

Cover Page

Order ID : Q1698

Project ID : MTA Rockaway Park

Client : Tully Construction Co., Inc.

Lab Sample Number

Q1698-01
Q1698-02
Q1698-03
Q1698-04
Q1698-05
Q1698-06
Q1698-07
Q1698-08
Q1698-09
Q1698-10
Q1698-11
Q1698-12

Client Sample Number

B-9
B-9
B-9
B-9-TPH-2
B-9-TPH-3
B-9-TPH-4
B-10
B-10
B-10
B-10-TPH-2
B-10-TPH-3
B-10-TPH-4

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : _____

Date: 4/5/2025

DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following “ Results Qualifiers” are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. “10 U”. This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value. This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as “12 B”.
E	Indicates the analyte ‘s concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a “P”.
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1698

Completed

For thorough review, the report must have the following:

GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Custody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: MAHESH PATEL

Date: 04/05/2025

LAB CHRONICLE

OrderID:	Q1698	OrderDate:	4/2/2025 12:14:00 PM
Client:	Tully Construction Co., Inc.	Project:	MTA Rockaway Park
Contact:	Dean Devoe	Location:	I41,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1698-01	B-9	SOIL	TPH GC	8015D	04/02/25	04/03/25	04/03/25	04/02/25
Q1698-04	B-9-TPH-2	SOIL	TPH GC	8015D	04/02/25	04/03/25	04/03/25	04/02/25
Q1698-05	B-9-TPH-3	SOIL	TPH GC	8015D	04/02/25	04/03/25	04/03/25	04/02/25
			TPH GC	8015D		04/03/25	04/04/25	
Q1698-06	B-9-TPH-4	SOIL	TPH GC	8015D	04/02/25	04/03/25	04/03/25	04/02/25
			TPH GC	8015D		04/03/25	04/04/25	
Q1698-07	B-10	SOIL	TPH GC	8015D	04/02/25	04/03/25	04/03/25	04/02/25
Q1698-10	B-10-TPH-2	SOIL	TPH GC	8015D	04/02/25	04/03/25	04/03/25	04/02/25
Q1698-11	B-10-TPH-3	SOIL	TPH GC	8015D	04/02/25	04/03/25	04/03/25	04/02/25
Q1698-12	B-10-TPH-4	SOIL	TPH GC	8015D	04/02/25	04/03/25	04/03/25	04/02/25



QC SUMMARY

SOIL TPH GC SURROGATE RECOVERY

Lab Name: Chemtech Client: Tully Construction Co., Inc.
Lab Code: CHEM Case No.: Q1698 SAS No.: Q1698 SDG No.: Q1698

EPA SAMPLE NO.	S1 TETRACOSANE-d50	S2	S3	S4	TOT OUT
PIBLK-FG015612.D	82				0
PIBLK-FG015620.D	88				0
PIBLK-FG015629.D	84				0
PIBLK-FG015635.D	84				0
PB167438BL	94				0
PB167438BS	98				0
B-9	0 *				1
B-9-TPH-2	108				0
B-9-TPH-3	0 *				1
B-9-TPH-4	0 *				1
B-10	69				0
B-10MS	71				0
B-10MSD	71				0
B-10-TPH-2	69				0
B-10-TPH-3	79				0
B-10-TPH-4	76				0

QC LIMITS

TETRACOSANE-d50

For Water : 29-130

For Soil : 37-130

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate Diluted Out

SOIL TPH GC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** Tully Construction Co., Inc.
Lab Code: CHEM **Cas No:** Q1698 **SAS No :** Q1698 **SDG No:** Q1698
Client SampleID : B-10MS **Datafile:** FG015625.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
Petroleum Hydrocarbons	12110	33900	44753	89%		68-131

SOIL TPH GC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** Tully Construction Co., Inc.
Lab Code: CHEM **Cas No:** Q1698 **SAS No :** Q1698 **SDG No:** Q1698
Client SampleID : B-10MSD **Datafile:** FG015626.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
Petroleum Hydrocarbons	12118	33900	45670	97%		68-131

MS/MSD % Recovery RPD : 8.1

SOIL TPH GC LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** Tully Construction Co., Inc.
Lab Code: CHEM **Cas No:** Q1698 **SAS No :** Q1698 **SDG No:** Q1698
Matrix Spike - EPA Sample No : PB167438BS **Datafile:** FG015623.D

COMPOUND	SPIKE ADDED ug/kg	CONCENTRATION ug/kg	LCS/LCSD CONCENTRATION ug/kg	% REC	QC LIMITS
Petroleum Hydrocarbons	11326	0	8926	79	68-131

4B
METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB167438BL

Lab Name: CHEMTECH

Contract: TULL02

Lab Code: CHEM Case No.: Q1698

SAS No.: Q1698 SDG NO.: Q1698

Lab File ID: FG015622.D

Lab Sample ID: PB167438BL

Instrument ID: FG

Date Extracted: 04/03/2025

Matrix: (soil/water) Soil

Date Analyzed: 04/03/25

Level: (low/med) low

Time Analyzed: 17:03

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
B-10-TPH-2	Q1698-10	FG015619.D	04/03/25
PB167438BS	PB167438BS	FG015623.D	04/03/25
B-10	Q1698-07	FG015624.D	04/03/25
B-10MS	Q1698-07MS	FG015625.D	04/03/25
B-10MSD	Q1698-07MSD	FG015626.D	04/03/25
B-10-TPH-3	Q1698-11	FG015627.D	04/03/25
B-10-TPH-4	Q1698-12	FG015628.D	04/03/25
B-9	Q1698-01	FG015631.D	04/03/25
B-9-TPH-2	Q1698-04	FG015632.D	04/03/25
B-9-TPH-3	Q1698-05	FG015633.D	04/04/25
B-9-TPH-4	Q1698-06	FG015634.D	04/04/25

COMMENTS: _____



SAMPLE DATA

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/02/25	
Project:	MTA Rockaway Park		Date Received:	04/02/25	
Client Sample ID:	B-9		SDG No.:	Q1698	
Lab Sample ID:	Q1698-01		Matrix:	SOIL	
Analytical Method:	8015D TPH		% Solid:	93	Decanted:
Sample Wt/Vol:	30.02	Units: g	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015631.D	200	04/03/25 08:00	04/03/25 23:25	PB167438

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	2340		82.5	609	mg/Kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	0.00	*	37 - 130	0%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015631.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 23:25
Operator : YP\AJ
Sample : Q1698-01 200X
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-9

Integration File: autoint1.e
Quant Time: Apr 04 01:11:55 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

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

System Monitoring Compounds

Target Compounds

(f)=RT Delta > 1/2 Window

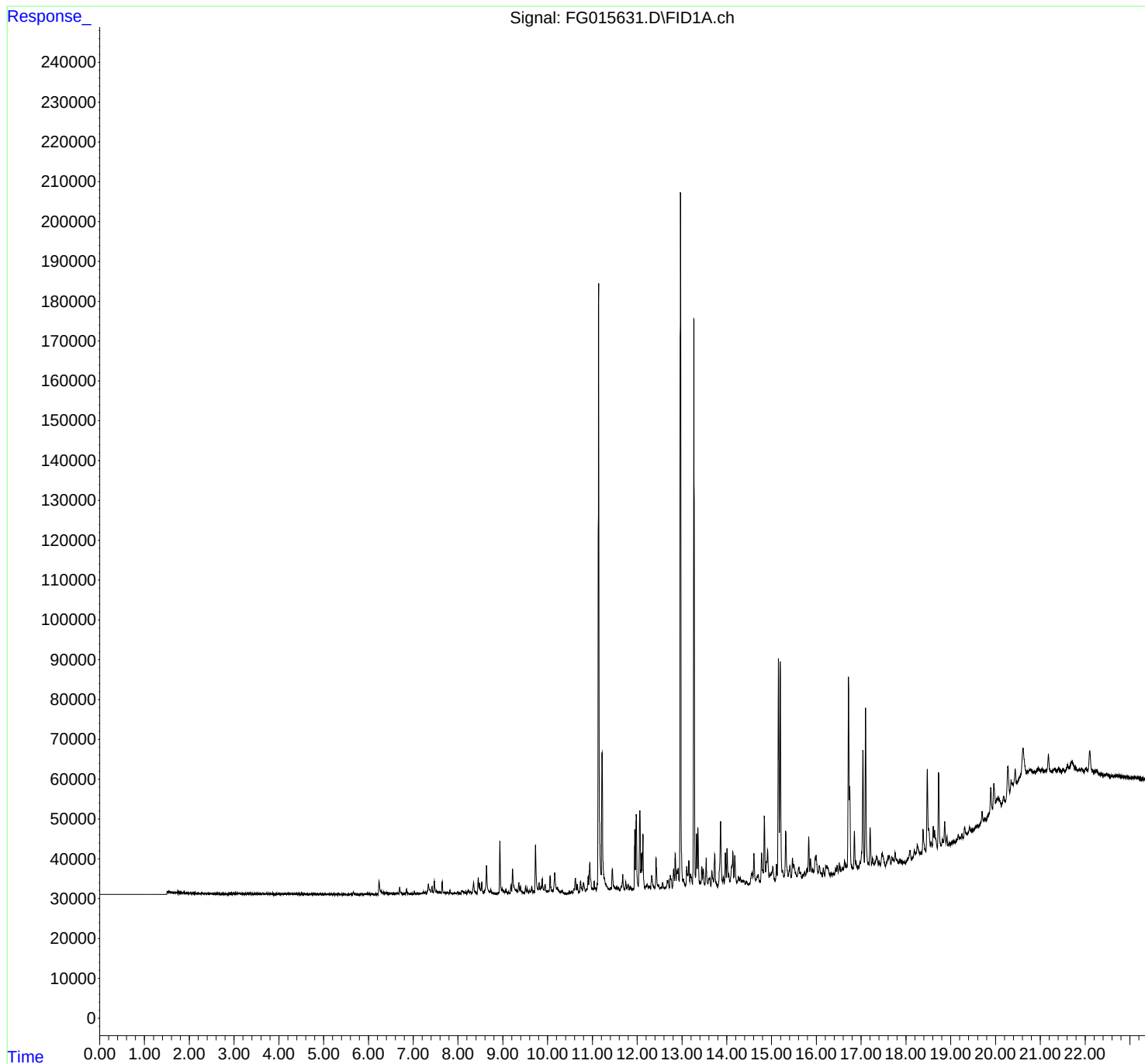
(m)=manual int.

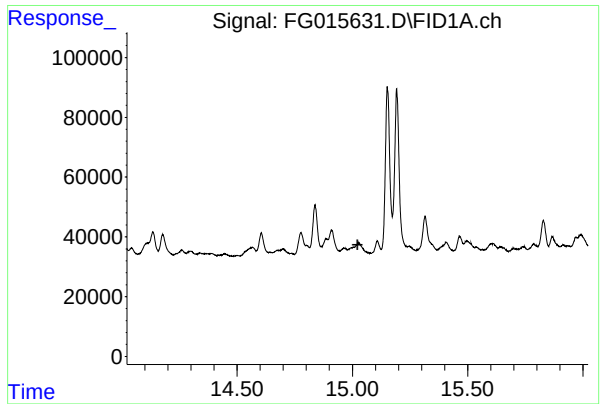
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015631.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 23:25
Operator : YP\AJ
Sample : Q1698-01 200X
Misc :
ALS Vial : 33 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-9

Integration File: autoint1.e
Quant Time: Apr 04 01:11:55 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 0.000 min
Exp R.T.: 15.022 min
Response: 0
Conc: N.D.

Instrument :
FID_G
ClientSampleId :
B-9

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015631.D
 Signal(s) : FID1A.ch
 Acq On : 03 Apr 2025 23:25
 Sample : Q1698-01 200X
 Misc :
 ALS Vial : 33 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.823	1.800	1.859	BV	136	2763	0.13%	0.007%
2	1.880	1.859	1.914	PV	274	3754	0.18%	0.010%
3	1.919	1.914	1.937	PV	115	767	0.04%	0.002%
4	1.942	1.937	1.946	VV	78	250	0.01%	0.001%
5	1.951	1.946	1.959	VV	91	350	0.02%	0.001%
6	1.963	1.959	1.973	VV	110	522	0.02%	0.001%
7	1.977	1.973	1.999	VV	110	1028	0.05%	0.003%
8	2.004	1.999	2.018	VV	93	592	0.03%	0.002%
9	2.031	2.018	2.050	VV	105	1451	0.07%	0.004%
10	2.055	2.050	2.062	VV	141	469	0.02%	0.001%
11	2.070	2.062	2.083	VV	175	1400	0.07%	0.004%
12	2.085	2.083	2.093	VV	108	441	0.02%	0.001%
13	2.123	2.093	2.128	PV	188	1820	0.09%	0.005%
14	2.136	2.128	2.143	VV	189	891	0.04%	0.002%
15	2.146	2.143	2.152	VV	136	462	0.02%	0.001%
16	2.158	2.152	2.163	VV	142	590	0.03%	0.002%
17	2.185	2.163	2.200	PV	162	2722	0.13%	0.007%
18	2.203	2.200	2.214	VV	178	973	0.05%	0.003%
19	2.219	2.214	2.223	VV	105	476	0.02%	0.001%
20	2.225	2.223	2.231	VV	138	406	0.02%	0.001%
21	2.234	2.231	2.242	VV	117	545	0.03%	0.001%
22	2.244	2.242	2.265	VV	81	1030	0.05%	0.003%
23	2.278	2.265	2.313	VV	469	6843	0.33%	0.018%
24	2.317	2.313	2.349	VV	197	2092	0.10%	0.006%
25	2.360	2.349	2.365	VV	96	784	0.04%	0.002%
26	2.370	2.365	2.387	VV	140	1038	0.05%	0.003%
27	2.399	2.387	2.409	VV	132	1017	0.05%	0.003%
28	2.413	2.409	2.417	PV	79	215	0.01%	0.001%
29	2.420	2.417	2.435	VV	119	534	0.03%	0.001%
30	2.442	2.435	2.448	VV	109	527	0.03%	0.001%
31	2.473	2.448	2.482	VV	154	1427	0.07%	0.004%
32	2.488	2.482	2.508	VV	171	1399	0.07%	0.004%
33	2.513	2.508	2.522	VV	150	577	0.03%	0.002%
34	2.527	2.522	2.535	PV	110	509	0.02%	0.001%
35	2.540	2.535	2.571	VV	92	1388	0.07%	0.004%
36	2.578	2.571	2.587	VV	316	699	0.03%	0.002%

					rteres			
37	2.593	2.587	2.597	VV	131	580	0.03%	0.002%
38	2.602	2.597	2.616	VV	155	1054	0.05%	0.003%
39	2.619	2.616	2.633	VV	150	919	0.04%	0.002%
40	2.640	2.633	2.647	VV	144	704	0.03%	0.002%
41	2.654	2.647	2.660	VV	136	712	0.03%	0.002%
42	2.665	2.660	2.670	VV	183	445	0.02%	0.001%
43	2.675	2.670	2.680	VV	132	411	0.02%	0.001%
44	2.689	2.680	2.693	VV	151	587	0.03%	0.002%
45	2.698	2.693	2.705	VV	158	626	0.03%	0.002%
46	2.710	2.705	2.731	VV	129	1041	0.05%	0.003%
47	2.742	2.731	2.767	VV	162	1994	0.10%	0.005%
48	2.776	2.767	2.788	VV	148	981	0.05%	0.003%
49	2.792	2.788	2.815	VV	112	1157	0.06%	0.003%
50	2.816	2.815	2.831	VV	172	961	0.05%	0.003%
51	2.835	2.831	2.841	VV	118	537	0.03%	0.001%
52	2.844	2.841	2.860	VV	155	985	0.05%	0.003%
53	2.864	2.860	2.873	VV	117	653	0.03%	0.002%
54	2.911	2.873	2.926	VV	276	4708	0.23%	0.012%
55	2.951	2.926	2.963	VV	248	3481	0.17%	0.009%
56	2.971	2.963	2.982	VV	172	1451	0.07%	0.004%
57	2.989	2.982	3.004	VV	205	1671	0.08%	0.004%
58	3.020	3.004	3.032	VV	200	2142	0.10%	0.006%
59	3.041	3.032	3.057	VV	167	1715	0.08%	0.005%
60	3.068	3.057	3.077	VV	175	1700	0.08%	0.005%
61	3.080	3.077	3.098	VV	180	1751	0.08%	0.005%
62	3.105	3.098	3.113	VV	200	1278	0.06%	0.003%
63	3.117	3.113	3.138	VV	198	2141	0.10%	0.006%
64	3.143	3.138	3.149	VV	116	681	0.03%	0.002%
65	3.153	3.149	3.158	VV	161	613	0.03%	0.002%
66	3.167	3.158	3.180	VV	203	1885	0.09%	0.005%
67	3.183	3.180	3.200	VV	208	1585	0.08%	0.004%
68	3.205	3.200	3.218	VV	272	1590	0.08%	0.004%
69	3.220	3.218	3.250	VV	181	2768	0.13%	0.007%
70	3.255	3.250	3.270	VV	169	1750	0.08%	0.005%
71	3.286	3.270	3.293	VV	227	1998	0.10%	0.005%
72	3.301	3.293	3.320	VV	260	2410	0.12%	0.006%
73	3.322	3.320	3.327	VV	167	569	0.03%	0.002%
74	3.331	3.327	3.336	VV	175	711	0.03%	0.002%
75	3.344	3.336	3.353	VV	166	1421	0.07%	0.004%
76	3.358	3.353	3.370	VV	206	1534	0.07%	0.004%
77	3.383	3.370	3.400	VV	192	2378	0.11%	0.006%
78	3.408	3.400	3.413	VV	193	1014	0.05%	0.003%
79	3.418	3.413	3.444	VV	215	2851	0.14%	0.008%
80	3.448	3.444	3.455	VV	194	974	0.05%	0.003%
81	3.459	3.455	3.475	VV	184	1738	0.08%	0.005%
82	3.478	3.475	3.497	VV	221	1935	0.09%	0.005%
83	3.506	3.497	3.513	VV	182	1400	0.07%	0.004%
84	3.530	3.513	3.537	VV	226	2027	0.10%	0.005%
85	3.539	3.537	3.543	VV	192	516	0.02%	0.001%
86	3.549	3.543	3.553	VV	172	828	0.04%	0.002%
87	3.558	3.553	3.566	VV	208	1235	0.06%	0.003%
88	3.573	3.566	3.577	VV	143	916	0.04%	0.002%
89	3.599	3.577	3.607	VV	208	2836	0.14%	0.008%

					rteres			
90	3.615	3.607	3.626	VV	206	1686	0.08%	0.004%
91	3.637	3.626	3.667	VV	221	3850	0.18%	0.010%
92	3.670	3.667	3.677	VV	189	998	0.05%	0.003%
93	3.686	3.677	3.703	VV	219	2356	0.11%	0.006%
94	3.715	3.703	3.736	VV	237	3134	0.15%	0.008%
95	3.748	3.736	3.753	VV	194	1545	0.07%	0.004%
96	3.760	3.753	3.787	VV	195	3095	0.15%	0.008%
97	3.791	3.787	3.815	VV	201	2689	0.13%	0.007%
98	3.828	3.815	3.845	VV	175	2839	0.14%	0.008%
99	3.859	3.845	3.890	VV	219	3956	0.19%	0.010%
100	3.903	3.890	3.908	VV	185	1686	0.08%	0.004%
101	3.911	3.908	3.922	VV	158	1135	0.05%	0.003%
102	3.940	3.922	3.945	VV	188	1863	0.09%	0.005%
103	3.952	3.945	3.972	VV	180	2422	0.12%	0.006%
104	3.975	3.972	3.987	VV	171	1091	0.05%	0.003%
105	3.996	3.987	4.000	VV	159	1082	0.05%	0.003%
106	4.005	4.000	4.012	VV	197	1070	0.05%	0.003%
107	4.019	4.012	4.029	VV	188	1351	0.06%	0.004%
108	4.036	4.029	4.050	VV	245	1878	0.09%	0.005%
109	4.068	4.050	4.103	VV	225	5003	0.24%	0.013%
110	4.108	4.103	4.142	VV	236	3674	0.18%	0.010%
111	4.145	4.142	4.152	VV	203	880	0.04%	0.002%
112	4.159	4.152	4.202	VV	196	4864	0.23%	0.013%
113	4.238	4.202	4.262	VV	322	7943	0.38%	0.021%
114	4.268	4.262	4.302	VV	267	5004	0.24%	0.013%
115	4.313	4.302	4.344	VV	218	4626	0.22%	0.012%
116	4.370	4.344	4.395	VV	240	5337	0.26%	0.014%
117	4.407	4.395	4.426	VV	199	3079	0.15%	0.008%
118	4.431	4.426	4.442	VV	205	1515	0.07%	0.004%
119	4.448	4.442	4.456	VV	196	1282	0.06%	0.003%
120	4.496	4.456	4.503	VV	206	4305	0.21%	0.011%
121	4.514	4.503	4.534	VV	261	3137	0.15%	0.008%
122	4.537	4.534	4.562	VV	186	2475	0.12%	0.007%
123	4.565	4.562	4.572	VV	148	793	0.04%	0.002%
124	4.576	4.572	4.589	VV	167	1160	0.06%	0.003%
125	4.594	4.589	4.601	VV	108	738	0.04%	0.002%
126	4.606	4.601	4.614	VV	180	1030	0.05%	0.003%
127	4.636	4.614	4.658	VV	188	3295	0.16%	0.009%
128	4.682	4.658	4.698	VV	199	3369	0.16%	0.009%
129	4.705	4.698	4.718	VV	193	1547	0.07%	0.004%
130	4.757	4.718	4.763	VV	295	4749	0.23%	0.013%
131	4.770	4.763	4.788	VV	263	2666	0.13%	0.007%
132	4.800	4.788	4.821	VV	252	3524	0.17%	0.009%
133	4.825	4.821	4.838	VV	193	1561	0.07%	0.004%
134	4.844	4.838	4.854	VV	176	1439	0.07%	0.004%
135	4.857	4.854	4.860	VV	156	616	0.03%	0.002%
136	4.864	4.860	4.877	VV	191	1356	0.06%	0.004%
137	4.896	4.877	4.901	VV	213	2134	0.10%	0.006%
138	4.908	4.901	4.917	VV	199	1368	0.07%	0.004%
139	4.921	4.917	4.932	VV	162	1327	0.06%	0.004%
140	4.947	4.932	4.952	VV	197	1889	0.09%	0.005%
141	4.956	4.952	4.961	VV	184	794	0.04%	0.002%

					rteres			
142	4.970	4.961	5.014	VV	200	4816	0.23%	0.013%
143	5.017	5.014	5.035	VV	197	2006	0.10%	0.005%
144	5.038	5.035	5.051	VV	179	1246	0.06%	0.003%
145	5.080	5.051	5.094	VV	185	3106	0.15%	0.008%
146	5.098	5.094	5.112	VV	170	1368	0.07%	0.004%
147	5.125	5.112	5.139	VV	205	2055	0.10%	0.005%
148	5.146	5.139	5.157	VV	165	1115	0.05%	0.003%
149	5.161	5.157	5.169	VV	179	905	0.04%	0.002%
150	5.184	5.169	5.195	VV	162	1769	0.08%	0.005%
151	5.209	5.195	5.214	VV	181	1500	0.07%	0.004%
152	5.224	5.214	5.255	VV	211	3496	0.17%	0.009%
153	5.276	5.255	5.294	VV	221	3844	0.18%	0.010%
154	5.297	5.294	5.314	VV	183	1612	0.08%	0.004%
155	5.319	5.314	5.335	VV	190	1839	0.09%	0.005%
156	5.342	5.335	5.361	VV	248	2617	0.13%	0.007%
157	5.365	5.361	5.384	VV	160	1755	0.08%	0.005%
158	5.403	5.384	5.422	VV	210	3004	0.14%	0.008%
159	5.432	5.422	5.457	VV	210	3161	0.15%	0.008%
160	5.465	5.457	5.473	VV	170	1318	0.06%	0.003%
161	5.486	5.473	5.494	VV	198	1881	0.09%	0.005%
162	5.499	5.494	5.513	VV	152	1410	0.07%	0.004%
163	5.516	5.513	5.524	VV	138	646	0.03%	0.002%
164	5.530	5.524	5.574	PV	163	3101	0.15%	0.008%
165	5.597	5.574	5.640	VV	289	6696	0.32%	0.018%
166	5.664	5.640	5.699	VV	724	12224	0.58%	0.032%
167	5.705	5.699	5.710	VV	204	902	0.04%	0.002%
168	5.717	5.710	5.731	VV	202	1552	0.07%	0.004%
169	5.739	5.731	5.749	VV	118	1077	0.05%	0.003%
170	5.755	5.749	5.794	VV	161	2608	0.12%	0.007%
171	5.812	5.794	5.819	VV	137	1092	0.05%	0.003%
172	5.824	5.819	5.829	VV	100	449	0.02%	0.001%
173	5.838	5.829	5.856	VV	279	3119	0.15%	0.008%
174	5.862	5.856	5.900	VV	190	2702	0.13%	0.007%
175	5.927	5.900	5.939	VV	179	2252	0.11%	0.006%
176	5.968	5.939	6.005	VV	405	9039	0.43%	0.024%
177	6.032	6.005	6.055	VV	242	4273	0.20%	0.011%
178	6.062	6.055	6.119	VV	237	4820	0.23%	0.013%
179	6.142	6.119	6.160	VV	213	2986	0.14%	0.008%
180	6.171	6.160	6.210	VV	196	4249	0.20%	0.011%
181	6.238	6.210	6.284	VV	3473	65332	3.13%	0.173%
182	6.291	6.284	6.325	VV	842	15202	0.73%	0.040%
183	6.340	6.325	6.364	VV	593	10487	0.50%	0.028%
184	6.372	6.364	6.389	VV	332	4797	0.23%	0.013%
185	6.403	6.389	6.453	VV	568	13539	0.65%	0.036%
186	6.489	6.453	6.500	VV	349	7722	0.37%	0.020%
187	6.518	6.500	6.552	VV	425	8498	0.41%	0.023%
188	6.570	6.552	6.596	VV	402	7486	0.36%	0.020%
189	6.614	6.596	6.635	VV	348	6164	0.29%	0.016%
190	6.647	6.635	6.679	VV	394	8430	0.40%	0.022%
191	6.698	6.679	6.770	VV	1860	34093	1.63%	0.090%
192	6.792	6.770	6.806	VV	359	5626	0.27%	0.015%
193	6.817	6.806	6.830	VV	309	3681	0.18%	0.010%
194	6.850	6.830	6.879	VV	1465	21155	1.01%	0.056%

					rteres			
195	6.885	6.879	6.912	VV	403	5393	0.26%	0.014%
196	6.925	6.912	6.944	VV	294	4209	0.20%	0.011%
197	6.958	6.944	6.966	VV	244	2545	0.12%	0.007%
198	6.982	6.966	7.005	VV	282	5220	0.25%	0.014%
199	7.025	7.005	7.052	VV	664	11413	0.55%	0.030%
200	7.062	7.052	7.077	VV	363	3585	0.17%	0.009%
201	7.092	7.077	7.134	VV	347	8547	0.41%	0.023%
202	7.163	7.134	7.183	VV	330	7571	0.36%	0.020%
203	7.232	7.183	7.254	VV	655	18565	0.89%	0.049%
204	7.272	7.254	7.297	VV	729	12459	0.60%	0.033%
205	7.340	7.297	7.399	VV	2672	72569	3.47%	0.192%
206	7.420	7.399	7.449	VV	2029	33077	1.58%	0.088%
207	7.473	7.449	7.505	VV	3370	54554	2.61%	0.144%
208	7.518	7.505	7.539	VV	967	15301	0.73%	0.041%
209	7.548	7.539	7.574	VV	643	11881	0.57%	0.031%
210	7.590	7.574	7.624	VV	757	16671	0.80%	0.044%
211	7.648	7.624	7.682	VV	3259	45569	2.18%	0.121%
212	7.696	7.682	7.724	VV	514	10538	0.50%	0.028%
213	7.743	7.724	7.751	VV	437	6095	0.29%	0.016%
214	7.770	7.751	7.795	VV	491	11105	0.53%	0.029%
215	7.822	7.795	7.855	VV	978	18565	0.89%	0.049%
216	7.863	7.855	7.900	VV	357	6470	0.31%	0.017%
217	7.914	7.900	7.922	VV	262	3194	0.15%	0.008%
218	7.934	7.922	7.946	VV	337	4013	0.19%	0.011%
219	7.989	7.946	8.005	VV	602	13177	0.63%	0.035%
220	8.018	8.005	8.057	VV	379	8195	0.39%	0.022%
221	8.084	8.057	8.097	VV	967	14428	0.69%	0.038%
222	8.107	8.097	8.122	VV	818	11229	0.54%	0.030%
223	8.132	8.122	8.159	VV	620	10695	0.51%	0.028%
224	8.177	8.159	8.198	VV	639	9880	0.47%	0.026%
225	8.235	8.198	8.267	VV	990	27104	1.30%	0.072%
226	8.279	8.267	8.304	VV	793	10890	0.52%	0.029%
227	8.349	8.304	8.425	VV	3011	69157	3.31%	0.183%
228	8.453	8.425	8.470	VV	4214	56892	2.72%	0.151%
229	8.481	8.470	8.507	VV	2762	40607	1.94%	0.108%
230	8.532	8.507	8.589	VV	3053	56595	2.71%	0.150%
231	8.638	8.589	8.712	VV	7291	152583	7.30%	0.404%
232	8.731	8.712	8.767	VV	1238	22639	1.08%	0.060%
233	8.777	8.767	8.802	VV	423	5712	0.27%	0.015%
234	8.807	8.802	8.870	VV	217	5907	0.28%	0.016%
235	8.937	8.870	8.975	VV	13295	175686	8.41%	0.465%
236	8.991	8.975	9.019	VV	1387	25915	1.24%	0.069%
237	9.022	9.019	9.043	VV	725	8718	0.42%	0.023%
238	9.072	9.043	9.096	VV	1285	23522	1.13%	0.062%
239	9.127	9.096	9.159	VV	584	13337	0.64%	0.035%
240	9.182	9.159	9.198	VV	2368	29133	1.39%	0.077%
241	9.220	9.198	9.299	VV	6341	141180	6.76%	0.374%
242	9.307	9.299	9.333	VV	1032	17439	0.83%	0.046%
243	9.359	9.333	9.379	VV	2851	44917	2.15%	0.119%
244	9.395	9.379	9.489	VV	1913	45675	2.19%	0.121%
245	9.510	9.489	9.528	VV	2046	25747	1.23%	0.068%
246	9.545	9.528	9.576	VV	1437	22334	1.07%	0.059%

					rteres			
247	9.596	9.576	9.617	VV	984	15638	0.75%	0.041%
248	9.647	9.617	9.673	VV	1952	35007	1.68%	0.093%
249	9.689	9.673	9.707	VV	846	11452	0.55%	0.030%
250	9.732	9.707	9.790	VV	12322	209701	10.03%	0.555%
251	9.810	9.790	9.834	VV	2906	47100	2.25%	0.125%
252	9.852	9.834	9.864	VV	1823	28623	1.37%	0.076%
253	9.882	9.864	9.922	VV	3770	72625	3.47%	0.192%
254	9.942	9.922	9.984	VV	2340	48271	2.31%	0.128%
255	10.000	9.984	10.010	VV	702	10294	0.49%	0.027%
256	10.020	10.010	10.034	VV	750	10122	0.48%	0.027%
257	10.058	10.034	10.099	VV	4585	76546	3.66%	0.203%
258	10.108	10.099	10.123	VV	935	11833	0.57%	0.031%
259	10.161	10.123	10.205	VV	5328	123972	5.93%	0.328%
260	10.218	10.205	10.276	VV	1718	43031	2.06%	0.114%
261	10.320	10.276	10.409	VV	804	28706	1.37%	0.076%
262	10.426	10.409	10.462	VV	185	2941	0.14%	0.008%
263	10.481	10.462	10.515	PV	644	9898	0.47%	0.026%
264	10.536	10.515	10.565	VV	694	11944	0.57%	0.032%
265	10.589	10.565	10.598	VV	1132	14668	0.70%	0.039%
266	10.621	10.598	10.645	VV	3867	62956	3.01%	0.167%
267	10.660	10.645	10.700	VV	2290	37661	1.80%	0.100%
268	10.736	10.700	10.777	VV	3011	61827	2.96%	0.164%
269	10.801	10.777	10.845	VV	2576	59279	2.84%	0.157%
270	10.872	10.845	10.882	VV	1058	17566	0.84%	0.047%
271	10.907	10.882	10.920	VV	4139	56645	2.71%	0.150%
272	10.942	10.920	11.000	VV	7636	170493	8.16%	0.451%
273	11.009	11.000	11.020	VV	1017	11637	0.56%	0.031%
274	11.040	11.020	11.059	VV	2813	38472	1.84%	0.102%
275	11.070	11.059	11.090	VV	1124	17041	0.82%	0.045%
276	11.140	11.090	11.193	VV	152945	1962862	93.92%	5.198%
277	11.216	11.193	11.382	VV	35026	666054	31.87%	1.764%
278	11.406	11.382	11.424	VV	1012	19555	0.94%	0.052%
279	11.446	11.424	11.498	VV	5699	111924	5.36%	0.296%
280	11.508	11.498	11.527	VV	997	14666	0.70%	0.039%
281	11.546	11.527	11.562	VV	1339	20325	0.97%	0.054%
282	11.577	11.562	11.609	VV	922	18348	0.88%	0.049%
283	11.678	11.609	11.716	VV	4182	90506	4.33%	0.240%
284	11.743	11.716	11.767	VV	2402	38137	1.82%	0.101%
285	11.798	11.767	11.822	VV	1623	32447	1.55%	0.086%
286	11.843	11.822	11.865	VV	1235	18404	0.88%	0.049%
287	11.874	11.865	11.890	VV	569	5568	0.27%	0.015%
288	11.906	11.890	11.919	VV	418	5422	0.26%	0.014%
289	11.947	11.919	11.962	VV	15330	178655	8.55%	0.473%
290	11.978	11.962	12.023	VV	19119	274697	13.14%	0.727%
291	12.060	12.023	12.081	VV	20067	331843	15.88%	0.879%
292	12.096	12.081	12.110	VV	9202	117796	5.64%	0.312%
293	12.127	12.110	12.170	VV	14104	209208	10.01%	0.554%
294	12.221	12.170	12.257	VV	1454	47497	2.27%	0.126%
295	12.279	12.257	12.300	VV	908	17523	0.84%	0.046%
296	12.324	12.300	12.397	VV	3525	83838	4.01%	0.222%
297	12.422	12.397	12.469	VV	7926	126496	6.05%	0.335%
298	12.477	12.469	12.507	VV	940	14462	0.69%	0.038%
299	12.516	12.507	12.531	VV	346	4384	0.21%	0.012%

					rteres			
300	12.567	12.531	12.602	VV	1701	29121	1.39%	0.077%
301	12.613	12.602	12.635	VV	340	5714	0.27%	0.015%
302	12.673	12.635	12.684	VV	2095	32851	1.57%	0.087%
303	12.694	12.684	12.722	VV	1911	26653	1.28%	0.071%
304	12.741	12.722	12.784	VV	3328	65193	3.12%	0.173%
305	12.812	12.784	12.830	VV	4947	78270	3.75%	0.207%
306	12.849	12.830	12.869	VV	8760	114435	5.48%	0.303%
307	12.887	12.869	12.898	VV	4463	65176	3.12%	0.173%
308	12.912	12.898	12.937	VV	5062	81265	3.89%	0.215%
309	12.966	12.937	13.021	VV	175216	2089931	100.00%	5.534%
310	13.035	13.021	13.082	VV	2283	49421	2.36%	0.131%
311	13.106	13.082	13.133	VV	5317	96225	4.60%	0.255%
312	13.152	13.133	13.172	VV	6883	101911	4.88%	0.270%
313	13.188	13.172	13.237	VV	3391	85720	4.10%	0.227%
314	13.266	13.237	13.301	VV	142338	1692675	80.99%	4.482%
315	13.323	13.301	13.339	VV	13483	177426	8.49%	0.470%
316	13.355	13.339	13.422	VV	14882	237756	11.38%	0.630%
317	13.443	13.422	13.458	VV	5107	69003	3.30%	0.183%
318	13.474	13.458	13.505	VV	4635	71928	3.44%	0.190%
319	13.539	13.505	13.578	VV	7276	118251	5.66%	0.313%
320	13.601	13.578	13.610	VV	2088	30662	1.47%	0.081%
321	13.618	13.610	13.645	VV	2025	25579	1.22%	0.068%
322	13.668	13.645	13.705	VV	3907	76124	3.64%	0.202%
323	13.729	13.705	13.794	VV	8111	140546	6.72%	0.372%
324	13.859	13.794	13.905	PV	16214	321981	15.41%	0.853%
325	13.925	13.905	13.943	VV	2378	35104	1.68%	0.093%
326	13.968	13.943	13.988	VV	8343	116015	5.55%	0.307%
327	14.006	13.988	14.030	VV	9409	134743	6.45%	0.357%
328	14.042	14.030	14.069	VV	2979	48053	2.30%	0.127%
329	14.135	14.069	14.158	VV	8356	219850	10.52%	0.582%
330	14.178	14.158	14.224	VV	7474	134842	6.45%	0.357%
331	14.260	14.224	14.279	VV	2251	46308	2.22%	0.123%
332	14.300	14.279	14.324	VV	1797	37126	1.78%	0.098%
333	14.340	14.324	14.356	VV	1161	19455	0.93%	0.052%
334	14.366	14.356	14.381	VV	997	14349	0.69%	0.038%
335	14.390	14.381	14.414	VV	1023	13582	0.65%	0.036%
336	14.447	14.414	14.482	VV	816	17694	0.85%	0.047%
337	14.502	14.482	14.512	PV	291	2550	0.12%	0.007%
338	14.566	14.512	14.583	VV	3006	75816	3.63%	0.201%
339	14.605	14.583	14.653	VV	7722	132058	6.32%	0.350%
340	14.699	14.653	14.748	VV	2196	75193	3.60%	0.199%
341	14.777	14.748	14.813	VV	7621	150664	7.21%	0.399%
342	14.838	14.813	14.865	VV	16796	255630	12.23%	0.677%
343	14.910	14.865	14.947	VV	8136	219708	10.51%	0.582%
344	14.964	14.947	14.979	VV	2278	34976	1.67%	0.093%
345	15.027	14.979	15.082	VV	3879	121277	5.80%	0.321%
346	15.108	15.082	15.124	VV	4415	56572	2.71%	0.150%
347	15.152	15.124	15.173	VV	55030	757906	36.26%	2.007%
348	15.193	15.173	15.275	VV	54832	832876	39.85%	2.205%
349	15.315	15.275	15.368	VV	12486	240607	11.51%	0.637%
350	15.407	15.368	15.438	VV	3554	84851	4.06%	0.225%
351	15.465	15.438	15.483	VV	5369	84894	4.06%	0.225%

					rteres			
352	15.496	15.483	15.562	VV	3937	110153	5.27%	0.292%
353	15.608	15.562	15.634	VV	2768	79329	3.80%	0.210%
354	15.644	15.634	15.676	VV	1741	29708	1.42%	0.079%
355	15.699	15.676	15.718	VV	1050	18511	0.89%	0.049%
356	15.741	15.718	15.760	VV	1711	29592	1.42%	0.078%
357	15.786	15.760	15.803	VV	2476	43264	2.07%	0.115%
358	15.828	15.803	15.851	VV	10282	155758	7.45%	0.412%
359	15.867	15.851	15.900	VV	4894	87202	4.17%	0.231%
360	15.914	15.900	15.947	VV	2111	47771	2.29%	0.126%
361	15.990	15.947	16.034	VV	5429	174839	8.37%	0.463%
362	16.066	16.034	16.096	VV	2681	65709	3.14%	0.174%
363	16.106	16.096	16.132	VV	1030	13686	0.65%	0.036%
364	16.154	16.132	16.189	PV	2186	32534	1.56%	0.086%
365	16.209	16.189	16.224	VV	2512	36827	1.76%	0.098%
366	16.236	16.224	16.305	VV	2378	67816	3.24%	0.180%
367	16.329	16.305	16.352	VV	417	6243	0.30%	0.017%
368	16.362	16.352	16.377	VV	418	3652	0.17%	0.010%
369	16.382	16.377	16.404	VV	275	2870	0.14%	0.008%
370	16.432	16.404	16.444	VV	1159	18810	0.90%	0.050%
371	16.462	16.444	16.487	VV	2218	33861	1.62%	0.090%
372	16.508	16.487	16.552	VV	2554	56269	2.69%	0.149%
373	16.574	16.552	16.595	VV	1185	23986	1.15%	0.064%
374	16.629	16.595	16.648	VV	3156	58703	2.81%	0.155%
375	16.661	16.648	16.678	VV	2160	30850	1.48%	0.082%
376	16.717	16.678	16.735	VV	49045	709290	33.94%	1.878%
377	16.744	16.735	16.822	VV	21485	317549	15.19%	0.841%
378	16.848	16.822	16.872	VV	9956	145790	6.98%	0.386%
379	16.883	16.872	16.929	VV	2673	53465	2.56%	0.142%
380	16.941	16.929	16.954	VV	1058	13389	0.64%	0.035%
381	16.972	16.954	16.983	VV	2160	28748	1.38%	0.076%
382	17.039	16.983	17.072	VV	29956	503632	24.10%	1.334%
383	17.098	17.072	17.168	VV	40505	611856	29.28%	1.620%
384	17.200	17.168	17.233	VV	10412	176594	8.45%	0.468%
385	17.255	17.233	17.289	VV	2493	55172	2.64%	0.146%
386	17.345	17.289	17.387	VV	2946	104466	5.00%	0.277%
387	17.404	17.387	17.423	VV	1402	21572	1.03%	0.057%
388	17.466	17.423	17.541	VV	3473	123640	5.92%	0.327%
389	17.601	17.541	17.615	PV	2534	58124	2.78%	0.154%
390	17.630	17.615	17.667	VV	2622	50886	2.43%	0.135%
391	17.689	17.667	17.710	VV	1862	35324	1.69%	0.094%
392	17.717	17.710	17.735	VV	1543	17780	0.85%	0.047%
393	17.758	17.735	17.785	VV	2991	56531	2.70%	0.150%
394	17.798	17.785	17.840	VV	1297	25930	1.24%	0.069%
395	17.878	17.840	17.902	VV	940	23176	1.11%	0.061%
396	17.911	17.902	17.932	VV	450	5623	0.27%	0.015%
397	17.944	17.932	17.960	VV	308	3342	0.16%	0.009%
398	17.971	17.960	17.995	VV	187	2659	0.13%	0.007%
399	18.091	17.995	18.120	PV	2844	84410	4.04%	0.224%
400	18.185	18.120	18.212	VV	2324	66312	3.17%	0.176%
401	18.254	18.212	18.315	VV	3290	124649	5.96%	0.330%
402	18.336	18.315	18.355	VV	1228	26055	1.25%	0.069%
403	18.382	18.355	18.443	VV	6665	161717	7.74%	0.428%
404	18.476	18.443	18.545	VV	21602	470551	22.52%	1.246%

					rt	eres		
405	18.561	18.545	18.582	VV	3100	53474	2.56%	0.142%
406	18.610	18.582	18.626	VV	6781	114348	5.47%	0.303%
407	18.640	18.626	18.699	VV	5438	142984	6.84%	0.379%
408	18.729	18.699	18.787	VV	19504	332309	15.90%	0.880%
409	18.815	18.787	18.835	VV	2537	56678	2.71%	0.150%
410	18.865	18.835	18.894	VV	6891	128263	6.14%	0.340%
411	18.914	18.894	18.945	VV	2964	51323	2.46%	0.136%
412	18.966	18.945	18.987	VV	1147	21127	1.01%	0.056%
413	19.045	18.987	19.080	VV	1270	50325	2.41%	0.133%
414	19.093	19.080	19.104	VV	1028	11847	0.57%	0.031%
415	19.167	19.104	19.192	VV	2348	74065	3.54%	0.196%
416	19.217	19.192	19.230	VV	1465	31889	1.53%	0.084%
417	19.248	19.230	19.274	VV	2307	43796	2.10%	0.116%
418	19.312	19.274	19.362	VV	3726	119441	5.72%	0.316%
419	19.421	19.362	19.472	VV	3202	149735	7.16%	0.396%
420	19.488	19.472	19.502	VV	2361	39396	1.89%	0.104%
421	19.557	19.502	19.566	VV	2840	94449	4.52%	0.250%
422	19.597	19.566	19.609	VV	2846	70855	3.39%	0.188%
423	19.700	19.609	19.734	VV	5911	273346	13.08%	0.724%
424	19.755	19.734	19.777	VV	3978	97804	4.68%	0.259%
425	19.785	19.777	19.797	VV	3748	43925	2.10%	0.116%
426	19.894	19.797	19.930	VV	11225	483675	23.14%	1.281%
427	19.963	19.930	19.999	VV	12012	363125	17.37%	0.962%
428	20.072	19.999	20.132	VV	7999	581195	27.81%	1.539%
429	20.182	20.132	20.221	VV	7970	364984	17.46%	0.966%
430	20.277	20.221	20.319	VV	15098	607869	29.09%	1.610%
431	20.348	20.319	20.370	VV	11187	307394	14.71%	0.814%
432	20.382	20.370	20.395	VV	10321	147242	7.05%	0.390%
433	20.439	20.395	20.470	VV	13658	520440	24.90%	1.378%
434	20.613	20.470	20.692	VV	18222	1722963	82.44%	4.562%
435	20.704	20.692	20.719	VV	12006	191077	9.14%	0.506%
436	20.759	20.719	20.770	VV	12214	372276	17.81%	0.986%
437	20.798	20.770	20.835	VV	12204	461460	22.08%	1.222%
438	20.857	20.835	20.877	VV	11362	281408	13.46%	0.745%
439	20.883	20.877	20.900	VV	11229	150703	7.21%	0.399%
440	20.953	20.900	21.009	VV	11694	745248	35.66%	1.973%
441	21.045	21.009	21.095	VV	11189	567060	27.13%	1.502%
442	21.108	21.095	21.131	VV	10807	226493	10.84%	0.600%
443	21.181	21.131	21.252	VV	14511	813969	38.95%	2.155%
444	21.321	21.252	21.368	VV	10380	692972	33.16%	1.835%
445	21.404	21.368	21.470	VV	9937	573086	27.42%	1.518%
446	21.510	21.470	21.550	VV	9441	433128	20.72%	1.147%
447	21.609	21.550	21.645	VV	10198	527138	25.22%	1.396%
448	21.705	21.645	21.778	VV	10555	764299	36.57%	2.024%
449	21.793	21.778	21.842	VV	8646	312414	14.95%	0.827%
450	21.869	21.842	21.895	VV	7916	248328	11.88%	0.658%
451	21.933	21.895	21.974	VV	7759	346649	16.59%	0.918%
					Sum of corrected areas:		37764962	

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/02/25	
Project:	MTA Rockaway Park		Date Received:	04/02/25	
Client Sample ID:	B-9-TPH-2		SDG No.:	Q1698	
Lab Sample ID:	Q1698-04		Matrix:	SOIL	
Analytical Method:	8015D TPH		% Solid:	92.3	Decanted:
Sample Wt/Vol:	30.03	Units: g	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015632.D	20	04/03/25 08:00	04/03/25 23:54	PB167438

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	204		8.31	61.3	mg/Kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	1.08		37 - 130	108%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015632.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 23:54
Operator : YP\AJ
Sample : Q1698-04 20X
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-9-TPH-2

Integration File: autoint1.e
Quant Time: Apr 04 01:12:15 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.011	123335	1.077 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

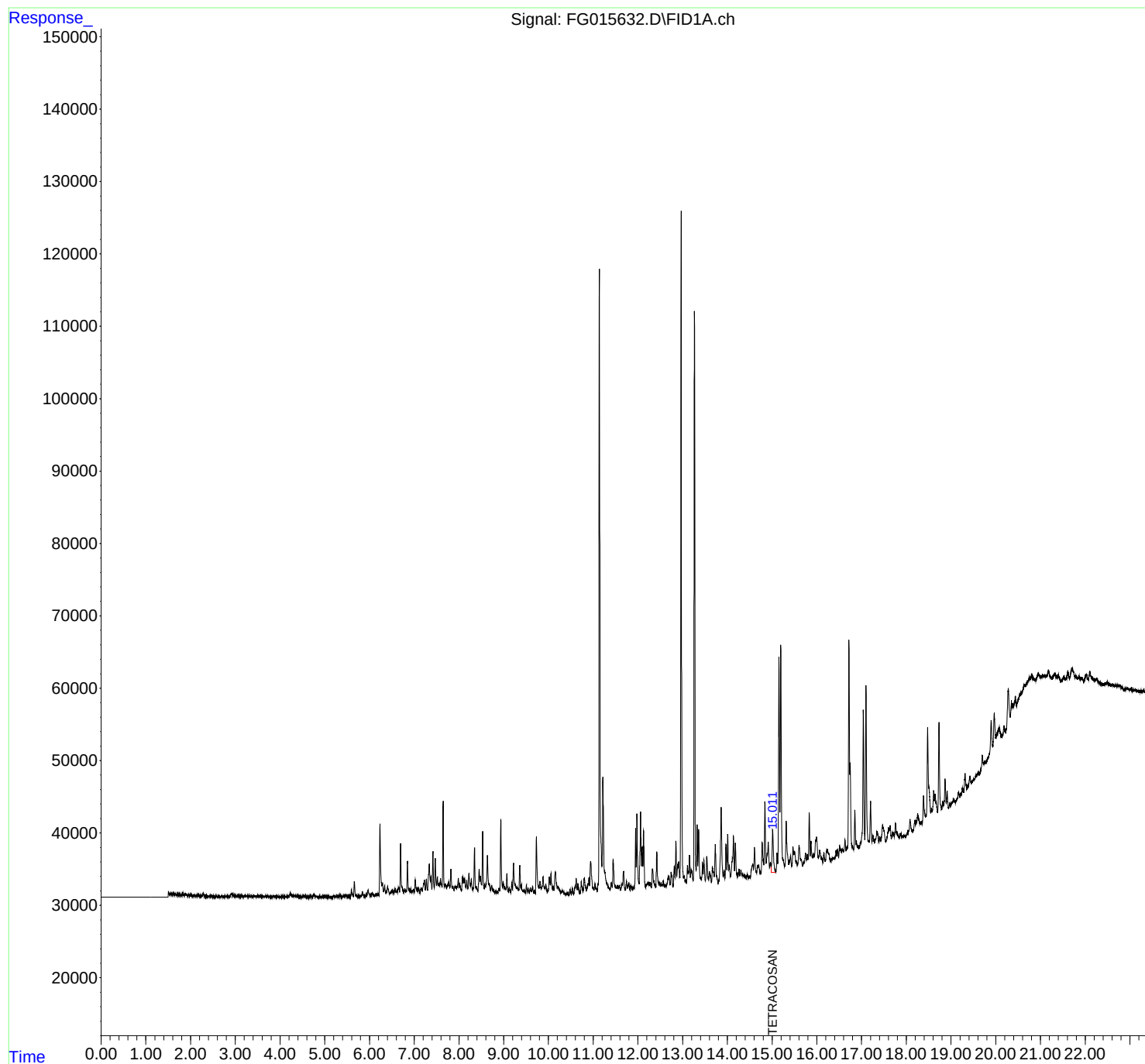
(m)=manual int.

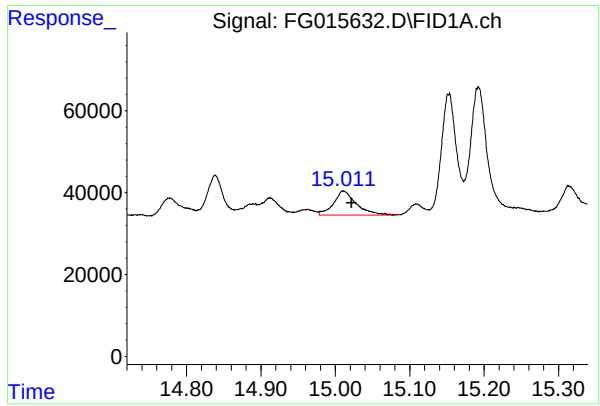
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015632.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 23:54
Operator : YP\AJ
Sample : Q1698-04 20X
Misc :
ALS Vial : 34 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-9-TPH-2

Integration File: autoint1.e
Quant Time: Apr 04 01:12:15 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.011 min
Delta R.T.: -0.011 min
Response: 123335
Conc: 1.08 ug/ml

Instrument :
FID_G
ClientSampleId :
B-9-TPH-2

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015632.D
 Signal(s) : FID1A.ch
 Acq On : 03 Apr 2025 23:54
 Sample : Q1698-04 20X
 Misc :
 ALS Vial : 34 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.822	1.800	1.851	BV	321	3273	0.27%	0.010%
2	1.857	1.851	1.869	VV	151	675	0.06%	0.002%
3	1.880	1.869	1.896	VV	306	2481	0.21%	0.008%
4	1.902	1.896	1.912	VV	170	758	0.06%	0.002%
5	1.916	1.912	1.924	VV	123	587	0.05%	0.002%
6	1.931	1.924	1.937	VV	103	328	0.03%	0.001%
7	1.941	1.937	1.951	VV	88	301	0.03%	0.001%
8	1.962	1.951	1.973	PV	147	795	0.07%	0.002%
9	1.984	1.973	1.993	VV	88	784	0.07%	0.002%
10	1.997	1.993	2.001	PV	80	398	0.03%	0.001%
11	2.006	2.001	2.035	VV	133	1716	0.14%	0.005%
12	2.040	2.035	2.045	VV	139	534	0.04%	0.002%
13	2.049	2.045	2.053	VV	89	337	0.03%	0.001%
14	2.061	2.053	2.065	VV	175	839	0.07%	0.003%
15	2.069	2.065	2.100	VV	153	1938	0.16%	0.006%
16	2.103	2.100	2.118	VV	157	826	0.07%	0.003%
17	2.122	2.118	2.127	PV	138	445	0.04%	0.001%
18	2.133	2.127	2.139	VV	156	699	0.06%	0.002%
19	2.153	2.139	2.170	VV	172	1929	0.16%	0.006%
20	2.187	2.170	2.212	VV	205	3104	0.26%	0.009%
21	2.223	2.212	2.230	VV	128	959	0.08%	0.003%
22	2.234	2.230	2.239	VV	137	525	0.04%	0.002%
23	2.245	2.239	2.257	VV	116	953	0.08%	0.003%
24	2.278	2.257	2.302	VV	505	7561	0.63%	0.023%
25	2.310	2.302	2.327	VV	251	2067	0.17%	0.006%
26	2.331	2.327	2.335	VV	82	296	0.02%	0.001%
27	2.342	2.335	2.348	PV	140	536	0.04%	0.002%
28	2.362	2.348	2.366	VV	123	1030	0.09%	0.003%
29	2.374	2.366	2.385	VV	148	1203	0.10%	0.004%
30	2.389	2.385	2.393	VV	141	439	0.04%	0.001%
31	2.399	2.393	2.446	VV	179	3285	0.28%	0.010%
32	2.448	2.446	2.458	VV	132	857	0.07%	0.003%
33	2.461	2.458	2.467	VV	219	561	0.05%	0.002%
34	2.475	2.467	2.480	VV	156	773	0.06%	0.002%
35	2.490	2.480	2.498	VV	193	1105	0.09%	0.003%
36	2.513	2.498	2.526	PV	222	1756	0.15%	0.005%

					rteres			
37	2.534	2.526	2.539	VV	168	811	0.07%	0.002%
38	2.546	2.539	2.551	VV	162	777	0.07%	0.002%
39	2.555	2.551	2.561	VV	162	569	0.05%	0.002%
40	2.574	2.561	2.598	VV	176	2465	0.21%	0.008%
41	2.604	2.598	2.613	VV	167	995	0.08%	0.003%
42	2.634	2.613	2.640	VV	231	2143	0.18%	0.007%
43	2.643	2.640	2.652	VV	107	492	0.04%	0.002%
44	2.659	2.652	2.665	VV	95	646	0.05%	0.002%
45	2.668	2.665	2.674	VV	147	576	0.05%	0.002%
46	2.681	2.674	2.703	VV	172	1914	0.16%	0.006%
47	2.711	2.703	2.737	VV	105	2037	0.17%	0.006%
48	2.745	2.737	2.771	VV	168	2015	0.17%	0.006%
49	2.778	2.771	2.811	VV	183	2256	0.19%	0.007%
50	2.817	2.811	2.842	PV	198	1807	0.15%	0.006%
51	2.846	2.842	2.855	VV	153	787	0.07%	0.002%
52	2.869	2.855	2.878	VV	145	1201	0.10%	0.004%
53	2.911	2.878	2.935	VV	536	11917	1.00%	0.036%
54	2.939	2.935	2.955	VV	350	3551	0.30%	0.011%
55	2.957	2.955	2.974	VV	353	2649	0.22%	0.008%
56	2.978	2.974	2.993	VV	266	2336	0.20%	0.007%
57	2.998	2.993	3.006	VV	242	1396	0.12%	0.004%
58	3.009	3.006	3.032	VV	210	2742	0.23%	0.008%
59	3.036	3.032	3.042	VV	244	1019	0.09%	0.003%
60	3.047	3.042	3.070	VV	199	2669	0.22%	0.008%
61	3.075	3.070	3.096	VV	213	2300	0.19%	0.007%
62	3.119	3.096	3.135	VV	229	3633	0.30%	0.011%
63	3.139	3.135	3.151	VV	188	1395	0.12%	0.004%
64	3.174	3.151	3.186	VV	215	2931	0.25%	0.009%
65	3.188	3.186	3.196	VV	182	853	0.07%	0.003%
66	3.203	3.196	3.207	VV	216	988	0.08%	0.003%
67	3.212	3.207	3.220	VV	235	1218	0.10%	0.004%
68	3.228	3.220	3.238	VV	209	1670	0.14%	0.005%
69	3.245	3.238	3.250	VV	191	1170	0.10%	0.004%
70	3.253	3.250	3.265	VV	242	1731	0.15%	0.005%
71	3.272	3.265	3.278	VV	265	1432	0.12%	0.004%
72	3.283	3.278	3.290	VV	228	1161	0.10%	0.004%
73	3.303	3.290	3.325	VV	211	3126	0.26%	0.010%
74	3.329	3.325	3.359	VV	167	2443	0.20%	0.007%
75	3.367	3.359	3.374	VV	164	1317	0.11%	0.004%
76	3.378	3.374	3.390	VV	202	1180	0.10%	0.004%
77	3.394	3.390	3.400	VV	153	725	0.06%	0.002%
78	3.407	3.400	3.437	VV	191	3306	0.28%	0.010%
79	3.440	3.437	3.472	VV	161	3142	0.26%	0.010%
80	3.492	3.472	3.505	VV	172	2818	0.24%	0.009%
81	3.511	3.505	3.515	VV	211	968	0.08%	0.003%
82	3.520	3.515	3.532	VV	218	1771	0.15%	0.005%
83	3.534	3.532	3.552	VV	186	1955	0.16%	0.006%
84	3.561	3.552	3.594	VV	196	3826	0.32%	0.012%
85	3.599	3.594	3.602	VV	191	743	0.06%	0.002%
86	3.607	3.602	3.633	VV	210	3201	0.27%	0.010%
87	3.639	3.633	3.645	VV	164	980	0.08%	0.003%
88	3.649	3.645	3.671	VV	167	2228	0.19%	0.007%
89	3.678	3.671	3.696	VV	197	2219	0.19%	0.007%

					rteres			
90	3.702	3.696	3.721	VV	198	2197	0.18%	0.007%
91	3.725	3.721	3.754	VV	160	2583	0.22%	0.008%
92	3.758	3.754	3.767	VV	157	1019	0.09%	0.003%
93	3.786	3.767	3.791	VV	153	1625	0.14%	0.005%
94	3.799	3.791	3.814	VV	144	1360	0.11%	0.004%
95	3.819	3.814	3.825	VV	140	775	0.07%	0.002%
96	3.840	3.825	3.852	VV	182	2178	0.18%	0.007%
97	3.864	3.852	3.873	VV	181	1749	0.15%	0.005%
98	3.880	3.873	3.896	VV	187	1928	0.16%	0.006%
99	3.901	3.896	3.927	VV	160	2420	0.20%	0.007%
100	3.932	3.927	3.938	VV	184	866	0.07%	0.003%
101	3.944	3.938	3.948	VV	152	682	0.06%	0.002%
102	3.952	3.948	3.971	VV	200	1534	0.13%	0.005%
103	3.982	3.971	4.036	VV	208	3930	0.33%	0.012%
104	4.071	4.036	4.104	VV	181	5200	0.44%	0.016%
105	4.137	4.104	4.150	VV	198	3744	0.31%	0.011%
106	4.162	4.150	4.177	VV	235	2418	0.20%	0.007%
107	4.190	4.177	4.204	VV	185	2313	0.19%	0.007%
108	4.228	4.204	4.270	VV	585	14679	1.23%	0.045%
109	4.277	4.270	4.359	VV	374	13172	1.10%	0.040%
110	4.366	4.359	4.483	VV	236	11468	0.96%	0.035%
111	4.492	4.483	4.504	VV	148	1751	0.15%	0.005%
112	4.514	4.504	4.582	VV	275	7589	0.64%	0.023%
113	4.593	4.582	4.645	VV	160	3648	0.31%	0.011%
114	4.649	4.645	4.659	VV	137	767	0.06%	0.002%
115	4.680	4.659	4.715	VV	173	4702	0.39%	0.014%
116	4.751	4.715	4.785	VV	485	10630	0.89%	0.032%
117	4.800	4.785	4.855	VV	291	6937	0.58%	0.021%
118	4.876	4.855	4.899	VV	206	3632	0.30%	0.011%
119	4.942	4.899	4.952	VV	230	4621	0.39%	0.014%
120	4.957	4.952	4.967	VV	191	1365	0.11%	0.004%
121	4.977	4.967	5.000	VV	247	2988	0.25%	0.009%
122	5.027	5.000	5.074	VV	290	6212	0.52%	0.019%
123	5.082	5.074	5.120	VV	126	2631	0.22%	0.008%
124	5.137	5.120	5.157	VV	139	2044	0.17%	0.006%
125	5.197	5.157	5.217	PV	213	4401	0.37%	0.013%
126	5.228	5.217	5.255	VV	289	3180	0.27%	0.010%
127	5.273	5.255	5.290	VV	347	4768	0.40%	0.015%
128	5.301	5.290	5.316	VV	197	2683	0.23%	0.008%
129	5.341	5.316	5.380	VV	391	7949	0.67%	0.024%
130	5.409	5.380	5.420	VV	217	4137	0.35%	0.013%
131	5.437	5.420	5.457	VV	329	5629	0.47%	0.017%
132	5.470	5.457	5.487	VV	391	5211	0.44%	0.016%
133	5.498	5.487	5.518	VV	270	4423	0.37%	0.014%
134	5.531	5.518	5.562	VV	205	3909	0.33%	0.012%
135	5.567	5.562	5.577	VV	198	1603	0.13%	0.005%
136	5.598	5.577	5.640	VV	1103	19890	1.67%	0.061%
137	5.662	5.640	5.744	VV	2213	39576	3.32%	0.121%
138	5.755	5.744	5.799	VV	204	4899	0.41%	0.015%
139	5.840	5.799	5.909	VV	771	19408	1.63%	0.059%
140	5.927	5.909	5.940	VV	399	5691	0.48%	0.017%
141	5.969	5.940	6.015	VV	1024	25434	2.13%	0.078%

					rteres			
142	6.030	6.015	6.044	VV	454	5841	0.49%	0.018%
143	6.062	6.044	6.110	VV	642	13858	1.16%	0.042%
144	6.117	6.110	6.127	VV	225	2085	0.17%	0.006%
145	6.143	6.127	6.155	VV	528	6350	0.53%	0.019%
146	6.167	6.155	6.180	VV	382	5126	0.43%	0.016%
147	6.193	6.180	6.207	VV	570	6672	0.56%	0.020%
148	6.235	6.207	6.279	VV	10139	165417	13.88%	0.505%
149	6.292	6.279	6.319	VV	2036	33702	2.83%	0.103%
150	6.339	6.319	6.365	VV	1597	29112	2.44%	0.089%
151	6.377	6.365	6.385	VV	765	8543	0.72%	0.026%
152	6.405	6.385	6.446	VV	1514	35778	3.00%	0.109%
153	6.488	6.446	6.500	VV	839	19856	1.67%	0.061%
154	6.515	6.500	6.549	VV	1065	22585	1.89%	0.069%
155	6.569	6.549	6.595	VV	1202	23841	2.00%	0.073%
156	6.614	6.595	6.630	VV	1015	17064	1.43%	0.052%
157	6.648	6.630	6.674	VV	1347	28264	2.37%	0.086%
158	6.696	6.674	6.767	VV	7339	123475	10.36%	0.377%
159	6.791	6.767	6.807	VV	1152	20962	1.76%	0.064%
160	6.821	6.807	6.830	VV	938	11161	0.94%	0.034%
161	6.850	6.830	6.874	VV	4893	66583	5.59%	0.203%
162	6.884	6.874	6.905	VV	1222	18545	1.56%	0.057%
163	6.922	6.905	6.942	VV	1147	18674	1.57%	0.057%
164	6.958	6.942	6.968	VV	901	12515	1.05%	0.038%
165	6.982	6.968	7.004	VV	1004	17917	1.50%	0.055%
166	7.025	7.004	7.051	VV	2347	41825	3.51%	0.128%
167	7.061	7.051	7.077	VV	1240	15647	1.31%	0.048%
168	7.093	7.077	7.132	VV	1291	30032	2.52%	0.092%
169	7.152	7.132	7.182	VV	1178	29585	2.48%	0.090%
170	7.229	7.182	7.252	VV	2323	63876	5.36%	0.195%
171	7.272	7.252	7.299	VV	2343	43209	3.62%	0.132%
172	7.337	7.299	7.363	VV	4531	108914	9.14%	0.333%
173	7.375	7.363	7.397	VV	2789	42342	3.55%	0.129%
174	7.419	7.397	7.450	VV	6176	95123	7.98%	0.290%
175	7.472	7.450	7.500	VV	5291	87449	7.34%	0.267%
176	7.518	7.500	7.537	VV	2671	44654	3.75%	0.136%
177	7.589	7.537	7.620	VV	2490	88066	7.39%	0.269%
178	7.647	7.620	7.675	VV	13184	167517	14.05%	0.512%
179	7.694	7.675	7.724	VV	1651	41569	3.49%	0.127%
180	7.769	7.724	7.795	VV	1976	66093	5.54%	0.202%
181	7.822	7.795	7.852	VV	3742	72600	6.09%	0.222%
182	7.864	7.852	7.890	VV	1415	26672	2.24%	0.081%
183	7.912	7.890	7.923	VV	1337	22954	1.93%	0.070%
184	7.932	7.923	7.947	VV	1323	17927	1.50%	0.055%
185	7.987	7.947	8.004	VV	2491	55791	4.68%	0.170%
186	8.018	8.004	8.059	VV	1809	41323	3.47%	0.126%
187	8.079	8.059	8.094	VV	2734	40413	3.39%	0.123%
188	8.108	8.094	8.122	VV	2419	37013	3.10%	0.113%
189	8.131	8.122	8.157	VV	2298	35314	2.96%	0.108%
190	8.177	8.157	8.197	VV	2204	37706	3.16%	0.115%
191	8.224	8.197	8.260	VV	3062	73629	6.18%	0.225%
192	8.279	8.260	8.307	VV	2369	43702	3.67%	0.133%
193	8.349	8.307	8.380	VV	6666	112916	9.47%	0.345%
194	8.391	8.380	8.422	VV	1285	26308	2.21%	0.080%

					rteres			
195	8.453	8.422	8.469	VV	3731	61823	5.19%	0.189%
196	8.482	8.469	8.510	VV	2712	52344	4.39%	0.160%
197	8.531	8.510	8.565	VV	8921	125971	10.57%	0.385%
198	8.579	8.565	8.594	VV	1639	24141	2.03%	0.074%
199	8.638	8.594	8.671	VV	5619	125157	10.50%	0.382%
200	8.680	8.671	8.707	VV	1688	27432	2.30%	0.084%
201	8.731	8.707	8.767	VV	1424	36233	3.04%	0.111%
202	8.777	8.767	8.794	VV	814	10713	0.90%	0.033%
203	8.826	8.794	8.852	VV	645	18924	1.59%	0.058%
204	8.861	8.852	8.871	VV	524	5135	0.43%	0.016%
205	8.891	8.871	8.902	VV	948	13278	1.11%	0.041%
206	8.937	8.902	8.972	VV	10403	150772	12.65%	0.460%
207	8.989	8.972	9.010	VV	1861	33205	2.79%	0.101%
208	9.024	9.010	9.045	VV	1302	22839	1.92%	0.070%
209	9.073	9.045	9.099	VV	3086	50900	4.27%	0.155%
210	9.126	9.099	9.164	VV	981	27831	2.33%	0.085%
211	9.183	9.164	9.199	VV	1862	25857	2.17%	0.079%
212	9.221	9.199	9.292	VV	4486	109344	9.17%	0.334%
213	9.303	9.292	9.339	VV	1146	25941	2.18%	0.079%
214	9.361	9.339	9.382	VV	4138	60264	5.06%	0.184%
215	9.394	9.382	9.434	VV	1442	29195	2.45%	0.089%
216	9.449	9.434	9.485	VV	730	17202	1.44%	0.053%
217	9.509	9.485	9.528	VV	1451	21583	1.81%	0.066%
218	9.546	9.528	9.575	VV	1009	18428	1.55%	0.056%
219	9.596	9.575	9.615	VV	1025	17033	1.43%	0.052%
220	9.646	9.615	9.672	VV	1265	25831	2.17%	0.079%
221	9.690	9.672	9.705	VV	700	10145	0.85%	0.031%
222	9.733	9.705	9.794	VV	7914	150654	12.64%	0.460%
223	9.811	9.794	9.838	VV	1943	36123	3.03%	0.110%
224	9.881	9.838	9.924	VV	2542	72898	6.12%	0.223%
225	9.943	9.924	9.984	VV	1527	33564	2.82%	0.102%
226	10.021	9.984	10.040	VV	2551	46611	3.91%	0.142%
227	10.058	10.040	10.122	VV	3035	73689	6.18%	0.225%
228	10.156	10.122	10.205	VV	2987	92151	7.73%	0.281%
229	10.219	10.205	10.282	VV	1224	34606	2.90%	0.106%
230	10.317	10.282	10.408	VV	589	21702	1.82%	0.066%
231	10.427	10.408	10.460	VV	146	2889	0.24%	0.009%
232	10.485	10.460	10.514	PV	746	11152	0.94%	0.034%
233	10.535	10.514	10.564	VV	857	12850	1.08%	0.039%
234	10.621	10.564	10.644	VV	2194	49957	4.19%	0.153%
235	10.661	10.644	10.702	VV	1422	24823	2.08%	0.076%
236	10.735	10.702	10.775	VV	1681	34387	2.88%	0.105%
237	10.802	10.775	10.847	VV	2103	49750	4.17%	0.152%
238	10.906	10.847	10.920	VV	2137	51767	4.34%	0.158%
239	10.945	10.920	11.002	VV	4383	107360	9.01%	0.328%
240	11.011	11.002	11.022	VV	650	7295	0.61%	0.022%
241	11.041	11.022	11.059	VV	1323	18221	1.53%	0.056%
242	11.069	11.059	11.091	VV	642	9278	0.78%	0.028%
243	11.140	11.091	11.197	VV	84016	1192083	100.00%	3.640%
244	11.218	11.197	11.378	VV	15864	362901	30.44%	1.108%
245	11.405	11.378	11.425	VV	1135	21755	1.82%	0.066%
246	11.447	11.425	11.527	VV	4385	95699	8.03%	0.292%

					rteres			
247	11.546	11.527	11.563	VV	791	12148	1.02%	0.037%
248	11.590	11.563	11.612	VV	744	14437	1.21%	0.044%
249	11.643	11.612	11.654	VV	913	14921	1.25%	0.046%
250	11.678	11.654	11.714	VV	2548	46525	3.90%	0.142%
251	11.744	11.714	11.768	VV	1285	20361	1.71%	0.062%
252	11.797	11.768	11.820	VV	987	18557	1.56%	0.057%
253	11.842	11.820	11.865	VV	679	10083	0.85%	0.031%
254	11.876	11.865	11.890	VV	343	3305	0.28%	0.010%
255	11.908	11.890	11.922	VV	382	5074	0.43%	0.015%
256	11.948	11.922	11.963	VV	8455	102504	8.60%	0.313%
257	11.979	11.963	12.027	VV	10510	163063	13.68%	0.498%
258	12.060	12.027	12.082	VV	10644	179740	15.08%	0.549%
259	12.096	12.082	12.110	VV	5853	77234	6.48%	0.236%
260	12.127	12.110	12.174	VV	8108	123392	10.35%	0.377%
261	12.224	12.174	12.247	VV	882	27735	2.33%	0.085%
262	12.268	12.247	12.300	VV	828	18260	1.53%	0.056%
263	12.327	12.300	12.397	VV	2692	62320	5.23%	0.190%
264	12.422	12.397	12.475	VV	4944	83259	6.98%	0.254%
265	12.484	12.475	12.501	VV	680	8014	0.67%	0.024%
266	12.517	12.501	12.535	VV	730	9294	0.78%	0.028%
267	12.567	12.535	12.587	VV	928	16401	1.38%	0.050%
268	12.603	12.587	12.640	VV	347	8439	0.71%	0.026%
269	12.692	12.640	12.721	VV	1562	45303	3.80%	0.138%
270	12.741	12.721	12.785	VV	2017	40360	3.39%	0.123%
271	12.811	12.785	12.829	PV	2846	43157	3.62%	0.132%
272	12.849	12.829	12.869	VV	6305	83529	7.01%	0.255%
273	12.886	12.869	12.898	VV	2956	44258	3.71%	0.135%
274	12.911	12.898	12.939	VV	3347	55903	4.69%	0.171%
275	12.966	12.939	13.021	VV	93121	1158981	97.22%	3.539%
276	13.035	13.021	13.054	VV	1387	21175	1.78%	0.065%
277	13.062	13.054	13.084	VV	759	10652	0.89%	0.033%
278	13.106	13.084	13.122	VV	2761	39189	3.29%	0.120%
279	13.153	13.122	13.172	VV	4117	72448	6.08%	0.221%
280	13.191	13.172	13.237	VV	2089	57933	4.86%	0.177%
281	13.264	13.237	13.302	VV	79272	971009	81.45%	2.965%
282	13.322	13.302	13.339	VV	8288	108723	9.12%	0.332%
283	13.357	13.339	13.417	VV	7540	131469	11.03%	0.401%
284	13.443	13.417	13.457	VV	2958	40579	3.40%	0.124%
285	13.475	13.457	13.504	VV	3270	54411	4.56%	0.166%
286	13.541	13.504	13.577	VV	3761	70601	5.92%	0.216%
287	13.599	13.577	13.645	VV	1605	37253	3.13%	0.114%
288	13.667	13.645	13.704	VV	2269	49254	4.13%	0.150%
289	13.729	13.704	13.789	VV	5243	97007	8.14%	0.296%
290	13.859	13.789	13.910	PV	10213	218707	18.35%	0.668%
291	13.925	13.910	13.945	VV	1520	22079	1.85%	0.067%
292	13.968	13.945	13.987	VV	5055	72399	6.07%	0.221%
293	14.006	13.987	14.029	VV	6450	92891	7.79%	0.284%
294	14.043	14.029	14.072	VV	2205	35543	2.98%	0.109%
295	14.135	14.072	14.158	VV	6151	146230	12.27%	0.447%
296	14.177	14.158	14.225	VV	5108	89827	7.54%	0.274%
297	14.262	14.225	14.280	VV	1174	26938	2.26%	0.082%
298	14.303	14.280	14.320	VV	1215	22195	1.86%	0.068%
299	14.337	14.320	14.375	VV	767	17239	1.45%	0.053%

					rteres			
300	14.388	14.375	14.411	VV	569	7624	0.64%	0.023%
301	14.446	14.411	14.481	VV	529	10401	0.87%	0.032%
302	14.502	14.481	14.517	PV	287	3326	0.28%	0.010%
303	14.565	14.517	14.584	VV	1861	50658	4.25%	0.155%
304	14.606	14.584	14.650	VV	4123	74905	6.28%	0.229%
305	14.676	14.650	14.689	VV	1500	25462	2.14%	0.078%
306	14.699	14.689	14.727	VV	1548	24838	2.08%	0.076%
307	14.738	14.727	14.750	VV	617	6449	0.54%	0.020%
308	14.777	14.750	14.813	VV	4522	92978	7.80%	0.284%
309	14.839	14.813	14.865	VV	10066	153207	12.85%	0.468%
310	14.912	14.865	14.945	VV	4422	121973	10.23%	0.372%
311	14.962	14.945	14.979	VV	1575	24828	2.08%	0.076%
312	15.011	14.979	15.082	VV	5977	130447	10.94%	0.398%
313	15.109	15.082	15.127	VV	2655	37382	3.14%	0.114%
314	15.153	15.127	15.173	VV	29443	415409	34.85%	1.269%
315	15.192	15.173	15.277	VV	31169	525893	44.12%	1.606%
316	15.314	15.277	15.372	VV	6820	150423	12.62%	0.459%
317	15.411	15.372	15.439	VV	1923	48418	4.06%	0.148%
318	15.467	15.439	15.484	VV	3049	50077	4.20%	0.153%
319	15.498	15.484	15.574	VV	2396	71291	5.98%	0.218%
320	15.602	15.574	15.679	VV	3105	90191	7.57%	0.275%
321	15.746	15.679	15.769	VV	1821	47683	4.00%	0.146%
322	15.786	15.769	15.802	VV	1613	25307	2.12%	0.077%
323	15.830	15.802	15.850	VV	7334	105523	8.85%	0.322%
324	15.868	15.850	15.899	VV	3320	58968	4.95%	0.180%
325	15.914	15.899	15.930	VV	1358	23446	1.97%	0.072%
326	15.993	15.930	16.037	VV	3703	141479	11.87%	0.432%
327	16.063	16.037	16.095	VV	1833	42768	3.59%	0.131%
328	16.104	16.095	16.135	VV	757	11774	0.99%	0.036%
329	16.156	16.135	16.190	PV	1373	21352	1.79%	0.065%
330	16.237	16.190	16.310	VV	1692	67489	5.66%	0.206%
331	16.330	16.310	16.344	PV	349	4272	0.36%	0.013%
332	16.363	16.344	16.402	VV	356	8373	0.70%	0.026%
333	16.432	16.402	16.449	VV	1107	19570	1.64%	0.060%
334	16.465	16.449	16.486	VV	1338	19143	1.61%	0.058%
335	16.508	16.486	16.550	VV	1747	41204	3.46%	0.126%
336	16.568	16.550	16.588	VV	1136	22653	1.90%	0.069%
337	16.629	16.588	16.650	VV	2373	51760	4.34%	0.158%
338	16.668	16.650	16.679	VV	1269	18598	1.56%	0.057%
339	16.717	16.679	16.794	VV	29764	626618	52.57%	1.914%
340	16.800	16.794	16.824	VV	1017	15720	1.32%	0.048%
341	16.849	16.824	16.872	VV	5958	86468	7.25%	0.264%
342	16.883	16.872	16.902	VV	1659	23600	1.98%	0.072%
343	16.917	16.902	16.932	VV	1030	13821	1.16%	0.042%
344	16.941	16.932	16.952	VV	889	8557	0.72%	0.026%
345	16.973	16.952	16.987	VV	1290	21413	1.80%	0.065%
346	17.039	16.987	17.072	VV	19521	325067	27.27%	0.993%
347	17.098	17.072	17.170	VV	22691	379860	31.87%	1.160%
348	17.200	17.170	17.230	VV	6555	113215	9.50%	0.346%
349	17.255	17.230	17.290	VV	1609	41672	3.50%	0.127%
350	17.346	17.290	17.389	VV	2106	75464	6.33%	0.230%
351	17.403	17.389	17.424	VV	1217	19176	1.61%	0.059%

					rteres			
352	17.469	17.424	17.549	VV	2549	106712	8.95%	0.326%
353	17.602	17.549	17.615	VV	2082	49977	4.19%	0.153%
354	17.638	17.615	17.665	VV	2212	48816	4.10%	0.149%
355	17.689	17.665	17.709	VV	1313	24486	2.05%	0.075%
356	17.718	17.709	17.734	VV	1179	14285	1.20%	0.044%
357	17.759	17.734	17.787	VV	2375	47322	3.97%	0.145%
358	17.795	17.787	17.842	VV	1031	21403	1.80%	0.065%
359	17.869	17.842	17.897	VV	653	16447	1.38%	0.050%
360	17.906	17.897	17.930	VV	371	5730	0.48%	0.017%
361	17.941	17.930	17.955	VV	261	3225	0.27%	0.010%
362	17.980	17.955	17.989	VV	277	3648	0.31%	0.011%
363	18.083	17.989	18.146	PV	2147	65580	5.50%	0.200%
364	18.192	18.146	18.208	VV	1368	32256	2.71%	0.099%
365	18.222	18.208	18.232	VV	1417	17426	1.46%	0.053%
366	18.255	18.232	18.317	VV	2244	68598	5.75%	0.209%
367	18.340	18.317	18.355	VV	747	15253	1.28%	0.047%
368	18.384	18.355	18.430	VV	4259	94099	7.89%	0.287%
369	18.476	18.430	18.544	VV	13212	323163	27.11%	0.987%
370	18.563	18.544	18.577	VV	1780	29560	2.48%	0.090%
371	18.612	18.577	18.627	VV	4040	79324	6.65%	0.242%
372	18.644	18.627	18.700	VV	3484	95031	7.97%	0.290%
373	18.730	18.700	18.789	VV	12972	230395	19.33%	0.704%
374	18.814	18.789	18.835	VV	1747	37526	3.15%	0.115%
375	18.867	18.835	18.895	VV	4645	91426	7.67%	0.279%
376	18.913	18.895	18.947	VV	2803	46961	3.94%	0.143%
377	18.969	18.947	18.989	VV	943	16608	1.39%	0.051%
378	19.015	18.989	19.032	VV	962	19527	1.64%	0.060%
379	19.050	19.032	19.099	VV	1148	34716	2.91%	0.106%
380	19.170	19.099	19.200	VV	1721	65644	5.51%	0.200%
381	19.251	19.200	19.284	VV	1860	70309	5.90%	0.215%
382	19.312	19.284	19.361	VV	3669	108845	9.13%	0.332%
383	19.423	19.361	19.458	VV	2941	123402	10.35%	0.377%
384	19.606	19.458	19.619	VV	2614	223233	18.73%	0.682%
385	19.700	19.619	19.735	VV	4762	227360	19.07%	0.694%
386	19.750	19.735	19.774	VV	3705	83156	6.98%	0.254%
387	19.896	19.774	19.933	VV	8902	474662	39.82%	1.450%
388	19.966	19.933	20.000	VV	9550	293327	24.61%	0.896%
389	20.075	20.000	20.132	VV	7112	508988	42.70%	1.554%
390	20.182	20.132	20.217	VV	6963	315557	26.47%	0.964%
391	20.278	20.217	20.324	VV	11634	546971	45.88%	1.670%
392	20.350	20.324	20.366	VV	9844	224830	18.86%	0.687%
393	20.378	20.366	20.398	VV	9221	173661	14.57%	0.530%
394	20.439	20.398	20.464	VV	10037	367384	30.82%	1.122%
395	20.569	20.464	20.578	VV	10095	656515	55.07%	2.005%
396	20.631	20.578	20.639	VV	10922	377357	31.66%	1.152%
397	20.756	20.639	20.777	VV	11423	914240	76.69%	2.792%
398	20.802	20.777	20.844	VV	11784	453022	38.00%	1.383%
399	20.854	20.844	20.885	VV	10852	269137	22.58%	0.822%
400	20.953	20.885	20.992	VV	11309	698922	58.63%	2.134%
401	21.047	20.992	21.080	VV	10734	558525	46.85%	1.706%
402	21.094	21.080	21.139	VV	10478	360538	30.24%	1.101%
403	21.181	21.139	21.276	VV	10871	826480	69.33%	2.524%
404	21.316	21.276	21.372	VV	9892	550731	46.20%	1.682%

					rteres			
405	21.400	21.372	21.460	VV	9375	471280	39.53%	1.439%
406	21.521	21.460	21.562	VV	8732	510838	42.85%	1.560%
407	21.611	21.562	21.647	VV	9070	432241	36.26%	1.320%
408	21.702	21.647	21.767	VV	9156	609025	51.09%	1.860%
409	21.785	21.767	21.825	VV	7859	263016	22.06%	0.803%
410	21.862	21.825	21.902	VV	7402	329986	27.68%	1.008%
411	21.922	21.902	21.973	VV	7016	285424	23.94%	0.872%
412	22.021	21.973	22.069	VV	7039	378842	31.78%	1.157%
413	22.102	22.069	22.208	VV	7070	522565	43.84%	1.596%
414	22.256	22.208	22.419	VV	5602	615290	51.61%	1.879%
415	22.422	22.419	22.432	VV	4216	32857	2.76%	0.100%
416	22.481	22.432	22.525	VV	4261	226643	19.01%	0.692%
417	22.541	22.525	22.569	VV	3780	94716	7.95%	0.289%
418	22.604	22.569	22.657	VV	3396	174062	14.60%	0.532%
419	22.679	22.657	22.712	VV	3101	96819	8.12%	0.296%
420	22.721	22.712	22.755	VV	2903	72521	6.08%	0.221%
421	22.764	22.755	22.880	VV	2692	163593	13.72%	0.500%
422	22.895	22.880	22.909	VV	1714	28065	2.35%	0.086%
423	22.931	22.909	22.980	VV	1666	66494	5.58%	0.203%
424	22.998	22.980	23.083	VV	1334	65485	5.49%	0.200%
425	23.117	23.083	23.175	VV	746	33096	2.78%	0.101%
426	23.182	23.175	23.215	VV	405	5425	0.46%	0.017%
427	23.241	23.215	23.250	VBA	168	15754	1.32%	0.048%
					Sum of corrected areas:	32745616		

FG032725.M Fri Apr 04 03:34:29 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/02/25	
Project:	MTA Rockaway Park		Date Received:	04/02/25	
Client Sample ID:	B-9-TPH-3		SDG No.:	Q1698	
Lab Sample ID:	Q1698-05		Matrix:	SOIL	
Analytical Method:	8015D TPH		% Solid:	91.7	Decanted:
Sample Wt/Vol:	30.05	Units: g	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015633.D	50	04/03/25 08:00	04/04/25 0:23	PB167438

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	2460		20.9	154	mg/Kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	0.00	*	37 - 130	0%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015633.D
Signal(s) : FID1A.ch
Acq On : 04 Apr 2025 00:23
Operator : YP\AJ
Sample : Q1698-05 50X
Misc :
ALS Vial : 35 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-9-TPH-3

Integration File: autoint1.e
Quant Time: Apr 04 01:12:34 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
Target Compounds			

(f)=RT Delta > 1/2 Window

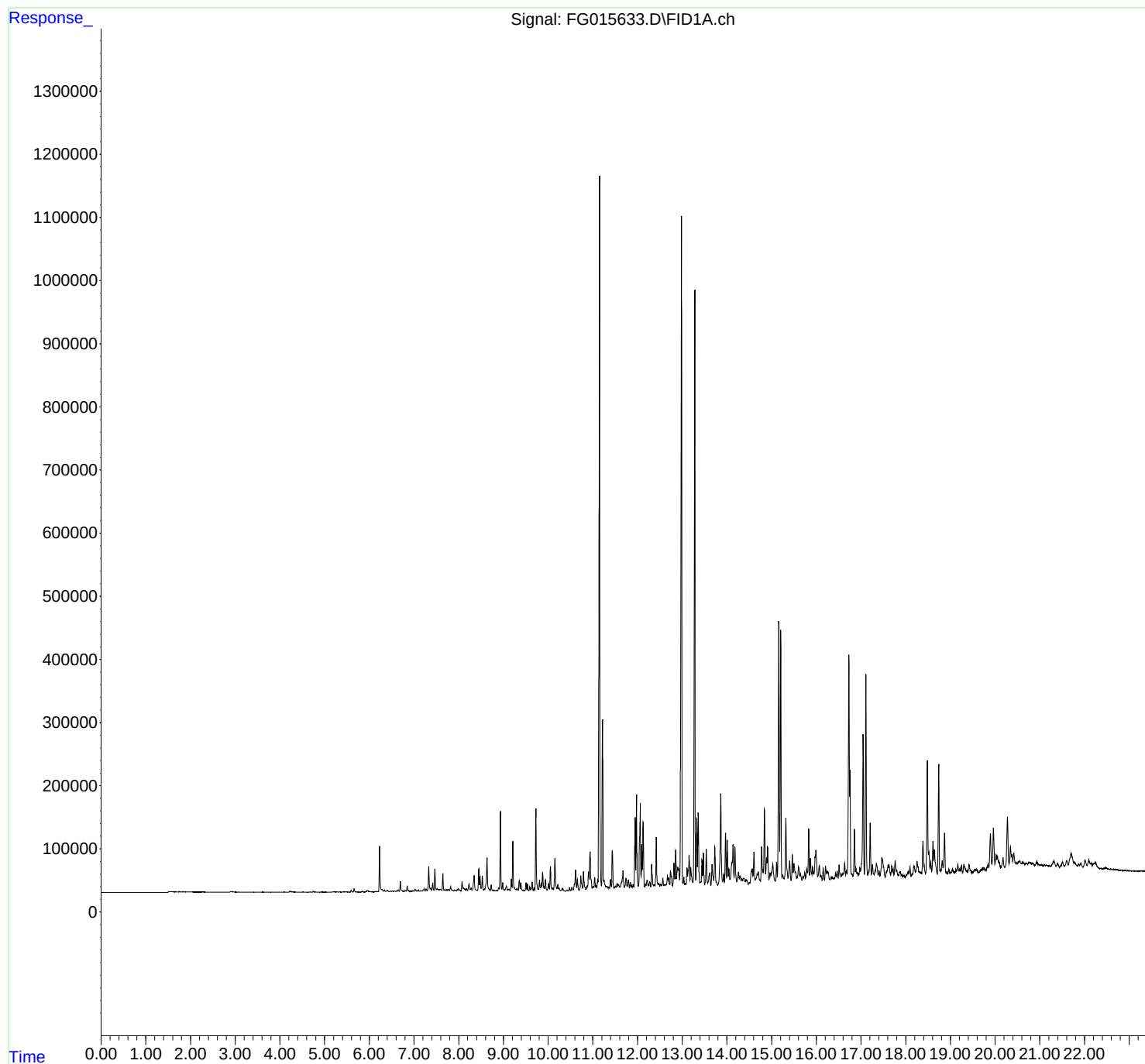
(m)=manual int.

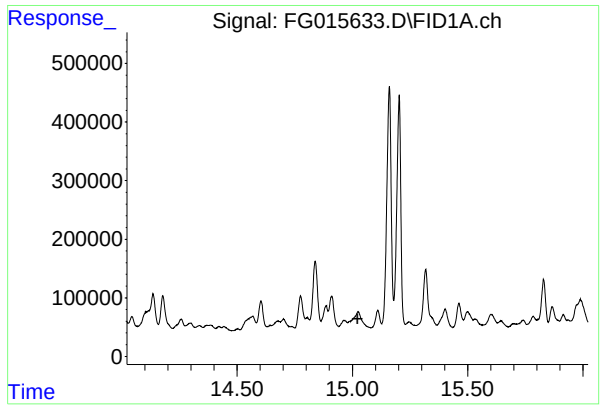
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015633.D
Signal(s) : FID1A.ch
Acq On : 04 Apr 2025 00:23
Operator : YP\AJ
Sample : Q1698-05 50X
Misc :
ALS Vial : 35 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-9-TPH-3

Integration File: autoint1.e
Quant Time: Apr 04 01:12:34 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 0.000 min
Exp R.T.: 15.022 min
Response: 0
Conc: N.D.

Instrument :
FID_G
ClientSampleId :
B-9-TPH-3

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015633.D
 Signal(s) : FID1A.ch
 Acq On : 04 Apr 2025 00:23
 Sample : Q1698-05 50X
 Misc :
 ALS Vial : 35 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	3.985	3.972	3.993	VV	165	1400	0.01%	0.001%
2	3.997	3.993	4.011	VV	128	814	0.01%	0.001%
3	4.022	4.011	4.035	VV	136	1456	0.01%	0.001%
4	4.069	4.035	4.073	VV	281	3586	0.03%	0.002%
5	4.080	4.073	4.084	VV	269	1759	0.01%	0.001%
6	4.088	4.084	4.093	VV	399	1839	0.01%	0.001%
7	4.098	4.093	4.118	VV	432	4704	0.03%	0.003%
8	4.122	4.118	4.133	VV	358	2148	0.02%	0.001%
9	4.141	4.133	4.155	VV	263	2541	0.02%	0.002%
10	4.168	4.155	4.188	VV	285	3931	0.03%	0.003%
11	4.227	4.188	4.307	VV	1694	56861	0.40%	0.036%
12	4.310	4.307	4.346	VV	423	7989	0.06%	0.005%
13	4.350	4.346	4.371	VV	340	3746	0.03%	0.002%
14	4.373	4.371	4.383	VV	264	1485	0.01%	0.001%
15	4.386	4.383	4.398	VV	305	1467	0.01%	0.001%
16	4.419	4.398	4.433	VV	172	2765	0.02%	0.002%
17	4.441	4.433	4.449	VV	142	1077	0.01%	0.001%
18	4.456	4.449	4.475	VV	202	2015	0.01%	0.001%
19	4.481	4.475	4.489	VV	197	1139	0.01%	0.001%
20	4.492	4.489	4.499	VV	161	799	0.01%	0.001%
21	4.515	4.499	4.535	VV	515	6128	0.04%	0.004%
22	4.546	4.535	4.575	VV	295	4206	0.03%	0.003%
23	4.579	4.575	4.582	VV	127	432	0.00%	0.000%
24	4.594	4.582	4.603	VV	207	1343	0.01%	0.001%
25	4.611	4.603	4.617	PV	87	402	0.00%	0.000%
26	4.622	4.617	4.630	VV	98	378	0.00%	0.000%
27	4.635	4.630	4.642	PV	105	384	0.00%	0.000%
28	4.673	4.642	4.703	VV	684	10238	0.07%	0.007%
29	4.705	4.703	4.716	VV	232	1197	0.01%	0.001%
30	4.748	4.716	4.788	VV	1794	32180	0.23%	0.021%
31	4.799	4.788	4.846	VV	581	11174	0.08%	0.007%
32	4.857	4.846	4.873	VV	215	2694	0.02%	0.002%
33	4.875	4.873	4.898	VV	197	1965	0.01%	0.001%
34	4.930	4.898	4.967	VV	524	13724	0.10%	0.009%
35	4.977	4.967	5.003	VV	367	5800	0.04%	0.004%
36	5.021	5.003	5.070	VV	519	10212	0.07%	0.007%

					rteres			
37	5.077	5.070	5.088	VV	123	1119	0.01%	0.001%
38	5.093	5.088	5.109	VV	168	1200	0.01%	0.001%
39	5.135	5.109	5.151	PV	231	2696	0.02%	0.002%
40	5.196	5.151	5.217	VV	831	18546	0.13%	0.012%
41	5.228	5.217	5.252	VV	696	10430	0.07%	0.007%
42	5.273	5.252	5.296	VV	1081	16828	0.12%	0.011%
43	5.299	5.296	5.323	VV	453	5376	0.04%	0.003%
44	5.339	5.323	5.381	VV	901	14087	0.10%	0.009%
45	5.406	5.381	5.418	VV	644	8695	0.06%	0.006%
46	5.436	5.418	5.450	VV	763	10778	0.08%	0.007%
47	5.470	5.450	5.485	VV	777	12381	0.09%	0.008%
48	5.489	5.485	5.494	VV	517	2563	0.02%	0.002%
49	5.500	5.494	5.522	VV	493	5160	0.04%	0.003%
50	5.532	5.522	5.550	VV	352	4322	0.03%	0.003%
51	5.559	5.550	5.570	VV	246	2166	0.02%	0.001%
52	5.595	5.570	5.636	VV	3391	48538	0.34%	0.031%
53	5.660	5.636	5.704	VV	5652	78238	0.55%	0.050%
54	5.713	5.704	5.766	VV	532	10177	0.07%	0.006%
55	5.783	5.766	5.798	PV	202	2208	0.02%	0.001%
56	5.813	5.798	5.820	VV	267	2074	0.01%	0.001%
57	5.841	5.820	5.883	VV	1080	24958	0.18%	0.016%
58	5.889	5.883	5.900	VV	198	1326	0.01%	0.001%
59	5.927	5.900	5.936	VV	1434	15895	0.11%	0.010%
60	5.968	5.936	5.987	VV	2729	61305	0.43%	0.039%
61	5.992	5.987	6.017	VV	1309	16882	0.12%	0.011%
62	6.026	6.017	6.042	VV	845	10199	0.07%	0.007%
63	6.059	6.042	6.081	VV	816	14130	0.10%	0.009%
64	6.092	6.081	6.109	VV	555	5745	0.04%	0.004%
65	6.144	6.109	6.178	VV	1320	28289	0.20%	0.018%
66	6.193	6.178	6.204	VV	1185	13816	0.10%	0.009%
67	6.230	6.204	6.273	VV	73006	867767	6.11%	0.554%
68	6.287	6.273	6.319	VV	4530	87997	0.62%	0.056%
69	6.339	6.319	6.361	VV	3187	49898	0.35%	0.032%
70	6.377	6.361	6.386	VV	1520	20244	0.14%	0.013%
71	6.403	6.386	6.450	VV	2782	60054	0.42%	0.038%
72	6.460	6.450	6.467	VV	973	8539	0.06%	0.005%
73	6.485	6.467	6.500	VV	1673	25758	0.18%	0.016%
74	6.515	6.500	6.530	VV	1728	24764	0.17%	0.016%
75	6.532	6.530	6.549	VV	1228	11083	0.08%	0.007%
76	6.569	6.549	6.597	VV	1823	38753	0.27%	0.025%
77	6.615	6.597	6.627	VV	1674	24178	0.17%	0.015%
78	6.644	6.627	6.674	VV	3082	55405	0.39%	0.035%
79	6.696	6.674	6.721	VV	16952	205550	1.45%	0.131%
80	6.726	6.721	6.771	VV	2998	52382	0.37%	0.033%
81	6.792	6.771	6.807	VV	1794	29113	0.20%	0.019%
82	6.820	6.807	6.830	VV	1791	20574	0.14%	0.013%
83	6.849	6.830	6.872	VV	9757	123493	0.87%	0.079%
84	6.884	6.872	6.906	VV	1997	30440	0.21%	0.019%
85	6.922	6.906	6.946	VV	2000	32728	0.23%	0.021%
86	6.958	6.946	6.964	VV	1342	12900	0.09%	0.008%
87	6.981	6.964	7.000	VV	1971	32383	0.23%	0.021%
88	7.025	7.000	7.050	VV	4327	77957	0.55%	0.050%
89	7.061	7.050	7.075	VV	2057	25677	0.18%	0.016%

					rteres			
90	7.099	7.075	7.130	VV	2508	57211	0.40%	0.037%
91	7.150	7.130	7.161	VV	1964	29809	0.21%	0.019%
92	7.163	7.161	7.184	VV	1914	22307	0.16%	0.014%
93	7.213	7.184	7.216	VV	3459	46317	0.33%	0.030%
94	7.230	7.216	7.250	VV	4844	69451	0.49%	0.044%
95	7.271	7.250	7.296	VV	4887	83529	0.59%	0.053%
96	7.331	7.296	7.363	VV	40018	555956	3.91%	0.355%
97	7.375	7.363	7.395	VV	6045	84085	0.59%	0.054%
98	7.419	7.395	7.448	VV	13468	202489	1.43%	0.129%
99	7.469	7.448	7.501	VV	36282	461572	3.25%	0.295%
100	7.518	7.501	7.537	VV	5205	85927	0.61%	0.055%
101	7.544	7.537	7.557	VV	3495	40033	0.28%	0.026%
102	7.564	7.557	7.574	VV	3218	31420	0.22%	0.020%
103	7.589	7.574	7.622	VV	4202	94591	0.67%	0.060%
104	7.647	7.622	7.676	VV	28028	343473	2.42%	0.219%
105	7.700	7.676	7.723	VV	3184	72188	0.51%	0.046%
106	7.735	7.723	7.746	VV	2697	32985	0.23%	0.021%
107	7.770	7.746	7.796	VV	3604	86895	0.61%	0.055%
108	7.822	7.796	7.852	VV	7741	141145	0.99%	0.090%
109	7.861	7.852	7.888	VV	2821	48758	0.34%	0.031%
110	7.910	7.888	7.923	VV	2507	43220	0.30%	0.028%
111	7.931	7.923	7.946	VV	2392	29335	0.21%	0.019%
112	7.965	7.946	7.970	VV	2612	33797	0.24%	0.022%
113	7.988	7.970	8.005	VV	5141	75284	0.53%	0.048%
114	8.016	8.005	8.052	VV	3308	68646	0.48%	0.044%
115	8.077	8.052	8.098	VV	15842	218015	1.54%	0.139%
116	8.107	8.098	8.122	VV	5628	72784	0.51%	0.046%
117	8.132	8.122	8.158	VV	4702	74830	0.53%	0.048%
118	8.176	8.158	8.195	VV	5097	78532	0.55%	0.050%
119	8.232	8.195	8.262	VV	11897	242002	1.70%	0.154%
120	8.279	8.262	8.298	VV	5842	86388	0.61%	0.055%
121	8.348	8.298	8.393	VV	25569	511550	3.60%	0.326%
122	8.397	8.393	8.421	VV	2621	37955	0.27%	0.024%
123	8.451	8.421	8.466	VV	36298	436141	3.07%	0.278%
124	8.479	8.466	8.501	VV	23410	290604	2.05%	0.185%
125	8.531	8.501	8.562	VV	24596	353619	2.49%	0.226%
126	8.579	8.562	8.588	VV	4240	54092	0.38%	0.035%
127	8.635	8.588	8.705	VV	53610	969838	6.83%	0.619%
128	8.729	8.705	8.762	VV	10225	147905	1.04%	0.094%
129	8.777	8.762	8.797	VV	2548	36017	0.25%	0.023%
130	8.820	8.797	8.850	VV	1298	32996	0.23%	0.021%
131	8.861	8.850	8.871	VV	1002	11057	0.08%	0.007%
132	8.899	8.871	8.913	VV	6078	94593	0.67%	0.060%
133	8.935	8.913	8.968	VV	127257	1382980	9.74%	0.883%
134	8.986	8.968	9.014	VV	14061	195530	1.38%	0.125%
135	9.026	9.014	9.037	VV	2849	36473	0.26%	0.023%
136	9.072	9.037	9.093	VV	7985	166906	1.18%	0.107%
137	9.105	9.093	9.113	VV	3014	32134	0.23%	0.021%
138	9.126	9.113	9.155	VV	3849	64340	0.45%	0.041%
139	9.180	9.155	9.194	VV	19855	235912	1.66%	0.151%
140	9.213	9.194	9.245	VV	79422	933286	6.57%	0.596%
141	9.251	9.245	9.288	VV	5437	99078	0.70%	0.063%

rteres								
142	9.306	9.288	9.332	VV	4944	85751	0.60%	0.055%
143	9.357	9.332	9.377	VV	17442	265488	1.87%	0.169%
144	9.393	9.377	9.439	VV	13112	195309	1.38%	0.125%
145	9.453	9.439	9.479	VV	2046	34019	0.24%	0.022%
146	9.507	9.479	9.525	VV	14010	171692	1.21%	0.110%
147	9.541	9.525	9.571	VV	11724	138877	0.98%	0.089%
148	9.592	9.571	9.610	VV	6738	86611	0.61%	0.055%
149	9.645	9.610	9.669	VV	15195	231648	1.63%	0.148%
150	9.687	9.669	9.703	VV	5622	67329	0.47%	0.043%
151	9.728	9.703	9.787	VV	130900	1613605	11.36%	1.030%
152	9.808	9.787	9.826	VV	17606	222929	1.57%	0.142%
153	9.850	9.826	9.861	VV	13146	186676	1.31%	0.119%
154	9.879	9.861	9.901	VV	30566	421153	2.97%	0.269%
155	9.909	9.901	9.921	VV	7059	72840	0.51%	0.046%
156	9.940	9.921	9.977	VV	18532	279163	1.97%	0.178%
157	10.012	9.977	10.032	VV	11777	195201	1.37%	0.125%
158	10.053	10.032	10.088	VV	38332	504322	3.55%	0.322%
159	10.105	10.088	10.123	VV	5473	86785	0.61%	0.055%
160	10.154	10.123	10.200	VV	52191	820545	5.78%	0.524%
161	10.216	10.200	10.235	VV	9912	136462	0.96%	0.087%
162	10.248	10.235	10.277	VV	4681	75403	0.53%	0.048%
163	10.323	10.277	10.382	VV	4453	111635	0.79%	0.071%
164	10.388	10.382	10.400	VV	246	1231	0.01%	0.001%
165	10.423	10.400	10.458	PV	1579	26314	0.19%	0.017%
166	10.479	10.458	10.512	VV	4979	75656	0.53%	0.048%
167	10.532	10.512	10.563	VV	5900	94399	0.66%	0.060%
168	10.590	10.563	10.597	VV	11364	133103	0.94%	0.085%
169	10.616	10.597	10.639	VV	33035	473035	3.33%	0.302%
170	10.657	10.639	10.697	VV	17433	252310	1.78%	0.161%
171	10.734	10.697	10.772	VV	23588	429045	3.02%	0.274%
172	10.794	10.772	10.845	VV	30168	486212	3.42%	0.310%
173	10.871	10.845	10.879	VV	6738	88091	0.62%	0.056%
174	10.906	10.879	10.917	VV	29082	390641	2.75%	0.249%
175	10.940	10.917	10.986	VV	60153	1133774	7.98%	0.724%
176	11.011	10.986	11.023	VV	6221	110464	0.78%	0.070%
177	11.043	11.023	11.061	VV	19165	253333	1.78%	0.162%
178	11.074	11.061	11.092	VV	7375	104050	0.73%	0.066%
179	11.109	11.092	11.116	VV	15343	148529	1.05%	0.095%
180	11.151	11.116	11.192	VV	1122404	13679393	96.32%	8.730%
181	11.218	11.192	11.243	VV	269717	3032327	21.35%	1.935%
182	11.252	11.243	11.287	VV	15196	267848	1.89%	0.171%
183	11.296	11.287	11.307	VV	5133	54215	0.38%	0.035%
184	11.319	11.307	11.342	VV	4821	83713	0.59%	0.053%
185	11.358	11.342	11.375	VV	3951	60075	0.42%	0.038%
186	11.395	11.375	11.415	VV	15977	217808	1.53%	0.139%
187	11.437	11.415	11.475	VV	61720	807318	5.68%	0.515%
188	11.507	11.475	11.522	VV	4733	99393	0.70%	0.063%
189	11.545	11.522	11.559	VV	9008	141938	1.00%	0.091%
190	11.573	11.559	11.604	VV	7270	145417	1.02%	0.093%
191	11.644	11.604	11.648	VV	11312	181665	1.28%	0.116%
192	11.676	11.648	11.704	VV	29334	524482	3.69%	0.335%
193	11.742	11.704	11.770	VV	16828	326838	2.30%	0.209%
194	11.795	11.770	11.820	VV	13799	229371	1.62%	0.146%

					rteres			
195	11.839	11.820	11.859	VV	10345	140816	0.99%	0.090%
196	11.872	11.859	11.886	VV	5315	61185	0.43%	0.039%
197	11.903	11.886	11.918	VV	6681	86842	0.61%	0.055%
198	11.946	11.918	11.961	VV	112602	1308826	9.22%	0.835%
199	11.978	11.961	12.021	VV	147949	1816684	12.79%	1.159%
200	12.061	12.021	12.080	VV	134648	2213567	15.59%	1.413%
201	12.095	12.080	12.109	VV	69236	790835	5.57%	0.505%
202	12.126	12.109	12.162	VV	104768	1338655	9.43%	0.854%
203	12.179	12.162	12.190	VV	6772	80947	0.57%	0.052%
204	12.216	12.190	12.249	VV	12975	257927	1.82%	0.165%
205	12.275	12.249	12.295	VV	9398	168243	1.18%	0.107%
206	12.317	12.295	12.355	VV	37109	570999	4.02%	0.364%
207	12.379	12.355	12.392	VV	4940	95610	0.67%	0.061%
208	12.418	12.392	12.467	VV	80077	1076092	7.58%	0.687%
209	12.477	12.467	12.498	VV	7512	104693	0.74%	0.067%
210	12.515	12.498	12.532	VV	5666	82375	0.58%	0.053%
211	12.566	12.532	12.587	VV	14612	226119	1.59%	0.144%
212	12.617	12.587	12.636	VV	4520	115138	0.81%	0.073%
213	12.668	12.636	12.683	VV	18413	303095	2.13%	0.193%
214	12.693	12.683	12.720	VV	15050	213319	1.50%	0.136%
215	12.740	12.720	12.752	VV	25033	312814	2.20%	0.200%
216	12.759	12.752	12.782	VV	17649	184588	1.30%	0.118%
217	12.814	12.782	12.833	VV	37971	582055	4.10%	0.371%
218	12.853	12.833	12.871	VV	58000	751403	5.29%	0.480%
219	12.892	12.871	12.907	VV	30525	535170	3.77%	0.342%
220	12.916	12.907	12.941	VV	29283	472508	3.33%	0.302%
221	12.983	12.941	13.017	VV	1054423	14202299	100.00%	9.064%
222	13.036	13.017	13.055	VV	14771	208785	1.47%	0.133%
223	13.067	13.055	13.085	VV	5269	81769	0.58%	0.052%
224	13.107	13.085	13.121	VV	29176	378879	2.67%	0.242%
225	13.154	13.121	13.173	VV	49479	910140	6.41%	0.581%
226	13.189	13.173	13.240	VV	30621	630671	4.44%	0.402%
227	13.281	13.240	13.303	VV	943956	11692147	82.33%	7.462%
228	13.325	13.303	13.340	VV	106832	1278485	9.00%	0.816%
229	13.356	13.340	13.394	VV	116211	1571264	11.06%	1.003%
230	13.408	13.394	13.415	VV	6317	74926	0.53%	0.048%
231	13.441	13.415	13.456	VV	41771	535835	3.77%	0.342%
232	13.474	13.456	13.500	VV	51860	689460	4.85%	0.440%
233	13.537	13.500	13.567	VV	58377	811603	5.71%	0.518%
234	13.614	13.567	13.640	VV	20837	466809	3.29%	0.298%
235	13.666	13.640	13.705	VV	34141	630041	4.44%	0.402%
236	13.729	13.705	13.758	VV	61066	933639	6.57%	0.596%
237	13.762	13.758	13.793	VV	6426	71806	0.51%	0.046%
238	13.861	13.793	13.901	VV	144996	2504417	17.63%	1.598%
239	13.925	13.901	13.943	VV	16781	255279	1.80%	0.163%
240	13.968	13.943	13.989	VV	82506	1135801	8.00%	0.725%
241	14.007	13.989	14.027	VV	71299	911528	6.42%	0.582%
242	14.044	14.027	14.067	VV	25314	401764	2.83%	0.256%
243	14.136	14.067	14.158	VV	64206	1650952	11.62%	1.054%
244	14.178	14.158	14.219	VV	60557	942802	6.64%	0.602%
245	14.258	14.219	14.277	VV	20604	415416	2.92%	0.265%
246	14.297	14.277	14.319	VV	13485	267820	1.89%	0.171%

					rteres			
247	14.338	14.319	14.354	VV	9537	163032	1.15%	0.104%
248	14.369	14.354	14.379	VV	9884	130370	0.92%	0.083%
249	14.385	14.379	14.408	VV	9872	135108	0.95%	0.086%
250	14.422	14.408	14.432	VV	7406	87507	0.62%	0.056%
251	14.444	14.432	14.476	VV	7415	110831	0.78%	0.071%
252	14.502	14.476	14.512	PV	3347	36922	0.26%	0.024%
253	14.568	14.512	14.583	VV	24487	680337	4.79%	0.434%
254	14.604	14.583	14.633	VV	50756	745378	5.25%	0.476%
255	14.678	14.633	14.689	VV	16230	390636	2.75%	0.249%
256	14.701	14.689	14.733	VV	19523	335165	2.36%	0.214%
257	14.736	14.733	14.750	VV	6657	55999	0.39%	0.036%
258	14.775	14.750	14.797	VV	58819	868392	6.11%	0.554%
259	14.806	14.797	14.815	VV	22018	218495	1.54%	0.139%
260	14.839	14.815	14.864	VV	117836	1750333	12.32%	1.117%
261	14.886	14.864	14.895	VV	40836	573184	4.04%	0.366%
262	14.910	14.895	14.943	VV	58212	882240	6.21%	0.563%
263	14.966	14.943	14.980	VV	16084	281949	1.99%	0.180%
264	15.025	14.980	15.081	VV	31210	944252	6.65%	0.603%
265	15.110	15.081	15.127	VV	33342	454813	3.20%	0.290%
266	15.161	15.127	15.179	VV	413894	5566384	39.19%	3.552%
267	15.203	15.179	15.230	VV	400395	4958475	34.91%	3.164%
268	15.247	15.230	15.278	VV	12672	271532	1.91%	0.173%
269	15.318	15.278	15.367	VV	102339	1741982	12.27%	1.112%
270	15.402	15.367	15.434	VV	34281	676201	4.76%	0.432%
271	15.462	15.434	15.482	VV	44146	629580	4.43%	0.402%
272	15.500	15.482	15.525	VV	28932	577153	4.06%	0.368%
273	15.534	15.525	15.566	VV	16593	285164	2.01%	0.182%
274	15.601	15.566	15.629	VV	24349	564145	3.97%	0.360%
275	15.645	15.629	15.678	VV	13296	248682	1.75%	0.159%
276	15.697	15.678	15.716	VV	8389	151204	1.06%	0.096%
277	15.741	15.716	15.757	VV	14400	253997	1.79%	0.162%
278	15.784	15.757	15.803	VV	20841	393012	2.77%	0.251%
279	15.829	15.803	15.849	VV	83143	1130335	7.96%	0.721%
280	15.866	15.849	15.898	VV	36442	630102	4.44%	0.402%
281	15.915	15.898	15.930	VV	23330	337464	2.38%	0.215%
282	15.935	15.930	15.947	VV	13931	129431	0.91%	0.083%
283	15.989	15.947	16.031	VV	49440	1418714	9.99%	0.905%
284	16.065	16.031	16.093	VV	25523	534799	3.77%	0.341%
285	16.106	16.093	16.131	VV	8918	132875	0.94%	0.085%
286	16.153	16.131	16.179	VV	20403	271062	1.91%	0.173%
287	16.205	16.179	16.227	VV	23448	373900	2.63%	0.239%
288	16.239	16.227	16.250	VV	14824	196464	1.38%	0.125%
289	16.263	16.250	16.307	VV	13878	248181	1.75%	0.158%
290	16.332	16.307	16.347	VV	5629	92440	0.65%	0.059%
291	16.363	16.347	16.378	VV	4859	70798	0.50%	0.045%
292	16.387	16.378	16.407	VV	3881	52352	0.37%	0.033%
293	16.427	16.407	16.447	VV	11037	175269	1.23%	0.112%
294	16.465	16.447	16.488	VV	14910	222384	1.57%	0.142%
295	16.509	16.488	16.529	VV	24562	347848	2.45%	0.222%
296	16.533	16.529	16.557	VV	10522	129668	0.91%	0.083%
297	16.578	16.557	16.587	VV	10186	142563	1.00%	0.091%
298	16.633	16.587	16.654	VV	26367	576956	4.06%	0.368%
299	16.669	16.654	16.688	VV	14391	235426	1.66%	0.150%

					rters			
300	16.728	16.688	16.744	VV	353177	5315128	37.42%	3.392%
301	16.753	16.744	16.792	VV	173908	1935693	13.63%	1.235%
302	16.796	16.792	16.823	VV	8839	134662	0.95%	0.086%
303	16.852	16.823	16.873	VV	78960	1065838	7.50%	0.680%
304	16.884	16.873	16.902	VV	18626	246310	1.73%	0.157%
305	16.917	16.902	16.933	VV	11253	174880	1.23%	0.112%
306	16.947	16.933	16.955	VV	9326	103668	0.73%	0.066%
307	16.973	16.955	16.987	VV	18231	268786	1.89%	0.172%
308	17.047	16.987	17.074	VV	227021	3716254	26.17%	2.372%
309	17.108	17.074	17.150	VV	323808	4435496	31.23%	2.831%
310	17.204	17.150	17.230	VV	88785	1362787	9.60%	0.870%
311	17.255	17.230	17.291	VV	21624	443940	3.13%	0.283%
312	17.314	17.291	17.320	VV	12841	167093	1.18%	0.107%
313	17.344	17.320	17.387	VV	23641	628706	4.43%	0.401%
314	17.405	17.387	17.424	VV	12038	180138	1.27%	0.115%
315	17.466	17.424	17.502	VV	32553	945048	6.65%	0.603%
316	17.505	17.502	17.539	VV	18489	194811	1.37%	0.124%
317	17.605	17.539	17.613	VV	20988	485546	3.42%	0.310%
318	17.629	17.613	17.665	VV	20694	396161	2.79%	0.253%
319	17.689	17.665	17.708	VV	18518	307467	2.16%	0.196%
320	17.718	17.708	17.737	VV	13380	172681	1.22%	0.110%
321	17.763	17.737	17.786	VV	26977	469015	3.30%	0.299%
322	17.796	17.786	17.821	VV	11154	184339	1.30%	0.118%
323	17.826	17.821	17.844	VV	4968	52711	0.37%	0.034%
324	17.863	17.844	17.898	VV	9004	220523	1.55%	0.141%
325	17.905	17.898	17.931	VV	3998	52680	0.37%	0.034%
326	17.945	17.931	17.994	VV	3359	54783	0.39%	0.035%
327	18.015	17.994	18.020	PV	3771	31336	0.22%	0.020%
328	18.048	18.020	18.080	VV	7786	221399	1.56%	0.141%
329	18.095	18.080	18.120	VV	15719	206918	1.46%	0.132%
					Sum of corrected areas:		156696280	

FG032725.M Fri Apr 04 07:09:13 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/02/25	
Project:	MTA Rockaway Park		Date Received:	04/02/25	
Client Sample ID:	B-9-TPH-4		SDG No.:	Q1698	
Lab Sample ID:	Q1698-06		Matrix:	SOIL	
Analytical Method:	8015D TPH		% Solid:	92	Decanted:
Sample Wt/Vol:	30.02	Units: g	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015634.D	50	04/03/25 08:00	04/04/25 0:53	PB167438

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	2650		20.9	154	mg/Kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	0.00	*	37 - 130	0%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015634.D
Signal(s) : FID1A.ch
Acq On : 04 Apr 2025 00:53
Operator : YP\AJ
Sample : Q1698-06 50X
Misc :
ALS Vial : 36 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-9-TPH-4

Integration File: autoint1.e
Quant Time: Apr 04 01:45:10 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

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

System Monitoring Compounds

Target Compounds

(f)=RT Delta > 1/2 Window

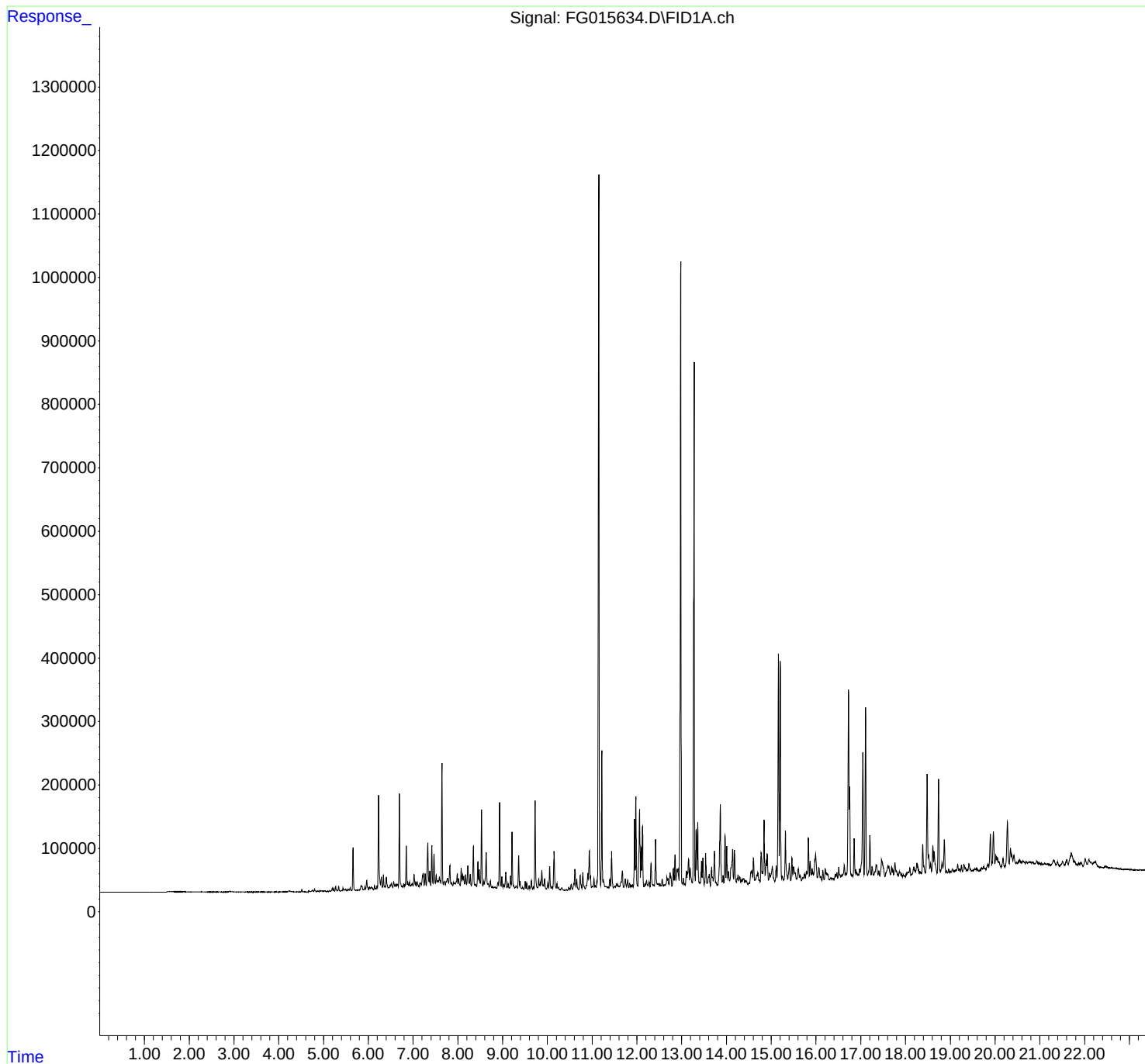
(m)=manual int.

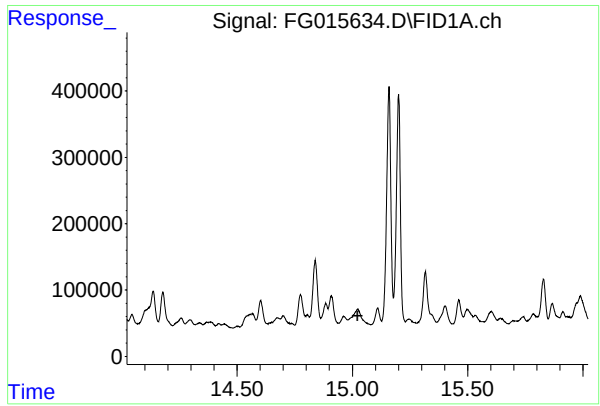
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015634.D
Signal(s) : FID1A.ch
Acq On : 04 Apr 2025 00:53
Operator : YP\AJ
Sample : Q1698-06 50X
Misc :
ALS Vial : 36 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-9-TPH-4

Integration File: autoint1.e
Quant Time: Apr 04 01:45:10 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 0.000 min
Exp R.T.: 15.022 min
Response: 0
Conc: N.D.

Instrument :
FID_G
ClientSampleId :
B-9-TPH-4

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015634.D
 Signal(s) : FID1A.ch
 Acq On : 04 Apr 2025 00:53
 Sample : Q1698-06 50X
 Misc :
 ALS Vial : 36 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.918	4.900	4.947	VV	1865	39954	0.29%	0.024%
2	4.957	4.947	4.967	VV	1647	17829	0.13%	0.011%
3	4.980	4.967	4.999	VV	2066	29035	0.21%	0.017%
4	5.023	4.999	5.066	VV	2032	50249	0.36%	0.030%
5	5.089	5.066	5.093	VV	1153	11723	0.08%	0.007%
6	5.097	5.093	5.113	VV	1282	10759	0.08%	0.006%
7	5.132	5.113	5.152	VV	2176	29804	0.21%	0.018%
8	5.169	5.152	5.175	VV	1452	16618	0.12%	0.010%
9	5.195	5.175	5.213	VV	6082	77855	0.56%	0.046%
10	5.229	5.213	5.250	VV	5662	71153	0.51%	0.042%
11	5.271	5.250	5.294	VV	8906	117752	0.85%	0.070%
12	5.295	5.294	5.319	VV	2831	29761	0.21%	0.018%
13	5.339	5.319	5.375	VV	8952	122896	0.88%	0.073%
14	5.404	5.375	5.415	VV	2000	37125	0.27%	0.022%
15	5.437	5.415	5.453	VV	5928	81551	0.59%	0.048%
16	5.462	5.453	5.485	VV	3577	63430	0.46%	0.038%
17	5.498	5.485	5.517	VV	4366	61388	0.44%	0.036%
18	5.534	5.517	5.546	VV	3507	43022	0.31%	0.025%
19	5.562	5.546	5.577	VV	3464	53137	0.38%	0.031%
20	5.595	5.577	5.615	VV	6066	92259	0.66%	0.055%
21	5.623	5.615	5.639	VV	2557	30143	0.22%	0.018%
22	5.660	5.639	5.724	VV	69714	865372	6.23%	0.512%
23	5.737	5.724	5.742	VV	2703	26441	0.19%	0.016%
24	5.753	5.742	5.765	VV	2687	34252	0.25%	0.020%
25	5.785	5.765	5.798	VV	2945	51198	0.37%	0.030%
26	5.812	5.798	5.822	VV	4017	48282	0.35%	0.029%
27	5.839	5.822	5.852	VV	9875	133772	0.96%	0.079%
28	5.862	5.852	5.900	VV	8584	151140	1.09%	0.089%
29	5.924	5.900	5.940	VV	7717	119483	0.86%	0.071%
30	5.966	5.940	6.010	VV	17598	351967	2.53%	0.208%
31	6.028	6.010	6.046	VV	7481	124181	0.89%	0.073%
32	6.064	6.046	6.081	VV	7202	128515	0.93%	0.076%
33	6.093	6.081	6.109	VV	6198	81919	0.59%	0.048%
34	6.117	6.109	6.122	VV	3378	24651	0.18%	0.015%
35	6.141	6.122	6.158	VV	9766	136999	0.99%	0.081%
36	6.167	6.158	6.177	VV	4977	53427	0.38%	0.032%

					rteres			
37	6.193	6.177	6.207	VV	8794	122487	0.88%	0.072%
38	6.229	6.207	6.271	VV	151962	1993837	14.35%	1.179%
39	6.292	6.271	6.314	VV	22076	367512	2.65%	0.217%
40	6.339	6.314	6.366	VV	26629	407547	2.93%	0.241%
41	6.377	6.366	6.385	VV	8201	88071	0.63%	0.052%
42	6.403	6.385	6.443	VV	22660	434436	3.13%	0.257%
43	6.464	6.443	6.469	VV	6525	92571	0.67%	0.055%
44	6.487	6.469	6.501	VV	10250	166982	1.20%	0.099%
45	6.516	6.501	6.548	VV	13087	272534	1.96%	0.161%
46	6.568	6.548	6.595	VV	15201	307425	2.21%	0.182%
47	6.616	6.595	6.630	VV	12038	207882	1.50%	0.123%
48	6.645	6.630	6.654	VV	11181	143949	1.04%	0.085%
49	6.657	6.654	6.673	VV	10727	111915	0.81%	0.066%
50	6.696	6.673	6.745	VV	154027	1846220	13.29%	1.092%
51	6.754	6.745	6.769	VV	8701	112570	0.81%	0.067%
52	6.792	6.769	6.806	VV	12050	207304	1.49%	0.123%
53	6.820	6.806	6.829	VV	11180	129517	0.93%	0.077%
54	6.849	6.829	6.873	VV	71750	897659	6.46%	0.531%
55	6.884	6.873	6.905	VV	14766	225570	1.62%	0.133%
56	6.921	6.905	6.940	VV	14712	234142	1.69%	0.138%
57	6.958	6.940	6.965	VV	10490	143482	1.03%	0.085%
58	6.982	6.965	7.000	VV	13043	224797	1.62%	0.133%
59	7.023	7.000	7.049	VV	27005	494795	3.56%	0.293%
60	7.061	7.049	7.075	VV	14330	182525	1.31%	0.108%
61	7.091	7.075	7.132	VV	14581	366359	2.64%	0.217%
62	7.152	7.132	7.158	VV	13067	169109	1.22%	0.100%
63	7.167	7.158	7.183	VV	13100	184383	1.33%	0.109%
64	7.213	7.183	7.219	VV	24331	370454	2.67%	0.219%
65	7.229	7.219	7.250	VV	28013	376584	2.71%	0.223%
66	7.272	7.250	7.296	VV	28042	470475	3.39%	0.278%
67	7.330	7.296	7.359	VV	76526	1339958	9.65%	0.792%
68	7.376	7.359	7.395	VV	32110	449419	3.24%	0.266%
69	7.419	7.395	7.448	VV	72465	1005048	7.24%	0.594%
70	7.468	7.448	7.498	VV	58673	880125	6.34%	0.520%
71	7.518	7.498	7.535	VV	26064	417414	3.01%	0.247%
72	7.548	7.535	7.557	VV	16407	204034	1.47%	0.121%
73	7.563	7.557	7.574	VV	16575	165404	1.19%	0.098%
74	7.589	7.574	7.621	VV	22638	491944	3.54%	0.291%
75	7.646	7.621	7.674	VV	201849	2334077	16.80%	1.380%
76	7.695	7.674	7.720	VV	15672	366822	2.64%	0.217%
77	7.738	7.720	7.746	VV	15397	205460	1.48%	0.121%
78	7.769	7.746	7.795	VV	20531	497462	3.58%	0.294%
79	7.822	7.795	7.850	VV	40424	736243	5.30%	0.435%
80	7.865	7.850	7.889	VV	13461	266504	1.92%	0.158%
81	7.910	7.889	7.924	VV	13814	243349	1.75%	0.144%
82	7.934	7.924	7.946	VV	12556	156027	1.12%	0.092%
83	7.964	7.946	7.970	VV	15080	197525	1.42%	0.117%
84	7.988	7.970	8.003	VV	27124	389724	2.81%	0.230%
85	8.017	8.003	8.056	VV	19349	420120	3.02%	0.248%
86	8.076	8.056	8.093	VV	36772	505986	3.64%	0.299%
87	8.109	8.093	8.122	VV	26228	366425	2.64%	0.217%
88	8.133	8.122	8.155	VV	23342	344855	2.48%	0.204%
89	8.176	8.155	8.199	VV	25950	436035	3.14%	0.258%

					rteres			
90	8.224	8.199	8.260	VV	40239	804933	5.79%	0.476%
91	8.279	8.260	8.302	VV	26669	422094	3.04%	0.250%
92	8.349	8.302	8.378	VV	71079	1223954	8.81%	0.724%
93	8.393	8.378	8.421	VV	10816	236927	1.71%	0.140%
94	8.450	8.421	8.466	VV	46156	664817	4.79%	0.393%
95	8.478	8.466	8.501	VV	33575	473829	3.41%	0.280%
96	8.531	8.501	8.560	VV	128196	1590137	11.45%	0.940%
97	8.579	8.560	8.593	VV	15556	231703	1.67%	0.137%
98	8.635	8.593	8.668	VV	60612	1164686	8.38%	0.689%
99	8.681	8.668	8.704	VV	11803	209101	1.51%	0.124%
100	8.728	8.704	8.762	VV	16142	320331	2.31%	0.189%
101	8.777	8.762	8.794	VV	7289	114192	0.82%	0.068%
102	8.826	8.794	8.847	VV	6000	167282	1.20%	0.099%
103	8.862	8.847	8.872	VV	4885	65868	0.47%	0.039%
104	8.895	8.872	8.912	VV	12931	232025	1.67%	0.137%
105	8.935	8.912	8.968	VV	138539	1612875	11.61%	0.954%
106	8.985	8.968	9.008	VV	22644	323629	2.33%	0.191%
107	9.025	9.008	9.041	VV	10395	156960	1.13%	0.093%
108	9.072	9.041	9.096	VV	29400	483695	3.48%	0.286%
109	9.125	9.096	9.156	VV	11409	244258	1.76%	0.144%
110	9.179	9.156	9.193	VV	23452	294714	2.12%	0.174%
111	9.212	9.193	9.243	VV	92755	1149499	8.28%	0.680%
112	9.251	9.243	9.280	VV	7573	129227	0.93%	0.076%
113	9.305	9.280	9.332	VV	8006	183264	1.32%	0.108%
114	9.360	9.332	9.380	VV	55000	730363	5.26%	0.432%
115	9.391	9.380	9.429	VV	15071	234547	1.69%	0.139%
116	9.446	9.429	9.472	VV	5229	100924	0.73%	0.060%
117	9.507	9.472	9.525	VV	14907	220953	1.59%	0.131%
118	9.540	9.525	9.570	VV	12129	164316	1.18%	0.097%
119	9.593	9.570	9.610	VV	7958	118026	0.85%	0.070%
120	9.644	9.610	9.669	VV	16032	268110	1.93%	0.159%
121	9.687	9.669	9.701	VV	6365	83071	0.60%	0.049%
122	9.727	9.701	9.772	VV	141935	1746130	12.57%	1.033%
123	9.781	9.772	9.789	VV	5355	50498	0.36%	0.030%
124	9.808	9.789	9.835	VV	18471	303242	2.18%	0.179%
125	9.849	9.835	9.859	VV	13883	161108	1.16%	0.095%
126	9.878	9.859	9.900	VV	32007	471576	3.40%	0.279%
127	9.908	9.900	9.921	VV	8674	97358	0.70%	0.058%
128	9.940	9.921	9.977	VV	18741	306799	2.21%	0.181%
129	10.011	9.977	10.032	VV	11946	206610	1.49%	0.122%
130	10.053	10.032	10.086	VV	38148	502994	3.62%	0.297%
131	10.105	10.086	10.122	VV	6782	109745	0.79%	0.065%
132	10.151	10.122	10.199	VV	61861	1018805	7.33%	0.602%
133	10.215	10.199	10.234	VV	11047	149443	1.08%	0.088%
134	10.248	10.234	10.280	VV	5111	86532	0.62%	0.051%
135	10.324	10.280	10.402	VV	4411	113659	0.82%	0.067%
136	10.422	10.402	10.444	PV	1560	20003	0.14%	0.012%
137	10.448	10.444	10.459	VV	629	4274	0.03%	0.003%
138	10.480	10.459	10.510	VV	5029	81464	0.59%	0.048%
139	10.532	10.510	10.563	VV	9269	141802	1.02%	0.084%
140	10.591	10.563	10.596	VV	10497	124171	0.89%	0.073%
141	10.617	10.596	10.639	VV	32960	472163	3.40%	0.279%

rteres								
142	10.656	10.639	10.697	VV	17045	248251	1.79%	0.147%
143	10.734	10.697	10.771	VV	22811	390828	2.81%	0.231%
144	10.793	10.771	10.846	VV	27753	447021	3.22%	0.264%
145	10.906	10.846	10.917	VV	25809	476667	3.43%	0.282%
146	10.939	10.917	10.960	VV	61444	999065	7.19%	0.591%
147	10.964	10.960	10.985	VV	20360	190683	1.37%	0.113%
148	11.011	10.985	11.023	VV	5566	103285	0.74%	0.061%
149	11.043	11.023	11.061	VV	17258	228990	1.65%	0.135%
150	11.073	11.061	11.091	VV	6279	88140	0.63%	0.052%
151	11.108	11.091	11.115	VV	15020	148556	1.07%	0.088%
152	11.151	11.115	11.192	VV	1126926	13890212	100.00%	8.214%
153	11.217	11.192	11.242	VV	219142	2419393	17.42%	1.431%
154	11.252	11.242	11.287	VV	14497	249024	1.79%	0.147%
155	11.295	11.287	11.307	VV	4273	49264	0.35%	0.029%
156	11.315	11.307	11.342	VV	4395	74656	0.54%	0.044%
157	11.358	11.342	11.374	VV	3733	53606	0.39%	0.032%
158	11.395	11.374	11.415	VV	15468	210532	1.52%	0.124%
159	11.436	11.415	11.475	VV	59239	783256	5.64%	0.463%
160	11.506	11.475	11.522	VV	4023	82336	0.59%	0.049%
161	11.544	11.522	11.559	VV	7897	119818	0.86%	0.071%
162	11.574	11.559	11.605	VV	6900	130566	0.94%	0.077%
163	11.676	11.605	11.705	VV	27562	647685	4.66%	0.383%
164	11.742	11.705	11.768	VV	15244	282501	2.03%	0.167%
165	11.795	11.768	11.819	VV	13381	215212	1.55%	0.127%
166	11.839	11.819	11.859	VV	8295	117124	0.84%	0.069%
167	11.872	11.859	11.886	VV	4678	53694	0.39%	0.032%
168	11.901	11.886	11.918	VV	6134	78466	0.56%	0.046%
169	11.946	11.918	11.961	VV	109038	1255696	9.04%	0.743%
170	11.978	11.961	12.020	VV	144205	1740138	12.53%	1.029%
171	12.061	12.020	12.079	VV	123811	1949329	14.03%	1.153%
172	12.095	12.079	12.109	VV	63788	749857	5.40%	0.443%
173	12.126	12.109	12.162	VV	96398	1221533	8.79%	0.722%
174	12.178	12.162	12.190	VV	6558	75920	0.55%	0.045%
175	12.215	12.190	12.249	VV	12452	240998	1.74%	0.143%
176	12.274	12.249	12.294	VV	9521	162638	1.17%	0.096%
177	12.316	12.294	12.354	VV	38043	581789	4.19%	0.344%
178	12.362	12.354	12.392	VV	4110	86892	0.63%	0.051%
179	12.417	12.392	12.466	VV	75711	1006508	7.25%	0.595%
180	12.478	12.466	12.499	VV	6619	97643	0.70%	0.058%
181	12.515	12.499	12.532	VV	6413	82300	0.59%	0.049%
182	12.566	12.532	12.587	VV	12963	203451	1.46%	0.120%
183	12.620	12.587	12.634	VV	4107	94681	0.68%	0.056%
184	12.668	12.634	12.683	VV	16792	275710	1.98%	0.163%
185	12.693	12.683	12.719	VV	13678	198439	1.43%	0.117%
186	12.740	12.719	12.752	VV	22218	278145	2.00%	0.164%
187	12.758	12.752	12.780	VV	16247	161044	1.16%	0.095%
188	12.813	12.780	12.832	VV	28614	455436	3.28%	0.269%
189	12.852	12.832	12.871	VV	50465	674791	4.86%	0.399%
190	12.892	12.871	12.905	VV	27643	455454	3.28%	0.269%
191	12.918	12.905	12.939	VV	27954	428045	3.08%	0.253%
192	12.980	12.939	13.015	VV	974457	12496426	89.97%	7.390%
193	13.036	13.015	13.053	VV	13441	182276	1.31%	0.108%
194	13.065	13.053	13.082	VV	4653	64528	0.46%	0.038%

					rteres			
195	13.106	13.082	13.118	VV	24356	302877	2.18%	0.179%
196	13.131	13.118	13.137	VV	22879	221423	1.59%	0.131%
197	13.154	13.137	13.172	VV	43136	594494	4.28%	0.352%
198	13.188	13.172	13.238	VV	28631	569141	4.10%	0.337%
199	13.279	13.238	13.302	VV	828750	10104641	72.75%	5.975%
200	13.324	13.302	13.339	VV	89408	1071675	7.72%	0.634%
201	13.356	13.339	13.391	VV	100233	1378017	9.92%	0.815%
202	13.406	13.391	13.417	VV	5686	80253	0.58%	0.047%
203	13.441	13.417	13.455	VV	38932	467323	3.36%	0.276%
204	13.472	13.455	13.500	VV	44768	612984	4.41%	0.362%
205	13.537	13.500	13.566	VV	51383	717477	5.17%	0.424%
206	13.615	13.566	13.639	VV	18167	416406	3.00%	0.246%
207	13.666	13.639	13.706	VV	29496	551690	3.97%	0.326%
208	13.729	13.706	13.761	VV	54558	829135	5.97%	0.490%
209	13.764	13.761	13.794	VV	5433	53699	0.39%	0.032%
210	13.860	13.794	13.902	VV	127211	2284873	16.45%	1.351%
211	13.925	13.902	13.942	VV	15826	224202	1.61%	0.133%
212	13.968	13.942	13.988	VV	78963	1054290	7.59%	0.623%
213	14.006	13.988	14.029	VV	61199	813883	5.86%	0.481%
214	14.044	14.029	14.067	VV	21712	328048	2.36%	0.194%
215	14.136	14.067	14.158	VV	56383	1440048	10.37%	0.852%
216	14.178	14.158	14.220	VV	54970	853671	6.15%	0.505%
217	14.258	14.220	14.275	VV	15701	328501	2.36%	0.194%
218	14.296	14.275	14.318	VV	12872	243719	1.75%	0.144%
219	14.337	14.318	14.351	VV	8174	136042	0.98%	0.080%
220	14.368	14.351	14.372	VV	8938	93185	0.67%	0.055%
221	14.384	14.372	14.406	VV	9207	155000	1.12%	0.092%
222	14.421	14.406	14.432	VV	6848	83491	0.60%	0.049%
223	14.443	14.432	14.482	VV	6289	97319	0.70%	0.058%
224	14.502	14.482	14.512	PV	2772	29532	0.21%	0.017%
225	14.567	14.512	14.582	VV	21776	617832	4.45%	0.365%
226	14.602	14.582	14.630	VV	41429	618872	4.46%	0.366%
227	14.675	14.630	14.687	VV	14880	352598	2.54%	0.209%
228	14.700	14.687	14.731	VV	17923	306898	2.21%	0.181%
229	14.737	14.731	14.750	VV	6204	59424	0.43%	0.035%
230	14.775	14.750	14.797	VV	48744	756599	5.45%	0.447%
231	14.804	14.797	14.814	VV	18622	179437	1.29%	0.106%
232	14.839	14.814	14.863	VV	100186	1489712	10.72%	0.881%
233	14.884	14.863	14.894	VV	35655	491171	3.54%	0.290%
234	14.908	14.894	14.939	VV	46867	710092	5.11%	0.420%
235	14.961	14.939	14.980	VV	15896	278265	2.00%	0.165%
236	15.023	14.980	15.079	VV	26866	808336	5.82%	0.478%
237	15.110	15.079	15.127	VV	28154	392343	2.82%	0.232%
238	15.159	15.127	15.178	VV	360670	4669364	33.62%	2.761%
239	15.200	15.178	15.230	VV	346978	4307718	31.01%	2.547%
240	15.246	15.230	15.277	VV	10787	217637	1.57%	0.129%
241	15.316	15.277	15.366	VV	81182	1390973	10.01%	0.823%
242	15.402	15.366	15.436	VV	29902	599714	4.32%	0.355%
243	15.462	15.436	15.481	VV	38856	545073	3.92%	0.322%
244	15.499	15.481	15.525	VV	24429	495182	3.56%	0.293%
245	15.533	15.525	15.571	VV	15241	262751	1.89%	0.155%
246	15.603	15.571	15.629	VV	20776	461932	3.33%	0.273%

rteres								
247	15.642	15.629	15.677	VV	10632	198635	1.43%	0.117%
248	15.697	15.677	15.703	VV	6855	75853	0.55%	0.045%
249	15.709	15.703	15.715	VV	6141	43274	0.31%	0.026%
250	15.742	15.715	15.757	VV	12588	223133	1.61%	0.132%
251	15.786	15.757	15.800	VV	16787	302901	2.18%	0.179%
252	15.829	15.800	15.849	VV	68831	990957	7.13%	0.586%
253	15.867	15.849	15.898	VV	31851	550044	3.96%	0.325%
254	15.913	15.898	15.929	VV	19457	270842	1.95%	0.160%
255	15.933	15.929	15.946	VV	12442	112558	0.81%	0.067%
256	15.989	15.946	16.034	VV	42703	1225167	8.82%	0.724%
257	16.062	16.034	16.092	VV	20815	426372	3.07%	0.252%
258	16.107	16.092	16.130	VV	6949	103368	0.74%	0.061%
259	16.151	16.130	16.181	VV	16339	220027	1.58%	0.130%
260	16.206	16.181	16.225	VV	18757	296784	2.14%	0.175%
261	16.237	16.225	16.307	VV	12338	342791	2.47%	0.203%
262	16.331	16.307	16.346	VV	4488	70702	0.51%	0.042%
263	16.361	16.346	16.378	VV	3559	51413	0.37%	0.030%
264	16.392	16.378	16.398	VV	3165	27194	0.20%	0.016%
265	16.401	16.398	16.407	VV	2022	9919	0.07%	0.006%
266	16.428	16.407	16.445	VV	9594	143934	1.04%	0.085%
267	16.463	16.445	16.484	VV	11243	170268	1.23%	0.101%
268	16.507	16.484	16.526	VV	19971	283338	2.04%	0.168%
269	16.532	16.526	16.552	VV	8453	107554	0.77%	0.064%
270	16.573	16.552	16.577	VV	7066	87136	0.63%	0.052%
271	16.630	16.577	16.652	VV	23542	532610	3.83%	0.315%
272	16.667	16.652	16.684	VV	10523	170537	1.23%	0.101%
273	16.724	16.684	16.741	VV	298109	4535862	32.66%	2.682%
274	16.750	16.741	16.823	VV	144794	1725500	12.42%	1.020%
275	16.851	16.823	16.872	VV	64435	859613	6.19%	0.508%
276	16.885	16.872	16.903	VV	14828	212135	1.53%	0.125%
277	16.914	16.903	16.932	VV	10277	145504	1.05%	0.086%
278	16.944	16.932	16.952	VV	7228	74842	0.54%	0.044%
279	16.972	16.952	16.986	VV	16381	238486	1.72%	0.141%
280	17.045	16.986	17.072	VV	199378	3165658	22.79%	1.872%
281	17.106	17.072	17.149	VV	269447	3742075	26.94%	2.213%
282	17.202	17.149	17.229	VV	67413	1106590	7.97%	0.654%
283	17.254	17.229	17.292	VV	18086	370806	2.67%	0.219%
284	17.342	17.292	17.384	VV	20654	667646	4.81%	0.395%
285	17.402	17.384	17.425	VV	10771	168383	1.21%	0.100%
286	17.464	17.425	17.539	VV	28578	996149	7.17%	0.589%
287	17.604	17.539	17.616	VV	18653	475738	3.42%	0.281%
288	17.626	17.616	17.662	VV	17905	309223	2.23%	0.183%
289	17.687	17.662	17.706	VV	16340	271670	1.96%	0.161%
290	17.716	17.706	17.734	VV	11685	142564	1.03%	0.084%
291	17.760	17.734	17.789	VV	22735	446228	3.21%	0.264%
292	17.796	17.789	17.841	VV	10116	172343	1.24%	0.102%
293	17.865	17.841	17.897	VV	8343	186408	1.34%	0.110%
294	17.908	17.897	17.927	VV	3383	41256	0.30%	0.024%
295	17.947	17.927	17.963	VV	3023	40162	0.29%	0.024%
296	17.967	17.963	17.994	VV	1539	12112	0.09%	0.007%
297	18.017	17.994	18.024	PV	3460	37530	0.27%	0.022%
Sum of corrected areas:						169110034		

rteres

FG032725.M Fri Apr 04 07:11:47 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/02/25	
Project:	MTA Rockaway Park		Date Received:	04/02/25	
Client Sample ID:	B-10		SDG No.:	Q1698	
Lab Sample ID:	Q1698-07		Matrix:	SOIL	
Analytical Method:	8015D TPH		% Solid:	93.4	Decanted:
Sample Wt/Vol:	30.08	Units: g	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015624.D	1	04/03/25 08:00	04/03/25 18:02	PB167438

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	33.9		0.41	3.03	mg/Kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	13.8		37 - 130	69%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015624.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 18:02
Operator : YP\AJ
Sample : Q1698-07
Misc :
ALS Vial : 28 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-10

Integration File: autoint1.e
Quant Time: Apr 04 01:09:19 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.015	1584633	13.832 ug/ml

Target Compounds

(f)=RT Delta > 1/2 Window

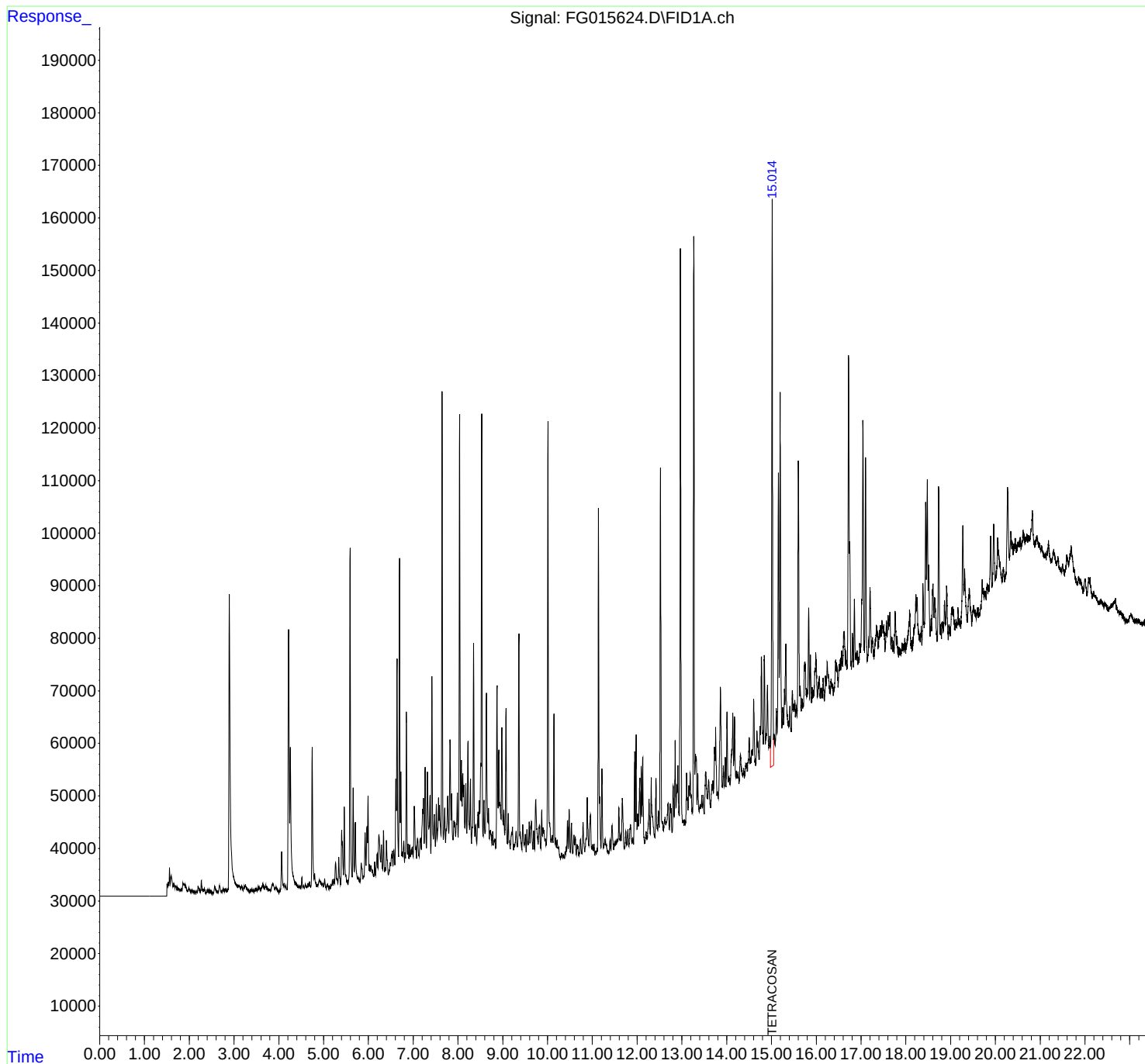
(m)=manual int.

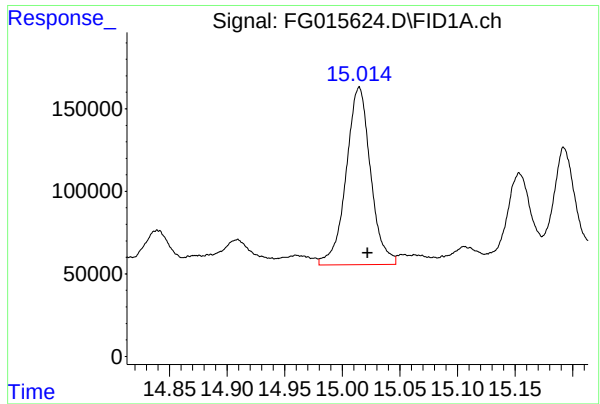
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015624.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 18:02
Operator : YP\AJ
Sample : Q1698-07
Misc :
ALS Vial : 28 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-10

Integration File: autoint1.e
Quant Time: Apr 04 01:09:19 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.015 min
Delta R.T.: -0.008 min
Response: 1584633
Conc: 13.83 ug/ml

Instrument :
FID_G
ClientSampleId :
B-10

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015624.D
 Signal(s) : FID1A.ch
 Acq On : 03 Apr 2025 18:02
 Sample : Q1698-07
 Misc :
 ALS Vial : 28 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.825	1.800	1.840	BV	332	2583	0.15%	0.002%
2	1.860	1.840	1.872	PV	1500	18485	1.11%	0.017%
3	1.889	1.872	1.905	VV	1341	23959	1.44%	0.021%
4	1.907	1.905	1.966	VV	1206	21793	1.31%	0.019%
5	1.989	1.966	2.042	PV	840	14813	0.89%	0.013%
6	2.048	2.042	2.054	VV	287	1820	0.11%	0.002%
7	2.062	2.054	2.080	VV	316	3740	0.22%	0.003%
8	2.083	2.080	2.119	VV	222	2602	0.16%	0.002%
9	2.122	2.119	2.131	VV	114	420	0.03%	0.000%
10	2.154	2.131	2.159	PV	136	931	0.06%	0.001%
11	2.168	2.159	2.173	VV	170	1037	0.06%	0.001%
12	2.181	2.173	2.186	VV	164	1120	0.07%	0.001%
13	2.196	2.186	2.250	VV	1197	25726	1.54%	0.023%
14	2.270	2.250	2.317	VV	2324	37861	2.27%	0.034%
15	2.332	2.317	2.382	VV	762	14975	0.90%	0.013%
16	2.398	2.382	2.417	VV	644	7279	0.44%	0.007%
17	2.429	2.417	2.440	VV	394	4575	0.27%	0.004%
18	2.453	2.440	2.505	VV	593	12172	0.73%	0.011%
19	2.511	2.505	2.537	VV	165	1474	0.09%	0.001%
20	2.569	2.537	2.619	PV	1248	31280	1.87%	0.028%
21	2.621	2.619	2.646	VV	417	4656	0.28%	0.004%
22	2.671	2.646	2.717	VV	1432	32501	1.95%	0.029%
23	2.722	2.717	2.737	VV	359	3429	0.21%	0.003%
24	2.754	2.737	2.774	VV	783	11798	0.71%	0.011%
25	2.793	2.774	2.799	VV	587	6954	0.42%	0.006%
26	2.827	2.799	2.843	VV	649	13487	0.81%	0.012%
27	2.894	2.843	3.046	VV	56468	1240228	74.34%	1.109%
28	3.048	3.046	3.076	VV	1651	25106	1.50%	0.022%
29	3.096	3.076	3.109	VV	1225	23411	1.40%	0.021%
30	3.120	3.109	3.149	VV	1221	25716	1.54%	0.023%
31	3.168	3.149	3.203	VV	1096	28814	1.73%	0.026%
32	3.228	3.203	3.237	VV	1183	19011	1.14%	0.017%
33	3.253	3.237	3.305	VV	1424	38281	2.29%	0.034%
34	3.311	3.305	3.350	VV	576	10619	0.64%	0.009%
35	3.368	3.350	3.373	VV	422	4214	0.25%	0.004%
36	3.400	3.373	3.419	VV	542	11495	0.69%	0.010%

					rteres			
37	3.428	3.419	3.451	VV	489	6679	0.40%	0.006%
38	3.471	3.451	3.497	VV	624	13391	0.80%	0.012%
39	3.503	3.497	3.523	VV	640	8023	0.48%	0.007%
40	3.544	3.523	3.562	VV	974	16771	1.01%	0.015%
41	3.569	3.562	3.592	VV	869	12192	0.73%	0.011%
42	3.642	3.592	3.687	VV	1492	54198	3.25%	0.048%
43	3.706	3.687	3.775	VV	1353	40842	2.45%	0.037%
44	3.788	3.775	3.821	VV	526	10936	0.66%	0.010%
45	3.848	3.821	3.860	VV	1433	21957	1.32%	0.020%
46	3.871	3.860	3.907	VV	1577	31384	1.88%	0.028%
47	3.924	3.907	3.933	VV	828	11250	0.67%	0.010%
48	3.943	3.933	3.966	VV	897	12467	0.75%	0.011%
49	3.971	3.966	4.002	VV	387	3600	0.22%	0.003%
50	4.026	4.002	4.034	PV	383	3495	0.21%	0.003%
51	4.063	4.034	4.103	VV	7630	125303	7.51%	0.112%
52	4.116	4.103	4.143	VV	1469	25774	1.54%	0.023%
53	4.156	4.143	4.186	VV	1072	18590	1.11%	0.017%
54	4.218	4.186	4.243	VV	49661	805621	48.29%	0.720%
55	4.257	4.243	4.372	VV	27372	572224	34.30%	0.512%
56	4.373	4.372	4.438	VV	1427	41542	2.49%	0.037%
57	4.445	4.438	4.488	VV	778	20083	1.20%	0.018%
58	4.515	4.488	4.537	VV	2503	37393	2.24%	0.033%
59	4.551	4.537	4.571	VV	897	13046	0.78%	0.012%
60	4.592	4.571	4.613	VV	1130	19680	1.18%	0.018%
61	4.622	4.613	4.631	VV	576	6000	0.36%	0.005%
62	4.651	4.631	4.669	VV	1203	19702	1.18%	0.018%
63	4.686	4.669	4.711	VV	1561	25200	1.51%	0.023%
64	4.745	4.711	4.787	VV	26977	383357	22.98%	0.343%
65	4.800	4.787	4.846	VV	3025	57887	3.47%	0.052%
66	4.857	4.846	4.872	VV	871	12282	0.74%	0.011%
67	4.908	4.872	4.949	VV	1803	62260	3.73%	0.056%
68	4.953	4.949	4.968	VV	1064	10397	0.62%	0.009%
69	4.979	4.968	5.000	VV	1143	15288	0.92%	0.014%
70	5.024	5.000	5.064	VV	1974	32511	1.95%	0.029%
71	5.083	5.064	5.117	VV	799	15941	0.96%	0.014%
72	5.132	5.117	5.150	VV	479	4867	0.29%	0.004%
73	5.168	5.150	5.180	PV	792	8695	0.52%	0.008%
74	5.197	5.180	5.212	VV	1618	20548	1.23%	0.018%
75	5.229	5.212	5.245	VV	1751	24699	1.48%	0.022%
76	5.268	5.245	5.296	VV	4818	92061	5.52%	0.082%
77	5.302	5.296	5.319	VV	1750	18801	1.13%	0.017%
78	5.339	5.319	5.379	VV	5758	90997	5.45%	0.081%
79	5.404	5.379	5.414	VV	10837	117488	7.04%	0.105%
80	5.420	5.414	5.444	VV	8746	106066	6.36%	0.095%
81	5.463	5.444	5.492	VV	15185	195679	11.73%	0.175%
82	5.498	5.492	5.521	VV	2205	27436	1.64%	0.025%
83	5.534	5.521	5.549	VV	1239	15122	0.91%	0.014%
84	5.591	5.549	5.640	VV	64371	799800	47.94%	0.715%
85	5.660	5.640	5.685	VV	18637	237790	14.25%	0.213%
86	5.708	5.685	5.764	VV	12085	206745	12.39%	0.185%
87	5.774	5.764	5.800	VV	1403	23900	1.43%	0.021%
88	5.812	5.800	5.821	VV	1037	10363	0.62%	0.009%
89	5.841	5.821	5.878	VV	4083	90462	5.42%	0.081%

					rteres			
90	5.891	5.878	5.904	VV	1601	21488	1.29%	0.019%
91	5.928	5.904	5.947	VV	9768	146202	8.76%	0.131%
92	5.969	5.947	5.979	VV	10913	150739	9.04%	0.135%
93	5.993	5.979	6.015	VV	16724	202962	12.17%	0.182%
94	6.027	6.015	6.040	VV	3678	45547	2.73%	0.041%
95	6.054	6.040	6.082	VV	3379	71737	4.30%	0.064%
96	6.091	6.082	6.110	VV	2520	35272	2.11%	0.032%
97	6.115	6.110	6.124	VV	1507	11305	0.68%	0.010%
98	6.142	6.124	6.159	VV	4065	53838	3.23%	0.048%
99	6.195	6.159	6.213	VV	5549	115363	6.91%	0.103%
100	6.234	6.213	6.274	VV	9159	234832	14.08%	0.210%
101	6.293	6.274	6.320	VV	7186	124850	7.48%	0.112%
102	6.339	6.320	6.365	VV	9708	135557	8.13%	0.121%
103	6.378	6.365	6.387	VV	2707	30965	1.86%	0.028%
104	6.404	6.387	6.447	VV	7830	147959	8.87%	0.132%
105	6.465	6.447	6.472	VV	2048	25842	1.55%	0.023%
106	6.489	6.472	6.500	VV	3540	49956	2.99%	0.045%
107	6.517	6.500	6.524	VV	4888	60169	3.61%	0.054%
108	6.535	6.524	6.550	VV	5717	70627	4.23%	0.063%
109	6.569	6.550	6.594	VV	5821	114868	6.89%	0.103%
110	6.614	6.594	6.625	VV	19295	226582	13.58%	0.203%
111	6.640	6.625	6.674	VV	42056	569017	34.11%	0.509%
112	6.695	6.674	6.714	VV	61228	702830	42.13%	0.629%
113	6.726	6.714	6.749	VV	20506	255355	15.31%	0.228%
114	6.757	6.749	6.769	VV	5285	58824	3.53%	0.053%
115	6.791	6.769	6.808	VV	7284	129497	7.76%	0.116%
116	6.821	6.808	6.830	VV	5093	56420	3.38%	0.050%
117	6.850	6.830	6.874	VV	31555	400100	23.98%	0.358%
118	6.884	6.874	6.906	VV	6613	103478	6.20%	0.093%
119	6.923	6.906	6.937	VV	6431	92985	5.57%	0.083%
120	6.958	6.937	6.968	VV	5446	90834	5.44%	0.081%
121	6.982	6.968	7.001	VV	5875	98074	5.88%	0.088%
122	7.026	7.001	7.054	VV	13663	278455	16.69%	0.249%
123	7.060	7.054	7.075	VV	5739	63745	3.82%	0.057%
124	7.098	7.075	7.135	VV	7356	203873	12.22%	0.182%
125	7.164	7.135	7.181	VV	7410	172122	10.32%	0.154%
126	7.213	7.181	7.220	VV	13016	222872	13.36%	0.199%
127	7.230	7.220	7.248	VV	14952	196043	11.75%	0.175%
128	7.268	7.248	7.298	VV	20871	373683	22.40%	0.334%
129	7.318	7.298	7.347	VV	19736	372752	22.34%	0.333%
130	7.376	7.347	7.395	VV	15419	295957	17.74%	0.265%
131	7.419	7.395	7.453	VV	37902	557585	33.42%	0.499%
132	7.471	7.453	7.498	VV	11674	230418	13.81%	0.206%
133	7.518	7.498	7.536	VV	13472	216562	12.98%	0.194%
134	7.568	7.536	7.579	VV	14645	262444	15.73%	0.235%
135	7.590	7.579	7.621	VV	13271	260678	15.63%	0.233%
136	7.647	7.621	7.674	VV	91787	1118932	67.07%	1.001%
137	7.705	7.674	7.724	VV	12557	270167	16.19%	0.242%
138	7.738	7.724	7.745	VV	8524	96418	5.78%	0.086%
139	7.772	7.745	7.796	VV	14825	333246	19.97%	0.298%
140	7.825	7.796	7.846	VV	25444	484405	29.04%	0.433%
141	7.859	7.846	7.893	VV	15109	279208	16.74%	0.250%

rteres								
142	7.911	7.893	7.922	VV	9920	150340	9.01%	0.134%
143	7.931	7.922	7.949	VV	9606	135619	8.13%	0.121%
144	7.987	7.949	8.004	VV	15084	333173	19.97%	0.298%
145	8.037	8.004	8.063	VV	86920	1162675	69.69%	1.040%
146	8.078	8.063	8.093	VV	21291	307609	18.44%	0.275%
147	8.108	8.093	8.122	VV	18660	281065	16.85%	0.251%
148	8.133	8.122	8.154	VV	16542	241386	14.47%	0.216%
149	8.178	8.154	8.199	VV	16631	301801	18.09%	0.270%
150	8.223	8.199	8.262	VV	24706	503835	30.20%	0.451%
151	8.281	8.262	8.303	VV	17491	267231	16.02%	0.239%
152	8.351	8.303	8.378	VV	43171	700962	42.02%	0.627%
153	8.397	8.378	8.422	VV	8633	183921	11.02%	0.164%
154	8.449	8.422	8.463	VV	11036	211185	12.66%	0.189%
155	8.478	8.463	8.490	VV	12973	186012	11.15%	0.166%
156	8.531	8.490	8.562	VV	86197	1295607	77.66%	1.159%
157	8.581	8.562	8.606	VV	13125	236150	14.15%	0.211%
158	8.636	8.606	8.668	VV	33459	602417	36.11%	0.539%
159	8.683	8.668	8.702	VV	11536	182888	10.96%	0.164%
160	8.727	8.702	8.759	VV	7260	219824	13.18%	0.197%
161	8.778	8.759	8.799	VV	6947	131924	7.91%	0.118%
162	8.827	8.799	8.847	VV	5341	140273	8.41%	0.125%
163	8.872	8.847	8.897	VV	34487	514968	30.87%	0.461%
164	8.912	8.897	8.929	VV	22358	315954	18.94%	0.283%
165	8.935	8.929	8.962	VV	12356	213962	12.82%	0.191%
166	8.981	8.962	9.011	VV	26629	464766	27.86%	0.416%
167	9.026	9.011	9.044	VV	10810	173495	10.40%	0.155%
168	9.074	9.044	9.102	VV	30097	467150	28.00%	0.418%
169	9.126	9.102	9.143	VV	10025	160546	9.62%	0.144%
170	9.150	9.143	9.168	VV	4805	63851	3.83%	0.057%
171	9.197	9.168	9.207	VV	6256	120801	7.24%	0.108%
172	9.218	9.207	9.240	VV	7209	107194	6.43%	0.096%
173	9.257	9.240	9.265	VV	4072	55035	3.30%	0.049%
174	9.299	9.265	9.322	VV	6375	162324	9.73%	0.145%
175	9.362	9.322	9.384	VV	43912	591164	35.43%	0.529%
176	9.392	9.384	9.427	VV	6259	116952	7.01%	0.105%
177	9.449	9.427	9.481	VV	7517	163617	9.81%	0.146%
178	9.504	9.481	9.524	VV	5642	112498	6.74%	0.101%
179	9.542	9.524	9.568	VV	6478	117958	7.07%	0.105%
180	9.592	9.568	9.611	VV	7920	138926	8.33%	0.124%
181	9.641	9.611	9.673	VV	7879	207390	12.43%	0.185%
182	9.692	9.673	9.711	VV	6097	97190	5.83%	0.087%
183	9.738	9.711	9.792	VV	11952	335585	20.11%	0.300%
184	9.812	9.792	9.817	VV	6629	79635	4.77%	0.071%
185	9.823	9.817	9.852	VV	6879	99053	5.94%	0.089%
186	9.871	9.852	9.888	VV	9873	136208	8.16%	0.122%
187	9.901	9.888	9.913	VV	6398	89758	5.38%	0.080%
188	9.922	9.913	9.942	VV	6008	86861	5.21%	0.078%
189	9.951	9.942	9.970	VV	4358	65645	3.93%	0.059%
190	10.010	9.970	10.042	VV	83475	1046894	62.75%	0.936%
191	10.045	10.042	10.077	VV	7303	119326	7.15%	0.107%
192	10.105	10.077	10.124	VV	4725	114131	6.84%	0.102%
193	10.145	10.124	10.170	VV	27817	355193	21.29%	0.318%
194	10.180	10.170	10.197	VV	4272	56087	3.36%	0.050%

					rteres			
195	10.215	10.197	10.235	VV	3699	66648	3.99%	0.060%
196	10.247	10.235	10.287	VV	2489	43705	2.62%	0.039%
197	10.318	10.287	10.344	VV	1162	22909	1.37%	0.020%
198	10.357	10.344	10.375	VV	871	9331	0.56%	0.008%
199	10.395	10.375	10.404	VV	1370	15380	0.92%	0.014%
200	10.419	10.404	10.429	VV	2292	24985	1.50%	0.022%
201	10.446	10.429	10.464	VV	7189	88756	5.32%	0.079%
202	10.484	10.464	10.510	VV	9252	128886	7.73%	0.115%
203	10.536	10.510	10.560	VV	6548	100654	6.03%	0.090%
204	10.590	10.560	10.605	VV	4252	67111	4.02%	0.060%
205	10.619	10.605	10.642	VV	3867	56460	3.38%	0.050%
206	10.658	10.642	10.673	VV	2485	32500	1.95%	0.029%
207	10.679	10.673	10.698	VV	2072	19873	1.19%	0.018%
208	10.736	10.698	10.768	VV	3399	61511	3.69%	0.055%
209	10.794	10.768	10.833	VV	6528	119923	7.19%	0.107%
210	10.862	10.833	10.868	VV	3434	50038	3.00%	0.045%
211	10.888	10.868	10.922	VV	11089	179992	10.79%	0.161%
212	10.960	10.922	10.985	VV	7832	177798	10.66%	0.159%
213	11.008	10.985	11.025	VV	2056	36762	2.20%	0.033%
214	11.040	11.025	11.056	VV	2043	22635	1.36%	0.020%
215	11.071	11.056	11.090	VV	691	9233	0.55%	0.008%
216	11.107	11.090	11.115	VV	1283	10286	0.62%	0.009%
217	11.139	11.115	11.159	VV	65803	729954	43.75%	0.653%
218	11.166	11.159	11.193	VV	11051	131276	7.87%	0.117%
219	11.216	11.193	11.249	VV	16230	226899	13.60%	0.203%
220	11.281	11.249	11.334	VV	2816	88373	5.30%	0.079%
221	11.339	11.334	11.359	VV	559	5720	0.34%	0.005%
222	11.362	11.359	11.375	VV	270	1366	0.08%	0.001%
223	11.396	11.375	11.417	PV	2492	32470	1.95%	0.029%
224	11.440	11.417	11.477	VV	5090	92817	5.56%	0.083%
225	11.507	11.477	11.527	VV	1911	39390	2.36%	0.035%
226	11.547	11.527	11.561	VV	2054	36482	2.19%	0.033%
227	11.593	11.561	11.622	VV	8103	135030	8.09%	0.121%
228	11.635	11.622	11.647	VV	2897	34224	2.05%	0.031%
229	11.671	11.647	11.719	VV	9709	187716	11.25%	0.168%
230	11.747	11.719	11.770	VV	3185	49899	2.99%	0.045%
231	11.795	11.770	11.816	VV	3381	52089	3.12%	0.047%
232	11.838	11.816	11.843	VV	3548	35287	2.12%	0.032%
233	11.854	11.843	11.886	VV	4185	64077	3.84%	0.057%
234	11.903	11.886	11.920	VV	1672	21947	1.32%	0.020%
235	11.946	11.920	11.961	VV	17882	207315	12.43%	0.185%
236	11.977	11.961	11.999	VV	21137	252880	15.16%	0.226%
237	12.014	11.999	12.030	VV	5927	86179	5.17%	0.077%
238	12.060	12.030	12.076	VV	12588	216989	13.01%	0.194%
239	12.094	12.076	12.110	VV	14847	188401	11.29%	0.168%
240	12.126	12.110	12.171	VV	16328	219556	13.16%	0.196%
241	12.202	12.171	12.224	PV	2027	34780	2.08%	0.031%
242	12.267	12.224	12.293	VV	8030	149732	8.97%	0.134%
243	12.314	12.293	12.396	VV	11859	259844	15.58%	0.232%
244	12.421	12.396	12.460	VV	11532	166717	9.99%	0.149%
245	12.477	12.460	12.496	VV	4932	76800	4.60%	0.069%
246	12.524	12.496	12.563	VV	70000	875836	52.50%	0.783%

					rteres			
247	12.567	12.563	12.585	VV	2843	23606	1.41%	0.021%
248	12.622	12.585	12.645	VV	3383	82246	4.93%	0.074%
249	12.692	12.645	12.720	VV	5885	148215	8.88%	0.133%
250	12.740	12.720	12.749	VV	5534	62732	3.76%	0.056%
251	12.759	12.749	12.784	VV	4563	51063	3.06%	0.046%
252	12.806	12.784	12.827	PV	8696	118871	7.13%	0.106%
253	12.850	12.827	12.868	VV	17155	230106	13.79%	0.206%
254	12.884	12.868	12.895	VV	8535	114909	6.89%	0.103%
255	12.910	12.895	12.941	VV	12037	189597	11.36%	0.170%
256	12.966	12.941	13.015	VV	110307	1388350	83.22%	1.242%
257	13.029	13.015	13.035	VV	1042	10915	0.65%	0.010%
258	13.037	13.035	13.049	VV	932	3804	0.23%	0.003%
259	13.063	13.049	13.075	VV	1028	10100	0.61%	0.009%
260	13.105	13.075	13.138	VV	9630	165000	9.89%	0.148%
261	13.154	13.138	13.169	VV	7132	100108	6.00%	0.090%
262	13.183	13.169	13.199	VV	9325	131698	7.89%	0.118%
263	13.205	13.199	13.237	VV	5088	73260	4.39%	0.066%
264	13.265	13.237	13.289	VV	110474	1317724	78.98%	1.178%
265	13.304	13.289	13.312	VV	12288	156431	9.38%	0.140%
266	13.318	13.312	13.340	VV	11828	138906	8.33%	0.124%
267	13.355	13.340	13.387	VV	8402	116747	7.00%	0.104%
268	13.405	13.387	13.425	VV	2243	42835	2.57%	0.038%
269	13.442	13.425	13.460	VV	3980	52354	3.14%	0.047%
270	13.472	13.460	13.497	VV	3565	47184	2.83%	0.042%
271	13.535	13.497	13.572	VV	7728	204471	12.26%	0.183%
272	13.596	13.572	13.640	VV	6135	135910	8.15%	0.122%
273	13.665	13.640	13.680	VV	4923	77569	4.65%	0.069%
274	13.691	13.680	13.705	VV	5524	65684	3.94%	0.059%
275	13.726	13.705	13.740	VV	11669	171066	10.25%	0.153%
276	13.754	13.740	13.784	VV	15399	241128	14.45%	0.216%
277	13.789	13.784	13.813	VV	2857	40963	2.46%	0.037%
278	13.859	13.813	13.905	VV	22396	553154	33.16%	0.495%
279	13.928	13.905	13.947	VV	7100	125530	7.52%	0.112%
280	13.967	13.947	13.984	VV	8553	131202	7.86%	0.117%
281	14.006	13.984	14.030	VV	17134	254777	15.27%	0.228%
282	14.037	14.030	14.045	VV	4239	36338	2.18%	0.032%
283	14.050	14.045	14.057	VV	4505	29622	1.78%	0.026%
284	14.062	14.057	14.075	VV	4304	42233	2.53%	0.038%
285	14.112	14.075	14.119	VV	9566	166490	9.98%	0.149%
286	14.135	14.119	14.153	VV	16336	232491	13.94%	0.208%
287	14.176	14.153	14.202	VV	15217	257835	15.45%	0.231%
288	14.213	14.202	14.226	VV	4828	63116	3.78%	0.056%
289	14.249	14.226	14.275	VV	4545	109442	6.56%	0.098%
290	14.309	14.275	14.342	VV	7536	211982	12.71%	0.190%
291	14.346	14.342	14.362	VV	4284	45169	2.71%	0.040%
292	14.380	14.362	14.397	VV	4592	76915	4.61%	0.069%
293	14.427	14.397	14.437	VV	4984	102095	6.12%	0.091%
294	14.447	14.437	14.459	VV	5211	59744	3.58%	0.053%
295	14.503	14.459	14.520	VV	9841	231589	13.88%	0.207%
296	14.537	14.520	14.542	VV	5603	70840	4.25%	0.063%
297	14.567	14.542	14.578	VV	7156	140789	8.44%	0.126%
298	14.602	14.578	14.654	VV	16816	390589	23.41%	0.349%
299	14.674	14.654	14.689	VV	10278	167780	10.06%	0.150%

					rteres			
300	14.698	14.689	14.727	VV	8002	146221	8.76%	0.131%
301	14.745	14.727	14.756	VV	10855	149365	8.95%	0.134%
302	14.775	14.756	14.819	VV	23846	512489	30.72%	0.458%
303	14.840	14.819	14.862	VV	23588	392409	23.52%	0.351%
304	14.874	14.862	14.879	VV	8225	78584	4.71%	0.070%
305	14.909	14.879	14.942	VV	17755	409712	24.56%	0.366%
306	14.960	14.942	14.980	VV	7978	153914	9.23%	0.138%
307	15.015	14.980	15.046	VV	109860	1668335	100.00%	1.492%
308	15.053	15.046	15.083	VV	7892	154460	9.26%	0.138%
309	15.106	15.083	15.124	VV	12614	229656	13.77%	0.205%
310	15.154	15.124	15.174	VV	56976	887825	53.22%	0.794%
311	15.192	15.174	15.235	VV	72352	1137716	68.19%	1.017%
312	15.253	15.235	15.272	VV	12084	228768	13.71%	0.205%
313	15.289	15.272	15.299	VV	15358	210804	12.64%	0.189%
314	15.319	15.299	15.380	VV	23828	658898	39.49%	0.589%
315	15.386	15.380	15.392	VV	8933	60763	3.64%	0.054%
316	15.409	15.392	15.432	VV	11543	220834	13.24%	0.197%
317	15.464	15.432	15.481	VV	14007	304310	18.24%	0.272%
318	15.519	15.481	15.537	VV	12216	359405	21.54%	0.321%
319	15.550	15.537	15.570	VV	10916	197052	11.81%	0.176%
320	15.598	15.570	15.635	VV	56893	1081236	64.81%	0.967%
321	15.639	15.635	15.666	VV	14365	216808	13.00%	0.194%
322	15.680	15.666	15.717	VV	11703	327479	19.63%	0.293%
323	15.747	15.717	15.776	VV	18389	540651	32.41%	0.484%
324	15.782	15.776	15.799	VV	13159	168888	10.12%	0.151%
325	15.830	15.799	15.850	VV	28361	568857	34.10%	0.509%
326	15.868	15.850	15.904	VV	19064	435968	26.13%	0.390%
327	15.912	15.904	15.928	VV	12546	165121	9.90%	0.148%
328	15.936	15.928	15.947	VV	12108	133621	8.01%	0.120%
329	15.989	15.947	16.027	VV	19027	703972	42.20%	0.630%
330	16.066	16.027	16.089	VV	14172	456145	27.34%	0.408%
331	16.112	16.089	16.131	VV	11619	274399	16.45%	0.245%
332	16.153	16.131	16.183	VV	13549	348642	20.90%	0.312%
333	16.216	16.183	16.222	VV	13433	268293	16.08%	0.240%
334	16.244	16.222	16.268	VV	15960	386997	23.20%	0.346%
335	16.271	16.268	16.296	VV	13606	206950	12.40%	0.185%
336	16.301	16.296	16.315	VV	11288	118055	7.08%	0.106%
337	16.332	16.315	16.347	VV	12272	220264	13.20%	0.197%
338	16.350	16.347	16.355	VV	11460	56094	3.36%	0.050%
339	16.362	16.355	16.394	VV	11286	241679	14.49%	0.216%
340	16.432	16.394	16.447	VV	15524	402413	24.12%	0.360%
341	16.451	16.447	16.487	VV	14832	316384	18.96%	0.283%
342	16.514	16.487	16.520	VV	14145	252033	15.11%	0.225%
343	16.544	16.520	16.550	VV	15260	255075	15.29%	0.228%
344	16.569	16.550	16.594	VV	16680	388693	23.30%	0.348%
345	16.613	16.594	16.618	VV	19917	249739	14.97%	0.223%
346	16.623	16.618	16.650	VV	19907	333182	19.97%	0.298%
347	16.660	16.650	16.682	VV	15831	278526	16.69%	0.249%
348	16.721	16.682	16.740	VV	71377	1322459	79.27%	1.183%
349	16.746	16.740	16.787	VV	36466	617319	37.00%	0.552%
350	16.807	16.787	16.832	VV	18763	413807	24.80%	0.370%
351	16.851	16.832	16.875	VV	24893	476959	28.59%	0.427%

					rteres			
352	16.890	16.875	16.910	VV	14750	297516	17.83%	0.266%
353	16.916	16.910	16.935	VV	14936	206516	12.38%	0.185%
354	16.942	16.935	16.949	VV	13388	105656	6.33%	0.094%
355	16.975	16.949	16.985	VV	16149	319226	19.13%	0.285%
356	17.042	16.985	17.076	VV	58207	1476333	88.49%	1.320%
357	17.099	17.076	17.142	VV	50920	999142	59.89%	0.894%
358	17.201	17.142	17.233	VV	25427	944526	56.61%	0.845%
359	17.256	17.233	17.293	VV	15874	508002	30.45%	0.454%
360	17.341	17.293	17.350	VV	17844	521422	31.25%	0.466%
361	17.355	17.350	17.392	VV	17480	384381	23.04%	0.344%
362	17.409	17.392	17.420	VV	16619	256752	15.39%	0.230%
363	17.426	17.420	17.429	VV	16574	86900	5.21%	0.078%
364	17.468	17.429	17.475	VV	18205	465121	27.88%	0.416%
365	17.478	17.475	17.545	VV	17412	647446	38.81%	0.579%
366	17.564	17.545	17.584	VV	17556	371338	22.26%	0.332%
367	17.605	17.584	17.625	VV	18356	411073	24.64%	0.368%
368	17.644	17.625	17.668	VV	18768	420907	25.23%	0.376%
369	17.690	17.668	17.712	VV	14088	335333	20.10%	0.300%
370	17.718	17.712	17.738	VV	13080	191932	11.50%	0.172%
371	17.760	17.738	17.787	VV	18521	438033	26.26%	0.392%
372	17.800	17.787	17.829	VV	13691	308439	18.49%	0.276%
373	17.834	17.829	17.837	VV	10581	52982	3.18%	0.047%
374	17.841	17.837	17.844	VV	10954	41033	2.46%	0.037%
375	17.848	17.844	17.855	VV	11283	70933	4.25%	0.063%
376	17.862	17.855	17.894	VV	10941	241374	14.47%	0.216%
377	17.909	17.894	17.915	VV	11219	138239	8.29%	0.124%
378	17.918	17.915	17.939	VV	11621	157053	9.41%	0.140%
379	17.948	17.939	17.962	VV	11215	148062	8.87%	0.132%
380	17.976	17.962	17.984	VV	12365	146349	8.77%	0.131%
381	17.989	17.984	17.997	VV	11643	84458	5.06%	0.076%
382	18.027	17.997	18.032	VV	12010	229294	13.74%	0.205%
383	18.084	18.032	18.117	VV	17440	691840	41.47%	0.619%
384	18.123	18.117	18.129	VV	11283	76196	4.57%	0.068%
385	18.130	18.129	18.138	VV	11405	59979	3.60%	0.054%
386	18.148	18.138	18.152	VV	10679	83691	5.02%	0.075%
387	18.174	18.152	18.178	VV	13579	181063	10.85%	0.162%
388	18.225	18.178	18.235	VV	19433	527327	31.61%	0.472%
389	18.253	18.235	18.295	VV	19014	537065	32.19%	0.480%
390	18.299	18.295	18.309	VV	11733	93838	5.62%	0.084%
391	18.315	18.309	18.325	VV	11544	106291	6.37%	0.095%
392	18.343	18.325	18.359	VV	13007	231766	13.89%	0.207%
393	18.383	18.359	18.409	VV	20858	446206	26.75%	0.399%
394	18.442	18.409	18.460	VV	35824	702612	42.11%	0.628%
395	18.478	18.460	18.499	VV	40494	673382	40.36%	0.602%
396	18.510	18.499	18.542	VV	23506	455432	27.30%	0.407%
397	18.563	18.542	18.579	VV	13426	265682	15.92%	0.238%
398	18.604	18.579	18.629	VV	19422	487338	29.21%	0.436%
399	18.642	18.629	18.698	VV	16937	554626	33.24%	0.496%
400	18.733	18.698	18.770	VV	37776	792558	47.51%	0.709%
401	18.775	18.770	18.796	VV	10890	151172	9.06%	0.135%
402	18.817	18.796	18.834	VV	11561	244802	14.67%	0.219%
403	18.839	18.834	18.843	VV	10672	59197	3.55%	0.053%
404	18.865	18.843	18.889	VV	15393	340675	20.42%	0.305%

					rteres			
405	18.910	18.889	18.947	VV	17631	449243	26.93%	0.402%
406	18.969	18.947	18.995	VV	10189	262537	15.74%	0.235%
407	19.029	18.995	19.044	VV	13337	335745	20.12%	0.300%
408	19.047	19.044	19.060	VV	13011	121571	7.29%	0.109%
409	19.066	19.060	19.086	VV	12899	174013	10.43%	0.156%
410	19.090	19.086	19.100	VV	9294	75909	4.55%	0.068%
411	19.120	19.100	19.138	VV	10333	222236	13.32%	0.199%
412	19.145	19.138	19.147	VV	9863	50256	3.01%	0.045%
413	19.166	19.147	19.185	VV	12417	248210	14.88%	0.222%
414	19.199	19.185	19.206	VV	10323	120741	7.24%	0.108%
415	19.210	19.206	19.214	VV	9767	50858	3.05%	0.045%
416	19.217	19.214	19.228	VV	9762	74687	4.48%	0.067%
417	19.272	19.228	19.297	VV	27763	721426	43.24%	0.645%
418	19.314	19.297	19.363	VV	19225	564526	33.84%	0.505%
419	19.420	19.363	19.474	VV	15006	767416	46.00%	0.686%
420	19.512	19.474	19.537	VV	11285	388413	23.28%	0.347%
421	19.542	19.537	19.550	VV	10464	72555	4.35%	0.065%
422	19.555	19.550	19.575	VV	10474	147367	8.83%	0.132%
423	19.598	19.575	19.632	VV	10447	328559	19.69%	0.294%
424	19.636	19.632	19.647	VV	9550	84260	5.05%	0.075%
425	19.672	19.647	19.679	VV	10888	190913	11.44%	0.171%
426	19.704	19.679	19.720	VV	15475	321206	19.25%	0.287%
427	19.730	19.720	19.752	VV	13632	244104	14.63%	0.218%
428	19.779	19.752	19.795	VV	12866	317786	19.05%	0.284%
429	19.818	19.795	19.834	VV	13955	307021	18.40%	0.275%
430	19.846	19.834	19.859	VV	13773	197037	11.81%	0.176%
431	19.894	19.859	19.928	VV	22634	689021	41.30%	0.616%
432	19.963	19.928	19.996	VV	24385	750975	45.01%	0.672%
433	20.010	19.996	20.013	VV	14837	147985	8.87%	0.132%
434	20.050	20.013	20.095	VV	21941	880770	52.79%	0.788%
435	20.103	20.095	20.144	VV	17004	449513	26.94%	0.402%
436	20.176	20.144	20.206	VV	15516	526803	31.58%	0.471%
437	20.217	20.206	20.230	VV	14065	191201	11.46%	0.171%
438	20.272	20.230	20.316	VV	30443	1080179	64.75%	0.966%
439	20.345	20.316	20.364	VV	21752	551279	33.04%	0.493%
440	20.375	20.364	20.397	VV	19319	372101	22.30%	0.333%
441	20.412	20.397	20.422	VV	18642	270571	16.22%	0.242%
442	20.438	20.422	20.467	VV	19707	500348	29.99%	0.447%
443	20.500	20.467	20.510	VV	18617	471858	28.28%	0.422%
444	20.515	20.510	20.537	VV	18591	291761	17.49%	0.261%
445	20.543	20.537	20.585	VV	19178	529487	31.74%	0.474%
446	20.619	20.585	20.640	VV	20388	637790	38.23%	0.570%
447	20.645	20.640	20.655	VV	19387	174595	10.47%	0.156%
448	20.662	20.655	20.681	VV	18904	286340	17.16%	0.256%
449	20.698	20.681	20.707	VV	19453	297030	17.80%	0.266%
450	20.715	20.707	20.729	VV	19179	235705	14.13%	0.211%
451	20.738	20.729	20.755	VV	18944	297777	17.85%	0.266%
452	20.765	20.755	20.772	VV	18676	177935	10.67%	0.159%
453	20.824	20.772	20.887	VV	23248	1322613	79.28%	1.183%
454	20.928	20.887	20.936	VV	18087	506653	30.37%	0.453%
455	20.943	20.936	20.954	VV	17642	186555	11.18%	0.167%
456	20.956	20.954	20.965	VV	16840	113645	6.81%	0.102%

						rters		
457	20.970	20.965	20.985	VV	16564	194646	11.67%	0.174%
458	20.991	20.985	21.016	VV	16328	283302	16.98%	0.253%
459	21.023	21.016	21.026	VV	15180	93913	5.63%	0.084%
460	21.032	21.026	21.072	VV	15643	401312	24.05%	0.359%
461	21.081	21.072	21.087	VV	13848	119089	7.14%	0.107%
462	21.093	21.087	21.109	VV	13755	180038	10.79%	0.161%
463	21.120	21.109	21.125	VV	13789	134180	8.04%	0.120%
464	21.129	21.125	21.133	VV	13512	57263	3.43%	0.051%
465	21.145	21.133	21.152	VV	14162	158042	9.47%	0.141%
466	21.155	21.152	21.160	VV	14031	64313	3.85%	0.058%
467	21.166	21.160	21.170	VV	14336	81743	4.90%	0.073%
468	21.187	21.170	21.234	VV	15979	530274	31.78%	0.474%
469	21.239	21.234	21.244	VV	12009	74592	4.47%	0.067%
470	21.253	21.244	21.261	VV	12186	115675	6.93%	0.103%
471	21.303	21.261	21.364	VV	13614	754160	45.20%	0.674%
472	21.395	21.364	21.455	VV	11928	570528	34.20%	0.510%
473	21.459	21.455	21.475	VV	9178	107286	6.43%	0.096%
474	21.500	21.475	21.511	VV	9890	197327	11.83%	0.176%
475	21.515	21.511	21.544	VV	9180	162714	9.75%	0.146%
476	21.559	21.544	21.565	VV	8616	109216	6.55%	0.098%
477	21.588	21.565	21.600	VV	11134	204557	12.26%	0.183%
478	21.608	21.600	21.638	VV	10658	224914	13.48%	0.201%
479	21.666	21.638	21.677	VV	11145	239826	14.38%	0.214%
480	21.689	21.677	21.744	VV	12435	422722	25.34%	0.378%
481	21.749	21.744	21.763	VV	8155	84771	5.08%	0.076%
482	21.767	21.763	21.817	VV	7672	195178	11.70%	0.175%
483	21.825	21.817	21.834	VV	5000	46908	2.81%	0.042%
484	21.838	21.834	21.841	VV	5075	21312	1.28%	0.019%
485	21.856	21.841	21.889	VV	5658	148937	8.93%	0.133%
486	21.899	21.889	21.904	VV	5273	44292	2.65%	0.040%
487	21.913	21.904	21.955	VV	4869	115557	6.93%	0.103%
488	21.959	21.955	21.964	VV	2885	14004	0.84%	0.013%
489	21.969	21.964	21.972	VV	3122	13431	0.81%	0.012%
490	21.995	21.972	22.039	VV	4778	145102	8.70%	0.130%
491	22.082	22.039	22.089	VV	4584	88493	5.30%	0.079%
492	22.101	22.089	22.105	VV	4261	39041	2.34%	0.035%
493	22.115	22.105	22.126	VV	4541	44220	2.65%	0.040%
494	22.130	22.126	22.160	VV	2882	34813	2.09%	0.031%
495	22.172	22.160	22.176	VV	813	7300	0.44%	0.007%
496	22.190	22.176	22.195	VV	1625	13144	0.79%	0.012%
497	22.200	22.195	22.229	VV	1104	13772	0.83%	0.012%
498	22.234	22.229	22.241	VV	562	2811	0.17%	0.003%
499	22.246	22.241	22.250	PBA	306	28891	1.73%	0.026%
					Sum of corrected areas:		111814921	

FG032725.M Fri Apr 04 03:18:55 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/02/25	
Project:	MTA Rockaway Park		Date Received:	04/02/25	
Client Sample ID:	B-10-TPH-2		SDG No.:	Q1698	
Lab Sample ID:	Q1698-10		Matrix:	SOIL	
Analytical Method:	8015D TPH		% Solid:	93.8	Decanted:
Sample Wt/Vol:	30.01	Units: g	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015619.D	1	04/03/25 08:00	04/03/25 15:04	PB167438

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	50.0		0.41	3.02	mg/Kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	13.8		37 - 130	69%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015619.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 15:04
Operator : YP\AJ
Sample : Q1698-10
Misc :
ALS Vial : 25 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-10-TPH-2

Integration File: autoint1.e
Quant Time: Apr 04 01:07:38 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.017	1577645	13.771 ug/ml

Target Compounds

(f)=RT Delta > 1/2 Window

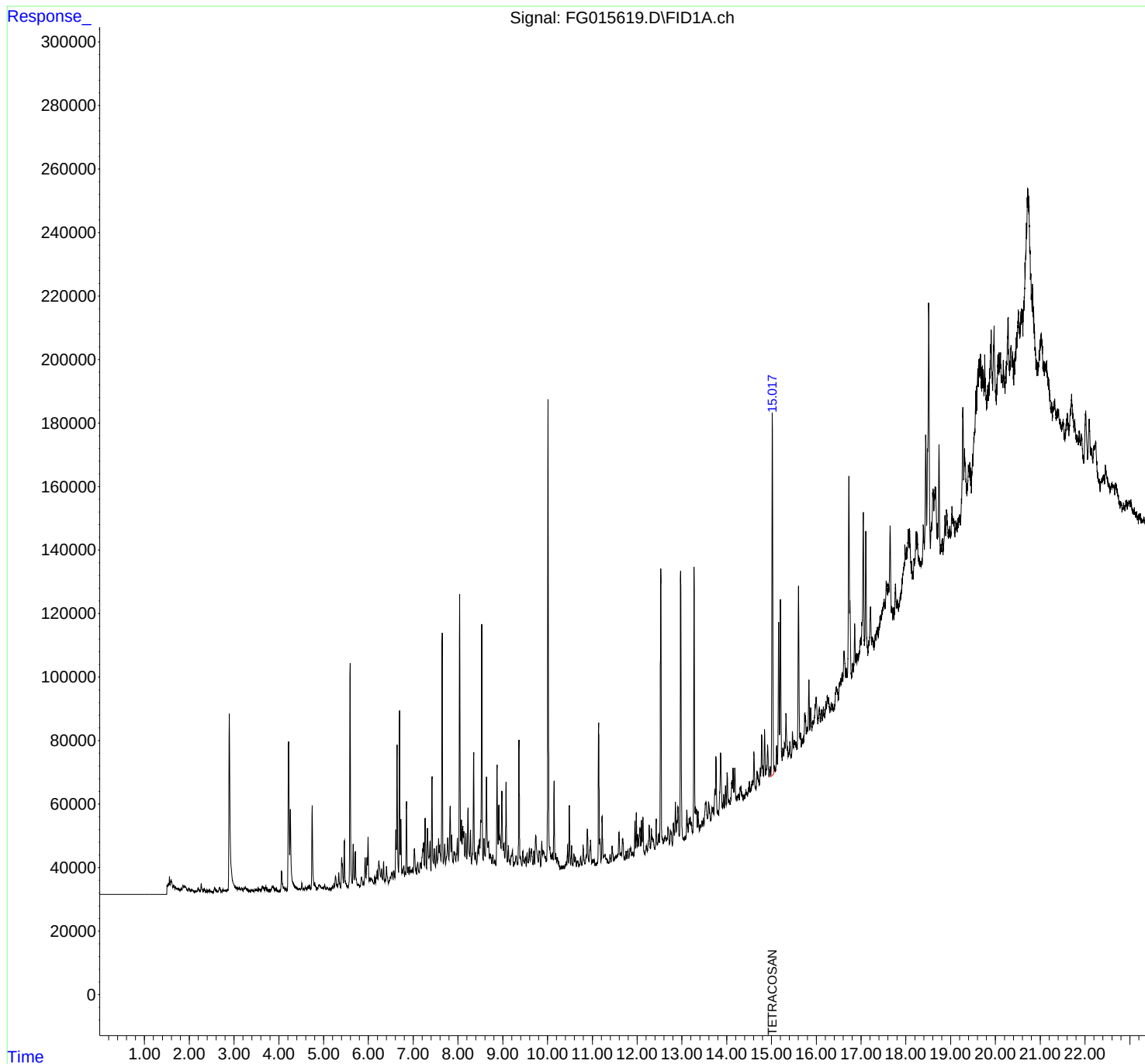
(m)=manual int.

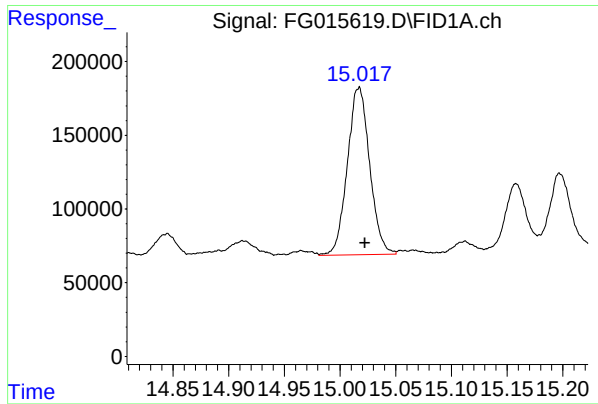
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015619.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 15:04
Operator : YP\AJ
Sample : Q1698-10
Misc :
ALS Vial : 25 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-10-TPH-2

Integration File: autoint1.e
Quant Time: Apr 04 01:07:38 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.017 min
Delta R.T.: -0.005 min
Response: 1577645
Conc: 13.77 ug/ml

Instrument :
FID_G
ClientSampleId :
B-10-TPH-2

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015619.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 15:04
Sample : Q1698-10
Misc :
ALS Vial : 25 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.820	1.800	1.835	BV	561	5250	0.19%	0.003%
2	1.859	1.835	1.872	VV	1465	20455	0.72%	0.012%
3	1.888	1.872	1.968	VV	1388	49509	1.75%	0.030%
4	1.987	1.968	2.036	VV	949	17926	0.63%	0.011%
5	2.046	2.036	2.052	VV	335	2770	0.10%	0.002%
6	2.060	2.052	2.076	VV	419	4601	0.16%	0.003%
7	2.082	2.076	2.110	VV	240	3080	0.11%	0.002%
8	2.116	2.110	2.136	PV	124	1115	0.04%	0.001%
9	2.173	2.136	2.177	VV	219	2668	0.09%	0.002%
10	2.195	2.177	2.249	VV	1124	24674	0.87%	0.015%
11	2.267	2.249	2.313	VV	2643	40160	1.42%	0.024%
12	2.333	2.313	2.377	VV	724	15202	0.54%	0.009%
13	2.396	2.377	2.416	PV	551	6934	0.24%	0.004%
14	2.428	2.416	2.435	VV	451	4283	0.15%	0.003%
15	2.451	2.435	2.455	VV	604	5587	0.20%	0.003%
16	2.459	2.455	2.517	VV	565	8148	0.29%	0.005%
17	2.519	2.517	2.538	VV	183	803	0.03%	0.000%
18	2.567	2.538	2.601	PV	1305	28494	1.01%	0.017%
19	2.606	2.601	2.649	VV	565	9884	0.35%	0.006%
20	2.673	2.649	2.714	VV	1482	32376	1.14%	0.020%
21	2.717	2.714	2.733	VV	338	3307	0.12%	0.002%
22	2.755	2.733	2.778	VV	924	15246	0.54%	0.009%
23	2.803	2.778	2.810	VV	551	9715	0.34%	0.006%
24	2.816	2.810	2.821	VV	574	3445	0.12%	0.002%
25	2.824	2.821	2.841	VV	587	5486	0.19%	0.003%
26	2.894	2.841	3.078	VV	56152	1171453	41.35%	0.713%
27	3.091	3.078	3.108	VV	1178	20199	0.71%	0.012%
28	3.122	3.108	3.151	VV	1194	25542	0.90%	0.016%
29	3.172	3.151	3.201	VV	1064	24547	0.87%	0.015%
30	3.228	3.201	3.235	VV	1157	18474	0.65%	0.011%
31	3.252	3.235	3.295	VV	1435	35099	1.24%	0.021%
32	3.301	3.295	3.336	VV	587	11521	0.41%	0.007%
33	3.347	3.336	3.352	VV	304	2523	0.09%	0.002%
34	3.401	3.352	3.419	VV	511	14611	0.52%	0.009%
35	3.426	3.419	3.447	VV	487	5965	0.21%	0.004%
36	3.468	3.447	3.494	VV	633	14077	0.50%	0.009%

					rteres			
37	3.497	3.494	3.524	VV	592	9602	0.34%	0.006%
38	3.543	3.524	3.559	VV	921	14547	0.51%	0.009%
39	3.569	3.559	3.603	VV	885	16754	0.59%	0.010%
40	3.633	3.603	3.689	VV	1688	56434	1.99%	0.034%
41	3.707	3.689	3.768	VV	1561	41074	1.45%	0.025%
42	3.786	3.768	3.818	VV	713	12615	0.45%	0.008%
43	3.847	3.818	3.858	VV	1660	23326	0.82%	0.014%
44	3.871	3.858	3.907	VV	1627	34182	1.21%	0.021%
45	3.920	3.907	3.928	VV	852	9090	0.32%	0.006%
46	3.942	3.928	4.005	VV	907	19711	0.70%	0.012%
47	4.030	4.005	4.036	PV	524	5458	0.19%	0.003%
48	4.063	4.036	4.104	VV	6256	111358	3.93%	0.068%
49	4.114	4.104	4.138	VV	1428	20533	0.72%	0.013%
50	4.155	4.138	4.180	VV	995	17532	0.62%	0.011%
51	4.218	4.180	4.242	VV	47197	744001	26.26%	0.453%
52	4.257	4.242	4.363	VV	25857	506290	17.87%	0.308%
53	4.367	4.363	4.395	VV	1335	22127	0.78%	0.013%
54	4.401	4.395	4.435	VV	1013	19190	0.68%	0.012%
55	4.452	4.435	4.490	VV	788	20407	0.72%	0.012%
56	4.515	4.490	4.538	VV	2473	34406	1.21%	0.021%
57	4.553	4.538	4.567	VV	800	10764	0.38%	0.007%
58	4.591	4.567	4.614	VV	1189	20685	0.73%	0.013%
59	4.622	4.614	4.632	VV	651	5860	0.21%	0.004%
60	4.650	4.632	4.669	VV	1417	20995	0.74%	0.013%
61	4.684	4.669	4.702	VV	1788	23709	0.84%	0.014%
62	4.745	4.702	4.789	VV	26798	375422	13.25%	0.229%
63	4.801	4.789	4.844	VV	2418	47301	1.67%	0.029%
64	4.861	4.844	4.871	VV	740	10624	0.38%	0.006%
65	4.895	4.871	4.922	VV	1766	43371	1.53%	0.026%
66	4.932	4.922	4.951	VV	1428	19122	0.67%	0.012%
67	4.962	4.951	4.970	VV	792	7747	0.27%	0.005%
68	4.979	4.970	5.000	VV	989	13111	0.46%	0.008%
69	5.024	5.000	5.063	VV	1796	30645	1.08%	0.019%
70	5.080	5.063	5.117	VV	933	17127	0.60%	0.010%
71	5.132	5.117	5.147	VV	405	3549	0.13%	0.002%
72	5.169	5.147	5.183	PV	609	7810	0.28%	0.005%
73	5.198	5.183	5.215	VV	1184	13608	0.48%	0.008%
74	5.230	5.215	5.245	VV	1481	20124	0.71%	0.012%
75	5.269	5.245	5.293	VV	4069	76412	2.70%	0.047%
76	5.305	5.293	5.318	VV	1566	18545	0.65%	0.011%
77	5.339	5.318	5.380	VV	5186	84020	2.97%	0.051%
78	5.404	5.380	5.414	VV	9915	107018	3.78%	0.065%
79	5.420	5.414	5.444	VV	7905	89066	3.14%	0.054%
80	5.463	5.444	5.493	VV	15108	187456	6.62%	0.114%
81	5.497	5.493	5.523	VV	1639	21559	0.76%	0.013%
82	5.534	5.523	5.549	VV	750	8874	0.31%	0.005%
83	5.591	5.549	5.640	VV	70679	849740	30.00%	0.517%
84	5.661	5.640	5.683	VV	13723	176444	6.23%	0.107%
85	5.708	5.683	5.755	VV	11512	181535	6.41%	0.111%
86	5.769	5.755	5.802	VV	984	21058	0.74%	0.013%
87	5.812	5.802	5.821	VV	532	4384	0.15%	0.003%
88	5.844	5.821	5.880	VV	3134	65681	2.32%	0.040%
89	5.894	5.880	5.905	VV	1278	15760	0.56%	0.010%

					rteres			
90	5.929	5.905	5.947	VV	9244	129365	4.57%	0.079%
91	5.970	5.947	5.980	VV	9109	126329	4.46%	0.077%
92	5.993	5.980	6.017	VV	15590	180980	6.39%	0.110%
93	6.027	6.017	6.041	VV	2640	31178	1.10%	0.019%
94	6.054	6.041	6.069	VV	2449	35655	1.26%	0.022%
95	6.072	6.069	6.087	VV	2119	20404	0.72%	0.012%
96	6.094	6.087	6.124	VV	1747	25916	0.91%	0.016%
97	6.142	6.124	6.158	VV	3011	37403	1.32%	0.023%
98	6.196	6.158	6.213	VV	4674	91524	3.23%	0.056%
99	6.233	6.213	6.275	VV	7708	182438	6.44%	0.111%
100	6.294	6.275	6.323	VV	5181	91415	3.23%	0.056%
101	6.340	6.323	6.365	VV	7451	93909	3.31%	0.057%
102	6.378	6.365	6.388	VV	1755	19239	0.68%	0.012%
103	6.405	6.388	6.449	VV	5779	98586	3.48%	0.060%
104	6.467	6.449	6.472	VV	1294	13146	0.46%	0.008%
105	6.489	6.472	6.501	VV	2391	34194	1.21%	0.021%
106	6.518	6.501	6.528	VV	3577	46707	1.65%	0.028%
107	6.535	6.528	6.551	VV	3513	38226	1.35%	0.023%
108	6.570	6.551	6.594	VV	4235	77632	2.74%	0.047%
109	6.613	6.594	6.624	VV	16982	193698	6.84%	0.118%
110	6.641	6.624	6.674	VV	43741	551472	19.47%	0.336%
111	6.696	6.674	6.714	VV	54523	603512	21.30%	0.368%
112	6.727	6.714	6.748	VV	20256	237499	8.38%	0.145%
113	6.759	6.748	6.769	VV	4030	46286	1.63%	0.028%
114	6.791	6.769	6.809	VV	5572	103666	3.66%	0.063%
115	6.822	6.809	6.832	VV	3552	42080	1.49%	0.026%
116	6.851	6.832	6.874	VV	25729	312859	11.04%	0.191%
117	6.887	6.874	6.910	VV	5031	83577	2.95%	0.051%
118	6.924	6.910	6.941	VV	5121	73088	2.58%	0.045%
119	6.958	6.941	6.969	VV	3993	59681	2.11%	0.036%
120	6.983	6.969	7.000	VV	4486	69403	2.45%	0.042%
121	7.027	7.000	7.057	VV	10471	226614	8.00%	0.138%
122	7.062	7.057	7.076	VV	4055	38276	1.35%	0.023%
123	7.102	7.076	7.136	VV	6076	154661	5.46%	0.094%
124	7.157	7.136	7.164	VV	5599	77144	2.72%	0.047%
125	7.167	7.164	7.182	VV	5677	55350	1.95%	0.034%
126	7.214	7.182	7.221	VV	10158	182423	6.44%	0.111%
127	7.231	7.221	7.250	VV	12013	157924	5.57%	0.096%
128	7.267	7.250	7.300	VV	19933	332586	11.74%	0.203%
129	7.320	7.300	7.349	VV	16644	312545	11.03%	0.190%
130	7.377	7.349	7.396	VV	12584	228487	8.07%	0.139%
131	7.421	7.396	7.455	VV	32688	473112	16.70%	0.288%
132	7.472	7.455	7.500	VV	9971	189345	6.68%	0.115%
133	7.519	7.500	7.539	VV	10684	168042	5.93%	0.102%
134	7.569	7.539	7.581	VV	13126	224495	7.92%	0.137%
135	7.591	7.581	7.622	VV	10827	207949	7.34%	0.127%
136	7.648	7.622	7.674	VV	77639	926979	32.72%	0.565%
137	7.707	7.674	7.725	VV	11169	229750	8.11%	0.140%
138	7.772	7.725	7.798	VV	13119	365665	12.91%	0.223%
139	7.826	7.798	7.846	VV	23052	405210	14.30%	0.247%
140	7.860	7.846	7.893	VV	13803	249249	8.80%	0.152%
141	7.912	7.893	7.923	VV	8612	128469	4.53%	0.078%

rteres								
142	7.931	7.923	7.950	VV	7993	112743	3.98%	0.069%
143	7.967	7.950	7.972	VV	7969	92405	3.26%	0.056%
144	7.988	7.972	8.005	VV	12597	184297	6.51%	0.112%
145	8.038	8.005	8.064	VV	89310	1147249	40.50%	0.699%
146	8.078	8.064	8.095	VV	18300	269819	9.52%	0.164%
147	8.110	8.095	8.124	VV	16323	248199	8.76%	0.151%
148	8.133	8.124	8.157	VV	14567	208749	7.37%	0.127%
149	8.178	8.157	8.199	VV	13941	240796	8.50%	0.147%
150	8.224	8.199	8.262	VV	21828	433991	15.32%	0.264%
151	8.281	8.262	8.303	VV	14890	224717	7.93%	0.137%
152	8.352	8.303	8.380	VV	39133	618355	21.83%	0.377%
153	8.398	8.380	8.419	VV	7706	142571	5.03%	0.087%
154	8.451	8.419	8.463	VV	9537	185247	6.54%	0.113%
155	8.479	8.463	8.493	VV	11452	174175	6.15%	0.106%
156	8.509	8.493	8.515	VV	17742	182542	6.44%	0.111%
157	8.533	8.515	8.563	VV	79238	944918	33.36%	0.575%
158	8.582	8.563	8.607	VV	11687	210809	7.44%	0.128%
159	8.638	8.607	8.669	VV	31114	557257	19.67%	0.339%
160	8.684	8.669	8.703	VV	10532	173704	6.13%	0.106%
161	8.715	8.703	8.759	VV	6435	183439	6.48%	0.112%
162	8.778	8.759	8.804	VV	6355	131806	4.65%	0.080%
163	8.824	8.804	8.848	VV	4418	103897	3.67%	0.063%
164	8.873	8.848	8.898	VV	34331	485313	17.13%	0.296%
165	8.914	8.898	8.930	VV	21704	298402	10.53%	0.182%
166	8.938	8.930	8.962	VV	11822	192780	6.81%	0.117%
167	8.981	8.962	9.013	VV	26155	460095	16.24%	0.280%
168	9.027	9.013	9.046	VV	9577	150468	5.31%	0.092%
169	9.074	9.046	9.101	VV	28792	414694	14.64%	0.253%
170	9.127	9.101	9.145	VV	8896	154692	5.46%	0.094%
171	9.151	9.145	9.170	VV	4247	52100	1.84%	0.032%
172	9.217	9.170	9.244	VV	7310	217282	7.67%	0.132%
173	9.258	9.244	9.269	VV	3446	44013	1.55%	0.027%
174	9.297	9.269	9.322	VV	5507	130597	4.61%	0.080%
175	9.363	9.322	9.385	VV	41863	538843	19.02%	0.328%
176	9.393	9.385	9.428	VV	5074	93213	3.29%	0.057%
177	9.449	9.428	9.486	VV	6699	145450	5.13%	0.089%
178	9.507	9.486	9.524	VV	4557	82455	2.91%	0.050%
179	9.544	9.524	9.566	VV	5957	99155	3.50%	0.060%
180	9.594	9.566	9.612	VV	7140	129672	4.58%	0.079%
181	9.625	9.612	9.631	VV	6120	59720	2.11%	0.036%
182	9.641	9.631	9.676	VV	7068	126143	4.45%	0.077%
183	9.694	9.676	9.713	VV	6405	91909	3.24%	0.056%
184	9.737	9.713	9.795	VV	11445	314019	11.08%	0.191%
185	9.813	9.795	9.821	VV	6168	77543	2.74%	0.047%
186	9.827	9.821	9.850	VV	5936	69306	2.45%	0.042%
187	9.873	9.850	9.890	VV	9166	133369	4.71%	0.081%
188	9.901	9.890	9.917	VV	6232	92828	3.28%	0.057%
189	9.922	9.917	9.942	VV	5650	72299	2.55%	0.044%
190	9.952	9.942	9.970	VV	4263	59916	2.12%	0.036%
191	10.012	9.970	10.079	VV	148507	1854142	65.45%	1.129%
192	10.108	10.079	10.125	VV	5051	115278	4.07%	0.070%
193	10.147	10.125	10.170	VV	27773	352498	12.44%	0.215%
194	10.182	10.170	10.200	VV	5086	68758	2.43%	0.042%

					rteres			
195	10.217	10.200	10.240	VV	3703	65948	2.33%	0.040%
196	10.250	10.240	10.294	VV	2231	32976	1.16%	0.020%
197	10.318	10.294	10.345	PV	959	13167	0.46%	0.008%
198	10.358	10.345	10.377	VV	690	6336	0.22%	0.004%
199	10.395	10.377	10.406	VV	1335	12999	0.46%	0.008%
200	10.420	10.406	10.430	VV	2081	21788	0.77%	0.013%
201	10.448	10.430	10.465	VV	7168	84601	2.99%	0.052%
202	10.486	10.465	10.514	VV	19507	235856	8.33%	0.144%
203	10.537	10.514	10.562	VV	6903	103400	3.65%	0.063%
204	10.590	10.562	10.608	VV	4106	63539	2.24%	0.039%
205	10.621	10.608	10.645	VV	3288	46704	1.65%	0.028%
206	10.662	10.645	10.673	VV	1876	24119	0.85%	0.015%
207	10.681	10.673	10.700	VV	1793	19041	0.67%	0.012%
208	10.711	10.700	10.718	VV	846	6359	0.22%	0.004%
209	10.737	10.718	10.765	VV	3046	45099	1.59%	0.027%
210	10.795	10.765	10.836	VV	6984	117481	4.15%	0.072%
211	10.889	10.836	10.923	VV	11614	229307	8.09%	0.140%
212	10.961	10.923	10.989	VV	8251	168934	5.96%	0.103%
213	11.011	10.989	11.029	VV	1975	34224	1.21%	0.021%
214	11.041	11.029	11.057	VV	1830	19475	0.69%	0.012%
215	11.074	11.057	11.078	PV	635	5074	0.18%	0.003%
216	11.083	11.078	11.097	VV	703	4956	0.17%	0.003%
217	11.109	11.097	11.117	VV	873	7662	0.27%	0.005%
218	11.141	11.117	11.162	VV	44701	521496	18.41%	0.318%
219	11.169	11.162	11.191	VV	8132	81451	2.88%	0.050%
220	11.218	11.191	11.243	VV	15146	200646	7.08%	0.122%
221	11.255	11.243	11.265	VV	2677	32904	1.16%	0.020%
222	11.281	11.265	11.305	VV	3080	59047	2.08%	0.036%
223	11.314	11.305	11.340	VV	1618	21455	0.76%	0.013%
224	11.346	11.340	11.356	VV	752	4730	0.17%	0.003%
225	11.360	11.356	11.376	PV	268	2337	0.08%	0.001%
226	11.398	11.376	11.417	VV	2574	32169	1.14%	0.020%
227	11.441	11.417	11.477	VV	5180	91308	3.22%	0.056%
228	11.518	11.477	11.527	VV	1642	34756	1.23%	0.021%
229	11.542	11.527	11.552	VV	1780	23747	0.84%	0.014%
230	11.595	11.552	11.622	VV	9086	156223	5.51%	0.095%
231	11.639	11.622	11.650	VV	2513	35660	1.26%	0.022%
232	11.678	11.650	11.720	VV	6915	142687	5.04%	0.087%
233	11.750	11.720	11.771	PV	2659	36617	1.29%	0.022%
234	11.794	11.771	11.815	VV	2581	40091	1.42%	0.024%
235	11.843	11.815	11.847	VV	3084	35497	1.25%	0.022%
236	11.857	11.847	11.888	VV	3342	49735	1.76%	0.030%
237	11.904	11.888	11.925	VV	1686	24760	0.87%	0.015%
238	11.949	11.925	11.964	VV	11291	133606	4.72%	0.081%
239	11.981	11.964	12.000	VV	13535	167959	5.93%	0.102%
240	12.014	12.000	12.033	VV	6881	96845	3.42%	0.059%
241	12.061	12.033	12.080	VV	8881	169022	5.97%	0.103%
242	12.097	12.080	12.112	VV	10944	136848	4.83%	0.083%
243	12.128	12.112	12.175	VV	11975	161134	5.69%	0.098%
244	12.202	12.175	12.225	PV	2637	44442	1.57%	0.027%
245	12.269	12.225	12.296	VV	8759	162562	5.74%	0.099%
246	12.318	12.296	12.335	VV	7290	105281	3.72%	0.064%

					rteres			
247	12.339	12.335	12.353	VV	4348	42613	1.50%	0.026%
248	12.356	12.353	12.386	VV	3933	52357	1.85%	0.032%
249	12.391	12.386	12.400	VV	1060	7189	0.25%	0.004%
250	12.425	12.400	12.455	VV	10029	143344	5.06%	0.087%
251	12.478	12.455	12.497	VV	4986	83457	2.95%	0.051%
252	12.528	12.497	12.584	VV	87915	1181455	41.70%	0.719%
253	12.623	12.584	12.643	VV	3836	98027	3.46%	0.060%
254	12.656	12.643	12.662	VV	2959	29929	1.06%	0.018%
255	12.690	12.662	12.722	VV	6285	134867	4.76%	0.082%
256	12.745	12.722	12.753	VV	5010	57743	2.04%	0.035%
257	12.762	12.753	12.785	VV	4416	48297	1.70%	0.029%
258	12.809	12.785	12.832	PV	6981	102140	3.61%	0.062%
259	12.853	12.832	12.872	VV	13280	185903	6.56%	0.113%
260	12.888	12.872	12.897	VV	7293	92759	3.27%	0.056%
261	12.912	12.897	12.941	VV	11374	178632	6.31%	0.109%
262	12.971	12.941	13.022	VV	85326	1149766	40.59%	0.700%
263	13.033	13.022	13.053	VV	921	11211	0.40%	0.007%
264	13.070	13.053	13.083	PV	1041	8968	0.32%	0.005%
265	13.109	13.083	13.139	VV	9038	142398	5.03%	0.087%
266	13.160	13.139	13.173	VV	5821	85866	3.03%	0.052%
267	13.185	13.173	13.200	VV	5958	80607	2.85%	0.049%
268	13.211	13.200	13.243	VV	4339	64561	2.28%	0.039%
269	13.270	13.243	13.293	VV	83943	967607	34.16%	0.589%
270	13.301	13.293	13.314	VV	8230	93129	3.29%	0.057%
271	13.326	13.314	13.343	VV	7162	93107	3.29%	0.057%
272	13.358	13.343	13.388	VV	6534	86545	3.06%	0.053%
273	13.406	13.388	13.429	PV	1753	26218	0.93%	0.016%
274	13.445	13.429	13.458	VV	2771	31487	1.11%	0.019%
275	13.477	13.458	13.493	VV	3050	40944	1.45%	0.025%
276	13.529	13.493	13.574	VV	7716	231381	8.17%	0.141%
277	13.595	13.574	13.638	VV	7068	155102	5.48%	0.094%
278	13.669	13.638	13.677	VV	4434	54431	1.92%	0.033%
279	13.698	13.677	13.713	VV	4414	74463	2.63%	0.045%
280	13.733	13.713	13.742	VV	9889	124039	4.38%	0.076%
281	13.758	13.742	13.785	VV	19741	269924	9.53%	0.164%
282	13.794	13.785	13.817	VV	2524	32771	1.16%	0.020%
283	13.861	13.817	13.905	VV	19890	435467	15.37%	0.265%
284	13.930	13.905	13.950	VV	6118	94196	3.33%	0.057%
285	13.971	13.950	13.990	VV	8424	120612	4.26%	0.073%
286	14.009	13.990	14.038	VV	12154	187988	6.64%	0.114%
287	14.051	14.038	14.076	VV	2933	57510	2.03%	0.035%
288	14.114	14.076	14.126	VV	8712	152942	5.40%	0.093%
289	14.140	14.126	14.163	VV	12183	178623	6.31%	0.109%
290	14.180	14.163	14.215	VV	11897	188391	6.65%	0.115%
291	14.218	14.215	14.231	VV	2178	16912	0.60%	0.010%
292	14.258	14.231	14.277	VV	2761	57921	2.04%	0.035%
293	14.309	14.277	14.371	VV	4912	138832	4.90%	0.085%
294	14.382	14.371	14.387	VV	1421	9077	0.32%	0.006%
295	14.391	14.387	14.406	VV	1326	7099	0.25%	0.004%
296	14.427	14.406	14.439	PV	2694	27093	0.96%	0.016%
297	14.444	14.439	14.465	VV	1358	16057	0.57%	0.010%
298	14.504	14.465	14.520	VV	4348	74328	2.62%	0.045%
299	14.576	14.520	14.587	VV	4021	91216	3.22%	0.056%

					rteres			
300	14.606	14.587	14.634	VV	12607	174585	6.16%	0.106%
301	14.640	14.634	14.655	VV	1362	10396	0.37%	0.006%
302	14.679	14.655	14.695	PV	5458	80180	2.83%	0.049%
303	14.702	14.695	14.720	VV	3636	38550	1.36%	0.023%
304	14.749	14.720	14.760	VV	5801	70752	2.50%	0.043%
305	14.781	14.760	14.821	VV	15559	274055	9.67%	0.167%
306	14.845	14.821	14.867	VV	16596	236520	8.35%	0.144%
307	14.913	14.867	14.941	VV	10566	228929	8.08%	0.139%
308	14.965	14.941	14.982	VV	3397	44252	1.56%	0.027%
309	15.017	14.982	15.050	VV	113079	1574135	55.57%	0.959%
310	15.055	15.050	15.061	VV	2316	12968	0.46%	0.008%
311	15.066	15.061	15.089	VV	2338	19414	0.69%	0.012%
312	15.112	15.089	15.130	VV	7962	97527	3.44%	0.059%
313	15.158	15.130	15.178	VV	46231	623484	22.01%	0.380%
314	15.197	15.178	15.236	VV	52788	748606	26.43%	0.456%
315	15.252	15.236	15.270	VV	5134	75625	2.67%	0.046%
316	15.290	15.270	15.302	VV	6282	91901	3.24%	0.056%
317	15.323	15.302	15.375	VV	15253	304770	10.76%	0.186%
318	15.409	15.375	15.436	VV	5396	90445	3.19%	0.055%
319	15.468	15.436	15.488	PV	7555	103221	3.64%	0.063%
320	15.507	15.488	15.513	VV	4545	52165	1.84%	0.032%
321	15.515	15.513	15.525	VV	4264	26086	0.92%	0.016%
322	15.528	15.525	15.539	VV	3765	21870	0.77%	0.013%
323	15.543	15.539	15.547	VV	3453	13177	0.47%	0.008%
324	15.551	15.547	15.560	VV	2527	19236	0.68%	0.012%
325	15.561	15.560	15.574	VV	2617	15479	0.55%	0.009%
326	15.601	15.574	15.638	VV	51775	762789	26.93%	0.465%
327	15.646	15.638	15.665	VV	4962	53159	1.88%	0.032%
328	15.710	15.665	15.721	VV	2525	48365	1.71%	0.029%
329	15.744	15.721	15.777	VV	9159	209012	7.38%	0.127%
330	15.797	15.777	15.811	VV	4567	74055	2.61%	0.045%
331	15.834	15.811	15.854	VV	18944	264615	9.34%	0.161%
332	15.872	15.854	15.901	VV	9581	157535	5.56%	0.096%
333	15.994	15.901	16.034	VV	11277	489571	17.28%	0.298%
334	16.060	16.034	16.066	VV	6324	90398	3.19%	0.055%
335	16.072	16.066	16.094	VV	6592	77653	2.74%	0.047%
336	16.117	16.094	16.136	VV	5486	100040	3.53%	0.061%
337	16.156	16.136	16.189	VV	5890	121008	4.27%	0.074%
338	16.214	16.189	16.222	VV	6987	98649	3.48%	0.060%
339	16.247	16.222	16.261	VV	8341	148565	5.24%	0.090%
340	16.275	16.261	16.303	VV	7325	131958	4.66%	0.080%
341	16.336	16.303	16.360	VV	4983	121080	4.27%	0.074%
342	16.368	16.360	16.374	VV	4054	26352	0.93%	0.016%
343	16.378	16.374	16.387	VV	2723	16756	0.59%	0.010%
344	16.437	16.387	16.442	VV	8282	147549	5.21%	0.090%
345	16.448	16.442	16.459	VV	8171	77646	2.74%	0.047%
346	16.462	16.459	16.496	VV	7419	123609	4.36%	0.075%
347	16.540	16.496	16.555	VV	9766	279211	9.86%	0.170%
348	16.572	16.555	16.593	VV	10766	221328	7.81%	0.135%
349	16.616	16.593	16.654	VV	17255	469594	16.58%	0.286%
350	16.672	16.654	16.689	VV	11101	203515	7.18%	0.124%
351	16.726	16.689	16.746	VV	70742	1192036	42.08%	0.726%

rteres								
352	16.751	16.746	16.782	VV	31011	393006	13.87%	0.239%
353	16.816	16.782	16.831	VV	10800	252141	8.90%	0.154%
354	16.857	16.831	16.879	VV	22220	421491	14.88%	0.257%
355	16.898	16.879	16.907	VV	12784	187106	6.60%	0.114%
356	16.924	16.907	16.941	VV	11510	226321	7.99%	0.138%
357	16.990	16.941	16.994	VV	16230	416723	14.71%	0.254%
358	17.047	16.994	17.074	VV	55069	1280030	45.18%	0.780%
359	17.105	17.074	17.155	VV	48428	1027791	36.28%	0.626%
360	17.170	17.155	17.181	VV	12450	175988	6.21%	0.107%
361	17.209	17.181	17.235	VV	23094	544563	19.22%	0.332%
362	17.244	17.235	17.258	VV	13194	165112	5.83%	0.101%
363	17.260	17.258	17.288	VV	12386	188663	6.66%	0.115%
364	17.314	17.288	17.329	VV	12726	268886	9.49%	0.164%
365	17.341	17.329	17.345	VV	13682	123934	4.37%	0.075%
366	17.364	17.345	17.384	VV	14423	305031	10.77%	0.186%
367	17.406	17.384	17.412	VV	14784	221838	7.83%	0.135%
368	17.419	17.412	17.425	VV	17083	124952	4.41%	0.076%
369	17.439	17.425	17.454	VV	17162	282949	9.99%	0.172%
370	17.480	17.454	17.486	VV	19039	337691	11.92%	0.206%
371	17.488	17.486	17.491	VV	18650	55836	1.97%	0.034%
372	17.514	17.491	17.526	VV	21206	414745	14.64%	0.253%
373	17.562	17.526	17.579	VV	26202	703042	24.82%	0.428%
374	17.584	17.579	17.595	VV	23663	215203	7.60%	0.131%
375	17.608	17.595	17.622	VV	24337	382417	13.50%	0.233%
376	17.648	17.622	17.673	VV	42382	896878	31.66%	0.546%
377	17.684	17.673	17.690	VV	16519	154704	5.46%	0.094%
378	17.692	17.690	17.706	VV	15611	136673	4.82%	0.083%
379	17.727	17.706	17.743	VV	15234	310211	10.95%	0.189%
380	17.767	17.743	17.798	VV	22377	572943	20.22%	0.349%
381	17.810	17.798	17.816	VV	17163	170907	6.03%	0.104%
382	17.822	17.816	17.837	VV	16475	195477	6.90%	0.119%
383	17.869	17.837	17.874	VV	16912	337318	11.91%	0.205%
384	17.882	17.874	17.890	VV	17879	162080	5.72%	0.099%
385	17.946	17.890	17.950	VV	25204	770994	27.22%	0.470%
386	17.979	17.950	18.005	VV	31910	917066	32.37%	0.558%
387	18.013	18.005	18.022	VV	30828	284842	10.05%	0.173%
388	18.052	18.022	18.070	VV	35651	918930	32.44%	0.560%
389	18.081	18.070	18.118	VV	35716	861711	30.42%	0.525%
390	18.129	18.118	18.144	VV	24713	347831	12.28%	0.212%
391	18.152	18.144	18.162	VV	21191	213170	7.52%	0.130%
392	18.181	18.162	18.198	VV	24320	491285	17.34%	0.299%
393	18.229	18.198	18.242	VV	32591	738932	26.08%	0.450%
394	18.257	18.242	18.289	VV	31409	756464	26.70%	0.461%
395	18.294	18.289	18.297	VV	23199	104528	3.69%	0.064%
396	18.301	18.297	18.312	VV	23341	199753	7.05%	0.122%
397	18.318	18.312	18.344	VV	22233	402740	14.22%	0.245%
398	18.359	18.344	18.365	VV	22683	274251	9.68%	0.167%
399	18.392	18.365	18.414	VV	32548	788940	27.85%	0.480%
400	18.443	18.414	18.465	VV	60011	1290074	45.54%	0.786%
401	18.510	18.465	18.548	VV	100009	2699148	95.28%	1.644%
402	18.571	18.548	18.578	VV	30120	490532	17.32%	0.299%
403	18.607	18.578	18.627	VV	40405	1085750	38.33%	0.661%
404	18.634	18.627	18.639	VV	38583	262714	9.27%	0.160%

					rteres			
405	18.649	18.639	18.660	VV	40624	498007	17.58%	0.303%
406	18.668	18.660	18.690	VV	40613	610117	21.54%	0.372%
407	18.702	18.690	18.709	VV	28331	289214	10.21%	0.176%
408	18.739	18.709	18.781	VV	53092	1305632	46.09%	0.795%
409	18.787	18.781	18.799	VV	20644	209438	7.39%	0.128%
410	18.812	18.799	18.816	VV	21539	220654	7.79%	0.134%
411	18.821	18.816	18.831	VV	22481	172463	6.09%	0.105%
412	18.871	18.831	18.890	VV	28540	818254	28.88%	0.498%
413	18.912	18.890	18.949	VV	30385	904538	31.93%	0.551%
414	18.961	18.949	18.965	VV	23001	223282	7.88%	0.136%
415	18.969	18.965	18.974	VV	23354	120889	4.27%	0.074%
416	18.980	18.974	18.997	VV	23755	290955	10.27%	0.177%
417	19.003	18.997	19.005	VV	21724	111854	3.95%	0.068%
418	19.030	19.005	19.052	VV	29434	715071	25.24%	0.435%
419	19.060	19.052	19.066	VV	25464	195765	6.91%	0.119%
420	19.074	19.066	19.095	VV	24294	395076	13.95%	0.241%
421	19.106	19.095	19.109	VV	21786	176664	6.24%	0.108%
422	19.119	19.109	19.124	VV	23838	202823	7.16%	0.124%
423	19.127	19.124	19.134	VV	22162	123940	4.38%	0.075%
424	19.139	19.134	19.146	VV	22825	155196	5.48%	0.095%
425	19.155	19.146	19.159	VV	22731	177822	6.28%	0.108%
426	19.166	19.159	19.172	VV	23579	169614	5.99%	0.103%
427	19.186	19.172	19.194	VV	24207	309438	10.92%	0.188%
428	19.200	19.194	19.217	VV	24498	314187	11.09%	0.191%
429	19.239	19.217	19.246	VV	28960	440529	15.55%	0.268%
430	19.270	19.246	19.292	VV	57119	1245698	43.97%	0.759%
431	19.310	19.292	19.354	VV	43923	1379426	48.69%	0.840%
432	19.359	19.354	19.364	VV	30778	178362	6.30%	0.109%
433	19.373	19.364	19.377	VV	31987	226343	7.99%	0.138%
434	19.395	19.377	19.418	VV	37650	877006	30.96%	0.534%
435	19.425	19.418	19.435	VV	37701	342796	12.10%	0.209%
436	19.440	19.435	19.446	VV	35922	229010	8.08%	0.139%
437	19.453	19.446	19.463	VV	35807	326835	11.54%	0.199%
438	19.487	19.463	19.496	VV	39726	706550	24.94%	0.430%
439	19.558	19.496	19.565	VV	58754	1933612	68.26%	1.178%
440	19.574	19.565	19.583	VV	59973	591328	20.87%	0.360%
441	19.604	19.583	19.615	VV	65130	1173075	41.41%	0.714%
442	19.630	19.615	19.639	VV	67540	933881	32.97%	0.569%
443	19.665	19.639	19.671	VV	69014	1212143	42.79%	0.738%
444	19.676	19.671	19.683	VV	66812	470417	16.61%	0.286%
445	19.687	19.683	19.691	VV	60064	281679	9.94%	0.172%
446	19.698	19.691	19.705	VV	63511	526646	18.59%	0.321%
447	19.710	19.705	19.718	VV	63590	471987	16.66%	0.287%
448	19.731	19.718	19.741	VV	62152	796475	28.12%	0.485%
449	19.746	19.741	19.751	VV	58651	353515	12.48%	0.215%
450	19.761	19.751	19.772	VV	67214	780887	27.57%	0.476%
451	19.777	19.772	19.799	VV	59762	867021	30.61%	0.528%
452	19.805	19.799	19.811	VV	53910	369142	13.03%	0.225%
453	19.818	19.811	19.822	VV	55506	375178	13.24%	0.228%
454	19.828	19.822	19.841	VV	56467	617615	21.80%	0.376%
455	19.892	19.841	19.899	VV	68788	2065255	72.90%	1.258%
456	19.905	19.899	19.930	VV	73046	1183139	41.76%	0.721%

rteres								
457	19.935	19.930	19.940	VV	58056	315888	11.15%	0.192%
458	19.967	19.940	20.019	VV	73494	2819037	99.51%	1.717%
459	20.026	20.019	20.031	VV	54277	377909	13.34%	0.230%
460	20.052	20.031	20.061	VV	63076	1039704	36.70%	0.633%
461	20.069	20.061	20.074	VV	60170	479988	16.94%	0.292%
462	20.081	20.074	20.087	VV	63401	457082	16.13%	0.278%
463	20.093	20.087	20.096	VV	61769	340340	12.01%	0.207%
464	20.101	20.096	20.107	VV	61566	371952	13.13%	0.227%
465	20.112	20.107	20.131	VV	63119	841286	29.70%	0.512%
466	20.133	20.131	20.153	VV	55523	729037	25.73%	0.444%
467	20.156	20.153	20.166	VV	53648	406141	14.34%	0.247%
468	20.173	20.166	20.215	VV	59727	1580833	55.80%	0.963%
469	20.232	20.215	20.237	VV	57174	723150	25.53%	0.440%
470	20.284	20.237	20.314	VV	71787	2832888	100.00%	1.725%
471	20.323	20.314	20.327	VV	57383	423343	14.94%	0.258%
472	20.351	20.327	20.378	VV	61856	1821793	64.31%	1.109%
473	20.383	20.378	20.409	VV	59784	990003	34.95%	0.603%
474	20.418	20.409	20.430	VV	57142	686469	24.23%	0.418%
475	20.436	20.430	20.439	VV	58124	299643	10.58%	0.182%
476	20.444	20.439	20.451	VV	58012	404293	14.27%	0.246%
477	20.474	20.451	20.479	VV	64031	1034257	36.51%	0.630%
478	20.510	20.479	20.526	VV	71103	1849301	65.28%	1.126%
479	20.531	20.526	20.536	VV	65087	385664	13.61%	0.235%
480	20.537	20.536	20.541	VV	65344	207565	7.33%	0.126%
481	20.545	20.541	20.547	VV	64151	230135	8.12%	0.140%
482	20.563	20.547	20.576	VV	68317	1136388	40.11%	0.692%
483	20.581	20.576	20.591	VV	70469	629297	22.21%	0.383%
484	20.604	20.591	20.611	VV	69860	798310	28.18%	0.486%
485	20.633	20.611	20.637	VV	72078	1072278	37.85%	0.653%
486	20.661	20.637	20.665	VV	83572	1265454	44.67%	0.771%
487	20.692	20.665	20.697	VV	96197	1717044	60.61%	1.046%
488	20.711	20.697	20.715	VV	103204	1031027	36.39%	0.628%
489	20.723	20.715	20.732	VV	106050	1084390	38.28%	0.660%
490	20.740	20.732	20.745	VV	103613	743172	26.23%	0.453%
491	20.749	20.745	20.787	VV	100687	2262187	79.85%	1.378%
492	20.792	20.787	20.816	VV	78590	1229925	43.42%	0.749%
493	20.826	20.816	20.869	VV	74877	2161281	76.29%	1.316%
494	20.874	20.869	20.889	VV	59146	674010	23.79%	0.410%
495	20.894	20.889	20.903	VV	53782	431232	15.22%	0.263%
496	20.909	20.903	20.924	VV	49796	584930	20.65%	0.356%
497	20.934	20.924	20.946	VV	48269	626053	22.10%	0.381%
498	20.952	20.946	20.958	VV	47628	352936	12.46%	0.215%
499	20.972	20.958	20.984	VV	51965	753210	26.59%	0.459%
500	20.992	20.984	20.997	VV	54945	426692	15.06%	0.260%
501	21.011	20.997	21.016	VV	56320	589523	20.81%	0.359%
502	21.022	21.016	21.028	VV	56326	407681	14.39%	0.248%
503	21.031	21.028	21.076	VV	54949	1409392	49.75%	0.858%
504	21.080	21.076	21.091	VV	46888	426377	15.05%	0.260%
505	21.097	21.091	21.116	VV	46548	658049	23.23%	0.401%
506	21.134	21.116	21.159	VV	46147	1138759	40.20%	0.693%
507	21.162	21.159	21.168	VV	42294	211944	7.48%	0.129%
508	21.173	21.168	21.184	VV	40902	369234	13.03%	0.225%
509	21.190	21.184	21.196	VV	39985	285787	10.09%	0.174%

					rteres			
510	21.199	21.196	21.230	VV	38035	683553	24.13%	0.416%
511	21.235	21.230	21.251	VV	30477	390650	13.79%	0.238%
512	21.258	21.251	21.273	VV	31750	376054	13.27%	0.229%
513	21.279	21.273	21.290	VV	29767	291040	10.27%	0.177%
514	21.307	21.290	21.318	VV	31406	503573	17.78%	0.307%
515	21.325	21.318	21.354	VV	31616	603041	21.29%	0.367%
516	21.366	21.354	21.377	VV	27575	362848	12.81%	0.221%
517	21.382	21.377	21.396	VV	28019	290775	10.26%	0.177%
518	21.400	21.396	21.403	VV	27047	122096	4.31%	0.074%
519	21.410	21.403	21.433	VV	27427	444401	15.69%	0.271%
520	21.447	21.433	21.454	VV	23896	288532	10.19%	0.176%
521	21.459	21.454	21.476	VV	22740	274211	9.68%	0.167%
522	21.482	21.476	21.488	VV	21331	150062	5.30%	0.091%
523	21.504	21.488	21.509	VV	22152	271247	9.57%	0.165%
524	21.514	21.509	21.533	VV	22924	302634	10.68%	0.184%
525	21.538	21.533	21.547	VV	18029	141868	5.01%	0.086%
526	21.558	21.547	21.564	VV	19138	173040	6.11%	0.105%
527	21.576	21.564	21.582	VV	20651	198204	7.00%	0.121%
528	21.590	21.582	21.601	VV	22042	243806	8.61%	0.148%
529	21.607	21.601	21.622	VV	23413	259607	9.16%	0.158%
530	21.627	21.622	21.639	VV	20104	178923	6.32%	0.109%
531	21.648	21.639	21.652	VV	18963	143271	5.06%	0.087%
532	21.700	21.652	21.720	VV	28049	961442	33.94%	0.586%
533	21.723	21.720	21.754	VV	23046	408763	14.43%	0.249%
534	21.771	21.754	21.806	VV	19283	492608	17.39%	0.300%
535	21.810	21.806	21.816	VV	13799	79909	2.82%	0.049%
536	21.829	21.816	21.835	VV	13495	140075	4.94%	0.085%
537	21.837	21.835	21.851	VV	12386	105575	3.73%	0.064%
538	21.873	21.851	21.889	VV	14211	284651	10.05%	0.173%
539	21.894	21.889	21.901	VV	10750	76910	2.71%	0.047%
540	21.916	21.901	21.923	VV	12586	147048	5.19%	0.090%
541	21.928	21.923	21.969	VV	11600	195271	6.89%	0.119%
542	21.972	21.969	21.977	VV	4189	18778	0.66%	0.011%
543	22.015	21.977	22.055	VV	18232	509190	17.97%	0.310%
544	22.093	22.055	22.132	VV	14783	384956	13.59%	0.234%
545	22.141	22.132	22.176	VV	5182	73263	2.59%	0.045%
546	22.210	22.176	22.221	PV	4021	80049	2.83%	0.049%
547	22.235	22.221	22.251	VBA	4882	129076	4.56%	0.079%
					Sum of corrected areas:		164206813	

FG032725.M Fri Apr 04 03:16:48 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/02/25	
Project:	MTA Rockaway Park		Date Received:	04/02/25	
Client Sample ID:	B-10-TPH-3		SDG No.:	Q1698	
Lab Sample ID:	Q1698-11		Matrix:	SOIL	
Analytical Method:	8015D TPH		% Solid:	93.2	Decanted:
Sample Wt/Vol:	30.07	Units: g	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015627.D	1	04/03/25 08:00	04/03/25 19:30	PB167438

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	43.0		0.41	3.03	mg/Kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	15.8		37 - 130	79%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015627.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 19:30
Operator : YP\AJ
Sample : Q1698-11
Misc :
ALS Vial : 31 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-10-TPH-3

Integration File: autoint1.e
Quant Time: Apr 04 01:10:30 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.016	1805032	15.756 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

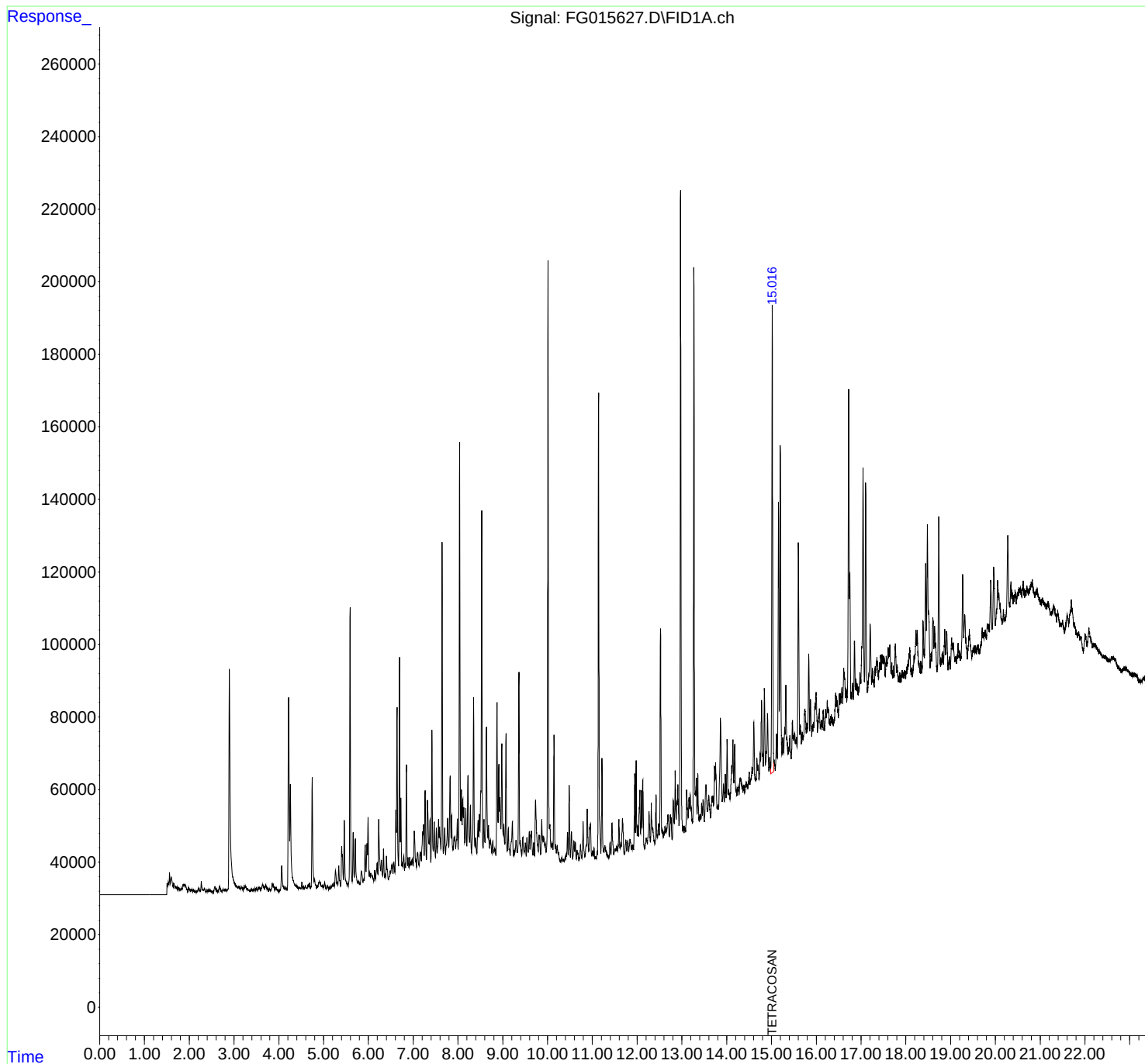
(m)=manual int.

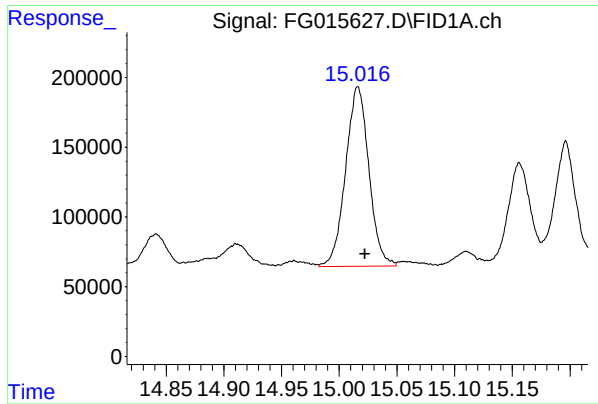
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015627.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 19:30
Operator : YP\AJ
Sample : Q1698-11
Misc :
ALS Vial : 31 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-10-TPH-3

Integration File: autoint1.e
Quant Time: Apr 04 01:10:30 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.016 min
Delta R.T.: -0.006 min
Response: 1805032
Conc: 15.76 ug/ml

Instrument :
FID_G
ClientSampleId :
B-10-TPH-3

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015627.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 19:30
Sample : Q1698-11
Misc :
ALS Vial : 31 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.826	1.800	1.838	BV	516	4606	0.22%	0.003%
2	1.860	1.838	1.882	VV	1559	28843	1.35%	0.020%
3	1.892	1.882	1.964	VV	1534	45801	2.14%	0.032%
4	1.988	1.964	2.030	VV	1034	16196	0.76%	0.011%
5	2.062	2.030	2.127	VV	432	13641	0.64%	0.010%
6	2.172	2.127	2.182	PV	243	3743	0.17%	0.003%
7	2.203	2.182	2.250	VV	1020	22772	1.06%	0.016%
8	2.269	2.250	2.317	VV	2916	43882	2.05%	0.031%
9	2.332	2.317	2.380	VV	788	16591	0.78%	0.012%
10	2.397	2.380	2.412	PV	556	6615	0.31%	0.005%
11	2.428	2.412	2.438	VV	441	5245	0.25%	0.004%
12	2.455	2.438	2.494	VV	606	12249	0.57%	0.009%
13	2.502	2.494	2.512	VV	167	1264	0.06%	0.001%
14	2.521	2.512	2.527	VV	156	863	0.04%	0.001%
15	2.530	2.527	2.541	VV	118	427	0.02%	0.000%
16	2.569	2.541	2.627	PV	1481	38292	1.79%	0.027%
17	2.631	2.627	2.647	VV	411	3293	0.15%	0.002%
18	2.675	2.647	2.733	VV	1522	36884	1.72%	0.026%
19	2.753	2.733	2.777	VV	926	13691	0.64%	0.010%
20	2.792	2.777	2.796	VV	532	5395	0.25%	0.004%
21	2.805	2.796	2.814	VV	612	5668	0.26%	0.004%
22	2.823	2.814	2.845	VV	577	8731	0.41%	0.006%
23	2.895	2.845	3.080	VV	61424	1340281	62.61%	0.950%
24	3.101	3.080	3.113	VV	1348	25381	1.19%	0.018%
25	3.119	3.113	3.148	VV	1335	23752	1.11%	0.017%
26	3.171	3.148	3.198	VV	1246	29092	1.36%	0.021%
27	3.228	3.198	3.244	VV	1330	27414	1.28%	0.019%
28	3.251	3.244	3.298	VV	1499	34859	1.63%	0.025%
29	3.309	3.298	3.354	VV	774	16050	0.75%	0.011%
30	3.373	3.354	3.382	VV	506	5872	0.27%	0.004%
31	3.399	3.382	3.415	VV	594	9040	0.42%	0.006%
32	3.426	3.415	3.446	VV	590	7841	0.37%	0.006%
33	3.471	3.446	3.494	VV	784	16979	0.79%	0.012%
34	3.500	3.494	3.527	VV	702	12299	0.57%	0.009%
35	3.544	3.527	3.558	VV	1060	15671	0.73%	0.011%
36	3.569	3.558	3.599	VV	1019	18904	0.88%	0.013%

					rteres			
37	3.637	3.599	3.687	VV	1885	65204	3.05%	0.046%
38	3.708	3.687	3.772	VV	1701	49498	2.31%	0.035%
39	3.787	3.772	3.802	VV	605	8639	0.40%	0.006%
40	3.848	3.802	3.860	VV	1902	32761	1.53%	0.023%
41	3.871	3.860	3.907	VV	1953	37215	1.74%	0.026%
42	3.922	3.907	3.932	VV	1013	11634	0.54%	0.008%
43	3.942	3.932	4.004	VV	956	19299	0.90%	0.014%
44	4.027	4.004	4.037	PV	479	5501	0.26%	0.004%
45	4.064	4.037	4.138	VV	7021	142310	6.65%	0.101%
46	4.157	4.138	4.185	VV	1068	19172	0.90%	0.014%
47	4.218	4.185	4.243	VV	53333	855647	39.97%	0.607%
48	4.258	4.243	4.435	VV	29397	637588	29.78%	0.452%
49	4.455	4.435	4.489	VV	815	21050	0.98%	0.015%
50	4.515	4.489	4.540	VV	2357	34545	1.61%	0.024%
51	4.551	4.540	4.568	VV	868	10946	0.51%	0.008%
52	4.591	4.568	4.616	VV	1253	23574	1.10%	0.017%
53	4.624	4.616	4.634	VV	626	5906	0.28%	0.004%
54	4.651	4.634	4.668	VV	1464	21740	1.02%	0.015%
55	4.685	4.668	4.702	VV	1979	27045	1.26%	0.019%
56	4.745	4.702	4.787	VV	31063	441685	20.63%	0.313%
57	4.799	4.787	4.843	VV	2986	57709	2.70%	0.041%
58	4.857	4.843	4.870	VV	883	13111	0.61%	0.009%
59	4.903	4.870	4.926	VV	2116	54024	2.52%	0.038%
60	4.933	4.926	4.950	VV	1670	19057	0.89%	0.014%
61	4.959	4.950	4.968	VV	994	9966	0.47%	0.007%
62	4.978	4.968	4.995	VV	1219	14635	0.68%	0.010%
63	5.024	4.995	5.060	VV	1986	35454	1.66%	0.025%
64	5.080	5.060	5.118	VV	1043	18980	0.89%	0.013%
65	5.133	5.118	5.148	VV	435	4452	0.21%	0.003%
66	5.168	5.148	5.182	PV	794	10361	0.48%	0.007%
67	5.197	5.182	5.212	VV	1310	15194	0.71%	0.011%
68	5.230	5.212	5.244	VV	1608	21794	1.02%	0.015%
69	5.265	5.244	5.295	VV	4877	91282	4.26%	0.065%
70	5.304	5.295	5.319	VV	1703	19824	0.93%	0.014%
71	5.339	5.319	5.379	VV	6157	97527	4.56%	0.069%
72	5.404	5.379	5.414	VV	11358	120474	5.63%	0.085%
73	5.420	5.414	5.444	VV	9306	109264	5.10%	0.077%
74	5.463	5.444	5.524	VV	18483	257066	12.01%	0.182%
75	5.534	5.524	5.548	VV	983	10209	0.48%	0.007%
76	5.591	5.548	5.639	VV	76900	911453	42.58%	0.646%
77	5.660	5.639	5.684	VV	14855	194953	9.11%	0.138%
78	5.708	5.684	5.767	VV	13087	215638	10.07%	0.153%
79	5.772	5.767	5.802	VV	1244	18549	0.87%	0.013%
80	5.812	5.802	5.822	VV	722	6359	0.30%	0.005%
81	5.842	5.822	5.879	VV	3942	84226	3.93%	0.060%
82	5.892	5.879	5.904	VV	1619	20217	0.94%	0.014%
83	5.928	5.904	5.947	VV	11005	158713	7.41%	0.113%
84	5.969	5.947	5.979	VV	11445	152967	7.15%	0.108%
85	5.993	5.979	6.016	VV	18606	224876	10.50%	0.159%
86	6.027	6.016	6.041	VV	3431	41890	1.96%	0.030%
87	6.055	6.041	6.085	VV	3088	68020	3.18%	0.048%
88	6.093	6.085	6.122	VV	2342	35859	1.68%	0.025%
89	6.142	6.122	6.158	VV	3795	50025	2.34%	0.035%

					rteres			
90	6.195	6.158	6.212	VV	5674	114429	5.35%	0.081%
91	6.232	6.212	6.275	VV	17729	320072	14.95%	0.227%
92	6.293	6.275	6.321	VV	6430	111285	5.20%	0.079%
93	6.339	6.321	6.365	VV	9399	124247	5.80%	0.088%
94	6.378	6.365	6.389	VV	2378	28279	1.32%	0.020%
95	6.404	6.389	6.447	VV	7217	125254	5.85%	0.089%
96	6.486	6.447	6.500	VV	3198	63525	2.97%	0.045%
97	6.518	6.500	6.526	VV	4601	57881	2.70%	0.041%
98	6.535	6.526	6.550	VV	4637	54941	2.57%	0.039%
99	6.569	6.550	6.592	VV	5471	99835	4.66%	0.071%
100	6.614	6.592	6.624	VV	19744	227419	10.62%	0.161%
101	6.640	6.624	6.674	VV	48021	629586	29.41%	0.446%
102	6.695	6.674	6.713	VV	61711	683383	31.92%	0.485%
103	6.726	6.713	6.747	VV	22975	275017	12.85%	0.195%
104	6.756	6.747	6.768	VV	4864	55657	2.60%	0.039%
105	6.791	6.768	6.808	VV	6896	124960	5.84%	0.089%
106	6.821	6.808	6.830	VV	4684	51365	2.40%	0.036%
107	6.850	6.830	6.874	VV	31893	395656	18.48%	0.281%
108	6.885	6.874	6.907	VV	6253	95872	4.48%	0.068%
109	6.923	6.907	6.937	VV	6352	89537	4.18%	0.063%
110	6.957	6.937	6.968	VV	5044	85558	4.00%	0.061%
111	6.982	6.968	7.000	VV	5757	91564	4.28%	0.065%
112	7.026	7.000	7.055	VV	13376	276106	12.90%	0.196%
113	7.061	7.055	7.075	VV	5291	54285	2.54%	0.038%
114	7.103	7.075	7.135	VV	7434	197650	9.23%	0.140%
115	7.165	7.135	7.182	VV	7180	166843	7.79%	0.118%
116	7.213	7.182	7.219	VV	12938	211416	9.88%	0.150%
117	7.230	7.219	7.248	VV	14789	196313	9.17%	0.139%
118	7.267	7.248	7.298	VV	24160	408149	19.07%	0.289%
119	7.319	7.298	7.350	VV	21404	434730	20.31%	0.308%
120	7.356	7.350	7.362	VV	9851	70539	3.30%	0.050%
121	7.376	7.362	7.395	VV	16095	211630	9.89%	0.150%
122	7.420	7.395	7.452	VV	40576	576681	26.94%	0.409%
123	7.470	7.452	7.499	VV	15252	279245	13.04%	0.198%
124	7.519	7.499	7.537	VV	13476	212597	9.93%	0.151%
125	7.568	7.537	7.580	VV	15873	275545	12.87%	0.195%
126	7.590	7.580	7.619	VV	13688	253255	11.83%	0.180%
127	7.647	7.619	7.674	VV	92169	1127927	52.69%	0.800%
128	7.705	7.674	7.724	VV	13312	278175	12.99%	0.197%
129	7.772	7.724	7.795	VV	15837	441981	20.65%	0.313%
130	7.825	7.795	7.846	VV	27437	508683	23.76%	0.361%
131	7.859	7.846	7.892	VV	16504	300011	14.01%	0.213%
132	7.911	7.892	7.924	VV	10389	170595	7.97%	0.121%
133	7.931	7.924	7.949	VV	10591	138063	6.45%	0.098%
134	7.988	7.949	8.004	VV	15381	343112	16.03%	0.243%
135	8.038	8.004	8.064	VV	118878	1506434	70.37%	1.068%
136	8.077	8.064	8.093	VV	23336	328125	15.33%	0.233%
137	8.108	8.093	8.122	VV	20644	309236	14.45%	0.219%
138	8.132	8.122	8.152	VV	18252	254644	11.90%	0.181%
139	8.177	8.152	8.199	VV	18004	331688	15.49%	0.235%
140	8.224	8.199	8.260	VV	26986	546320	25.52%	0.387%
141	8.280	8.260	8.302	VV	18744	296168	13.83%	0.210%

rteres								
142	8.351	8.302	8.380	VV	48314	800556	37.40%	0.568%
143	8.397	8.380	8.418	VV	9557	179347	8.38%	0.127%
144	8.450	8.418	8.463	VV	14276	264847	12.37%	0.188%
145	8.478	8.463	8.492	VV	15805	224623	10.49%	0.159%
146	8.532	8.492	8.562	VV	99599	1430883	66.84%	1.015%
147	8.582	8.562	8.607	VV	14434	269748	12.60%	0.191%
148	8.637	8.607	8.668	VV	39823	707740	33.06%	0.502%
149	8.683	8.668	8.701	VV	12667	200587	9.37%	0.142%
150	8.727	8.701	8.759	VV	8550	247947	11.58%	0.176%
151	8.779	8.759	8.800	VV	8206	161044	7.52%	0.114%
152	8.819	8.800	8.848	VV	5940	151265	7.07%	0.107%
153	8.872	8.848	8.897	VV	46187	648061	30.27%	0.460%
154	8.913	8.897	8.927	VV	28901	374210	17.48%	0.265%
155	8.937	8.927	8.961	VV	19930	322254	15.05%	0.229%
156	8.980	8.961	9.012	VV	34333	605375	28.28%	0.429%
157	9.026	9.012	9.043	VV	12509	188409	8.80%	0.134%
158	9.074	9.043	9.104	VV	37222	565050	26.40%	0.401%
159	9.126	9.104	9.143	VV	11377	186336	8.70%	0.132%
160	9.149	9.143	9.167	VV	5423	67796	3.17%	0.048%
161	9.216	9.167	9.241	VV	12907	332385	15.53%	0.236%
162	9.256	9.241	9.266	VV	4941	63232	2.95%	0.045%
163	9.297	9.266	9.330	VV	7626	203688	9.51%	0.144%
164	9.362	9.330	9.384	VV	53775	680812	31.80%	0.483%
165	9.392	9.384	9.425	VV	7501	134148	6.27%	0.095%
166	9.450	9.425	9.485	VV	8267	196269	9.17%	0.139%
167	9.507	9.485	9.524	VV	6560	119142	5.57%	0.084%
168	9.542	9.524	9.574	VV	8050	157757	7.37%	0.112%
169	9.593	9.574	9.610	VV	9578	146309	6.83%	0.104%
170	9.625	9.610	9.632	VV	8747	96856	4.52%	0.069%
171	9.641	9.632	9.675	VV	9705	165903	7.75%	0.118%
172	9.691	9.675	9.710	VV	6361	95449	4.46%	0.068%
173	9.734	9.710	9.793	VV	18199	465687	21.75%	0.330%
174	9.812	9.793	9.820	VV	8339	106785	4.99%	0.076%
175	9.825	9.820	9.846	VV	8049	93706	4.38%	0.066%
176	9.873	9.846	9.892	VV	12422	206460	9.64%	0.146%
177	9.901	9.892	9.915	VV	7817	100330	4.69%	0.071%
178	9.923	9.915	9.937	VV	7137	83642	3.91%	0.059%
179	9.951	9.937	9.967	VV	5706	89252	4.17%	0.063%
180	10.012	9.967	10.042	VV	165491	1975890	92.30%	1.401%
181	10.052	10.042	10.083	VV	10788	191180	8.93%	0.136%
182	10.100	10.083	10.123	VV	5761	121599	5.68%	0.086%
183	10.146	10.123	10.171	VV	35527	465192	21.73%	0.330%
184	10.182	10.171	10.199	VV	5160	68780	3.21%	0.049%
185	10.215	10.199	10.237	VV	4792	84011	3.92%	0.060%
186	10.246	10.237	10.287	VV	2969	48656	2.27%	0.035%
187	10.316	10.287	10.344	VV	1356	25158	1.18%	0.018%
188	10.357	10.344	10.377	VV	923	10767	0.50%	0.008%
189	10.395	10.377	10.405	VV	1788	17665	0.83%	0.013%
190	10.419	10.405	10.430	VV	2410	27231	1.27%	0.019%
191	10.447	10.430	10.464	VV	8157	95817	4.48%	0.068%
192	10.485	10.464	10.511	VV	21105	260488	12.17%	0.185%
193	10.535	10.511	10.562	VV	8095	127708	5.97%	0.091%
194	10.589	10.562	10.604	VV	5513	78340	3.66%	0.056%

					rteres			
195	10.620	10.604	10.644	VV	5222	75758	3.54%	0.054%
196	10.660	10.644	10.672	VV	2979	36341	1.70%	0.026%
197	10.680	10.672	10.699	VV	2180	21737	1.02%	0.015%
198	10.735	10.699	10.765	VV	4341	71023	3.32%	0.050%
199	10.794	10.765	10.834	VV	10719	173607	8.11%	0.123%
200	10.888	10.834	10.920	VV	13905	274352	12.82%	0.195%
201	10.959	10.920	10.984	VV	9796	245627	11.47%	0.174%
202	11.009	10.984	11.024	VV	2288	38356	1.79%	0.027%
203	11.039	11.024	11.060	VV	3042	32544	1.52%	0.023%
204	11.079	11.060	11.091	VV	705	7820	0.37%	0.006%
205	11.108	11.091	11.115	VV	1813	15731	0.73%	0.011%
206	11.140	11.115	11.192	VV	128139	1544867	72.17%	1.096%
207	11.217	11.192	11.251	VV	27576	377245	17.62%	0.268%
208	11.281	11.251	11.359	VV	3433	108198	5.05%	0.077%
209	11.365	11.359	11.375	VV	278	2114	0.10%	0.001%
210	11.396	11.375	11.416	PV	4010	47891	2.24%	0.034%
211	11.439	11.416	11.478	VV	9249	149836	7.00%	0.106%
212	11.507	11.478	11.522	VV	2030	38874	1.82%	0.028%
213	11.541	11.522	11.562	VV	2449	46138	2.16%	0.033%
214	11.593	11.562	11.618	VV	9772	154900	7.24%	0.110%
215	11.636	11.618	11.649	VV	3332	50359	2.35%	0.036%
216	11.675	11.649	11.715	VV	9939	194143	9.07%	0.138%
217	11.748	11.715	11.769	PV	3758	58762	2.74%	0.042%
218	11.792	11.769	11.815	VV	3392	55490	2.59%	0.039%
219	11.841	11.815	11.889	VV	3634	88063	4.11%	0.062%
220	11.902	11.889	11.920	VV	1844	24071	1.12%	0.017%
221	11.947	11.920	11.962	VV	21471	234615	10.96%	0.166%
222	11.978	11.962	12.000	VV	24660	302129	14.11%	0.214%
223	12.014	12.000	12.029	VV	6736	90848	4.24%	0.064%
224	12.061	12.029	12.078	VV	16430	296736	13.86%	0.210%
225	12.095	12.078	12.110	VV	16083	197402	9.22%	0.140%
226	12.127	12.110	12.170	VV	18818	253241	11.83%	0.180%
227	12.202	12.170	12.227	PV	2616	52111	2.43%	0.037%
228	12.267	12.227	12.297	VV	9637	181192	8.46%	0.128%
229	12.317	12.297	12.396	VV	11913	254708	11.90%	0.181%
230	12.421	12.396	12.457	VV	13714	193092	9.02%	0.137%
231	12.478	12.457	12.497	VV	5546	88160	4.12%	0.063%
232	12.523	12.497	12.557	VV	58654	742046	34.66%	0.526%
233	12.565	12.557	12.586	VV	3548	47796	2.23%	0.034%
234	12.621	12.586	12.644	VV	4256	100275	4.68%	0.071%
235	12.692	12.644	12.724	VV	7160	195057	9.11%	0.138%
236	12.742	12.724	12.750	VV	6948	74183	3.47%	0.053%
237	12.760	12.750	12.784	VV	6048	68120	3.18%	0.048%
238	12.807	12.784	12.830	PV	10420	157150	7.34%	0.111%
239	12.851	12.830	12.872	VV	18658	267395	12.49%	0.190%
240	12.888	12.872	12.896	VV	9883	121531	5.68%	0.086%
241	12.912	12.896	12.940	VV	14393	230201	10.75%	0.163%
242	12.969	12.940	13.020	VV	176037	2140722	100.00%	1.518%
243	13.033	13.020	13.050	VV	2093	29092	1.36%	0.021%
244	13.067	13.050	13.084	VV	1692	21405	1.00%	0.015%
245	13.105	13.084	13.139	VV	11866	215286	10.06%	0.153%
246	13.156	13.139	13.169	VV	9353	134886	6.30%	0.096%

rteres								
247	13.183	13.169	13.233	VV	10153	234423	10.95%	0.166%
248	13.267	13.233	13.292	VV	154117	1820286	85.03%	1.291%
249	13.301	13.292	13.308	VV	10432	89432	4.18%	0.063%
250	13.323	13.308	13.340	VV	13841	189373	8.85%	0.134%
251	13.356	13.340	13.388	VV	14981	199915	9.34%	0.142%
252	13.408	13.388	13.422	VV	3347	53824	2.51%	0.038%
253	13.442	13.422	13.458	VV	6388	88759	4.15%	0.063%
254	13.475	13.458	13.501	VV	7130	105010	4.91%	0.074%
255	13.538	13.501	13.569	VV	11001	258569	12.08%	0.183%
256	13.574	13.569	13.577	VV	3815	17903	0.84%	0.013%
257	13.600	13.577	13.640	VV	7534	175733	8.21%	0.125%
258	13.668	13.640	13.680	VV	6797	108941	5.09%	0.077%
259	13.690	13.680	13.707	VV	6937	95923	4.48%	0.068%
260	13.729	13.707	13.744	VV	14637	232719	10.87%	0.165%
261	13.756	13.744	13.791	VV	15768	248792	11.62%	0.176%
262	13.799	13.791	13.815	VV	3351	43244	2.02%	0.031%
263	13.860	13.815	13.910	VV	27372	691326	32.29%	0.490%
264	13.928	13.910	13.945	VV	8805	137934	6.44%	0.098%
265	13.969	13.945	13.986	VV	11354	190326	8.89%	0.135%
266	14.008	13.986	14.033	VV	20848	309459	14.46%	0.219%
267	14.045	14.033	14.059	VV	6599	92710	4.33%	0.066%
268	14.064	14.059	14.074	VV	5437	41359	1.93%	0.029%
269	14.112	14.074	14.120	VV	12951	237933	11.11%	0.169%
270	14.137	14.120	14.160	VV	19821	324895	15.18%	0.230%
271	14.178	14.160	14.207	VV	18459	317617	14.84%	0.225%
272	14.214	14.207	14.225	VV	5583	53666	2.51%	0.038%
273	14.256	14.225	14.276	VV	6415	158281	7.39%	0.112%
274	14.303	14.276	14.342	VV	8329	274552	12.83%	0.195%
275	14.351	14.342	14.360	VV	5966	56885	2.66%	0.040%
276	14.381	14.360	14.397	VV	6135	112392	5.25%	0.080%
277	14.423	14.397	14.430	VV	5834	98083	4.58%	0.070%
278	14.441	14.430	14.470	VV	6474	138571	6.47%	0.098%
279	14.502	14.470	14.518	VV	9007	192516	8.99%	0.137%
280	14.537	14.518	14.542	VV	6946	91063	4.25%	0.065%
281	14.572	14.542	14.579	VV	9796	190659	8.91%	0.135%
282	14.604	14.579	14.633	VV	21736	426418	19.92%	0.302%
283	14.639	14.633	14.652	VV	6637	72343	3.38%	0.051%
284	14.675	14.652	14.692	VV	11829	213343	9.97%	0.151%
285	14.699	14.692	14.725	VV	9693	158596	7.41%	0.112%
286	14.748	14.725	14.759	VV	12710	191880	8.96%	0.136%
287	14.778	14.759	14.816	VV	26938	566724	26.47%	0.402%
288	14.841	14.816	14.866	VV	29955	530944	24.80%	0.377%
289	14.911	14.866	14.945	VV	22706	623018	29.10%	0.442%
290	14.961	14.945	14.982	VV	10248	185141	8.65%	0.131%
291	15.016	14.982	15.049	VV	134857	2048205	95.68%	1.452%
292	15.056	15.049	15.085	VV	9172	172241	8.05%	0.122%
293	15.110	15.085	15.130	VV	16040	303077	14.16%	0.215%
294	15.156	15.130	15.176	VV	79271	1150998	53.77%	0.816%
295	15.196	15.176	15.240	VV	94765	1444035	67.46%	1.024%
296	15.251	15.240	15.272	VV	14195	231300	10.80%	0.164%
297	15.293	15.272	15.302	VV	16585	249989	11.68%	0.177%
298	15.319	15.302	15.373	VV	28252	709954	33.16%	0.503%
299	15.386	15.373	15.394	VV	10591	121360	5.67%	0.086%

					rteres			
300	15.411	15.394	15.434	VV	13686	271650	12.69%	0.193%
301	15.468	15.434	15.490	VV	17855	414767	19.38%	0.294%
302	15.498	15.490	15.504	VV	13410	108466	5.07%	0.077%
303	15.517	15.504	15.547	VV	14089	325842	15.22%	0.231%
304	15.556	15.547	15.571	VV	12432	169036	7.90%	0.120%
305	15.599	15.571	15.632	VV	65759	1177432	55.00%	0.835%
306	15.644	15.632	15.667	VV	15611	283071	13.22%	0.201%
307	15.689	15.667	15.705	VV	13347	269931	12.61%	0.191%
308	15.743	15.705	15.775	VV	19131	643519	30.06%	0.456%
309	15.787	15.775	15.799	VV	14839	204302	9.54%	0.145%
310	15.804	15.799	15.807	VV	14007	65412	3.06%	0.046%
311	15.832	15.807	15.854	VV	33518	630065	29.43%	0.447%
312	15.871	15.854	15.899	VV	21288	434790	20.31%	0.308%
313	15.918	15.899	15.925	VV	14253	208919	9.76%	0.148%
314	15.935	15.925	15.941	VV	14571	128203	5.99%	0.091%
315	15.992	15.941	16.027	VV	22398	905779	42.31%	0.642%
316	16.069	16.027	16.092	VV	17669	562639	26.28%	0.399%
317	16.119	16.092	16.131	VV	14102	304630	14.23%	0.216%
318	16.157	16.131	16.184	VV	16838	428326	20.01%	0.304%
319	16.210	16.184	16.223	VV	16434	334306	15.62%	0.237%
320	16.245	16.223	16.258	VV	18529	345457	16.14%	0.245%
321	16.265	16.258	16.290	VV	16804	298228	13.93%	0.211%
322	16.294	16.290	16.320	VV	13429	225133	10.52%	0.160%
323	16.334	16.320	16.355	VV	14401	277209	12.95%	0.197%
324	16.363	16.355	16.382	VV	13360	207711	9.70%	0.147%
325	16.432	16.382	16.437	VV	19998	485108	22.66%	0.344%
326	16.441	16.437	16.449	VV	18878	125177	5.85%	0.089%
327	16.458	16.449	16.491	VV	18046	410267	19.16%	0.291%
328	16.513	16.491	16.530	VV	19085	386806	18.07%	0.274%
329	16.537	16.530	16.553	VV	19282	243397	11.37%	0.173%
330	16.571	16.553	16.590	VV	20674	417929	19.52%	0.296%
331	16.612	16.590	16.650	VV	25535	780989	36.48%	0.554%
332	16.661	16.650	16.682	VV	19472	346048	16.17%	0.245%
333	16.722	16.682	16.741	VV	101756	1801841	84.17%	1.278%
334	16.750	16.741	16.799	VV	50713	954370	44.58%	0.677%
335	16.813	16.799	16.830	VV	20459	351127	16.40%	0.249%
336	16.854	16.830	16.877	VV	31679	662985	30.97%	0.470%
337	16.886	16.877	16.900	VV	21109	282318	13.19%	0.200%
338	16.913	16.900	16.941	VV	19810	439810	20.54%	0.312%
339	16.976	16.941	16.992	VV	22334	597969	27.93%	0.424%
340	17.044	16.992	17.079	VV	77920	1908942	89.17%	1.354%
341	17.103	17.079	17.149	VV	73816	1482418	69.25%	1.051%
342	17.203	17.149	17.233	VV	34574	1205265	56.30%	0.855%
343	17.253	17.233	17.293	VV	22044	698094	32.61%	0.495%
344	17.318	17.293	17.329	VV	22306	425023	19.85%	0.301%
345	17.353	17.329	17.379	VV	24057	677656	31.66%	0.481%
346	17.382	17.379	17.391	VV	20750	148796	6.95%	0.106%
347	17.412	17.391	17.417	VV	22725	328843	15.36%	0.233%
348	17.442	17.417	17.450	VV	24900	458794	21.43%	0.325%
349	17.471	17.450	17.484	VV	24765	469791	21.95%	0.333%
350	17.490	17.484	17.499	VV	23526	211127	9.86%	0.150%
351	17.512	17.499	17.542	VV	24068	544168	25.42%	0.386%

rteres								
352	17.564	17.542	17.574	VV	23737	420690	19.65%	0.298%
353	17.579	17.574	17.583	VV	21697	113206	5.29%	0.080%
354	17.606	17.583	17.622	VV	25773	542112	25.32%	0.384%
355	17.645	17.622	17.665	VV	26347	626728	29.28%	0.444%
356	17.687	17.665	17.705	VV	21272	454534	21.23%	0.322%
357	17.722	17.705	17.737	VV	20148	350697	16.38%	0.249%
358	17.768	17.737	17.790	VV	26071	677619	31.65%	0.481%
359	17.807	17.790	17.834	VV	20155	480371	22.44%	0.341%
360	17.837	17.834	17.847	VV	16504	126619	5.91%	0.090%
361	17.855	17.847	17.859	VV	16799	117757	5.50%	0.084%
362	17.863	17.859	17.897	VV	17537	365377	17.07%	0.259%
363	17.922	17.897	17.930	VV	17698	339262	15.85%	0.241%
364	17.935	17.930	17.956	VV	17274	255319	11.93%	0.181%
365	17.977	17.956	17.986	VV	17569	290112	13.55%	0.206%
366	17.989	17.986	17.995	VV	17163	95079	4.44%	0.067%
367	18.019	17.995	18.026	VV	18254	313962	14.67%	0.223%
368	18.037	18.026	18.043	VV	18835	178601	8.34%	0.127%
369	18.087	18.043	18.114	VV	22881	842506	39.36%	0.597%
370	18.129	18.114	18.134	VV	17259	202199	9.45%	0.143%
371	18.137	18.134	18.145	VV	16921	108372	5.06%	0.077%
372	18.151	18.145	18.155	VV	16570	95368	4.45%	0.068%
373	18.181	18.155	18.189	VV	20337	370768	17.32%	0.263%
374	18.226	18.189	18.242	VV	27230	732946	34.24%	0.520%
375	18.254	18.242	18.312	VV	26568	840985	39.29%	0.596%
376	18.319	18.312	18.323	VV	15896	106987	5.00%	0.076%
377	18.343	18.323	18.361	VV	17825	383781	17.93%	0.272%
378	18.385	18.361	18.417	VV	28622	720194	33.64%	0.511%
379	18.443	18.417	18.460	VV	44652	829914	38.77%	0.589%
380	18.481	18.460	18.501	VV	54884	964914	45.07%	0.684%
381	18.505	18.501	18.542	VV	30930	605211	28.27%	0.429%
382	18.546	18.542	18.552	VV	16721	97683	4.56%	0.069%
383	18.568	18.552	18.579	VV	19111	294837	13.77%	0.209%
384	18.604	18.579	18.631	VV	28514	747367	34.91%	0.530%
385	18.642	18.631	18.700	VV	25739	798157	37.28%	0.566%
386	18.735	18.700	18.776	VV	55015	1196984	55.91%	0.849%
387	18.780	18.776	18.786	VV	16388	94343	4.41%	0.067%
388	18.810	18.786	18.835	VV	17371	472870	22.09%	0.335%
389	18.869	18.835	18.888	VV	23746	598502	27.96%	0.424%
390	18.910	18.888	18.941	VV	22654	589959	27.56%	0.418%
391	18.946	18.941	18.952	VV	13645	85664	4.00%	0.061%
392	18.975	18.952	18.991	VV	15694	331669	15.49%	0.235%
393	19.023	18.991	19.045	VV	20543	550017	25.69%	0.390%
394	19.052	19.045	19.091	VV	18416	472204	22.06%	0.335%
395	19.110	19.091	19.115	VV	15101	207384	9.69%	0.147%
396	19.120	19.115	19.127	VV	14749	98538	4.60%	0.070%
397	19.129	19.127	19.134	VV	14360	58098	2.71%	0.041%
398	19.148	19.134	19.152	VV	15196	152151	7.11%	0.108%
399	19.167	19.152	19.193	VV	17606	395835	18.49%	0.281%
400	19.201	19.193	19.229	VV	15721	315215	14.72%	0.224%
401	19.270	19.229	19.293	VV	36566	903792	42.22%	0.641%
402	19.320	19.293	19.341	VV	25343	633289	29.58%	0.449%
403	19.345	19.341	19.378	VV	18983	344591	16.10%	0.244%
404	19.418	19.378	19.439	VV	20784	637716	29.79%	0.452%

					rteres			
405	19.443	19.439	19.471	VV	16189	288662	13.48%	0.205%
406	19.501	19.471	19.512	VV	15193	337208	15.75%	0.239%
407	19.524	19.512	19.540	VV	15619	254199	11.87%	0.180%
408	19.548	19.540	19.555	VV	15606	130825	6.11%	0.093%
409	19.563	19.555	19.570	VV	14729	127303	5.95%	0.090%
410	19.575	19.570	19.580	VV	14448	79208	3.70%	0.056%
411	19.610	19.580	19.631	VV	15499	443291	20.71%	0.314%
412	19.636	19.631	19.655	VV	14211	198149	9.26%	0.141%
413	19.669	19.655	19.675	VV	15230	162646	7.60%	0.115%
414	19.704	19.675	19.719	VV	19525	445575	20.81%	0.316%
415	19.726	19.719	19.734	VV	17983	160218	7.48%	0.114%
416	19.736	19.734	19.745	VV	18099	118821	5.55%	0.084%
417	19.765	19.745	19.777	VV	18495	337137	15.75%	0.239%
418	19.780	19.777	19.790	VV	18380	139071	6.50%	0.099%
419	19.795	19.790	19.799	VV	16711	82654	3.86%	0.059%
420	19.825	19.799	19.843	VV	20048	502649	23.48%	0.356%
421	19.853	19.843	19.861	VV	19915	200814	9.38%	0.142%
422	19.896	19.861	19.927	VV	31607	927798	43.34%	0.658%
423	19.962	19.927	20.007	VV	35045	1192682	55.71%	0.846%
424	20.022	20.007	20.026	VV	22804	251561	11.75%	0.178%
425	20.050	20.026	20.105	VV	30234	1227428	57.34%	0.870%
426	20.108	20.105	20.152	VV	24186	574771	26.85%	0.408%
427	20.179	20.152	20.205	VV	21815	626398	29.26%	0.444%
428	20.275	20.205	20.312	VV	41827	1693960	79.13%	1.201%
429	20.317	20.312	20.324	VV	23287	155112	7.25%	0.110%
430	20.346	20.324	20.364	VV	28652	608811	28.44%	0.432%
431	20.369	20.364	20.395	VV	26210	467936	21.86%	0.332%
432	20.439	20.395	20.472	VV	25709	1088671	50.86%	0.772%
433	20.477	20.472	20.481	VV	23790	137752	6.43%	0.098%
434	20.508	20.481	20.519	VV	25772	548711	25.63%	0.389%
435	20.529	20.519	20.547	VV	26051	433582	20.25%	0.307%
436	20.559	20.547	20.573	VV	25670	382086	17.85%	0.271%
437	20.577	20.573	20.592	VV	25086	284244	13.28%	0.202%
438	20.621	20.592	20.650	VV	27558	872675	40.77%	0.619%
439	20.663	20.650	20.677	VV	24295	379211	17.71%	0.269%
440	20.681	20.677	20.686	VV	24331	129932	6.07%	0.092%
441	20.705	20.686	20.724	VV	25434	552338	25.80%	0.392%
442	20.728	20.724	20.742	VV	24624	261156	12.20%	0.185%
443	20.746	20.742	20.749	VV	24357	101833	4.76%	0.072%
444	20.755	20.749	20.760	VV	24819	154667	7.22%	0.110%
445	20.798	20.760	20.813	VV	25936	793076	37.05%	0.562%
446	20.822	20.813	20.850	VV	26690	551196	25.75%	0.391%
447	20.855	20.850	20.879	VV	23804	405014	18.92%	0.287%
448	20.907	20.879	20.912	VV	23116	441815	20.64%	0.313%
449	20.926	20.912	20.930	VV	23446	252911	11.81%	0.179%
450	20.938	20.930	20.954	VV	23064	318230	14.87%	0.226%
451	20.959	20.954	20.974	VV	21513	251453	11.75%	0.178%
452	20.979	20.974	20.988	VV	20500	169545	7.92%	0.120%
453	20.992	20.988	20.998	VV	20738	117876	5.51%	0.084%
454	21.001	20.998	21.005	VV	20105	92242	4.31%	0.065%
455	21.011	21.005	21.017	VV	19895	136899	6.39%	0.097%
456	21.020	21.017	21.039	VV	19584	247943	11.58%	0.176%

					rt	eres		
457	21.042	21.039	21.045	VV	19289	75163	3.51%	0.053%
458	21.050	21.045	21.109	VV	20332	728584	34.03%	0.517%
459	21.115	21.109	21.125	VV	18488	176905	8.26%	0.125%
460	21.132	21.125	21.137	VV	18132	122734	5.73%	0.087%
461	21.143	21.137	21.151	VV	18022	146031	6.82%	0.104%
462	21.182	21.151	21.220	VV	18742	717557	33.52%	0.509%
463	21.225	21.220	21.238	VV	15466	158932	7.42%	0.113%
464	21.247	21.238	21.254	VV	15196	142127	6.64%	0.101%
465	21.257	21.254	21.266	VV	15485	110012	5.14%	0.078%
466	21.290	21.266	21.343	VV	16789	726679	33.95%	0.515%
467	21.393	21.367	21.452	VV	15079	647139	30.23%	0.459%
468	21.457	21.452	21.466	VV	11085	87006	4.06%	0.062%
469	21.501	21.466	21.542	VV	11712	470698	21.99%	0.334%
470	21.601	21.542	21.636	VV	12638	599767	28.02%	0.425%
471	21.696	21.636	21.756	VV	15698	877932	41.01%	0.623%
472	21.766	21.756	21.828	VV	9652	317805	14.85%	0.225%
473	21.835	21.828	21.842	VV	5677	48835	2.28%	0.035%
474	21.853	21.842	21.897	VV	6435	175986	8.22%	0.125%
475	21.907	21.897	21.964	VV	4706	116225	5.43%	0.082%
476	22.003	21.964	22.049	PV	4870	147993	6.91%	0.105%
477	22.088	22.049	22.163	VV	6111	222146	10.38%	0.158%
478	22.181	22.163	22.193	VV	1181	14812	0.69%	0.011%
479	22.202	22.193	22.224	VV	978	12341	0.58%	0.009%
480	22.230	22.224	22.250	VBA	756	39740	1.86%	0.028%

Sum of corrected areas: 141014959

FG032725.M Fri Apr 04 03:29:12 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/02/25	
Project:	MTA Rockaway Park		Date Received:	04/02/25	
Client Sample ID:	B-10-TPH-4		SDG No.:	Q1698	
Lab Sample ID:	Q1698-12		Matrix:	SOIL	
Analytical Method:	8015D TPH		% Solid:	92.5	Decanted:
Sample Wt/Vol:	30.03	Units: g	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015628.D	1	04/03/25 08:00	04/03/25 19:59	PB167438

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	44.5		0.42	3.06	mg/Kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	15.3		37 - 130	76%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015628.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 19:59
Operator : YP\AJ
Sample : Q1698-12
Misc :
ALS Vial : 32 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-10-TPH-4

Integration File: autoint1.e
Quant Time: Apr 04 01:10:51 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.016	1753230	15.303 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

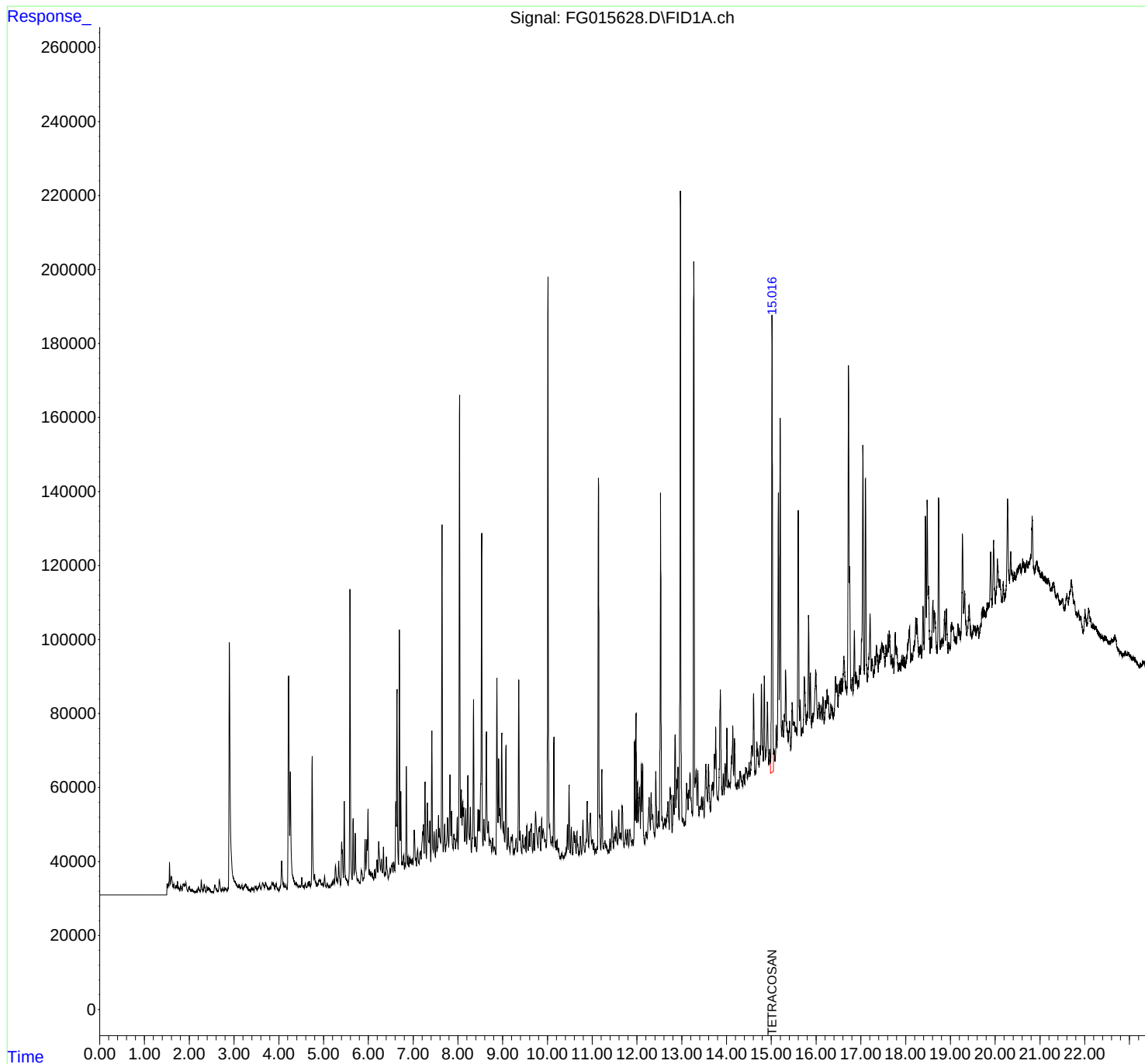
(m)=manual int.

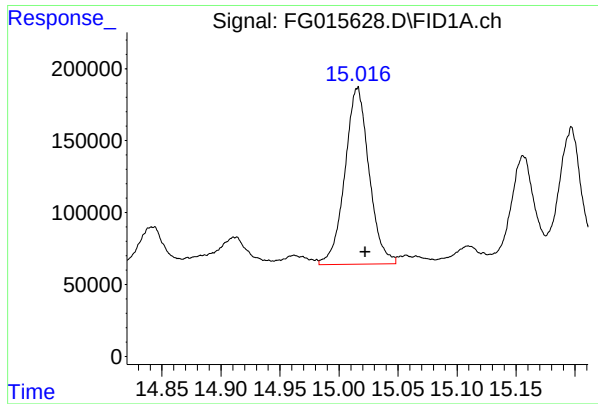
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015628.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 19:59
Operator : YP\AJ
Sample : Q1698-12
Misc :
ALS Vial : 32 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-10-TPH-4

Integration File: autoint1.e
Quant Time: Apr 04 01:10:51 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.016 min
Delta R.T.: -0.007 min
Response: 1753230
Conc: 15.30 ug/ml

Instrument :
FID_G
ClientSampleId :
B-10-TPH-4

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015628.D
 Signal(s) : FID1A.ch
 Acq On : 03 Apr 2025 19:59
 Sample : Q1698-12
 Misc :
 ALS Vial : 32 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.810	1.800	1.842	BV	899	12265	0.48%	0.008%
2	1.864	1.842	1.884	PV	1819	32078	1.27%	0.022%
3	1.892	1.884	1.907	VV	1695	20897	0.82%	0.014%
4	1.927	1.907	1.964	VV	2318	40915	1.61%	0.028%
5	1.989	1.964	1.998	VV	1201	13702	0.54%	0.009%
6	2.005	1.998	2.033	VV	1224	14112	0.56%	0.010%
7	2.059	2.033	2.078	VV	449	9820	0.39%	0.007%
8	2.081	2.078	2.113	VV	339	4553	0.18%	0.003%
9	2.124	2.113	2.142	PV	152	1397	0.06%	0.001%
10	2.181	2.142	2.187	VV	387	5717	0.23%	0.004%
11	2.200	2.187	2.252	VV	1171	28835	1.14%	0.020%
12	2.269	2.252	2.314	VV	3480	50879	2.01%	0.035%
13	2.333	2.314	2.378	VV	1996	37528	1.48%	0.026%
14	2.397	2.378	2.413	VV	1564	17223	0.68%	0.012%
15	2.428	2.413	2.442	VV	1290	15715	0.62%	0.011%
16	2.454	2.442	2.520	VV	872	19032	0.75%	0.013%
17	2.526	2.520	2.538	VV	115	991	0.04%	0.001%
18	2.577	2.538	2.646	PV	1793	53040	2.09%	0.037%
19	2.671	2.646	2.718	VV	3485	68649	2.71%	0.048%
20	2.723	2.718	2.737	VV	648	5391	0.21%	0.004%
21	2.751	2.737	2.773	VV	1224	17122	0.68%	0.012%
22	2.791	2.773	2.817	VV	916	19474	0.77%	0.013%
23	2.826	2.817	2.848	VV	925	12349	0.49%	0.009%
24	2.897	2.848	3.019	VV	67190	1384134	54.59%	0.958%
25	3.030	3.019	3.048	VV	2888	43325	1.71%	0.030%
26	3.055	3.048	3.088	VV	1960	39393	1.55%	0.027%
27	3.099	3.088	3.109	VV	1519	17934	0.71%	0.012%
28	3.117	3.109	3.153	VV	1585	32447	1.28%	0.022%
29	3.175	3.153	3.200	VV	1904	35735	1.41%	0.025%
30	3.202	3.200	3.205	VV	1001	2592	0.10%	0.002%
31	3.229	3.205	3.238	VV	1554	22824	0.90%	0.016%
32	3.255	3.238	3.264	VV	2017	27129	1.07%	0.019%
33	3.270	3.264	3.289	VV	1900	22709	0.90%	0.016%
34	3.293	3.289	3.363	VV	1145	26427	1.04%	0.018%
35	3.400	3.363	3.414	VV	793	17097	0.67%	0.012%
36	3.426	3.414	3.448	VV	945	12937	0.51%	0.009%

					rteres			
37	3.469	3.448	3.493	VV	1466	24853	0.98%	0.017%
38	3.499	3.493	3.520	VV	967	12443	0.49%	0.009%
39	3.570	3.520	3.604	VV	2076	57249	2.26%	0.040%
40	3.640	3.604	3.684	VV	2366	72908	2.88%	0.050%
41	3.705	3.684	3.771	VV	2486	69429	2.74%	0.048%
42	3.801	3.771	3.819	VV	962	20340	0.80%	0.014%
43	3.848	3.819	3.861	VV	2320	37700	1.49%	0.026%
44	3.870	3.861	3.907	VV	2255	45947	1.81%	0.032%
45	3.941	3.907	4.006	VV	2031	50198	1.98%	0.035%
46	4.029	4.006	4.036	PV	993	11009	0.43%	0.008%
47	4.064	4.036	4.103	VV	8018	151935	5.99%	0.105%
48	4.116	4.103	4.143	VV	1643	31039	1.22%	0.021%
49	4.159	4.143	4.184	VV	1496	24584	0.97%	0.017%
50	4.219	4.184	4.244	VV	57826	922967	36.40%	0.639%
51	4.258	4.244	4.396	VV	31980	677675	26.73%	0.469%
52	4.403	4.396	4.433	VV	1581	26456	1.04%	0.018%
53	4.454	4.433	4.481	VV	1189	25539	1.01%	0.018%
54	4.484	4.481	4.488	VV	808	3447	0.14%	0.002%
55	4.515	4.488	4.540	VV	3227	47543	1.88%	0.033%
56	4.552	4.540	4.567	VV	1078	13016	0.51%	0.009%
57	4.593	4.567	4.635	VV	1648	36623	1.44%	0.025%
58	4.652	4.635	4.667	VV	1601	23904	0.94%	0.017%
59	4.685	4.667	4.703	VV	2140	31188	1.23%	0.022%
60	4.745	4.703	4.787	VV	35905	499645	19.71%	0.346%
61	4.800	4.787	4.817	VV	3990	53370	2.11%	0.037%
62	4.822	4.817	4.842	VV	1947	20864	0.82%	0.014%
63	4.860	4.842	4.875	VV	1213	19412	0.77%	0.013%
64	4.901	4.875	4.921	VV	2317	52957	2.09%	0.037%
65	4.933	4.921	4.950	VV	2158	29103	1.15%	0.020%
66	4.957	4.950	4.966	VV	1182	10973	0.43%	0.008%
67	4.978	4.966	4.997	VV	1370	18659	0.74%	0.013%
68	5.024	4.997	5.062	VV	3240	54144	2.14%	0.037%
69	5.080	5.062	5.120	VV	1472	26672	1.05%	0.018%
70	5.132	5.120	5.148	VV	482	4499	0.18%	0.003%
71	5.167	5.148	5.182	PV	867	11327	0.45%	0.008%
72	5.196	5.182	5.212	VV	1728	20627	0.81%	0.014%
73	5.229	5.212	5.246	VV	2209	31800	1.25%	0.022%
74	5.266	5.246	5.293	VV	5870	106055	4.18%	0.073%
75	5.302	5.293	5.318	VV	2035	24671	0.97%	0.017%
76	5.339	5.318	5.381	VV	6964	112574	4.44%	0.078%
77	5.404	5.381	5.414	VV	12060	129892	5.12%	0.090%
78	5.421	5.414	5.444	VV	9858	113354	4.47%	0.078%
79	5.463	5.444	5.551	VV	22942	324553	12.80%	0.225%
80	5.591	5.551	5.640	VV	79867	973608	38.40%	0.674%
81	5.660	5.640	5.684	VV	17997	226127	8.92%	0.157%
82	5.708	5.684	5.757	VV	13987	231674	9.14%	0.160%
83	5.771	5.757	5.801	VV	1365	26262	1.04%	0.018%
84	5.812	5.801	5.821	VV	573	5235	0.21%	0.004%
85	5.846	5.821	5.879	VV	3720	81390	3.21%	0.056%
86	5.894	5.879	5.900	VV	1491	16066	0.63%	0.011%
87	5.929	5.900	5.948	VV	12045	177418	7.00%	0.123%
88	5.970	5.948	5.980	VV	11767	158200	6.24%	0.110%
89	5.993	5.980	6.016	VV	20086	237274	9.36%	0.164%

					rteres			
90	6.027	6.016	6.042	VV	3548	43275	1.71%	0.030%
91	6.053	6.042	6.085	VV	2974	62276	2.46%	0.043%
92	6.093	6.085	6.124	VV	2124	35130	1.39%	0.024%
93	6.142	6.124	6.158	VV	3451	44542	1.76%	0.031%
94	6.194	6.158	6.215	VV	6022	121044	4.77%	0.084%
95	6.233	6.215	6.273	VV	10952	230057	9.07%	0.159%
96	6.293	6.273	6.320	VV	6111	107623	4.24%	0.074%
97	6.339	6.320	6.363	VV	9153	120913	4.77%	0.084%
98	6.378	6.363	6.388	VV	2301	28157	1.11%	0.019%
99	6.404	6.388	6.449	VV	6529	110828	4.37%	0.077%
100	6.484	6.449	6.501	VV	3147	59447	2.34%	0.041%
101	6.517	6.501	6.524	VV	3962	46000	1.81%	0.032%
102	6.535	6.524	6.550	VV	4587	56674	2.24%	0.039%
103	6.569	6.550	6.593	VV	4731	88444	3.49%	0.061%
104	6.614	6.593	6.624	VV	21143	239872	9.46%	0.166%
105	6.640	6.624	6.674	VV	51418	656396	25.89%	0.454%
106	6.695	6.674	6.714	VV	67307	733274	28.92%	0.508%
107	6.726	6.714	6.748	VV	23691	278679	10.99%	0.193%
108	6.758	6.748	6.769	VV	4516	53778	2.12%	0.037%
109	6.791	6.769	6.808	VV	6388	116369	4.59%	0.081%
110	6.821	6.808	6.830	VV	4304	48139	1.90%	0.033%
111	6.850	6.830	6.874	VV	30132	370620	14.62%	0.257%
112	6.885	6.874	6.909	VV	5841	90483	3.57%	0.063%
113	6.923	6.909	6.938	VV	5560	76812	3.03%	0.053%
114	6.955	6.938	6.968	VV	4781	79161	3.12%	0.055%
115	6.981	6.968	7.000	VV	5229	81764	3.22%	0.057%
116	7.026	7.000	7.054	VV	12805	261628	10.32%	0.181%
117	7.061	7.054	7.075	VV	5065	54073	2.13%	0.037%
118	7.103	7.075	7.136	VV	7422	188638	7.44%	0.131%
119	7.166	7.136	7.182	VV	6840	154226	6.08%	0.107%
120	7.213	7.182	7.220	VV	12071	205020	8.09%	0.142%
121	7.230	7.220	7.247	VV	13998	179939	7.10%	0.125%
122	7.267	7.247	7.298	VV	25430	408933	16.13%	0.283%
123	7.318	7.298	7.349	VV	19549	378612	14.93%	0.262%
124	7.376	7.349	7.395	VV	14765	271094	10.69%	0.188%
125	7.420	7.395	7.454	VV	39016	550694	21.72%	0.381%
126	7.470	7.454	7.500	VV	11705	222263	8.77%	0.154%
127	7.519	7.500	7.538	VV	12101	191280	7.54%	0.132%
128	7.568	7.538	7.581	VV	15879	261476	10.31%	0.181%
129	7.590	7.581	7.618	VV	12401	224966	8.87%	0.156%
130	7.647	7.618	7.674	VV	94311	1159266	45.72%	0.802%
131	7.705	7.674	7.724	VV	13330	269286	10.62%	0.186%
132	7.771	7.724	7.796	VV	14945	416715	16.44%	0.288%
133	7.825	7.796	7.846	VV	26438	485558	19.15%	0.336%
134	7.859	7.846	7.895	VV	16540	304977	12.03%	0.211%
135	7.912	7.895	7.925	VV	10339	159470	6.29%	0.110%
136	7.929	7.925	7.949	VV	9087	114761	4.53%	0.079%
137	7.987	7.949	8.005	VV	14640	319581	12.60%	0.221%
138	8.038	8.005	8.064	VV	128692	1587661	62.62%	1.099%
139	8.078	8.064	8.094	VV	22047	316316	12.48%	0.219%
140	8.110	8.094	8.122	VV	18765	272796	10.76%	0.189%
141	8.132	8.122	8.154	VV	17032	249175	9.83%	0.172%

rteres								
142	8.178	8.154	8.200	VV	16583	303000	11.95%	0.210%
143	8.224	8.200	8.263	VV	25714	523313	20.64%	0.362%
144	8.281	8.263	8.303	VV	16895	258633	10.20%	0.179%
145	8.351	8.303	8.378	VV	46002	732911	28.91%	0.507%
146	8.398	8.378	8.420	VV	8797	174429	6.88%	0.121%
147	8.451	8.420	8.464	VV	16168	275577	10.87%	0.191%
148	8.478	8.464	8.492	VV	15896	223359	8.81%	0.155%
149	8.532	8.492	8.561	VV	90736	1332324	52.55%	0.922%
150	8.582	8.561	8.608	VV	13319	266025	10.49%	0.184%
151	8.637	8.608	8.669	VV	36592	650670	25.66%	0.450%
152	8.685	8.669	8.701	VV	12638	193346	7.63%	0.134%
153	8.712	8.701	8.758	VV	7678	219292	8.65%	0.152%
154	8.778	8.758	8.800	VV	7921	152670	6.02%	0.106%
155	8.821	8.800	8.847	VV	5396	130853	5.16%	0.091%
156	8.873	8.847	8.897	VV	51105	670964	26.46%	0.464%
157	8.913	8.897	8.929	VV	29072	384379	15.16%	0.266%
158	8.938	8.929	8.960	VV	15675	245914	9.70%	0.170%
159	8.980	8.960	9.015	VV	36086	638534	25.19%	0.442%
160	9.026	9.015	9.045	VV	11973	170844	6.74%	0.118%
161	9.075	9.045	9.100	VV	32775	486148	19.17%	0.337%
162	9.126	9.100	9.167	VV	10250	240597	9.49%	0.167%
163	9.195	9.167	9.209	VV	7543	160389	6.33%	0.111%
164	9.218	9.209	9.239	VV	8140	108978	4.30%	0.075%
165	9.257	9.239	9.267	VV	4264	59110	2.33%	0.041%
166	9.301	9.267	9.322	VV	7018	169680	6.69%	0.117%
167	9.362	9.322	9.382	VV	49885	649729	25.63%	0.450%
168	9.392	9.382	9.425	VV	8906	149688	5.90%	0.104%
169	9.449	9.425	9.483	VV	7756	177438	7.00%	0.123%
170	9.508	9.483	9.524	VV	6960	127015	5.01%	0.088%
171	9.541	9.524	9.571	VV	10153	172640	6.81%	0.119%
172	9.594	9.571	9.609	VV	8523	132884	5.24%	0.092%
173	9.624	9.609	9.631	VV	9050	96840	3.82%	0.067%
174	9.641	9.631	9.673	VV	10429	165201	6.52%	0.114%
175	9.693	9.673	9.712	VV	7848	120938	4.77%	0.084%
176	9.738	9.712	9.791	VV	13595	377846	14.90%	0.262%
177	9.809	9.791	9.820	VV	9137	128299	5.06%	0.089%
178	9.829	9.820	9.852	VV	9442	122282	4.82%	0.085%
179	9.873	9.852	9.890	VV	11660	172574	6.81%	0.119%
180	9.909	9.890	9.942	VV	8630	219811	8.67%	0.152%
181	9.949	9.942	9.969	VV	5803	81853	3.23%	0.057%
182	9.974	9.969	9.977	VV	3892	17552	0.69%	0.012%
183	10.013	9.977	10.043	VV	155484	1845194	72.78%	1.277%
184	10.052	10.043	10.084	VV	9370	170785	6.74%	0.118%
185	10.108	10.084	10.124	VV	6199	122283	4.82%	0.085%
186	10.146	10.124	10.171	VV	33027	420894	16.60%	0.291%
187	10.183	10.171	10.198	VV	4815	63065	2.49%	0.044%
188	10.217	10.198	10.238	VV	5224	86854	3.43%	0.060%
189	10.250	10.238	10.294	VV	2894	45163	1.78%	0.031%
190	10.316	10.294	10.347	VV	1483	25425	1.00%	0.018%
191	10.359	10.347	10.380	VV	769	7247	0.29%	0.005%
192	10.396	10.380	10.406	VV	1587	15815	0.62%	0.011%
193	10.418	10.406	10.430	VV	2583	29252	1.15%	0.020%
194	10.447	10.430	10.464	VV	8814	106760	4.21%	0.074%

					rteres			
195	10.485	10.464	10.512	VV	19703	238513	9.41%	0.165%
196	10.536	10.512	10.561	VV	8144	121505	4.79%	0.084%
197	10.592	10.561	10.607	VV	7009	109234	4.31%	0.076%
198	10.619	10.607	10.641	VV	5751	78855	3.11%	0.055%
199	10.659	10.641	10.676	VV	6647	86946	3.43%	0.060%
200	10.681	10.676	10.702	VV	3305	31298	1.23%	0.022%
201	10.712	10.702	10.717	VV	1101	7297	0.29%	0.005%
202	10.737	10.717	10.765	VV	5449	81576	3.22%	0.056%
203	10.794	10.765	10.836	VV	9710	164455	6.49%	0.114%
204	10.888	10.836	10.921	VV	14337	293166	11.56%	0.203%
205	10.961	10.921	10.983	VV	11434	264172	10.42%	0.183%
206	10.992	10.983	11.000	VV	3805	36675	1.45%	0.025%
207	11.008	11.000	11.025	VV	4057	43975	1.73%	0.030%
208	11.040	11.025	11.056	VV	3178	34974	1.38%	0.024%
209	11.076	11.056	11.092	VV	1472	20905	0.82%	0.014%
210	11.108	11.092	11.116	VV	2064	18957	0.75%	0.013%
211	11.140	11.116	11.192	VV	101421	1243884	49.06%	0.861%
212	11.217	11.192	11.250	VV	22745	293346	11.57%	0.203%
213	11.283	11.250	11.303	VV	3395	72334	2.85%	0.050%
214	11.317	11.303	11.352	VV	2075	35805	1.41%	0.025%
215	11.357	11.352	11.376	VV	380	4298	0.17%	0.003%
216	11.396	11.376	11.415	PV	3455	42257	1.67%	0.029%
217	11.440	11.415	11.477	VV	11120	204004	8.05%	0.141%
218	11.505	11.477	11.520	VV	4673	86536	3.41%	0.060%
219	11.535	11.520	11.562	VV	6229	101414	4.00%	0.070%
220	11.594	11.562	11.623	VV	10884	188331	7.43%	0.130%
221	11.635	11.623	11.647	VV	4520	53967	2.13%	0.037%
222	11.671	11.647	11.708	VV	11733	232466	9.17%	0.161%
223	11.748	11.708	11.769	VV	4940	90029	3.55%	0.062%
224	11.792	11.769	11.814	VV	4928	74736	2.95%	0.052%
225	11.838	11.814	11.886	VV	4611	106562	4.20%	0.074%
226	11.906	11.886	11.922	VV	1813	22277	0.88%	0.015%
227	11.946	11.922	11.962	VV	27990	315680	12.45%	0.219%
228	11.978	11.962	11.997	VV	35769	412883	16.28%	0.286%
229	12.013	11.997	12.032	VV	16827	228566	9.02%	0.158%
230	12.059	12.032	12.078	VV	15514	288394	11.37%	0.200%
231	12.096	12.078	12.111	VV	21479	265857	10.49%	0.184%
232	12.127	12.111	12.167	VV	21467	305715	12.06%	0.212%
233	12.201	12.167	12.225	PV	2755	49922	1.97%	0.035%
234	12.268	12.225	12.299	VV	11995	266569	10.51%	0.185%
235	12.317	12.299	12.334	VV	12956	172203	6.79%	0.119%
236	12.352	12.334	12.398	VV	6681	155506	6.13%	0.108%
237	12.422	12.398	12.458	VV	18192	274708	10.84%	0.190%
238	12.480	12.458	12.497	VV	7000	112810	4.45%	0.078%
239	12.528	12.497	12.556	VV	92389	1237396	48.81%	0.857%
240	12.565	12.556	12.584	VV	5179	64768	2.55%	0.045%
241	12.624	12.584	12.641	VV	4335	112716	4.45%	0.078%
242	12.692	12.641	12.721	VV	8732	234701	9.26%	0.162%
243	12.742	12.721	12.755	VV	12340	158830	6.26%	0.110%
244	12.760	12.755	12.785	VV	10265	90886	3.58%	0.063%
245	12.810	12.785	12.829	PV	9926	145860	5.75%	0.101%
246	12.852	12.829	12.870	VV	25518	349112	13.77%	0.242%

rteres								
247	12.887	12.870	12.898	VV	13420	177482	7.00%	0.123%
248	12.912	12.898	12.939	VV	16964	254833	10.05%	0.176%
249	12.969	12.939	13.019	VV	172719	2182163	86.07%	1.510%
250	13.026	13.019	13.055	VV	2462	31255	1.23%	0.022%
251	13.067	13.055	13.072	VV	1313	9422	0.37%	0.007%
252	13.107	13.072	13.119	VV	11515	146235	5.77%	0.101%
253	13.125	13.119	13.141	VV	8460	88975	3.51%	0.062%
254	13.157	13.141	13.167	VV	9201	115382	4.55%	0.080%
255	13.185	13.167	13.240	VV	13823	307050	12.11%	0.213%
256	13.268	13.240	13.291	VV	148149	1749154	68.99%	1.211%
257	13.302	13.291	13.310	VV	11625	120107	4.74%	0.083%
258	13.323	13.310	13.341	VV	13458	188240	7.42%	0.130%
259	13.357	13.341	13.385	VV	13468	176703	6.97%	0.122%
260	13.405	13.385	13.426	VV	3329	63858	2.52%	0.044%
261	13.442	13.426	13.460	VV	5627	80619	3.18%	0.056%
262	13.476	13.460	13.499	VV	5563	75541	2.98%	0.052%
263	13.538	13.499	13.572	VV	13901	328072	12.94%	0.227%
264	13.597	13.572	13.642	VV	13741	277508	10.95%	0.192%
265	13.666	13.642	13.677	VV	7689	101068	3.99%	0.070%
266	13.695	13.677	13.709	VV	8254	132499	5.23%	0.092%
267	13.730	13.709	13.742	VV	15678	229802	9.06%	0.159%
268	13.757	13.742	13.799	VV	22841	369728	14.58%	0.256%
269	13.802	13.799	13.815	VV	3286	32230	1.27%	0.022%
270	13.859	13.815	13.903	VV	32202	725967	28.63%	0.503%
271	13.927	13.903	13.946	VV	9118	159102	6.28%	0.110%
272	13.969	13.946	13.986	VV	11688	190874	7.53%	0.132%
273	14.007	13.986	14.027	VV	20786	303020	11.95%	0.210%
274	14.044	14.027	14.057	VV	6217	103945	4.10%	0.072%
275	14.065	14.057	14.079	VV	5881	72236	2.85%	0.050%
276	14.113	14.079	14.124	VV	12991	240594	9.49%	0.167%
277	14.138	14.124	14.160	VV	20907	297072	11.72%	0.206%
278	14.177	14.160	14.200	VV	17249	268461	10.59%	0.186%
279	14.209	14.200	14.225	VV	4931	66968	2.64%	0.046%
280	14.257	14.225	14.277	VV	5431	136030	5.37%	0.094%
281	14.307	14.277	14.339	VV	7552	215132	8.49%	0.149%
282	14.342	14.339	14.352	VV	4869	35522	1.40%	0.025%
283	14.357	14.352	14.365	VV	4442	31264	1.23%	0.022%
284	14.382	14.365	14.408	VV	5876	129515	5.11%	0.090%
285	14.425	14.408	14.440	VV	7952	128483	5.07%	0.089%
286	14.448	14.440	14.466	VV	7637	97186	3.83%	0.067%
287	14.478	14.466	14.487	VV	5856	69842	2.75%	0.048%
288	14.503	14.487	14.519	VV	8788	135453	5.34%	0.094%
289	14.569	14.519	14.582	VV	13089	352005	13.88%	0.244%
290	14.604	14.582	14.635	VV	26826	459241	18.11%	0.318%
291	14.644	14.635	14.653	VV	5854	58874	2.32%	0.041%
292	14.676	14.653	14.692	VV	13279	222058	8.76%	0.154%
293	14.699	14.692	14.724	VV	10912	175824	6.93%	0.122%
294	14.746	14.724	14.758	VV	12062	195802	7.72%	0.136%
295	14.778	14.758	14.800	VV	28020	477960	18.85%	0.331%
296	14.807	14.800	14.820	VV	11459	120242	4.74%	0.083%
297	14.842	14.820	14.867	VV	29978	494900	19.52%	0.343%
298	14.912	14.867	14.944	VV	22277	568573	22.43%	0.394%
299	14.962	14.944	14.983	VV	9828	177065	6.98%	0.123%

					rteres			
300	15.016	14.983	15.048	VV	125698	1879199	74.12%	1.301%
301	15.057	15.048	15.062	VV	9389	71836	2.83%	0.050%
302	15.066	15.062	15.082	VV	8714	85364	3.37%	0.059%
303	15.110	15.082	15.127	VV	15269	286828	11.31%	0.199%
304	15.156	15.127	15.175	VV	77123	1148313	45.29%	0.795%
305	15.197	15.175	15.232	VV	98059	1477925	58.29%	1.023%
306	15.251	15.232	15.270	VV	15825	312829	12.34%	0.217%
307	15.294	15.270	15.301	VV	17245	266995	10.53%	0.185%
308	15.318	15.301	15.374	VV	28763	756393	29.83%	0.524%
309	15.408	15.374	15.436	VV	14660	418097	16.49%	0.289%
310	15.466	15.436	15.487	VV	19263	408229	16.10%	0.283%
311	15.504	15.487	15.530	VV	13888	343687	13.56%	0.238%
312	15.538	15.530	15.544	VV	11367	97341	3.84%	0.067%
313	15.549	15.544	15.572	VV	11930	191308	7.55%	0.132%
314	15.599	15.572	15.630	VV	70313	1214546	47.90%	0.841%
315	15.644	15.630	15.669	VV	18988	336924	13.29%	0.233%
316	15.689	15.669	15.705	VV	11251	231423	9.13%	0.160%
317	15.738	15.705	15.775	VV	24201	728766	28.74%	0.504%
318	15.788	15.775	15.800	VV	13912	200146	7.89%	0.139%
319	15.832	15.800	15.852	VV	40806	747660	29.49%	0.518%
320	15.870	15.852	15.899	VV	23919	488442	19.27%	0.338%
321	15.918	15.899	15.927	VV	13793	204972	8.08%	0.142%
322	15.992	15.927	16.029	VV	24558	1065326	42.02%	0.737%
323	16.064	16.029	16.088	VV	15749	485753	19.16%	0.336%
324	16.111	16.088	16.135	VV	14489	379121	14.95%	0.262%
325	16.154	16.135	16.182	VV	16860	372019	14.67%	0.258%
326	16.209	16.182	16.224	VV	15770	331732	13.08%	0.230%
327	16.244	16.224	16.260	VV	18373	353313	13.94%	0.245%
328	16.271	16.260	16.302	VV	16605	331084	13.06%	0.229%
329	16.332	16.302	16.355	VV	13740	383677	15.13%	0.266%
330	16.363	16.355	16.389	VV	12093	226613	8.94%	0.157%
331	16.434	16.389	16.454	VV	20490	600170	23.67%	0.415%
332	16.469	16.454	16.492	VV	18467	365020	14.40%	0.253%
333	16.510	16.492	16.527	VV	17800	338022	13.33%	0.234%
334	16.539	16.527	16.555	VV	18806	292395	11.53%	0.202%
335	16.573	16.555	16.590	VV	19539	371945	14.67%	0.257%
336	16.618	16.590	16.655	VV	25059	814436	32.12%	0.564%
337	16.664	16.655	16.684	VV	18293	285071	11.24%	0.197%
338	16.723	16.684	16.788	VV	102217	2535361	100.00%	1.755%
339	16.811	16.788	16.825	VV	18185	371791	14.66%	0.257%
340	16.854	16.825	16.875	VV	31012	655274	25.85%	0.454%
341	16.884	16.875	16.930	VV	18243	565006	22.29%	0.391%
342	16.976	16.930	16.992	VV	19752	647156	25.53%	0.448%
343	17.044	16.992	17.077	VV	79264	1828527	72.12%	1.266%
344	17.103	17.077	17.147	VV	70278	1403289	55.35%	0.971%
345	17.204	17.147	17.232	VV	33289	1162328	45.84%	0.805%
346	17.249	17.232	17.285	VV	20436	591696	23.34%	0.410%
347	17.348	17.285	17.390	VV	23860	1249782	49.29%	0.865%
348	17.411	17.390	17.422	VV	20460	374370	14.77%	0.259%
349	17.438	17.422	17.450	VV	21880	353398	13.94%	0.245%
350	17.468	17.450	17.495	VV	22926	606106	23.91%	0.420%
351	17.506	17.495	17.539	VV	22936	531366	20.96%	0.368%

					rteres			
352	17.561	17.539	17.580	VV	22276	510702	20.14%	0.354%
353	17.605	17.580	17.617	VV	25476	495635	19.55%	0.343%
354	17.635	17.617	17.672	VV	25506	718705	28.35%	0.497%
355	17.690	17.672	17.710	VV	19534	406810	16.05%	0.282%
356	17.720	17.710	17.739	VV	17700	283411	11.18%	0.196%
357	17.767	17.739	17.785	VV	24548	580958	22.91%	0.402%
358	17.796	17.785	17.847	VV	20589	653822	25.79%	0.453%
359	17.855	17.847	17.899	VV	15756	469466	18.52%	0.325%
360	17.913	17.899	17.935	VV	18061	359808	14.19%	0.249%
361	17.945	17.935	17.965	VV	17040	287400	11.34%	0.199%
362	17.978	17.965	17.994	VV	16898	265357	10.47%	0.184%
363	18.089	17.994	18.120	VV	23579	1430395	56.42%	0.990%
364	18.131	18.120	18.160	VV	16816	389170	15.35%	0.269%
365	18.176	18.160	18.185	VV	18873	259934	10.25%	0.180%
366	18.225	18.185	18.244	VV	26342	771846	30.44%	0.534%
367	18.252	18.244	18.300	VV	25438	689137	27.18%	0.477%
368	18.313	18.300	18.330	VV	17629	302237	11.92%	0.209%
369	18.339	18.330	18.364	VV	17599	331419	13.07%	0.229%
370	18.388	18.364	18.414	VV	28393	650634	25.66%	0.450%
371	18.441	18.414	18.462	VV	52442	987701	38.96%	0.684%
372	18.482	18.462	18.507	VV	56602	1066408	42.06%	0.738%
373	18.510	18.507	18.545	VV	32873	539307	21.27%	0.373%
374	18.563	18.545	18.578	VV	19011	350845	13.84%	0.243%
375	18.607	18.578	18.627	VV	28707	689886	27.21%	0.478%
376	18.642	18.627	18.703	VV	25128	923253	36.42%	0.639%
377	18.736	18.703	18.775	VV	55488	1204001	47.49%	0.833%
378	18.818	18.775	18.835	VV	17313	581445	22.93%	0.402%
379	18.870	18.835	18.889	VV	24378	625057	24.65%	0.433%
380	18.910	18.889	18.947	VV	24173	650231	25.65%	0.450%
381	18.965	18.947	18.992	VV	15509	386645	15.25%	0.268%
382	19.029	18.992	19.052	VV	20223	629965	24.85%	0.436%
383	19.061	19.052	19.110	VV	18995	585903	23.11%	0.406%
384	19.117	19.110	19.134	VV	15723	209209	8.25%	0.145%
385	19.169	19.134	19.185	VV	19247	517122	20.40%	0.358%
386	19.197	19.185	19.219	VV	17587	327543	12.92%	0.227%
387	19.269	19.219	19.295	VV	42732	1184608	46.72%	0.820%
388	19.318	19.295	19.370	VV	26794	921160	36.33%	0.638%
389	19.417	19.370	19.477	VV	22363	1132458	44.67%	0.784%
390	19.515	19.477	19.544	VV	16569	609397	24.04%	0.422%
391	19.554	19.544	19.572	VV	16147	259766	10.25%	0.180%
392	19.603	19.572	19.635	VV	16073	567653	22.39%	0.393%
393	19.709	19.635	19.720	VV	19510	822722	32.45%	0.569%
394	19.737	19.720	19.749	VV	20248	322415	12.72%	0.223%
395	19.756	19.749	19.804	VV	19084	604666	23.85%	0.419%
396	19.821	19.804	19.834	VV	20539	355966	14.04%	0.246%
397	19.857	19.834	19.865	VV	20481	373266	14.72%	0.258%
398	19.898	19.865	19.928	VV	34239	962529	37.96%	0.666%
399	19.964	19.928	20.002	VV	36968	1179119	46.51%	0.816%
400	20.050	20.002	20.103	VV	31583	1539796	60.73%	1.066%
401	20.108	20.103	20.159	VV	24479	729093	28.76%	0.505%
402	20.178	20.159	20.205	VV	24786	601537	23.73%	0.416%
403	20.277	20.205	20.322	VV	46277	1964515	77.48%	1.360%
404	20.346	20.322	20.364	VV	31864	699384	27.59%	0.484%

					rteres			
405	20.372	20.364	20.409	VV	26600	676739	26.69%	0.468%
406	20.422	20.409	20.457	VV	25777	711265	28.05%	0.492%
407	20.494	20.457	20.505	VV	26322	729300	28.77%	0.505%
408	20.556	20.505	20.580	VV	27341	1180098	46.55%	0.817%
409	20.612	20.580	20.664	VV	28144	1305049	51.47%	0.903%
410	20.669	20.664	20.676	VV	26215	190345	7.51%	0.132%
411	20.704	20.676	20.742	VV	27275	1030241	40.63%	0.713%
412	20.827	20.742	20.875	VV	38614	2270609	89.56%	1.572%
413	20.926	20.875	20.970	VV	25836	1382085	54.51%	0.957%
414	20.979	20.970	21.025	VV	23670	733730	28.94%	0.508%
415	21.035	21.025	21.090	VV	22081	805035	31.75%	0.557%
416	21.111	21.090	21.129	VV	20476	464573	18.32%	0.322%
417	21.141	21.129	21.162	VV	20168	382425	15.08%	0.265%
418	21.187	21.162	21.245	VV	19239	899633	35.48%	0.623%
419	21.262	21.245	21.270	VV	16635	253013	9.98%	0.175%
420	21.300	21.270	21.366	VV	17974	916436	36.15%	0.634%
421	21.398	21.366	21.442	VV	14223	598722	23.61%	0.414%
422	21.453	21.442	21.464	VV	12205	150561	5.94%	0.104%
423	21.505	21.464	21.542	VV	12386	519344	20.48%	0.359%
424	21.600	21.542	21.635	VV	13221	607872	23.98%	0.421%
425	21.700	21.635	21.752	VV	15933	907221	35.78%	0.628%
426	21.766	21.752	21.809	VV	10077	290241	11.45%	0.201%
427	21.815	21.809	21.840	VV	6962	116703	4.60%	0.081%
428	21.866	21.840	21.880	VV	6288	142188	5.61%	0.098%
429	21.909	21.880	21.967	VV	5173	169155	6.67%	0.117%
430	22.006	21.967	22.056	VV	6427	166833	6.58%	0.115%
431	22.085	22.056	22.127	VV	6095	181514	7.16%	0.126%
432	22.135	22.127	22.169	VV	3091	45324	1.79%	0.031%
433	22.182	22.169	22.227	VV	1405	23682	0.93%	0.016%
					Sum of corrected areas: 144468882			

FG032725.M Fri Apr 04 03:30:01 2025



CALIBRATION SUMMARY

TPH GC INITIAL CALIBRATION SUMMARY

Lab Name: Chemtech Contract: TULL02
 ProjectID: MTA Rockaway Park
 Lab Code: CHEM Case No.: Q1698 SAS No.: Q1698 SDG No.: Q1698

Calibration Sequence : FG032725		Test : TPH GC	
Concentration (PPM)	Area Count	Reference Factor	File ID
1700	202510102	119124	FG015564.D
850	97431427	114625	FG015565.D
340	39672736	116685	FG015566.D
170	20516512	120685	FG015567.D
85	9074544	106759	FG015568.D
AVG RF : 115576		% RSD : 4.711	AVG RT : 15.021

TPH GC CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: TULL02
ProjectID: MTA Rockaway Park
Lab Code: CHEM Case No.: Q1698 SAS No.: Q1698 SDG No.: Q1698
DataFile: FG015613.D Analyst Name: YP\AJ Analyst Date: 04-03-2025

Conc. (PPM)	Area Count	RF	Average RF	%D
850	97788099	115045	115576	0.459

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015613.D
 Signal(s) : FID1A.ch
 Acq On : 03 Apr 2025 10:36
 Operator : YP\AJ
 Sample : 50 PPM TRPH STD
 Misc :
 ALS Vial : 3 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 50 PPM TRPH STD

Integration File: autoint1.e
 Quant Time: Apr 04 01:05:35 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Quant Title :
 QLast Update : Thu Mar 27 11:04:29 2025
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1uL
 Signal Phase : Rxi-1ms
 Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.014	5696285	49.721 ug/ml
Target Compounds			
1) N-OCTANE	1.985	6124870	52.696 ug/ml
2) N-DECANE	4.516	6245345	52.866 ug/ml
3) N-DODECANE	6.698	6436045	53.004 ug/ml
4) N-TETRADECANE	8.534	6512678	51.646 ug/ml
5) N-HEXADECANE	10.148	6519193	50.632 ug/ml
6) N-OCTADECANE	11.596	6608536	50.163 ug/ml
7) N-EICOSANE	12.910	6641833	49.603 ug/ml
8) N-DOCOSANE	14.113	6405773	49.295 ug/ml
10) N-TETRACOSANE	15.218	6323834	48.823 ug/ml
11) N-HEXACOSANE	16.243	6200452	48.717 ug/ml
12) N-OCTACOSANE	17.195	6000526	48.003 ug/ml
13) N-TRIACONTANE	18.084	5884422	47.010 ug/ml
14) N-DOTRIACONTANE	18.917	5617236	47.332 ug/ml
15) N-TETRATRIACONTANE	19.702	5359282	51.346 ug/ml
16) N-HEXATRIACONTANE	20.442	4758585	54.294 ug/ml
17) N-OCTATRIACONTANE	21.184	3695470	49.517 ug/ml
18) N-TETRACONTANE	22.105	2454019	37.049 ug/ml

(f)=RT Delta > 1/2 Window

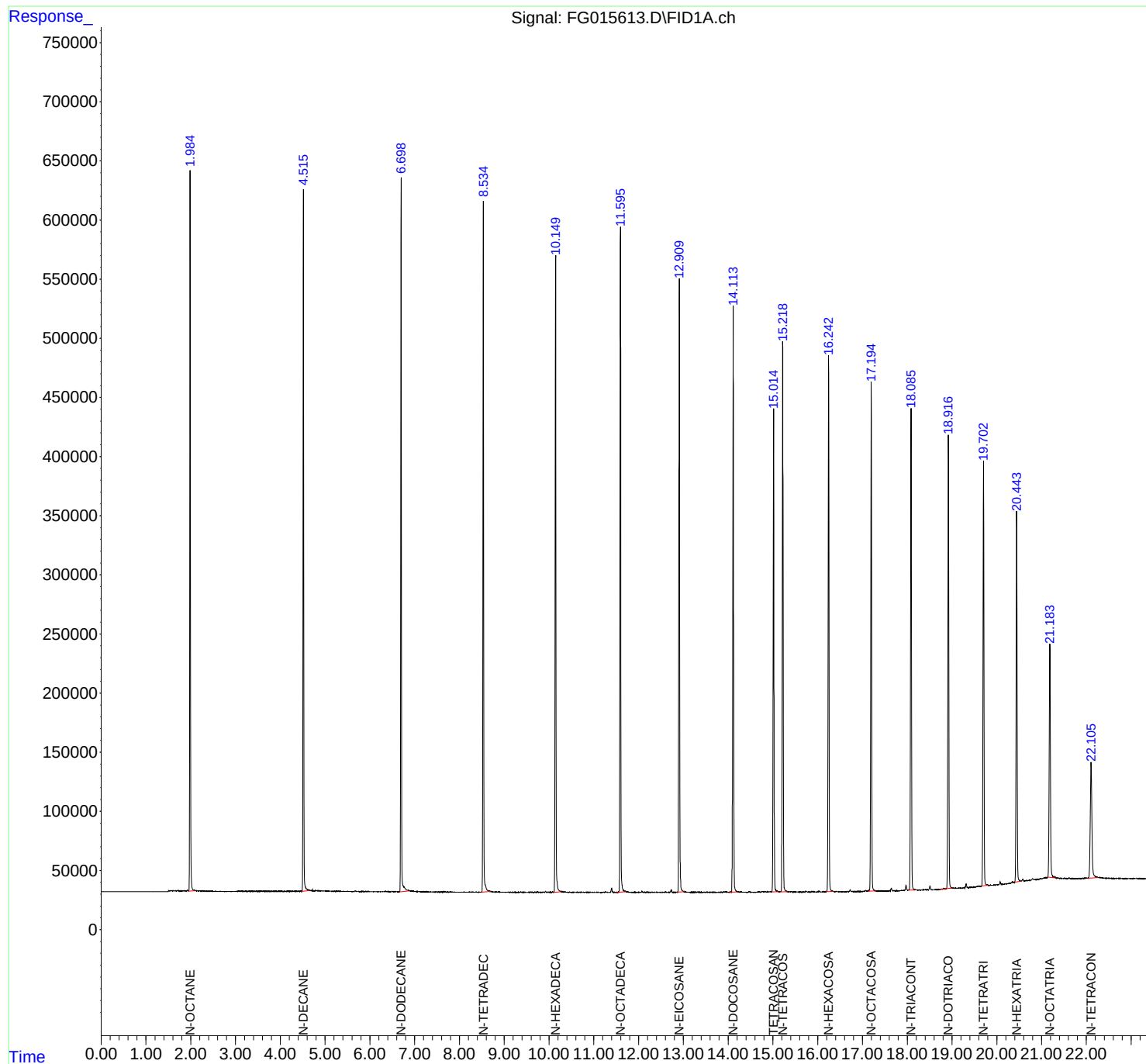
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015613.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 10:36
Operator : YP\AJ
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
50 PPM TRPH STD

Integration File: autoint1.e
Quant Time: Apr 04 01:05:35 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015613.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 10:36
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.985	1.948	2.100	BB	608681	6124870	92.22%	5.919%
2	4.516	4.473	4.663	BB	593223	6245345	94.03%	6.035%
3	6.698	6.663	6.873	BB	603814	6436045	96.90%	6.219%
4	8.534	8.490	8.695	BB	584056	6512678	98.06%	6.293%
5	10.148	10.099	10.287	BB	536634	6519193	98.15%	6.300%
6	11.596	11.503	11.727	BB	561637	6608536	99.50%	6.386%
7	12.910	12.859	13.032	BB	517364	6641833	100.00%	6.418%
8	14.113	14.039	14.227	BB	493991	6405773	96.45%	6.190%
9	15.014	14.970	15.125	BB	404997	5696285	85.76%	5.504%
10	15.218	15.148	15.339	BB	464879	6323834	95.21%	6.111%
11	16.243	16.178	16.355	BB	452953	6200452	93.35%	5.992%
12	17.195	17.111	17.301	BB	428625	6000526	90.34%	5.798%
13	18.084	18.021	18.193	BB	405088	5884422	88.60%	5.686%
14	18.917	18.733	19.013	BB	383377	5617236	84.57%	5.428%
15	19.702	19.660	19.802	BB	357304	5359282	80.69%	5.179%
16	20.442	20.400	20.547	BB	313301	4758585	71.65%	4.598%
17	21.184	21.140	21.326	BB	196081	3695470	55.64%	3.571%
18	22.105	22.025	22.267	BB	98032	2454019	36.95%	2.371%
Sum of corrected areas:						103484384		

FG032725.M Fri Apr 04 02:48:27 2025

TPH GC CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: TULL02
ProjectID: MTA Rockaway Park
Lab Code: CHEM Case No.: Q1698 SAS No.: Q1698 SDG No.: Q1698
DataFile: FG015621.D Analyst Name: YP\AJ Analyst Date: 04-03-2025

Conc. (PPM)	Area Count	RF	Average RF	%D
850	99577663	117150	115576	1.362

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015621.D
 Signal(s) : FID1A.ch
 Acq On : 03 Apr 2025 16:34
 Operator : YP\AJ
 Sample : 50 PPM TRPH STD
 Misc :
 ALS Vial : 3 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 50 PPM TRPH STD

Integration File: autoint1.e
 Quant Time: Apr 04 01:08:17 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Quant Title :
 QLast Update : Thu Mar 27 11:04:29 2025
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1uL
 Signal Phase : Rxi-1ms
 Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.017	5165750	45.090 ug/ml
Target Compounds			
1) N-OCTANE	1.985	5162486	44.416 ug/ml
2) N-DECANE	4.516	5350178	45.289 ug/ml
3) N-DODECANE	6.699	5562913	45.813 ug/ml
4) N-TETRADECANE	8.536	5717997	45.344 ug/ml
5) N-HEXADECANE	10.150	5806989	45.100 ug/ml
6) N-OCTADECANE	11.599	5949666	45.162 ug/ml
7) N-EICOSANE	12.914	6012830	44.905 ug/ml
8) N-DOCOSANE	14.115	5856990	45.072 ug/ml
10) N-TETRACOSANE	15.222	5834342	45.044 ug/ml
11) N-HEXACOSANE	16.245	5782908	45.436 ug/ml
12) N-OCTACOSANE	17.198	5740559	45.923 ug/ml
13) N-TRIACONTANE	18.088	5765306	46.058 ug/ml
14) N-DOTRIACONTANE	18.922	5681912	47.877 ug/ml
15) N-TETRATRIACONTANE	19.707	6115482	58.591 ug/ml
16) N-HEXATRIACONTANE	20.449	6400085	73.022 ug/ml
17) N-OCTATRIACONTANE	21.194	6506588	87.185 ug/ml
18) N-TETRACONTANE	22.120	6330432	95.571 ug/ml

(f)=RT Delta > 1/2 Window

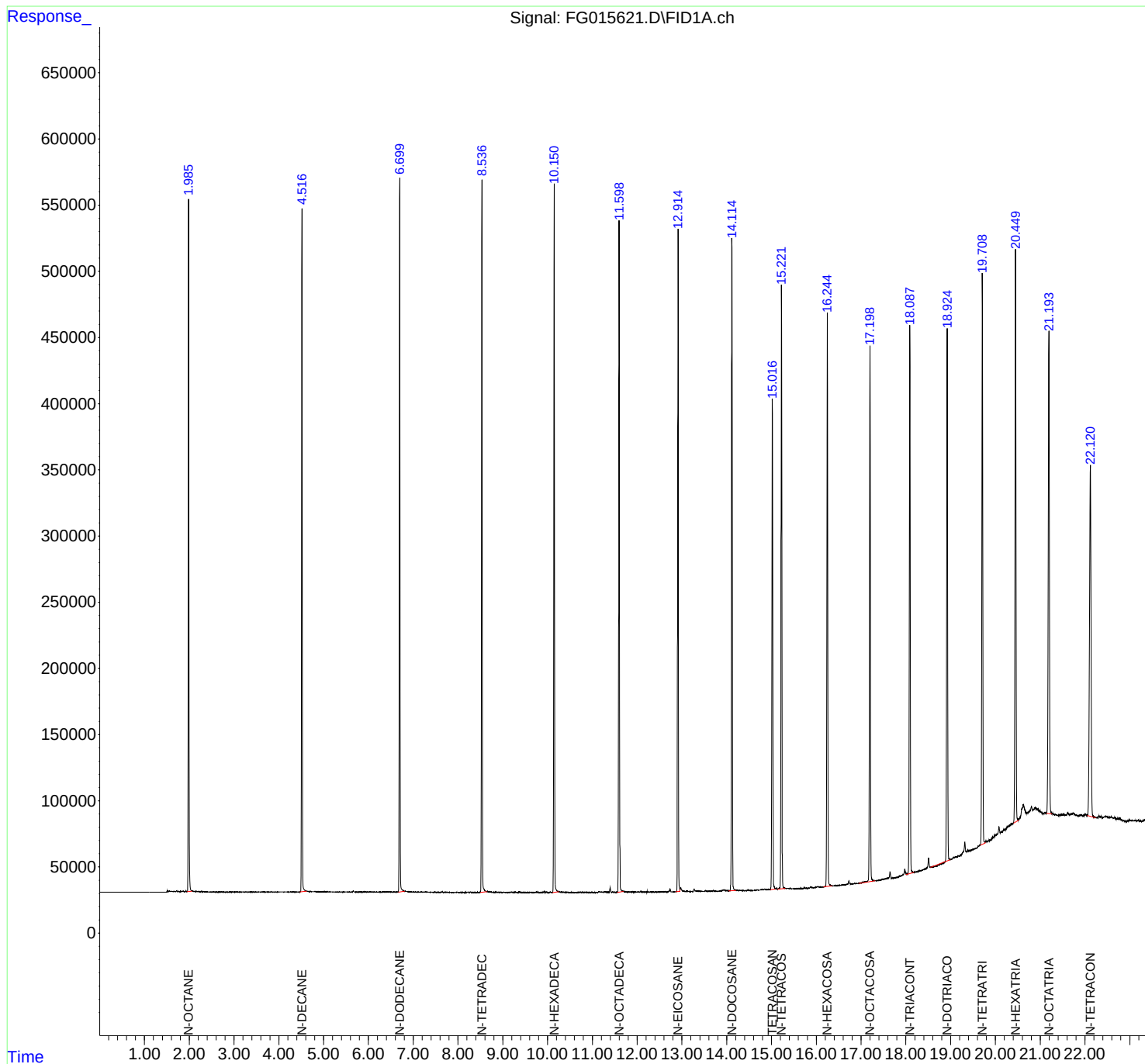
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015621.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 16:34
Operator : YP\AJ
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
50 PPM TRPH STD

Integration File: autoint1.e
Quant Time: Apr 04 01:08:17 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015621.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 16:34
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.985	1.951	2.065	BB	522244	5162486	79.34%	4.929%
2	4.516	4.470	4.625	BB	515948	5350178	82.23%	5.108%
3	6.699	6.667	6.811	BB	538755	5562913	85.50%	5.311%
4	8.536	8.498	8.655	BB	538407	5717997	87.88%	5.459%
5	10.150	10.104	10.255	BB	533776	5806989	89.25%	5.544%
6	11.599	11.560	11.698	BB	506668	5949666	91.44%	5.680%
7	12.914	12.858	12.957	BV	500200	6012830	92.41%	5.741%
8	14.115	14.040	14.213	BB	490998	5856990	90.02%	5.592%
9	15.017	14.967	15.087	BV	368569	5165750	79.39%	4.932%
10	15.222	15.133	15.310	BB	454312	5834342	89.67%	5.570%
11	16.245	16.157	16.357	BB	432087	5782908	88.88%	5.521%
12	17.198	16.946	17.315	BB	403147	5740559	88.23%	5.481%
13	18.088	18.011	18.186	VV	414005	5765306	88.61%	5.504%
14	18.922	18.547	18.997	PV	393372	5681912	87.33%	5.425%
15	19.707	19.660	19.774	BV	431971	6115482	93.99%	5.839%
16	20.449	20.400	20.508	BV	432879	6400085	98.36%	6.110%
17	21.194	21.140	21.266	BV	364932	6506588	100.00%	6.212%
18	22.120	22.050	22.233	BV	264871	6330432	97.29%	6.044%
Sum of corrected areas:						104743413		

FG032725.M Fri Apr 04 02:51:25 2025

TPH GC CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: TULL02
ProjectID: MTA Rockaway Park
Lab Code: CHEM Case No.: Q1698 SAS No.: Q1698 SDG No.: Q1698
DataFile: FG015630.D Analyst Name: YP\AJ Analyst Date: 04-03-2025

Conc. (PPM)	Area Count	RF	Average RF	%D
850	97172217	114320	115576	1.087

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015630.D
 Signal(s) : FID1A.ch
 Acq On : 03 Apr 2025 21:27
 Operator : YP\AJ
 Sample : 50 PPM TRPH STD
 Misc :
 ALS Vial : 3 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 50 PPM TRPH STD

Integration File: autoint1.e
 Quant Time: Apr 04 01:11:32 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Quant Title :
 QLast Update : Thu Mar 27 11:04:29 2025
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1uL
 Signal Phase : Rxi-1ms
 Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.015	5080878	44.350 ug/ml
Target Compounds			
1) N-OCTANE	1.984	5133571	44.167 ug/ml
2) N-DECANE	4.515	5281366	44.706 ug/ml
3) N-DODECANE	6.698	5454560	44.921 ug/ml
4) N-TETRADECANE	8.534	5596862	44.384 ug/ml
5) N-HEXADECANE	10.149	5689269	44.186 ug/ml
6) N-OCTADECANE	11.597	5824745	44.214 ug/ml
7) N-EICOSANE	12.912	5883115	43.936 ug/ml
8) N-DOCOSANE	14.114	5745917	44.218 ug/ml
10) N-TETRACOSANE	15.221	5766466	44.520 ug/ml
11) N-HEXACOSANE	16.245	5652497	44.412 ug/ml
12) N-OCTACOSANE	17.197	5534856	44.278 ug/ml
13) N-TRIACONTANE	18.087	5590747	44.663 ug/ml
14) N-DOTRIACONTANE	18.922	5553899	46.798 ug/ml
15) N-TETRATRIACONTANE	19.706	5860812	56.151 ug/ml
16) N-HEXATRIACONTANE	20.447	6125984	69.895 ug/ml
17) N-OCTATRIACONTANE	21.191	6268106	83.989 ug/ml
18) N-TETRACONTANE	22.117	6209445	93.745 ug/ml

(f)=RT Delta > 1/2 Window

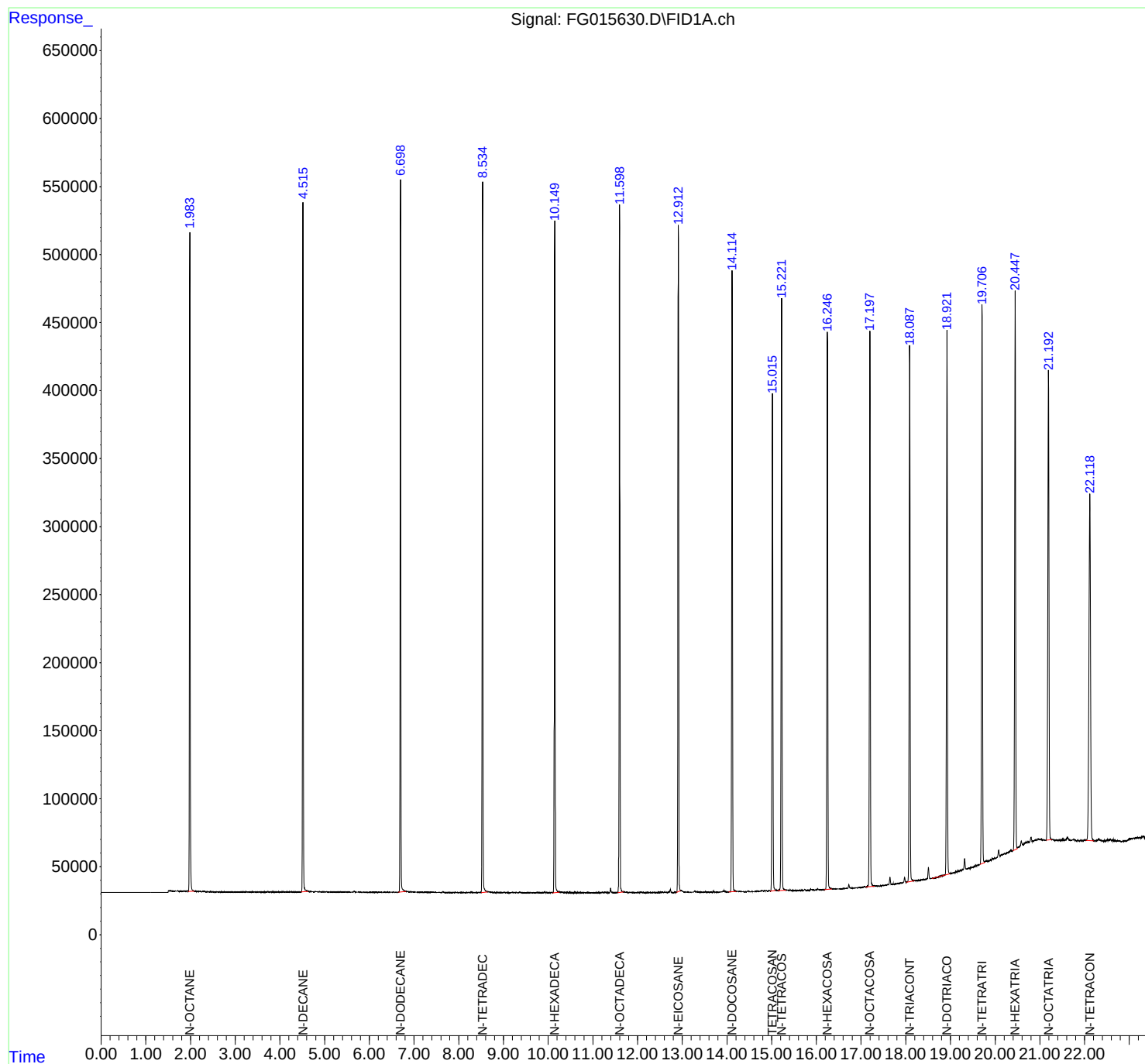
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015630.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 21:27
Operator : YP\AJ
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
50 PPM TRPH STD

Integration File: autoint1.e
Quant Time: Apr 04 01:11:32 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015630.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 21:27
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.984	1.946	2.093	BB	484253	5133571	81.90%	5.020%
2	4.515	4.468	4.631	BB	506741	5281366	84.26%	5.165%
3	6.698	6.656	6.819	BB	523639	5454560	87.02%	5.334%
4	8.534	8.500	8.646	BB	522109	5596862	89.29%	5.474%
5	10.149	10.104	10.254	BB	492849	5689269	90.77%	5.564%
6	11.597	11.558	11.683	BB	501635	5824745	92.93%	5.696%
7	12.912	12.873	12.960	BV	489668	5883115	93.86%	5.753%
8	14.114	14.034	14.206	BB	455595	5745917	91.67%	5.619%
9	15.015	14.972	15.089	BV	365012	5080878	81.06%	4.969%
10	15.221	15.131	15.323	BB	432158	5766466	92.00%	5.639%
11	16.245	16.172	16.351	BB	409036	5652497	90.18%	5.528%
12	17.197	17.116	17.303	BB	408313	5534856	88.30%	5.413%
13	18.087	18.012	18.197	PB	394434	5590747	89.19%	5.468%
14	18.922	18.585	18.983	BV	398478	5553899	88.61%	5.432%
15	19.706	19.660	19.762	BV	410427	5860812	93.50%	5.732%
16	20.447	20.400	20.493	BV	410161	6125984	97.73%	5.991%
17	21.191	21.140	21.262	BV	342921	6268106	100.00%	6.130%
18	22.117	22.027	22.212	BV	252016	6209445	99.06%	6.073%
Sum of corrected areas:						102253095		

FG032725.M Fri Apr 04 02:58:05 2025

TPH GC CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: TULL02
ProjectID: MTA Rockaway Park
Lab Code: CHEM Case No.: Q1698 SAS No.: Q1698 SDG No.: Q1698
DataFile: FG015636.D Analyst Name: YP\AJ Analyst Date: 04-04-2025

Conc. (PPM)	Area Count	RF	Average RF	%D
850	98194592	115523	115576	0.046

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015636.D
 Signal(s) : FID1A.ch
 Acq On : 04 Apr 2025 02:21
 Operator : YP\AJ
 Sample : 50 PPM TRPH STD
 Misc :
 ALS Vial : 3 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 50 PPM TRPH STD

Integration File: autoint1.e
 Quant Time: Apr 04 03:58:51 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Quant Title :
 QLast Update : Thu Mar 27 11:04:29 2025
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1uL
 Signal Phase : Rxi-1ms
 Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.014	5128686	44.767 ug/ml
Target Compounds			
1) N-OCTANE	1.983	5194065	44.688 ug/ml
2) N-DECANE	4.515	5338140	45.187 ug/ml
3) N-DODECANE	6.697	5493837	45.244 ug/ml
4) N-TETRADECANE	8.533	5619109	44.560 ug/ml
5) N-HEXADECANE	10.147	5698144	44.255 ug/ml
6) N-OCTADECANE	11.595	5833180	44.278 ug/ml
7) N-EICOSANE	12.909	5929252	44.281 ug/ml
8) N-DOCOSANE	14.112	5763568	44.353 ug/ml
10) N-TETRACOSANE	15.219	5790158	44.703 ug/ml
11) N-HEXACOSANE	16.242	5693069	44.731 ug/ml
12) N-OCTACOSANE	17.195	5586325	44.690 ug/ml
13) N-TRIACONTANE	18.085	5643700	45.086 ug/ml
14) N-DOTRIACONTANE	18.918	5672331	47.796 ug/ml
15) N-TETRATRIACONTANE	19.703	5969988	57.197 ug/ml
16) N-HEXATRIACONTANE	20.445	6243755	71.239 ug/ml
17) N-OCTATRIACONTANE	21.188	6380936	85.501 ug/ml
18) N-TETRACONTANE	22.112	6345035	95.792 ug/ml

(f)=RT Delta > 1/2 Window

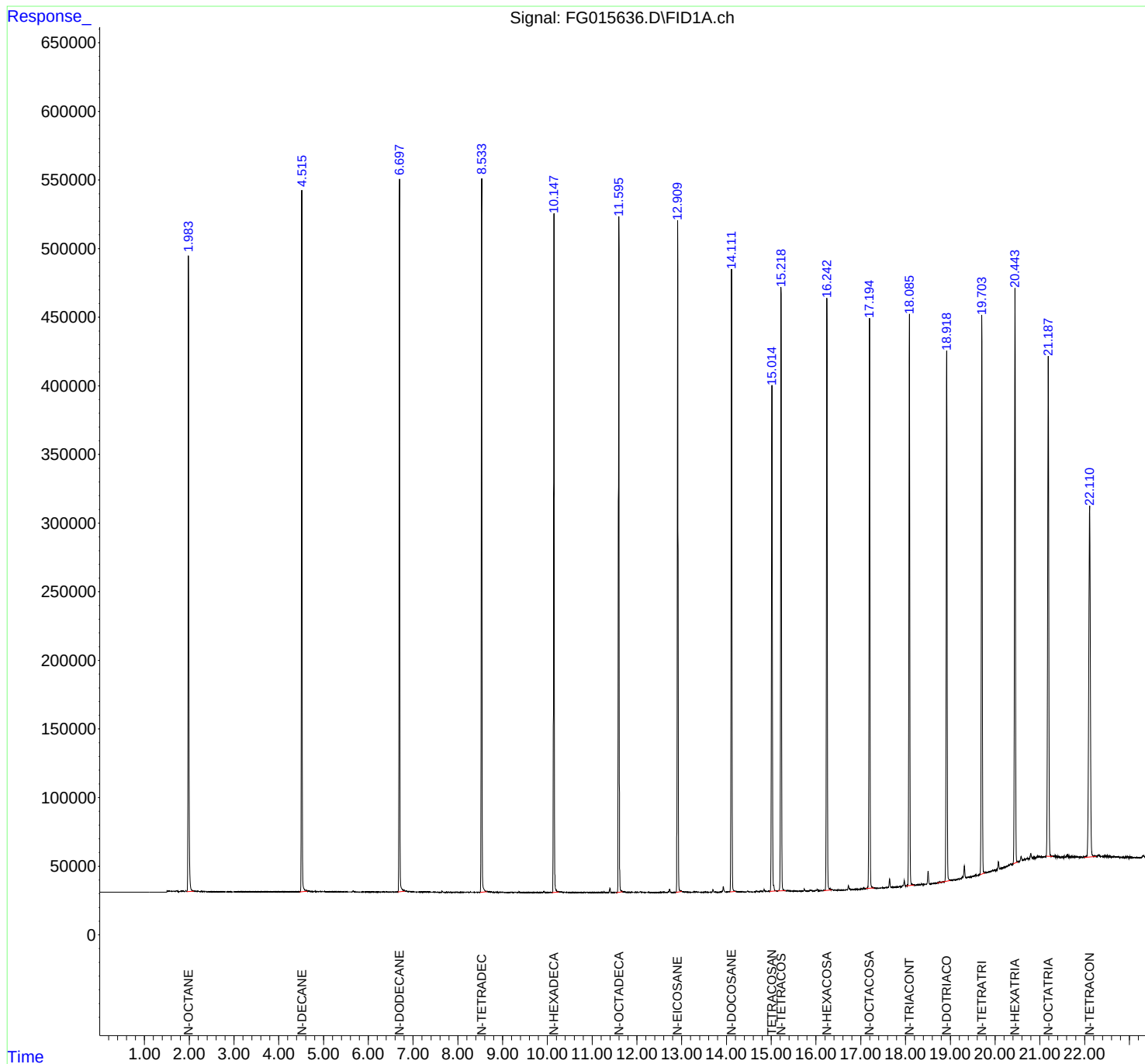
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015636.D
Signal(s) : FID1A.ch
Acq On : 04 Apr 2025 02:21
Operator : YP\AJ
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 3 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
50 PPM TRPH STD

Integration File: autoint1.e
Quant Time: Apr 04 03:58:51 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015636.D
 Signal(s) : FID1A.ch
 Acq On : 04 Apr 2025 02:21
 Sample : 50 PPM TRPH STD
 Misc :
 ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.983	1.945	2.105	PB	462347	5194065	81.40%	5.027%
2	4.515	4.471	4.640	BB	510758	5338140	83.66%	5.166%
3	6.697	6.660	6.822	BB	519065	5493837	86.10%	5.317%
4	8.533	8.497	8.650	BB	519421	5619109	88.06%	5.438%
5	10.147	10.100	10.255	BB	492500	5698144	89.30%	5.515%
6	11.596	11.542	11.685	BB	491129	5833180	91.42%	5.646%
7	12.909	12.869	13.005	BB	488376	5929252	92.92%	5.739%
8	14.112	14.075	14.200	VB	450197	5763568	90.32%	5.578%
9	15.014	14.960	15.110	BB	364895	5128686	80.38%	4.964%
10	15.219	15.132	15.325	BB	439827	5790158	90.74%	5.604%
11	16.242	16.170	16.354	BB	430499	5693069	89.22%	5.510%
12	17.195	17.115	17.301	BB	414064	5586325	87.55%	5.407%
13	18.085	18.017	18.192	BB	414998	5643700	88.45%	5.462%
14	18.918	18.710	18.995	BV	386008	5672331	88.89%	5.490%
15	19.703	19.660	19.772	BB	406145	5969988	93.56%	5.778%
16	20.445	20.400	20.511	BB	416550	6243755	97.85%	6.043%
17	21.188	21.140	21.279	BB	358167	6380936	100.00%	6.176%
18	22.112	21.994	22.266	BV	253953	6345035	99.44%	6.141%
Sum of corrected areas:						103323277		

FG032725.M Fri Apr 04 04:02:17 2025

Analytical Sequence

Client: Tully Construction Co., Inc.

SDG No.: Q1698

Project: MTA Rockaway Park

Instrument ID: FID_G

GC Column: RXI-1MS ID: 0.18 (mm)

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES,
AND STANDARDS IS GIVEN BELOW:

MEAN SUROGATE RT FROM INITIAL CALIBRATION 15.021					
EPA SAMPLE NO.	LAB SAMPLE ID	DATE AND TIME ANALYZED	DATAFILE	RT	#
PIBLK01	LBLK01	03 Apr 2025 10:07	FG015612.D	15.012	
50 PPM TRPH STD	50 PPM TRPH STD	03 Apr 2025 10:36	FG015613.D	15.014	
B-10-TPH-2	Q1698-10	03 Apr 2025 15:04	FG015619.D	15.017	
PIBLK02	LBLK02	03 Apr 2025 15:34	FG015620.D	15.014	
50 PPM TRPH STD	50 PPM TRPH STD	03 Apr 2025 16:34	FG015621.D	15.017	
PB167438BL	PB167438BL	03 Apr 2025 17:03	FG015622.D	15.015	
PB167438BS	PB167438BS	03 Apr 2025 17:33	FG015623.D	15.015	
B-10	Q1698-07	03 Apr 2025 18:02	FG015624.D	15.015	
B-10MS	Q1698-07MS	03 Apr 2025 18:31	FG015625.D	15.016	
B-10MSD	Q1698-07MSD	03 Apr 2025 19:01	FG015626.D	15.016	
B-10-TPH-3	Q1698-11	03 Apr 2025 19:30	FG015627.D	15.016	
B-10-TPH-4	Q1698-12	03 Apr 2025 19:59	FG015628.D	15.016	
PIBLK03	LBLK03	03 Apr 2025 20:28	FG015629.D	15.014	
50 PPM TRPH STD	50 PPM TRPH STD	03 Apr 2025 21:27	FG015630.D	15.015	
B-9	Q1698-01	03 Apr 2025 23:25	FG015631.D	15.027	
B-9-TPH-2	Q1698-04	03 Apr 2025 23:54	FG015632.D	15.011	
B-9-TPH-3	Q1698-05	04 Apr 2025 00:23	FG015633.D	15.025	
B-9-TPH-4	Q1698-06	04 Apr 2025 00:53	FG015634.D	15.023	
PIBLK04	LBLK04	04 Apr 2025 01:22	FG015635.D	15.012	
50 PPM TRPH STD	50 PPM TRPH STD	04 Apr 2025 02:21	FG015636.D	15.014	



QC SAMPLE DATA

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:		
Project:	MTA Rockaway Park		Date Received:		
Client Sample ID:	PB167438BL		SDG No.:	Q1698	
Lab Sample ID:	PB167438BL		Matrix:	SOIL	
Analytical Method:	8015D TPH		% Solid:	100	Decanted:
Sample Wt/Vol:	30.01	Units: g	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015622.D	1	04/03/25 08:00	04/03/25 17:03	PB167438

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	0.38	U	0.38	2.83	mg/Kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	18.7		37 - 130	94%	SPK: 20

Comments:

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
 () = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015622.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 17:03
Operator : YP\AJ
Sample : PB167438BL
Misc :
ALS Vial : 26 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
PB167438BL

Integration File: autoint1.e
Quant Time: Apr 04 01:08:39 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.015	2146141	18.733 ug/ml

Target Compounds

(f)=RT Delta > 1/2 Window

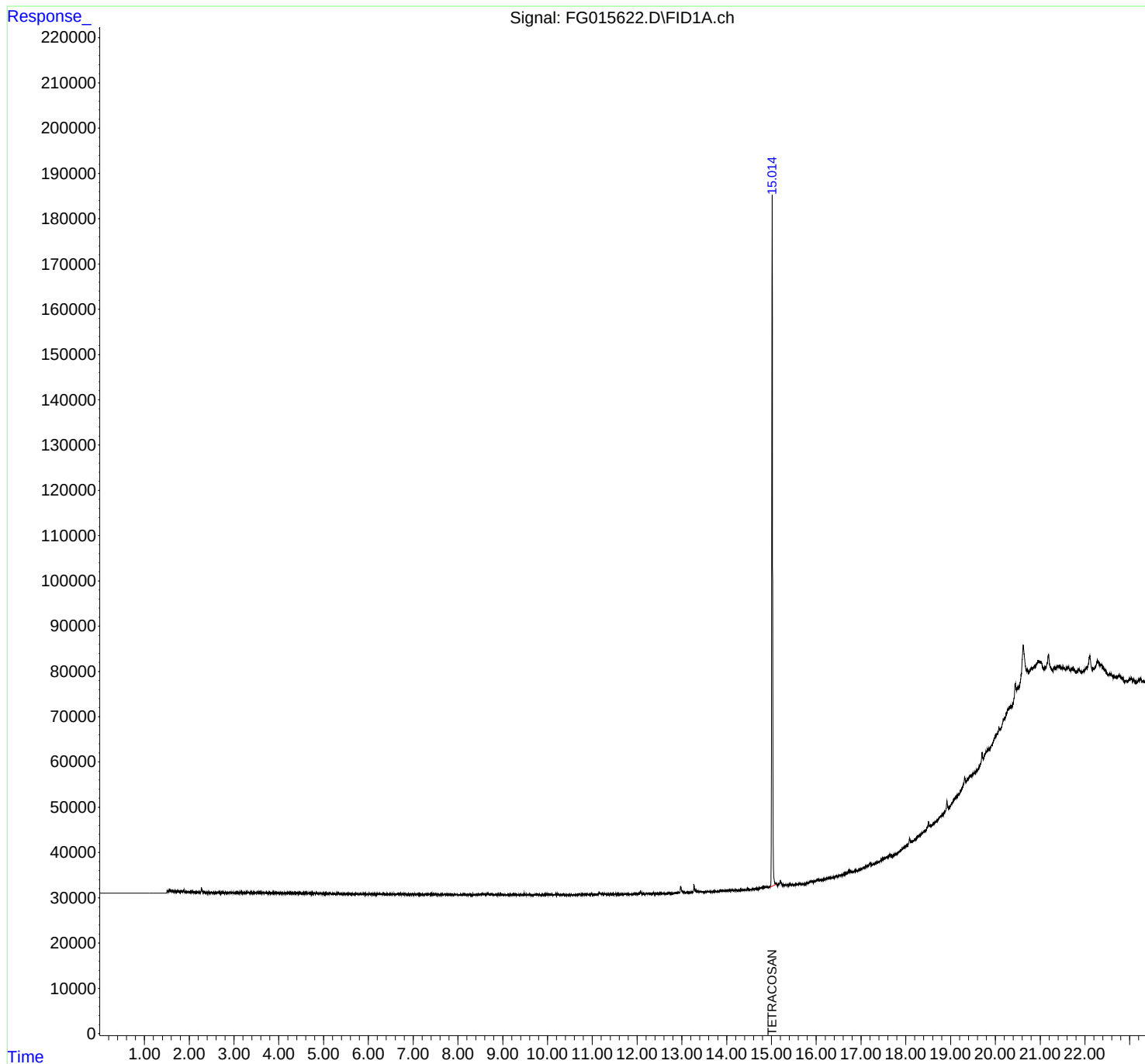
(m)=manual int.

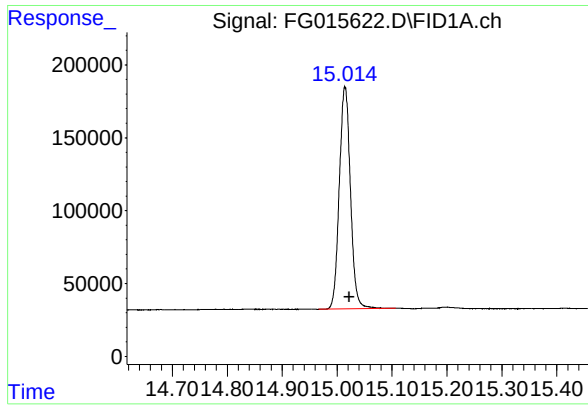
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015622.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 17:03
Operator : YP\AJ
Sample : PB167438BL
Misc :
ALS Vial : 26 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
PB167438BL

Integration File: autoint1.e
Quant Time: Apr 04 01:08:39 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.015 min
Delta R.T.: -0.008 min
Response: 2146141
Conc: 18.73 ug/ml

Instrument :
FID_G
ClientSampleId :
PB167438BL

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015622.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 17:03
Sample : PB167438BL
Misc :
ALS Vial : 26 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	15.015	14.967	15.107	BB	151984	2146141	100.00%	100.000%
Sum of corrected areas:						2146141		

FG032725.M Fri Apr 04 02:55:21 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/03/25	
Project:	MTA Rockaway Park		Date Received:	04/03/25	
Client Sample ID:	PIBLK-FG015612.D		SDG No.:	Q1698	
Lab Sample ID:	I.BLK-FG015612.D		Matrix:	Water	
Analytical Method:	8015D TPH		% Solid:	0	Decanted:
Sample Wt/Vol:	1000	Units: mL	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3510				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015612.D	1		04/03/25	FG040325

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
PHC	Petroleum Hydrocarbons	0.012	U	0.012	0.085	mg/L
SURROGATES						
16416-32-3	TETRACOSANE-d50	16.4		29 - 130	82%	SPK: 20

Comments:

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
 () = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015612.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 10:07
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: Apr 04 01:05:20 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.012	1884928	16.453 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

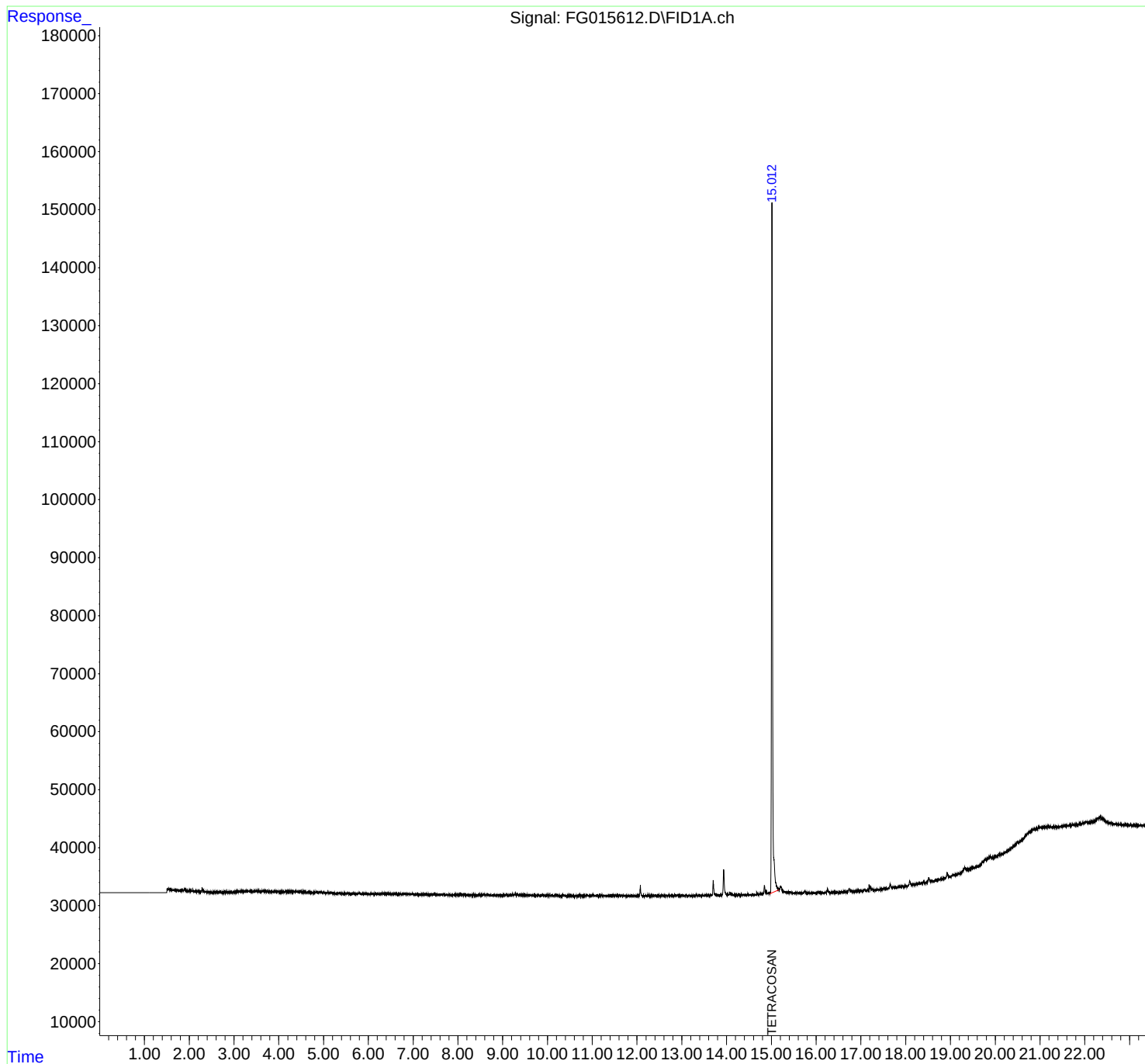
(m)=manual int.

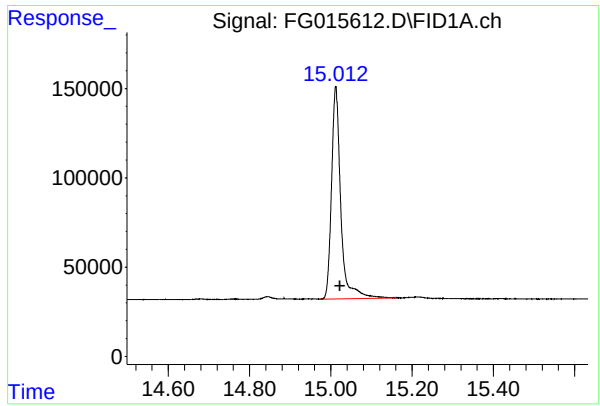
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015612.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 10:07
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: Apr 04 01:05:20 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.012 min
Delta R.T.: -0.010 min
Response: 1884928
Conc: 16.45 ug/ml

Instrument :
FID_G
ClientSampleId :
I.BLK

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015612.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 10:07
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	15.012	14.971	15.160	BB	118934	1884928	100.00%	100.000%
Sum of corrected areas:						1884928		

FG032725.M Fri Apr 04 02:47:42 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/03/25	
Project:	MTA Rockaway Park		Date Received:	04/03/25	
Client Sample ID:	PIBLK-FG015620.D		SDG No.:	Q1698	
Lab Sample ID:	I.BLK-FG015620.D		Matrix:	Water	
Analytical Method:	8015D TPH		% Solid:	0	Decanted:
Sample Wt/Vol:	1000	Units: mL	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3510				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015620.D	1		04/03/25	FG040325

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
PHC	Petroleum Hydrocarbons	0.012	U	0.012	0.085	mg/L
SURROGATES						
16416-32-3	TETRACOSANE-d50	17.6		29 - 130	88%	SPK: 20

Comments:

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
 () = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015620.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 15:34
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: Apr 04 01:08:00 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.014	2013741	17.577 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

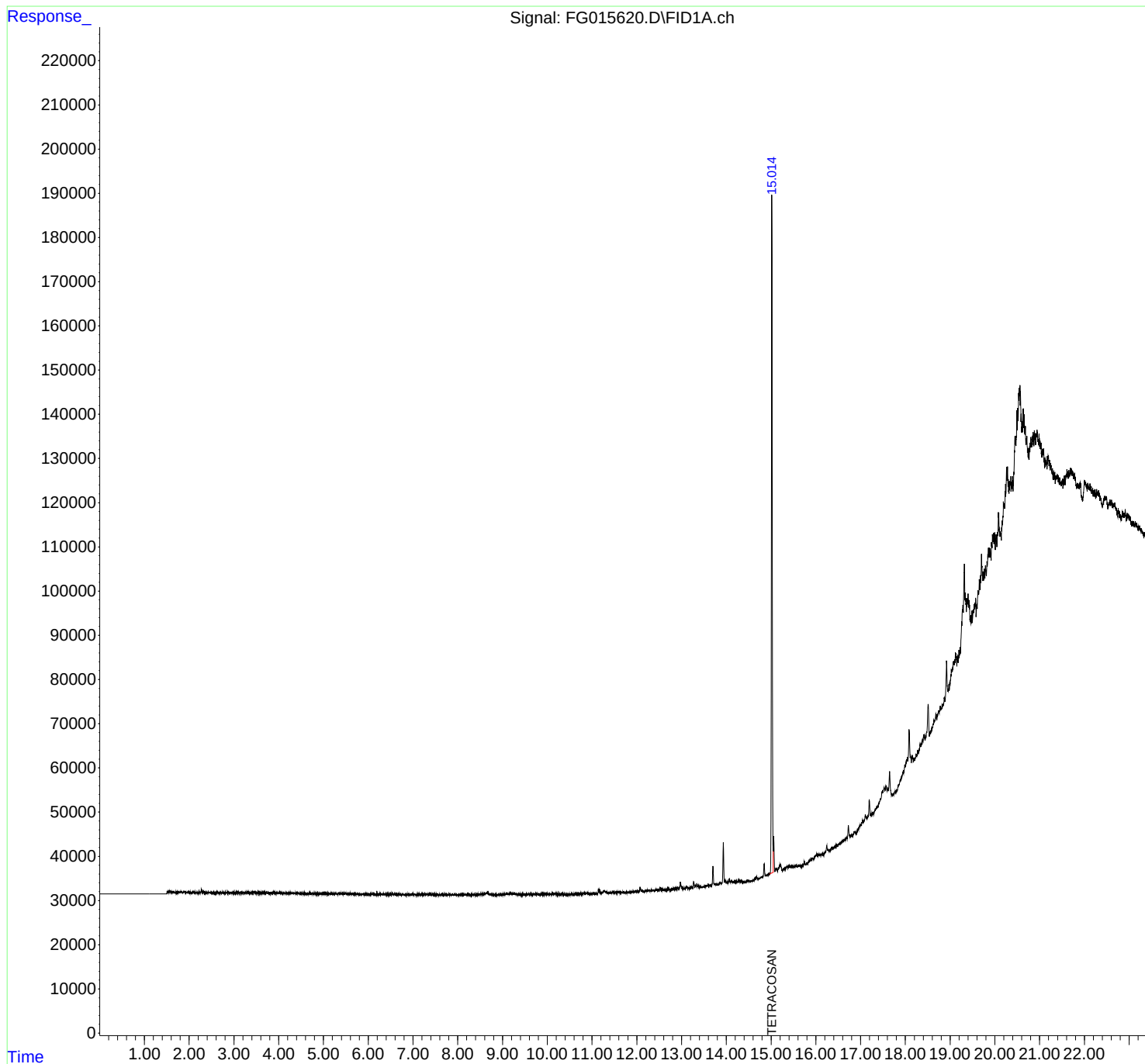
(m)=manual int.

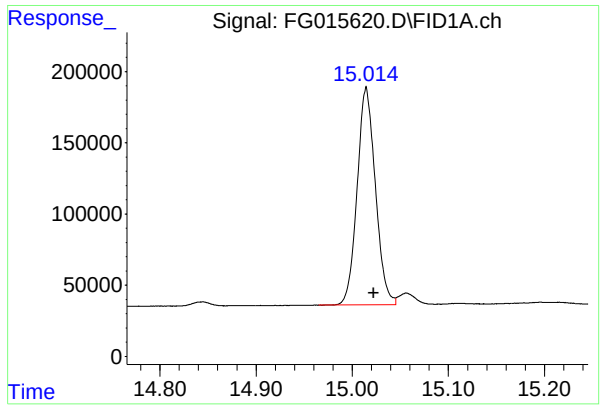
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015620.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 15:34
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: Apr 04 01:08:00 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.014 min

Delta R.T.: -0.008 min

Response: 2013741

Conc: 17.58 ug/ml

Instrument :

FID_G

ClientSampleId :

I.BLK

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015620.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 15:34
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	15.014	14.965	15.045	BV	153084	2013741	100.00%	100.000%
Sum of corrected areas:						2013741		

FG032725.M Fri Apr 04 02:49:41 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/03/25	
Project:	MTA Rockaway Park		Date Received:	04/03/25	
Client Sample ID:	PIBLK-FG015629.D		SDG No.:	Q1698	
Lab Sample ID:	I.BLK-FG015629.D		Matrix:	Water	
Analytical Method:	8015D TPH		% Solid:	0	Decanted:
Sample Wt/Vol:	1000	Units: mL	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3510				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015629.D	1		04/03/25	FG040325

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
PHC	Petroleum Hydrocarbons	0.012	U	0.012	0.085	mg/L
SURROGATES						
16416-32-3	TETRACOSANE-d50	16.8		29 - 130	84%	SPK: 20

Comments:

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
 () = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015629.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 20:28
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: Apr 04 01:11:14 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.014	1927159	16.822 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

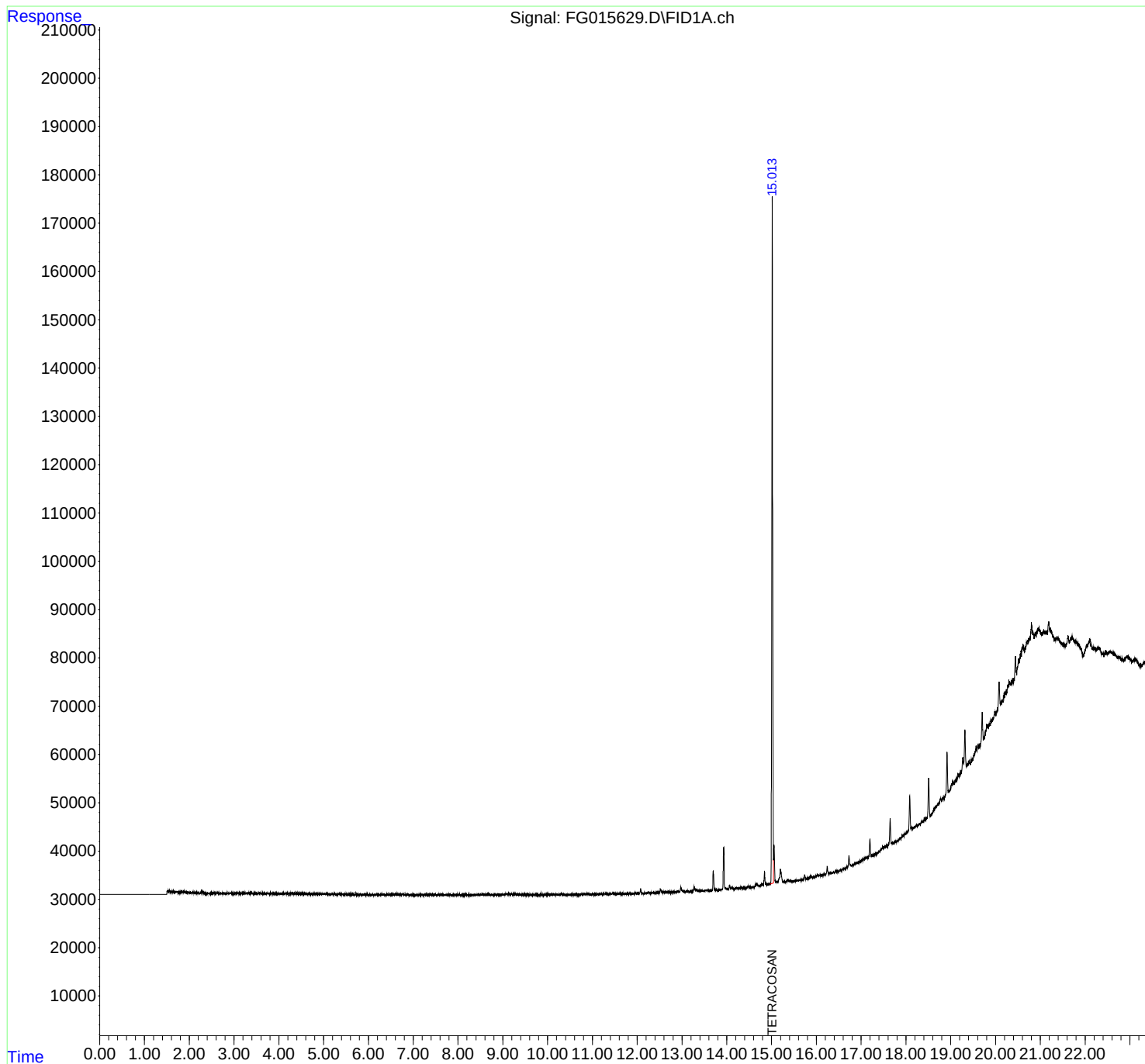
(m)=manual int.

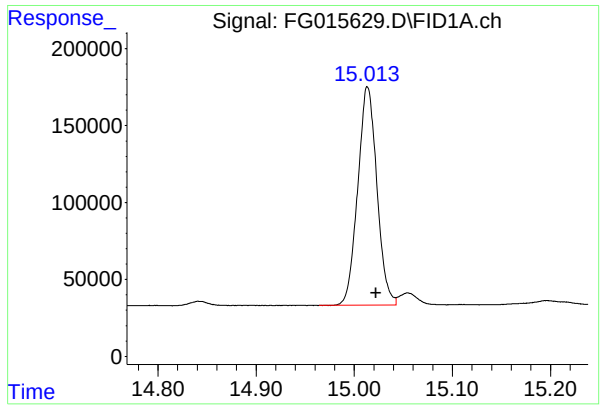
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015629.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 20:28
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: Apr 04 01:11:14 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.014 min
Delta R.T.: -0.008 min
Response: 1927159
Conc: 16.82 ug/ml

Instrument :
FID_G
ClientSampleId :
I.BLK

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015629.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 20:28
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	15.014	14.964	15.043	BV	142008	1927159	100.00%	100.000%
Sum of corrected areas:						1927159		

FG032725.M Fri Apr 04 02:57:22 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/04/25	
Project:	MTA Rockaway Park		Date Received:	04/04/25	
Client Sample ID:	PIBLK-FG015635.D		SDG No.:	Q1698	
Lab Sample ID:	I.BLK-FG015635.D		Matrix:	Water	
Analytical Method:	8015D TPH		% Solid:	0	Decanted:
Sample Wt/Vol:	1000	Units: mL	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3510				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015635.D	1		04/04/25	FG040325

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
PHC	Petroleum Hydrocarbons	0.012	U	0.012	0.085	mg/L
SURROGATES						
16416-32-3	TETRACOSANE-d50	16.9		29 - 130	84%	SPK: 20

Comments:

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 E = Value Exceeds Calibration Range
 P = Indicates >25% difference for detected concentrations between the two GC columns
 Q = indicates LCS control criteria did not meet requirements
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 N = Presumptive Evidence of a Compound
 * = Values outside of QC limits
 D = Dilution
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
 () = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015635.D
Signal(s) : FID1A.ch
Acq On : 04 Apr 2025 01:22
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: Apr 04 01:45:29 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.012	1932433	16.868 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

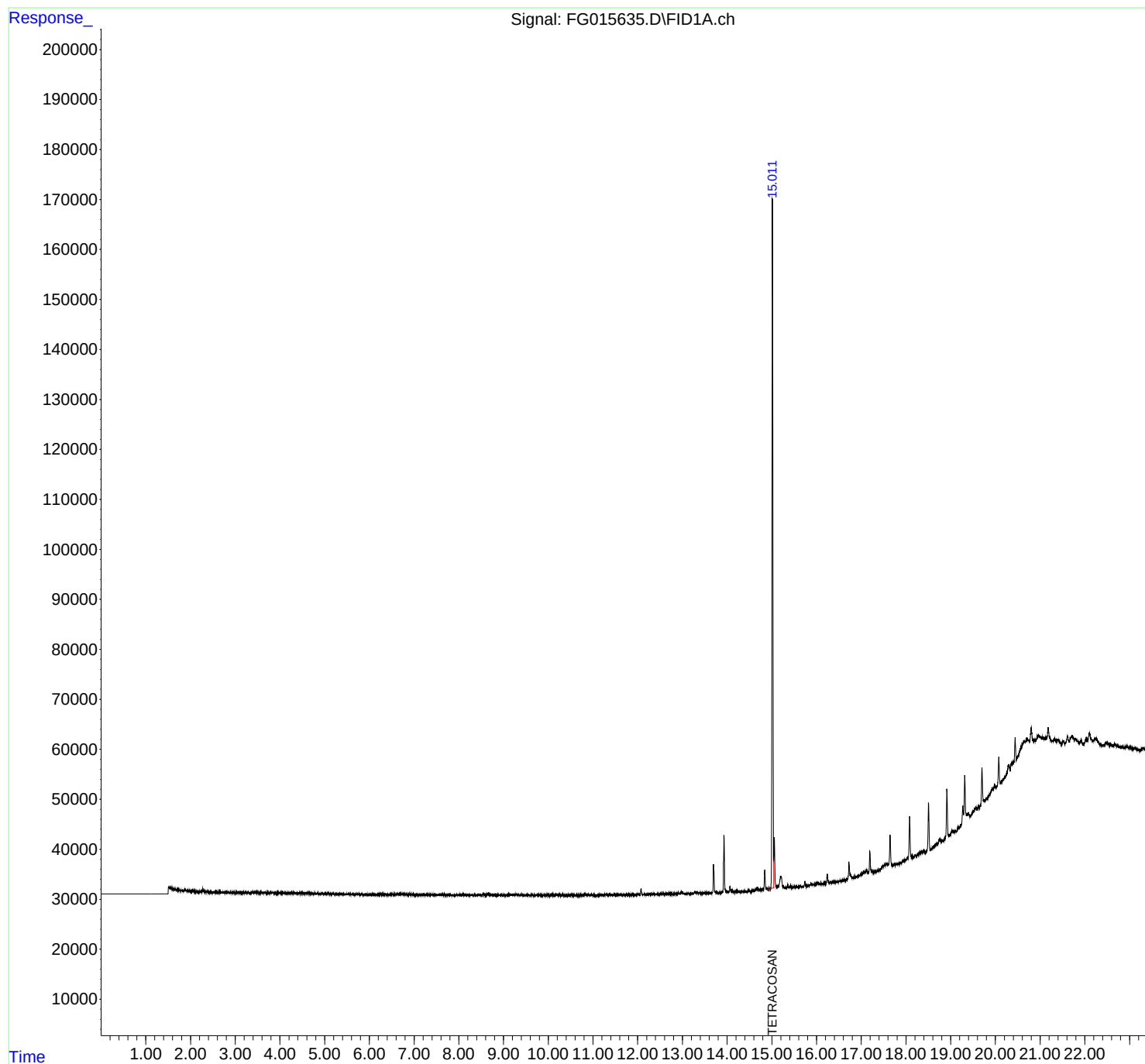
(m)=manual int.

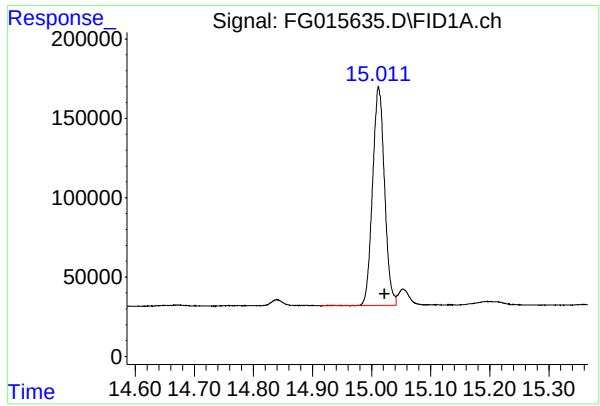
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015635.D
Signal(s) : FID1A.ch
Acq On : 04 Apr 2025 01:22
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: Apr 04 01:45:29 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.012 min

Delta R.T.: -0.010 min

Response: 1932433

Conc: 16.87 ug/ml

Instrument :

FID_G

ClientSampleId :

I.BLK

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015635.D
Signal(s) : FID1A.ch
Acq On : 04 Apr 2025 01:22
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	15.012	14.911	15.041	BV	137648	1932433	100.00%	100.000%
Sum of corrected areas:						1932433		

FG032725.M Fri Apr 04 02:58:42 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:		
Project:	MTA Rockaway Park		Date Received:		
Client Sample ID:	PB167438BS		SDG No.:	Q1698	
Lab Sample ID:	PB167438BS		Matrix:	SOIL	
Analytical Method:	8015D TPH		% Solid:	100	Decanted:
Sample Wt/Vol:	30.02	Units: g	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015623.D	1	04/03/25 08:00	04/03/25 17:33	PB167438

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	8.93		0.38	2.83	mg/Kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	19.6		37 - 130	98%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015623.D
 Signal(s) : FID1A.ch
 Acq On : 03 Apr 2025 17:33
 Operator : YP\AJ
 Sample : PB167438BS
 Misc :
 ALS Vial : 27 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 PB167438BS

Integration File: autoint1.e
 Quant Time: Apr 04 01:08:56 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Quant Title :
 QLast Update : Thu Mar 27 11:04:29 2025
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1uL
 Signal Phase : Rxi-1ms
 Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.015	2246850	19.612 ug/ml
Target Compounds			
1) N-OCTANE	1.987	1634091	14.059 ug/ml
2) N-DECANE	4.515	1966093	16.643 ug/ml
3) N-DODECANE	6.697	2100512	17.299 ug/ml
4) N-TETRADECANE	8.533	2110995	16.740 ug/ml
5) N-HEXADECANE	10.147	2217901	17.225 ug/ml
6) N-OCTADECANE	11.594	2359493	17.910 ug/ml
7) N-EICOSANE	12.909	2345002	17.513 ug/ml
8) N-DOCOSANE	14.111	2346215	18.055 ug/ml
10) N-TETRACOSANE	15.219	2379533	18.371 ug/ml
11) N-HEXACOSANE	16.242	2315933	18.196 ug/ml
12) N-OCTACOSANE	17.195	2273271	18.186 ug/ml
13) N-TRIACONTANE	18.085	2165806	17.302 ug/ml
14) N-DOTRIACONTANE	18.917	1835406	15.466 ug/ml
15) N-TETRATRIACONTANE	19.702	1092705	10.469 ug/ml
16) N-HEXATRIACONTANE	20.441	723583	8.256 ug/ml
17) N-OCTATRIACONTANE	21.185	596503	7.993 ug/ml
18) N-TETRACONTANE	22.108	508232	7.673 ug/ml

(f)=RT Delta > 1/2 Window

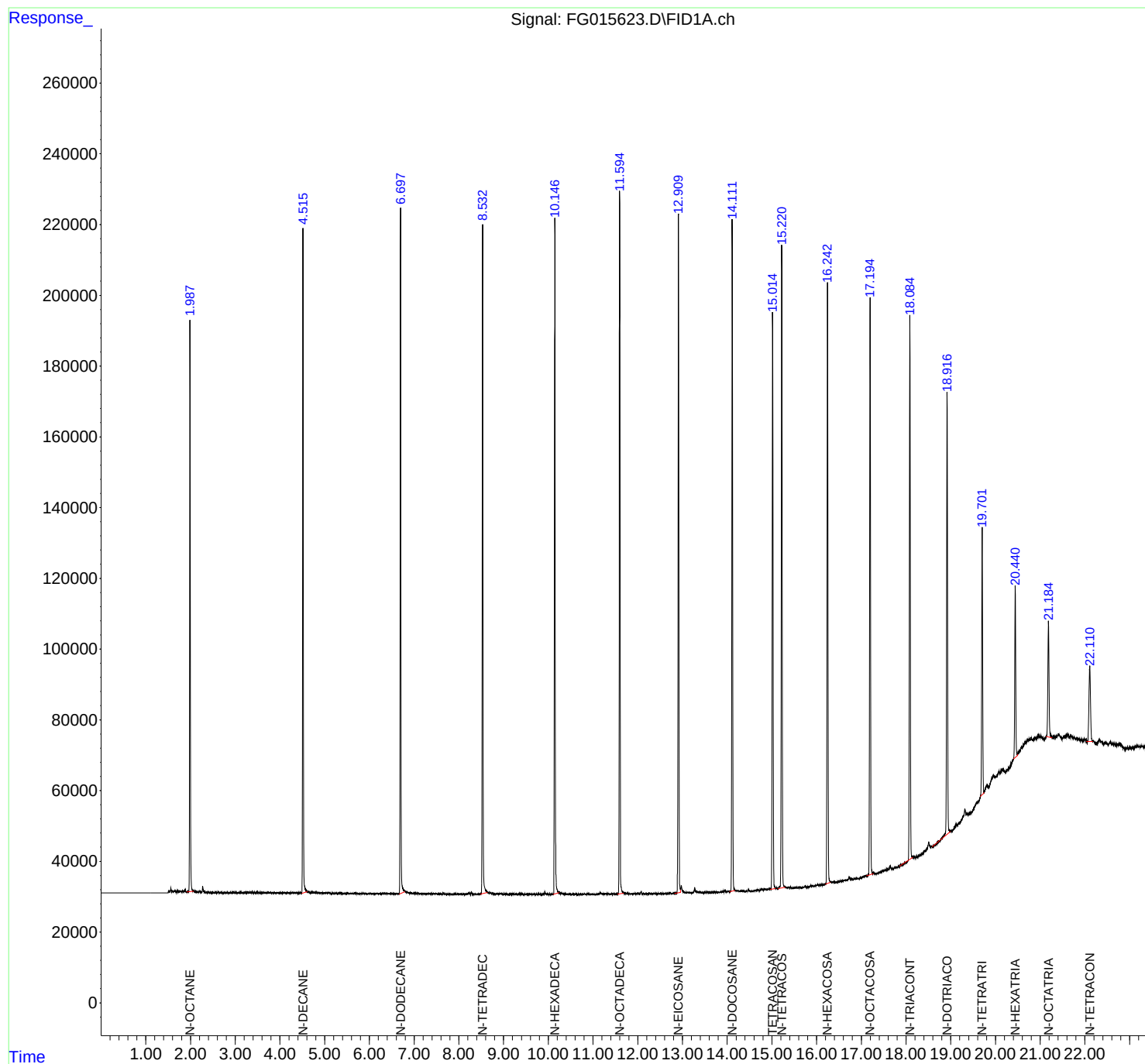
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015623.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 17:33
Operator : YP\AJ
Sample : PB167438BS
Misc :
ALS Vial : 27 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
PB167438BS

Integration File: autoint1.e
Quant Time: Apr 04 01:08:56 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015623.D
 Signal(s) : FID1A.ch
 Acq On : 03 Apr 2025 17:33
 Sample : PB167438BS
 Misc :
 ALS Vial : 27 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.987	1.911	2.071	BB	161349	1634091	68.67%	4.919%
2	4.515	4.485	4.606	BB	188000	1966093	82.63%	5.919%
3	6.697	6.662	6.797	BB	193808	2100512	88.27%	6.323%
4	8.533	8.475	8.640	BB	189000	2110995	88.71%	6.355%
5	10.147	10.105	10.240	BB	190611	2217901	93.21%	6.677%
6	11.594	11.546	11.689	BB	198290	2359493	99.16%	7.103%
7	12.909	12.830	12.956	BV	191631	2345002	98.55%	7.059%
8	14.111	14.061	14.174	BB	189540	2346215	98.60%	7.063%
9	15.015	14.965	15.082	BB	161524	2246850	94.42%	6.764%
10	15.219	15.135	15.294	BB	181188	2379533	100.00%	7.163%
11	16.242	16.193	16.313	BB	168650	2315933	97.33%	6.972%
12	17.195	17.120	17.277	BB	162662	2273271	95.53%	6.843%
13	18.085	17.850	18.155	BB	153398	2165806	91.02%	6.520%
14	18.917	18.583	18.990	BB	124568	1835406	77.13%	5.525%
15	19.702	19.660	19.740	BV	75518	1092705	45.92%	3.289%
16	20.441	20.400	20.497	BV	48175	723583	30.41%	2.178%
17	21.185	21.140	21.270	BB	32699	596503	25.07%	1.796%
18	22.108	22.037	22.179	BV	21323	508232	21.36%	1.530%
Sum of corrected areas:							33218124	

FG032725.M Fri Apr 04 02:56:30 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/02/25	
Project:	MTA Rockaway Park		Date Received:	04/02/25	
Client Sample ID:	B-10MS		SDG No.:	Q1698	
Lab Sample ID:	Q1698-07MS		Matrix:	SOIL	
Analytical Method:	8015D TPH		% Solid:	93.4	Decanted:
Sample Wt/Vol:	30.06	Units: g	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015625.D	1	04/03/25 08:00	04/03/25 18:31	PB167438

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	44.8		0.41	3.03	mg/Kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	14.3		37 - 130	71%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015625.D
 Signal(s) : FID1A.ch
 Acq On : 03 Apr 2025 18:31
 Operator : YP\AJ
 Sample : Q1698-07MS
 Misc :
 ALS Vial : 29 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 B-10MS

Integration File: autoint1.e
 Quant Time: Apr 04 01:09:43 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Quant Title :
 QLast Update : Thu Mar 27 11:04:29 2025
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1uL
 Signal Phase : Rxi-1ms
 Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.016	1634535	14.267 ug/ml
Target Compounds			
1) N-OCTANE	1.987	1342285	11.549 ug/ml
2) N-DECANE	4.515	1776447	15.037 ug/ml
3) N-DODECANE	6.697	2823388	23.252 ug/ml
4) N-TETRADECANE	8.534	3572197	28.328 ug/ml
5) N-HEXADECANE	10.147	2726742	21.177 ug/ml
6) N-OCTADECANE	11.595	2628381	19.951 ug/ml
7) N-EICOSANE	12.910	2753861	20.566 ug/ml
8) N-DOCOSANE	14.112	2783912	21.424 ug/ml
10) N-TETRACOSANE	15.219	2772202	21.403 ug/ml
11) N-HEXACOSANE	16.245	3045025	23.925 ug/ml
12) N-OCTACOSANE	17.196	2965113	23.720 ug/ml
13) N-TRIACONTANE	18.086	2600565	20.775 ug/ml
14) N-DOTRIACONTANE	18.920	2045938	17.240 ug/ml
15) N-TETRATRIACONTANE	19.704	1179188	11.297 ug/ml
16) N-HEXATRIACONTANE	20.443	739463	8.437 ug/ml
17) N-OCTATRIACONTANE	21.186	619953	8.307 ug/ml
18) N-TETRACONTANE	22.113	704360	10.634 ug/ml

(f)=RT Delta > 1/2 Window

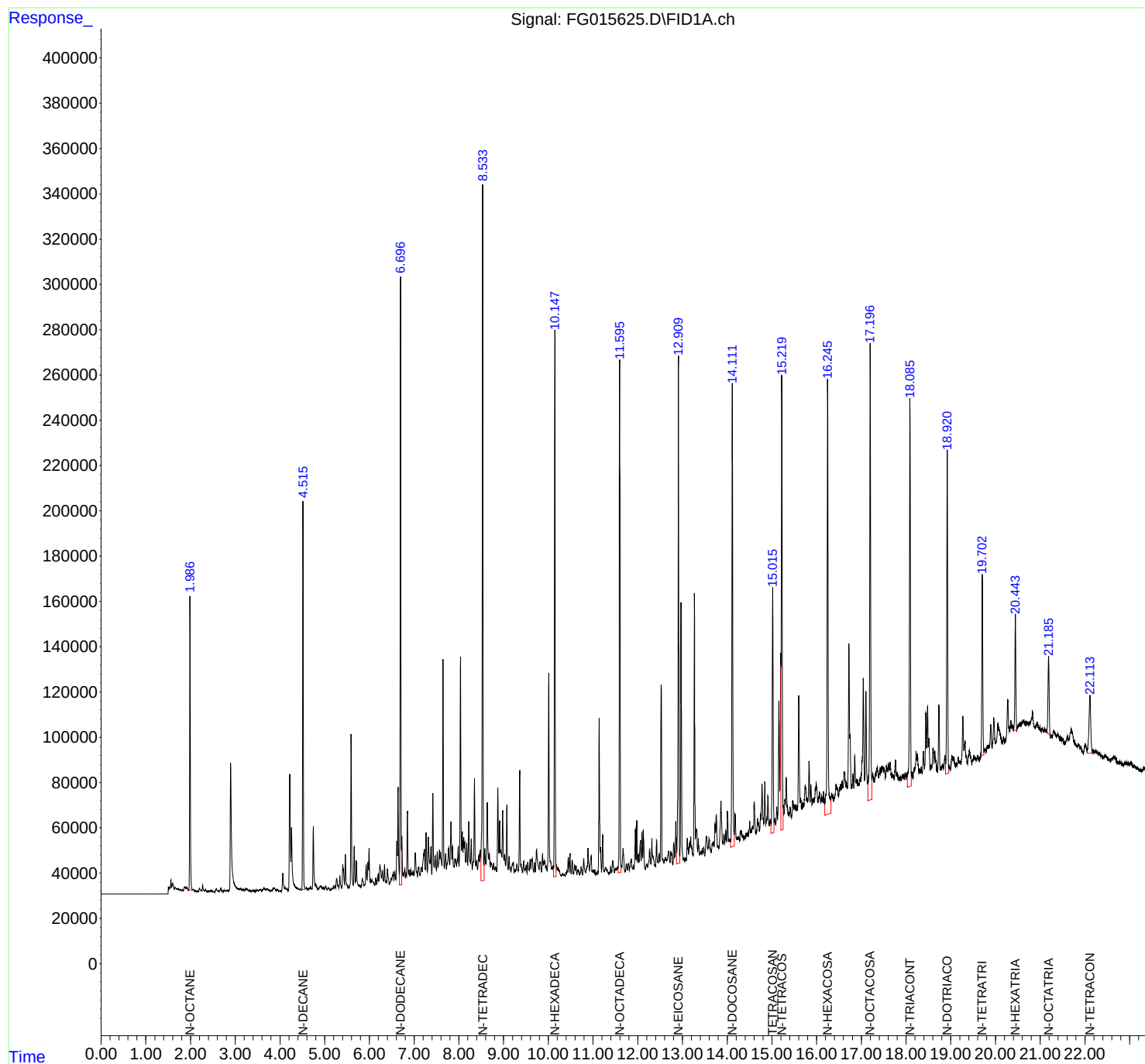
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015625.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 18:31
Operator : YP\AJ
Sample : Q1698-07MS
Misc :
ALS Vial : 29 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-10MS

Integration File: autoint1.e
Quant Time: Apr 04 01:09:43 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um



Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015625.D
 Signal(s) : FID1A.ch
 Acq On : 03 Apr 2025 18:31
 Sample : Q1698-07MS
 Misc :
 ALS Vial : 29 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.825	1.800	1.838	BV	414	4644	0.13%	0.003%
2	1.864	1.838	1.873	VV	1689	21279	0.59%	0.014%
3	1.877	1.873	1.887	VV	1569	12031	0.33%	0.008%
4	1.894	1.887	1.910	VV	1425	18137	0.50%	0.012%
5	1.913	1.910	1.922	VV	1235	8561	0.24%	0.006%
6	1.925	1.922	1.959	VV	1328	14813	0.41%	0.010%
7	1.987	1.959	2.057	VV	130252	1369338	38.13%	0.932%
8	2.058	2.057	2.142	VV	649	13999	0.39%	0.010%
9	2.156	2.142	2.162	PV	201	1394	0.04%	0.001%
10	2.171	2.162	2.183	VV	270	2568	0.07%	0.002%
11	2.195	2.183	2.255	VV	1474	29891	0.83%	0.020%
12	2.269	2.255	2.317	VV	2880	41536	1.16%	0.028%
13	2.332	2.317	2.383	VV	820	16576	0.46%	0.011%
14	2.397	2.383	2.416	VV	547	6127	0.17%	0.004%
15	2.430	2.416	2.441	VV	453	5009	0.14%	0.003%
16	2.455	2.441	2.511	VV	583	12667	0.35%	0.009%
17	2.517	2.511	2.541	VV	119	1158	0.03%	0.001%
18	2.573	2.541	2.646	PV	1286	38022	1.06%	0.026%
19	2.648	2.646	2.652	VV	224	828	0.02%	0.001%
20	2.672	2.652	2.714	VV	1483	30309	0.84%	0.021%
21	2.718	2.714	2.734	VV	351	3099	0.09%	0.002%
22	2.756	2.734	2.774	VV	796	12042	0.34%	0.008%
23	2.807	2.774	2.815	VV	574	11492	0.32%	0.008%
24	2.825	2.815	2.844	VV	595	7585	0.21%	0.005%
25	2.897	2.844	3.079	VV	56710	1256429	34.98%	0.856%
26	3.093	3.079	3.104	VV	1228	16630	0.46%	0.011%
27	3.114	3.104	3.122	VV	1202	12500	0.35%	0.009%
28	3.126	3.122	3.153	VV	1180	18176	0.51%	0.012%
29	3.172	3.153	3.201	VV	1116	25306	0.70%	0.017%
30	3.228	3.201	3.240	VV	1189	21133	0.59%	0.014%
31	3.254	3.240	3.293	VV	1405	31889	0.89%	0.022%
32	3.296	3.293	3.307	VV	592	4794	0.13%	0.003%
33	3.309	3.307	3.353	VV	624	10268	0.29%	0.007%
34	3.378	3.353	3.389	VV	421	7330	0.20%	0.005%
35	3.397	3.389	3.415	VV	465	6368	0.18%	0.004%
36	3.423	3.415	3.453	VV	506	7259	0.20%	0.005%

					rteres			
37	3.473	3.453	3.488	VV	590	9679	0.27%	0.007%
38	3.488	3.488	3.492	VV	587	1370	0.04%	0.001%
39	3.500	3.492	3.525	VV	649	10126	0.28%	0.007%
40	3.546	3.525	3.557	VV	996	14268	0.40%	0.010%
41	3.570	3.557	3.596	VV	937	16201	0.45%	0.011%
42	3.637	3.596	3.688	VV	1558	56054	1.56%	0.038%
43	3.710	3.688	3.775	VV	1323	41901	1.17%	0.029%
44	3.785	3.775	3.798	VV	571	6325	0.18%	0.004%
45	3.802	3.798	3.819	VV	522	5652	0.16%	0.004%
46	3.848	3.819	3.860	VV	1555	25336	0.71%	0.017%
47	3.872	3.860	3.907	VV	1692	34918	0.97%	0.024%
48	3.923	3.907	3.932	VV	1012	11353	0.32%	0.008%
49	3.940	3.932	3.969	VV	980	14975	0.42%	0.010%
50	3.974	3.969	4.007	VV	354	4195	0.12%	0.003%
51	4.064	4.007	4.103	PV	8078	137061	3.82%	0.093%
52	4.119	4.103	4.142	VV	1578	28887	0.80%	0.020%
53	4.157	4.142	4.188	VV	1163	20611	0.57%	0.014%
54	4.219	4.188	4.243	VV	51731	811413	22.59%	0.553%
55	4.258	4.243	4.405	VV	28142	589492	16.41%	0.401%
56	4.407	4.405	4.438	VV	1099	15601	0.43%	0.011%
57	4.454	4.438	4.484	VV	834	17941	0.50%	0.012%
58	4.515	4.484	4.571	VV	172146	1813132	50.48%	1.235%
59	4.591	4.571	4.614	VV	1435	26871	0.75%	0.018%
60	4.624	4.614	4.633	VV	724	7478	0.21%	0.005%
61	4.651	4.633	4.670	VV	1282	22222	0.62%	0.015%
62	4.686	4.670	4.710	VV	1876	27570	0.77%	0.019%
63	4.746	4.710	4.787	VV	28397	394603	10.99%	0.269%
64	4.800	4.787	4.843	VV	2983	57809	1.61%	0.039%
65	4.860	4.843	4.867	VV	913	10637	0.30%	0.007%
66	4.898	4.867	4.924	VV	1933	49702	1.38%	0.034%
67	4.933	4.924	4.947	VV	1510	17243	0.48%	0.012%
68	4.960	4.947	4.968	VV	1016	11124	0.31%	0.008%
69	4.979	4.968	4.996	VV	1051	14529	0.40%	0.010%
70	5.025	4.996	5.063	VV	2017	35096	0.98%	0.024%
71	5.084	5.063	5.117	VV	936	17820	0.50%	0.012%
72	5.133	5.117	5.148	PV	549	5059	0.14%	0.003%
73	5.171	5.148	5.181	PV	738	8730	0.24%	0.006%
74	5.197	5.181	5.213	VV	1763	21115	0.59%	0.014%
75	5.230	5.213	5.246	VV	1926	26469	0.74%	0.018%
76	5.267	5.246	5.295	VV	4902	93514	2.60%	0.064%
77	5.303	5.295	5.319	VV	1810	21132	0.59%	0.014%
78	5.340	5.319	5.380	VV	6150	95661	2.66%	0.065%
79	5.405	5.380	5.415	VV	10900	121227	3.38%	0.083%
80	5.420	5.415	5.445	VV	8687	101915	2.84%	0.069%
81	5.463	5.445	5.490	VV	15442	197881	5.51%	0.135%
82	5.497	5.490	5.523	VV	2195	30775	0.86%	0.021%
83	5.533	5.523	5.548	VV	1229	13511	0.38%	0.009%
84	5.591	5.548	5.638	VV	68132	816579	22.74%	0.556%
85	5.660	5.638	5.685	VV	18879	243572	6.78%	0.166%
86	5.708	5.685	5.763	VV	12452	208644	5.81%	0.142%
87	5.773	5.763	5.800	VV	1281	23347	0.65%	0.016%
88	5.811	5.800	5.823	VV	1028	10607	0.30%	0.007%
89	5.841	5.823	5.878	VV	4283	91305	2.54%	0.062%

					rteres			
90	5.892	5.878	5.902	VV	1578	20026	0.56%	0.014%
91	5.928	5.902	5.947	VV	10316	153981	4.29%	0.105%
92	5.969	5.947	5.980	VV	11277	155580	4.33%	0.106%
93	5.992	5.980	6.015	VV	17463	208619	5.81%	0.142%
94	6.028	6.015	6.040	VV	3732	46869	1.30%	0.032%
95	6.055	6.040	6.082	VV	3436	73468	2.05%	0.050%
96	6.093	6.082	6.108	VV	2581	33633	0.94%	0.023%
97	6.113	6.108	6.123	VV	1583	12577	0.35%	0.009%
98	6.141	6.123	6.158	VV	4211	55362	1.54%	0.038%
99	6.196	6.158	6.213	VV	5864	122080	3.40%	0.083%
100	6.235	6.213	6.274	VV	9799	243706	6.79%	0.166%
101	6.293	6.274	6.321	VV	7430	130692	3.64%	0.089%
102	6.339	6.321	6.364	VV	9975	135937	3.78%	0.093%
103	6.378	6.364	6.386	VV	2642	31313	0.87%	0.021%
104	6.404	6.386	6.445	VV	8013	150787	4.20%	0.103%
105	6.488	6.445	6.501	VV	3662	79481	2.21%	0.054%
106	6.517	6.501	6.525	VV	5053	63063	1.76%	0.043%
107	6.535	6.525	6.551	VV	6212	74381	2.07%	0.051%
108	6.569	6.551	6.593	VV	6247	116665	3.25%	0.079%
109	6.614	6.593	6.625	VV	20002	234046	6.52%	0.159%
110	6.640	6.625	6.672	VV	43785	576358	16.05%	0.392%
111	6.697	6.672	6.718	VV	269077	2836211	78.97%	1.931%
112	6.726	6.718	6.748	VV	21861	250022	6.96%	0.170%
113	6.757	6.748	6.769	VV	5535	64722	1.80%	0.044%
114	6.791	6.769	6.808	VV	7586	137362	3.82%	0.094%
115	6.821	6.808	6.830	VV	5235	58999	1.64%	0.040%
116	6.850	6.830	6.874	VV	32965	421151	11.73%	0.287%
117	6.886	6.874	6.908	VV	7052	113075	3.15%	0.077%
118	6.923	6.908	6.938	VV	6988	99176	2.76%	0.068%
119	6.957	6.938	6.968	VV	5705	92170	2.57%	0.063%
120	6.981	6.968	7.000	VV	6187	102250	2.85%	0.070%
121	7.026	7.000	7.053	VV	14436	289899	8.07%	0.197%
122	7.061	7.053	7.075	VV	6064	69697	1.94%	0.047%
123	7.103	7.075	7.138	VV	7831	221046	6.15%	0.151%
124	7.167	7.138	7.181	VV	7648	173526	4.83%	0.118%
125	7.212	7.181	7.220	VV	13642	242548	6.75%	0.165%
126	7.230	7.220	7.248	VV	15688	200934	5.59%	0.137%
127	7.267	7.248	7.298	VV	22958	392713	10.93%	0.267%
128	7.318	7.298	7.347	VV	20767	390674	10.88%	0.266%
129	7.376	7.347	7.395	VV	16652	308295	8.58%	0.210%
130	7.420	7.395	7.455	VV	40089	593878	16.54%	0.404%
131	7.472	7.455	7.500	VV	12250	245527	6.84%	0.167%
132	7.519	7.500	7.536	VV	14221	216730	6.03%	0.148%
133	7.568	7.536	7.579	VV	15111	279445	7.78%	0.190%
134	7.590	7.579	7.621	VV	14173	277628	7.73%	0.189%
135	7.647	7.621	7.674	VV	98799	1180500	32.87%	0.804%
136	7.705	7.674	7.724	VV	13274	283357	7.89%	0.193%
137	7.772	7.724	7.798	VV	15601	461355	12.85%	0.314%
138	7.825	7.798	7.846	VV	27134	498349	13.88%	0.339%
139	7.860	7.846	7.895	VV	16117	306243	8.53%	0.209%
140	7.911	7.895	7.922	VV	10483	148028	4.12%	0.101%
141	7.931	7.922	7.948	VV	10113	143701	4.00%	0.098%

rteres								
142	7.966	7.948	7.971	VV	9883	123470	3.44%	0.084%
143	7.987	7.971	8.004	VV	16079	235710	6.56%	0.161%
144	8.037	8.004	8.063	VV	99434	1328089	36.98%	0.904%
145	8.078	8.063	8.093	VV	22493	334807	9.32%	0.228%
146	8.109	8.093	8.122	VV	19842	289958	8.07%	0.197%
147	8.132	8.122	8.158	VV	17726	282063	7.85%	0.192%
148	8.177	8.158	8.198	VV	17421	296542	8.26%	0.202%
149	8.223	8.198	8.262	VV	26663	545032	15.18%	0.371%
150	8.280	8.262	8.302	VV	18984	286763	7.98%	0.195%
151	8.351	8.302	8.379	VV	45562	753427	20.98%	0.513%
152	8.397	8.379	8.419	VV	9366	180666	5.03%	0.123%
153	8.449	8.419	8.462	VV	11632	232711	6.48%	0.158%
154	8.478	8.462	8.492	VV	13878	206633	5.75%	0.141%
155	8.534	8.492	8.566	VV	307271	3591639	100.00%	2.446%
156	8.581	8.566	8.608	VV	14372	259370	7.22%	0.177%
157	8.637	8.608	8.669	VV	34763	632744	17.62%	0.431%
158	8.683	8.669	8.702	VV	12246	191868	5.34%	0.131%
159	8.714	8.702	8.718	VV	7809	72663	2.02%	0.049%
160	8.727	8.718	8.759	VV	7820	163121	4.54%	0.111%
161	8.779	8.759	8.798	VV	7669	144717	4.03%	0.099%
162	8.822	8.798	8.848	VV	5715	155026	4.32%	0.106%
163	8.873	8.848	8.897	VV	40920	586644	16.33%	0.399%
164	8.913	8.897	8.930	VV	26335	357008	9.94%	0.243%
165	8.938	8.930	8.962	VV	13475	233492	6.50%	0.159%
166	8.980	8.962	9.013	VV	30683	528556	14.72%	0.360%
167	9.026	9.013	9.044	VV	11512	177294	4.94%	0.121%
168	9.075	9.044	9.101	VV	33163	491869	13.69%	0.335%
169	9.126	9.101	9.143	VV	10341	176468	4.91%	0.120%
170	9.151	9.143	9.167	VV	5164	63811	1.78%	0.043%
171	9.197	9.167	9.207	VV	6863	131807	3.67%	0.090%
172	9.217	9.207	9.239	VV	7640	114930	3.20%	0.078%
173	9.257	9.239	9.267	VV	4337	62488	1.74%	0.043%
174	9.297	9.267	9.325	VV	6722	173683	4.84%	0.118%
175	9.362	9.325	9.385	VV	47845	627617	17.47%	0.427%
176	9.392	9.385	9.427	VV	6649	121823	3.39%	0.083%
177	9.450	9.427	9.481	VV	7887	170636	4.75%	0.116%
178	9.505	9.481	9.524	VV	6102	119356	3.32%	0.081%
179	9.542	9.524	9.572	VV	7385	141320	3.93%	0.096%
180	9.593	9.572	9.611	VV	8385	138731	3.86%	0.094%
181	9.626	9.611	9.632	VV	8165	86280	2.40%	0.059%
182	9.642	9.632	9.674	VV	8524	146180	4.07%	0.100%
183	9.692	9.674	9.712	VV	6933	106260	2.96%	0.072%
184	9.739	9.712	9.793	VV	12478	363748	10.13%	0.248%
185	9.818	9.793	9.850	VV	7019	180519	5.03%	0.123%
186	9.872	9.850	9.888	VV	10431	152257	4.24%	0.104%
187	9.902	9.888	9.912	VV	7243	95277	2.65%	0.065%
188	9.923	9.912	9.942	VV	7301	106068	2.95%	0.072%
189	9.952	9.942	9.971	VV	5051	75258	2.10%	0.051%
190	10.012	9.971	10.041	VV	90080	1122388	31.25%	0.764%
191	10.051	10.041	10.075	VV	7215	121377	3.38%	0.083%
192	10.108	10.075	10.119	VV	5123	112694	3.14%	0.077%
193	10.147	10.119	10.174	VV	241185	2730884	76.03%	1.860%
194	10.181	10.174	10.202	VV	5326	70367	1.96%	0.048%

					rteres			
195	10.216	10.202	10.240	VV	4273	77460	2.16%	0.053%
196	10.247	10.240	10.289	VV	2940	45763	1.27%	0.031%
197	10.320	10.289	10.346	VV	1420	29096	0.81%	0.020%
198	10.359	10.346	10.372	VV	962	10161	0.28%	0.007%
199	10.394	10.372	10.407	VV	1683	21915	0.61%	0.015%
200	10.419	10.407	10.431	VV	2516	28113	0.78%	0.019%
201	10.447	10.431	10.465	VV	8261	100081	2.79%	0.068%
202	10.485	10.465	10.512	VV	10052	139337	3.88%	0.095%
203	10.535	10.512	10.559	VV	7016	105877	2.95%	0.072%
204	10.589	10.559	10.605	VV	4828	74688	2.08%	0.051%
205	10.621	10.605	10.644	VV	4249	62477	1.74%	0.043%
206	10.659	10.644	10.698	VV	2679	55666	1.55%	0.038%
207	10.713	10.698	10.718	VV	1111	10156	0.28%	0.007%
208	10.735	10.718	10.764	VV	3866	57640	1.60%	0.039%
209	10.794	10.764	10.835	VV	7418	132801	3.70%	0.090%
210	10.863	10.835	10.871	VV	3972	59456	1.66%	0.040%
211	10.888	10.871	10.921	VV	11950	187532	5.22%	0.128%
212	10.960	10.921	10.984	VV	8552	190244	5.30%	0.130%
213	10.991	10.984	10.997	VV	1658	11762	0.33%	0.008%
214	11.011	10.997	11.027	VV	2095	29374	0.82%	0.020%
215	11.039	11.027	11.056	VV	2183	24065	0.67%	0.016%
216	11.070	11.056	11.094	PV	876	10749	0.30%	0.007%
217	11.108	11.094	11.115	VV	1209	10878	0.30%	0.007%
218	11.139	11.115	11.159	VV	69118	779526	21.70%	0.531%
219	11.167	11.159	11.193	VV	12092	140562	3.91%	0.096%
220	11.217	11.193	11.253	VV	17370	240225	6.69%	0.164%
221	11.282	11.253	11.304	VV	3128	67564	1.88%	0.046%
222	11.310	11.304	11.337	VV	1879	25510	0.71%	0.017%
223	11.343	11.337	11.360	VV	708	6207	0.17%	0.004%
224	11.365	11.360	11.375	VV	326	1709	0.05%	0.001%
225	11.396	11.375	11.418	PV	3075	36903	1.03%	0.025%
226	11.441	11.418	11.477	VV	5721	101688	2.83%	0.069%
227	11.502	11.477	11.526	VV	1977	43635	1.21%	0.030%
228	11.545	11.526	11.558	VV	2362	39115	1.09%	0.027%
229	11.595	11.558	11.627	VV	226538	2627589	73.16%	1.789%
230	11.636	11.627	11.649	VV	3133	36392	1.01%	0.025%
231	11.673	11.649	11.717	VV	10426	204000	5.68%	0.139%
232	11.748	11.717	11.771	VV	3324	55481	1.54%	0.038%
233	11.794	11.771	11.816	VV	3643	56328	1.57%	0.038%
234	11.856	11.816	11.887	VV	5325	119525	3.33%	0.081%
235	11.902	11.887	11.917	VV	1922	25697	0.72%	0.017%
236	11.946	11.917	11.962	VV	18301	222733	6.20%	0.152%
237	11.977	11.962	11.999	VV	22129	268591	7.48%	0.183%
238	12.013	11.999	12.032	VV	6766	99765	2.78%	0.068%
239	12.060	12.032	12.077	VV	13079	225037	6.27%	0.153%
240	12.095	12.077	12.110	VV	16444	202084	5.63%	0.138%
241	12.127	12.110	12.170	VV	17578	235263	6.55%	0.160%
242	12.202	12.170	12.222	PV	2465	42064	1.17%	0.029%
243	12.266	12.222	12.296	VV	8595	174113	4.85%	0.119%
244	12.315	12.296	12.394	VV	13221	283158	7.88%	0.193%
245	12.421	12.394	12.456	VV	11856	182934	5.09%	0.125%
246	12.477	12.456	12.497	VV	5912	95139	2.65%	0.065%

rteres								
247	12.525	12.497	12.557	VV	80425	1016719	28.31%	0.692%
248	12.564	12.557	12.585	VV	3215	42746	1.19%	0.029%
249	12.619	12.585	12.639	VV	3615	90604	2.52%	0.062%
250	12.656	12.639	12.662	VV	2949	36227	1.01%	0.025%
251	12.690	12.662	12.721	VV	6445	145726	4.06%	0.099%
252	12.739	12.721	12.750	VV	6221	71920	2.00%	0.049%
253	12.758	12.750	12.782	VV	5203	59133	1.65%	0.040%
254	12.806	12.782	12.830	PV	9545	138044	3.84%	0.094%
255	12.850	12.830	12.869	VV	18879	247708	6.90%	0.169%
256	12.910	12.869	12.941	VV	223072	2755253	76.71%	1.876%
257	12.967	12.941	13.017	VV	114706	1465868	40.81%	0.998%
258	13.029	13.017	13.048	VV	1597	20595	0.57%	0.014%
259	13.064	13.048	13.077	VV	1597	17295	0.48%	0.012%
260	13.106	13.077	13.140	VV	10117	183281	5.10%	0.125%
261	13.157	13.140	13.169	VV	7762	107736	3.00%	0.073%
262	13.184	13.169	13.240	VV	10353	230953	6.43%	0.157%
263	13.266	13.240	13.290	VV	117322	1375752	38.30%	0.937%
264	13.317	13.290	13.339	VV	12825	297453	8.28%	0.203%
265	13.356	13.339	13.381	VV	8740	122268	3.40%	0.083%
266	13.411	13.381	13.426	VV	2570	53983	1.50%	0.037%
267	13.442	13.426	13.457	VV	3944	51452	1.43%	0.035%
268	13.475	13.457	13.498	VV	4313	57766	1.61%	0.039%
269	13.536	13.498	13.573	VV	8714	227895	6.35%	0.155%
270	13.595	13.573	13.641	VV	7442	160953	4.48%	0.110%
271	13.663	13.641	13.676	VV	5012	71416	1.99%	0.049%
272	13.692	13.676	13.708	VV	5517	87862	2.45%	0.060%
273	13.726	13.708	13.742	VV	12600	187066	5.21%	0.127%
274	13.756	13.742	13.809	VV	16773	289326	8.06%	0.197%
275	13.860	13.809	13.907	VV	22610	574458	15.99%	0.391%
276	13.929	13.907	13.944	VV	7551	121596	3.39%	0.083%
277	13.966	13.944	13.985	VV	8991	150841	4.20%	0.103%
278	14.006	13.985	14.034	VV	17501	272911	7.60%	0.186%
279	14.044	14.034	14.053	VV	5007	51533	1.43%	0.035%
280	14.059	14.053	14.076	VV	4463	55945	1.56%	0.038%
281	14.112	14.076	14.156	VV	204965	2835462	78.95%	1.931%
282	14.177	14.156	14.205	VV	15224	263106	7.33%	0.179%
283	14.211	14.205	14.229	VV	4675	59182	1.65%	0.040%
284	14.254	14.229	14.275	VV	4624	109170	3.04%	0.074%
285	14.311	14.275	14.366	VV	7112	278545	7.76%	0.190%
286	14.383	14.366	14.397	VV	4414	71928	2.00%	0.049%
287	14.427	14.397	14.440	VV	5165	109077	3.04%	0.074%
288	14.451	14.440	14.462	VV	5281	60578	1.69%	0.041%
289	14.502	14.462	14.523	VV	10430	241456	6.72%	0.164%
290	14.531	14.523	14.539	VV	5883	52463	1.46%	0.036%
291	14.568	14.539	14.583	VV	7695	174691	4.86%	0.119%
292	14.604	14.583	14.635	VV	17907	336637	9.37%	0.229%
293	14.642	14.635	14.652	VV	5121	48969	1.36%	0.033%
294	14.674	14.652	14.693	VV	10304	188890	5.26%	0.129%
295	14.703	14.693	14.724	VV	8454	129519	3.61%	0.088%
296	14.747	14.724	14.758	VV	11966	180979	5.04%	0.123%
297	14.778	14.758	14.816	VV	25309	510788	14.22%	0.348%
298	14.839	14.816	14.863	VV	25483	423711	11.80%	0.289%
299	14.910	14.863	14.948	VV	19413	529932	14.75%	0.361%

					rteres			
300	14.963	14.948	14.981	VV	8539	145440	4.05%	0.099%
301	15.016	14.981	15.048	VV	110914	1731044	48.20%	1.179%
302	15.061	15.048	15.082	VV	8383	153252	4.27%	0.104%
303	15.107	15.082	15.125	VV	13536	243402	6.78%	0.166%
304	15.155	15.125	15.175	VV	59155	927742	25.83%	0.632%
305	15.196	15.175	15.200	VV	80900	791269	22.03%	0.539%
306	15.219	15.200	15.248	VV	203530	2862860	79.71%	1.949%
307	15.253	15.248	15.269	VV	13143	144086	4.01%	0.098%
308	15.292	15.269	15.302	VV	16023	255398	7.11%	0.174%
309	15.319	15.302	15.372	VV	25328	632708	17.62%	0.431%
310	15.385	15.372	15.389	VV	9581	91481	2.55%	0.062%
311	15.408	15.389	15.438	VV	11795	273110	7.60%	0.186%
312	15.469	15.438	15.487	VV	14470	325619	9.07%	0.222%
313	15.491	15.487	15.504	VV	11510	116101	3.23%	0.079%
314	15.519	15.504	15.534	VV	12155	199365	5.55%	0.136%
315	15.552	15.534	15.570	VV	11564	227919	6.35%	0.155%
316	15.599	15.570	15.633	VV	59631	1108235	30.86%	0.755%
317	15.642	15.633	15.666	VV	14400	248050	6.91%	0.169%
318	15.685	15.666	15.701	VV	11969	232363	6.47%	0.158%
319	15.743	15.701	15.776	VV	19251	671391	18.69%	0.457%
320	15.785	15.776	15.798	VV	13749	175139	4.88%	0.119%
321	15.830	15.798	15.853	VV	29777	612752	17.06%	0.417%
322	15.871	15.853	15.897	VV	19189	382150	10.64%	0.260%
323	15.917	15.897	15.927	VV	13032	211238	5.88%	0.144%
324	15.931	15.927	15.935	VV	11924	58984	1.64%	0.040%
325	15.942	15.935	15.953	VV	12448	126743	3.53%	0.086%
326	15.990	15.953	16.028	VV	19138	694501	19.34%	0.473%
327	16.062	16.028	16.092	VV	15154	480246	13.37%	0.327%
328	16.112	16.092	16.137	VV	13087	311063	8.66%	0.212%
329	16.156	16.137	16.182	VV	14769	313471	8.73%	0.213%
330	16.245	16.182	16.319	VV	196147	3397505	94.59%	2.314%
331	16.336	16.319	16.352	VV	13198	234128	6.52%	0.159%
332	16.364	16.352	16.379	VV	11823	174714	4.86%	0.119%
333	16.385	16.379	16.389	VV	10822	64569	1.80%	0.044%
334	16.429	16.389	16.433	VV	16322	333126	9.28%	0.227%
335	16.437	16.433	16.448	VV	16648	138546	3.86%	0.094%
336	16.457	16.448	16.491	VV	14802	340438	9.48%	0.232%
337	16.509	16.491	16.519	VV	14776	223202	6.21%	0.152%
338	16.537	16.519	16.552	VV	16006	285630	7.95%	0.194%
339	16.567	16.552	16.586	VV	16896	322305	8.97%	0.219%
340	16.617	16.586	16.649	VV	20995	668852	18.62%	0.455%
341	16.656	16.649	16.676	VV	16845	249210	6.94%	0.170%
342	16.677	16.676	16.683	VV	14650	61530	1.71%	0.042%
343	16.721	16.683	16.742	VV	77036	1413904	39.37%	0.963%
344	16.746	16.742	16.786	VV	37006	592225	16.49%	0.403%
345	16.808	16.786	16.831	VV	19116	425730	11.85%	0.290%
346	16.851	16.831	16.880	VV	26268	559814	15.59%	0.381%
347	16.890	16.880	16.903	VV	16440	216643	6.03%	0.148%
348	16.906	16.903	16.911	VV	15896	67552	1.88%	0.046%
349	16.915	16.911	16.938	VV	15926	226318	6.30%	0.154%
350	16.940	16.938	16.946	VV	13850	68044	1.89%	0.046%
351	16.970	16.946	16.975	VV	16090	262064	7.30%	0.178%

rteres								
352	16.981	16.975	16.988	VV	15886	119684	3.33%	0.081%
353	17.042	16.988	17.074	VV	60052	1493642	41.59%	1.017%
354	17.101	17.074	17.146	VV	54014	1108018	30.85%	0.754%
355	17.150	17.146	17.154	VV	14482	66868	1.86%	0.046%
356	17.196	17.154	17.233	VV	207601	3193118	88.90%	2.174%
357	17.254	17.233	17.280	VV	17004	430641	11.99%	0.293%
358	17.285	17.280	17.293	VV	14559	104512	2.91%	0.071%
359	17.414	17.383	17.423	VV	17724	386392	10.76%	0.263%
360	17.438	17.423	17.452	VV	18548	303061	8.44%	0.206%
361	17.467	17.452	17.483	VV	18911	337939	9.41%	0.230%
362	17.486	17.483	17.497	VV	18452	141356	3.94%	0.096%
363	17.501	17.497	17.505	VV	17560	88404	2.46%	0.060%
364	17.511	17.505	17.538	VV	18100	323051	8.99%	0.220%
365	17.602	17.581	17.618	VV	19603	396683	11.04%	0.270%
366	17.683	17.673	17.710	VV	15112	302349	8.42%	0.206%
367	17.715	17.710	17.737	VV	13910	205827	5.73%	0.140%
368	17.765	17.737	17.785	VV	20355	471688	13.13%	0.321%
369	17.790	17.785	17.795	VV	14273	83978	2.34%	0.057%
370	17.800	17.795	17.805	VV	14393	83498	2.32%	0.057%
371	17.807	17.805	17.833	VV	14402	210079	5.85%	0.143%
372	17.836	17.833	17.845	VV	12234	83936	2.34%	0.057%
373	17.853	17.845	17.869	VV	12324	167548	4.66%	0.114%
374	17.880	17.869	17.896	VV	12204	187027	5.21%	0.127%
375	17.910	17.896	17.923	VV	13149	195075	5.43%	0.133%
376	17.927	17.923	17.937	VV	12751	95661	2.66%	0.065%
377	17.946	17.937	17.963	VV	13142	190423	5.30%	0.130%
378	17.976	17.963	17.998	VV	12907	253362	7.05%	0.173%
379	18.021	17.998	18.025	VV	13301	194084	5.40%	0.132%
380	18.035	18.025	18.041	VV	13652	117806	3.28%	0.080%
381	18.086	18.041	18.116	VV	178061	2861850	79.68%	1.949%
382	18.122	18.116	18.127	VV	11985	74558	2.08%	0.051%
383	18.133	18.127	18.150	VV	12911	164677	4.59%	0.112%
384	18.173	18.150	18.178	VV	13941	201275	5.60%	0.137%
385	18.225	18.178	18.243	VV	21124	658731	18.34%	0.449%
386	18.253	18.243	18.294	VV	20465	487112	13.56%	0.332%
387	18.297	18.294	18.307	VV	13636	98989	2.76%	0.067%
388	18.311	18.307	18.320	VV	13200	95521	2.66%	0.065%
389	18.340	18.320	18.359	VV	14325	291111	8.11%	0.198%
390	18.385	18.359	18.413	VV	20844	511818	14.25%	0.349%
391	18.441	18.413	18.463	VV	36699	759291	21.14%	0.517%
392	18.479	18.463	18.497	VV	39860	647726	18.03%	0.441%
393	18.510	18.497	18.548	VV	25761	579880	16.15%	0.395%
394	18.569	18.548	18.577	VV	13844	222521	6.20%	0.152%
395	18.605	18.577	18.629	VV	21335	552183	15.37%	0.376%
396	18.642	18.629	18.699	VV	19469	617296	17.19%	0.420%
397	18.734	18.699	18.763	VV	39357	815510	22.71%	0.555%
398	18.773	18.763	18.786	VV	11818	151690	4.22%	0.103%
399	18.790	18.786	18.796	VV	11154	66856	1.86%	0.046%
400	18.813	18.796	18.838	VV	13089	305689	8.51%	0.208%
401	18.866	18.838	18.883	VV	16526	373838	10.41%	0.255%
402	18.920	18.883	18.956	VV	151017	2408829	67.07%	1.640%
403	18.966	18.956	18.990	VV	11357	213059	5.93%	0.145%
404	19.023	18.990	19.044	VV	15931	424782	11.83%	0.289%

					rteres			
405	19.052	19.044	19.059	VV	14427	125377	3.49%	0.085%
406	19.062	19.059	19.091	VV	14696	244457	6.81%	0.166%
407	19.100	19.091	19.110	VV	11726	127963	3.56%	0.087%
408	19.113	19.110	19.137	VV	11729	182427	5.08%	0.124%
409	19.170	19.137	19.192	VV	14252	401812	11.19%	0.274%
410	19.201	19.192	19.219	VV	12442	196529	5.47%	0.134%
411	19.223	19.219	19.230	VV	11580	71193	1.98%	0.048%
412	19.270	19.230	19.298	VV	31751	813482	22.65%	0.554%
413	19.320	19.298	19.341	VV	20704	448186	12.48%	0.305%
414	19.345	19.341	19.372	VV	13530	225946	6.29%	0.154%
415	19.414	19.372	19.438	VV	15993	540681	15.05%	0.368%
416	19.446	19.438	19.469	VV	13155	215070	5.99%	0.146%
417	19.491	19.469	19.498	VV	11632	181182	5.04%	0.123%
418	19.518	19.498	19.542	VV	13108	318637	8.87%	0.217%
419	19.545	19.542	19.553	VV	12355	76942	2.14%	0.052%
420	19.556	19.553	19.563	VV	11712	74491	2.07%	0.051%
421	19.566	19.563	19.572	VV	11762	54942	1.53%	0.037%
422	19.594	19.572	19.599	VV	12919	188866	5.26%	0.129%
423	19.605	19.599	19.616	VV	11809	115936	3.23%	0.079%
424	19.620	19.616	19.628	VV	11323	78013	2.17%	0.053%
425	19.649	19.628	19.654	VV	11741	170851	4.76%	0.116%
426	19.659	19.654	19.666	VV	12164	84536	2.35%	0.058%
427	19.704	19.666	19.740	VV	91234	1711696	47.66%	1.166%
428	19.749	19.740	19.762	VV	14465	189524	5.28%	0.129%
429	19.767	19.762	19.788	VV	15052	217523	6.06%	0.148%
430	19.795	19.788	19.803	VV	14328	118397	3.30%	0.081%
431	19.826	19.803	19.832	VV	15899	269070	7.49%	0.183%
432	19.842	19.832	19.857	VV	15868	225873	6.29%	0.154%
433	19.862	19.857	19.866	VV	15917	83552	2.33%	0.057%
434	19.892	19.866	19.927	VV	24920	695932	19.38%	0.474%
435	19.959	19.927	19.994	VV	27283	832127	23.17%	0.567%
436	20.001	19.994	20.006	VV	16606	121534	3.38%	0.083%
437	20.050	20.006	20.070	VV	24259	777132	21.64%	0.529%
438	20.075	20.070	20.111	VV	22763	505164	14.06%	0.344%
439	20.115	20.111	20.155	VV	18932	445189	12.40%	0.303%
440	20.179	20.155	20.208	VV	18016	513872	14.31%	0.350%
441	20.276	20.208	20.309	VV	33721	1357896	37.81%	0.925%
442	20.313	20.309	20.322	VV	20411	151201	4.21%	0.103%
443	20.344	20.322	20.358	VV	24333	490751	13.66%	0.334%
444	20.364	20.358	20.376	VV	22066	230576	6.42%	0.157%
445	20.380	20.376	20.400	VV	22041	291375	8.11%	0.198%
446	20.443	20.400	20.475	VV	70678	1613037	44.91%	1.098%
447	20.491	20.475	20.495	VV	20404	240682	6.70%	0.164%
448	20.502	20.495	20.507	VV	21338	144740	4.03%	0.099%
449	20.515	20.507	20.519	VV	21438	152878	4.26%	0.104%
450	20.525	20.519	20.536	VV	21949	222404	6.19%	0.151%
451	20.554	20.536	20.571	VV	22555	449215	12.51%	0.306%
452	20.591	20.571	20.600	VV	21946	373569	10.40%	0.254%
453	20.605	20.600	20.610	VV	22464	129750	3.61%	0.088%
454	20.651	20.646	20.661	VV	22096	190546	5.31%	0.130%
455	20.666	20.661	20.671	VV	21456	122679	3.42%	0.084%
456	20.675	20.671	20.683	VV	21278	146799	4.09%	0.100%

					rteres			
457	20.706	20.699	20.718	VV	21858	242182	6.74%	0.165%
458	20.742	20.738	20.746	VV	21221	93690	2.61%	0.064%
459	20.750	20.746	20.759	VV	20689	164629	4.58%	0.112%
460	20.769	20.759	20.773	VV	21700	175928	4.90%	0.120%
461	20.779	20.773	20.783	VV	21117	125461	3.49%	0.085%
462	20.805	20.783	20.810	VV	23071	351866	9.80%	0.240%
463	20.924	20.895	20.950	VV	20183	635652	17.70%	0.433%
464	20.973	20.970	20.980	VV	17816	106207	2.96%	0.072%
465	20.995	20.980	21.020	VV	18241	405930	11.30%	0.276%
466	21.023	21.020	21.027	VV	16958	68144	1.90%	0.046%
467	21.046	21.027	21.060	VV	17433	335108	9.33%	0.228%
468	21.069	21.060	21.082	VV	16224	203138	5.66%	0.138%
469	21.097	21.082	21.102	VV	16642	191741	5.34%	0.131%
470	21.106	21.102	21.110	VV	16528	80300	2.24%	0.055%
471	21.115	21.110	21.129	VV	16180	181309	5.05%	0.123%
472	21.133	21.129	21.149	VV	15514	179407	5.00%	0.122%
473	21.186	21.149	21.236	VV	48154	1330201	37.04%	0.906%
474	21.240	21.236	21.245	VV	12520	67780	1.89%	0.046%
475	21.248	21.245	21.252	VV	12603	53510	1.49%	0.036%
476	21.257	21.252	21.262	VV	12963	70999	1.98%	0.048%
477	21.264	21.262	21.272	VV	12858	73278	2.04%	0.050%
478	21.303	21.272	21.316	VV	14883	364327	10.14%	0.248%
479	21.320	21.316	21.367	VV	14116	389141	10.83%	0.265%
480	21.372	21.367	21.375	VV	12172	54660	1.52%	0.037%
481	21.391	21.375	21.396	VV	12884	156763	4.36%	0.107%
482	21.401	21.396	21.433	VV	12561	258651	7.20%	0.176%
483	21.456	21.448	21.470	VV	10562	135224	3.76%	0.092%
484	21.476	21.470	21.490	VV	10571	123525	3.44%	0.084%
485	21.508	21.490	21.534	VV	10270	237277	6.61%	0.162%
486	21.545	21.534	21.550	VV	8424	76066	2.12%	0.052%
487	21.611	21.550	21.624	VV	10890	409609	11.40%	0.279%
488	21.628	21.624	21.633	VV	9444	48921	1.36%	0.033%
489	21.640	21.633	21.644	VV	9400	56972	1.59%	0.039%
490	21.676	21.644	21.681	VV	12088	240061	6.68%	0.163%
491	21.689	21.681	21.713	VV	13504	245477	6.83%	0.167%
492	21.717	21.713	21.748	VV	12199	207375	5.77%	0.141%
493	21.754	21.748	21.795	VV	8059	193942	5.40%	0.132%
494	21.798	21.795	21.813	VV	6002	58855	1.64%	0.040%
495	21.816	21.813	21.830	VV	5432	53841	1.50%	0.037%
496	21.834	21.830	21.838	VV	5335	22639	0.63%	0.015%
497	21.850	21.838	21.859	VV	5920	70781	1.97%	0.048%
498	21.870	21.859	21.880	VV	5755	63974	1.78%	0.044%
499	21.884	21.880	21.895	VV	4444	37380	1.04%	0.025%
500	21.914	21.895	21.927	VV	4707	77258	2.15%	0.053%
501	21.931	21.927	21.969	VV	3326	53057	1.48%	0.036%
502	22.007	21.969	22.018	VV	5335	108124	3.01%	0.074%
503	22.021	22.018	22.044	VV	4082	51035	1.42%	0.035%
504	22.048	22.044	22.052	VV	2335	10015	0.28%	0.007%
505	22.113	22.052	22.172	VV	26126	740571	20.62%	0.504%
506	22.188	22.172	22.196	VV	1583	13443	0.37%	0.009%
507	22.200	22.196	22.214	VV	1261	9603	0.27%	0.007%
508	22.218	22.214	22.225	VV	643	3356	0.09%	0.002%
509	22.242	22.225	22.250	PBA	432	17956	0.50%	0.012%

rters
Sum of corrected areas: 146854769

FG032725.M Fri Apr 04 03:25:37 2025

Report of Analysis

Client:	Tully Construction Co., Inc.		Date Collected:	04/02/25	
Project:	MTA Rockaway Park		Date Received:	04/02/25	
Client Sample ID:	B-10MSD		SDG No.:	Q1698	
Lab Sample ID:	Q1698-07MSD		Matrix:	SOIL	
Analytical Method:	8015D TPH		% Solid:	93.4	Decanted:
Sample Wt/Vol:	30.04	Units: g	Final Vol:	1	mL
Soil Aliquot Vol:		uL	Test:	TPH GC	
Extraction Type:			Injection Volume :		
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015626.D	1	04/03/25 08:00	04/03/25 19:01	PB167438

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	45.7		0.41	3.03	mg/Kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	14.1		37 - 130	71%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

P = Indicates >25% difference for detected concentrations between the two GC columns

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
 Data File : FG015626.D
 Signal(s) : FID1A.ch
 Acq On : 03 Apr 2025 19:01
 Operator : YP\AJ
 Sample : Q1698-07MSD
 Misc :
 ALS Vial : 30 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 B-10MSD

Manual Integrations
 APPROVED

Reviewed By :Yogesh Patel 04/04/2025
 Supervised By :mohammad ahmed 04/05/2025

Integration File: autoint1.e
 Quant Time: Apr 04 01:10:05 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Quant Title :
 QLast Update : Thu Mar 27 11:04:29 2025
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1uL
 Signal Phase : Rxi-1ms
 Signal Info : 20mx0.18mmx0.18um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.016	1618693	14.129 ug/ml
Target Compounds			
1) N-OCTANE	1.987	1348454	11.602 ug/ml
2) N-DECANE	4.515	1777707	15.048 ug/ml
3) N-DODECANE	6.697	2820708	23.230 ug/ml
4) N-TETRADECANE	8.533	3563792	28.261 ug/ml
5) N-HEXADECANE	10.147	2722678	21.146 ug/ml
6) N-OCTADECANE	11.595	2661333	20.201 ug/ml
7) N-EICOSANE	12.910	2749322	20.533 ug/ml
8) N-DOCOSANE	14.114	2780708	21.399 ug/ml
10) N-TETRACOSANE	15.221	3239759	25.012 ug/mlm
11) N-HEXACOSANE	16.244	2926336	22.992 ug/ml
12) N-OCTACOSANE	17.197	2910640	23.285 ug/ml
13) N-TRIACONTANE	18.087	2618259	20.917 ug/ml
14) N-DOTRIACONTANE	18.920	2015401	16.982 ug/ml
15) N-TETRATRIACONTANE	19.705	1219624	11.685 ug/ml
16) N-HEXATRIACONTANE	20.445	721559	8.233 ug/ml
17) N-OCTATRIACONTANE	21.185	645769	8.653 ug/ml
18) N-TETRACONTANE	22.109	725943	10.960 ug/ml

(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040325\
Data File : FG015626.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 19:01
Operator : YP\AJ
Sample : Q1698-07MSD
Misc :
ALS Vial : 30 Sample Multiplier: 1

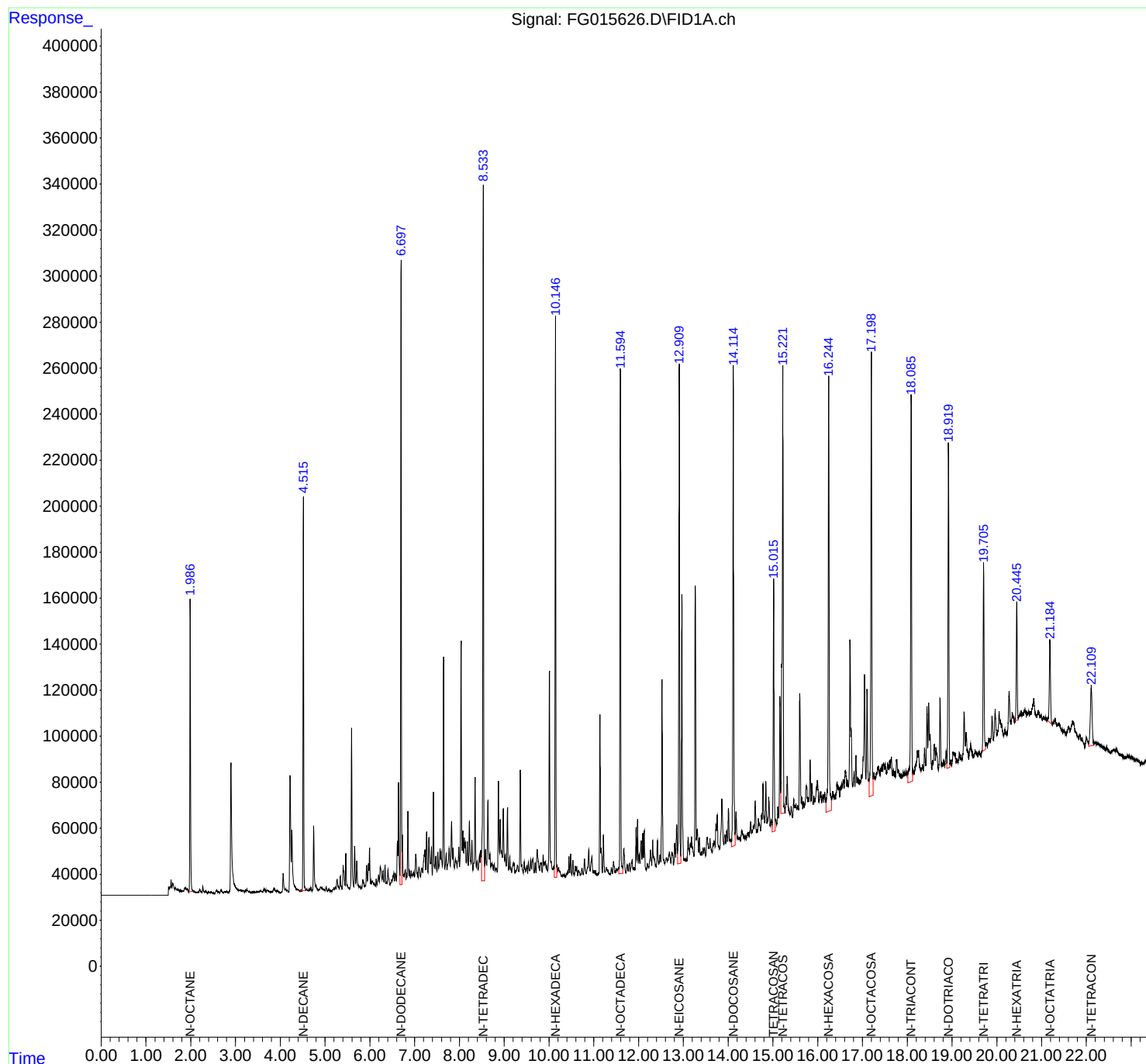
Instrument :
FID_G
ClientSampleId :
B-10MSD

Manual Integrations
APPROVED

Reviewed By :Yogesh Patel 04/04/2025
Supervised By :mohammad ahmed 04/05/2025

Integration File: autoint1.e
Quant Time: Apr 04 01:10:05 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1uL
Signal Phase : Rxi-1ms
Signal Info : 20mx0.18mmx0.18um



rteres

Instrument :

FID_G

ClientSampleId :

B-10MSD

Area Percent Report

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/04/2025

Supervised By :mohammad ahmed 04/05/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG04032
Data File : FG015626.D
Signal(s) : FID1A.ch
Acq On : 03 Apr 2025 19:01
Sample : Q1698-07MSD
Misc :
ALS Vial : 30 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.825	1.800	1.836	BV	424	4401	0.12%	0.003%
2	1.866	1.836	1.887	VV	1614	32128	0.86%	0.021%
3	1.891	1.887	1.916	VV	1424	22781	0.61%	0.015%
4	1.924	1.916	1.960	VV	1378	18755	0.50%	0.013%
5	1.987	1.960	2.043	VV	127078	1360536	36.30%	0.909%
6	2.047	2.043	2.058	VV	573	5051	0.13%	0.003%
7	2.062	2.058	2.116	VV	611	10871	0.29%	0.007%
8	2.121	2.116	2.127	VV	176	647	0.02%	0.000%
9	2.132	2.127	2.146	VV	135	653	0.02%	0.000%
10	2.154	2.146	2.162	PV	133	849	0.02%	0.001%
11	2.167	2.162	2.184	VV	262	2045	0.05%	0.001%
12	2.195	2.184	2.244	VV	1396	27968	0.75%	0.019%
13	2.269	2.244	2.321	VV	2859	45171	1.21%	0.030%
14	2.336	2.321	2.379	VV	805	14668	0.39%	0.010%
15	2.398	2.379	2.414	VV	556	6405	0.17%	0.004%
16	2.425	2.414	2.437	VV	378	4179	0.11%	0.003%
17	2.456	2.437	2.510	VV	573	14089	0.38%	0.009%
18	2.513	2.510	2.530	VV	223	1296	0.03%	0.001%
19	2.573	2.530	2.652	PV	1315	42620	1.14%	0.028%
20	2.676	2.652	2.713	VV	1419	31806	0.85%	0.021%
21	2.719	2.713	2.735	VV	377	3801	0.10%	0.003%
22	2.754	2.735	2.774	VV	810	12937	0.35%	0.009%
23	2.804	2.774	2.821	VV	618	13973	0.37%	0.009%
24	2.824	2.821	2.843	VV	570	6330	0.17%	0.004%
25	2.897	2.843	3.047	VV	56678	1237909	33.03%	0.827%
26	3.057	3.047	3.081	VV	1543	27223	0.73%	0.018%
27	3.097	3.081	3.108	VV	1283	19464	0.52%	0.013%
28	3.122	3.108	3.148	VV	1303	26750	0.71%	0.018%
29	3.152	3.148	3.156	VV	943	4223	0.11%	0.003%
30	3.170	3.156	3.201	VV	1175	25032	0.67%	0.017%
31	3.229	3.201	3.237	VV	1229	19639	0.52%	0.013%
32	3.252	3.237	3.307	VV	1522	39442	1.05%	0.026%
33	3.315	3.307	3.353	VV	638	10517	0.28%	0.007%
34	3.396	3.353	3.416	VV	553	13754	0.37%	0.009%
35	3.426	3.416	3.444	VV	548	6174	0.16%	0.004%
36	3.471	3.444	3.483	VV	628	9359	0.25%	0.006%

					retention	Area	Area%	Response
37	3.485	3.483	3.490	VV	598	2365	0.06%	0.002%
38	3.504	3.490	3.514	VV	578	7767	0.06%	0.002%
39	3.518	3.514	3.525	VV	509	2926	0.06%	0.002%
40	3.546	3.525	3.558	VV	968	14730	0.06%	0.002%
41	3.570	3.558	3.597	VV	907	15441	0.06%	0.002%
42	3.639	3.597	3.670	VV	1630	48893	0.06%	0.002%
43	3.673	3.670	3.688	VV	1268	9332	0.25%	0.006%
44	3.708	3.688	3.774	VV	1351	42349	1.13%	0.028%
45	3.789	3.774	3.807	VV	584	8911	0.24%	0.006%
46	3.849	3.807	3.859	VV	1571	27430	0.73%	0.018%
47	3.870	3.859	3.906	VV	1743	35160	0.94%	0.023%
48	3.924	3.906	3.935	VV	1001	13769	0.37%	0.009%
49	3.942	3.935	4.007	VV	1042	17822	0.48%	0.012%
50	4.064	4.007	4.103	PV	8426	136677	3.65%	0.091%
51	4.117	4.103	4.141	VV	1740	29390	0.78%	0.020%
52	4.157	4.141	4.182	VV	1151	19792	0.53%	0.013%
53	4.219	4.182	4.244	VV	50906	817445	21.81%	0.546%
54	4.258	4.244	4.424	VV	27251	603203	16.09%	0.403%
55	4.427	4.424	4.441	VV	777	6963	0.19%	0.005%
56	4.452	4.441	4.478	VV	802	14716	0.39%	0.010%
57	4.515	4.478	4.572	VV	171971	1820404	48.57%	1.216%
58	4.592	4.572	4.612	VV	1499	26063	0.70%	0.017%
59	4.625	4.612	4.633	VV	748	8453	0.23%	0.006%
60	4.651	4.633	4.668	VV	1367	21959	0.59%	0.015%
61	4.686	4.668	4.713	VV	1936	30796	0.82%	0.021%
62	4.746	4.713	4.788	VV	28733	398708	10.64%	0.266%
63	4.800	4.788	4.818	VV	3062	42405	1.13%	0.028%
64	4.823	4.818	4.841	VV	1512	14798	0.39%	0.010%
65	4.858	4.841	4.868	VV	923	12831	0.34%	0.009%
66	4.906	4.868	4.925	VV	1995	51781	1.38%	0.035%
67	4.930	4.925	4.949	VV	1595	18169	0.48%	0.012%
68	4.956	4.949	4.968	VV	980	11040	0.29%	0.007%
69	4.978	4.968	4.997	VV	1137	14666	0.39%	0.010%
70	5.025	4.997	5.063	VV	2051	35488	0.95%	0.024%
71	5.078	5.063	5.118	VV	949	18533	0.49%	0.012%
72	5.133	5.118	5.148	VV	535	5180	0.14%	0.003%
73	5.169	5.148	5.182	PV	773	9600	0.26%	0.006%
74	5.197	5.182	5.211	VV	1642	20416	0.54%	0.014%
75	5.230	5.211	5.247	VV	1967	29165	0.78%	0.019%
76	5.268	5.247	5.296	VV	5074	95145	2.54%	0.064%
77	5.305	5.296	5.319	VV	1847	21003	0.56%	0.014%
78	5.340	5.319	5.381	VV	6433	100183	2.67%	0.067%
79	5.404	5.381	5.414	VV	11157	118190	3.15%	0.079%
80	5.421	5.414	5.446	VV	8906	109661	2.93%	0.073%
81	5.463	5.446	5.493	VV	16245	203444	5.43%	0.136%
82	5.497	5.493	5.521	VV	2196	26554	0.71%	0.018%
83	5.534	5.521	5.548	VV	1238	15104	0.40%	0.010%
84	5.592	5.548	5.640	VV	70347	856540	22.85%	0.572%
85	5.661	5.640	5.686	VV	19052	245490	6.55%	0.164%
86	5.708	5.686	5.763	VV	12684	211633	5.65%	0.141%
87	5.775	5.763	5.800	VV	1393	24294	0.65%	0.016%
88	5.813	5.800	5.822	VV	1043	10273	0.27%	0.007%
89	5.842	5.822	5.879	VV	4386	92889	2.48%	0.062%

Instrument :

FID_G

ClientSampleId :

B-10MSD

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/04/2025

Supervised By :mohammad ahmed 04/05/2025

90	5.896	5.879	5.904	VV	1622	22115	0.59%	0.015%
91	5.928	5.904	5.947	VV	10443	153146		
92	5.970	5.947	5.980	VV	11239	157581		
93	5.993	5.980	6.016	VV	17962	211325		
94	6.028	6.016	6.043	VV	3820	49093		
95	6.054	6.043	6.083	VV	3431	71260		
96	6.094	6.083	6.123	VV	2630	46327	1.24%	0.031%
97	6.142	6.123	6.158	VV	4266	55990	1.49%	0.037%
98	6.196	6.158	6.213	VV	6025	124555	3.32%	0.083%
99	6.233	6.213	6.274	VV	9520	246488	6.58%	0.165%
100	6.293	6.274	6.323	VV	7614	133310	3.56%	0.089%
101	6.340	6.323	6.363	VV	10298	132859	3.54%	0.089%
102	6.378	6.363	6.388	VV	2747	35045	0.93%	0.023%
103	6.404	6.388	6.450	VV	8102	153314	4.09%	0.102%
104	6.488	6.450	6.500	VV	3646	75647	2.02%	0.051%
105	6.518	6.500	6.525	VV	5301	64002	1.71%	0.043%
106	6.535	6.525	6.553	VV	6321	80702	2.15%	0.054%
107	6.569	6.553	6.593	VV	6102	112635	3.00%	0.075%
108	6.615	6.593	6.625	VV	20159	232844	6.21%	0.156%
109	6.640	6.625	6.672	VV	45489	597112	15.93%	0.399%
110	6.697	6.672	6.718	VV	272230	2851682	76.08%	1.905%
111	6.727	6.718	6.748	VV	22703	262077	6.99%	0.175%
112	6.758	6.748	6.768	VV	5514	61131	1.63%	0.041%
113	6.791	6.768	6.808	VV	7560	140020	3.74%	0.094%
114	6.822	6.808	6.830	VV	5262	58418	1.56%	0.039%
115	6.851	6.830	6.874	VV	32914	422606	11.27%	0.282%
116	6.886	6.874	6.907	VV	7036	107340	2.86%	0.072%
117	6.924	6.907	6.937	VV	6916	99568	2.66%	0.067%
118	6.959	6.937	6.970	VV	5710	102356	2.73%	0.068%
119	6.982	6.970	7.000	VV	6283	95188	2.54%	0.064%
120	7.025	7.000	7.054	VV	14120	293769	7.84%	0.196%
121	7.061	7.054	7.076	VV	6010	69635	1.86%	0.047%
122	7.100	7.076	7.135	VV	7879	212149	5.66%	0.142%
123	7.167	7.135	7.182	VV	7651	183294	4.89%	0.122%
124	7.214	7.182	7.220	VV	13506	238558	6.36%	0.159%
125	7.230	7.220	7.248	VV	15761	208144	5.55%	0.139%
126	7.268	7.248	7.298	VV	23436	404415	10.79%	0.270%
127	7.319	7.298	7.349	VV	20943	398961	10.64%	0.266%
128	7.377	7.349	7.395	VV	16822	300824	8.03%	0.201%
129	7.421	7.395	7.453	VV	40337	586461	15.65%	0.392%
130	7.472	7.453	7.499	VV	12541	248682	6.63%	0.166%
131	7.519	7.499	7.539	VV	14395	234893	6.27%	0.157%
132	7.568	7.539	7.580	VV	15793	273986	7.31%	0.183%
133	7.591	7.580	7.620	VV	14382	274041	7.31%	0.183%
134	7.647	7.620	7.674	VV	98831	1187912	31.69%	0.793%
135	7.705	7.674	7.725	VV	13393	287186	7.66%	0.192%
136	7.772	7.725	7.796	VV	15647	453867	12.11%	0.303%
137	7.825	7.796	7.847	VV	27324	511064	13.63%	0.341%
138	7.860	7.847	7.894	VV	15880	302206	8.06%	0.202%
139	7.912	7.894	7.922	VV	10780	156837	4.18%	0.105%
140	7.932	7.922	7.948	VV	10180	145887	3.89%	0.097%
141	7.987	7.948	8.005	VV	16094	360851	9.63%	0.241%

Instrument :

FID_G

ClientSampleId :

B-10MSD

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/04/2025

Supervised By :mohammad ahmed 04/05/2025

				rters				
142	8.038	8.005	8.063	VV	104931	1378241	36.77%	0.921%
143	8.078	8.063	8.094	VV	22890	330251		
144	8.109	8.094	8.123	VV	19741	294680		
145	8.132	8.123	8.157	VV	17882	276691		
146	8.177	8.157	8.198	VV	18095	300607		
147	8.223	8.198	8.261	VV	27009	539877		
148	8.280	8.261	8.303	VV	18620	297248	7.93%	0.199%
149	8.351	8.303	8.378	VV	45921	746409	19.91%	0.499%
150	8.397	8.378	8.420	VV	9473	192675	5.14%	0.129%
151	8.449	8.420	8.463	VV	11882	232325	6.20%	0.155%
152	8.478	8.463	8.492	VV	13942	207803	5.54%	0.139%
153	8.533	8.492	8.564	VV	303399	3592680	95.85%	2.400%
154	8.582	8.564	8.607	VV	14394	266031	7.10%	0.178%
155	8.637	8.607	8.668	VV	35702	636752	16.99%	0.425%
156	8.683	8.668	8.702	VV	12219	200948	5.36%	0.134%
157	8.715	8.702	8.759	VV	7974	239007	6.38%	0.160%
158	8.779	8.759	8.797	VV	7563	143592	3.83%	0.096%
159	8.822	8.797	8.847	VV	5753	154522	4.12%	0.103%
160	8.873	8.847	8.898	VV	43481	612294	16.33%	0.409%
161	8.913	8.898	8.931	VV	26751	374515	9.99%	0.250%
162	8.939	8.931	8.960	VV	13356	209832	5.60%	0.140%
163	8.980	8.960	9.012	VV	31505	556468	14.85%	0.372%
164	9.026	9.012	9.044	VV	11401	176798	4.72%	0.118%
165	9.074	9.044	9.100	VV	31514	492156	13.13%	0.329%
166	9.125	9.100	9.169	VV	10490	248852	6.64%	0.166%
167	9.197	9.169	9.206	VV	7013	128510	3.43%	0.086%
168	9.218	9.206	9.240	VV	7702	119793	3.20%	0.080%
169	9.257	9.240	9.267	VV	4314	61339	1.64%	0.041%
170	9.299	9.267	9.323	VV	6659	170785	4.56%	0.114%
171	9.362	9.323	9.383	VV	47887	628553	16.77%	0.420%
172	9.391	9.383	9.427	VV	6611	128096	3.42%	0.086%
173	9.450	9.427	9.484	VV	7967	178042	4.75%	0.119%
174	9.506	9.484	9.523	VV	6081	113459	3.03%	0.076%
175	9.542	9.523	9.564	VV	7609	126964	3.39%	0.085%
176	9.569	9.564	9.574	VV	3974	22577	0.60%	0.015%
177	9.594	9.574	9.610	VV	8706	135022	3.60%	0.090%
178	9.625	9.610	9.632	VV	8315	89854	2.40%	0.060%
179	9.641	9.632	9.674	VV	8992	149041	3.98%	0.100%
180	9.692	9.674	9.714	VV	7178	111509	2.97%	0.074%
181	9.738	9.714	9.792	VV	12648	359304	9.59%	0.240%
182	9.812	9.792	9.852	VV	6966	189928	5.07%	0.127%
183	9.872	9.852	9.888	VV	10544	151017	4.03%	0.101%
184	9.900	9.888	9.912	VV	7350	94875	2.53%	0.063%
185	9.923	9.912	9.940	VV	7520	105363	2.81%	0.070%
186	9.953	9.940	9.970	VV	5388	79390	2.12%	0.053%
187	10.011	9.970	10.043	VV	90013	1135551	30.29%	0.758%
188	10.051	10.043	10.080	VV	7263	126058	3.36%	0.084%
189	10.107	10.080	10.119	VV	5155	101232	2.70%	0.068%
190	10.147	10.119	10.174	VV	244573	2731327	72.87%	1.824%
191	10.181	10.174	10.202	VV	5500	73326	1.96%	0.049%
192	10.214	10.202	10.239	VV	4393	76356	2.04%	0.051%
193	10.250	10.239	10.282	VV	2744	44371	1.18%	0.030%
194	10.315	10.282	10.349	VV	1432	32374	0.86%	0.022%

Instrument :

FID_G

ClientSampleId :

B-10MSD

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/04/2025

Supervised By :mohammad ahmed 04/05/2025

195	10.359	10.349	10.375	VV	1009	9877	0.26%	0.007%
196	10.395	10.375	10.407	VV	1838	21453		
197	10.419	10.407	10.429	VV	2634	27159		
198	10.448	10.429	10.465	VV	8888	104627		
199	10.485	10.465	10.511	VV	10100	138081		
200	10.535	10.511	10.562	VV	7093	107775		
201	10.590	10.562	10.606	VV	4683	74974	2.00%	0.050%
202	10.621	10.606	10.642	VV	4265	59301	1.58%	0.040%
203	10.658	10.642	10.699	VV	2563	56484	1.51%	0.038%
204	10.710	10.699	10.719	VV	1143	9906	0.26%	0.007%
205	10.736	10.719	10.768	VV	3568	59966	1.60%	0.040%
206	10.794	10.768	10.833	VV	7580	132639	3.54%	0.089%
207	10.864	10.833	10.869	VV	3829	56517	1.51%	0.038%
208	10.888	10.869	10.921	VV	11498	191561	5.11%	0.128%
209	10.959	10.921	10.985	VV	8433	191592	5.11%	0.128%
210	11.010	10.985	11.026	VV	2218	40563	1.08%	0.027%
211	11.040	11.026	11.058	VV	2193	24104	0.64%	0.016%
212	11.071	11.058	11.094	VV	800	10619	0.28%	0.007%
213	11.107	11.094	11.117	VV	1136	10760	0.29%	0.007%
214	11.140	11.117	11.160	VV	69920	780257	20.82%	0.521%
215	11.167	11.160	11.191	VV	11806	132045	3.52%	0.088%
216	11.217	11.191	11.250	VV	17461	242033	6.46%	0.162%
217	11.282	11.250	11.302	VV	3178	68074	1.82%	0.045%
218	11.312	11.302	11.375	VV	1902	34600	0.92%	0.023%
219	11.396	11.375	11.419	PV	2919	37148	0.99%	0.025%
220	11.440	11.419	11.477	VV	5586	101915	2.72%	0.068%
221	11.505	11.477	11.523	VV	2098	40515	1.08%	0.027%
222	11.546	11.523	11.561	VV	2348	45533	1.21%	0.030%
223	11.595	11.561	11.648	VV	217068	2661355	71.00%	1.778%
224	11.673	11.648	11.717	VV	10577	208032	5.55%	0.139%
225	11.749	11.717	11.769	PV	3526	53105	1.42%	0.035%
226	11.796	11.769	11.815	VV	3862	57601	1.54%	0.038%
227	11.856	11.815	11.888	VV	5083	117971	3.15%	0.079%
228	11.904	11.888	11.920	VV	1834	25421	0.68%	0.017%
229	11.946	11.920	11.962	VV	19169	218987	5.84%	0.146%
230	11.979	11.962	11.999	VV	22545	268020	7.15%	0.179%
231	12.012	11.999	12.029	VV	7091	92868	2.48%	0.062%
232	12.059	12.029	12.077	VV	12910	230850	6.16%	0.154%
233	12.095	12.077	12.111	VV	16227	203694	5.43%	0.136%
234	12.127	12.111	12.172	VV	17065	231999	6.19%	0.155%
235	12.203	12.172	12.226	PV	2354	40867	1.09%	0.027%
236	12.267	12.226	12.294	VV	8283	165497	4.42%	0.111%
237	12.316	12.294	12.397	VV	12255	275734	7.36%	0.184%
238	12.422	12.397	12.459	VV	11887	180793	4.82%	0.121%
239	12.478	12.459	12.497	VV	5458	85455	2.28%	0.057%
240	12.526	12.497	12.555	VV	81495	1030643	27.50%	0.688%
241	12.562	12.555	12.588	VV	3147	45409	1.21%	0.030%
242	12.622	12.588	12.645	VV	3596	91789	2.45%	0.061%
243	12.656	12.645	12.662	VV	2887	26373	0.70%	0.018%
244	12.688	12.662	12.722	VV	6173	140875	3.76%	0.094%
245	12.742	12.722	12.753	VV	5918	75946	2.03%	0.051%
246	12.761	12.753	12.784	VV	5090	50766	1.35%	0.034%

Instrument :

FID_G

ClientSampleId :

B-10MSD

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/04/2025

Supervised By :mohammad ahmed 04/05/2025

					rters			
247	12.808	12.784	12.829	PV	9386	132740	3.54%	0.089%
248	12.851	12.829	12.870	VV	17281	244076		
249	12.910	12.870	12.942	VV	216947	2749322	73.61%	0.116%
250	12.967	12.942	13.020	VV	116360	1452799	38.07%	0.075%
251	13.027	13.020	13.033	VV	1267	7519	0.03%	0.010%
252	13.036	13.033	13.047	VV	988	5644	0.03%	0.010%
253	13.065	13.047	13.083	VV	1239	14767	0.39%	0.010%
254	13.107	13.083	13.140	VV	10232	174319	4.65%	0.116%
255	13.157	13.140	13.172	VV	7470	112417	3.00%	0.075%
256	13.184	13.172	13.200	VV	9835	129971	3.47%	0.087%
257	13.206	13.200	13.240	VV	5450	79952	2.13%	0.053%
258	13.267	13.240	13.290	VV	118443	1361996	36.34%	0.910%
259	13.314	13.290	13.342	VV	12617	287405	7.67%	0.192%
260	13.357	13.342	13.386	VV	8513	113528	3.03%	0.076%
261	13.407	13.386	13.422	VV	2290	37563	1.00%	0.025%
262	13.441	13.422	13.457	VV	3824	47867	1.28%	0.032%
263	13.476	13.457	13.499	VV	3709	49717	1.33%	0.033%
264	13.536	13.499	13.569	PV	7878	203048	5.42%	0.136%
265	13.595	13.569	13.644	VV	6993	156288	4.17%	0.104%
266	13.666	13.644	13.676	VV	4718	57460	1.53%	0.038%
267	13.694	13.676	13.708	VV	5187	84153	2.25%	0.056%
268	13.729	13.708	13.742	VV	11849	178825	4.77%	0.119%
269	13.756	13.742	13.789	VV	16504	244280	6.52%	0.163%
270	13.794	13.789	13.813	VV	2757	30480	0.81%	0.020%
271	13.859	13.813	13.908	VV	22665	543420	14.50%	0.363%
272	13.929	13.908	13.947	VV	6767	113542	3.03%	0.076%
273	13.969	13.947	13.985	VV	8319	134647	3.59%	0.090%
274	14.007	13.985	14.031	VV	17883	253616	6.77%	0.169%
275	14.041	14.031	14.058	VV	4219	61513	1.64%	0.041%
276	14.067	14.058	14.073	VV	4090	32585	0.87%	0.022%
277	14.114	14.073	14.158	VV	209740	2829387	75.48%	1.890%
278	14.177	14.158	14.202	VV	15457	238623	6.37%	0.159%
279	14.212	14.202	14.226	VV	4106	53707	1.43%	0.036%
280	14.230	14.226	14.238	VV	3648	24668	0.66%	0.016%
281	14.250	14.238	14.277	VV	4031	79082	2.11%	0.053%
282	14.309	14.277	14.339	VV	6780	184456	4.92%	0.123%
283	14.343	14.339	14.362	VV	3931	46555	1.24%	0.031%
284	14.385	14.362	14.401	VV	4001	76019	2.03%	0.051%
285	14.432	14.401	14.462	VV	4613	140346	3.74%	0.094%
286	14.503	14.462	14.525	VV	9319	221269	5.90%	0.148%
287	14.534	14.525	14.541	VV	5042	44459	1.19%	0.030%
288	14.564	14.541	14.583	VV	6835	151736	4.05%	0.101%
289	14.605	14.583	14.638	VV	17621	327395	8.73%	0.219%
290	14.646	14.638	14.650	VV	4293	29935	0.80%	0.020%
291	14.678	14.650	14.694	VV	9663	182224	4.86%	0.122%
292	14.697	14.694	14.724	VV	7461	109442	2.92%	0.073%
293	14.746	14.724	14.759	VV	10586	168824	4.50%	0.113%
294	14.778	14.759	14.801	VV	24315	405193	10.81%	0.271%
295	14.805	14.801	14.820	VV	9452	96465	2.57%	0.064%
296	14.841	14.820	14.867	VV	24635	401829	10.72%	0.268%
297	14.909	14.867	14.944	VV	17722	452577	12.07%	0.302%
298	14.961	14.944	14.982	VV	7845	147066	3.92%	0.098%
299	15.016	14.982	15.051	VV	111569	1716230	45.79%	1.146%

Instrument :

FID_G

ClientSampleId :

B-10MSD

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/04/2025
Supervised By :mohammad ahmed 04/05/2025

300	15.060	15.051	15.084	VV	7442	127824	3.41%	0.085%
301	15.108	15.084	15.128	VV	12270	231223	6.44%	0.103%
302	15.155	15.128	15.175	VV	59452	884574	23.44%	0.121%
303	15.220	15.175	15.268	VV	202576	3748360	100.00%	0.121%
304	15.290	15.268	15.302	VV	15793	249057	6.44%	0.121%
305	15.319	15.302	15.371	VV	24555	586027	15.44%	0.121%
306	15.378	15.371	15.383	VV	8202	55726	1.49%	0.037%
307	15.410	15.383	15.438	VV	10902	278940	7.44%	0.186%
308	15.468	15.438	15.492	VV	13649	331487	8.84%	0.221%
309	15.515	15.492	15.544	VV	11345	316170	8.43%	0.211%
310	15.552	15.544	15.575	VV	10665	180894	4.83%	0.121%
311	15.599	15.575	15.632	VV	58958	1034720	27.60%	0.691%
312	15.645	15.632	15.664	VV	13771	223574	5.96%	0.149%
313	15.684	15.664	15.702	VV	11436	231299	6.17%	0.154%
314	15.748	15.702	15.780	VV	18140	652425	17.41%	0.436%
315	15.791	15.780	15.807	VV	12791	187665	5.01%	0.125%
316	15.831	15.807	15.850	VV	29243	503924	13.44%	0.337%
317	15.871	15.850	15.899	VV	18494	388468	10.36%	0.259%
318	15.917	15.899	15.935	VV	12633	238960	6.38%	0.160%
319	15.993	15.935	16.030	VV	19196	800320	21.35%	0.535%
320	16.049	16.030	16.054	VV	12780	158004	4.22%	0.106%
321	16.072	16.054	16.092	VV	13601	268126	7.15%	0.179%
322	16.115	16.092	16.124	VV	12340	211510	5.64%	0.141%
323	16.128	16.124	16.136	VV	11235	75650	2.02%	0.051%
324	16.156	16.136	16.184	VV	13037	307058	8.19%	0.205%
325	16.244	16.184	16.307	VV	192579	3239237	86.42%	2.164%
326	16.337	16.307	16.361	VV	12526	344839	9.20%	0.230%
327	16.370	16.361	16.380	VV	10657	113237	3.02%	0.076%
328	16.384	16.380	16.391	VV	9622	60839	1.62%	0.041%
329	16.435	16.391	16.455	VV	15784	474981	12.67%	0.317%
330	16.463	16.455	16.472	VV	14078	138737	3.70%	0.093%
331	16.474	16.472	16.494	VV	13596	143371	3.82%	0.096%
332	16.509	16.494	16.520	VV	13177	195825	5.22%	0.131%
333	16.537	16.520	16.555	VV	14506	277322	7.40%	0.185%
334	16.567	16.555	16.589	VV	16150	303569	8.10%	0.203%
335	16.619	16.589	16.652	VV	20013	631274	16.84%	0.422%
336	16.664	16.652	16.680	VV	15519	241476	6.44%	0.161%
337	16.722	16.680	16.741	VV	75413	1367284	36.48%	0.913%
338	16.747	16.741	16.792	VV	37471	640372	17.08%	0.428%
339	16.811	16.792	16.834	VV	18275	376773	10.05%	0.252%
340	16.853	16.834	16.875	VV	24644	462965	12.35%	0.309%
341	16.883	16.875	16.904	VV	15261	244063	6.51%	0.163%
342	16.914	16.904	16.940	VV	14374	288528	7.70%	0.193%
343	16.975	16.940	16.992	VV	16180	446107	11.90%	0.298%
344	17.044	16.992	17.078	VV	59075	1443119	38.50%	0.964%
345	17.101	17.078	17.140	VV	51849	978796	26.11%	0.654%
346	17.145	17.140	17.150	VV	12735	77492	2.07%	0.052%
347	17.197	17.150	17.235	VV	197166	3202291	85.43%	2.139%
348	17.255	17.235	17.295	VV	15333	490322	13.08%	0.328%
349	17.351	17.295	17.381	VV	17877	806736	21.52%	0.539%
350	17.385	17.381	17.394	VV	15572	109333	2.92%	0.073%
351	17.408	17.394	17.425	VV	16659	291924	7.79%	0.195%

Instrument :

FID_G

ClientSampleId :

B-10MSD

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/04/2025

Supervised By :mohammad ahmed 04/05/2025

					rters			
352	17.435	17.425	17.452	VV	17929	265513	7.08%	0.177%
353	17.473	17.452	17.495	VV	18595	436166	11.11%	0.177%
354	17.509	17.495	17.539	VV	18007	414349	11.11%	0.177%
355	17.563	17.539	17.587	VV	17883	456908	12.22%	0.177%
356	17.604	17.587	17.622	VV	18389	356251	9.09%	0.218%
357	17.645	17.622	17.671	VV	19955	489472	13.33%	0.218%
358	17.689	17.671	17.712	VV	14246	326471	8.71%	0.218%
359	17.720	17.712	17.740	VV	13531	199333	5.32%	0.133%
360	17.759	17.740	17.789	VV	18281	442378	11.80%	0.295%
361	17.799	17.789	17.822	VV	13949	256201	6.84%	0.171%
362	17.827	17.822	17.831	VV	11925	60387	1.61%	0.040%
363	17.834	17.831	17.847	VV	11717	104788	2.80%	0.070%
364	17.851	17.847	17.859	VV	11052	73994	1.97%	0.049%
365	17.867	17.859	17.897	VV	11584	243657	6.50%	0.163%
366	17.911	17.897	17.933	VV	12119	244577	6.52%	0.163%
367	17.944	17.933	17.967	VV	11965	220878	5.89%	0.148%
368	17.978	17.967	18.012	VV	12028	300332	8.01%	0.201%
369	18.087	18.012	18.119	VV	171904	3070730	81.92%	2.051%
370	18.133	18.119	18.154	VV	11915	228057	6.08%	0.152%
371	18.225	18.154	18.240	VV	19701	757678	20.21%	0.506%
372	18.253	18.240	18.296	VV	19756	501258	13.37%	0.335%
373	18.341	18.296	18.359	VV	13077	429029	11.45%	0.287%
374	18.385	18.359	18.415	VV	19899	504711	13.46%	0.337%
375	18.440	18.415	18.459	VV	37371	670154	17.88%	0.448%
376	18.480	18.459	18.498	VV	38156	684596	18.26%	0.457%
377	18.510	18.498	18.549	VV	25109	537228	14.33%	0.359%
378	18.567	18.549	18.580	VV	13870	224463	5.99%	0.150%
379	18.606	18.580	18.626	VV	20257	464151	12.38%	0.310%
380	18.641	18.626	18.696	VV	18707	597252	15.93%	0.399%
381	18.733	18.696	18.796	VV	39637	997472	26.61%	0.666%
382	18.819	18.796	18.842	VV	12101	300079	8.01%	0.200%
383	18.866	18.842	18.885	VV	15731	349991	9.34%	0.234%
384	18.920	18.885	18.951	VV	147604	2346900	62.61%	1.568%
385	18.967	18.951	18.997	VV	11570	274415	7.32%	0.183%
386	19.023	18.997	19.030	VV	14561	248907	6.64%	0.166%
387	19.041	19.030	19.099	VV	14315	520541	13.89%	0.348%
388	19.107	19.099	19.137	VV	11253	239093	6.38%	0.160%
389	19.169	19.137	19.185	VV	13455	335590	8.95%	0.224%
390	19.204	19.185	19.224	VV	12352	254760	6.80%	0.170%
391	19.270	19.224	19.294	VV	30109	780902	20.83%	0.522%
392	19.316	19.294	19.371	VV	20737	721453	19.25%	0.482%
393	19.417	19.371	19.475	VV	15841	776808	20.72%	0.519%
394	19.514	19.475	19.577	VV	12959	668954	17.85%	0.447%
395	19.612	19.577	19.637	VV	11546	383230	10.22%	0.256%
396	19.705	19.637	19.749	VV	92537	1975754	52.71%	1.320%
397	19.768	19.749	19.790	VV	14499	342994	9.15%	0.229%
398	19.819	19.790	19.830	VV	16187	351639	9.38%	0.235%
399	19.848	19.830	19.861	VV	15508	277830	7.41%	0.186%
400	19.895	19.861	19.920	VV	24414	686751	18.32%	0.459%
401	19.963	19.920	20.007	VV	27331	1037925	27.69%	0.693%
402	20.053	20.007	20.072	VV	26304	829784	22.14%	0.554%
403	20.081	20.072	20.157	VV	22441	967386	25.81%	0.646%
404	20.179	20.157	20.204	VV	18309	473039	12.62%	0.316%

Instrument :

FID_G

ClientSampleId :

B-10MSD

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/04/2025

Supervised By :mohammad ahmed 04/05/2025

405	20.211	20.204	20.230	VV	16638	257826	6.88%	0.172%
406	20.275	20.230	20.318	VV	34112	1248083	33.33%	0.172%
407	20.344	20.318	20.404	VV	23962	1134840	30.77%	0.172%
408	20.445	20.404	20.479	VV	72283	1647545	43.89%	0.172%
409	20.516	20.479	20.525	VV	23023	621759	16.66%	0.172%
410	20.544	20.525	20.568	VV	24107	585333	15.15%	0.172%
411	20.586	20.568	20.596	VV	23077	381525	10.18%	0.255%
412	20.613	20.596	20.632	VV	24082	501714	13.38%	0.335%
413	20.634	20.632	20.677	VV	23449	607347	16.20%	0.406%
414	20.715	20.677	20.730	VV	23155	700697	18.69%	0.468%
415	20.742	20.730	20.766	VV	22643	482173	12.86%	0.322%
416	20.826	20.766	20.895	VV	28165	1805979	48.18%	1.206%
417	20.934	20.895	20.963	VV	22193	841498	22.45%	0.562%
418	20.991	20.963	21.016	VV	20319	610048	16.28%	0.407%
419	21.047	21.016	21.077	VV	18935	667816	17.82%	0.446%
420	21.089	21.077	21.099	VV	18603	232565	6.20%	0.155%
421	21.106	21.099	21.140	VV	18094	431759	11.52%	0.288%
422	21.185	21.140	21.234	VV	51303	1517627	40.49%	1.014%
423	21.264	21.234	21.270	VV	15042	323582	8.63%	0.216%
424	21.303	21.270	21.335	VV	16785	590832	15.76%	0.395%
425	21.342	21.335	21.355	VV	13707	161494	4.31%	0.108%
426	21.385	21.355	21.450	VV	13951	721187	19.24%	0.482%
427	21.460	21.450	21.484	VV	10677	205215	5.47%	0.137%
428	21.499	21.484	21.547	VV	10502	357238	9.53%	0.239%
429	21.607	21.547	21.634	VV	11249	516802	13.79%	0.345%
430	21.694	21.634	21.839	VV	13330	1141300	30.45%	0.762%
431	21.850	21.839	21.899	VV	6492	191097	5.10%	0.128%
432	21.907	21.899	21.959	VV	4523	105154	2.81%	0.070%
433	22.001	21.959	22.050	VV	4305	149235	3.98%	0.100%
434	22.109	22.050	22.174	VV	26443	753623	20.11%	0.503%
435	22.194	22.174	22.224	VV	1600	31248	0.83%	0.021%
436	22.233	22.224	22.250	VBA	712	38412	1.02%	0.026%
Sum of corrected areas:					149715588			

Instrument :
FID_G
ClientSampleId :
B-10MSD

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/04/2025
Supervised By :mohammad ahmed 04/05/2025

FG032725.M Fri Apr 04 03:22:58 2025

Manual Integration Report

Sample ID	ClientID ID	File ID	Sequence ID	Parameter	Supervised By	Supervised On	Reason
Q1698-01		FG015615.D	FG040325	TETRACOSANE-d50 (SURROGA	mohammad	4/5/2025 3:49:28 AM	Peak Integrated by Software incorrectly
Q1698-04		FG015616.D	FG040325	TETRACOSANE-d50 (SURROGA	mohammad	4/5/2025 3:49:28 AM	Peak Integrated by Software incorrectly
Q1698-05		FG015617.D	FG040325	TETRACOSANE-d50 (SURROGA	mohammad	4/5/2025 3:49:28 AM	Peak Integrated by Software incorrectly
Q1698-06		FG015618.D	FG040325	TETRACOSANE-d50 (SURROGA	mohammad	4/5/2025 3:49:28 AM	Peak Integrated by Software incorrectly
Q1698-07MSD		FG015626.D	FG040325	N-TETRACOSANE	mohammad	4/5/2025 3:49:28 AM	Peak Integrated by Software incorrectly

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG032725

Review By	yogesh	Review On	3/27/2025 11:57:36 AM
Supervise By	mohammad	Supervise On	3/31/2025 1:17:35 AM
SubDirectory	FG032725	HP Acquire Method	HP Processing Method FG032725
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	PP23961,PP23963,PP23964,PP23965,PP23966		
CCC Internal Standard/PEM	PP23963		
ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	PP23962,PP23967		

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	MECL2	FG015562.D	27 Mar 2025 07:58	YP\AJ	Ok
2	I.BLK	FG015563.D	27 Mar 2025 08:27	YP\AJ	Ok
3	100 TRPH STD	FG015564.D	27 Mar 2025 08:56	YP\AJ	Ok
4	50 TRPH STD	FG015565.D	27 Mar 2025 09:26	YP\AJ	Ok
5	20 TRPH STD	FG015566.D	27 Mar 2025 09:55	YP\AJ	Ok
6	10 TRPH STD	FG015567.D	27 Mar 2025 10:24	YP\AJ	Ok
7	5 TRPH STD	FG015568.D	27 Mar 2025 10:54	YP\AJ	Ok
8	FG032725ICV	FG015569.D	27 Mar 2025 11:23	YP\AJ	Ok

M : Manual Integration

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG040325

Review By	yogesh	Review On	4/3/2025 1:13:22 PM
Supervise By	mohammad	Supervise On	4/5/2025 3:49:28 AM
SubDirectory	FG040325	HP Acquire Method	HP Processing Method FG032725
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	PP23961,PP23963,PP23964,PP23965,PP23966		
CCC Internal Standard/PEM	PP23963		
ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	PP23962,PP23967		

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	MECL2	FG015611.D	03 Apr 2025 09:38	YP\AJ	Ok
2	I.BLK	FG015612.D	03 Apr 2025 10:07	YP\AJ	Ok
3	50 PPM TRPH STD	FG015613.D	03 Apr 2025 10:36	YP\AJ	Ok
4	RT MARKER	FG015614.D	03 Apr 2025 11:11	YP\AJ	Ok
5	Q1698-01	FG015615.D	03 Apr 2025 13:07	YP\AJ	Dilution
6	Q1698-04	FG015616.D	03 Apr 2025 13:36	YP\AJ	Dilution
7	Q1698-05	FG015617.D	03 Apr 2025 14:05	YP\AJ	Dilution
8	Q1698-06	FG015618.D	03 Apr 2025 14:35	YP\AJ	Dilution
9	Q1698-10	FG015619.D	03 Apr 2025 15:04	YP\AJ	Ok
10	I.BLK	FG015620.D	03 Apr 2025 15:34	YP\AJ	Ok
11	50 PPM TRPH STD	FG015621.D	03 Apr 2025 16:34	YP\AJ	Ok
12	PB167438BL	FG015622.D	03 Apr 2025 17:03	YP\AJ	Ok
13	PB167438BS	FG015623.D	03 Apr 2025 17:33	YP\AJ	Ok
14	Q1698-07	FG015624.D	03 Apr 2025 18:02	YP\AJ	Ok
15	Q1698-07MS	FG015625.D	03 Apr 2025 18:31	YP\AJ	Ok
16	Q1698-07MSD	FG015626.D	03 Apr 2025 19:01	YP\AJ	Ok,M
17	Q1698-11	FG015627.D	03 Apr 2025 19:30	YP\AJ	Ok
18	Q1698-12	FG015628.D	03 Apr 2025 19:59	YP\AJ	Ok
19	I.BLK	FG015629.D	03 Apr 2025 20:28	YP\AJ	Ok
20	50 PPM TRPH STD	FG015630.D	03 Apr 2025 21:27	YP\AJ	Ok
21	Q1698-01	FG015631.D	03 Apr 2025 23:25	YP\AJ	Ok

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG040325

Review By	yogesh	Review On	4/3/2025 1:13:22 PM
Supervise By	mohammad	Supervise On	4/5/2025 3:49:28 AM
SubDirectory	FG040325	HP Acquire Method	HP Processing Method FG032725
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	PP23961,PP23963,PP23964,PP23965,PP23966		
CCC Internal Standard/PEM	PP23963		
ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	PP23962,PP23967		

22	Q1698-04	FG015632.D	03 Apr 2025 23:54	YP\AJ	Ok
23	Q1698-05	FG015633.D	04 Apr 2025 00:23	YP\AJ	Ok
24	Q1698-06	FG015634.D	04 Apr 2025 00:53	YP\AJ	Ok
25	I.BLK	FG015635.D	04 Apr 2025 01:22	YP\AJ	Ok
26	50 PPM TRPH STD	FG015636.D	04 Apr 2025 02:21	YP\AJ	Ok

M : Manual Integration

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG032725

Review By	yogesh	Review On	3/27/2025 11:57:36 AM
Supervise By	mohammad	Supervise On	3/31/2025 1:17:35 AM
SubDirectory	FG032725	HP Acquire Method	HP Processing Method FG032725

STD. NAME	STD REF.#
Tune/Reschk Initial Calibration Stds	PP23961,PP23963,PP23964,PP23965,PP23966
CCC	PP23963
Internal Standard/PEM	
ICV/I.BLK	PP23962,PP23967
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleID	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	MECL2		FG015562.D	27 Mar 2025 07:58		YP\AJ	Ok
2	I.BLK		FG015563.D	27 Mar 2025 08:27		YP\AJ	Ok
3	100 TRPH STD		FG015564.D	27 Mar 2025 08:56		YP\AJ	Ok
4	50 TRPH STD		FG015565.D	27 Mar 2025 09:26		YP\AJ	Ok
5	20 TRPH STD		FG015566.D	27 Mar 2025 09:55		YP\AJ	Ok
6	10 TRPH STD		FG015567.D	27 Mar 2025 10:24		YP\AJ	Ok
7	5 TRPH STD		FG015568.D	27 Mar 2025 10:54		YP\AJ	Ok
8	FG032725ICV		FG015569.D	27 Mar 2025 11:23		YP\AJ	Ok

M : Manual Integration

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG040325

Review By	yogesh	Review On	4/3/2025 1:13:22 PM
Supervise By	mohammad	Supervise On	4/5/2025 3:49:28 AM
SubDirectory	FG040325	HP Acquire Method	HP Processing Method FG032725

STD. NAME	STD REF.#
Tune/Reschk Initial Calibration Stds	PP23961,PP23963,PP23964,PP23965,PP23966
CCC Internal Standard/PEM	PP23963
ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	PP23962,PP23967

Sr#	SampleID	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	MECL2		FG015611.D	03 Apr 2025 09:38		YP\AJ	Ok
2	I.BLK		FG015612.D	03 Apr 2025 10:07		YP\AJ	Ok
3	50 PPM TRPH STD		FG015613.D	03 Apr 2025 10:36		YP\AJ	Ok
4	RT MARKER		FG015614.D	03 Apr 2025 11:11		YP\AJ	Ok
5	Q1698-01		FG015615.D	03 Apr 2025 13:07	need 200x dilution	YP\AJ	Dilution
6	Q1698-04		FG015616.D	03 Apr 2025 13:36	need 20x dilution	YP\AJ	Dilution
7	Q1698-05		FG015617.D	03 Apr 2025 14:05	need 50x dilution	YP\AJ	Dilution
8	Q1698-06		FG015618.D	03 Apr 2025 14:35	need 50x dilution	YP\AJ	Dilution
9	Q1698-10		FG015619.D	03 Apr 2025 15:04		YP\AJ	Ok
10	I.BLK		FG015620.D	03 Apr 2025 15:34		YP\AJ	Ok
11	50 PPM TRPH STD		FG015621.D	03 Apr 2025 16:34		YP\AJ	Ok
12	PB167438BL		FG015622.D	03 Apr 2025 17:03		YP\AJ	Ok
13	PB167438BS		FG015623.D	03 Apr 2025 17:33		YP\AJ	Ok
14	Q1698-07		FG015624.D	03 Apr 2025 18:02		YP\AJ	Ok
15	Q1698-07MS		FG015625.D	03 Apr 2025 18:31		YP\AJ	Ok
16	Q1698-07MSD		FG015626.D	03 Apr 2025 19:01		YP\AJ	Ok,M
17	Q1698-11		FG015627.D	03 Apr 2025 19:30		YP\AJ	Ok
18	Q1698-12		FG015628.D	03 Apr 2025 19:59		YP\AJ	Ok

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG040325

Review By	yogesh	Review On	4/3/2025 1:13:22 PM
Supervise By	mohammad	Supervise On	4/5/2025 3:49:28 AM
SubDirectory	FG040325	HP Acquire Method	HP Processing Method FG032725
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	PP23961,PP23963,PP23964,PP23965,PP23966		
CCC	PP23963		
Internal Standard/PEM	PP23962,PP23967		
ICV/I.BLK			
Surrogate Standard			
MS/MSD Standard			
LCS Standard			

19	I.BLK		FG015629.D	03 Apr 2025 20:28		YP\AJ	Ok
20	50 PPM TRPH STD		FG015630.D	03 Apr 2025 21:27		YP\AJ	Ok
21	Q1698-01		FG015631.D	03 Apr 2025 23:25		YP\AJ	Ok
22	Q1698-04		FG015632.D	03 Apr 2025 23:54		YP\AJ	Ok
23	Q1698-05		FG015633.D	04 Apr 2025 00:23		YP\AJ	Ok
24	Q1698-06		FG015634.D	04 Apr 2025 00:53		YP\AJ	Ok
25	I.BLK		FG015635.D	04 Apr 2025 01:22		YP\AJ	Ok
26	50 PPM TRPH STD		FG015636.D	04 Apr 2025 02:21		YP\AJ	Ok

M : Manual Integration



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 4/3/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:05
In Date: 04/02/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:17
Out Date: 04/04/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB135267

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
Q1694-01	TP-18	1	1.13	10.64	11.77	10.5	88.1	
Q1694-02	TP-18-EPH	2	1.13	10.64	11.77	9.5	78.7	
Q1694-03	TP-18-VOC	3	1.15	10.40	11.55	10.11	86.2	
Q1695-01	TT-2	4	1.14	10.33	11.47	10.21	87.8	
Q1695-02	TT-2-EPH	5	1.16	10.08	11.24	9.91	86.8	
Q1695-03	TT-2-VOC	6	1.19	10.43	11.62	10.37	88.0	
Q1695-05	TT-3	7	1.14	10.49	11.63	10.72	91.3	
Q1695-06	TT-3-EPH	8	1.19	10.73	11.92	11.01	91.5	
Q1695-07	TT-3-VOC	9	1.16	10.29	11.45	10.47	90.5	
Q1698-01	B-9	10	1.14	10.39	11.53	10.8	93.0	
Q1698-03	B-9	11	1.15	10.39	11.54	10.77	92.6	
Q1698-04	B-9-TPH-2	12	1.19	10.10	11.29	10.51	92.3	
Q1698-05	B-9-TPH-3	13	1.12	10.06	11.18	10.34	91.7	
Q1698-06	B-9-TPH-4	14	1.15	10.34	11.49	10.66	92.0	
Q1698-07	B-10	15	1.14	10.59	11.73	11.03	93.4	
Q1698-09	B-10	16	1.12	10.30	11.42	10.71	93.1	
Q1698-10	B-10-TPH-2	17	1.13	10.71	11.84	11.18	93.8	
Q1698-11	B-10-TPH-3	18	1.14	10.29	11.43	10.73	93.2	
Q1698-12	B-10-TPH-4	19	1.18	10.37	11.55	10.77	92.5	
Q1699-01	34882	20	1.00	1.00	2.00	2.00	100.0	wipe sample
Q1701-01	4225-A	21	1.00	1.00	2.00	2.00	100.0	wipe sample
Q1701-02	4225-B	22	1.00	1.00	2.00	2.00	100.0	wipe sample
Q1701-03	32825-A	23	1.00	1.00	2.00	2.00	100.0	wipe sample
Q1701-04	32825-B	24	1.00	1.00	2.00	2.00	100.0	wipe sample
Q1705-01	ETGI-327	25	1.00	1.00	2.00	2.00	100.0	CONCRETE sample
Q1705-02	ETGI-275	26	1.00	1.00	2.00	2.00	100.0	CONCRETE sample
Q1706-01	PL-01-040225	27	1.13	10.28	11.41	10.37	89.9	
Q1706-02	PL-01-040225-E2	28	1.14	10.39	11.53	10.46	89.7	



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 4/3/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:05
In Date: 04/02/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:17
Out Date: 04/04/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB135267

Lab ID	Client SampleID	Dish #	Dish Wt (g) (A)	Sample Wt (g)	Dish + Sample Wt (g) (B)	Dish+Dry Sample Wt (g) (C)	% Solid	Comments
Q1706-03	PL-02-040225	29	1.16	10.61	11.77	10.63	89.3	
Q1706-04	PL-02-040225-E2	30	1.13	10.37	11.5	10.32	88.6	
Q1708-01	QQ3	31	1.00	1.00	2.00	2.00	100.0	
Q1709-01	4125-A	32	1.00	1.00	2.00	2.00	100.0	wipe sample
Q1709-02	4125-B	33	1.00	1.00	2.00	2.00	100.0	wipe sample
Q1709-03	4125-C	34	1.00	1.00	2.00	2.00	100.0	wipe sample

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

WORKLIST(Hardcopy Internal Chain)

U135267

WorkList Name : %1-040225

WorkList ID : 188677

Department : Wet-Chemistry

Date : 04-02-2025 09:33:57

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1708-01	QQ3	Solid	Percent Solids	Cool 4 deg C	ALLI03		04/02/2025	Chemtech -SO
Q1698-01	B-9	Solid	Percent Solids	Cool 4 deg C	TULL02	I41	04/02/2025	Chemtech -SO
Q1698-03	B-9	Solid	Percent Solids	Cool 4 deg C	TULL02	I41	04/02/2025	Chemtech -SO
Q1698-04	B-9-TPH-2	Solid	Percent Solids	Cool 4 deg C	TULL02	I41	04/02/2025	Chemtech -SO
Q1698-05	B-9-TPH-3	Solid	Percent Solids	Cool 4 deg C	TULL02	I41	04/02/2025	Chemtech -SO
Q1698-06	B-9-TPH-4	Solid	Percent Solids	Cool 4 deg C	TULL02	I41	04/02/2025	Chemtech -SO
Q1698-07	B-10	Solid	Percent Solids	Cool 4 deg C	TULL02	I41	04/02/2025	Chemtech -SO
Q1698-09	B-10	Solid	Percent Solids	Cool 4 deg C	TULL02	I41	04/02/2025	Chemtech -SO
Q1698-10	B-10-TPH-2	Solid	Percent Solids	Cool 4 deg C	TULL02	I41	04/02/2025	Chemtech -SO
Q1698-11	B-10-TPH-3	Solid	Percent Solids	Cool 4 deg C	TULL02	I41	04/02/2025	Chemtech -SO
Q1698-12	B-10-TPH-4	Solid	Percent Solids	Cool 4 deg C	TULL02	I41	04/02/2025	Chemtech -SO
Q1694-01	TP-18	Solid	Percent Solids	Cool 4 deg C	TULL02	I41	04/02/2025	Chemtech -SO
Q1694-02	TP-18-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	04/01/2025	Chemtech -SO
Q1694-03	TP-18-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	04/01/2025	Chemtech -SO
Q1695-01	TT-2	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	04/01/2025	Chemtech -SO
Q1695-02	TT-2-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	04/02/2025	Chemtech -SO
Q1695-03	TT-2-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	04/02/2025	Chemtech -SO
Q1709-03	4125-C	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	04/02/2025	Chemtech -SO
Q1701-03	32825-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	L12	04/02/2025	Chemtech -SO
Q1701-04	32825-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	I31	04/02/2025	Chemtech -SO
Q1705-01	ETGI-327	Solid	Percent Solids	Cool 4 deg C	PSEG03	I31	04/02/2025	Chemtech -SO
					PSEG03	L12	04/02/2025	Chemtech -SO

Date/Time 64102125 15:30

Raw Sample Received by: JH (WOC)

Raw Sample Relinquished by: JD (CSM)

Date/Time 04102125 17:10

Raw Sample Received by: JH (CSM)

Raw Sample Relinquished by: JH (WOC)

WORKLIST(Hardcopy Internal Chain)

135267

WorkList Name : %1-040225

WorkList ID : 188677

Department : Wet-Chemistry

Date : 04-02-2025 09:33:57

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1705-02	ETGI-275	Solid	Percent Solids	Cool 4 deg C	PSEG03	L12	04/02/2025	Chemtech -SO
Q1709-01	4125-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	L12	04/02/2025	Chemtech -SO
Q1709-02	4125-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	L12	04/02/2025	Chemtech -SO
Q1695-05	TT-3	Solid	Percent Solids	Cool 4 deg C	PSEG03	L12	04/02/2025	Chemtech -SO
Q1695-06	TT-3-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	04/02/2025	Chemtech -SO
Q1695-07	TT-3-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	04/02/2025	Chemtech -SO
Q1699-01	34882	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	04/02/2025	Chemtech -SO
Q1701-01	4225-A	Solid	Percent Solids	Cool 4 deg C	PSEG03	I31	04/02/2025	Chemtech -SO
Q1701-02	4225-B	Solid	Percent Solids	Cool 4 deg C	PSEG03	I31	04/02/2025	Chemtech -SO
Q1706-01	PL-01-040225	Solid	Percent Solids	Cool 4 deg C	PSEG03	I31	04/02/2025	Chemtech -SO
Q1706-02	PL-01-040225-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	I31	04/02/2025	Chemtech -SO
Q1706-03	PL-02-040225	Solid	Percent Solids	Cool 4 deg C	PSEG05	I31	04/02/2025	Chemtech -SO
Q1706-04	PL-02-040225-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	I31	04/02/2025	Chemtech -SO

Date/Time 04/02/25 15:30

Raw Sample Received by: SR

Raw Sample Relinquished by: JD (SM)

Date/Time 04/02/25 17:10

Raw Sample Received by: JDC (SM)

Raw Sample Relinquished by: JDC (SM)

SOP ID: M3541-ASE Extraction-14

Clean Up SOP #: N/A

Matrix : Solid

Weigh By: EH

Balance check: RJ

Balance ID: EX-SC-2

pH Strip Lot#: N/A

Extraction By: RJ

Filter By: RJ

pH Meter ID: N/A

Hood ID: 3,7

Extraction Start Date : 04/03/2025

Extraction Start Time : 09:28

Extraction End Date : 04/03/2025

Extraction End Time : 12:25

Concentration By: EH

Supervisor By : rajesh

Extraction Method: ☐ Separatory Funnel ☐ Continous Liquid/Liquid ☐ Sonication ☐ Waste Dilution ☒ Soxhlet

Standard Name	MLS USED	Concentration ug/mL	STD REF. # FROM LOG
Spike Sol 1	1.0ML	20 PPM	PP24162
Surrogate	1.0ML	20 PPM	PP24180
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
MeCl2/Acetone/1:1	N/A	EP2591
Baked Na2SO4	N/A	EP2597
Sand	N/A	E2865
Methylene Chloride	N/A	E3904
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

1.5 ML Vial lot# 2210673.

KD Bath ID: N/A

KD Bath Temperature: N/A

Envap ID: NEVAP-02

Envap Temperature: 40 °C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
04/03/25 12:30	RP (Ext. Lab)	Y-P-Pest Rep
	Preparation Group	Analysis Group

Analytical Method: M3541-ASE Extraction-14

Concentration Date: 04/03/2025

Sample ID	Client Sample ID	Test	g/ mL	PH	Surr/Spike By:		Final Vol. (mL)	JarID	Comments	Prep Pos
					AddedBy	VerifiedBy				
PB167438BL	PB167438BL	TPH GC	30.01	N/A	ritesh	Evelyn	1			U3-1
PB167438BS	PB167438BS	TPH GC	30.02	N/A	ritesh	Evelyn	1			2
Q1698-01	B-9	TPH GC	30.02	N/A	ritesh	Evelyn	1	E		3
Q1698-04	B-9-TPH-2	TPH GC	30.03	N/A	ritesh	Evelyn	1			4
Q1698-05	B-9-TPH-3	TPH GC	30.05	N/A	ritesh	Evelyn	1			5
Q1698-06	B-9-TPH-4	TPH GC	30.02	N/A	ritesh	Evelyn	1			6
Q1698-07	B-10	TPH GC	30.08	N/A	ritesh	Evelyn	1	E		U2-1
Q1698-07MS	B-10MS	TPH GC	30.06	N/A	ritesh	Evelyn	1	E		2
Q1698-07MS D	B-10MSD	TPH GC	30.04	N/A	ritesh	Evelyn	1	E		3
Q1698-10	B-10-TPH-2	TPH GC	30.01	N/A	ritesh	Evelyn	1			4
Q1698-11	B-10-TPH-3	TPH GC	30.07	N/A	ritesh	Evelyn	1			5
Q1698-12	B-10-TPH-4	TPH GC	30.03	N/A	ritesh	Evelyn	1			6

* Extracts relinquished on the same date as received.

D
4/3/25

161438
91124

WORKLIST(Hardcopy Internal Chain)

Worklist Name : Q1698T Worklist ID : 188696 Department : Extraction Date : 04-03-2025 08:15:24

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1698-01	B-9	Solid	TPH GC	Cool 4 deg C	TULL02	I41	04/02/2025	8015D
Q1698-04	B-9-TPH-2	Solid	TPH GC	Cool 4 deg C	TULL02	I41	04/02/2025	8015D
Q1698-05	B-9-TPH-3	Solid	TPH GC	Cool 4 deg C	TULL02	I41	04/02/2025	8015D
Q1698-06	B-9-TPH-4	Solid	TPH GC	Cool 4 deg C	TULL02	I41	04/02/2025	8015D
Q1698-07	B-10	Solid	TPH GC	Cool 4 deg C	TULL02	I41	04/02/2025	8015D
Q1698-10	B-10-TPH-2	Solid	TPH GC	Cool 4 deg C	TULL02	I41	04/02/2025	8015D
Q1698-11	B-10-TPH-3	Solid	TPH GC	Cool 4 deg C	TULL02	I41	04/02/2025	8015D
Q1698-12	B-10-TPH-4	Solid	TPH GC	Cool 4 deg C	TULL02	I41	04/02/2025	8015D

Date/Time 04/03/25 9:25
Raw Sample Received by: RS (Det Lab)
Raw Sample Relinquished by: SD (SM)

Date/Time 04/03/25 9:55
Raw Sample Received by: SD (SM)
Raw Sample Relinquished by: RS (Det Lab)

Prep Standard - Chemical Standard Summary

Order ID : Q1698

Test : TPH GC

Prepbatch ID : PB167438,

Sequence ID/Qc Batch ID: FG040325,

Standard ID :

EP2591,EP2597,PP23961,PP23962,PP23963,PP23964,PP23965,PP23966,PP23967,PP24162,PP24180,

Chemical ID :

E2865,E3551,E3828,E3874,E3876,E3878,E3904,P11955,P11956,P11958,P11959,P13213,P13218,P13219,P13487,P13488,P13489,P13490,

Extractions STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2017	1:1 ACETONE/METHYLENE CHLORIDE	EP2591	02/26/2025	08/14/2025	RUPESHKUMAR SHAH	None	None	Riteshkumar Patel
02/26/2025								

FROM 8000.00000ml of E3876 + 8000.00000ml of E3878 = Final Quantity: 16000.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3923	Baked Sodium Sulfate	EP2597	03/28/2025	07/01/2025	Rajesh Parikh	Extraction_SC ALE_2 (EX-SC-2)	None	Evelyn Huang
03/28/2025								

FROM 4000.00000gram of E3551 = Final Quantity: 4000.000 gram

Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
433	100/100 PPM DRO (Restek)	PP23961	11/13/2024	05/09/2025	Yogesh Patel	None	None	Ankita Jodhani
								11/13/2024

FROM 1.00000ml of P11958 + 1.00000ml of P11959 + 1.00000ml of P13213 + 7.00000ml of E3828 = Final Quantity: 10.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3796	100/100 PPM DRO STD (CPI)	PP23962	11/13/2024	05/09/2025	Yogesh Patel	None	None	Ankita Jodhani
								11/13/2024

FROM 1.00000ml of P13213 + 1.00000ml of P13218 + 1.00000ml of P13219 + 7.00000ml of E3828 = Final Quantity: 10.000 ml

Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
435	50 PPM ICC DRO STD (Restek)	PP23963	11/13/2024	05/09/2025	Yogesh Patel	None	None	Ankita Jodhani
11/13/2024								

FROM 0.50000ml of E3828 + 0.50000ml of PP23961 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
437	20 PPM ICC DRO STD (Restek)	PP23964	11/13/2024	05/09/2025	Yogesh Patel	None	None	Ankita Jodhani
11/13/2024								

FROM 0.80000ml of E3828 + 0.20000ml of PP23961 = Final Quantity: 1.000 ml

Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
438	10 PPM ICC DRO STD (Restek)	PP23965	11/13/2024	05/09/2025	Yogesh Patel	None	None	Ankita Jodhani
								11/13/2024

FROM 0.90000ml of E3828 + 0.10000ml of PP23961 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
439	5 PPM ICC DRO STD (Restek)	PP23966	11/13/2024	05/09/2025	Yogesh Patel	None	None	Ankita Jodhani
								11/13/2024

FROM 0.90000ml of E3828 + 0.10000ml of PP23963 = Final Quantity: 1.000 ml

Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3797	50 PPM DRO ICV STD (CPI)	PP23967	11/13/2024	05/09/2025	Yogesh Patel	None	None	Ankita Jodhani
								11/13/2024

FROM 0.80000ml of E3828 + 0.50000ml of PP23962 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3609	20 PPM DRO SPIKE SOLUTION (RESTEK)	PP24162	01/31/2025	07/30/2025	Yogesh Patel	None	None	Ankita Jodhani
								01/31/2025

FROM 1.00000ml of P11955 + 1.00000ml of P11956 + 48.00000ml of E3874 = Final Quantity: 50.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
147	20 PPM DRO Surrogate Spike Solution	PP24180	02/03/2025	07/30/2025	Yogesh Patel	None	None	Ankita Jodhani 02/03/2025
<u>FROM</u> 1.00000ml of P13487 + 1.00000ml of P13488 + 1.00000ml of P13489 + 1.00000ml of P13490 + 196.00000ml of E3874 = Final Quantity: 200.000 ml								

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3382-05 / Sand, Purified (cs/4x2.5kg)	0000243821	06/30/2025	04/30/2020 / RAJESH	04/28/2020 / RAJESH	E2865

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19631-100 / SODIUM SULFATE, ANHYDROUS, PEST GRADE, 1	313201	07/01/2025	01/03/2024 / Rajesh	07/20/2023 / Rajesh	E3551

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	24G0862003	05/09/2025	11/09/2024 / Rajesh	11/04/2024 / Rajesh	E3828

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	25A0262002	07/30/2025	01/30/2025 / Rajesh	01/20/2025 / Rajesh	E3874

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	24H2762008	08/25/2025	02/25/2025 /	02/12/2025 / Rajesh	E3876

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	24K1762005	08/14/2025	02/14/2025 / Rajesh	12/27/2024 / Rajesh	E3878

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	24K1762005	01/07/2026	03/13/2025 /	12/27/2024 / RUPESH	E3904

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31266 / Florida TRPH Standard	A0186840	07/31/2025	01/31/2025 / yogesh	07/11/2022 / Yogesh	P11955

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31266 / Florida TRPH Standard	A0186840	07/31/2025	01/31/2025 / yogesh	07/11/2022 / Yogesh	P11956

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31266 / Florida TRPH Standard	A0186840	05/13/2025	11/13/2024 / yogesh	07/11/2022 / Yogesh	P11958

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31266 / Florida TRPH Standard	A0186840	05/13/2025	11/13/2024 / yogesh	07/11/2022 / Yogesh	P11959

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	72072 / n-Tetracosane-d50, 1000 ug/ml	101122	05/13/2025	11/13/2024 / yogesh	01/17/2024 / Ankita	P13213

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-110400-05-01 / TRPH Standard (C8-C40), 500 mg/L, 1 ml	514983	02/14/2025	08/14/2024 / yogesh	01/31/2024 / Ankita	P13218

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-110400-05-01 / TRPH Standard (C8-C40), 500 mg/L, 1 ml	514983	05/13/2025	11/13/2024 / yogesh	01/31/2024 / Ankita	P13219

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	72072 / n-Tetracosane-d50, 1000 ug/ml	101122	08/03/2025	02/03/2025 / yogesh	07/24/2024 / yogesh	P13487

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	72072 / n-Tetracosane-d50, 1000 ug/ml	101122	08/03/2025	02/03/2025 / yogesh	07/24/2024 / yogesh	P13488

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	72072 / n-Tetracosane-d50, 1000 ug/ml	101122	08/03/2025	02/03/2025 / yogesh	07/24/2024 / yogesh	P13489

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	72072 / n-Tetracosane-d50, 1000 ug/ml	101122	08/03/2025	02/03/2025 / yogesh	07/24/2024 / yogesh	P13490

Sand
Purified
Washed and Ignited



Material No.: 3382-05
Batch No.: 0000243821
Manufactured Date: 2018/04/09
Retest Date: 2025/04/07
Revision No: 1

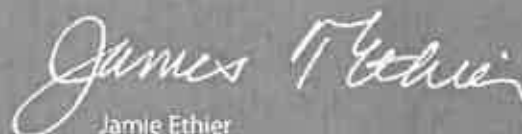
Certificate of Analysis

Test	Specification	Result
Substances Soluble in HCl	$\leq 0.16\%$	0.01

For Laboratory, Research or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

E 2865


Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700



**PRODUCTOS
QUÍMICOS
MONTERREY, S.A. DE C.V.**

MIRADOR 201, COL. MIRADOR
MONTERREY, N.L. MEXICO
CP 64070
TEL +52 81 13 52 57 57
www.pqm.com.mx

CERTIFICATE OF ANALYSIS

PRODUCT :	SODIUM SULFATE CRYSTALS ANHYDROUS		
QUALITY :	ACS (CODE RMB3375)	FORMULA :	Na ₂ SO ₄
SPECIFICATION NUMBER :	6399	RELEASE DATE:	ABR/21/2023
LOT NUMBER :	313201		

TEST	SPECIFICATIONS	LOT VALUES
Assay (Na ₂ SO ₄)	Min. 99.0%	99.7 %
pH of a 5% solution at 25°C	5.2 - 9.2	6.1
Insoluble matter	Max. 0.01%	0.005 %
Loss on ignition	Max. 0.5%	0.1 %
Chloride (Cl)	Max. 0.001%	<0.001 %
Nitrogen compounds (as N)	Max. 5 ppm	<5 ppm
Phosphate (PO ₄)	Max. 0.001%	<0.001 %
Heavy metals (as Pb)	Max. 5 ppm	<5 ppm
Iron (Fe)	Max. 0.001%	<0.001 %
Calcium (Ca)	Max. 0.01%	0.002 %
Magnesium (Mg)	Max. 0.005%	0.001 %
Potassium (K)	Max. 0.008%	0.003 %
Extraction-concentration suitability	Passes test	Passes test
Appearance	Passes test	Passes test
Identification	Passes test	Passes test
Solubility and foreign matter	Passes test	Passes test
Retained on US Standard No. 10 sieve	Max. 1%	0.1 %
Retained on US Standard No. 60 sieve	Min. 94%	97.3 %
Through US Standard No. 60 sieve	Max. 5%	2.5 %
Through US Standard No. 100 sieve	Max. 10%	0.1 %

COMMENTS

QC: PhC Irma Belmares

If you need further details, please call our factory or contact our local distributor.

Recd. by R3 on 7/24/23 E 3551

RC-02-01, Ed. 3

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)

 **avantors**TM



Material No.: 9266-A4

Batch No.: 24J0862003

Manufactured Date: 2024-09-12

Expiration Date: 2025-12-12

Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	2
ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL)	≤ 10	1
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	$\geq 99.8\%$	100.0 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm
Titration Acid ($\mu\text{eq/g}$)	≤ 0.3	< 0.1
Chloride (Cl)	≤ 10 ppm	< 5 ppm
Water (by KF, coulometric)	$\leq 0.02\%$	$< 0.01\%$

For Laboratory, Research, or Manufacturing Use

MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States

Packaging Site: Phillipsburg Mfg Ctr & DC

E 3828



Jamie Croak
Director Quality Operations, Bioscience Production

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials LLC

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)



Material No.: 9266-A4
Batch No.: 25A0262002
Manufactured Date: 2024-11-21
Expiration Date: 2026-02-20
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	1
ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL)	≤ 10	4
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	$\geq 99.8\%$	99.9%
Color (APHA)	≤ 10	10
Residue after Evaporation	≤ 1.0 ppm	0.8 ppm
Titration Acid ($\mu\text{eq/g}$)	≤ 0.3	< 0.1
Chloride (Cl)	≤ 10 ppm	< 5 ppm
Water (by KF, coulometric)	$\leq 0.02\%$	$< 0.01\%$

For Laboratory, Research, or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E 3874

Jamie Croak
Director Quality Operations, Bioscience Production

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA, 19087, U.S.A. Phone 610.386.1700

Methylene Chloride
ULTRA RESI-ANALYZED
For Organic Residue Analysis
(dichloromethane)



Material No.: 9266-A4
Batch No.: 24K1762005
Manufactured Date: 2024-10-08
Expiration Date: 2026-01-07
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	1
ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL)	≤ 10	2
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	$\geq 99.8 \%$	100.0 %
Color (APHA)	≤ 10	5
Residue after Evaporation	$\leq 1.0 \text{ ppm}$	0.5 ppm
Titration Acid ($\mu\text{eq/g}$)	≤ 0.3	0.0
Chloride (Cl)	$\leq 10 \text{ ppm}$	$< 5 \text{ ppm}$
Water (by KF, coulometric)	$\leq 0.02 \%$	0.01 %

For Laboratory, Research, or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E 3878

Jamie Croak
Director Quality Operations, Bioscience Production

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA, 19087 U.S.A. Phone 610.386.1700



CERTIFIED REFERENCE MATERIAL

110 Benner Circle

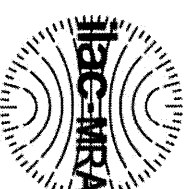
Bellefonte, PA 16823-8812

Tel: (800)356-1688

Fax: (814)353-1309

www.restek.com

Certificate of Analysis



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31266

Lot No.: A0186840

Description : Florida TRPH Standard

Florida TRPH Standard 500µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL

Pkg Amt: > 1 mL

Expiration Date : July 31, 2029

Storage: 25°C nominal

Handling: Sonicate prior to use.

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	n-Octane (C8) CAS # 111-65-9 Purity 99%	505.0 µg/mL	+/- 2.9995 µg/mL +/- 12.5465 µg/mL +/- 15.0390 µg/mL	Gravimetric Unstressed Stressed
2	n-Decane (C10) CAS # 124-18-5 Purity 99%	503.0 µg/mL	+/- 2.9877 µg/mL +/- 12.4968 µg/mL +/- 14.9795 µg/mL	Gravimetric Unstressed Stressed
3	n-Dodecane (C12) CAS # 112-40-3 Purity 99%	503.5 µg/mL	+/- 2.9906 µg/mL +/- 12.5092 µg/mL +/- 14.9944 µg/mL	Gravimetric Unstressed Stressed
4	n-Tetradecane (C14) CAS # 629-59-4 Purity 99%	505.0 µg/mL	+/- 2.9995 µg/mL +/- 12.5465 µg/mL +/- 15.0390 µg/mL	Gravimetric Unstressed Stressed
5	n-Hexadecane (C16) CAS # 544-76-3 Purity 98%	504.7 µg/mL	+/- 2.9978 µg/mL +/- 12.5390 µg/mL +/- 15.0301 µg/mL	Gravimetric Unstressed Stressed
6	n-Octadecane (C18) CAS # 593-45-3 Purity 97%	504.4 µg/mL	+/- 2.9960 µg/mL +/- 12.5316 µg/mL +/- 15.0212 µg/mL	Gravimetric Unstressed Stressed
7	n-Eicosane (C20) CAS # 112-95-8 Purity 99%	503.5 µg/mL	+/- 2.9906 µg/mL +/- 12.5092 µg/mL +/- 14.9944 µg/mL	Gravimetric Unstressed Stressed

P11948 } 7.8
P11962 } 07/11/16

8	n-Docosane (C22) CAS # 629-97-0 Purity 99%	(Lot MKCL8918)	504.5 µg/mL	+/- 2.9966 +/- 12.5340 +/- 15.0241	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	n-Tetracosane (C24) CAS # 646-31-1 Purity 99%	(Lot MKCN2863)	503.5 µg/mL	+/- 2.9906 +/- 12.5092 +/- 14.9944	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	n-Hexacosane (C26) CAS # 630-01-3 Purity 99%	(Lot MKCD4540)	504.0 µg/mL	+/- 2.9936 +/- 12.5216 +/- 15.0093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	n-Octacosane (C28) CAS # 630-02-4 Purity 99%	(Lot BCCG0084)	504.5 µg/mL	+/- 2.9966 +/- 12.5340 +/- 15.0241	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	n-Triacontane (C30) CAS # 638-68-6 Purity 99%	(Lot MKCN9321)	505.0 µg/mL	+/- 2.9995 +/- 12.5465 +/- 15.0390	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	n-Dotriacontane (C32) CAS # 544-85-4 Purity 99%	(Lot BCBW0661)	505.0 µg/mL	+/- 2.9995 +/- 12.5465 +/- 15.0390	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	n-Tetratriacontane (C34) CAS # 14167-59-0 Purity 99%	(Lot OML4N)	504.5 µg/mL	+/- 2.9966 +/- 12.5340 +/- 15.0241	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	n-Hexatriacontane (C36) CAS # 630-06-8 Purity 99%	(Lot U25B014)	504.0 µg/mL	+/- 2.9936 +/- 12.5216 +/- 15.0093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	n-Octatriacontane (C38) CAS # 7194-85-6 Purity 97%	(Lot 0000127235)	504.4 µg/mL	+/- 2.9960 +/- 12.5316 +/- 15.0212	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	n-Tetracontane (C40) CAS # 4181-95-7 Purity 98%	(Lot PADGI)	504.7 µg/mL	+/- 2.9978 +/- 12.5390 +/- 15.0301	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:

30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:

hydrogen-constant pressure 10 psi.

Temp. Program:

40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:

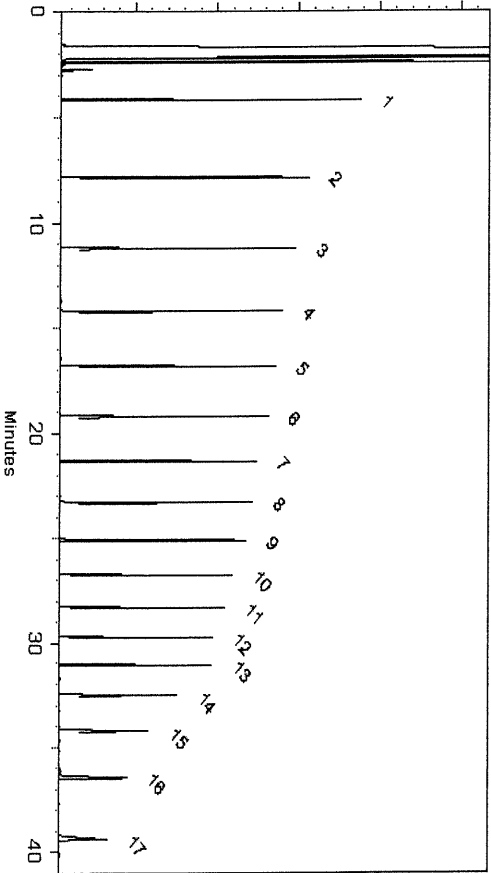
250°C

Det. Temp:

330°C

Det. Type:

FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brittany Federinko
Brittany Federinko - Operations Tech I

Date Mixed: 29-Jun-2022

Balance: 1128360905

Christie Mills
Christie Mills - Operations Tech II - ARM QC

Date Passed: 01-Jul-2022

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-US for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-US.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.



CERTIFIED REFERENCE MATERIAL

110 Benner Circle

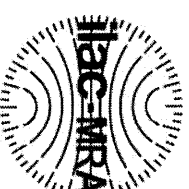
Bellefonte, PA 16823-8812

Tel: (800)356-1688

Fax: (814)353-1309

www.restek.com

Certificate of Analysis



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31266

Lot No.: A0186840

Description : Florida TRPH Standard

Florida TRPH Standard 500µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL

Pkg Amt: > 1 mL

Expiration Date : July 31, 2029

Storage: 25°C nominal

Handling: Sonicate prior to use.

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	n-Octane (C8) CAS # 111-65-9 Purity 99%	505.0 µg/mL	+/- 2.9995 µg/mL +/- 12.5465 µg/mL +/- 15.0390 µg/mL	Gravimetric Unstressed Unstressed Stressed
2	n-Decane (C10) CAS # 124-18-5 Purity 99%	503.0 µg/mL	+/- 2.9877 µg/mL +/- 12.4968 µg/mL +/- 14.9795 µg/mL	Gravimetric Unstressed Unstressed Stressed
3	n-Dodecane (C12) CAS # 112-40-3 Purity 99%	503.5 µg/mL	+/- 2.9906 µg/mL +/- 12.5092 µg/mL +/- 14.9944 µg/mL	Gravimetric Unstressed Unstressed Stressed
4	n-Tetradecane (C14) CAS # 629-59-4 Purity 99%	505.0 µg/mL	+/- 2.9995 µg/mL +/- 12.5465 µg/mL +/- 15.0390 µg/mL	Gravimetric Unstressed Unstressed Stressed
5	n-Hexadecane (C16) CAS # 544-76-3 Purity 98%	504.7 µg/mL	+/- 2.9978 µg/mL +/- 12.5390 µg/mL +/- 15.0301 µg/mL	Gravimetric Unstressed Unstressed Stressed
6	n-Octadecane (C18) CAS # 593-45-3 Purity 97%	504.4 µg/mL	+/- 2.9960 µg/mL +/- 12.5316 µg/mL +/- 15.0212 µg/mL	Gravimetric Unstressed Unstressed Stressed
7	n-Eicosane (C20) CAS # 112-95-8 Purity 99%	503.5 µg/mL	+/- 2.9906 µg/mL +/- 12.5092 µg/mL +/- 14.9944 µg/mL	Gravimetric Unstressed Unstressed Stressed

P11948 } 7.8
P11962 } 07/11/16

8	n-Docosane (C22) CAS # 629-97-0 Purity 99%	(Lot MKCL8918)	504.5 µg/mL	+/- 2.9966 +/- 12.5340 +/- 15.0241	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	n-Tetracosane (C24) CAS # 646-31-1 Purity 99%	(Lot MKCN2863)	503.5 µg/mL	+/- 2.9906 +/- 12.5092 +/- 14.9944	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	n-Hexacosane (C26) CAS # 630-01-3 Purity 99%	(Lot MKCD4540)	504.0 µg/mL	+/- 2.9936 +/- 12.5216 +/- 15.0093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	n-Octacosane (C28) CAS # 630-02-4 Purity 99%	(Lot BCCG0084)	504.5 µg/mL	+/- 2.9966 +/- 12.5340 +/- 15.0241	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	n-Triacontane (C30) CAS # 638-68-6 Purity 99%	(Lot MKCN9321)	505.0 µg/mL	+/- 2.9995 +/- 12.5465 +/- 15.0390	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	n-Dotriacontane (C32) CAS # 544-85-4 Purity 99%	(Lot BCBW0661)	505.0 µg/mL	+/- 2.9995 +/- 12.5465 +/- 15.0390	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	n-Tetratriacontane (C34) CAS # 14167-59-0 Purity 99%	(Lot OML4N)	504.5 µg/mL	+/- 2.9966 +/- 12.5340 +/- 15.0241	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	n-Hexatriacontane (C36) CAS # 630-06-8 Purity 99%	(Lot U25B014)	504.0 µg/mL	+/- 2.9936 +/- 12.5216 +/- 15.0093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	n-Octatriacontane (C38) CAS # 7194-85-6 Purity 97%	(Lot 0000127235)	504.4 µg/mL	+/- 2.9960 +/- 12.5316 +/- 15.0212	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	n-Tetracontane (C40) CAS # 4181-95-7 Purity 98%	(Lot PADGI)	504.7 µg/mL	+/- 2.9978 +/- 12.5390 +/- 15.0301	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:

30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:

hydrogen-constant pressure 10 psi.

Temp. Program:

40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:

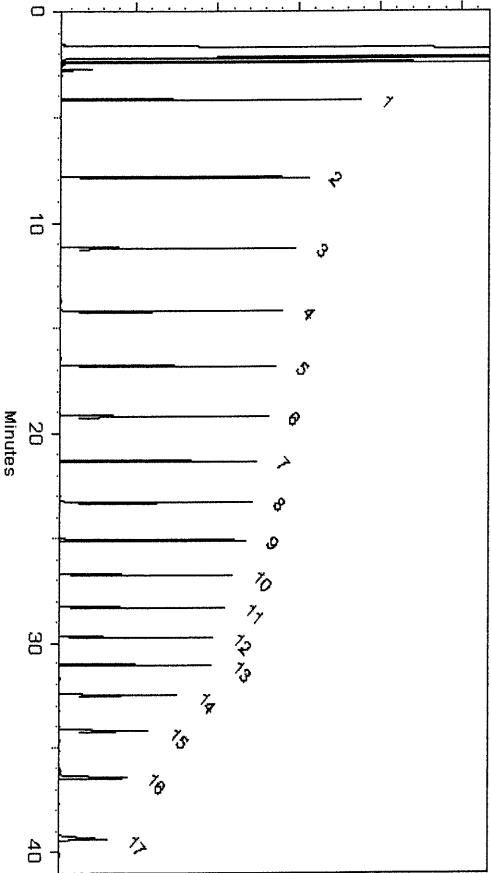
250°C

Det. Temp:

330°C

Det. Type:

FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brittany Federinko
Brittany Federinko - Operations Tech I

Date Mixed: 29-Jun-2022

Balance: 1128360905

Christie Mills
Christie Mills - Operations Tech II - ARM QC

Date Passed: 01-Jul-2022

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-US for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-US.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.



CERTIFIED REFERENCE MATERIAL

110 Benner Circle

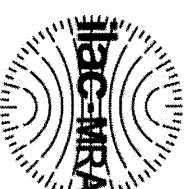
Bellefonte, PA 16823-8812

Tel: (800)356-1688

Fax: (814)353-1309

www.restek.com

Certificate of Analysis



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31266

Lot No.: A0186840

Description : Florida TRPH Standard

Florida TRPH Standard 500µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL

Pkg Amt: > 1 mL

Expiration Date : July 31, 2029

Storage: 25°C nominal

Handling: Sonicate prior to use.

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	n-Octane (C8) CAS # 111-65-9 Purity 99%	505.0 µg/mL	+/- 2.9995 µg/mL +/- 12.5465 µg/mL +/- 15.0390 µg/mL	Gravimetric Unstressed Stressed
2	n-Decane (C10) CAS # 124-18-5 Purity 99%	503.0 µg/mL	+/- 2.9877 µg/mL +/- 12.4968 µg/mL +/- 14.9795 µg/mL	Gravimetric Unstressed Stressed
3	n-Dodecane (C12) CAS # 112-40-3 Purity 99%	503.5 µg/mL	+/- 2.9906 µg/mL +/- 12.5092 µg/mL +/- 14.9944 µg/mL	Gravimetric Unstressed Stressed
4	n-Tetradecane (C14) CAS # 629-59-4 Purity 99%	505.0 µg/mL	+/- 2.9995 µg/mL +/- 12.5465 µg/mL +/- 15.0390 µg/mL	Gravimetric Unstressed Stressed
5	n-Hexadecane (C16) CAS # 544-76-3 Purity 98%	504.7 µg/mL	+/- 2.9978 µg/mL +/- 12.5390 µg/mL +/- 15.0301 µg/mL	Gravimetric Unstressed Stressed
6	n-Octadecane (C18) CAS # 593-45-3 Purity 97%	504.4 µg/mL	+/- 2.9960 µg/mL +/- 12.5316 µg/mL +/- 15.0212 µg/mL	Gravimetric Unstressed Stressed
7	n-Eicosane (C20) CAS # 112-95-8 Purity 99%	503.5 µg/mL	+/- 2.9906 µg/mL +/- 12.5092 µg/mL +/- 14.9944 µg/mL	Gravimetric Unstressed Stressed

P11948 } 7.8
P11962 } 07/11/16

8	n-Docosane (C22) CAS # 629-97-0 Purity 99%	(Lot MKCL8918)	504.5 µg/mL	+/- 2.9966 +/- 12.5340 +/- 15.0241	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	n-Tetracosane (C24) CAS # 646-31-1 Purity 99%	(Lot MKCN2863)	503.5 µg/mL	+/- 2.9906 +/- 12.5092 +/- 14.9944	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	n-Hexacosane (C26) CAS # 630-01-3 Purity 99%	(Lot MKCD4540)	504.0 µg/mL	+/- 2.9936 +/- 12.5216 +/- 15.0093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	n-Octacosane (C28) CAS # 630-02-4 Purity 99%	(Lot BCCG0084)	504.5 µg/mL	+/- 2.9966 +/- 12.5340 +/- 15.0241	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	n-Triacontane (C30) CAS # 638-68-6 Purity 99%	(Lot MKCN9321)	505.0 µg/mL	+/- 2.9995 +/- 12.5465 +/- 15.0390	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	n-Dotriacontane (C32) CAS # 544-85-4 Purity 99%	(Lot BCBW0661)	505.0 µg/mL	+/- 2.9995 +/- 12.5465 +/- 15.0390	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	n-Tetratriacontane (C34) CAS # 14167-59-0 Purity 99%	(Lot OML4N)	504.5 µg/mL	+/- 2.9966 +/- 12.5340 +/- 15.0241	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	n-Hexatriacontane (C36) CAS # 630-06-8 Purity 99%	(Lot U25B014)	504.0 µg/mL	+/- 2.9936 +/- 12.5216 +/- 15.0093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	n-Octatriacontane (C38) CAS # 7194-85-6 Purity 97%	(Lot 0000127235)	504.4 µg/mL	+/- 2.9960 +/- 12.5316 +/- 15.0212	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	n-Tetracontane (C40) CAS # 4181-95-7 Purity 98%	(Lot PADGI)	504.7 µg/mL	+/- 2.9978 +/- 12.5390 +/- 15.0301	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:

30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:

hydrogen-constant pressure 10 psi.

Temp. Program:

40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:

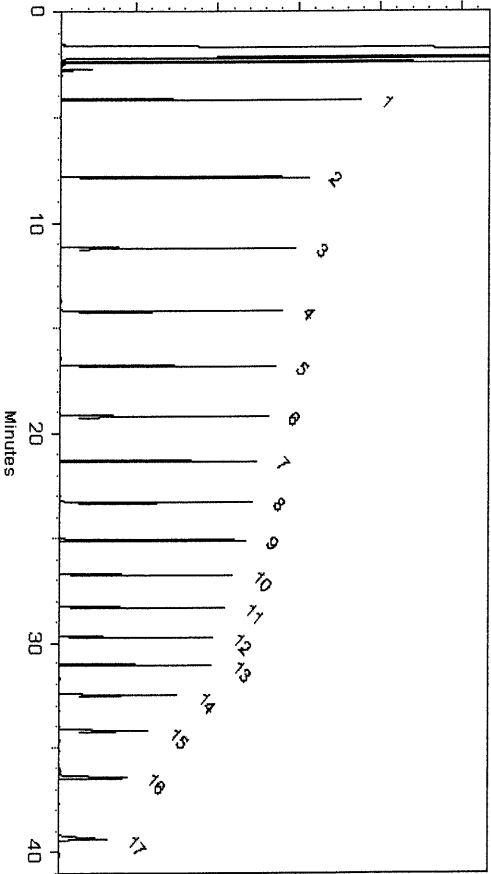
250°C

Det. Temp:

330°C

Det. Type:

FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brittany Federinko

Brittany Federinko - Operations Tech I

Date Mixed: 29-Jun-2022

Balance: 1128360905

Christie Mills

Christie Mills - Operations Tech II - ARM QC

Date Passed: 01-Jul-2022

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-US for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-US.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.



CERTIFIED REFERENCE MATERIAL

110 Benner Circle

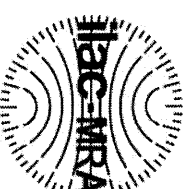
Bellefonte, PA 16823-8812

Tel: (800)356-1688

Fax: (814)353-1309

www.restek.com

Certificate of Analysis



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31266

Lot No.: A0186840

Description : Florida TRPH Standard

Florida TRPH Standard 500µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL

Pkg Amt: > 1 mL

Expiration Date : July 31, 2029

Storage: 25°C nominal

Handling: Sonicate prior to use.

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	n-Octane (C8) CAS # 111-65-9 Purity 99%	505.0 µg/mL	+/- 2.9995 µg/mL +/- 12.5465 µg/mL +/- 15.0390 µg/mL	Gravimetric Unstressed Stressed
2	n-Decane (C10) CAS # 124-18-5 Purity 99%	503.0 µg/mL	+/- 2.9877 µg/mL +/- 12.4968 µg/mL +/- 14.9795 µg/mL	Gravimetric Unstressed Stressed
3	n-Dodecane (C12) CAS # 112-40-3 Purity 99%	503.5 µg/mL	+/- 2.9906 µg/mL +/- 12.5092 µg/mL +/- 14.9944 µg/mL	Gravimetric Unstressed Stressed
4	n-Tetradecane (C14) CAS # 629-59-4 Purity 99%	505.0 µg/mL	+/- 2.9995 µg/mL +/- 12.5465 µg/mL +/- 15.0390 µg/mL	Gravimetric Unstressed Stressed
5	n-Hexadecane (C16) CAS # 544-76-3 Purity 98%	504.7 µg/mL	+/- 2.9978 µg/mL +/- 12.5390 µg/mL +/- 15.0301 µg/mL	Gravimetric Unstressed Stressed
6	n-Octadecane (C18) CAS # 593-45-3 Purity 97%	504.4 µg/mL	+/- 2.9960 µg/mL +/- 12.5316 µg/mL +/- 15.0212 µg/mL	Gravimetric Unstressed Stressed
7	n-Eicosane (C20) CAS # 112-95-8 Purity 99%	503.5 µg/mL	+/- 2.9906 µg/mL +/- 12.5092 µg/mL +/- 14.9944 µg/mL	Gravimetric Unstressed Stressed

P11948 } 7.8
P11962 } 07/11/16

8	n-Docosane (C22) CAS # 629-97-0 Purity 99%	(Lot MKCL8918)	504.5 µg/mL	+/- 2.9966 +/- 12.5340 +/- 15.0241	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	n-Tetracosane (C24) CAS # 646-31-1 Purity 99%	(Lot MKCN2863)	503.5 µg/mL	+/- 2.9906 +/- 12.5092 +/- 14.9944	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	n-Hexacosane (C26) CAS # 630-01-3 Purity 99%	(Lot MKCD4540)	504.0 µg/mL	+/- 2.9936 +/- 12.5216 +/- 15.0093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	n-Octacosane (C28) CAS # 630-02-4 Purity 99%	(Lot BCCG0084)	504.5 µg/mL	+/- 2.9966 +/- 12.5340 +/- 15.0241	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	n-Triacontane (C30) CAS # 638-68-6 Purity 99%	(Lot MKCN9321)	505.0 µg/mL	+/- 2.9995 +/- 12.5465 +/- 15.0390	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	n-Dotriacontane (C32) CAS # 544-85-4 Purity 99%	(Lot BCBW0661)	505.0 µg/mL	+/- 2.9995 +/- 12.5465 +/- 15.0390	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	n-Tetratriacontane (C34) CAS # 14167-59-0 Purity 99%	(Lot OML4N)	504.5 µg/mL	+/- 2.9966 +/- 12.5340 +/- 15.0241	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	n-Hexatriacontane (C36) CAS # 630-06-8 Purity 99%	(Lot U25B014)	504.0 µg/mL	+/- 2.9936 +/- 12.5216 +/- 15.0093	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	n-Octatriacontane (C38) CAS # 7194-85-6 Purity 97%	(Lot 0000127235)	504.4 µg/mL	+/- 2.9960 +/- 12.5316 +/- 15.0212	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	n-Tetracontane (C40) CAS # 4181-95-7 Purity 98%	(Lot PADGI)	504.7 µg/mL	+/- 2.9978 +/- 12.5390 +/- 15.0301	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Hexane
CAS # 110-54-3
Purity 99%

Column:

30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:

hydrogen-constant pressure 10 psi.

Temp. Program:

40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:

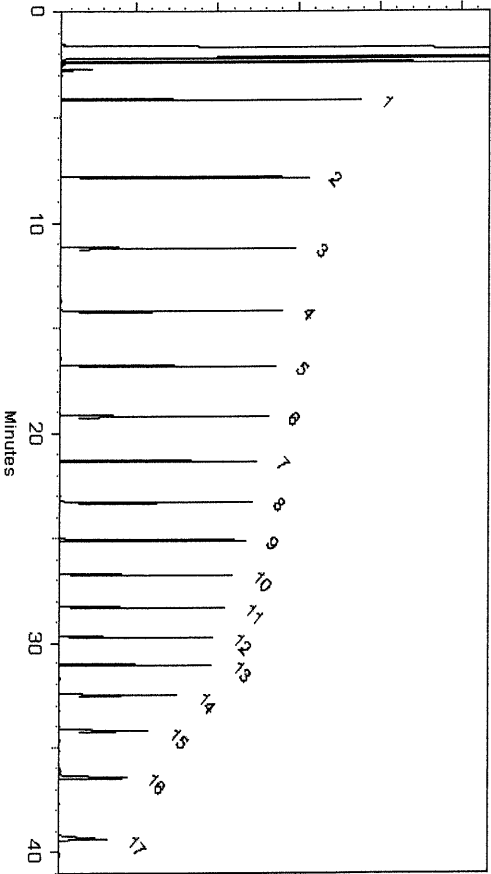
250°C

Det. Temp:

330°C

Det. Type:

FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brittany Federinko
Brittany Federinko - Operations Tech I

Date Mixed: 29-Jun-2022

Balance: 1128360905

Christie Mills
Christie Mills - Operations Tech II - ARM QC

Date Passed: 01-Jul-2022

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-US for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-US.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT

Part Number:
Lot Number:
Description:

72072
101122
n-Tetracosane-d50

Solvent(s):
Methylene chloride

Lot#
105345

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test ID#:

101132
Ambient (20 °C)
1000
6UTB

Weight(s) shown below were combined and diluted to (mL):

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

200.0

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty (%D)	Assay	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information		
											(Solvent Safety Info. On Attached pg.)	CAS#	OSHA PEL (TWA)

1. n-Tetracosane-d50

N/A

4.1

16416-32-3

N/A

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Candice Warren.

FIGURE 1: 72072.D

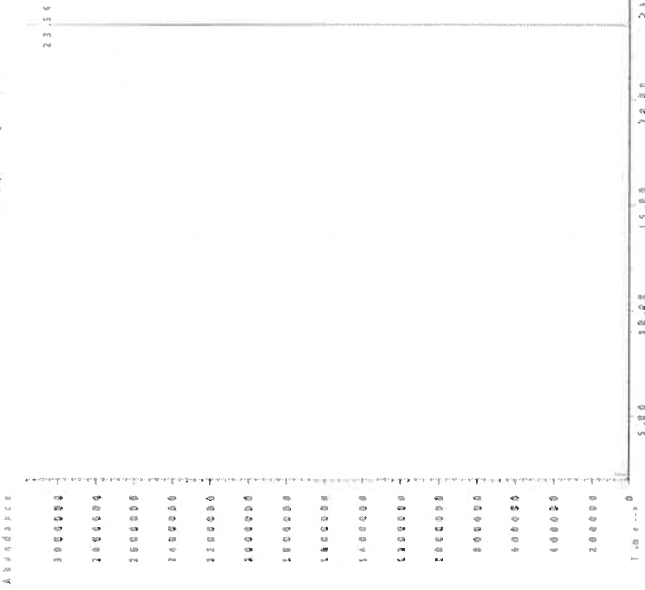
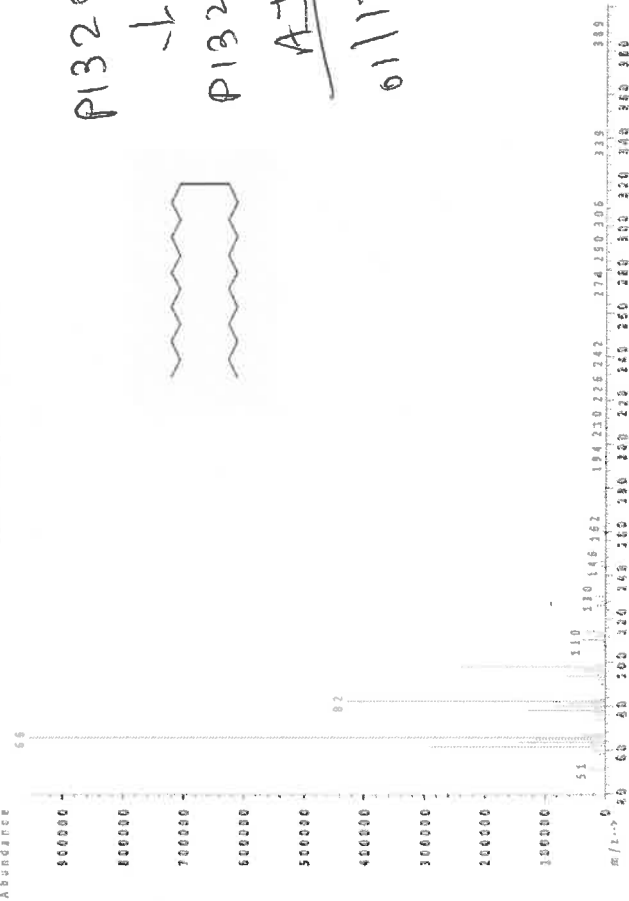


FIGURE 2: 105345.D



P13205
↓
P13214
A3
61/17/24

The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.

Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).

Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.

All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.

Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



5580 Skylane Blvd
Santa Rosa, CA 95403

Manufacturer's Quality System
Audited & Registered
by TUV USA to ISO 9001:2015

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Date Received: _____

Certificate of Analysis

Page 1 of 1

Catalog No.: Lot No.: Storage:

Z-110400-05 514983 ≤ -10 Degrees C

Solvent:

Hexane

Exp. Date:

11/20/2028

Description:

TRPH Standard (C8-C40), 500 mg/L, 1 ml

-01

Compound

CAS No.

Purity (%)

Compound Lot No.

Concentration, mg/L

decane (C10)

124-18-5

99.7

415.7.2P

498.5 ± 6.92

docosane (C22)

629-97-0

98.8

420.9.1P

499.4 ± 6.93

dodecane (C12)

112-40-3

99.7

416.9.3P

502 ± 6.97

dotriacontane (C32)

544-85-4

97

425.9.2.2P

499.6 ± 8.53

eicosane (C20)

112-95-8

99.8

419.7.1P

501 ± 6.95

hexacosane (C26)

630-01-3

99.3

422.7.2.1P

501 ± 6.95

hexatriacontane (C36)

630-06-8

98

427.29.1.1P

499.3 ± 8.53

n-hexadecane (C16)

544-76-3

99.45

368.27.1.1P

498.7 ± 6.91

octacosane (C28)

630-02-4

99.1

423.24.1P

500.5 ± 6.95

n-octadecane (C18)

593-45-3

99.5

418.29.1P

499.5 ± 6.92

octane (C8)

111-65-9

99.4

385.7.2.1P

498.5 ± 6.92

octatriacontane (C38)

7194-85-6

95

428.1.2P

500.2 ± 6.94

tetracontane (C40)

4181-95-7

97

429.7.2P

499.6 ± 6.93

n-tetracosane (C24)

646-31-1

99.5

421.7.1P

499.5 ± 6.93

n-tetradecane (C14)

629-59-4

99.3

417.9.1P

500 ± 6.94

tetratriacontane (C34)

14167-59-0

96.1

426.7.2.2P

499.7 ± 8.53

triacontane (C30)

638-68-6

99.5

424.7.1.1P

500 ± 6.94

Let the standard warm to room temperature and sonicate before opening.

P13215

↓

P13224

AJ
01131124

*Not a certified value

Andrea Schaible

Andrea Schaible
Chemist

Certified By: _____

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values
listed are determined gravimetrically.



5580 Skylane Blvd
Santa Rosa, CA 95403
(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Manufacturer's Quality System
Audited & Registered
by TUV USA to ISO 9001:2015

Date Received: _____

Certificate of Analysis

Page 1 of 1

Catalog No.: Lot No.: Storage:

Z-110400-05 514983 ≤-10 Degrees C

Solvent:

Hexane

Exp. Date:

11/20/2028

Description:

TRPH Standard (C8-C40), 500 mg/L, 1 ml

-01

Compound

CAS No.

Purity (%)

Compound Lot No.

Concentration, mg/L

decane (C10)

124-18-5

99.7

415.7.2P

498.5 ± 6.92

docosane (C22)

629-97-0

98.8

420.9.1P

499.4 ± 6.93

dodecane (C12)

112-40-3

99.7

416.9.3P

502 ± 6.97

dotriacontane (C32)

544-85-4

97

425.9.2.2P

499.6 ± 8.53

eicosane (C20)

112-95-8

99.8

419.7.1P

501 ± 6.95

hexacosane (C26)

630-01-3

99.3

422.7.2.1P

501 ± 6.95

hexatriacontane (C36)

630-06-8

98

427.29.1.1P

499.3 ± 8.53

n-hexadecane (C16)

544-76-3

99.45

368.27.1.1P

498.7 ± 6.91

octacosane (C28)

630-02-4

99.1

423.24.1P

500.5 ± 6.95

n-octadecane (C18)

593-45-3

99.5

418.29.1P

499.5 ± 6.92

octane (C8)

111-65-9

99.4

385.7.2.1P

498.5 ± 6.92

octatriacontane (C38)

7194-85-6

95

428.1.2P

500.2 ± 6.94

tetracontane (C40)

4181-95-7

97

429.7.2P

499.6 ± 6.93

n-tetracosane (C24)

646-31-1

99.5

421.7.1P

499.5 ± 6.93

n-tetradecane (C14)

629-59-4

99.3

417.9.1P

500 ± 6.94

tetatriacontane (C34)

14167-59-0

96.1

426.7.2.2P

499.7 ± 8.53

triacontane (C30)

638-68-6

99.5

424.7.1.1P

500 ± 6.94

Let the standard warm to room temperature and sonicate before opening.

P13215

↓

P13224

AJ
01131124

*Not a certified value

Andrea Schaible

Andrea Schaible
Chemist

Certified By: _____

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values
listed are determined gravimetrically.

ABSOLUTE STANDARDS, INC.

ISO - 17034



Certificate of Analysis



Certified Reference Material (CRM)

Conformance: The "Certificate of Analysis" is applicable for CRM's, fulfilling the requirements in the current version of: ISO 17034.

Health & Safety: See the attached SDS & Certified Weight Report before use.

Intended Use: This Certified Reference Material (CRM) is intended primarily for use in the characterization of unknowns and the establishment of analyzer or instrument response factors by qualified personnel. Typical instrumental organic assays include: GC & LC, and inorganic assays include: ICP & AA. This product is for laboratory use only.

Characterization Values: In production, gravimetric/volumetric readings are certified to be within $\pm 0.5\%$ of the stated value & are valid between 18 °C & 30 °C. The measured characterization of uncertainty can be found on the Certified Weight Report. All product weighings are performed on an analytical balance that is calibrated to NIST Traceable standard weights & certified by the manufacturer. The volumetric glassware used is Class "A" type & conforms to ASTM E-288 unless otherwise stated. The solvents & compounds used are of the highest practical purity & typically meet or exceed ACS Reagent Grade & ACS Standards Grade specifications. The expanded uncertainty field on Certified Wt. Report represents CRM uncertainty as described in ISO 17034.

Homogeneity: Uncertainties that are due to the analytical procedure(s) are within $\pm 5\%$ unless specifically stated on the Certified Wt. Report.

Verification: Uncertainties that are due to the analytical procedure(s) are within $\pm 5\%$ unless specifically stated on the Certified Wt. Report.

Stability: Uncertainties for short-term stability are determined in accordance with ISO 17034. Long-term stability is determined in accordance with ISO 17034. The shelf life is limited by the stated expiration for each product. Expiration dates and additional technical information can be found on the Certified Weight Report and on the product label.

Uncertainty: UCRM is the expanded uncertainty which utilizes a $K = 2$ (coverage factor of 2), in accordance with ISO 17034 as listed above (Characterization, Homogeneity, Verification, and Stability).

Purity & Identity: Organic solutions are typically formulated from neat materials whose purity & identity have been characterized by GC-MSD & LC-PDA techniques with comparison to a NIST Traceable library of mass spectra when available. Additional characterization techniques may include but are not limited to: refractive index measurements of liquids, melting point measurements of solids, & GC-FID, ECD, PID, ELCD, LC-PDA measurements for purity. Inorganic solutions & neats are typically formulated from materials whose purity & identity have been characterized by ICPMS with comparison to a NIST SRM® when available. Additional characterization techniques may include but are not limited to: titrimetry, and densitometry.

Storage: Sealed ampules and other containers should be stored in the dark and at temperatures indicated on the Certified Weight Report or product label. Certification by Absolute Standards, Inc. is typically valid for 3 years from the date of manufacture. Each product will show its own expiration date as the limit of certification. Certified values are not applicable to opened ampules or for any materials stored in re-sealable containers. Please see the "Certified Weight Report" for specific values and any exceptions.

Usage: Ampules & bottles should be brought to room temperature (18 to 30 °C) before opening. Sonication may be required for high concentration solutions or solutions that may precipitate during storage. After opening, care should be exercised to avoid concentration changes owing to evaporation of the solvent or essential components. We recommend that a suitable re-sealable container be available before opening an ampule to decant the standard for short-term storage and use.

Minimum Sample Size: 0.5 uL for analytical applications.

Legal Notice: Warranty of products are as described when shipped. No warranty as to fitness for any particular application is expressed or implied. Errant shipments and/or quality claims must be made within 10 days of receipt. Liability is limited solely to the replacement of the product or refund of purchase price.

Certifying Officer: Stephen J. Arpie, M.S., Director General

Page 1 of 2



Absolute Standards, Inc. • 44 Rossotto Drive • Hamden, CT 06514
Voice: 800-368-1131 • Fax: 800-410-2577 • eMail: StephenArpie@AbsoluteStandards.com
Document Identification: Certificate of Analysis Rev 14, Date Issued: 05/30/2019



ABSOLUTE STANDARDS, INC.

ISO - 17034

Understanding the Certified Weight Report

Each Certified Reference Material (CRM) is supported by a Certified Weight Report. Assigned values for concentrations and associated uncertainties are based upon NIST traceable masses & volumes used in production.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 17034 Accredited
Scope: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part # 10009R
Lot # 070716
Shelf Life Description: CLP Priority Pollutant Internal Standards
GC/MS Calibration - 6 components
070721
Expiration Date: Ambient (20 °C)
Recommended Storage: 4000
Nominal Concentration (µg/mL): 822-275872-11
NIST Test ID#: 5E-05 Balance Uncertainty
0.058 Mass Uncertainty

Solvent(s): Methylene chloride
Lot# 78782

Formulated By: Paul Barron
Reviewed By: Pedro L. Rentes

070716
070716

Weight(s) shown below were combined and diluted to (mL): 500.0

Compound	SMW	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (µg)	Actual Weight (µg)	Actual Conc (µg/mL)	Expanded Uncertainty (µg/mL)	CAS#	MSDS Information (Solvent Safety Info. On Attached pg.)	OSHA PEL (TWA)	LD50
1. 1,4-Dichlorobenzene-d4	118	PR-1845M07287CB1	4000	98	0.2	2.04093	2.04335	4004.7	15.4	2055-02-1	N/A	N/A	or-nr 500mg/kg
2. Naphthalene-d8	223	PR-2339M031612HP1	4000	99	0.2	2.02032	2.02084	4001.0	15.2	1146-85-2	10 ppm (50mg/m3/8h)	N/A	or-nr 400mg/kg
3. Acenaphthene-d10	2	PR-25444	4000	99	0.2	2.02032	2.02245	4004.2	15.2	15067-28-2	N/A	N/A	or-nr 500mg/kg
4. Phenanthrene-d10	248	PR-2305M081711PM1	4000	98	0.2	2.04093	2.04135	4000.8	15.4	1517-25-2	N/A	N/A	N/A
5. Chrysene-d12	92	I-19290	4000	98	0.2	2.04093	2.04150	4001.3	15.4	1719-03-5	N/A	N/A	N/A
6. Perylene-d12	247	PR-24113	4000	98	0.2	2.04093	2.04155	4001.2	15.4	1503-58-3	N/A	N/A	N/A

Run 35, "P10009R L070716 [4000µg/mL in MeCl2]"
Run Length: 40.00 min, 23900 points at 10 points/second.
Created: Sat, Jul 9, 2016 at 1:54:53 PM.
Sampled: Sequence "070716-GC/MS", Method "GC-MS".
Analyzed using Method "GC-MS".

Comments:
GC-MS Analysis by Melissa Siciric
Column ID SPB-5 30 meter x 0.53mm x 1.5um Film Thickness.
Flow rates: Total Flow = 300 mL/min, Helium (carrier) = 0.5 mL, Helium (make-up) = 25 mL.
Hydrogen (detector) = 30 mL, Air (detector) = 300 mL, Oven Temp 1 = 50°C (1 min).
Rise = 10°C/min, Oven Temp 2 = 300°C (14 min), Total Run Time = 40 Minutes, Injector Temp = 250°C.
FID Temp = 300°C, FID Signal = sData Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 µL, Range = 4

Peak No. Name FID RT (min)

1	1,4-Dichlorobenzene-d4	8.34
2	Naphthalene-d8	8.98
3	Acenaphthene-d10	12.97
4	Phenanthrene-d10	16.37
5	Chrysene-d12	22.62
6	Perylene-d12	25.75

Printed: 5/8/2019, 12:55:50 PM

Part # 10009R Lot # 041219 1 of 2

Formulator
Reviewer

Actual
Concentration
Uncertainty
Values

Health &
Safety

3rd Party
Comparison

For More Information, Contact:

StephenArpie@AbsoluteStandards.com

Page 2 of 2



CERTIFIED WEIGHT REPORT

Part Number: **72072**
Lot Number: **101122**
Description: **n-Tetracosane-d50**

Solvent(s):
Methylene chloride
Lot#
105345

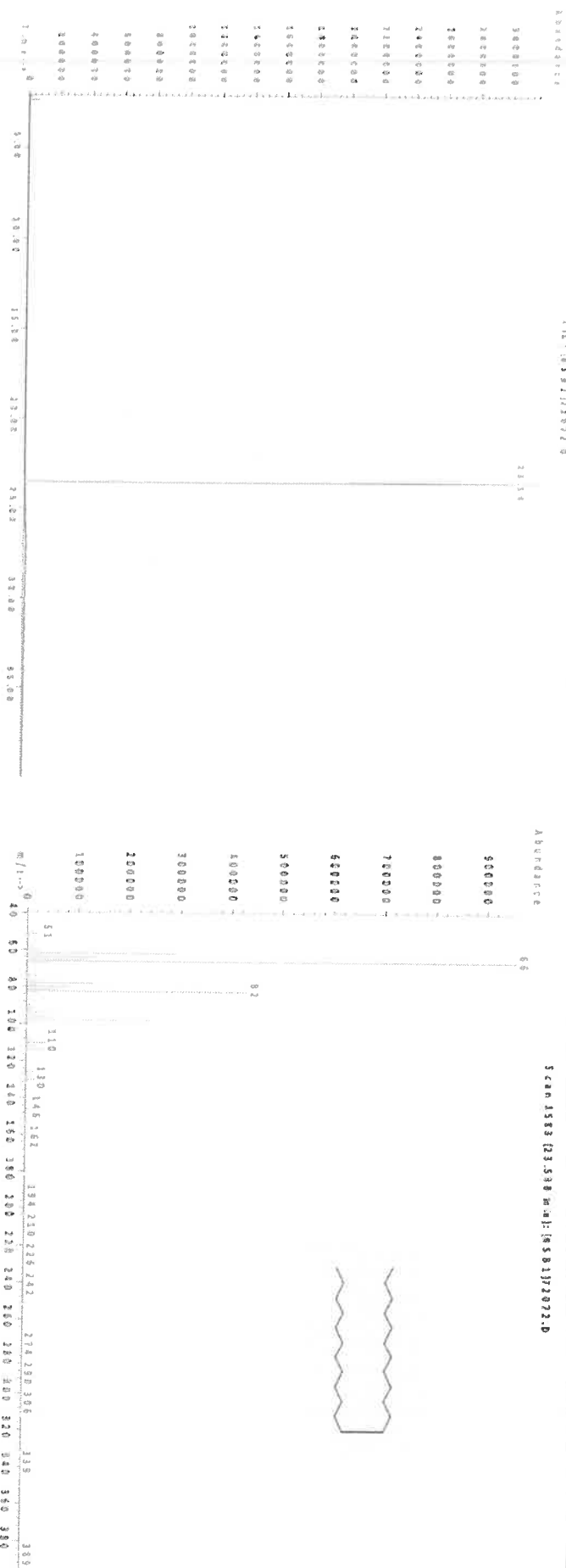
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

P13437
13436
07/24/24
X.F.

Formulated By:	<i>Prashant Chauhan</i>	101122
Reviewed By:	<i>Pedro L. Rentas</i>	101122
DATE		DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)	LD50
1. n-Tetracosane-d50	2072	PR-26606	1000	98.7	0.2	99.0	0.20471	0.20482	1000.6	4.1	16416-32-3	N/A

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B = 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Candice Warren.



- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N., and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1996).

ABSOLUTE STANDARDS, INC.

ISO - 17034



Certificate of Analysis



Certified Reference Material (CRM)

Conformance: The "Certificate of Analysis" is applicable for CRM's, fulfilling the requirements in the current version of: ISO 17034.

Health & Safety: See the attached SDS & Certified Weight Report before use.

Intended Use: This Certified Reference Material (CRM) is intended primarily for use in the characterization of unknowns and the establishment of analyzer or instrument response factors by qualified personnel. Typical instrumental organic assays include: GC & LC, and inorganic assays include: ICP & AA. This product is for laboratory use only.

Characterization Values: In production, gravimetric/volumetric readings are certified to be within $\pm 0.5\%$ of the stated value & are valid between 18 °C & 30 °C. The measured characterization of uncertainty can be found on the Certified Weight Report. All product weighings are performed on an analytical balance that is calibrated to NIST Traceable standard weights & certified by the manufacturer. The volumetric glassware used is Class "A" type & conforms to ASTM E-288 unless otherwise stated. The solvents & compounds used are of the highest practical purity & typically meet or exceed ACS Reagent Grade & ACS Standards Grade specifications. The expanded uncertainty field on Certified Wt. Report represents CRM uncertainty as described in ISO 17034.

Homogeneity: Uncertainties that are due to the analytical procedure(s) are within $\pm 5\%$ unless specifically stated on the Certified Wt. Report.

Verification: Uncertainties that are due to the analytical procedure(s) are within $\pm 5\%$ unless specifically stated on the Certified Wt. Report.

Stability: Uncertainties for short-term stability are determined in accordance with ISO 17034. Long-term stability is determined in accordance with ISO 17034. The shelf life is limited by the stated expiration for each product. Expiration dates and additional technical information can be found on the Certified Weight Report and on the product label.

Uncertainty: UCRM is the expanded uncertainty which utilizes a $K = 2$ (coverage factor of 2), in accordance with ISO 17034 as listed above (Characterization, Homogeneity, Verification, and Stability).

Purity & Identity: Organic solutions are typically formulated from neat materials whose purity & identity have been characterized by GC-MSD & LC-PDA techniques with comparison to a NIST Traceable library of mass spectra when available. Additional characterization techniques may include but are not limited to: refractive index measurements of liquids, melting point measurements of solids, & GC-FID, ECD, PID, ELCD, LC-PDA measurements for purity. Inorganic solutions & neats are typically formulated from materials whose purity & identity have been characterized by ICPMS with comparison to a NIST SRM® when available. Additional characterization techniques may include but are not limited to: titrimetry, and densitometry.

Storage: Sealed ampules and other containers should be stored in the dark and at temperatures indicated on the Certified Weight Report or product label. Certification by Absolute Standards, Inc. is typically valid for 3 years from the date of manufacture. Each product will show its own expiration date as the limit of certification. Certified values are not applicable to opened ampules or for any materials stored in re-sealable containers. Please see the "Certified Weight Report" for specific values and any exceptions.

Usage: Ampules & bottles should be brought to room temperature (18 to 30 °C) before opening. Sonication may be required for high concentration solutions or solutions that may precipitate during storage. After opening, care should be exercised to avoid concentration changes owing to evaporation of the solvent or essential components. We recommend that a suitable re-sealable container be available before opening an ampule to decant the standard for short-term storage and use.

Minimum Sample Size: 0.5 uL for analytical applications.

Legal Notice: Warranty of products are as described when shipped. No warranty as to fitness for any particular application is expressed or implied. Errant shipments and/or quality claims must be made within 10 days of receipt. Liability is limited solely to the replacement of the product or refund of purchase price.

Certifying Officer: Stephen J. Arpie, M.S., Director General

Page 1 of 2



Absolute Standards, Inc. • 44 Rossotto Drive • Hamden, CT 06514
Voice: 800-368-1131 • Fax: 800-410-2577 • eMail: StephenArpie@AbsoluteStandards.com
Document Identification: Certificate of Analysis Rev 14, Date Issued: 05/30/2019



ABSOLUTE STANDARDS, INC.

ISO - 17034



Understanding the Certified Weight Report



Each Certified Reference Material (CRM) is supported by a Certified Weight Report. Assigned values for concentrations and associated uncertainties are based upon NIST traceable masses & volumes used in production.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 17034 Accredited
Scope: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part # 10009R
Lot # 070716
Shelf Life Description: CLP Priority Pollutant Internal Standards
GC/MS Calibration - 6 components
070721
Expiration Date: Ambient (20 °C)
Recommended Storage: 4000
Nominal Concentration (µg/mL): 822-275872-11
NIST Test ID#: 5E-05 Balance Uncertainty
0.058 Mass Uncertainty

Solvent(s): Methylene chloride
Lot# 78782

Formulated By: Paul Barron
Reviewed By: Pedro L. Rentes

070716
070716

Weight(s) shown below were combined and diluted to (mL): 500.0

Compound	SMW	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (µg)	Actual Weight (µg)	Actual Conc (µg/mL)	Expanded Uncertainty (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.)	CAS#	OSHA PEL (TWA)	LD50
1. 1,4-Dichlorobenzene-d4	118	PR-1845M07287CB1	4000	98	0.2	2.04093	2.04335	4004.7	15.4	2055-02-1	N/A	N/A	or-rat 500mg/kg
2. Naphthalene-d8	223	PR-2339M031612HP1	4000	99	0.2	2.02032	2.02084	4001.0	15.2	1146-85-2	10 ppm (50mg/m3/8h)	N/A	or-rat 400mg/kg
3. Acenaphthene-d10	2	PR-25444	4000	99	0.2	2.02032	2.02245	4004.2	15.2	15067-28-2	N/A	N/A	or-rat 500mg/kg
4. Phenanthrene-d10	248	PR-2305M081711PM1	4000	98	0.2	2.04093	2.04136	4000.8	15.4	1517-25-2	N/A	N/A	N/A
5. Chrysene-d12	92	I-19290	4000	98	0.2	2.04093	2.04159	4001.3	15.4	1719-03-5	N/A	N/A	N/A
6. Perylene-d12	247	PR-24113	4000	98	0.2	2.04093	2.04156	4001.2	15.4	1503-58-3	N/A	N/A	N/A

Run 35, "P10009R L070716 [4000µg/mL in MeCl2]"
Run Length: 40.00 min, 23900 points at 10 points/second.
Created: Sat, Jul 9, 2016 at 1:54:53 PM.
Sampled: Sequence "070716-GC/MS2", Method "GC-MS2".
Analyzed using Method "GC-MS2".

Comments:
GC-MS2 Analysis by Melissa Siciric
Column ID SPB-5 30 meter x 0.53mm x 1.5um Film Thickness.
Flow rates: Total Flow = 300 mL/min, Helium (carrier) = 0.5 mL, Helium (make-up) = 25 mL.
Hydrogen (detector) = 30 mL, Air (detector) = 300 mL, Oven Temp 1 = 50°C (1 min).
Rise = 10°C/min, Oven Temp 2 = 300°C (14 min), Total Run Time = 40 Minutes, Injector Temp = 250°C.
FID Temp = 300°C, FID Signal = sData Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 µL, Range = 4

Peak No. Name FID RT (min)

1	1,4-Dichlorobenzene-d4	6.34
2	Naphthalene-d8	8.98
3	Acenaphthene-d10	12.97
4	Phenanthrene-d10	16.37
5	Chrysene-d12	22.62
6	Perylene-d12	25.75

Printed: 5/8/2019, 12:55:50 PM

Formulator
Reviewer

Actual
Concentration
Uncertainty
Values

Health &
Safety

3rd Party
Comparison

For More Information, Contact:

StephenArpie@AbsoluteStandards.com

Page 2 of 2



CERTIFIED WEIGHT REPORT

Part Number: **72072**
Lot Number: **101122**
Description: **n-Tetracosane-d50**

Solvent(s):
Methylene chloride
Lot#
105345

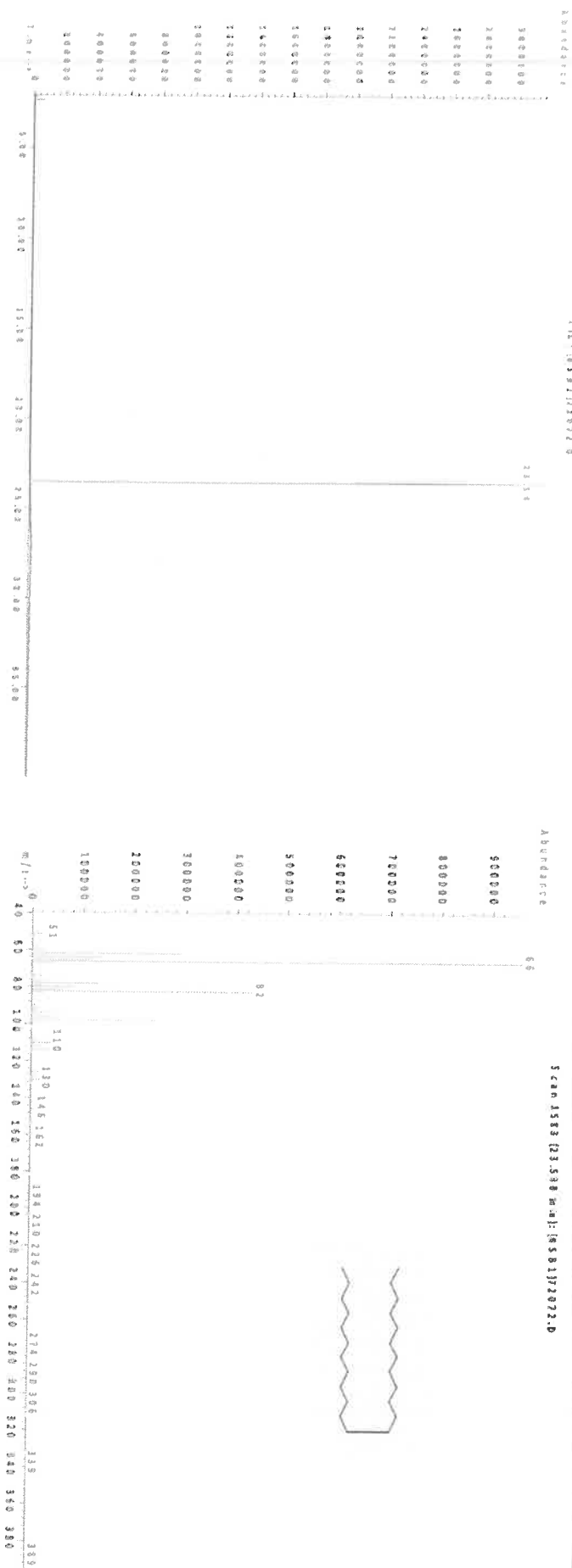
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

P13437
13436
07/24/24
X.F.

Formulated By:	<i>Prashant Chauhan</i>	101122
Reviewed By:	<i>Pedro L. Rentas</i>	101122
	Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%D)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)	LD50
1. n-Tetracosane-d50	2072	PR-26606	1000	98.7	0.2	99.0	0.20471	0.20482	1000.6	4.1	16416-32-3	N/A

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B = 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Candice Warren.



- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N., and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

ABSOLUTE STANDARDS, INC.

ISO - 17034



Certificate of Analysis



Certified Reference Material (CRM)

Conformance: The "Certificate of Analysis" is applicable for CRM's, fulfilling the requirements in the current version of: ISO 17034.

Health & Safety: See the attached SDS & Certified Weight Report before use.

Intended Use: This Certified Reference Material (CRM) is intended primarily for use in the characterization of unknowns and the establishment of analyzer or instrument response factors by qualified personnel. Typical instrumental organic assays include: GC & LC, and inorganic assays include: ICP & AA. This product is for laboratory use only.

Characterization Values: In production, gravimetric/volumetric readings are certified to be within $\pm 0.5\%$ of the stated value & are valid between 18 °C & 30 °C. The measured characterization of uncertainty can be found on the Certified Weight Report. All product weighings are performed on an analytical balance that is calibrated to NIST Traceable standard weights & certified by the manufacturer. The volumetric glassware used is Class "A" type & conforms to ASTM E-288 unless otherwise stated. The solvents & compounds used are of the highest practical purity & typically meet or exceed ACS Reagent Grade & ACS Standards Grade specifications. The expanded uncertainty field on Certified Wt. Report represents CRM uncertainty as described in ISO 17034.

Homogeneity: Uncertainties that are due to the analytical procedure(s) are within $\pm 5\%$ unless specifically stated on the Certified Wt. Report.

Verification: Uncertainties that are due to the analytical procedure(s) are within $\pm 5\%$ unless specifically stated on the Certified Wt. Report.

Stability: Uncertainties for short-term stability are determined in accordance with ISO 17034. Long-term stability is determined in accordance with ISO 17034. The shelf life is limited by the stated expiration for each product. Expiration dates and additional technical information can be found on the Certified Weight Report and on the product label.

Uncertainty: UCRM is the expanded uncertainty which utilizes a $K = 2$ (coverage factor of 2), in accordance with ISO 17034 as listed above (Characterization, Homogeneity, Verification, and Stability).

Purity & Identity: Organic solutions are typically formulated from neat materials whose purity & identity have been characterized by GC-MSD & LC-PDA techniques with comparison to a NIST Traceable library of mass spectra when available. Additional characterization techniques may include but are not limited to: refractive index measurements of liquids, melting point measurements of solids, & GC-FID, ECD, PID, ELCD, LC-PDA measurements for purity. Inorganic solutions & neats are typically formulated from materials whose purity & identity have been characterized by ICPMS with comparison to a NIST SRM® when available. Additional characterization techniques may include but are not limited to: titrimetry, and densitometry.

Storage: Sealed ampules and other containers should be stored in the dark and at temperatures indicated on the Certified Weight Report or product label. Certification by Absolute Standards, Inc. is typically valid for 3 years from the date of manufacture. Each product will show its own expiration date as the limit of certification. Certified values are not applicable to opened ampules or for any materials stored in re-sealable containers. Please see the "Certified Weight Report" for specific values and any exceptions.

Usage: Ampules & bottles should be brought to room temperature (18 to 30 °C) before opening. Sonication may be required for high concentration solutions or solutions that may precipitate during storage. After opening, care should be exercised to avoid concentration changes owing to evaporation of the solvent or essential components. We recommend that a suitable re-sealable container be available before opening an ampule to decant the standard for short-term storage and use.

Minimum Sample Size: 0.5 uL for analytical applications.

Legal Notice: Warranty of products are as described when shipped. No warranty as to fitness for any particular application is expressed or implied. Errant shipments and/or quality claims must be made within 10 days of receipt. Liability is limited solely to the replacement of the product or refund of purchase price.

Certifying Officer: Stephen J. Arpie, M.S., Director General

Page 1 of 2



Absolute Standards, Inc. • 44 Rossotto Drive • Hamden, CT 06514
Voice: 800-368-1131 • Fax: 800-410-2577 • eMail: StephenArpie@AbsoluteStandards.com
Document Identification: Certificate of Analysis Rev 14, Date Issued: 05/30/2019



ABSOLUTE STANDARDS, INC.

ISO - 17034

Understanding the Certified Weight Report

Each Certified Reference Material (CRM) is supported by a Certified Weight Report. Assigned values for concentrations and associated uncertainties are based upon NIST traceable masses & volumes used in production.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 17034 Accredited
Scope: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part # 10009R
Lot # 070716
Shelf Life Description: CLP Priority Pollutant Internal Standards
GC/MS Calibration - 6 components
070721
Expiration Date: Ambient (20 °C)
Recommended Storage: 4000
Nominal Concentration (µg/mL): 822-275872-11
NIST Test ID#: 5E-05 Balance Uncertainty
0.058 Mass Uncertainty

Solvent(s): Methylene chloride
Lot# 78782

Formulated By: Paul Barron
Reviewed By: Pedro L. Rentes

070716
070716

Weight(s) shown below were combined and diluted to (mL): 500.0

Compound	SMW	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (µg)	Actual Weight (µg)	Actual Conc (µg/mL)	Expanded Uncertainty (µg/mL)	CAS#	MSDS Information (Solvent Safety Info. On Attached pg.)	OSHA PEL (TWA)	LD50
1. 1,4-Dichlorobenzene-d4	118	PR-1845M07287CB1	4000	98	0.2	2.04093	2.04335	4004.7	15.4	2055-02-1	N/A	en-ra 500mg/kg	
2. Naphthalene-d8	223	PR-2339M031612HP1	4000	99	0.2	2.02032	2.02084	4001.0	15.2	1146-85-2	10 ppm (50mg/m3/8h)	en-ra 400mg/kg	
3. Acenaphthene-d10	2	PR-25444	4000	99	0.2	2.02032	2.02245	4004.2	15.2	15067-28-2	N/A	en-ra 500mg/kg	
4. Phenanthrene-d10	248	PR-2305M081711PM1	4000	98	0.2	2.04093	2.04135	4000.8	15.4	1517-25-2	N/A	N/A	
5. Chrysene-d12	92	I-19290	4000	98	0.2	2.04093	2.04150	4001.3	15.4	1719-03-5	N/A	N/A	
6. Perylene-d12	247	PR-24113	4000	98	0.2	2.04093	2.04155	4001.2	15.4	1503-58-3	N/A	N/A	

Run 35, "P10009R L070716 [4000µg/mL in MeCl2]"
Run Length: 40.00 min, 23900 points at 10 points/second.
Created: Sat, Jul 9, 2016 at 1:54:53 PM.
Sampled: Sequence "070716-GC/MS", Method "GC-MS".
Analyzed using Method "GC-MS".

Comments:
GC-MS Analysis by Melissa Siciric
Column ID SPB-5 30 meter x 0.53mm x 1.5um Film Thickness.
Flow rates: Total Flow = 300 mL/min, Helium (carrier) = 0.5 mL, Helium (make-up) = 25 mL.
Hydrogen (detector) = 30 mL, Air (detector) = 300 mL, Oven Temp 1 = 50°C (1 min).
Rise = 10°C/min, Oven Temp 2 = 300°C (14 min). Total Run Time = 40 Minutes. Injector Temp = 250°C.
FID Temp = 300°C, FID Signal = sData Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 µL, Range = 4

Peak No. Name FID RT (min)

1	1,4-Dichlorobenzene-d4	8.34
2	Naphthalene-d8	8.98
3	Acenaphthene-d10	12.97
4	Phenanthrene-d10	16.37
5	Chrysene-d12	22.62
6	Perylene-d12	25.75

Printed: 5/8/2019, 12:55:50 PM

Formulator
Reviewer

Actual
Concentration

Uncertainty
Values

Health &
Safety

3rd Party
Comparison

For More Information, Contact:

StephenArpie@AbsoluteStandards.com

Page 2 of 2



CERTIFIED WEIGHT REPORT

Part Number: **72072**
Lot Number: **101122**
Description: **n-Tetracosane-d50**

Solvent(s):
Methylene chloride
Lot#
105345

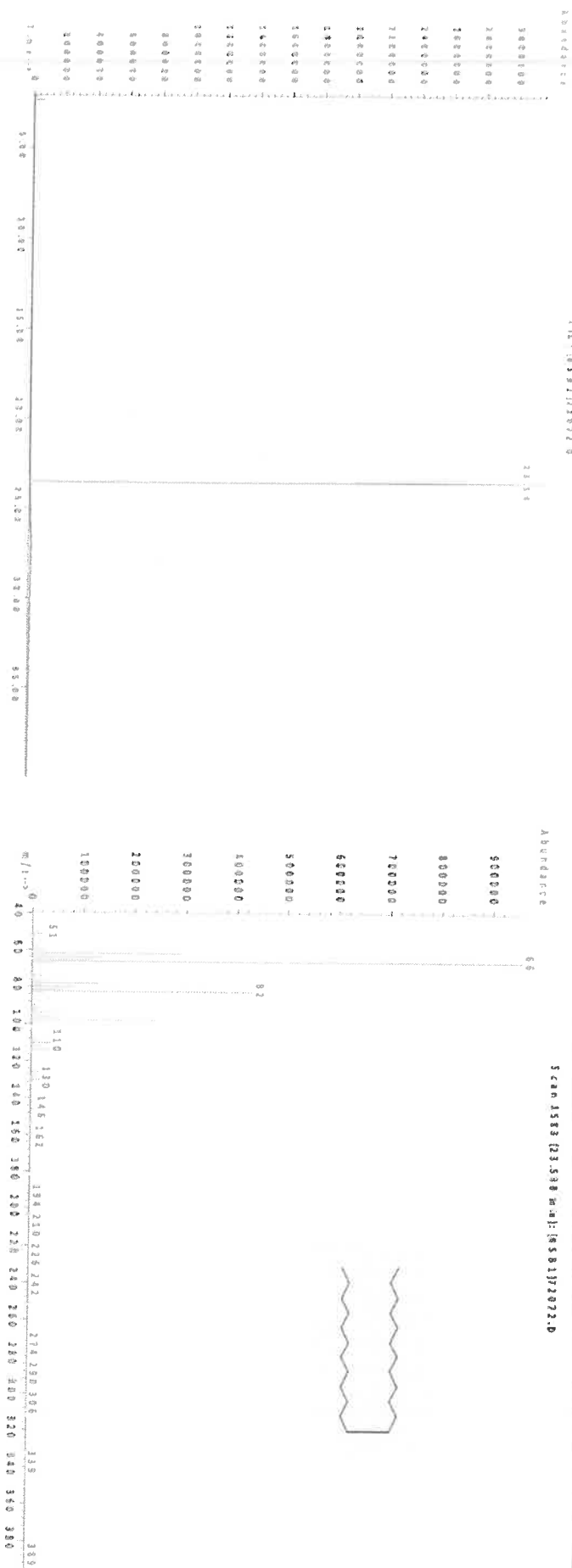
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

P13437
13496
07/24/24
X.F.

Formulated By:	<i>Prashant Chauhan</i>	101122
Reviewed By:	<i>Pedro L. Rentas</i>	101122
	Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%D)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)	LD50
1. n-Tetracosane-d50	2072	PR-26606	1000	98.7	0.2	99.0	0.20471	0.20482	1000.6	4.1	16416-32-3	N/A

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B = 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Candice Warren.



- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N., and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

ABSOLUTE STANDARDS, INC.

ISO - 17034



Certificate of Analysis



Certified Reference Material (CRM)

Conformance: The "Certificate of Analysis" is applicable for CRM's, fulfilling the requirements in the current version of: ISO 17034.

Health & Safety: See the attached SDS & Certified Weight Report before use.

Intended Use: This Certified Reference Material (CRM) is intended primarily for use in the characterization of unknowns and the establishment of analyzer or instrument response factors by qualified personnel. Typical instrumental organic assays include: GC & LC, and inorganic assays include: ICP & AA. This product is for laboratory use only.

Characterization Values: In production, gravimetric/volumetric readings are certified to be within $\pm 0.5\%$ of the stated value & are valid between 18 °C & 30 °C. The measured characterization of uncertainty can be found on the Certified Weight Report. All product weighings are performed on an analytical balance that is calibrated to NIST Traceable standard weights & certified by the manufacturer. The volumetric glassware used is Class "A" type & conforms to ASTM E-288 unless otherwise stated. The solvents & compounds used are of the highest practical purity & typically meet or exceed ACS Reagent Grade & ACS Standards Grade specifications. The expanded uncertainty field on Certified Wt. Report represents CRM uncertainty as described in ISO 17034.

Homogeneity: Uncertainties that are due to the analytical procedure(s) are within $\pm 5\%$ unless specifically stated on the Certified Wt. Report.

Verification: Uncertainties that are due to the analytical procedure(s) are within $\pm 5\%$ unless specifically stated on the Certified Wt. Report.

Stability: Uncertainties for short-term stability are determined in accordance with ISO 17034. Long-term stability is determined in accordance with ISO 17034. The shelf life is limited by the stated expiration for each product. Expiration dates and additional technical information can be found on the Certified Weight Report and on the product label.

Uncertainty: UCRM is the expanded uncertainty which utilizes a $K = 2$ (coverage factor of 2), in accordance with ISO 17034 as listed above (Characterization, Homogeneity, Verification, and Stability).

Purity & Identity: Organic solutions are typically formulated from neat materials whose purity & identity have been characterized by GC-MSD & LC-PDA techniques with comparison to a NIST Traceable library of mass spectra when available. Additional characterization techniques may include but are not limited to: refractive index measurements of liquids, melting point measurements of solids, & GC-FID, ECD, PID, ELCD, LC-PDA measurements for purity. Inorganic solutions & neats are typically formulated from materials whose purity & identity have been characterized by ICPMS with comparison to a NIST SRM® when available. Additional characterization techniques may include but are not limited to: titrimetry, and densitometry.

Storage: Sealed ampules and other containers should be stored in the dark and at temperatures indicated on the Certified Weight Report or product label. Certification by Absolute Standards, Inc. is typically valid for 3 years from the date of manufacture. Each product will show its own expiration date as the limit of certification. Certified values are not applicable to opened ampules or for any materials stored in re-sealable containers. Please see the "Certified Weight Report" for specific values and any exceptions.

Usage: Ampules & bottles should be brought to room temperature (18 to 30 °C) before opening. Sonication may be required for high concentration solutions or solutions that may precipitate during storage. After opening, care should be exercised to avoid concentration changes owing to evaporation of the solvent or essential components. We recommend that a suitable re-sealable container be available before opening an ampule to decant the standard for short-term storage and use.

Minimum Sample Size: 0.5 uL for analytical applications.

Legal Notice: Warranty of products are as described when shipped. No warranty as to fitness for any particular application is expressed or implied. Errant shipments and/or quality claims must be made within 10 days of receipt. Liability is limited solely to the replacement of the product or refund of purchase price.

Certifying Officer: Stephen J. Arpie, M.S., Director General

Page 1 of 2



Absolute Standards, Inc. • 44 Rossotto Drive • Hamden, CT 06514
Voice: 800-368-1131 • Fax: 800-410-2577 • eMail: StephenArpie@AbsoluteStandards.com
Document Identification: Certificate of Analysis Rev 14, Date Issued: 05/30/2019



ABSOLUTE STANDARDS, INC.

ISO - 17034

Understanding the Certified Weight Report

Each Certified Reference Material (CRM) is supported by a Certified Weight Report. Assigned values for concentrations and associated uncertainties are based upon NIST traceable masses & volumes used in production.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 17034 Accredited
Scope: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part # 10009R
Lot # 070716
Shelf Life Description: CLP Priority Pollutant Internal Standards
GC/MS Calibration - 6 components
070721
Expiration Date: Ambient (20 °C)
Recommended Storage: 4000
Nominal Concentration (µg/mL): 822-275872-11
NIST Test ID#: 5E-05 Balance Uncertainty
0.058 Mass Uncertainty

Solvent(s): Methylene chloride
Lot# 78782

Formulated By: Paul Barron
Reviewed By: Pedro L. Rentes

070716
070716

Weight(s) shown below were combined and diluted to (mL): 500.0

Compound	SMW	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (µg)	Actual Weight (µg)	Actual Conc (µg/mL)	Expanded Uncertainty (µg/mL)	CAS#	MSDS Information (Solvent Safety Info. On Attached pg.)	OSHA PEL (TWA)	LD50
1. 1,4-Dichlorobenzene-d4	118	PR-1845M07287CB1	4000	98	0.2	2.04093	2.04335	4004.7	15.4	2055-02-1	N/A	N/A	or-rat 500mg/kg
2. Naphthalene-d8	223	PR-2339M031612HP1	4000	99	0.2	2.02032	2.02084	4001.0	15.2	1146-85-2	10 ppm (50mg/m3/8h)	N/A	or-rat 400mg/kg
3. Acenaphthene-d10	2	PR-25444	4000	99	0.2	2.02032	2.02245	4004.2	15.2	15067-28-2	N/A	N/A	or-rat 500mg/kg
4. Phenanthrene-d10	248	PR-2305M081711PM1	4000	98	0.2	2.04093	2.04135	4000.8	15.4	1517-25-2	N/A	N/A	N/A
5. Chrysene-d12	92	I-19290	4000	98	0.2	2.04093	2.04150	4001.3	15.4	1719-03-5	N/A	N/A	N/A
6. Perylene-d12	247	PR-24113	4000	98	0.2	2.04093	2.04155	4001.2	15.4	1503-58-3	N/A	N/A	N/A

Run 35, "P10009R L070716 [4000µg/mL in MeCl2]"
Run Length: 40.00 min, 23900 points at 10 points/second.
Created: Sat, Jul 9, 2016 at 1:54:53 PM.
Sampled: Sequence "070716-GC/MS", Method "GC-MS".
Analyzed using Method "GC-MS".

Comments:
GC-MS Analysis by Melissa Siciric
Column ID SPB-5 30 meter x 0.53mm x 1.5um Film Thickness.
Flow rates: Total Flow = 300 mL/min, Helium (carrier) = 0.5 mL, Helium (make-up) = 25 mL.
Hydrogen (detector) = 30 mL, Air (detector) = 300 mL, Oven Temp 1 = 50°C (1 min).
Rise = 10°C/min, Oven Temp 2 = 300°C (14 min), Total Run Time = 40 Minutes, Injector Temp = 250°C.
FID Temp = 300°C, FID Signal = sData Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 µL, Range = 4

Peak No. Name FID RT (min)

1	1,4-Dichlorobenzene-d4	8.34
2	Naphthalene-d8	8.98
3	Acenaphthene-d10	12.97
4	Phenanthrene-d10	16.37
5	Chrysene-d12	22.62
6	Perylene-d12	25.75

Printed: 5/8/2019, 12:55:50 PM

Part # 10009R Lot # 041219 1 of 2

Formulator
Reviewer

Actual
Concentration

Uncertainty
Values

Health &
Safety

3rd Party
Comparison

For More Information, Contact:

StephenArpie@AbsoluteStandards.com

Page 2 of 2



CERTIFIED WEIGHT REPORT

Part Number: **72072**
Lot Number: **101122**
Description: **n-Tetracosane-d50**

Solvent(s):
Methylene chloride
Lot#
105345

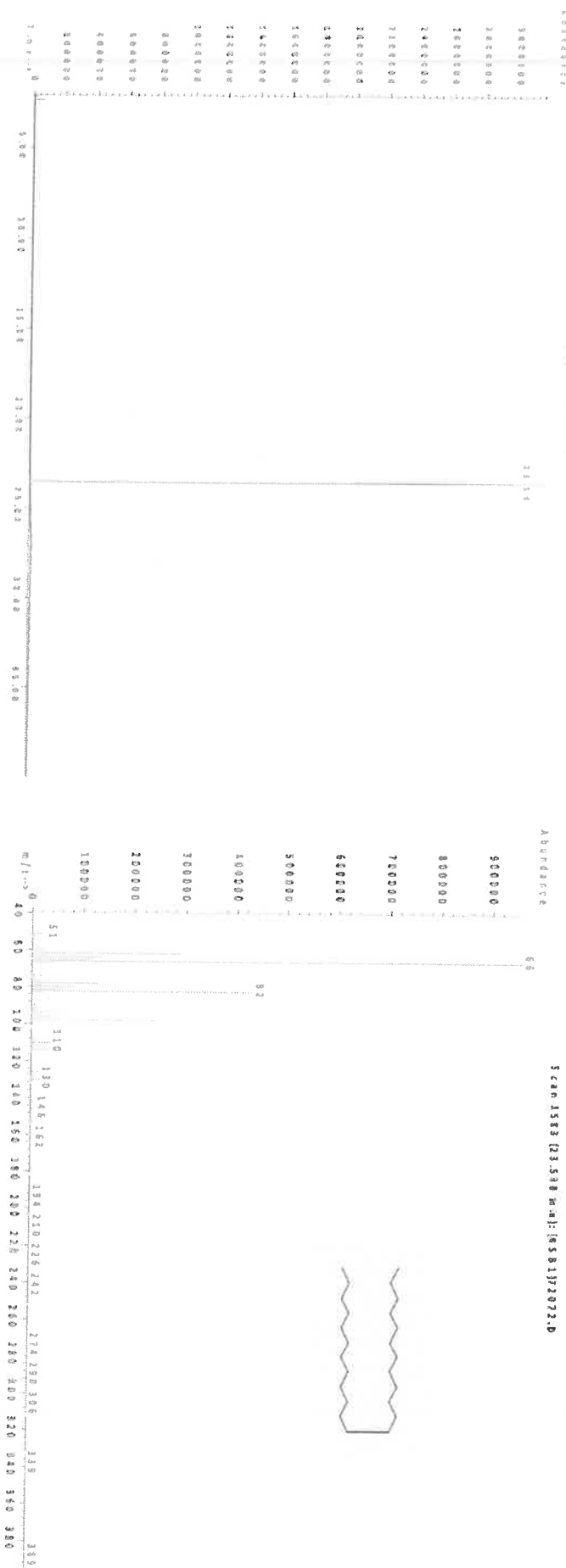
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

P13437
13496
07/24/24
X.F.

Formulated By:	<i>Prashant Chauhan</i>	101122
Reviewed By:	<i>Pedro L. Rentas</i>	101122
DATE		DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)	LD50
1. n-Tetracosane-d50	2072	PR-26606	1000	98.7	0.2	99.0	0.20471	0.20482	1000.6	4.1	16416-32-3	N/A

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B = 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Candice Warren.



- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N., and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



SHIPPING DOCUMENTS

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Tully Construction Co. Inc

ADDRESS: Rockway Freeway & Beach Channel

CITY: Queens STATE: NY ZIP: 11616

ATTENTION: Dean Devoe

PHONE:

FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME:

PROJECT NO.: LOCATION:

PROJECT MANAGER:

e-mail:

PHONE:

FAX:

BILL TO:

PO#:

ADDRESS:

CITY

STATE:

ZIP:

ATTENTION:

PHONE:

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*

HARDCOPY (DATA PACKAGE): _____ DAYS*

EDD: _____ DAYS*

*TO BE APPROVED BY CHEMTECH

STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)

☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP

☐ Level 3 (Results + QC) ☐ NYS ASP A ☐ NYS ASP B

+ Raw Data ☐ Other _____

☐ EDD FORMAT _____

1. Vol's 2. SWA 3. PCB 4. TSP Extraction 5. Corrosivity 6. Ignitability 7. Reactivity Cyn 8. Reactive Sulfate 9. Mercury Metals TPH

PRESERVATIVES

COMMENTS

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES									COMMENTS	
			COMP	GRAB	DATE	TIME		E/F	E	E	E	E	E	E	E	E		
1.	B-9	SOL	X		040225	0810	8		X	X	X	X	X	X	X	X		
2.	B-9			X		0815	4	X									0.0 ppm	
3.	B-9-TPH-2		X			0817	1									X		
4.	B-9-TPH-3		X			0819	1									X		
5.	B-9-TPH-4		X			0822	1									X		
6.	B-10		X			0835	8		X	X	X	X	X	X	X	X		
7.	B-10			X		0839	4	X									0.0 ppm	
8.	B-10-TPH-2		X			0842	1									X		
9.	B-10-TPH-3		X			0845	1									X		
10.	B-10-TPH-4		X			0848	1									X		

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME: 0930	RECEIVED BY:	Conditions of bottles or coolers at receipt: ☒ COMPLIANT ☐ NON COMPLIANT ☒ COOLER TEMP 2.2 °C
1. <u>JM</u>	04-02-25	1. <u>[Signature]</u>	Comments: Collected (2) 8:1 Composite sample + (4) 5:1 Composite samples for sampling protocol TPH.
RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:	
2. <u>[Signature]</u>		2. <u>[Signature]</u>	
RELINQUISHED BY SAMPLER:	DATE/TIME: 1200	RECEIVED BY:	PIO Calibration 04-02-25
3. <u>JM</u>	04-02-25	3. <u>[Signature]</u>	Client: ☐ Hand Delivered ☐ Other
			Shipment Complete ☒ YES ☐ NO

04-02-25



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

 Boring Location

 Approximate Property Boundary

0 95 190 380 570
Feet

MATRIXNEWORLD
Engineering Progress

Matrix New World Engineering, Land Surveying
and Landscape Architecture, P.C.

333 West 39th Street, Suite 202

New York, New York 10018

WBE / DBE / SBE

Tel: 973-240-1800

Fax: 973-240-1818

www.matrixnewworld.com

STATE OF NEW YORK CERTIFICATE OF AUTHORIZATION No. 17-082661

AS DRILLED BORING LOCATION MAP

SUBSTATION 117
ROCKAWAY FREEWAY & BEACH CHANNEL DRIVE
BLOCK 16186, LOT 100
ROCKAWAY PARK, QUEENS, NEW YORK

JUNE 2019

FIGURE 4



Environmental Laboratory

www.chemtech.net | EMAIL: PM@chemtech.net

Project Name: _____ Chemtech Order ID: _____
Service Order #: _____ Sampler Name: Jeremy M
Work Order #: _____ Client Project Coordinator & Phone: Dean Devoe
Labor WBS #: _____ Page #: 1 of 1
Facility/Site: Substation 117 Date: 04-02-25
Site Address: Lockway freeway & Arrive Time: 0800
Beach Channel Dr, Queens NY Depart Time: 0930

Waste Stream (circle one): drum / roll-off / soil pile / in-situ / linear construction / frac-tank

Sample Matrices (circle all that apply): Water / Solid / NAPL / Concrete / Wipe

Collection Depths: N/A Dimensions/CY: N/A

Temp (range): 2-2 °C PID Readings (range): 0.0 PPM Odor: Y ☒ Color: Y ☒ N

Sample Description: Dark Brown Soil, Sand, Gravel.

Field Observations: (2) location (B-9 & B10)

Grid/Area Composite Map:

QA Control # A3041134

See

Attached

MAP *

Sampler Signature: pm

Supervisor Review/Date: _____

Client Signature: _____

Date/Time Arrived at Lab: _____

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q1698	TULL02	Order Date : 4/2/2025 12:14:00 PM	Project Mgr :
Client Name : Tully Construction Co., Inc.		Project Name : MTA Rockaway Park	Report Type : Level 1
Client Contact : Dean Devoe		Receive DateTime : 4/2/2025 12:00:00 PM	EDD Type : Excel NY 375
Invoice Name : Tully Construction Co., Inc.		Purchase Order :	Hard Copy Date :
Invoice Contact : Dean Devoe			Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q1698-03	B-9	Solid	04/02/2025	08:15					
					VOC-TCLVOA-10		8260D	5 Bus. Days	
Q1698-09	B-10	Solid	04/02/2025	08:39					
					VOC-TCLVOA-10		8260D	5 Bus. Days	

Relinquished By :

21

Date / Time :

04-02-25 1330

Received By :

Date / Time :

pl
04.02.25 13:30

Storage Area : VOA Refridgerator Room