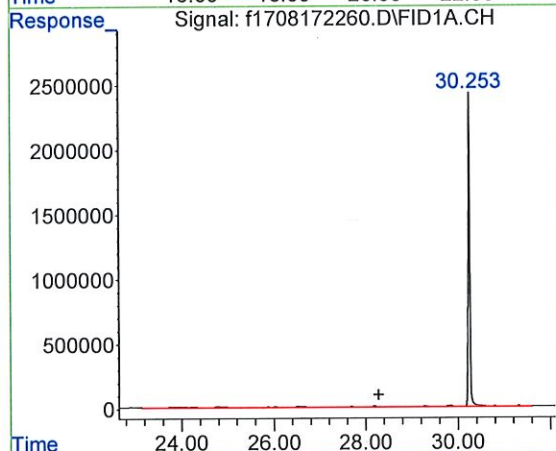
#4 > C8 to C10 Aliphatics
 R.T.: 7.069 min
 Delta R.T.: 0.000 min
 Response: 446712270
 Conc: 387.64 ug/mL m



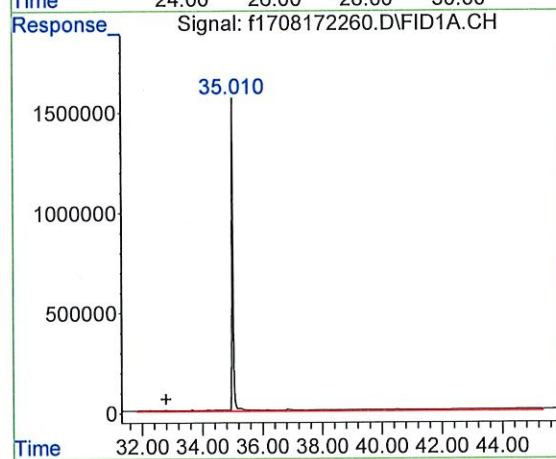
#5 > C10 to C12 Aliphatics
 R.T.: 11.972 min
 Delta R.T.: 0.000 min
 Response: 142759669
 Conc: 123.88 ug/ml m



#6 > C12 to C16 Aliphatics
 R.T.: 16.680 min
 Delta R.T.: 0.000 min
 Response: 33496124
 Conc: 29.07 UG/ML m



#7 > C16 to C21 Aliphatics
 R.T.: 28.281 min
 Delta R.T.: 0.000 min
 Response: 11600857
 Conc: 10.07 UG/ML m



#8 > C21 to C32 Aliphatics
 R.T.: 32.785 min
 Delta R.T.: 0.000 min
 Response: 23860579
 Conc: 20.71 UG/ML m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
 Data File : f1708172262.D
 Signal(s) : FID1A.CH
 Acq On : 19 Aug 2022 9:18 am
 Operator : FID17:WR
 Sample : WG1676456-4,42,,
 Misc : WG1676467,WG1676456,ICAL18753
 ALS Vial : 31 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Oct 22 16:45:43 2022
 Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH (
 Quant Title : FID Forensics
 QLast Update : Fri Sep 23 15:53:13 2022
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	30.253	63639014	50.000 ug/mLm
System Monitoring Compounds			
3) s d50-Tetracosane	35.010	51158551	48.633 ug/mLm
Spiked Amount 50.000 Range 50 - 130 Recovery = 97.27%			
Target Compounds			
4) h > C8 to C10 Aliphatics	7.069	543985759	453.709 ug/mLm
5) h > C10 to C12 Aliphatics	11.972	169891397	141.697 ug/mlm
6) h > C12 to C16 Aliphatics	16.680	37038170	30.892 UG/MLm
7) h > C16 to C21 Aliphatics	28.281	11079278	9.241 UG/MLm
8) h > C21 to C32 Aliphatics	32.785	25033312	20.879 UG/MLm

SemiQuant Compounds - Not Calibrated on this Instrument

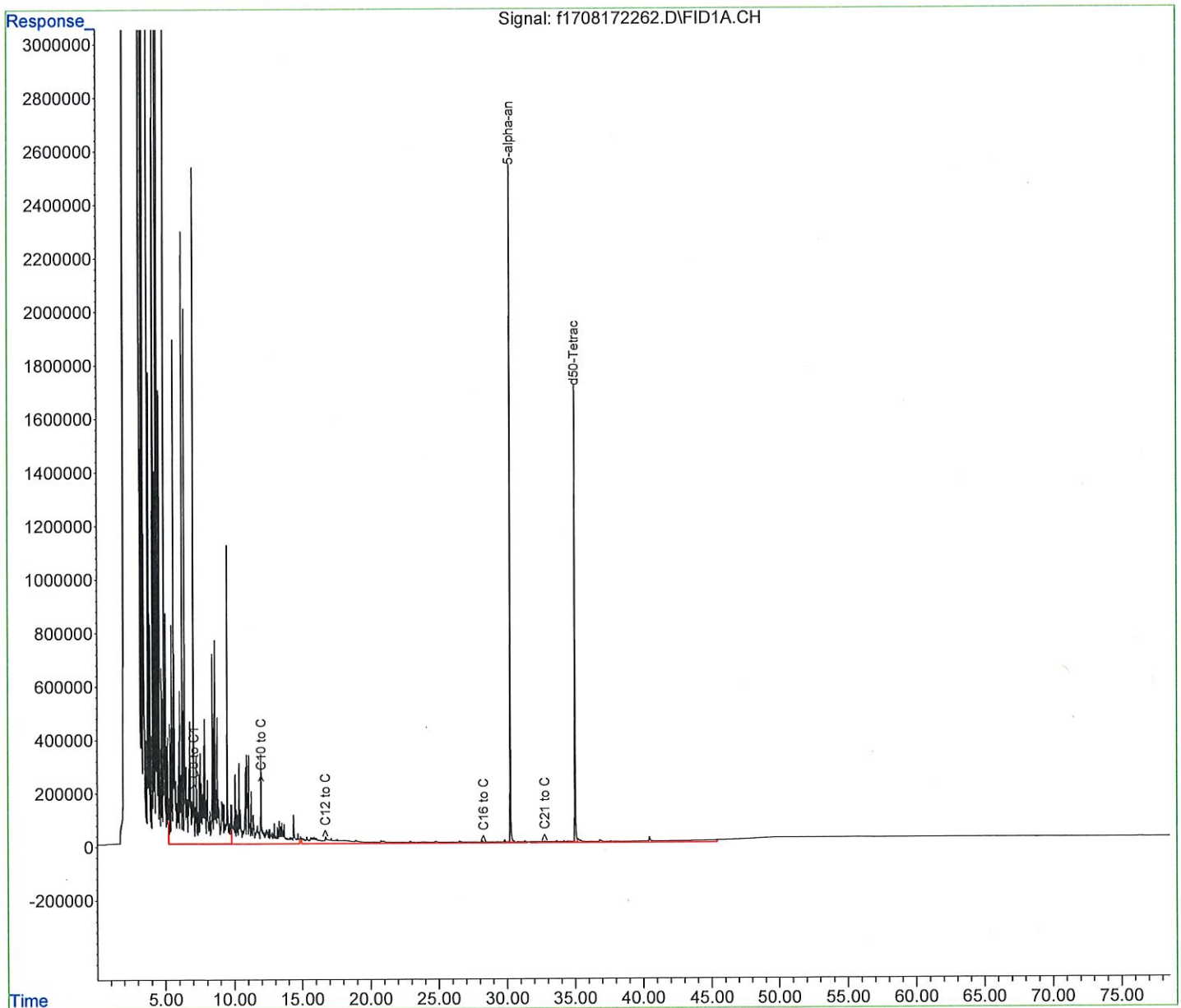
(f)=RT Delta > 1/2 Window (m)=manual int.

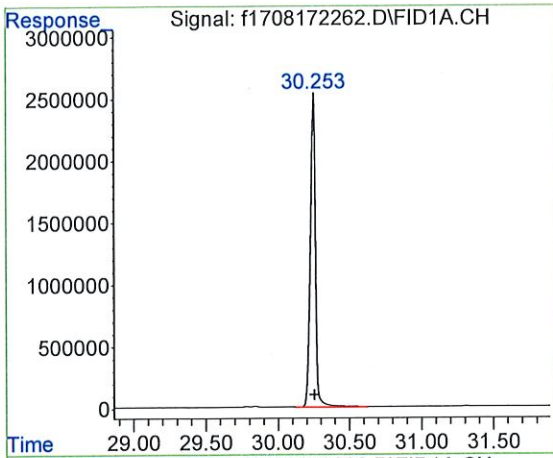
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172262.D
Signal(s) : FID1A.CH
Acq On : 19 Aug 2022 9:18 am
Operator : FID17:WR
Sample : WG1676456-4,42,,
Misc : WG1676467,WG1676456,ICAL18753
ALS Vial : 31 Sample Multiplier: 1

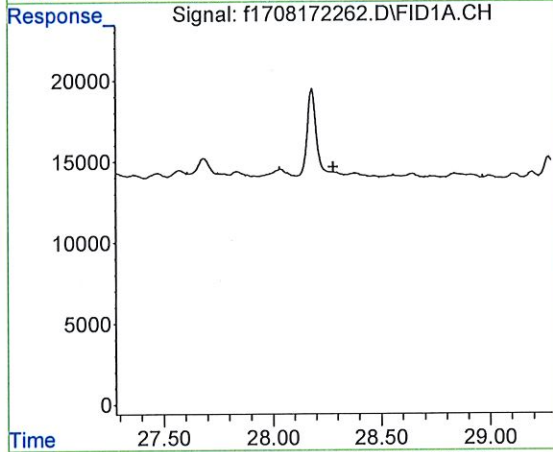
Integration File: autoint1.e
Quant Time: Oct 22 16:45:43 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

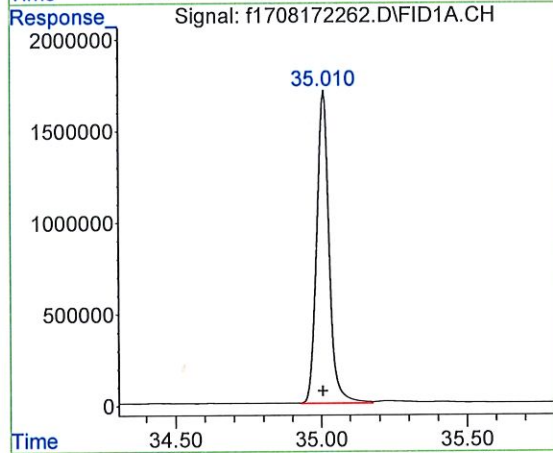




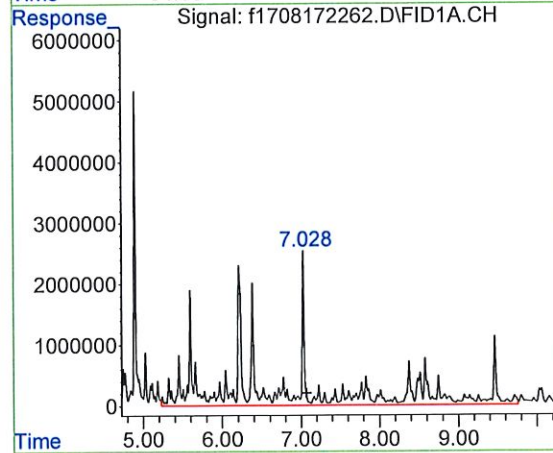
#1 5-alpha-androstane
 R.T.: 30.253 min
 Delta R.T.: -0.004 min
 Response: 63639014
 Conc: 50.00 ug/mL m



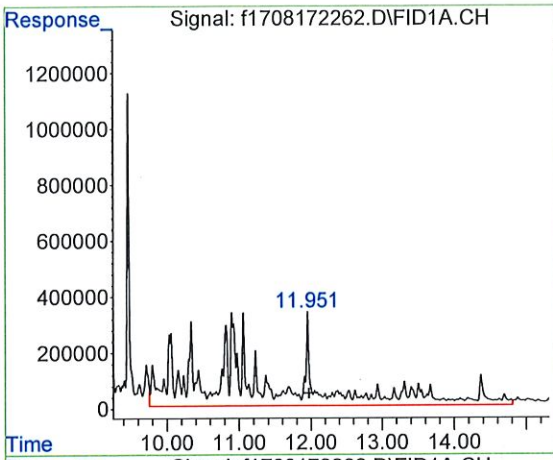
#2 ortho-terphenyl
 R.T.: 0.000 min
 Exp R.T. : 28.281 min
 Response: 0
 Conc: N.D.



#3 d50-Tetracosane
 R.T.: 35.010 min
 Delta R.T.: 0.004 min
 Response: 51158551
 Conc: 48.63 ug/mL m

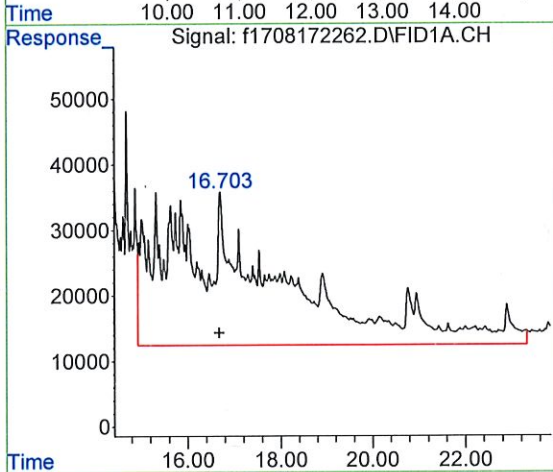


#4 > C8 to C10 Aliphatics
 R.T.: 7.069 min
 Delta R.T.: 0.000 min
 Response: 543985759
 Conc: 453.71 ug/mL m



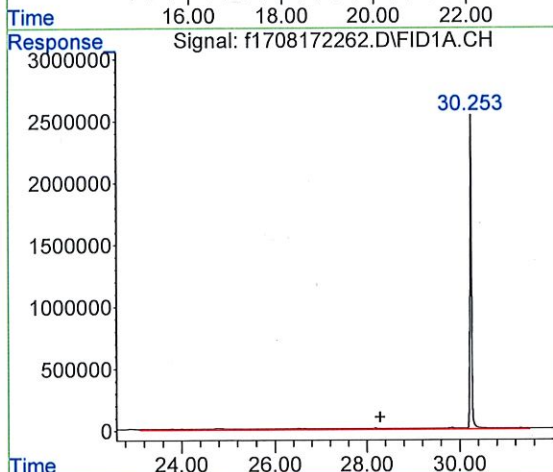
#5 > C10 to C12 Aliphatics

R.T.: 11.972 min
Delta R.T.: 0.000 min
Response: 169891397
Conc: 141.70 ug/ml m



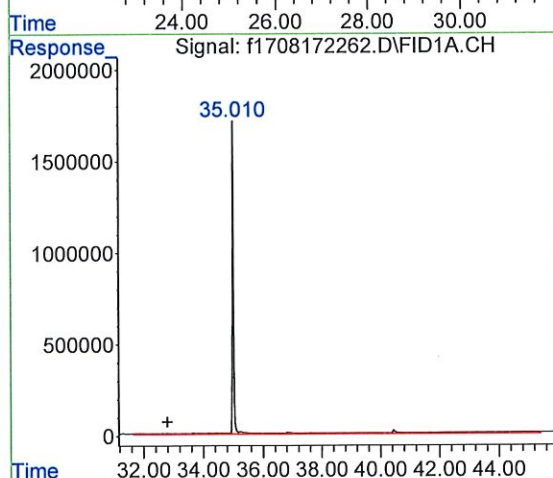
#6 > C12 to C16 Aliphatics

R.T.: 16.680 min
Delta R.T.: 0.000 min
Response: 37038170
Conc: 30.89 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.281 min
Delta R.T.: 0.000 min
Response: 11079278
Conc: 9.24 UG/ML m



#8 > C21 to C32 Aliphatics

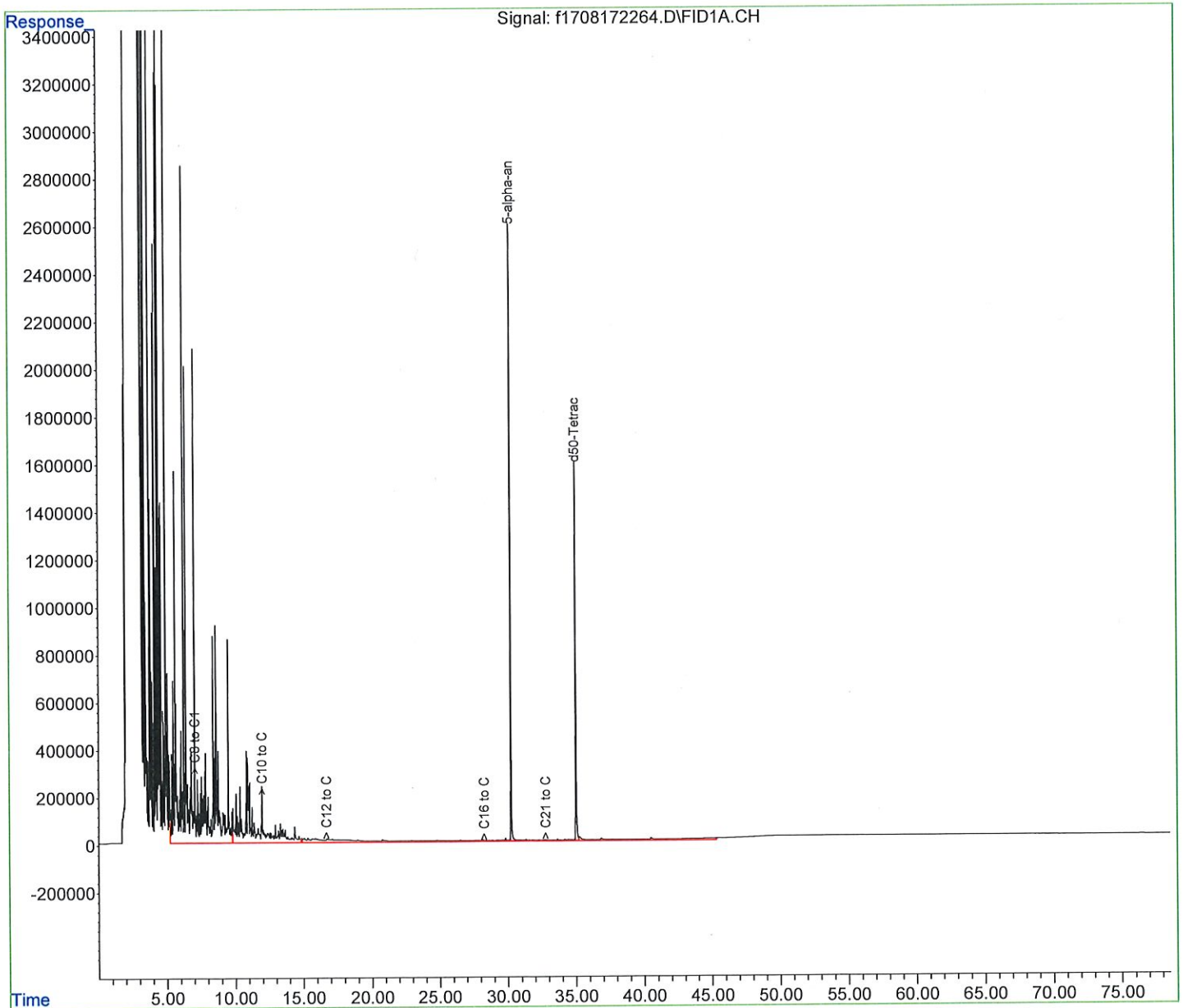
R.T.: 32.785 min
Delta R.T.: 0.000 min
Response: 25033312
Conc: 20.88 UG/ML m

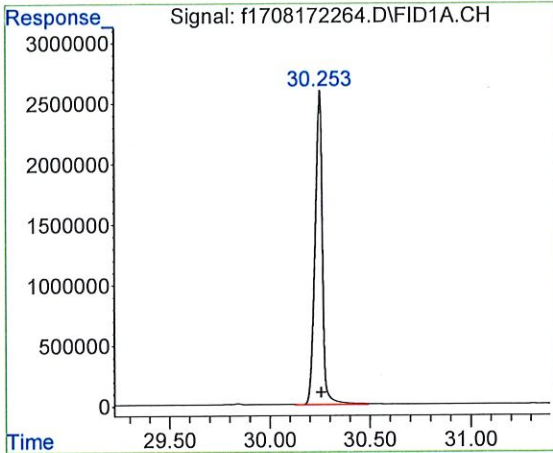
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172264.D
Signal(s) : FID1A.CH
Acq On : 19 Aug 2022 10:49 am
Operator : FID17:WR
Sample : L2240634-05,42,,
Misc : WG1676467,WG1676456,ICAL18753
ALS Vial : 32 Sample Multiplier: 1

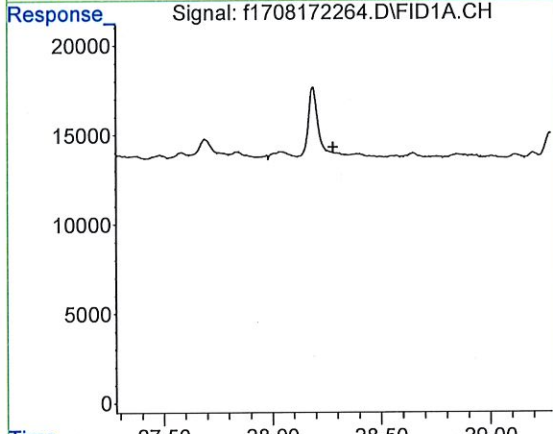
Integration File: autoint1.e
Quant Time: Oct 22 16:55:34 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

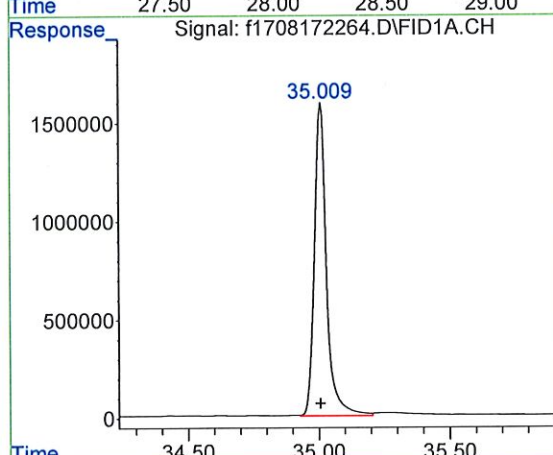




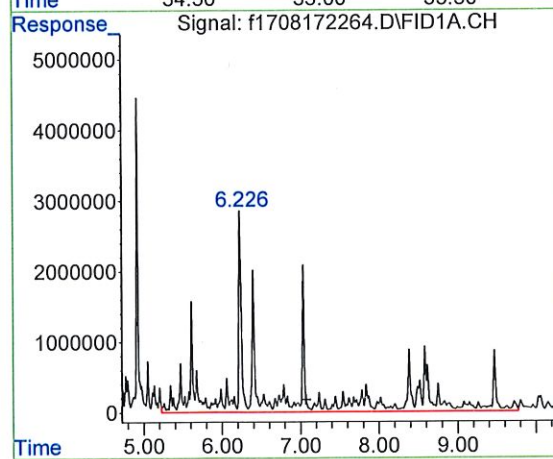
#1 5-alpha-androstane
 R.T.: 30.253 min
 Delta R.T.: -0.004 min
 Response: 66028062
 Conc: 50.00 ug/mL m



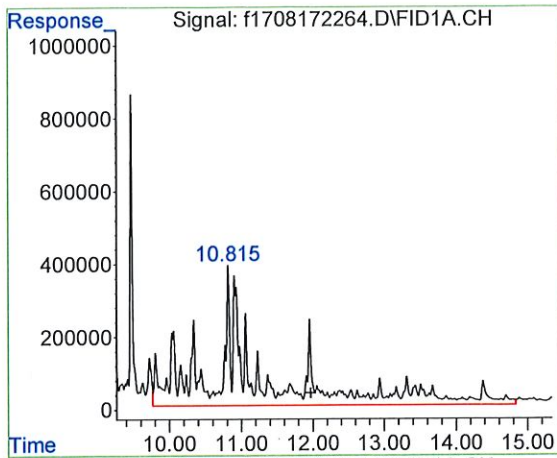
#2 ortho-terphenyl
 R.T.: 0.000 min
 Exp R.T. : 28.281 min
 Response: 0
 Conc: N.D.



#3 d50-Tetracosane
 R.T.: 35.009 min
 Delta R.T.: 0.003 min
 Response: 50960795
 Conc: 46.69 ug/mL m

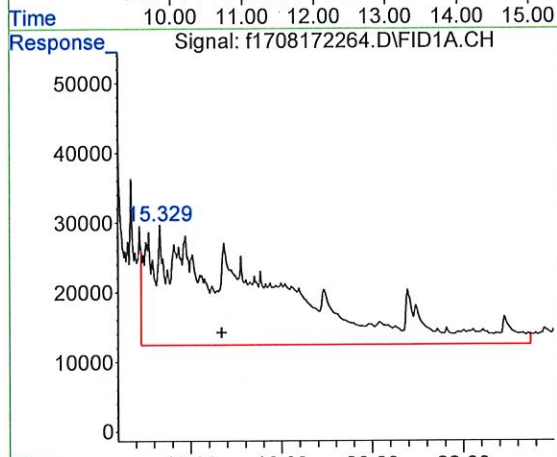


#4 > C8 to C10 Aliphatics
 R.T.: 7.069 min
 Delta R.T.: 0.000 min
 Response: 492283944
 Conc: 395.73 ug/mL m



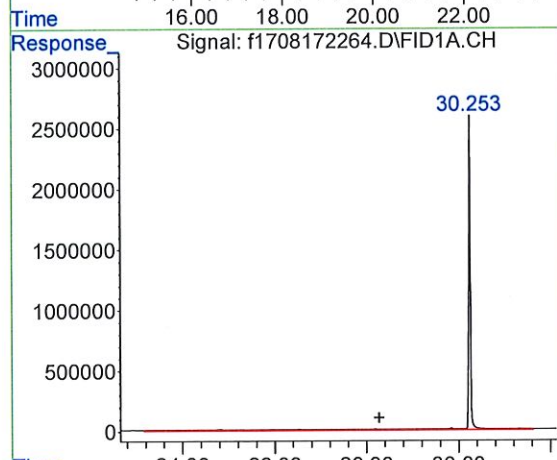
#5 > C10 to C12 Aliphatics

R.T.: 11.972 min
 Delta R.T.: 0.000 min
 Response: 146658507
 Conc: 117.89 ug/ml m



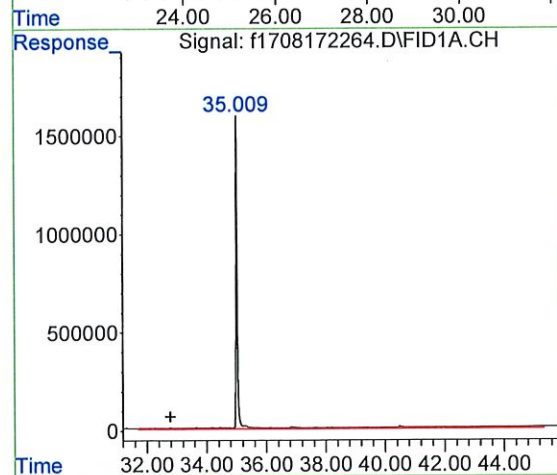
#6 > C12 to C16 Aliphatics

R.T.: 16.680 min
 Delta R.T.: 0.000 min
 Response: 30173126
 Conc: 24.26 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.281 min
 Delta R.T.: 0.000 min
 Response: 9278829
 Conc: 7.46 UG/ML m



#8 > C21 to C32 Aliphatics

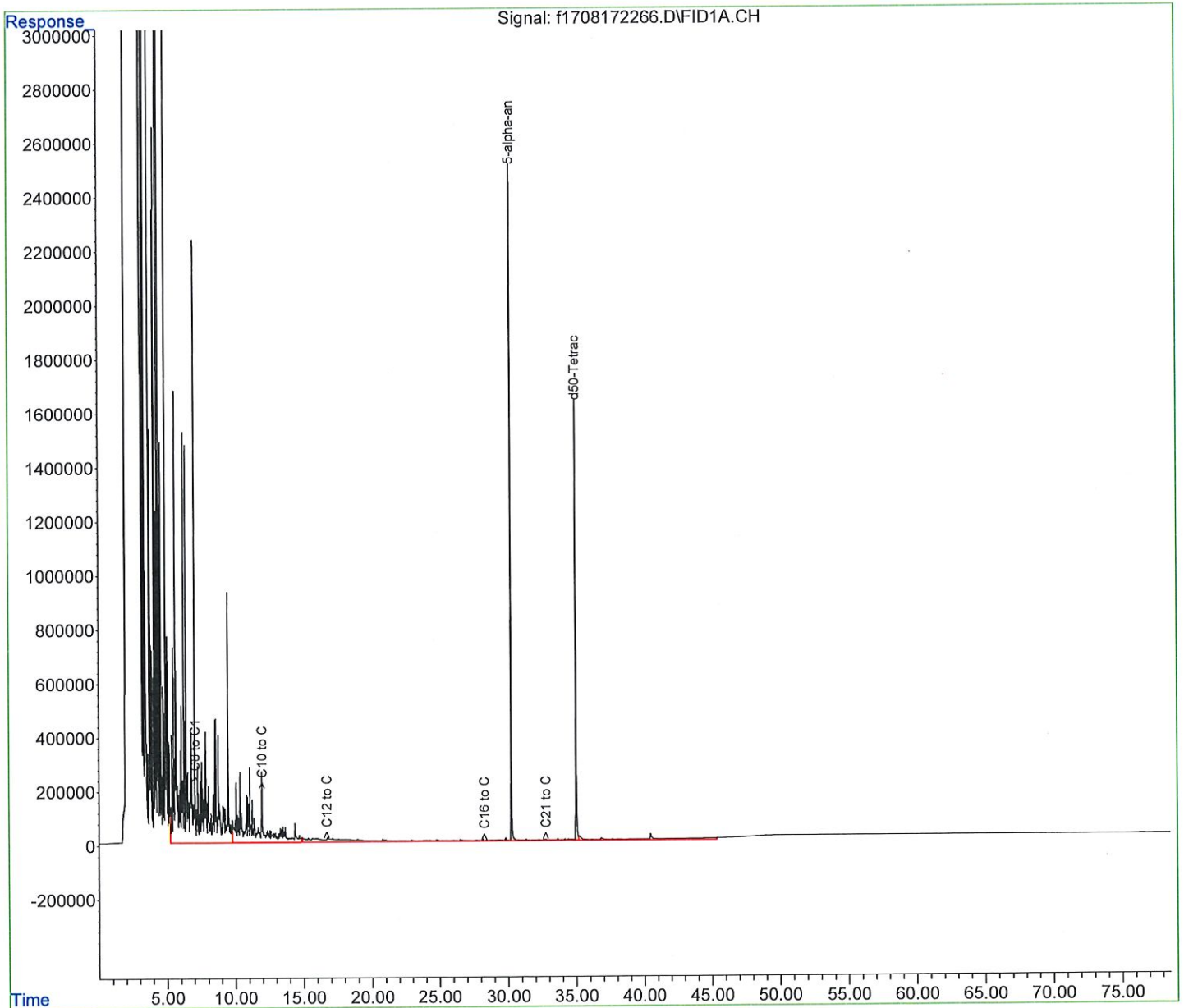
R.T.: 32.785 min
 Delta R.T.: 0.000 min
 Response: 23160922
 Conc: 18.62 UG/ML m

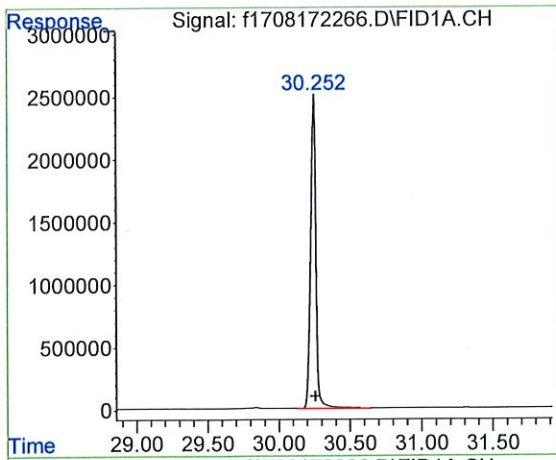
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172266.D
Signal(s) : FID1A.CH
Acq On : 19 Aug 2022 12:21 pm
Operator : FID17:WR
Sample : L2240634-08,42,,
Misc : WG1676467,WG1676456,ICAL18753
ALS Vial : 33 Sample Multiplier: 1

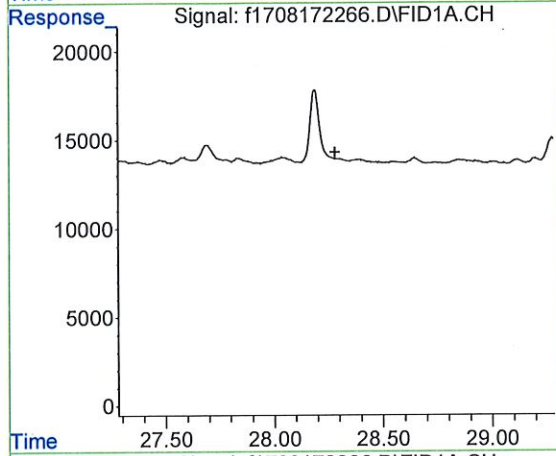
Integration File: autoint1.e
Quant Time: Oct 22 17:03:41 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

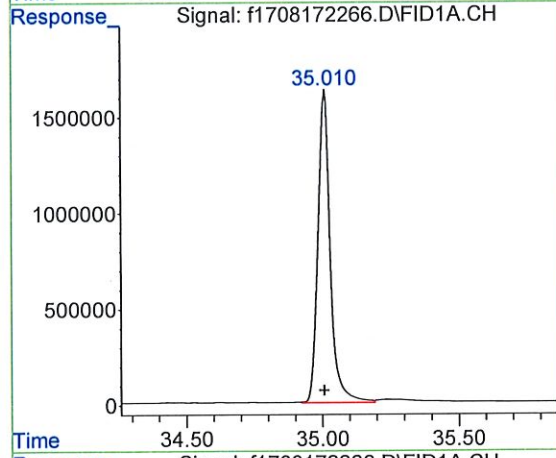




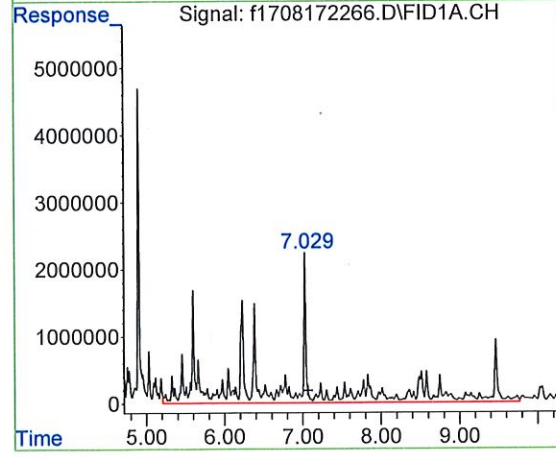
#1 5-alpha-androstane
 R.T.: 30.252 min
 Delta R.T.: -0.005 min
 Response: 63680700
 Conc: 50.00 ug/mL m



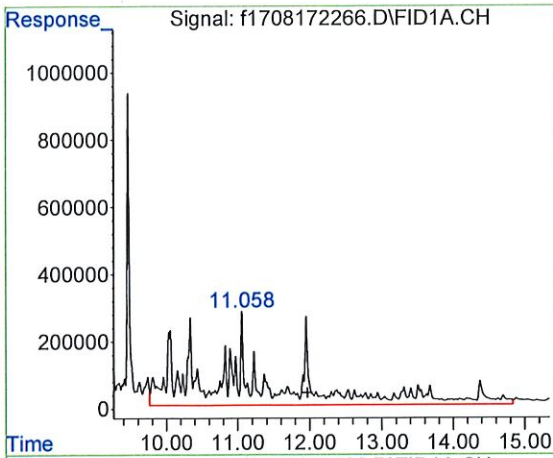
#2 ortho-terphenyl
 R.T.: 0.000 min
 Exp R.T. : 28.281 min
 Response: 0
 Conc: N.D.



#3 d50-Tetracosane
 R.T.: 35.010 min
 Delta R.T.: 0.004 min
 Response: 50818704
 Conc: 48.28 ug/mL m

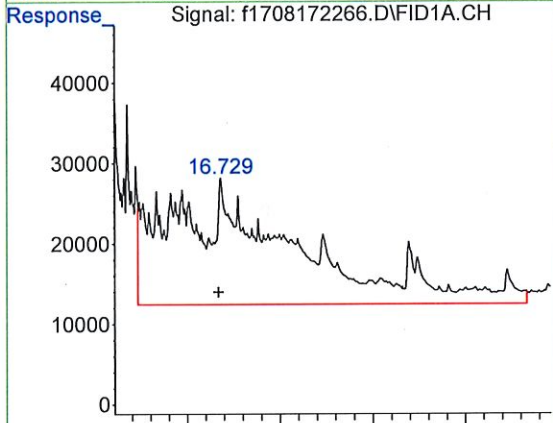


#4 > C8 to C10 Aliphatics
 R.T.: 7.069 min
 Delta R.T.: 0.000 min
 Response: 452285967
 Conc: 376.98 ug/mL m



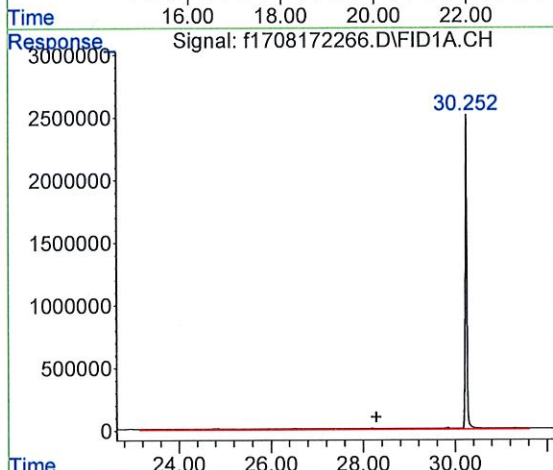
#5 > C10 to C12 Aliphatics

R.T.: 11.972 min
 Delta R.T.: 0.000 min
 Response: 129249544
 Conc: 107.73 ug/ml m



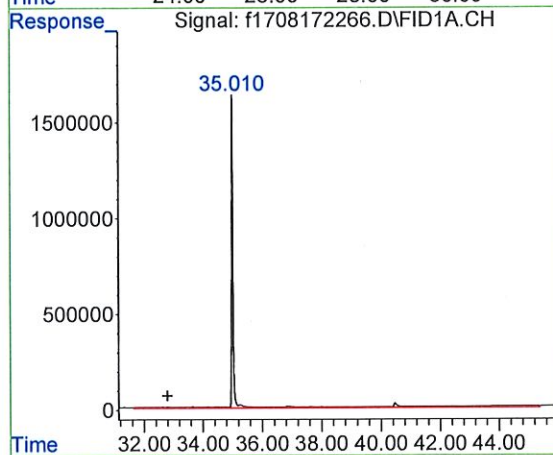
#6 > C12 to C16 Aliphatics

R.T.: 16.680 min
 Delta R.T.: 0.000 min
 Response: 29034071
 Conc: 24.20 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.281 min
 Delta R.T.: 0.000 min
 Response: 9145590
 Conc: 7.62 UG/ML m



#8 > C21 to C32 Aliphatics

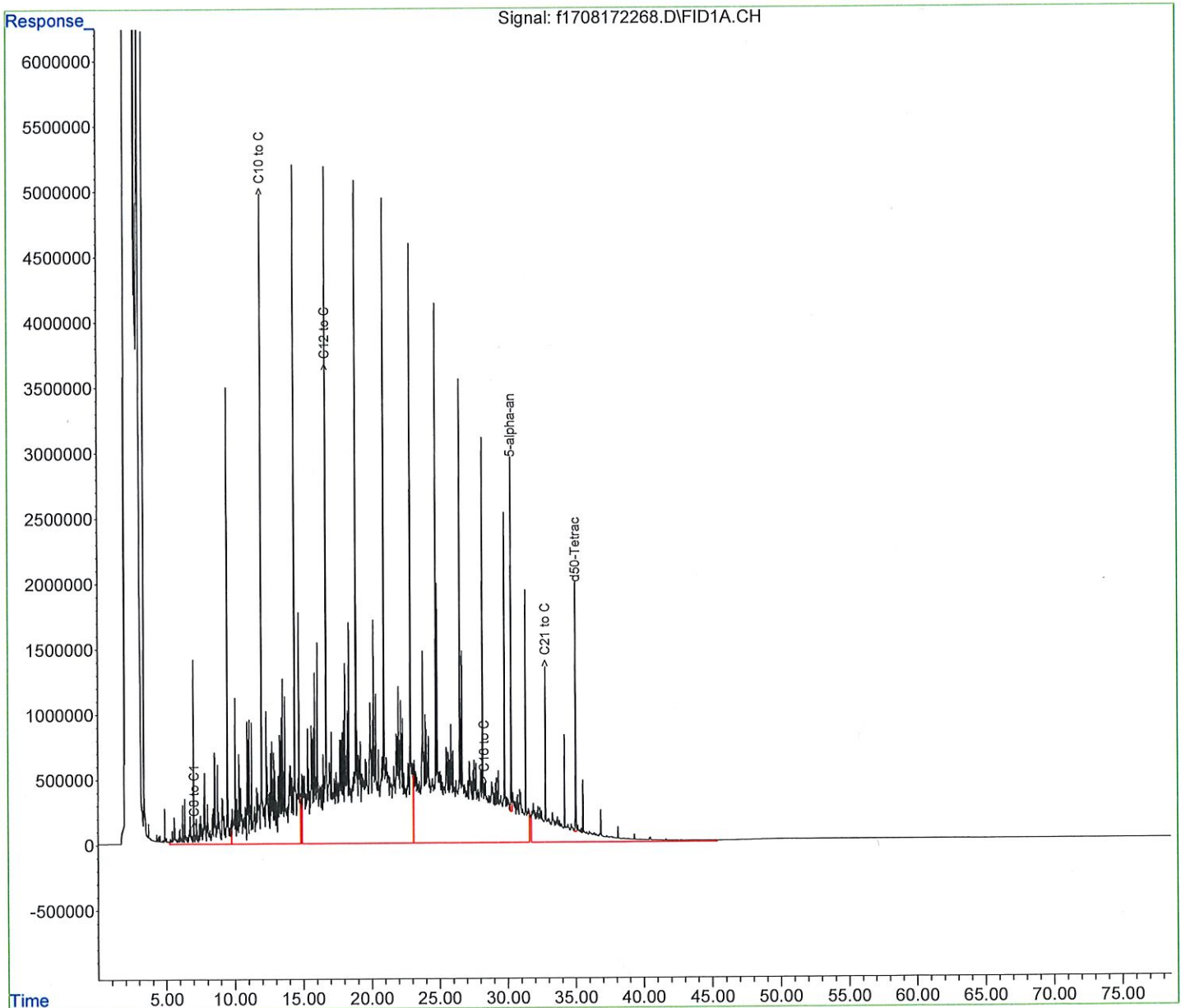
R.T.: 32.785 min
 Delta R.T.: 0.000 min
 Response: 23869912
 Conc: 19.90 UG/ML m

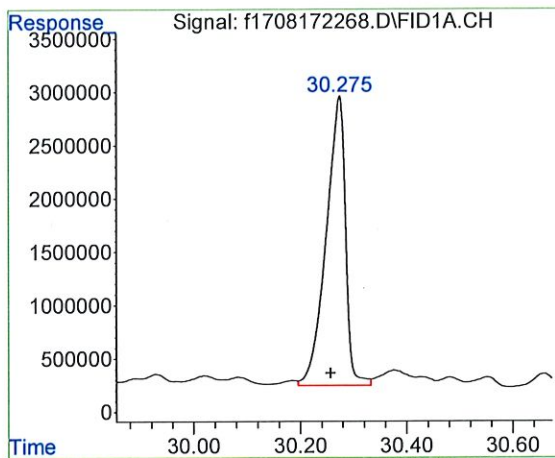
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172268.D
Signal(s) : FID1A.CH
Acq On : 19 Aug 2022 13:52 pm
Operator : FID17:WR
Sample : L2240634-11,42,,
Misc : WG1676467,WG1676456,ICAL18753
ALS Vial : 34 Sample Multiplier: 1

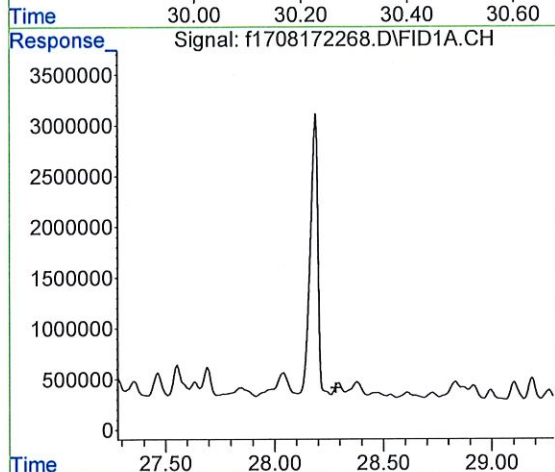
Integration File: autoint1.e
Quant Time: Oct 22 17:13:08 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

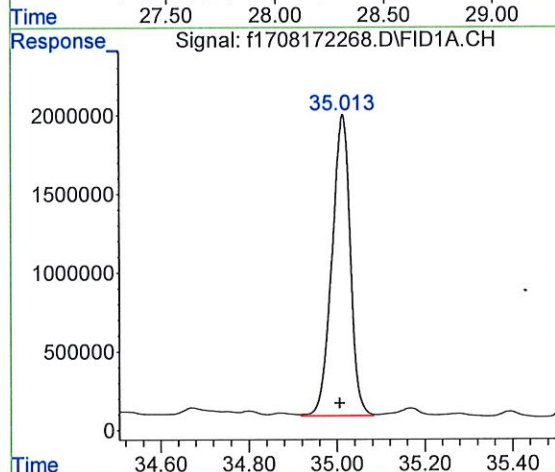




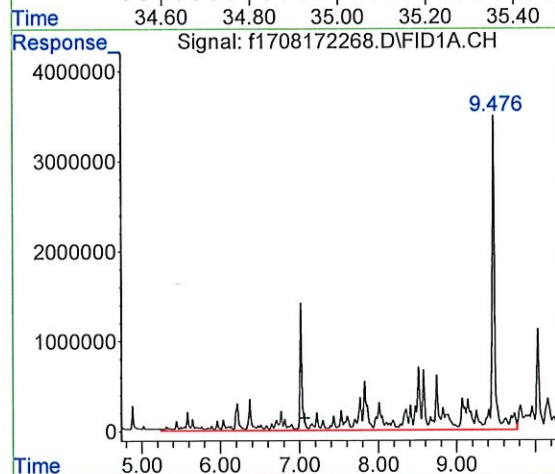
#1 5-alpha-androstane
 R.T.: 30.275 min
 Delta R.T.: 0.018 min
 Response: 68769343
 Conc: 50.00 ug/mL m



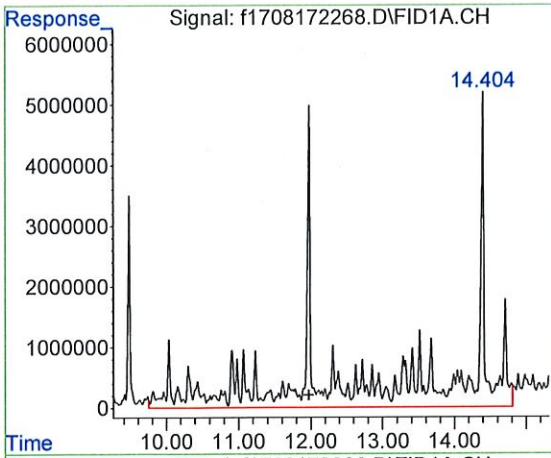
#2 ortho-terphenyl
 R.T.: 0.000 min
 Exp R.T. : 28.281 min
 Response: 0
 Conc: N.D.



#3 d50-Tetracosane
 R.T.: 35.013 min
 Delta R.T.: 0.007 min
 Response: 55198276
 Conc: 48.56 ug/mL m

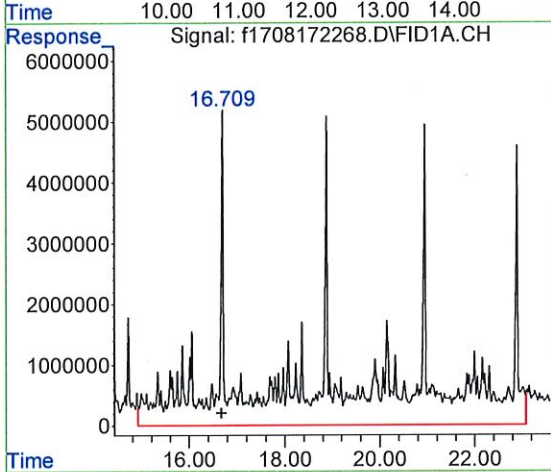


#4 > C8 to C10 Aliphatics
 R.T.: 7.069 min
 Delta R.T.: 0.000 min
 Response: 348108102
 Conc: 268.68 ug/mL m



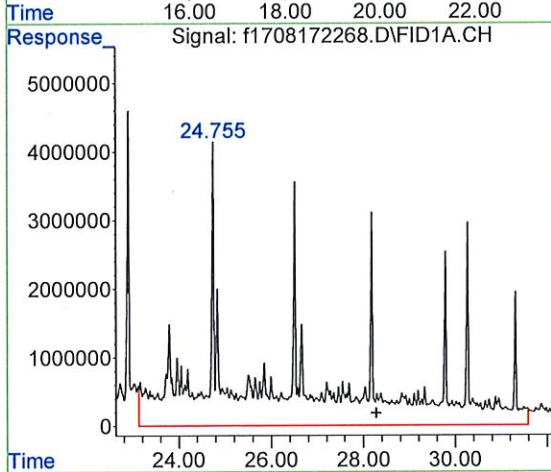
#5 > C10 to C12 Aliphatics

R.T.: 11.972 min
 Delta R.T.: 0.000 min
 Response: 1177427463
 Conc: 908.77 ug/ml m



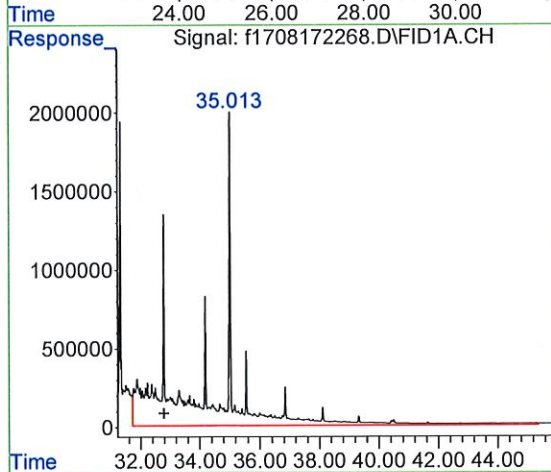
#6 > C12 to C16 Aliphatics

R.T.: 16.680 min
 Delta R.T.: 0.000 min
 Response: 2953853288
 Conc: 2279.85 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.281 min
 Delta R.T.: 0.000 min
 Response: 2420916324
 Conc: 1868.52 UG/ML m



#8 > C21 to C32 Aliphatics

R.T.: 32.785 min
 Delta R.T.: 0.000 min
 Response: 505923626
 Conc: 390.48 UG/ML m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
 Data File : f1708172270.D
 Signal(s) : FID1A.CH
 Acq On : 19 Aug 2022 15:24 pm
 Operator : FID17:WR
 Sample : L2240634-14,42,,
 Misc : WG1676467,WG1676456,ICAL18753
 ALS Vial : 35 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Oct 22 17:25:54 2022
 Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
 Quant Title : FID Forensics
 QLast Update : Fri Sep 23 15:53:13 2022
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	30.280	71347060	50.000 ug/mLm
System Monitoring Compounds			
3) s d50-Tetracosane	35.011	55068639	46.694 ug/mLm
Spiked Amount 50.000 Range 50 - 130 Recovery = 93.39%			
Target Compounds			
4) h > C8 to C10 Aliphatics	7.069	473685715	352.393 ug/mLm
5) h > C10 to C12 Aliphatics	11.972	918284796	683.147 ug/mlm
6) h > C12 to C16 Aliphatics	16.680	2947264608	2192.583 UG/MLm
7) h > C16 to C21 Aliphatics	28.281	3199675265	2380.361 UG/MLm
8) h > C21 to C32 Aliphatics	32.785	546954534	406.900 UG/MLm

SemiQuant Compounds - Not Calibrated on this Instrument

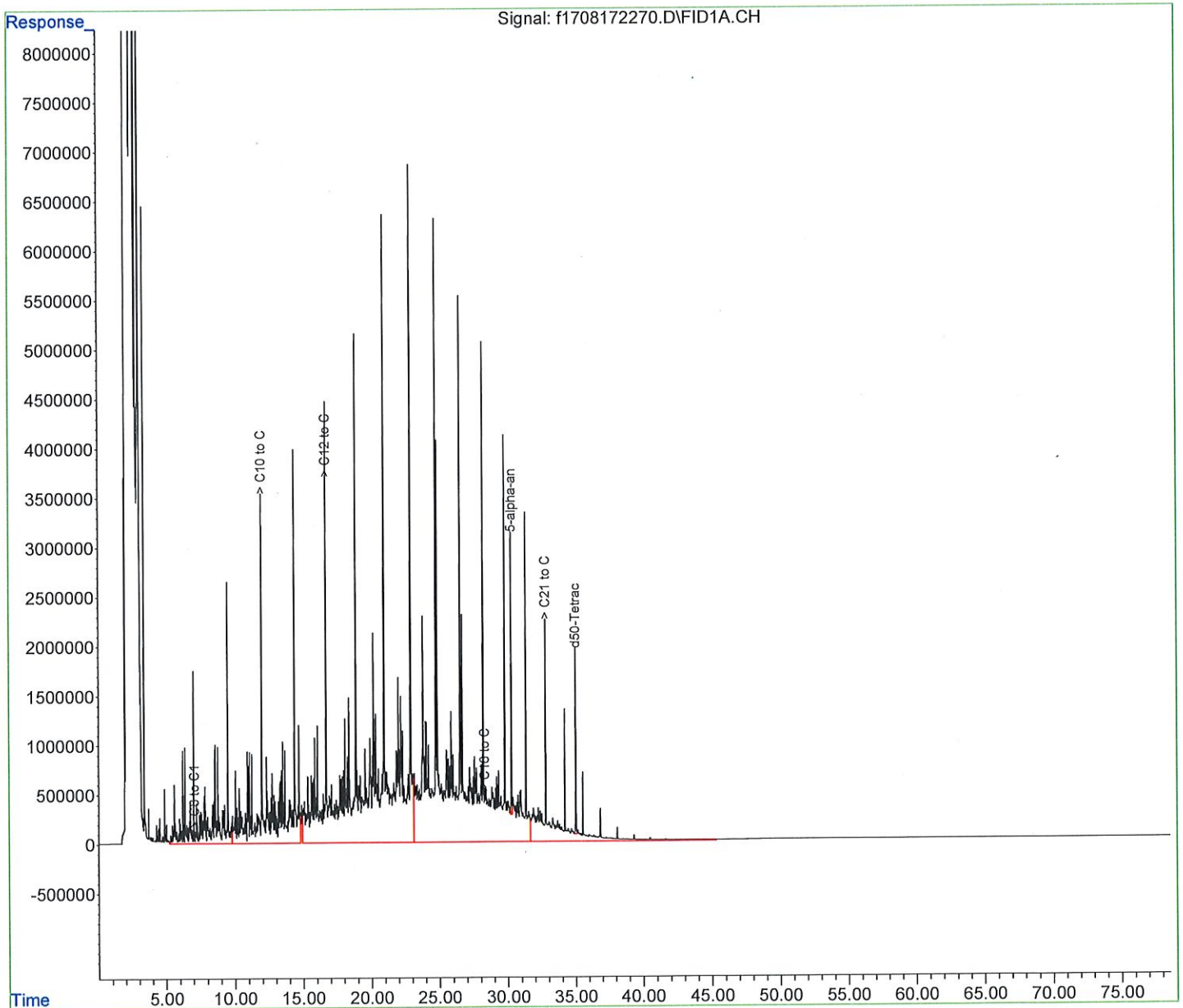
(f)=RT Delta > 1/2 Window (m)=manual int.

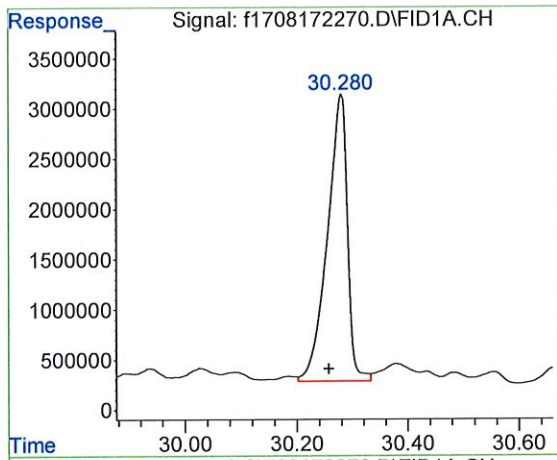
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172270.D
Signal(s) : FID1A.CH
Acq On : 19 Aug 2022 15:24 pm
Operator : FID17:WR
Sample : L2240634-14,42,,
Misc : WG1676467,WG1676456,ICAL18753
ALS Vial : 35 Sample Multiplier: 1

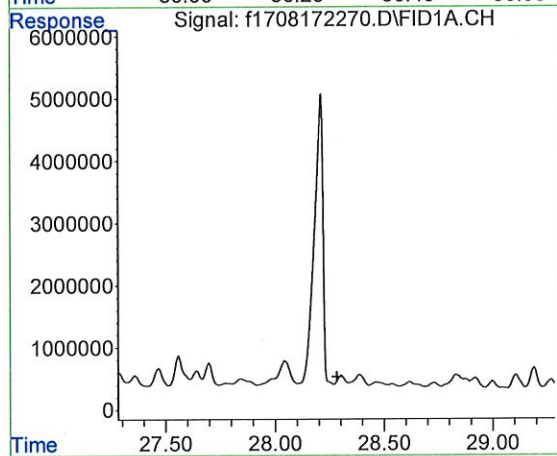
Integration File: autoint1.e
Quant Time: Oct 22 17:25:54 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

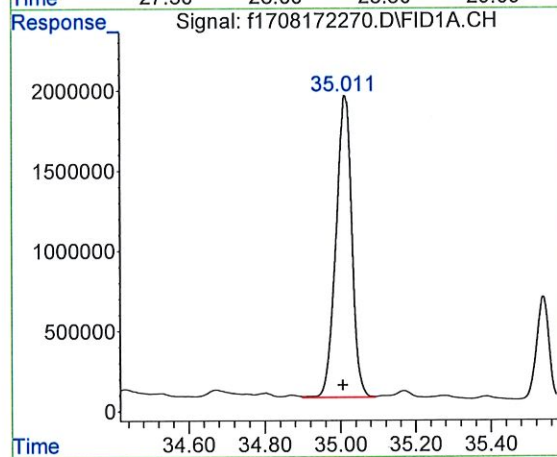




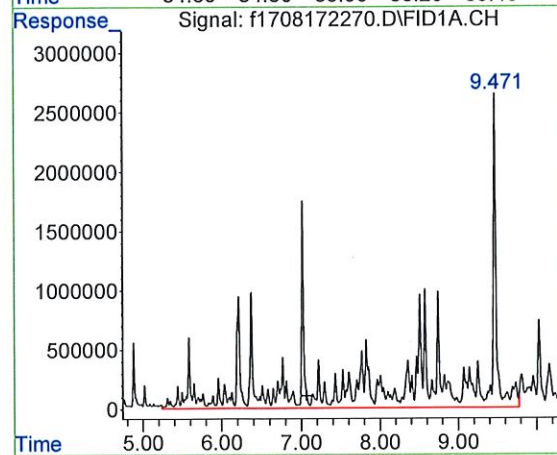
#1 5-alpha-androstane
 R.T.: 30.280 min
 Delta R.T.: 0.023 min
 Response: 71347060
 Conc: 50.00 ug/mL m



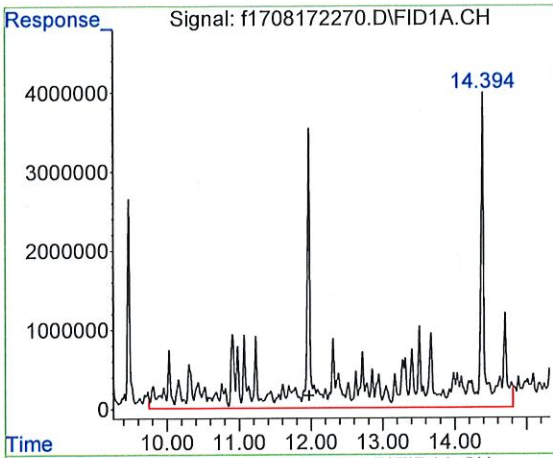
#2 ortho-terphenyl
 R.T.: 0.000 min
 Exp R.T. : 28.281 min
 Response: 0
 Conc: N.D.



#3 d50-Tetracosane
 R.T.: 35.011 min
 Delta R.T.: 0.005 min
 Response: 55068639
 Conc: 46.69 ug/mL m

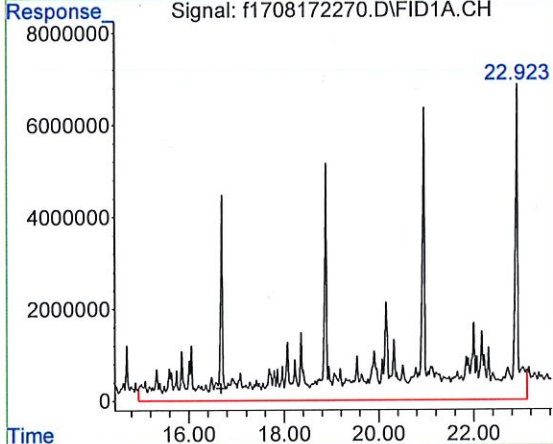


#4 > C8 to C10 Aliphatics
 R.T.: 7.069 min
 Delta R.T.: 0.000 min
 Response: 473685715
 Conc: 352.39 ug/mL m



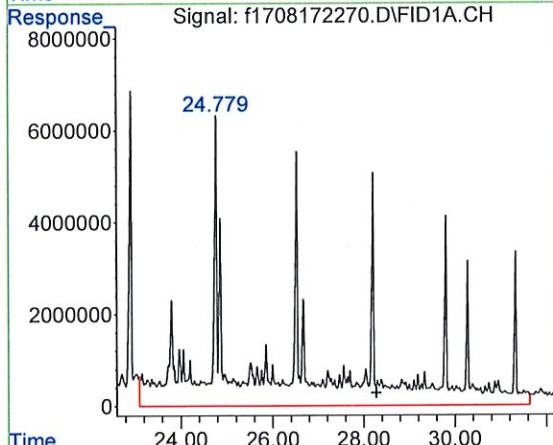
#5 > C10 to C12 Aliphatics

R.T.: 11.972 min
 Delta R.T.: 0.000 min
 Response: 918284796
 Conc: 683.15 ug/ml m



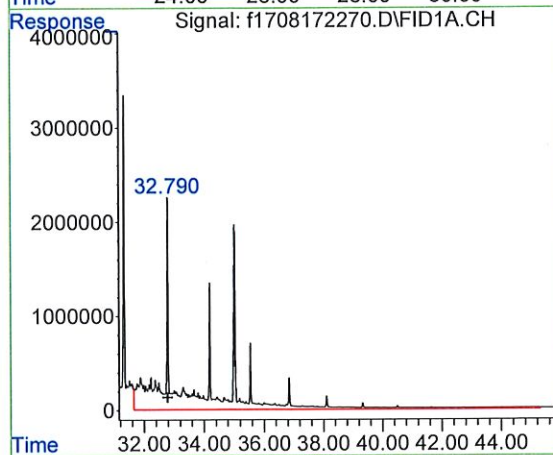
#6 > C12 to C16 Aliphatics

R.T.: 16.680 min
 Delta R.T.: 0.000 min
 Response: 2947264608
 Conc: 2192.58 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.281 min
 Delta R.T.: 0.000 min
 Response: 3199675265
 Conc: 2380.36 UG/ML m



#8 > C21 to C32 Aliphatics

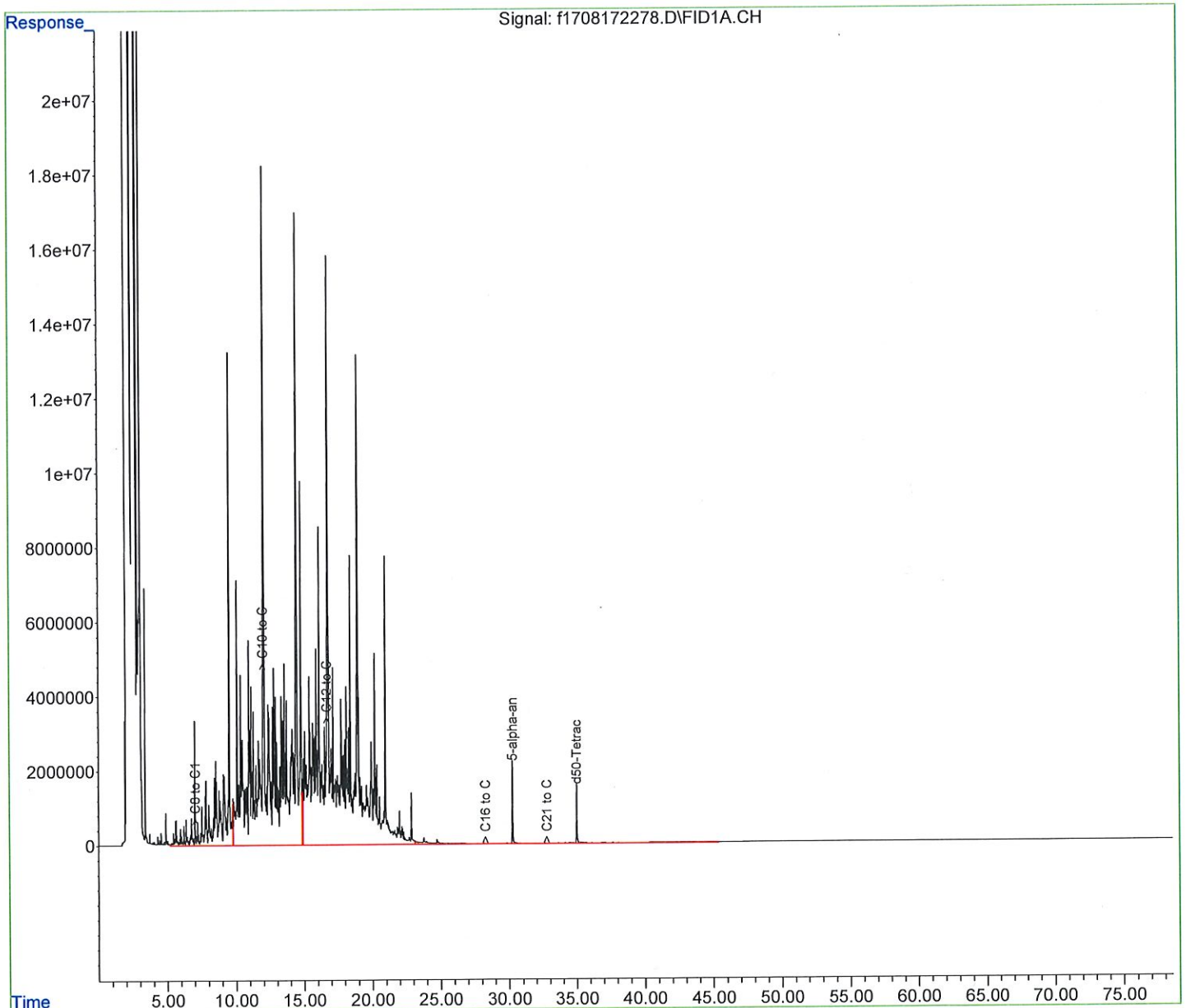
R.T.: 32.785 min
 Delta R.T.: 0.000 min
 Response: 546954534
 Conc: 406.90 UG/ML m

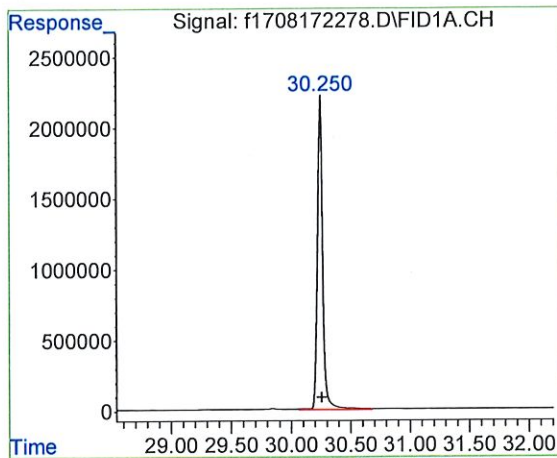
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172278.D
Signal(s) : FID1A.CH
Acq On : 19 Aug 2022 21:29 pm
Operator : FID17:WR
Sample : L2240634-17,42,,
Misc : WG1676467,WG1676456,ICAL18753
ALS Vial : 39 Sample Multiplier: 1

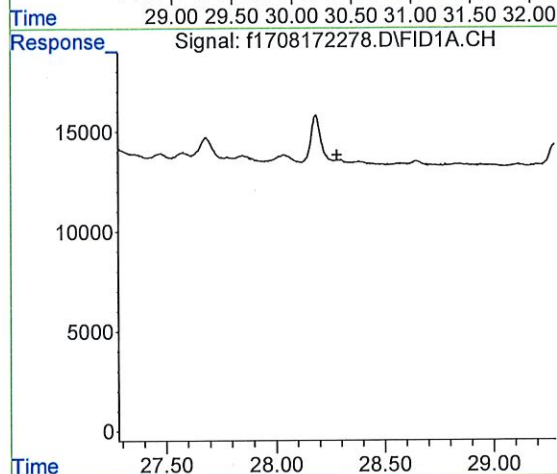
Integration File: autoint1.e
Quant Time: Oct 22 17:45:02 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

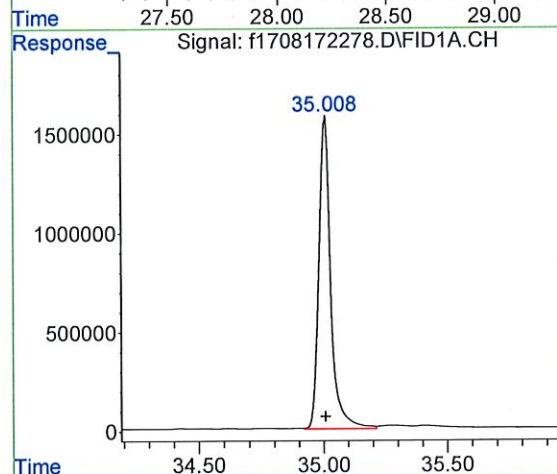




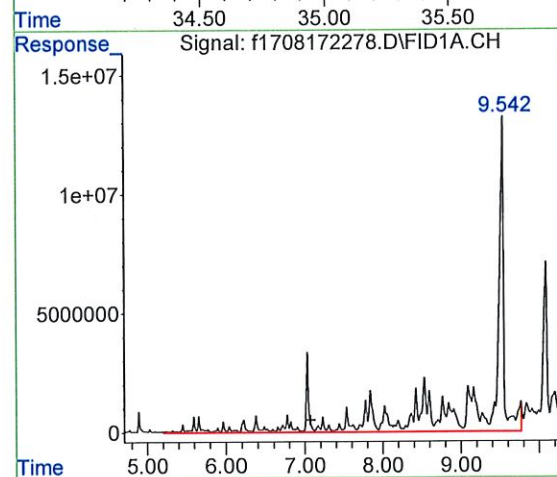
#1 5-alpha-androstane
 R.T.: 30.250 min
 Delta R.T.: -0.007 min
 Response: 66264060
 Conc: 50.00 ug/mL m



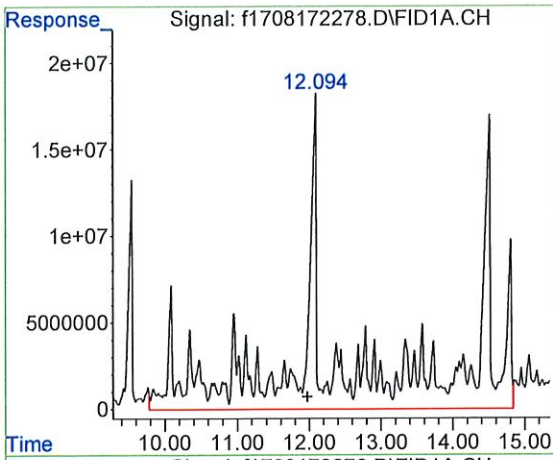
#2 ortho-terphenyl
 R.T.: 0.000 min
 Exp R.T. : 28.281 min
 Response: 0
 Conc: N.D.



#3 d50-Tetracosane
 R.T.: 35.008 min
 Delta R.T.: 0.001 min
 Response: 51828863
 Conc: 47.32 ug/mL m

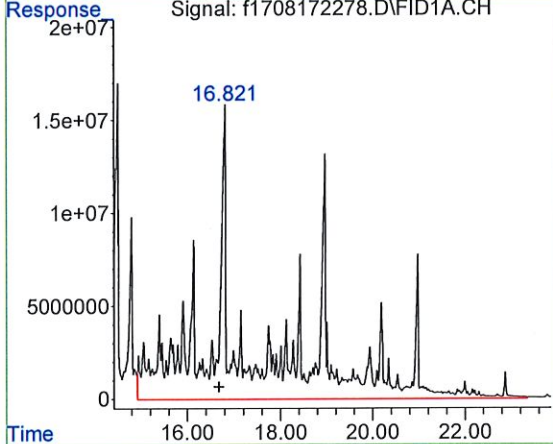


#4 > C8 to C10 Aliphatics
 R.T.: 7.069 min
 Delta R.T.: 0.000 min
 Response: 1510386093
 Conc: 1209.83 ug/mL m



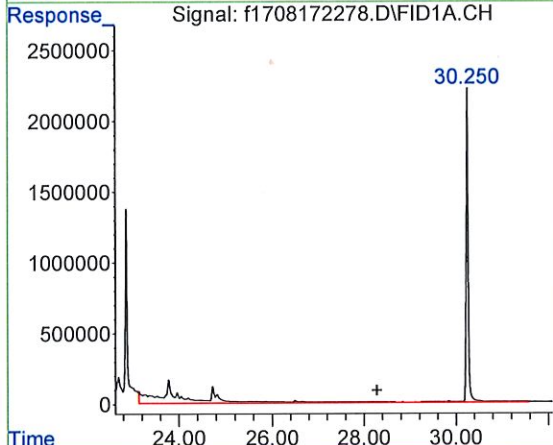
#5 > C10 to C12 Aliphatics

R.T.: 11.972 min
 Delta R.T.: 0.000 min
 Response: 6956599866
 Conc: 5572.27 ug/ml m



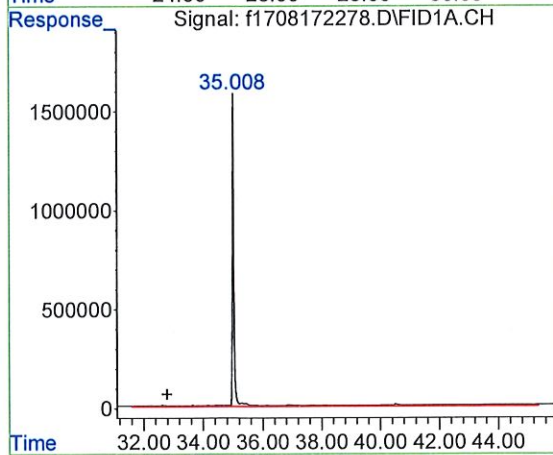
#6 > C12 to C16 Aliphatics

R.T.: 16.680 min
 Delta R.T.: 0.000 min
 Response: 7882540532
 Conc: 6313.95 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.281 min
 Delta R.T.: 0.000 min
 Response: 57722154
 Conc: 46.24 UG/ML m



#8 > C21 to C32 Aliphatics

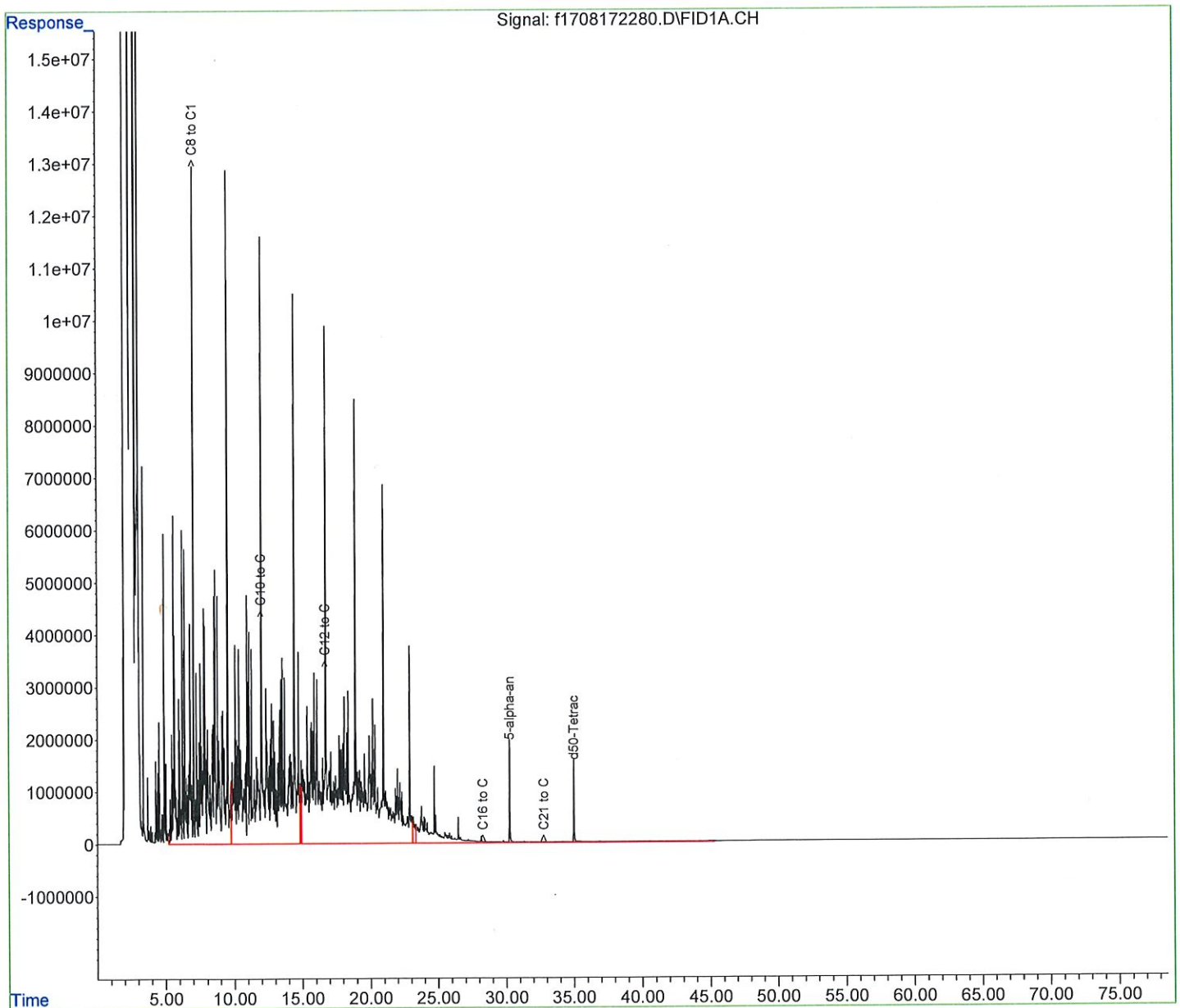
R.T.: 32.785 min
 Delta R.T.: 0.000 min
 Response: 23221356
 Conc: 18.60 UG/ML m

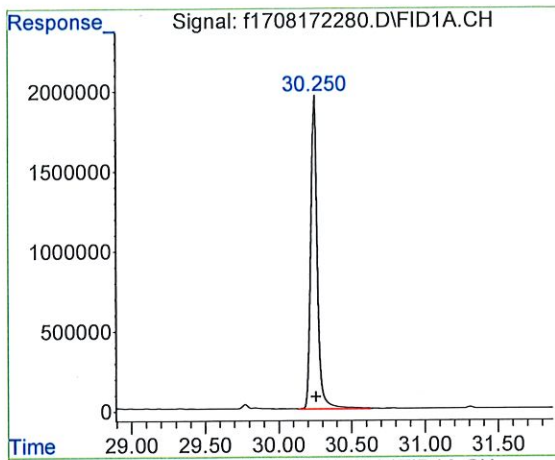
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708172280.D
Signal(s) : FID1A.CH
Acq On : 19 Aug 2022 23:00 pm
Operator : FID17:WR
Sample : L2240634-20,42,,
Misc : WG1676467,WG1676456,ICAL18753
ALS Vial : 40 Sample Multiplier: 1

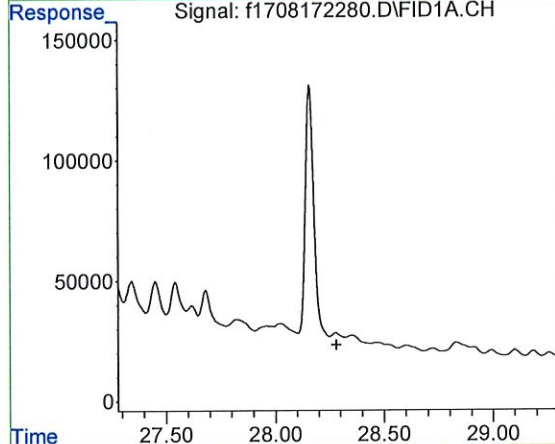
Integration File: autoint1.e
Quant Time: Oct 22 17:53:55 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

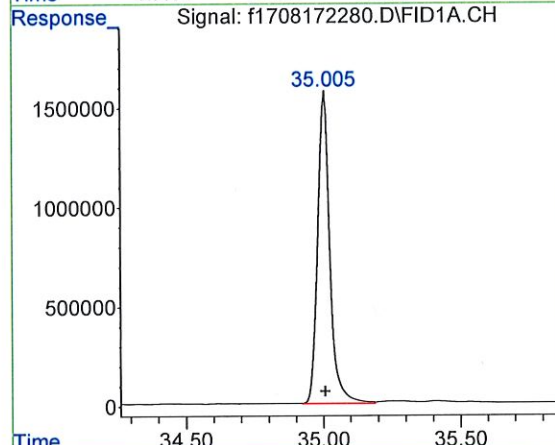




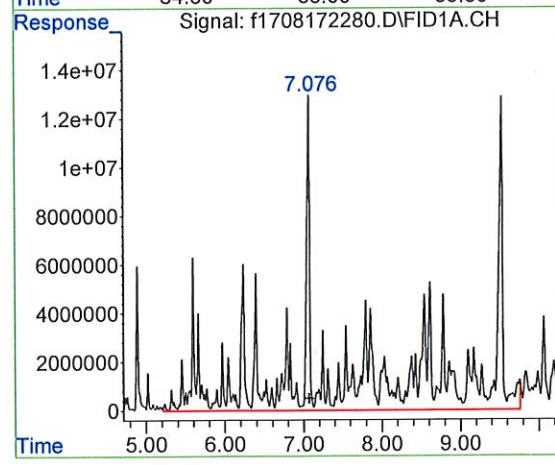
#1 5-alpha-androstane
 R.T.: 30.250 min
 Delta R.T.: -0.006 min
 Response: 61578399
 Conc: 50.00 ug/mL m



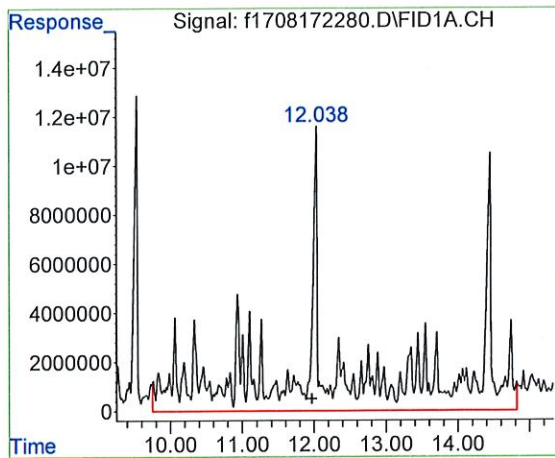
#2 ortho-terphenyl
 R.T.: 0.000 min
 Exp R.T. : 28.281 min
 Response: 0
 Conc: N.D.



#3 d50-Tetracosane
 R.T.: 35.005 min
 Delta R.T.: -0.002 min
 Response: 48822991
 Conc: 47.97 ug/mL m

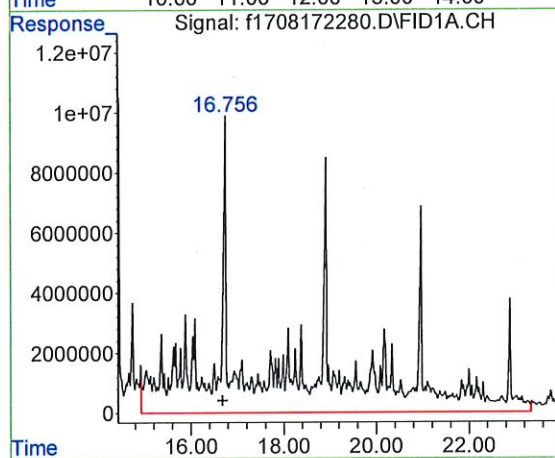


#4 > C8 to C10 Aliphatics
 R.T.: 7.069 min
 Delta R.T.: 0.000 min
 Response: 3516785025
 Conc: 3031.31 ug/mL m



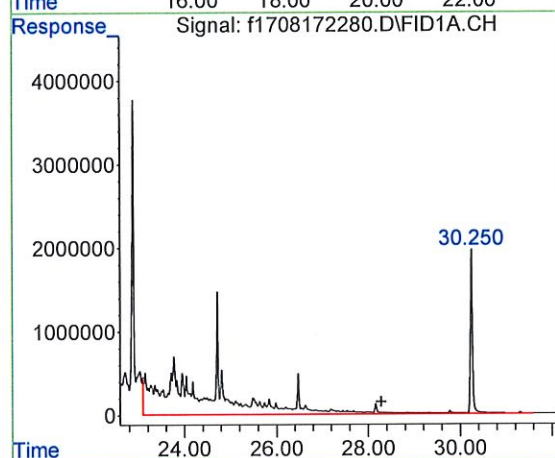
#5 > C10 to C12 Aliphatics

R.T.: 11.972 min
 Delta R.T.: 0.000 min
 Response: 4186414087
 Conc: 3608.50 ug/ml m



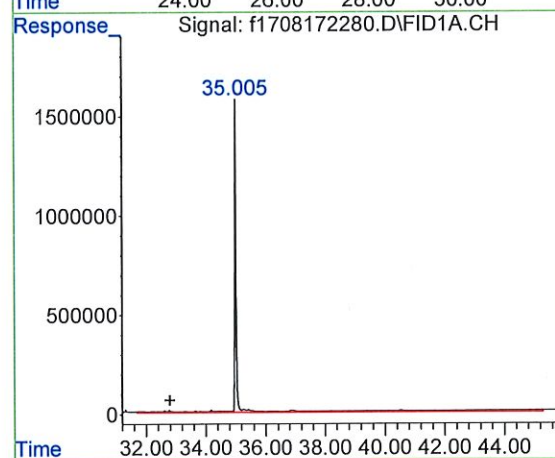
#6 > C12 to C16 Aliphatics

R.T.: 16.680 min
 Delta R.T.: 0.000 min
 Response: 5446394917
 Conc: 4694.55 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.281 min
 Delta R.T.: 0.000 min
 Response: 483664196
 Conc: 416.90 UG/ML m



#8 > C21 to C32 Aliphatics

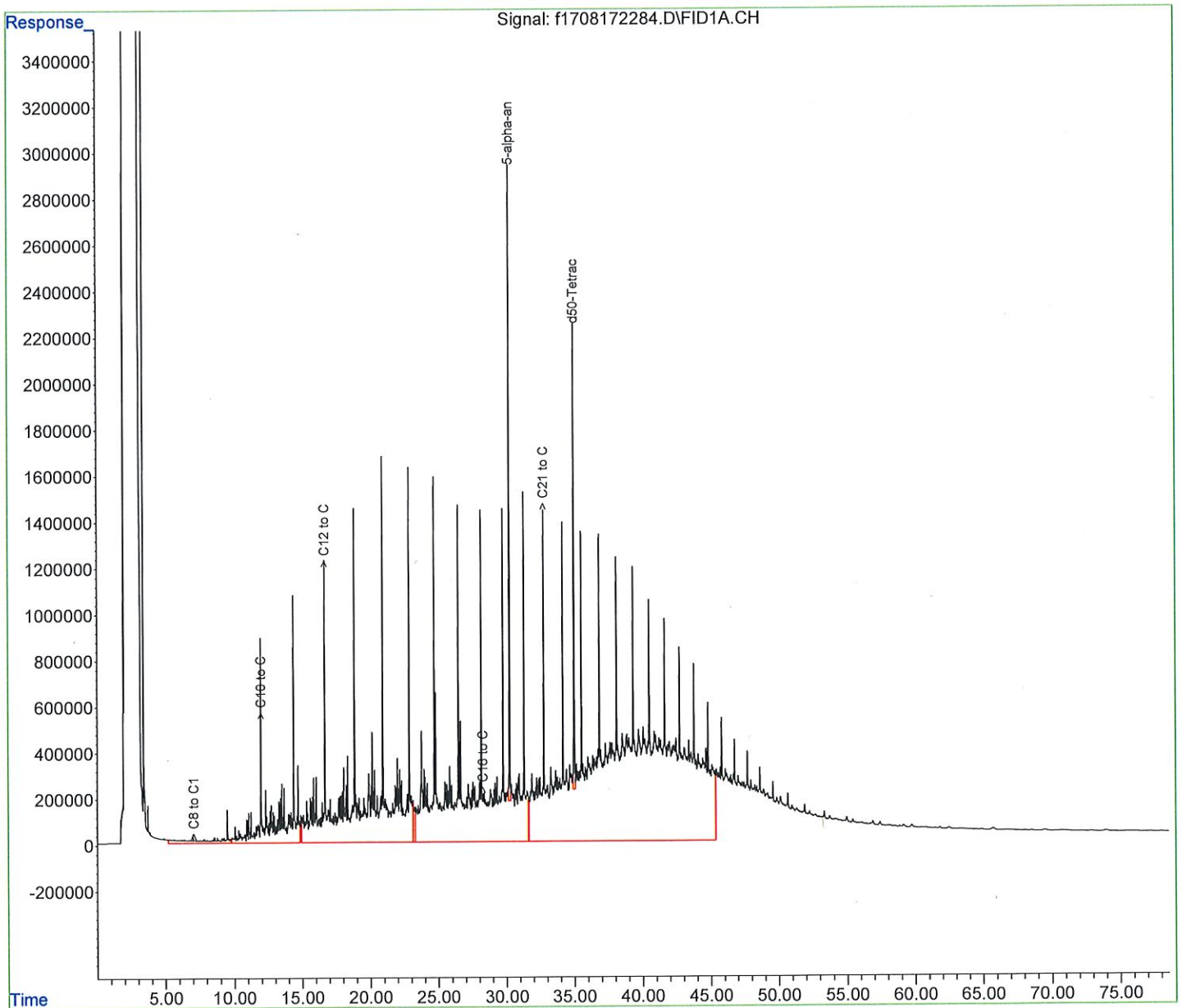
R.T.: 32.785 min
 Delta R.T.: 0.000 min
 Response: 26062216
 Conc: 22.46 UG/ML m

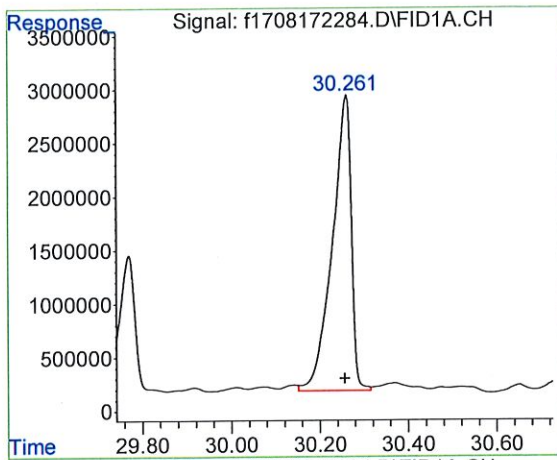
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH
Data File : f1708172284.D
Signal(s) : FID1A.CH
Acq On : 20 Aug 2022 2:01 am
Operator : FID17:WR
Sample : L2240634-26,42,,
Misc : WG1676467,WG1676456,ICAL18753
ALS Vial : 42 Sample Multiplier: 1

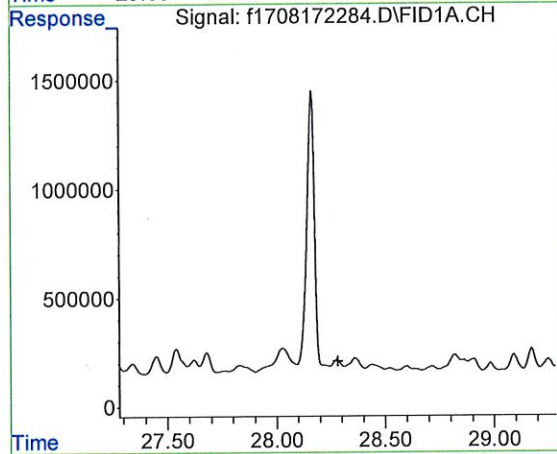
Integration File: autoint1.e
Quant Time: Oct 22 18:04:39 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

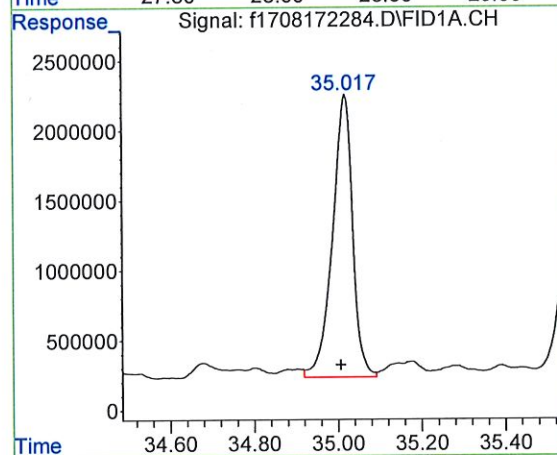




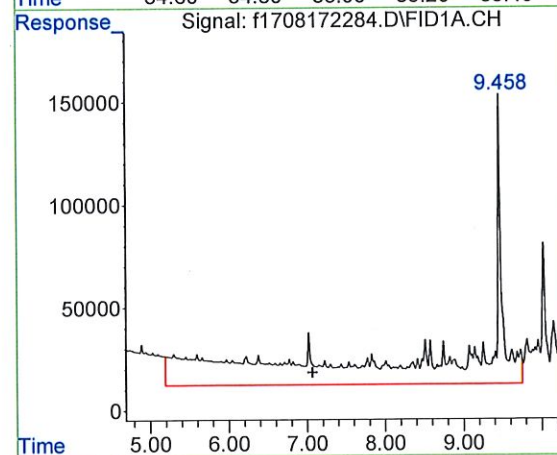
#1 5-alpha-androstane
 R.T.: 30.261 min
 Delta R.T.: 0.005 min
 Response: 82004497
 Conc: 50.00 ug/mL m



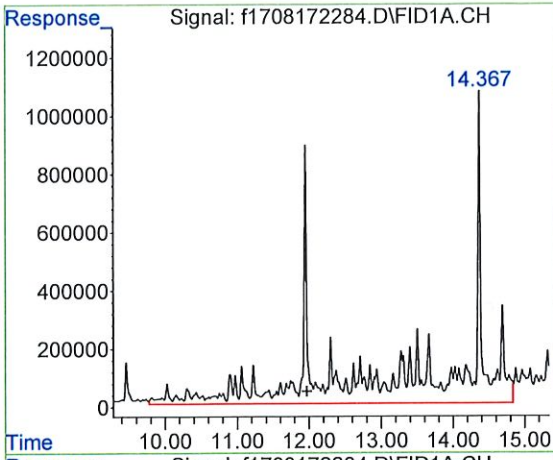
#2 ortho-terphenyl
 R.T.: 0.000 min
 Exp R.T. : 28.281 min
 Response: 0
 Conc: N.D.



#3 d50-Tetracosane
 R.T.: 35.017 min
 Delta R.T.: 0.011 min
 Response: 67152910
 Conc: 49.54 ug/mL m

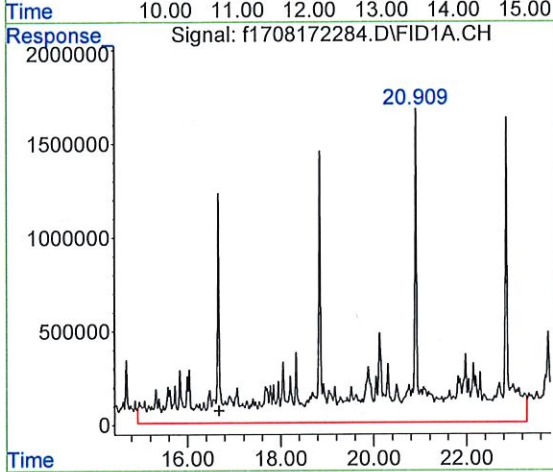


#4 > C8 to C10 Aliphatics
 R.T.: 7.069 min
 Delta R.T.: 0.000 min
 Response: 32202572
 Conc: 20.84 ug/mL m



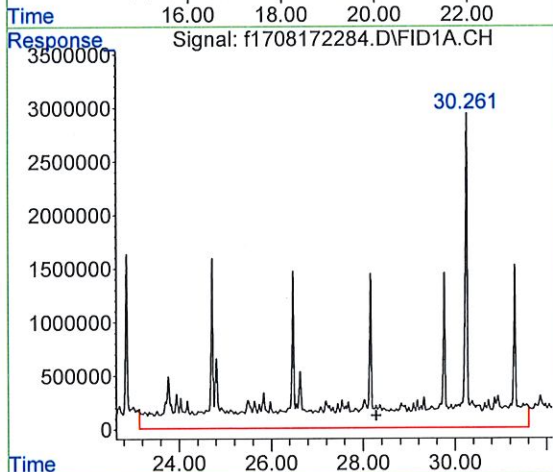
#5 > C10 to C12 Aliphatics

R.T.: 11.972 min
 Delta R.T.: 0.000 min
 Response: 227632553
 Conc: 147.34 ug/ml m



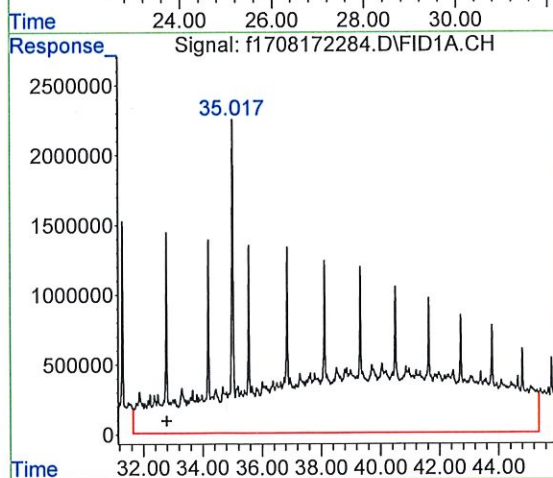
#6 > C12 to C16 Aliphatics

R.T.: 16.680 min
 Delta R.T.: 0.000 min
 Response: 817697244
 Conc: 529.26 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.281 min
 Delta R.T.: 0.000 min
 Response: 1095318580
 Conc: 708.95 UG/ML m



#8 > C21 to C32 Aliphatics

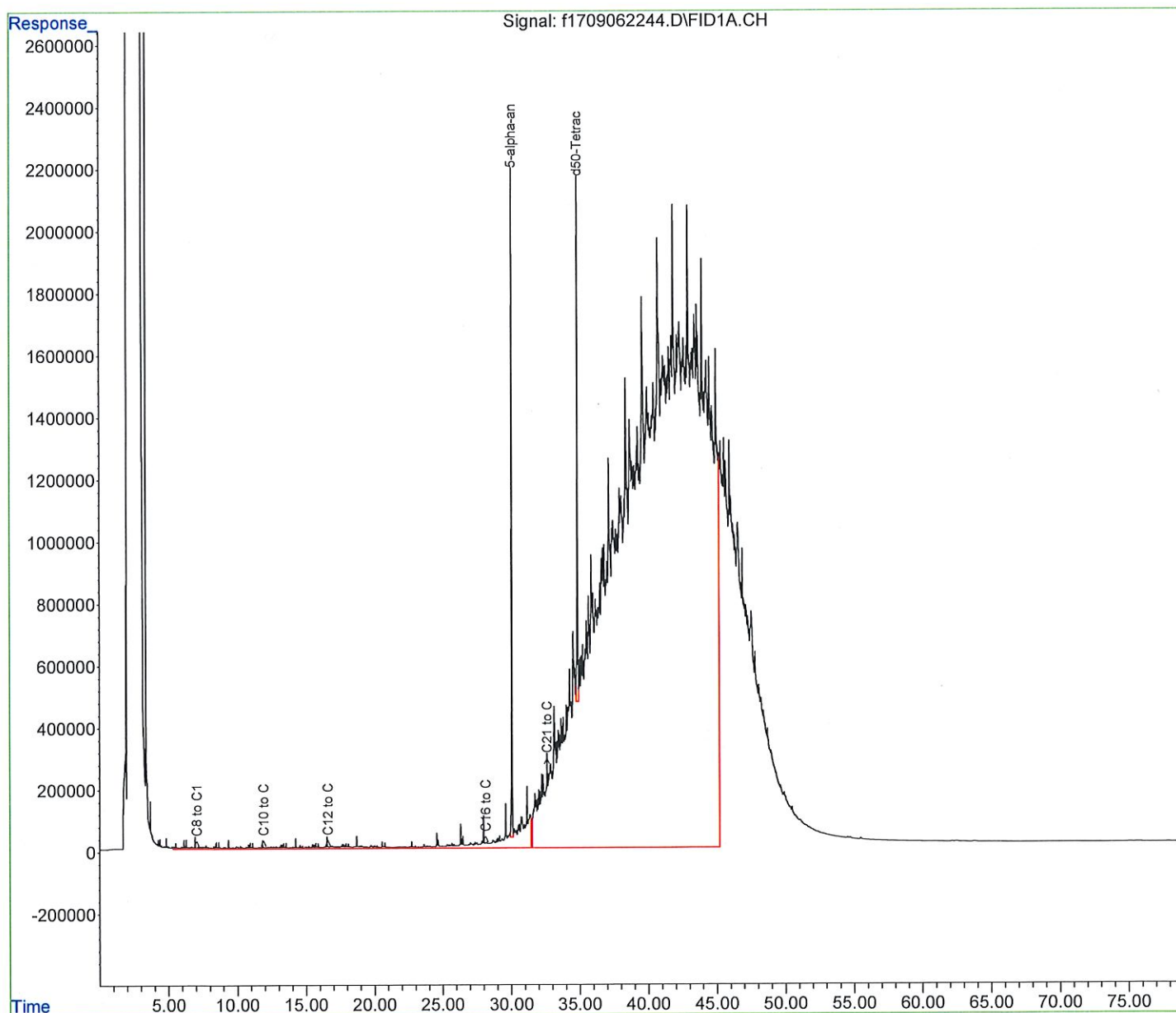
R.T.: 32.785 min
 Delta R.T.: 0.000 min
 Response: 2940194047
 Conc: 1903.05 UG/ML m

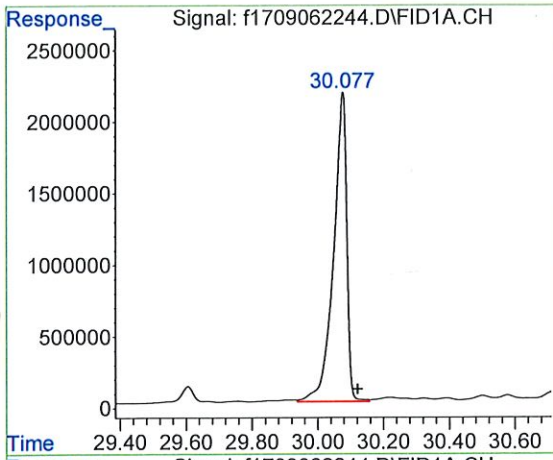
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1709062244.D
Signal(s) : FID1A.CH
Acq On : 07 Sep 2022 22:05 pm
Operator : FID17:WR
Sample : I2240634-33,42,,
Misc : WG1684077,WG1682989,ICAL18753
ALS Vial : 22 Sample Multiplier: 1

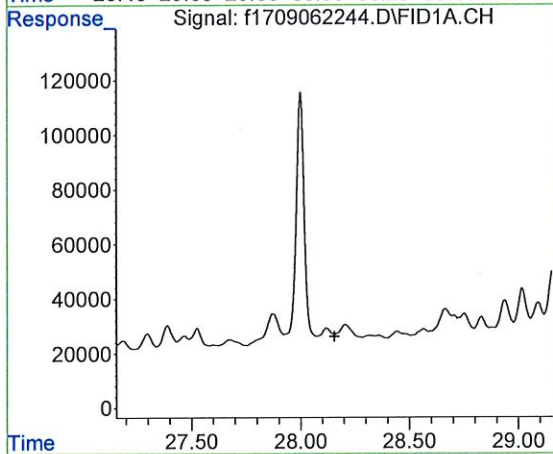
Integration File: autoint1.e
Quant Time: Oct 22 18:31:24 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

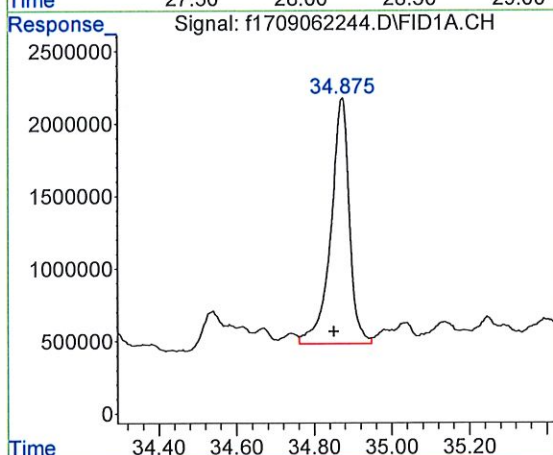




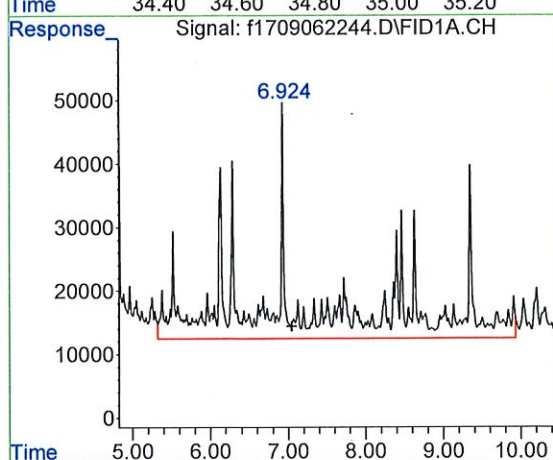
#1 5-alpha-androstane
 R.T.: 30.077 min
 Delta R.T.: -0.045 min
 Response: 60427121
 Conc: 50.00 ug/mL m



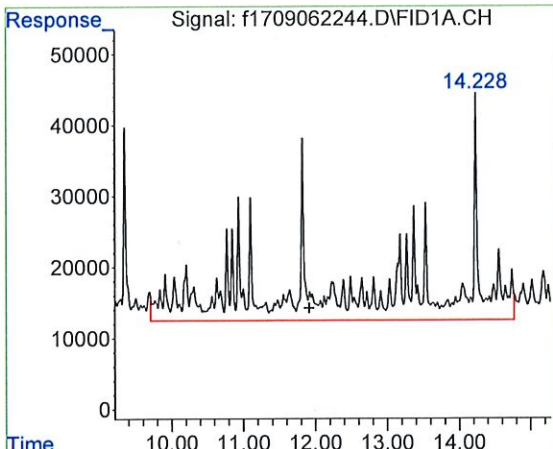
#2 ortho-terphenyl
 R.T.: 0.000 min
 Exp R.T. : 28.155 min
 Response: 0
 Conc: N.D.



#3 d50-Tetracosane
 R.T.: 34.875 min
 Delta R.T.: 0.024 min
 Response: 56293433
 Conc: 56.36 ug/mL m

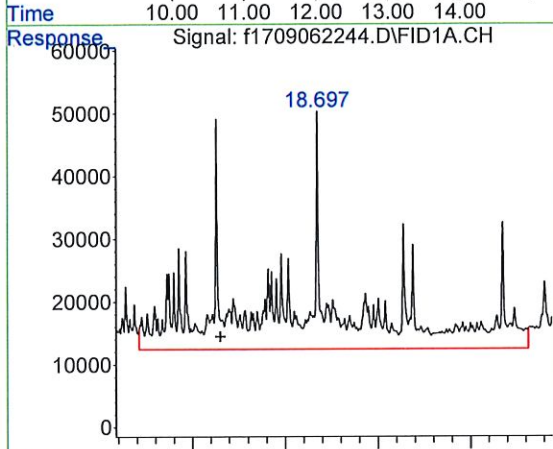


#4 > C8 to C10 Aliphatics
 R.T.: 7.042 min
 Delta R.T.: 0.000 min
 Response: 11334302
 Conc: 9.96 ug/mL m



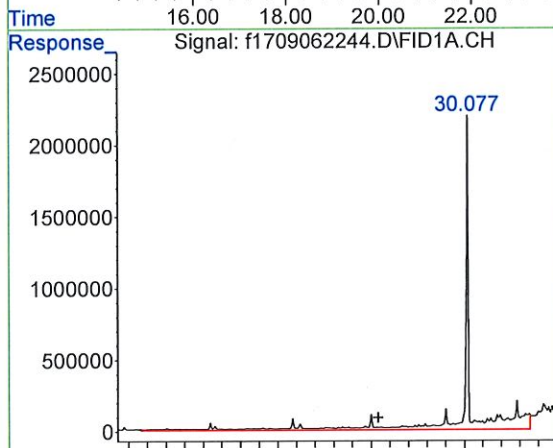
#5 > C10 to C12 Aliphatics

R.T.: 11.919 min
 Delta R.T.: 0.000 min
 Response: 11462659
 Conc: 10.07 ug/ml m



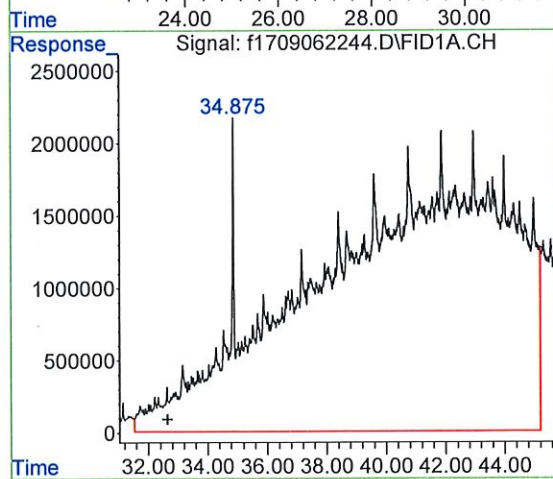
#6 > C12 to C16 Aliphatics

R.T.: 16.606 min
 Delta R.T.: 0.000 min
 Response: 24386921
 Conc: 21.42 UG/ML m



#7 > C16 to C21 Aliphatics

R.T.: 28.155 min
 Delta R.T.: 0.000 min
 Response: 121462692
 Conc: 106.69 UG/ML m



#8 > C21 to C32 Aliphatics

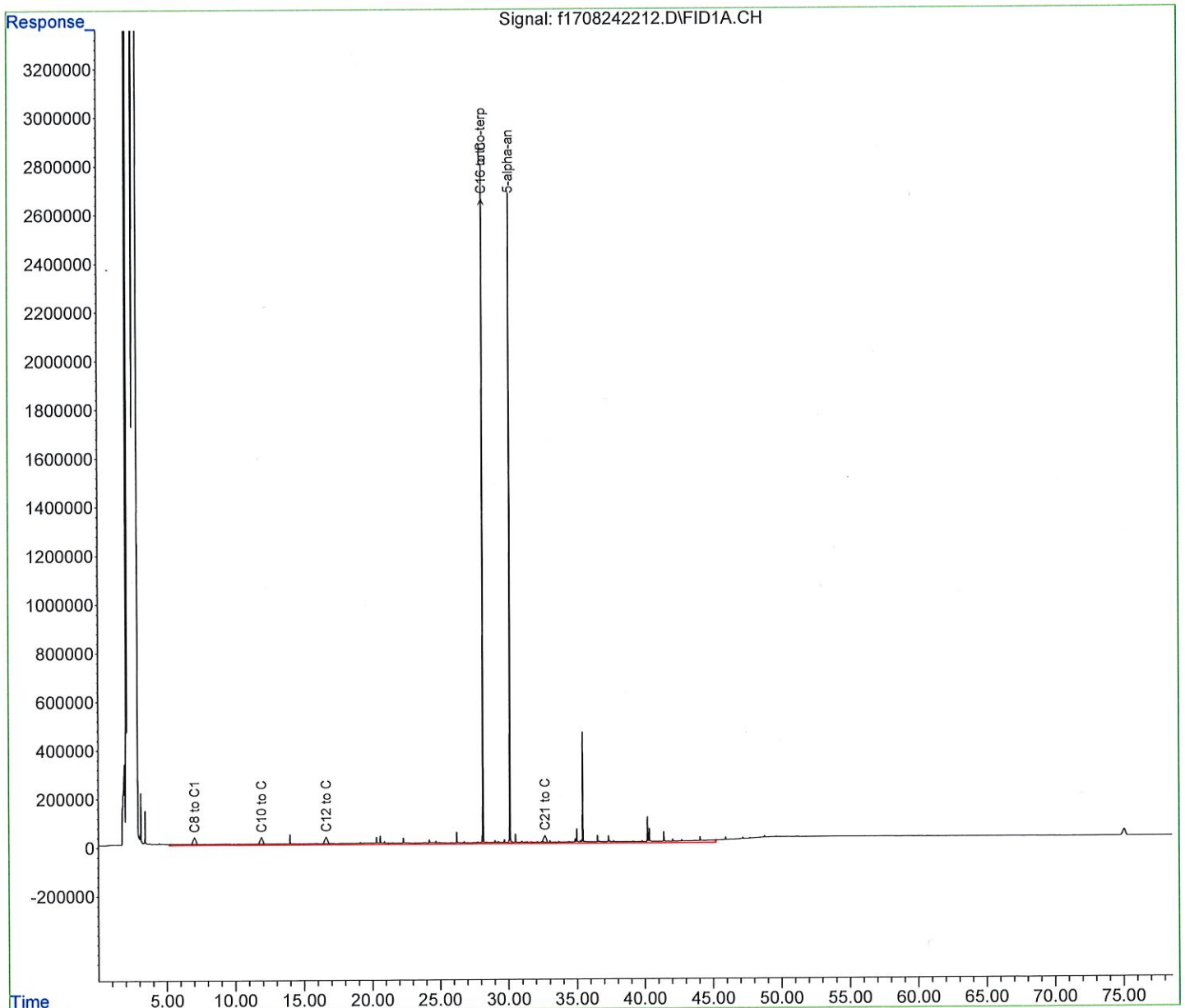
R.T.: 32.639 min
 Delta R.T.: 0.000 min
 Response: 8327772379
 Conc: 7314.92 UG/ML m

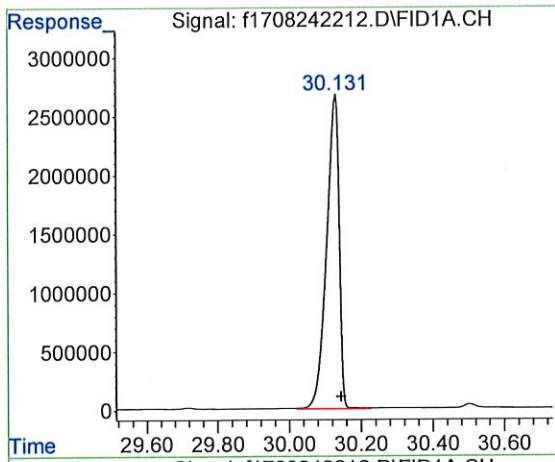
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708242212.D
Signal(s) : FID1A.CH
Acq On : 25 Aug 2022 9:53 am
Operator : FID17:WR
Sample : WG1676458-1,42,,
Misc : WG1679263,WG1676458,ICAL18753
ALS Vial : 6 Sample Multiplier: 1

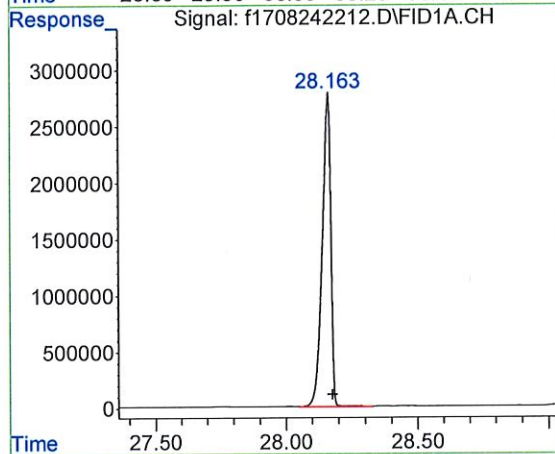
Integration File: autoint1.e
Quant Time: Oct 22 18:54:38 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

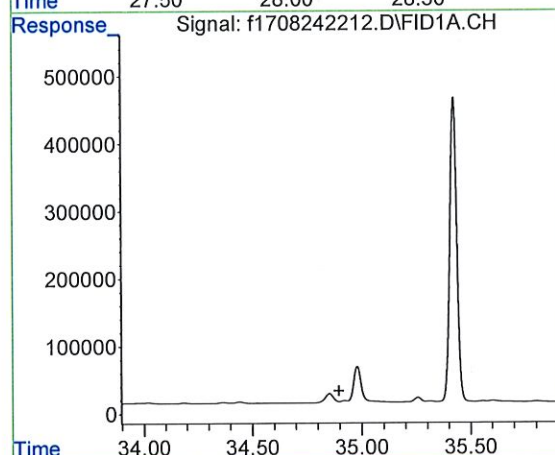




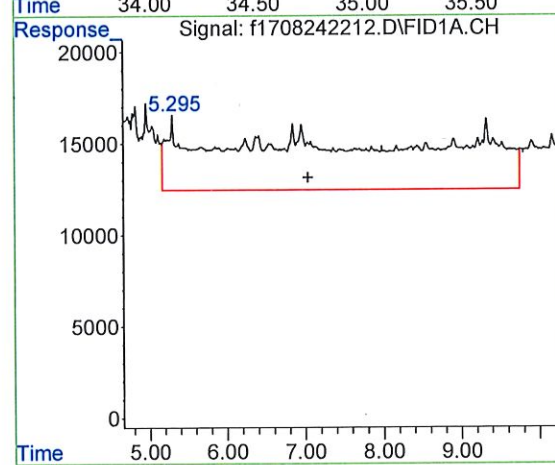
#1 5-alpha-androstane
 R.T.: 30.131 min
 Delta R.T.: -0.014 min
 Response: 64228646
 Conc: 50.00 ug/mL m



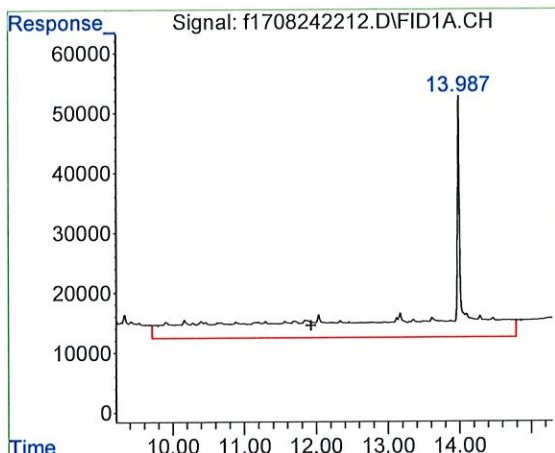
#2 ortho-terphenyl
 R.T.: 28.163 min
 Delta R.T.: -0.014 min
 Response: 62124248
 Conc: 46.27 ug/mL m



#3 d50-Tetracosane
 R.T.: 0.000 min
 Exp R.T. : 34.896 min
 Response: 0
 Conc: N.D.

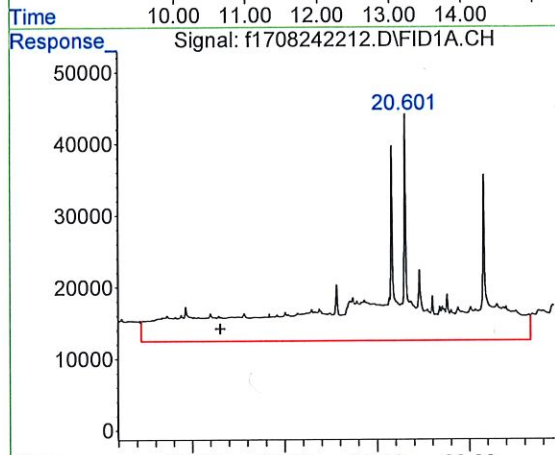


#4 > C8 to C10 Aliphatics
 R.T.: 7.043 min
 Delta R.T.: 0.000 min
 Response: 6387733
 Conc: 5.28 ug/mL m



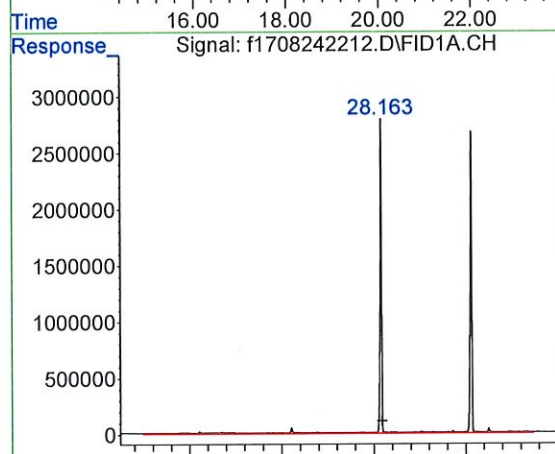
#5 > C10 to C12 Aliphatics

R.T.: 11.928 min
 Delta R.T.: 0.000 min
 Response: 8442061
 Conc: 6.98 ug/ml m



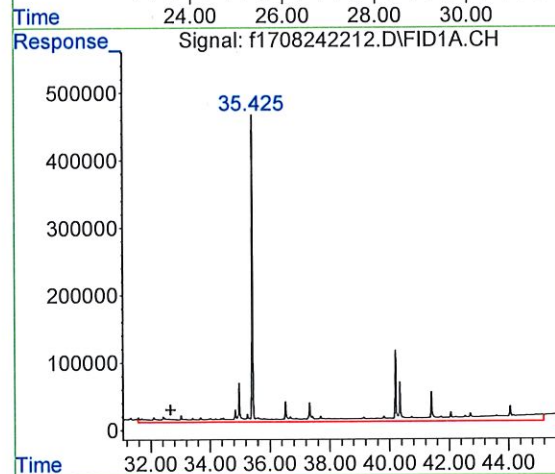
#6 > C12 to C16 Aliphatics

R.T.: 16.619 min
 Delta R.T.: 0.000 min
 Response: 21575818
 Conc: 17.83 UG/ML m



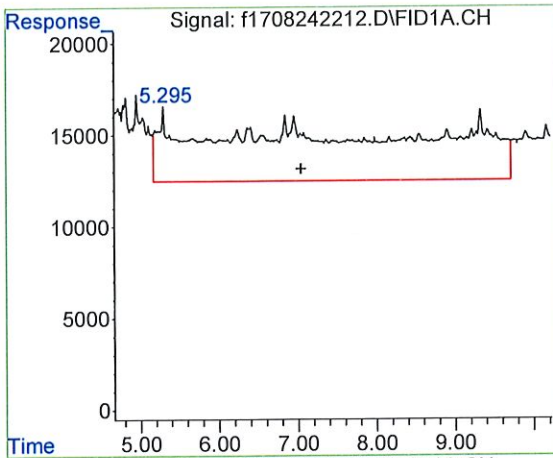
#7 > C16 to C21 Aliphatics

R.T.: 28.177 min
 Delta R.T.: 0.000 min
 Response: 22492390
 Conc: 18.59 UG/ML m



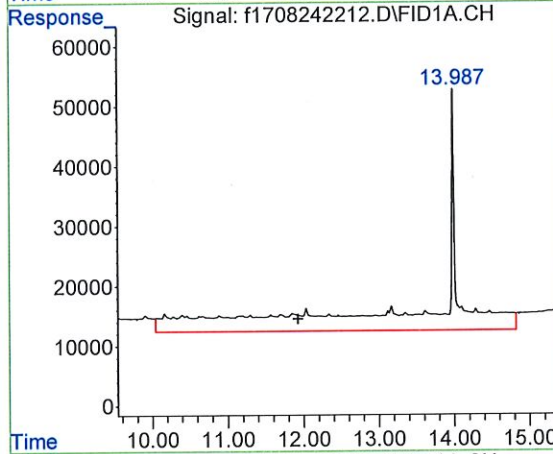
#8 > C21 to C32 Aliphatics

R.T.: 32.664 min
 Delta R.T.: 0.000 min
 Response: 57886459
 Conc: 47.84 UG/ML m



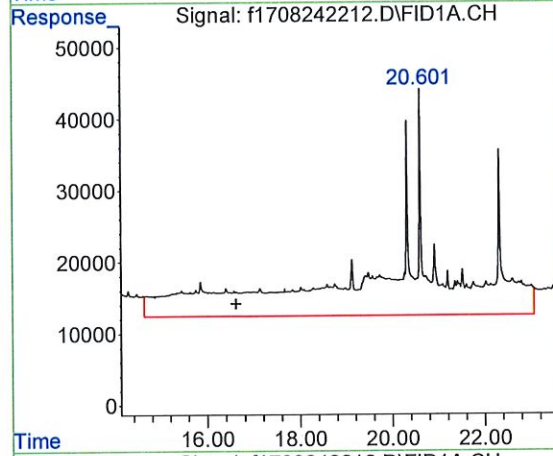
#9 > C8 to C10 Aromatics

R.T.: 7.043 min
 Delta R.T.: 0.000 min
 Response: 6301191
 Conc: 5.21 UG/ML m



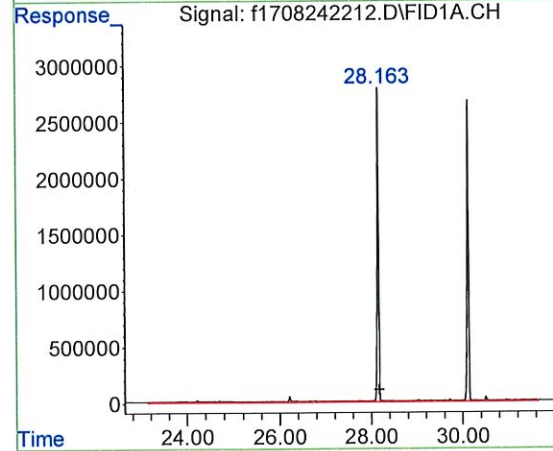
#10 > C10 to C12 Aromatics

R.T.: 11.928 min
 Delta R.T.: 0.000 min
 Response: 8032661
 Conc: 6.64 UG/ML m



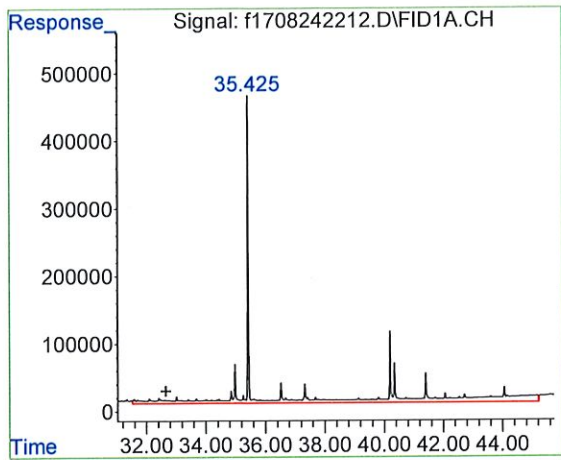
#11 > C12 to C16 Aromatics

R.T.: 16.619 min
 Delta R.T.: 0.000 min
 Response: 21433732
 Conc: 17.71 UG/ML m



#12 > C16 to C21 Aromatics

R.T.: 28.177 min
 Delta R.T.: 0.000 min
 Response: 22711550
 Conc: 18.77 UG/ML m



#13 > C21 to C32 Aromatics

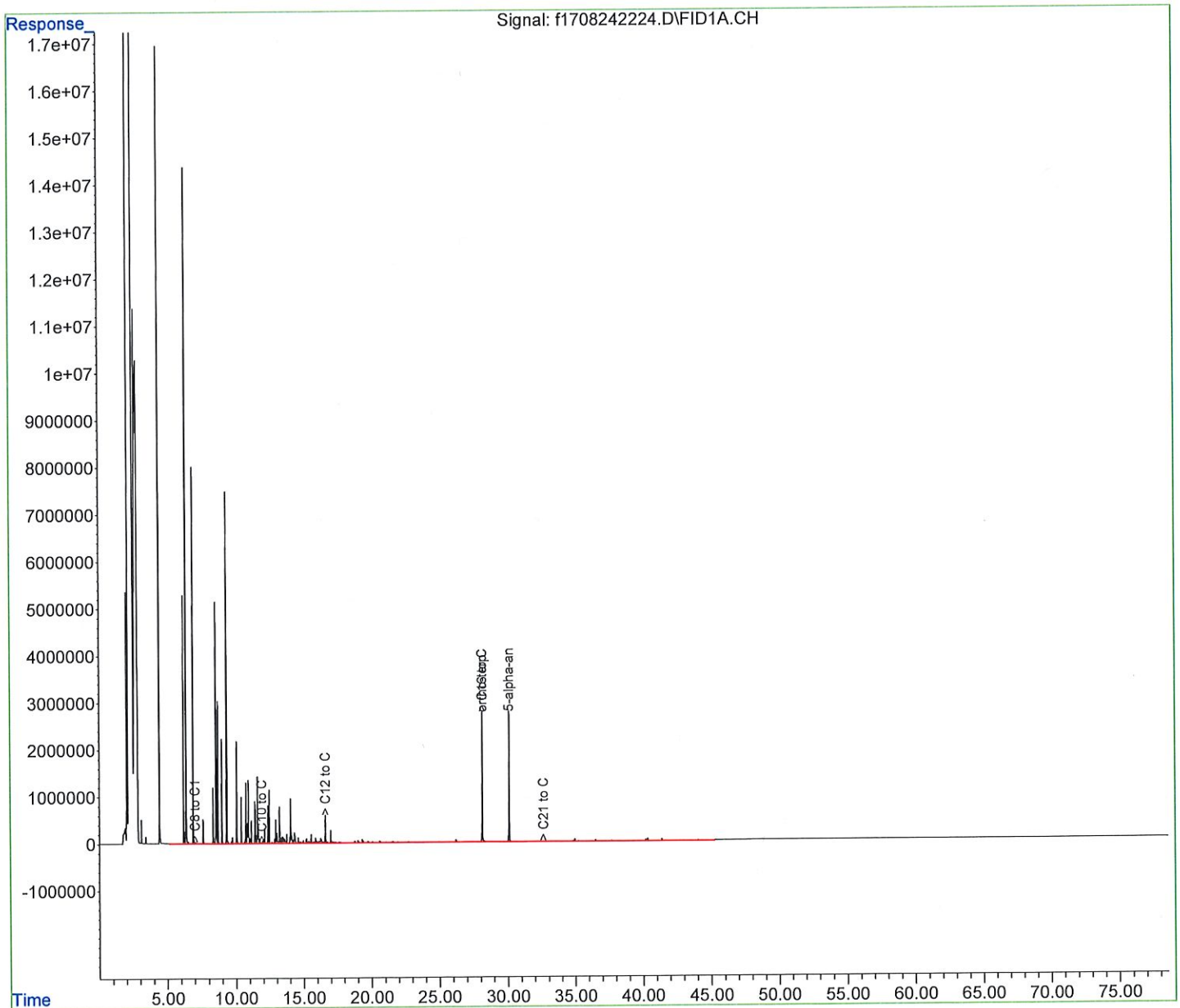
R.T.: 32.664 min
Delta R.T.: 0.000 min
Response: 58236843
Conc: 48.13 UG/ML m

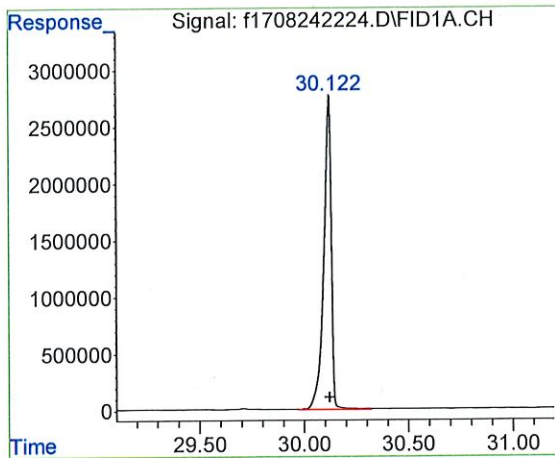
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708242224.D
Signal(s) : FID1A.CH
Acq On : 25 Aug 2022 19:02 pm
Operator : FID17:WR
Sample : L2240634-03,42,,
Misc : WG1679263,WG1676458,ICAL18753
ALS Vial : 12 Sample Multiplier: 1

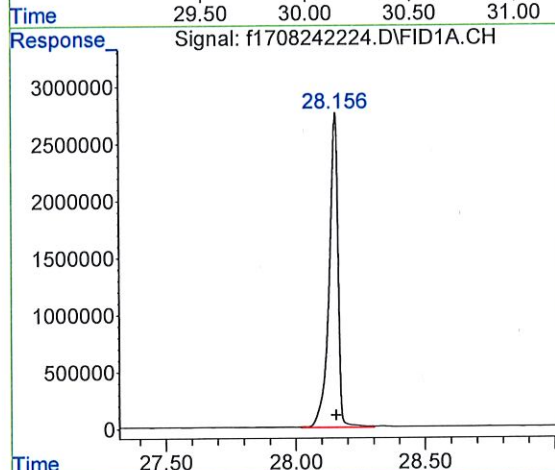
Integration File: autoint1.e
Quant Time: Oct 22 20:49:02 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

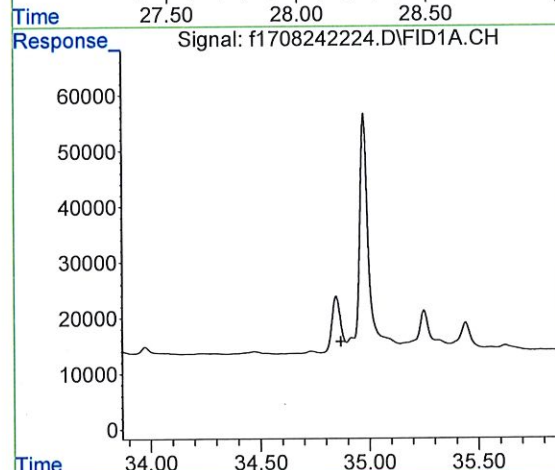




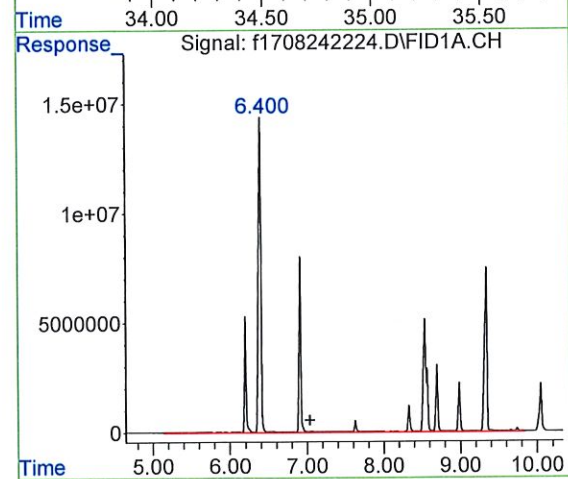
#1 5-alpha-androstane
 R.T.: 30.122 min
 Delta R.T.: 0.000 min
 Response: 68685134
 Conc: 50.00 ug/mL m



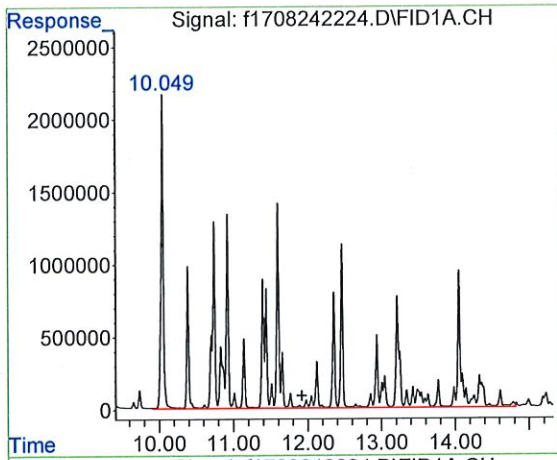
#2 ortho-terphenyl
 R.T.: 28.156 min
 Delta R.T.: 0.000 min
 Response: 65980584
 Conc: 45.95 ug/mL m



#3 d50-Tetracosane
 R.T.: 0.000 min
 Exp R.T. : 34.869 min
 Response: 0
 Conc: N.D.

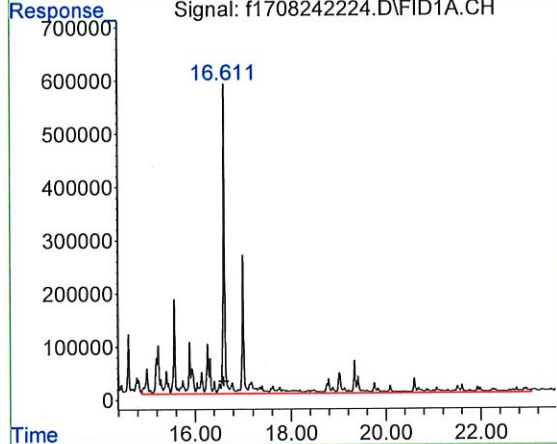


#9 > C8 to C10 Aromatics
 R.T.: 7.038 min
 Delta R.T.: 0.000 min
 Response: 1010230151
 Conc: 780.68 UG/ML m



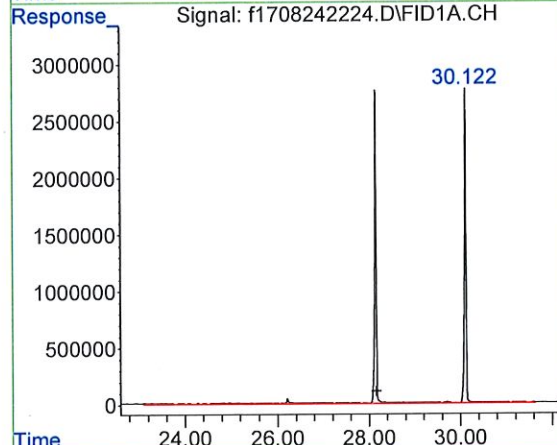
#10 > C10 to C12 Aromatics

R.T.: 11.919 min
 Delta R.T.: 0.000 min
 Response: 368352040
 Conc: 284.65 UG/ML m



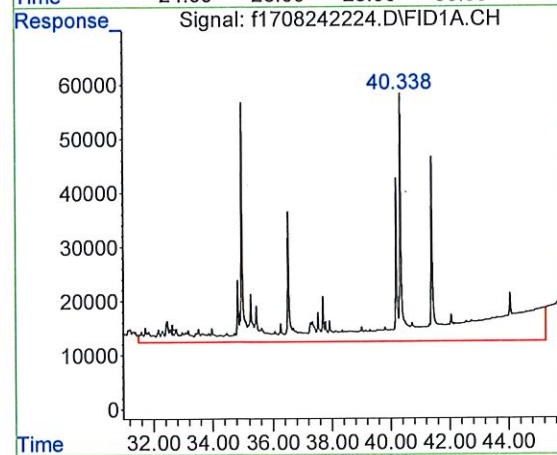
#11 > C12 to C16 Aromatics

R.T.: 16.606 min
 Delta R.T.: 0.000 min
 Response: 60241628
 Conc: 46.55 UG/ML m



#12 > C16 to C21 Aromatics

R.T.: 28.155 min
 Delta R.T.: 0.000 min
 Response: 13343626
 Conc: 10.31 UG/ML m



#13 > C21 to C32 Aromatics

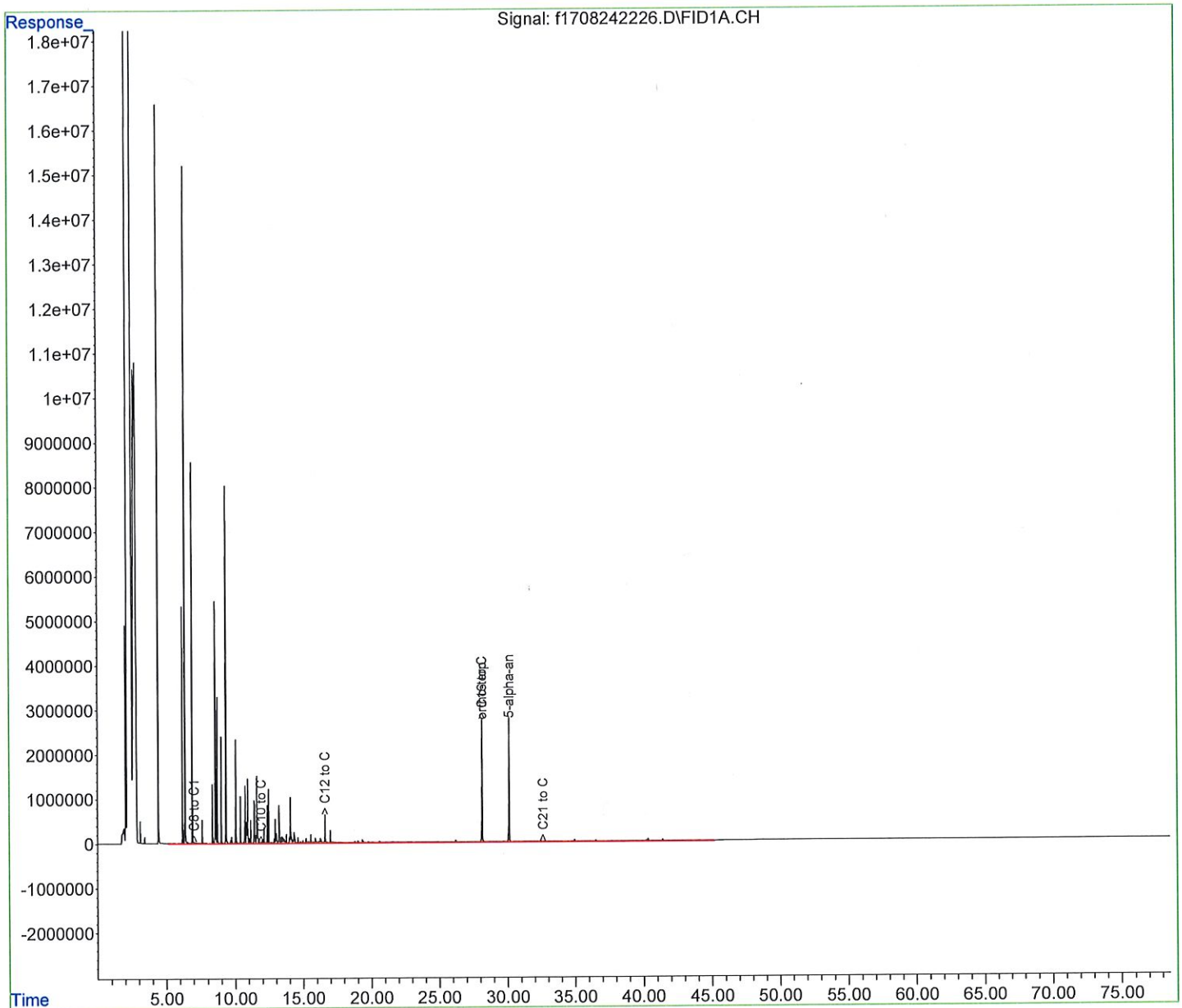
R.T.: 32.639 min
 Delta R.T.: 0.000 min
 Response: 26472456
 Conc: 20.46 UG/ML m

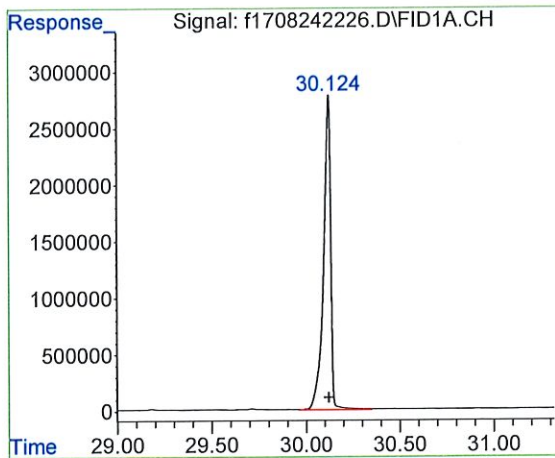
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708242226.D
Signal(s) : FID1A.CH
Acq On : 25 Aug 2022 20:32 pm
Operator : FID17:WR
Sample : WG1676458-4,42,,
Misc : WG1679263,WG1676458,ICAL18753
ALS Vial : 13 Sample Multiplier: 1

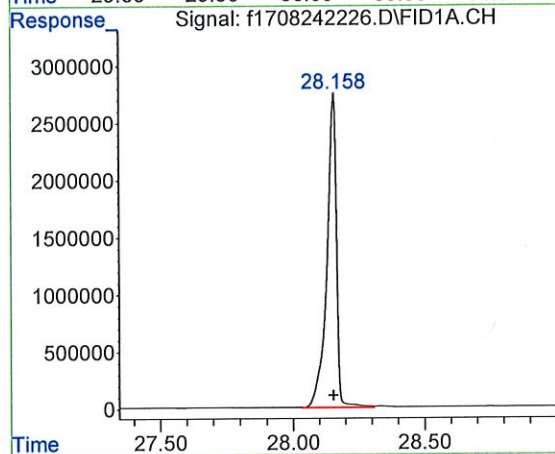
Integration File: autoint1.e
Quant Time: Oct 22 20:59:55 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

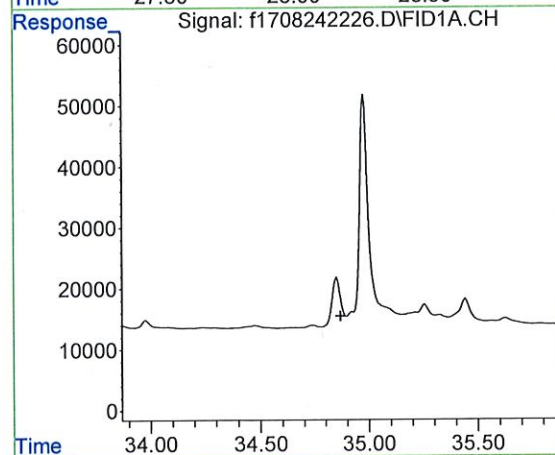




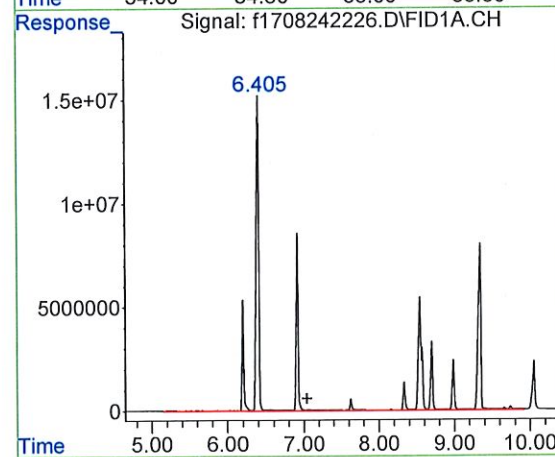
#1 5-alpha-androstane
 R.T.: 30.124 min
 Delta R.T.: 0.002 min
 Response: 74384322
 Conc: 50.00 ug/mL m



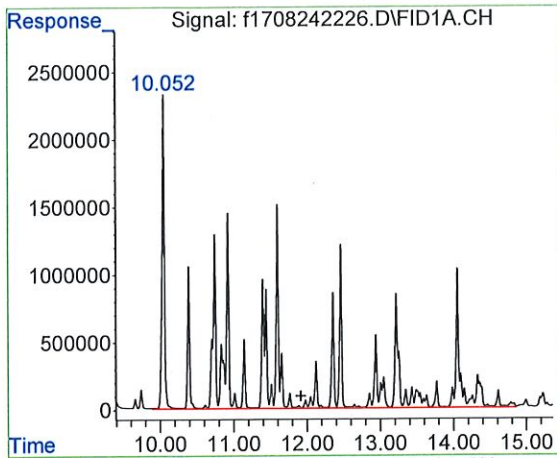
#2 ortho-terphenyl
 R.T.: 28.158 min
 Delta R.T.: 0.003 min
 Response: 70270710
 Conc: 45.19 ug/mL m



#3 d50-Tetracosane
 R.T.: 0.000 min
 Exp R.T. : 34.869 min
 Response: 0
 Conc: N.D.

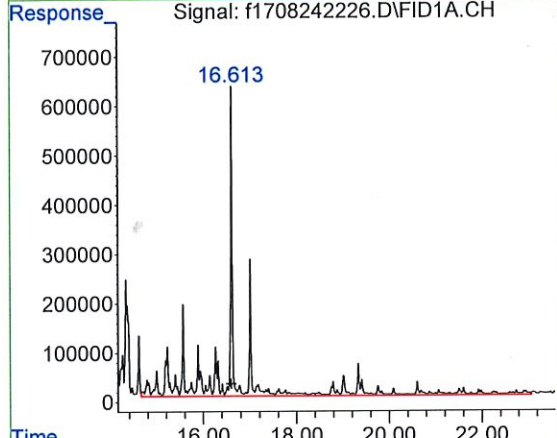


#9 > C8 to C10 Aromatics
 R.T.: 7.038 min
 Delta R.T.: 0.000 min
 Response: 1105087659
 Conc: 788.55 UG/ML m



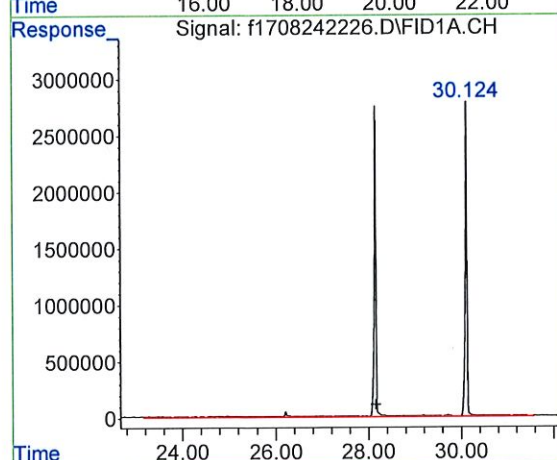
#10 > C10 to C12 Aromatics

R.T.: 11.919 min
 Delta R.T.: 0.000 min
 Response: 410311734
 Conc: 292.78 UG/ML m



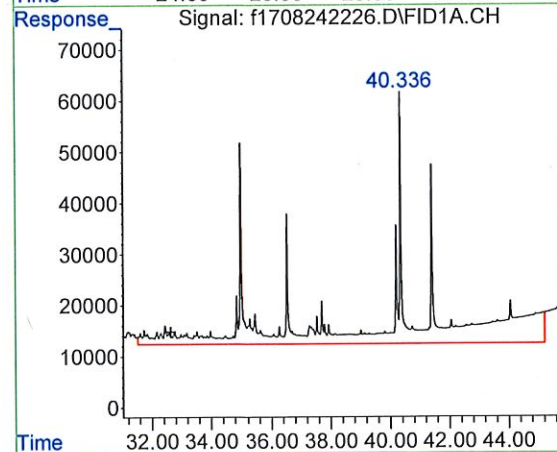
#11 > C12 to C16 Aromatics

R.T.: 16.606 min
 Delta R.T.: 0.000 min
 Response: 68801366
 Conc: 49.09 UG/ML m



#12 > C16 to C21 Aromatics

R.T.: 28.155 min
 Delta R.T.: 0.000 min
 Response: 14710868
 Conc: 10.50 UG/ML m



#13 > C21 to C32 Aromatics

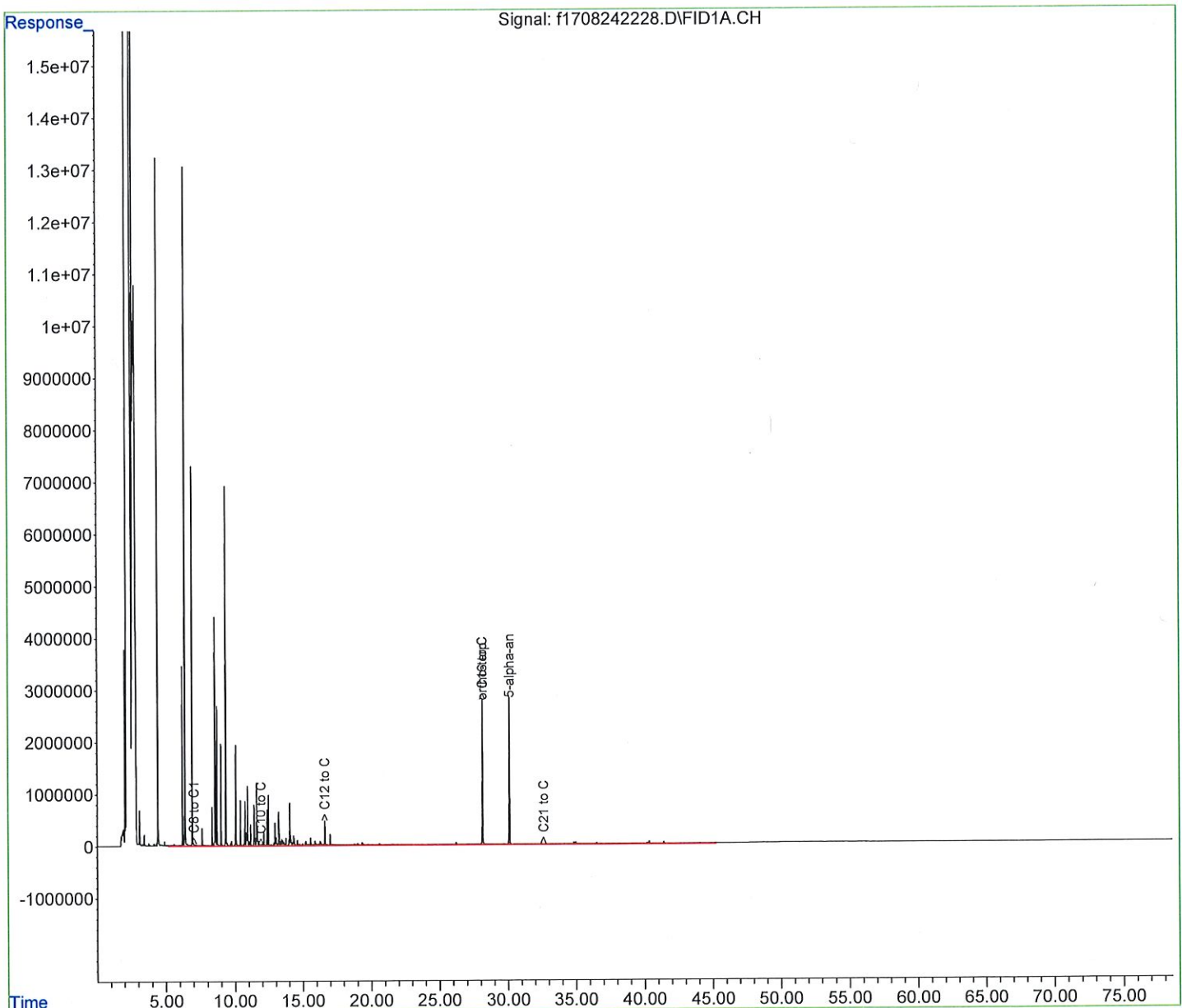
R.T.: 32.639 min
 Delta R.T.: 0.000 min
 Response: 25715230
 Conc: 18.35 UG/ML m

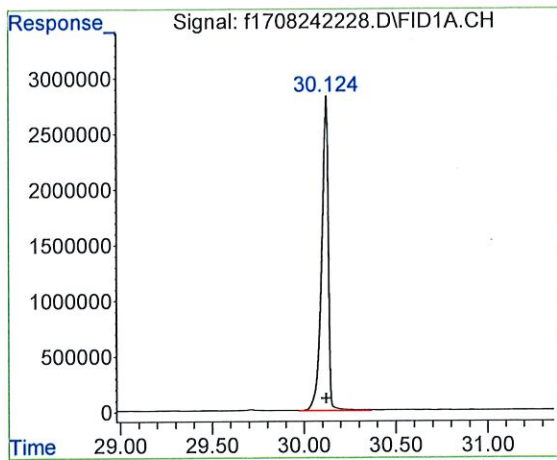
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708242228.D
Signal(s) : FID1A.CH
Acq On : 25 Aug 2022 22:03 pm
Operator : FID17:WR
Sample : L2240634-06,42,,
Misc : WG1679263,WG1676458,ICAL18753
ALS Vial : 14 Sample Multiplier: 1

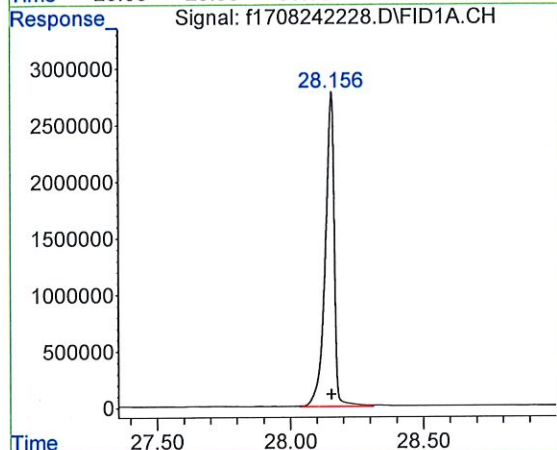
Integration File: autoint1.e
Quant Time: Oct 22 21:04:57 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

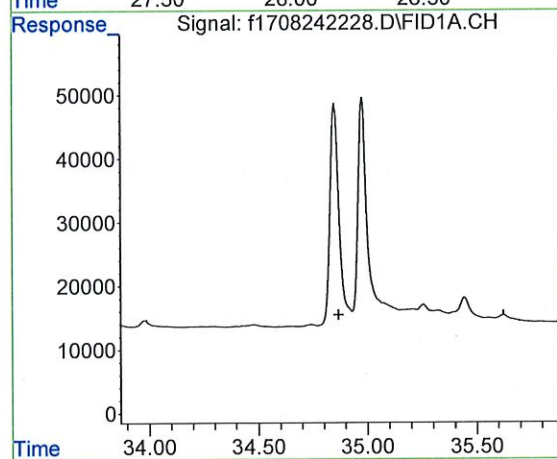




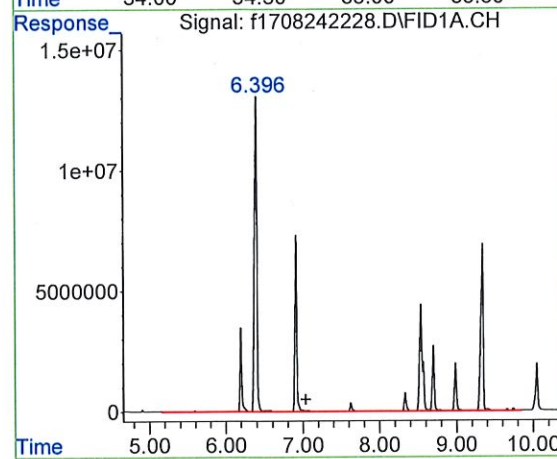
#1 5-alpha-androstane
 R.T.: 30.124 min
 Delta R.T.: 0.002 min
 Response: 70581674
 Conc: 50.00 ug/mL m



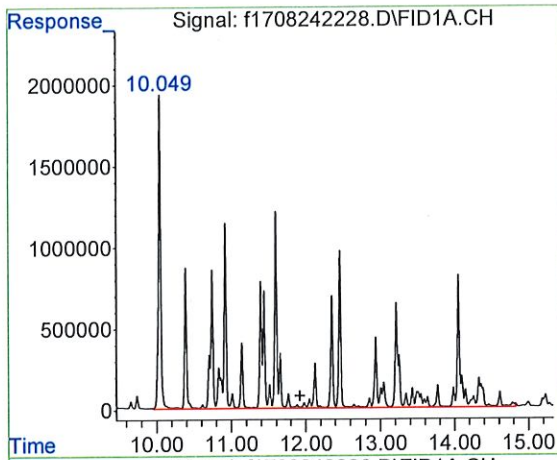
#2 ortho-terphenyl
 R.T.: 28.156 min
 Delta R.T.: 0.001 min
 Response: 66111087
 Conc: 44.80 ug/mL m



#3 d50-Tetracosane
 R.T.: 0.000 min
 Exp R.T. : 34.869 min
 Response: 0
 Conc: N.D.

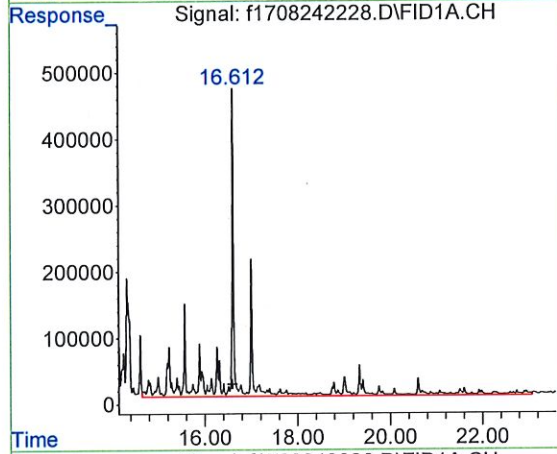


#9 > C8 to C10 Aromatics
 R.T.: 7.038 min
 Delta R.T.: 0.000 min
 Response: 858582569
 Conc: 645.66 UG/ML m



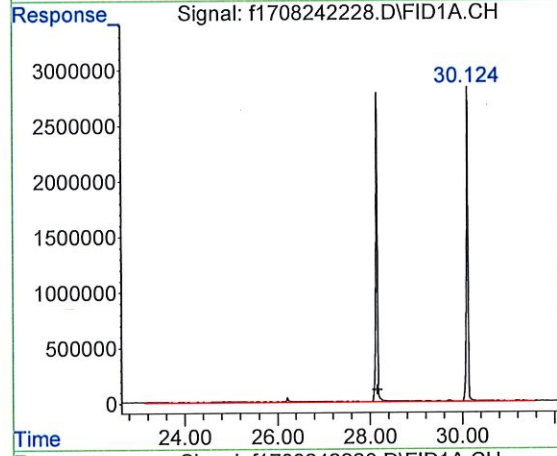
#10 > C10 to C12 Aromatics

R.T.: 11.919 min
 Delta R.T.: 0.000 min
 Response: 301708080
 Conc: 226.89 UG/ML m



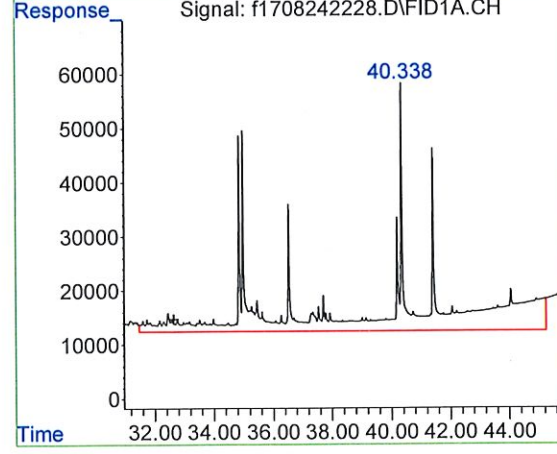
#11 > C12 to C16 Aromatics

R.T.: 16.606 min
 Delta R.T.: 0.000 min
 Response: 49508773
 Conc: 37.23 UG/ML m



#12 > C16 to C21 Aromatics

R.T.: 28.155 min
 Delta R.T.: 0.000 min
 Response: 12195381
 Conc: 9.17 UG/ML m



#13 > C21 to C32 Aromatics

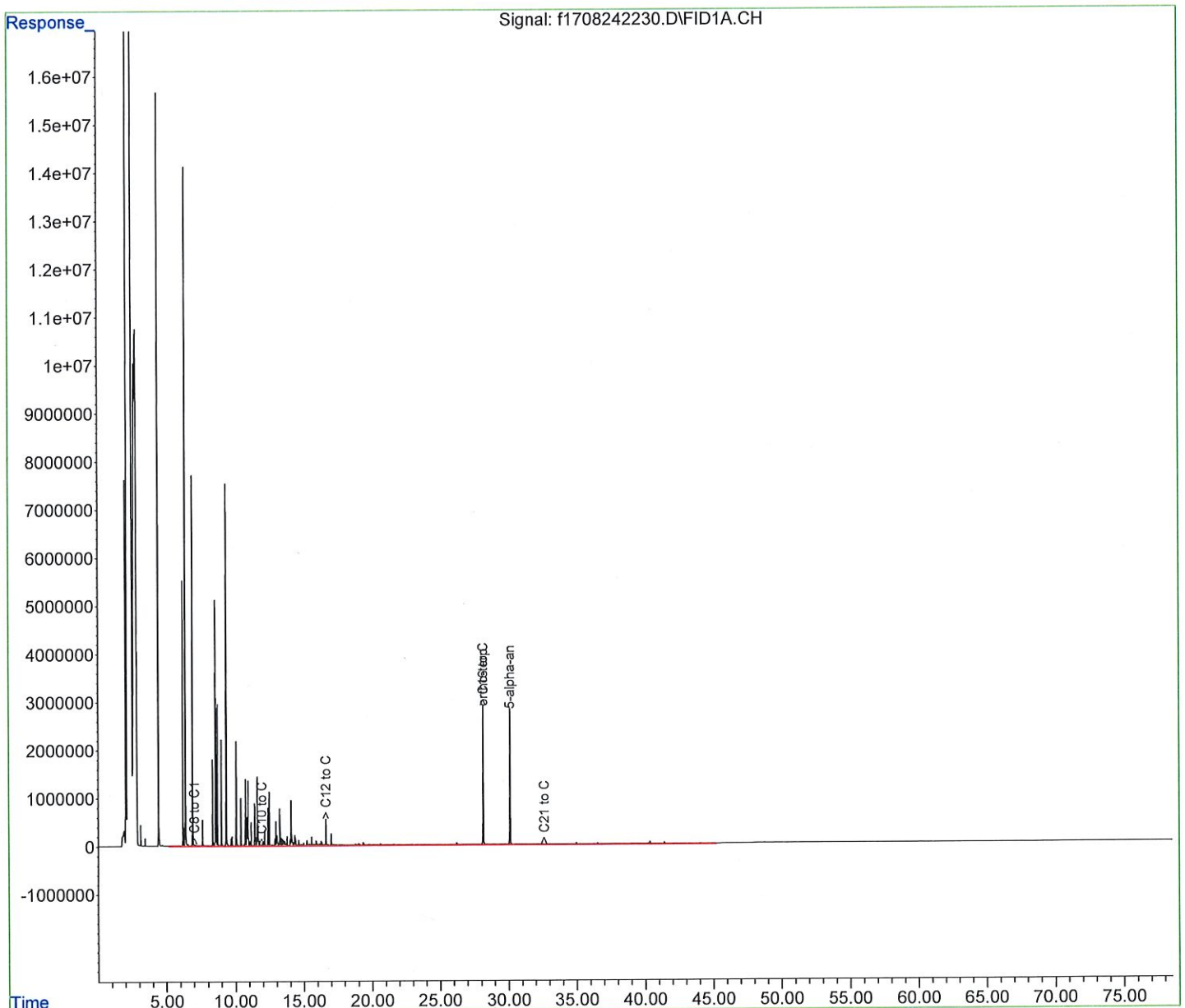
R.T.: 32.639 min
 Delta R.T.: 0.000 min
 Response: 26623554
 Conc: 20.02 UG/ML m

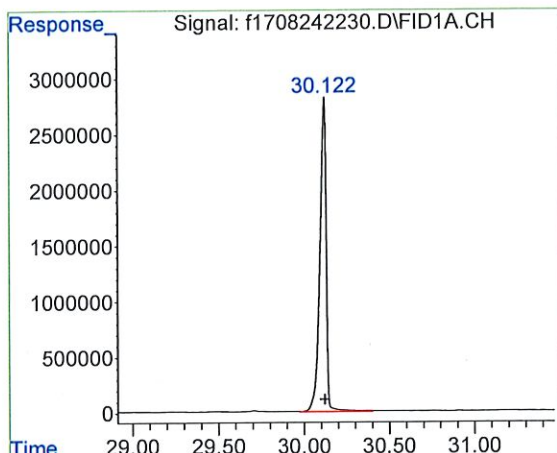
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708242230.D
Signal(s) : FID1A.CH
Acq On : 25 Aug 2022 23:34 pm
Operator : FID17:WR
Sample : L2240634-09,42,,
Misc : WG1679263,WG1676458,ICAL18753
ALS Vial : 15 Sample Multiplier: 1

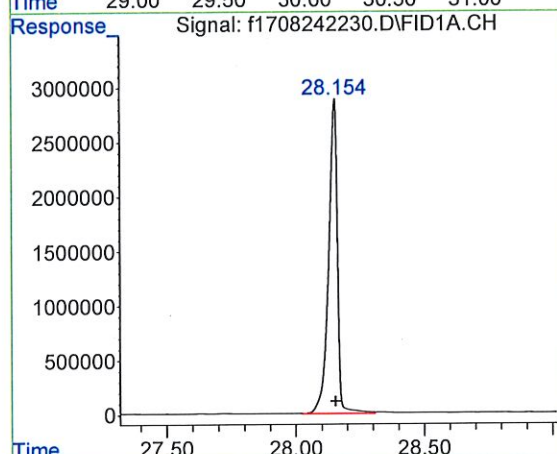
Integration File: autoint1.e
Quant Time: Oct 22 21:11:20 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

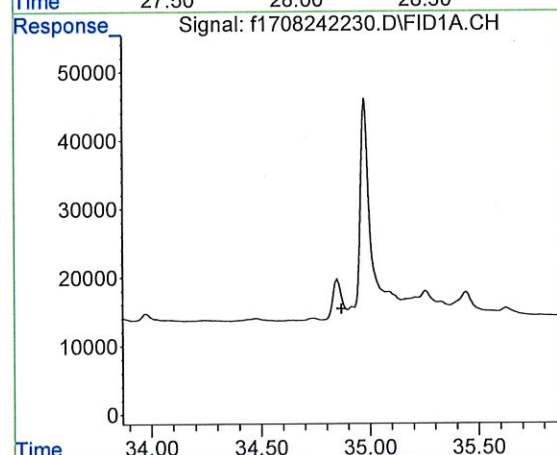




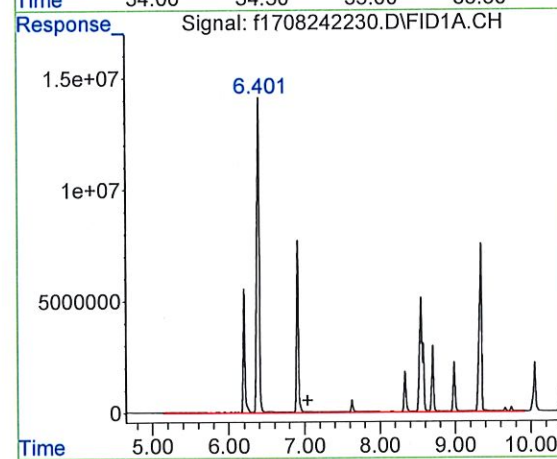
#1 5-alpha-androstane
 R.T.: 30.122 min
 Delta R.T.: 0.000 min
 Response: 72636985
 Conc: 50.00 ug/mL m



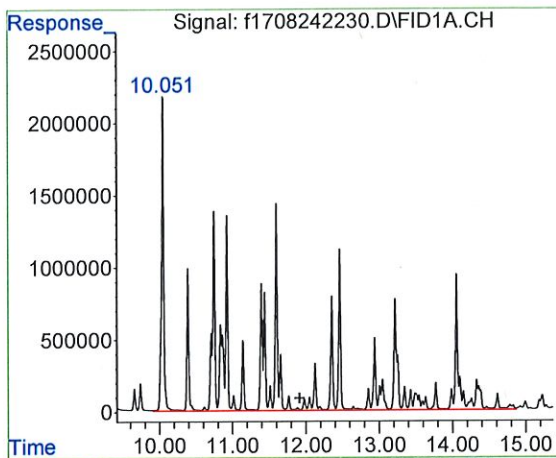
#2 ortho-terphenyl
 R.T.: 28.154 min
 Delta R.T.: -0.001 min
 Response: 69326264
 Conc: 45.65 ug/mL m



#3 d50-Tetracosane
 R.T.: 0.000 min
 Exp R.T. : 34.869 min
 Response: 0
 Conc: N.D.

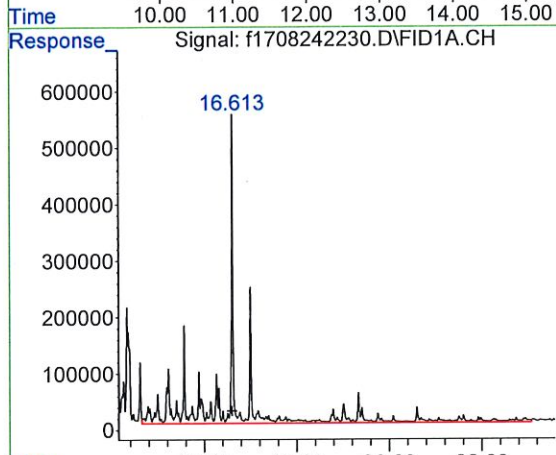


#9 > C8 to C10 Aromatics
 R.T.: 7.038 min
 Delta R.T.: 0.000 min
 Response: 1013690776
 Conc: 740.73 UG/ML m



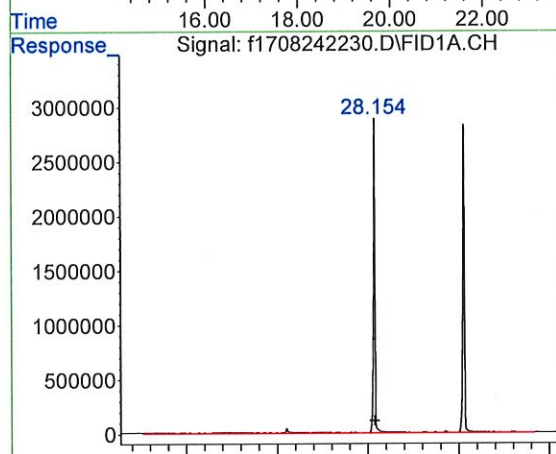
#10 > C10 to C12 Aromatics

R.T.: 11.919 min
 Delta R.T.: 0.000 min
 Response: 369937163
 Conc: 270.32 UG/ML m



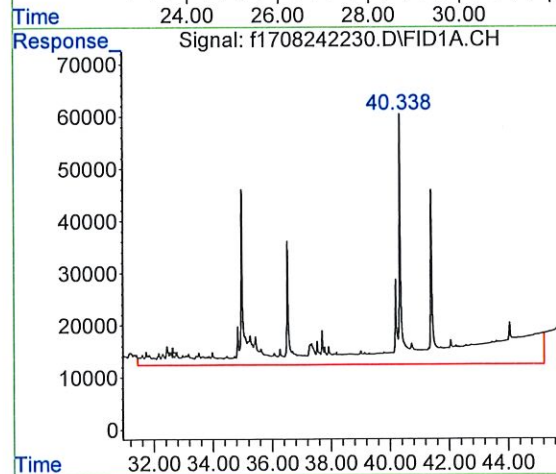
#11 > C12 to C16 Aromatics

R.T.: 16.606 min
 Delta R.T.: 0.000 min
 Response: 60609790
 Conc: 44.29 UG/ML m



#12 > C16 to C21 Aromatics

R.T.: 28.155 min
 Delta R.T.: 0.000 min
 Response: 14743870
 Conc: 10.77 UG/ML m



#13 > C21 to C32 Aromatics

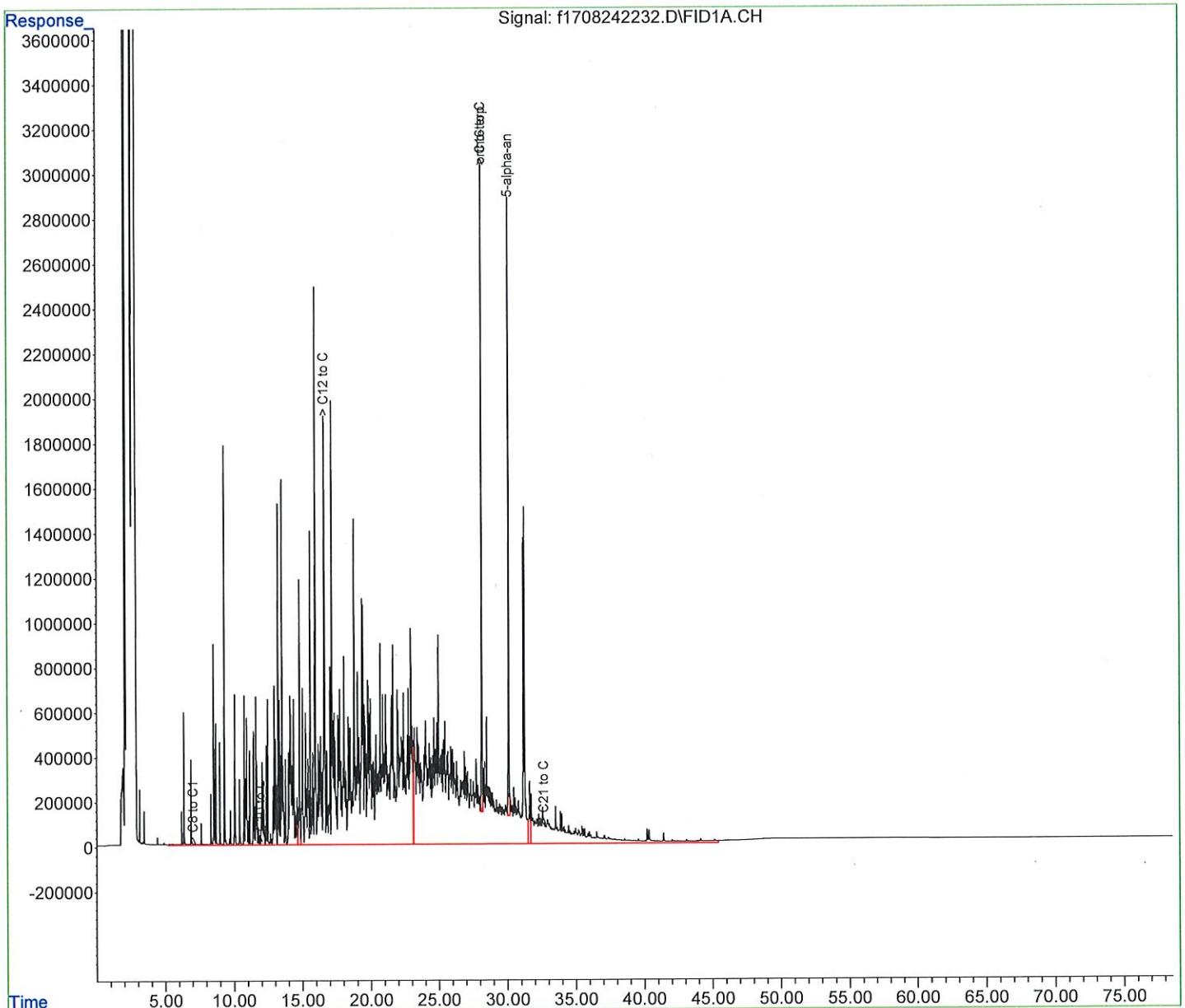
R.T.: 32.639 min
 Delta R.T.: 0.000 min
 Response: 26522518
 Conc: 19.38 UG/ML m

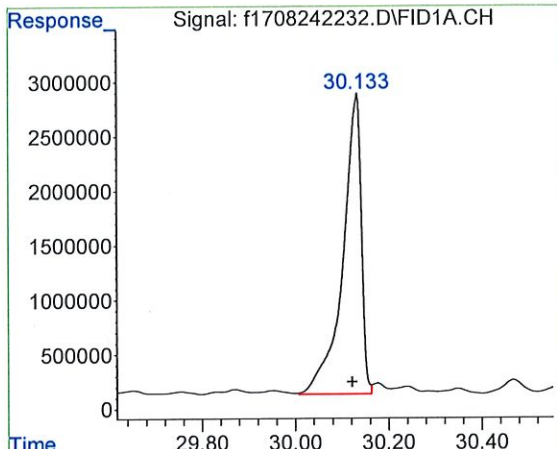
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708242232.D
Signal(s) : FID1A.CH
Acq On : 26 Aug 2022 1:04 am
Operator : FID17:WR
Sample : L2240634-12,42,,
Misc : WG1679263,WG1676458,ICAL18753
ALS Vial : 16 Sample Multiplier: 1

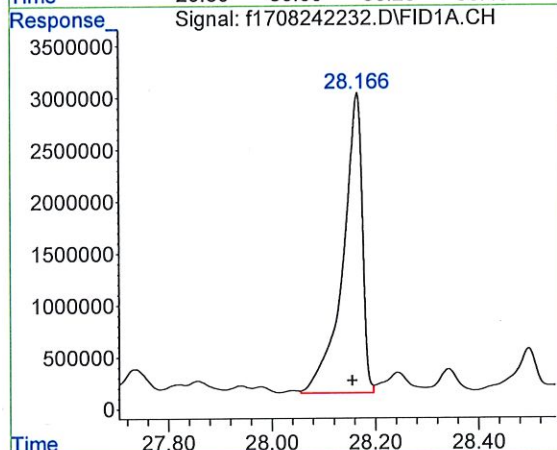
Integration File: autoint1.e
Quant Time: Oct 27 13:27:44 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

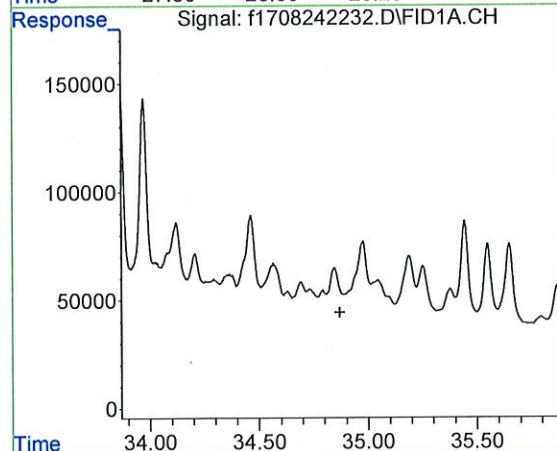




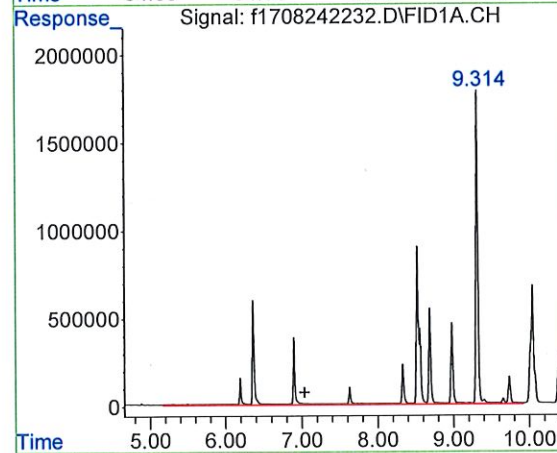
#1 5-alpha-androstane
 R.T.: 30.133 min
 Delta R.T.: 0.011 min
 Response: 75161742
 Conc: 50.00 ug/mL m



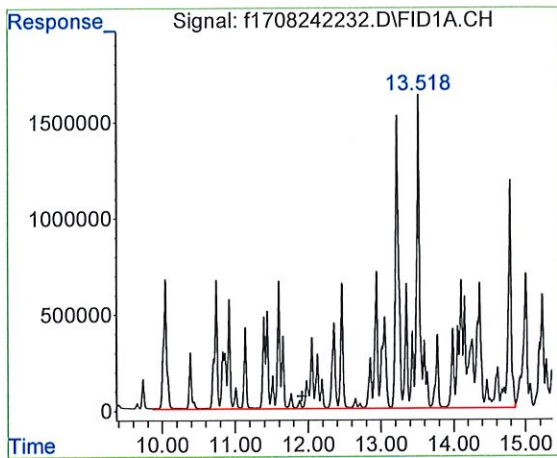
#2 ortho-terphenyl
 R.T.: 28.166 min
 Delta R.T.: 0.011 min
 Response: 74758755
 Conc: 47.58 ug/mL m



#3 d50-Tetracosane
 R.T.: 0.000 min
 Exp R.T. : 34.869 min
 Response: 0
 Conc: N.D.

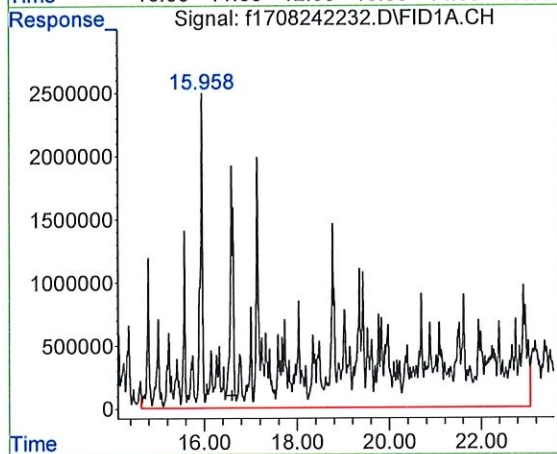


#9 > C8 to C10 Aromatics
 R.T.: 7.038 min
 Delta R.T.: 0.000 min
 Response: 104636851
 Conc: 73.89 UG/ML m



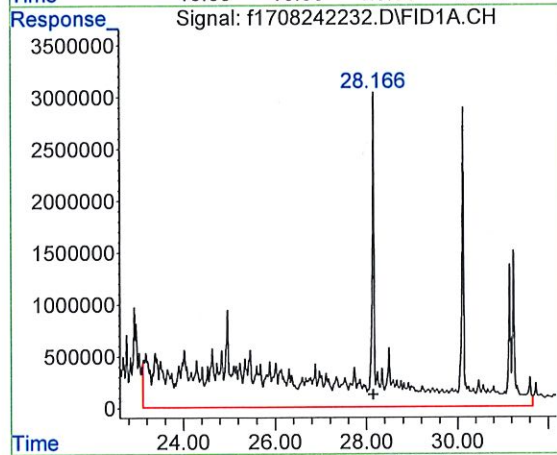
#10 > C10 to C12 Aromatics

R.T.: 11.919 min
Delta R.T.: 0.000 min
Response: 481655372
Conc: 340.14 UG/ML m



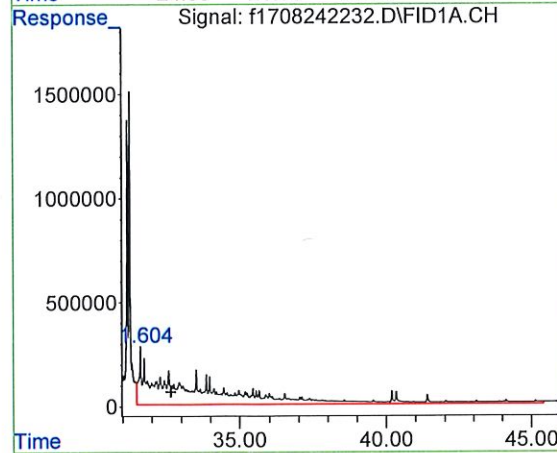
#11 > C12 to C16 Aromatics

R.T.: 16.606 min
Delta R.T.: 0.000 min
Response: 1765221219
Conc: 1246.57 UG/ML m



#12 > C16 to C21 Aromatics

R.T.: 28.155 min
Delta R.T.: 0.000 min
Response: 1314202337
Conc: 928.06 UG/ML m



#13 > C21 to C32 Aromatics

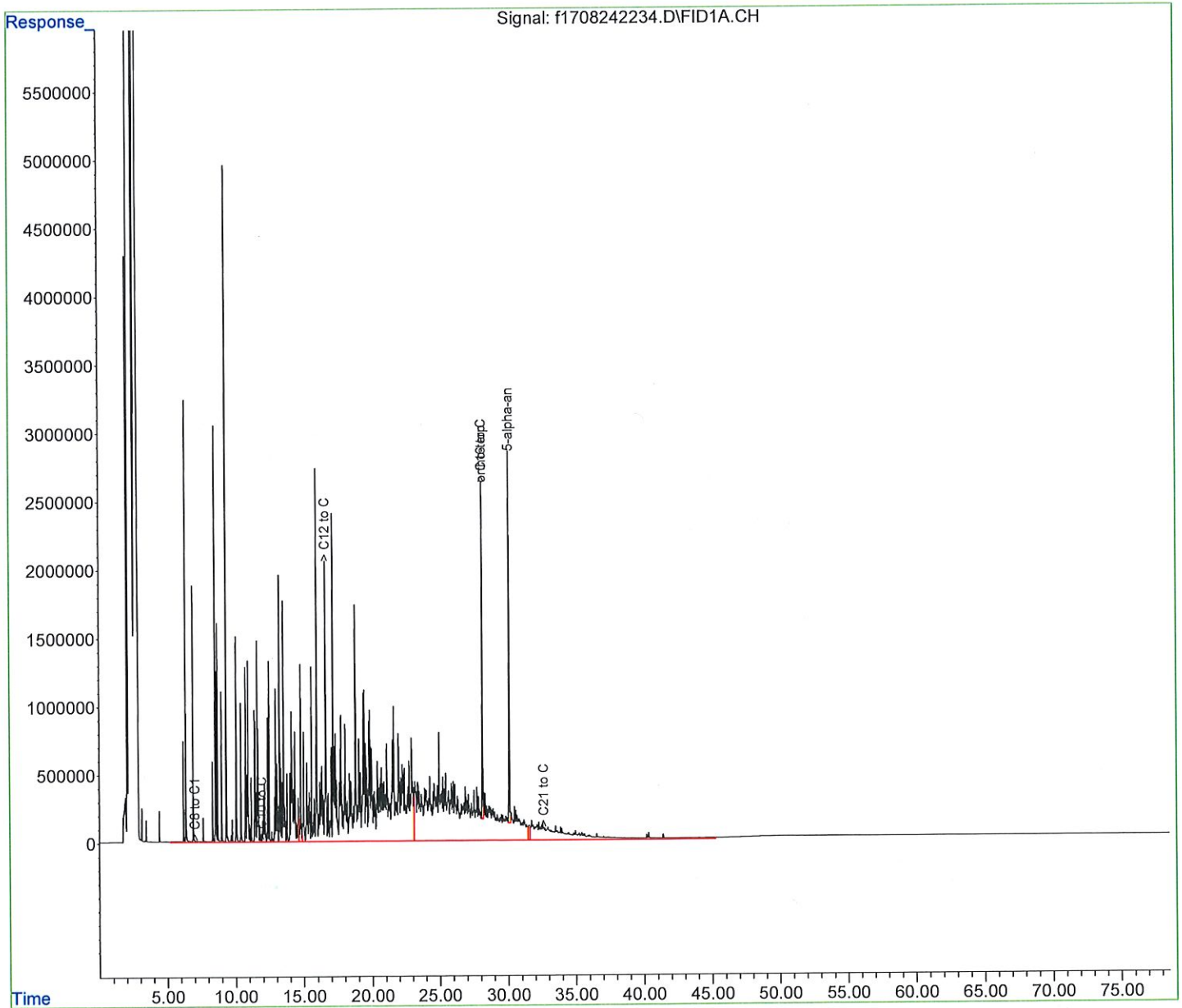
R.T.: 32.639 min
Delta R.T.: 0.000 min
Response: 255262767
Conc: 180.26 UG/ML m

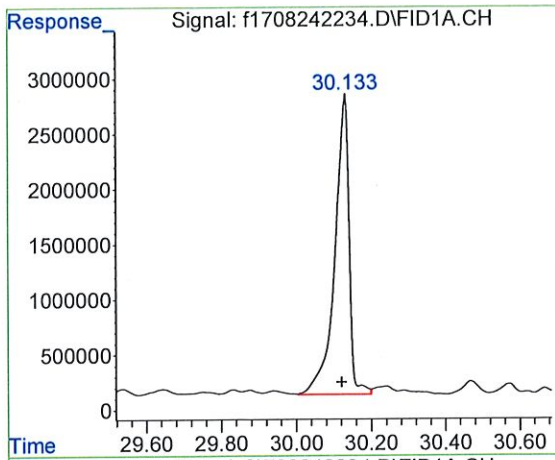
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708242234.D
Signal(s) : FID1A.CH
Acq On : 26 Aug 2022 2:34 am
Operator : FID17:WR
Sample : L2240634-15,42,,
Misc : WG1679263,WG1676458,ICAL18753
ALS Vial : 17 Sample Multiplier: 1

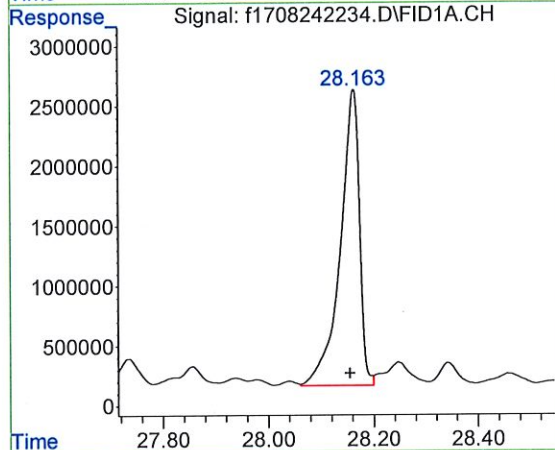
Integration File: autoint1.e
Quant Time: Oct 27 13:34:52 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

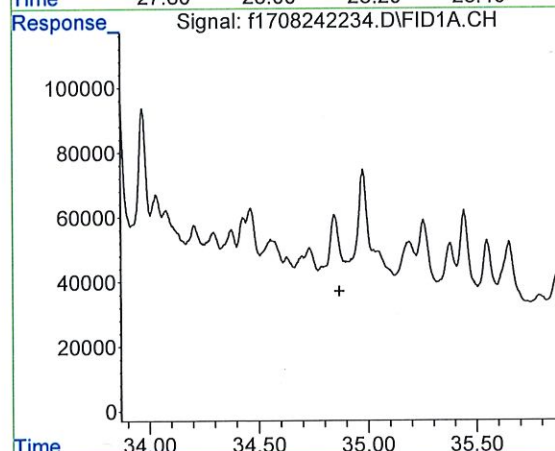




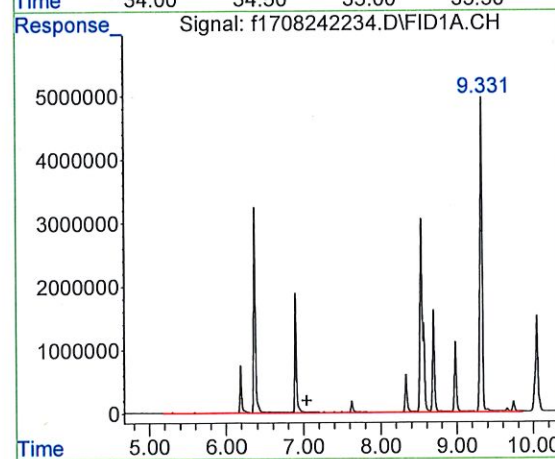
#1 5-alpha-androstane
 R.T.: 30.133 min
 Delta R.T.: 0.011 min
 Response: 72014007
 Conc: 50.00 ug/mL m



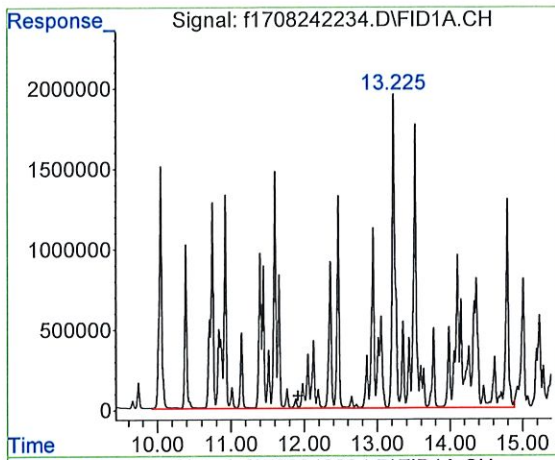
#2 ortho-terphenyl
 R.T.: 28.163 min
 Delta R.T.: 0.007 min
 Response: 61848218
 Conc: 41.08 ug/mL m



#3 d50-Tetracosane
 R.T.: 0.000 min
 Exp R.T. : 34.869 min
 Response: 0
 Conc: N.D.

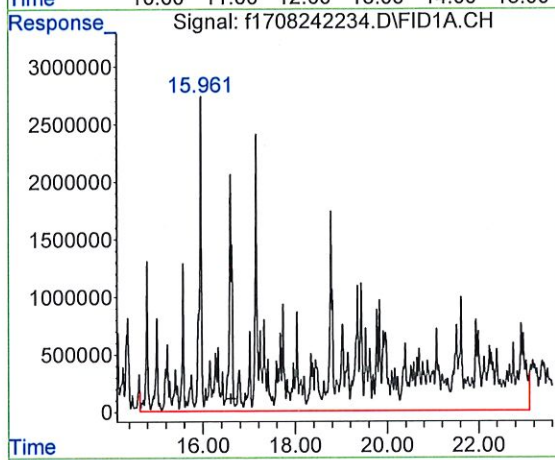


#9 > C8 to C10 Aromatics
 R.T.: 7.038 min
 Delta R.T.: 0.000 min
 Response: 341284260
 Conc: 251.54 UG/ML m



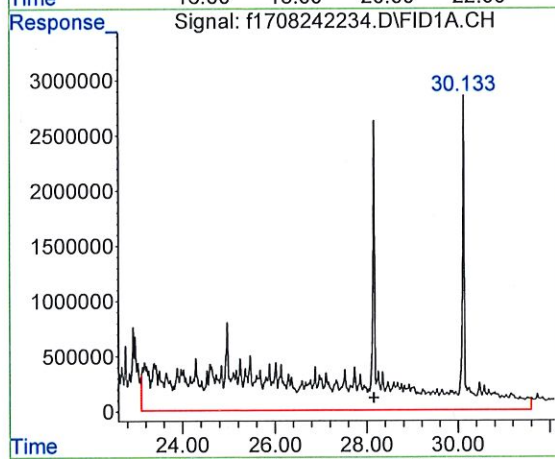
#10 > C10 to C12 Aromatics

R.T.: 11.919 min
 Delta R.T.: 0.000 min
 Response: 641781980
 Conc: 473.02 UG/ML m



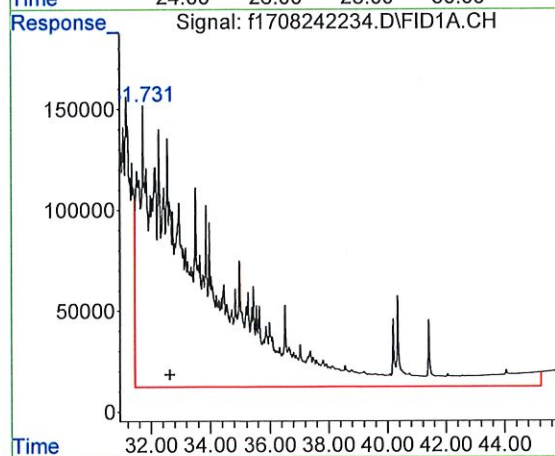
#11 > C12 to C16 Aromatics

R.T.: 16.606 min
 Delta R.T.: 0.000 min
 Response: 1670378414
 Conc: 1231.15 UG/ML m



#12 > C16 to C21 Aromatics

R.T.: 28.155 min
 Delta R.T.: 0.000 min
 Response: 1143684784
 Conc: 842.95 UG/ML m



#13 > C21 to C32 Aromatics

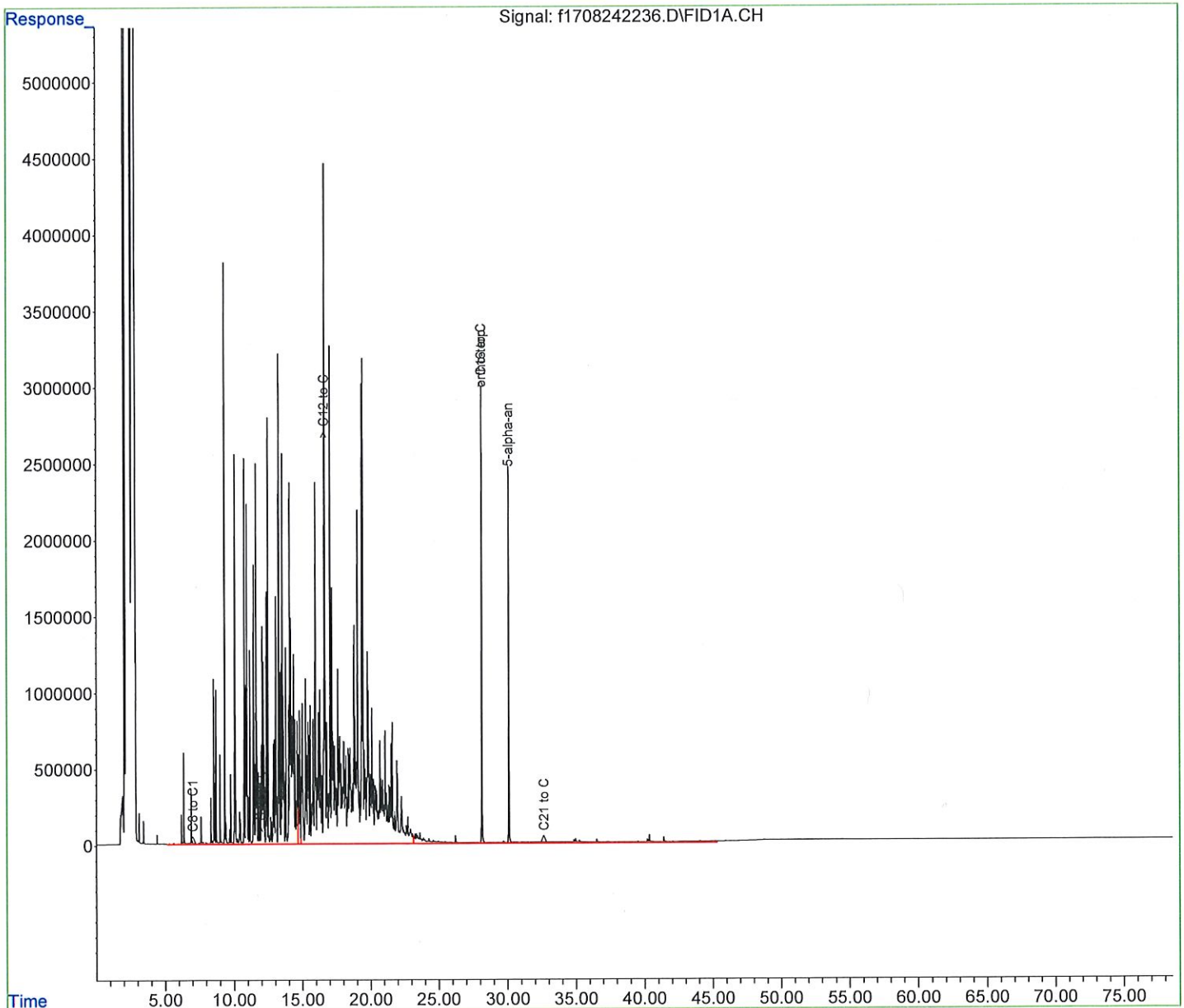
R.T.: 32.639 min
 Delta R.T.: 0.000 min
 Response: 211111953
 Conc: 155.60 UG/ML m

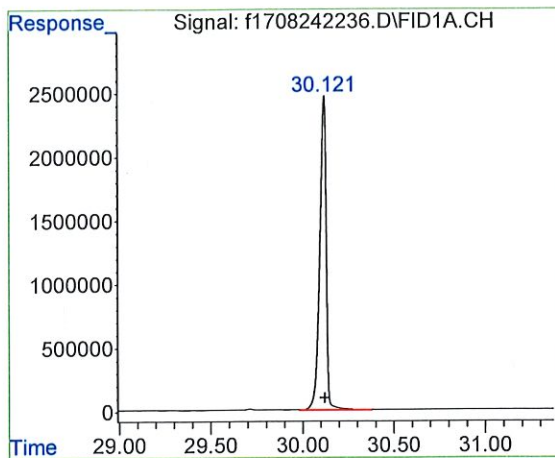
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708242236.D
Signal(s) : FID1A.CH
Acq On : 26 Aug 2022 4:05 am
Operator : FID17:WR
Sample : L2240634-18,42,,
Misc : WG1679263,WG1676458,ICAL18753
ALS Vial : 18 Sample Multiplier: 1

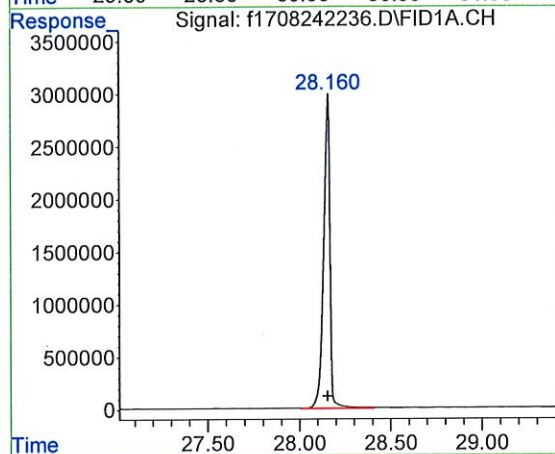
Integration File: autoint1.e
Quant Time: Oct 23 15:49:40 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

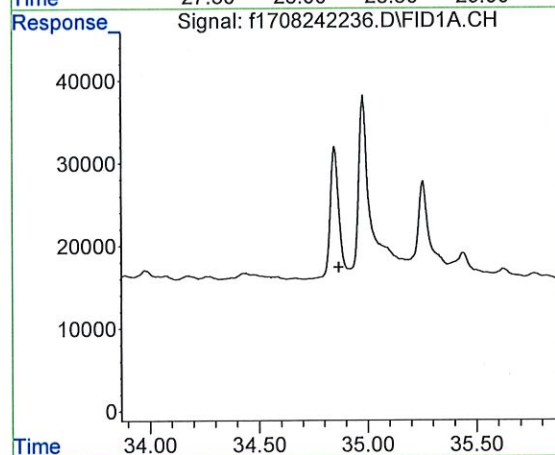




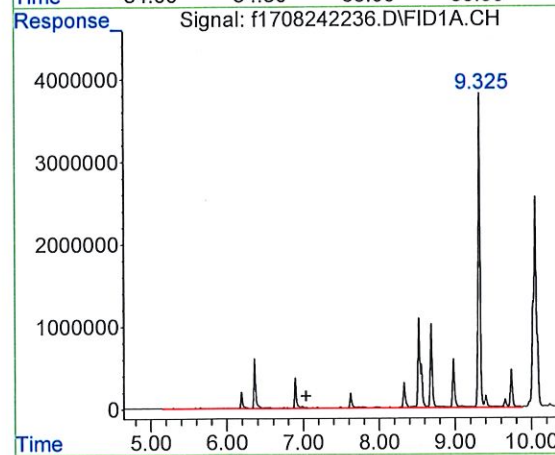
#1 5-alpha-androstane
 R.T.: 30.121 min
 Delta R.T.: 0.000 min
 Response: 60909812
 Conc: 50.00 ug/mL m



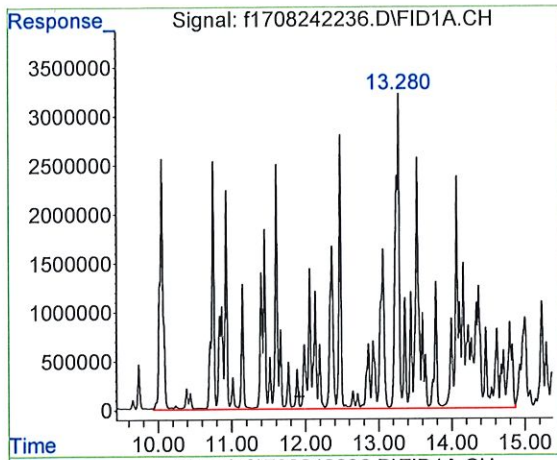
#2 ortho-terphenyl
 R.T.: 28.160 min
 Delta R.T.: 0.005 min
 Response: 71948260
 Conc: 56.50 ug/mL m



#3 d50-Tetracosane
 R.T.: 0.000 min
 Exp R.T. : 34.869 min
 Response: 0
 Conc: N.D.

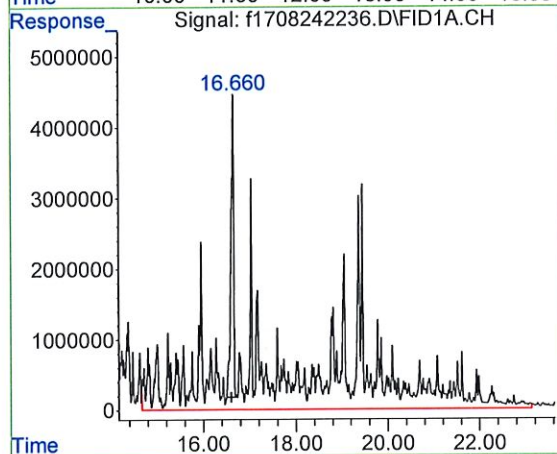


#9 > C8 to C10 Aromatics
 R.T.: 7.038 min
 Delta R.T.: 0.000 min
 Response: 173518306
 Conc: 151.21 UG/ML m



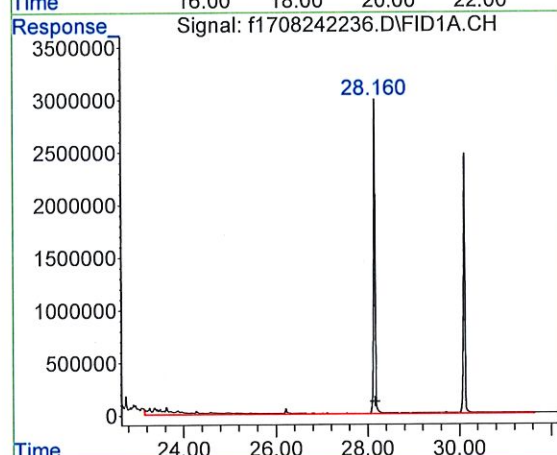
#10 > C10 to C12 Aromatics

R.T.: 11.919 min
 Delta R.T.: 0.000 min
 Response: 1281830918
 Conc: 1117.01 UG/ML m



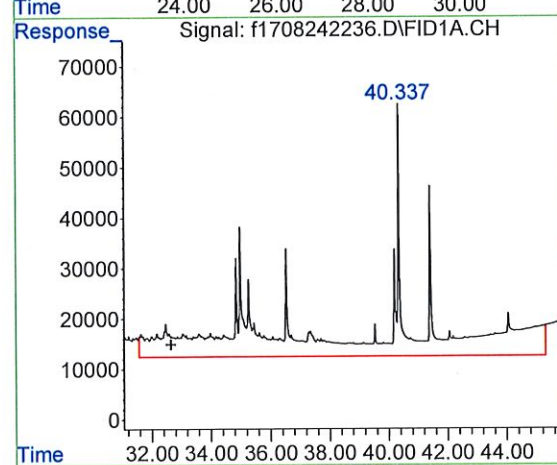
#11 > C12 to C16 Aromatics

R.T.: 16.606 min
 Delta R.T.: 0.000 min
 Response: 2078425171
 Conc: 1811.17 UG/ML m



#12 > C16 to C21 Aromatics

R.T.: 28.155 min
 Delta R.T.: 0.000 min
 Response: 40151719
 Conc: 34.99 UG/ML m



#13 > C21 to C32 Aromatics

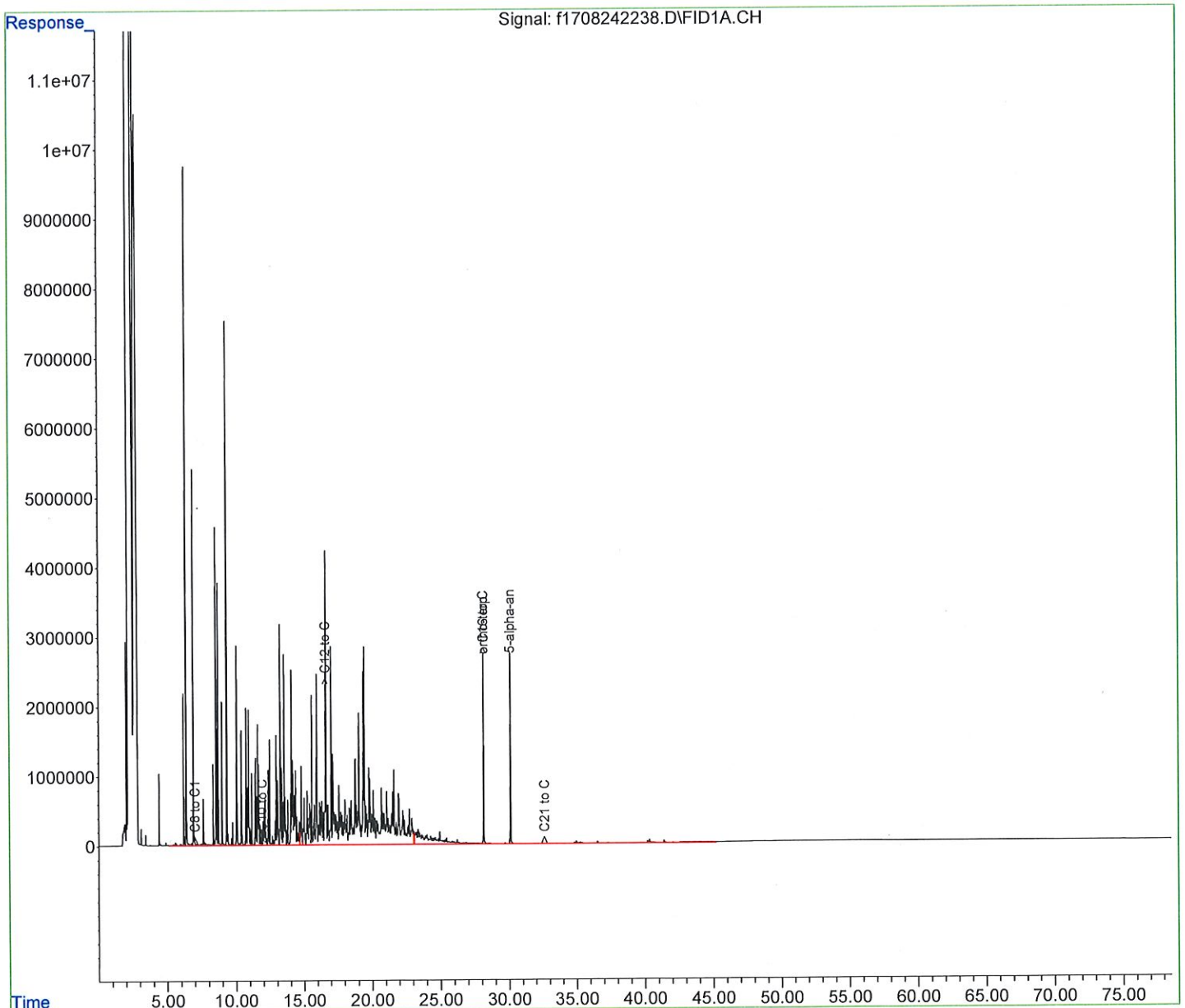
R.T.: 32.639 min
 Delta R.T.: 0.000 min
 Response: 35406944
 Conc: 30.85 UG/ML m

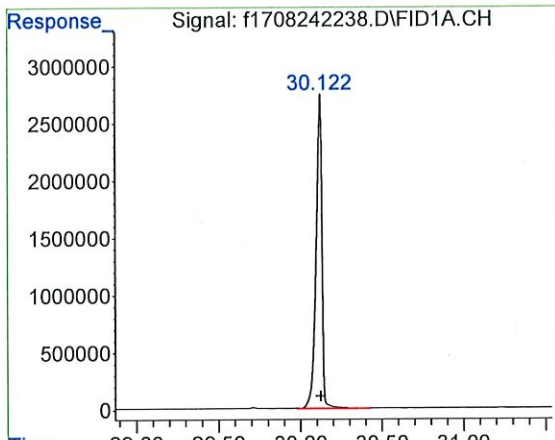
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708242238.D
Signal(s) : FID1A.CH
Acq On : 26 Aug 2022 5:35 am
Operator : FID17:WR
Sample : L2240634-21,42,,
Misc : WG1679263,WG1676458,ICAL18753
ALS Vial : 19 Sample Multiplier: 1

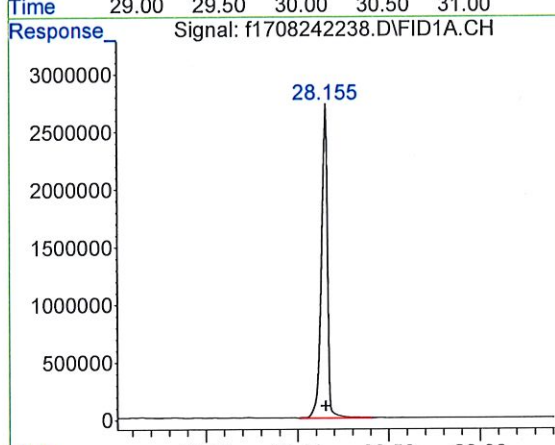
Integration File: autoint1.e
Quant Time: Oct 23 15:56:29 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

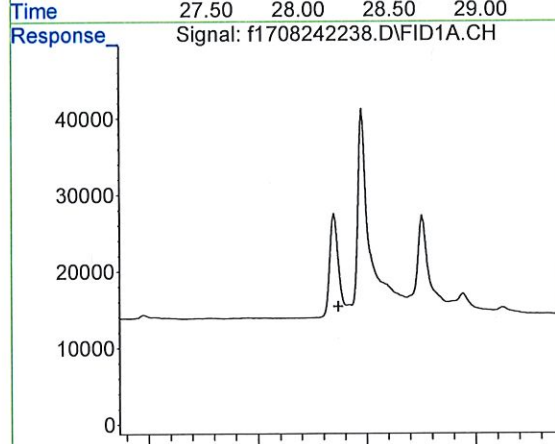




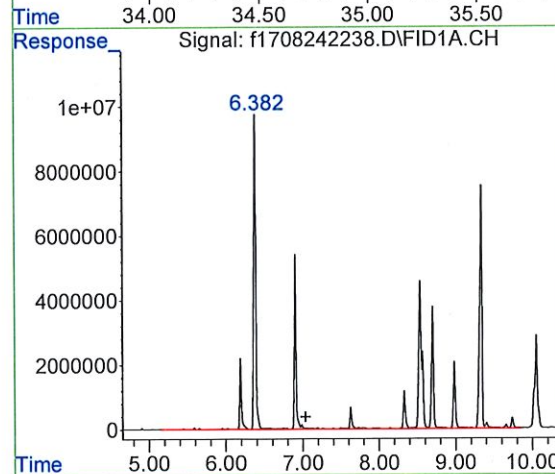
#1 5-alpha-androstane
 R.T.: 30.122 min
 Delta R.T.: 0.000 min
 Response: 67563072
 Conc: 50.00 ug/mL m



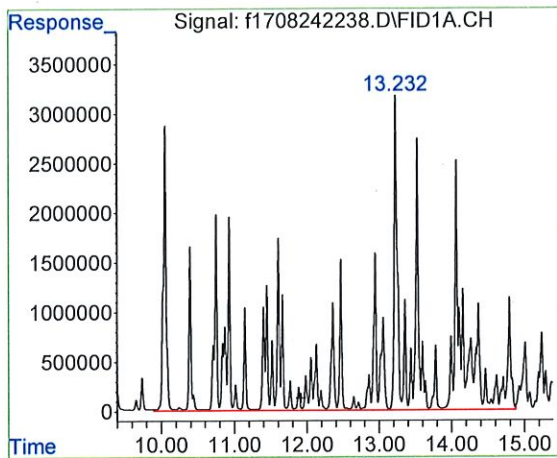
#2 ortho-terphenyl
 R.T.: 28.155 min
 Delta R.T.: 0.000 min
 Response: 63783057
 Conc: 45.16 ug/mL m



#3 d50-Tetracosane
 R.T.: 0.000 min
 Exp R.T. : 34.869 min
 Response: 0
 Conc: N.D.

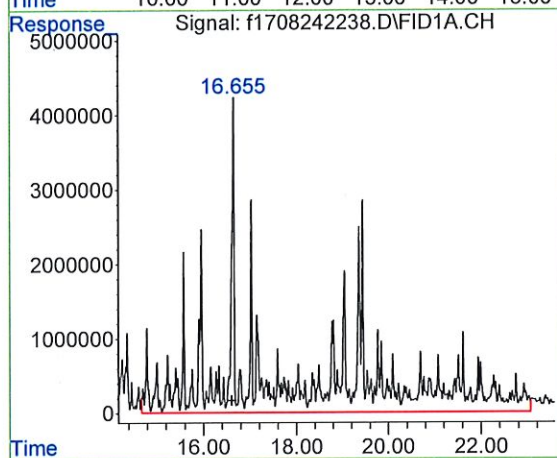


#9 > C8 to C10 Aromatics
 R.T.: 7.038 min
 Delta R.T.: 0.000 min
 Response: 772399920
 Conc: 606.80 UG/ML m



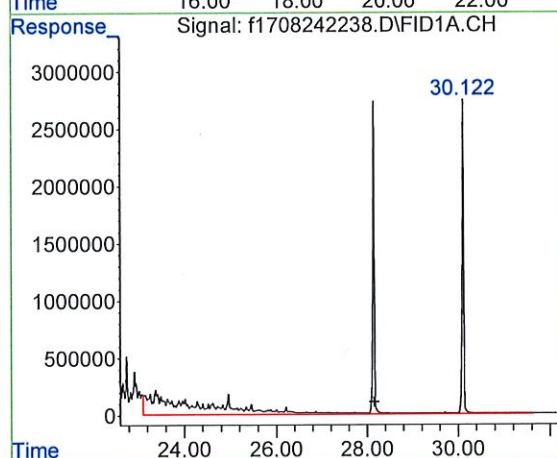
#10 > C10 to C12 Aromatics

R.T.: 11.919 min
 Delta R.T.: 0.000 min
 Response: 996145040
 Conc: 782.58 UG/ML m



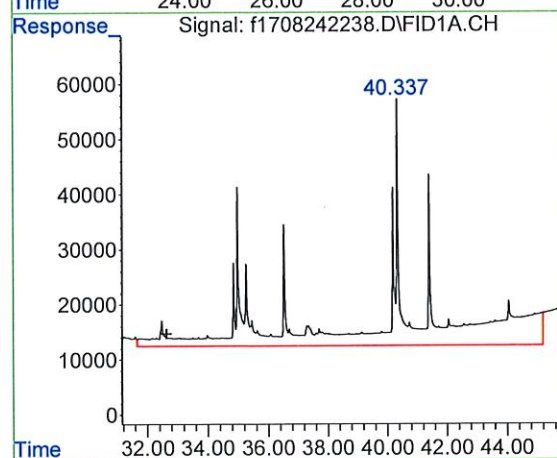
#11 > C12 to C16 Aromatics

R.T.: 16.606 min
 Delta R.T.: 0.000 min
 Response: 1867860170
 Conc: 1467.40 UG/ML m



#12 > C16 to C21 Aromatics

R.T.: 28.155 min
 Delta R.T.: 0.000 min
 Response: 148792599
 Conc: 116.89 UG/ML m



#13 > C21 to C32 Aromatics

R.T.: 32.639 min
 Delta R.T.: 0.000 min
 Response: 26988282
 Conc: 21.20 UG/ML m

Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708242240.D
Signal(s) : FID1A.CH
Acq On : 26 Aug 2022 7:05 am
Operator : FID17:WR
Sample : L2240634-27,42,,
Misc : WG1679263,WG1676458,ICAL18753
ALS Vial : 20 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 23 16:11:48 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH (
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I 5-alpha-androstane	30.126	71294132	50.000 ug/mLm
System Monitoring Compounds			
2) s ortho-terphenyl	28.160	69721607	46.779 ug/mLm
Spiked Amount	50.000	Range 50 - 130	Recovery = 93.56%
Target Compounds			
9) h > C8 to C10 Aromatics	7.038	8607615	6.408 UG/MLm
10) h > C10 to C12 Aromatics	11.919	96151579	71.584 UG/MLm
11) h > C12 to C16 Aromatics	16.606	420653648	313.173 UG/MLm
12) h > C16 to C21 Aromatics	28.155	516620976	384.619 UG/MLm
13) h > C21 to C32 Aromatics	32.639	1191979219	887.417 UG/MLm

SemiQuant Compounds - Not Calibrated on this Instrument

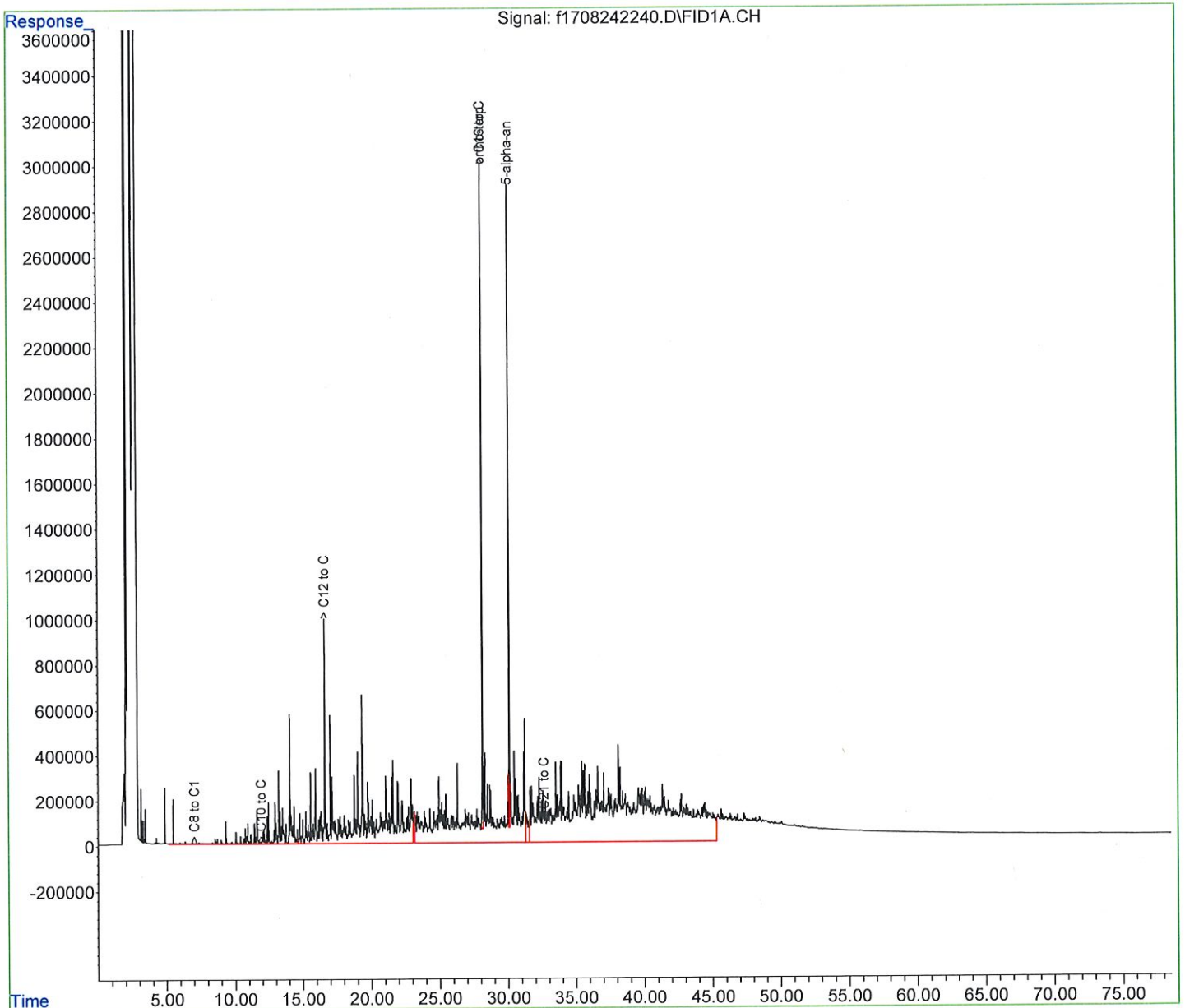
(f)=RT Delta > 1/2 Window (m)=manual int.

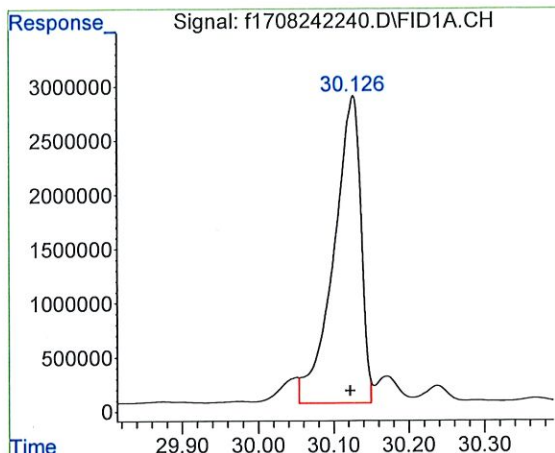
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1708242240.D
Signal(s) : FID1A.CH
Acq On : 26 Aug 2022 7:05 am
Operator : FID17:WR
Sample : L2240634-27,42,,
Misc : WG1679263,WG1676458,ICAL18753
ALS Vial : 20 Sample Multiplier: 1

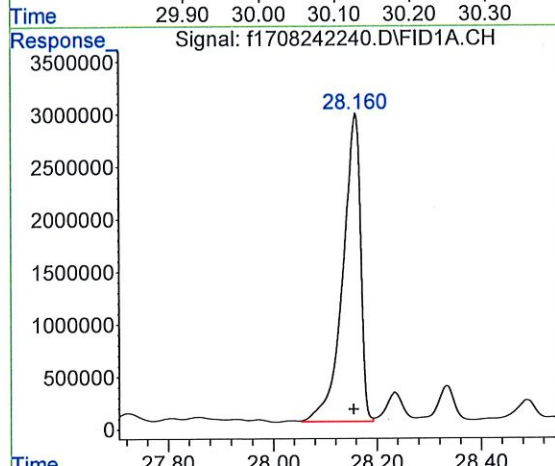
Integration File: autoint1.e
Quant Time: Oct 23 16:11:48 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Fri Sep 23 15:53:13 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

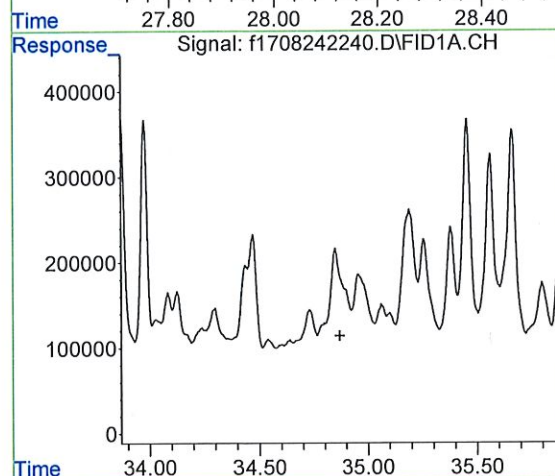




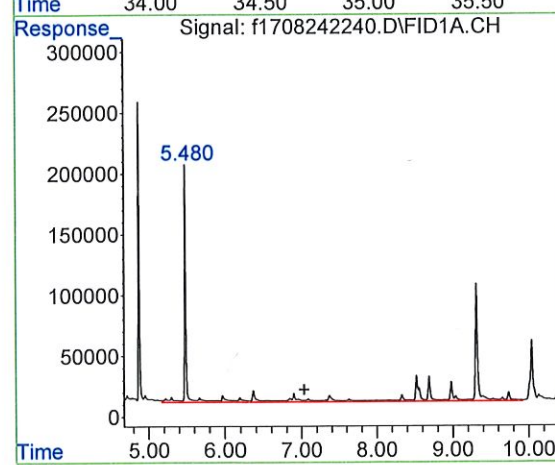
#1 5-alpha-androstane
 R.T.: 30.126 min
 Delta R.T.: 0.004 min
 Response: 71294132
 Conc: 50.00 ug/mL m



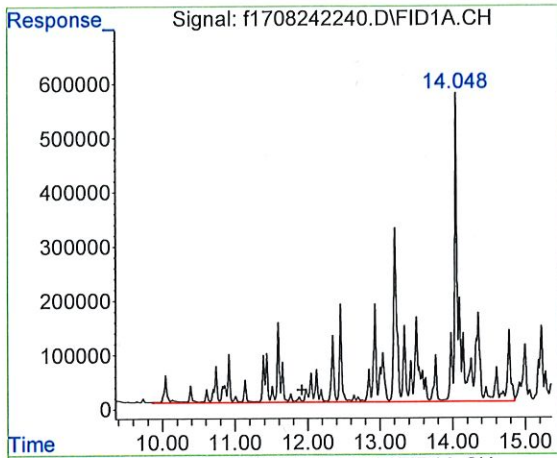
#2 ortho-terphenyl
 R.T.: 28.160 min
 Delta R.T.: 0.004 min
 Response: 69721607
 Conc: 46.78 ug/mL m



#3 d50-Tetracosane
 R.T.: 0.000 min
 Exp R.T. : 34.869 min
 Response: 0
 Conc: N.D.

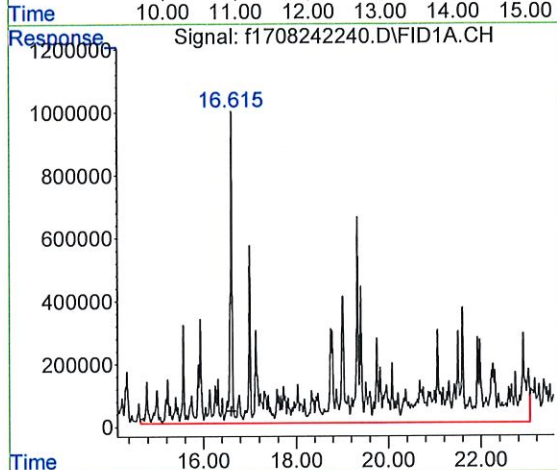


#9 > C8 to C10 Aromatics
 R.T.: 7.038 min
 Delta R.T.: 0.000 min
 Response: 8607615
 Conc: 6.41 UG/ML m



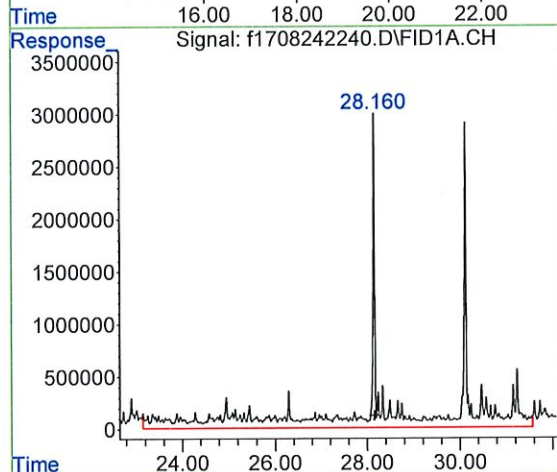
#10 > C10 to C12 Aromatics

R.T.: 11.919 min
 Delta R.T.: 0.000 min
 Response: 96151579
 Conc: 71.58 UG/ML m



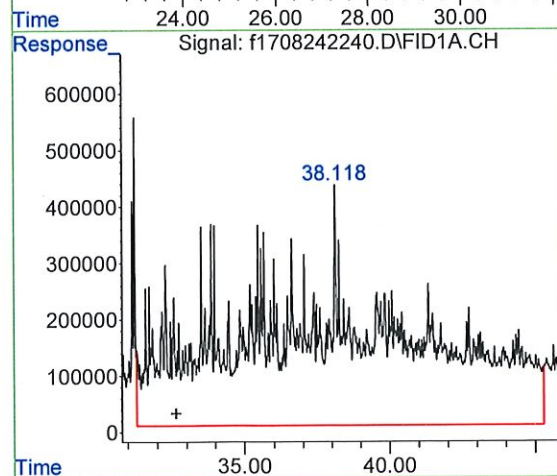
#11 > C12 to C16 Aromatics

R.T.: 16.606 min
 Delta R.T.: 0.000 min
 Response: 420653648
 Conc: 313.17 UG/ML m



#12 > C16 to C21 Aromatics

R.T.: 28.155 min
 Delta R.T.: 0.000 min
 Response: 516620976
 Conc: 384.62 UG/ML m



#13 > C21 to C32 Aromatics

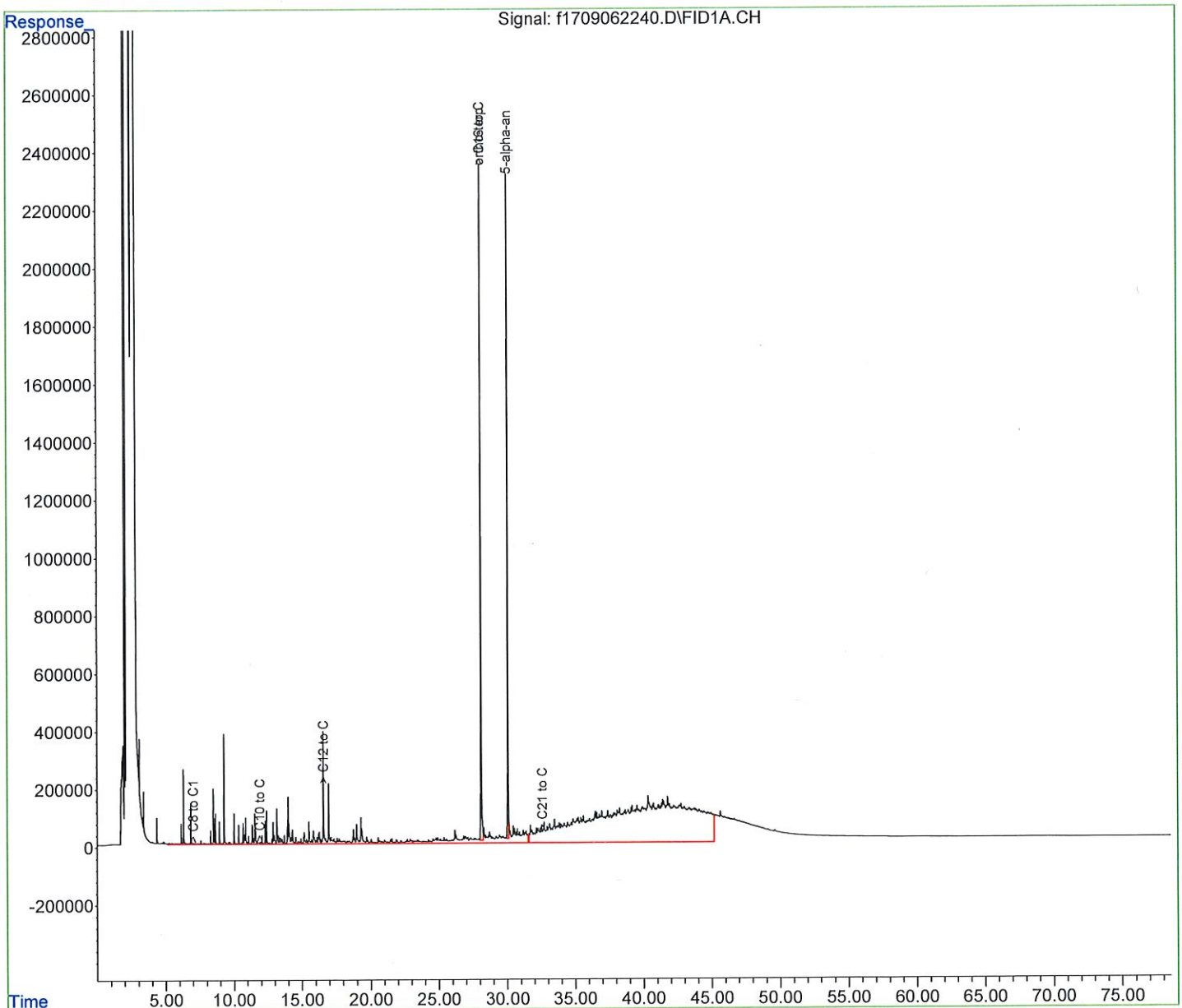
R.T.: 32.639 min
 Delta R.T.: 0.000 min
 Response: 1191979219
 Conc: 887.42 UG/ML m

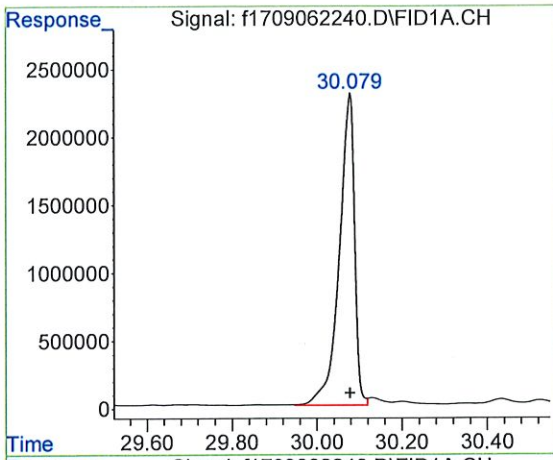
Quantitation Report (QT Reviewed)

Data Path : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\
Data File : f1709062240.D
Signal(s) : FID1A.CH
Acq On : 07 Sep 2022 19:05 pm
Operator : FID17:WR
Sample : I2240634-34,42,,
Misc : WG1684077,WG1682993,ICAL18753
ALS Vial : 20 Sample Multiplier: 1

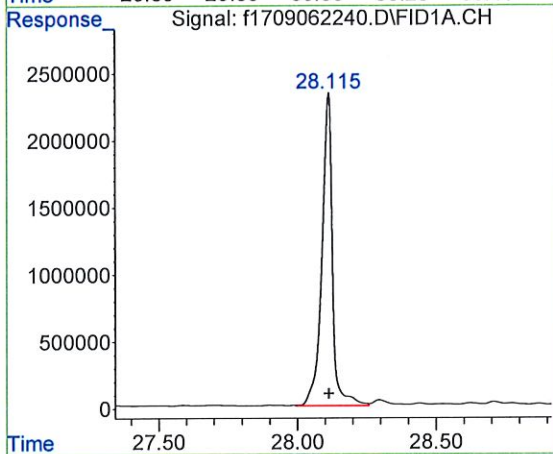
Integration File: autoint1.e
Quant Time: Oct 26 14:32:01 2022
Quant Method : C:\Projects\Hawaii DOH\2. Laboratory Data\Alpha\Carbon Range Study\L2240634\TPH\NF TPH\NF TPH
Quant Title : FID Forensics
QLast Update : Sun Oct 23 16:14:30 2022
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

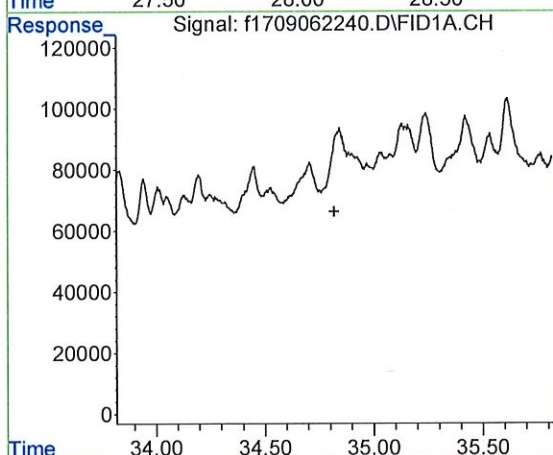




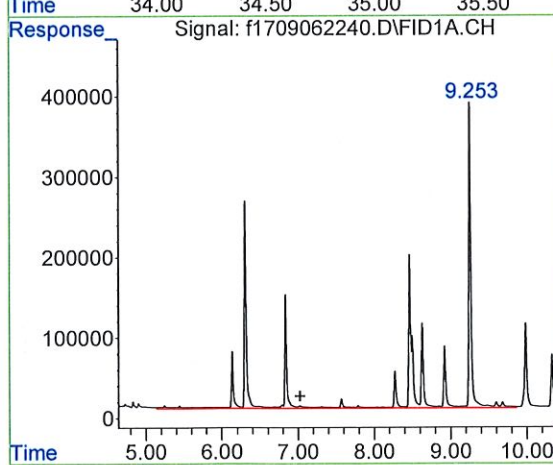
#1 5-alpha-androstane
 R.T.: 30.078 min
 Delta R.T.: 0.000 min
 Response: 56950357
 Conc: 50.00 ug/mL m



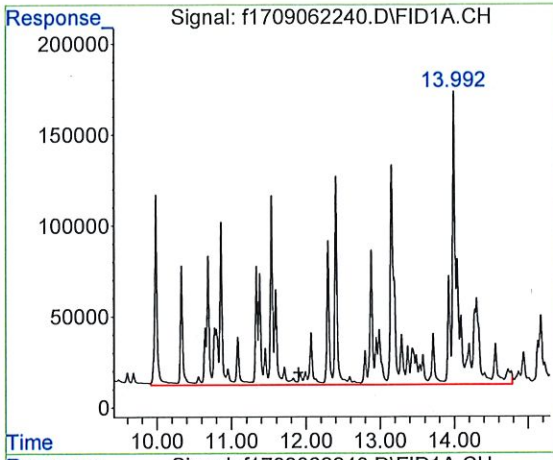
#2 ortho-terphenyl
 R.T.: 28.115 min
 Delta R.T.: 0.000 min
 Response: 61888011
 Conc: 51.98 ug/mL m



#3 d50-Tetracosane
 R.T.: 0.000 min
 Exp R.T. : 34.818 min
 Response: 0
 Conc: N.D.

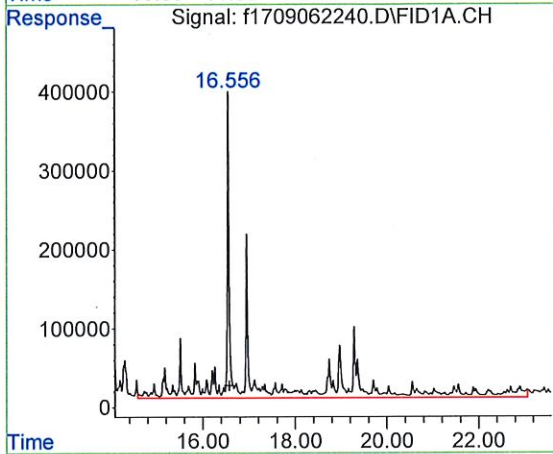


#9 > C8 to C10 Aromatics
 R.T.: 7.028 min
 Delta R.T.: 0.000 min
 Response: 27220310
 Conc: 25.37 UG/ML m



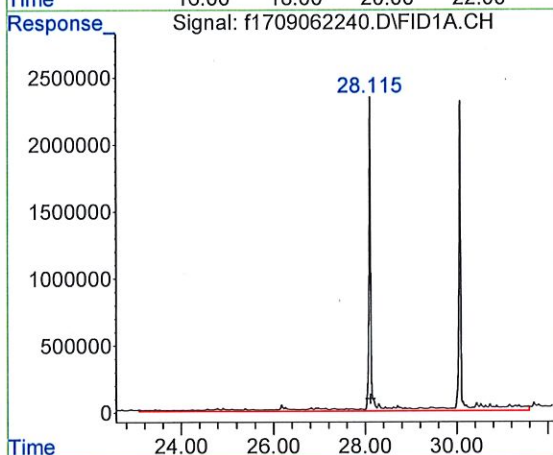
#10 > C10 to C12 Aromatics

R.T.: 11.901 min
 Delta R.T.: 0.000 min
 Response: 43832716
 Conc: 40.85 UG/ML m



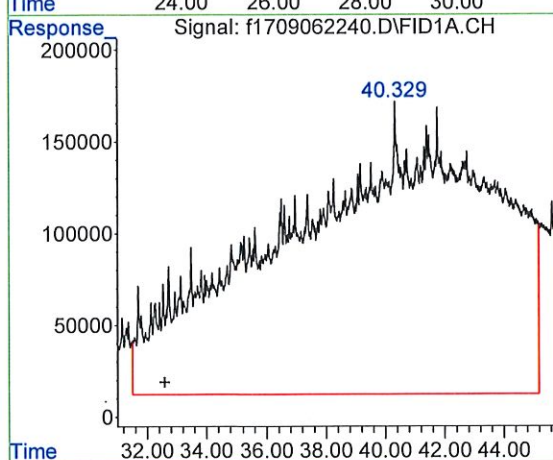
#11 > C12 to C16 Aromatics

R.T.: 16.582 min
 Delta R.T.: 0.000 min
 Response: 60866518
 Conc: 56.73 UG/ML m



#12 > C16 to C21 Aromatics

R.T.: 28.115 min
 Delta R.T.: 0.000 min
 Response: 82212863
 Conc: 76.62 UG/ML m



#13 > C21 to C32 Aromatics

R.T.: 32.591 min
 Delta R.T.: 0.000 min
 Response: 741457907
 Conc: 691.04 UG/ML m



ANALYTICAL REPORT

Lab Number:	L2240634
Client:	NewFields 300 Ledgewood Place Suite 305 Rockland, MA 02370
ATTN:	Eric Litman
Phone:	(781) 681-5040
Project Name:	HAWAII DOH - FINGERPRINTING
Project Number:	Not Specified
Report Date:	09/08/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: HAWAII DOH - FINGERPRINTING

Project Number: Not Specified

Lab Number: L2240634

Report Date: 09/08/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2240634-01	GASOLINE 87	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-02	GASOLINE 87 F1	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-03	GASOLINE 87 F2	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-04	GASOLINE 91	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-05	GASOLINE 91 F1	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-06	GASOLINE 91 F2	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-07	GASOLINE 93	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-08	GASOLINE 93 F1	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-09	GASOLINE 93 F2	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-10	HEATING FUEL	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-11	HEATING FUEL F1	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-12	HEATING FUEL F2	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-13	ROAD DIESEL	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-14	ROAD DIESEL F1	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-15	ROAD DIESEL F2	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-16	JP-5	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-17	JP-5 F1	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-18	JP-5 F2	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-19	JP-8	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-20	JP-8 F1	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-21	JP-8 F2	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-22	ASPHALT 1	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-23	ASPHALT 1 F1	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-24	ASPHALT 1 F2	OIL	Not Specified	07/26/22 00:00	07/29/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2240634-25	BUNKER C	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-26	BUNKER C F1	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-27	BUNKER C F2	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-28	JP-5 MEOH (0.5 MG/ML)	OIL	Not Specified	08/08/22 00:00	08/08/22
L2240634-29	JP-8 MEOH (0.5 MG/ML)	OIL	Not Specified	08/08/22 00:00	08/08/22
L2240634-30	JP-5 MEOH (20 MG/ML)	OIL	Not Specified	08/17/22 12:15	08/17/22
L2240634-31	JP-8 MEOH (20 MG/ML)	OIL	Not Specified	08/17/22 12:15	08/17/22
L2240634-32	WASTE OIL (AUTO)	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-33	WASTE OIL (AUTO) F1	OIL	Not Specified	07/26/22 00:00	07/29/22
L2240634-34	WASTE OIL (AUTO) F2	OIL	Not Specified	07/26/22 00:00	07/29/22

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L2240634-01D, -04D, -07D, -10D, -13D, -25D, -30D, and -31D: The samples have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the samples.

L2240634-01D2, -04D2, -07D2, -13D2, -30D2, and -31D2: The samples were re-analyzed on dilution in order to quantitate the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

The WG1671854-6 Method Blank, associated with L2240634-01D2, -01D, -04D2, -04D, -07D2, -07D, -10D, -13D, -13D2, -22, and -25D, has concentrations below the reporting limits and "J" qualified. Associated field sample results are "B" qualified if the concentrations are less than 10x the concentrations in the blank.

The WG1677380-6 Method Blank, associated with L2240634-30D2, -30D, -31D2, -31D, and -32, has concentrations below the reporting limits and "J" qualified. Associated field sample results are "B" qualified if the concentrations are less than 10x the concentrations in the blank.

Petroleum Hydrocarbon Quantitation

The WG1676458-1 Method Blank, associated with L2240634-03, -06, -09, -12, -15, -18, -21, and -27, has a concentration above the reporting limit for TPH (C9-C44). Associated field sample results are "B" qualified if the concentrations are less than 10x the concentration in the blank.

VPH

L2240634-01D, -04D, -07D, -10D, -13D, -25D, -30D, -31D, and -32D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L2240634-01D, -04D, -07D, -10D, and -13D: The surrogate recoveries are below the acceptance criteria for

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Case Narrative (continued)

2,5-dibromotoluene-pid (0%) and 2,5-dibromotoluene-fid (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

L2240634-25D: The surrogate recoveries are outside the acceptance criteria for 2,5-dibromotoluene-pid (0%) and 2,5-dibromotoluene-fid (0%); however, the sample was not re-analyzed due to coelution with an unresolved complex mixture (UCM). A copy of the chromatogram is included as an attachment to this report. The results are not considered to be biased.

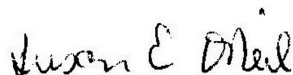
L2240634-32D: The surrogate recovery is outside the acceptance criteria for 2,5-dibromotoluene-fid (14%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report.

WG1684889-6: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

WG1684889-6: The surrogate recoveries are below the acceptance criteria for 2,5-dibromotoluene-pid (0%) and 2,5-dibromotoluene-fid (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Susan O'Neil

Title: Technical Director/Representative

Date: 09/08/22

ORGANICS

VOLATILES

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

SAMPLE RESULTS

Lab ID: L2240634-01 D2
 Client ID: GASOLINE 87
 Sample Location: Not Specified

Date Collected: 07/26/22 00:00
 Date Received: 07/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8260B(M)
 Analytical Date: 08/04/22 02:47
 Analyst: RY
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	37900		mg/kg	1890	703.	200
Pentane	30300		mg/kg	1890	588.	200
2-Methylpentane	26800		mg/kg	1890	607.	200
3-Methylpentane	17800		mg/kg	1890	366.	200
n-Hexane	26700		mg/kg	1890	550.	200
Methylcyclopentane	18800		mg/kg	1890	573.	200
Cyclohexane	12700		mg/kg	1890	544.	200
2-Methylhexane	14500		mg/kg	1890	440.	200
3-Methylhexane	14800		mg/kg	1890	496.	200
Isooctane	14900		mg/kg	1890	441.	200
Heptane	18700		mg/kg	1890	518.	200
Methylcyclohexane	14300		mg/kg	1890	402.	200
Toluene	50200		mg/kg	1890	273.	200
Ethylbenzene	11800		mg/kg	1890	204.	200
p/m-Xylene	46400		mg/kg	3770	531.	200
o-Xylene	16800		mg/kg	1890	290.	200
1-Methyl-3-Ethylbenzene	11900		mg/kg	1890	302.	200
1,2,4-Trimethylbenzene	19200		mg/kg	1890	413.	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	124		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	96		70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-01 D

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 87

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Analytical Method: 1,8260B(M)

Analytical Date: 08/03/22 22:03

Analyst: RY

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	58500	E	mg/kg	94.3	35.2	10
1-Pentene	2220		mg/kg	94.3	29.2	10
2-Methyl-1-Butene	5550		mg/kg	94.3	31.0	10
Pentane	43500	E	mg/kg	94.3	29.4	10
trans-2-Pentene	6310		mg/kg	94.3	33.2	10
cis-2-Pentene	3660		mg/kg	94.3	24.7	10
Tertiary Butanol	ND		mg/kg	1180	382.	10
Cyclopentane	4880		mg/kg	94.3	24.5	10
2,3-Dimethylbutane	7760		mg/kg	94.3	38.9	10
2-Methylpentane	35800	E	mg/kg	94.3	30.4	10
Methyl tert butyl ether	ND		mg/kg	94.3	29.4	10
3-Methylpentane	22700	E	mg/kg	94.3	18.3	10
1-Hexene	820		mg/kg	94.3	27.1	10
n-Hexane	33300	E	mg/kg	94.3	27.5	10
Isopropyl Ether	ND		mg/kg	94.3	25.9	10
Ethyl-Tert-Butyl-Ether	ND		mg/kg	94.3	24.6	10
2,2-Dimethylpentane	1230		mg/kg	94.3	24.4	10
Methylcyclopentane	22200	E	mg/kg	94.3	28.7	10
2,4-Dimethylpentane	4700		mg/kg	94.3	24.8	10
1,2-Dichloroethane	ND		mg/kg	94.3	28.6	10
Cyclohexane	14600	E	mg/kg	94.3	27.2	10
2-Methylhexane	16200	E	mg/kg	94.3	22.0	10
Benzene	9120		mg/kg	94.3	20.4	10
2,3-Dimethylpentane	7000		mg/kg	94.3	23.9	10
Thiophene	ND		mg/kg	94.3	24.5	10
3-Methylhexane	15900	E	mg/kg	94.3	24.8	10
Tertiary-Amyl Methyl Ether	ND		mg/kg	94.3	25.0	10
1-Heptene/1,2-DMCP (trans)	8560		mg/kg	189	57.8	10

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-01 D

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 87

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isooctane	15100	E	mg/kg	94.3	22.0	10
Heptane	19000	E	mg/kg	94.3	25.9	10
Methylcyclohexane	14900	E	mg/kg	94.3	20.1	10
2,5-Dimethylhexane	3420		mg/kg	94.3	22.6	10
2,4-Dimethylhexane	3390		mg/kg	94.3	22.3	10
2,2,3-Trimethylpentane	1010		mg/kg	94.3	23.6	10
2,3,4-Trimethylpentane	7030		mg/kg	94.3	21.6	10
2,3,3-Trimethylpentane	7790		mg/kg	94.3	20.6	10
2,3-Dimethylhexane	2140		mg/kg	94.3	22.8	10
2-Methylheptane	8310		mg/kg	94.3	21.8	10
3-Methylheptane	6270		mg/kg	94.3	28.3	10
3-Ethylhexane	1610		mg/kg	94.3	24.1	10
Toluene	54500	E	mg/kg	94.3	13.6	10
2-Methylthiophene	ND		mg/kg	94.3	14.0	10
3-Methylthiophene	ND		mg/kg	94.3	14.5	10
1-Octene	ND		mg/kg	236	14.4	10
Octane	9010		mg/kg	94.3	20.0	10
1,2-Dibromoethane	ND		mg/kg	94.3	15.1	10
Ethylbenzene	12400	E	mg/kg	94.3	10.2	10
2-Ethylthiophene	ND		mg/kg	94.3	10.3	10
p/m-Xylene	47000	E	mg/kg	189	26.5	10
1-Nonene	ND		mg/kg	236	9.77	10
Nonane (C9)	3940		mg/kg	94.3	20.6	10
Styrene	16.2	J	mg/kg	94.3	13.1	10
o-Xylene	17600	E	mg/kg	94.3	14.5	10
Isopropylbenzene	1000		mg/kg	94.3	15.8	10
n-Propylbenzene	3720		mg/kg	94.3	17.8	10
1-Methyl-3-Ethylbenzene	11200	E	mg/kg	94.3	15.1	10
1-Methyl-4-Ethylbenzene	5210		mg/kg	94.3	17.2	10
1,3,5-Trimethylbenzene	5520		mg/kg	94.3	17.9	10
1-Decene	ND		mg/kg	94.3	13.1	10
1-Methyl-2-Ethylbenzene	4020		mg/kg	94.3	19.3	10
Decane (C10)	2190		mg/kg	94.3	14.4	10
1,2,4-Trimethylbenzene	17900	E	mg/kg	94.3	20.6	10
sec-Butylbenzene	338		mg/kg	94.3	19.1	10
1-Methyl-3-Isopropylbenzene	536		mg/kg	94.3	17.7	10
1-Methyl-4-Isopropylbenzene	179		mg/kg	94.3	21.6	10

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-01 D

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 87

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1-Methyl-2-Isopropylbenzene	38.6	J	mg/kg	94.3	25.9	10
Indane	1870		mg/kg	94.3	21.8	10
1-Methyl-3-N-Propylbenzene	2200		mg/kg	94.3	20.8	10
1-Methyl-4-N-Propylbenzene	1040		mg/kg	94.3	22.1	10
n-Butylbenzene	717		mg/kg	94.3	23.6	10
1,2-Dimethyl-4-Ethylbenzene	2190		mg/kg	94.3	22.9	10
1,2-Diethylbenzene	158		mg/kg	94.3	21.8	10
1-Methyl-2-N-Propylbenzene	779		mg/kg	94.3	19.2	10
1,4-Dimethyl-2-Ethylbenzene	1550		mg/kg	94.3	21.0	10
Undecane	758		mg/kg	94.3	33.3	10
1,3-Dimethyl-4-Ethylbenzene	1300		mg/kg	94.3	20.2	10
1,3-Dimethyl-5-Ethylbenzene	2430		mg/kg	94.3	22.9	10
1,3-Dimethyl-2-Ethylbenzene	166		mg/kg	94.3	22.4	10
1,2-Dimethyl-3-Ethylbenzene	511		mg/kg	94.3	20.5	10
1,2,4,5-Tetramethylbenzene	1220		mg/kg	94.3	21.3	10
N-Pentylbenzene	91.9	J	mg/kg	94.3	18.7	10
Dodecane (C12)	341		mg/kg	236	41.4	10
Naphthalene	1850		mg/kg	94.3	39.3	10
Benzothiophene	ND		mg/kg	94.3	49.8	10
MMT	ND		mg/kg	236	60.6	10
Tridecane	181	J	mg/kg	236	61.1	10
2-Methylnaphthalene	1040		mg/kg	236	62.3	10
1-Methylnaphthalene	488		mg/kg	236	69.2	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	127		70-130
Toluene-d8	115		70-130
4-Bromofluorobenzene	92		70-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

SAMPLE RESULTS

Lab ID: L2240634-04 D2
 Client ID: GASOLINE 91
 Sample Location: Not Specified

Date Collected: 07/26/22 00:00
 Date Received: 07/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8260B(M)
 Analytical Date: 08/04/22 05:09
 Analyst: RY
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	49400		mg/kg	1960	732.	200
Pentane	36900		mg/kg	1960	612.	200
2-Methylpentane	29300		mg/kg	1960	632.	200
3-Methylpentane	18700		mg/kg	1960	381.	200
n-Hexane	27500		mg/kg	1960	572.	200
Methylcyclopentane	19400		mg/kg	1960	597.	200
Cyclohexane	12600		mg/kg	1960	567.	200
2-Methylhexane	14200		mg/kg	1960	458.	200
3-Methylhexane	14200		mg/kg	1960	517.	200
Isooctane	14400		mg/kg	1960	459.	200
Heptane	17800		mg/kg	1960	539.	200
Methylcyclohexane	13600		mg/kg	1960	418.	200
Toluene	47600		mg/kg	1960	284.	200
Ethylbenzene	10600		mg/kg	1960	212.	200
p/m-Xylene	42100		mg/kg	3930	553.	200
o-Xylene	15000		mg/kg	1960	302.	200
1-Methyl-3-Ethylbenzene	10300		mg/kg	1960	315.	200
1,2,4-Trimethylbenzene	16700		mg/kg	1960	430.	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	121		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	96		70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-04 D

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 91

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Analytical Method: 1,8260B(M)

Analytical Date: 08/04/22 00:25

Analyst: RY

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	56800	E	mg/kg	98.2	36.6	10
1-Pentene	2120		mg/kg	98.2	30.4	10
2-Methyl-1-Butene	5360		mg/kg	98.2	32.3	10
Pentane	40600	E	mg/kg	98.2	30.6	10
trans-2-Pentene	6050		mg/kg	98.2	34.6	10
cis-2-Pentene	3320		mg/kg	98.2	25.7	10
Tertiary Butanol	ND		mg/kg	1230	398.	10
Cyclopentane	4660		mg/kg	98.2	25.5	10
2,3-Dimethylbutane	6950		mg/kg	98.2	40.5	10
2-Methylpentane	31700	E	mg/kg	98.2	31.6	10
Methyl tert butyl ether	ND		mg/kg	98.2	30.6	10
3-Methylpentane	20300	E	mg/kg	98.2	19.0	10
1-Hexene	681		mg/kg	98.2	28.2	10
n-Hexane	29900	E	mg/kg	98.2	28.6	10
Isopropyl Ether	ND		mg/kg	98.2	27.0	10
Ethyl-Tert-Butyl-Ether	ND		mg/kg	98.2	25.6	10
2,2-Dimethylpentane	1120		mg/kg	98.2	25.4	10
Methylcyclopentane	20300	E	mg/kg	98.2	29.8	10
2,4-Dimethylpentane	4470		mg/kg	98.2	25.8	10
1,2-Dichloroethane	ND		mg/kg	98.2	29.7	10
Cyclohexane	14500	E	mg/kg	98.2	28.4	10
2-Methylhexane	16200	E	mg/kg	98.2	22.9	10
Benzene	8770		mg/kg	98.2	21.3	10
2,3-Dimethylpentane	6240		mg/kg	98.2	24.9	10
Thiophene	21.2	J	mg/kg	98.2	25.5	10
3-Methylhexane	16100	E	mg/kg	98.2	25.8	10
Tertiary-Amyl Methyl Ether	ND		mg/kg	98.2	26.0	10
1-Heptene/1,2-DMCP (trans)	7960		mg/kg	196	60.2	10

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-04 D

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 91

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isooctane	15800	E	mg/kg	98.2	23.0	10
Heptane	20100	E	mg/kg	98.2	27.0	10
Methylcyclohexane	16600	E	mg/kg	98.2	20.9	10
2,5-Dimethylhexane	3670		mg/kg	98.2	23.5	10
2,4-Dimethylhexane	3770		mg/kg	98.2	23.2	10
2,2,3-Trimethylpentane	1050		mg/kg	98.2	24.6	10
2,3,4-Trimethylpentane	7220		mg/kg	98.2	22.5	10
2,3,3-Trimethylpentane	8190		mg/kg	98.2	21.5	10
2,3-Dimethylhexane	2420		mg/kg	98.2	23.8	10
2-Methylheptane	8760		mg/kg	98.2	22.7	10
3-Methylheptane	6940		mg/kg	98.2	29.5	10
3-Ethylhexane	1520		mg/kg	98.2	25.1	10
Toluene	52500	E	mg/kg	98.2	14.2	10
2-Methylthiophene	ND		mg/kg	98.2	14.6	10
3-Methylthiophene	ND		mg/kg	98.2	15.1	10
1-Octene	ND		mg/kg	246	15.0	10
Octane	9750		mg/kg	98.2	20.8	10
1,2-Dibromoethane	ND		mg/kg	98.2	15.7	10
Ethylbenzene	12500	E	mg/kg	98.2	10.6	10
2-Ethylthiophene	ND		mg/kg	98.2	10.8	10
p/m-Xylene	48000	E	mg/kg	196	27.6	10
1-Nonene	ND		mg/kg	246	10.2	10
Nonane (C9)	4570		mg/kg	98.2	21.5	10
Styrene	17.1	J	mg/kg	98.2	13.6	10
o-Xylene	17600	E	mg/kg	98.2	15.1	10
Isopropylbenzene	1080		mg/kg	98.2	16.4	10
n-Propylbenzene	4100		mg/kg	98.2	18.5	10
1-Methyl-3-Ethylbenzene	12400	E	mg/kg	98.2	15.7	10
1-Methyl-4-Ethylbenzene	5750		mg/kg	98.2	17.9	10
1,3,5-Trimethylbenzene	6120		mg/kg	98.2	18.7	10
1-Decene	ND		mg/kg	98.2	13.6	10
1-Methyl-2-Ethylbenzene	4330		mg/kg	98.2	20.1	10
Decane (C10)	2540		mg/kg	98.2	15.0	10
1,2,4-Trimethylbenzene	19500	E	mg/kg	98.2	21.5	10
sec-Butylbenzene	384		mg/kg	98.2	19.9	10
1-Methyl-3-Isopropylbenzene	608		mg/kg	98.2	18.5	10
1-Methyl-4-Isopropylbenzene	206		mg/kg	98.2	22.5	10

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-04 D

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 91

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1-Methyl-2-Isopropylbenzene	42.0	J	mg/kg	98.2	27.0	10
Indane	1950		mg/kg	98.2	22.7	10
1-Methyl-3-N-Propylbenzene	2530		mg/kg	98.2	21.7	10
1-Methyl-4-N-Propylbenzene	1200		mg/kg	98.2	23.0	10
n-Butylbenzene	840		mg/kg	98.2	24.5	10
1,2-Dimethyl-4-Ethylbenzene	2490		mg/kg	98.2	23.9	10
1,2-Diethylbenzene	180		mg/kg	98.2	22.7	10
1-Methyl-2-N-Propylbenzene	877		mg/kg	98.2	20.0	10
1,4-Dimethyl-2-Ethylbenzene	1730		mg/kg	98.2	21.9	10
Undecane	821		mg/kg	98.2	34.7	10
1,3-Dimethyl-4-Ethylbenzene	1460		mg/kg	98.2	21.0	10
1,3-Dimethyl-5-Ethylbenzene	2730		mg/kg	98.2	23.9	10
1,3-Dimethyl-2-Ethylbenzene	203		mg/kg	98.2	23.3	10
1,2-Dimethyl-3-Ethylbenzene	562		mg/kg	98.2	21.4	10
1,2,4,5-Tetramethylbenzene	1390		mg/kg	98.2	22.2	10
N-Pentylbenzene	99.9		mg/kg	98.2	19.4	10
Dodecane (C12)	354		mg/kg	246	43.1	10
Naphthalene	1790		mg/kg	98.2	41.0	10
Benzo thiophene	ND		mg/kg	98.2	51.9	10
MMT	ND		mg/kg	246	63.1	10
Tridecane	220	J	mg/kg	246	63.7	10
2-Methylnaphthalene	1010		mg/kg	246	64.9	10
1-Methylnaphthalene	473		mg/kg	246	72.0	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	122		70-130
Toluene-d8	113		70-130
4-Bromofluorobenzene	97		70-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

SAMPLE RESULTS

Lab ID: L2240634-07 D2
 Client ID: GASOLINE 93
 Sample Location: Not Specified

Date Collected: 07/26/22 00:00
 Date Received: 07/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8260B(M)
 Analytical Date: 08/04/22 23:43
 Analyst: RY
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	44400		mg/kg	1760	658.	200
Pentane	32900		mg/kg	1760	550.	200
2-Methylpentane	27700		mg/kg	1760	568.	200
3-Methylpentane	17800		mg/kg	1760	342.	200
n-Hexane	26300		mg/kg	1760	514.	200
Methylcyclopentane	18600		mg/kg	1760	536.	200
Cyclohexane	12400		mg/kg	1760	509.	200
2-Methylhexane	14100		mg/kg	1760	411.	200
Benzene	8810		mg/kg	1760	382.	200
3-Methylhexane	14100		mg/kg	1760	464.	200
Isooctane	14100		mg/kg	1760	413.	200
Heptane	18100		mg/kg	1760	485.	200
Methylcyclohexane	13900		mg/kg	1760	376.	200
2-Methylheptane	8070		mg/kg	1760	409.	200
Toluene	50200		mg/kg	1760	255.	200
Octane	8740		mg/kg	1760	373.	200
Ethylbenzene	11300		mg/kg	1760	190.	200
p/m-Xylene	44200		mg/kg	3530	497.	200
o-Xylene	15900		mg/kg	1760	271.	200
1-Methyl-3-Ethylbenzene	10700		mg/kg	1760	283.	200
1,2,4-Trimethylbenzene	17300		mg/kg	1760	386.	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	122		70-130
Toluene-d8	113		70-130
4-Bromofluorobenzene	95		70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-07 D

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 93

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Analytical Method: 1,8260B(M)

Analytical Date: 08/04/22 16:33

Analyst: RY

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	72400	E	mg/kg	88.3	32.9	10
1-Pentene	2710		mg/kg	88.3	27.3	10
2-Methyl-1-Butene	6330		mg/kg	88.3	29.0	10
Pentane	50800	E	mg/kg	88.3	27.5	10
trans-2-Pentene	7230		mg/kg	88.3	31.1	10
cis-2-Pentene	4470		mg/kg	88.3	23.1	10
Tertiary Butanol	ND		mg/kg	1100	357.	10
Cyclopentane	5320		mg/kg	88.3	22.9	10
2,3-Dimethylbutane	8280		mg/kg	88.3	36.4	10
2-Methylpentane	38200	E	mg/kg	88.3	28.4	10
Methyl tert butyl ether	ND		mg/kg	88.3	27.5	10
3-Methylpentane	23900	E	mg/kg	88.3	17.1	10
1-Hexene	ND		mg/kg	88.3	25.3	10
n-Hexane	34800	E	mg/kg	88.3	25.7	10
Isopropyl Ether	ND		mg/kg	88.3	24.2	10
Ethyl-Tert-Butyl-Ether	ND		mg/kg	88.3	23.0	10
2,2-Dimethylpentane	1260		mg/kg	88.3	22.8	10
Methylcyclopentane	23000	E	mg/kg	88.3	26.8	10
2,4-Dimethylpentane	4760		mg/kg	88.3	23.2	10
1,2-Dichloroethane	ND		mg/kg	88.3	26.7	10
Cyclohexane	14400	E	mg/kg	88.3	25.5	10
2-Methylhexane	16600	E	mg/kg	88.3	20.6	10
Benzene	9320	E	mg/kg	88.3	19.1	10
2,3-Dimethylpentane	ND		mg/kg	88.3	22.3	10
Thiophene	15.5	J	mg/kg	88.3	22.9	10
3-Methylhexane	16100	E	mg/kg	88.3	23.2	10
Tertiary-Amyl Methyl Ether	ND		mg/kg	88.3	23.4	10
1-Heptene/1,2-DMCP (trans)	8870		mg/kg	176	54.1	10

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-07 D

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 93

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isooctane	15400	E	mg/kg	88.3	20.6	10
Heptane	20000	E	mg/kg	88.3	24.2	10
Methylcyclohexane	15200	E	mg/kg	88.3	18.8	10
2,5-Dimethylhexane	3860		mg/kg	88.3	21.1	10
2,4-Dimethylhexane	3530		mg/kg	88.3	20.8	10
2,2,3-Trimethylpentane	1060		mg/kg	88.3	22.1	10
2,3,4-Trimethylpentane	7760		mg/kg	88.3	20.2	10
2,3,3-Trimethylpentane	8560		mg/kg	88.3	19.3	10
2,3-Dimethylhexane	2150		mg/kg	88.3	21.4	10
2-Methylheptane	9960	E	mg/kg	88.3	20.4	10
3-Methylheptane	6700		mg/kg	88.3	26.5	10
3-Ethylhexane	1860		mg/kg	88.3	22.5	10
Toluene	53900	E	mg/kg	88.3	12.8	10
2-Methylthiophene	ND		mg/kg	88.3	13.1	10
3-Methylthiophene	ND		mg/kg	88.3	13.6	10
1-Octene	ND		mg/kg	221	13.5	10
Octane	9940	E	mg/kg	88.3	18.7	10
1,2-Dibromoethane	ND		mg/kg	88.3	14.1	10
Ethylbenzene	12200	E	mg/kg	88.3	9.53	10
2-Ethylthiophene	ND		mg/kg	88.3	9.66	10
p/m-Xylene	44900	E	mg/kg	176	24.8	10
1-Nonene	ND		mg/kg	221	9.14	10
Nonane (C9)	4510		mg/kg	88.3	19.3	10
Styrene	17.3	J	mg/kg	88.3	12.2	10
o-Xylene	16500	E	mg/kg	88.3	13.6	10
Isopropylbenzene	1000		mg/kg	88.3	14.7	10
n-Propylbenzene	3760		mg/kg	88.3	16.6	10
1-Methyl-3-Ethylbenzene	11200	E	mg/kg	88.3	14.1	10
1-Methyl-4-Ethylbenzene	5200		mg/kg	88.3	16.1	10
1,3,5-Trimethylbenzene	5500		mg/kg	88.3	16.8	10
1-Decene	ND		mg/kg	88.3	12.2	10
1-Methyl-2-Ethylbenzene	3890		mg/kg	88.3	18.0	10
Decane (C10)	2420		mg/kg	88.3	13.5	10
1,2,4-Trimethylbenzene	17500	E	mg/kg	88.3	19.3	10
sec-Butylbenzene	345		mg/kg	88.3	17.8	10
1-Methyl-3-Isopropylbenzene	543		mg/kg	88.3	16.6	10
1-Methyl-4-Isopropylbenzene	186		mg/kg	88.3	20.2	10

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-07 D

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 93

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1-Methyl-2-Isopropylbenzene	39.3	J	mg/kg	88.3	24.2	10
Indane	1730		mg/kg	88.3	20.4	10
1-Methyl-3-N-Propylbenzene	2260		mg/kg	88.3	19.5	10
1-Methyl-4-N-Propylbenzene	1080		mg/kg	88.3	20.7	10
n-Butylbenzene	752		mg/kg	88.3	22.0	10
1,2-Dimethyl-4-Ethylbenzene	2220		mg/kg	88.3	21.5	10
1,2-Diethylbenzene	164		mg/kg	88.3	20.4	10
1-Methyl-2-N-Propylbenzene	792		mg/kg	88.3	18.0	10
1,4-Dimethyl-2-Ethylbenzene	1540		mg/kg	88.3	19.7	10
Undecane	752		mg/kg	88.3	31.2	10
1,3-Dimethyl-4-Ethylbenzene	1290		mg/kg	88.3	18.9	10
1,3-Dimethyl-5-Ethylbenzene	2410		mg/kg	88.3	21.5	10
1,3-Dimethyl-2-Ethylbenzene	173		mg/kg	88.3	20.9	10
1,2-Dimethyl-3-Ethylbenzene	496		mg/kg	88.3	19.2	10
1,2,4,5-Tetramethylbenzene	1200		mg/kg	88.3	19.9	10
N-Pentylbenzene	89.4		mg/kg	88.3	17.4	10
Dodecane (C12)	318		mg/kg	221	38.7	10
Naphthalene	1540		mg/kg	88.3	36.8	10
Benzo thiophene	ND		mg/kg	88.3	46.6	10
MMT	ND		mg/kg	221	56.7	10
Tridecane	190	J	mg/kg	221	57.2	10
2-Methylnaphthalene	882		mg/kg	221	58.3	10
1-Methylnaphthalene	407		mg/kg	221	64.7	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	119		70-130
Toluene-d8	114		70-130
4-Bromofluorobenzene	90		70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-10 D

Date Collected: 07/26/22 00:00

Client ID: HEATING FUEL

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Analytical Method: 1,8260B(M)

Analytical Date: 08/04/22 17:44

Analyst: RY

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	18.3	J	mg/kg	97.8	36.5	10
1-Pentene	ND		mg/kg	97.8	30.3	10
2-Methyl-1-Butene	ND		mg/kg	97.8	32.1	10
Pentane	ND		mg/kg	97.8	30.5	10
trans-2-Pentene	ND		mg/kg	97.8	34.5	10
cis-2-Pentene	ND		mg/kg	97.8	25.6	10
Tertiary Butanol	ND		mg/kg	1220	396.	10
Cyclopentane	ND		mg/kg	97.8	25.4	10
2,3-Dimethylbutane	ND		mg/kg	97.8	40.4	10
2-Methylpentane	16.2	J	mg/kg	97.8	31.5	10
Methyl tert butyl ether	ND		mg/kg	97.8	30.5	10
3-Methylpentane	7.58	J	mg/kg	97.8	19.0	10
1-Hexene	ND		mg/kg	97.8	28.1	10
n-Hexane	21.7	JB	mg/kg	97.8	28.5	10
Isopropyl Ether	ND		mg/kg	97.8	26.9	10
Ethyl-Tert-Butyl-Ether	ND		mg/kg	97.8	25.5	10
2,2-Dimethylpentane	ND		mg/kg	97.8	25.3	10
Methylcyclopentane	8.56	J	mg/kg	97.8	29.7	10
2,4-Dimethylpentane	ND		mg/kg	97.8	25.7	10
1,2-Dichloroethane	ND		mg/kg	97.8	29.6	10
Cyclohexane	ND		mg/kg	97.8	28.2	10
2-Methylhexane	ND		mg/kg	97.8	22.8	10
Benzene	31.4	J	mg/kg	97.8	21.2	10
2,3-Dimethylpentane	ND		mg/kg	97.8	24.8	10
Thiophene	ND		mg/kg	97.8	25.4	10
3-Methylhexane	ND		mg/kg	97.8	25.8	10
Tertiary-Amyl Methyl Ether	ND		mg/kg	97.8	25.9	10
1-Heptene/1,2-DMCP (trans)	ND		mg/kg	196	60.0	10

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-10 D

Date Collected: 07/26/22 00:00

Client ID: HEATING FUEL

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isooctane	4.55	J	mg/kg	97.8	22.9	10
Heptane	26.8	J	mg/kg	97.8	26.9	10
Methylcyclohexane	50.3	J	mg/kg	97.8	20.8	10
2,5-Dimethylhexane	ND		mg/kg	97.8	23.4	10
2,4-Dimethylhexane	ND		mg/kg	97.8	23.1	10
2,2,3-Trimethylpentane	ND		mg/kg	97.8	24.5	10
2,3,4-Trimethylpentane	ND		mg/kg	97.8	22.4	10
2,3,3-Trimethylpentane	ND		mg/kg	97.8	21.4	10
2,3-Dimethylhexane	18.4	J	mg/kg	97.8	23.7	10
2-Methylheptane	139		mg/kg	97.8	22.6	10
3-Methylheptane	154		mg/kg	97.8	29.4	10
3-Ethylhexane	ND		mg/kg	97.8	25.0	10
Toluene	110		mg/kg	97.8	14.2	10
2-Methylthiophene	ND		mg/kg	97.8	14.6	10
3-Methylthiophene	ND		mg/kg	97.8	15.1	10
1-Octene	ND		mg/kg	245	14.9	10
Octane	657		mg/kg	97.8	20.7	10
1,2-Dibromoethane	ND		mg/kg	97.8	15.6	10
Ethylbenzene	344		mg/kg	97.8	10.6	10
2-Ethylthiophene	ND		mg/kg	97.8	10.7	10
p/m-Xylene	1540		mg/kg	196	27.5	10
1-Nonene	ND		mg/kg	245	10.1	10
Nonane (C9)	3840		mg/kg	97.8	21.4	10
Styrene	ND		mg/kg	97.8	13.6	10
o-Xylene	807		mg/kg	97.8	15.0	10
Isopropylbenzene	220		mg/kg	97.8	16.3	10
n-Propylbenzene	630		mg/kg	97.8	18.4	10
1-Methyl-3-Ethylbenzene	2000		mg/kg	97.8	15.7	10
1-Methyl-4-Ethylbenzene	916		mg/kg	97.8	17.8	10
1,3,5-Trimethylbenzene	1230		mg/kg	97.8	18.6	10
1-Decene	ND		mg/kg	97.8	13.6	10
1-Methyl-2-Ethylbenzene	1020		mg/kg	97.8	20.0	10
Decane (C10)	8030		mg/kg	97.8	14.9	10
1,2,4-Trimethylbenzene	4110		mg/kg	97.8	21.4	10
sec-Butylbenzene	415		mg/kg	97.8	19.8	10
1-Methyl-3-Isopropylbenzene	568		mg/kg	97.8	18.4	10
1-Methyl-4-Isopropylbenzene	324		mg/kg	97.8	22.4	10

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-10 D

Date Collected: 07/26/22 00:00

Client ID: HEATING FUEL

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1-Methyl-2-Isopropylbenzene	71.3	J	mg/kg	97.8	26.8	10
Indane	671		mg/kg	97.8	22.6	10
1-Methyl-3-N-Propylbenzene	1440		mg/kg	97.8	21.6	10
1-Methyl-4-N-Propylbenzene	687		mg/kg	97.8	23.0	10
n-Butylbenzene	632		mg/kg	97.8	24.4	10
1,2-Dimethyl-4-Ethylbenzene	1210		mg/kg	97.8	23.8	10
1,2-Diethylbenzene	223		mg/kg	97.8	22.6	10
1-Methyl-2-N-Propylbenzene	898		mg/kg	97.8	19.9	10
1,4-Dimethyl-2-Ethylbenzene	1040		mg/kg	97.8	21.8	10
Undecane	7310		mg/kg	97.8	34.5	10
1,3-Dimethyl-4-Ethylbenzene	1060		mg/kg	97.8	20.9	10
1,3-Dimethyl-5-Ethylbenzene	1430		mg/kg	97.8	23.8	10
1,3-Dimethyl-2-Ethylbenzene	217		mg/kg	97.8	23.2	10
1,2-Dimethyl-3-Ethylbenzene	514		mg/kg	97.8	21.3	10
1,2,4,5-Tetramethylbenzene	774		mg/kg	97.8	22.1	10
N-Pentylbenzene	882		mg/kg	97.8	19.4	10
Dodecane (C12)	6580		mg/kg	245	42.9	10
Naphthalene	790		mg/kg	97.8	40.8	10
Benzo thiophene	ND		mg/kg	97.8	51.7	10
MMT	ND		mg/kg	245	62.8	10
Tridecane	6630		mg/kg	245	63.4	10
2-Methylnaphthalene	2180		mg/kg	245	64.6	10
1-Methylnaphthalene	1280		mg/kg	245	71.8	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	118		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	100		70-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

SAMPLE RESULTS

Lab ID: L2240634-13 D2
 Client ID: ROAD DIESEL
 Sample Location: Not Specified

Date Collected: 07/26/22 00:00
 Date Received: 07/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8260B(M)
 Analytical Date: 08/05/22 02:06
 Analyst: RY
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1,2,4-Trimethylbenzene	9340		mg/kg	1820	399.	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	100		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	94		70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-13 D

Date Collected: 07/26/22 00:00

Client ID: ROAD DIESEL

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Analytical Method: 1,8260B(M)

Analytical Date: 08/04/22 18:56

Analyst: RY

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	121		mg/kg	91.2	34.0	10
1-Pentene	ND		mg/kg	91.2	28.2	10
2-Methyl-1-Butene	ND		mg/kg	91.2	29.9	10
Pentane	90.3	J	mg/kg	91.2	28.4	10
trans-2-Pentene	ND		mg/kg	91.2	32.1	10
cis-2-Pentene	ND		mg/kg	91.2	23.9	10
Tertiary Butanol	ND		mg/kg	1140	369.	10
Cyclopentane	23.2	J	mg/kg	91.2	23.6	10
2,3-Dimethylbutane	22.4	J	mg/kg	91.2	37.6	10
2-Methylpentane	92.6		mg/kg	91.2	29.3	10
Methyl tert butyl ether	ND		mg/kg	91.2	28.4	10
3-Methylpentane	73.7	J	mg/kg	91.2	17.7	10
1-Hexene	ND		mg/kg	91.2	26.2	10
n-Hexane	130		mg/kg	91.2	26.6	10
Isopropyl Ether	ND		mg/kg	91.2	25.0	10
Ethyl-Tert-Butyl-Ether	ND		mg/kg	91.2	23.8	10
2,2-Dimethylpentane	ND		mg/kg	91.2	23.6	10
Methylcyclopentane	157		mg/kg	91.2	27.7	10
2,4-Dimethylpentane	ND		mg/kg	91.2	23.9	10
1,2-Dichloroethane	ND		mg/kg	91.2	27.6	10
Cyclohexane	296		mg/kg	91.2	26.3	10
2-Methylhexane	124		mg/kg	91.2	21.2	10
Benzene	90.0	J	mg/kg	91.2	19.7	10
2,3-Dimethylpentane	58.7	J	mg/kg	91.2	23.1	10
Thiophene	ND		mg/kg	91.2	23.7	10
3-Methylhexane	163		mg/kg	91.2	24.0	10
Tertiary-Amyl Methyl Ether	ND		mg/kg	91.2	24.1	10
1-Heptene/1,2-DMCP (trans)	163	J	mg/kg	182	55.9	10

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-13 D

Date Collected: 07/26/22 00:00

Client ID: ROAD DIESEL

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isooctane	23.8	J	mg/kg	91.2	21.3	10
Heptane	330		mg/kg	91.2	25.0	10
Methylcyclohexane	1050		mg/kg	91.2	19.4	10
2,5-Dimethylhexane	43.0	J	mg/kg	91.2	21.8	10
2,4-Dimethylhexane	57.6	J	mg/kg	91.2	21.5	10
2,2,3-Trimethylpentane	ND		mg/kg	91.2	22.8	10
2,3,4-Trimethylpentane	21.6	J	mg/kg	91.2	20.9	10
2,3,3-Trimethylpentane	18.7	J	mg/kg	91.2	20.0	10
2,3-Dimethylhexane	57.4	J	mg/kg	91.2	22.1	10
2-Methylheptane	420		mg/kg	91.2	21.1	10
3-Methylheptane	340		mg/kg	91.2	27.4	10
3-Ethylhexane	76.3	J	mg/kg	91.2	23.3	10
Toluene	674		mg/kg	91.2	13.2	10
2-Methylthiophene	ND		mg/kg	91.2	13.6	10
3-Methylthiophene	ND		mg/kg	91.2	14.0	10
1-Octene	ND		mg/kg	228	13.9	10
Octane	1010		mg/kg	91.2	19.3	10
1,2-Dibromoethane	ND		mg/kg	91.2	14.6	10
Ethylbenzene	1600		mg/kg	91.2	9.84	10
2-Ethylthiophene	ND		mg/kg	91.2	9.98	10
p/m-Xylene	7880		mg/kg	182	25.6	10
1-Nonene	ND		mg/kg	228	9.44	10
Nonane (C9)	3770		mg/kg	91.2	19.9	10
Styrene	ND		mg/kg	91.2	12.6	10
o-Xylene	3750		mg/kg	91.2	14.0	10
Isopropylbenzene	364		mg/kg	91.2	15.2	10
n-Propylbenzene	1510		mg/kg	91.2	17.2	10
1-Methyl-3-Ethylbenzene	6570		mg/kg	91.2	14.6	10
1-Methyl-4-Ethylbenzene	2640		mg/kg	91.2	16.6	10
1,3,5-Trimethylbenzene	3260		mg/kg	91.2	17.3	10
1-Decene	ND		mg/kg	91.2	12.7	10
1-Methyl-2-Ethylbenzene	2150		mg/kg	91.2	18.6	10
Decane (C10)	5360		mg/kg	91.2	13.9	10
1,2,4-Trimethylbenzene	11100	E	mg/kg	91.2	19.9	10
sec-Butylbenzene	382		mg/kg	91.2	18.4	10
1-Methyl-3-Isopropylbenzene	650		mg/kg	91.2	17.1	10
1-Methyl-4-Isopropylbenzene	281		mg/kg	91.2	20.9	10

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-13 D

Date Collected: 07/26/22 00:00

Client ID: ROAD DIESEL

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1-Methyl-2-Isopropylbenzene	60.7	J	mg/kg	91.2	25.0	10
Indane	2010		mg/kg	91.2	21.1	10
1-Methyl-3-N-Propylbenzene	2450		mg/kg	91.2	20.1	10
1-Methyl-4-N-Propylbenzene	1060		mg/kg	91.2	21.4	10
n-Butylbenzene	812		mg/kg	91.2	22.8	10
1,2-Dimethyl-4-Ethylbenzene	2500		mg/kg	91.2	22.2	10
1,2-Diethylbenzene	216		mg/kg	91.2	21.1	10
1-Methyl-2-N-Propylbenzene	884		mg/kg	91.2	18.6	10
1,4-Dimethyl-2-Ethylbenzene	1920		mg/kg	91.2	20.3	10
Undecane	5260		mg/kg	91.2	32.2	10
1,3-Dimethyl-4-Ethylbenzene	1610		mg/kg	91.2	19.5	10
1,3-Dimethyl-5-Ethylbenzene	2820		mg/kg	91.2	22.2	10
1,3-Dimethyl-2-Ethylbenzene	221		mg/kg	91.2	21.6	10
1,2-Dimethyl-3-Ethylbenzene	696		mg/kg	91.2	19.8	10
1,2,4,5-Tetramethylbenzene	1580		mg/kg	91.2	20.6	10
N-Pentylbenzene	476		mg/kg	91.2	18.0	10
Dodecane (C12)	5520		mg/kg	228	40.0	10
Naphthalene	560		mg/kg	91.2	38.0	10
Benzothiophene	ND		mg/kg	91.2	48.1	10
MMT	ND		mg/kg	228	58.6	10
Tridecane	6510		mg/kg	228	59.1	10
2-Methylnaphthalene	1650		mg/kg	228	60.2	10
1-Methylnaphthalene	896		mg/kg	228	66.9	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	121		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	96		70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-25 D

Date Collected: 07/26/22 00:00

Client ID: BUNKER C

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Analytical Method: 1,8260B(M)

Analytical Date: 08/05/22 14:03

Analyst: RY

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	ND		mg/kg	36.7	13.7	4
1-Pentene	ND		mg/kg	36.7	11.3	4
2-Methyl-1-Butene	ND		mg/kg	36.7	12.0	4
Pentane	ND		mg/kg	36.7	11.4	4
trans-2-Pentene	ND		mg/kg	36.7	12.9	4
cis-2-Pentene	ND		mg/kg	36.7	9.60	4
Tertiary Butanol	ND		mg/kg	458	148.	4
Cyclopentane	ND		mg/kg	36.7	9.51	4
2,3-Dimethylbutane	ND		mg/kg	36.7	15.1	4
2-Methylpentane	ND		mg/kg	36.7	11.8	4
Methyl tert butyl ether	ND		mg/kg	36.7	11.4	4
3-Methylpentane	ND		mg/kg	36.7	7.11	4
1-Hexene	ND		mg/kg	36.7	10.5	4
n-Hexane	6.82	JB	mg/kg	36.7	10.7	4
Isopropyl Ether	ND		mg/kg	36.7	10.1	4
Ethyl-Tert-Butyl-Ether	ND		mg/kg	36.7	9.56	4
2,2-Dimethylpentane	ND		mg/kg	36.7	9.49	4
Methylcyclopentane	ND		mg/kg	36.7	11.1	4
2,4-Dimethylpentane	ND		mg/kg	36.7	9.63	4
1,2-Dichloroethane	ND		mg/kg	36.7	11.1	4
Cyclohexane	ND		mg/kg	36.7	10.6	4
2-Methylhexane	ND		mg/kg	36.7	8.54	4
Benzene	11.3	JB	mg/kg	36.7	7.94	4
2,3-Dimethylpentane	ND		mg/kg	36.7	9.28	4
Thiophene	ND		mg/kg	36.7	9.52	4
3-Methylhexane	ND		mg/kg	36.7	9.65	4
Tertiary-Amyl Methyl Ether	ND		mg/kg	36.7	9.70	4
1-Heptene/1,2-DMCP (trans)	ND		mg/kg	73.3	22.5	4

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-25 D

Date Collected: 07/26/22 00:00

Client ID: BUNKER C

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isooctane	ND		mg/kg	36.7	8.57	4
Heptane	ND		mg/kg	36.7	10.1	4
Methylcyclohexane	ND		mg/kg	36.7	7.80	4
2,5-Dimethylhexane	ND		mg/kg	36.7	8.77	4
2,4-Dimethylhexane	ND		mg/kg	36.7	8.65	4
2,2,3-Trimethylpentane	ND		mg/kg	36.7	9.18	4
2,3,4-Trimethylpentane	ND		mg/kg	36.7	8.41	4
2,3,3-Trimethylpentane	ND		mg/kg	36.7	8.03	4
2,3-Dimethylhexane	ND		mg/kg	36.7	8.88	4
2-Methylheptane	ND		mg/kg	36.7	8.49	4
3-Methylheptane	ND		mg/kg	36.7	11.0	4
3-Ethylhexane	ND		mg/kg	36.7	9.36	4
Toluene	8.27	J	mg/kg	36.7	5.30	4
2-Methylthiophene	ND		mg/kg	36.7	5.46	4
3-Methylthiophene	ND		mg/kg	36.7	5.65	4
1-Octene	ND		mg/kg	91.6	5.60	4
Octane	6.16	J	mg/kg	36.7	7.76	4
1,2-Dibromoethane	ND		mg/kg	36.7	5.86	4
Ethylbenzene	5.52	J	mg/kg	36.7	3.96	4
2-Ethylthiophene	ND		mg/kg	36.7	4.01	4
p/m-Xylene	23.0	J	mg/kg	73.3	10.3	4
1-Nonene	ND		mg/kg	91.6	3.80	4
Nonane (C9)	25.2	J	mg/kg	36.7	8.02	4
Styrene	ND		mg/kg	36.7	5.09	4
o-Xylene	12.2	J	mg/kg	36.7	5.63	4
Isopropylbenzene	3.41	J	mg/kg	36.7	6.12	4
n-Propylbenzene	12.0	J	mg/kg	36.7	6.92	4
1-Methyl-3-Ethylbenzene	45.9		mg/kg	36.7	5.88	4
1-Methyl-4-Ethylbenzene	22.1	J	mg/kg	36.7	6.67	4
1,3,5-Trimethylbenzene	39.7		mg/kg	36.7	6.97	4
1-Decene	ND		mg/kg	36.7	5.09	4
1-Methyl-2-Ethylbenzene	31.4	J	mg/kg	36.7	7.50	4
Decane (C10)	246		mg/kg	36.7	5.60	4
1,2,4-Trimethylbenzene	206		mg/kg	36.7	8.02	4
sec-Butylbenzene	14.4	J	mg/kg	36.7	7.42	4
1-Methyl-3-Isopropylbenzene	24.7	J	mg/kg	36.7	6.89	4
1-Methyl-4-Isopropylbenzene	14.0	J	mg/kg	36.7	8.40	4

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-25 D

Date Collected: 07/26/22 00:00

Client ID: BUNKER C

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1-Methyl-2-Isopropylbenzene	3.68	J	mg/kg	36.7	10.0	4
Indane	66.3		mg/kg	36.7	8.48	4
1-Methyl-3-N-Propylbenzene	141		mg/kg	36.7	8.09	4
1-Methyl-4-N-Propylbenzene	70.2		mg/kg	36.7	8.60	4
n-Butylbenzene	58.3		mg/kg	36.7	9.15	4
1,2-Dimethyl-4-Ethylbenzene	170		mg/kg	36.7	8.92	4
1,2-Diethylbenzene	19.6	J	mg/kg	36.7	8.47	4
1-Methyl-2-N-Propylbenzene	82.2		mg/kg	36.7	7.46	4
1,4-Dimethyl-2-Ethylbenzene	174		mg/kg	36.7	8.18	4
Undecane	833		mg/kg	36.7	12.9	4
1,3-Dimethyl-4-Ethylbenzene	176		mg/kg	36.7	7.85	4
1,3-Dimethyl-5-Ethylbenzene	297		mg/kg	36.7	8.91	4
1,3-Dimethyl-2-Ethylbenzene	44.6		mg/kg	36.7	8.69	4
1,2-Dimethyl-3-Ethylbenzene	102		mg/kg	36.7	7.98	4
1,2,4,5-Tetramethylbenzene	204		mg/kg	36.7	8.28	4
N-Pentylbenzene	115		mg/kg	36.7	7.25	4
Dodecane (C12)	765		mg/kg	91.6	16.1	4
Naphthalene	1120		mg/kg	36.7	15.3	4
Benzo thiophene	ND		mg/kg	36.7	19.4	4
MMT	ND		mg/kg	91.6	23.6	4
Tridecane	736		mg/kg	91.6	23.8	4
2-Methylnaphthalene	1620		mg/kg	91.6	24.2	4
1-Methylnaphthalene	913		mg/kg	91.6	26.9	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	121		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	94		70-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

SAMPLE RESULTS

Lab ID: L2240634-30 D2
 Client ID: JP-5 MEOH (20 MG/ML)
 Sample Location: Not Specified

Date Collected: 08/17/22 12:15
 Date Received: 08/17/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8260B(M)
 Analytical Date: 08/20/22 12:00
 Analyst: RY
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Decane (C10)	2480000		mg/kg	33300	5090	80
Undecane	3040000		mg/kg	33300	11800	80
Dodecane (C12)	2140000		mg/kg	83300	14600	80
Tridecane	1850000		mg/kg	83300	21600	80

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	114		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	97		70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-30 D
 Client ID: JP-5 MEOH (20 MG/ML)
 Sample Location: Not Specified

Date Collected: 08/17/22 12:15
 Date Received: 08/17/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8260B(M)
 Analytical Date: 08/19/22 17:04
 Analyst: RY
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	ND		mg/kg	8330	3100	20
1-Pentene	ND		mg/kg	8330	2580	20
2-Methyl-1-Butene	ND		mg/kg	8330	2740	20
Pentane	ND		mg/kg	8330	2600	20
trans-2-Pentene	ND		mg/kg	8330	2940	20
cis-2-Pentene	ND		mg/kg	8330	2180	20
Tertiary Butanol	ND		mg/kg	104000	33800	20
Cyclopentane	ND		mg/kg	8330	2160	20
2,3-Dimethylbutane	ND		mg/kg	8330	3440	20
2-Methylpentane	ND		mg/kg	8330	2680	20
Methyl tert butyl ether	ND		mg/kg	8330	2590	20
3-Methylpentane	ND		mg/kg	8330	1620	20
1-Hexene	ND		mg/kg	8330	2390	20
n-Hexane	1390	J	mg/kg	8330	2430	20
Isopropyl Ether	ND		mg/kg	8330	2290	20
Ethyl-Tert-Butyl-Ether	ND		mg/kg	8330	2170	20
2,2-Dimethylpentane	ND		mg/kg	8330	2160	20
Methylcyclopentane	ND		mg/kg	8330	2530	20
2,4-Dimethylpentane	ND		mg/kg	8330	2190	20
1,2-Dichloroethane	ND		mg/kg	8330	2520	20
Cyclohexane	996	J	mg/kg	8330	2400	20
2-Methylhexane	ND		mg/kg	8330	1940	20
Benzene	1640	J	mg/kg	8330	1800	20
2,3-Dimethylpentane	ND		mg/kg	8330	2110	20
Thiophene	ND		mg/kg	8330	2160	20
3-Methylhexane	1900	J	mg/kg	8330	2190	20
Tertiary-Amyl Methyl Ether	ND		mg/kg	8330	2200	20
1-Heptene/1,2-DMCP (trans)	3680	J	mg/kg	16700	5110	20

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-30 D
 Client ID: JP-5 MEOH (20 MG/ML)
 Sample Location: Not Specified

Date Collected: 08/17/22 12:15
 Date Received: 08/17/22
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isooctane	ND		mg/kg	8330	1950	20
Heptane	8810		mg/kg	8330	2290	20
Methylcyclohexane	19100		mg/kg	8330	1770	20
2,5-Dimethylhexane	892	J	mg/kg	8330	1990	20
2,4-Dimethylhexane	1140	J	mg/kg	8330	1970	20
2,2,3-Trimethylpentane	ND		mg/kg	8330	2080	20
2,3,4-Trimethylpentane	ND		mg/kg	8330	1910	20
2,3,3-Trimethylpentane	ND		mg/kg	8330	1820	20
2,3-Dimethylhexane	2090	J	mg/kg	8330	2020	20
2-Methylheptane	19200		mg/kg	8330	1930	20
3-Methylheptane	14400		mg/kg	8330	2500	20
3-Ethylhexane	1950	J	mg/kg	8330	2130	20
Toluene	10500		mg/kg	8330	1200	20
2-Methylthiophene	ND		mg/kg	8330	1240	20
3-Methylthiophene	ND		mg/kg	8330	1280	20
1-Octene	ND		mg/kg	20800	1270	20
Octane	71000		mg/kg	8330	1760	20
1,2-Dibromoethane	ND		mg/kg	8330	1330	20
Ethylbenzene	20500		mg/kg	8330	900.	20
2-Ethylthiophene	ND		mg/kg	8330	912.	20
p/m-Xylene	69900		mg/kg	16700	2340	20
1-Nonene	ND		mg/kg	20800	863.	20
Nonane (C9)	333000		mg/kg	8330	1820	20
Styrene	ND		mg/kg	8330	1160	20
o-Xylene	33900		mg/kg	8330	1280	20
Isopropylbenzene	14500		mg/kg	8330	1390	20
n-Propylbenzene	33700		mg/kg	8330	1570	20
1-Methyl-3-Ethylbenzene	84100		mg/kg	8330	1340	20
1-Methyl-4-Ethylbenzene	41100		mg/kg	8330	1520	20
1,3,5-Trimethylbenzene	76800		mg/kg	8330	1580	20
1-Decene	ND		mg/kg	8330	1160	20
1-Methyl-2-Ethylbenzene	44600		mg/kg	8330	1700	20
Decane (C10)	1560000	E	mg/kg	8330	1270	20
1,2,4-Trimethylbenzene	302000		mg/kg	8330	1820	20
sec-Butylbenzene	38300		mg/kg	8330	1690	20
1-Methyl-3-Isopropylbenzene	63500		mg/kg	8330	1570	20
1-Methyl-4-Isopropylbenzene	50800		mg/kg	8330	1910	20

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-30 D
 Client ID: JP-5 MEOH (20 MG/ML)
 Sample Location: Not Specified

Date Collected: 08/17/22 12:15
 Date Received: 08/17/22
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1-Methyl-2-Isopropylbenzene	9750		mg/kg	8330	2290	20
Indane	15800		mg/kg	8330	1930	20
1-Methyl-3-N-Propylbenzene	164000		mg/kg	8330	1840	20
1-Methyl-4-N-Propylbenzene	73400		mg/kg	8330	1960	20
n-Butylbenzene	77000		mg/kg	8330	2080	20
1,2-Dimethyl-4-Ethylbenzene	134000		mg/kg	8330	2030	20
1,2-Diethylbenzene	18300		mg/kg	8330	1920	20
1-Methyl-2-N-Propylbenzene	78100		mg/kg	8330	1700	20
1,4-Dimethyl-2-Ethylbenzene	95700		mg/kg	8330	1860	20
Undecane	2040000	E	mg/kg	8330	2940	20
1,3-Dimethyl-4-Ethylbenzene	108000		mg/kg	8330	1780	20
1,3-Dimethyl-5-Ethylbenzene	155000		mg/kg	8330	2030	20
1,3-Dimethyl-2-Ethylbenzene	20000		mg/kg	8330	1980	20
1,2-Dimethyl-3-Ethylbenzene	62700		mg/kg	8330	1820	20
1,2,4,5-Tetramethylbenzene	86500		mg/kg	8330	1880	20
N-Pentylbenzene	27500		mg/kg	8330	1650	20
Dodecane (C12)	1890000	E	mg/kg	20800	3660	20
Naphthalene	145000		mg/kg	8330	3470	20
Benzo thiophene	ND		mg/kg	8330	4400	20
MMT	ND		mg/kg	20800	5350	20
Tridecane	2100000	E	mg/kg	20800	5400	20
2-Methylnaphthalene	287000		mg/kg	20800	5500	20
1-Methylnaphthalene	200000		mg/kg	20800	6110	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	126		70-130
Toluene-d8	113		70-130
4-Bromofluorobenzene	91		70-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

SAMPLE RESULTS

Lab ID: L2240634-31 D2
 Client ID: JP-8 MEOH (20 MG/ML)
 Sample Location: Not Specified

Date Collected: 08/17/22 12:15
 Date Received: 08/17/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8260B(M)
 Analytical Date: 08/20/22 13:13
 Analyst: RY
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Nonane (C9)	790000		mg/kg	17400	3800	80
Decane (C10)	718000		mg/kg	17400	2650	80
Undecane	552000		mg/kg	17400	6140	80
Dodecane (C12)	444000		mg/kg	43500	7630	80
Tridecane	403000		mg/kg	43500	11300	80

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	115		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	96		70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-31 D
 Client ID: JP-8 MEOH (20 MG/ML)
 Sample Location: Not Specified

Date Collected: 08/17/22 12:15
 Date Received: 08/17/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8260B(M)
 Analytical Date: 08/19/22 18:15
 Analyst: RY
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	ND		mg/kg	4350	1620	20
1-Pentene	ND		mg/kg	4350	1340	20
2-Methyl-1-Butene	ND		mg/kg	4350	1430	20
Pentane	ND		mg/kg	4350	1350	20
trans-2-Pentene	ND		mg/kg	4350	1530	20
cis-2-Pentene	ND		mg/kg	4350	1140	20
Tertiary Butanol	ND		mg/kg	54300	17600	20
Cyclopentane	ND		mg/kg	4350	1130	20
2,3-Dimethylbutane	ND		mg/kg	4350	1790	20
2-Methylpentane	1630	J	mg/kg	4350	1400	20
Methyl tert butyl ether	ND		mg/kg	4350	1350	20
3-Methylpentane	1130	J	mg/kg	4350	843.	20
1-Hexene	ND		mg/kg	4350	1250	20
n-Hexane	2500	J	mg/kg	4350	1270	20
Isopropyl Ether	ND		mg/kg	4350	1190	20
Ethyl-Tert-Butyl-Ether	ND		mg/kg	4350	1130	20
2,2-Dimethylpentane	ND		mg/kg	4350	1120	20
Methylcyclopentane	5650		mg/kg	4350	1320	20
2,4-Dimethylpentane	965	J	mg/kg	4350	1140	20
1,2-Dichloroethane	ND		mg/kg	4350	1320	20
Cyclohexane	7060		mg/kg	4350	1250	20
2-Methylhexane	12700		mg/kg	4350	1010	20
Benzene	2810	J	mg/kg	4350	941.	20
2,3-Dimethylpentane	3790	J	mg/kg	4350	1100	20
Thiophene	ND		mg/kg	4350	1130	20
3-Methylhexane	12700		mg/kg	4350	1140	20
Tertiary-Amyl Methyl Ether	ND		mg/kg	4350	1150	20
1-Heptene/1,2-DMCP (trans)	13400		mg/kg	8700	2660	20

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-31 D
 Client ID: JP-8 MEOH (20 MG/ML)
 Sample Location: Not Specified

Date Collected: 08/17/22 12:15
 Date Received: 08/17/22
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isooctane	ND		mg/kg	4350	1020	20
Heptane	27900		mg/kg	4350	1190	20
Methylcyclohexane	114000		mg/kg	4350	926.	20
2,5-Dimethylhexane	9680		mg/kg	4350	1040	20
2,4-Dimethylhexane	13800		mg/kg	4350	1030	20
2,2,3-Trimethylpentane	ND		mg/kg	4350	1090	20
2,3,4-Trimethylpentane	1310	J	mg/kg	4350	997.	20
2,3,3-Trimethylpentane	670	J	mg/kg	4350	952.	20
2,3-Dimethylhexane	11100		mg/kg	4350	1050	20
2-Methylheptane	85700		mg/kg	4350	1010	20
3-Methylheptane	66400		mg/kg	4350	1310	20
3-Ethylhexane	13600		mg/kg	4350	1110	20
Toluene	66800		mg/kg	4350	629.	20
2-Methylthiophene	ND		mg/kg	4350	647.	20
3-Methylthiophene	ND		mg/kg	4350	670.	20
1-Octene	ND		mg/kg	10900	664.	20
Octane	304000		mg/kg	4350	920.	20
1,2-Dibromoethane	ND		mg/kg	4350	695.	20
Ethylbenzene	117000		mg/kg	4350	469.	20
2-Ethylthiophene	ND		mg/kg	4350	476.	20
p/m-Xylene	575000		mg/kg	8700	1220	20
1-Nonene	ND		mg/kg	10900	450.	20
Nonane (C9)	848000	E	mg/kg	4350	951.	20
Styrene	ND		mg/kg	4350	603.	20
o-Xylene	229000		mg/kg	4350	668.	20
Isopropylbenzene	32800		mg/kg	4350	726.	20
n-Propylbenzene	86700		mg/kg	4350	820.	20
1-Methyl-3-Ethylbenzene	211000		mg/kg	4350	697.	20
1-Methyl-4-Ethylbenzene	94300		mg/kg	4350	791.	20
1,3,5-Trimethylbenzene	151000		mg/kg	4350	826.	20
1-Decene	ND		mg/kg	4350	604.	20
1-Methyl-2-Ethylbenzene	78100		mg/kg	4350	889.	20
Decane (C10)	754000	E	mg/kg	4350	664.	20
1,2,4-Trimethylbenzene	347000		mg/kg	4350	951.	20
sec-Butylbenzene	20100		mg/kg	4350	880.	20
1-Methyl-3-Isopropylbenzene	32100		mg/kg	4350	818.	20
1-Methyl-4-Isopropylbenzene	22100		mg/kg	4350	997.	20

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-31 D
 Client ID: JP-8 MEOH (20 MG/ML)
 Sample Location: Not Specified

Date Collected: 08/17/22 12:15
 Date Received: 08/17/22
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1-Methyl-2-Isopropylbenzene	5000		mg/kg	4350	1190	20
Indane	61800		mg/kg	4350	1010	20
1-Methyl-3-N-Propylbenzene	79600		mg/kg	4350	959.	20
1-Methyl-4-N-Propylbenzene	37900		mg/kg	4350	1020	20
n-Butylbenzene	46600		mg/kg	4350	1080	20
1,2-Dimethyl-4-Ethylbenzene	66800		mg/kg	4350	1060	20
1,2-Diethylbenzene	7870		mg/kg	4350	1000	20
1-Methyl-2-N-Propylbenzene	35500		mg/kg	4350	885.	20
1,4-Dimethyl-2-Ethylbenzene	39300		mg/kg	4350	969.	20
Undecane	530000	E	mg/kg	4350	1530	20
1,3-Dimethyl-4-Ethylbenzene	42400		mg/kg	4350	930.	20
1,3-Dimethyl-5-Ethylbenzene	60200		mg/kg	4350	1060	20
1,3-Dimethyl-2-Ethylbenzene	9450		mg/kg	4350	1030	20
1,2-Dimethyl-3-Ethylbenzene	20000		mg/kg	4350	947.	20
1,2,4,5-Tetramethylbenzene	30000		mg/kg	4350	982.	20
N-Pentylbenzene	37300		mg/kg	4350	860.	20
Dodecane (C12)	480000	E	mg/kg	10900	1910	20
Naphthalene	88000		mg/kg	4350	1810	20
Benzo thiophene	ND		mg/kg	4350	2300	20
MMT	ND		mg/kg	10900	2790	20
Tridecane	494000	E	mg/kg	10900	2820	20
2-Methylnaphthalene	164000		mg/kg	10900	2870	20
1-Methylnaphthalene	102000		mg/kg	10900	3190	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	121		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	94		70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-32
 Client ID: WASTE OIL (AUTO)
 Sample Location: Not Specified

Date Collected: 07/26/22 00:00
 Date Received: 07/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8260B(M)
 Analytical Date: 08/20/22 10:48
 Analyst: RY
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isopentane	7.62	J	mg/kg	9.92	3.70	1
1-Pentene	ND		mg/kg	9.92	3.07	1
2-Methyl-1-Butene	ND		mg/kg	9.92	3.26	1
Pentane	4.83	J	mg/kg	9.92	3.09	1
trans-2-Pentene	0.928	J	mg/kg	9.92	3.49	1
cis-2-Pentene	ND		mg/kg	9.92	2.60	1
Tertiary Butanol	ND		mg/kg	124	40.2	1
Cyclopentane	1.88	J	mg/kg	9.92	2.57	1
2,3-Dimethylbutane	5.14	J	mg/kg	9.92	4.09	1
2-Methylpentane	19.8		mg/kg	9.92	3.19	1
Methyl tert butyl ether	28.9		mg/kg	9.92	3.09	1
3-Methylpentane	17.1		mg/kg	9.92	1.92	1
1-Hexene	ND		mg/kg	9.92	2.85	1
n-Hexane	23.8		mg/kg	9.92	2.89	1
Isopropyl Ether	ND		mg/kg	9.92	2.72	1
Ethyl-Tert-Butyl-Ether	ND		mg/kg	9.92	2.59	1
2,2-Dimethylpentane	1.93	J	mg/kg	9.92	2.57	1
Methylcyclopentane	22.0		mg/kg	9.92	3.02	1
2,4-Dimethylpentane	5.18	J	mg/kg	9.92	2.60	1
1,2-Dichloroethane	ND		mg/kg	9.92	3.00	1
Cyclohexane	18.0		mg/kg	9.92	2.86	1
2-Methylhexane	39.6		mg/kg	9.92	2.31	1
Benzene	11.2	B	mg/kg	9.92	2.15	1
2,3-Dimethylpentane	14.3		mg/kg	9.92	2.51	1
Thiophene	ND		mg/kg	9.92	2.58	1
3-Methylhexane	44.4		mg/kg	9.92	2.61	1
Tertiary-Amyl Methyl Ether	24.5		mg/kg	9.92	2.63	1
1-Heptene/1,2-DMCP (trans)	14.1	J	mg/kg	19.8	6.08	1

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-32
 Client ID: WASTE OIL (AUTO)
 Sample Location: Not Specified

Date Collected: 07/26/22 00:00
 Date Received: 07/29/22
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
Isooctane	5.61	J	mg/kg	9.92	2.32	1
Heptane	51.7		mg/kg	9.92	2.72	1
Methylcyclohexane	26.8		mg/kg	9.92	2.11	1
2,5-Dimethylhexane	8.76	J	mg/kg	9.92	2.37	1
2,4-Dimethylhexane	13.2		mg/kg	9.92	2.34	1
2,2,3-Trimethylpentane	1.02	J	mg/kg	9.92	2.48	1
2,3,4-Trimethylpentane	6.03	J	mg/kg	9.92	2.27	1
2,3,3-Trimethylpentane	6.70	J	mg/kg	9.92	2.17	1
2,3-Dimethylhexane	11.0		mg/kg	9.92	2.40	1
2-Methylheptane	49.4		mg/kg	9.92	2.30	1
3-Methylheptane	55.7		mg/kg	9.92	2.98	1
3-Ethylhexane	10.5		mg/kg	9.92	2.53	1
Toluene	248		mg/kg	9.92	1.44	1
2-Methylthiophene	ND		mg/kg	9.92	1.48	1
3-Methylthiophene	ND		mg/kg	9.92	1.53	1
1-Octene	ND		mg/kg	24.8	1.51	1
Octane	63.8		mg/kg	9.92	2.10	1
1,2-Dibromoethane	ND		mg/kg	9.92	1.59	1
Ethylbenzene	161		mg/kg	9.92	1.07	1
2-Ethylthiophene	ND		mg/kg	9.92	1.09	1
p/m-Xylene	683		mg/kg	19.8	2.79	1
1-Nonene	ND		mg/kg	24.8	1.03	1
Nonane (C9)	66.4		mg/kg	9.92	2.17	1
Styrene	2.79	J	mg/kg	9.92	1.38	1
o-Xylene	305		mg/kg	9.92	1.52	1
Isopropylbenzene	23.7		mg/kg	9.92	1.66	1
n-Propylbenzene	119		mg/kg	9.92	1.87	1
1-Methyl-3-Ethylbenzene	438		mg/kg	9.92	1.59	1
1-Methyl-4-Ethylbenzene	201		mg/kg	9.92	1.80	1
1,3,5-Trimethylbenzene	237		mg/kg	9.92	1.88	1
1-Decene	ND		mg/kg	9.92	1.38	1
1-Methyl-2-Ethylbenzene	171		mg/kg	9.92	2.03	1
Decane (C10)	42.2		mg/kg	9.92	1.51	1
1,2,4-Trimethylbenzene	880		mg/kg	9.92	2.17	1
sec-Butylbenzene	13.0		mg/kg	9.92	2.01	1
1-Methyl-3-Isopropylbenzene	25.3		mg/kg	9.92	1.86	1
1-Methyl-4-Isopropylbenzene	8.90	J	mg/kg	9.92	2.27	1

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

SAMPLE RESULTS

Lab ID: L2240634-32
 Client ID: WASTE OIL (AUTO)
 Sample Location: Not Specified

Date Collected: 07/26/22 00:00
 Date Received: 07/29/22
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PIANO Volatile Organics by GC/MS - Mansfield Lab						
1-Methyl-2-Isopropylbenzene	2.33	J	mg/kg	9.92	2.72	1
Indane	150		mg/kg	9.92	2.30	1
1-Methyl-3-N-Propylbenzene	166		mg/kg	9.92	2.19	1
1-Methyl-4-N-Propylbenzene	83.0		mg/kg	9.92	2.33	1
n-Butylbenzene	57.6		mg/kg	9.92	2.48	1
1,2-Dimethyl-4-Ethylbenzene	199		mg/kg	9.92	2.41	1
1,2-Diethylbenzene	13.9		mg/kg	9.92	2.29	1
1-Methyl-2-N-Propylbenzene	59.2		mg/kg	9.92	2.02	1
1,4-Dimethyl-2-Ethylbenzene	153		mg/kg	9.92	2.21	1
Undecane	24.3		mg/kg	9.92	3.50	1
1,3-Dimethyl-4-Ethylbenzene	136		mg/kg	9.92	2.12	1
1,3-Dimethyl-5-Ethylbenzene	260		mg/kg	9.92	2.41	1
1,3-Dimethyl-2-Ethylbenzene	16.5		mg/kg	9.92	2.35	1
1,2-Dimethyl-3-Ethylbenzene	61.3		mg/kg	9.92	2.16	1
1,2,4,5-Tetramethylbenzene	179		mg/kg	9.92	2.24	1
N-Pentylbenzene	22.8		mg/kg	9.92	1.96	1
Dodecane (C12)	23.4	J	mg/kg	24.8	4.35	1
Naphthalene	386		mg/kg	9.92	4.14	1
Benzo thiophene	ND		mg/kg	9.92	5.24	1
MMT	ND		mg/kg	24.8	6.37	1
Tridecane	24.9		mg/kg	24.8	6.43	1
2-Methylnaphthalene	945		mg/kg	24.8	6.55	1
1-Methylnaphthalene	506		mg/kg	24.8	7.28	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	115		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	95		70-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260B(M)
Analytical Date: 08/02/22 17:22
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01,04,07,10,13,22,25 Batch: WG1671854-6					
Isopentane	ND		mg/kg	10.0	3.73
1-Pentene	ND		mg/kg	10.0	3.09
2-Methyl-1-Butene	ND		mg/kg	10.0	3.28
Pentane	ND		mg/kg	10.0	3.11
trans-2-Pentene	ND		mg/kg	10.0	3.52
cis-2-Pentene	ND		mg/kg	10.0	2.62
Tertiary Butanol	ND		mg/kg	125	40.5
Cyclopentane	ND		mg/kg	10.0	2.59
2,3-Dimethylbutane	ND		mg/kg	10.0	4.13
2-Methylpentane	ND		mg/kg	10.0	3.22
Methyl tert butyl ether	ND		mg/kg	10.0	3.11
3-Methylpentane	ND		mg/kg	10.0	1.94
1-Hexene	ND		mg/kg	10.0	2.87
n-Hexane	2.60	J	mg/kg	10.0	2.91
Isopropyl Ether	ND		mg/kg	10.0	2.74
Ethyl-Tert-Butyl-Ether	ND		mg/kg	10.0	2.61
2,2-Dimethylpentane	ND		mg/kg	10.0	2.59
Methylcyclopentane	ND		mg/kg	10.0	3.04
2,4-Dimethylpentane	ND		mg/kg	10.0	2.62
1,2-Dichloroethane	ND		mg/kg	10.0	3.03
Cyclohexane	ND		mg/kg	10.0	2.89
2-Methylhexane	ND		mg/kg	10.0	2.33
Benzene	1.58	J	mg/kg	10.0	2.16
2,3-Dimethylpentane	ND		mg/kg	10.0	2.53
Thiophene	ND		mg/kg	10.0	2.60
3-Methylhexane	ND		mg/kg	10.0	2.63
Tertiary-Amyl Methyl Ether	ND		mg/kg	10.0	2.65
1-Heptene/1,2-DMCP (trans)	ND		mg/kg	20.0	6.13
Isooctane	ND		mg/kg	10.0	2.34

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260B(M)
 Analytical Date: 08/02/22 17:22
 Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01,04,07,10,13,22,25 Batch: WG1671854-6					
Heptane	ND		mg/kg	10.0	2.74
Methylcyclohexane	ND		mg/kg	10.0	2.13
2,5-Dimethylhexane	ND		mg/kg	10.0	2.39
2,4-Dimethylhexane	ND		mg/kg	10.0	2.36
2,2,3-Trimethylpentane	ND		mg/kg	10.0	2.50
2,3,4-Trimethylpentane	ND		mg/kg	10.0	2.29
2,3,3-Trimethylpentane	ND		mg/kg	10.0	2.19
2,3-Dimethylhexane	ND		mg/kg	10.0	2.42
2-Methylheptane	ND		mg/kg	10.0	2.32
3-Methylheptane	ND		mg/kg	10.0	3.00
3-Ethylhexane	ND		mg/kg	10.0	2.55
Toluene	ND		mg/kg	10.0	1.45
2-Methylthiophene	ND		mg/kg	10.0	1.49
3-Methylthiophene	ND		mg/kg	10.0	1.54
1-Octene	ND		mg/kg	25.0	1.53
Octane	ND		mg/kg	10.0	2.12
1,2-Dibromoethane	ND		mg/kg	10.0	1.60
Ethylbenzene	ND		mg/kg	10.0	1.08
2-Ethylthiophene	ND		mg/kg	10.0	1.09
p/m-Xylene	ND		mg/kg	20.0	2.81
1-Nonene	ND		mg/kg	25.0	1.04
Nonane (C9)	ND		mg/kg	10.0	2.19
Styrene	ND		mg/kg	10.0	1.39
o-Xylene	ND		mg/kg	10.0	1.54
Isopropylbenzene	ND		mg/kg	10.0	1.67
n-Propylbenzene	ND		mg/kg	10.0	1.89
1-Methyl-3-Ethylbenzene	ND		mg/kg	10.0	1.60
1-Methyl-4-Ethylbenzene	ND		mg/kg	10.0	1.82
1,3,5-Trimethylbenzene	ND		mg/kg	10.0	1.90

Project Name: HAWAII DOH - FINGERPRINTING

Lab Number: L2240634

Project Number: Not Specified

Report Date: 09/08/22

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260B(M)
 Analytical Date: 08/02/22 17:22
 Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01,04,07,10,13,22,25 Batch: WG1671854-6					
1-Decene	ND		mg/kg	10.0	1.39
1-Methyl-2-Ethylbenzene	ND		mg/kg	10.0	2.04
Decane (C10)	ND		mg/kg	10.0	1.53
1,2,4-Trimethylbenzene	ND		mg/kg	10.0	2.19
sec-Butylbenzene	ND		mg/kg	10.0	2.02
1-Methyl-3-Isopropylbenzene	ND		mg/kg	10.0	1.88
1-Methyl-4-Isopropylbenzene	ND		mg/kg	10.0	2.29
1-Methyl-2-Isopropylbenzene	ND		mg/kg	10.0	2.74
Indane	ND		mg/kg	10.0	2.31
1-Methyl-3-N-Propylbenzene	ND		mg/kg	10.0	2.20
1-Methyl-4-N-Propylbenzene	ND		mg/kg	10.0	2.35
n-Butylbenzene	ND		mg/kg	10.0	2.50
1,2-Dimethyl-4-Ethylbenzene	ND		mg/kg	10.0	2.43
1,2-Diethylbenzene	ND		mg/kg	10.0	2.31
1-Methyl-2-N-Propylbenzene	ND		mg/kg	10.0	2.04
1,4-Dimethyl-2-Ethylbenzene	ND		mg/kg	10.0	2.23
Undecane	ND		mg/kg	10.0	3.53
1,3-Dimethyl-4-Ethylbenzene	ND		mg/kg	10.0	2.14
1,3-Dimethyl-5-Ethylbenzene	ND		mg/kg	10.0	2.43
1,3-Dimethyl-2-Ethylbenzene	ND		mg/kg	10.0	2.37
1,2-Dimethyl-3-Ethylbenzene	ND		mg/kg	10.0	2.18
1,2,4,5-Tetramethylbenzene	ND		mg/kg	10.0	2.26
N-Pentylbenzene	ND		mg/kg	10.0	1.98
Dodecane (C12)	ND		mg/kg	25.0	4.39
Naphthalene	ND		mg/kg	10.0	4.17
Benzothiophene	ND		mg/kg	10.0	5.28
MMT	ND		mg/kg	25.0	6.42
Tridecane	ND		mg/kg	25.0	6.48
2-Methylnaphthalene	0.870	J	mg/kg	25.0	6.60

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260B(M)
Analytical Date: 08/02/22 17:22
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 01,04,07,10,13,22,25 Batch: WG1671854-6					
1-Methylnaphthalene	0.600	J	mg/kg	25.0	7.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	122		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	95		70-130

Project Name: HAWAII DOH - FINGERPRINTING

Lab Number: L2240634

Project Number: Not Specified

Report Date: 09/08/22

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260B(M)
 Analytical Date: 08/17/22 04:45
 Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 30-32 Batch: WG1677380-6					
Isopentane	ND		mg/kg	10.0	3.73
1-Pentene	ND		mg/kg	10.0	3.09
2-Methyl-1-Butene	ND		mg/kg	10.0	3.28
Pentane	ND		mg/kg	10.0	3.11
trans-2-Pentene	ND		mg/kg	10.0	3.52
cis-2-Pentene	ND		mg/kg	10.0	2.62
Tertiary Butanol	ND		mg/kg	125	40.5
Cyclopentane	ND		mg/kg	10.0	2.59
2,3-Dimethylbutane	ND		mg/kg	10.0	4.13
2-Methylpentane	ND		mg/kg	10.0	3.22
Methyl tert butyl ether	ND		mg/kg	10.0	3.11
3-Methylpentane	ND		mg/kg	10.0	1.94
1-Hexene	ND		mg/kg	10.0	2.87
n-Hexane	ND		mg/kg	10.0	2.91
Isopropyl Ether	ND		mg/kg	10.0	2.74
Ethyl-Tert-Butyl-Ether	ND		mg/kg	10.0	2.61
2,2-Dimethylpentane	ND		mg/kg	10.0	2.59
Methylcyclopentane	ND		mg/kg	10.0	3.04
2,4-Dimethylpentane	ND		mg/kg	10.0	2.62
1,2-Dichloroethane	ND		mg/kg	10.0	3.03
Cyclohexane	ND		mg/kg	10.0	2.89
2-Methylhexane	ND		mg/kg	10.0	2.33
Benzene	1.93	J	mg/kg	10.0	2.16
2,3-Dimethylpentane	ND		mg/kg	10.0	2.53
Thiophene	ND		mg/kg	10.0	2.60
3-Methylhexane	ND		mg/kg	10.0	2.63
Tertiary-Amyl Methyl Ether	ND		mg/kg	10.0	2.65
1-Heptene/1,2-DMCP (trans)	ND		mg/kg	20.0	6.13
Isooctane	ND		mg/kg	10.0	2.34

Project Name: HAWAII DOH - FINGERPRINTING

Lab Number: L2240634

Project Number: Not Specified

Report Date: 09/08/22

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260B(M)
 Analytical Date: 08/17/22 04:45
 Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 30-32 Batch: WG1677380-6					
Heptane	ND		mg/kg	10.0	2.74
Methylcyclohexane	ND		mg/kg	10.0	2.13
2,5-Dimethylhexane	ND		mg/kg	10.0	2.39
2,4-Dimethylhexane	ND		mg/kg	10.0	2.36
2,2,3-Trimethylpentane	ND		mg/kg	10.0	2.50
2,3,4-Trimethylpentane	ND		mg/kg	10.0	2.29
2,3,3-Trimethylpentane	ND		mg/kg	10.0	2.19
2,3-Dimethylhexane	ND		mg/kg	10.0	2.42
2-Methylheptane	ND		mg/kg	10.0	2.32
3-Methylheptane	ND		mg/kg	10.0	3.00
3-Ethylhexane	ND		mg/kg	10.0	2.55
Toluene	0.530	J	mg/kg	10.0	1.45
2-Methylthiophene	ND		mg/kg	10.0	1.49
3-Methylthiophene	ND		mg/kg	10.0	1.54
1-Octene	ND		mg/kg	25.0	1.53
Octane	ND		mg/kg	10.0	2.12
1,2-Dibromoethane	ND		mg/kg	10.0	1.60
Ethylbenzene	ND		mg/kg	10.0	1.08
2-Ethylthiophene	ND		mg/kg	10.0	1.09
p/m-Xylene	0.680	J	mg/kg	20.0	2.81
1-Nonene	ND		mg/kg	25.0	1.04
Nonane (C9)	ND		mg/kg	10.0	2.19
Styrene	ND		mg/kg	10.0	1.39
o-Xylene	0.425	J	mg/kg	10.0	1.54
Isopropylbenzene	ND		mg/kg	10.0	1.67
n-Propylbenzene	ND		mg/kg	10.0	1.89
1-Methyl-3-Ethylbenzene	ND		mg/kg	10.0	1.60
1-Methyl-4-Ethylbenzene	ND		mg/kg	10.0	1.82
1,3,5-Trimethylbenzene	ND		mg/kg	10.0	1.90

Project Name: HAWAII DOH - FINGERPRINTING

Lab Number: L2240634

Project Number: Not Specified

Report Date: 09/08/22

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260B(M)
 Analytical Date: 08/17/22 04:45
 Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 30-32 Batch: WG1677380-6					
1-Decene	ND		mg/kg	10.0	1.39
1-Methyl-2-Ethylbenzene	ND		mg/kg	10.0	2.04
Decane (C10)	1.36	J	mg/kg	10.0	1.53
1,2,4-Trimethylbenzene	0.295	J	mg/kg	10.0	2.19
sec-Butylbenzene	ND		mg/kg	10.0	2.02
1-Methyl-3-Isopropylbenzene	ND		mg/kg	10.0	1.88
1-Methyl-4-Isopropylbenzene	ND		mg/kg	10.0	2.29
1-Methyl-2-Isopropylbenzene	ND		mg/kg	10.0	2.74
Indane	ND		mg/kg	10.0	2.31
1-Methyl-3-N-Propylbenzene	ND		mg/kg	10.0	2.20
1-Methyl-4-N-Propylbenzene	ND		mg/kg	10.0	2.35
n-Butylbenzene	ND		mg/kg	10.0	2.50
1,2-Dimethyl-4-Ethylbenzene	ND		mg/kg	10.0	2.43
1,2-Diethylbenzene	ND		mg/kg	10.0	2.31
1-Methyl-2-N-Propylbenzene	ND		mg/kg	10.0	2.04
1,4-Dimethyl-2-Ethylbenzene	ND		mg/kg	10.0	2.23
Undecane	ND		mg/kg	10.0	3.53
1,3-Dimethyl-4-Ethylbenzene	ND		mg/kg	10.0	2.14
1,3-Dimethyl-5-Ethylbenzene	ND		mg/kg	10.0	2.43
1,3-Dimethyl-2-Ethylbenzene	ND		mg/kg	10.0	2.37
1,2-Dimethyl-3-Ethylbenzene	ND		mg/kg	10.0	2.18
1,2,4,5-Tetramethylbenzene	ND		mg/kg	10.0	2.26
N-Pentylbenzene	ND		mg/kg	10.0	1.98
Dodecane (C12)	ND		mg/kg	25.0	4.39
Naphthalene	0.750	J	mg/kg	10.0	4.17
Benzothiophene	ND		mg/kg	10.0	5.28
MMT	ND		mg/kg	25.0	6.42
Tridecane	ND		mg/kg	25.0	6.48
2-Methylnaphthalene	0.760	J	mg/kg	25.0	6.60

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260B(M)
 Analytical Date: 08/17/22 04:45
 Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
PIANO Volatile Organics by GC/MS - Mansfield Lab for sample(s): 30-32 Batch: WG1677380-6					
1-Methylnaphthalene	0.445	J	mg/kg	25.0	7.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	118		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Lab Number: L2240634

Project Number: Not Specified

Report Date: 09/08/22

Parameter	LCS		LCSD		%Recovery		RPD	RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual		Limits	
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10,13,22,25 Batch: WG1671854-3 WG1671854-4									
1-Pentene	110		118		50-130	7		30	
Pentane	92		96		50-130	4		30	
Tertiary Butanol	106		106		50-130	0		30	
Cyclopentane	91		100		50-130	9		30	
2-Methylpentane	95		102		50-130	7		30	
Methyl tert butyl ether	90		94		50-130	4		30	
3-Methylpentane	98		104		50-130	6		30	
1-Hexene	104		109		50-130	5		30	
n-Hexane	97		102		50-130	5		30	
Isopropyl Ether	94		96		50-130	2		30	
Ethyl-Tert-Butyl-Ether	82		74		50-130	10		30	
Methylcyclopentane	102		108		50-130	6		30	
2,4-Dimethylpentane	96		103		50-130	7		30	
Cyclohexane	102		107		50-130	5		30	
2-Methylhexane	95		101		50-130	6		30	
Benzene	95		98		50-130	3		30	
2,3-Dimethylpentane	97		103		50-130	6		30	
3-Methylhexane	83		94		50-130	12		30	
Tertiary-Amyl Methyl Ether	89		92		50-130	3		30	
Isooctane	104		107		50-130	3		30	
Heptane	103		109		50-130	6		30	
Methylcyclohexane	102		103		50-130	1		30	
2-Methylheptane	102		104		50-130	2		30	

Lab Control Sample Analysis

Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Lab Number: L2240634

Project Number: Not Specified

Report Date: 09/08/22

Parameter	LCS		LCSD		%Recovery		RPD	RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual		Limits	
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10,13,22,25 Batch: WG1671854-3 WG1671854-4									
3-Methylheptane	101		103		50-130	2		30	
Toluene	96		98		50-130	2		30	
Octane	106		106		50-130	0		30	
Ethylbenzene	96		99		50-130	3		30	
p/m-Xylene	100		102		50-130	2		30	
Nonane (C9)	98		97		50-130	1		30	
o-Xylene	100		101		50-130	1		30	
Isopropylbenzene	101		101		50-130	0		30	
n-Propylbenzene	103		103		50-130	0		30	
1-Methyl-3-Ethylbenzene	101		101		50-130	0		30	
1-Methyl-4-Ethylbenzene	104		104		50-130	0		30	
1,3,5-Trimethylbenzene	104		104		50-130	0		30	
1-Decene	82		82		50-130	0		30	
1-Methyl-2-Ethylbenzene	102		103		50-130	1		30	
Decane (C10)	101		102		50-130	1		30	
1,2,4-Trimethylbenzene	98		97		50-130	1		30	
sec-Butylbenzene	106		105		50-130	1		30	
1-Methyl-4-N-Propylbenzene	98		97		50-130	1		30	
n-Butylbenzene	99		99		50-130	0		30	
1,2-Diethylbenzene	98		97		50-130	1		30	
Undecane	83		88		50-130	6		30	
N-Pentylbenzene	96		97		50-130	1		30	
Dodecane (C12)	91		96		50-130	5		30	

Lab Control Sample Analysis

Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Lab Number: L2240634

Project Number: Not Specified

Report Date: 09/08/22

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
-----------	-------------------------	-------------	--------------------------	-------------	----------------------------	------------	-------------	----------------------

PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10,13,22,25 Batch: WG1671854-3 WG1671854-4

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> Criteria
Dibromofluoromethane	123		123		70-130
Toluene-d8	114		114		70-130
4-Bromofluorobenzene	94		94		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Lab Number: L2240634

Project Number: Not Specified

Report Date: 09/08/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 30-32 Batch: WG1677380-3 WG1677380-4								
1-Pentene	94		105		50-130	11		30
Pentane	75		85		50-130	13		30
Tertiary Butanol	101		98		50-130	3		30
Cyclopentane	83		92		50-130	10		30
2-Methylpentane	84		92		50-130	9		30
Methyl tert butyl ether	83		84		50-130	1		30
3-Methylpentane	86		95		50-130	10		30
1-Hexene	93		99		50-130	6		30
n-Hexane	84		92		50-130	9		30
Isopropyl Ether	88		89		50-130	1		30
Ethyl-Tert-Butyl-Ether	78		78		50-130	0		30
Methylcyclopentane	93		101		50-130	8		30
2,4-Dimethylpentane	85		93		50-130	9		30
Cyclohexane	96		102		50-130	6		30
2-Methylhexane	87		95		50-130	9		30
Benzene	92		93		50-130	1		30
2,3-Dimethylpentane	89		96		50-130	8		30
3-Methylhexane	78		85		50-130	9		30
Tertiary-Amyl Methyl Ether	84		84		50-130	0		30
Isooctane	94		100		50-130	6		30
Heptane	94		102		50-130	8		30
Methylcyclohexane	94		96		50-130	2		30
2-Methylheptane	100		104		50-130	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Lab Number: L2240634

Project Number: Not Specified

Report Date: 09/08/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 30-32 Batch: WG1677380-3 WG1677380-4								
3-Methylheptane	98		104		50-130	6		30
Toluene	94		95		50-130	1		30
Octane	101		106		50-130	5		30
Ethylbenzene	95		97		50-130	2		30
p/m-Xylene	100		101		50-130	1		30
Nonane (C9)	97		101		50-130	4		30
o-Xylene	99		101		50-130	2		30
Isopropylbenzene	102		103		50-130	1		30
n-Propylbenzene	105		106		50-130	1		30
1-Methyl-3-Ethylbenzene	103		104		50-130	1		30
1-Methyl-4-Ethylbenzene	106		108		50-130	2		30
1,3,5-Trimethylbenzene	105		106		50-130	1		30
1-Decene	81		86		50-130	6		30
1-Methyl-2-Ethylbenzene	104		106		50-130	2		30
Decane (C10)	105		110		50-130	5		30
1,2,4-Trimethylbenzene	99		101		50-130	2		30
sec-Butylbenzene	110		111		50-130	1		30
1-Methyl-4-N-Propylbenzene	102		102		50-130	0		30
n-Butylbenzene	103		104		50-130	1		30
1,2-Diethylbenzene	102		104		50-130	2		30
Undecane	96		105		50-130	9		30
N-Pentylbenzene	101		103		50-130	2		30
Dodecane (C12)	112		126		50-130	12		30

Lab Control Sample Analysis Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 30-32 Batch: WG1677380-3 WG1677380-4								

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> Criteria
Dibromofluoromethane	116		118		70-130
Toluene-d8	110		110		70-130
4-Bromofluorobenzene	96		97		70-130

Lab Duplicate Analysis

Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Project Number: Not Specified

Lab Number: L2240634

Report Date: 09/08/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10,13,22,25 QC Batch ID: WG1671854-7 QC Sample: L2240634-01 Client ID: GASOLINE 87						
Isopentane	58500E	58500E	mg/kg	0		30
1-Pentene	2220	2630	mg/kg	17		30
2-Methyl-1-Butene	5550	5450	mg/kg	2		30
Pentane	43500E	43100E	mg/kg	1		30
trans-2-Pentene	6310	6150	mg/kg	3		30
cis-2-Pentene	3660	3870	mg/kg	6		30
Tertiary Butanol	ND	ND	mg/kg	NC		30
Cyclopentane	4880	4990	mg/kg	2		30
2,3-Dimethylbutane	7760	7600	mg/kg	2		30
2-Methylpentane	35800E	35400E	mg/kg	1		30
Methyl tert butyl ether	ND	ND	mg/kg	NC		30
3-Methylpentane	22700E	22400E	mg/kg	1		30
1-Hexene	820	703	mg/kg	15		30
n-Hexane	33300E	33000E	mg/kg	1		30
Isopropyl Ether	ND	ND	mg/kg	NC		30
Ethyl-Tert-Butyl-Ether	ND	ND	mg/kg	NC		30
2,2-Dimethylpentane	1230	1230	mg/kg	0		30
Methylcyclopentane	22200E	21900E	mg/kg	1		30
2,4-Dimethylpentane	4700	4510	mg/kg	4		30
1,2-Dichloroethane	ND	ND	mg/kg	NC		30
Cyclohexane	14600E	14200E	mg/kg	3		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Project Number: Not Specified

Lab Number: L2240634

Report Date: 09/08/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10,13,22,25 QC Batch ID: WG1671854-7 QC Sample: L2240634-01						
Client ID: GASOLINE 87						
2-Methylhexane	16200E	16200E	mg/kg	0		30
Benzene	9120	9230	mg/kg	1		30
2,3-Dimethylpentane	7000	6750	mg/kg	4		30
Thiophene	ND	ND	mg/kg	NC		30
3-Methylhexane	15900E	15900E	mg/kg	0		30
Tertiary-Amyl Methyl Ether	ND	ND	mg/kg	NC		30
1-Heptene/1,2-DMCP (trans)	8560	8780	mg/kg	3		30
Isooctane	15100E	15600E	mg/kg	3		30
Heptane	19000E	19800E	mg/kg	4		30
Methylcyclohexane	14900E	15600E	mg/kg	5		30
2,5-Dimethylhexane	3420	3920	mg/kg	14		30
2,4-Dimethylhexane	3390	3640	mg/kg	7		30
2,2,3-Trimethylpentane	1010	1120	mg/kg	10		30
2,3,4-Trimethylpentane	7030	7840	mg/kg	11		30
2,3,3-Trimethylpentane	7790	8830	mg/kg	13		30
2,3-Dimethylhexane	2140	2270	mg/kg	6		30
2-Methylheptane	8310	10300E	mg/kg	21		30
3-Methylheptane	6270	7340	mg/kg	16		30
3-Ethylhexane	1610	1730	mg/kg	7		30
Toluene	54500E	56700E	mg/kg	4		30
2-Methylthiophene	ND	ND	mg/kg	NC		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Project Number: Not Specified

Lab Number: L2240634

Report Date: 09/08/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10,13,22,25 QC Batch ID: WG1671854-7 QC Sample: L2240634-01						
Client ID: GASOLINE 87						
3-Methylthiophene	ND	ND	mg/kg	NC		30
1-Octene	ND	ND	mg/kg	NC		30
Octane	9010	10600E	mg/kg	16		30
1,2-Dibromoethane	ND	ND	mg/kg	NC		30
Ethylbenzene	12400E	13600E	mg/kg	9		30
2-Ethylthiophene	ND	ND	mg/kg	NC		30
p/m-Xylene	47000E	52100E	mg/kg	10		30
1-Nonene	ND	ND	mg/kg	NC		30
Nonane (C9)	3940	5100	mg/kg	26		30
Styrene	16.2J	18.8J	mg/kg	NC		30
o-Xylene	17600E	19500E	mg/kg	10		30
Isopropylbenzene	1000	1180	mg/kg	17		30
n-Propylbenzene	3720	4520	mg/kg	19		30
1-Methyl-3-Ethylbenzene	11200E	13600E	mg/kg	19		30
1-Methyl-4-Ethylbenzene	5210	6350	mg/kg	20		30
1,3,5-Trimethylbenzene	5520	6840	mg/kg	21		30
1-Decene	ND	ND	mg/kg	NC		30
1-Methyl-2-Ethylbenzene	4020	4880	mg/kg	19		30
Decane (C10)	2190	2920	mg/kg	29		30
1,2,4-Trimethylbenzene	17900E	21700E	mg/kg	19		30
sec-Butylbenzene	338	429	mg/kg	24		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Project Number: Not Specified

Lab Number: L2240634

Report Date: 09/08/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10,13,22,25 QC Batch ID: WG1671854-7 QC Sample: L2240634-01						
Client ID: GASOLINE 87						
1-Methyl-3-Isopropylbenzene	536	684	mg/kg	24		30
1-Methyl-4-Isopropylbenzene	179	230	mg/kg	25		30
1-Methyl-2-Isopropylbenzene	38.6J	49.5J	mg/kg	NC		30
Indane	1870	2190	mg/kg	16		30
1-Methyl-3-N-Propylbenzene	2200	2860	mg/kg	26		30
1-Methyl-4-N-Propylbenzene	1040	1360	mg/kg	27		30
n-Butylbenzene	717	941	mg/kg	27		30
1,2-Dimethyl-4-Ethylbenzene	2190	2840	mg/kg	26		30
1,2-Diethylbenzene	158	202	mg/kg	24		30
1-Methyl-2-N-Propylbenzene	779	1000	mg/kg	25		30
1,4-Dimethyl-2-Ethylbenzene	1550	1970	mg/kg	24		30
Undecane	758	988	mg/kg	26		30
1,3-Dimethyl-4-Ethylbenzene	1300	1670	mg/kg	25		30
1,3-Dimethyl-5-Ethylbenzene	2430	3090	mg/kg	24		30
1,3-Dimethyl-2-Ethylbenzene	166	203	mg/kg	20		30
1,2-Dimethyl-3-Ethylbenzene	511	640	mg/kg	22		30
1,2,4,5-Tetramethylbenzene	1220	1600	mg/kg	27		30
N-Pentylbenzene	91.9J	119	mg/kg	NC		30
Dodecane (C12)	341	425	mg/kg	22		30
Naphthalene	1850	2090	mg/kg	12		30
Benzothiophene	ND	ND	mg/kg	NC		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Project Number: Not Specified

Lab Number: L2240634

Report Date: 09/08/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10,13,22,25 QC Batch ID: WG1671854-7 QC Sample: L2240634-01 Client ID: GASOLINE 87						
MMT	ND	ND	mg/kg	NC		30
Tridecane	181J	253	mg/kg	NC		30
2-Methylnaphthalene	1040	1250	mg/kg	18		30
1-Methylnaphthalene	488	577	mg/kg	17		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	127		120		70-130
Toluene-d8	115		111		70-130
4-Bromofluorobenzene	92		95		70-130

Lab Duplicate Analysis

Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Project Number: Not Specified

Lab Number: L2240634

Report Date: 09/08/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10,13,22,25 QC Batch ID: WG1671854-7 QC Sample: L2240634-01 Client ID: GASOLINE 87						
Isopentane	37900	37000	mg/kg	2		30
Pentane	30300	28500	mg/kg	6		30
2-Methylpentane	26800	25600	mg/kg	5		30
3-Methylpentane	17800	16600	mg/kg	7		30
n-Hexane	26700	24300	mg/kg	9		30
Methylcyclopentane	18800	17500	mg/kg	7		30
Cyclohexane	12700	11800	mg/kg	7		30
2-Methylhexane	14500	13200	mg/kg	9		30
3-Methylhexane	14800	13200	mg/kg	11		30
Isooctane	14900	13600	mg/kg	9		30
Heptane	18700	16900	mg/kg	10		30
Methylcyclohexane	14300	13600	mg/kg	5		30
2-Methylheptane	8310	8080	mg/kg	3		30
Toluene	50200	49400	mg/kg	2		30
Octane	9010	9270	mg/kg	3		30
Ethylbenzene	11800	11600	mg/kg	2		30
p/m-Xylene	46400	45600	mg/kg	2		30
o-Xylene	16800	16500	mg/kg	2		30
1-Methyl-3-Ethylbenzene	11900	11800	mg/kg	1		30
1,2,4-Trimethylbenzene	19200	19200	mg/kg	0		30

Lab Duplicate Analysis

Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Project Number: Not Specified

Lab Number: L2240634

Report Date: 09/08/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
PIANO Volatile Organics by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10,13,22,25 QC Batch ID: WG1671854-7 QC Sample: L2240634-01						
Client ID: GASOLINE 87						

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Dibromofluoromethane	124		123		70-130
Toluene-d8	112		113		70-130
4-Bromofluorobenzene	96		95		70-130

PETROLEUM HYDROCARBONS

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-01

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 87

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 10:45

Analytical Date: 08/18/22 01:41

Analyst: WR

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	169000		mg/kg	6260	57.8	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	102		50-130
d50-Tetracosane	100		50-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-02

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 87 F1

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/19/22 07:48

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	34900		mg/kg	3130	28.9	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
d50-Tetracosane			96		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-03

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 87 F2

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/25/22 19:02

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	76100		mg/kg	3130	28.9	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
o-Terphenyl			92		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-04

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 91

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 10:45

Analytical Date: 08/18/22 04:40

Analyst: WR

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	142000		mg/kg	6430	59.4	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	102		50-130
d50-Tetracosane	100		50-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-05

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 91 F1

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/19/22 10:49

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	33800		mg/kg	3210	29.7	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
d50-Tetracosane			93		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-06

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 91 F2

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/25/22 22:03

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	63500	B	mg/kg	3210	29.7	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	89		50-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

SAMPLE RESULTS

Lab ID: L2240634-07
 Client ID: GASOLINE 93
 Sample Location: Not Specified

Date Collected: 07/26/22 00:00
 Date Received: 07/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8015D(M)
 Analytical Date: 08/18/22 06:10
 Analyst: WR
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3580A
 Extraction Date: 08/17/22 10:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	144000		mg/kg	5870	54.2	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	103		50-130
d50-Tetracosane	101		50-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

SAMPLE RESULTS

Lab ID: L2240634-08
 Client ID: GASOLINE 93 F1
 Sample Location: Not Specified

Date Collected: 07/26/22 00:00
 Date Received: 07/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8015D(M)
 Analytical Date: 08/19/22 12:21
 Analyst: WR
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3580A
 Extraction Date: 08/17/22 16:35
 Cleanup Method: EPA 3630(M)
 Cleanup Date: 08/18/22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	29100		mg/kg	2930	27.1	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
d50-Tetracosane			96		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-09

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 93 F2

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/25/22 23:34

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	67400		mg/kg	2930	27.1	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
o-Terphenyl			91		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-10

Date Collected: 07/26/22 00:00

Client ID: HEATING FUEL

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 10:45

Analytical Date: 08/18/22 07:40

Analyst: WR

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	884000		mg/kg	5880	54.3	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	103		50-130
d50-Tetracosane	101		50-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-11

Date Collected: 07/26/22 00:00

Client ID: HEATING FUEL F1

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/19/22 13:52

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	511000		mg/kg	2940	27.2	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
d50-Tetracosane			98		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-12

Date Collected: 07/26/22 00:00

Client ID: HEATING FUEL F2

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/26/22 01:04

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	242000		mg/kg	2940	27.2	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
o-Terphenyl			95		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-13

Date Collected: 07/26/22 00:00

Client ID: ROAD DIESEL

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 10:45

Analytical Date: 08/18/22 09:10

Analyst: WR

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	927000		mg/kg	5900	54.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	102		50-130
d50-Tetracosane	100		50-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-14

Date Collected: 07/26/22 00:00

Client ID: ROAD DIESEL F1

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/19/22 15:24

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	524000		mg/kg	2950	27.3	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
d50-Tetracosane			93		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-15

Date Collected: 07/26/22 00:00

Client ID: ROAD DIESEL F2

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/26/22 02:34

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	260000		mg/kg	2950	27.3	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
o-Terphenyl			84		50-130	

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

SAMPLE RESULTS

Lab ID: L2240634-16
 Client ID: JP-5
 Sample Location: Not Specified

Date Collected: 07/26/22 00:00
 Date Received: 07/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8015D(M)
 Analytical Date: 08/18/22 10:41
 Analyst: WR
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3580A
 Extraction Date: 08/17/22 10:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	1010000		mg/kg	6600	61.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	102		50-130
d50-Tetracosane	102		50-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-17

Date Collected: 07/26/22 00:00

Client ID: JP-5 F1

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/19/22 21:29

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	656000		mg/kg	1650	15.2	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
d50-Tetracosane			94		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-18

Date Collected: 07/26/22 00:00

Client ID: JP-5 F2

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/26/22 04:05

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	153000		mg/kg	1650	15.2	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
o-Terphenyl			113		50-130	

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

SAMPLE RESULTS

Lab ID: L2240634-19
 Client ID: JP-8
 Sample Location: Not Specified

Date Collected: 07/26/22 00:00
 Date Received: 07/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Oil
 Analytical Method: 1,8015D(M)
 Analytical Date: 08/18/22 16:46
 Analyst: WR
 Percent Solids: Results reported on an 'AS RECEIVED' basis.

Extraction Method: EPA 3580A
 Extraction Date: 08/17/22 10:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	914000		mg/kg	6600	61.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	102		50-130
d50-Tetracosane	100		50-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-20

Date Collected: 07/26/22 00:00

Client ID: JP-8 F1

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/19/22 23:00

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	558000		mg/kg	1650	15.2	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
d50-Tetracosane			96		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-21

Date Collected: 07/26/22 00:00

Client ID: JP-8 F2

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/26/22 05:35

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	138000		mg/kg	1650	15.2	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
o-Terphenyl			90		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-25

Date Collected: 07/26/22 00:00

Client ID: BUNKER C

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 10:45

Analytical Date: 08/18/22 19:48

Analyst: WR

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	1270000		mg/kg	12800	118.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	101		50-130
d50-Tetracosane	103		50-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-26

Date Collected: 07/26/22 00:00

Client ID: BUNKER C F1

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/20/22 02:01

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	385000		mg/kg	3190	29.4	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
d50-Tetracosane			95		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-27

Date Collected: 07/26/22 00:00

Client ID: BUNKER C F2

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 08/17/22 16:35

Analytical Date: 08/26/22 07:05

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 08/18/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	178000		mg/kg	3190	29.4	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
o-Terphenyl			89		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-32

Date Collected: 07/26/22 00:00

Client ID: WASTE OIL (AUTO)

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 09/02/22 12:12

Analytical Date: 09/07/22 16:05

Analyst: WR

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	809000		mg/kg	5900	54.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	90		50-130
d50-Tetracosane	93		50-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-33

Date Collected: 07/26/22 00:00

Client ID: WASTE OIL (AUTO) F1

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 09/02/22 15:30

Analytical Date: 09/07/22 22:05

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 09/02/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	834000		mg/kg	2950	27.2	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
d50-Tetracosane			109		50-130	

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-34

Date Collected: 07/26/22 00:00

Client ID: WASTE OIL (AUTO) F2

Date Received: 07/29/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Extraction Method: EPA 3580A

Analytical Method: 1,8015D(M)

Extraction Date: 09/02/22 15:30

Analytical Date: 09/07/22 19:05

Cleanup Method: EPA 3630(M)

Analyst: WR

Cleanup Date: 09/02/22

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab						
Total Petroleum Hydrocarbons (C9-C44)	93600		mg/kg	2950	27.2	1
Surrogate			% Recovery	Qualifier	Acceptance Criteria	
o-Terphenyl			104		50-130	

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8015D(M)
Analytical Date: 08/17/22 19:40
Analyst: WR

Extraction Method: EPA 3580A
Extraction Date: 08/17/22 10:45

Parameter	Result	Qualifier	Units	RL	MDL
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab for sample(s): 01,04,07,10,13,16,19,25 Batch: WG1676301-1					
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/kg	7530	69.5

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	102		50-130
d50-Tetracosane	100		50-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8015D(M)
Analytical Date: 08/19/22 01:49
Analyst: WR

Extraction Method: EPA 3580A
Extraction Date: 08/17/22 16:35
Cleanup Method: EPA 3630(M)
Cleanup Date: 08/18/22

Parameter	Result	Qualifier	Units	RL	MDL
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab for sample(s): 02,05,08,11,14,17,20,26 Batch: WG1676456-1					
Total Petroleum Hydrocarbons (C9-C44)	2110	J	mg/kg	3760	34.8

Surrogate	%Recovery	Qualifier	Acceptance Criteria
d50-Tetracosane	98		50-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 08/25/22 09:53
Analyst: WR

Extraction Method: EPA 3580A
Extraction Date: 08/17/22 16:35
Cleanup Method: EPA 3630(M)
Cleanup Date: 08/18/22

Parameter	Result	Qualifier	Units	RL	MDL
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab for sample(s): 03,06,09,12,15,18,21,27 Batch: WG1676458-1					
Total Petroleum Hydrocarbons (C9-C44)	6380		mg/kg	3760	34.8

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	93		50-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 09/06/22 22:04
Analyst: WR

Extraction Method: EPA 3580A
Extraction Date: 09/02/22 12:12

Parameter	Result	Qualifier	Units	RL	MDL
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab for sample(s): 32 Batch: WG1682983-1					
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/kg	5900	54.5

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	89		50-130
d50-Tetracosane	91		50-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 09/07/22 01:04
Analyst: WR

Extraction Method: EPA 3580A
Extraction Date: 09/02/22 15:30
Cleanup Method: EPA 3630(M)
Cleanup Date: 09/02/22

Parameter	Result	Qualifier	Units	RL	MDL
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab for sample(s): 33 Batch: WG1682989-1					
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/kg	2950	27.2

Surrogate	%Recovery	Qualifier	Acceptance Criteria
d50-Tetracosane	105		50-130

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 09/06/22 23:34
Analyst: WR

Extraction Method: EPA 3580A
Extraction Date: 09/02/22 15:30
Cleanup Method: EPA 3630(M)
Cleanup Date: 09/02/22

Parameter	Result	Qualifier	Units	RL	MDL
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab for sample(s): 34 Batch: WG1682993-1					
Total Petroleum Hydrocarbons (C9-C44)	ND		mg/kg	2950	27.2

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	91		50-130

Lab Control Sample Analysis Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 01,04,07,10,13,16,19,25 Batch: WG1676301-2 WG1676301-3								
Nonane (C9)	97		101		50-130	4		30
Decane (C10)	95		101		50-130	6		30
Dodecane (C12)	103		105		50-130	2		30
Tetradecane (C14)	99		101		50-130	2		30
Hexadecane (C16)	106		108		50-130	2		30
Octadecane (C18)	107		109		50-130	2		30
Nonadecane (C19)	101		103		50-130	2		30
Eicosane (C20)	99		102		50-130	3		30
Docosane (C22)	100		103		50-130	3		30
Tetracosane (C24)	104		107		50-130	3		30
Hexacosane (C26)	102		105		50-130	3		30
Octacosane (C28)	101		104		50-130	3		30
Triacontane (C30)	101		104		50-130	3		30
Hexatriacontane (C36)	91		94		50-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	103		103		50-130
d50-Tetracosane	101		102		50-130



Lab Control Sample Analysis Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 02,05,08,11,14,17,20,26 Batch: WG1676456-2 WG1676456-3								
Nonane (C9)	75		74		50-130	1		30
Decane (C10)	72		72		50-130	0		30
Dodecane (C12)	81		82		50-130	1		30
Tetradecane (C14)	84		86		50-130	2		30
Hexadecane (C16)	93		95		50-130	2		30
Octadecane (C18)	98		101		50-130	3		30
Nonadecane (C19)	100		103		50-130	3		30
Eicosane (C20)	100		102		50-130	2		30
Docosane (C22)	99		101		50-130	2		30
Tetracosane (C24)	103		105		50-130	2		30
Hexacosane (C26)	101		103		50-130	2		30
Octacosane (C28)	100		103		50-130	3		30
Triacontane (C30)	99		102		50-130	3		30
Hexatriacontane (C36)	90		92		50-130	2		30

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
d50-Tetracosane	97		98		50-130

Lab Control Sample Analysis Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 32 Batch: WG1682983-2 WG1682983-3								
Nonane (C9)	88		86		50-130	2		30
Decane (C10)	88		88		50-130	0		30
Dodecane (C12)	90		91		50-130	1		30
Tetradecane (C14)	91		91		50-130	0		30
Hexadecane (C16)	94		94		50-130	0		30
Octadecane (C18)	93		93		50-130	0		30
Nonadecane (C19)	93		93		50-130	0		30
Eicosane (C20)	91		93		50-130	2		30
Docosane (C22)	92		92		50-130	0		30
Tetracosane (C24)	95		95		50-130	0		30
Hexacosane (C26)	93		93		50-130	0		30
Octacosane (C28)	96		96		50-130	0		30
Triacontane (C30)	91		92		50-130	1		30
Hexatriacontane (C36)	82		83		50-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	89		90		50-130
d50-Tetracosane	91		92		50-130

Lab Control Sample Analysis Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 33 Batch: WG1682989-2 WG1682989-3								
Nonane (C9)	82		78		50-130	5		30
Decane (C10)	85		80		50-130	6		30
Dodecane (C12)	89		84		50-130	6		30
Tetradecane (C14)	92		87		50-130	6		30
Hexadecane (C16)	102		96		50-130	6		30
Octadecane (C18)	108		101		50-130	7		30
Nonadecane (C19)	109		102		50-130	7		30
Eicosane (C20)	108		102		50-130	6		30
Docosane (C22)	107		101		50-130	6		30
Tetracosane (C24)	110		104		50-130	6		30
Hexacosane (C26)	107		101		50-130	6		30
Octacosane (C28)	106		100		50-130	6		30
Triacosane (C30)	106		100		50-130	6		30
Hexatriacontane (C36)	97		88		50-130	10		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
d50-Tetracosane	105		99		50-130



Lab Duplicate Analysis Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 01,04,07,10,13,16,19,25 QC Batch ID: WG1676301-4 QC Sample: L2240634-01 Client ID: GASOLINE 87						

Total Petroleum Hydrocarbons (C9-C44)	169000	160000	mg/kg	5		30
---------------------------------------	--------	--------	-------	---	--	----

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	102		102		50-130
d50-Tetracosane	100		101		50-130

Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 02,05,08,11,14,17,20,26 QC Batch ID: WG1676456-4 QC Sample: L2240634-02 Client ID: GASOLINE 87 F1						
---	--	--	--	--	--	--

Total Petroleum Hydrocarbons (C9-C44)	34900	40100	mg/kg	14		30
---------------------------------------	-------	-------	-------	----	--	----

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
d50-Tetracosane	96		97		50-130

Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 03,06,09,12,15,18,21,27 QC Batch ID: WG1676458-4 QC Sample: L2240634-03 Client ID: GASOLINE 87 F2						
---	--	--	--	--	--	--

Total Petroleum Hydrocarbons (C9-C44)	76100	78200	mg/kg	3		30
---------------------------------------	-------	-------	-------	---	--	----

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	92		90		50-130

Lab Duplicate Analysis Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Project Number: Not Specified

Lab Number: L2240634

Report Date: 09/08/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 32 QC Batch ID: WG1682983-4 QC Sample: L2240634-32 Client ID: WASTE OIL (AUTO)						

Total Petroleum Hydrocarbons (C9-C44)	809000	813000	mg/kg	0		30
---------------------------------------	--------	--------	-------	---	--	----

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	90		90		50-130
d50-Tetracosane	93		92		50-130

Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 33 QC Batch ID: WG1682989-4 QC Sample: L2240634-33 Client ID: WASTE OIL (AUTO) F1						
---	--	--	--	--	--	--

Total Petroleum Hydrocarbons (C9-C44)	834000	848000	mg/kg	2		30
---------------------------------------	--------	--------	-------	---	--	----

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
d50-Tetracosane	109		105		50-130

Total Petroleum Hydrocarbon by GC-FID - Mansfield Lab Associated sample(s): 34 QC Batch ID: WG1682993-4 QC Sample: L2240634-34 Client ID: WASTE OIL (AUTO) F2						
---	--	--	--	--	--	--

Total Petroleum Hydrocarbons (C9-C44)	93600	83400	mg/kg	12		30
---------------------------------------	-------	-------	-------	----	--	----

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	104		102		50-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-01 D

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 87

Date Received: 07/29/22

Sample Location:

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Analytical Method: 131, VPH-18-2.1

Analytical Date: 09/02/22 19:24

Analyst: BAD

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Trap: EST, Carbopack B/Carboxen 1000&1001

Analytical Column: Restek, RTX-502.2,
105m, 0.53ID, 3um**Quality Control Information**

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Received on Ice

Were samples received in methanol?

Yes (Covering the Soil)

Methanol ratio:

9.0:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	124000		mg/kg	22500	22500	500
C9-C12 Aliphatics	78900		mg/kg	22500	22500	500
C9-C10 Aromatics	28400		mg/kg	22500	22500	500
C5-C8 Aliphatics, Adjusted	80600		mg/kg	22500	22500	500
C9-C12 Aliphatics, Adjusted	ND		mg/kg	22500	22500	500

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	0	Q	70-130
2,5-Dibromotoluene-FID	0	Q	70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-04 D

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 91

Date Received: 07/29/22

Sample Location:

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Analytical Method: 131, VPH-18-2.1

Analytical Date: 09/02/22 21:23

Analyst: BAD

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Trap: EST, Carbopack B/Carboxen 1000&1001

Analytical Column: Restek, RTX-502.2,
105m, 0.53ID, 3um**Quality Control Information**

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Received on Ice

Were samples received in methanol?

Yes (Covering the Soil)

Methanol ratio:

8.8:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	121000		mg/kg	21900	21900	500
C9-C12 Aliphatics	72200		mg/kg	21900	21900	500
C9-C10 Aromatics	27000		mg/kg	21900	21900	500
C5-C8 Aliphatics, Adjusted	77900		mg/kg	21900	21900	500
C9-C12 Aliphatics, Adjusted	ND		mg/kg	21900	21900	500

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	0	Q	70-130
2,5-Dibromotoluene-FID	0	Q	70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-07 D

Date Collected: 07/26/22 00:00

Client ID: GASOLINE 93

Date Received: 07/29/22

Sample Location:

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Analytical Method: 131, VPH-18-2.1

Analytical Date: 09/02/22 22:23

Analyst: BAD

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Trap: EST, Carbopack B/Carboxen 1000&1001

Analytical Column: Restek, RTX-502.2,
105m, 0.53ID, 3um**Quality Control Information**

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Received on Ice

Were samples received in methanol?

Yes (Covering the Soil)

Methanol ratio:

8.5:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	91000		mg/kg	21400	21400	500
C9-C12 Aliphatics	57400		mg/kg	21400	21400	500
C9-C10 Aromatics	ND		mg/kg	21400	21400	500
C5-C8 Aliphatics, Adjusted	53400		mg/kg	21400	21400	500
C9-C12 Aliphatics, Adjusted	30100		mg/kg	21400	21400	500

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	0	Q	70-130
2,5-Dibromotoluene-FID	0	Q	70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-10 D

Date Collected: 07/26/22 00:00

Client ID: HEATING FUEL

Date Received: 07/29/22

Sample Location:

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Analytical Method: 131, VPH-18-2.1

Analytical Date: 09/02/22 23:23

Analyst: BAD

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Trap: EST, Carbo-pack B/Carboxen 1000&1001

Analytical Column: Restek, RTX-502.2,
105m, 0.53ID, 3um**Quality Control Information**

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Received on Ice

Were samples received in methanol?

Yes (Covering the Soil)

Methanol ratio:

8.5:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	8550	8550	200
C9-C12 Aliphatics	110000		mg/kg	8550	8550	200
C9-C10 Aromatics	60200		mg/kg	8550	8550	200
C5-C8 Aliphatics, Adjusted	ND		mg/kg	8550	8550	200
C9-C12 Aliphatics, Adjusted	48300		mg/kg	8550	8550	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	0	Q	70-130
2,5-Dibromotoluene-FID	0	Q	70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-13 D

Date Collected: 07/26/22 00:00

Client ID: ROAD DIESEL

Date Received: 07/29/22

Sample Location:

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Analytical Method: 131, VPH-18-2.1

Analytical Date: 09/03/22 00:23

Analyst: BAD

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Trap: EST, Carbopack B/Carboxen 1000&1001

Analytical Column: Restek, RTX-502.2,
105m, 0.53ID, 3um**Quality Control Information**

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Received on Ice

Were samples received in methanol?

Yes (Covering the Soil)

Methanol ratio:

6.0:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	5990	5990	200
C9-C12 Aliphatics	66700		mg/kg	5990	5990	200
C9-C10 Aromatics	38200		mg/kg	5990	5990	200
C5-C8 Aliphatics, Adjusted	ND		mg/kg	5990	5990	200
C9-C12 Aliphatics, Adjusted	19600		mg/kg	5990	5990	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	0	Q	70-130
2,5-Dibromotoluene-FID	0	Q	70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-25 D

Date Collected: 07/26/22 00:00

Client ID: BUNKER C

Date Received: 07/29/22

Sample Location:

Field Prep: Not Specified

Sample Depth:

Matrix: Oil

Analytical Method: 131, VPH-18-2.1

Analytical Date: 09/03/22 01:23

Analyst: BAD

Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Trap: EST, Carboxen B/Carboxen 1000&1001

Analytical Column: Restek, RTX-502.2,
105m, 0.53ID, 3um**Quality Control Information**

Condition of sample received:

Satisfactory

Sample Temperature upon receipt:

Received on Ice

Were samples received in methanol?

Yes (Covering the Soil)

Methanol ratio:

8.5:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		mg/kg	855	855.	20
C9-C12 Aliphatics	21000		mg/kg	855	855.	20
C9-C10 Aromatics	12700		mg/kg	855	855.	20
C5-C8 Aliphatics, Adjusted	ND		mg/kg	855	855.	20
C9-C12 Aliphatics, Adjusted	8230		mg/kg	855	855.	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	0	Q	70-130
2,5-Dibromotoluene-FID	0	Q	70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-30 D
 Client ID: JP-5 MEOH (20 MG/ML)
 Sample Location:

Date Collected: 08/17/22 12:15
 Date Received: 08/17/22
 Field Prep: Not Specified

Sample Depth:
 Matrix: Oil
 Analytical Method: 131, VPH-18-2.1
 Analytical Date: 09/08/22 12:54
 Analyst: BAD
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Trap: EST, Carboxen B/Carboxen 1000&1001**Analytical Column:** Restek, RTX-502.2, 105m, 0.53ID, 3um**Quality Control Information**

Condition of sample received: Satisfactory
 Sample Temperature upon receipt: Received on Ice
 Were samples received in methanol? Yes (Covering the Soil)
 Methanol ratio: 20.:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	340		mg/kg	196	196.	2
C9-C12 Aliphatics	11700		mg/kg	196	196.	2
C9-C10 Aromatics	5250		mg/kg	196	196.	2
C5-C8 Aliphatics, Adjusted	340		mg/kg	196	196.	2
C9-C12 Aliphatics, Adjusted	6410		mg/kg	196	196.	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	95		70-130
2,5-Dibromotoluene-FID	107		70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-31 D
 Client ID: JP-8 MEOH (20 MG/ML)
 Sample Location:

Date Collected: 08/17/22 12:15
 Date Received: 08/17/22
 Field Prep: Not Specified

Sample Depth:
 Matrix: Oil
 Analytical Method: 131, VPH-18-2.1
 Analytical Date: 09/08/22 13:53
 Analyst: BAD
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Trap: EST, Carboxen B/Carboxen 1000&1001**Analytical Column:** Restek, RTX-502.2, 105m, 0.53ID, 3um**Quality Control Information**

Condition of sample received: Satisfactory
 Sample Temperature upon receipt: Received on Ice
 Were samples received in methanol? Yes (Covering the Soil)
 Methanol ratio: 20.:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	2590		mg/kg	200	200.	2
C9-C12 Aliphatics	10900		mg/kg	200	200.	2
C9-C10 Aromatics	4040		mg/kg	200	200.	2
C5-C8 Aliphatics, Adjusted	2560		mg/kg	200	200.	2
C9-C12 Aliphatics, Adjusted	6370		mg/kg	200	200.	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	85		70-130
2,5-Dibromotoluene-FID	74		70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**SAMPLE RESULTS**

Lab ID: L2240634-32 D
 Client ID: WASTE OIL (AUTO)
 Sample Location:

Date Collected: 07/26/22 00:00
 Date Received: 07/29/22
 Field Prep: Not Specified

Sample Depth:
 Matrix: Oil
 Analytical Method: 131, VPH-18-2.1
 Analytical Date: 09/03/22 02:22
 Analyst: BAD
 Percent Solids: Results are reported on an 'AS RECEIVED' basis.

Trap: EST, Carbopack B/Carboxen 1000&1001**Analytical Column:** Restek, RTX-502.2, 105m, 0.53ID, 3um**Quality Control Information**

Condition of sample received: Satisfactory
 Sample Temperature upon receipt: Received on Ice
 Were samples received in methanol? Yes (Covering the Soil)
 Methanol ratio: 9.9:1

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	1310		mg/kg	248	248.	5
C9-C12 Aliphatics	5430		mg/kg	248	248.	5
C9-C10 Aromatics	3360		mg/kg	248	248.	5
C5-C8 Aliphatics, Adjusted	1060		mg/kg	248	248.	5
C9-C12 Aliphatics, Adjusted	1240		mg/kg	248	248.	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	83		70-130
2,5-Dibromotoluene-FID	14	Q	70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22

Method Blank Analysis Batch Quality Control

Analytical Method: 131, VPH-18-2.1

Analytical Date: 09/02/22 11:00

Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01,04,07,10,13,25,32 Batch: WG1684889-4					
C5-C8 Aliphatics	ND		mg/kg	50.0	50.0
C9-C12 Aliphatics	ND		mg/kg	50.0	50.0
C9-C10 Aromatics	ND		mg/kg	50.0	50.0
C5-C8 Aliphatics, Adjusted	ND		mg/kg	50.0	50.0
C9-C12 Aliphatics, Adjusted	ND		mg/kg	50.0	50.0

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	105		70-130
2,5-Dibromotoluene-FID	108		70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22

Method Blank Analysis Batch Quality Control

Analytical Method: 131, VPH-18-2.1

Analytical Date: 09/08/22 11:54

Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 30-31 Batch: WG1685081-4					
C5-C8 Aliphatics	ND		mg/kg	50.0	50.0
C9-C12 Aliphatics	ND		mg/kg	50.0	50.0
C9-C10 Aromatics	ND		mg/kg	50.0	50.0
C5-C8 Aliphatics, Adjusted	ND		mg/kg	50.0	50.0
C9-C12 Aliphatics, Adjusted	ND		mg/kg	50.0	50.0

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	98		70-130
2,5-Dibromotoluene-FID	106		70-130

Lab Control Sample Analysis Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Parameter	LCS		LCSD		%Recovery		RPD	RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual		Limits	
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01,04,07,10,13,25,32 Batch: WG1684889-2 WG1684889-3									
C5-C8 Aliphatics	100		100		70-130	0		25	
C9-C12 Aliphatics	114		116		70-130	2		25	
C9-C10 Aromatics	106		106		70-130	0		25	
Benzene	106		106		70-130	0		25	
Toluene	108		108		70-130	0		25	
Ethylbenzene	109		108		70-130	1		25	
p/m-Xylene	109		108		70-130	1		25	
o-Xylene	106		105		70-130	1		25	
Methyl tert butyl ether	98		95		70-130	3		25	
Naphthalene	102		98		70-130	4		25	
1,2,4-Trimethylbenzene	106		106		70-130	0		25	
Pentane	85		84		70-130	1		25	
2-Methylpentane	100		101		70-130	1		25	
2,2,4-Trimethylpentane	110		111		70-130	1		25	
n-Nonane	115		117		30-130	2		25	
n-Decane	113		115		70-130	2		25	
n-Butylcyclohexane	114		116		70-130	2		25	

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
2,5-Dibromotoluene-PID	109		103		70-130
2,5-Dibromotoluene-FID	109		106		70-130



Lab Control Sample Analysis Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 30-31 Batch: WG1685081-2 WG1685081-3								
C5-C8 Aliphatics	94		94		70-130	0		25
C9-C12 Aliphatics	111		111		70-130	0		25
C9-C10 Aromatics	98		98		70-130	0		25
Benzene	98		97		70-130	0		25
Toluene	99		99		70-130	0		25
Ethylbenzene	100		100		70-130	0		25
p/m-Xylene	100		100		70-130	0		25
o-Xylene	98		97		70-130	0		25
Methyl tert butyl ether	88		87		70-130	1		25
Naphthalene	92		92		70-130	0		25
1,2,4-Trimethylbenzene	98		98		70-130	0		25
Pentane	80		80		70-130	0		25
2-Methylpentane	93		92		70-130	0		25
2,2,4-Trimethylpentane	105		105		70-130	0		25
n-Nonane	112		112		30-130	0		25
n-Decane	108		109		70-130	1		25
n-Butylcyclohexane	111		111		70-130	0		25

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	96		95		70-130
2,5-Dibromotoluene-FID	103		102		70-130



Lab Duplicate Analysis
Batch Quality Control

Project Name: HAWAII DOH - FINGERPRINTING

Project Number: Not Specified

Lab Number: L2240634

Report Date: 09/08/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01,04,07,10,13,25,32 QC Batch ID: WG1684889-6 QC Sample: L2240634-01						
Client ID: GASOLINE 87						
C5-C8 Aliphatics	124000	123000	mg/kg	1		50
C9-C12 Aliphatics	78900	75700	mg/kg	4		50
C9-C10 Aromatics	28400	25900	mg/kg	9		50
C5-C8 Aliphatics, Adjusted	80600	79600	mg/kg	1		50
C9-C12 Aliphatics, Adjusted	ND	ND	mg/kg	NC		50

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	0	Q	0	Q	70-130
2,5-Dibromotoluene-FID	0	Q	0	Q	70-130

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
N/A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2240634-01A	Vial unpreserved 20ml hard-cap	N/A	NA			Y	Absent		A2-NFTPH(365),A2-NFPIANO8260(365)
L2240634-01B	Vial unpreserved	N/A	NA			Y	Absent		VPH-18(28)
L2240634-01W	Vial MeOH preserved split	N/A	NA			Y	Absent		VPH-18(28)
L2240634-01X	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-01Y	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-04A	Vial unpreserved 20ml hard-cap	N/A	NA			Y	Absent		A2-NFTPH(365),A2-NFPIANO8260(365)
L2240634-04B	Vial unpreserved	N/A	NA			Y	Absent		VPH-18(28)
L2240634-04W	Vial MeOH preserved split	N/A	NA			Y	Absent		VPH-18(28)
L2240634-04X	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-04Y	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-07A	Vial unpreserved 20ml hard-cap	N/A	NA			Y	Absent		A2-NFTPH(365),A2-NFPIANO8260(365)
L2240634-07B	Vial unpreserved	N/A	NA			Y	Absent		VPH-18(28)
L2240634-07W	Vial MeOH preserved split	N/A	NA			Y	Absent		VPH-18(28)
L2240634-07X	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-07Y	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-10A	Vial unpreserved 20ml hard-cap	N/A	NA			Y	Absent		A2-NFTPH(365),A2-NFPIANO8260(365)
L2240634-10V	Split Small Ampule	N/A	NA			Y	Absent		A2-NFTPH(365)
L2240634-10W	Vial unpreserved	N/A	NA			Y	Absent		VPH-18(28)
L2240634-10X	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-10Y	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-10Z	Vial MeOH preserved split	N/A	NA			Y	Absent		VPH-18(28)
L2240634-13A	Vial unpreserved 20ml hard-cap	N/A	NA			Y	Absent		A2-NFTPH(365),A2-NFPIANO8260(365)
L2240634-13B	Vial unpreserved	N/A	NA			Y	Absent		VPH-18(28)

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2240634-13W	Vial MeOH preserved split	N/A	NA			Y	Absent		VPH-18(28)
L2240634-13X	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-13Y	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-16A	Small Ampule	N/A	NA			Y	Absent		A2-NFTPH(365)
L2240634-16B	Small Ampule	N/A	NA			Y	Absent		A2-NFTPH(365)
L2240634-19A	Small Ampule	N/A	NA			Y	Absent		A2-NFTPH(365)
L2240634-19B	Small Ampule	N/A	NA			Y	Absent		A2-NFTPH(365)
L2240634-22A	Small Ampule	N/A	NA			Y	Absent		TS100(),HOLD-NFSHC(365)
L2240634-22W	Vial unpreserved	N/A	NA			Y	Absent		TS100(),HOLD-NFSHC(365)
L2240634-22X	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		TS100(),HOLD-NFSHC(365)
L2240634-22Y	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		TS100(),HOLD-NFSHC(365)
L2240634-22Z	Vial MeOH preserved split	N/A	NA			Y	Absent		TS100(),HOLD-NFSHC(365)
L2240634-25A	Vial unpreserved 20ml hard-cap	N/A	NA			Y	Absent		A2-NFTPH(365),A2-NFPIANO8260(365)
L2240634-25V	Glass 60mL/2oz unpreserved	N/A	NA			Y	Absent		A2-NFTPH(365)
L2240634-25W	Vial MeOH preserved split	N/A	NA			Y	Absent		VPH-18(28)
L2240634-25X	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-25Y	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-25Z	Vial unpreserved	N/A	NA			Y	Absent		VPH-18(28)
L2240634-28A	Small Ampule	N/A	NA			Y	Absent		CANCELLED()
L2240634-28B	Small Ampule	N/A	NA			Y	Absent		CANCELLED()
L2240634-29A	Small Ampule	N/A	NA			Y	Absent		CANCELLED()
L2240634-29B	Small Ampule	N/A	NA			Y	Absent		CANCELLED()
L2240634-30A	Small Ampule	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-30B	Small Ampule	N/A	NA			Y	Absent		VPH-18(28)
L2240634-30W	Vial MeOH preserved split	NA	NA			Y	Absent		VPH-18(28)
L2240634-30X	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-31A	Small Ampule	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-31B	Small Ampule	N/A	NA			Y	Absent		VPH-18(28)

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2240634-31W	Vial MeOH preserved split	NA	NA			Y	Absent		VPH-18(28)
L2240634-31X	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-32A	Vial unpreserved	N/A	NA			Y	Absent		A2-NFTPH(365)
L2240634-32V	Vial unpreserved split	N/A	NA			Y	Absent		A2-NFTPH(365),A2-NFPIANO8260(365)
L2240634-32W	Vial unpreserved split	N/A	NA			Y	Absent		VPH-18(28)
L2240634-32X	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-32Y	Vial unpreserved 20ml hard-cap split	N/A	NA			Y	Absent		A2-NFPIANO8260(365)
L2240634-32Z	Vial MeOH preserved split	N/A	NA			Y	Absent		VPH-18(28)

Container Comments

L2240634-30A	Ampule placed in Glass-A.120
L2240634-30B	Ampule placed in Glass-A.120
L2240634-31A	Ampule placed in Glass-A.120
L2240634-31B	Ampule placed in Glass-A.120

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name: HAWAII DOH - FINGERPRINTING**Lab Number:** L2240634**Project Number:** Not Specified**Report Date:** 09/08/22**Footnotes**

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: HAWAII DOH - FINGERPRINTING
Project Number: Not Specified

Lab Number: L2240634
Report Date: 09/08/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 131 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, February 2018, Revision 2.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, June 1, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



8/8/22

Chain of Custody

L2240634

Environmental Forensics Practice LLC

Proj. No		Proj. Name Hawaii's DOH													
SAMPLERS: Signature ERIC Litman															
ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"															
DATE	TIME	LAB ID	CLIENT ID	SAMPLE DESCRIPTION	MATRIX (* see below)	GC-FID-TPH (C,+)	GCMS-Alkyl PAH	GCMS-Biomarkers	PIANO - VOA	Organic Lead	METALS	PCB	Pesticides	PRESERVED	Total Number of Containers
8/8/22		-28	JP-5	MEOH	P	X			X						
8/8/22		-29	JP-8	MEOH	P	X			X						
Relinquished by:		Date/Time		Received by:		Date/Time									
		8/8/2022 1:46		Doy DeLoe AAL		8/8/22 13:46									
Relinquished by:		Date/Time		Received by:		Date/Time									
Doy DeLoe AAL		8/8/22 16:45		Lyle DeLoe		8/8/22 16:45									
Relinquished by:		Date/Time		Received by:		Date/Time									
mhr wa		8/8/22 1900		R. Mendez		8/8/22 1900									
* 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:											

R. Mendez

8/8/22 2000

8/8/22 2000



Chain of Custody

Environmental Forensics Practice LLC

L2240634

Proj. No		Proj. Name														
SAMPLERS: Signature				ANALYSIS REQUESTED → "NUMBER OF CONTAINERS"		MATRIX (* see below)	GC-FID-TPH (C ₁ +)	GCMS-Alkyl PAH	GCMS-Biomarkers	PIANO - VOA	Organic Lead	METALS	PCB	Pesticides	PRESERVED	Total Number of Containers
George Hill		[Signature]														
DATE	TIME	LAB ID	CLIENT ID	SAMPLE DESCRIPTION												
8/17/22	12:15	Acas	Acutox Standard	Standard		Liquid									1	
Relinquished by:			Date/Time		Received by:			Date/Time								
[Signature]			8/17/22 12:15		Dm Deere AAL			9/17/22 12:15								
Relinquished by:			Date/Time		Received by:			Date/Time								
Dm Deere AAL			8/17/22 16:50		Lyle Harri			8/17/22 16:50								
Relinquished by:			Date/Time		Received by:			Date/Time								
Meghan Murphy			8/17/22 19:00		[Signature]			8/17/22 19:00								
* 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:										

30
31

[Signature] 8/17/22 2000

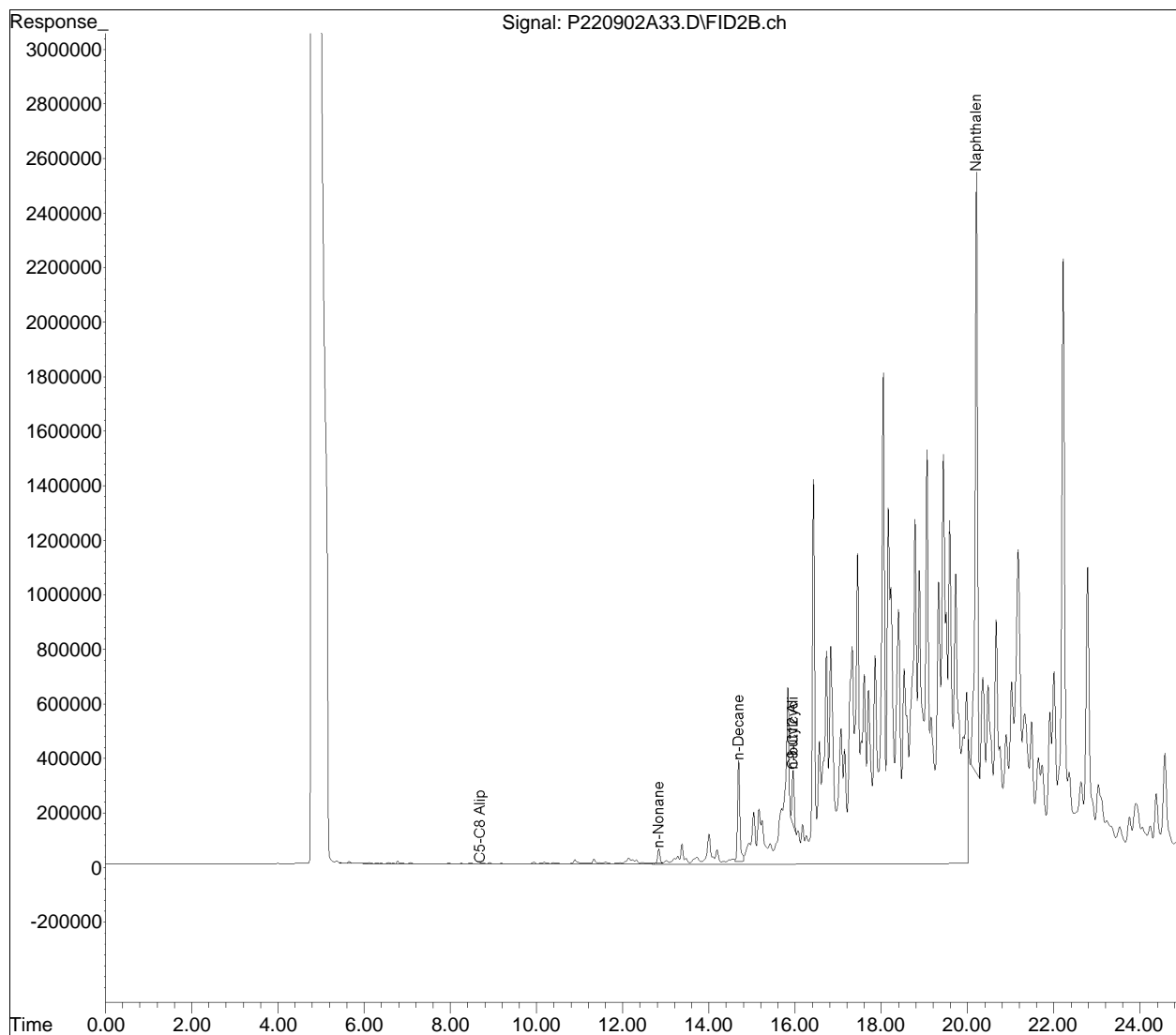
Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES_GC\PVPH\2022\220902Aali\
Data File : P220902A33.D
Signal(s) : FID2B.ch
Acq On : 3 Sep 2022 1:23 am
Operator : PVPH:BAD
Sample : 12240634-25d,41,10,1.17,0.005,,w
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 33 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 03 13:07:22 2022
Quant Method : I:\VOLATILES_GC\PVPH\2022\220902Aali\vph-ali220830A.m
Quant Title : VPH ALIPHATIC
QLast Update : Wed Aug 31 12:33:08 2022
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Sub List : Default - All compounds listed



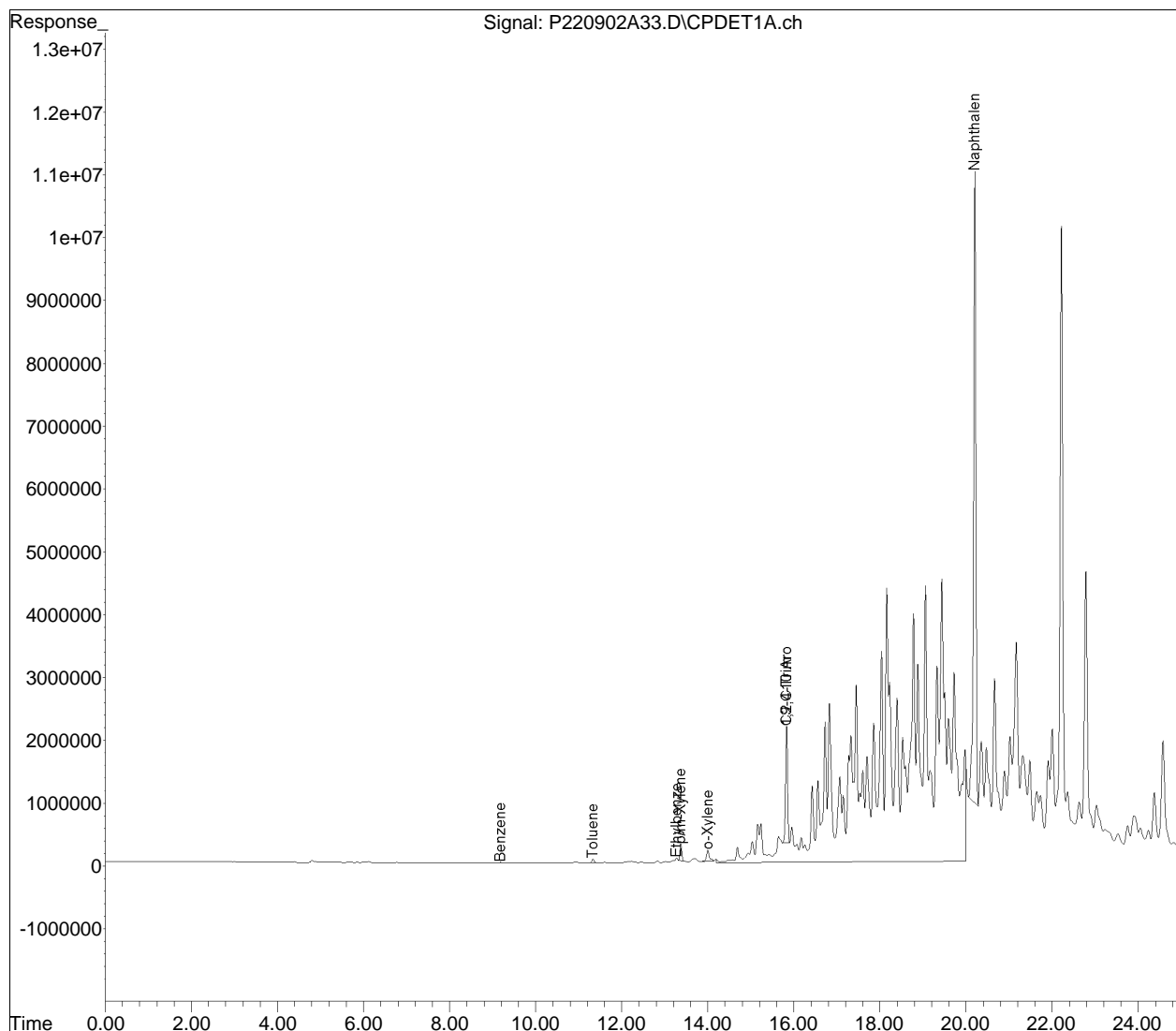
Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES_GC\PVPH\2022\220902Aaro\
Data File : P220902A33.D
Signal(s) : CPDET1A.ch
Acq On : 3 Sep 2022 1:23 am
Operator : PVPH:BAD
Sample : 12240634-25d,41,10,1.17,0.005,,w
Misc : WG1684889,ICAL19301,VPH-50
ALS Vial : 33 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 03 13:53:04 2022
Quant Method : I:\VOLATILES_GC\PVPH\2022\220902Aaro\vph-aro220830A.m
Quant Title : VPH AROMATIC
QLast Update : Wed Aug 31 12:38:17 2022
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Sub List : Default - All compounds listed



Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES_GC\PVPH\2022\220902Aali\
Data File : P220902A35.D
Signal(s) : FID2B.ch
Acq On : 3 Sep 2022 2:22 am
Operator : PVPH:BAD
Sample : 12240634-32d,41,10,1.01,0.02,,z
Misc : WG1684889,ICAL19300,VPH-50
ALS Vial : 35 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 03 13:08:26 2022
Quant Method : I:\VOLATILES_GC\PVPH\2022\220902Aali\vph-ali220830A.m
Quant Title : VPH ALIPHATIC
QLast Update : Wed Aug 31 12:33:08 2022
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Sub List : Default - All compounds listed

