

Cover Page

Order ID : Q2100

Project ID : South River WM Replacement

Client : CDM Smith

Lab Sample Number

Q2100-01
Q2100-02
Q2100-03
Q2100-04

Client Sample Number

TP-16
TP-22
TP-21
TP-45

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: 5/28/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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 #: Q2100

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: PRADIP PRAJAPATI

Date: 05/28/2025

LAB CHRONICLE

OrderID:	Q2100	OrderDate:	5/20/2025 3:22:00 PM
Client:	CDM Smith	Project:	South River WM Replacement
Contact:	Marcie Ann Encinas	Location:	L41,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2100-01	TP-16	SOIL			05/19/25			05/20/25
			Diesel Range Organics	8015D		05/23/25	05/23/25	
			Gasoline Range Organics	8015D			05/21/25	
			Pesticide-TCL	8081B		05/22/25	05/22/25	
			PCB	8082A		05/22/25	05/22/25	
Q2100-02	TP-22	SOIL			05/19/25			05/20/25
			Diesel Range Organics	8015D		05/23/25	05/23/25	
			Gasoline Range Organics	8015D			05/21/25	
			Pesticide-TCL	8081B		05/22/25	05/22/25	
			PCB	8082A		05/22/25	05/22/25	
Q2100-03	TP-21	SOIL			05/20/25			05/20/25
			Diesel Range Organics	8015D		05/23/25	05/23/25	
			Gasoline Range Organics	8015D			05/21/25	
			PCB	8082A		05/22/25	05/22/25	
			Pesticide-TCL	8081B		05/22/25	05/22/25	
Q2100-04	TP-45	SOIL			05/20/25			05/20/25
			Diesel Range Organics	8015D		05/23/25	05/23/25	
			Gasoline Range Organics	8015D			05/21/25	
			PCB	8082A		05/22/25	05/22/25	
			Pesticide-TCL	8081B		05/22/25	05/22/25	



QC SUMMARY

SOIL DIESEL RANGE ORGANICS SURROGATE RECOVERY

Lab Name: Chemtech Client: CDM Smith
Lab Code: CHEM Case No.: Q2100 SAS No.: Q2100 SDG No.: Q2100

EPA SAMPLE NO.	S1 TETRACOSANE-d50	S2	S3	S4	TOT OUT
PIBLK-FG015894.D	90				0
PIBLK-FG015906.D	92				0
PB168150BL	83				0
PB168150BS	100				0
TP-16	54				0
TP-22	56				0
TP-21	66				0
TP-45	73				0
TP-45MS	64				0
TP-45MSD	63				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 DIESEL RANGE ORGANICS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** CDM Smith
Lab Code: CHEM **Cas No:** Q2100 **SAS No :** Q2100 **SDG No:** Q2100
Client SampleID : TP-45MS **Datafile:** FG015903.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
DRO	8734	1950	12197	117%		68-131

SOIL DIESEL RANGE ORGANICS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** CDM Smith
Lab Code: CHEM **Cas No:** Q2100 **SAS No :** Q2100 **SDG No:** Q2100
Client SampleID : TP-45MSD **Datafile:** FG015904.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
DRO	8726	1950	12085	116%		68-131

MS/MSD % Recovery RPD : 1

SOIL DIESEL RANGE ORGANICS LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RI

Lab Name: Chemtech **Client:** CDM Smith
Lab Code: CHEM **Cas No:** Q2100 **SAS No :** Q2100 **SDG No:** Q2100
Matrix Spike - EPA Sample No : PB168150BS **Datafile:** FG015898.D

COMPOUND	SPIKE ADDED ug/kg	CONCENTRATION ug/kg	LCS/LCSD CONCENTRATION ug/kg	% REC	QC LIMITS
DRO	6660	0	6508	98	68-131

4B
METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB168150BL

Lab Name: CHEMTECH

Contract: CAMP02

Lab Code: CHEM Case No.: Q2100

SAS No.: Q2100 SDG NO.: Q2100

Lab File ID: FG015897.D

Lab Sample ID: PB168150BL

Instrument ID: FG

Date Extracted: 05/23/2025

Matrix: (soil/water) Soil

Date Analyzed: 05/23/25

Level: (low/med) low

Time Analyzed: 13:58

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB168150BS	PB168150BS	FG015898.D	05/23/25
TP-16	Q2100-01	FG015899.D	05/23/25
TP-22	Q2100-02	FG015900.D	05/23/25
TP-21	Q2100-03	FG015901.D	05/23/25
TP-45	Q2100-04	FG015902.D	05/23/25
TP-45MS	Q2100-04MS	FG015903.D	05/23/25
TP-45MSD	Q2100-04MSD	FG015904.D	05/23/25

COMMENTS: _____



SAMPLE DATA

Report of Analysis

Client:	CDM Smith	Date Collected:	05/19/25
Project:	South River WM Replacement	Date Received:	05/20/25
Client Sample ID:	TP-16	SDG No.:	Q2100
Lab Sample ID:	Q2100-01	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	88.4
Sample Wt/Vol:	30.05	Units:	g
Soil Aliquot Vol:			uL
Extraction Type:		Final Vol:	1
GPC Factor :		PH :	
Prep Method :	SW3541	Decanted:	
		Test:	Diesel Range Organics
		Injection Volume :	

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015899.D	1	05/23/25 10:10	05/23/25 14:56	PB168150

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	1410	J	191	1880	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	10.8		37 - 130	54%	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\FG052325\
Data File : FG015899.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 14:56
Operator : YP\AJ
Sample : Q2100-01
Misc :
ALS Vial : 23 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
TP-16

Integration File: autoint1.e
Quant Time: May 23 23:06:50 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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...	14.981	1318931	10.761 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

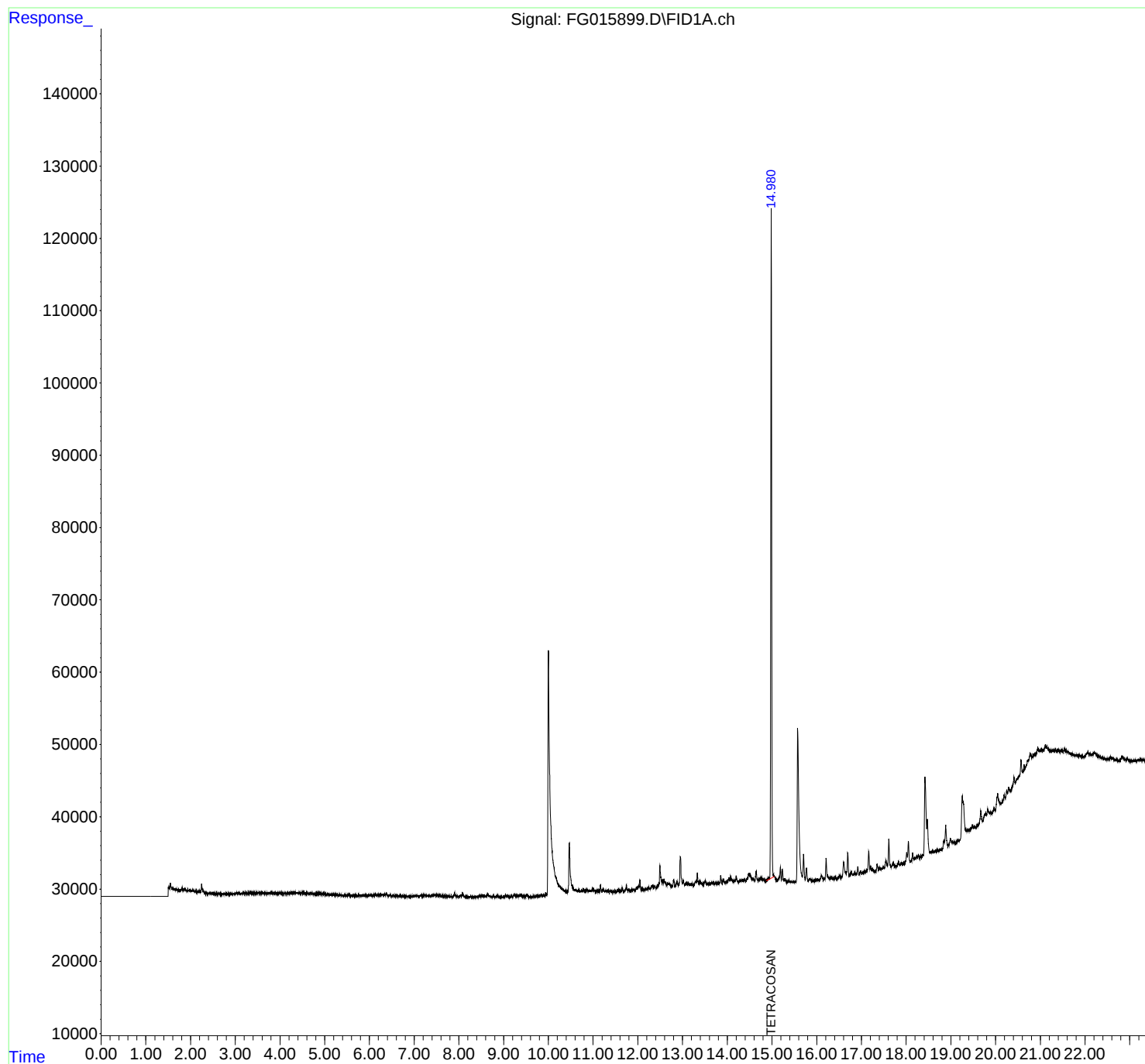
(m)=manual int.

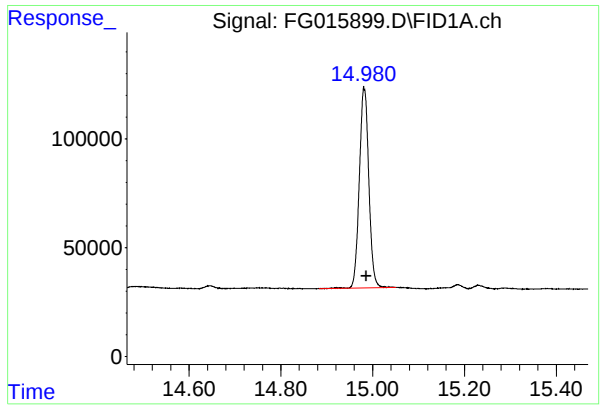
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015899.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 14:56
Operator : YP\AJ
Sample : Q2100-01
Misc :
ALS Vial : 23 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
TP-16

Integration File: autoint1.e
Quant Time: May 23 23:06:50 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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.: 14.981 min
Delta R.T.: -0.005 min
Response: 1318931
Conc: 10.76 ug/ml

Instrument :
FID_G
ClientSampleId :
TP-16

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015899.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 14:56
Sample : Q2100-01
Misc :
ALS Vial : 23 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.325	4.300	4.344	BV	224	1327	0.09%	0.021%
2	4.348	4.344	4.351	VV	79	248	0.02%	0.004%
3	4.357	4.351	4.370	VV	107	873	0.06%	0.014%
4	4.377	4.370	4.406	VV	124	1582	0.11%	0.025%
5	4.411	4.406	4.415	PV	150	562	0.04%	0.009%
6	4.421	4.415	4.434	VV	111	1133	0.08%	0.018%
7	4.441	4.434	4.447	VV	177	917	0.07%	0.015%
8	4.462	4.447	4.483	VV	166	2682	0.19%	0.043%
9	4.489	4.483	4.503	VV	212	1959	0.14%	0.031%
10	4.506	4.503	4.516	VV	227	1215	0.09%	0.019%
11	4.521	4.516	4.530	VV	204	1164	0.08%	0.019%
12	4.540	4.530	4.544	VV	212	1358	0.10%	0.022%
13	4.552	4.544	4.561	VV	245	1715	0.12%	0.027%
14	4.562	4.561	4.593	VV	184	2382	0.17%	0.038%
15	4.603	4.593	4.640	VV	228	3585	0.26%	0.057%
16	4.643	4.640	4.660	VV	105	755	0.05%	0.012%
17	4.680	4.660	4.683	VV	222	1648	0.12%	0.026%
18	4.688	4.683	4.708	VV	236	1980	0.14%	0.032%
19	4.714	4.708	4.722	VV	175	862	0.06%	0.014%
20	4.726	4.722	4.735	VV	117	811	0.06%	0.013%
21	4.739	4.735	4.760	VV	126	1427	0.10%	0.023%
22	4.765	4.760	4.772	VV	116	652	0.05%	0.010%
23	4.777	4.772	4.787	VV	157	960	0.07%	0.015%
24	4.803	4.787	4.808	VV	158	1435	0.10%	0.023%
25	4.831	4.808	4.843	VV	218	2954	0.21%	0.047%
26	4.846	4.843	4.862	VV	189	1843	0.13%	0.029%
27	4.887	4.862	4.897	VV	225	3250	0.23%	0.052%
28	4.900	4.897	4.916	VV	218	1815	0.13%	0.029%
29	4.918	4.916	4.925	VV	210	878	0.06%	0.014%
30	4.932	4.925	4.943	VV	195	1528	0.11%	0.024%
31	4.959	4.943	4.983	VV	208	3841	0.27%	0.061%
32	4.990	4.983	5.001	VV	208	1550	0.11%	0.025%
33	5.003	5.001	5.019	VV	154	1402	0.10%	0.022%
34	5.022	5.019	5.032	VV	179	1018	0.07%	0.016%
35	5.035	5.032	5.048	VV	126	1008	0.07%	0.016%
36	5.050	5.048	5.067	VV	139	1397	0.10%	0.022%

					rteres			
37	5.073	5.067	5.095	VV	165	1842	0.13%	0.029%
38	5.118	5.095	5.140	VV	182	3045	0.22%	0.049%
39	5.147	5.140	5.159	VV	155	1128	0.08%	0.018%
40	5.164	5.159	5.170	VV	134	660	0.05%	0.011%
41	5.173	5.170	5.186	VV	125	849	0.06%	0.014%
42	5.189	5.186	5.193	VV	136	413	0.03%	0.007%
43	5.201	5.193	5.222	VV	157	1703	0.12%	0.027%
44	5.227	5.222	5.241	VV	140	1113	0.08%	0.018%
45	5.245	5.241	5.262	VV	124	1304	0.09%	0.021%
46	5.270	5.262	5.277	VV	155	1023	0.07%	0.016%
47	5.283	5.277	5.298	VV	135	1190	0.09%	0.019%
48	5.303	5.298	5.318	VV	160	1234	0.09%	0.020%
49	5.325	5.318	5.338	VV	146	1158	0.08%	0.018%
50	5.340	5.338	5.350	VV	164	762	0.05%	0.012%
51	5.357	5.350	5.368	VV	125	975	0.07%	0.016%
52	5.380	5.368	5.385	VV	200	1100	0.08%	0.018%
53	5.395	5.385	5.405	VV	157	1262	0.09%	0.020%
54	5.409	5.405	5.423	VV	107	922	0.07%	0.015%
55	5.444	5.423	5.459	PV	141	1684	0.12%	0.027%
56	5.463	5.459	5.493	VV	161	1852	0.13%	0.030%
57	5.501	5.493	5.518	VV	98	1309	0.09%	0.021%
58	5.522	5.518	5.528	VV	144	566	0.04%	0.009%
59	5.534	5.528	5.553	VV	165	1416	0.10%	0.023%
60	5.570	5.553	5.577	VV	195	1382	0.10%	0.022%
61	5.581	5.577	5.600	VV	140	1169	0.08%	0.019%
62	5.619	5.600	5.624	VV	103	1107	0.08%	0.018%
63	5.637	5.624	5.685	VV	140	3154	0.23%	0.050%
64	5.689	5.685	5.699	VV	159	749	0.05%	0.012%
65	5.703	5.699	5.707	VV	117	501	0.04%	0.008%
66	5.708	5.707	5.737	VV	158	1778	0.13%	0.028%
67	5.753	5.737	5.788	VV	132	3280	0.23%	0.052%
68	5.794	5.788	5.850	VV	215	4073	0.29%	0.065%
69	5.857	5.850	5.866	VV	141	891	0.06%	0.014%
70	5.873	5.866	5.880	VV	134	788	0.06%	0.013%
71	5.884	5.880	5.893	VV	136	867	0.06%	0.014%
72	5.899	5.893	5.908	VV	148	935	0.07%	0.015%
73	5.915	5.908	5.939	VV	179	2170	0.16%	0.035%
74	5.947	5.939	5.952	VV	175	887	0.06%	0.014%
75	5.967	5.952	5.997	VV	159	3164	0.23%	0.050%
76	6.039	5.997	6.072	VV	228	6596	0.47%	0.105%
77	6.078	6.072	6.084	VV	219	1193	0.09%	0.019%
78	6.087	6.084	6.094	VV	169	854	0.06%	0.014%
79	6.098	6.094	6.122	VV	199	2744	0.20%	0.044%
80	6.130	6.122	6.140	VV	188	1881	0.13%	0.030%
81	6.149	6.140	6.171	VV	240	3179	0.23%	0.051%
82	6.182	6.171	6.197	VV	319	3062	0.22%	0.049%
83	6.203	6.197	6.236	VV	271	5121	0.37%	0.082%
84	6.251	6.236	6.255	VV	234	2196	0.16%	0.035%
85	6.261	6.255	6.282	VV	293	3743	0.27%	0.060%
86	6.287	6.282	6.298	VV	287	2447	0.18%	0.039%
87	6.304	6.298	6.337	VV	276	5293	0.38%	0.084%
88	6.342	6.337	6.353	VV	260	2197	0.16%	0.035%
89	6.356	6.353	6.361	VV	256	1112	0.08%	0.018%

					rteres			
90	6.381	6.361	6.405	VV	527	8375	0.60%	0.134%
91	6.412	6.405	6.417	VV	235	1318	0.09%	0.021%
92	6.421	6.417	6.427	VV	220	908	0.06%	0.014%
93	6.432	6.427	6.439	VV	185	1094	0.08%	0.017%
94	6.441	6.439	6.491	VV	200	4944	0.35%	0.079%
95	6.496	6.491	6.500	VV	125	549	0.04%	0.009%
96	6.521	6.500	6.531	VV	157	2006	0.14%	0.032%
97	6.541	6.531	6.557	VV	171	1715	0.12%	0.027%
98	6.566	6.557	6.587	VV	159	2005	0.14%	0.032%
99	6.591	6.587	6.597	VV	122	690	0.05%	0.011%
100	6.599	6.597	6.609	VV	156	888	0.06%	0.014%
101	6.615	6.609	6.624	VV	144	915	0.07%	0.015%
102	6.627	6.624	6.636	VV	131	715	0.05%	0.011%
103	6.648	6.636	6.661	VV	117	1206	0.09%	0.019%
104	6.671	6.661	6.692	VV	158	1886	0.13%	0.030%
105	6.708	6.692	6.719	VV	160	1652	0.12%	0.026%
106	6.740	6.719	6.755	VV	171	2198	0.16%	0.035%
107	6.761	6.755	6.804	VV	154	2276	0.16%	0.036%
108	6.820	6.804	6.855	VV	109	1958	0.14%	0.031%
109	6.860	6.855	6.875	VV	100	585	0.04%	0.009%
110	6.892	6.875	6.900	PV	108	696	0.05%	0.011%
111	6.907	6.900	6.916	VV	116	537	0.04%	0.009%
112	6.920	6.916	6.929	PV	64	403	0.03%	0.006%
113	6.930	6.929	6.934	VV	94	176	0.01%	0.003%
114	6.959	6.934	6.980	VV	103	1962	0.14%	0.031%
115	6.988	6.980	6.994	VV	99	682	0.05%	0.011%
116	7.001	6.994	7.006	VV	142	800	0.06%	0.013%
117	7.015	7.006	7.022	VV	137	1125	0.08%	0.018%
118	7.056	7.022	7.082	VV	189	4760	0.34%	0.076%
119	7.093	7.082	7.099	VV	159	1236	0.09%	0.020%
120	7.104	7.099	7.115	VV	143	1010	0.07%	0.016%
121	7.139	7.115	7.161	VV	211	3906	0.28%	0.062%
122	7.204	7.161	7.217	VV	278	6599	0.47%	0.105%
123	7.224	7.217	7.236	VV	329	3039	0.22%	0.048%
124	7.250	7.236	7.303	VV	258	8648	0.62%	0.138%
125	7.311	7.303	7.323	VV	211	1999	0.14%	0.032%
126	7.337	7.323	7.360	VV	226	3568	0.26%	0.057%
127	7.436	7.360	7.444	VV	321	10275	0.74%	0.164%
128	7.453	7.444	7.555	VV	344	17238	1.23%	0.275%
129	7.561	7.555	7.622	VV	268	7823	0.56%	0.125%
130	7.631	7.622	7.714	VV	215	7193	0.51%	0.115%
131	7.726	7.714	7.752	VV	150	2518	0.18%	0.040%
132	7.761	7.752	7.812	VV	113	2792	0.20%	0.045%
133	7.818	7.812	7.837	VV	115	1186	0.08%	0.019%
134	7.844	7.837	7.864	VV	103	1283	0.09%	0.020%
135	7.904	7.864	8.007	VV	663	16317	1.17%	0.260%
136	8.044	8.007	8.062	VV	405	7175	0.51%	0.114%
137	8.078	8.062	8.167	VV	599	12598	0.90%	0.201%
138	8.174	8.167	8.195	VV	83	842	0.06%	0.013%
139	8.219	8.195	8.241	VV	99	1764	0.13%	0.028%
140	8.283	8.241	8.315	PV	119	2361	0.17%	0.038%
141	8.328	8.315	8.345	VV	97	925	0.07%	0.015%

					rteres			
142	8.352	8.345	8.372	VV	89	1069	0.08%	0.017%
143	8.478	8.372	8.504	VV	214	9441	0.68%	0.151%
144	8.528	8.504	8.604	VV	305	11408	0.82%	0.182%
145	8.647	8.604	8.733	VV	532	17009	1.22%	0.271%
146	8.742	8.733	8.765	VV	123	1799	0.13%	0.029%
147	8.772	8.765	8.814	VV	145	2384	0.17%	0.038%
148	8.831	8.814	8.838	VV	97	1016	0.07%	0.016%
149	8.864	8.838	8.912	VV	201	4604	0.33%	0.073%
150	8.936	8.912	8.968	VV	142	2295	0.16%	0.037%
151	8.974	8.968	8.995	VV	92	662	0.05%	0.011%
152	9.048	8.995	9.083	VV	234	8373	0.60%	0.134%
153	9.089	9.083	9.099	VV	196	1385	0.10%	0.022%
154	9.102	9.099	9.147	VV	179	2449	0.18%	0.039%
155	9.173	9.147	9.213	PV	144	4541	0.32%	0.072%
156	9.235	9.213	9.272	VV	394	8436	0.60%	0.135%
157	9.289	9.272	9.322	VV	206	4772	0.34%	0.076%
158	9.347	9.322	9.364	VV	304	5232	0.37%	0.083%
159	9.381	9.364	9.410	VV	439	7670	0.55%	0.122%
160	9.433	9.410	9.458	VV	290	4160	0.30%	0.066%
161	9.466	9.458	9.483	VV	129	1708	0.12%	0.027%
162	9.518	9.483	9.572	VV	345	9470	0.68%	0.151%
163	9.579	9.572	9.592	VV	78	869	0.06%	0.014%
164	9.599	9.592	9.624	VV	116	1513	0.11%	0.024%
165	9.686	9.624	9.718	PV	152	5530	0.40%	0.088%
166	9.750	9.718	9.781	VV	194	5150	0.37%	0.082%
167	9.835	9.781	9.848	VV	211	6083	0.44%	0.097%
168	9.872	9.848	9.885	VV	248	4125	0.30%	0.066%
169	9.898	9.885	9.928	VV	202	3853	0.28%	0.061%
170	9.947	9.928	9.965	VV	513	6828	0.49%	0.109%
171	10.002	9.965	10.371	VV	33875	1334608	95.49%	21.281%
172	10.380	10.371	10.398	VV	687	9713	0.69%	0.155%
173	10.415	10.398	10.434	VV	563	11347	0.81%	0.181%
174	10.469	10.434	10.578	VV	7215	197058	14.10%	3.142%
175	10.602	10.578	10.658	VV	732	30173	2.16%	0.481%
176	10.679	10.658	10.715	VV	700	18539	1.33%	0.296%
177	10.741	10.715	10.761	VV	585	13890	0.99%	0.221%
178	10.782	10.761	10.818	VV	774	18430	1.32%	0.294%
179	10.838	10.818	10.865	VV	688	15737	1.13%	0.251%
180	10.871	10.865	10.898	VV	597	10266	0.73%	0.164%
181	10.932	10.898	10.952	VV	461	14584	1.04%	0.233%
182	10.991	10.952	11.055	VV	721	31370	2.24%	0.500%
183	11.089	11.055	11.135	VV	441	16973	1.21%	0.271%
184	11.167	11.135	11.197	VV	1230	22257	1.59%	0.355%
185	11.220	11.197	11.265	VV	533	16544	1.18%	0.264%
186	11.276	11.265	11.312	VV	430	8812	0.63%	0.141%
187	11.331	11.312	11.361	VV	371	7996	0.57%	0.127%
188	11.378	11.361	11.431	VV	280	8118	0.58%	0.129%
189	11.448	11.431	11.468	VV	248	3619	0.26%	0.058%
190	11.494	11.468	11.522	VV	182	4827	0.35%	0.077%
191	11.571	11.522	11.623	VV	437	14326	1.03%	0.228%
192	11.651	11.623	11.694	VV	633	11694	0.84%	0.186%
193	11.745	11.694	11.781	PV	1025	19710	1.41%	0.314%
194	11.799	11.781	11.834	VV	471	7243	0.52%	0.115%

					rteres			
195	11.915	11.834	11.936	VV	425	14265	1.02%	0.227%
196	11.972	11.936	11.988	VV	604	11104	0.79%	0.177%
197	12.015	11.988	12.024	VV	656	12396	0.89%	0.198%
198	12.046	12.024	12.075	VV	1605	25619	1.83%	0.409%
199	12.092	12.075	12.105	VV	258	4418	0.32%	0.070%
200	12.117	12.105	12.155	VV	267	6549	0.47%	0.104%
201	12.175	12.155	12.188	VV	234	4053	0.29%	0.065%
202	12.213	12.188	12.222	VV	331	5563	0.40%	0.089%
203	12.242	12.222	12.277	VV	499	11908	0.85%	0.190%
204	12.328	12.277	12.358	VV	763	25896	1.85%	0.413%
205	12.368	12.358	12.377	VV	516	5715	0.41%	0.091%
206	12.384	12.377	12.418	VV	540	9658	0.69%	0.154%
207	12.437	12.418	12.455	VV	655	12035	0.86%	0.192%
208	12.496	12.455	12.540	VV	3407	81487	5.83%	1.299%
209	12.557	12.540	12.572	VV	1474	23401	1.67%	0.373%
210	12.587	12.572	12.605	VV	1471	24439	1.75%	0.390%
211	12.614	12.605	12.648	VV	1051	22280	1.59%	0.355%
212	12.662	12.648	12.691	VV	945	20899	1.50%	0.333%
213	12.711	12.691	12.773	VV	832	29969	2.14%	0.478%
214	12.803	12.773	12.833	VV	1357	29557	2.11%	0.471%
215	12.874	12.833	12.911	VV	1129	34170	2.44%	0.545%
216	12.952	12.911	12.998	VV	4445	102790	7.35%	1.639%
217	13.017	12.998	13.058	VV	1229	29160	2.09%	0.465%
218	13.083	13.058	13.109	VV	904	21258	1.52%	0.339%
219	13.132	13.109	13.151	VV	777	16985	1.22%	0.271%
220	13.157	13.151	13.188	VV	610	12352	0.88%	0.197%
221	13.207	13.188	13.256	VV	669	20980	1.50%	0.335%
222	13.298	13.256	13.307	VV	934	22779	1.63%	0.363%
223	13.331	13.307	13.361	VV	2141	40298	2.88%	0.643%
224	13.385	13.361	13.448	VV	1110	36520	2.61%	0.582%
225	13.514	13.448	13.541	VV	956	35947	2.57%	0.573%
226	13.557	13.541	13.568	VV	543	7894	0.56%	0.126%
227	13.581	13.568	13.618	VV	605	14951	1.07%	0.238%
228	13.652	13.618	13.666	VV	671	16475	1.18%	0.263%
229	13.686	13.666	13.709	VV	641	14500	1.04%	0.231%
230	13.774	13.709	13.805	VV	623	30996	2.22%	0.494%
231	13.852	13.805	13.875	VV	1534	33360	2.39%	0.532%
232	13.907	13.875	13.962	VV	979	37343	2.67%	0.595%
233	14.035	13.962	14.055	VV	1205	42803	3.06%	0.683%
234	14.079	14.055	14.131	VV	1272	41492	2.97%	0.662%
235	14.141	14.131	14.149	VV	705	7621	0.55%	0.122%
236	14.162	14.149	14.171	VV	718	8965	0.64%	0.143%
237	14.199	14.171	14.270	VV	1367	46866	3.35%	0.747%
238	14.292	14.270	14.305	VV	750	13706	0.98%	0.219%
239	14.318	14.305	14.328	VV	754	9868	0.71%	0.157%
240	14.338	14.328	14.358	VV	731	12249	0.88%	0.195%
241	14.394	14.358	14.413	VV	860	22917	1.64%	0.365%
242	14.445	14.413	14.454	VV	955	19650	1.41%	0.313%
243	14.486	14.454	14.566	VV	1598	81190	5.81%	1.295%
244	14.580	14.566	14.620	VV	836	23422	1.68%	0.373%
245	14.645	14.620	14.677	VV	1889	39186	2.80%	0.625%
246	14.751	14.677	14.787	VV	913	49733	3.56%	0.793%

						rteres		
247	14.799	14.787	14.831	VV	760	16591	1.19%	0.265%
248	14.840	14.831	14.871	VV	586	11988	0.86%	0.191%
249	14.924	14.871	14.944	VV	846	29433	2.11%	0.469%
250	14.982	14.944	15.121	VV	92994	1397676	100.00%	22.286%
251	15.186	15.121	15.209	VV	2213	50654	3.62%	0.808%
252	15.231	15.209	15.268	VV	1885	34709	2.48%	0.553%
253	15.288	15.268	15.365	VV	641	16986	1.22%	0.271%
254	15.379	15.365	15.415	VV	349	7102	0.51%	0.113%
255	15.431	15.415	15.457	VV	159	3272	0.23%	0.052%
256	15.481	15.457	15.498	VV	132	2372	0.17%	0.038%
257	15.513	15.498	15.538	VV	163	2427	0.17%	0.039%
258	15.574	15.538	15.676	VV	20855	551454	39.46%	8.793%
259	15.705	15.676	15.745	VV	3821	69965	5.01%	1.116%
260	15.771	15.745	15.818	VV	1855	33130	2.37%	0.528%
261	15.835	15.818	15.898	VV	428	12220	0.87%	0.195%
262	15.919	15.898	15.943	VV	161	2550	0.18%	0.041%
263	16.008	15.943	16.051	PV	296	10666	0.76%	0.170%
264	16.105	16.051	16.147	VV	756	19996	1.43%	0.319%
265	16.209	16.147	16.268	VV	2965	55885	4.00%	0.891%
266	16.276	16.268	16.327	VV	282	6561	0.47%	0.105%
267	16.337	16.327	16.370	VV	199	2323	0.17%	0.037%
268	16.406	16.370	16.454	VV	212	3486	0.25%	0.056%
269	16.509	16.454	16.541	PV	361	7572	0.54%	0.121%
270	16.604	16.541	16.638	VV	2153	52286	3.74%	0.834%
271	16.651	16.638	16.664	VV	688	10218	0.73%	0.163%
272	16.694	16.664	16.741	VV	3278	55798	3.99%	0.890%
273	16.776	16.741	16.801	VV	648	13026	0.93%	0.208%
274	16.853	16.801	16.888	VV	364	10842	0.78%	0.173%
275	16.918	16.888	16.948	VV	1154	16810	1.20%	0.268%
276	16.981	16.948	17.011	PV	426	9020	0.65%	0.144%
277	17.039	17.011	17.067	VV	324	6429	0.46%	0.103%
278	17.163	17.067	17.191	VV	2960	61663	4.41%	0.983%
279	17.208	17.191	17.229	VV	830	13020	0.93%	0.208%
280	17.245	17.229	17.325	VV	448	9611	0.69%	0.153%
281	17.352	17.325	17.379	PV	934	13899	0.99%	0.222%
282	17.409	17.379	17.428	VV	242	4413	0.32%	0.070%
					Sum of corrected areas:		6271408	

FG052225.M Sat May 24 02:05:26 2025

Report of Analysis

Client:	CDM Smith	Date Collected:	05/19/25
Project:	South River WM Replacement	Date Received:	05/20/25
Client Sample ID:	TP-22	SDG No.:	Q2100
Lab Sample ID:	Q2100-02	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	84
Sample Wt/Vol:	30.09	Units:	g
Soil Aliquot Vol:			uL
Extraction Type:		Final Vol:	1
GPC Factor :		PH :	
Prep Method :	SW3541	Decanted:	
		Test:	Diesel Range Organics
		Injection Volume :	

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015900.D	1	05/23/25 10:10	05/23/25 15:26	PB168150

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	22500		201	1980	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	11.1		37 - 130	56%	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\FG052325\
Data File : FG015900.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 15:26
Operator : YP\AJ
Sample : Q2100-02
Misc :
ALS Vial : 24 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
TP-22

Integration File: autoint1.e
Quant Time: May 23 23:07:08 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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...	14.981	1362418	11.116 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

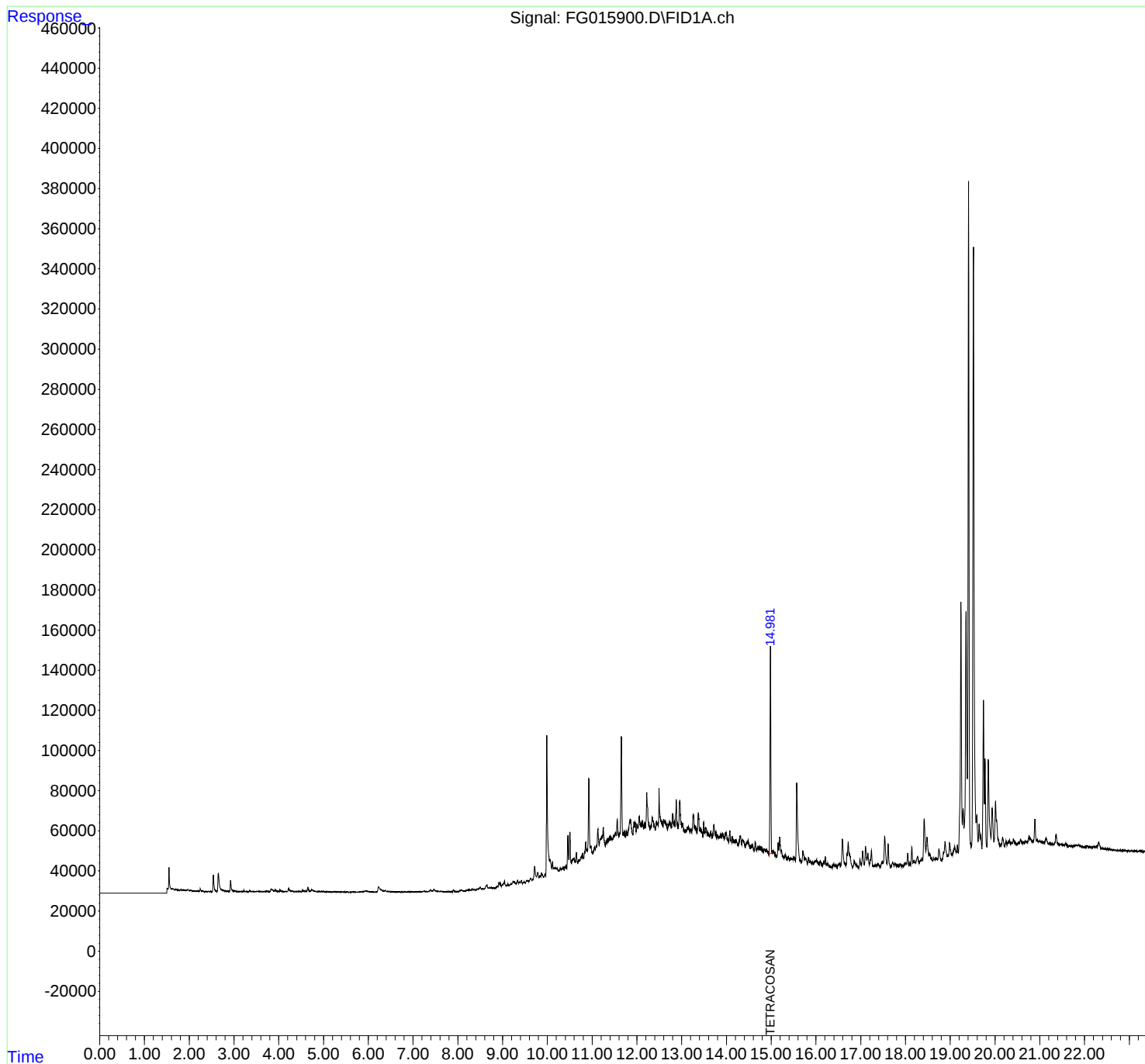
(m)=manual int.

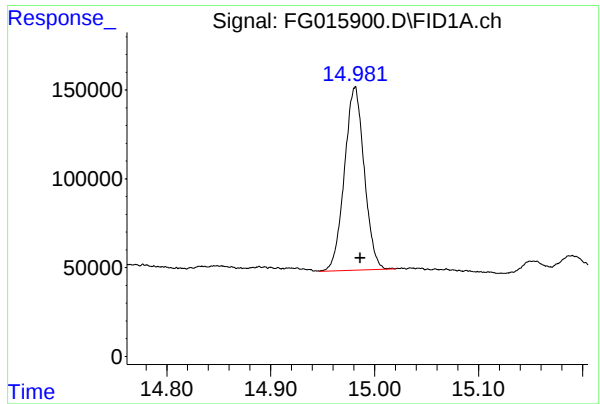
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015900.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 15:26
Operator : YP\AJ
Sample : Q2100-02
Misc :
ALS Vial : 24 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
TP-22

Integration File: autoint1.e
Quant Time: May 23 23:07:08 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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.: 14.981 min
Delta R.T.: -0.005 min
Response: 1362418
Conc: 11.12 ug/ml

Instrument :
FID_G
ClientSampleId :
TP-22

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015900.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 15:26
Sample : Q2100-02
Misc :
ALS Vial : 24 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.311	4.300	4.350	BV	110	2079	0.10%	0.003%
2	4.365	4.350	4.373	PV	182	1588	0.08%	0.002%
3	4.376	4.373	4.393	VV	178	834	0.04%	0.001%
4	4.397	4.393	4.408	VV	52	552	0.03%	0.001%
5	4.417	4.408	4.428	VV	160	1153	0.06%	0.002%
6	4.441	4.428	4.447	VV	187	1140	0.06%	0.001%
7	4.450	4.447	4.467	VV	131	962	0.05%	0.001%
8	4.471	4.467	4.480	VV	166	692	0.03%	0.001%
9	4.493	4.480	4.511	VV	227	2848	0.14%	0.004%
10	4.531	4.511	4.586	VV	744	14694	0.71%	0.019%
11	4.611	4.586	4.630	VV	517	7524	0.36%	0.010%
12	4.650	4.630	4.701	VV	2322	44838	2.17%	0.058%
13	4.710	4.701	4.713	VV	446	2917	0.14%	0.004%
14	4.739	4.713	4.801	VV	1248	37168	1.80%	0.048%
15	4.810	4.801	4.819	VV	369	3611	0.17%	0.005%
16	4.825	4.819	4.839	VV	324	3112	0.15%	0.004%
17	4.843	4.839	4.850	VV	261	1570	0.08%	0.002%
18	4.854	4.850	4.876	VV	264	3449	0.17%	0.004%
19	4.879	4.876	4.911	VV	295	5469	0.26%	0.007%
20	4.921	4.911	4.929	VV	303	2305	0.11%	0.003%
21	4.935	4.929	4.942	VV	283	1648	0.08%	0.002%
22	4.951	4.942	4.956	VV	292	1918	0.09%	0.002%
23	4.961	4.956	4.972	VV	278	1963	0.10%	0.003%
24	4.995	4.972	5.035	VV	405	9140	0.44%	0.012%
25	5.046	5.035	5.050	VV	151	1141	0.06%	0.001%
26	5.068	5.050	5.089	VV	188	3296	0.16%	0.004%
27	5.096	5.089	5.119	VV	217	2522	0.12%	0.003%
28	5.125	5.119	5.134	VV	136	620	0.03%	0.001%
29	5.138	5.134	5.151	PV	97	724	0.04%	0.001%
30	5.160	5.151	5.188	VV	191	2580	0.12%	0.003%
31	5.204	5.188	5.210	VV	172	1628	0.08%	0.002%
32	5.214	5.210	5.219	VV	132	585	0.03%	0.001%
33	5.223	5.219	5.238	VV	167	1306	0.06%	0.002%
34	5.254	5.238	5.278	VV	315	4888	0.24%	0.006%
35	5.289	5.278	5.329	VV	262	4856	0.24%	0.006%
36	5.347	5.329	5.359	VV	130	1482	0.07%	0.002%

					rteres			
37	5.367	5.359	5.393	VV	139	1503	0.07%	0.002%
38	5.407	5.393	5.413	VV	121	858	0.04%	0.001%
39	5.429	5.413	5.455	VV	161	1925	0.09%	0.003%
40	5.481	5.455	5.485	VV	215	2257	0.11%	0.003%
41	5.492	5.485	5.508	VV	234	2289	0.11%	0.003%
42	5.515	5.508	5.524	VV	241	1631	0.08%	0.002%
43	5.526	5.524	5.553	VV	193	2006	0.10%	0.003%
44	5.557	5.553	5.561	VV	125	405	0.02%	0.001%
45	5.567	5.561	5.582	VV	132	1337	0.06%	0.002%
46	5.588	5.582	5.612	VV	174	1461	0.07%	0.002%
47	5.637	5.612	5.655	PV	382	5605	0.27%	0.007%
48	5.660	5.655	5.687	VV	283	3585	0.17%	0.005%
49	5.693	5.687	5.725	VV	247	2647	0.13%	0.003%
50	5.730	5.725	5.734	VV	111	376	0.02%	0.000%
51	5.738	5.734	5.753	VV	132	908	0.04%	0.001%
52	5.765	5.753	5.771	VV	128	1129	0.05%	0.001%
53	5.776	5.771	5.783	VV	129	745	0.04%	0.001%
54	5.787	5.783	5.798	VV	191	1418	0.07%	0.002%
55	5.808	5.798	5.813	VV	195	1445	0.07%	0.002%
56	5.835	5.813	5.854	VV	389	6430	0.31%	0.008%
57	5.857	5.854	5.871	VV	258	2359	0.11%	0.003%
58	5.880	5.871	5.885	VV	243	1820	0.09%	0.002%
59	5.931	5.885	5.949	VV	756	17292	0.84%	0.023%
60	5.953	5.949	5.984	VV	576	10852	0.53%	0.014%
61	5.989	5.984	6.021	VV	523	8902	0.43%	0.012%
62	6.027	6.021	6.043	VV	346	3819	0.18%	0.005%
63	6.047	6.043	6.074	VV	286	3821	0.18%	0.005%
64	6.076	6.074	6.087	VV	190	1044	0.05%	0.001%
65	6.107	6.087	6.144	VV	277	5192	0.25%	0.007%
66	6.161	6.144	6.169	VV	115	1240	0.06%	0.002%
67	6.174	6.169	6.189	VV	113	978	0.05%	0.001%
68	6.230	6.189	6.326	VV	2810	111623	5.40%	0.145%
69	6.333	6.326	6.342	VV	799	6809	0.33%	0.009%
70	6.345	6.342	6.363	VV	792	8910	0.43%	0.012%
71	6.382	6.363	6.416	VV	937	21044	1.02%	0.027%
72	6.421	6.416	6.434	VV	398	3960	0.19%	0.005%
73	6.443	6.434	6.516	VV	474	15677	0.76%	0.020%
74	6.520	6.516	6.528	VV	215	1458	0.07%	0.002%
75	6.551	6.528	6.567	VV	290	5385	0.26%	0.007%
76	6.571	6.567	6.579	VV	314	2001	0.10%	0.003%
77	6.584	6.579	6.590	VV	277	1536	0.07%	0.002%
78	6.597	6.590	6.607	VV	318	2519	0.12%	0.003%
79	6.611	6.607	6.639	VV	244	3165	0.15%	0.004%
80	6.647	6.639	6.652	VV	190	1145	0.06%	0.001%
81	6.680	6.652	6.692	VV	320	4908	0.24%	0.006%
82	6.697	6.692	6.708	VV	217	1536	0.07%	0.002%
83	6.711	6.708	6.717	VV	174	774	0.04%	0.001%
84	6.728	6.717	6.738	VV	149	1536	0.07%	0.002%
85	6.741	6.738	6.755	VV	144	1150	0.06%	0.001%
86	6.760	6.755	6.766	VV	137	574	0.03%	0.001%
87	6.773	6.766	6.781	VV	107	598	0.03%	0.001%
88	6.823	6.781	6.852	PV	230	4775	0.23%	0.006%
89	6.861	6.852	6.867	VV	173	1286	0.06%	0.002%

					rteres			
90	6.872	6.867	6.890	VV	177	1827	0.09%	0.002%
91	6.900	6.890	6.917	VV	199	2855	0.14%	0.004%
92	6.923	6.917	6.933	VV	239	1680	0.08%	0.002%
93	6.937	6.933	6.947	VV	171	1181	0.06%	0.002%
94	6.961	6.947	6.967	VV	239	2112	0.10%	0.003%
95	6.973	6.967	6.989	VV	257	2564	0.12%	0.003%
96	6.993	6.989	6.998	VV	224	866	0.04%	0.001%
97	7.012	6.998	7.029	VV	197	2481	0.12%	0.003%
98	7.035	7.029	7.055	VV	136	1353	0.07%	0.002%
99	7.057	7.055	7.063	VV	110	465	0.02%	0.001%
100	7.079	7.063	7.119	VV	229	4362	0.21%	0.006%
101	7.126	7.119	7.147	VV	200	2015	0.10%	0.003%
102	7.152	7.147	7.162	VV	125	851	0.04%	0.001%
103	7.171	7.162	7.176	VV	153	1052	0.05%	0.001%
104	7.213	7.176	7.226	VV	295	6098	0.30%	0.008%
105	7.244	7.226	7.261	VV	435	7031	0.34%	0.009%
106	7.266	7.261	7.277	VV	337	2779	0.13%	0.004%
107	7.292	7.277	7.317	VV	366	6160	0.30%	0.008%
108	7.390	7.317	7.441	VV	1041	42202	2.04%	0.055%
109	7.466	7.441	7.548	VV	1184	44421	2.15%	0.058%
110	7.564	7.548	7.600	VV	427	9228	0.45%	0.012%
111	7.622	7.600	7.663	VV	482	11177	0.54%	0.015%
112	7.668	7.663	7.692	VV	151	2061	0.10%	0.003%
113	7.707	7.692	7.718	VV	159	1659	0.08%	0.002%
114	7.720	7.718	7.725	VV	150	316	0.02%	0.000%
115	7.730	7.725	7.761	VV	120	1401	0.07%	0.002%
116	7.793	7.761	7.834	VV	346	5962	0.29%	0.008%
117	7.836	7.834	7.859	VV	49	447	0.02%	0.001%
118	7.863	7.859	7.878	PV	79	789	0.04%	0.001%
119	7.902	7.878	7.943	VV	1105	17193	0.83%	0.022%
120	7.950	7.943	7.959	VV	259	1850	0.09%	0.002%
121	7.961	7.959	7.979	VV	229	1492	0.07%	0.002%
122	7.990	7.979	8.004	VV	227	1913	0.09%	0.002%
123	8.010	8.004	8.019	PV	130	778	0.04%	0.001%
124	8.046	8.019	8.060	VV	654	8281	0.40%	0.011%
125	8.076	8.060	8.096	VV	886	12954	0.63%	0.017%
126	8.099	8.096	8.119	VV	494	4452	0.22%	0.006%
127	8.121	8.119	8.134	VV	236	1943	0.09%	0.003%
128	8.143	8.134	8.168	VV	291	4029	0.20%	0.005%
129	8.200	8.168	8.213	VV	538	9659	0.47%	0.013%
130	8.231	8.213	8.248	VV	653	11230	0.54%	0.015%
131	8.258	8.248	8.270	VV	628	6869	0.33%	0.009%
132	8.289	8.270	8.303	VV	516	8930	0.43%	0.012%
133	8.320	8.303	8.344	VV	1204	19479	0.94%	0.025%
134	8.368	8.344	8.388	VV	641	13052	0.63%	0.017%
135	8.392	8.388	8.397	VV	396	2017	0.10%	0.003%
136	8.411	8.397	8.422	VV	612	7258	0.35%	0.009%
137	8.440	8.422	8.454	VV	918	13791	0.67%	0.018%
138	8.503	8.454	8.538	VV	1726	50069	2.42%	0.065%
139	8.551	8.538	8.573	VV	820	14595	0.71%	0.019%
140	8.586	8.573	8.591	VV	620	6433	0.31%	0.008%
141	8.652	8.591	8.678	VV	2691	79421	3.85%	0.103%

					rteres			
142	8.681	8.678	8.700	VV	1108	13165	0.64%	0.017%
143	8.720	8.700	8.737	VV	1233	23293	1.13%	0.030%
144	8.753	8.737	8.779	VV	1148	24474	1.18%	0.032%
145	8.789	8.779	8.809	VV	848	13538	0.66%	0.018%
146	8.861	8.809	8.871	VV	1394	33370	1.62%	0.043%
147	8.883	8.871	8.899	VV	1508	23645	1.14%	0.031%
148	8.920	8.899	8.938	VV	3482	61381	2.97%	0.080%
149	8.953	8.938	8.978	VV	3337	56175	2.72%	0.073%
150	8.993	8.978	9.003	VV	2298	30836	1.49%	0.040%
151	9.019	9.003	9.030	VV	2946	41290	2.00%	0.054%
152	9.044	9.030	9.072	VV	4150	71211	3.45%	0.093%
153	9.089	9.072	9.100	VV	1947	29461	1.43%	0.038%
154	9.120	9.100	9.139	VV	2413	44751	2.17%	0.058%
155	9.191	9.139	9.203	VV	2509	79588	3.85%	0.104%
156	9.241	9.203	9.290	VV	3472	151885	7.35%	0.198%
157	9.297	9.290	9.313	VV	2676	36760	1.78%	0.048%
158	9.336	9.313	9.357	VV	4096	83694	4.05%	0.109%
159	9.376	9.357	9.397	VV	3008	67794	3.28%	0.088%
160	9.419	9.397	9.442	VV	3709	83201	4.03%	0.108%
161	9.463	9.442	9.474	VV	2836	49797	2.41%	0.065%
162	9.485	9.474	9.511	VV	2880	57405	2.78%	0.075%
163	9.536	9.511	9.549	VV	3727	73392	3.55%	0.096%
164	9.566	9.549	9.591	VV	3590	83839	4.06%	0.109%
165	9.636	9.591	9.661	VV	4579	161269	7.81%	0.210%
166	9.717	9.661	9.761	VV	10494	370169	17.92%	0.482%
167	9.786	9.761	9.818	VV	7345	206425	9.99%	0.269%
168	9.838	9.818	9.852	VV	5490	107635	5.21%	0.140%
169	9.872	9.852	9.886	VV	7090	124773	6.04%	0.163%
170	9.892	9.886	9.913	VV	5990	88303	4.28%	0.115%
171	9.947	9.913	9.964	VV	6381	169391	8.20%	0.221%
172	9.989	9.964	10.049	VV	74859	1475095	71.42%	1.922%
173	10.063	10.049	10.099	VV	13361	350749	16.98%	0.457%
174	10.115	10.099	10.138	VV	12129	238865	11.56%	0.311%
175	10.149	10.138	10.155	VV	9089	87538	4.24%	0.114%
176	10.170	10.155	10.181	VV	9174	140444	6.80%	0.183%
177	10.186	10.181	10.194	VV	8832	69343	3.36%	0.090%
178	10.198	10.194	10.205	VV	8900	57040	2.76%	0.074%
179	10.218	10.205	10.258	VV	9079	258043	12.49%	0.336%
180	10.290	10.258	10.313	VV	8744	268712	13.01%	0.350%
181	10.350	10.313	10.369	VV	9255	287846	13.94%	0.375%
182	10.389	10.369	10.403	VV	9327	183755	8.90%	0.239%
183	10.413	10.403	10.418	VV	9168	80756	3.91%	0.105%
184	10.459	10.418	10.481	VV	24896	542732	26.28%	0.707%
185	10.505	10.481	10.530	VV	25932	541880	26.23%	0.706%
186	10.564	10.530	10.569	VV	12774	282304	13.67%	0.368%
187	10.590	10.569	10.620	VV	13370	383131	18.55%	0.499%
188	10.650	10.620	10.675	VV	16087	430648	20.85%	0.561%
189	10.705	10.675	10.712	VV	12495	257325	12.46%	0.335%
190	10.717	10.712	10.725	VV	12372	97256	4.71%	0.127%
191	10.757	10.725	10.761	VV	13474	281667	13.64%	0.367%
192	10.784	10.761	10.811	VV	15232	415388	20.11%	0.541%
193	10.857	10.811	10.873	VV	20968	623275	30.18%	0.812%
194	10.885	10.873	10.893	VV	17213	198131	9.59%	0.258%

					rteres			
195	10.929	10.893	10.958	VV	52158	1147360	55.55%	1.495%
196	10.975	10.958	11.007	VV	18916	516589	25.01%	0.673%
197	11.012	11.007	11.024	VV	15591	157154	7.61%	0.205%
198	11.051	11.024	11.073	VV	18225	493038	23.87%	0.643%
199	11.092	11.073	11.101	VV	18950	308226	14.92%	0.402%
200	11.129	11.101	11.158	VV	27164	765700	37.07%	0.998%
201	11.182	11.158	11.188	VV	22234	376285	18.22%	0.490%
202	11.208	11.188	11.225	VV	23261	496942	24.06%	0.648%
203	11.252	11.225	11.294	VV	27733	944121	45.71%	1.230%
204	11.310	11.294	11.323	VV	20363	340584	16.49%	0.444%
205	11.338	11.323	11.352	VV	21864	371427	17.98%	0.484%
206	11.366	11.352	11.377	VV	22154	320406	15.51%	0.418%
207	11.393	11.377	11.408	VV	23208	417079	20.19%	0.544%
208	11.419	11.408	11.433	VV	22592	338604	16.39%	0.441%
209	11.436	11.433	11.443	VV	22068	131469	6.37%	0.171%
210	11.447	11.443	11.462	VV	22025	238958	11.57%	0.311%
211	11.487	11.462	11.498	VV	23880	501854	24.30%	0.654%
212	11.515	11.498	11.520	VV	24807	307950	14.91%	0.401%
213	11.525	11.520	11.535	VV	25272	221050	10.70%	0.288%
214	11.561	11.535	11.598	VV	31319	974887	47.20%	1.270%
215	11.654	11.598	11.693	VV	72368	2038338	98.69%	2.656%
216	11.697	11.693	11.701	VV	23800	125292	6.07%	0.163%
217	11.719	11.701	11.744	VV	25480	619948	30.01%	0.808%
218	11.763	11.744	11.783	VV	25465	552230	26.74%	0.720%
219	11.858	11.783	11.912	VV	31226	2065494	100.00%	2.692%
220	11.933	11.912	11.948	VV	29454	597761	28.94%	0.779%
221	11.963	11.948	11.984	VV	29428	589499	28.54%	0.768%
222	12.006	11.984	12.026	VV	28603	672582	32.56%	0.876%
223	12.053	12.026	12.074	VV	32338	853608	41.33%	1.112%
224	12.082	12.074	12.098	VV	28444	406048	19.66%	0.529%
225	12.102	12.098	12.105	VV	27452	106210	5.14%	0.138%
226	12.124	12.105	12.137	VV	29935	548411	26.55%	0.715%
227	12.142	12.137	12.157	VV	27883	323887	15.68%	0.422%
228	12.175	12.157	12.191	VV	28975	564283	27.32%	0.735%
229	12.221	12.191	12.293	VV	43898	1983557	96.03%	2.585%
230	12.300	12.293	12.307	VV	27131	210289	10.18%	0.274%
231	12.346	12.307	12.413	VV	31242	1795696	86.94%	2.340%
232	12.442	12.413	12.468	VV	29547	900671	43.61%	1.174%
233	12.471	12.468	12.478	VV	28167	165295	8.00%	0.215%
234	12.496	12.478	12.553	VV	45652	1517200	73.45%	1.977%
235	12.559	12.553	12.580	VV	28688	440077	21.31%	0.573%
236	12.597	12.580	12.615	VV	30148	601186	29.11%	0.783%
237	12.623	12.615	12.640	VV	29368	427291	20.69%	0.557%
238	12.644	12.640	12.688	VV	28306	772339	37.39%	1.006%
239	12.737	12.688	12.773	VV	29220	1388509	67.22%	1.809%
240	12.797	12.773	12.826	VV	32793	943701	45.69%	1.230%
241	12.839	12.826	12.855	VV	28709	478497	23.17%	0.624%
242	12.878	12.855	12.900	VV	39589	873279	42.28%	1.138%
243	12.908	12.900	12.922	VV	27775	351544	17.02%	0.458%
244	12.956	12.922	13.008	VV	38770	1582916	76.64%	2.063%
245	13.027	13.008	13.058	VV	27676	752524	36.43%	0.981%
246	13.062	13.058	13.067	VV	23805	129148	6.25%	0.168%

					rteres			
247	13.080	13.067	13.087	VV	24419	284157	13.76%	0.370%
248	13.092	13.087	13.105	VV	23963	259593	12.57%	0.338%
249	13.129	13.105	13.189	VV	25510	1235756	59.83%	1.610%
250	13.202	13.189	13.220	VV	24685	435276	21.07%	0.567%
251	13.260	13.220	13.289	VV	31442	1136202	55.01%	1.481%
252	13.297	13.289	13.318	VV	25827	429886	20.81%	0.560%
253	13.327	13.318	13.345	VV	24699	391600	18.96%	0.510%
254	13.373	13.345	13.402	VV	32123	926664	44.86%	1.208%
255	13.421	13.402	13.450	VV	24739	684403	33.14%	0.892%
256	13.457	13.450	13.473	VV	22847	295843	14.32%	0.386%
257	13.495	13.473	13.519	VV	27279	652675	31.60%	0.851%
258	13.532	13.519	13.539	VV	24269	285783	13.84%	0.372%
259	13.544	13.539	13.574	VV	24447	476607	23.07%	0.621%
260	13.587	13.574	13.594	VV	22376	266574	12.91%	0.347%
261	13.599	13.594	13.624	VV	21886	369136	17.87%	0.481%
262	13.650	13.624	13.687	VV	22855	788162	38.16%	1.027%
263	13.718	13.687	13.748	VV	26106	835857	40.47%	1.089%
264	13.755	13.748	13.763	VV	22328	192573	9.32%	0.251%
265	13.767	13.763	13.789	VV	22108	323828	15.68%	0.422%
266	13.797	13.789	13.820	VV	20790	380573	18.43%	0.496%
267	13.835	13.820	13.853	VV	19976	386136	18.69%	0.503%
268	13.873	13.853	13.898	VV	21046	531279	25.72%	0.692%
269	13.914	13.898	13.954	VV	21423	676814	32.77%	0.882%
270	13.978	13.954	14.027	VV	21390	879549	42.58%	1.146%
271	14.034	14.027	14.054	VV	18159	279450	13.53%	0.364%
272	14.076	14.054	14.110	VV	22446	640624	31.02%	0.835%
273	14.129	14.110	14.149	VV	19762	423079	20.48%	0.551%
274	14.164	14.149	14.182	VV	17657	333202	16.13%	0.434%
275	14.196	14.182	14.209	VV	18047	281882	13.65%	0.367%
276	14.214	14.209	14.218	VV	17140	90207	4.37%	0.118%
277	14.225	14.218	14.256	VV	17402	370735	17.95%	0.483%
278	14.262	14.256	14.270	VV	15741	125938	6.10%	0.164%
279	14.315	14.270	14.339	VV	19517	715771	34.65%	0.933%
280	14.360	14.339	14.376	VV	17712	373599	18.09%	0.487%
281	14.383	14.376	14.421	VV	17065	424455	20.55%	0.553%
282	14.446	14.421	14.450	VV	15462	262968	12.73%	0.343%
283	14.484	14.450	14.534	VV	17013	765508	37.06%	0.998%
284	14.551	14.534	14.560	VV	14358	217279	10.52%	0.283%
285	14.583	14.560	14.620	VV	14933	482774	23.37%	0.629%
286	14.642	14.620	14.670	VV	16263	410381	19.87%	0.535%
287	14.701	14.670	14.731	VV	13512	463293	22.43%	0.604%
288	14.735	14.731	14.750	VV	12678	146748	7.10%	0.191%
289	14.778	14.750	14.819	VV	13428	502981	24.35%	0.655%
290	14.833	14.819	14.840	VV	12205	147692	7.15%	0.192%
291	14.847	14.840	14.877	VV	12369	261768	12.67%	0.341%
292	14.889	14.877	14.898	VV	12010	147070	7.12%	0.192%
293	14.900	14.898	14.904	VV	11582	43682	2.11%	0.057%
294	14.907	14.904	14.910	VV	11341	40334	1.95%	0.053%
295	14.918	14.910	14.946	VV	11128	226884	10.98%	0.296%
296	14.981	14.946	15.012	VV	112815	1749643	84.71%	2.280%
297	15.035	15.012	15.107	VV	10931	571436	27.67%	0.745%
298	15.110	15.107	15.124	VV	8591	83311	4.03%	0.109%
299	15.151	15.124	15.170	VV	14584	318303	15.41%	0.415%

					rteres			
300	15.190	15.170	15.224	VV	17633	449866	21.78%	0.586%
301	15.231	15.224	15.257	VV	11017	190958	9.25%	0.249%
302	15.264	15.257	15.283	VV	8480	121563	5.89%	0.158%
303	15.308	15.283	15.348	VV	8775	302798	14.66%	0.395%
304	15.356	15.348	15.360	VV	6678	45378	2.20%	0.059%
305	15.383	15.360	15.388	VV	7825	123125	5.96%	0.160%
306	15.390	15.388	15.420	VV	7449	129949	6.29%	0.169%
307	15.440	15.420	15.455	VV	7062	140172	6.79%	0.183%
308	15.459	15.455	15.470	VV	6715	59491	2.88%	0.078%
309	15.476	15.470	15.482	VV	6528	42854	2.07%	0.056%
310	15.509	15.482	15.539	VV	7461	233322	11.30%	0.304%
311	15.570	15.539	15.677	VV	44155	1204517	58.32%	1.570%
312	15.708	15.677	15.750	VV	10170	320401	15.51%	0.418%
313	15.763	15.750	15.810	VV	6476	196679	9.52%	0.256%
314	15.834	15.810	15.858	VV	6850	155432	7.53%	0.203%
315	15.879	15.858	15.905	VV	4923	125440	6.07%	0.163%
316	15.925	15.905	15.944	VV	4734	94140	4.56%	0.123%
317	15.972	15.944	15.977	VV	4728	83141	4.03%	0.108%
318	15.983	15.977	15.989	VV	4668	31364	1.52%	0.041%
319	15.998	15.989	16.008	VV	5095	57125	2.77%	0.074%
320	16.013	16.008	16.075	VV	5361	164504	7.96%	0.214%
321	16.093	16.075	16.146	VV	4807	152213	7.37%	0.198%
322	16.173	16.146	16.186	VV	4593	87271	4.23%	0.114%
323	16.207	16.186	16.233	VV	6844	127145	6.16%	0.166%
324	16.266	16.233	16.321	VV	3390	128733	6.23%	0.168%
325	16.327	16.321	16.338	VV	1802	15002	0.73%	0.020%
326	16.341	16.338	16.368	VV	1516	25847	1.25%	0.034%
327	16.391	16.368	16.425	VV	2596	71646	3.47%	0.093%
328	16.432	16.425	16.470	VV	2142	47456	2.30%	0.062%
329	16.476	16.470	16.480	VV	1717	9201	0.45%	0.012%
330	16.529	16.480	16.554	VV	3157	103571	5.01%	0.135%
331	16.589	16.554	16.668	VV	14948	405870	19.65%	0.529%
332	16.694	16.668	16.701	VV	7794	101672	4.92%	0.132%
333	16.719	16.701	16.742	VV	13575	242179	11.73%	0.316%
334	16.749	16.742	16.825	VV	7698	176969	8.57%	0.231%
335	16.855	16.825	16.897	VV	4193	107682	5.21%	0.140%
336	16.902	16.897	16.909	VV	1811	10787	0.52%	0.014%
337	16.915	16.909	16.955	VV	1615	25655	1.24%	0.033%
338	16.981	16.955	17.013	VV	4608	85081	4.12%	0.111%
339	17.040	17.013	17.082	VV	8611	178924	8.66%	0.233%
340	17.106	17.082	17.139	VV	10831	219768	10.64%	0.286%
341	17.160	17.139	17.190	VV	7260	135276	6.55%	0.176%
342	17.212	17.190	17.218	VV	4057	48601	2.35%	0.063%
343	17.238	17.218	17.266	VV	8693	136152	6.59%	0.177%
344	17.270	17.266	17.279	VV	896	5932	0.29%	0.008%
345	17.289	17.279	17.297	VV	872	7883	0.38%	0.010%
346	17.325	17.297	17.332	VV	952	14993	0.73%	0.020%
347	17.347	17.332	17.357	VV	1254	14954	0.72%	0.019%
348	17.366	17.357	17.370	VV	1456	9416	0.46%	0.012%
349	17.379	17.370	17.439	VV	1632	38008	1.84%	0.050%

Sum of corrected areas: 76736388

FG052225.M Sat May 24 02:06:03 2025

rteres

Report of Analysis

Client:	CDM Smith	Date Collected:	05/20/25
Project:	South River WM Replacement	Date Received:	05/20/25
Client Sample ID:	TP-21	SDG No.:	Q2100
Lab Sample ID:	Q2100-03	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	78.2
Sample Wt/Vol:	30.04	Units:	g
Soil Aliquot Vol:			uL
Extraction Type:		Final Vol:	1
GPC Factor :		PH :	
Prep Method :	SW3541	Decanted:	
		Test:	Diesel Range Organics
		Injection Volume :	

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015901.D	1	05/23/25 10:10	05/23/25 15:55	PB168150

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	13100		216	2130	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	13.2		37 - 130	66%	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\FG052325\
Data File : FG015901.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 15:55
Operator : YP\AJ
Sample : Q2100-03
Misc :
ALS Vial : 25 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
TP-21

Manual Integrations
APPROVED

Reviewed By :Yogesh Patel 05/27/2025
Supervised By :mohammad ahmed 05/28/2025

Integration File: autoint1.e
Quant Time: May 23 23:07:23 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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...	14.985	1611928	13.152 ug/mlm
Target Compounds			

(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015901.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 15:55
Operator : YP\AJ
Sample : Q2100-03
Misc :
ALS Vial : 25 Sample Multiplier: 1

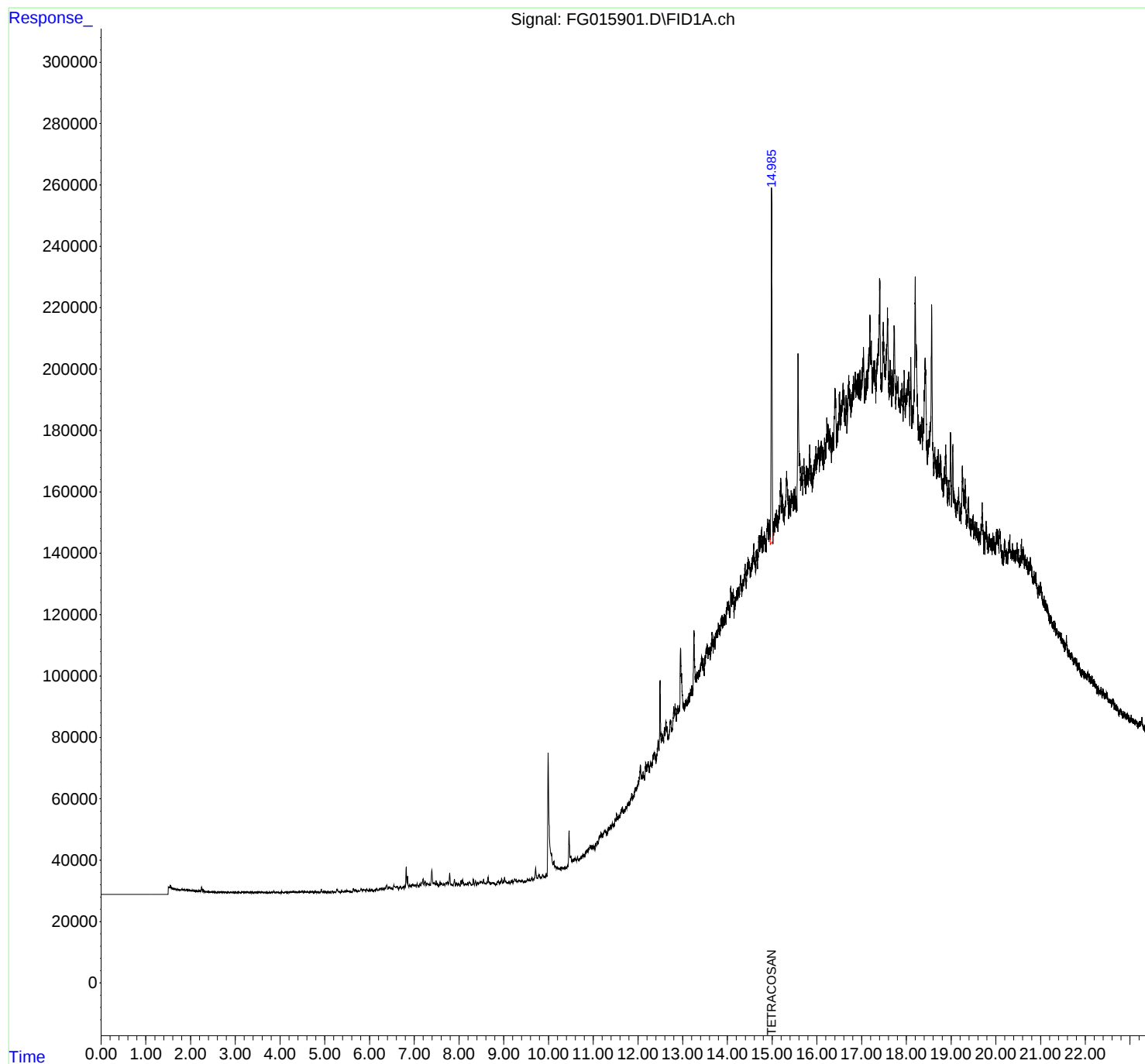
Instrument :
FID_G
ClientSampleId :
TP-21

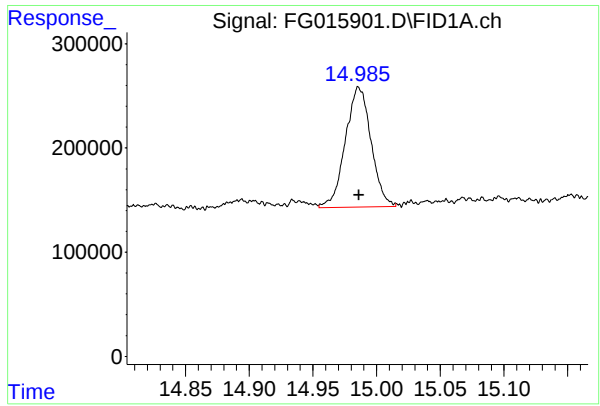
Manual Integrations
APPROVED

Reviewed By :Yogesh Patel 05/27/2025
Supervised By :mohammad ahmed 05/28/2025

Integration File: autoint1.e
Quant Time: May 23 23:07:23 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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.: 14.985 min
Delta R.T.: -0.001 min
Response: 1611928
Conc: 13.15 ug/ml

Instrument :
FID_G
ClientSampleId :
TP-21

Manual Integrations
APPROVED

Reviewed By :Yogesh Patel 05/27/2025
Supervised By :mohammad ahmed 05/28/2025

Instrument :

FID_G

ClientSampleId :

TP-21

Area Percent Report

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 05/27/2025

Supervised By :mohammad ahmed 05/28/2025

rteres

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG05232
Data File : FG015901.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 15:55
Sample : Q2100-03
Misc :
ALS Vial : 25 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.339	4.323	4.351	BV	43	116	0.01%	0.000%
2	4.363	4.351	4.371	PV	130	1155	0.06%	0.003%
3	4.374	4.371	4.401	VV	177	2079	0.10%	0.005%
4	4.410	4.401	4.417	PV	227	1748	0.09%	0.004%
5	4.434	4.417	4.454	VV	335	5158	0.26%	0.012%
6	4.461	4.454	4.468	VV	253	1516	0.08%	0.004%
7	4.473	4.468	4.478	VV	205	1017	0.05%	0.002%
8	4.495	4.478	4.517	VV	462	7160	0.36%	0.017%
9	4.532	4.517	4.536	VV	266	2557	0.13%	0.006%
10	4.552	4.536	4.565	VV	366	4739	0.24%	0.011%
11	4.570	4.565	4.595	VV	258	3192	0.16%	0.008%
12	4.612	4.595	4.630	VV	313	4094	0.20%	0.010%
13	4.633	4.630	4.639	VV	155	614	0.03%	0.001%
14	4.645	4.639	4.649	PV	128	514	0.03%	0.001%
15	4.672	4.649	4.681	VV	327	3691	0.18%	0.009%
16	4.692	4.681	4.748	VV	388	9068	0.45%	0.021%
17	4.771	4.748	4.790	VV	342	4839	0.24%	0.011%
18	4.796	4.790	4.810	VV	185	1687	0.08%	0.004%
19	4.824	4.810	4.838	VV	186	2580	0.13%	0.006%
20	4.846	4.838	4.878	VV	213	3914	0.20%	0.009%
21	4.923	4.878	4.944	VV	1111	16245	0.81%	0.038%
22	4.952	4.944	4.958	VV	261	1653	0.08%	0.004%
23	4.960	4.958	4.976	VV	256	1750	0.09%	0.004%
24	4.995	4.976	5.013	VV	390	5199	0.26%	0.012%
25	5.019	5.013	5.043	VV	262	2479	0.12%	0.006%
26	5.076	5.043	5.092	VV	323	4772	0.24%	0.011%
27	5.098	5.092	5.115	VV	186	1285	0.06%	0.003%
28	5.126	5.115	5.137	PV	114	825	0.04%	0.002%
29	5.167	5.137	5.191	VV	556	9391	0.47%	0.022%
30	5.199	5.191	5.222	VV	247	2475	0.12%	0.006%
31	5.234	5.222	5.238	VV	208	1596	0.08%	0.004%
32	5.243	5.238	5.250	VV	193	1241	0.06%	0.003%
33	5.269	5.250	5.277	VV	1036	10485	0.52%	0.025%
34	5.286	5.277	5.353	VV	939	16266	0.81%	0.038%
35	5.376	5.353	5.418	PV	571	12321	0.62%	0.029%
36	5.454	5.418	5.459	VV	482	7663	0.38%	0.018%

					retention			
37	5.464	5.459	5.474	VV	412	3524	0.18%	0.008%
38	5.490	5.474	5.503	VV	604	8604		
39	5.510	5.503	5.543	VV	549	8498		
40	5.551	5.543	5.562	VV	205	1874		
41	5.566	5.562	5.572	VV	210	1096		
42	5.578	5.572	5.592	VV	204	1622		
43	5.603	5.592	5.618	VV	167	1628	0.08%	0.004%
44	5.639	5.618	5.658	VV	1167	16916	0.85%	0.040%
45	5.671	5.658	5.694	VV	726	11496	0.57%	0.027%
46	5.701	5.694	5.722	VV	475	6100	0.30%	0.014%
47	5.726	5.722	5.738	VV	298	2238	0.11%	0.005%
48	5.754	5.738	5.773	VV	421	7191	0.36%	0.017%
49	5.780	5.773	5.788	VV	354	2737	0.14%	0.006%
50	5.808	5.788	5.849	VV	964	21076	1.05%	0.050%
51	5.862	5.849	5.884	VV	756	12830	0.64%	0.030%
52	5.896	5.884	5.913	VV	666	8380	0.42%	0.020%
53	5.934	5.913	5.979	VV	841	19284	0.96%	0.045%
54	6.001	5.979	6.027	VV	693	12854	0.64%	0.030%
55	6.038	6.027	6.052	VV	564	7249	0.36%	0.017%
56	6.062	6.052	6.090	VV	532	6232	0.31%	0.015%
57	6.114	6.090	6.123	PV	533	5400	0.27%	0.013%
58	6.160	6.123	6.180	VV	1025	18157	0.91%	0.043%
59	6.194	6.180	6.200	VV	374	3611	0.18%	0.009%
60	6.219	6.200	6.231	VV	706	9836	0.49%	0.023%
61	6.261	6.231	6.282	VV	950	21309	1.07%	0.050%
62	6.295	6.282	6.330	VV	936	17191	0.86%	0.041%
63	6.346	6.330	6.361	VV	945	13530	0.68%	0.032%
64	6.385	6.361	6.410	VV	1825	37746	1.89%	0.089%
65	6.451	6.410	6.478	VV	1158	37370	1.87%	0.088%
66	6.485	6.478	6.495	VV	698	6588	0.33%	0.016%
67	6.497	6.495	6.511	VV	650	5442	0.27%	0.013%
68	6.543	6.511	6.591	VV	1657	51285	2.56%	0.121%
69	6.618	6.591	6.651	VV	1224	32958	1.65%	0.078%
70	6.696	6.651	6.715	VV	1186	30214	1.51%	0.071%
71	6.763	6.715	6.776	VV	1095	28728	1.44%	0.068%
72	6.791	6.776	6.801	VV	1304	14173	0.71%	0.033%
73	6.821	6.801	6.838	VV	7438	90378	4.52%	0.213%
74	6.851	6.838	6.879	VV	4450	60236	3.01%	0.142%
75	6.894	6.879	6.907	VV	1574	21236	1.06%	0.050%
76	6.926	6.907	6.938	VV	1262	20442	1.02%	0.048%
77	6.969	6.938	6.997	VV	1657	47666	2.38%	0.112%
78	7.008	6.997	7.017	VV	1360	15679	0.78%	0.037%
79	7.027	7.017	7.045	VV	1348	18487	0.92%	0.044%
80	7.065	7.045	7.086	VV	1730	31610	1.58%	0.075%
81	7.095	7.086	7.108	VV	1147	12534	0.63%	0.030%
82	7.127	7.108	7.147	VV	1737	29609	1.48%	0.070%
83	7.166	7.147	7.175	VV	2122	27363	1.37%	0.065%
84	7.198	7.175	7.220	VV	3205	63170	3.16%	0.149%
85	7.240	7.220	7.269	VV	2481	51731	2.59%	0.122%
86	7.288	7.269	7.311	VV	1801	38929	1.95%	0.092%
87	7.324	7.311	7.335	VV	1498	19746	0.99%	0.047%
88	7.346	7.335	7.362	VV	1508	21206	1.06%	0.050%
89	7.394	7.362	7.425	VV	5990	116746	5.83%	0.275%

Instrument :

FID_G

ClientSampleId :

TP-21

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 05/27/2025

Supervised By :mohammad ahmed 05/28/2025

90	7.444	7.425	7.469	VV	1985	43587	2.18%	0.103%
91	7.489	7.469	7.507	VV	2468	39162		
92	7.521	7.507	7.542	VV	1251	22403		
93	7.546	7.542	7.551	VV	804	3910		
94	7.575	7.551	7.592	VV	1657	32360		
95	7.596	7.592	7.610	VV	1411	14261		
96	7.620	7.610	7.645	VV	1595	25279	1.26%	0.060%
97	7.666	7.645	7.688	VV	1376	28473	1.42%	0.067%
98	7.706	7.688	7.718	VV	1617	23988	1.20%	0.057%
99	7.721	7.718	7.727	VV	1444	7306	0.37%	0.017%
100	7.745	7.727	7.768	VV	1971	37521	1.88%	0.089%
101	7.793	7.768	7.821	VV	4752	76019	3.80%	0.179%
102	7.836	7.821	7.859	VV	1190	19134	0.96%	0.045%
103	7.899	7.859	7.922	VV	2643	49505	2.47%	0.117%
104	7.952	7.922	7.972	VV	1356	29179	1.46%	0.069%
105	7.991	7.972	8.024	VV	1126	22586	1.13%	0.053%
106	8.045	8.024	8.062	VV	2054	28750	1.44%	0.068%
107	8.080	8.062	8.121	VV	2298	47779	2.39%	0.113%
108	8.145	8.121	8.169	VV	980	22560	1.13%	0.053%
109	8.189	8.169	8.209	VV	1020	20109	1.01%	0.047%
110	8.228	8.209	8.243	VV	1516	22955	1.15%	0.054%
111	8.252	8.243	8.276	VV	1234	16515	0.83%	0.039%
112	8.287	8.276	8.301	VV	702	7923	0.40%	0.019%
113	8.320	8.301	8.346	VV	2383	33785	1.69%	0.080%
114	8.369	8.346	8.395	VV	1852	30474	1.52%	0.072%
115	8.410	8.395	8.431	VV	1138	17692	0.88%	0.042%
116	8.442	8.431	8.450	VV	956	9633	0.48%	0.023%
117	8.472	8.450	8.486	VV	1302	24801	1.24%	0.059%
118	8.502	8.486	8.532	VV	1472	31376	1.57%	0.074%
119	8.550	8.532	8.570	VV	2135	31879	1.59%	0.075%
120	8.576	8.570	8.607	VV	881	15039	0.75%	0.035%
121	8.652	8.607	8.670	VV	2770	55077	2.75%	0.130%
122	8.675	8.670	8.715	VV	1059	20370	1.02%	0.048%
123	8.751	8.715	8.769	VV	924	22754	1.14%	0.054%
124	8.780	8.769	8.818	VV	705	12733	0.64%	0.030%
125	8.832	8.818	8.847	PV	416	4496	0.22%	0.011%
126	8.884	8.847	8.907	VV	1258	31241	1.56%	0.074%
127	8.930	8.907	8.937	VV	959	14381	0.72%	0.034%
128	8.953	8.937	8.978	VV	2017	28870	1.44%	0.068%
129	8.993	8.978	9.001	VV	950	10598	0.53%	0.025%
130	9.018	9.001	9.036	VV	2334	32520	1.63%	0.077%
131	9.042	9.036	9.072	VV	1076	15754	0.79%	0.037%
132	9.087	9.072	9.100	VV	557	6957	0.35%	0.016%
133	9.118	9.100	9.137	VV	1007	12384	0.62%	0.029%
134	9.159	9.137	9.168	VV	722	9273	0.46%	0.022%
135	9.190	9.168	9.208	VV	1310	19190	0.96%	0.045%
136	9.245	9.208	9.296	VV	1533	50543	2.53%	0.119%
137	9.313	9.296	9.322	VV	681	9785	0.49%	0.023%
138	9.340	9.322	9.360	VV	976	18379	0.92%	0.043%
139	9.379	9.360	9.390	VV	773	12841	0.64%	0.030%
140	9.413	9.390	9.440	VV	972	18787	0.94%	0.044%
141	9.460	9.440	9.475	PV	517	6604	0.33%	0.016%

Instrument :

FID_G

ClientSampleId :

TP-21

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 05/27/2025

Supervised By :mohammad ahmed 05/28/2025

					rters			
142	9.488	9.475	9.509	VV	388	5576	0.28%	0.013%
143	9.534	9.509	9.555	VV	859	14779		
144	9.569	9.555	9.596	VV	667	9853		
145	9.632	9.596	9.650	VV	1088	18621		
146	9.666	9.650	9.673	VV	443	4961		
147	9.714	9.673	9.749	VV	3847	66622		
148	9.790	9.749	9.815	VV	1484	35164	1.76%	0.083%
149	9.819	9.815	9.825	VV	418	2337	0.12%	0.006%
150	9.830	9.825	9.836	VV	476	2671	0.13%	0.006%
151	9.871	9.836	9.887	VV	1273	22045	1.10%	0.052%
152	9.892	9.887	9.912	VV	686	6035	0.30%	0.014%
153	9.947	9.912	9.965	PV	1062	14275	0.71%	0.034%
154	9.994	9.965	10.098	VV	40085	968420	48.40%	2.285%
155	10.116	10.098	10.147	VV	3987	90599	4.53%	0.214%
156	10.152	10.147	10.177	VV	2226	32688	1.63%	0.077%
157	10.191	10.177	10.200	VV	1669	22125	1.11%	0.052%
158	10.204	10.200	10.240	VV	1469	26558	1.33%	0.063%
159	10.245	10.240	10.264	VV	769	9303	0.46%	0.022%
160	10.269	10.264	10.273	VV	608	3225	0.16%	0.008%
161	10.297	10.273	10.337	VV	887	21148	1.06%	0.050%
162	10.352	10.337	10.379	VV	540	8943	0.45%	0.021%
163	10.383	10.379	10.386	VV	213	590	0.03%	0.001%
164	10.391	10.386	10.398	VV	161	737	0.04%	0.002%
165	10.427	10.398	10.436	PV	553	6422	0.32%	0.015%
166	10.461	10.436	10.489	VV	11602	162365	8.11%	0.383%
167	10.499	10.489	10.522	VV	3097	46339	2.32%	0.109%
168	10.543	10.522	10.557	VV	1422	24437	1.22%	0.058%
169	10.590	10.557	10.624	VV	1567	44981	2.25%	0.106%
170	10.651	10.624	10.673	VV	1552	23528	1.18%	0.056%
171	10.697	10.673	10.704	PV	569	7129	0.36%	0.017%
172	10.717	10.704	10.726	VV	703	5031	0.25%	0.012%
173	10.756	10.726	10.762	VV	866	13732	0.69%	0.032%
174	10.780	10.762	10.802	VV	935	17033	0.85%	0.040%
175	10.830	10.802	10.834	PV	1129	12454	0.62%	0.029%
176	10.863	10.834	10.872	VV	1657	29980	1.50%	0.071%
177	10.876	10.872	10.887	VV	1146	9329	0.47%	0.022%
178	10.907	10.887	10.913	VV	1635	20221	1.01%	0.048%
179	10.929	10.913	10.958	VV	2311	43865	2.19%	0.104%
180	10.978	10.958	11.002	VV	1693	32587	1.63%	0.077%
181	11.017	11.002	11.037	VV	1245	14983	0.75%	0.035%
182	11.056	11.037	11.067	PV	1465	16978	0.85%	0.040%
183	11.091	11.067	11.114	VV	1568	30002	1.50%	0.071%
184	11.142	11.114	11.156	VV	2517	46792	2.34%	0.110%
185	11.179	11.156	11.193	VV	2782	47337	2.37%	0.112%
186	11.199	11.193	11.208	VV	1679	13489	0.67%	0.032%
187	11.212	11.208	11.216	VV	1454	5617	0.28%	0.013%
188	11.257	11.216	11.261	VV	2395	51569	2.58%	0.122%
189	11.266	11.261	11.274	VV	2213	15457	0.77%	0.036%
190	11.285	11.274	11.305	VV	1460	19857	0.99%	0.047%
191	11.341	11.305	11.358	PV	2148	36123	1.81%	0.085%
192	11.396	11.358	11.410	VV	1643	37668	1.88%	0.089%
193	11.426	11.410	11.444	VV	2050	26965	1.35%	0.064%
194	11.450	11.444	11.474	VV	1081	11878	0.59%	0.028%

Instrument :

FID_G

ClientSampleId :

TP-21

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 05/27/2025

Supervised By :mohammad ahmed 05/28/2025

195	11.486	11.474	11.490	PV	2171	13276	0.66%	0.031%
196	11.505	11.490	11.513	VV	1801	21465		
197	11.529	11.513	11.547	VV	2833	40925		
198	11.564	11.547	11.570	VV	1592	16696		
199	11.577	11.570	11.581	VV	1094	6265		
200	11.587	11.581	11.601	VV	1022	9675		
201	11.649	11.601	11.677	VV	2617	71190	3.56%	0.168%
202	11.695	11.677	11.703	VV	990	7765	0.39%	0.018%
203	11.706	11.703	11.710	VV	656	1586	0.08%	0.004%
204	11.725	11.710	11.729	PV	1051	7124	0.36%	0.017%
205	11.733	11.729	11.748	VV	1133	8207	0.41%	0.019%
206	11.757	11.748	11.761	VV	867	3865	0.19%	0.009%
207	11.775	11.761	11.786	VV	1130	11498	0.57%	0.027%
208	11.800	11.786	11.816	VV	1219	12285	0.61%	0.029%
209	11.858	11.816	11.862	PV	2663	34497	1.72%	0.081%
210	11.866	11.862	11.889	VV	2249	16902	0.84%	0.040%
211	11.893	11.889	11.898	VV	639	2257	0.11%	0.005%
212	11.905	11.898	11.912	VV	742	3910	0.20%	0.009%
213	11.932	11.912	11.939	VV	2100	26397	1.32%	0.062%
214	11.943	11.939	11.967	VV	2519	32009	1.60%	0.076%
215	12.003	11.967	12.007	VV	3409	46584	2.33%	0.110%
216	12.033	12.007	12.038	VV	3746	56491	2.82%	0.133%
217	12.056	12.038	12.076	VV	7229	109870	5.49%	0.259%
218	12.081	12.076	12.085	VV	3276	14493	0.72%	0.034%
219	12.113	12.085	12.148	VV	3604	86500	4.32%	0.204%
220	12.173	12.148	12.189	VV	5417	68953	3.45%	0.163%
221	12.196	12.189	12.200	VV	3174	17962	0.90%	0.042%
222	12.231	12.200	12.255	VV	4362	95651	4.78%	0.226%
223	12.283	12.255	12.296	VV	3049	44472	2.22%	0.105%
224	12.300	12.296	12.312	VV	1815	14115	0.71%	0.033%
225	12.336	12.312	12.340	VV	4131	37155	1.86%	0.088%
226	12.365	12.340	12.385	VV	4207	86675	4.33%	0.205%
227	12.388	12.385	12.395	VV	2687	11775	0.59%	0.028%
228	12.398	12.395	12.404	VV	1743	6764	0.34%	0.016%
229	12.451	12.404	12.470	PV	5878	125939	6.29%	0.297%
230	12.495	12.470	12.522	VV	24525	347241	17.35%	0.819%
231	12.542	12.522	12.562	VV	5793	113755	5.69%	0.268%
232	12.567	12.562	12.575	VV	4176	23927	1.20%	0.056%
233	12.594	12.575	12.607	VV	6846	95920	4.79%	0.226%
234	12.623	12.607	12.649	VV	8124	149020	7.45%	0.352%
235	12.653	12.649	12.677	VV	5667	47873	2.39%	0.113%
236	12.690	12.677	12.694	VV	2269	17907	0.89%	0.042%
237	12.725	12.694	12.764	VV	6388	153514	7.67%	0.362%
238	12.800	12.764	12.819	VV	7874	172763	8.63%	0.408%
239	12.832	12.819	12.856	VV	8922	132748	6.63%	0.313%
240	12.883	12.856	12.891	VV	7152	108981	5.45%	0.257%
241	12.896	12.891	12.907	VV	5813	52117	2.60%	0.123%
242	12.917	12.907	12.930	VV	6101	68585	3.43%	0.162%
243	12.953	12.930	12.973	VV	23885	392004	19.59%	0.925%
244	12.977	12.973	13.007	VV	15368	180224	9.01%	0.425%
245	13.011	13.007	13.017	VV	4763	24429	1.22%	0.058%
246	13.026	13.017	13.042	VV	4311	49451	2.47%	0.117%

Instrument :

FID_G

ClientSampleId :

TP-21

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 05/27/2025

Supervised By :mohammad ahmed 05/28/2025

Project Details							Summary	
Project Name		Project ID		Project Manager		Project Status		
Project Name		Project ID		Project Manager		Project Status		
247	13.058	13.042	13.063	VV	4607	36313	1.81%	0.086%
248	13.078	13.063	13.099	VV	4460	70396	3.00%	0.086%
249	13.120	13.099	13.132	VV	3726	59333	2.00%	0.086%
250	13.140	13.132	13.154	VV	5116	44069	2.00%	0.086%
Manual Integration							Reviewed By : Yogi	
Manual Integration							Supervised By : m	
251	13.177	13.154	13.187	VV	4736	77984	3.00%	0.086%
252	13.203	13.187	13.222	VV	5903	82464	4.00%	0.086%
253	13.252	13.222	13.291	VV	22252	460231	23.00%	1.086%
254	13.295	13.291	13.318	VV	7116	102473	5.12%	0.242%
255	13.324	13.318	13.329	VV	7597	41494	2.07%	0.098%
256	13.332	13.329	13.351	VV	5995	74131	3.70%	0.175%
257	13.359	13.351	13.364	VV	7116	43110	2.15%	0.102%
258	13.376	13.364	13.381	VV	6595	56543	2.83%	0.133%
259	13.424	13.381	13.449	VV	9960	304615	15.22%	0.719%
260	13.460	13.449	13.481	VV	7828	108741	5.43%	0.257%
261	13.501	13.481	13.509	VV	8316	105500	5.27%	0.249%
262	13.545	13.509	13.567	VV	11449	307466	15.37%	0.725%
263	13.608	13.567	13.618	VV	8827	235843	11.79%	0.556%
264	13.622	13.618	13.626	VV	7212	29203	1.46%	0.069%
265	13.657	13.626	13.665	VV	12326	217947	10.89%	0.514%
266	13.668	13.665	13.682	VV	9704	73727	3.68%	0.174%
267	13.697	13.682	13.708	VV	10033	127505	6.37%	0.301%
268	13.716	13.708	13.724	VV	9389	76114	3.80%	0.180%
269	13.750	13.724	13.766	VV	10407	225583	11.27%	0.532%
270	13.771	13.766	13.786	VV	9606	106945	5.34%	0.252%
271	13.797	13.786	13.806	VV	11926	122141	6.10%	0.288%
272	13.807	13.806	13.816	VV	10354	55266	2.76%	0.130%
273	13.819	13.816	13.838	VV	10684	120192	6.01%	0.284%
274	13.858	13.838	13.867	VV	12226	183679	9.18%	0.433%
275	13.880	13.867	13.896	VV	12439	169876	8.49%	0.401%
276	13.906	13.896	13.921	VV	10724	143861	7.19%	0.339%
277	13.932	13.921	13.943	VV	10590	132601	6.63%	0.313%
278	13.952	13.943	13.957	VV	10323	75238	3.76%	0.178%
279	13.979	13.957	13.987	VV	12592	186006	9.30%	0.439%
280	13.999	13.987	14.007	VV	14001	150709	7.53%	0.356%
281	14.010	14.007	14.058	VV	13740	344243	17.20%	0.812%
282	14.076	14.058	14.094	VV	17354	281121	14.05%	0.663%
283	14.099	14.094	14.114	VV	14555	144412	7.22%	0.341%
284	14.128	14.114	14.150	VV	14937	247951	12.39%	0.585%
285	14.159	14.150	14.169	VV	10565	104836	5.24%	0.247%
286	14.177	14.169	14.182	VV	11208	79040	3.95%	0.186%
287	14.226	14.182	14.241	VV	13252	393774	19.68%	0.929%
288	14.257	14.241	14.270	VV	12711	188660	9.43%	0.445%
289	14.295	14.270	14.312	VV	15289	322483	16.12%	0.761%
290	14.316	14.312	14.322	VV	11078	57583	2.88%	0.136%
291	14.349	14.322	14.352	VV	12986	197418	9.87%	0.466%
292	14.356	14.352	14.366	VV	12481	100641	5.03%	0.237%
293	14.379	14.366	14.384	VV	13853	135042	6.75%	0.319%
294	14.395	14.384	14.417	VV	16927	259748	12.98%	0.613%
295	14.449	14.417	14.452	VV	15805	252980	12.64%	0.597%
296	14.459	14.452	14.467	VV	17742	137165	6.86%	0.324%
297	14.471	14.467	14.506	VV	15592	325631	16.27%	0.768%
298	14.513	14.506	14.517	VV	12815	75061	3.75%	0.177%
299	14.562	14.517	14.567	VV	14409	376643	18.82%	0.889%

Instrument :

FID_G

ClientSampleId :

TP-21

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 05/27/2025

Supervised By :mohammad ahmed 05/28/2025

300	14.588	14.567	14.605	VV	19204	358218	17.90%	0.845%
301	14.611	14.605	14.629	VV	13378	165194		
302	14.659	14.629	14.674	VV	14616	342663	17.90%	0.845%
303	14.699	14.674	14.715	VV	18381	364763	18.90%	0.845%
304	14.767	14.715	14.794	VV	20337	726729	36.90%	0.845%
305	14.796	14.794	14.799	VV	15835	49660	2.90%	0.845%
306	14.826	14.799	14.849	VV	17146	420963	21.04%	0.993%
307	14.854	14.849	14.865	VV	13405	115199	5.76%	0.272%
308	14.894	14.865	14.930	VV	19158	586442	29.31%	1.384%
309	14.934	14.930	14.954	VV	18042	212102	10.60%	0.500%
310	14.986	14.954	15.020	VV	124985	2000850	100.00%	4.721%
311	15.027	15.020	15.032	VV	14868	92215	4.61%	0.218%
312	15.054	15.032	15.060	VV	14500	222978	11.14%	0.526%
313	15.096	15.060	15.104	VV	17019	385220	19.25%	0.909%
314	15.110	15.104	15.127	VV	14697	189609	9.48%	0.447%
315	15.152	15.127	15.170	VV	17349	372936	18.64%	0.880%
316	15.193	15.170	15.219	VV	25481	572207	28.60%	1.350%
317	15.227	15.219	15.266	VV	17591	407331	20.36%	0.961%
318	15.271	15.266	15.274	VV	13097	61076	3.05%	0.144%
319	15.322	15.274	15.344	VV	24627	722247	36.10%	1.704%
320	15.348	15.344	15.369	VV	17568	200718	10.03%	0.474%
321	15.386	15.369	15.415	VV	14401	314799	15.73%	0.743%
322	15.427	15.415	15.470	VV	15326	415895	20.79%	0.981%
323	15.490	15.470	15.499	VV	14789	206805	10.34%	0.488%
324	15.515	15.499	15.524	VV	15187	169400	8.47%	0.400%
325	15.529	15.524	15.538	VV	11356	80575	4.03%	0.190%
326	15.577	15.538	15.639	VV	56909	1464655	73.20%	3.456%
327	15.644	15.639	15.649	VV	13931	88387	4.42%	0.209%
328	15.664	15.649	15.685	VV	18070	293788	14.68%	0.693%
329	15.711	15.685	15.735	VV	18642	435697	21.78%	1.028%
330	15.741	15.735	15.749	VV	13103	93648	4.68%	0.221%
331	15.766	15.749	15.777	VV	15687	198275	9.91%	0.468%
332	15.782	15.777	15.791	VV	12347	92871	4.64%	0.219%
333	15.797	15.791	15.808	VV	14342	118365	5.92%	0.279%
334	15.838	15.808	15.864	VV	20216	450027	22.49%	1.062%
335	15.870	15.864	15.880	VV	13599	110722	5.53%	0.261%
336	15.887	15.880	15.896	VV	10345	73475	3.67%	0.173%
337	15.927	15.896	15.933	VV	12462	195037	9.75%	0.460%
338	15.940	15.933	15.945	VV	11577	80822	4.04%	0.191%
339	15.978	15.945	15.984	VV	15876	282185	14.10%	0.666%
340	15.989	15.984	15.997	VV	12841	88924	4.44%	0.210%
341	16.034	15.997	16.054	VV	16238	455491	22.76%	1.075%
342	16.108	16.054	16.134	VV	14162	571526	28.56%	1.349%
343	16.139	16.134	16.149	VV	12281	85867	4.29%	0.203%
344	16.173	16.149	16.204	VV	14663	362671	18.13%	0.856%
345	16.226	16.204	16.239	VV	18003	315746	15.78%	0.745%
346	16.249	16.239	16.279	VV	17917	333001	16.64%	0.786%
347	16.292	16.279	16.324	VV	15160	288683	14.43%	0.681%
348	16.355	16.324	16.371	VV	13028	259634	12.98%	0.613%
349	16.414	16.371	16.440	VV	24564	665677	33.27%	1.571%
350	16.461	16.440	16.467	VV	10525	167196	8.36%	0.394%
351	16.505	16.467	16.525	VV	21523	496181	24.80%	1.171%

Reviewed By :Yogesh Patel 05/27/2025
Supervised By :mohammad ahmed 05/28/2025

FG052225.M Sat May 24 02:07:56 2025

Report of Analysis

Client:	CDM Smith	Date Collected:	05/20/25
Project:	South River WM Replacement	Date Received:	05/20/25
Client Sample ID:	TP-45	SDG No.:	Q2100
Lab Sample ID:	Q2100-04	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	76.2
Sample Wt/Vol:	30.02	Units:	g
Soil Aliquot Vol:			uL
Extraction Type:		Final Vol:	1
GPC Factor :		PH :	
Prep Method :	SW3541	Decanted:	
		Test:	Diesel Range Organics
		Injection Volume :	

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015902.D	1	05/23/25 10:10	05/23/25 16:24	PB168150

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	1950	J	222	2190	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	14.7		37 - 130	73%	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\FG052325\
Data File : FG015902.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 16:24
Operator : YP\AJ
Sample : Q2100-04
Misc :
ALS Vial : 26 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
TP-45

Integration File: autoint1.e
Quant Time: May 23 23:07:40 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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...	14.982	1797382	14.665 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

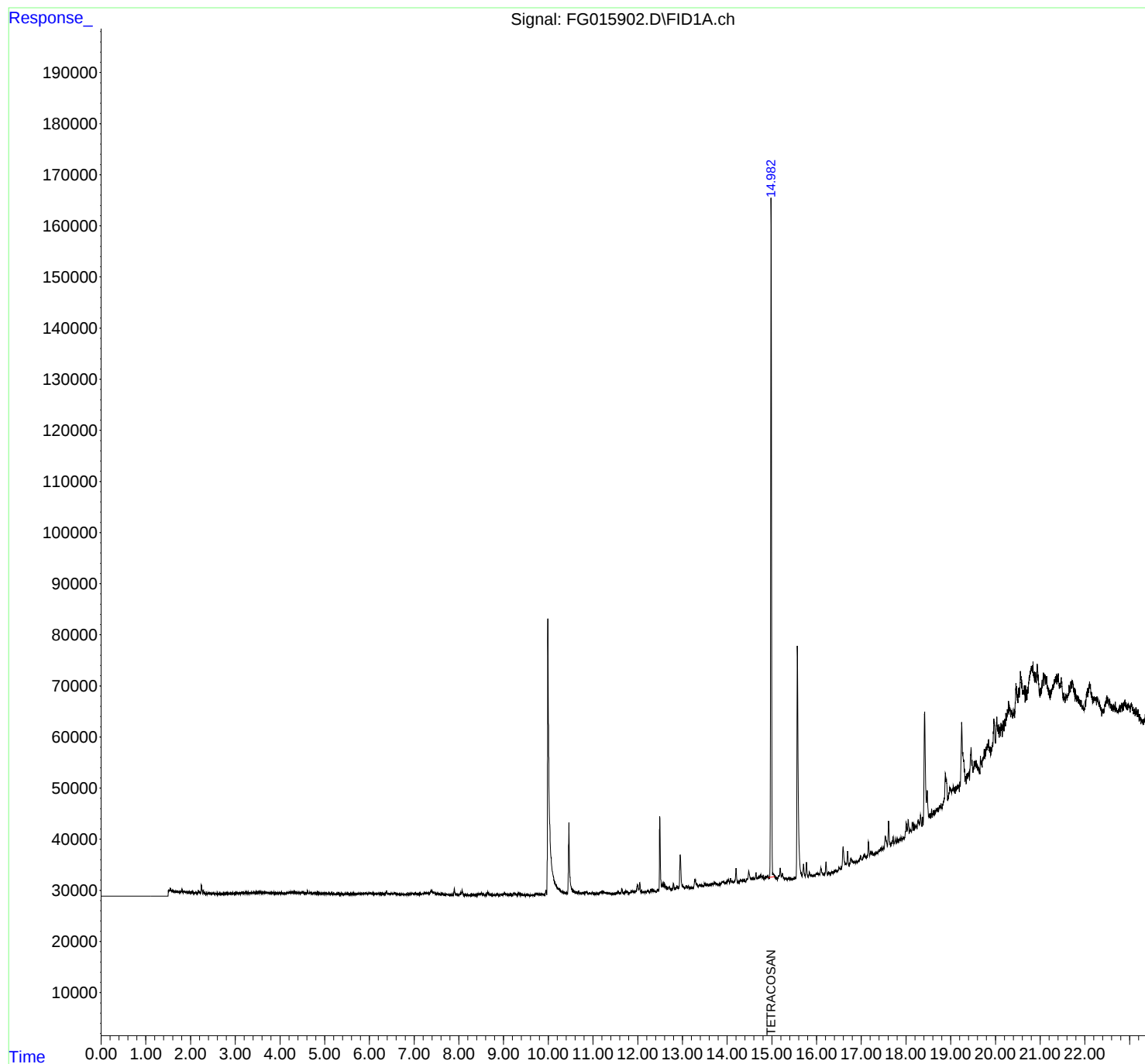
(m)=manual int.

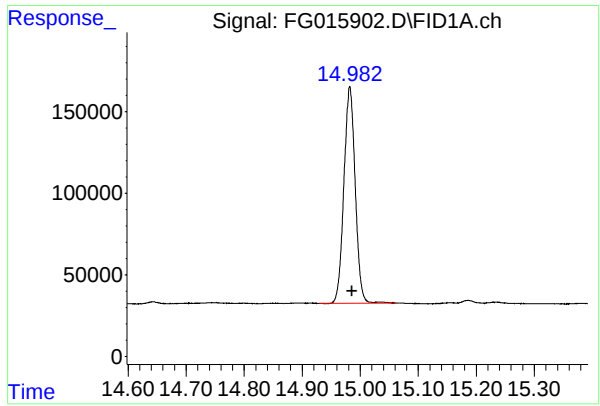
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015902.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 16:24
Operator : YP\AJ
Sample : Q2100-04
Misc :
ALS Vial : 26 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
TP-45

Integration File: autoint1.e
Quant Time: May 23 23:07:40 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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.: 14.982 min
Delta R.T.: -0.004 min
Response: 1797382
Conc: 14.67 ug/ml

Instrument :
FID_G
ClientSampleId :
TP-45

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
 Data File : FG015902.D
 Signal(s) : FID1A.ch
 Acq On : 23 May 2025 16:24
 Sample : Q2100-04
 Misc :
 ALS Vial : 26 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
 Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.311	4.300	4.357	BV	194	3243	0.18%	0.042%
2	4.360	4.357	4.370	VV	128	621	0.03%	0.008%
3	4.374	4.370	4.378	PV	110	282	0.02%	0.004%
4	4.383	4.378	4.389	VV	88	332	0.02%	0.004%
5	4.394	4.389	4.398	VV	90	329	0.02%	0.004%
6	4.402	4.398	4.407	VV	108	365	0.02%	0.005%
7	4.413	4.407	4.425	VV	115	744	0.04%	0.010%
8	4.433	4.425	4.457	VV	153	1304	0.07%	0.017%
9	4.461	4.457	4.474	VV	140	632	0.03%	0.008%
10	4.489	4.474	4.508	PV	245	2845	0.16%	0.037%
11	4.514	4.508	4.520	VV	149	835	0.05%	0.011%
12	4.523	4.520	4.528	VV	147	592	0.03%	0.008%
13	4.535	4.528	4.541	VV	136	710	0.04%	0.009%
14	4.549	4.541	4.562	VV	134	862	0.05%	0.011%
15	4.566	4.562	4.572	VV	92	319	0.02%	0.004%
16	4.579	4.572	4.593	VV	105	630	0.03%	0.008%
17	4.614	4.593	4.643	VV	498	6448	0.35%	0.084%
18	4.664	4.643	4.704	PV	263	5299	0.29%	0.069%
19	4.713	4.704	4.730	VV	143	1621	0.09%	0.021%
20	4.743	4.730	4.748	VV	165	1118	0.06%	0.015%
21	4.767	4.748	4.780	VV	188	2187	0.12%	0.028%
22	4.788	4.780	4.805	VV	127	1693	0.09%	0.022%
23	4.810	4.805	4.832	VV	159	1955	0.11%	0.025%
24	4.843	4.832	4.853	VV	178	1628	0.09%	0.021%
25	4.858	4.853	4.863	VV	143	746	0.04%	0.010%
26	4.874	4.863	4.882	VV	215	1541	0.08%	0.020%
27	4.886	4.882	4.893	VV	210	848	0.05%	0.011%
28	4.896	4.893	4.914	VV	171	1477	0.08%	0.019%
29	4.916	4.914	4.947	VV	175	2487	0.14%	0.032%
30	4.959	4.947	4.965	VV	193	1559	0.09%	0.020%
31	4.967	4.965	4.974	VV	209	802	0.04%	0.010%
32	4.979	4.974	4.983	VV	183	770	0.04%	0.010%
33	4.987	4.983	4.993	VV	167	780	0.04%	0.010%
34	4.998	4.993	5.027	VV	177	2681	0.15%	0.035%
35	5.033	5.027	5.039	VV	140	789	0.04%	0.010%
36	5.043	5.039	5.050	VV	115	554	0.03%	0.007%

					rteres			
37	5.053	5.050	5.079	VV	94	1441	0.08%	0.019%
38	5.084	5.079	5.090	VV	153	593	0.03%	0.008%
39	5.098	5.090	5.106	VV	150	817	0.04%	0.011%
40	5.113	5.106	5.125	VV	124	980	0.05%	0.013%
41	5.154	5.125	5.173	VV	186	3548	0.19%	0.046%
42	5.175	5.173	5.182	VV	128	602	0.03%	0.008%
43	5.197	5.182	5.217	VV	186	1773	0.10%	0.023%
44	5.220	5.217	5.238	VV	131	1109	0.06%	0.014%
45	5.244	5.238	5.258	VV	119	1019	0.06%	0.013%
46	5.261	5.258	5.272	VV	154	815	0.04%	0.011%
47	5.277	5.272	5.283	VV	115	433	0.02%	0.006%
48	5.298	5.283	5.327	VV	167	2030	0.11%	0.026%
49	5.336	5.327	5.343	PV	122	655	0.04%	0.008%
50	5.348	5.343	5.355	VV	121	610	0.03%	0.008%
51	5.366	5.355	5.382	PV	174	1607	0.09%	0.021%
52	5.385	5.382	5.394	VV	158	744	0.04%	0.010%
53	5.398	5.394	5.403	VV	154	618	0.03%	0.008%
54	5.408	5.403	5.422	VV	152	1079	0.06%	0.014%
55	5.428	5.422	5.445	VV	115	1127	0.06%	0.015%
56	5.450	5.445	5.454	VV	112	549	0.03%	0.007%
57	5.462	5.454	5.467	VV	137	1057	0.06%	0.014%
58	5.473	5.467	5.479	VV	161	1002	0.05%	0.013%
59	5.492	5.479	5.496	VV	244	1556	0.08%	0.020%
60	5.518	5.496	5.524	VV	193	2235	0.12%	0.029%
61	5.529	5.524	5.540	VV	153	1302	0.07%	0.017%
62	5.545	5.540	5.560	VV	131	1212	0.07%	0.016%
63	5.563	5.560	5.568	VV	110	472	0.03%	0.006%
64	5.571	5.568	5.589	VV	165	1330	0.07%	0.017%
65	5.595	5.589	5.607	VV	172	1142	0.06%	0.015%
66	5.618	5.607	5.680	VV	137	4202	0.23%	0.054%
67	5.692	5.680	5.705	VV	132	1356	0.07%	0.018%
68	5.715	5.705	5.720	VV	123	806	0.04%	0.010%
69	5.727	5.720	5.732	VV	159	676	0.04%	0.009%
70	5.745	5.732	5.754	VV	157	1706	0.09%	0.022%
71	5.766	5.754	5.782	VV	187	2624	0.14%	0.034%
72	5.793	5.782	5.807	VV	240	2756	0.15%	0.036%
73	5.829	5.807	5.852	VV	278	5896	0.32%	0.076%
74	5.855	5.852	5.859	VV	255	895	0.05%	0.012%
75	5.864	5.859	5.870	VV	243	1447	0.08%	0.019%
76	5.877	5.870	5.888	VV	289	2531	0.14%	0.033%
77	5.897	5.888	5.905	VV	291	2697	0.15%	0.035%
78	5.912	5.905	5.945	VV	332	6287	0.34%	0.082%
79	5.950	5.945	5.981	VV	248	4907	0.27%	0.064%
80	5.986	5.981	6.014	VV	273	4721	0.26%	0.061%
81	6.021	6.014	6.029	VV	227	1901	0.10%	0.025%
82	6.035	6.029	6.044	VV	224	1786	0.10%	0.023%
83	6.050	6.044	6.073	VV	250	3561	0.19%	0.046%
84	6.078	6.073	6.081	VV	215	897	0.05%	0.012%
85	6.093	6.081	6.113	VV	279	3876	0.21%	0.050%
86	6.128	6.113	6.145	VV	233	3194	0.17%	0.041%
87	6.200	6.145	6.237	VV	278	11016	0.60%	0.143%
88	6.242	6.237	6.247	VV	220	1211	0.07%	0.016%
89	6.265	6.247	6.288	VV	250	5112	0.28%	0.066%

					rteres			
90	6.293	6.288	6.304	VV	236	1862	0.10%	0.024%
91	6.309	6.304	6.316	VV	219	1350	0.07%	0.018%
92	6.326	6.316	6.330	VV	277	1671	0.09%	0.022%
93	6.341	6.330	6.360	VV	259	3778	0.21%	0.049%
94	6.383	6.360	6.405	VV	836	12475	0.68%	0.162%
95	6.411	6.405	6.425	VV	226	2120	0.12%	0.027%
96	6.438	6.425	6.443	VV	231	2136	0.12%	0.028%
97	6.461	6.443	6.470	VV	254	3500	0.19%	0.045%
98	6.474	6.470	6.504	VV	249	3947	0.22%	0.051%
99	6.507	6.504	6.521	VV	202	1822	0.10%	0.024%
100	6.533	6.521	6.539	VV	236	1989	0.11%	0.026%
101	6.547	6.539	6.552	VV	295	1962	0.11%	0.025%
102	6.558	6.552	6.597	VV	321	6225	0.34%	0.081%
103	6.601	6.597	6.629	VV	204	2933	0.16%	0.038%
104	6.634	6.629	6.642	VV	211	1299	0.07%	0.017%
105	6.651	6.642	6.655	VV	155	1022	0.06%	0.013%
106	6.659	6.655	6.681	VV	199	2252	0.12%	0.029%
107	6.698	6.681	6.707	VV	186	2175	0.12%	0.028%
108	6.713	6.707	6.727	VV	166	1517	0.08%	0.020%
109	6.735	6.727	6.747	VV	169	1432	0.08%	0.019%
110	6.750	6.747	6.754	VV	150	476	0.03%	0.006%
111	6.758	6.754	6.769	VV	127	912	0.05%	0.012%
112	6.773	6.769	6.803	VV	143	1978	0.11%	0.026%
113	6.824	6.803	6.830	VV	183	1769	0.10%	0.023%
114	6.856	6.830	6.864	VV	295	3050	0.17%	0.040%
115	6.902	6.864	6.944	VV	299	10856	0.59%	0.141%
116	6.953	6.944	6.979	VV	334	6205	0.34%	0.080%
117	6.983	6.979	6.990	VV	334	2049	0.11%	0.027%
118	6.992	6.990	7.039	VV	309	7591	0.41%	0.098%
119	7.043	7.039	7.050	VV	225	1395	0.08%	0.018%
120	7.058	7.050	7.072	VV	216	2524	0.14%	0.033%
121	7.077	7.072	7.095	VV	221	2463	0.13%	0.032%
122	7.101	7.095	7.128	VV	224	3664	0.20%	0.048%
123	7.149	7.128	7.165	VV	228	4187	0.23%	0.054%
124	7.223	7.165	7.231	VV	385	10898	0.59%	0.141%
125	7.235	7.231	7.289	VV	368	12399	0.68%	0.161%
126	7.296	7.289	7.344	VV	425	11443	0.62%	0.148%
127	7.385	7.344	7.442	VV	871	35417	1.93%	0.459%
128	7.449	7.442	7.599	VV	543	27762	1.52%	0.360%
129	7.618	7.599	7.639	VV	249	4839	0.26%	0.063%
130	7.641	7.639	7.753	VV	340	9424	0.51%	0.122%
131	7.767	7.753	7.790	VV	157	2298	0.13%	0.030%
132	7.801	7.790	7.812	VV	137	1131	0.06%	0.015%
133	7.834	7.812	7.849	VV	131	1632	0.09%	0.021%
134	7.857	7.849	7.865	VV	135	810	0.04%	0.011%
135	7.901	7.865	7.985	VV	1300	24706	1.35%	0.320%
136	7.993	7.985	8.007	VV	95	1283	0.07%	0.017%
137	8.047	8.007	8.057	VV	494	7123	0.39%	0.092%
138	8.075	8.057	8.154	VV	1096	16963	0.93%	0.220%
139	8.197	8.154	8.229	VV	105	3189	0.17%	0.041%
140	8.283	8.229	8.306	PV	127	3019	0.16%	0.039%
141	8.319	8.306	8.360	VV	89	2164	0.12%	0.028%

					rteres			
142	8.368	8.360	8.398	VV	61	1518	0.08%	0.020%
143	8.477	8.398	8.491	VV	377	10840	0.59%	0.141%
144	8.509	8.491	8.551	VV	409	9457	0.52%	0.123%
145	8.562	8.551	8.602	VV	198	3551	0.19%	0.046%
146	8.645	8.602	8.714	VV	631	19064	1.04%	0.247%
147	8.751	8.714	8.761	VV	165	3260	0.18%	0.042%
148	8.768	8.761	8.787	VV	150	1268	0.07%	0.016%
149	8.797	8.787	8.822	VV	103	1423	0.08%	0.018%
150	8.863	8.822	8.908	VV	294	7329	0.40%	0.095%
151	8.939	8.908	8.974	VV	245	5597	0.31%	0.073%
152	9.010	8.974	9.035	VV	408	9606	0.52%	0.125%
153	9.043	9.035	9.125	VV	310	9826	0.54%	0.127%
154	9.159	9.125	9.182	VV	240	4670	0.25%	0.061%
155	9.193	9.182	9.211	VV	158	2464	0.13%	0.032%
156	9.235	9.211	9.319	VV	496	16176	0.88%	0.210%
157	9.337	9.319	9.362	VV	424	7455	0.41%	0.097%
158	9.378	9.362	9.419	VV	385	8377	0.46%	0.109%
159	9.434	9.419	9.446	VV	168	1832	0.10%	0.024%
160	9.458	9.446	9.500	VV	115	2677	0.15%	0.035%
161	9.524	9.500	9.598	VV	319	6951	0.38%	0.090%
162	9.627	9.598	9.666	PV	112	2730	0.15%	0.035%
163	9.673	9.666	9.682	VV	108	634	0.03%	0.008%
164	9.726	9.682	9.827	VV	417	21183	1.16%	0.275%
165	9.839	9.827	9.858	VV	207	3273	0.18%	0.042%
166	9.871	9.858	9.897	VV	293	4280	0.23%	0.056%
167	9.900	9.897	9.922	VV	210	1638	0.09%	0.021%
168	9.948	9.922	9.965	VV	943	11630	0.63%	0.151%
169	9.993	9.965	10.407	VV	53967	1578314	86.14%	20.469%
170	10.415	10.407	10.429	VV	426	4527	0.25%	0.059%
171	10.461	10.429	10.621	VV	14160	302699	16.52%	3.926%
172	10.634	10.621	10.655	VV	470	7867	0.43%	0.102%
173	10.681	10.655	10.708	VV	664	13559	0.74%	0.176%
174	10.744	10.708	10.754	VV	325	7756	0.42%	0.101%
175	10.763	10.754	10.810	VV	319	9431	0.51%	0.122%
176	10.832	10.810	10.848	VV	535	9276	0.51%	0.120%
177	10.860	10.848	10.896	VV	590	10782	0.59%	0.140%
178	10.927	10.896	10.959	VV	333	8839	0.48%	0.115%
179	10.978	10.959	11.040	VV	295	9681	0.53%	0.126%
180	11.045	11.040	11.067	VV	166	1600	0.09%	0.021%
181	11.099	11.067	11.121	VV	251	4902	0.27%	0.064%
182	11.187	11.121	11.222	VV	520	19866	1.08%	0.258%
183	11.235	11.222	11.274	VV	609	12118	0.66%	0.157%
184	11.283	11.274	11.351	VV	299	10461	0.57%	0.136%
185	11.360	11.351	11.379	VV	198	2736	0.15%	0.035%
186	11.387	11.379	11.467	VV	211	4680	0.26%	0.061%
187	11.493	11.467	11.524	PV	155	3409	0.19%	0.044%
188	11.564	11.524	11.622	VV	514	12420	0.68%	0.161%
189	11.645	11.622	11.697	VV	996	17556	0.96%	0.228%
190	11.724	11.697	11.745	VV	533	8685	0.47%	0.113%
191	11.759	11.745	11.787	VV	508	6956	0.38%	0.090%
192	11.799	11.787	11.807	VV	124	1075	0.06%	0.014%
193	11.817	11.807	11.831	VV	119	1482	0.08%	0.019%
194	11.879	11.831	11.899	VV	439	12346	0.67%	0.160%

					rteres			
195	11.912	11.899	11.935	VV	325	5548	0.30%	0.072%
196	11.953	11.935	11.965	VV	472	6385	0.35%	0.083%
197	11.993	11.965	12.029	VV	1642	37853	2.07%	0.491%
198	12.046	12.029	12.082	VV	2012	29779	1.63%	0.386%
199	12.091	12.082	12.110	VV	251	3480	0.19%	0.045%
200	12.119	12.110	12.173	VV	266	5674	0.31%	0.074%
201	12.234	12.173	12.267	VV	405	11227	0.61%	0.146%
202	12.294	12.267	12.307	VV	509	7600	0.41%	0.099%
203	12.329	12.307	12.374	VV	652	15215	0.83%	0.197%
204	12.386	12.374	12.415	VV	256	3968	0.22%	0.051%
205	12.439	12.415	12.465	PV	519	8216	0.45%	0.107%
206	12.493	12.465	12.540	VV	14631	197529	10.78%	2.562%
207	12.556	12.540	12.572	VV	1720	25336	1.38%	0.329%
208	12.587	12.572	12.639	VV	1793	43732	2.39%	0.567%
209	12.658	12.639	12.676	VV	789	14311	0.78%	0.186%
210	12.703	12.676	12.765	VV	752	24657	1.35%	0.320%
211	12.799	12.765	12.840	VV	1396	27095	1.48%	0.351%
212	12.877	12.840	12.904	VV	877	20673	1.13%	0.268%
213	12.950	12.904	13.064	VV	6835	160598	8.76%	2.083%
214	13.084	13.064	13.110	VV	717	13288	0.73%	0.172%
215	13.130	13.110	13.170	VV	649	13222	0.72%	0.171%
216	13.179	13.170	13.194	VV	207	2659	0.15%	0.034%
217	13.201	13.194	13.217	VV	280	2833	0.15%	0.037%
218	13.285	13.217	13.347	VV	1631	62594	3.42%	0.812%
219	13.377	13.347	13.397	VV	687	15942	0.87%	0.207%
220	13.405	13.397	13.422	VV	536	7413	0.40%	0.096%
221	13.435	13.422	13.470	VV	593	12251	0.67%	0.159%
222	13.494	13.470	13.534	VV	825	22573	1.23%	0.293%
223	13.552	13.534	13.588	VV	674	15730	0.86%	0.204%
224	13.623	13.588	13.637	VV	516	12753	0.70%	0.165%
225	13.652	13.637	13.697	VV	692	20349	1.11%	0.264%
226	13.729	13.697	13.793	VV	764	34554	1.89%	0.448%
227	13.819	13.793	13.830	VV	425	8247	0.45%	0.107%
228	13.895	13.830	13.909	VV	856	28559	1.56%	0.370%
229	13.916	13.909	13.967	VV	886	22779	1.24%	0.295%
230	14.032	13.967	14.055	VV	1089	39392	2.15%	0.511%
231	14.077	14.055	14.099	VV	1290	23663	1.29%	0.307%
232	14.111	14.099	14.159	VV	767	22946	1.25%	0.298%
233	14.198	14.159	14.264	VV	3206	70402	3.84%	0.913%
234	14.319	14.264	14.330	VV	789	26502	1.45%	0.344%
235	14.342	14.330	14.364	VV	771	13381	0.73%	0.174%
236	14.379	14.364	14.412	VV	680	18283	1.00%	0.237%
237	14.444	14.412	14.454	VV	955	18922	1.03%	0.245%
238	14.483	14.454	14.550	VV	2392	78591	4.29%	1.019%
239	14.571	14.550	14.615	VV	981	34391	1.88%	0.446%
240	14.643	14.615	14.674	VV	1978	43122	2.35%	0.559%
241	14.703	14.674	14.712	VV	1079	23166	1.26%	0.300%
242	14.748	14.712	14.788	VV	1422	52551	2.87%	0.682%
243	14.800	14.788	14.825	VV	1097	20649	1.13%	0.268%
244	14.858	14.825	14.869	VV	972	22586	1.23%	0.293%
245	14.899	14.869	14.907	VV	1084	22131	1.21%	0.287%
246	14.914	14.907	14.942	VV	1045	18136	0.99%	0.235%

					rt	eres		
247	14.982	14.942	15.025	VV	133637	1832302	100.00%	23.763%
248	15.036	15.025	15.117	VV	1536	50129	2.74%	0.650%
249	15.155	15.117	15.165	VV	964	20213	1.10%	0.262%
250	15.186	15.165	15.214	VV	2478	42773	2.33%	0.555%
251	15.233	15.214	15.314	VV	1361	39655	2.16%	0.514%
252	15.329	15.314	15.354	VV	342	6410	0.35%	0.083%
253	15.380	15.354	15.441	VV	477	12003	0.66%	0.156%
254	15.447	15.441	15.464	VV	118	780	0.04%	0.010%
255	15.519	15.464	15.532	PV	237	5219	0.28%	0.068%
256	15.569	15.532	15.677	VV	45256	880335	48.05%	11.417%
257	15.707	15.677	15.745	VV	2737	50068	2.73%	0.649%
258	15.773	15.745	15.807	VV	3036	45637	2.49%	0.592%
259	15.840	15.807	15.911	VV	797	21869	1.19%	0.284%
260	15.999	15.911	16.016	VV	564	17084	0.93%	0.222%
261	16.032	16.016	16.062	VV	466	9517	0.52%	0.123%
262	16.095	16.062	16.157	VV	1482	35198	1.92%	0.456%
263	16.210	16.157	16.245	VV	2512	38516	2.10%	0.500%
264	16.273	16.245	16.300	VV	373	5612	0.31%	0.073%
265	16.348	16.300	16.367	PV	369	5895	0.32%	0.076%
266	16.426	16.367	16.450	PV	180	6263	0.34%	0.081%
267	16.501	16.450	16.530	PV	700	11586	0.63%	0.150%
268	16.592	16.530	16.639	VV	4289	100379	5.48%	1.302%
269	16.653	16.639	16.669	VV	872	13519	0.74%	0.175%
270	16.694	16.669	16.725	VV	3081	45197	2.47%	0.586%
271	16.769	16.725	16.799	VV	1433	34012	1.86%	0.441%
272	16.811	16.799	16.823	VV	642	8349	0.46%	0.108%
273	16.838	16.823	16.858	VV	527	7952	0.43%	0.103%
274	16.893	16.858	16.917	VV	338	7417	0.40%	0.096%
275	16.941	16.917	16.952	VV	282	3858	0.21%	0.050%
276	16.988	16.952	17.017	VV	1018	21204	1.16%	0.275%
277	17.067	17.017	17.110	VV	927	29230	1.60%	0.379%
278	17.124	17.110	17.132	VV	347	3431	0.19%	0.044%
279	17.160	17.132	17.187	VV	3121	46911	2.56%	0.608%
280	17.209	17.187	17.224	VV	1048	15767	0.86%	0.204%
281	17.239	17.224	17.270	VV	751	14334	0.78%	0.186%
282	17.329	17.270	17.340	PV	306	7233	0.39%	0.094%
283	17.394	17.340	17.409	PV	313	6327	0.35%	0.082%
284	17.465	17.409	17.478	VV	359	9300	0.51%	0.121%
					Sum of corrected areas:	7710887		

FG052225.M Sat May 24 02:08:35 2025



CALIBRATION SUMMARY

DIESEL RANGE ORGANICS INITIAL CALIBRATION SUMMARY

Lab Name: Chemtech Contract: CAMP02
 ProjectID: South River WM Replacement
 Lab Code: CHEM Case No.: Q2100 SAS No.: Q2100 SDG No.: Q2100

Calibration Sequence : FG052225		Test : Diesel Range Organics	
Concentration (PPM)	Area Count	Reference Factor	File ID
1000	132190666	132191	FG015886.D
500	67168968	134338	FG015887.D
200	26324104	131621	FG015888.D
100	13743634	137436	FG015889.D
50	6335792	126716	FG015890.D
AVG RF : 132460		% RSD : 2.974	AVG RT : 14.9848

DIESEL RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: CAMP02
ProjectID: South River WM Replacement
Lab Code: CHEM Case No.: Q2100 SAS No.: Q2100 SDG No.: Q2100
DataFile: FG015895.D Analyst Name: YP\AJ Analyst Date: 05-23-2025

Conc. (PPM)	Area Count	RF	Average RF	%D
500	66357022	132714	132460	0.192

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
 Data File : FG015895.D
 Signal(s) : FID1A.ch
 Acq On : 23 May 2025 12:30
 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: May 23 23:05:49 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
 Quant Title :
 QLast Update : Thu May 22 06:20:25 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...	14.985	5993181	48.899 ug/ml
Target Compounds			
2) N-DECANE	4.485	6215335	52.897 ug/ml
3) N-DODECANE	6.670	6430107	52.978 ug/ml
4) N-TETRADECANE	8.506	6564004	51.406 ug/ml
5) N-HEXADECANE	10.119	6713723	50.392 ug/ml
6) N-OCTADECANE	11.568	6881084	49.861 ug/ml
7) N-EICOSANE	12.882	6978458	49.396 ug/ml
8) N-DOCOSANE	14.084	6771681	49.297 ug/ml
10) N-TETRACOSANE	15.190	6718083	48.869 ug/ml
11) N-HEXACOSANE	16.214	6621281	48.733 ug/ml
12) N-OCTACOSANE	17.166	6463266	47.938 ug/ml

(f)=RT Delta > 1/2 Window

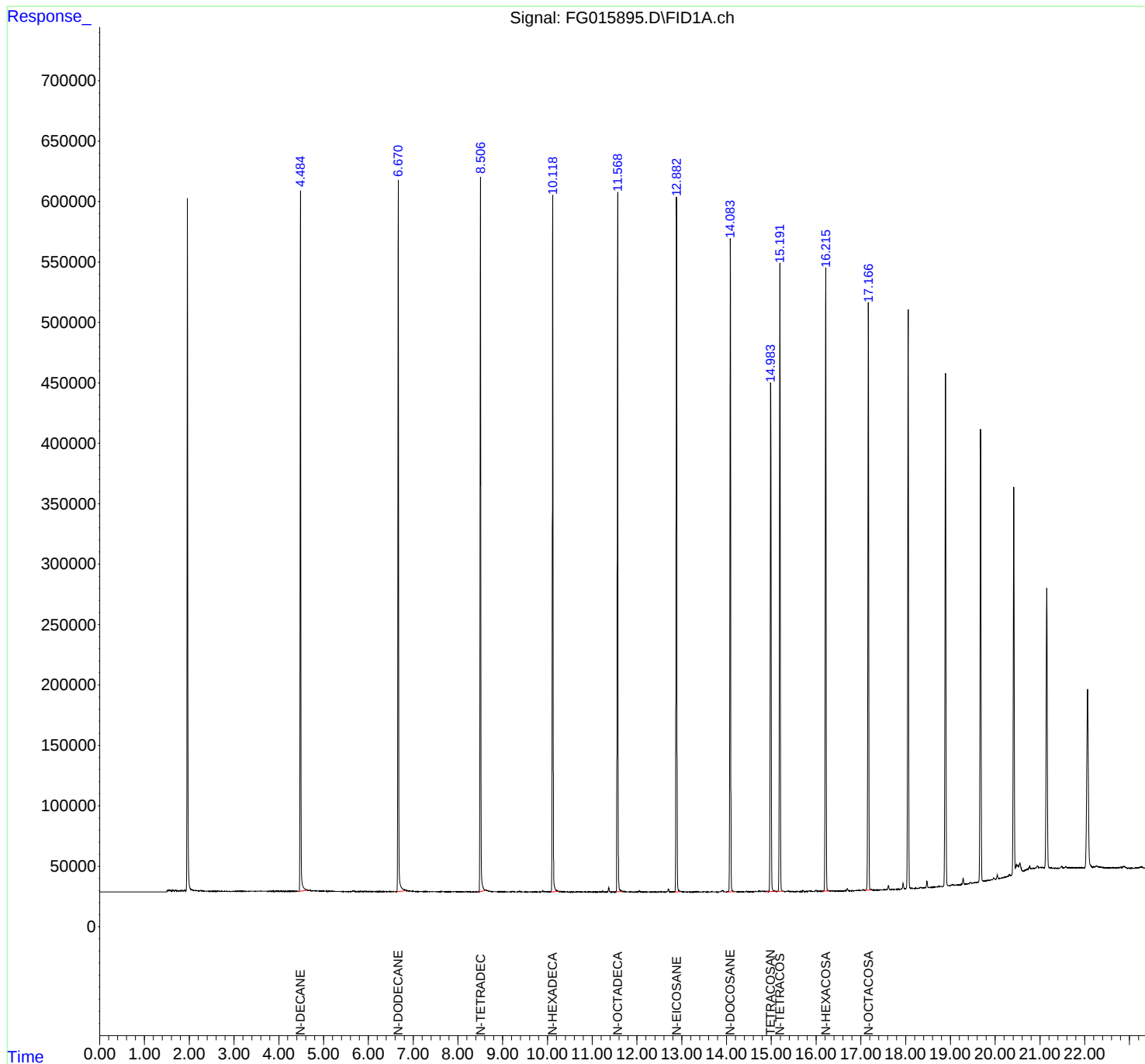
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015895.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 12:30
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: May 23 23:05:49 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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\FG052325\
Data File : FG015895.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 12:30
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.485	4.440	4.644	BB	579099	6215335	89.06%	8.591%
2	6.670	6.629	6.843	BB	588912	6430107	92.14%	8.887%
3	8.506	8.466	8.634	BB	592620	6564004	94.06%	9.073%
4	10.119	10.083	10.255	BB	575953	6713723	96.21%	9.279%
5	11.568	11.528	11.678	BB	578648	6881084	98.60%	9.511%
6	12.882	12.839	12.973	BB	574233	6978458	100.00%	9.645%
7	14.084	14.017	14.175	BB	535775	6771681	97.04%	9.360%
8	14.985	14.883	15.090	BB	418123	5993181	85.88%	8.284%
9	15.190	15.117	15.260	BB	515499	6718083	96.27%	9.286%
10	16.214	16.142	16.297	BB	513113	6621281	94.88%	9.152%
11	17.166	17.080	17.233	BB	482100	6463266	92.62%	8.933%
Sum of corrected areas:						72350203		

FG052225.M Sat May 24 02:01:56 2025

DIESEL RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: CAMP02
ProjectID: South River WM Replacement
Lab Code: CHEM Case No.: Q2100 SAS No.: Q2100 SDG No.: Q2100
DataFile: FG015907.D Analyst Name: YP\AJ Analyst Date: 05-23-2025

Conc. (PPM)	Area Count	RF	Average RF	%D
500	60667323	121335	132460	8.399

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
 Data File : FG015907.D
 Signal(s) : FID1A.ch
 Acq On : 23 May 2025 18:51
 Operator : YP\AJ
 Sample : 50 PPM TRPH STD
 Misc :
 ALS Vial : 53 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 50 PPM TRPH STD

Integration File: autoint1.e
 Quant Time: May 23 23:08:57 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
 Quant Title :
 QLast Update : Thu May 22 06:20:25 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...	14.984	5684077	46.377 ug/ml
Target Compounds			
2) N-DECANE	4.485	5420530	46.133 ug/ml
3) N-DODECANE	6.669	5697525	46.943 ug/ml
4) N-TETRADECANE	8.505	5835210	45.698 ug/ml
5) N-HEXADECANE	10.118	6076490	45.609 ug/ml
6) N-OCTADECANE	11.566	6321869	45.809 ug/ml
7) N-EICOSANE	12.880	6337775	44.861 ug/ml
8) N-DOCOSANE	14.082	6254786	45.534 ug/ml
10) N-TETRACOSANE	15.189	6261321	45.547 ug/ml
11) N-HEXACOSANE	16.212	6178660	45.475 ug/ml
12) N-OCTACOSANE	17.165	6283157	46.602 ug/ml

(f)=RT Delta > 1/2 Window

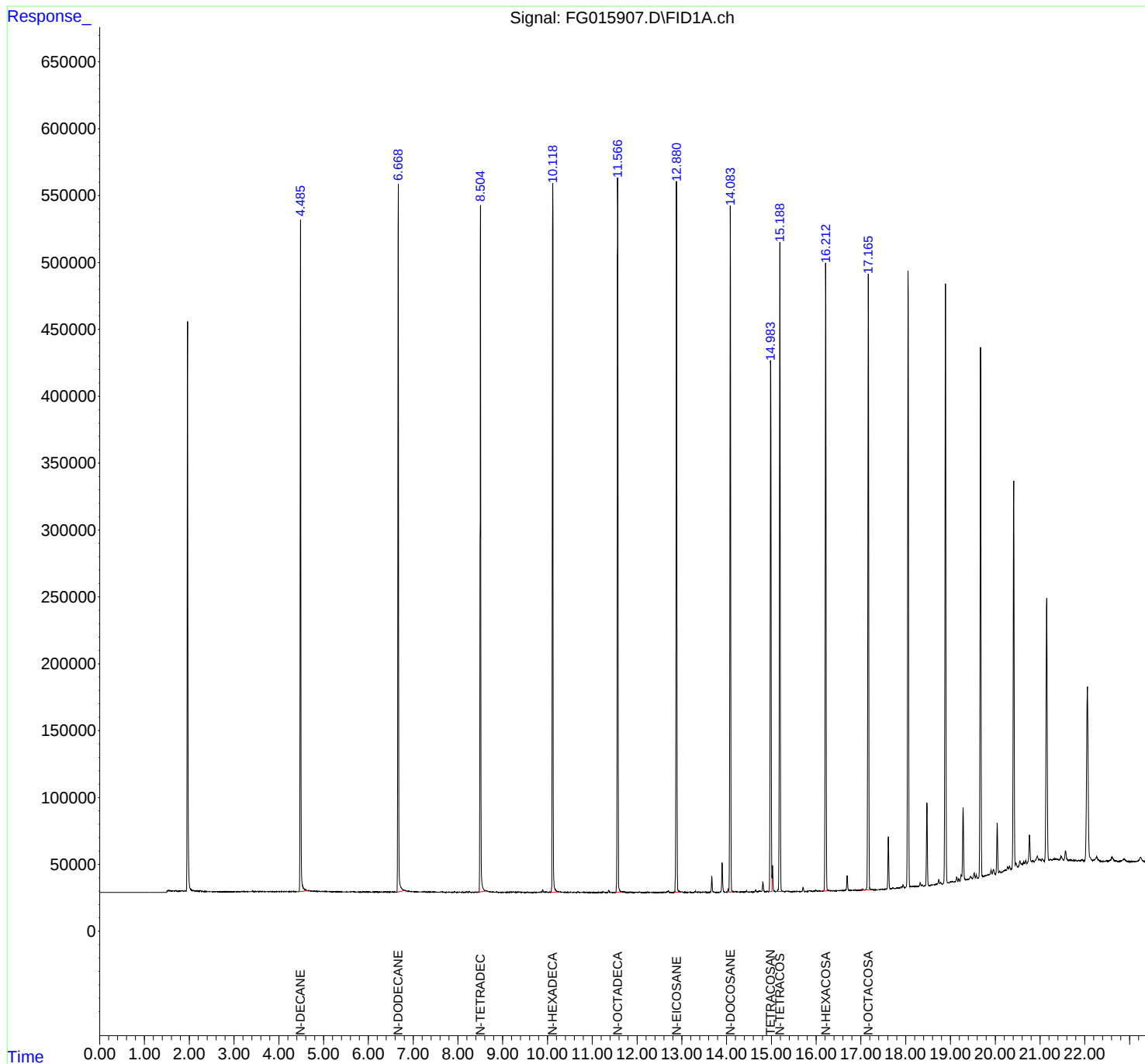
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015907.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 18:51
Operator : YP\AJ
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
50 PPM TRPH STD

Integration File: autoint1.e
Quant Time: May 23 23:08:57 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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\FG052325\
Data File : FG015907.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 18:51
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.485	4.445	4.648	BB	501837	5420530	85.53%	8.169%
2	6.669	6.636	6.813	BB	529226	5697525	89.90%	8.587%
3	8.505	8.461	8.629	BB	512543	5835210	92.07%	8.794%
4	10.119	10.072	10.248	BB	527443	6076490	95.88%	9.158%
5	11.566	11.526	11.673	BB	532217	6321869	99.75%	9.528%
6	12.880	12.839	12.959	BB	528941	6337775	100.00%	9.552%
7	14.082	14.048	14.158	VB	512430	6254786	98.69%	9.427%
8	14.984	14.938	15.012	BV	394153	5684077	89.69%	8.567%
9	15.189	15.105	15.265	BB	483583	6261321	98.79%	9.437%
10	16.212	16.141	16.286	BB	469137	6178660	97.49%	9.312%
11	17.165	17.013	17.237	BB	461036	6283157	99.14%	9.470%
Sum of corrected areas:						66351399		

FG052225.M Sat May 24 02:04:24 2025

Analytical Sequence

Client: CDM Smith

SDG No.: Q2100

Project: South River WM Replacement

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 14.9848					
EPA SAMPLE NO.	LAB SAMPLE ID	DATE AND TIME ANALYZED	DATAFILE	RT	#
PIBLK01	LBLK01	23 May 2025 10:59	FG015894.D	14.982	
50 PPM TRPH STD	50 PPM TRPH STD	23 May 2025 12:30	FG015895.D	14.985	
PB168150BL	PB168150BL	23 May 2025 13:58	FG015897.D	14.983	
PB168150BS	PB168150BS	23 May 2025 14:27	FG015898.D	14.982	
TP-16	Q2100-01	23 May 2025 14:56	FG015899.D	14.982	
TP-22	Q2100-02	23 May 2025 15:26	FG015900.D	14.981	
TP-21	Q2100-03	23 May 2025 15:55	FG015901.D	14.986	
TP-45	Q2100-04	23 May 2025 16:24	FG015902.D	14.982	
TP-45MS	Q2100-04MS	23 May 2025 16:54	FG015903.D	14.981	
TP-45MSD	Q2100-04MSD	23 May 2025 17:23	FG015904.D	14.981	
PIBLK02	LBLK02	23 May 2025 18:22	FG015906.D	14.982	
50 PPM TRPH STD	50 PPM TRPH STD	23 May 2025 18:51	FG015907.D	14.984	

Column used to flag RT values with an * values outside of QC limits

QC Limits
(± 0.10 minutes)

Lower Limit
14.8848

Upper Limits
15.0848



QC SAMPLE DATA

Report of Analysis

Client:	CDM Smith	Date Collected:	
Project:	South River WM Replacement	Date Received:	
Client Sample ID:	PB168150BL	SDG No.:	Q2100
Lab Sample ID:	PB168150BL	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	100 Decanted:
Sample Wt/Vol:	30.01 Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015897.D	1	05/23/25 10:10	05/23/25 13:58	PB168150

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	169	U	169	1670	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	16.6		37 - 130	83%	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\FG052325\
Data File : FG015897.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 13:58
Operator : YP\AJ
Sample : PB168150BL
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
PB168150BL

Integration File: autoint1.e
Quant Time: May 23 23:06:22 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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...	14.983	2035623	16.609 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

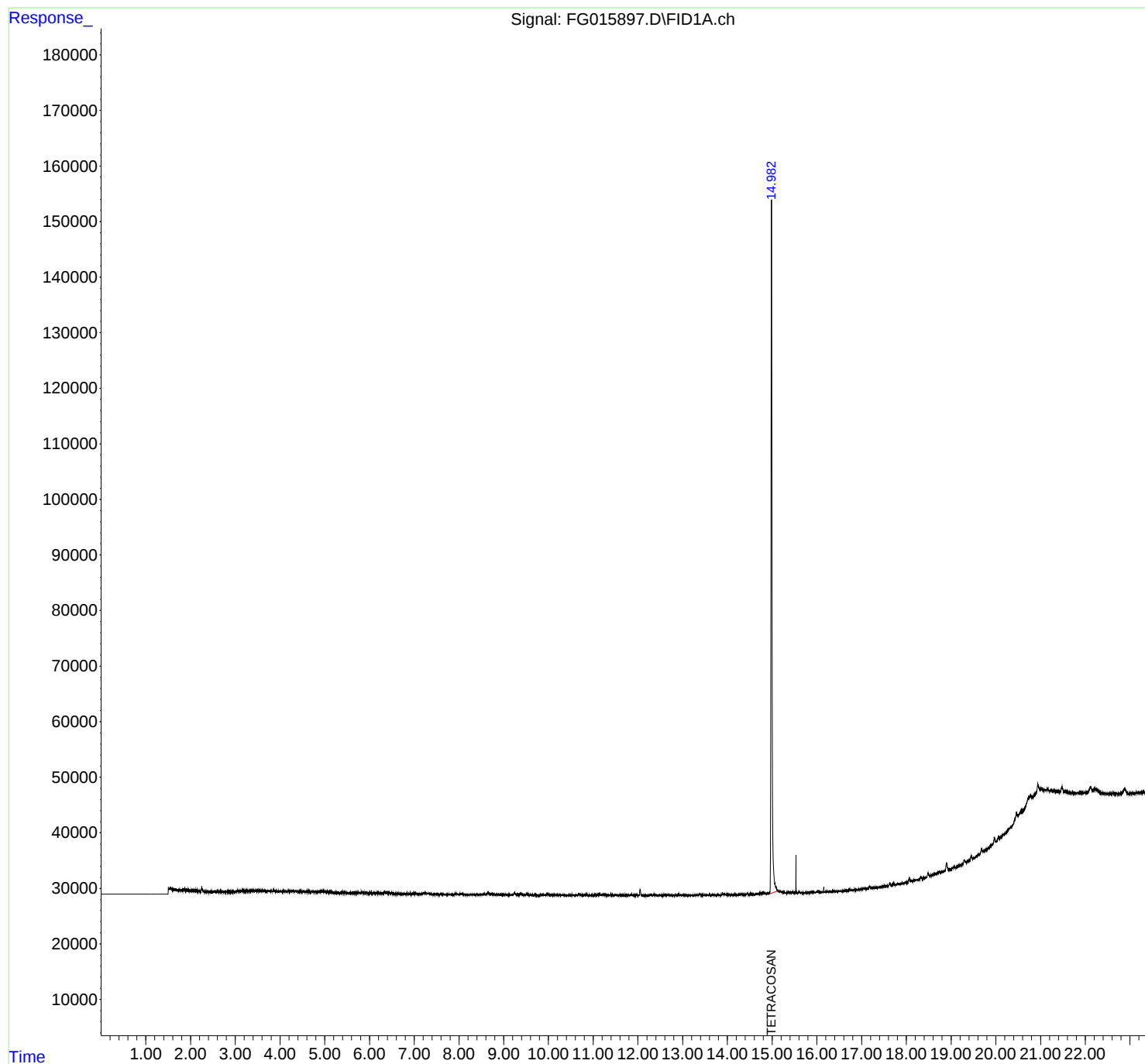
(m)=manual int.

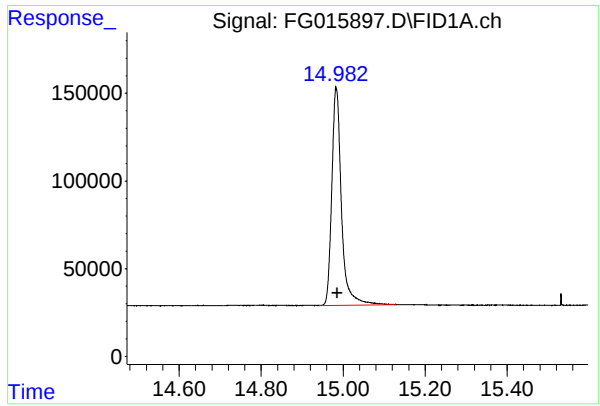
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015897.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 13:58
Operator : YP\AJ
Sample : PB168150BL
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
PB168150BL

Integration File: autoint1.e
Quant Time: May 23 23:06:22 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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.: 14.983 min
Delta R.T.: -0.003 min
Response: 2035623
Conc: 16.61 ug/ml

Instrument :
FID_G
ClientSampleId :
PB168150BL

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015897.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 13:58
Sample : PB168150BL
Misc :
ALS Vial : 21 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	14.983	14.941	15.129	BB	123500	2035623	100.00%	100.000%
Sum of corrected areas:						2035623		

FG052225.M Sat May 24 02:02:37 2025

Report of Analysis

Client:	CDM Smith	Date Collected:	05/23/25
Project:	South River WM Replacement	Date Received:	05/23/25
Client Sample ID:	PIBLK-FG015894.D	SDG No.:	Q2100
Lab Sample ID:	I.BLK-FG015894.D	Matrix:	Water
Analytical Method:	8015D DRO	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Decanted:	
Soil Aliquot Vol:	uL	Final Vol:	1 mL
Extraction Type:		Test:	Diesel Range Organics
GPC Factor :	PH :	Injection Volume :	
Prep Method :	SW3510		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015894.D	1		05/23/25	FG052325

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
DRO	DRO	6.00	U	6.00	50.0	ug/L
SURROGATES						
16416-32-3	Tetracosane-d50	18.0		29 - 130	90%	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\FG052325\
Data File : FG015894.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 10:59
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: May 23 23:05:35 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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...	14.982	2209661	18.029 ug/ml

Target Compounds

(f)=RT Delta > 1/2 Window

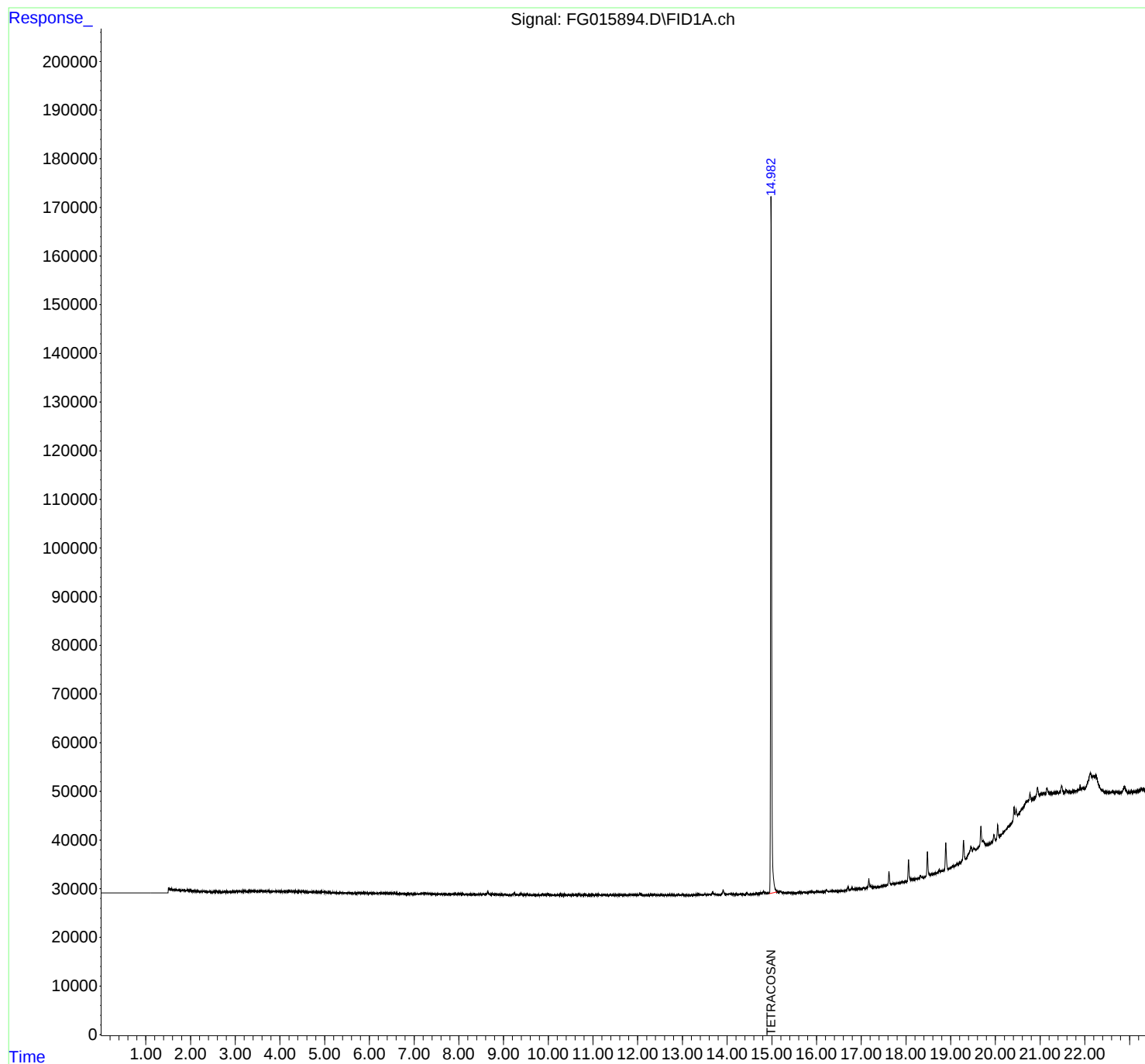
(m)=manual int.

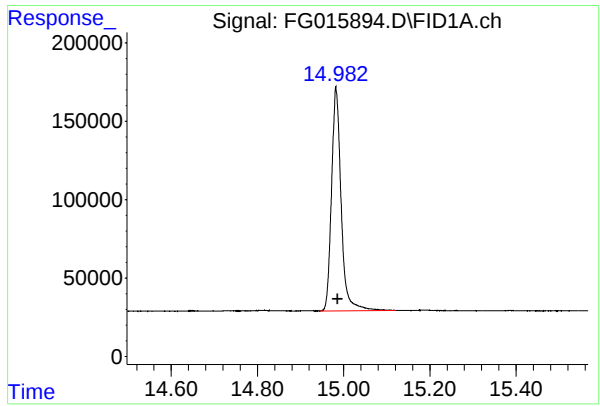
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015894.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 10:59
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: May 23 23:05:35 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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.: 14.982 min
Delta R.T.: -0.004 min
Response: 2209661
Conc: 18.03 ug/ml

Instrument :
FID_G
ClientSampleId :
I.BLK

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015894.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 10:59
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	14.982	14.943	15.121	BB	142725	2209661	100.00%	100.000%
Sum of corrected areas:						2209661		

FG052225.M Sat May 24 02:01:15 2025

Report of Analysis

Client:	CDM Smith	Date Collected:	05/23/25
Project:	South River WM Replacement	Date Received:	05/23/25
Client Sample ID:	PIBLK-FG015906.D	SDG No.:	Q2100
Lab Sample ID:	I.BLK-FG015906.D	Matrix:	Water
Analytical Method:	8015D DRO	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Decanted:	
Soil Aliquot Vol:	uL	Final Vol:	1 mL
Extraction Type:		Test:	Diesel Range Organics
GPC Factor :	PH :	Injection Volume :	
Prep Method :	SW3510		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015906.D	1		05/23/25	FG052325

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
DRO	DRO	6.00	U	6.00	50.0	ug/L
SURROGATES						
16416-32-3	Tetracosane-d50	18.3		29 - 130	92%	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\FG052325\
Data File : FG015906.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 18:22
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: May 23 23:08:45 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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...	14.982	2247890	18.341 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

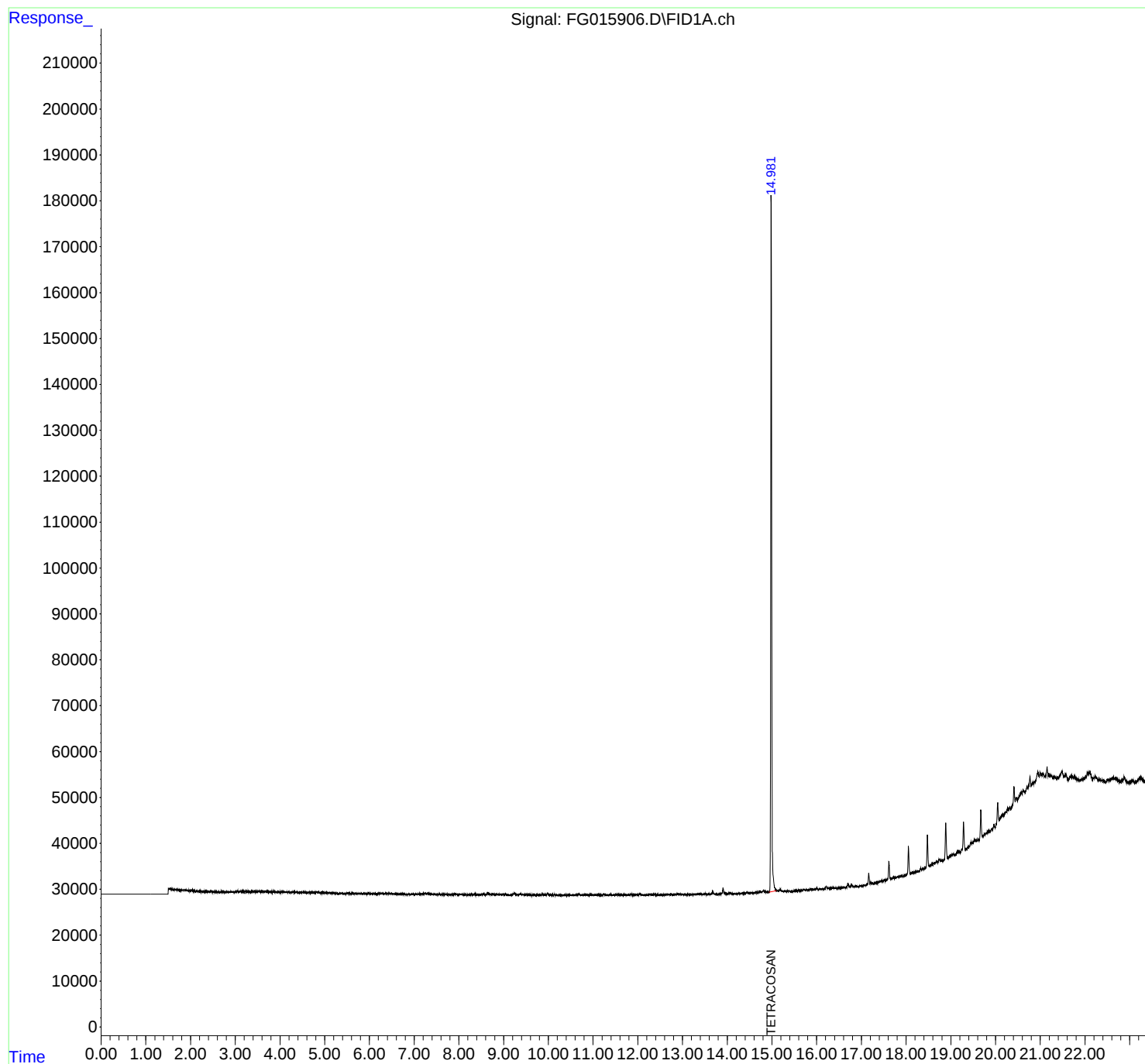
(m)=manual int.

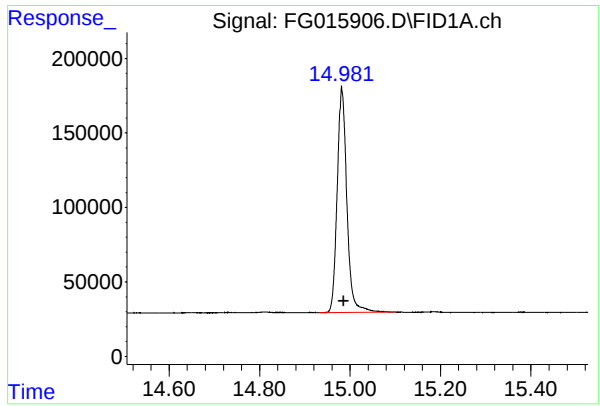
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015906.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 18:22
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: May 23 23:08:45 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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.: 14.982 min
Delta R.T.: -0.004 min
Response: 2247890
Conc: 18.34 ug/ml

Instrument :
FID_G
ClientSampleId :
I.BLK

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015906.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 18:22
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	14.982	14.932	15.102	BB	150670	2247890	100.00%	100.000%
Sum of corrected areas:						2247890		

FG052225.M Sat May 24 02:03:36 2025

Report of Analysis

Client:	CDM Smith	Date Collected:	
Project:	South River WM Replacement	Date Received:	
Client Sample ID:	PB168150BS	SDG No.:	Q2100
Lab Sample ID:	PB168150BS	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	100 Decanted:
Sample Wt/Vol:	30.03 Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	Diesel Range Organics
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015898.D	1	05/23/25 10:10	05/23/25 14:27	PB168150

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	6510		169	1670	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	20.1		37 - 130	100%	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\FG052325\
 Data File : FG015898.D
 Signal(s) : FID1A.ch
 Acq On : 23 May 2025 14:27
 Operator : YP\AJ
 Sample : PB168150BS
 Misc :
 ALS Vial : 22 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 PB168150BS

Integration File: autoint1.e
 Quant Time: May 23 23:06:33 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
 Quant Title :
 QLast Update : Thu May 22 06:20:25 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...	14.982	2457737	20.053 ug/ml
Target Compounds			
2) N-DECANE	4.486	2230824	18.986 ug/ml
3) N-DODECANE	6.668	2397771	19.756 ug/ml
4) N-TETRADECANE	8.504	2439503	19.105 ug/ml
5) N-HEXADECANE	10.117	2598592	19.505 ug/ml
6) N-OCTADECANE	11.564	2741788	19.867 ug/ml
7) N-EICOSANE	12.878	2722673	19.272 ug/ml
8) N-DOCOSANE	14.081	2715016	19.765 ug/ml
10) N-TETRACOSANE	15.186	2719445	19.782 ug/ml
11) N-HEXACOSANE	16.209	2673999	19.681 ug/ml
12) N-OCTACOSANE	17.162	2647871	19.639 ug/ml

(f)=RT Delta > 1/2 Window

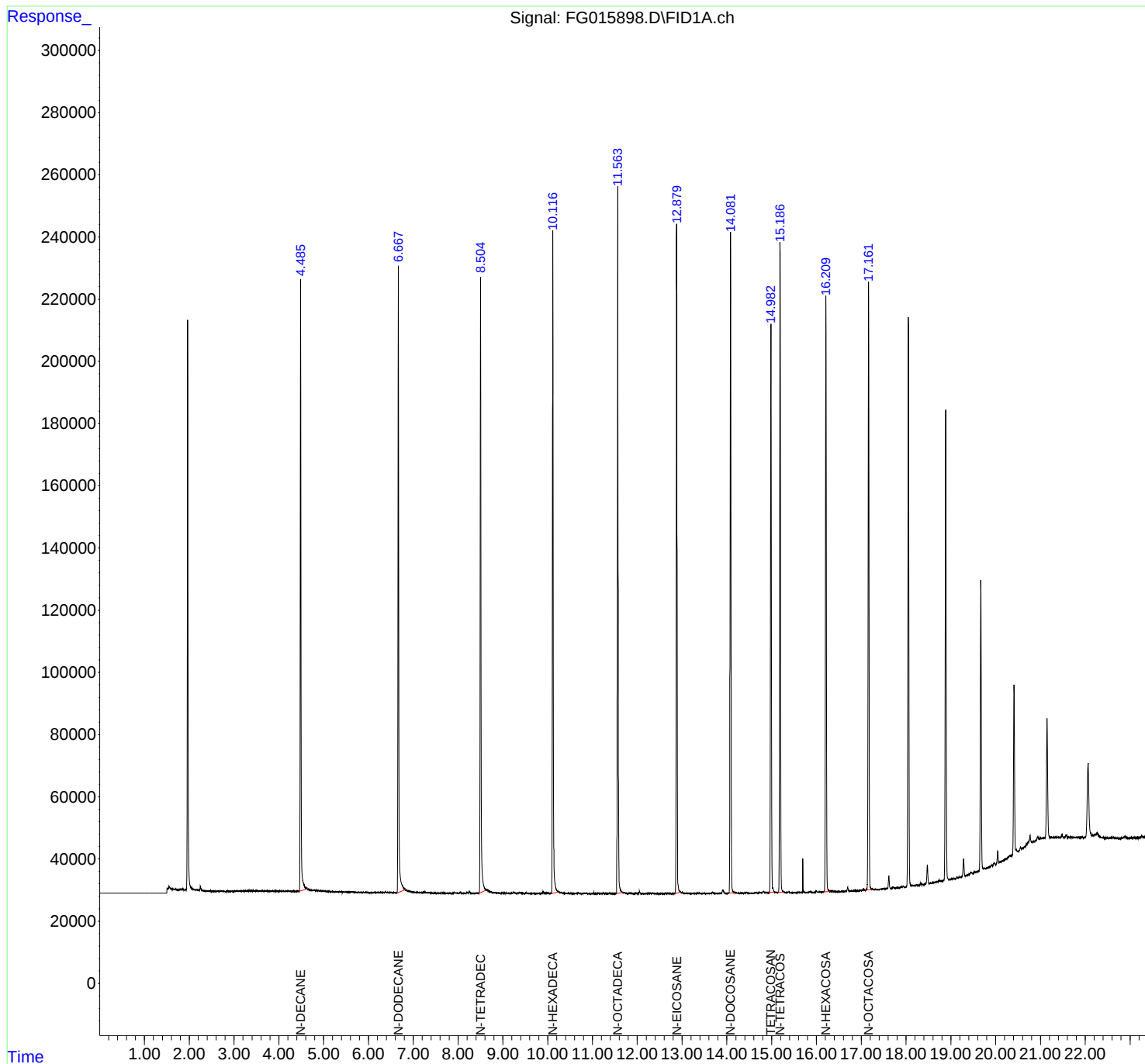
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015898.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 14:27
Operator : YP\AJ
Sample : PB168150BS
Misc :
ALS Vial : 22 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
PB168150BS

Integration File: autoint1.e
Quant Time: May 23 23:06:33 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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\FG052325\
Data File : FG015898.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 14:27
Sample : PB168150BS
Misc :
ALS Vial : 22 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.486	4.443	4.628	BB	196413	2230824	81.36%	7.870%
2	6.668	6.636	6.825	BB	201335	2397771	87.45%	8.459%
3	8.504	8.467	8.624	BB	197711	2439503	88.97%	8.606%
4	10.117	10.083	10.242	BB	212550	2598592	94.78%	9.168%
5	11.564	11.531	11.669	BB	225613	2741788	100.00%	9.673%
6	12.878	12.835	12.965	BB	215061	2722673	99.30%	9.605%
7	14.081	14.043	14.168	BB	211657	2715016	99.02%	9.578%
8	14.982	14.935	15.060	BB	183051	2457737	89.64%	8.671%
9	15.186	15.143	15.270	BB	208989	2719445	99.19%	9.594%
10	16.209	16.157	16.297	BB	191854	2673999	97.53%	9.434%
11	17.162	17.090	17.241	BB	194579	2647871	96.57%	9.342%
Sum of corrected areas:						28345218		

FG052225.M Sat May 24 02:03:10 2025

Report of Analysis

Client:	CDM Smith	Date Collected:	05/20/25
Project:	South River WM Replacement	Date Received:	05/20/25
Client Sample ID:	TP-45MS	SDG No.:	Q2100
Lab Sample ID:	Q2100-04MS	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	76.2
Sample Wt/Vol:	30.05	Units:	g
Soil Aliquot Vol:			uL
Extraction Type:		Final Vol:	1
GPC Factor :		PH :	
Prep Method :	SW3541	Decanted:	
		Test:	Diesel Range Organics
		Injection Volume :	

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015903.D	1	05/23/25 10:10	05/23/25 16:54	PB168150

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	12200		221	2180	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	12.7		37 - 130	64%	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\FG052325\
 Data File : FG015903.D
 Signal(s) : FID1A.ch
 Acq On : 23 May 2025 16:54
 Operator : YP\AJ
 Sample : Q2100-04MS
 Misc :
 ALS Vial : 27 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 TP-45MS

Manual Integrations
 APPROVED

Reviewed By :Yogesh Patel 05/27/2025
 Supervised By :mohammad ahmed 05/28/2025

Integration File: autoint1.e
 Quant Time: May 23 23:07:55 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
 Quant Title :
 QLast Update : Thu May 22 06:20:25 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...	14.982	1560457	12.732 ug/ml
Target Compounds			
2) N-DECANE	4.485	2717779	23.130 ug/ml
3) N-DODECANE	6.667	2921598	24.071 ug/ml
4) N-TETRADECANE	8.503	2950277	23.105 ug/ml
5) N-HEXADECANE	10.117	3192538	23.963 ug/ml
6) N-OCTADECANE	11.565	3248063	23.536 ug/ml
7) N-EICOSANE	12.879	3238782	22.925 ug/ml
8) N-DOCOSANE	14.080	3213690	23.395 ug/ml
10) N-TETRACOSANE	15.186	3186827	23.182 ug/ml
11) N-HEXACOSANE	16.211	3154555	23.218 ug/ml
12) N-OCTACOSANE	17.163	3100655	22.998 ug/mlm

(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015903.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 16:54
Operator : YP\AJ
Sample : Q2100-04MS
Misc :
ALS Vial : 27 Sample Multiplier: 1

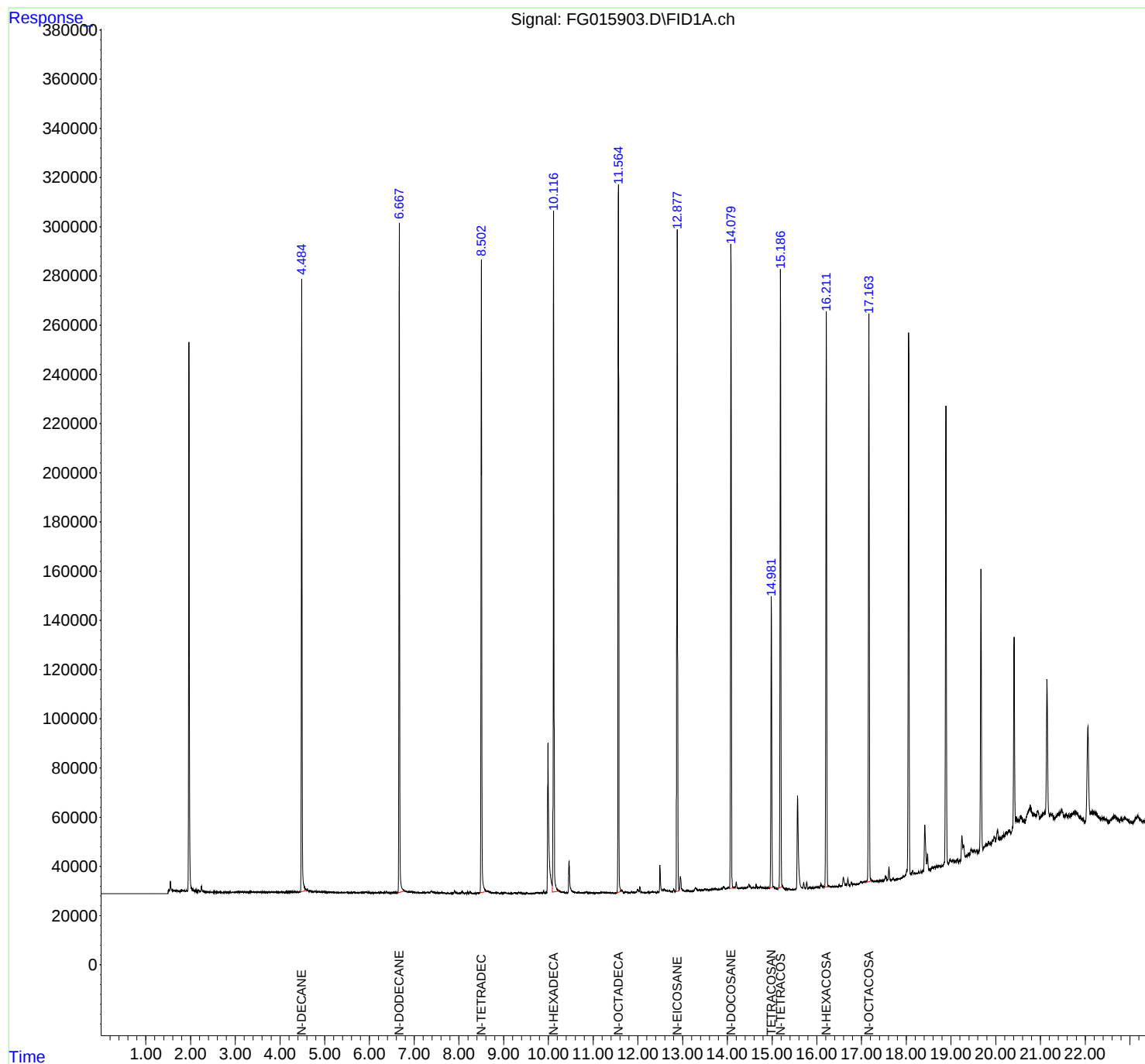
Instrument :
FID_G
ClientSampleId :
TP-45MS

Manual Integrations
APPROVED

Reviewed By :Yogesh Patel 05/27/2025
Supervised By :mohammad ahmed 05/28/2025

Integration File: autoint1.e
Quant Time: May 23 23:07:55 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 2025
Response via : Initial Calibration
Integrator: ChemStation

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



rteres

Instrument :

FID_G

ClientSampleId :

TP-45MS

Area Percent Report

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 05/27/2025

Supervised By :mohammad ahmed 05/28/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG05232
Data File : FG015903.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 16:54
Sample : Q2100-04MS
Misc :
ALS Vial : 27 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.306	4.300	4.334	BV	174	1475	0.04%	0.004%
2	4.345	4.334	4.350	PV	135	751	0.02%	0.002%
3	4.379	4.350	4.390	VV	186	2327	0.07%	0.006%
4	4.418	4.390	4.423	PV	159	2193	0.07%	0.006%
5	4.427	4.423	4.446	VV	198	1850	0.06%	0.005%
6	4.485	4.446	4.599	VV	249057	2765870	83.65%	7.174%
7	4.611	4.599	4.651	VV	1182	24962	0.75%	0.065%
8	4.664	4.651	4.725	VV	714	22624	0.68%	0.059%
9	4.733	4.725	4.752	VV	435	5634	0.17%	0.015%
10	4.771	4.752	4.783	VV	419	6477	0.20%	0.017%
11	4.793	4.783	4.811	VV	462	6124	0.19%	0.016%
12	4.822	4.811	4.841	VV	345	5265	0.16%	0.014%
13	4.849	4.841	4.855	VV	349	2595	0.08%	0.007%
14	4.857	4.855	4.903	VV	363	8422	0.25%	0.022%
15	4.909	4.903	4.920	VV	352	2694	0.08%	0.007%
16	4.933	4.920	4.936	VV	341	2617	0.08%	0.007%
17	4.941	4.936	4.954	VV	321	2874	0.09%	0.007%
18	4.961	4.954	4.966	VV	341	1983	0.06%	0.005%
19	4.970	4.966	4.978	VV	310	1947	0.06%	0.005%
20	4.996	4.978	5.021	VV	339	6698	0.20%	0.017%
21	5.022	5.021	5.045	VV	306	3025	0.09%	0.008%
22	5.049	5.045	5.058	VV	256	1726	0.05%	0.004%
23	5.062	5.058	5.065	VV	287	972	0.03%	0.003%
24	5.072	5.065	5.089	VV	273	2931	0.09%	0.008%
25	5.092	5.089	5.100	VV	247	1299	0.04%	0.003%
26	5.105	5.100	5.120	VV	213	2150	0.07%	0.006%
27	5.154	5.120	5.172	VV	273	5920	0.18%	0.015%
28	5.176	5.172	5.184	VV	207	1295	0.04%	0.003%
29	5.192	5.184	5.198	VV	281	1594	0.05%	0.004%
30	5.201	5.198	5.210	VV	180	1128	0.03%	0.003%
31	5.213	5.210	5.224	VV	210	1336	0.04%	0.003%
32	5.231	5.224	5.246	VV	169	1871	0.06%	0.005%
33	5.251	5.246	5.261	VV	172	1159	0.04%	0.003%
34	5.264	5.261	5.275	VV	133	779	0.02%	0.002%
35	5.284	5.275	5.303	PV	122	1720	0.05%	0.004%
36	5.307	5.303	5.325	VV	134	1312	0.04%	0.003%

					retention	Area	Area%	Area%
37	5.337	5.325	5.346	VV	183	1675	0.05%	0.004%
38	5.350	5.346	5.361	VV	149	1049		
39	5.364	5.361	5.371	VV	156	608		
40	5.377	5.371	5.400	VV	150	1884		
41	5.406	5.400	5.411	VV	175	738		
42	5.415	5.411	5.427	VV	125	1038		
43	5.431	5.427	5.437	VV	147	714	0.02%	0.002%
44	5.441	5.437	5.451	VV	168	853	0.03%	0.002%
45	5.456	5.451	5.459	VV	124	556	0.02%	0.001%
46	5.480	5.459	5.519	VV	266	5524	0.17%	0.014%
47	5.528	5.519	5.550	VV	190	2187	0.07%	0.006%
48	5.559	5.550	5.569	VV	209	1492	0.05%	0.004%
49	5.572	5.569	5.576	VV	148	371	0.01%	0.001%
50	5.580	5.576	5.583	VV	94	330	0.01%	0.001%
51	5.587	5.583	5.597	VV	148	877	0.03%	0.002%
52	5.599	5.597	5.614	VV	142	910	0.03%	0.002%
53	5.639	5.614	5.647	VV	237	3300	0.10%	0.009%
54	5.648	5.647	5.687	VV	231	2405	0.07%	0.006%
55	5.693	5.687	5.699	VV	89	427	0.01%	0.001%
56	5.703	5.699	5.714	VV	120	573	0.02%	0.001%
57	5.739	5.714	5.783	VV	185	5150	0.16%	0.013%
58	5.789	5.783	5.811	VV	230	3573	0.11%	0.009%
59	5.814	5.811	5.818	VV	250	850	0.03%	0.002%
60	5.821	5.818	5.824	VV	248	861	0.03%	0.002%
61	5.831	5.824	5.859	VV	276	5104	0.15%	0.013%
62	5.874	5.859	5.899	VV	281	5368	0.16%	0.014%
63	5.912	5.899	5.918	VV	326	2905	0.09%	0.008%
64	5.921	5.918	5.934	VV	307	2497	0.08%	0.006%
65	5.937	5.934	5.952	VV	308	2673	0.08%	0.007%
66	5.972	5.952	5.992	VV	297	4467	0.14%	0.012%
67	5.998	5.992	6.041	VV	210	4474	0.14%	0.012%
68	6.044	6.041	6.053	VV	228	894	0.03%	0.002%
69	6.056	6.053	6.067	VV	129	860	0.03%	0.002%
70	6.096	6.067	6.103	VV	200	3050	0.09%	0.008%
71	6.111	6.103	6.135	VV	173	2489	0.08%	0.006%
72	6.141	6.135	6.150	VV	155	1191	0.04%	0.003%
73	6.161	6.150	6.166	VV	193	1380	0.04%	0.004%
74	6.171	6.166	6.180	VV	174	1055	0.03%	0.003%
75	6.204	6.180	6.227	VV	268	4782	0.14%	0.012%
76	6.240	6.227	6.262	VV	273	3685	0.11%	0.010%
77	6.267	6.262	6.282	VV	269	2289	0.07%	0.006%
78	6.290	6.282	6.303	VV	195	1963	0.06%	0.005%
79	6.319	6.303	6.326	VV	309	1862	0.06%	0.005%
80	6.332	6.326	6.351	VV	258	2115	0.06%	0.005%
81	6.354	6.351	6.362	VV	253	1124	0.03%	0.003%
82	6.381	6.362	6.419	VV	759	11656	0.35%	0.030%
83	6.422	6.419	6.448	VV	158	1910	0.06%	0.005%
84	6.457	6.448	6.464	VV	123	922	0.03%	0.002%
85	6.474	6.464	6.496	VV	183	2325	0.07%	0.006%
86	6.501	6.496	6.506	VV	122	671	0.02%	0.002%
87	6.533	6.506	6.547	VV	226	3766	0.11%	0.010%
88	6.555	6.547	6.559	VV	259	1617	0.05%	0.004%
89	6.563	6.559	6.597	VV	261	3915	0.12%	0.010%

Instrument :

FID_G

ClientSampleId :

TP-45MS

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 05/27/2025

Supervised By :mohammad ahmed 05/28/2025

90	6.602	6.597	6.608	VV	163	779	0.02%	0.002%
91	6.667	6.608	6.811	VV	271988	2982695	90	
92	6.818	6.811	6.837	VV	816	11940	0	
93	6.843	6.837	6.876	VV	751	14914	0	
94	6.891	6.876	6.896	VV	688	7253	0	
95	6.899	6.896	6.907	VV	640	4118	0	
96	6.916	6.907	6.926	VV	610	6413	0.19%	0.017%
97	6.932	6.926	6.996	VV	607	20535	0.62%	0.053%
98	6.999	6.996	7.052	VV	491	11764	0.36%	0.031%
99	7.057	7.052	7.071	VV	306	3348	0.10%	0.009%
100	7.077	7.071	7.083	VV	280	1934	0.06%	0.005%
101	7.087	7.083	7.127	VV	289	5859	0.18%	0.015%
102	7.132	7.127	7.138	VV	260	1481	0.04%	0.004%
103	7.145	7.138	7.155	VV	303	2243	0.07%	0.006%
104	7.164	7.155	7.172	VV	275	2423	0.07%	0.006%
105	7.178	7.172	7.184	VV	286	1734	0.05%	0.004%
106	7.201	7.184	7.218	VV	348	5987	0.18%	0.016%
107	7.221	7.218	7.241	VV	325	4393	0.13%	0.011%
108	7.260	7.241	7.274	VV	422	7171	0.22%	0.019%
109	7.293	7.274	7.339	VV	400	12450	0.38%	0.032%
110	7.376	7.339	7.496	VV	899	46366	1.40%	0.120%
111	7.500	7.496	7.505	VV	306	1451	0.04%	0.004%
112	7.510	7.505	7.554	VV	350	6906	0.21%	0.018%
113	7.567	7.554	7.589	VV	280	4285	0.13%	0.011%
114	7.624	7.589	7.677	VV	594	14073	0.43%	0.037%
115	7.682	7.677	7.696	VV	126	1255	0.04%	0.003%
116	7.700	7.696	7.761	VV	129	4076	0.12%	0.011%
117	7.807	7.761	7.821	VV	164	2743	0.08%	0.007%
118	7.832	7.821	7.870	VV	128	2397	0.07%	0.006%
119	7.901	7.870	7.988	VV	1221	22882	0.69%	0.059%
120	7.997	7.988	8.008	VV	164	1368	0.04%	0.004%
121	8.047	8.008	8.057	VV	431	6690	0.20%	0.017%
122	8.074	8.057	8.134	VV	1076	17075	0.52%	0.044%
123	8.148	8.134	8.173	VV	236	3721	0.11%	0.010%
124	8.195	8.173	8.228	VV	906	12201	0.37%	0.032%
125	8.251	8.228	8.306	VV	974	14901	0.45%	0.039%
126	8.327	8.306	8.342	VV	151	2745	0.08%	0.007%
127	8.357	8.342	8.373	VV	220	2662	0.08%	0.007%
128	8.409	8.373	8.439	PV	387	8559	0.26%	0.022%
129	8.503	8.439	8.622	VV	256880	3010358	91.04%	7.808%
130	8.642	8.622	8.824	VV	1149	64926	1.96%	0.168%
131	8.864	8.824	8.911	VV	422	14165	0.43%	0.037%
132	8.937	8.911	8.984	VV	366	9369	0.28%	0.024%
133	9.010	8.984	9.027	VV	445	8937	0.27%	0.023%
134	9.045	9.027	9.094	VV	453	10956	0.33%	0.028%
135	9.101	9.094	9.148	VV	178	4270	0.13%	0.011%
136	9.158	9.148	9.189	VV	138	3159	0.10%	0.008%
137	9.237	9.189	9.261	VV	471	10699	0.32%	0.028%
138	9.274	9.261	9.307	VV	329	5553	0.17%	0.014%
139	9.336	9.307	9.357	VV	625	10155	0.31%	0.026%
140	9.381	9.357	9.487	VV	373	11197	0.34%	0.029%
141	9.522	9.487	9.567	VV	352	7118	0.22%	0.018%

Instrument :

FID_G

ClientSampleId :

TP-45MS

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 05/27/2025

Supervised By :mohammad ahmed 05/28/2025

142	9.580	9.567	9.596	VV	135	1288	0.04%	0.003%
143	9.634	9.596	9.651	PV	211	2958	0.04%	0.003%
144	9.671	9.651	9.692	VV	126	2238	0.04%	0.003%
145	9.732	9.692	9.744	VV	359	8479	0.04%	0.003%
146	9.753	9.744	9.789	VV	389	7322	0.04%	0.003%
147	9.801	9.789	9.828	VV	273	5078	0.04%	0.003%
148	9.854	9.828	9.870	VV	314	6411	0.19%	0.017%
149	9.894	9.870	9.922	VV	1254	17460	0.53%	0.045%
150	9.948	9.922	9.967	VV	856	11834	0.36%	0.031%
151	9.991	9.967	10.085	VV	61313	1229180	37.17%	3.188%
152	10.117	10.085	10.337	VV	277115	3306661	100.00%	8.577%
153	10.345	10.337	10.399	VV	534	13139	0.40%	0.034%
154	10.414	10.399	10.431	VV	354	5404	0.16%	0.014%
155	10.462	10.431	10.624	VV	13158	266536	8.06%	0.691%
156	10.632	10.624	10.657	VV	347	6398	0.19%	0.017%
157	10.680	10.657	10.718	VV	540	12454	0.38%	0.032%
158	10.759	10.718	10.768	VV	276	7485	0.23%	0.019%
159	10.786	10.768	10.812	VV	325	6333	0.19%	0.016%
160	10.833	10.812	10.844	VV	550	7493	0.23%	0.019%
161	10.859	10.844	10.906	VV	594	12366	0.37%	0.032%
162	10.930	10.906	10.953	VV	295	6365	0.19%	0.017%
163	10.980	10.953	11.061	VV	289	9552	0.29%	0.025%
164	11.082	11.061	11.124	VV	176	4443	0.13%	0.012%
165	11.141	11.124	11.154	VV	247	2855	0.09%	0.007%
166	11.185	11.154	11.219	VV	428	12191	0.37%	0.032%
167	11.238	11.219	11.266	VV	506	9514	0.29%	0.025%
168	11.280	11.266	11.297	VV	286	5110	0.15%	0.013%
169	11.311	11.297	11.356	VV	339	7689	0.23%	0.020%
170	11.375	11.356	11.456	VV	214	7436	0.22%	0.019%
171	11.498	11.456	11.510	PV	151	2806	0.08%	0.007%
172	11.564	11.510	11.627	VV	284411	3277116	99.11%	8.500%
173	11.643	11.627	11.704	VV	1342	30237	0.91%	0.078%
174	11.725	11.704	11.742	VV	524	8552	0.26%	0.022%
175	11.760	11.742	11.783	VV	495	7483	0.23%	0.019%
176	11.808	11.783	11.830	VV	220	3897	0.12%	0.010%
177	11.871	11.830	11.901	VV	392	11896	0.36%	0.031%
178	11.911	11.901	11.933	VV	291	4093	0.12%	0.011%
179	11.955	11.933	11.963	VV	383	4707	0.14%	0.012%
180	11.995	11.963	12.025	VV	1496	33511	1.01%	0.087%
181	12.046	12.025	12.174	VV	2486	47027	1.42%	0.122%
182	12.179	12.174	12.199	VV	159	2057	0.06%	0.005%
183	12.236	12.199	12.276	VV	555	10766	0.33%	0.028%
184	12.295	12.276	12.309	VV	460	6051	0.18%	0.016%
185	12.332	12.309	12.378	VV	610	13047	0.39%	0.034%
186	12.383	12.378	12.411	VV	212	2622	0.08%	0.007%
187	12.438	12.411	12.459	PV	344	5739	0.17%	0.015%
188	12.493	12.459	12.539	VV	11189	149697	4.53%	0.388%
189	12.557	12.539	12.571	VV	1432	21123	0.64%	0.055%
190	12.587	12.571	12.641	VV	1462	39879	1.21%	0.103%
191	12.656	12.641	12.681	VV	811	14574	0.44%	0.038%
192	12.702	12.681	12.736	VV	974	20171	0.61%	0.052%
193	12.748	12.736	12.759	VV	302	4094	0.12%	0.011%
194	12.798	12.759	12.836	VV	1317	26839	0.81%	0.070%

Instrument :

FID_G

ClientSampleId :

TP-45MS

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 05/27/2025

Supervised By :mohammad ahmed 05/28/2025

195	12.878	12.836	12.922	VV	267733	3259298	98.57%	8.454%	
196	12.950	12.922	13.067	VV	6285	155786			
197	13.084	13.067	13.111	VV	816	14736			
198	13.131	13.111	13.174	VV	628	16035			
199	13.200	13.174	13.221	VV	391	9346			
200	13.287	13.221	13.352	VV	1609	70115			
201	13.374	13.352	13.396	VV	714	17612	0.53%	0.046%	
202	13.405	13.396	13.422	VV	758	10466	0.32%	0.027%	
203	13.435	13.422	13.467	VV	752	17016	0.51%	0.044%	
204	13.492	13.467	13.537	VV	1129	34782	1.05%	0.090%	
205	13.550	13.537	13.581	VV	881	18762	0.57%	0.049%	
206	13.622	13.581	13.639	VV	746	23607	0.71%	0.061%	
207	13.668	13.639	13.697	VV	915	29461	0.89%	0.076%	
208	13.716	13.697	13.762	VV	1103	37192	1.12%	0.096%	
209	13.769	13.762	13.822	VV	1003	28702	0.87%	0.074%	
210	13.919	13.822	13.966	VV	1941	97001	2.93%	0.252%	
211	14.029	13.966	14.044	VV	1601	57497	1.74%	0.149%	
212	14.080	14.044	14.158	VV	262580	3296185	99.68%	8.550%	
213	14.197	14.158	14.266	VV	3654	106625	3.22%	0.277%	
214	14.315	14.266	14.374	VV	1284	75598	2.29%	0.196%	
215	14.389	14.374	14.422	VV	1266	33868	1.02%	0.088%	
216	14.439	14.422	14.454	VV	1412	23910	0.72%	0.062%	
217	14.481	14.454	14.546	VV	2536	93117	2.82%	0.242%	
218	14.577	14.546	14.617	VV	1341	50401	1.52%	0.131%	
219	14.643	14.617	14.671	VV	2104	46454	1.40%	0.120%	
220	14.706	14.671	14.719	VV	1305	34363	1.04%	0.089%	
221	14.744	14.719	14.785	VV	1497	48707	1.47%	0.126%	
222	14.803	14.785	14.832	VV	1105	27653	0.84%	0.072%	
223	14.849	14.832	14.866	VV	1053	18017	0.54%	0.047%	
224	14.899	14.866	14.946	VV	1043	42939	1.30%	0.111%	
225	14.981	14.946	15.021	VV	118109	1609950	48.69%	4.176%	
226	15.030	15.021	15.126	VV	1386	50843	1.54%	0.132%	
227	15.186	15.126	15.306	VV	250111	3282033	99.26%	8.513%	
228	15.313	15.306	15.361	VV	356	7612	0.23%	0.020%	
229	15.381	15.361	15.454	VV	408	8402	0.25%	0.022%	
230	15.484	15.454	15.492	PV	97	860	0.03%	0.002%	
231	15.569	15.492	15.677	PV	37616	760658	23.00%	1.973%	
232	15.705	15.677	15.746	VV	2614	42795	1.29%	0.111%	
233	15.773	15.746	15.812	VV	2733	39440	1.19%	0.102%	
234	15.839	15.812	15.870	VV	517	11107	0.34%	0.029%	
235	15.885	15.870	15.936	VV	255	7040	0.21%	0.018%	
236	15.998	15.936	16.019	VV	481	14165	0.43%	0.037%	
237	16.027	16.019	16.052	VV	416	6621	0.20%	0.017%	
238	16.093	16.052	16.149	VV	1348	38440	1.16%	0.100%	
239	16.211	16.149	16.266	VV	233262	3173353	95.97%	8.231%	
240	16.273	16.266	16.314	VV	556	9176	0.28%	0.024%	
241	16.348	16.314	16.379	VV	310	6817	0.21%	0.018%	
242	16.401	16.379	16.417	PV	203	3530	0.11%	0.009%	
243	16.425	16.417	16.470	VV	194	2917	0.09%	0.008%	
244	16.501	16.470	16.537	PV	555	8997	0.27%	0.023%	
245	16.593	16.537	16.644	VV	3641	82069	2.48%	0.213%	
246	16.657	16.644	16.671	VV	596	7980	0.24%	0.021%	

Instrument :

FID_G

ClientSampleId :

TP-45MS

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 05/27/2025

Supervised By :mohammad ahmed 05/28/2025

247	16.693	16.671	16.729	VV	3067	42474	1.28%	0.110%
248	16.770	16.729	16.823	PV	1081	27724		
249	16.846	16.823	16.873	VV	344	8446		
250	16.896	16.873	16.909	VV	191	4187		
251	16.928	16.909	16.937	VV	212	2922		
252	16.983	16.937	17.024	VV	1078	31099		
253	17.070	17.024	17.099	VV	803	32696	0.99%	0.085%
254	17.163	17.099	17.199	VV	229845	3130823	94.68%	8.121%
255	17.207	17.199	17.229	VV	1629	21849	0.66%	0.057%
256	17.242	17.229	17.270	VV	841	16121	0.49%	0.042%
257	17.281	17.270	17.301	VV	428	7090	0.21%	0.018%
258	17.322	17.301	17.342	VV	344	7183	0.22%	0.019%
259	17.395	17.342	17.411	VV	310	10009	0.30%	0.026%
260	17.441	17.411	17.479	VV	356	8176	0.25%	0.021%

Sum of corrected areas: 38553721

FG052225.M Sat May 24 02:09:04 2025

Instrument :
FID_G
ClientSampleId :
TP-45MS

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 05/27/2025
Supervised By :mohammad ahmed 05/28/2025

Report of Analysis

Client:	CDM Smith	Date Collected:	05/20/25
Project:	South River WM Replacement	Date Received:	05/20/25
Client Sample ID:	TP-45MSD	SDG No.:	Q2100
Lab Sample ID:	Q2100-04MSD	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	76.2
Sample Wt/Vol:	30.08	Units:	g
Soil Aliquot Vol:			uL
Extraction Type:		Final Vol:	1
GPC Factor :		PH :	
Prep Method :	SW3541	Decanted:	
		Test:	Diesel Range Organics
		Injection Volume :	

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015904.D	1	05/23/25 10:10	05/23/25 17:23	PB168150

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	12100		221	2180	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	12.6		37 - 130	63%	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\FG052325\
 Data File : FG015904.D
 Signal(s) : FID1A.ch
 Acq On : 23 May 2025 17:23
 Operator : YP\AJ
 Sample : Q2100-04MSD
 Misc :
 ALS Vial : 28 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 TP-45MSD

Integration File: autoint1.e
 Quant Time: May 23 23:08:16 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
 Quant Title :
 QLast Update : Thu May 22 06:20:25 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...	14.981	1542298	12.584 ug/ml
Target Compounds			
2) N-DECANE	4.486	2714827	23.105 ug/ml
3) N-DODECANE	6.667	2914770	24.015 ug/ml
4) N-TETRADECANE	8.503	2934760	22.983 ug/ml
5) N-HEXADECANE	10.116	3163975	23.748 ug/ml
6) N-OCTADECANE	11.564	3207787	23.244 ug/ml
7) N-EICOSANE	12.877	3198073	22.637 ug/ml
8) N-DOCOSANE	14.080	3172298	23.094 ug/ml
10) N-TETRACOSANE	15.186	3152191	22.930 ug/ml
11) N-HEXACOSANE	16.210	3114887	22.926 ug/ml
12) N-OCTACOSANE	17.161	3036482	22.522 ug/ml

(f)=RT Delta > 1/2 Window

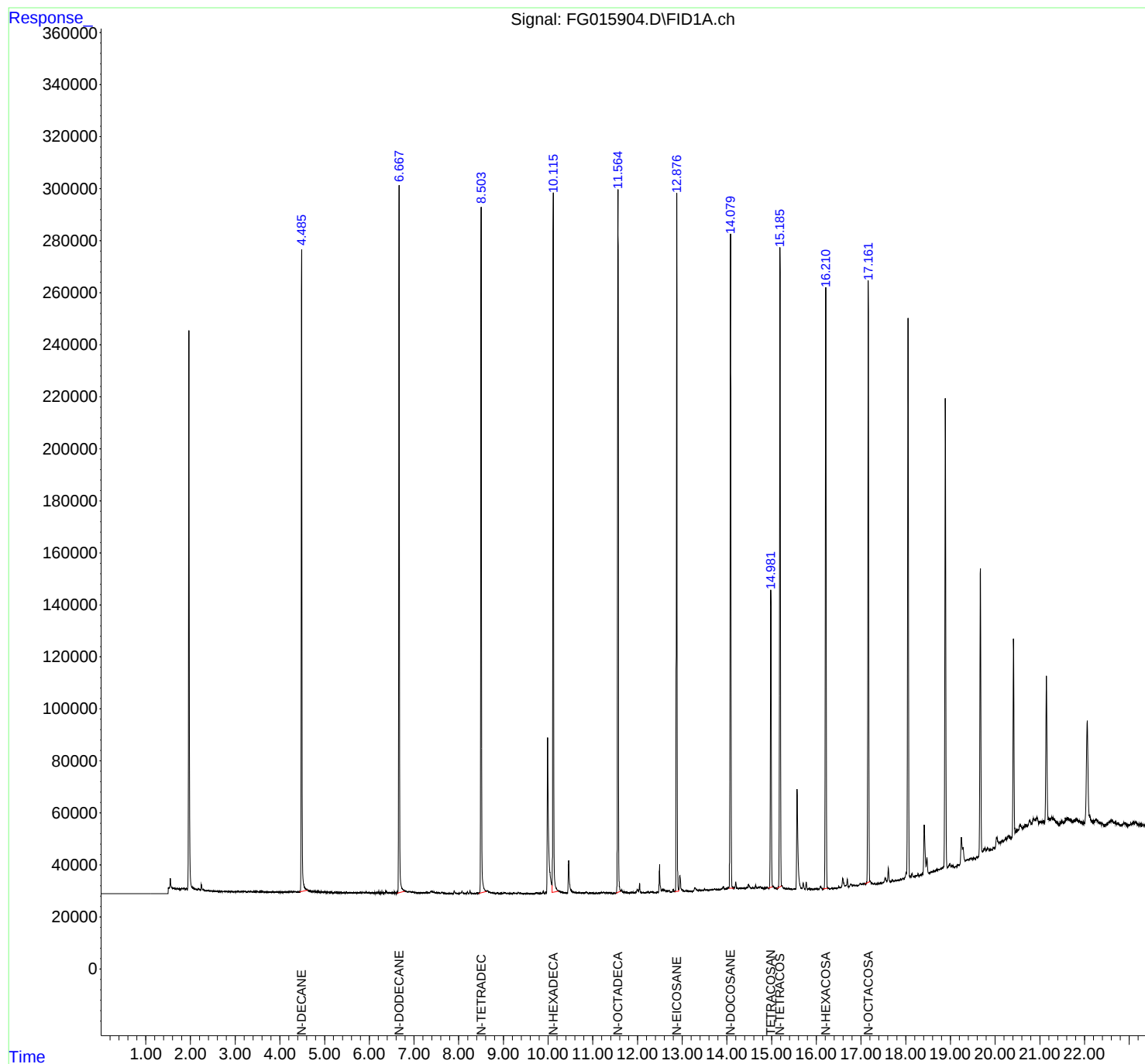
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG052325\
Data File : FG015904.D
Signal(s) : FID1A.ch
Acq On : 23 May 2025 17:23
Operator : YP\AJ
Sample : Q2100-04MSD
Misc :
ALS Vial : 28 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
TP-45MSD

Integration File: autoint1.e
Quant Time: May 23 23:08:16 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
Quant Title :
QLast Update : Thu May 22 06:20:25 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\FG052325\
 Data File : FG015904.D
 Signal(s) : FID1A.ch
 Acq On : 23 May 2025 17:23
 Sample : Q2100-04MSD
 Misc :
 ALS Vial : 28 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG052225.M
 Title :

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.319	4.300	4.328	BV	160	1114	0.03%	0.003%
2	4.333	4.328	4.348	VV	88	729	0.02%	0.002%
3	4.352	4.348	4.363	VV	108	506	0.02%	0.001%
4	4.369	4.363	4.410	PV	58	927	0.03%	0.002%
5	4.415	4.410	4.436	VV	84	899	0.03%	0.002%
6	4.441	4.436	4.446	VV	78	365	0.01%	0.001%
7	4.450	4.446	4.454	PV	99	206	0.01%	0.001%
8	4.486	4.454	4.599	VV	246810	2753023	83.82%	7.201%
9	4.605	4.599	4.650	VV	993	21983	0.67%	0.057%
10	4.665	4.650	4.700	VV	655	16021	0.49%	0.042%
11	4.702	4.700	4.715	VV	460	3703	0.11%	0.010%
12	4.722	4.715	4.749	VV	410	7027	0.21%	0.018%
13	4.753	4.749	4.760	VV	385	2121	0.06%	0.006%
14	4.767	4.760	4.790	VV	395	5875	0.18%	0.015%
15	4.792	4.790	4.809	VV	384	3611	0.11%	0.009%
16	4.816	4.809	4.821	VV	243	1824	0.06%	0.005%
17	4.827	4.821	4.835	VV	381	2258	0.07%	0.006%
18	4.840	4.835	4.850	VV	340	2501	0.08%	0.007%
19	4.856	4.850	4.881	VV	431	5022	0.15%	0.013%
20	4.888	4.881	4.900	VV	359	2750	0.08%	0.007%
21	4.902	4.900	4.910	VV	269	1421	0.04%	0.004%
22	4.919	4.910	4.936	VV	448	3816	0.12%	0.010%
23	4.945	4.936	4.965	VV	259	3697	0.11%	0.010%
24	4.972	4.965	4.986	VV	249	2521	0.08%	0.007%
25	4.997	4.986	5.005	VV	331	2761	0.08%	0.007%
26	5.007	5.005	5.035	VV	267	3184	0.10%	0.008%
27	5.038	5.035	5.049	VV	266	1551	0.05%	0.004%
28	5.059	5.049	5.063	VV	303	1486	0.05%	0.004%
29	5.067	5.063	5.079	VV	212	1743	0.05%	0.005%
30	5.083	5.079	5.089	VV	225	948	0.03%	0.002%
31	5.092	5.089	5.099	VV	176	892	0.03%	0.002%
32	5.106	5.099	5.125	VV	208	2169	0.07%	0.006%
33	5.128	5.125	5.142	VV	148	1198	0.04%	0.003%
34	5.153	5.142	5.190	VV	187	4156	0.13%	0.011%
35	5.198	5.190	5.222	PV	108	2526	0.08%	0.007%
36	5.226	5.222	5.251	VV	179	2058	0.06%	0.005%

					rteres			
37	5.256	5.251	5.286	VV	218	2264	0.07%	0.006%
38	5.291	5.286	5.319	VV	118	2064	0.06%	0.005%
39	5.339	5.319	5.348	VV	249	2198	0.07%	0.006%
40	5.352	5.348	5.364	VV	131	1147	0.03%	0.003%
41	5.367	5.364	5.390	VV	171	1421	0.04%	0.004%
42	5.403	5.390	5.410	VV	140	932	0.03%	0.002%
43	5.431	5.410	5.445	VV	154	1877	0.06%	0.005%
44	5.476	5.445	5.487	PV	199	3080	0.09%	0.008%
45	5.491	5.487	5.515	VV	197	2111	0.06%	0.006%
46	5.518	5.515	5.574	VV	181	3925	0.12%	0.010%
47	5.582	5.574	5.605	VV	184	1956	0.06%	0.005%
48	5.610	5.605	5.614	PV	77	345	0.01%	0.001%
49	5.637	5.614	5.673	VV	249	5024	0.15%	0.013%
50	5.679	5.673	5.689	VV	112	725	0.02%	0.002%
51	5.693	5.689	5.701	VV	133	638	0.02%	0.002%
52	5.710	5.701	5.730	PV	174	1485	0.05%	0.004%
53	5.734	5.730	5.750	VV	152	1576	0.05%	0.004%
54	5.766	5.750	5.781	VV	217	3071	0.09%	0.008%
55	5.791	5.781	5.795	VV	241	1692	0.05%	0.004%
56	5.800	5.795	5.805	VV	234	1131	0.03%	0.003%
57	5.812	5.805	5.817	VV	240	1602	0.05%	0.004%
58	5.828	5.817	5.847	VV	283	4092	0.12%	0.011%
59	5.850	5.847	5.862	VV	214	1749	0.05%	0.005%
60	5.875	5.862	5.885	VV	243	3021	0.09%	0.008%
61	5.891	5.885	5.910	VV	308	3444	0.10%	0.009%
62	5.913	5.910	5.924	VV	284	2295	0.07%	0.006%
63	5.928	5.924	5.946	VV	301	3277	0.10%	0.009%
64	5.951	5.946	5.961	VV	245	1727	0.05%	0.005%
65	5.965	5.961	5.970	VV	235	896	0.03%	0.002%
66	5.979	5.970	5.985	VV	237	1576	0.05%	0.004%
67	5.994	5.985	5.997	VV	210	1178	0.04%	0.003%
68	6.009	5.997	6.019	VV	195	2205	0.07%	0.006%
69	6.027	6.019	6.046	VV	188	2360	0.07%	0.006%
70	6.051	6.046	6.060	VV	202	963	0.03%	0.003%
71	6.062	6.060	6.068	VV	127	467	0.01%	0.001%
72	6.072	6.068	6.079	VV	200	760	0.02%	0.002%
73	6.087	6.079	6.113	VV	194	2533	0.08%	0.007%
74	6.121	6.113	6.141	VV	311	1657	0.05%	0.004%
75	6.150	6.141	6.161	VV	185	1177	0.04%	0.003%
76	6.164	6.161	6.173	VV	192	831	0.03%	0.002%
77	6.177	6.173	6.183	VV	164	579	0.02%	0.002%
78	6.208	6.183	6.216	VV	455	3383	0.10%	0.009%
79	6.221	6.216	6.234	VV	160	1396	0.04%	0.004%
80	6.236	6.234	6.256	VV	404	2494	0.08%	0.007%
81	6.267	6.256	6.280	VV	313	2374	0.07%	0.006%
82	6.302	6.280	6.345	VV	371	6146	0.19%	0.016%
83	6.382	6.345	6.422	VV	664	12266	0.37%	0.032%
84	6.428	6.422	6.445	VV	178	1797	0.05%	0.005%
85	6.451	6.445	6.468	VV	189	1966	0.06%	0.005%
86	6.479	6.468	6.491	VV	187	2025	0.06%	0.005%
87	6.496	6.491	6.499	VV	147	514	0.02%	0.001%
88	6.503	6.499	6.511	VV	209	773	0.02%	0.002%
89	6.531	6.511	6.547	VV	256	3920	0.12%	0.010%

					rteres			
90	6.561	6.547	6.571	VV	378	3316	0.10%	0.009%
91	6.575	6.571	6.589	VV	292	1509	0.05%	0.004%
92	6.591	6.589	6.613	VV	189	1461	0.04%	0.004%
93	6.617	6.613	6.626	VV	119	674	0.02%	0.002%
94	6.629	6.626	6.634	VV	40	496	0.02%	0.001%
95	6.667	6.634	6.805	VV	272379	2967172	90.34%	7.761%
96	6.816	6.805	6.863	VV	852	25254	0.77%	0.066%
97	6.869	6.863	6.981	VV	669	38819	1.18%	0.102%
98	6.990	6.981	7.079	VV	462	20132	0.61%	0.053%
99	7.087	7.079	7.144	VV	258	8604	0.26%	0.023%
100	7.153	7.144	7.167	VV	254	2934	0.09%	0.008%
101	7.265	7.167	7.345	VV	417	31594	0.96%	0.083%
102	7.384	7.345	7.441	VV	896	33589	1.02%	0.088%
103	7.450	7.441	7.507	VV	574	13332	0.41%	0.035%
104	7.514	7.507	7.552	VV	240	6246	0.19%	0.016%
105	7.560	7.552	7.598	VV	241	4585	0.14%	0.012%
106	7.623	7.598	7.722	VV	470	14033	0.43%	0.037%
107	7.731	7.722	7.761	VV	90	1485	0.05%	0.004%
108	7.764	7.761	7.774	VV	120	487	0.01%	0.001%
109	7.781	7.774	7.827	VV	145	1660	0.05%	0.004%
110	7.836	7.827	7.860	PV	82	811	0.02%	0.002%
111	7.902	7.860	7.997	VV	1130	20722	0.63%	0.054%
112	8.075	7.997	8.134	VV	1025	21356	0.65%	0.056%
113	8.151	8.134	8.171	VV	184	2216	0.07%	0.006%
114	8.195	8.171	8.227	VV	764	10384	0.32%	0.027%
115	8.252	8.227	8.309	VV	863	12802	0.39%	0.033%
116	8.334	8.309	8.342	PV	131	1358	0.04%	0.004%
117	8.355	8.342	8.380	VV	110	1650	0.05%	0.004%
118	8.410	8.380	8.442	VV	269	6142	0.19%	0.016%
119	8.503	8.442	8.624	VV	261058	2990192	91.05%	7.821%
120	8.641	8.624	8.673	VV	1112	27811	0.85%	0.073%
121	8.681	8.673	8.813	VV	657	29134	0.89%	0.076%
122	8.861	8.813	8.913	VV	390	11350	0.35%	0.030%
123	8.938	8.913	8.977	VV	271	5729	0.17%	0.015%
124	9.009	8.977	9.028	VV	409	7664	0.23%	0.020%
125	9.045	9.028	9.086	VV	362	8250	0.25%	0.022%
126	9.101	9.086	9.144	VV	230	4147	0.13%	0.011%
127	9.159	9.144	9.168	VV	200	1672	0.05%	0.004%
128	9.176	9.168	9.205	VV	163	2054	0.06%	0.005%
129	9.233	9.205	9.259	VV	405	7450	0.23%	0.019%
130	9.266	9.259	9.313	VV	284	5476	0.17%	0.014%
131	9.338	9.313	9.362	VV	593	9172	0.28%	0.024%
132	9.385	9.362	9.459	VV	351	7671	0.23%	0.020%
133	9.525	9.459	9.597	VV	297	6775	0.21%	0.018%
134	9.624	9.597	9.669	PV	80	1657	0.05%	0.004%
135	9.674	9.669	9.682	VV	54	354	0.01%	0.001%
136	9.731	9.682	9.744	PV	325	7077	0.22%	0.019%
137	9.752	9.744	9.789	VV	332	6605	0.20%	0.017%
138	9.805	9.789	9.823	VV	230	3835	0.12%	0.010%
139	9.851	9.823	9.869	VV	269	5845	0.18%	0.015%
140	9.894	9.869	9.924	VV	1221	16192	0.49%	0.042%
141	9.948	9.924	9.963	VV	827	10324	0.31%	0.027%

rteres								
142	9.991	9.963	10.087	VV	59620	1223680	37.26%	3.201%
143	10.116	10.087	10.401	VV	269090	3283906	99.99%	8.589%
144	10.409	10.401	10.422	VV	349	3596	0.11%	0.009%
145	10.461	10.422	10.624	VV	12790	264530	8.05%	0.692%
146	10.634	10.624	10.657	VV	459	6189	0.19%	0.016%
147	10.680	10.657	10.733	VV	526	13709	0.42%	0.036%
148	10.749	10.733	10.767	VV	252	4692	0.14%	0.012%
149	10.787	10.767	10.812	VV	291	6099	0.19%	0.016%
150	10.859	10.812	10.912	VV	629	20428	0.62%	0.053%
151	10.933	10.912	10.957	VV	307	6494	0.20%	0.017%
152	10.974	10.957	10.981	VV	247	3240	0.10%	0.008%
153	10.988	10.981	11.033	VV	278	5213	0.16%	0.014%
154	11.044	11.033	11.064	VV	187	1825	0.06%	0.005%
155	11.096	11.064	11.120	VV	199	4425	0.13%	0.012%
156	11.140	11.120	11.157	VV	190	3349	0.10%	0.009%
157	11.189	11.157	11.215	VV	462	11170	0.34%	0.029%
158	11.235	11.215	11.262	VV	486	10537	0.32%	0.028%
159	11.280	11.262	11.301	VV	404	7355	0.22%	0.019%
160	11.314	11.301	11.357	VV	416	8676	0.26%	0.023%
161	11.376	11.357	11.407	VV	299	6176	0.19%	0.016%
162	11.421	11.407	11.467	VV	195	4037	0.12%	0.011%
163	11.493	11.467	11.511	PV	202	3303	0.10%	0.009%
164	11.564	11.511	11.624	VV	271374	3241061	98.68%	8.477%
165	11.643	11.624	11.696	VV	1409	32272	0.98%	0.084%
166	11.725	11.696	11.746	VV	571	11559	0.35%	0.030%
167	11.760	11.746	11.794	VV	466	8288	0.25%	0.022%
168	11.816	11.794	11.834	VV	195	3254	0.10%	0.009%
169	11.872	11.834	11.901	VV	413	11568	0.35%	0.030%
170	11.912	11.901	11.935	VV	271	4660	0.14%	0.012%
171	11.953	11.935	11.967	VV	349	5869	0.18%	0.015%
172	11.993	11.967	12.022	VV	1464	32813	1.00%	0.086%
173	12.045	12.022	12.103	VV	3703	54765	1.67%	0.143%
174	12.115	12.103	12.176	VV	243	7424	0.23%	0.019%
175	12.235	12.176	12.264	VV	589	12852	0.39%	0.034%
176	12.295	12.264	12.311	VV	432	7953	0.24%	0.021%
177	12.331	12.311	12.362	VV	539	10784	0.33%	0.028%
178	12.368	12.362	12.375	VV	224	1402	0.04%	0.004%
179	12.384	12.375	12.409	VV	222	2560	0.08%	0.007%
180	12.439	12.409	12.466	PV	418	6485	0.20%	0.017%
181	12.492	12.466	12.541	VV	10862	147267	4.48%	0.385%
182	12.556	12.541	12.571	VV	1450	20245	0.62%	0.053%
183	12.586	12.571	12.641	VV	1449	39262	1.20%	0.103%
184	12.655	12.641	12.677	VV	758	13467	0.41%	0.035%
185	12.702	12.677	12.764	VV	910	25099	0.76%	0.066%
186	12.799	12.764	12.837	VV	1264	25948	0.79%	0.068%
187	12.877	12.837	12.922	VV	265635	3219365	98.02%	8.420%
188	12.949	12.922	13.064	VV	6391	155123	4.72%	0.406%
189	13.085	13.064	13.108	VV	720	14603	0.44%	0.038%
190	13.127	13.108	13.196	VV	662	21397	0.65%	0.056%
191	13.202	13.196	13.216	VV	316	3553	0.11%	0.009%
192	13.285	13.216	13.354	VV	1672	70098	2.13%	0.183%
193	13.376	13.354	13.394	VV	767	16132	0.49%	0.042%
194	13.401	13.394	13.422	VV	650	11018	0.34%	0.029%

					rteres			
195	13.436	13.422	13.470	VV	737	17410	0.53%	0.046%
196	13.492	13.470	13.536	VV	1066	31465	0.96%	0.082%
197	13.551	13.536	13.576	VV	816	16584	0.50%	0.043%
198	13.626	13.576	13.635	VV	782	22903	0.70%	0.060%
199	13.667	13.635	13.691	VV	866	26593	0.81%	0.070%
200	13.727	13.691	13.759	VV	1049	37778	1.15%	0.099%
201	13.766	13.759	13.793	VV	915	16655	0.51%	0.044%
202	13.919	13.793	13.969	VV	1942	107638	3.28%	0.282%
203	14.029	13.969	14.046	VV	1514	55217	1.68%	0.144%
204	14.079	14.046	14.157	VV	250482	3254411	99.09%	8.512%
205	14.196	14.157	14.264	VV	3494	103800	3.16%	0.271%
206	14.291	14.264	14.351	VV	1231	59119	1.80%	0.155%
207	14.370	14.351	14.381	VV	1162	19911	0.61%	0.052%
208	14.387	14.381	14.419	VV	1157	24758	0.75%	0.065%
209	14.443	14.419	14.452	VV	1289	23593	0.72%	0.062%
210	14.481	14.452	14.541	VV	2452	87849	2.67%	0.230%
211	14.577	14.541	14.619	VV	1248	53808	1.64%	0.141%
212	14.643	14.619	14.667	VV	2060	43457	1.32%	0.114%
213	14.702	14.667	14.711	VV	1321	31225	0.95%	0.082%
214	14.747	14.711	14.787	VV	1514	57814	1.76%	0.151%
215	14.804	14.787	14.829	VV	1152	25644	0.78%	0.067%
216	14.852	14.829	14.866	VV	1108	21620	0.66%	0.057%
217	14.900	14.866	14.942	VV	1183	46585	1.42%	0.122%
218	14.981	14.942	15.021	VV	115028	1601159	48.75%	4.188%
219	15.033	15.021	15.122	VV	1662	63825	1.94%	0.167%
220	15.186	15.122	15.316	VV	246487	3284270	100.00%	8.590%
221	15.325	15.316	15.351	VV	651	11954	0.36%	0.031%
222	15.380	15.351	15.442	VV	746	26855	0.82%	0.070%
223	15.459	15.442	15.474	VV	403	6347	0.19%	0.017%
224	15.487	15.474	15.505	VV	393	6254	0.19%	0.016%
225	15.520	15.505	15.534	VV	445	6337	0.19%	0.017%
226	15.568	15.534	15.679	VV	38703	772958	23.54%	2.022%
227	15.705	15.679	15.744	VV	2744	48334	1.47%	0.126%
228	15.773	15.744	15.809	VV	2894	43842	1.33%	0.115%
229	15.837	15.809	15.862	VV	552	10567	0.32%	0.028%
230	15.886	15.862	15.907	VV	252	4940	0.15%	0.013%
231	15.919	15.907	15.941	VV	145	1711	0.05%	0.004%
232	16.001	15.941	16.011	PV	333	7529	0.23%	0.020%
233	16.026	16.011	16.054	VV	251	4197	0.13%	0.011%
234	16.093	16.054	16.152	VV	1230	27982	0.85%	0.073%
235	16.210	16.152	16.256	VV	229967	3128515	95.26%	8.183%
236	16.265	16.256	16.315	VV	412	8198	0.25%	0.021%
237	16.347	16.315	16.372	VV	216	4261	0.13%	0.011%
238	16.401	16.372	16.454	PV	261	7059	0.21%	0.018%
239	16.501	16.454	16.537	VV	583	11847	0.36%	0.031%
240	16.591	16.537	16.639	VV	3650	87379	2.66%	0.229%
241	16.654	16.639	16.669	VV	783	12697	0.39%	0.033%
242	16.692	16.669	16.732	VV	3175	47983	1.46%	0.126%
243	16.771	16.732	16.806	VV	1191	30349	0.92%	0.079%
244	16.847	16.806	16.876	VV	548	17897	0.54%	0.047%
245	16.894	16.876	16.907	VV	408	6522	0.20%	0.017%
246	16.915	16.907	16.939	VV	319	5080	0.15%	0.013%

						rteres		
247	16.986	16.939	17.019	VV	1019	29089	0.89%	0.076%
248	17.042	17.019	17.059	VV	697	14762	0.45%	0.039%
249	17.077	17.059	17.097	VV	673	13849	0.42%	0.036%
250	17.161	17.097	17.197	VV	230390	3093551	94.19%	8.091%
251	17.206	17.197	17.227	VV	1557	20556	0.63%	0.054%
252	17.239	17.227	17.335	VV	690	18417	0.56%	0.048%
253	17.341	17.335	17.351	VV	30	429	0.01%	0.001%
254	17.393	17.351	17.427	PV	132	2729	0.08%	0.007%
					Sum of corrected areas:	38232802		

FG052225.M Sat May 24 02:09:33 2025

Manual Integration Report

Sample ID	ClientId ID	File ID	Sequence ID	Parameter	Supervised By	Supervised On	Reason
5 TRPH STD		FG015890.D	FG052225	N-TETRACONTANE	mohammad	5/23/2025 5:16:45 AM	Peak Integrated by Software incorrectly

Manual Integration Report

Sample ID	ClientID ID	File ID	Sequence ID	Parameter	Supervised By	Supervised On	Reason
Q2100-03		FG015901.D	FG052325	TETRACOSANE-d50 (SURROGA	 	 	Peak Integrated by Software incorrectly
Q2100-04MS		FG015903.D	FG052325	N-OCTACOSANE	 	 	Peak Integrated by Software incorrectly
Q2100-03		FG015905.D	FG052325	TETRACOSANE-d50 (SURROGA	 	 	Peak Integrated by Software incorrectly

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG052225

Review By	yogesh	Review On	5/21/2025 1:58:58 PM
Supervise By	mohammad	Supervise On	5/23/2025 5:16:45 AM
SubDirectory	FG052225	HP Acquire Method	HP Processing Method FG052225
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	PP24467,PP24469,PP24470,PP24471,PP24472		
CCC Internal Standard/PEM ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	PP24468,PP24473		

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	MECL2	FG015884.D	21 May 2025 20:34	YP\AJ	Ok
2	I.BLK	FG015885.D	21 May 2025 21:03	YP\AJ	Ok
3	100 TRPH STD	FG015886.D	21 May 2025 21:33	YP\AJ	Ok
4	50 TRPH STD	FG015887.D	21 May 2025 22:02	YP\AJ	Ok
5	20 TRPH STD	FG015888.D	21 May 2025 22:31	YP\AJ	Ok
6	10 TRPH STD	FG015889.D	21 May 2025 23:00	YP\AJ	Ok
7	5 TRPH STD	FG015890.D	21 May 2025 23:30	YP\AJ	Ok,M
8	FG052225ICV	FG015891.D	21 May 2025 23:59	YP\AJ	Ok
9	PP24596	FG015892.D	22 May 2025 00:58	YP\AJ	Ok

M : Manual Integration

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG052325

Review By	yogesh	Review On	5/23/2025 3:06:55 PM
Supervise By	mohammad	Supervise On	5/28/2025 1:49:22 AM
SubDirectory	FG052325	HP Acquire Method	HP Processing Method FG052225
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	PP24467,PP24469,PP24470,PP24471,PP24472		
CCC Internal Standard/PEM ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	PP24469 PP24468,PP24473		

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	MECL2	FG015893.D	23 May 2025 10:29	YP\AJ	Ok
2	I.BLK	FG015894.D	23 May 2025 10:59	YP\AJ	Ok
3	50 PPM TRPH STD	FG015895.D	23 May 2025 12:30	YP\AJ	Ok
4	RT MARKER	FG015896.D	23 May 2025 13:28	YP\AJ	Ok
5	PB168150BL	FG015897.D	23 May 2025 13:58	YP\AJ	Ok
6	PB168150BS	FG015898.D	23 May 2025 14:27	YP\AJ	Ok
7	Q2100-01	FG015899.D	23 May 2025 14:56	YP\AJ	Ok
8	Q2100-02	FG015900.D	23 May 2025 15:26	YP\AJ	Ok
9	Q2100-03	FG015901.D	23 May 2025 15:55	YP\AJ	Ok,M
10	Q2100-04	FG015902.D	23 May 2025 16:24	YP\AJ	Ok
11	Q2100-04MS	FG015903.D	23 May 2025 16:54	YP\AJ	Ok,M
12	Q2100-04MSD	FG015904.D	23 May 2025 17:23	YP\AJ	Ok
13	Q2100-03	FG015905.D	23 May 2025 17:52	YP\AJ	Not Ok
14	I.BLK	FG015906.D	23 May 2025 18:22	YP\AJ	Ok
15	50 PPM TRPH STD	FG015907.D	23 May 2025 18:51	YP\AJ	Ok

M : Manual Integration

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG052225

Review By	yogesh	Review On	5/21/2025 1:58:58 PM
Supervise By	mohammad	Supervise On	5/23/2025 5:16:45 AM
SubDirectory	FG052225	HP Acquire Method	HP Processing Method FG052225
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	PP24467,PP24469,PP24470,PP24471,PP24472		
CCC Internal Standard/PEM ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	PP24468,PP24473		

Sr#	SampleID	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	MECL2		FG015884.D	21 May 2025 20:34		YP\AJ	Ok
2	I.BLK		FG015885.D	21 May 2025 21:03		YP\AJ	Ok
3	100 TRPH STD		FG015886.D	21 May 2025 21:33		YP\AJ	Ok
4	50 TRPH STD		FG015887.D	21 May 2025 22:02		YP\AJ	Ok
5	20 TRPH STD		FG015888.D	21 May 2025 22:31		YP\AJ	Ok
6	10 TRPH STD		FG015889.D	21 May 2025 23:00		YP\AJ	Ok
7	5 TRPH STD		FG015890.D	21 May 2025 23:30		YP\AJ	Ok,M
8	FG052225ICV		FG015891.D	21 May 2025 23:59		YP\AJ	Ok
9	PP24596		FG015892.D	22 May 2025 00:58		YP\AJ	Ok

M : Manual Integration

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG052325

Review By	yogesh	Review On	5/23/2025 3:06:55 PM
Supervise By	mohammad	Supervise On	5/28/2025 1:49:22 AM
SubDirectory	FG052325	HP Acquire Method	HP Processing Method FG052225
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	PP24467,PP24469,PP24470,PP24471,PP24472		
CCC	PP24469		
Internal Standard/PEM	PP24468,PP24473		
ICV/I.BLK			
Surrogate Standard			
MS/MSD Standard			
LCS Standard			

Sr#	SampleID	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	MECL2		FG015893.D	23 May 2025 10:29		YP\AJ	Ok
2	I.BLK		FG015894.D	23 May 2025 10:59		YP\AJ	Ok
3	50 PPM TRPH STD		FG015895.D	23 May 2025 12:30		YP\AJ	Ok
4	RT MARKER		FG015896.D	23 May 2025 13:28		YP\AJ	Ok
5	PB168150BL		FG015897.D	23 May 2025 13:58		YP\AJ	Ok
6	PB168150BS		FG015898.D	23 May 2025 14:27		YP\AJ	Ok
7	Q2100-01		FG015899.D	23 May 2025 14:56		YP\AJ	Ok
8	Q2100-02		FG015900.D	23 May 2025 15:26		YP\AJ	Ok
9	Q2100-03		FG015901.D	23 May 2025 15:55		YP\AJ	Ok,M
10	Q2100-04		FG015902.D	23 May 2025 16:24		YP\AJ	Ok
11	Q2100-04MS		FG015903.D	23 May 2025 16:54		YP\AJ	Ok,M
12	Q2100-04MSD		FG015904.D	23 May 2025 17:23		YP\AJ	Ok
13	Q2100-03		FG015905.D	23 May 2025 17:52	not required	YP\AJ	Not Ok
14	I.BLK		FG015906.D	23 May 2025 18:22		YP\AJ	Ok
15	50 PPM TRPH STD		FG015907.D	23 May 2025 18:51		YP\AJ	Ok

M : Manual Integration



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 5/22/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:00
In Date: 05/21/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:20
Out Date: 05/22/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB135864

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
Q2100-01	TP-16	1	1.15	10.12	11.27	10.1	88.4	
Q2100-02	TP-22	2	1.18	10.32	11.5	9.85	84.0	
Q2100-03	TP-21	3	1.19	10.32	11.51	9.26	78.2	
Q2100-04	TP-45	4	1.18	10.42	11.6	9.12	76.2	
Q2101-01	TP-1-MHE	5	1.19	9.85	11.04	10.44	93.9	
Q2101-02	TP-1-MHE-E2	6	1.19	10.48	11.67	11.11	94.7	
Q2101-03	TP-1-MHE-VOC	7	1.15	10.40	11.55	10.94	94.1	
Q2102-01	LAW-25-0077	8	1.18	10.48	11.66	10.3	87.0	
Q2102-02	LAW-25-0077-E2	9	1.13	9.57	10.7	9.54	87.9	
Q2103-01	245F59-FRONT	10	1.00	1.00	2.00	2.00	100.0	oilc
Q2103-02	245F59-END	11	1.00	1.00	2.00	2.00	100.0	oilc
Q2103-03	BC248114-FRONT	12	1.00	1.00	2.00	2.00	100.0	oilc
Q2103-04	BC248114-END	13	1.00	1.00	2.00	2.00	100.0	oilc
Q2104-01	TR-06-052125	14	1.18	10.28	11.46	10.63	91.9	
Q2104-02	TR-06-052125-E2	15	1.13	10.63	11.76	10.9	91.9	

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

WORKLIST(Hardcopy Internal Chain)

JB135864

WorkList Name : %1-052125

WorkList ID : 189658

Department : Wet-Chemistry

Date : 05-21-2025 08:23:00

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2100-01	TP-16	Solid	Percent Solids	Cool 4 deg C	CAMP02	L41	05/20/2025	Chemtech -SO
Q2100-02	TP-22	Solid	Percent Solids	Cool 4 deg C	CAMP02	L41	05/20/2025	Chemtech -SO
Q2100-03	TP-21	Solid	Percent Solids	Cool 4 deg C	CAMP02	L41	05/20/2025	Chemtech -SO
Q2100-04	TP-45	Solid	Percent Solids	Cool 4 deg C	CAMP02	L41	05/20/2025	Chemtech -SO
Q2101-01	TP-1-MHE	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	05/19/2025	Chemtech -SO
Q2101-02	TP-1-MHE-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	05/19/2025	Chemtech -SO
Q2101-03	TP-1-MHE-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	05/19/2025	Chemtech -SO
Q2102-01	LAW-25-0077	Solid	Percent Solids	Cool 4 deg C	PSEG03	L21	05/21/2025	Chemtech -SO
Q2102-02	LAW-25-0077-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L21	05/21/2025	Chemtech -SO
Q2103-01	245F59-FRONT	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	05/21/2025	Chemtech -SO
Q2103-02	245F59-END	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	05/21/2025	Chemtech -SO
Q2103-03	BC248114-FRONT	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	05/21/2025	Chemtech -SO
Q2103-04	BC248114-END	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	05/21/2025	Chemtech -SO
Q2104-01	TR-06-052125	Solid	Percent Solids	Cool 4 deg C	PSEG05	L31	05/21/2025	Chemtech -SO
Q2104-02	TR-06-052125-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	L31	05/21/2025	Chemtech -SO

Date/Time 05/21/25 15:30

Raw Sample Received by: QA WOC

Raw Sample Relinquished by: [Signature]

Date/Time 05/21/25 17:10

Raw Sample Received by: [Signature]

Raw Sample Relinquished by: QA WOC

SOP ID: M3541-ASE Extraction-14

Clean Up SOP #: N/A **Extraction Start Date :** 05/23/2025

Matrix : Solid **Extraction Start Time :** 10:10

Wegh By: EH **Extraction By:** RJ **Extraction End Date :** 05/23/2025

Balance check: RJ **Filter By:** RJ **Extraction End Time :** 13:25

Balance ID: EX-SC-2 **pH Meter ID:** N/A **Concentration By:** EH

pH Strip Lot#: N/A **Hood ID:** 3,7 **Supervisor By :** RUPESH

Extraction Method: ☐ Seperatory Funnel ☐ Continious Liquid/Liquid ☐ Sonication ☐ Waste Dilution ☒ Soxhlet

Standared 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	EP2612
Baked Na2SO4	N/A	EP2614
Sand	N/A	E2865
Methylene Chloride	N/A	E3939
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 **Envap ID:** NEVAP-02

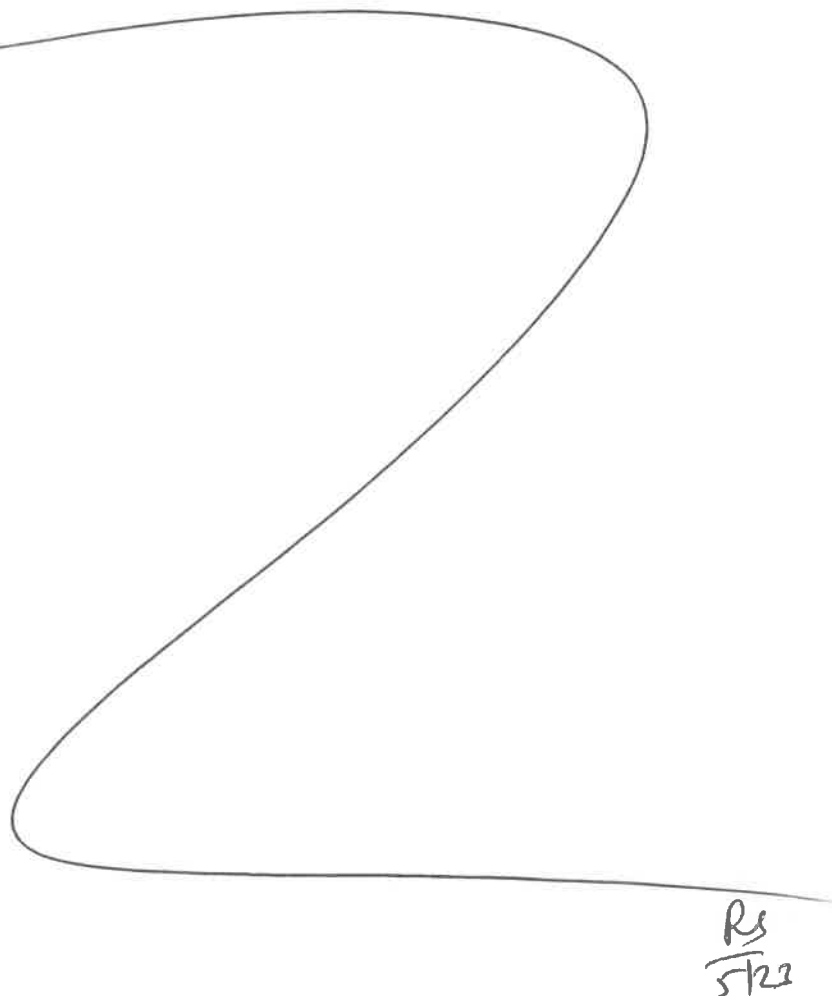
KD Bath Temperature: N/A **Envap Temperature:** 40 °C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
5/23/25	RS (B4 lab)	Y-P-PCJ+HPC
13:30	Preparation Group	Analysis Group

Analytical Method: M3541-ASE Extraction-14

Concentration Date: 05/23/2025

Sample ID	Client Sample ID	Test	g/mL	PH	Surr/Spike By:		Final Vol. (mL)	JarID	Comments	Prep Pos
					AddedBy	VerifiedBy				
PB168150BL	PB168150BL	Diesel Range Organics	30.01	N/A	ritesh	Evelyn	1			U2-1
PB168150BS	PB168150BS	Diesel Range Organics	30.03	N/A	ritesh	Evelyn	1			2
Q2100-01	TP-16	Diesel Range Organics	30.05	N/A	ritesh	Evelyn	1	E		3
Q2100-02	TP-22	Diesel Range Organics	30.09	N/A	ritesh	Evelyn	1	E		4
Q2100-03	TP-21	Diesel Range Organics	30.04	N/A	ritesh	Evelyn	1	E		5
Q2100-04	TP-45	Diesel Range Organics	30.02	N/A	ritesh	Evelyn	1	E		6
Q2100-04MS	TP-45MS	Diesel Range Organics	30.05	N/A	ritesh	Evelyn	1	E		U3-1
Q2100-04MS D	TP-45MSD	Diesel Range Organics	30.08	N/A	ritesh	Evelyn	1	E		2



168152
10:10

WORKLIST(Hardcopy Internal Chain)

WorkList Name : Q2100D		WorkList ID : 189741	Department : Extraction		Date : 05-23-2025 08:45:52		
Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date Method
Q2100-01	TP-16	Solid	Diesel Range Organics	Cool 4 deg C	CAMP02	L41	05/20/2025 8015D
Q2100-02	TP-22	Solid	Diesel Range Organics	Cool 4 deg C	CAMP02	L41	05/20/2025 8015D
Q2100-03	TP-21	Solid	Diesel Range Organics	Cool 4 deg C	CAMP02	L41	05/20/2025 8015D
Q2100-04	TP-45	Solid	Diesel Range Organics	Cool 4 deg C	CAMP02	L41	05/20/2025 8015D

Date/Time 05/23/25 10:05
Raw Sample Received by: RS CEFH-(deb)
Raw Sample Relinquished by: CFS

Date/Time 05/23/25 10:20
Raw Sample Received by: CFS
Raw Sample Relinquished by: RS CEFH-(deb)

Prep Standard - Chemical Standard Summary

Order ID : Q2100
Test : Diesel Range Organics
Prepbatch ID : PB168150,
Sequence ID/Qc Batch ID: FG052325,

Standard ID :
EP2612,EP2614,PP24162,PP24180,PP24467,PP24468,PP24469,PP24470,PP24471,PP24472,PP24473,

Chemical ID :
E2865,E3551,E3874,E3926,E3930,E3932,E3939,P11951,P11952,P11955,P11956,P13106,P13108,P13477,P13479,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	EP2612	05/09/2025	11/05/2025	RUPESHKUMAR SHAH	None	None	Riteshkumar Patel
05/09/2025								

FROM 8000.00000ml of E3930 + 8000.00000ml of E3932 = 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	EP2614	05/19/2025	07/01/2025	RUPESHKUMAR SHAH	Extraction_SC ALE_2	None	Riteshkumar Patel
(EX-SC-2)								

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>
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

FROM 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

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)	PP24467	04/22/2025	10/08/2025	Yogesh Patel	None	None	Abdul Mirza
								05/08/2025

FROM 1.00000ml of P11951 + 1.00000ml of P11952 + 1.00000ml of P13477 + 7.00000ml of E3926 = 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>
3979	100/100 PPM DRO ICV (RESTEK)	PP24468	04/22/2025	10/08/2025	Yogesh Patel	None	None	Abdul Mirza
								05/08/2025

FROM 1.00000ml of P13106 + 1.00000ml of P13108 + 1.00000ml of P13479 + 7.00000ml of E3926 = 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)	PP24469	04/22/2025	10/08/2025	Yogesh Patel	None	None	Abdul Mirza
								05/08/2025

FROM 0.50000ml of E3926 + 0.50000ml of PP24467 = 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)	PP24470	04/22/2025	10/08/2025	Yogesh Patel	None	None	Abdul Mirza
								05/08/2025

FROM 0.80000ml of E3926 + 0.20000ml of PP24467 = 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)	PP24471	04/22/2025	10/08/2025	Yogesh Patel	None	None	Abdul Mirza
								05/08/2025

FROM 0.90000ml of E3926 + 0.10000ml of PP24467 = 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)	PP24472	04/22/2025	10/08/2025	Yogesh Patel	None	None	Abdul Mirza
								05/08/2025

FROM 0.90000ml of E3926 + 0.10000ml of PP24469 = 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>
3608	50 PPM ICV DRO STD (RESTEK)	PP24473	04/22/2025	10/08/2025	Yogesh Patel	None	None	Abdul Mirza 05/08/2025
<u>FROM</u>	0.50000ml of E3926 + 0.50000ml of PP24468 = Final Quantity: 1.000 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)	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-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	25A0262002	10/08/2025	04/08/2025 / Rajesh	02/07/2025 / Rajesh	E3926

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	02/20/2026	05/02/2025 / RUPESH	03/09/2025 / RUPESH	E3930

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)	24H1462005	11/05/2025	05/05/2025 / RUPESH	04/23/2025 / RUPESH	E3932

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)	25A2862010	11/22/2025	05/22/2025 / RUPESH	02/28/2025 / RUPESH	E3939

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31266 / Florida TRPH Standard	A0186840	10/22/2025	04/22/2025 / yogesh	07/11/2022 / Yogesh	P11951

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31266 / Florida TRPH Standard	A0186840	10/22/2025	04/22/2025 / yogesh	07/11/2022 / Yogesh	P11952

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	A0204859	10/22/2025	04/22/2025 / yogesh	01/12/2024 / Yogesh	P13106

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31266 / Florida TRPH Standard	A0204859	10/22/2025	04/22/2025 / yogesh	01/12/2024 / Yogesh	P13108

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	10/22/2025	04/22/2025 / yogesh	07/24/2024 / yogesh	P13477

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	10/22/2025	04/22/2025 / yogesh	07/24/2024 / yogesh	P13479

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

CHEMICAL RECEIPT LOG BOOK

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

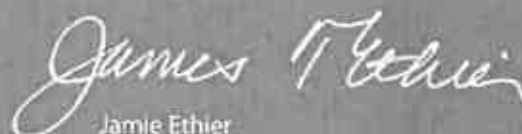
Certificate of Analysis

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)



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)

avantor



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 3926

J. Croak

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)

avantor



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 ₂ Cl 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 (μ 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

E3930

J. Croak

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

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™



Material No.: 9254-03

Batch No.: 24H1462005

Manufactured Date: 2024-05-24

Expiration Date: 2027-05-24

Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ((CH ₃) ₂ CO) (by GC, corrected for water)	>= 99.4 %	99.8 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.2 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titration Acid (µeq/g)	<= 0.3	0.2
Titration Base (µeq/g)	<= 0.6	<0.1
Water (H ₂ O)	<= 0.5 %	0.2 %
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	<= 5	<1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	<= 10	1

For Laboratory, Research, or Manufacturing Use

MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

RS

Country of Origin: United States

Packaging Site: Phillipsburg Mfg Ctr & DC

E 3932

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.: 25A2862010
Manufactured Date: 2024-12-18
Expiration Date: 2026-03-19
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 ₂ Cl ₂) (by GC, exclusive of preservative, corrected for water)	$\geq 99.8 \%$	99.9 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Titration Acid (μ 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

E3939

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

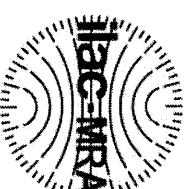
Bellefonte, PA 16823-8812

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 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:

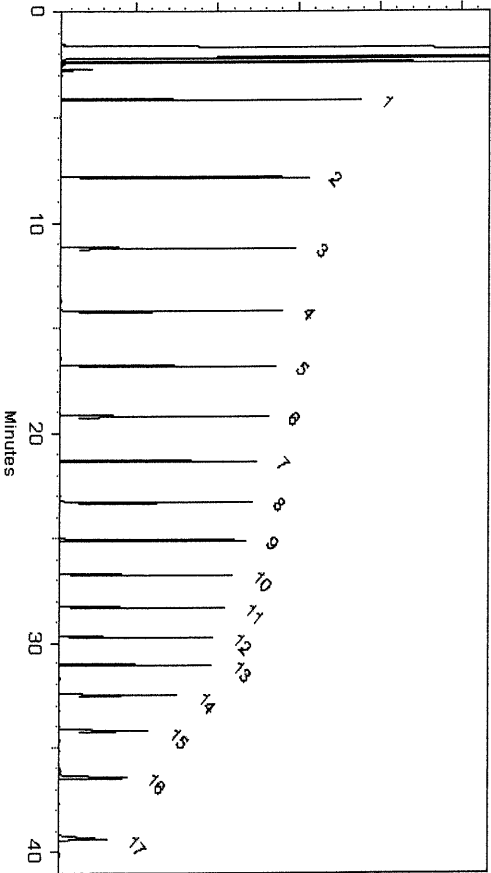
250°C

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

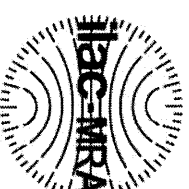
Bellefonte, PA 16823-8812

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:

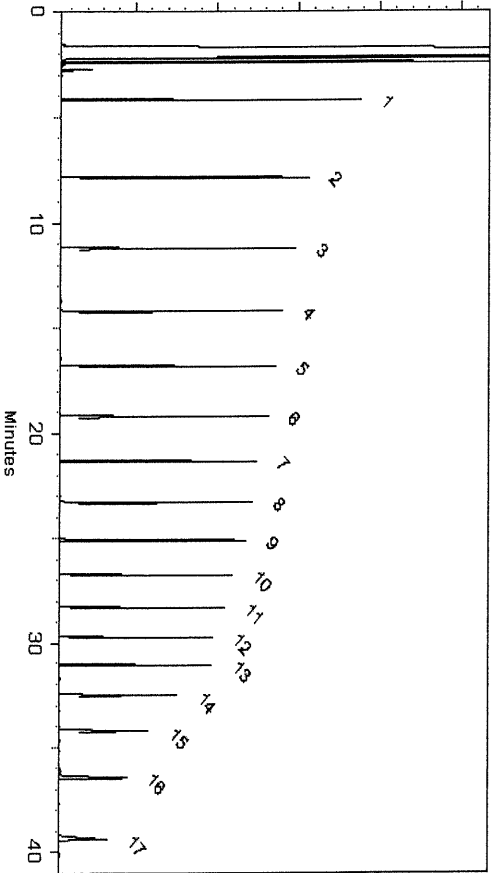
250°C

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

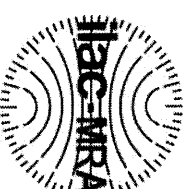
Belleville, PA 16823-8812

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:

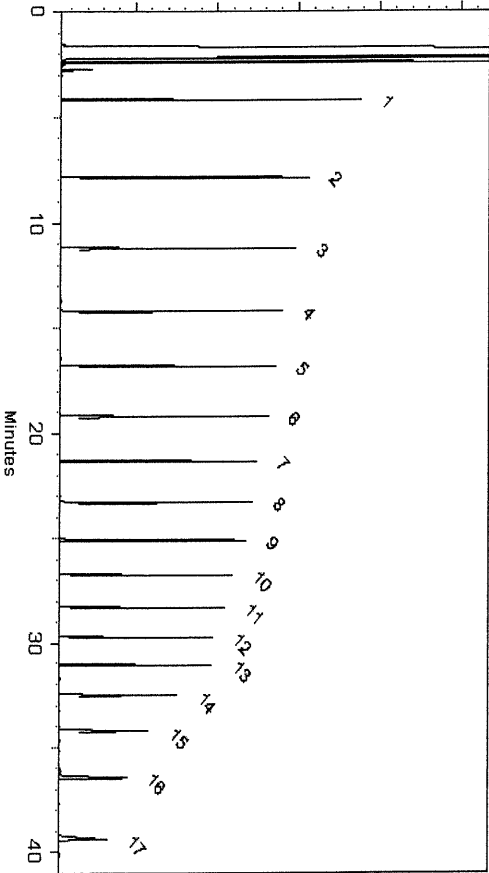
250°C

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

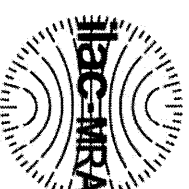
Bellefonte, PA 16823-8812

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:

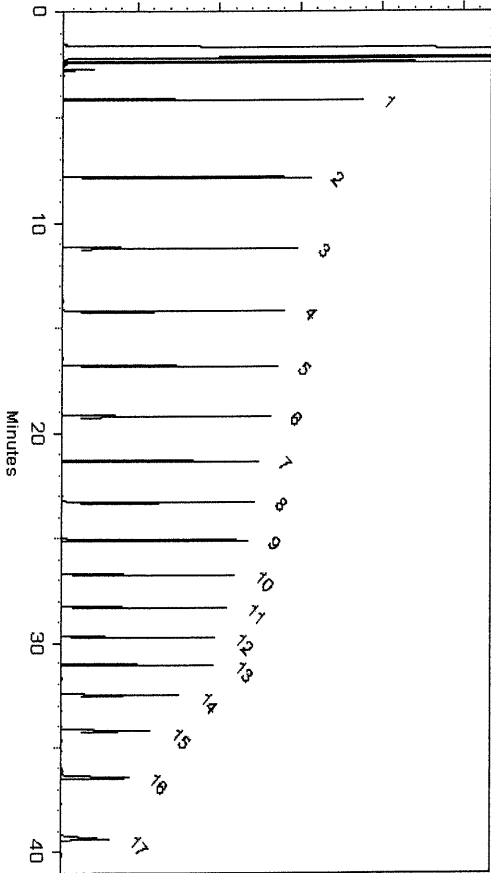
250°C

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.



110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus



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.:** A0204859

Description : Florida TRPH Standard

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

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2030 **Storage:** 25°C nominal

Handling: Sonicate prior to use. **Ship:** Ambient

P13103 } Y.P.
↓
P13112 } 01/12/2024

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	n-Octane (C8)	111-65-9	SHBP9758	99%	504.4 µg/mL	+/- 13.0305
2	n-Decane (C10)	124-18-5	SHBQ1342	99%	503.6 µg/mL	+/- 13.0098
3	n-Dodecane (C12)	112-40-3	SHBP7054	99%	503.6 µg/mL	+/- 13.0098
4	n-Tetradecane (C14)	629-59-4	STBK5437	99%	504.0 µg/mL	+/- 13.0201
5	n-Hexadecane (C16)	544-76-3	SHBP8192	99%	504.0 µg/mL	+/- 13.0201
6	n-Octadecane (C18)	593-45-3	UE5NG	98%	504.1 µg/mL	+/- 13.0230
7	n-Eicosane (C20)	112-95-8	MKCN8767	97%	504.0 µg/mL	+/- 13.0204
8	n-Docosane (C22)	629-97-0	MKCQ3882	99%	503.6 µg/mL	+/- 13.0098
9	n-Tetracosane (C24)	646-31-1	MKCQ8345	99%	504.0 µg/mL	+/- 13.0201
10	n-Hexacosane (C26)	630-01-3	MKCQ4814	99%	504.0 µg/mL	+/- 13.0201
11	n-Octacosane (C28)	630-02-4	BCCG0084	99%	504.0 µg/mL	+/- 13.0201
12	n-Triacontane (C30)	638-68-6	MKCQ9436	97%	504.0 µg/mL	+/- 13.0204
13	n-Dotriacontane (C32)	544-85-4	BCBW0661	99%	504.0 µg/mL	+/- 13.0201
14	n-Tetratriacontane (C34)	14167-59-0	OML4N	99%	504.4 µg/mL	+/- 13.0305
15	n-Hexatriacontane (C36)	630-06-8	Z27H018	99%	504.0 µg/mL	+/- 13.0201
16	n-Octatriacontane (C38)	7194-85-6	0000145137	96%	503.8 µg/mL	+/- 13.0152
17	n-Tetracontane (C40)	4181-95-7	OKEGA	99%	503.6 µg/mL	+/- 13.0098

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

Quality Confirmation Test

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.)

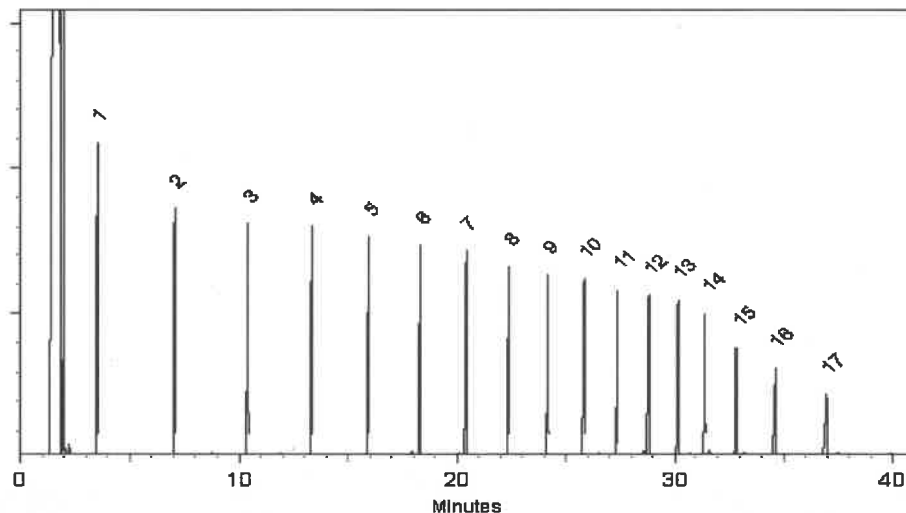
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
2 ml/min.

Inj. Vol
1µl

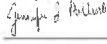


This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Dakota Parson - Operations Technician I

Date Mixed: 29-Nov-2023

Balance Serial # B442140311


Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 01-Dec-2023

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/ μ ECD, 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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

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

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.



110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus



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.:** A0204859

Description : Florida TRPH Standard

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

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2030 **Storage:** 25°C nominal

Handling: Sonicate prior to use. **Ship:** Ambient

P13103 } Y.P.
↓
P13112 } 01/12/2024

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	n-Octane (C8)	111-65-9	SHBP9758	99%	504.4 µg/mL	+/- 13.0305
2	n-Decane (C10)	124-18-5	SHBQ1342	99%	503.6 µg/mL	+/- 13.0098
3	n-Dodecane (C12)	112-40-3	SHBP7054	99%	503.6 µg/mL	+/- 13.0098
4	n-Tetradecane (C14)	629-59-4	STBK5437	99%	504.0 µg/mL	+/- 13.0201
5	n-Hexadecane (C16)	544-76-3	SHBP8192	99%	504.0 µg/mL	+/- 13.0201
6	n-Octadecane (C18)	593-45-3	UE5NG	98%	504.1 µg/mL	+/- 13.0230
7	n-Eicosane (C20)	112-95-8	MKCN8767	97%	504.0 µg/mL	+/- 13.0204
8	n-Docosane (C22)	629-97-0	MKCQ3882	99%	503.6 µg/mL	+/- 13.0098
9	n-Tetracosane (C24)	646-31-1	MKCQ8345	99%	504.0 µg/mL	+/- 13.0201
10	n-Hexacosane (C26)	630-01-3	MKCQ4814	99%	504.0 µg/mL	+/- 13.0201
11	n-Octacosane (C28)	630-02-4	BCCG0084	99%	504.0 µg/mL	+/- 13.0201
12	n-Triacontane (C30)	638-68-6	MKCQ9436	97%	504.0 µg/mL	+/- 13.0204
13	n-Dotriacontane (C32)	544-85-4	BCBW0661	99%	504.0 µg/mL	+/- 13.0201
14	n-Tetratriacontane (C34)	14167-59-0	OML4N	99%	504.4 µg/mL	+/- 13.0305
15	n-Hexatriacontane (C36)	630-06-8	Z27H018	99%	504.0 µg/mL	+/- 13.0201
16	n-Octatriacontane (C38)	7194-85-6	0000145137	96%	503.8 µg/mL	+/- 13.0152
17	n-Tetracontane (C40)	4181-95-7	OKEGA	99%	503.6 µg/mL	+/- 13.0098

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

Quality Confirmation Test

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.)

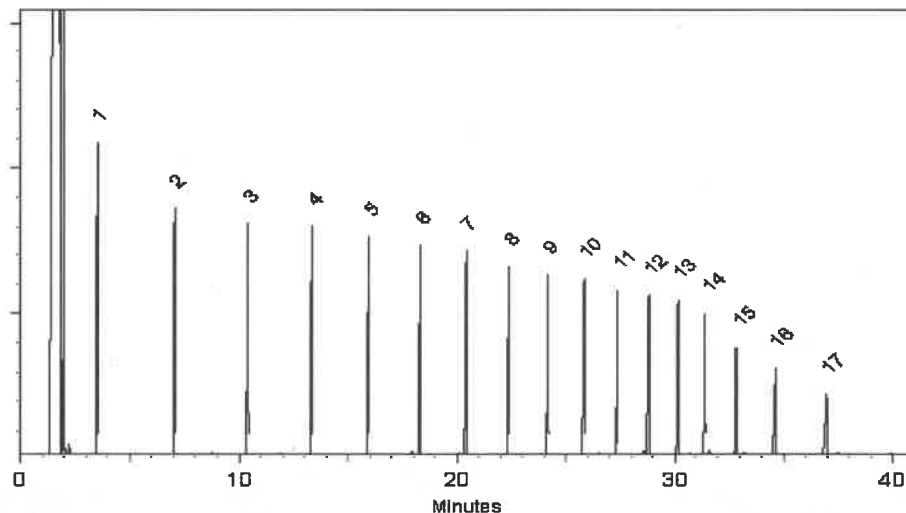
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
2 ml/min.

Inj. Vol
1µl

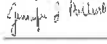


This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Dakota Parson - Operations Technician I

Date Mixed: 29-Nov-2023

Balance Serial # B442140311


Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 01-Dec-2023

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/ μ ECD, 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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

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

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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	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

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

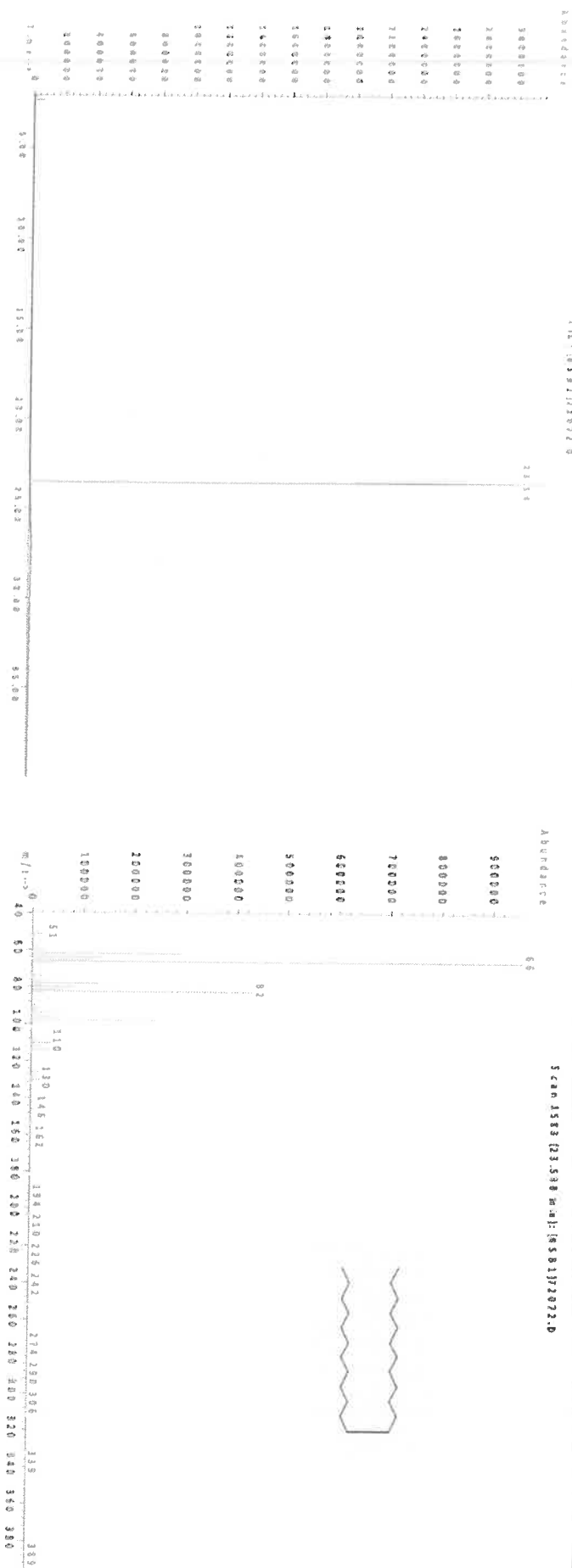
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

P13437
13496
07/24/24
X.F.

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

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, (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 070716

Part Number: 10009R
Lot Number: 070716
Description: CLP Priority Pollutant Internal Standards
GC/MS Calibration - 6 components
070716
Expiration Date:
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 4000
NIST Test ID#: 822-275872-11
Weight(s) shown below were combined and diluted to (mL): 500.0

Solvent(s): Methylene chloride
Lot# 78782

5E-05 Balance Uncertainty
0.058 Peak Uncertainty

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

070716
070716

MSDS Information
(Solvent Safety Info. On Attached pg.)

Compound	SMW	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty (%)	Target Weight (µg)	Actual Weight (µg)	Actual Conc (µg/mL)	Expanded Uncertainty (µg/mL)	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	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)	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	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
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
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 Data

Peak No.	Name	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

Qualitative Quantitative

3rd Party Comparison

Analyte	Sup/Abs Dev (%)
1,4-Dichlorobenzene-d4	2.55
Naphthalene-d8	2.43
Acenaphthene-d10	2.74
Phenanthrene-d10	0.65
Chrysene-d12	1.93
Perylene-d12	-1.72
Total	-0.55

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

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

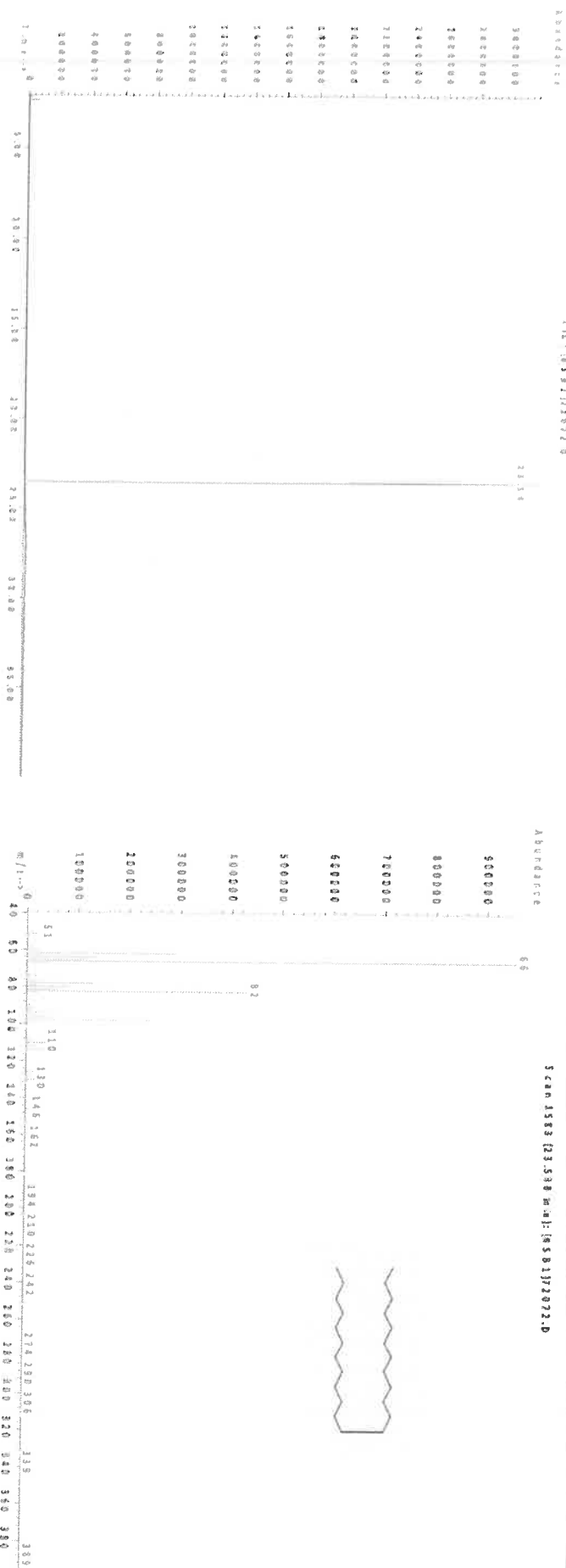
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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).

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 070716

Part Number: 10009R
Lot Number: 070716
Description: CLP Priority Pollutant Internal Standards
GC/MS Calibration - 6 components
070716
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	2.04135	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

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

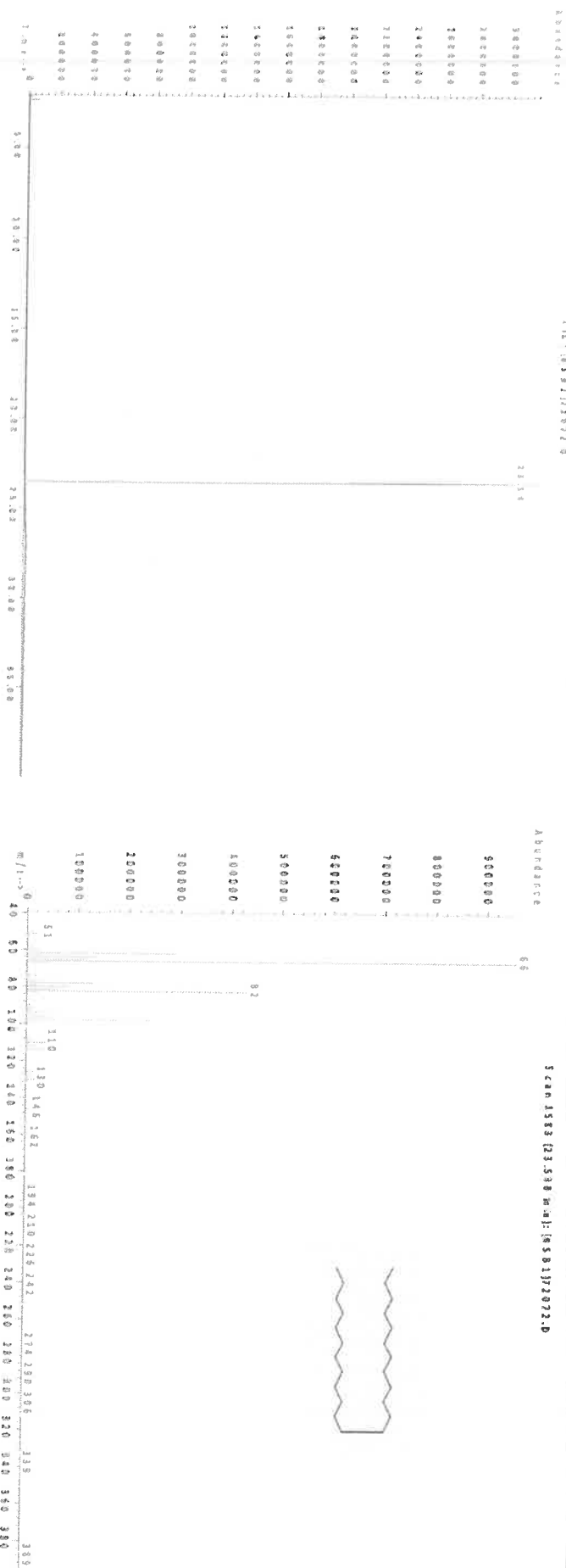
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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 (%)	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-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	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

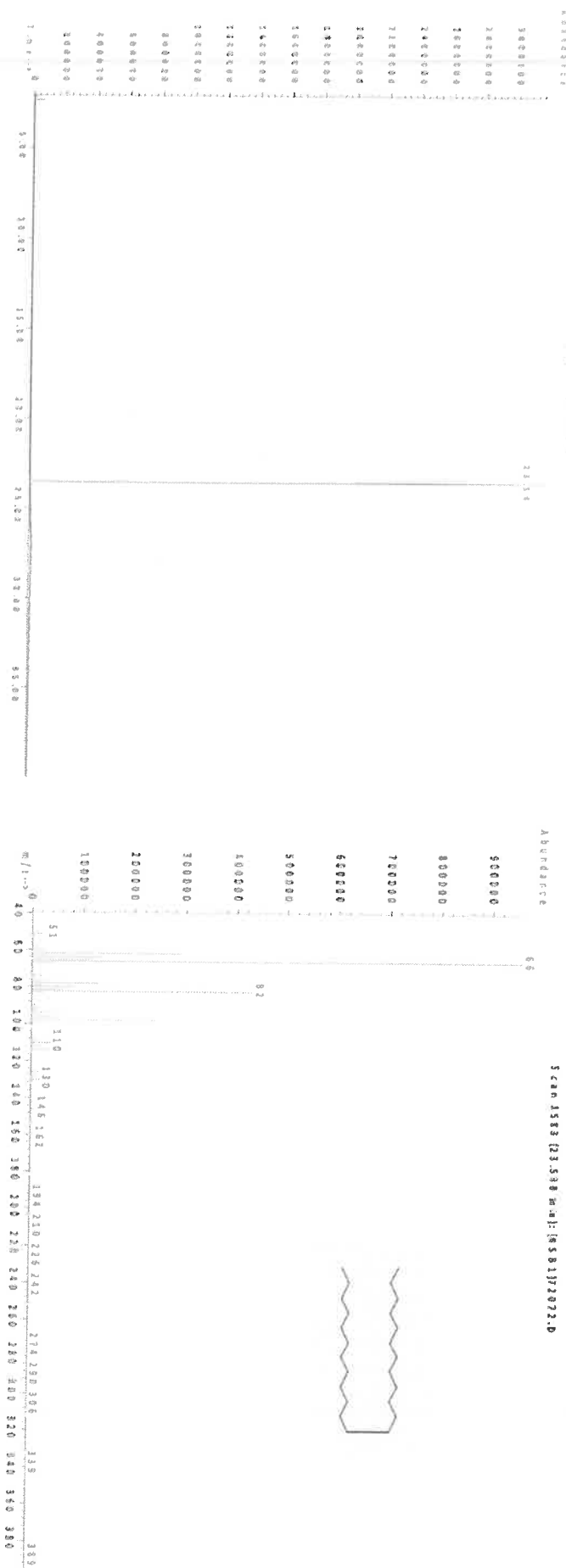
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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 (%)	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-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-19280	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

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

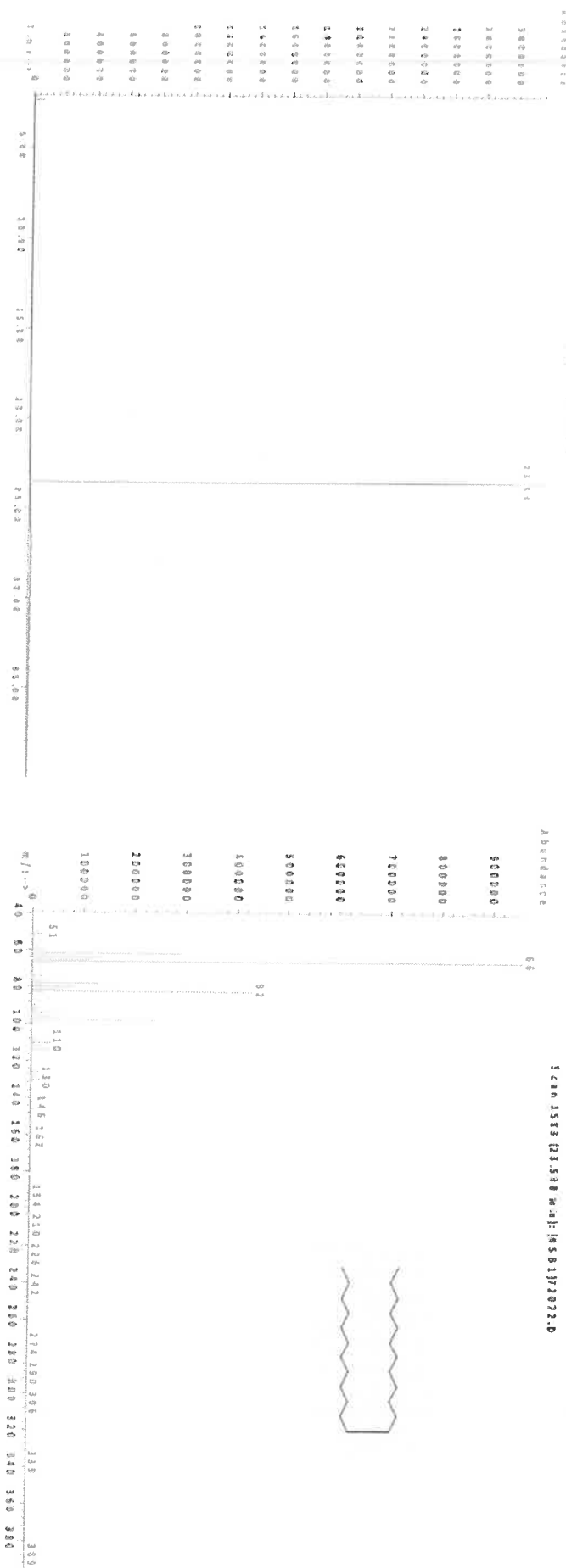
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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	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

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

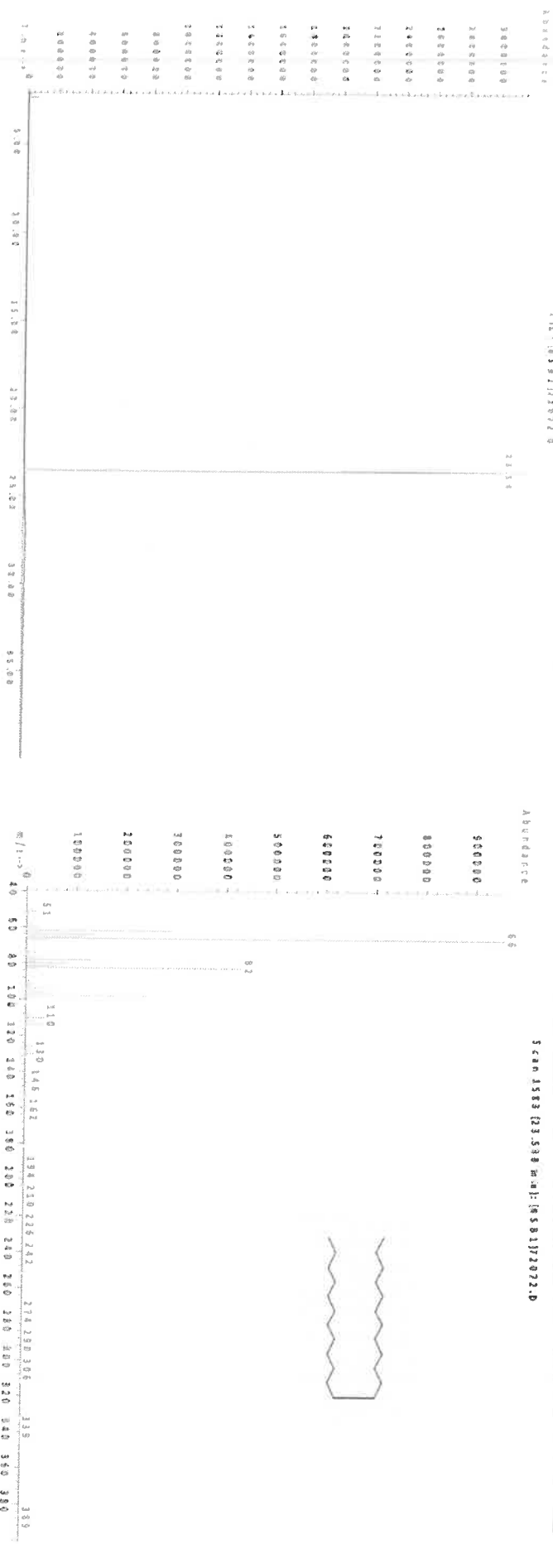
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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).



SHIPPING DOCUMENTS

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: CDM SMITH
ADDRESS: 110 FIELDCREST AVE #8 6TH FLOOR
CITY EDISON STATE: NJ ZIP: 08837
ATTENTION: MARCIE ENCINAS
PHONE: 7325904679 FAX: 7322257851

CLIENT PROJECT INFORMATION

PROJECT NAME: SOUTH RIVER WM REPLACEMENT
PROJECT NO.: 302781 LOCATION: SOUTH RIVER, NJ
PROJECT MANAGER: MARCIE ENCINAS
e-mail: ENCINASMA@CDM SMITH.COM
PHONE: 7325904679 FAX: 7322257851

CLIENT BILLING INFORMATION

BILL TO: CDM SMITH PO#:
ADDRESS: 110 FIELDCREST AVE #8 6TH FLOOR
CITY EDISON STATE: NJ ZIP: 08837
ATTENTION: MARCIE ENCINAS PHONE: 7325904679

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. 2. 3. 4. 5. 6. 7. 8. 9.
TCL VOC
TCL SVOC
TAL METALS
PCB
PESTICIDES
HERBICIDES
DRO/GRO

PRESERVATIVES

COMMENTS

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES										← Specify Preservatives A-HCl D-NaOH B-HNO3 E-ICE C-H2SO4 F-OTHER
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9	
1.	TP-16	SOIL		X	5/19/25	1515	6	X	X	X	X	X	X	X			E
2.	TP-22	SOIL		X	5/19/25	1055	6	X	X	X	X	X	X	X			E
3.	TP-21	SOIL		X	5/20/25	0845	6	X	X	X	X	X	X	X			E
4.	TP-45	SOIL		X	5/20/25	1050	6	X	X	X	X	X	X	X			E
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

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

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP: 3.8 °C
1. [Signature]	5/20/25	1. [Signature] 5-20-25	Comments:
RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:	
2. [Signature]		2. [Signature]	
RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:	
3. [Signature]	5-20-25	3. [Signature]	

Page ____ of ____

CLIENT: ☐ Hand Delivered ☐ Other

Shipment Complete

☐ YES ☐ NO

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 : Q2100	CAMP02	Order Date : 5/20/2025 3:22:00 PM	Project Mgr :
Client Name : CDM Smith		Project Name : South River WM Replacem	Report Type : Level 1 ^{NO} Reduce
Client Contact : Marcie Ann Encinas		Receive Date/Time : 5/20/2025 12:00:00 AM	EDD Type : EXCEL NOCLEANUP
Invoice Name : CDM Smith		Purchase Order : 16 95	Hard Copy Date :
Invoice Contact : Marcie Ann Encinas			Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q2100-01	TP-16	Solid	05/20/2025 05/19/2025	15:15	VOC-TCLVOA-10		8260D		10 Bus. Days
Q2100-02	TP-22	Solid	05/20/2025 05/19/2025	10:55	VOC-TCLVOA-10		8260D		10 Bus. Days
Q2100-03	TP-21	Solid	05/20/2025	08:45	VOC-TCLVOA-10		8260D		10 Bus. Days
Q2100-04	TP-45	Solid	05/20/2025	10:50	VOC-TCLVOA-10		8260D		10 Bus. Days

Relinquished By :

Date / Time : 5/21/25 945

Received By :

Date / Time : 5-21-25 10:25

Storage Area : VOA Refridgerator Room