

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

LAB CHRONICLE

OrderID:	Q1744	OrderDate:	4/7/2025 11:34:00 AM
Client:	Portal Partners Tri-Venture	Project:	Amtrak Sawtooth Bridges 2025
Contact:	Joseph Krupansky	Location:	L41,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1744-01	B-158-SB01	SOIL			04/05/25			04/07/25
			PCB	8082A		04/08/25	04/08/25	
			TPH GC	8015D		04/08/25	04/08/25	
			EPH	NJEPH		04/08/25	04/08/25	
			EPH	NJEPH		04/08/25	04/09/25	
Q1744-03	B-158-SB02	SOIL			04/05/25			04/07/25
			PCB	8082A		04/08/25	04/08/25	
			TPH GC	8015D		04/08/25	04/08/25	
			EPH	NJEPH		04/08/25	04/08/25	
			EPH	NJEPH		04/08/25	04/09/25	



QC SUMMARY

SOIL TPH GC SURROGATE RECOVERY

Lab Name: Chemtech Client: Portal Partners Tri-Venture
Lab Code: CHEM Case No.: Q1744 SAS No.: Q1744 SDG No.: Q1744

EPA SAMPLE NO.	S1 TETRACOSANE-d50	S2	S3	S4	TOT OUT
PIBLK-FG015650.D	110				0
PIBLK-FG015661.D	104				0
PB167510BL	81				0
PB167510BS	87				0
B-158-SB01	52				0
B-158-SB02	63				0
B-158-SB02MS	58				0
B-158-SB02MSD	56				0

QC LIMITS

TETRACOSANE-d50

For Water : 29-130

For Soil : 37-130

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate Diluted Out

SOIL TPH GC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** Portal Partners Tri-Venture
Lab Code: CHEM **Cas No:** Q1744 **SAS No :** Q1744 **SDG No:** Q1744
Client SampleID : B-158-SB02MS **Datafile:** FG015659.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
Petroleum Hydrocarbons	20225	9780	24698	74%		68-131

SOIL TPH GC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech **Client:** Portal Partners Tri-Venture
Lab Code: CHEM **Cas No:** Q1744 **SAS No :** Q1744 **SDG No:** Q1744
Client SampleID : B-158-SB02MSD **Datafile:** FG015660.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
Petroleum Hydrocarbons	20178	9780	24202	72%		68-131

MS/MSD % Recovery RPD : 3

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

Lab Name: Chemtech **Client:** Portal Partners Tri-Venture
Lab Code: CHEM **Cas No:** Q1744 **SAS No :** Q1744 **SDG No:** Q1744
Matrix Spike - EPA Sample No : PB167510BS **Datafile:** FG015654.D

COMPOUND	SPIKE ADDED ug/kg	CONCENTRATION ug/kg	LCS/LCSD CONCENTRATION ug/kg	% REC	QC LIMITS
Petroleum Hydrocarbons	11322	0	8469	75	68-131

4B
METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB167510BL

Lab Name: CHEMTECH

Contract: PORT06

Lab Code: CHEM Case No.: Q1744

SAS No.: Q1744 SDG NO.: Q1744

Lab File ID: FG015653.D

Lab Sample ID: PB167510BL

Instrument ID: FG

Date Extracted: 04/08/2025

Matrix: (soil/water) Soil

Date Analyzed: 04/08/25

Level: (low/med) low

Time Analyzed: 12:50

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB167510BS	PB167510BS	FG015654.D	04/08/25
B-158-SB01	Q1744-01	FG015655.D	04/08/25
B-158-SB02	Q1744-03	FG015656.D	04/08/25
B-158-SB02MS	Q1744-03MS	FG015659.D	04/08/25
B-158-SB02MSD	Q1744-03MSD	FG015660.D	04/08/25

COMMENTS: _____



SAMPLE DATA

Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	04/05/25
Project:	Amtrak Sawtooth Bridges 2025	Date Received:	04/07/25
Client Sample ID:	B-158-SB01	SDG No.:	Q1744
Lab Sample ID:	Q1744-01	Matrix:	SOIL
Analytical Method:	8015D TPH	% Solid:	90
Sample Wt/Vol:	30.05	Units:	g
Soil Aliquot Vol:			uL
Extraction Type:		Test:	TPH GC
GPC Factor :		Injection Volume :	
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015655.D	1	04/08/25 08:55	04/08/25 14:02	PB167510

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	5330		426	3140	ug/kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	10.5		37 - 130	52%	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\FG040825\
Data File : FG015655.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 14:02
Operator : YP\AJ
Sample : Q1744-01
Misc :
ALS Vial : 23 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-158-SB01

Integration File: autoint1.e
Quant Time: Apr 09 00:29:09 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.016	1198248	10.459 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

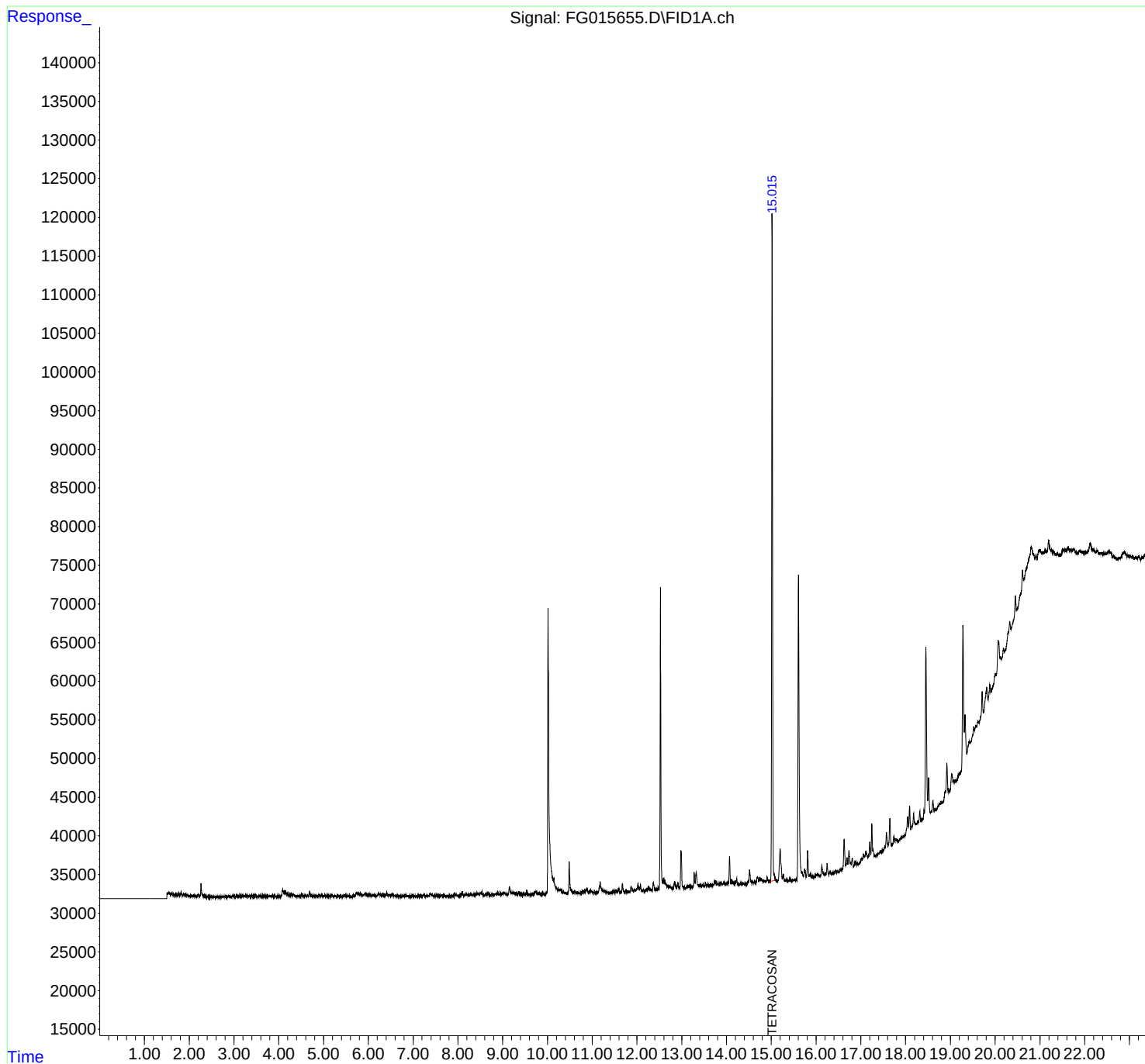
(m)=manual int.

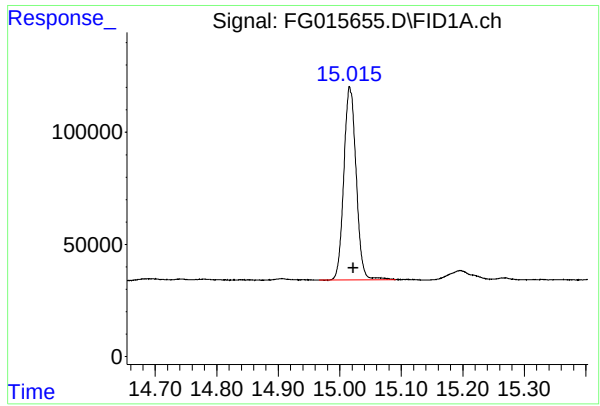
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015655.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 14:02
Operator : YP\AJ
Sample : Q1744-01
Misc :
ALS Vial : 23 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-158-SB01

Integration File: autoint1.e
Quant Time: Apr 09 00:29:09 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.016 min
Delta R.T.: -0.006 min
Response: 1198248
Conc: 10.46 ug/ml

Instrument :
FID_G
ClientSampleId :
B-158-SB01

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
 Data File : FG015655.D
 Signal(s) : FID1A.ch
 Acq On : 08 Apr 2025 14:02
 Sample : Q1744-01
 Misc :
 ALS Vial : 23 Sample Multiplier: 1

Integration File: Sample.e

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

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.818	1.800	1.849	BV	475	5597	0.30%	0.031%
2	1.871	1.849	1.904	PV	342	5524	0.30%	0.031%
3	1.915	1.904	1.929	VV	191	1664	0.09%	0.009%
4	1.934	1.929	1.940	VV	174	872	0.05%	0.005%
5	1.941	1.940	1.970	VV	169	2020	0.11%	0.011%
6	1.983	1.970	1.996	VV	163	1784	0.10%	0.010%
7	2.000	1.996	2.022	VV	92	1327	0.07%	0.007%
8	2.027	2.022	2.035	VV	80	432	0.02%	0.002%
9	2.069	2.035	2.076	PV	180	2335	0.13%	0.013%
10	2.081	2.076	2.115	VV	137	2353	0.13%	0.013%
11	2.121	2.115	2.143	VV	183	2091	0.11%	0.012%
12	2.147	2.143	2.158	VV	148	929	0.05%	0.005%
13	2.160	2.158	2.171	VV	153	689	0.04%	0.004%
14	2.195	2.171	2.241	VV	387	7950	0.43%	0.045%
15	2.263	2.241	2.300	VV	1805	25313	1.37%	0.142%
16	2.306	2.300	2.329	VV	314	3652	0.20%	0.020%
17	2.333	2.329	2.370	VV	210	3678	0.20%	0.021%
18	2.374	2.370	2.394	VV	144	1715	0.09%	0.010%
19	2.408	2.394	2.421	VV	223	2090	0.11%	0.012%
20	2.430	2.421	2.435	VV	155	1009	0.05%	0.006%
21	2.445	2.435	2.448	VV	164	846	0.05%	0.005%
22	2.451	2.448	2.455	VV	138	361	0.02%	0.002%
23	2.460	2.455	2.470	PV	133	692	0.04%	0.004%
24	2.476	2.470	2.480	VV	132	624	0.03%	0.003%
25	2.487	2.480	2.516	VV	172	2231	0.12%	0.012%
26	2.527	2.516	2.532	VV	180	1194	0.06%	0.007%
27	2.536	2.532	2.546	VV	166	1033	0.06%	0.006%
28	2.552	2.546	2.556	VV	162	683	0.04%	0.004%
29	2.576	2.556	2.591	VV	139	1837	0.10%	0.010%
30	2.597	2.591	2.609	VV	172	1109	0.06%	0.006%
31	2.614	2.609	2.620	VV	175	820	0.04%	0.005%
32	2.623	2.620	2.627	VV	162	429	0.02%	0.002%
33	2.632	2.627	2.636	VV	111	484	0.03%	0.003%
34	2.640	2.636	2.646	VV	93	550	0.03%	0.003%
35	2.648	2.646	2.656	VV	144	561	0.03%	0.003%
36	2.668	2.656	2.699	VV	274	3413	0.18%	0.019%

					rteres			
37	2.713	2.699	2.736	VV	146	2302	0.12%	0.013%
38	2.742	2.736	2.755	VV	165	1344	0.07%	0.008%
39	2.759	2.755	2.762	VV	167	479	0.03%	0.003%
40	2.767	2.762	2.809	VV	211	4065	0.22%	0.023%
41	2.822	2.809	2.830	VV	202	1528	0.08%	0.009%
42	2.840	2.830	2.871	VV	175	3227	0.17%	0.018%
43	2.874	2.871	2.886	VV	238	1559	0.08%	0.009%
44	2.898	2.886	2.905	VV	201	1778	0.10%	0.010%
45	2.907	2.905	2.922	VV	157	1652	0.09%	0.009%
46	2.966	2.922	3.000	VV	335	9037	0.49%	0.051%
47	3.020	3.000	3.034	VV	190	3028	0.16%	0.017%
48	3.037	3.034	3.064	VV	241	3213	0.17%	0.018%
49	3.067	3.064	3.076	VV	176	966	0.05%	0.005%
50	3.080	3.076	3.088	VV	191	996	0.05%	0.006%
51	3.092	3.088	3.096	VV	182	758	0.04%	0.004%
52	3.104	3.096	3.111	VV	192	1371	0.07%	0.008%
53	3.115	3.111	3.125	VV	108	1345	0.07%	0.008%
54	3.134	3.125	3.139	VV	211	1614	0.09%	0.009%
55	3.160	3.139	3.164	VV	242	3000	0.16%	0.017%
56	3.168	3.164	3.180	VV	252	1976	0.11%	0.011%
57	3.182	3.180	3.194	VV	244	1562	0.08%	0.009%
58	3.205	3.194	3.233	VV	250	4594	0.25%	0.026%
59	3.247	3.233	3.265	VV	299	3955	0.21%	0.022%
60	3.284	3.265	3.288	VV	248	2613	0.14%	0.015%
61	3.300	3.288	3.317	VV	261	3400	0.18%	0.019%
62	3.322	3.317	3.353	VV	235	3456	0.19%	0.019%
63	3.357	3.353	3.366	VV	200	1250	0.07%	0.007%
64	3.373	3.366	3.382	VV	231	1633	0.09%	0.009%
65	3.387	3.382	3.396	VV	222	1477	0.08%	0.008%
66	3.400	3.396	3.410	VV	260	1650	0.09%	0.009%
67	3.412	3.410	3.417	VV	312	804	0.04%	0.005%
68	3.425	3.417	3.435	VV	273	2055	0.11%	0.012%
69	3.442	3.435	3.449	VV	210	1475	0.08%	0.008%
70	3.460	3.449	3.490	VV	285	5215	0.28%	0.029%
71	3.494	3.490	3.521	VV	255	3232	0.17%	0.018%
72	3.532	3.521	3.543	VV	214	2174	0.12%	0.012%
73	3.560	3.543	3.582	VV	278	4693	0.25%	0.026%
74	3.586	3.582	3.592	VV	219	1019	0.06%	0.006%
75	3.599	3.592	3.618	VV	299	3089	0.17%	0.017%
76	3.640	3.618	3.654	VV	227	3739	0.20%	0.021%
77	3.664	3.654	3.678	VV	188	2201	0.12%	0.012%
78	3.688	3.678	3.729	VV	251	4827	0.26%	0.027%
79	3.732	3.729	3.754	VV	197	2157	0.12%	0.012%
80	3.757	3.754	3.765	VV	206	1237	0.07%	0.007%
81	3.780	3.765	3.797	VV	223	3020	0.16%	0.017%
82	3.808	3.797	3.864	VV	172	6843	0.37%	0.038%
83	3.872	3.864	3.881	VV	196	1556	0.08%	0.009%
84	3.886	3.881	3.891	VV	200	1061	0.06%	0.006%
85	3.896	3.891	3.919	VV	203	2379	0.13%	0.013%
86	3.923	3.919	3.927	VV	170	603	0.03%	0.003%
87	3.933	3.927	3.947	VV	211	1816	0.10%	0.010%
88	3.954	3.947	3.961	VV	201	1201	0.06%	0.007%
89	3.980	3.961	4.012	VV	224	4548	0.25%	0.025%

					rteres			
90	4.024	4.012	4.035	VV	113	1759	0.09%	0.010%
91	4.039	4.035	4.055	VV	194	1699	0.09%	0.010%
92	4.087	4.055	4.135	VV	936	30268	1.63%	0.169%
93	4.150	4.135	4.189	VV	835	17233	0.93%	0.096%
94	4.196	4.189	4.207	VV	481	4269	0.23%	0.024%
95	4.211	4.207	4.218	VV	383	2199	0.12%	0.012%
96	4.223	4.218	4.246	VV	406	5589	0.30%	0.031%
97	4.251	4.246	4.281	VV	352	6230	0.34%	0.035%
98	4.285	4.281	4.306	VV	342	4332	0.23%	0.024%
99	4.309	4.306	4.315	VV	297	1437	0.08%	0.008%
100	4.337	4.315	4.362	VV	339	7618	0.41%	0.043%
101	4.366	4.362	4.375	VV	262	1679	0.09%	0.009%
102	4.382	4.375	4.444	VV	279	7835	0.42%	0.044%
103	4.447	4.444	4.458	VV	238	1612	0.09%	0.009%
104	4.465	4.458	4.471	VV	211	1409	0.08%	0.008%
105	4.481	4.471	4.494	VV	190	2105	0.11%	0.012%
106	4.514	4.494	4.535	VV	477	7335	0.40%	0.041%
107	4.539	4.535	4.556	VV	258	2530	0.14%	0.014%
108	4.560	4.556	4.566	VV	171	1036	0.06%	0.006%
109	4.570	4.566	4.574	VV	175	693	0.04%	0.004%
110	4.594	4.574	4.611	VV	264	4338	0.23%	0.024%
111	4.635	4.611	4.664	VV	337	5895	0.32%	0.033%
112	4.682	4.664	4.723	VV	751	12070	0.65%	0.068%
113	4.725	4.723	4.730	VV	200	807	0.04%	0.005%
114	4.760	4.730	4.777	VV	212	5325	0.29%	0.030%
115	4.795	4.777	4.817	VV	213	4044	0.22%	0.023%
116	4.821	4.817	4.853	VV	202	3305	0.18%	0.019%
117	4.868	4.853	4.876	VV	167	1958	0.11%	0.011%
118	4.883	4.876	4.888	VV	208	1267	0.07%	0.007%
119	4.909	4.888	4.929	VV	350	5474	0.30%	0.031%
120	4.952	4.929	4.958	VV	278	3890	0.21%	0.022%
121	4.981	4.958	4.988	VV	253	3737	0.20%	0.021%
122	4.994	4.988	5.009	VV	230	2182	0.12%	0.012%
123	5.022	5.009	5.044	VV	252	4248	0.23%	0.024%
124	5.049	5.044	5.066	VV	188	2152	0.12%	0.012%
125	5.071	5.066	5.075	VV	211	866	0.05%	0.005%
126	5.077	5.075	5.111	VV	189	3210	0.17%	0.018%
127	5.132	5.111	5.144	VV	200	2664	0.14%	0.015%
128	5.176	5.144	5.222	VV	297	9044	0.49%	0.051%
129	5.233	5.222	5.238	VV	176	1191	0.06%	0.007%
130	5.250	5.238	5.259	VV	153	1651	0.09%	0.009%
131	5.269	5.259	5.274	VV	221	1427	0.08%	0.008%
132	5.278	5.274	5.294	VV	155	1572	0.08%	0.009%
133	5.299	5.294	5.311	VV	147	1225	0.07%	0.007%
134	5.316	5.311	5.320	VV	141	611	0.03%	0.003%
135	5.333	5.320	5.344	VV	208	2427	0.13%	0.014%
136	5.351	5.344	5.385	VV	179	2931	0.16%	0.016%
137	5.401	5.385	5.410	VV	133	1371	0.07%	0.008%
138	5.413	5.410	5.421	VV	70	421	0.02%	0.002%
139	5.470	5.421	5.496	VV	339	7919	0.43%	0.044%
140	5.500	5.496	5.520	VV	249	2489	0.13%	0.014%
141	5.527	5.520	5.542	VV	180	1768	0.10%	0.010%

					rteres			
142	5.549	5.542	5.553	VV	142	832	0.04%	0.005%
143	5.575	5.553	5.593	VV	182	3142	0.17%	0.018%
144	5.612	5.593	5.626	VV	151	2090	0.11%	0.012%
145	5.633	5.626	5.638	VV	129	646	0.03%	0.004%
146	5.655	5.638	5.682	VV	239	3905	0.21%	0.022%
147	5.686	5.682	5.694	VV	132	772	0.04%	0.004%
148	5.741	5.694	5.767	VV	617	17616	0.95%	0.099%
149	5.777	5.767	5.839	VV	457	16456	0.89%	0.092%
150	5.842	5.839	5.881	VV	429	8148	0.44%	0.046%
151	5.884	5.881	5.891	VV	307	1810	0.10%	0.010%
152	5.926	5.891	5.951	VV	464	12123	0.65%	0.068%
153	5.955	5.951	5.970	VV	316	2938	0.16%	0.016%
154	5.982	5.970	6.002	VV	404	5476	0.30%	0.031%
155	6.010	6.002	6.020	VV	290	2745	0.15%	0.015%
156	6.025	6.020	6.027	VV	315	1124	0.06%	0.006%
157	6.033	6.027	6.083	VV	365	8299	0.45%	0.046%
158	6.088	6.083	6.092	VV	180	906	0.05%	0.005%
159	6.102	6.092	6.123	VV	255	3205	0.17%	0.018%
160	6.136	6.123	6.161	VV	240	3539	0.19%	0.020%
161	6.177	6.161	6.186	VV	220	2508	0.14%	0.014%
162	6.190	6.186	6.192	VV	194	600	0.03%	0.003%
163	6.231	6.192	6.273	VV	494	15816	0.85%	0.089%
164	6.277	6.273	6.310	VV	283	5712	0.31%	0.032%
165	6.316	6.310	6.344	VV	272	4906	0.26%	0.027%
166	6.347	6.344	6.369	VV	223	3099	0.17%	0.017%
167	6.383	6.369	6.397	VV	300	4478	0.24%	0.025%
168	6.409	6.397	6.427	VV	519	6511	0.35%	0.036%
169	6.431	6.427	6.434	VV	245	916	0.05%	0.005%
170	6.438	6.434	6.469	VV	254	4076	0.22%	0.023%
171	6.481	6.469	6.500	VV	286	3899	0.21%	0.022%
172	6.509	6.500	6.519	VV	179	1709	0.09%	0.010%
173	6.538	6.519	6.566	VV	383	7381	0.40%	0.041%
174	6.569	6.566	6.574	VV	276	1067	0.06%	0.006%
175	6.582	6.574	6.607	VV	248	3727	0.20%	0.021%
176	6.611	6.607	6.649	VV	171	3006	0.16%	0.017%
177	6.655	6.649	6.679	VV	115	1674	0.09%	0.009%
178	6.696	6.679	6.741	VV	190	3770	0.20%	0.021%
179	6.743	6.741	6.767	VV	154	1157	0.06%	0.006%
180	6.798	6.767	6.810	VV	218	2923	0.16%	0.016%
181	6.817	6.810	6.851	VV	214	4268	0.23%	0.024%
182	6.855	6.851	6.862	VV	182	905	0.05%	0.005%
183	6.866	6.862	6.871	VV	160	749	0.04%	0.004%
184	6.887	6.871	6.911	VV	191	2905	0.16%	0.016%
185	6.918	6.911	6.941	VV	176	1870	0.10%	0.010%
186	6.953	6.941	6.959	VV	118	945	0.05%	0.005%
187	6.965	6.959	6.968	VV	140	548	0.03%	0.003%
188	6.974	6.968	7.007	VV	204	2796	0.15%	0.016%
189	7.017	7.007	7.027	VV	106	886	0.05%	0.005%
190	7.033	7.027	7.068	VV	131	1974	0.11%	0.011%
191	7.075	7.068	7.086	VV	114	828	0.04%	0.005%
192	7.095	7.086	7.126	VV	172	2232	0.12%	0.012%
193	7.131	7.126	7.144	VV	129	848	0.05%	0.005%
194	7.150	7.144	7.156	VV	107	624	0.03%	0.003%

195	7.163	7.156	7.179	VV	152	1131	0.06%	0.006%
196	7.187	7.179	7.193	VV	141	750	0.04%	0.004%
197	7.201	7.193	7.226	VV	120	2337	0.13%	0.013%
198	7.238	7.226	7.262	VV	260	4222	0.23%	0.024%
199	7.266	7.262	7.273	VV	193	971	0.05%	0.005%
200	7.285	7.273	7.330	VV	238	4528	0.24%	0.025%
201	7.337	7.330	7.344	VV	165	1231	0.07%	0.007%
202	7.349	7.344	7.360	VV	180	1268	0.07%	0.007%
203	7.381	7.360	7.399	VV	441	7484	0.40%	0.042%
204	7.422	7.399	7.451	VV	362	7359	0.40%	0.041%
205	7.456	7.451	7.464	VV	147	932	0.05%	0.005%
206	7.478	7.464	7.509	VV	255	3871	0.21%	0.022%
207	7.515	7.509	7.523	VV	127	968	0.05%	0.005%
208	7.589	7.523	7.613	VV	223	6680	0.36%	0.037%
209	7.649	7.613	7.682	VV	300	5182	0.28%	0.029%
210	7.687	7.682	7.711	VV	121	1265	0.07%	0.007%
211	7.719	7.711	7.748	VV	162	1974	0.11%	0.011%
212	7.756	7.748	7.809	VV	104	2865	0.15%	0.016%
213	7.815	7.809	7.841	VV	142	1282	0.07%	0.007%
214	7.931	7.841	7.988	PV	504	12818	0.69%	0.072%
215	8.007	7.988	8.043	VV	169	3355	0.18%	0.019%
216	8.073	8.043	8.084	VV	294	4316	0.23%	0.024%
217	8.103	8.084	8.147	VV	623	10342	0.56%	0.058%
218	8.182	8.147	8.207	VV	280	7716	0.42%	0.043%
219	8.219	8.207	8.237	VV	318	4161	0.22%	0.023%
220	8.246	8.237	8.254	VV	253	2084	0.11%	0.012%
221	8.279	8.254	8.289	VV	272	4767	0.26%	0.027%
222	8.300	8.289	8.339	VV	294	5570	0.30%	0.031%
223	8.356	8.339	8.392	VV	251	6215	0.34%	0.035%
224	8.410	8.392	8.417	VV	377	3936	0.21%	0.022%
225	8.432	8.417	8.456	VV	309	6789	0.37%	0.038%
226	8.466	8.456	8.481	VV	319	4068	0.22%	0.023%
227	8.501	8.481	8.514	VV	471	7232	0.39%	0.040%
228	8.533	8.514	8.585	VV	553	12431	0.67%	0.070%
229	8.600	8.585	8.609	VV	146	2103	0.11%	0.012%
230	8.660	8.609	8.706	VV	325	11811	0.64%	0.066%
231	8.710	8.706	8.729	VV	136	1648	0.09%	0.009%
232	8.750	8.729	8.757	VV	151	1945	0.11%	0.011%
233	8.769	8.757	8.791	VV	179	2744	0.15%	0.015%
234	8.798	8.791	8.809	VV	124	1048	0.06%	0.006%
235	8.863	8.809	8.881	VV	299	10020	0.54%	0.056%
236	8.893	8.881	8.918	VV	350	5667	0.31%	0.032%
237	8.946	8.918	8.954	VV	308	4616	0.25%	0.026%
238	8.967	8.954	8.990	VV	384	5516	0.30%	0.031%
239	9.024	8.990	9.062	VV	433	11910	0.64%	0.067%
240	9.073	9.062	9.127	VV	325	7273	0.39%	0.041%
241	9.151	9.127	9.202	VV	1076	25203	1.36%	0.141%
242	9.216	9.202	9.254	VV	378	9720	0.52%	0.054%
243	9.277	9.254	9.339	VV	409	12742	0.69%	0.071%
244	9.364	9.339	9.391	VV	505	8624	0.47%	0.048%
245	9.402	9.391	9.436	VV	211	2616	0.14%	0.015%
246	9.464	9.436	9.476	VV	148	2630	0.14%	0.015%

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247	9.479	9.476	9.491	VV	144	1024	0.06%	0.006%
248	9.536	9.491	9.589	VV	442	8325	0.45%	0.047%
249	9.597	9.589	9.616	VV	143	1436	0.08%	0.008%
250	9.621	9.616	9.674	VV	104	2557	0.14%	0.014%
251	9.747	9.674	9.777	VV	513	17152	0.93%	0.096%
252	9.784	9.777	9.796	VV	270	2046	0.11%	0.011%
253	9.806	9.796	9.851	VV	169	4698	0.25%	0.026%
254	9.863	9.851	9.914	VV	165	4484	0.24%	0.025%
255	9.920	9.914	9.951	VV	137	1478	0.08%	0.008%
256	9.979	9.951	9.992	VV	423	5667	0.31%	0.032%
257	10.016	9.992	10.136	VV	36781	743344	40.13%	4.162%
258	10.142	10.136	10.235	VV	1952	66191	3.57%	0.371%
259	10.252	10.235	10.274	VV	633	13932	0.75%	0.078%
260	10.293	10.274	10.341	VV	682	19760	1.07%	0.111%
261	10.355	10.341	10.407	VV	334	8869	0.48%	0.050%
262	10.415	10.407	10.436	VV	182	2249	0.12%	0.013%
263	10.489	10.436	10.557	VV	4210	71659	3.87%	0.401%
264	10.565	10.557	10.577	VV	328	3354	0.18%	0.019%
265	10.601	10.577	10.621	VV	317	7007	0.38%	0.039%
266	10.626	10.621	10.656	VV	284	3854	0.21%	0.022%
267	10.665	10.656	10.688	VV	280	3582	0.19%	0.020%
268	10.705	10.688	10.731	VV	187	3388	0.18%	0.019%
269	10.812	10.731	10.832	VV	424	14869	0.80%	0.083%
270	10.888	10.832	10.917	VV	703	21320	1.15%	0.119%
271	10.965	10.917	11.012	VV	397	15886	0.86%	0.089%
272	11.019	11.012	11.061	VV	243	4707	0.25%	0.026%
273	11.069	11.061	11.089	VV	202	2312	0.12%	0.013%
274	11.110	11.089	11.136	VV	203	3783	0.20%	0.021%
275	11.177	11.136	11.222	VV	1438	39712	2.14%	0.222%
276	11.235	11.222	11.324	VV	459	16892	0.91%	0.095%
277	11.331	11.324	11.357	VV	167	2984	0.16%	0.017%
278	11.366	11.357	11.386	VV	172	1496	0.08%	0.008%
279	11.410	11.386	11.437	PV	169	2481	0.13%	0.014%
280	11.459	11.437	11.504	VV	281	6603	0.36%	0.037%
281	11.526	11.504	11.552	VV	383	6674	0.36%	0.037%
282	11.593	11.552	11.649	VV	597	13927	0.75%	0.078%
283	11.675	11.649	11.737	PV	1197	20267	1.09%	0.113%
284	11.754	11.737	11.773	VV	410	4585	0.25%	0.026%
285	11.787	11.773	11.809	VV	222	2844	0.15%	0.016%
286	11.829	11.809	11.846	VV	166	2177	0.12%	0.012%
287	11.868	11.846	11.927	VV	755	17463	0.94%	0.098%
288	11.951	11.927	11.972	VV	344	6223	0.34%	0.035%
289	12.021	11.972	12.054	VV	1029	25973	1.40%	0.145%
290	12.078	12.054	12.106	VV	931	14828	0.80%	0.083%
291	12.110	12.106	12.126	VV	216	1839	0.10%	0.010%
292	12.144	12.126	12.179	VV	215	4114	0.22%	0.023%
293	12.202	12.179	12.226	PV	227	3732	0.20%	0.021%
294	12.268	12.226	12.337	VV	524	17266	0.93%	0.097%
295	12.365	12.337	12.419	VV	995	21617	1.17%	0.121%
296	12.432	12.419	12.455	VV	193	3050	0.16%	0.017%
297	12.473	12.455	12.492	VV	370	5471	0.30%	0.031%
298	12.523	12.492	12.575	VV	38907	459929	24.83%	2.575%
299	12.591	12.575	12.607	VV	1532	23512	1.27%	0.132%

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300	12.621	12.607	12.674	VV	1341	32757	1.77%	0.183%
301	12.691	12.674	12.711	VV	640	10956	0.59%	0.061%
302	12.732	12.711	12.806	VV	477	15980	0.86%	0.089%
303	12.839	12.806	12.881	VV	1082	24197	1.31%	0.135%
304	12.909	12.881	12.947	VV	768	16095	0.87%	0.090%
305	12.984	12.947	13.091	VV	4877	93819	5.06%	0.525%
306	13.118	13.091	13.147	VV	391	6695	0.36%	0.037%
307	13.166	13.147	13.203	VV	446	9221	0.50%	0.052%
308	13.234	13.203	13.249	VV	229	3948	0.21%	0.022%
309	13.276	13.249	13.296	VV	2026	26568	1.43%	0.149%
310	13.322	13.296	13.389	VV	2015	50116	2.71%	0.281%
311	13.403	13.389	13.423	VV	336	5697	0.31%	0.032%
312	13.470	13.423	13.501	VV	376	12031	0.65%	0.067%
313	13.526	13.501	13.571	PV	631	13561	0.73%	0.076%
314	13.592	13.571	13.632	VV	336	9647	0.52%	0.054%
315	13.652	13.632	13.679	VV	411	6620	0.36%	0.037%
316	13.735	13.679	13.744	VV	685	14000	0.76%	0.078%
317	13.757	13.744	13.787	VV	787	13968	0.75%	0.078%
318	13.807	13.787	13.839	VV	573	10427	0.56%	0.058%
319	13.878	13.839	13.907	VV	473	12420	0.67%	0.070%
320	13.936	13.907	13.957	VV	411	9591	0.52%	0.054%
321	13.981	13.957	13.999	VV	399	7846	0.42%	0.044%
322	14.023	13.999	14.033	VV	363	6186	0.33%	0.035%
323	14.066	14.033	14.092	VV	3773	53123	2.87%	0.297%
324	14.113	14.092	14.137	VV	768	12796	0.69%	0.072%
325	14.147	14.137	14.164	VV	407	4753	0.26%	0.027%
326	14.225	14.164	14.294	VV	879	22833	1.23%	0.128%
327	14.341	14.294	14.379	VV	246	8810	0.48%	0.049%
328	14.386	14.379	14.409	VV	163	1668	0.09%	0.009%
329	14.414	14.409	14.427	VV	111	785	0.04%	0.004%
330	14.434	14.427	14.443	VV	183	620	0.03%	0.003%
331	14.477	14.443	14.491	PV	423	6899	0.37%	0.039%
332	14.514	14.491	14.572	VV	1821	36880	1.99%	0.207%
333	14.589	14.572	14.597	VV	259	3036	0.16%	0.017%
334	14.614	14.597	14.653	VV	269	6540	0.35%	0.037%
335	14.692	14.653	14.725	VV	834	22576	1.22%	0.126%
336	14.742	14.725	14.761	VV	702	11142	0.60%	0.062%
337	14.779	14.761	14.822	VV	653	15303	0.83%	0.086%
338	14.853	14.822	14.875	VV	335	7725	0.42%	0.043%
339	14.906	14.875	14.976	VV	816	19904	1.07%	0.111%
340	15.017	14.976	15.100	VV	84882	1216060	65.65%	6.809%
341	15.109	15.100	15.139	VV	411	5408	0.29%	0.030%
342	15.196	15.139	15.247	VV	4294	116875	6.31%	0.654%
343	15.267	15.247	15.307	VV	908	16986	0.92%	0.095%
344	15.329	15.307	15.347	VV	259	3926	0.21%	0.022%
345	15.361	15.347	15.386	VV	149	2222	0.12%	0.012%
346	15.413	15.386	15.447	VV	346	6742	0.36%	0.038%
347	15.480	15.447	15.502	PV	185	3755	0.20%	0.021%
348	15.518	15.502	15.550	VV	173	2720	0.15%	0.015%
349	15.558	15.550	15.567	PV	82	504	0.03%	0.003%
350	15.605	15.567	15.676	VV	39075	686649	37.07%	3.845%
351	15.684	15.676	15.719	VV	1041	17995	0.97%	0.101%

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352	15.744	15.719	15.784	VV	1264	27285	1.47%	0.153%
353	15.812	15.784	15.846	VV	3533	52298	2.82%	0.293%
354	15.870	15.846	15.909	VV	464	12326	0.67%	0.069%
355	15.923	15.909	15.962	VV	193	3140	0.17%	0.018%
356	16.035	15.962	16.066	VV	341	11000	0.59%	0.062%
357	16.071	16.066	16.090	VV	117	1488	0.08%	0.008%
358	16.129	16.090	16.195	PV	1142	28492	1.54%	0.160%
359	16.212	16.195	16.220	VV	196	2165	0.12%	0.012%
360	16.245	16.220	16.286	VV	1470	22214	1.20%	0.124%
361	16.311	16.286	16.347	VV	465	8032	0.43%	0.045%
362	16.379	16.347	16.397	PV	162	2867	0.15%	0.016%
363	16.446	16.397	16.486	VV	331	7978	0.43%	0.045%
364	16.489	16.486	16.507	VV	185	1241	0.07%	0.007%
365	16.538	16.507	16.586	PV	352	9863	0.53%	0.055%
366	16.625	16.586	16.664	VV	3936	76762	4.14%	0.430%
367	16.692	16.664	16.710	VV	1446	27042	1.46%	0.151%
368	16.733	16.710	16.783	VV	2284	49395	2.67%	0.277%
369	16.806	16.783	16.841	VV	1116	20615	1.11%	0.115%
370	16.867	16.841	16.936	PV	615	15064	0.81%	0.084%
371	16.963	16.936	16.981	VV	175	2264	0.12%	0.013%
372	17.019	16.981	17.034	PV	570	12652	0.68%	0.071%
373	17.058	17.034	17.074	VV	977	17785	0.96%	0.100%
374	17.116	17.074	17.154	VV	1191	36208	1.95%	0.203%
375	17.198	17.154	17.219	VV	2188	37948	2.05%	0.212%
376	17.244	17.219	17.304	VV	4394	72348	3.91%	0.405%
377	17.434	17.304	17.458	VV	431	8327	0.45%	0.047%
378	17.535	17.458	17.547	PV	564	12849	0.69%	0.072%
379	17.571	17.547	17.609	VV	2208	41600	2.25%	0.233%
380	17.647	17.609	17.696	VV	3702	62907	3.40%	0.352%
381	17.735	17.696	17.756	PV	1058	16984	0.92%	0.095%
382	17.774	17.756	17.833	VV	571	13653	0.74%	0.076%
383	18.044	17.833	18.064	PV	2173	48147	2.60%	0.270%
384	18.088	18.064	18.115	VV	3371	51781	2.80%	0.290%
385	18.178	18.115	18.231	VV	2016	53571	2.89%	0.300%
386	18.235	18.231	18.244	VV	435	2646	0.14%	0.015%
387	18.315	18.244	18.342	VV	1609	37039	2.00%	0.207%
388	18.365	18.342	18.382	VV	441	7447	0.40%	0.042%
389	18.409	18.382	18.421	VV	1304	18348	0.99%	0.103%
390	18.452	18.421	18.492	VV	22188	418594	22.60%	2.344%
391	18.513	18.492	18.556	VV	4990	89719	4.84%	0.502%
392	18.609	18.556	18.676	VV	1640	38276	2.07%	0.214%
393	18.756	18.676	18.772	PV	265	6981	0.38%	0.039%
394	18.921	18.772	18.967	VV	4100	79983	4.32%	0.448%
395	19.029	18.967	19.061	PV	1759	41923	2.26%	0.235%
396	19.073	19.061	19.107	VV	610	12017	0.65%	0.067%
397	19.124	19.107	19.147	VV	227	3442	0.19%	0.019%
398	19.280	19.147	19.311	PV	18746	354054	19.11%	1.983%
399	19.326	19.311	19.364	VV	6659	132307	7.14%	0.741%
400	19.416	19.364	19.436	VV	2304	78737	4.25%	0.441%
401	19.520	19.436	19.539	VV	3145	142751	7.71%	0.799%
402	19.569	19.539	19.589	VV	2873	80600	4.35%	0.451%
403	19.616	19.589	19.639	VV	2885	80961	4.37%	0.453%
404	19.709	19.639	19.736	VV	5769	202352	10.92%	1.133%

					rteres			
405	19.810	19.736	19.840	VV	5313	251604	13.58%	1.409%
406	19.879	19.840	19.909	VV	5025	171226	9.24%	0.959%
407	20.001	19.909	20.017	VV	5051	284642	15.37%	1.594%
408	20.069	20.017	20.139	VV	8643	480082	25.92%	2.688%
409	20.184	20.139	20.214	VV	6627	273561	14.77%	1.532%
410	20.326	20.214	20.357	VV	8570	615658	33.24%	3.447%
411	20.451	20.357	20.480	VV	10643	624334	33.70%	3.496%
412	20.610	20.480	20.632	VV	12399	900361	48.61%	5.042%
413	20.807	20.632	20.888	VV	13471	1852357	100.00%	10.372%
414	20.912	20.888	20.935	VV	11318	312827	16.89%	1.752%
415	21.001	20.935	21.046	VV	11148	722782	39.02%	4.047%
416	21.066	21.046	21.080	VV	10166	206664	11.16%	1.157%
417	21.112	21.080	21.137	VV	9935	335569	18.12%	1.879%
418	21.194	21.137	21.235	VV	10387	560448	30.26%	3.138%
419	21.248	21.235	21.291	VV	8629	278188	15.02%	1.558%
420	21.312	21.291	21.367	VV	7846	339404	18.32%	1.900%
421	21.383	21.367	21.435	VV	6850	262101	14.15%	1.468%
422	21.447	21.435	21.470	VV	5995	123014	6.64%	0.689%
423	21.510	21.470	21.531	VV	6098	212279	11.46%	1.189%
424	21.544	21.531	21.584	VV	5585	172560	9.32%	0.966%
425	21.633	21.584	21.663	VV	5118	232965	12.58%	1.304%
426	21.683	21.663	21.704	VV	4279	102717	5.55%	0.575%
427	21.712	21.704	21.732	VV	3935	64143	3.46%	0.359%
428	21.757	21.732	21.789	VV	3672	117283	6.33%	0.657%
429	21.803	21.789	21.843	VV	2818	82520	4.45%	0.462%
430	21.882	21.843	21.940	VV	2153	109141	5.89%	0.611%
431	21.952	21.940	21.984	VV	1340	29925	1.62%	0.168%
432	21.996	21.984	22.014	VV	795	12218	0.66%	0.068%
433	22.036	22.014	22.062	VV	387	8572	0.46%	0.048%
					Sum of corrected areas:	17858817		

FG032725.M Wed Apr 09 00:56:56 2025

Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	04/05/25
Project:	Amtrak Sawtooth Bridges 2025	Date Received:	04/07/25
Client Sample ID:	B-158-SB02	SDG No.:	Q1744
Lab Sample ID:	Q1744-03	Matrix:	SOIL
Analytical Method:	8015D TPH	% Solid:	56
Sample Wt/Vol:	30.06	Units:	g
Soil Aliquot Vol:			uL
Extraction Type:		Test:	TPH GC
GPC Factor :		Injection Volume :	
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015656.D	1	04/08/25 08:55	04/08/25 14:31	PB167510

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	9780		684	5050	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\FG040825\
Data File : FG015656.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 14:31
Operator : YP\AJ
Sample : Q1744-03
Misc :
ALS Vial : 24 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-158-SB02

Integration File: autoint1.e
Quant Time: Apr 09 00:29:26 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.015	1443811	12.603 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

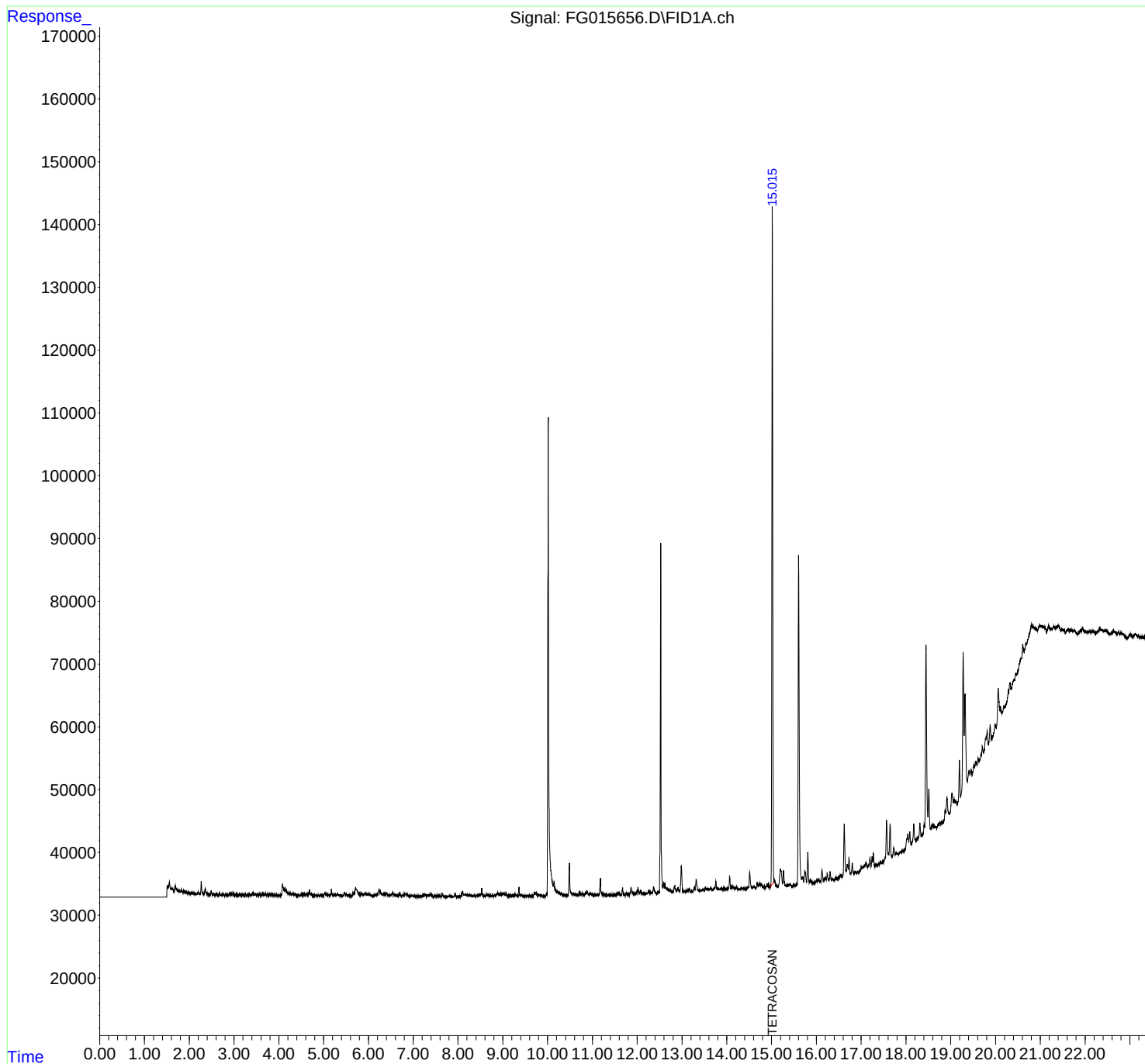
(m)=manual int.

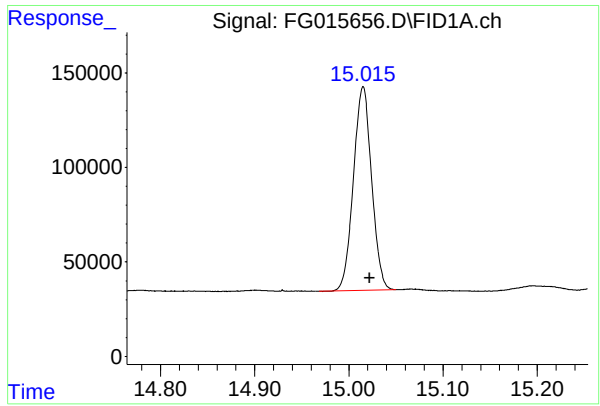
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015656.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 14:31
Operator : YP\AJ
Sample : Q1744-03
Misc :
ALS Vial : 24 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-158-SB02

Integration File: autoint1.e
Quant Time: Apr 09 00:29:26 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.015 min
Delta R.T.: -0.007 min
Response: 1443811
Conc: 12.60 ug/ml

Instrument :
FID_G
ClientSampleId :
B-158-SB02

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
 Data File : FG015656.D
 Signal(s) : FID1A.ch
 Acq On : 08 Apr 2025 14:31
 Sample : Q1744-03
 Misc :
 ALS Vial : 24 Sample Multiplier: 1

Integration File: Sample.e

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

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.821	1.800	1.857	BV	462	4528	0.31%	0.022%
2	1.876	1.857	1.893	PV	338	3181	0.22%	0.016%
3	1.895	1.893	1.901	VV	90	314	0.02%	0.002%
4	1.919	1.901	1.930	VV	161	1373	0.09%	0.007%
5	1.942	1.930	1.958	VV	189	1726	0.12%	0.008%
6	1.965	1.958	1.978	PV	178	920	0.06%	0.004%
7	1.984	1.978	2.002	VV	154	1387	0.09%	0.007%
8	2.006	2.002	2.017	VV	99	750	0.05%	0.004%
9	2.020	2.017	2.031	VV	131	743	0.05%	0.004%
10	2.041	2.031	2.047	VV	177	872	0.06%	0.004%
11	2.056	2.047	2.090	VV	216	2806	0.19%	0.014%
12	2.118	2.090	2.134	VV	207	3190	0.22%	0.016%
13	2.139	2.134	2.153	VV	225	1593	0.11%	0.008%
14	2.158	2.153	2.170	PV	173	1196	0.08%	0.006%
15	2.180	2.170	2.186	VV	210	1184	0.08%	0.006%
16	2.198	2.186	2.249	VV	529	9783	0.67%	0.048%
17	2.267	2.249	2.326	VV	2207	31072	2.12%	0.152%
18	2.330	2.326	2.334	VV	171	849	0.06%	0.004%
19	2.354	2.334	2.415	VV	1107	21473	1.46%	0.105%
20	2.425	2.415	2.442	VV	298	2673	0.18%	0.013%
21	2.457	2.442	2.467	VV	184	1757	0.12%	0.009%
22	2.489	2.467	2.544	VV	717	12665	0.86%	0.062%
23	2.557	2.544	2.568	VV	192	1930	0.13%	0.009%
24	2.578	2.568	2.591	VV	230	1727	0.12%	0.008%
25	2.600	2.591	2.629	VV	173	1925	0.13%	0.009%
26	2.644	2.629	2.654	VV	122	804	0.05%	0.004%
27	2.668	2.654	2.708	VV	393	6305	0.43%	0.031%
28	2.713	2.708	2.742	VV	166	2192	0.15%	0.011%
29	2.747	2.742	2.756	VV	162	942	0.06%	0.005%
30	2.760	2.756	2.764	VV	157	635	0.04%	0.003%
31	2.770	2.764	2.776	VV	187	928	0.06%	0.005%
32	2.787	2.776	2.795	VV	187	1367	0.09%	0.007%
33	2.804	2.795	2.814	VV	117	752	0.05%	0.004%
34	2.820	2.814	2.832	PV	101	958	0.07%	0.005%
35	2.836	2.832	2.850	VV	140	1067	0.07%	0.005%
36	2.893	2.850	2.902	VV	335	5403	0.37%	0.026%

					rteres			
37	2.907	2.902	2.925	VV	288	3474	0.24%	0.017%
38	2.933	2.925	2.943	VV	275	2545	0.17%	0.012%
39	2.947	2.943	2.963	VV	312	2807	0.19%	0.014%
40	2.974	2.963	2.998	VV	382	5823	0.40%	0.028%
41	3.000	2.998	3.015	VV	295	1802	0.12%	0.009%
42	3.021	3.015	3.029	VV	231	1385	0.09%	0.007%
43	3.036	3.029	3.041	VV	219	1041	0.07%	0.005%
44	3.051	3.041	3.070	VV	241	2425	0.17%	0.012%
45	3.073	3.070	3.083	VV	124	880	0.06%	0.004%
46	3.088	3.083	3.100	VV	160	1252	0.09%	0.006%
47	3.126	3.100	3.143	VV	263	4095	0.28%	0.020%
48	3.154	3.143	3.164	VV	216	1858	0.13%	0.009%
49	3.186	3.164	3.205	VV	210	3279	0.22%	0.016%
50	3.213	3.205	3.232	VV	179	1832	0.12%	0.009%
51	3.247	3.232	3.297	VV	207	4888	0.33%	0.024%
52	3.307	3.297	3.314	VV	169	1061	0.07%	0.005%
53	3.350	3.314	3.356	VV	223	2741	0.19%	0.013%
54	3.378	3.356	3.381	VV	211	2408	0.16%	0.012%
55	3.388	3.381	3.391	VV	247	1164	0.08%	0.006%
56	3.394	3.391	3.397	VV	263	827	0.06%	0.004%
57	3.413	3.397	3.467	VV	369	10529	0.72%	0.051%
58	3.479	3.467	3.488	VV	283	2631	0.18%	0.013%
59	3.491	3.488	3.499	VV	207	1294	0.09%	0.006%
60	3.505	3.499	3.524	VV	201	2571	0.18%	0.013%
61	3.528	3.524	3.546	VV	213	2071	0.14%	0.010%
62	3.574	3.546	3.585	VV	229	3837	0.26%	0.019%
63	3.589	3.585	3.599	VV	240	1223	0.08%	0.006%
64	3.612	3.599	3.618	VV	201	1704	0.12%	0.008%
65	3.629	3.618	3.668	VV	297	7273	0.50%	0.036%
66	3.673	3.668	3.685	VV	205	2004	0.14%	0.010%
67	3.699	3.685	3.732	VV	288	6462	0.44%	0.032%
68	3.742	3.732	3.772	VV	259	4276	0.29%	0.021%
69	3.778	3.772	3.794	VV	272	2385	0.16%	0.012%
70	3.813	3.794	3.819	VV	349	3834	0.26%	0.019%
71	3.822	3.819	3.837	VV	246	2326	0.16%	0.011%
72	3.840	3.837	3.858	VV	208	2137	0.15%	0.010%
73	3.864	3.858	3.874	VV	196	1310	0.09%	0.006%
74	3.879	3.874	3.892	VV	145	1377	0.09%	0.007%
75	3.895	3.892	3.910	VV	145	1094	0.07%	0.005%
76	3.949	3.910	3.990	VV	234	6556	0.45%	0.032%
77	3.995	3.990	4.001	VV	129	712	0.05%	0.003%
78	4.010	4.001	4.025	VV	156	1334	0.09%	0.007%
79	4.034	4.025	4.043	VV	139	1172	0.08%	0.006%
80	4.048	4.043	4.060	VV	164	1356	0.09%	0.007%
81	4.081	4.060	4.115	VV	1733	37863	2.58%	0.185%
82	4.130	4.115	4.137	VV	1262	14334	0.98%	0.070%
83	4.142	4.137	4.201	VV	1151	30187	2.06%	0.147%
84	4.205	4.201	4.216	VV	497	4110	0.28%	0.020%
85	4.235	4.216	4.274	VV	559	15158	1.03%	0.074%
86	4.280	4.274	4.324	VV	413	9494	0.65%	0.046%
87	4.336	4.324	4.377	VV	363	8175	0.56%	0.040%
88	4.385	4.377	4.411	VV	215	3306	0.23%	0.016%
89	4.422	4.411	4.433	VV	204	1888	0.13%	0.009%

					rteres			
90	4.437	4.433	4.441	VV	139	603	0.04%	0.003%
91	4.444	4.441	4.457	VV	132	1186	0.08%	0.006%
92	4.463	4.457	4.485	VV	206	2201	0.15%	0.011%
93	4.514	4.485	4.541	VV	515	8201	0.56%	0.040%
94	4.552	4.541	4.572	VV	367	5492	0.37%	0.027%
95	4.591	4.572	4.602	VV	378	5702	0.39%	0.028%
96	4.607	4.602	4.619	VV	341	2898	0.20%	0.014%
97	4.635	4.619	4.655	VV	402	6568	0.45%	0.032%
98	4.685	4.655	4.711	VV	1062	17190	1.17%	0.084%
99	4.716	4.711	4.751	VV	322	5630	0.38%	0.027%
100	4.768	4.751	4.776	VV	202	2406	0.16%	0.012%
101	4.780	4.776	4.784	VV	147	595	0.04%	0.003%
102	4.792	4.784	4.812	VV	220	2521	0.17%	0.012%
103	4.822	4.812	4.865	VV	181	4212	0.29%	0.021%
104	4.869	4.865	4.877	VV	156	610	0.04%	0.003%
105	4.905	4.877	4.919	VV	181	2753	0.19%	0.013%
106	4.935	4.919	4.944	VV	243	2540	0.17%	0.012%
107	4.948	4.944	4.961	VV	213	1270	0.09%	0.006%
108	4.982	4.961	5.000	VV	204	3392	0.23%	0.017%
109	5.026	5.000	5.042	VV	633	8976	0.61%	0.044%
110	5.069	5.042	5.140	VV	343	14858	1.01%	0.073%
111	5.174	5.140	5.201	VV	761	12139	0.83%	0.059%
112	5.222	5.201	5.227	VV	363	4262	0.29%	0.021%
113	5.242	5.227	5.249	VV	371	3783	0.26%	0.018%
114	5.266	5.249	5.278	VV	334	5044	0.34%	0.025%
115	5.283	5.278	5.292	VV	273	1918	0.13%	0.009%
116	5.305	5.292	5.324	VV	532	7297	0.50%	0.036%
117	5.330	5.324	5.402	VV	296	8440	0.57%	0.041%
118	5.407	5.402	5.433	VV	197	2619	0.18%	0.013%
119	5.470	5.433	5.496	VV	661	12562	0.86%	0.061%
120	5.502	5.496	5.507	VV	353	2178	0.15%	0.011%
121	5.513	5.507	5.529	VV	336	3761	0.26%	0.018%
122	5.537	5.529	5.549	VV	274	2328	0.16%	0.011%
123	5.553	5.549	5.573	VV	195	2307	0.16%	0.011%
124	5.575	5.573	5.601	VV	220	2519	0.17%	0.012%
125	5.604	5.601	5.621	VV	167	1384	0.09%	0.007%
126	5.633	5.621	5.638	VV	220	1433	0.10%	0.007%
127	5.657	5.638	5.675	VV	682	9220	0.63%	0.045%
128	5.687	5.675	5.697	VV	751	7444	0.51%	0.036%
129	5.713	5.697	5.730	VV	1366	22367	1.52%	0.109%
130	5.737	5.730	5.816	VV	1162	34301	2.34%	0.167%
131	5.822	5.816	5.838	VV	392	4849	0.33%	0.024%
132	5.854	5.838	5.879	VV	564	10294	0.70%	0.050%
133	5.889	5.879	5.907	VV	426	5633	0.38%	0.028%
134	5.927	5.907	5.937	VV	501	7414	0.50%	0.036%
135	5.951	5.937	5.970	VV	588	8744	0.60%	0.043%
136	5.983	5.970	6.000	VV	522	6346	0.43%	0.031%
137	6.005	6.000	6.021	VV	441	4349	0.30%	0.021%
138	6.033	6.021	6.047	VV	381	4504	0.31%	0.022%
139	6.051	6.047	6.079	VV	251	3441	0.23%	0.017%
140	6.136	6.079	6.142	VV	294	7101	0.48%	0.035%
141	6.148	6.142	6.161	VV	279	2787	0.19%	0.014%

					rteres			
142	6.179	6.161	6.183	VV	364	3860	0.26%	0.019%
143	6.190	6.183	6.194	VV	363	2066	0.14%	0.010%
144	6.204	6.194	6.210	VV	434	3796	0.26%	0.019%
145	6.234	6.210	6.254	VV	1131	20090	1.37%	0.098%
146	6.259	6.254	6.264	VV	701	3869	0.26%	0.019%
147	6.269	6.264	6.306	VV	713	14523	0.99%	0.071%
148	6.311	6.306	6.322	VV	414	3687	0.25%	0.018%
149	6.327	6.322	6.333	VV	444	2369	0.16%	0.012%
150	6.340	6.333	6.358	VV	437	5342	0.36%	0.026%
151	6.365	6.358	6.373	VV	395	2815	0.19%	0.014%
152	6.383	6.373	6.391	VV	432	4262	0.29%	0.021%
153	6.406	6.391	6.433	VV	627	10983	0.75%	0.054%
154	6.437	6.433	6.475	VV	347	5885	0.40%	0.029%
155	6.483	6.475	6.499	VV	320	3891	0.27%	0.019%
156	6.508	6.499	6.513	VV	395	2644	0.18%	0.013%
157	6.518	6.513	6.522	VV	372	1627	0.11%	0.008%
158	6.539	6.522	6.570	VV	712	13660	0.93%	0.067%
159	6.579	6.570	6.594	VV	379	4390	0.30%	0.021%
160	6.597	6.594	6.605	VV	294	1696	0.12%	0.008%
161	6.626	6.605	6.643	VV	361	6303	0.43%	0.031%
162	6.651	6.643	6.664	VV	286	2772	0.19%	0.014%
163	6.695	6.664	6.743	VV	588	14604	0.99%	0.071%
164	6.748	6.743	6.754	VV	222	1229	0.08%	0.006%
165	6.768	6.754	6.779	VV	273	3177	0.22%	0.016%
166	6.803	6.779	6.820	VV	512	10068	0.69%	0.049%
167	6.833	6.820	6.882	VV	494	13432	0.91%	0.066%
168	6.888	6.882	6.938	VV	255	6872	0.47%	0.034%
169	6.957	6.938	6.966	VV	220	2786	0.19%	0.014%
170	6.980	6.966	7.023	VV	255	5729	0.39%	0.028%
171	7.030	7.023	7.057	VV	174	2522	0.17%	0.012%
172	7.065	7.057	7.071	VV	141	870	0.06%	0.004%
173	7.099	7.071	7.124	VV	181	3658	0.25%	0.018%
174	7.142	7.124	7.163	VV	163	2618	0.18%	0.013%
175	7.168	7.163	7.174	VV	237	982	0.07%	0.005%
176	7.211	7.174	7.222	VV	370	6234	0.42%	0.030%
177	7.224	7.222	7.228	VV	405	1180	0.08%	0.006%
178	7.232	7.228	7.259	VV	394	5600	0.38%	0.027%
179	7.272	7.259	7.277	VV	279	2915	0.20%	0.014%
180	7.284	7.277	7.310	VV	256	4030	0.27%	0.020%
181	7.316	7.310	7.332	VV	262	3071	0.21%	0.015%
182	7.346	7.332	7.358	VV	323	4087	0.28%	0.020%
183	7.375	7.358	7.405	VV	641	10621	0.72%	0.052%
184	7.418	7.405	7.447	VV	434	5950	0.41%	0.029%
185	7.475	7.447	7.501	VV	346	5560	0.38%	0.027%
186	7.514	7.501	7.529	VV	259	3170	0.22%	0.015%
187	7.533	7.529	7.561	VV	226	3467	0.24%	0.017%
188	7.566	7.561	7.571	VV	236	985	0.07%	0.005%
189	7.585	7.571	7.621	VV	231	4165	0.28%	0.020%
190	7.647	7.621	7.694	PV	626	10465	0.71%	0.051%
191	7.699	7.694	7.703	VV	129	479	0.03%	0.002%
192	7.705	7.703	7.709	VV	109	311	0.02%	0.002%
193	7.721	7.709	7.742	VV	180	2112	0.14%	0.010%
194	7.760	7.742	7.772	VV	180	1948	0.13%	0.010%

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195	7.780	7.772	7.795	VV	179	1871	0.13%	0.009%
196	7.804	7.795	7.810	VV	162	1204	0.08%	0.006%
197	7.817	7.810	7.879	VV	203	4442	0.30%	0.022%
198	7.884	7.879	7.887	VV	117	468	0.03%	0.002%
199	7.892	7.887	7.912	VV	168	1949	0.13%	0.010%
200	7.930	7.912	7.969	VV	622	9551	0.65%	0.047%
201	7.988	7.969	8.005	VV	173	2354	0.16%	0.011%
202	8.012	8.005	8.034	VV	187	1947	0.13%	0.010%
203	8.038	8.034	8.051	VV	134	952	0.06%	0.005%
204	8.076	8.051	8.080	VV	418	4201	0.29%	0.021%
205	8.104	8.080	8.135	VV	937	18230	1.24%	0.089%
206	8.175	8.135	8.197	VV	537	14210	0.97%	0.069%
207	8.219	8.197	8.249	VV	428	9449	0.64%	0.046%
208	8.272	8.249	8.299	VV	372	8172	0.56%	0.040%
209	8.303	8.299	8.320	VV	234	2444	0.17%	0.012%
210	8.325	8.320	8.334	VV	182	1270	0.09%	0.006%
211	8.352	8.334	8.377	VV	343	5674	0.39%	0.028%
212	8.424	8.377	8.430	VV	348	6764	0.46%	0.033%
213	8.433	8.430	8.447	VV	354	2916	0.20%	0.014%
214	8.452	8.447	8.473	VV	324	4322	0.29%	0.021%
215	8.479	8.473	8.482	VV	293	1388	0.09%	0.007%
216	8.497	8.482	8.511	VV	519	6898	0.47%	0.034%
217	8.531	8.511	8.567	VV	1454	20606	1.40%	0.101%
218	8.578	8.567	8.594	VV	235	3396	0.23%	0.017%
219	8.600	8.594	8.611	VV	278	2025	0.14%	0.010%
220	8.647	8.611	8.664	VV	449	9872	0.67%	0.048%
221	8.669	8.664	8.712	VV	346	7830	0.53%	0.038%
222	8.726	8.712	8.756	VV	280	5258	0.36%	0.026%
223	8.772	8.756	8.777	VV	276	2908	0.20%	0.014%
224	8.781	8.777	8.786	VV	240	1020	0.07%	0.005%
225	8.792	8.786	8.802	VV	214	1433	0.10%	0.007%
226	8.830	8.802	8.846	VV	396	7095	0.48%	0.035%
227	8.865	8.846	8.878	VV	517	8548	0.58%	0.042%
228	8.891	8.878	8.935	VV	666	15211	1.04%	0.074%
229	8.964	8.935	8.995	VV	563	14686	1.00%	0.072%
230	9.017	8.995	9.049	VV	638	15943	1.09%	0.078%
231	9.071	9.049	9.099	VV	804	13699	0.93%	0.067%
232	9.103	9.099	9.107	VV	264	907	0.06%	0.004%
233	9.150	9.107	9.178	VV	358	9974	0.68%	0.049%
234	9.186	9.178	9.204	VV	238	2876	0.20%	0.014%
235	9.209	9.204	9.214	VV	176	921	0.06%	0.004%
236	9.221	9.214	9.244	VV	293	3413	0.23%	0.017%
237	9.275	9.244	9.320	VV	432	12026	0.82%	0.059%
238	9.331	9.320	9.335	VV	231	1442	0.10%	0.007%
239	9.361	9.335	9.386	VV	1591	20755	1.41%	0.101%
240	9.396	9.386	9.410	VV	400	4909	0.33%	0.024%
241	9.415	9.410	9.432	VV	416	3596	0.24%	0.018%
242	9.453	9.432	9.458	VV	210	2773	0.19%	0.014%
243	9.460	9.458	9.477	VV	159	1178	0.08%	0.006%
244	9.508	9.477	9.529	VV	194	3707	0.25%	0.018%
245	9.544	9.529	9.574	VV	285	4458	0.30%	0.022%
246	9.595	9.574	9.612	VV	251	3823	0.26%	0.019%

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247	9.617	9.612	9.622	VV	138	787	0.05%	0.004%
248	9.647	9.622	9.669	VV	223	4718	0.32%	0.023%
249	9.671	9.669	9.680	VV	211	971	0.07%	0.005%
250	9.705	9.680	9.723	VV	823	13136	0.89%	0.064%
251	9.743	9.723	9.796	VV	723	18756	1.28%	0.092%
252	9.811	9.796	9.852	VV	387	9142	0.62%	0.045%
253	9.865	9.852	9.880	VV	320	3769	0.26%	0.018%
254	9.887	9.880	9.892	VV	193	1201	0.08%	0.006%
255	9.897	9.892	9.910	VV	211	1536	0.10%	0.007%
256	9.922	9.910	9.945	VV	206	2775	0.19%	0.014%
257	9.978	9.945	9.987	PV	569	7303	0.50%	0.036%
258	10.014	9.987	10.127	VV	76248	1186108	80.78%	5.792%
259	10.145	10.127	10.210	VV	2466	69321	4.72%	0.339%
260	10.215	10.210	10.237	VV	853	11573	0.79%	0.057%
261	10.249	10.237	10.285	VV	803	17201	1.17%	0.084%
262	10.299	10.285	10.357	VV	548	16476	1.12%	0.080%
263	10.360	10.357	10.405	VV	292	5779	0.39%	0.028%
264	10.412	10.405	10.434	VV	283	3406	0.23%	0.017%
265	10.454	10.434	10.458	VV	220	2640	0.18%	0.013%
266	10.487	10.458	10.525	VV	5369	74089	5.05%	0.362%
267	10.534	10.525	10.558	VV	662	9727	0.66%	0.047%
268	10.579	10.558	10.587	VV	515	6689	0.46%	0.033%
269	10.593	10.587	10.600	VV	491	3152	0.21%	0.015%
270	10.602	10.600	10.609	VV	395	1783	0.12%	0.009%
271	10.626	10.609	10.654	VV	362	7470	0.51%	0.036%
272	10.668	10.654	10.687	VV	404	5482	0.37%	0.027%
273	10.715	10.687	10.749	VV	651	13784	0.94%	0.067%
274	10.755	10.749	10.766	VV	328	3184	0.22%	0.016%
275	10.772	10.766	10.805	VV	433	7609	0.52%	0.037%
276	10.809	10.805	10.826	VV	348	4062	0.28%	0.020%
277	10.846	10.826	10.868	VV	622	11447	0.78%	0.056%
278	10.889	10.868	10.909	VV	823	13868	0.94%	0.068%
279	10.920	10.909	10.940	VV	437	6660	0.45%	0.033%
280	10.959	10.940	11.005	VV	528	13277	0.90%	0.065%
281	11.020	11.005	11.041	VV	302	5035	0.34%	0.025%
282	11.047	11.041	11.058	VV	230	2038	0.14%	0.010%
283	11.063	11.058	11.084	VV	235	3039	0.21%	0.015%
284	11.086	11.084	11.097	VV	212	1147	0.08%	0.006%
285	11.112	11.097	11.133	VV	306	4496	0.31%	0.022%
286	11.181	11.133	11.247	VV	2077	44579	3.04%	0.218%
287	11.256	11.247	11.291	VV	290	5287	0.36%	0.026%
288	11.318	11.291	11.328	VV	191	2970	0.20%	0.015%
289	11.339	11.328	11.343	VV	177	1305	0.09%	0.006%
290	11.348	11.343	11.375	VV	194	2464	0.17%	0.012%
291	11.398	11.375	11.404	VV	208	1878	0.13%	0.009%
292	11.411	11.404	11.422	VV	237	1747	0.12%	0.009%
293	11.425	11.422	11.434	VV	146	525	0.04%	0.003%
294	11.454	11.434	11.492	VV	223	4742	0.32%	0.023%
295	11.499	11.492	11.503	PV	137	492	0.03%	0.002%
296	11.522	11.503	11.552	VV	265	4975	0.34%	0.024%
297	11.563	11.552	11.578	VV	384	4526	0.31%	0.022%
298	11.594	11.578	11.622	VV	589	7710	0.53%	0.038%
299	11.625	11.622	11.634	VV	177	863	0.06%	0.004%

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300	11.639	11.634	11.644	VV	179	801	0.05%	0.004%
301	11.672	11.644	11.705	VV	1215	18612	1.27%	0.091%
302	11.707	11.705	11.731	VV	153	1287	0.09%	0.006%
303	11.754	11.731	11.772	VV	423	5657	0.39%	0.028%
304	11.790	11.772	11.821	VV	381	4588	0.31%	0.022%
305	11.863	11.821	11.929	PV	1210	29177	1.99%	0.142%
306	11.945	11.929	11.967	VV	302	4980	0.34%	0.024%
307	11.985	11.967	11.997	VV	428	5470	0.37%	0.027%
308	12.018	11.997	12.057	VV	1175	22199	1.51%	0.108%
309	12.077	12.057	12.094	VV	732	10221	0.70%	0.050%
310	12.126	12.094	12.159	VV	304	6921	0.47%	0.034%
311	12.172	12.159	12.177	VV	134	753	0.05%	0.004%
312	12.183	12.177	12.189	VV	123	539	0.04%	0.003%
313	12.196	12.189	12.202	VV	198	989	0.07%	0.005%
314	12.205	12.202	12.225	VV	181	1952	0.13%	0.010%
315	12.265	12.225	12.307	VV	620	16130	1.10%	0.079%
316	12.321	12.307	12.334	VV	363	4009	0.27%	0.020%
317	12.363	12.334	12.439	VV	1179	29827	2.03%	0.146%
318	12.445	12.439	12.450	PV	97	482	0.03%	0.002%
319	12.472	12.450	12.490	VV	480	6814	0.46%	0.033%
320	12.524	12.490	12.575	VV	55706	691570	47.10%	3.377%
321	12.591	12.575	12.607	VV	1856	26994	1.84%	0.132%
322	12.620	12.607	12.640	VV	1641	23378	1.59%	0.114%
323	12.644	12.640	12.675	VV	937	15999	1.09%	0.078%
324	12.689	12.675	12.713	VV	731	13605	0.93%	0.066%
325	12.735	12.713	12.784	VV	621	18198	1.24%	0.089%
326	12.790	12.784	12.804	VV	295	2489	0.17%	0.012%
327	12.836	12.804	12.881	VV	1173	28722	1.96%	0.140%
328	12.908	12.881	12.942	VV	857	18727	1.28%	0.091%
329	12.949	12.942	12.954	VV	274	1870	0.13%	0.009%
330	12.984	12.954	13.037	VV	4215	75786	5.16%	0.370%
331	13.054	13.037	13.064	VV	265	3088	0.21%	0.015%
332	13.066	13.064	13.074	VV	219	1094	0.07%	0.005%
333	13.079	13.074	13.095	VV	190	1913	0.13%	0.009%
334	13.115	13.095	13.139	VV	448	6501	0.44%	0.032%
335	13.163	13.139	13.196	VV	582	10714	0.73%	0.052%
336	13.276	13.196	13.292	VV	766	15713	1.07%	0.077%
337	13.315	13.292	13.364	VV	1945	40018	2.73%	0.195%
338	13.367	13.364	13.377	VV	224	1330	0.09%	0.006%
339	13.393	13.377	13.414	VV	284	4791	0.33%	0.023%
340	13.424	13.414	13.443	VV	272	3564	0.24%	0.017%
341	13.469	13.443	13.500	VV	366	7756	0.53%	0.038%
342	13.523	13.500	13.544	PV	663	10737	0.73%	0.052%
343	13.549	13.544	13.565	VV	418	4522	0.31%	0.022%
344	13.581	13.565	13.589	VV	387	4659	0.32%	0.023%
345	13.599	13.589	13.626	VV	409	7055	0.48%	0.034%
346	13.632	13.626	13.635	VV	327	1608	0.11%	0.008%
347	13.651	13.635	13.686	VV	426	8250	0.56%	0.040%
348	13.701	13.686	13.714	VV	317	4024	0.27%	0.020%
349	13.731	13.714	13.737	VV	508	5779	0.39%	0.028%
350	13.755	13.737	13.790	VV	1460	24412	1.66%	0.119%
351	13.808	13.790	13.840	VV	455	8345	0.57%	0.041%

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352	13.844	13.840	13.849	VV	198	963	0.07%	0.005%
353	13.877	13.849	13.883	VV	359	5352	0.36%	0.026%
354	13.885	13.883	13.893	VV	255	1477	0.10%	0.007%
355	13.916	13.893	13.920	VV	336	4323	0.29%	0.021%
356	13.932	13.920	13.950	VV	332	4888	0.33%	0.024%
357	13.955	13.950	13.962	VV	232	1700	0.12%	0.008%
358	13.984	13.962	14.002	VV	303	4818	0.33%	0.024%
359	14.019	14.002	14.035	VV	339	4975	0.34%	0.024%
360	14.064	14.035	14.090	VV	2160	31865	2.17%	0.156%
361	14.110	14.090	14.130	VV	717	11431	0.78%	0.056%
362	14.136	14.130	14.186	VV	475	10021	0.68%	0.049%
363	14.223	14.186	14.257	VV	433	9836	0.67%	0.048%
364	14.265	14.257	14.289	VV	117	979	0.07%	0.005%
365	14.297	14.289	14.302	VV	115	551	0.04%	0.003%
366	14.320	14.302	14.326	VV	181	1696	0.12%	0.008%
367	14.330	14.326	14.339	VV	209	1193	0.08%	0.006%
368	14.347	14.339	14.353	VV	189	1161	0.08%	0.006%
369	14.357	14.353	14.364	VV	110	487	0.03%	0.002%
370	14.389	14.364	14.407	VV	205	3096	0.21%	0.015%
371	14.412	14.407	14.424	VV	134	619	0.04%	0.003%
372	14.431	14.424	14.449	VV	118	869	0.06%	0.004%
373	14.474	14.449	14.487	VV	393	5821	0.40%	0.028%
374	14.509	14.487	14.568	VV	2687	50342	3.43%	0.246%
375	14.580	14.568	14.587	VV	197	1839	0.13%	0.009%
376	14.607	14.587	14.651	VV	400	9089	0.62%	0.044%
377	14.678	14.651	14.702	VV	1015	17611	1.20%	0.086%
378	14.707	14.702	14.722	VV	614	6265	0.43%	0.031%
379	14.738	14.722	14.758	VV	853	13927	0.95%	0.068%
380	14.778	14.758	14.833	VV	713	16971	1.16%	0.083%
381	14.835	14.833	14.861	VV	267	2199	0.15%	0.011%
382	14.900	14.861	14.924	PV	699	12464	0.85%	0.061%
383	14.930	14.924	14.936	VV	563	1928	0.13%	0.009%
384	14.945	14.936	14.979	VV	201	3893	0.27%	0.019%
385	15.015	14.979	15.051	VV	108484	1468393	100.00%	7.170%
386	15.066	15.051	15.144	VV	1201	28371	1.93%	0.139%
387	15.196	15.144	15.245	VV	2928	92288	6.28%	0.451%
388	15.265	15.245	15.308	VV	2601	43927	2.99%	0.215%
389	15.315	15.308	15.321	VV	243	1418	0.10%	0.007%
390	15.326	15.321	15.355	VV	231	2716	0.18%	0.013%
391	15.369	15.355	15.390	VV	352	4837	0.33%	0.024%
392	15.414	15.390	15.450	VV	506	8835	0.60%	0.043%
393	15.512	15.450	15.523	PV	165	4494	0.31%	0.022%
394	15.529	15.523	15.533	VV	150	698	0.05%	0.003%
395	15.556	15.533	15.567	VV	246	2995	0.20%	0.015%
396	15.602	15.567	15.673	VV	52542	872139	59.39%	4.259%
397	15.695	15.673	15.715	VV	1310	25893	1.76%	0.126%
398	15.748	15.715	15.779	VV	2017	48249	3.29%	0.236%
399	15.809	15.779	15.839	VV	5016	73644	5.02%	0.360%
400	15.844	15.839	15.848	VV	385	1644	0.11%	0.008%
401	15.870	15.848	15.910	VV	564	13097	0.89%	0.064%
402	15.913	15.910	15.920	VV	191	927	0.06%	0.005%
403	15.923	15.920	15.944	VV	183	1480	0.10%	0.007%
404	16.033	15.944	16.045	PV	340	12263	0.84%	0.060%

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405	16.050	16.045	16.079	VV	286	4324	0.29%	0.021%
406	16.084	16.079	16.098	VV	218	1893	0.13%	0.009%
407	16.124	16.098	16.160	VV	1878	34471	2.35%	0.168%
408	16.176	16.160	16.182	VV	318	3493	0.24%	0.017%
409	16.203	16.182	16.224	VV	701	11114	0.76%	0.054%
410	16.243	16.224	16.282	VV	1235	19709	1.34%	0.096%
411	16.308	16.282	16.340	VV	1398	20351	1.39%	0.099%
412	16.347	16.340	16.352	VV	113	572	0.04%	0.003%
413	16.357	16.352	16.362	VV	117	557	0.04%	0.003%
414	16.374	16.362	16.397	VV	200	1927	0.13%	0.009%
415	16.440	16.397	16.470	PV	315	7169	0.49%	0.035%
416	16.541	16.470	16.575	VV	513	13503	0.92%	0.066%
417	16.583	16.575	16.587	VV	277	1748	0.12%	0.009%
418	16.621	16.587	16.660	VV	8359	148072	10.08%	0.723%
419	16.689	16.660	16.710	VV	1936	40638	2.77%	0.198%
420	16.729	16.710	16.760	VV	2779	43016	2.93%	0.210%
421	16.803	16.760	16.836	VV	1821	32165	2.19%	0.157%
422	16.841	16.836	16.844	VV	89	214	0.01%	0.001%
423	16.870	16.844	16.887	VV	362	6401	0.44%	0.031%
424	16.892	16.887	16.910	VV	190	1981	0.13%	0.010%
425	16.916	16.910	16.936	VV	133	1147	0.08%	0.006%
426	16.951	16.936	16.957	PV	178	1218	0.08%	0.006%
427	16.959	16.957	16.963	VV	181	408	0.03%	0.002%
428	17.013	16.963	17.037	VV	743	21119	1.44%	0.103%
429	17.107	17.037	17.142	VV	1262	47636	3.24%	0.233%
430	17.162	17.142	17.170	VV	663	8886	0.61%	0.043%
431	17.195	17.170	17.220	VV	1700	29046	1.98%	0.142%
432	17.242	17.220	17.257	VV	1747	24074	1.64%	0.118%
433	17.273	17.257	17.302	VV	2253	30442	2.07%	0.149%
434	17.329	17.302	17.334	PV	191	2881	0.20%	0.014%
435	17.347	17.334	17.369	VV	191	2365	0.16%	0.012%
436	17.385	17.369	17.394	VV	135	1075	0.07%	0.005%
437	17.404	17.394	17.408	VV	123	558	0.04%	0.003%
438	17.433	17.408	17.453	PV	355	6340	0.43%	0.031%
439	17.479	17.453	17.490	VV	228	3619	0.25%	0.018%
440	17.566	17.490	17.618	VV	6524	132996	9.06%	0.649%
441	17.646	17.618	17.687	VV	5574	92541	6.30%	0.452%
442	17.727	17.687	17.758	VV	1399	28025	1.91%	0.137%
443	17.768	17.758	17.774	VV	428	3374	0.23%	0.016%
444	17.778	17.774	17.784	VV	326	1794	0.12%	0.009%
445	17.788	17.784	17.807	VV	319	3548	0.24%	0.017%
446	17.810	17.807	17.846	VV	163	2174	0.15%	0.011%
447	17.941	17.846	17.950	PV	161	8001	0.54%	0.039%
448	18.039	17.950	18.062	PV	2337	65872	4.49%	0.322%
449	18.085	18.062	18.114	VV	2437	42490	2.89%	0.207%
450	18.174	18.114	18.200	VV	3216	63184	4.30%	0.309%
451	18.310	18.200	18.340	VV	2682	69851	4.76%	0.341%
452	18.360	18.340	18.375	VV	641	10779	0.73%	0.053%
453	18.407	18.375	18.418	VV	1926	31461	2.14%	0.154%
454	18.446	18.418	18.489	VV	30230	551047	37.53%	2.691%
455	18.510	18.489	18.550	VV	6958	121818	8.30%	0.595%
456	18.576	18.550	18.590	VV	1006	17950	1.22%	0.088%

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457	18.607	18.590	18.637	VV	931	17798	1.21%	0.087%
458	18.644	18.637	18.674	VV	464	5894	0.40%	0.029%
459	18.720	18.674	18.733	VV	327	5431	0.37%	0.027%
460	18.756	18.733	18.760	VV	378	5029	0.34%	0.025%
461	18.797	18.760	18.800	VV	244	6546	0.45%	0.032%
462	18.807	18.800	18.830	VV	256	2535	0.17%	0.012%
463	18.915	18.830	18.971	PV	3421	100803	6.86%	0.492%
464	19.028	18.971	19.059	VV	2966	76738	5.23%	0.375%
465	19.076	19.059	19.100	VV	1508	28114	1.91%	0.137%
466	19.117	19.100	19.144	VV	995	15700	1.07%	0.077%
467	19.194	19.144	19.222	VV	6636	95572	6.51%	0.467%
468	19.277	19.222	19.299	VV	23085	413449	28.16%	2.019%
469	19.319	19.299	19.370	VV	15990	361154	24.60%	1.764%
470	19.410	19.370	19.429	VV	2978	83790	5.71%	0.409%
471	19.455	19.429	19.478	VV	2635	66826	4.55%	0.326%
472	19.519	19.478	19.537	VV	2823	81490	5.55%	0.398%
473	19.561	19.537	19.587	VV	3075	80098	5.45%	0.391%
474	19.611	19.587	19.639	VV	3120	80081	5.45%	0.391%
475	19.706	19.639	19.728	VV	3960	161903	11.03%	0.791%
476	19.785	19.728	19.790	VV	4694	140885	9.59%	0.688%
477	19.813	19.790	19.842	VV	5508	137964	9.40%	0.674%
478	19.879	19.842	19.913	VV	5907	180447	12.29%	0.881%
479	19.990	19.913	20.017	VV	4871	249513	16.99%	1.218%
480	20.060	20.017	20.094	VV	10073	327968	22.34%	1.602%
481	20.109	20.094	20.142	VV	6658	172746	11.76%	0.844%
482	20.189	20.142	20.205	VV	5964	210444	14.33%	1.028%
483	20.320	20.205	20.345	VV	8504	579551	39.47%	2.830%
484	20.411	20.345	20.425	VV	8197	372804	25.39%	1.820%
485	20.453	20.425	20.463	VV	8750	187411	12.76%	0.915%
486	20.608	20.463	20.630	VV	11916	976589	66.51%	4.769%
487	20.644	20.630	20.648	VV	10688	116890	7.96%	0.571%
488	20.804	20.648	20.820	VV	13294	1227847	83.62%	5.996%
489	20.827	20.820	20.854	VV	12874	262698	17.89%	1.283%
490	20.859	20.854	20.870	VV	12315	117432	8.00%	0.573%
491	20.912	20.870	20.940	VV	11767	484007	32.96%	2.363%
492	20.989	20.940	21.018	VV	11441	529470	36.06%	2.586%
493	21.049	21.018	21.087	VV	10820	438237	29.84%	2.140%
494	21.097	21.087	21.139	VV	10245	304880	20.76%	1.489%
495	21.190	21.139	21.219	VV	9500	437239	29.78%	2.135%
496	21.228	21.219	21.238	VV	8764	99178	6.75%	0.484%
497	21.247	21.238	21.260	VV	8506	113847	7.75%	0.556%
498	21.307	21.260	21.330	VV	8343	344717	23.48%	1.683%
499	21.404	21.330	21.462	VV	7484	577828	39.35%	2.822%
500	21.490	21.462	21.507	VV	6192	164935	11.23%	0.805%
501	21.518	21.507	21.564	VV	5860	185435	12.63%	0.906%
502	21.620	21.564	21.647	VV	4914	245114	16.69%	1.197%
503	21.671	21.647	21.690	VV	4322	111199	7.57%	0.543%
504	21.706	21.690	21.744	VV	4052	123142	8.39%	0.601%
505	21.758	21.744	21.836	VV	3636	160179	10.91%	0.782%
506	21.895	21.836	21.915	VV	2225	103628	7.06%	0.506%
507	21.948	21.915	21.987	VV	2206	75186	5.12%	0.367%
508	21.995	21.987	22.027	VV	1163	23138	1.58%	0.113%
509	22.078	22.027	22.100	VBA	363	38116	2.60%	0.186%

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Sum of corrected areas: 20478423

FG032725.M Wed Apr 09 00:57:35 2025



CALIBRATION SUMMARY

TPH GC INITIAL CALIBRATION SUMMARY

Lab Name: Chemtech Contract: PORT06
 ProjectID: Amtrak Sawtooth Bridges 2025
 Lab Code: CHEM Case No.: Q1744 SAS No.: Q1744 SDG No.: Q1744

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

TPH GC CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: PORT06
ProjectID: Amtrak Sawtooth Bridges 2025
Lab Code: CHEM Case No.: Q1744 SAS No.: Q1744 SDG No.: Q1744
DataFile: FG015651.D Analyst Name: YP\AJ Analyst Date: 04-08-2025

Conc. (PPM)	Area Count	RF	Average RF	%D
850	95873167	112792	115576	2.409

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
 Data File : FG015651.D
 Signal(s) : FID1A.ch
 Acq On : 08 Apr 2025 11:13
 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: Apr 09 00:27:51 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Quant Title :
 QLast Update : Thu Mar 27 11:04:29 2025
 Response via : Initial Calibration
 Integrator: ChemStation

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.022	5775496	50.413 ug/ml
Target Compounds			
1) N-OCTANE	1.983	5504816	47.361 ug/ml
2) N-DECANE	4.516	5950006	50.366 ug/ml
3) N-DODECANE	6.699	6242847	51.413 ug/ml
4) N-TETRADECANE	8.536	6304079	49.992 ug/ml
5) N-HEXADECANE	10.152	6436147	49.987 ug/ml
6) N-OCTADECANE	11.601	6602521	50.117 ug/ml
7) N-EICOSANE	12.916	6520898	48.699 ug/ml
8) N-DOCOSANE	14.119	6371134	49.029 ug/ml
10) N-TETRACOSANE	15.226	6336847	48.923 ug/ml
11) N-HEXACOSANE	16.251	6188174	48.621 ug/ml
12) N-OCTACOSANE	17.205	6083634	48.668 ug/ml
13) N-TRIACONTANE	18.095	6072325	48.511 ug/ml
14) N-DOTRIACONTANE	18.929	5752607	48.473 ug/ml
15) N-TETRATRIACONTANE	19.714	4938049	47.310 ug/ml
16) N-HEXATRIACONTANE	20.454	3962175	45.207 ug/ml
17) N-OCTATRIACONTANE	21.200	3394643	45.486 ug/ml
18) N-TETRACONTANE	22.127	3212265	48.496 ug/ml

(f)=RT Delta > 1/2 Window

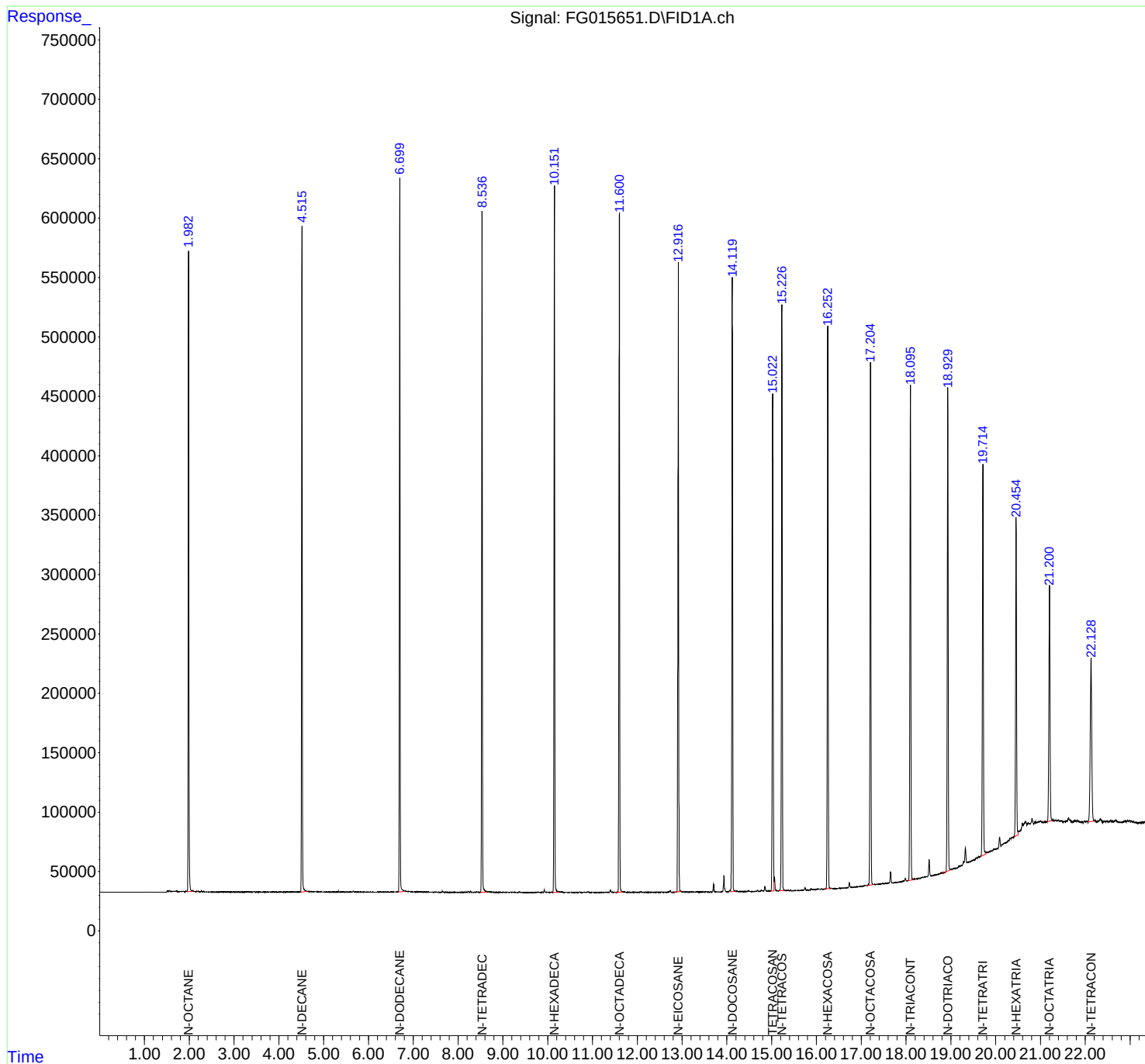
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015651.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 11:13
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: Apr 09 00:27:51 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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



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Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
 Data File : FG015651.D
 Signal(s) : FID1A.ch
 Acq On : 08 Apr 2025 11:13
 Sample : 50 PPM TRPH STD
 Misc :
 ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e

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

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.983	1.948	2.089	BB	538198	5504816	83.37%	5.416%
2	4.516	4.482	4.629	BB	560429	5950006	90.12%	5.854%
3	6.699	6.657	6.827	BB	599805	6242847	94.55%	6.142%
4	8.536	8.502	8.654	BB	572971	6304079	95.48%	6.202%
5	10.152	10.114	10.255	BB	595622	6436147	97.48%	6.332%
6	11.601	11.506	11.693	BB	569768	6602521	100.00%	6.495%
7	12.916	12.830	12.985	BB	528400	6520898	98.76%	6.415%
8	14.119	14.082	14.195	VB	515143	6371134	96.50%	6.268%
9	15.022	14.975	15.051	BV	415595	5775496	87.47%	5.682%
10	15.226	15.147	15.299	BB	492978	6336847	95.98%	6.234%
11	16.251	16.186	16.330	BB	469539	6188174	93.72%	6.088%
12	17.205	17.119	17.275	BB	438501	6083634	92.14%	5.985%
13	18.095	18.027	18.166	BB	416474	6072325	91.97%	5.974%
14	18.929	18.801	19.001	PB	406502	5752607	87.13%	5.659%
15	19.714	19.660	19.789	BV	328761	4938049	74.79%	4.858%
16	20.454	20.400	20.505	BV	267982	3962175	60.01%	3.898%
17	21.200	21.141	21.254	BV	197049	3394643	51.41%	3.340%
18	22.127	22.059	22.210	PV	137794	3212265	48.65%	3.160%
Sum of corrected areas:						101648663		

FG032725.M Wed Apr 09 00:52:25 2025

TPH GC CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: PORT06
ProjectID: Amtrak Sawtooth Bridges 2025
Lab Code: CHEM Case No.: Q1744 SAS No.: Q1744 SDG No.: Q1744
DataFile: FG015662.D Analyst Name: YP\AJ Analyst Date: 04-08-2025

Conc. (PPM)	Area Count	RF	Average RF	%D
850	97789180	115046	115576	0.459

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
 Data File : FG015662.D
 Signal(s) : FID1A.ch
 Acq On : 08 Apr 2025 17:57
 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: Apr 09 00:31:22 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Quant Title :
 QLast Update : Thu Mar 27 11:04:29 2025
 Response via : Initial Calibration
 Integrator: ChemStation

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.017	5978921	52.188 ug/ml
Target Compounds			
1) N-OCTANE	1.981	5549301	47.744 ug/ml
2) N-DECANE	4.514	6015195	50.918 ug/ml
3) N-DODECANE	6.697	6296222	51.852 ug/ml
4) N-TETRADECANE	8.533	6362102	50.452 ug/ml
5) N-HEXADECANE	10.148	6533360	50.742 ug/ml
6) N-OCTADECANE	11.597	6734215	51.117 ug/ml
7) N-EICOSANE	12.912	6719659	50.184 ug/ml
8) N-DOCOSANE	14.115	6586614	50.687 ug/ml
10) N-TETRACOSANE	15.222	6571504	50.735 ug/ml
11) N-HEXACOSANE	16.247	6410246	50.365 ug/ml
12) N-OCTACOSANE	17.200	6300013	50.399 ug/ml
13) N-TRIACONTANE	18.089	6266598	50.063 ug/ml
14) N-DOTRIACONTANE	18.924	5917139	49.859 ug/ml
15) N-TETRATRIACONTANE	19.708	5004017	47.942 ug/ml
16) N-HEXATRIACONTANE	20.448	3963370	45.220 ug/ml
17) N-OCTATRIACONTANE	21.191	3411755	45.716 ug/ml
18) N-TETRACONTANE	22.118	3147870	47.524 ug/ml

(f)=RT Delta > 1/2 Window

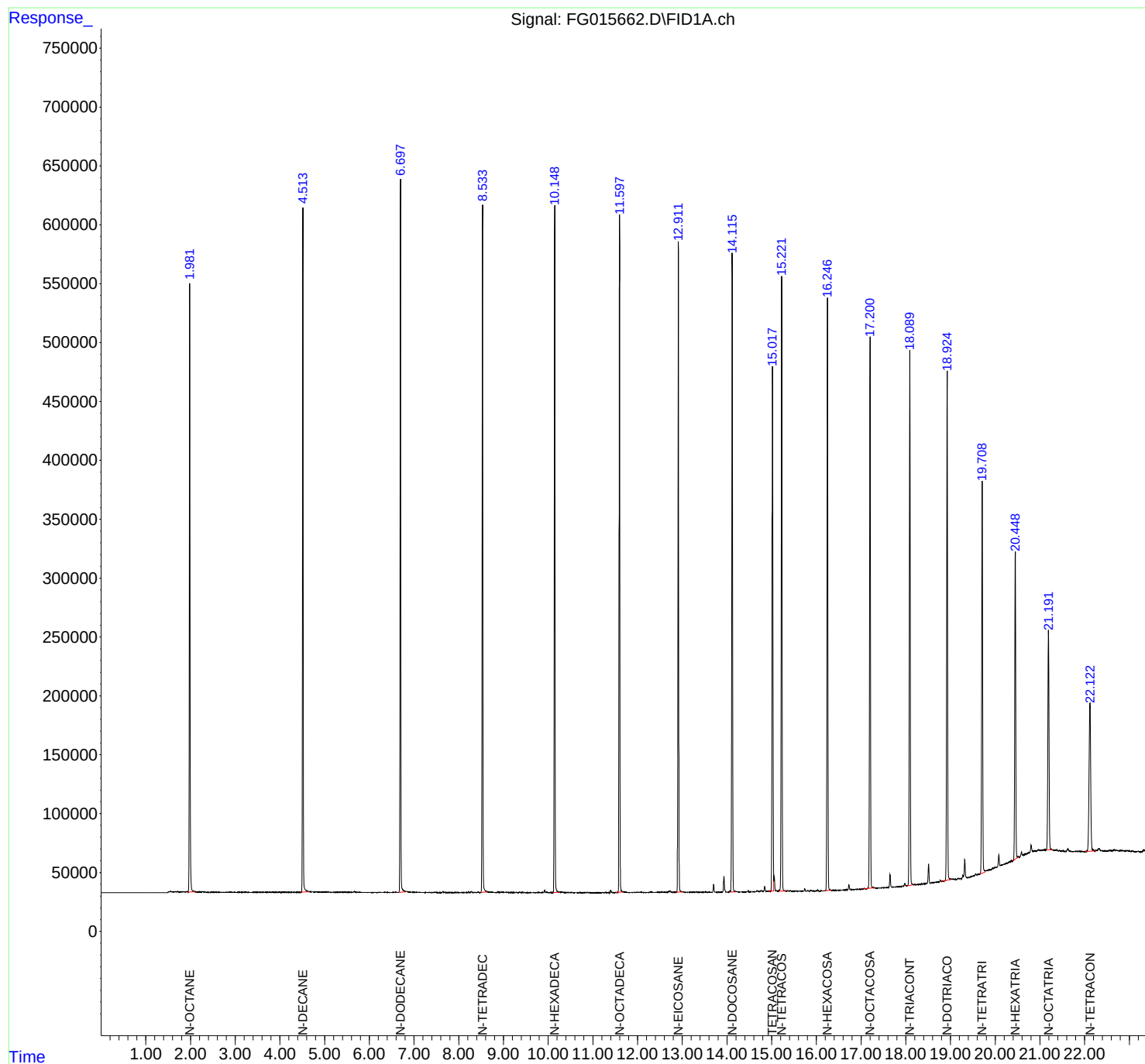
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015662.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 17:57
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: Apr 09 00:31:22 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
 Data File : FG015662.D
 Signal(s) : FID1A.ch
 Acq On : 08 Apr 2025 17:57
 Sample : 50 PPM TRPH STD
 Misc :
 ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e

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

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.981	1.946	2.096	BB	516044	5549301	82.40%	5.348%
2	4.514	4.471	4.640	BB	580002	6015195	89.32%	5.797%
3	6.697	6.662	6.831	BB	605593	6296222	93.50%	6.068%
4	8.533	8.498	8.642	BB	582284	6362102	94.47%	6.131%
5	10.148	10.107	10.240	BB	583366	6533360	97.02%	6.296%
6	11.597	11.514	11.677	BB	575521	6734215	100.00%	6.490%
7	12.912	12.858	13.010	BB	551635	6719659	99.78%	6.476%
8	14.115	14.080	14.197	VB	542128	6586614	97.81%	6.347%
9	15.017	14.915	15.047	BV	446318	5978921	88.78%	5.762%
10	15.222	15.145	15.319	BB	520095	6571504	97.58%	6.333%
11	16.247	16.171	16.331	BB	497448	6410246	95.19%	6.177%
12	17.200	17.039	17.294	BB	466066	6300013	93.55%	6.071%
13	18.089	18.017	18.173	BB	454162	6266598	93.06%	6.039%
14	18.924	18.791	19.012	PV	432797	5917139	87.87%	5.702%
15	19.708	19.660	19.769	BV	332973	5004017	74.31%	4.822%
16	20.448	20.400	20.520	BB	258828	3963370	58.85%	3.819%
17	21.191	21.140	21.286	BB	186242	3411755	50.66%	3.288%
18	22.118	22.012	22.242	BB	124837	3147870	46.74%	3.034%
Sum of corrected areas:						103768102		

FG032725.M Wed Apr 09 00:55:56 2025

Analytical Sequence

Client: Portal Partners Tri-Venture

SDG No.: Q1744

Project: Amtrak Sawtooth Bridges 2025

Instrument ID: FID_G

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

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

MEAN SUROGATE RT FROM INITIAL CALIBRATION 15.021					
EPA SAMPLE NO.	LAB SAMPLE ID	DATE AND TIME ANALYZED	DATAFILE	RT	#
PIBLK01	LBLK01	08 Apr 2025 10:01	FG015650.D	15.019	
50 PPM TRPH STD	50 PPM TRPH STD	08 Apr 2025 11:13	FG015651.D	15.022	
PB167510BL	PB167510BL	08 Apr 2025 12:50	FG015653.D	15.016	
PB167510BS	PB167510BS	08 Apr 2025 13:20	FG015654.D	15.016	
B-158-SB01	Q1744-01	08 Apr 2025 14:02	FG015655.D	15.017	
B-158-SB02	Q1744-03	08 Apr 2025 14:31	FG015656.D	15.015	
B-158-SB02MS	Q1744-03MS	08 Apr 2025 15:59	FG015659.D	14.965	
B-158-SB02MSD	Q1744-03MSD	08 Apr 2025 16:29	FG015660.D	15.015	
PIBLK02	LBLK02	08 Apr 2025 16:58	FG015661.D	15.014	
50 PPM TRPH STD	50 PPM TRPH STD	08 Apr 2025 17:57	FG015662.D	15.017	



QC SAMPLE DATA

Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	
Project:	Amtrak Sawtooth Bridges 2025	Date Received:	
Client Sample ID:	PB167510BL	SDG No.:	Q1744
Lab Sample ID:	PB167510BL	Matrix:	SOIL
Analytical Method:	8015D TPH	% Solid:	100
Sample Wt/Vol:	30.01	Units:	g
Soil Aliquot Vol:			uL
Extraction Type:		Final Vol:	1
GPC Factor :		Test:	TPH GC
Prep Method :	SW3541	Injection Volume :	

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015653.D	1	04/08/25 08:55	04/08/25 12:50	PB167510

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	384	U	384	2830	ug/kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	16.2		37 - 130	81%	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\FG040825\
Data File : FG015653.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 12:50
Operator : YP\AJ
Sample : PB167510BL
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
PB167510BL

Integration File: autoint1.e
Quant Time: Apr 09 00:28:31 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.016	1859144	16.228 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

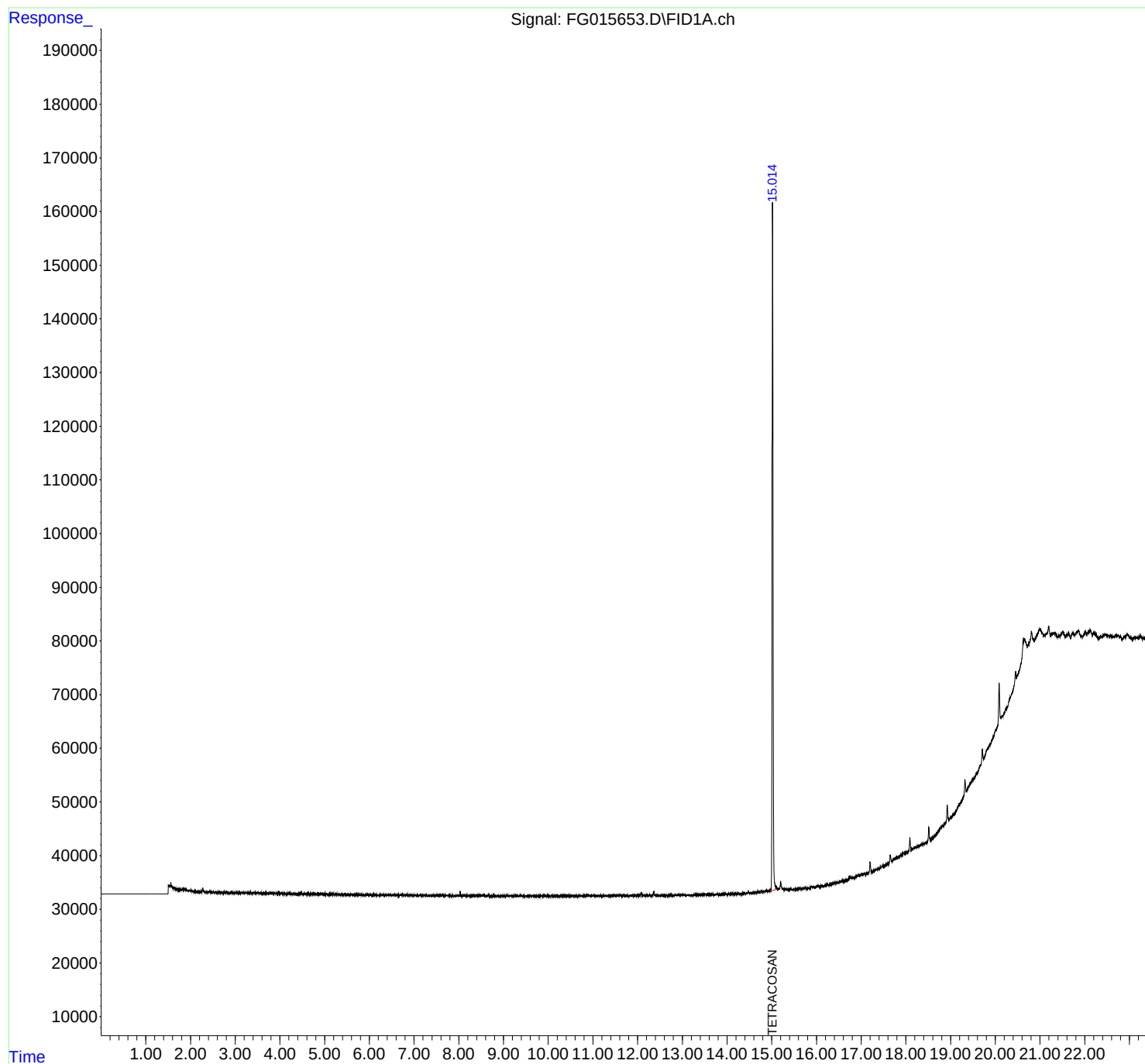
(m)=manual int.

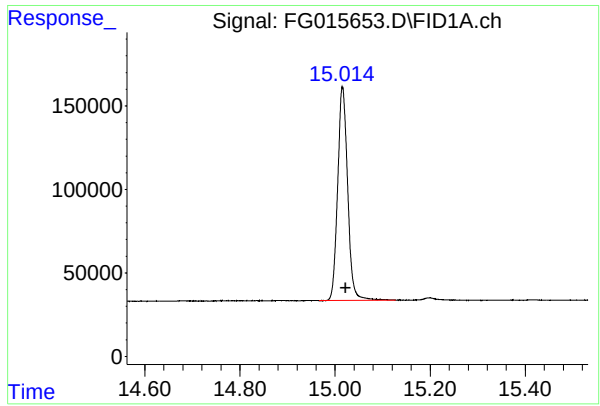
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015653.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 12:50
Operator : YP\AJ
Sample : PB167510BL
Misc :
ALS Vial : 21 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
PB167510BL

Integration File: autoint1.e
Quant Time: Apr 09 00:28:31 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.016 min
Delta R.T.: -0.007 min
Response: 1859144
Conc: 16.23 ug/ml

Instrument :

FID_G

ClientSampleId :

PB167510BL

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015653.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 12:50
Sample : PB167510BL
Misc :
ALS Vial : 21 Sample Multiplier: 1

Integration File: autoint1.e

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

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	15.016	14.966	15.128	BB	127487	1859144	100.00%	100.000%
Sum of corrected areas:						1859144		

FG032725.M Wed Apr 09 00:53:31 2025

Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	04/08/25
Project:	Amtrak Sawtooth Bridges 2025	Date Received:	04/08/25
Client Sample ID:	PIBLK-FG015650.D	SDG No.:	Q1744
Lab Sample ID:	I.BLK-FG015650.D	Matrix:	Water
Analytical Method:	8015D TPH	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Decanted:	
Soil Aliquot Vol:	uL	Final Vol:	1 mL
Extraction Type:		Test:	TPH GC
GPC Factor :	PH :	Injection Volume :	
Prep Method :	SW3510		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015650.D	1		04/08/25	FG040825

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
PHC	Petroleum Hydrocarbons	12.0	U	12.0	85.0	ug/L
SURROGATES						
16416-32-3	TETRACOSANE-d50	22.1		29 - 130	110%	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\FG040825\
Data File : FG015650.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 10:01
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: Apr 09 00:27:33 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.019	2529175	22.076 ug/ml

Target Compounds

(f)=RT Delta > 1/2 Window

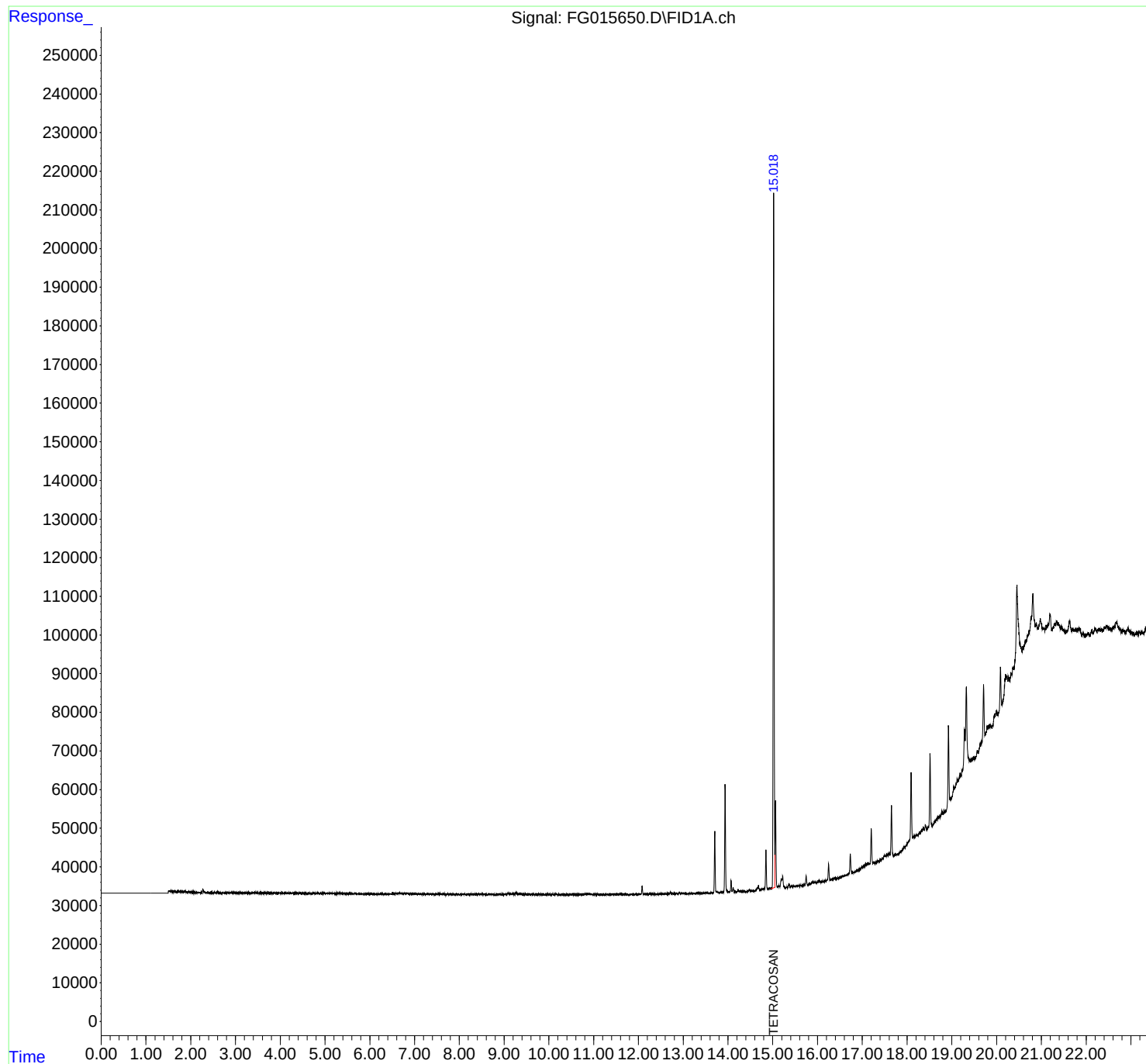
(m)=manual int.

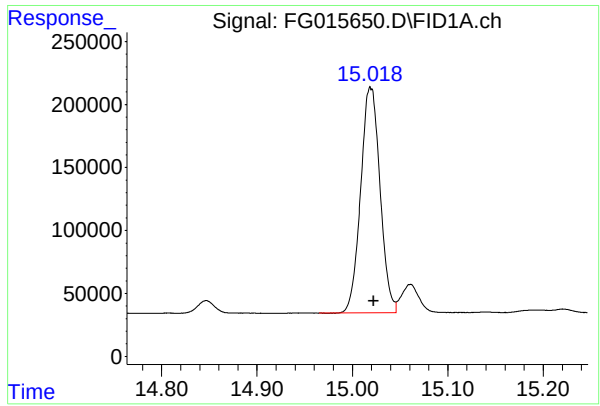
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015650.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 10:01
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: Apr 09 00:27:33 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.019 min
Delta R.T.: -0.003 min
Response: 2529175
Conc: 22.08 ug/ml

Instrument :
FID_G
ClientSampleId :
I.BLK

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015650.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 10:01
Sample : I.BLK
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e

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

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	15.019	14.965	15.046	BV	178725	2529175	100.00%	100.000%
Sum of corrected areas:						2529175		

FG032725.M Wed Apr 09 00:51:23 2025

Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	04/08/25
Project:	Amtrak Sawtooth Bridges 2025	Date Received:	04/08/25
Client Sample ID:	PIBLK-FG015661.D	SDG No.:	Q1744
Lab Sample ID:	I.BLK-FG015661.D	Matrix:	Water
Analytical Method:	8015D TPH	% Solid:	0
Sample Wt/Vol:	1000 Units: mL	Decanted:	
Soil Aliquot Vol:	uL	Final Vol:	1 mL
Extraction Type:		Test:	TPH GC
GPC Factor :	PH :	Injection Volume :	
Prep Method :	SW3510		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015661.D	1		04/08/25	FG040825

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
PHC	Petroleum Hydrocarbons	12.0	U	12.0	85.0	ug/L
SURROGATES						
16416-32-3	TETRACOSANE-d50	20.8		29 - 130	104%	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\FG040825\
Data File : FG015661.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 16:58
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 52 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: Apr 09 00:31:03 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.014	2381632	20.789 ug/ml
Target Compounds			

(f)=RT Delta > 1/2 Window

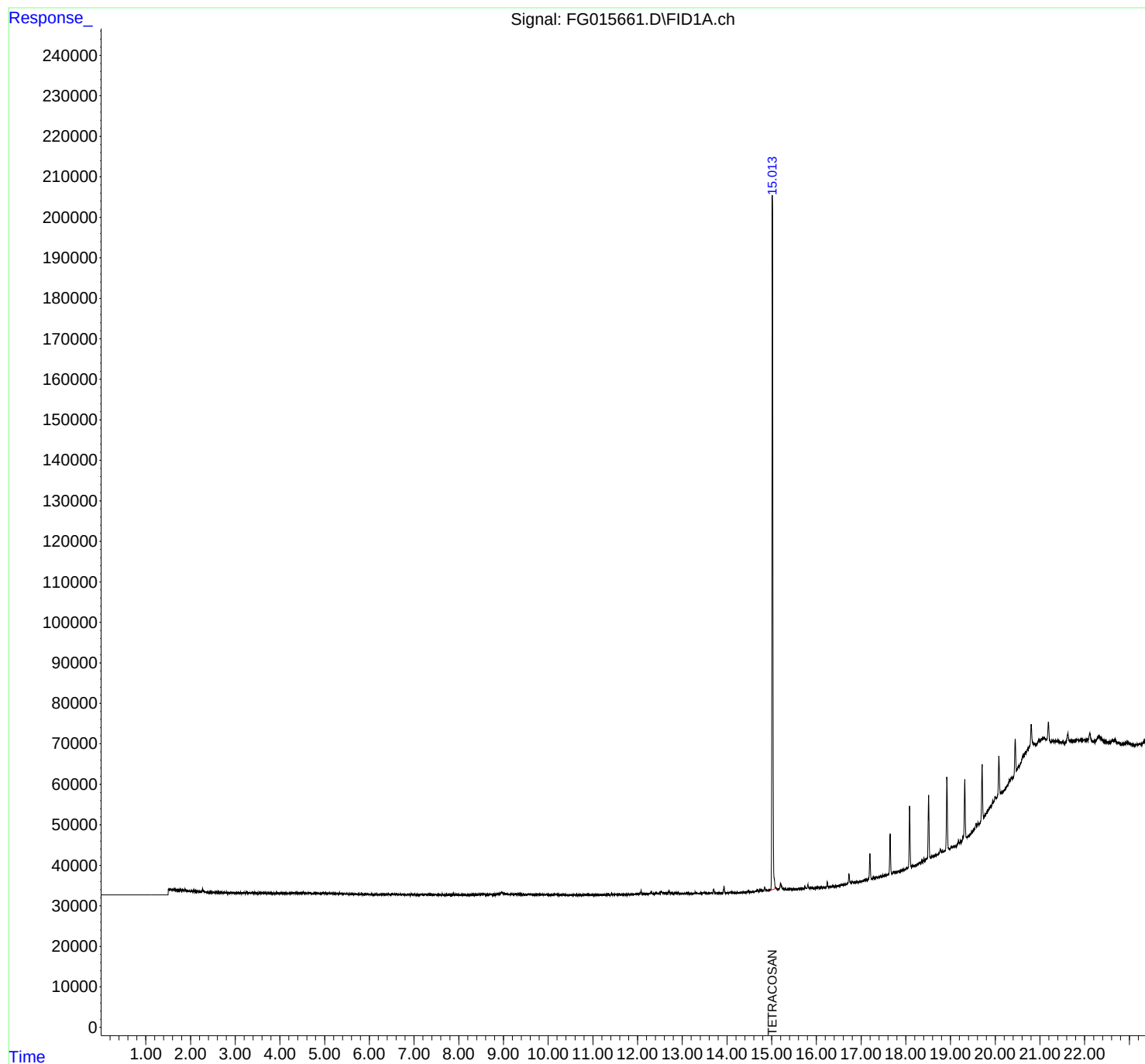
(m)=manual int.

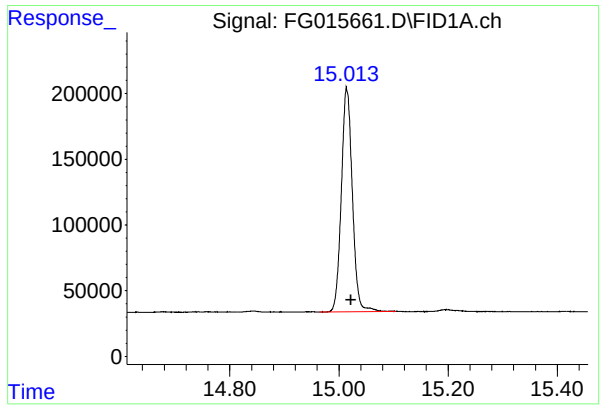
Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015661.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 16:58
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 52 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
I.BLK

Integration File: autoint1.e
Quant Time: Apr 09 00:31:03 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.014 min
Delta R.T.: -0.008 min
Response: 2381632
Conc: 20.79 ug/ml

Instrument :
FID_G
ClientSampleId :
I.BLK

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015661.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 16:58
Sample : I.BLK
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e

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

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	15.014	14.964	15.105	BB	169205	2381632	100.00%	100.000%
Sum of corrected areas:						2381632		

FG032725.M Wed Apr 09 00:54:59 2025

Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	
Project:	Amtrak Sawtooth Bridges 2025	Date Received:	
Client Sample ID:	PB167510BS	SDG No.:	Q1744
Lab Sample ID:	PB167510BS	Matrix:	SOIL
Analytical Method:	8015D TPH	% Solid:	100
Sample Wt/Vol:	30.03	Units:	g
Soil Aliquot Vol:			uL
Extraction Type:		Final Vol:	1
GPC Factor :		Test:	TPH GC
Prep Method :	SW3541	Injection Volume :	

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015654.D	1	04/08/25 08:55	04/08/25 13:20	PB167510

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	8470		384	2830	ug/kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	17.3		37 - 130	87%	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\FG040825\
 Data File : FG015654.D
 Signal(s) : FID1A.ch
 Acq On : 08 Apr 2025 13:20
 Operator : YP\AJ
 Sample : PB167510BS
 Misc :
 ALS Vial : 22 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 PB167510BS

Integration File: autoint1.e
 Quant Time: Apr 09 00:28:47 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Quant Title :
 QLast Update : Thu Mar 27 11:04:29 2025
 Response via : Initial Calibration
 Integrator: ChemStation

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.016	1982793	17.307 ug/ml
Target Compounds			
1) N-OCTANE	1.985	1456042	12.527 ug/ml
2) N-DECANE	4.514	1869252	15.823 ug/ml
3) N-DODECANE	6.696	2011798	16.568 ug/ml
4) N-TETRADECANE	8.533	2031077	16.107 ug/ml
5) N-HEXADECANE	10.148	2142178	16.637 ug/ml
6) N-OCTADECANE	11.596	2272281	17.248 ug/ml
7) N-EICOSANE	12.912	2251158	16.812 ug/ml
8) N-DOCOSANE	14.114	2241118	17.246 ug/ml
10) N-TETRACOSANE	15.221	2263252	17.473 ug/ml
11) N-HEXACOSANE	16.246	2187317	17.186 ug/ml
12) N-OCTACOSANE	17.199	2146273	17.170 ug/ml
13) N-TRIACONTANE	18.089	2066980	16.513 ug/ml
14) N-DOTRIACONTANE	18.924	1673205	14.099 ug/ml
15) N-TETRATRIACONTANE	19.707	1046920	10.030 ug/ml
16) N-HEXATRIACONTANE	20.450	683798	7.802 ug/ml
17) N-OCTATRIACONTANE	21.194	543786	7.286 ug/ml
18) N-TETRACONTANE	22.120	506549	7.647 ug/ml

(f)=RT Delta > 1/2 Window

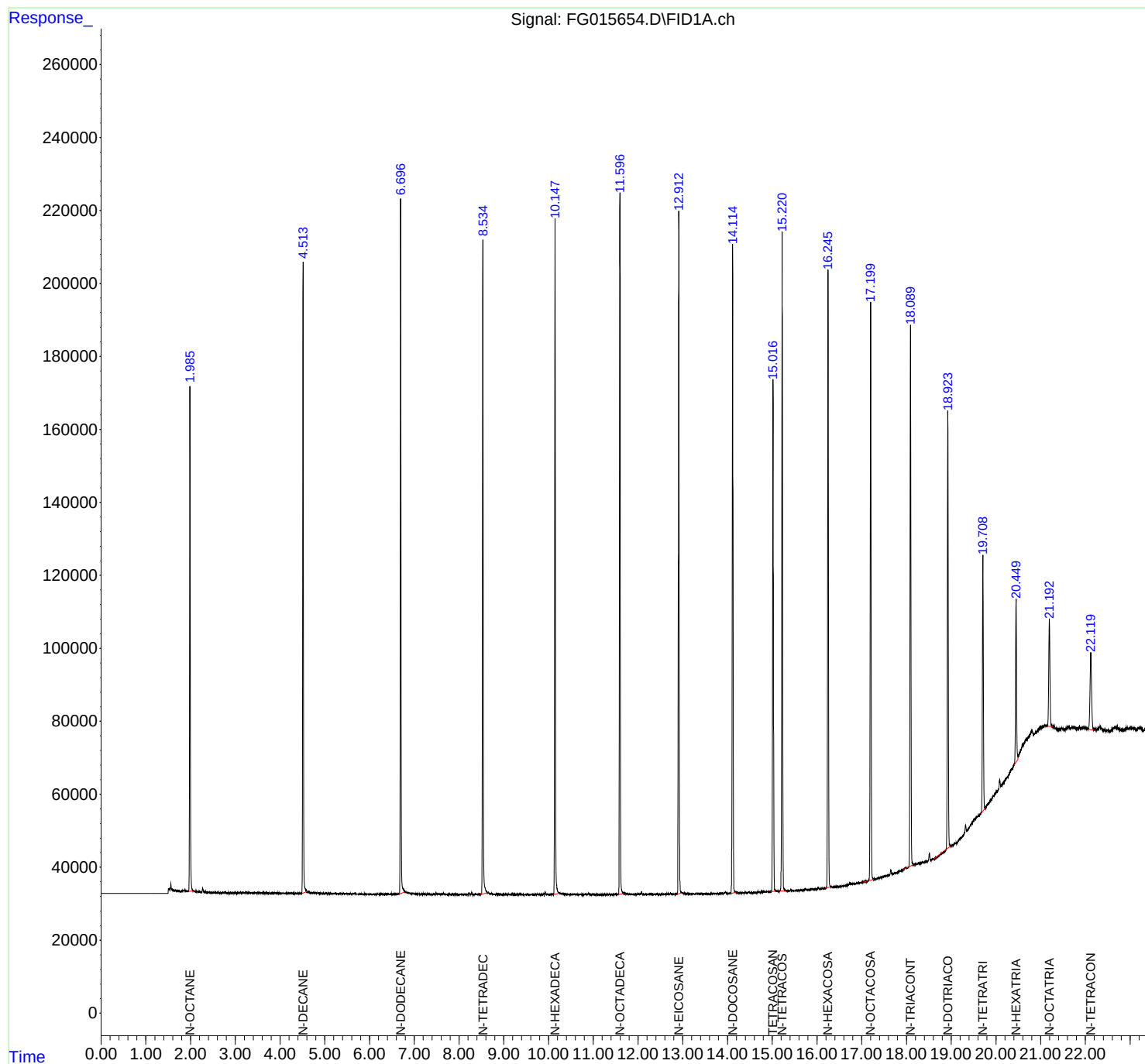
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015654.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 13:20
Operator : YP\AJ
Sample : PB167510BS
Misc :
ALS Vial : 22 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
PB167510BS

Integration File: autoint1.e
Quant Time: Apr 09 00:28:47 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
 Data File : FG015654.D
 Signal(s) : FID1A.ch
 Acq On : 08 Apr 2025 13:20
 Sample : PB167510BS
 Misc :
 ALS Vial : 22 Sample Multiplier: 1

Integration File: autoint1.e

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

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.985	1.943	2.067	BB	138224	1456042	64.08%	4.641%
2	4.514	4.484	4.606	BB	173040	1869252	82.26%	5.958%
3	6.696	6.658	6.793	BB	189485	2011798	88.54%	6.412%
4	8.533	8.468	8.644	BB	178198	2031077	89.38%	6.473%
5	10.148	10.106	10.241	BB	184880	2142178	94.27%	6.827%
6	11.596	11.560	11.679	BB	192306	2272281	100.00%	7.242%
7	12.912	12.873	12.988	BB	186932	2251158	99.07%	7.175%
8	14.114	14.075	14.183	BB	177499	2241118	98.63%	7.143%
9	15.016	14.965	15.091	BB	140099	1982793	87.26%	6.320%
10	15.221	15.158	15.302	BB	180436	2263252	99.60%	7.213%
11	16.246	16.197	16.316	BB	169258	2187317	96.26%	6.971%
12	17.199	17.046	17.273	BB	158487	2146273	94.45%	6.841%
13	18.089	17.914	18.153	BB	147827	2066980	90.96%	6.588%
14	18.924	18.601	18.986	BB	119367	1673205	73.64%	5.333%
15	19.707	19.660	19.764	BV	70209	1046920	46.07%	3.337%
16	20.450	20.400	20.493	BV	44745	683798	30.09%	2.179%
17	21.194	21.140	21.268	BB	29187	543786	23.93%	1.733%
18	22.120	22.049	22.197	BB	21134	506549	22.29%	1.614%
Sum of corrected areas:						31375775		

FG032725.M Wed Apr 09 00:54:34 2025

Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	04/05/25
Project:	Amtrak Sawtooth Bridges 2025	Date Received:	04/07/25
Client Sample ID:	B-158-SB02MS	SDG No.:	Q1744
Lab Sample ID:	Q1744-03MS	Matrix:	SOIL
Analytical Method:	8015D TPH	% Solid:	56
Sample Wt/Vol:	30.02 Units: g	Final Vol:	1 mL
Soil Aliquot Vol:	uL	Test:	TPH GC
Extraction Type:		Injection Volume :	
GPC Factor :	PH :		
Prep Method :	SW3541		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015659.D	1	04/08/25 08:55	04/08/25 15:59	PB167510

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	24700		685	5060	ug/kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	11.6		37 - 130	58%	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\FG040825\
 Data File : FG015659.D
 Signal(s) : FID1A.ch
 Acq On : 08 Apr 2025 15:59
 Operator : YP\AJ
 Sample : Q1744-03MS
 Misc :
 ALS Vial : 27 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 B-158-SB02MS

Integration File: autoint1.e
 Quant Time: Apr 09 00:30:19 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Quant Title :
 QLast Update : Thu Mar 27 11:04:29 2025
 Response via : Initial Calibration
 Integrator: ChemStation

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.014	1325739	11.572 ug/ml
Target Compounds			
1) N-OCTANE	1.985	1493139	12.846 ug/ml
2) N-DECANE	4.513	1745219	14.773 ug/ml
3) N-DODECANE	6.696	1875048	15.442 ug/ml
4) N-TETRADECANE	8.532	1932341	15.324 ug/ml
5) N-HEXADECANE	10.146	2110395	16.390 ug/ml
6) N-OCTADECANE	11.595	2232897	16.949 ug/ml
7) N-EICOSANE	12.910	2223860	16.608 ug/ml
8) N-DOCOSANE	14.113	2201270	16.940 ug/ml
10) N-TETRACOSANE	15.219	2264399	17.482 ug/ml
11) N-HEXACOSANE	16.244	2143852	16.844 ug/ml
12) N-OCTACOSANE	17.196	2110410	16.883 ug/ml
13) N-TRIACONTANE	18.086	2033911	16.249 ug/ml
14) N-DOTRIACONTANE	18.921	1723189	14.520 ug/ml
15) N-TETRATRIACONTANE	19.706	1038234	9.947 ug/ml
16) N-HEXATRIACONTANE	20.447	652010	7.439 ug/ml
17) N-OCTATRIACONTANE	21.191	549184	7.359 ug/ml
18) N-TETRACONTANE	22.115	538506	8.130 ug/ml

(f)=RT Delta > 1/2 Window

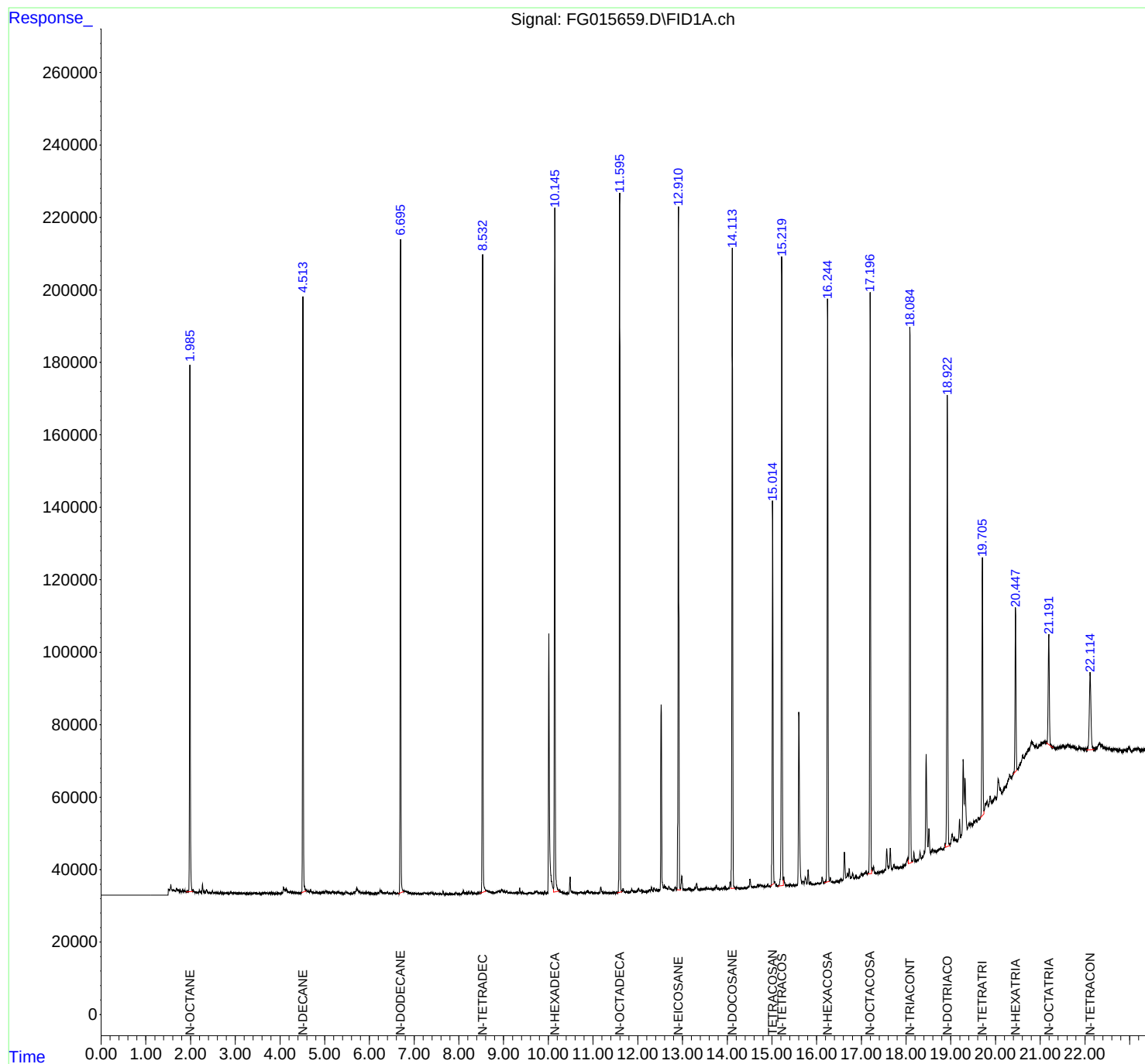
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015659.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 15:59
Operator : YP\AJ
Sample : Q1744-03MS
Misc :
ALS Vial : 27 Sample Multiplier: 1

Instrument :
FID_G
ClientSampleId :
B-158-SB02MS

Integration File: autoint1.e
Quant Time: Apr 09 00:30:19 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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



rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015659.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 15:59
Sample : Q1744-03MS
Misc :
ALS Vial : 27 Sample Multiplier: 1

Integration File: Sample.e

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

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.823	1.800	1.850	BV	625	6361	0.28%	0.013%
2	1.855	1.850	1.859	VV	124	605	0.03%	0.001%
3	1.875	1.859	1.901	VV	498	5406	0.24%	0.011%
4	1.926	1.901	1.953	PV	325	4786	0.21%	0.010%
5	1.985	1.953	2.054	VV	145221	1504283	65.99%	3.050%
6	2.062	2.054	2.108	VV	484	7786	0.34%	0.016%
7	2.116	2.108	2.134	VV	226	1798	0.08%	0.004%
8	2.141	2.134	2.148	VV	153	784	0.03%	0.002%
9	2.154	2.148	2.161	VV	159	784	0.03%	0.002%
10	2.164	2.161	2.177	VV	77	653	0.03%	0.001%
11	2.199	2.177	2.245	PV	557	8290	0.36%	0.017%
12	2.267	2.245	2.308	VV	2473	30717	1.35%	0.062%
13	2.312	2.308	2.320	VV	303	1406	0.06%	0.003%
14	2.323	2.320	2.336	VV	146	1442	0.06%	0.003%
15	2.356	2.336	2.408	VV	1028	17496	0.77%	0.035%
16	2.426	2.408	2.471	VV	218	3517	0.15%	0.007%
17	2.489	2.471	2.538	VV	633	9772	0.43%	0.020%
18	2.560	2.538	2.586	VV	219	3699	0.16%	0.008%
19	2.590	2.586	2.596	VV	196	680	0.03%	0.001%
20	2.601	2.596	2.605	VV	138	598	0.03%	0.001%
21	2.610	2.605	2.617	VV	175	721	0.03%	0.001%
22	2.621	2.617	2.652	VV	155	1624	0.07%	0.003%
23	2.675	2.652	2.702	PV	406	6172	0.27%	0.013%
24	2.703	2.702	2.713	VV	167	658	0.03%	0.001%
25	2.717	2.713	2.726	VV	162	616	0.03%	0.001%
26	2.751	2.726	2.759	VV	176	1762	0.08%	0.004%
27	2.764	2.759	2.777	VV	182	1335	0.06%	0.003%
28	2.781	2.777	2.796	VV	132	1242	0.05%	0.003%
29	2.802	2.796	2.833	VV	97	1167	0.05%	0.002%
30	2.840	2.833	2.849	VV	161	851	0.04%	0.002%
31	2.856	2.849	2.863	VV	113	649	0.03%	0.001%
32	2.885	2.863	2.890	VV	255	2410	0.11%	0.005%
33	2.900	2.890	2.908	VV	307	2628	0.12%	0.005%
34	2.910	2.908	2.924	VV	316	2062	0.09%	0.004%
35	2.930	2.924	2.935	VV	231	1230	0.05%	0.002%
36	2.939	2.935	2.963	VV	204	2982	0.13%	0.006%

					rteres			
37	2.973	2.963	2.998	VV	361	5043	0.22%	0.010%
38	3.002	2.998	3.015	VV	155	1207	0.05%	0.002%
39	3.019	3.015	3.037	VV	151	1294	0.06%	0.003%
40	3.041	3.037	3.047	VV	167	741	0.03%	0.002%
41	3.053	3.047	3.068	VV	223	1694	0.07%	0.003%
42	3.074	3.068	3.085	VV	218	1111	0.05%	0.002%
43	3.096	3.085	3.101	VV	187	934	0.04%	0.002%
44	3.106	3.101	3.117	VV	203	1408	0.06%	0.003%
45	3.125	3.117	3.142	VV	252	2526	0.11%	0.005%
46	3.145	3.142	3.157	VV	204	1117	0.05%	0.002%
47	3.162	3.157	3.167	VV	174	678	0.03%	0.001%
48	3.178	3.167	3.192	VV	188	2185	0.10%	0.004%
49	3.197	3.192	3.224	VV	162	2136	0.09%	0.004%
50	3.228	3.224	3.238	VV	107	638	0.03%	0.001%
51	3.250	3.238	3.305	VV	239	3480	0.15%	0.007%
52	3.332	3.305	3.338	PV	178	1383	0.06%	0.003%
53	3.360	3.338	3.371	VV	126	1890	0.08%	0.004%
54	3.388	3.371	3.394	VV	203	1895	0.08%	0.004%
55	3.413	3.394	3.444	VV	280	6359	0.28%	0.013%
56	3.461	3.444	3.477	VV	238	3153	0.14%	0.006%
57	3.481	3.477	3.496	VV	166	1533	0.07%	0.003%
58	3.505	3.496	3.517	VV	189	1306	0.06%	0.003%
59	3.531	3.517	3.577	VV	201	3985	0.17%	0.008%
60	3.582	3.577	3.589	VV	140	727	0.03%	0.001%
61	3.597	3.589	3.614	VV	156	1853	0.08%	0.004%
62	3.618	3.614	3.625	VV	208	1164	0.05%	0.002%
63	3.645	3.625	3.661	VV	320	4945	0.22%	0.010%
64	3.668	3.661	3.687	VV	213	2805	0.12%	0.006%
65	3.707	3.687	3.731	VV	291	5324	0.23%	0.011%
66	3.735	3.731	3.742	VV	187	874	0.04%	0.002%
67	3.751	3.742	3.768	VV	246	2126	0.09%	0.004%
68	3.782	3.768	3.792	VV	156	1567	0.07%	0.003%
69	3.815	3.792	3.843	VV	337	5495	0.24%	0.011%
70	3.846	3.843	3.854	VV	187	917	0.04%	0.002%
71	3.864	3.854	3.887	VV	188	1987	0.09%	0.004%
72	3.892	3.887	3.908	VV	167	1001	0.04%	0.002%
73	3.910	3.908	3.926	VV	152	963	0.04%	0.002%
74	3.938	3.926	3.957	VV	234	2676	0.12%	0.005%
75	3.966	3.957	3.975	VV	261	2143	0.09%	0.004%
76	3.978	3.975	3.984	VV	211	949	0.04%	0.002%
77	3.987	3.984	3.992	VV	164	679	0.03%	0.001%
78	3.997	3.992	4.001	VV	187	694	0.03%	0.001%
79	4.005	4.001	4.021	VV	123	1051	0.05%	0.002%
80	4.023	4.021	4.044	VV	204	1596	0.07%	0.003%
81	4.079	4.044	4.113	VV	1803	40720	1.79%	0.083%
82	4.129	4.113	4.191	VV	1250	42801	1.88%	0.087%
83	4.195	4.191	4.216	VV	575	7594	0.33%	0.015%
84	4.238	4.216	4.277	VV	625	17437	0.76%	0.035%
85	4.292	4.277	4.324	VV	508	10299	0.45%	0.021%
86	4.333	4.324	4.373	VV	410	9551	0.42%	0.019%
87	4.389	4.373	4.396	VV	344	3821	0.17%	0.008%
88	4.400	4.396	4.439	VV	291	6354	0.28%	0.013%
89	4.443	4.439	4.449	VV	246	1516	0.07%	0.003%

					rteres			
90	4.454	4.449	4.466	VV	303	2350	0.10%	0.005%
91	4.513	4.466	4.622	VV	164917	1803504	79.11%	3.657%
92	4.631	4.622	4.636	VV	810	6166	0.27%	0.013%
93	4.639	4.636	4.665	VV	777	10739	0.47%	0.022%
94	4.685	4.665	4.721	VV	1248	25086	1.10%	0.051%
95	4.727	4.721	4.742	VV	461	5323	0.23%	0.011%
96	4.747	4.742	4.754	VV	428	2634	0.12%	0.005%
97	4.766	4.754	4.769	VV	395	3107	0.14%	0.006%
98	4.772	4.769	4.784	VV	379	2609	0.11%	0.005%
99	4.798	4.784	4.814	VV	400	6070	0.27%	0.012%
100	4.819	4.814	4.849	VV	363	6380	0.28%	0.013%
101	4.861	4.849	4.871	VV	300	3670	0.16%	0.007%
102	4.887	4.871	4.895	VV	345	4245	0.19%	0.009%
103	4.898	4.895	4.902	VV	337	1138	0.05%	0.002%
104	4.911	4.902	4.932	VV	333	5242	0.23%	0.011%
105	4.943	4.932	4.954	VV	436	4555	0.20%	0.009%
106	4.957	4.954	4.962	VV	308	1676	0.07%	0.003%
107	4.977	4.962	4.993	VV	461	6955	0.31%	0.014%
108	5.029	4.993	5.062	VV	974	25640	1.12%	0.052%
109	5.067	5.062	5.085	VV	537	6545	0.29%	0.013%
110	5.099	5.085	5.117	VV	538	8595	0.38%	0.017%
111	5.121	5.117	5.154	VV	416	7711	0.34%	0.016%
112	5.177	5.154	5.208	VV	666	16114	0.71%	0.033%
113	5.222	5.208	5.231	VV	494	5802	0.25%	0.012%
114	5.237	5.231	5.254	VV	468	5824	0.26%	0.012%
115	5.270	5.254	5.286	VV	408	7213	0.32%	0.015%
116	5.309	5.286	5.332	VV	631	11563	0.51%	0.023%
117	5.339	5.332	5.390	VV	442	9432	0.41%	0.019%
118	5.397	5.390	5.426	VV	253	4199	0.18%	0.009%
119	5.432	5.426	5.454	VV	239	3199	0.14%	0.006%
120	5.473	5.454	5.509	VV	650	13665	0.60%	0.028%
121	5.511	5.509	5.527	VV	361	3394	0.15%	0.007%
122	5.533	5.527	5.543	VV	258	2080	0.09%	0.004%
123	5.550	5.543	5.570	VV	230	2781	0.12%	0.006%
124	5.572	5.570	5.576	VV	156	428	0.02%	0.001%
125	5.580	5.576	5.585	VV	147	683	0.03%	0.001%
126	5.595	5.585	5.613	VV	195	2163	0.09%	0.004%
127	5.617	5.613	5.622	VV	122	510	0.02%	0.001%
128	5.656	5.622	5.673	VV	741	11066	0.49%	0.022%
129	5.689	5.673	5.694	VV	713	6681	0.29%	0.014%
130	5.713	5.694	5.817	VV	1664	61278	2.69%	0.124%
131	5.821	5.817	5.835	VV	401	3651	0.16%	0.007%
132	5.853	5.835	5.880	VV	565	9934	0.44%	0.020%
133	5.887	5.880	5.904	VV	363	4307	0.19%	0.009%
134	5.925	5.904	5.937	VV	588	7927	0.35%	0.016%
135	5.950	5.937	5.965	VV	531	6959	0.31%	0.014%
136	5.980	5.965	5.993	VV	433	5878	0.26%	0.012%
137	6.008	5.993	6.024	VV	365	5199	0.23%	0.011%
138	6.031	6.024	6.059	VV	360	4838	0.21%	0.010%
139	6.062	6.059	6.112	VV	180	3710	0.16%	0.008%
140	6.116	6.112	6.121	VV	193	697	0.03%	0.001%
141	6.144	6.121	6.164	VV	335	5842	0.26%	0.012%

					rteres			
142	6.203	6.164	6.213	VV	343	8267	0.36%	0.017%
143	6.237	6.213	6.267	VV	1124	23156	1.02%	0.047%
144	6.271	6.267	6.302	VV	705	10555	0.46%	0.021%
145	6.309	6.302	6.316	VV	350	2680	0.12%	0.005%
146	6.345	6.316	6.371	VV	391	9653	0.42%	0.020%
147	6.380	6.371	6.389	VV	382	3250	0.14%	0.007%
148	6.407	6.389	6.429	VV	585	9386	0.41%	0.019%
149	6.437	6.429	6.454	VV	228	2676	0.12%	0.005%
150	6.460	6.454	6.474	VV	259	2260	0.10%	0.005%
151	6.517	6.474	6.520	VV	282	5588	0.25%	0.011%
152	6.537	6.520	6.568	VV	709	12953	0.57%	0.026%
153	6.573	6.568	6.604	VV	309	5231	0.23%	0.011%
154	6.619	6.604	6.651	VV	322	6526	0.29%	0.013%
155	6.656	6.651	6.661	VV	176	886	0.04%	0.002%
156	6.696	6.661	6.780	VV	180337	1911130	83.83%	3.875%
157	6.790	6.780	6.799	VV	967	9702	0.43%	0.020%
158	6.802	6.799	6.834	VV	893	16610	0.73%	0.034%
159	6.848	6.834	6.897	VV	793	19976	0.88%	0.041%
160	6.904	6.897	6.926	VV	382	5748	0.25%	0.012%
161	6.929	6.926	6.942	VV	330	2531	0.11%	0.005%
162	6.947	6.942	6.959	VV	288	2676	0.12%	0.005%
163	6.963	6.959	6.970	VV	257	1622	0.07%	0.003%
164	6.978	6.970	7.004	VV	379	5076	0.22%	0.010%
165	7.013	7.004	7.017	VV	215	1259	0.06%	0.003%
166	7.026	7.017	7.058	VV	236	4299	0.19%	0.009%
167	7.063	7.058	7.072	VV	149	1184	0.05%	0.002%
168	7.079	7.072	7.089	VV	137	1164	0.05%	0.002%
169	7.094	7.089	7.097	VV	182	731	0.03%	0.001%
170	7.101	7.097	7.117	VV	218	1761	0.08%	0.004%
171	7.136	7.117	7.144	VV	155	1832	0.08%	0.004%
172	7.148	7.144	7.150	VV	172	581	0.03%	0.001%
173	7.157	7.150	7.170	VV	192	1656	0.07%	0.003%
174	7.177	7.170	7.188	VV	207	1468	0.06%	0.003%
175	7.217	7.188	7.257	VV	429	11794	0.52%	0.024%
176	7.275	7.257	7.285	VV	349	4640	0.20%	0.009%
177	7.290	7.285	7.307	VV	284	2532	0.11%	0.005%
178	7.312	7.307	7.316	VV	213	847	0.04%	0.002%
179	7.346	7.316	7.359	VV	322	6309	0.28%	0.013%
180	7.378	7.359	7.402	VV	578	9300	0.41%	0.019%
181	7.420	7.402	7.449	VV	434	5970	0.26%	0.012%
182	7.474	7.449	7.503	VV	302	4594	0.20%	0.009%
183	7.525	7.503	7.544	VV	214	2775	0.12%	0.006%
184	7.548	7.544	7.555	VV	148	844	0.04%	0.002%
185	7.560	7.555	7.572	VV	143	1018	0.04%	0.002%
186	7.589	7.572	7.606	VV	192	2500	0.11%	0.005%
187	7.616	7.606	7.620	VV	106	459	0.02%	0.001%
188	7.647	7.620	7.671	VV	947	11004	0.48%	0.022%
189	7.675	7.671	7.689	VV	105	799	0.04%	0.002%
190	7.709	7.689	7.742	VV	152	2167	0.10%	0.004%
191	7.762	7.742	7.769	PV	117	1005	0.04%	0.002%
192	7.772	7.769	7.779	VV	129	563	0.02%	0.001%
193	7.787	7.779	7.800	VV	180	1311	0.06%	0.003%
194	7.817	7.800	7.830	VV	158	2033	0.09%	0.004%

					rteres			
195	7.832	7.830	7.855	VV	186	913	0.04%	0.002%
196	7.867	7.855	7.882	VV	107	899	0.04%	0.002%
197	7.907	7.882	7.914	PV	158	1910	0.08%	0.004%
198	7.930	7.914	7.973	VV	543	8390	0.37%	0.017%
199	7.989	7.973	8.001	VV	144	1887	0.08%	0.004%
200	8.015	8.001	8.036	VV	189	2153	0.09%	0.004%
201	8.080	8.036	8.086	VV	446	6735	0.30%	0.014%
202	8.103	8.086	8.127	VV	1009	14660	0.64%	0.030%
203	8.134	8.127	8.149	VV	434	4774	0.21%	0.010%
204	8.179	8.149	8.202	VV	462	10915	0.48%	0.022%
205	8.222	8.202	8.252	VV	892	13412	0.59%	0.027%
206	8.280	8.252	8.332	VV	923	15990	0.70%	0.032%
207	8.346	8.332	8.375	VV	368	6439	0.28%	0.013%
208	8.389	8.375	8.394	VV	218	1797	0.08%	0.004%
209	8.431	8.394	8.450	VV	449	10743	0.47%	0.022%
210	8.453	8.450	8.471	VV	443	3872	0.17%	0.008%
211	8.532	8.471	8.627	VV	176816	1989236	87.26%	4.034%
212	8.632	8.627	8.662	VV	901	17433	0.76%	0.035%
213	8.675	8.662	8.701	VV	741	15296	0.67%	0.031%
214	8.714	8.701	8.731	VV	607	9632	0.42%	0.020%
215	8.735	8.731	8.752	VV	523	5441	0.24%	0.011%
216	8.767	8.752	8.791	VV	477	9088	0.40%	0.018%
217	8.795	8.791	8.810	VV	344	3645	0.16%	0.007%
218	8.834	8.810	8.847	VV	603	10441	0.46%	0.021%
219	8.867	8.847	8.877	VV	788	11827	0.52%	0.024%
220	8.891	8.877	8.915	VV	905	17574	0.77%	0.036%
221	8.956	8.915	8.997	VV	1140	42422	1.86%	0.086%
222	9.018	8.997	9.048	VV	823	20942	0.92%	0.042%
223	9.073	9.048	9.112	VV	971	21483	0.94%	0.044%
224	9.126	9.112	9.135	VV	433	4844	0.21%	0.010%
225	9.147	9.135	9.153	VV	452	3887	0.17%	0.008%
226	9.157	9.153	9.171	VV	315	3067	0.13%	0.006%
227	9.187	9.171	9.193	VV	331	3558	0.16%	0.007%
228	9.198	9.193	9.210	VV	316	2636	0.12%	0.005%
229	9.218	9.210	9.239	VV	365	4774	0.21%	0.010%
230	9.279	9.239	9.305	VV	486	12697	0.56%	0.026%
231	9.310	9.305	9.328	VV	265	3024	0.13%	0.006%
232	9.332	9.328	9.336	VV	266	1204	0.05%	0.002%
233	9.362	9.336	9.386	VV	1694	22529	0.99%	0.046%
234	9.399	9.386	9.409	VV	437	5084	0.22%	0.010%
235	9.413	9.409	9.459	VV	413	7396	0.32%	0.015%
236	9.468	9.459	9.477	VV	184	1186	0.05%	0.002%
237	9.482	9.477	9.497	VV	127	1100	0.05%	0.002%
238	9.511	9.497	9.516	VV	132	991	0.04%	0.002%
239	9.554	9.516	9.559	VV	298	3817	0.17%	0.008%
240	9.570	9.559	9.574	VV	268	2062	0.09%	0.004%
241	9.581	9.574	9.625	VV	315	6323	0.28%	0.013%
242	9.643	9.625	9.665	VV	219	3836	0.17%	0.008%
243	9.668	9.665	9.675	VV	151	759	0.03%	0.002%
244	9.703	9.675	9.725	VV	804	14187	0.62%	0.029%
245	9.744	9.725	9.774	VV	755	14729	0.65%	0.030%
246	9.779	9.774	9.799	VV	360	3775	0.17%	0.008%

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247	9.814	9.799	9.818	VV	296	2609	0.11%	0.005%
248	9.823	9.818	9.857	VV	323	4483	0.20%	0.009%
249	9.868	9.857	9.890	VV	199	2941	0.13%	0.006%
250	9.895	9.890	9.907	VV	136	907	0.04%	0.002%
251	9.925	9.907	9.957	VV	858	9339	0.41%	0.019%
252	9.977	9.957	9.989	VV	459	5141	0.23%	0.010%
253	10.014	9.989	10.115	VV	71111	1093590	47.97%	2.218%
254	10.146	10.115	10.239	VV	188414	2152966	94.44%	4.366%
255	10.248	10.239	10.275	VV	919	15625	0.69%	0.032%
256	10.295	10.275	10.329	VV	545	14139	0.62%	0.029%
257	10.333	10.329	10.357	VV	279	3350	0.15%	0.007%
258	10.361	10.357	10.374	VV	216	1675	0.07%	0.003%
259	10.380	10.374	10.400	VV	179	1864	0.08%	0.004%
260	10.407	10.400	10.412	VV	169	963	0.04%	0.002%
261	10.417	10.412	10.424	VV	187	936	0.04%	0.002%
262	10.426	10.424	10.442	VV	153	1029	0.05%	0.002%
263	10.487	10.442	10.520	VV	4637	65487	2.87%	0.133%
264	10.531	10.520	10.558	VV	640	10091	0.44%	0.020%
265	10.581	10.558	10.619	VV	359	10045	0.44%	0.020%
266	10.630	10.619	10.652	VV	263	3495	0.15%	0.007%
267	10.664	10.652	10.697	VV	312	4507	0.20%	0.009%
268	10.716	10.697	10.725	VV	434	5425	0.24%	0.011%
269	10.728	10.725	10.747	VV	450	4004	0.18%	0.008%
270	10.752	10.747	10.756	VV	205	961	0.04%	0.002%
271	10.767	10.756	10.775	VV	294	2731	0.12%	0.006%
272	10.780	10.775	10.801	VV	243	3299	0.14%	0.007%
273	10.811	10.801	10.826	VV	330	3574	0.16%	0.007%
274	10.849	10.826	10.872	VV	461	9807	0.43%	0.020%
275	10.889	10.872	10.906	VV	885	10947	0.48%	0.022%
276	10.915	10.906	10.935	VV	316	4354	0.19%	0.009%
277	10.960	10.935	10.989	VV	436	9626	0.42%	0.020%
278	10.995	10.989	11.034	VV	233	5018	0.22%	0.010%
279	11.037	11.034	11.043	VV	251	971	0.04%	0.002%
280	11.050	11.043	11.060	VV	154	1473	0.06%	0.003%
281	11.072	11.060	11.099	VV	228	2938	0.13%	0.006%
282	11.116	11.099	11.135	VV	249	2839	0.12%	0.006%
283	11.174	11.135	11.256	PV	1775	38110	1.67%	0.077%
284	11.265	11.256	11.279	VV	231	2447	0.11%	0.005%
285	11.282	11.279	11.302	VV	191	1971	0.09%	0.004%
286	11.311	11.302	11.333	VV	199	3137	0.14%	0.006%
287	11.341	11.333	11.387	VV	218	3745	0.16%	0.008%
288	11.408	11.387	11.435	VV	283	4033	0.18%	0.008%
289	11.449	11.435	11.495	VV	307	5481	0.24%	0.011%
290	11.526	11.495	11.546	PV	318	4994	0.22%	0.010%
291	11.595	11.546	11.655	VV	192403	2250367	98.72%	4.563%
292	11.673	11.655	11.733	VV	1294	25928	1.14%	0.053%
293	11.749	11.733	11.766	VV	410	5527	0.24%	0.011%
294	11.789	11.766	11.813	VV	385	5778	0.25%	0.012%
295	11.864	11.813	11.934	PV	1162	32623	1.43%	0.066%
296	11.950	11.934	11.970	VV	387	5529	0.24%	0.011%
297	11.985	11.970	11.998	VV	560	6549	0.29%	0.013%
298	12.018	11.998	12.059	VV	1215	23758	1.04%	0.048%
299	12.078	12.059	12.094	VV	842	10186	0.45%	0.021%

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300	12.110	12.094	12.128	VV	321	4988	0.22%	0.010%
301	12.135	12.128	12.175	VV	282	3745	0.16%	0.008%
302	12.205	12.175	12.221	VV	241	3211	0.14%	0.007%
303	12.265	12.221	12.284	VV	686	14614	0.64%	0.030%
304	12.306	12.284	12.339	VV	1147	21250	0.93%	0.043%
305	12.365	12.339	12.405	VV	1096	25011	1.10%	0.051%
306	12.425	12.405	12.444	VV	648	10271	0.45%	0.021%
307	12.449	12.444	12.455	VV	293	1496	0.07%	0.003%
308	12.472	12.455	12.493	VV	633	9532	0.42%	0.019%
309	12.524	12.493	12.574	VV	51524	648197	28.43%	1.314%
310	12.592	12.574	12.608	VV	1822	28556	1.25%	0.058%
311	12.620	12.608	12.637	VV	1433	20680	0.91%	0.042%
312	12.648	12.637	12.670	VV	917	15798	0.69%	0.032%
313	12.696	12.670	12.720	VV	1359	28998	1.27%	0.059%
314	12.730	12.720	12.810	VV	778	24829	1.09%	0.050%
315	12.838	12.810	12.875	VV	1175	27555	1.21%	0.056%
316	12.910	12.875	12.954	VV	187994	2238999	98.22%	4.540%
317	12.985	12.954	13.039	VV	4159	77741	3.41%	0.158%
318	13.044	13.039	13.071	VV	278	4011	0.18%	0.008%
319	13.097	13.071	13.104	VV	283	4578	0.20%	0.009%
320	13.120	13.104	13.132	VV	418	6395	0.28%	0.013%
321	13.160	13.132	13.223	VV	566	17117	0.75%	0.035%
322	13.231	13.223	13.254	VV	198	2457	0.11%	0.005%
323	13.277	13.254	13.290	VV	708	10115	0.44%	0.021%
324	13.316	13.290	13.386	VV	1933	42158	1.85%	0.085%
325	13.404	13.386	13.432	VV	262	5426	0.24%	0.011%
326	13.439	13.432	13.455	VV	208	2461	0.11%	0.005%
327	13.470	13.455	13.493	VV	375	5741	0.25%	0.012%
328	13.524	13.493	13.545	VV	757	13264	0.58%	0.027%
329	13.548	13.545	13.555	VV	417	2086	0.09%	0.004%
330	13.559	13.555	13.571	VV	368	2876	0.13%	0.006%
331	13.579	13.571	13.624	VV	373	7633	0.33%	0.015%
332	13.650	13.624	13.671	VV	347	5951	0.26%	0.012%
333	13.678	13.671	13.685	VV	101	600	0.03%	0.001%
334	13.730	13.685	13.737	VV	423	7931	0.35%	0.016%
335	13.757	13.737	13.789	VV	1265	19579	0.86%	0.040%
336	13.802	13.789	13.845	VV	299	5014	0.22%	0.010%
337	13.868	13.845	13.880	VV	218	2880	0.13%	0.006%
338	13.887	13.880	13.910	VV	253	2804	0.12%	0.006%
339	13.954	13.910	14.000	VV	724	15412	0.68%	0.031%
340	14.004	14.000	14.008	VV	121	415	0.02%	0.001%
341	14.018	14.008	14.024	VV	147	1163	0.05%	0.002%
342	14.029	14.024	14.039	VV	220	1623	0.07%	0.003%
343	14.065	14.039	14.081	VV	1933	26120	1.15%	0.053%
344	14.113	14.081	14.175	VV	177104	2211501	97.01%	4.485%
345	14.182	14.175	14.194	VV	236	2581	0.11%	0.005%
346	14.221	14.194	14.256	VV	439	8993	0.39%	0.018%
347	14.261	14.256	14.300	VV	85	1087	0.05%	0.002%
348	14.304	14.300	14.307	PV	73	242	0.01%	0.000%
349	14.330	14.307	14.336	VV	191	2377	0.10%	0.005%
350	14.339	14.336	14.362	VV	170	1585	0.07%	0.003%
351	14.381	14.362	14.418	VV	176	3187	0.14%	0.006%

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352	14.424	14.418	14.445	VV	156	1437	0.06%	0.003%
353	14.451	14.445	14.455	VV	123	510	0.02%	0.001%
354	14.477	14.455	14.484	VV	406	4728	0.21%	0.010%
355	14.508	14.484	14.560	VV	2523	47171	2.07%	0.096%
356	14.605	14.560	14.652	VV	394	13413	0.59%	0.027%
357	14.676	14.652	14.697	VV	966	15233	0.67%	0.031%
358	14.710	14.697	14.724	VV	542	7731	0.34%	0.016%
359	14.740	14.724	14.763	VV	894	14268	0.63%	0.029%
360	14.777	14.763	14.800	VV	716	10945	0.48%	0.022%
361	14.805	14.800	14.830	VV	302	4126	0.18%	0.008%
362	14.838	14.830	14.857	VV	265	2461	0.11%	0.005%
363	14.874	14.857	14.880	VV	259	2316	0.10%	0.005%
364	14.901	14.880	14.929	VV	716	12677	0.56%	0.026%
365	14.943	14.929	14.949	VV	288	2721	0.12%	0.006%
366	14.955	14.949	14.963	VV	288	1806	0.08%	0.004%
367	14.965	14.963	14.969	VV	221	735	0.03%	0.001%
368	15.014	14.969	15.051	VV	105838	1358750	59.60%	2.755%
369	15.065	15.051	15.095	VV	1316	24654	1.08%	0.050%
370	15.100	15.095	15.130	VV	496	6591	0.29%	0.013%
371	15.133	15.130	15.141	VV	228	1092	0.05%	0.002%
372	15.219	15.141	15.254	VV	173488	2279644	100.00%	4.623%
373	15.265	15.254	15.300	VV	2618	41873	1.84%	0.085%
374	15.303	15.300	15.325	VV	430	4593	0.20%	0.009%
375	15.332	15.325	15.350	VV	216	2867	0.13%	0.006%
376	15.354	15.350	15.359	VV	224	933	0.04%	0.002%
377	15.376	15.359	15.396	VV	349	4773	0.21%	0.010%
378	15.413	15.396	15.452	VV	622	8406	0.37%	0.017%
379	15.462	15.452	15.485	VV	161	1729	0.08%	0.004%
380	15.489	15.485	15.499	VV	169	691	0.03%	0.001%
381	15.527	15.499	15.540	PV	214	2872	0.13%	0.006%
382	15.602	15.540	15.670	VV	47826	802078	35.18%	1.626%
383	15.695	15.670	15.714	VV	1235	24106	1.06%	0.049%
384	15.744	15.714	15.780	VV	2044	46939	2.06%	0.095%
385	15.809	15.780	15.845	VV	4073	62840	2.76%	0.127%
386	15.861	15.845	15.869	VV	631	5040	0.22%	0.010%
387	15.872	15.869	15.904	VV	454	5174	0.23%	0.010%
388	15.908	15.904	15.919	VV	130	792	0.03%	0.002%
389	15.923	15.919	15.929	VV	127	471	0.02%	0.001%
390	15.934	15.929	15.944	VV	96	355	0.02%	0.001%
391	15.957	15.944	15.962	PV	76	669	0.03%	0.001%
392	16.034	15.962	16.055	VV	343	10850	0.48%	0.022%
393	16.062	16.055	16.075	VV	168	1551	0.07%	0.003%
394	16.084	16.075	16.090	VV	137	972	0.04%	0.002%
395	16.121	16.090	16.174	VV	1795	34189	1.50%	0.069%
396	16.244	16.174	16.286	VV	159657	2166704	95.05%	4.394%
397	16.306	16.286	16.350	VV	1494	23721	1.04%	0.048%
398	16.355	16.350	16.363	VV	391	1049	0.05%	0.002%
399	16.372	16.363	16.397	VV	220	1797	0.08%	0.004%
400	16.444	16.397	16.475	PV	304	7093	0.31%	0.014%
401	16.497	16.475	16.515	VV	153	1947	0.09%	0.004%
402	16.540	16.515	16.553	VV	574	7820	0.34%	0.016%
403	16.556	16.553	16.564	VV	400	2239	0.10%	0.005%
404	16.567	16.564	16.589	VV	365	3122	0.14%	0.006%

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405	16.620	16.589	16.659	VV	7854	136448	5.99%	0.277%
406	16.690	16.659	16.707	VV	1651	33910	1.49%	0.069%
407	16.727	16.707	16.764	VV	2966	50631	2.22%	0.103%
408	16.765	16.764	16.777	VV	514	3596	0.16%	0.007%
409	16.801	16.777	16.838	VV	1707	27406	1.20%	0.056%
410	16.864	16.838	16.879	PV	424	5818	0.26%	0.012%
411	16.881	16.879	16.896	VV	563	2498	0.11%	0.005%
412	17.005	16.896	17.027	VV	843	21605	0.95%	0.044%
413	17.107	17.027	17.140	VV	1226	51900	2.28%	0.105%
414	17.196	17.140	17.230	VV	158463	2133310	93.58%	4.326%
415	17.243	17.230	17.257	VV	1851	24675	1.08%	0.050%
416	17.272	17.257	17.304	VV	2272	33674	1.48%	0.068%
417	17.350	17.304	17.355	VV	181	5950	0.26%	0.012%
418	17.364	17.355	17.373	VV	183	1117	0.05%	0.002%
419	17.401	17.373	17.407	PV	156	2108	0.09%	0.004%
420	17.433	17.407	17.449	VV	337	5512	0.24%	0.011%
421	17.453	17.449	17.458	VV	186	793	0.03%	0.002%
422	17.464	17.458	17.496	VV	188	3751	0.16%	0.008%
423	17.567	17.496	17.615	VV	6256	123421	5.41%	0.250%
424	17.646	17.615	17.687	VV	6047	96600	4.24%	0.196%
425	17.731	17.687	17.762	VV	1226	25791	1.13%	0.052%
426	17.797	17.762	17.834	VV	333	9140	0.40%	0.019%
427	17.880	17.834	17.895	VV	116	3109	0.14%	0.006%
428	18.041	17.895	18.051	PV	1777	50092	2.20%	0.102%
429	18.086	18.051	18.141	VV	147346	2045245	89.72%	4.147%
430	18.175	18.141	18.237	VV	2776	46419	2.04%	0.094%
431	18.312	18.237	18.342	PV	2167	36930	1.62%	0.075%
432	18.362	18.342	18.380	VV	378	6630	0.29%	0.013%
433	18.408	18.380	18.417	VV	1818	25056	1.10%	0.051%
434	18.448	18.417	18.488	VV	28202	509625	22.36%	1.033%
435	18.511	18.488	18.547	VV	7549	134150	5.88%	0.272%
436	18.578	18.547	18.594	VV	1049	24733	1.08%	0.050%
437	18.606	18.594	18.634	VV	1143	20250	0.89%	0.041%
438	18.641	18.634	18.685	VV	705	14582	0.64%	0.030%
439	18.719	18.685	18.730	VV	586	11409	0.50%	0.023%
440	18.776	18.730	18.792	VV	647	20006	0.88%	0.041%
441	18.807	18.792	18.840	VV	291	6308	0.28%	0.013%
442	18.874	18.840	18.882	PV	1381	19355	0.85%	0.039%
443	18.921	18.882	18.978	VV	124599	1737340	76.21%	3.523%
444	19.030	18.978	19.059	VV	2715	72209	3.17%	0.146%
445	19.079	19.059	19.100	VV	1404	26785	1.17%	0.054%
446	19.118	19.100	19.141	VV	779	12418	0.54%	0.025%
447	19.195	19.141	19.221	PV	5753	86199	3.78%	0.175%
448	19.277	19.221	19.300	VV	21494	397840	17.45%	0.807%
449	19.318	19.300	19.372	VV	15810	344765	15.12%	0.699%
450	19.411	19.372	19.432	VV	2708	81642	3.58%	0.166%
451	19.452	19.432	19.477	VV	2545	58669	2.57%	0.119%
452	19.515	19.477	19.530	VV	2624	62992	2.76%	0.128%
453	19.563	19.530	19.587	VV	2460	72805	3.19%	0.148%
454	19.612	19.587	19.634	VV	2827	64054	2.81%	0.130%
455	19.706	19.634	19.747	VV	73662	1201030	52.68%	2.435%
456	19.776	19.747	19.790	VV	5306	118734	5.21%	0.241%

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457	19.812	19.790	19.840	VV	5633	144408	6.33%	0.293%
458	19.880	19.840	19.909	VV	6487	208708	9.16%	0.423%
459	19.987	19.909	20.018	VV	5325	305590	13.41%	0.620%
460	20.059	20.018	20.097	VV	9700	342991	15.05%	0.696%
461	20.110	20.097	20.149	VV	6538	180731	7.93%	0.366%
462	20.317	20.149	20.360	VV	8693	855077	37.51%	1.734%
463	20.447	20.360	20.485	VV	53593	1270191	55.72%	2.576%
464	20.606	20.485	20.630	VV	11667	854860	37.50%	1.734%
465	20.802	20.630	20.878	VV	13610	1804349	79.15%	3.659%
466	20.913	20.878	20.939	VV	11753	418847	18.37%	0.849%
467	21.118	20.939	21.144	VV	11054	1362281	59.76%	2.762%
468	21.191	21.144	21.343	VV	39841	1604326	70.38%	3.253%
469	21.353	21.343	21.362	VV	7333	83099	3.65%	0.169%
470	21.429	21.362	21.459	VV	7051	409708	17.97%	0.831%
471	21.494	21.459	21.540	VV	6737	318312	13.96%	0.645%
472	21.560	21.540	21.570	VV	5973	108306	4.75%	0.220%
473	21.621	21.570	21.712	VV	6159	468752	20.56%	0.951%
474	21.742	21.712	21.841	VV	4614	306165	13.43%	0.621%
475	21.872	21.841	21.914	VV	3291	130071	5.71%	0.264%
476	21.926	21.914	21.982	VV	2526	90455	3.97%	0.183%
477	22.009	21.982	22.039	VV	1745	54605	2.40%	0.111%
478	22.116	22.039	22.200	VBA	21609	612202	26.86%	1.241%
					Sum of corrected areas:		49313685	

FG032725.M Wed Apr 09 01:00:30 2025

Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	04/05/25
Project:	Amtrak Sawtooth Bridges 2025	Date Received:	04/07/25
Client Sample ID:	B-158-SB02MSD	SDG No.:	Q1744
Lab Sample ID:	Q1744-03MSD	Matrix:	SOIL
Analytical Method:	8015D TPH	% Solid:	56
Sample Wt/Vol:	30.09	Units:	g
Soil Aliquot Vol:			uL
Extraction Type:		Final Vol:	1
GPC Factor :		Test:	TPH GC
Prep Method :	SW3541	Injection Volume :	

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FG015660.D	1	04/08/25 08:55	04/08/25 16:29	PB167510

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
PHC	Petroleum Hydrocarbons	24200		684	5040	ug/kg
SURROGATES						
16416-32-3	TETRACOSANE-d50	11.3		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\FG040825\
 Data File : FG015660.D
 Signal(s) : FID1A.ch
 Acq On : 08 Apr 2025 16:29
 Operator : YP\AJ
 Sample : Q1744-03MSD
 Misc :
 ALS Vial : 28 Sample Multiplier: 1

Instrument :
 FID_G
 ClientSampleId :
 B-158-SB02MSD

Manual Integrations
 APPROVED

Reviewed By :Yogesh Patel 04/09/2025
 Supervised By :mohammad ahmed 04/10/2025

Integration File: autoint1.e
 Quant Time: Apr 09 00:30:40 2025
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
 Quant Title :
 QLast Update : Thu Mar 27 11:04:29 2025
 Response via : Initial Calibration
 Integrator: ChemStation

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

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
9) S TETRACOSANE-d50 (SURR...	15.015	1290276	11.262 ug/ml
Target Compounds			
1) N-OCTANE	1.985	1472007	12.665 ug/ml
2) N-DECANE	4.514	1725884	14.609 ug/ml
3) N-DODECANE	6.695	1839542	15.149 ug/ml
4) N-TETRADECANE	8.531	1899758	15.065 ug/ml
5) N-HEXADECANE	10.146	2065474	16.042 ug/ml
6) N-OCTADECANE	11.595	2186088	16.594 ug/ml
7) N-EICOSANE	12.910	2171823	16.220 ug/ml
8) N-DOCOSANE	14.112	2148215	16.532 ug/ml
10) N-TETRACOSANE	15.219	2203087	17.009 ug/ml
11) N-HEXACOSANE	16.243	2092627	16.442 ug/ml
12) N-OCTACOSANE	17.197	2043462	16.347 ug/mlm
13) N-TRIACONTANE	18.088	2013757	16.088 ug/ml
14) N-DOTRIACONTANE	18.922	1746857	14.719 ug/ml
15) N-TETRATRIACONTANE	19.705	1055803	10.115 ug/ml
16) N-HEXATRIACONTANE	20.448	683943	7.804 ug/ml
17) N-OCTATRIACONTANE	21.190	548815	7.354 ug/ml
18) N-TETRACONTANE	22.115	519899	7.849 ug/ml

(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG040825\
Data File : FG015660.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 16:29
Operator : YP\AJ
Sample : Q1744-03MSD
Misc :
ALS Vial : 28 Sample Multiplier: 1

Instrument :

FID_G

Client Sample Id :

B-158-SB02MSD

Manual Integrations

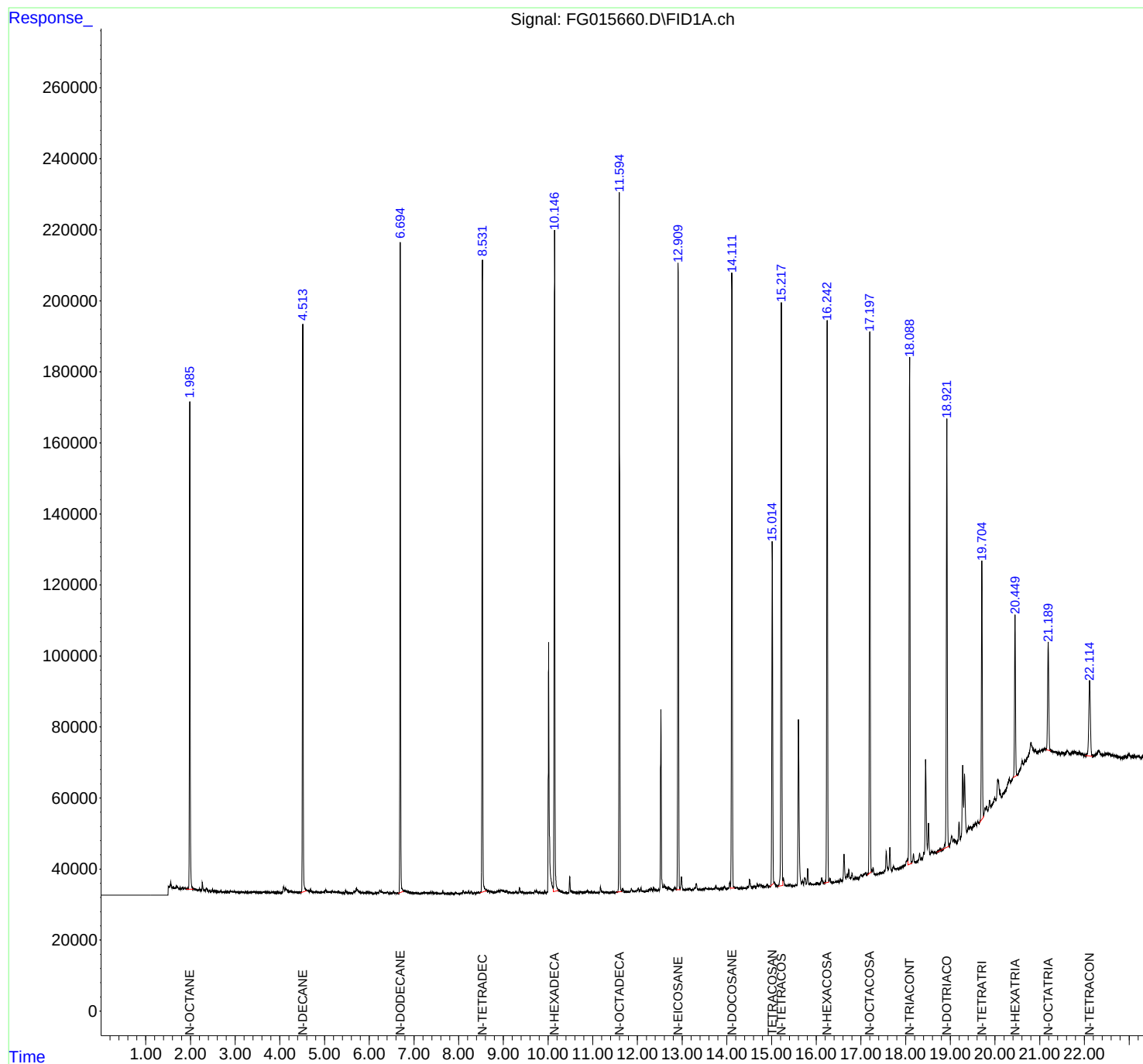
APPROVED

Reviewed By :Yogesh Patel 04/09/2025

Supervised By :mohammad ahmed 04/10/2025

Integration File: autoint1.e
Quant Time: Apr 09 00:30:40 2025
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_G\Method\FG032725.M
Quant Title :
QLast Update : Thu Mar 27 11:04:29 2025
Response via : Initial Calibration
Integrator: ChemStation

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



rteres

Instrument :

FID_G

ClientSampleId :

B-158-SB02MSD

Area Percent Report

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/09/2025

Supervised By :mohammad ahmed 04/10/2025

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_G\Data\FG04082
Data File : FG015660.D
Signal(s) : FID1A.ch
Acq On : 08 Apr 2025 16:29
Sample : Q1744-03MSD
Misc :
ALS Vial : 28 Sample Multiplier: 1

Integration File: Sample.e

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

Signal : FID1A.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	1.823	1.800	1.857	BV	495	4906	0.22%	0.010%
2	1.877	1.857	1.903	PV	462	5614	0.25%	0.012%
3	1.925	1.903	1.931	PV	330	2753	0.12%	0.006%
4	1.936	1.931	1.954	VV	337	2435	0.11%	0.005%
5	1.985	1.954	2.072	VV	137559	1479897	66.64%	3.056%
6	2.075	2.072	2.110	VV	347	3984	0.18%	0.008%
7	2.113	2.110	2.151	VV	164	1983	0.09%	0.004%
8	2.157	2.151	2.163	VV	87	319	0.01%	0.001%
9	2.167	2.163	2.184	VV	127	802	0.04%	0.002%
10	2.200	2.184	2.251	PV	474	7488	0.34%	0.015%
11	2.266	2.251	2.302	VV	2375	27653	1.25%	0.057%
12	2.308	2.302	2.336	VV	209	2513	0.11%	0.005%
13	2.357	2.336	2.410	VV	941	15658	0.71%	0.032%
14	2.423	2.410	2.470	VV	230	3672	0.17%	0.008%
15	2.489	2.470	2.547	PV	671	10743	0.48%	0.022%
16	2.556	2.547	2.599	VV	251	3504	0.16%	0.007%
17	2.613	2.599	2.647	VV	160	1932	0.09%	0.004%
18	2.673	2.647	2.701	PV	294	5328	0.24%	0.011%
19	2.706	2.701	2.710	VV	81	431	0.02%	0.001%
20	2.715	2.710	2.732	VV	136	886	0.04%	0.002%
21	2.761	2.732	2.769	VV	187	2132	0.10%	0.004%
22	2.783	2.769	2.791	PV	297	2152	0.10%	0.004%
23	2.799	2.791	2.819	VV	167	1823	0.08%	0.004%
24	2.825	2.819	2.831	PV	147	628	0.03%	0.001%
25	2.847	2.831	2.857	VV	215	1855	0.08%	0.004%
26	2.861	2.857	2.870	VV	146	913	0.04%	0.002%
27	2.890	2.870	2.897	VV	326	3506	0.16%	0.007%
28	2.900	2.897	2.908	VV	278	1555	0.07%	0.003%
29	2.914	2.908	2.933	VV	261	3453	0.16%	0.007%
30	2.939	2.933	2.953	VV	287	2659	0.12%	0.005%
31	2.971	2.953	3.002	VV	375	7081	0.32%	0.015%
32	3.006	3.002	3.016	VV	253	1141	0.05%	0.002%
33	3.022	3.016	3.029	VV	169	866	0.04%	0.002%
34	3.066	3.029	3.076	VV	249	3986	0.18%	0.008%
35	3.082	3.076	3.091	PV	128	866	0.04%	0.002%
36	3.095	3.091	3.113	VV	192	1690	0.08%	0.003%

					retention				
37	3.126	3.113	3.164	VV	242	4856	0.22%	0.010%	
38	3.172	3.164	3.230	VV	193	4442			
39	3.251	3.230	3.294	VV	204	4154			
40	3.303	3.294	3.315	VV	98	822			
41	3.329	3.315	3.336	VV	143	936			
42	3.355	3.336	3.365	VV	178	1958			
43	3.384	3.365	3.401	VV	216	3291	0.15%	0.007%	
44	3.408	3.401	3.441	VV	222	5230	0.24%	0.011%	
45	3.448	3.441	3.472	VV	186	3087	0.14%	0.006%	
46	3.476	3.472	3.487	VV	181	1305	0.06%	0.003%	
47	3.494	3.487	3.514	VV	186	1974	0.09%	0.004%	
48	3.524	3.514	3.537	VV	158	1277	0.06%	0.003%	
49	3.544	3.537	3.557	VV	139	1052	0.05%	0.002%	
50	3.566	3.557	3.576	VV	147	1030	0.05%	0.002%	
51	3.589	3.576	3.599	VV	134	1211	0.05%	0.003%	
52	3.607	3.599	3.613	VV	150	979	0.04%	0.002%	
53	3.647	3.613	3.691	VV	291	8788	0.40%	0.018%	
54	3.707	3.691	3.732	VV	274	4411	0.20%	0.009%	
55	3.742	3.732	3.797	VV	176	4805	0.22%	0.010%	
56	3.813	3.797	3.865	VV	264	6394	0.29%	0.013%	
57	3.874	3.865	3.920	VV	185	2877	0.13%	0.006%	
58	3.942	3.920	3.957	VV	191	2531	0.11%	0.005%	
59	3.967	3.957	4.042	VV	209	4762	0.21%	0.010%	
60	4.081	4.042	4.112	VV	1820	37392	1.68%	0.077%	
61	4.131	4.112	4.211	VV	1267	48176	2.17%	0.099%	
62	4.237	4.211	4.274	VV	629	17124	0.77%	0.035%	
63	4.287	4.274	4.320	VV	488	9881	0.44%	0.020%	
64	4.341	4.320	4.414	VV	397	14452	0.65%	0.030%	
65	4.418	4.414	4.427	VV	277	1821	0.08%	0.004%	
66	4.433	4.427	4.450	VV	241	2863	0.13%	0.006%	
67	4.458	4.450	4.476	VV	248	2968	0.13%	0.006%	
68	4.514	4.476	4.624	VV	160361	1768085	79.61%	3.651%	
69	4.633	4.624	4.656	VV	727	11110	0.50%	0.023%	
70	4.685	4.656	4.756	VV	1254	33953	1.53%	0.070%	
71	4.764	4.756	4.785	VV	311	5024	0.23%	0.010%	
72	4.797	4.785	4.814	VV	398	5443	0.25%	0.011%	
73	4.825	4.814	4.894	VV	416	12430	0.56%	0.026%	
74	4.911	4.894	4.924	VV	297	4576	0.21%	0.009%	
75	4.940	4.924	4.960	VV	392	6222	0.28%	0.013%	
76	4.991	4.960	5.002	VV	411	7896	0.36%	0.016%	
77	5.026	5.002	5.062	VV	909	20184	0.91%	0.042%	
78	5.071	5.062	5.082	VV	432	4446	0.20%	0.009%	
79	5.094	5.082	5.134	VV	424	11331	0.51%	0.023%	
80	5.175	5.134	5.207	VV	586	17452	0.79%	0.036%	
81	5.224	5.207	5.253	VV	474	10237	0.46%	0.021%	
82	5.270	5.253	5.287	VV	371	7211	0.32%	0.015%	
83	5.307	5.287	5.412	VV	580	19087	0.86%	0.039%	
84	5.424	5.412	5.447	VV	221	2863	0.13%	0.006%	
85	5.471	5.447	5.509	VV	603	13792	0.62%	0.028%	
86	5.514	5.509	5.584	VV	342	7030	0.32%	0.015%	
87	5.594	5.584	5.616	PV	95	1093	0.05%	0.002%	
88	5.656	5.616	5.673	VV	651	9315	0.42%	0.019%	
89	5.711	5.673	5.832	VV	1477	62431	2.81%	0.129%	

Instrument :

FID_G

ClientSampleId :

B-158-SB02MSD

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/09/2025

Supervised By :mohammad ahmed 04/10/2025

90	5.853	5.832	5.879	VV	413	7348	0.33%	0.015%
91	5.894	5.879	5.904	VV	222	2948		
92	5.926	5.904	5.939	VV	429	6061		
93	5.949	5.939	5.967	VV	477	5694		
94	5.979	5.967	5.997	VV	338	4810		
95	6.007	5.997	6.022	VV	263	3596		
96	6.034	6.022	6.089	VV	324	5478	0.25%	0.011%
97	6.135	6.089	6.159	PV	279	5487	0.25%	0.011%
98	6.176	6.159	6.192	VV	257	4051	0.18%	0.008%
99	6.236	6.192	6.261	VV	987	22582	1.02%	0.047%
100	6.268	6.261	6.326	VV	779	16716	0.75%	0.035%
101	6.336	6.326	6.349	VV	306	3600	0.16%	0.007%
102	6.359	6.349	6.368	VV	307	2727	0.12%	0.006%
103	6.406	6.368	6.456	VV	564	15418	0.69%	0.032%
104	6.462	6.456	6.475	VV	145	1670	0.08%	0.003%
105	6.506	6.475	6.519	VV	236	4821	0.22%	0.010%
106	6.537	6.519	6.611	VV	699	17416	0.78%	0.036%
107	6.619	6.611	6.664	VV	272	5111	0.23%	0.011%
108	6.695	6.664	6.781	VV	182138	1873758	84.37%	3.870%
109	6.794	6.781	6.832	VV	885	23548	1.06%	0.049%
110	6.846	6.832	6.936	VV	688	27126	1.22%	0.056%
111	6.943	6.936	6.959	VV	338	3746	0.17%	0.008%
112	6.970	6.959	7.022	VV	329	8655	0.39%	0.018%
113	7.030	7.022	7.039	VV	234	2035	0.09%	0.004%
114	7.053	7.039	7.087	VV	216	4884	0.22%	0.010%
115	7.097	7.087	7.126	VV	257	3225	0.15%	0.007%
116	7.156	7.126	7.190	VV	230	5160	0.23%	0.011%
117	7.216	7.190	7.229	VV	426	7275	0.33%	0.015%
118	7.237	7.229	7.259	VV	419	6042	0.27%	0.012%
119	7.277	7.259	7.303	VV	342	6623	0.30%	0.014%
120	7.333	7.303	7.359	VV	324	8516	0.38%	0.018%
121	7.377	7.359	7.402	VV	555	9947	0.45%	0.021%
122	7.417	7.402	7.462	VV	376	8689	0.39%	0.018%
123	7.476	7.462	7.509	VV	356	5538	0.25%	0.011%
124	7.526	7.509	7.572	VV	255	5777	0.26%	0.012%
125	7.589	7.572	7.612	VV	199	2770	0.12%	0.006%
126	7.647	7.612	7.699	VV	980	13994	0.63%	0.029%
127	7.714	7.699	7.724	PV	128	1269	0.06%	0.003%
128	7.732	7.724	7.751	VV	120	1119	0.05%	0.002%
129	7.774	7.751	7.805	VV	138	2969	0.13%	0.006%
130	7.827	7.805	7.841	VV	205	2374	0.11%	0.005%
131	7.849	7.841	7.867	VV	123	1075	0.05%	0.002%
132	7.874	7.867	7.884	PV	121	539	0.02%	0.001%
133	7.930	7.884	7.958	VV	546	8832	0.40%	0.018%
134	7.989	7.958	8.012	VV	206	3510	0.16%	0.007%
135	8.019	8.012	8.051	VV	121	1912	0.09%	0.004%
136	8.103	8.051	8.142	VV	978	22574	1.02%	0.047%
137	8.178	8.142	8.201	VV	436	11510	0.52%	0.024%
138	8.222	8.201	8.247	VV	857	12283	0.55%	0.025%
139	8.278	8.247	8.332	VV	777	15045	0.68%	0.031%
140	8.352	8.332	8.373	VV	315	4924	0.22%	0.010%
141	8.437	8.373	8.459	VV	438	12825	0.58%	0.026%

Instrument :

FID_G

ClientSampleId :

B-158-SB02MSD

0.33% 0.015%

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/09/2025

Supervised By :mohammad ahmed 04/10/2025

B-158-SB02MSD							Reviewed By :Yogesh Supervised By :m	
142	8.466	8.459	8.474	VV	301	2566	0.12%	0.005%
143	8.531	8.474	8.666	VV	178047	1973063	88	
144	8.674	8.666	8.702	VV	697	13255	0	
145	8.716	8.702	8.806	VV	627	28434	1	
146	8.833	8.806	8.844	VV	473	9603	0	
147	8.894	8.844	8.921	VV	946	30920	1	
148	8.951	8.921	9.001	VV	1056	40028	1.80%	0.083%
149	9.009	9.001	9.053	VV	764	20669	0.93%	0.043%
150	9.072	9.053	9.109	VV	905	18671	0.84%	0.039%
151	9.125	9.109	9.135	VV	371	5260	0.24%	0.011%
152	9.146	9.135	9.199	VV	443	11573	0.52%	0.024%
153	9.223	9.199	9.249	VV	308	8019	0.36%	0.017%
154	9.280	9.249	9.319	VV	480	13409	0.60%	0.028%
155	9.362	9.319	9.387	VV	1636	25593	1.15%	0.053%
156	9.395	9.387	9.402	VV	444	3289	0.15%	0.007%
157	9.413	9.402	9.467	VV	408	10200	0.46%	0.021%
158	9.508	9.467	9.527	VV	206	4596	0.21%	0.009%
159	9.550	9.527	9.556	VV	318	3652	0.16%	0.008%
160	9.587	9.556	9.624	VV	300	9692	0.44%	0.020%
161	9.643	9.624	9.679	VV	282	5663	0.25%	0.012%
162	9.705	9.679	9.724	VV	738	12954	0.58%	0.027%
163	9.742	9.724	9.771	VV	693	14432	0.65%	0.030%
164	9.781	9.771	9.795	VV	355	4156	0.19%	0.009%
165	9.826	9.795	9.849	VV	346	7779	0.35%	0.016%
166	9.872	9.849	9.897	VV	227	4562	0.21%	0.009%
167	9.924	9.897	9.951	VV	865	10169	0.46%	0.021%
168	10.014	9.951	10.116	VV	70583	1081966	48.72%	2.234%
169	10.146	10.116	10.244	VV	185170	2117104	95.33%	4.372%
170	10.251	10.244	10.286	VV	910	17109	0.77%	0.035%
171	10.299	10.286	10.416	VV	563	20131	0.91%	0.042%
172	10.419	10.416	10.448	VV	149	1561	0.07%	0.003%
173	10.487	10.448	10.524	VV	4552	63042	2.84%	0.130%
174	10.532	10.524	10.559	VV	519	7743	0.35%	0.016%
175	10.586	10.559	10.613	VV	369	7813	0.35%	0.016%
176	10.622	10.613	10.647	VV	242	3225	0.15%	0.007%
177	10.664	10.647	10.690	VV	230	3401	0.15%	0.007%
178	10.718	10.690	10.754	PV	439	9731	0.44%	0.020%
179	10.766	10.754	10.799	VV	239	6049	0.27%	0.012%
180	10.816	10.799	10.831	VV	304	4180	0.19%	0.009%
181	10.846	10.831	10.872	VV	417	9108	0.41%	0.019%
182	10.887	10.872	10.909	VV	831	11050	0.50%	0.023%
183	10.923	10.909	10.938	VV	321	4132	0.19%	0.009%
184	10.961	10.938	10.988	VV	430	8146	0.37%	0.017%
185	10.995	10.988	11.017	VV	251	3190	0.14%	0.007%
186	11.032	11.017	11.092	VV	362	6759	0.30%	0.014%
187	11.110	11.092	11.141	VV	237	4027	0.18%	0.008%
188	11.174	11.141	11.248	VV	1744	36744	1.65%	0.076%
189	11.272	11.248	11.292	VV	242	4638	0.21%	0.010%
190	11.315	11.292	11.334	VV	237	4491	0.20%	0.009%
191	11.343	11.334	11.386	VV	208	3545	0.16%	0.007%
192	11.408	11.386	11.430	PV	264	4596	0.21%	0.009%
193	11.460	11.430	11.499	VV	303	6379	0.29%	0.013%
194	11.530	11.499	11.549	VV	284	5007	0.23%	0.010%

						Instrument : FID_G	
						ClientSampleId : B-158-SB02MSD	
195	11.595	11.549	11.653	VV	196918	2203410	99.21% 4.550%
196	11.672	11.653	11.732	VV	1237	24980	
197	11.751	11.732	11.774	VV	287	5256	
198	11.787	11.774	11.808	VV	320	4020	
199	11.863	11.808	11.926	PV	1037	30785	
200	11.948	11.926	11.964	VV	363	6391	
201	12.017	11.964	12.055	VV	1165	31243	1.41% 0.065%
202	12.077	12.055	12.097	VV	1236	16655	0.75% 0.034%
203	12.106	12.097	12.166	VV	344	8692	0.39% 0.018%
204	12.205	12.166	12.222	VV	225	3879	0.17% 0.008%
205	12.264	12.222	12.284	VV	667	15072	0.68% 0.031%
206	12.306	12.284	12.339	VV	997	20324	0.92% 0.042%
207	12.365	12.339	12.404	VV	1097	23601	1.06% 0.049%
208	12.423	12.404	12.449	VV	607	10259	0.46% 0.021%
209	12.474	12.449	12.494	VV	576	9895	0.45% 0.020%
210	12.524	12.494	12.572	VV	51365	623558	28.08% 1.288%
211	12.591	12.572	12.609	VV	1849	30377	1.37% 0.063%
212	12.619	12.609	12.671	VV	1452	35069	1.58% 0.072%
213	12.697	12.671	12.719	VV	1240	25699	1.16% 0.053%
214	12.732	12.719	12.790	VV	773	20359	0.92% 0.042%
215	12.835	12.790	12.873	VV	1107	28920	1.30% 0.060%
216	12.910	12.873	12.957	VV	176323	2188855	98.56% 4.520%
217	12.983	12.957	13.074	VV	3898	80224	3.61% 0.166%
218	13.161	13.074	13.205	VV	525	25443	1.15% 0.053%
219	13.234	13.205	13.245	VV	226	3536	0.16% 0.007%
220	13.276	13.245	13.289	VV	692	10252	0.46% 0.021%
221	13.316	13.289	13.387	VV	1802	39418	1.77% 0.081%
222	13.398	13.387	13.414	VV	186	2135	0.10% 0.004%
223	13.420	13.414	13.449	VV	162	2961	0.13% 0.006%
224	13.467	13.449	13.487	VV	324	4664	0.21% 0.010%
225	13.524	13.487	13.564	VV	651	16910	0.76% 0.035%
226	13.594	13.564	13.619	VV	366	8944	0.40% 0.018%
227	13.650	13.619	13.670	VV	365	6829	0.31% 0.014%
228	13.699	13.670	13.721	VV	325	5977	0.27% 0.012%
229	13.755	13.721	13.788	VV	1214	22284	1.00% 0.046%
230	13.804	13.788	13.827	VV	289	5030	0.23% 0.010%
231	13.878	13.827	13.891	VV	302	5421	0.24% 0.011%
232	13.951	13.891	14.006	VV	707	21857	0.98% 0.045%
233	14.064	14.006	14.079	VV	2017	30956	1.39% 0.064%
234	14.112	14.079	14.203	VV	173343	2167266	97.59% 4.476%
235	14.222	14.203	14.287	VV	503	10676	0.48% 0.022%
236	14.327	14.287	14.352	PV	224	5098	0.23% 0.011%
237	14.397	14.352	14.430	VV	174	5349	0.24% 0.011%
238	14.473	14.430	14.482	VV	414	5856	0.26% 0.012%
239	14.509	14.482	14.572	VV	2416	49063	2.21% 0.101%
240	14.611	14.572	14.651	VV	403	12804	0.58% 0.026%
241	14.677	14.651	14.696	VV	933	15275	0.69% 0.032%
242	14.707	14.696	14.716	VV	540	6302	0.28% 0.013%
243	14.738	14.716	14.761	VV	1028	18162	0.82% 0.038%
244	14.777	14.761	14.829	VV	665	16000	0.72% 0.033%
245	14.838	14.829	14.859	VV	250	3626	0.16% 0.007%
246	14.902	14.859	14.943	VV	685	17938	0.81% 0.037%

Instrument :
FID_G
ClientSampleId :
B-158-SB02MSD

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/09/2025
Supervised By :mohammad ahmed 04/10/2025

Client-Sample ID : B-158-SB02MSD							Reviewed By : Yoganand Supervised By : m	
247	14.956	14.943	14.976	VV	250	4163	0.19%	0.009%
248	15.015	14.976	15.051	VV	96984	1322033	59.17%	1.613%
249	15.064	15.051	15.094	VV	1384	24820	1.00%	0.046%
250	15.102	15.094	15.142	VV	462	8455	1.97%	0.090%
251	15.219	15.142	15.252	VV	163250	2220892	100.00%	4.364%
252	15.264	15.252	15.344	VV	2572	48800	2.19%	0.101%
253	15.372	15.344	15.392	VV	380	6396	0.29%	0.013%
254	15.412	15.392	15.456	VV	594	8044	0.36%	0.017%
255	15.488	15.456	15.499	PV	114	1610	0.07%	0.003%
256	15.541	15.499	15.567	VV	418	4408	0.20%	0.009%
257	15.601	15.567	15.676	VV	46741	781025	35.17%	1.613%
258	15.696	15.676	15.719	VV	1294	22184	1.00%	0.046%
259	15.743	15.719	15.778	VV	2023	43798	1.97%	0.090%
260	15.808	15.778	15.843	VV	4683	68286	3.07%	0.141%
261	15.869	15.843	15.946	VV	413	13721	0.62%	0.028%
262	15.994	15.946	16.008	PV	281	5397	0.24%	0.011%
263	16.033	16.008	16.072	VV	271	7734	0.35%	0.016%
264	16.122	16.072	16.175	VV	1785	35505	1.60%	0.073%
265	16.243	16.175	16.287	VV	155041	2113217	95.15%	4.364%
266	16.306	16.287	16.361	VV	1454	24078	1.08%	0.050%
267	16.373	16.361	16.400	VV	231	2807	0.13%	0.006%
268	16.437	16.400	16.467	PV	310	6728	0.30%	0.014%
269	16.539	16.467	16.587	VV	581	19034	0.86%	0.039%
270	16.620	16.587	16.664	VV	7679	138123	6.22%	0.285%
271	16.691	16.664	16.707	VV	1633	32731	1.47%	0.068%
272	16.728	16.707	16.773	VV	3069	56015	2.52%	0.116%
273	16.801	16.773	16.847	VV	1853	31789	1.43%	0.066%
274	16.866	16.847	16.911	VV	483	9636	0.43%	0.020%
275	16.926	16.911	16.939	VV	165	1594	0.07%	0.003%
276	16.995	16.939	17.033	PV	966	25792	1.16%	0.053%
277	17.104	17.033	17.142	VV	1148	48748	2.19%	0.101%
278	17.197	17.142	17.232	VV	153241	2083301	93.80%	4.302%
279	17.244	17.232	17.257	VV	1623	21371	0.96%	0.044%
280	17.274	17.257	17.305	VV	2105	31582	1.42%	0.065%
281	17.317	17.305	17.334	VV	296	3305	0.15%	0.007%
282	17.346	17.334	17.364	VV	150	1712	0.08%	0.004%
283	17.437	17.364	17.452	PV	301	4830	0.22%	0.010%
284	17.481	17.452	17.499	VV	197	3031	0.14%	0.006%
285	17.566	17.499	17.611	VV	5781	114604	5.16%	0.237%
286	17.646	17.611	17.691	VV	6628	107339	4.83%	0.222%
287	17.730	17.691	17.762	VV	1189	26010	1.17%	0.054%
288	17.770	17.762	17.787	VV	388	3992	0.18%	0.008%
289	17.801	17.787	17.837	VV	320	5660	0.25%	0.012%
290	18.042	17.837	18.052	PV	1873	60522	2.73%	0.125%
291	18.088	18.052	18.142	VV	143237	2022134	91.05%	4.176%
292	18.174	18.142	18.234	VV	2638	45107	2.03%	0.093%
293	18.312	18.234	18.337	PV	2058	32512	1.46%	0.067%
294	18.364	18.337	18.379	PV	313	4211	0.19%	0.009%
295	18.406	18.379	18.419	VV	1906	25651	1.15%	0.053%
296	18.447	18.419	18.486	VV	27489	486268	21.90%	1.004%
297	18.510	18.486	18.549	VV	9457	159206	7.17%	0.329%
298	18.575	18.549	18.592	VV	1112	21504	0.97%	0.044%
299	18.605	18.592	18.622	VV	837	13125	0.59%	0.027%

Manual IntegrationsAPPROVED

300	18.640	18.622	18.672	VV	517	11631	0.52%	0.024%
301	18.721	18.672	18.737	VV	489	10491		
302	18.765	18.737	18.794	VV	651	16734		
303	18.811	18.794	18.836	VV	374	6096		
304	18.921	18.836	18.979	PV	120984	1758539	79	
305	19.028	18.979	19.057	VV	2632	68379	3	
306	19.077	19.057	19.100	VV	1313	25456	1.15%	0.053%
307	19.113	19.100	19.141	VV	706	9277	0.42%	0.019%
308	19.194	19.141	19.221	PV	5403	80773	3.64%	0.167%
309	19.276	19.221	19.298	VV	20695	368170	16.58%	0.760%
310	19.318	19.298	19.369	VV	17955	368907	16.61%	0.762%
311	19.410	19.369	19.430	VV	2296	68102	3.07%	0.141%
312	19.451	19.430	19.477	VV	2128	49604	2.23%	0.102%
313	19.515	19.477	19.533	VV	2068	52180	2.35%	0.108%
314	19.561	19.533	19.586	VV	2277	58543	2.64%	0.121%
315	19.613	19.586	19.636	VV	2403	54835	2.47%	0.113%
316	19.705	19.636	19.746	VV	73795	1181691	53.21%	2.440%
317	19.775	19.746	19.794	VV	4797	116994	5.27%	0.242%
318	19.811	19.794	19.840	VV	4859	115674	5.21%	0.239%
319	19.879	19.840	19.907	VV	5900	185457	8.35%	0.383%
320	19.990	19.907	20.023	VV	5840	331701	14.94%	0.685%
321	20.061	20.023	20.149	VV	10225	545270	24.55%	1.126%
322	20.319	20.149	20.342	VV	8596	750002	33.77%	1.549%
323	20.448	20.342	20.504	VV	53295	1460479	65.76%	3.016%
324	20.608	20.504	20.631	VV	11311	729138	32.83%	1.506%
325	20.678	20.631	20.692	VV	10829	391714	17.64%	0.809%
326	20.804	20.692	20.892	VV	14986	1493661	67.26%	3.085%
327	20.904	20.892	20.941	VV	11871	332328	14.96%	0.686%
328	21.002	20.941	21.012	VV	11047	465207	20.95%	0.961%
329	21.054	21.012	21.068	VV	10784	364994	16.43%	0.754%
330	21.123	21.068	21.146	VV	10512	485300	21.85%	1.002%
331	21.190	21.146	21.336	VV	39976	1581591	71.21%	3.266%
332	21.358	21.336	21.419	VV	7888	372746	16.78%	0.770%
333	21.429	21.419	21.469	VV	6897	200569	9.03%	0.414%
334	21.504	21.469	21.554	VV	6603	316447	14.25%	0.654%
335	21.622	21.554	21.687	VV	6028	434222	19.55%	0.897%
336	21.783	21.687	21.837	VV	4493	391148	17.61%	0.808%
337	21.873	21.837	21.921	VV	3407	159808	7.20%	0.330%
338	21.949	21.921	22.011	VV	2658	119507	5.38%	0.247%
339	22.116	22.011	22.191	VV	21726	602333	27.12%	1.244%
Sum of corrected areas:						48423326		

Instrument :

FID_G

ClientSampleId :

B-158-SB02MSD

Manual IntegrationsAPPROVED

Reviewed By :Yogesh Patel 04/09/2025

Supervised By :mohammad ahmed 04/10/2025

Manual Integration Report

Sample ID	ClientId ID	File ID	Sequence ID	Parameter	Supervised By	Supervised On	Reason
Q1744-03MSD		FG015660.D	FG040825	N-OCTACOSANE	mohammad	4/10/2025 5:30:17 AM	Peak Integrated by Software incorrectly

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG032725

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

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

M : Manual Integration

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG040825

Review By	yogesh	Review On	4/8/2025 3:01:54 PM
Supervise By	mohammad	Supervise On	4/10/2025 5:30:17 AM
SubDirectory	FG040825	HP Acquire Method	HP Processing Method FG032725
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	PP23961,PP23963,PP23964,PP23965,PP23966		
CCC Internal Standard/PEM	PP23963		
ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	PP23962,PP23967		

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	MECL2	FG015649.D	08 Apr 2025 09:32	YP\AJ	Ok
2	I.BLK	FG015650.D	08 Apr 2025 10:01	YP\AJ	Ok
3	50 PPM TRPH STD	FG015651.D	08 Apr 2025 11:13	YP\AJ	Ok
4	RT MARKER	FG015652.D	08 Apr 2025 11:44	YP\AJ	Ok
5	PB167510BL	FG015653.D	08 Apr 2025 12:50	YP\AJ	Ok
6	PB167510BS	FG015654.D	08 Apr 2025 13:20	YP\AJ	Ok
7	Q1744-01	FG015655.D	08 Apr 2025 14:02	YP\AJ	Ok
8	Q1744-03	FG015656.D	08 Apr 2025 14:31	YP\AJ	Ok
9	Q1746-01	FG015657.D	08 Apr 2025 15:01	YP\AJ	Ok
10	Q1746-03	FG015658.D	08 Apr 2025 15:30	YP\AJ	Ok
11	Q1744-03MS	FG015659.D	08 Apr 2025 15:59	YP\AJ	Ok
12	Q1744-03MSD	FG015660.D	08 Apr 2025 16:29	YP\AJ	Ok,M
13	I.BLK	FG015661.D	08 Apr 2025 16:58	YP\AJ	Ok
14	50 PPM TRPH STD	FG015662.D	08 Apr 2025 17:57	YP\AJ	Ok

M : Manual Integration

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG032725

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

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

M : Manual Integration

Instrument ID: FID_G

Daily Analysis Runlog For Sequence/QC Batch ID # FG040825

Review By	yogesh	Review On	4/8/2025 3:01:54 PM
Supervise By	mohammad	Supervise On	4/10/2025 5:30:17 AM
SubDirectory	FG040825	HP Acquire Method	HP Processing Method FG032725
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	PP23961,PP23963,PP23964,PP23965,PP23966		
CCC	PP23963		
Internal Standard/PEM	PP23962,PP23967		
ICV/I.BLK			
Surrogate Standard			
MS/MSD Standard			
LCS Standard			

Sr#	SampleID	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	MECL2		FG015649.D	08 Apr 2025 09:32		YPIAJ	Ok
2	I.BLK		FG015650.D	08 Apr 2025 10:01		YPIAJ	Ok
3	50 PPM TRPH STD		FG015651.D	08 Apr 2025 11:13		YPIAJ	Ok
4	RT MARKER		FG015652.D	08 Apr 2025 11:44		YPIAJ	Ok
5	PB167510BL		FG015653.D	08 Apr 2025 12:50		YPIAJ	Ok
6	PB167510BS		FG015654.D	08 Apr 2025 13:20		YPIAJ	Ok
7	Q1744-01		FG015655.D	08 Apr 2025 14:02		YPIAJ	Ok
8	Q1744-03		FG015656.D	08 Apr 2025 14:31		YPIAJ	Ok
9	Q1746-01		FG015657.D	08 Apr 2025 15:01		YPIAJ	Ok
10	Q1746-03		FG015658.D	08 Apr 2025 15:30		YPIAJ	Ok
11	Q1744-03MS		FG015659.D	08 Apr 2025 15:59		YPIAJ	Ok
12	Q1744-03MSD		FG015660.D	08 Apr 2025 16:29		YPIAJ	Ok,M
13	I.BLK		FG015661.D	08 Apr 2025 16:58		YPIAJ	Ok
14	50 PPM TRPH STD		FG015662.D	08 Apr 2025 17:57		YPIAJ	Ok

M : Manual Integration



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 4/8/2025

OVENTEMP IN Celsius(°C): 107
Time IN: 17:05
In Date: 04/07/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:19
Out Date: 04/08/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC:LB135324

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
Q1740-01	TP-20	1	1.14	9.97	11.11	9.88	87.7	
Q1740-02	TP-20-E2	2	1.15	10.14	11.29	10.06	87.9	
Q1740-03	TP-20-VOC	3	1.18	11.96	13.14	11.9	89.6	
Q1742-01	TR-06-040725	17	1.14	10.11	11.25	10.00	87.6	
Q1742-02	TR-06-040725-E2	18	1.18	10.20	11.38	10.24	88.8	
Q1743-01	TP-16	4	1.14	10.15	11.29	10.74	94.6	
Q1743-02	TP-16-EPH	5	1.16	9.91	11.07	9.27	81.8	
Q1743-03	TP-16-VOC	6	1.14	10.34	11.48	10.84	93.8	
Q1744-01	B-158-SB01	7	1.12	9.66	10.78	9.81	90.0	
Q1744-03	B-158-SB02	8	1.18	10.73	11.91	7.19	56.0	
Q1745-01	IB-6A-WC	9	1.17	10.10	11.27	9.76	85.0	
Q1745-02	IB-6A-EPH	10	1.18	9.96	11.14	9.56	84.1	
Q1745-03	IB-6A-VOC	11	1.18	10.06	11.24	9.98	87.5	
Q1745-09	IB-6.5-WC	12	1.15	10.49	11.64	8.65	71.5	
Q1745-10	IB-6.5-EPH	13	1.18	10.26	11.44	8.46	71.0	
Q1745-11	IB-6.5-VOC	14	1.15	9.98	11.13	7.93	67.9	
Q1746-01	B-149-SB01	15	1.14	10.17	11.31	10.22	89.3	
Q1746-03	B-149-SB02	16	1.14	10.23	11.37	9.81	84.8	
Q1747-01	ARS20-0008	19	1.15	10.33	11.48	11.08	96.1	
Q1747-02	ARS20-0008-E2	20	1.19	10.08	11.27	10.8	95.3	

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

WORKLIST(Hardcopy Internal Chain)

135324

WorkList Name : %1-040725 WorkList ID : 188763 Department : Wet-Chemistry Date : 04-07-2025 08:21:09

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1740-01	TP-20	Solid	Percent Solids	Cool 4 deg C	PSEG03	L21	04/04/2025	Chemtech -SO
Q1740-02	TP-20-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	L21	04/04/2025	Chemtech -SO
Q1740-03	TP-20-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L21	04/04/2025	Chemtech -SO
Q1742-01	TR-06-040725	Solid	Percent Solids	Cool 4 deg C	PSEG05		04/04/2025	Chemtech -SO
Q1742-02	TR-06-040725-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05		04/04/2025	Chemtech -SO
Q1743-01	TP-16	Solid	Percent Solids	Cool 4 deg C	PSEG03	L33	04/07/2025	Chemtech -SO
Q1743-02	TP-16-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	L33	04/07/2025	Chemtech -SO
Q1743-03	TP-16-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L33	04/07/2025	Chemtech -SO
Q1744-01	B-158-SB01	Solid	Percent Solids	Cool 4 deg C	PORT06	L41	04/05/2025	Chemtech -SO
Q1744-03	B-158-SB02	Solid	Percent Solids	Cool 4 deg C	PORT06	L41	04/05/2025	Chemtech -SO
Q1745-01	IB-6A-WC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	04/07/2025	Chemtech -SO
Q1745-02	IB-6A-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	04/07/2025	Chemtech -SO
Q1745-03	IB-6A-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	04/07/2025	Chemtech -SO
Q1745-09	IB-6.5-WC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	04/07/2025	Chemtech -SO
Q1745-10	IB-6.5-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	04/07/2025	Chemtech -SO
Q1745-11	IB-6.5-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	L41	04/07/2025	Chemtech -SO
Q1746-01	B-149-SB01	Solid	Percent Solids	Cool 4 deg C	PORT06	L41	04/05/2025	Chemtech -SO
Q1746-03	B-149-SB02	Solid	Percent Solids	Cool 4 deg C	PORT06	L41	04/06/2025	Chemtech -SO
Q1747-01	ARS20-0008	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	04/07/2025	Chemtech -SO
Q1747-02	ARS20-0008-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	I41	04/07/2025	Chemtech -SO

Date/Time 04/07/25 15:25
 Raw Sample Received by: [Signature]
 Raw Sample Relinquished by: [Signature]

Date/Time 04/07/25
 Raw Sample Received by: [Signature]
 Raw Sample Relinquished by: [Signature]

17.15
 [Signature]

SOP ID: M3541-ASE Extraction-14

Clean Up SOP #: N/A

Matrix : Solid

Weigh By: EH

Balance check: RJ

Balance ID: EX-SC-2

pH Strip Lot#: N/A

Extraction By: RJ

Filter By: RJ

pH Meter ID: N/A

Hood ID: 3,7

Extraction Start Date : 04/08/2025

Extraction Start Time : 08:55

Extraction End Date : 04/08/2025

Extraction End Time : 11:50

Concentration By: EH

Supervisor By : rajesh

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

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

Chemical Used	ML/SAMPLE USED	Lot Number
MeCl2/Acetone/1:1	N/A	EP2600
Baked Na2SO4	N/A	EP2599
Sand	N/A	E2865
Methylene Chloride	N/A	E3904
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

1.5 ML Vial lot# 2210673.

KD Bath ID: N/A

KD Bath Temperature: N/A

Envap ID: NEVAP-02

Envap Temperature: 40 °C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
04/08/25	RP (Sat. 245)	Y.P. Pertierra
11:55	Preparation Group	Analysis Group

Analytical Method: M3541-ASE Extraction-14

Concentration Date: 04/08/2025

Sample ID	Client Sample ID	Test	g / mL	PH	Surr/Spike By:		Final Vol. (mL)	JarID	Comments	Prep Pos
					AddedBy	VerifiedBy				
PB167510BL	PB167510BL	TPH GC	30.01	N/A	ritesh	Evelyn	1			U3-1
PB167510BS	PB167510BS	TPH GC	30.03	N/A	ritesh	Evelyn	1			2
Q1744-01	B-158-SB01	TPH GC	30.05	N/A	ritesh	Evelyn	1	E		3
Q1744-03	B-158-SB02	TPH GC	30.06	N/A	ritesh	Evelyn	1	E		4
Q1744-03MS	B-158-SB02MS	TPH GC	30.02	N/A	ritesh	Evelyn	1	E		5
Q1744-03MS D	B-158-SB02MSD	TPH GC	30.09	N/A	ritesh	Evelyn	1	E		6
Q1746-01	B-149-SB01	TPH GC	30.08	N/A	ritesh	Evelyn	1	E		U2-1
Q1746-03	B-149-SB02	TPH GC	30.03	N/A	ritesh	Evelyn	1	F		2

* Extracts relinquished on the same date as received.

4/18/25

8:55
16/11/10

WORKLIST(Hardcopy Internal Chain)

WorkList Name : Q1746

WorkList ID : 188792

Department : Extraction

Date : 04-08-2025 08:15:36

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1744-01	B-158-SB01	Solid	TPH GC	Cool 4 deg C	PORT06	L41	04/05/2025	8015D
Q1744-03	B-158-SB02	Solid	TPH GC	Cool 4 deg C	PORT06	L41	04/05/2025	8015D
Q1746-01	B-149-SB01	Solid	TPH GC	Cool 4 deg C	PORT06	L41	04/05/2025	8015D
Q1746-03	B-149-SB02	Solid	TPH GC	Cool 4 deg C	PORT06	L41	04/06/2025	8015D

Date/Time 04/08/25 8:50
Raw Sample Received by: RJ (Set 1u)
Raw Sample Relinquished by: CS

Date/Time 04/08/25 9:10
Raw Sample Received by: CS
Raw Sample Relinquished by: RJ (Set 1u)

Prep Standard - Chemical Standard Summary

Order ID : Q1744

Test : TPH GC

Prepbatch ID : PB167510,

Sequence ID/Qc Batch ID: FG040825,

Standard ID :

EP2599,EP2600,PP23961,PP23962,PP23963,PP23964,PP23965,PP23966,PP23967,PP24162,PP24180,

Chemical ID :

E2865,E3551,E3828,E3874,E3904,E3917,P11955,P11956,P11958,P11959,P13213,P13218,P13219,P13487,P13488,P
13489,P13490,



<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	EP2599	04/07/2025	07/01/2025	Rajesh Parikh	Extraction_SC ALE_2 (EX-SC-2)	None	Riteshkumar Patel 04/07/2025
<u>FROM</u> 4000.00000gram of E3551 = Final Quantity: 4000.000 gram								

<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	EP2600	04/07/2025	10/03/2025	Rajesh Parikh	None	None	Riteshkumar Patel 04/07/2025
<u>FROM</u> 8000.00000ml of E3904 + 8000.00000ml of E3917 = Final Quantity: 16000.000 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)	PP23961	11/13/2024	05/09/2025	Yogesh Patel	None	None	Ankita Jodhani
								11/13/2024

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

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

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

Pest/Pcb STANDARD PREPARATION LOG

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

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

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

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

Pest/Pcb STANDARD PREPARATION LOG

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

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

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

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

Pest/Pcb STANDARD PREPARATION LOG

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

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

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

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



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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	24H2762008	10/03/2025	04/03/2025 / Rajesh	03/31/2025 / Rajesh	E3917

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	A0186840	07/31/2025	01/31/2025 / yogesh	07/11/2022 / Yogesh	P11955

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

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

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

Sand
Purified
Washed and Ignited



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

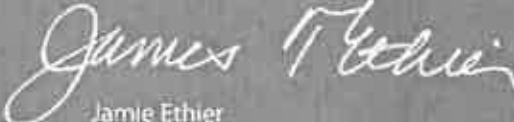
Certificate of Analysis

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

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

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

E 2865


Jamie Ethier
Vice President Global Quality

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

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



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MONTERREY, N.L. MEXICO
CP 64070
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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)

avantor™



Material No.: 9266-A4

Batch No.: 24J0862003

Manufactured Date: 2024-09-12

Expiration Date: 2025-12-12

Revision No.: 0

Certificate of Analysis

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

For Laboratory, Research, or Manufacturing Use

MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States

Packaging Site: Phillipsburg Mfg Ctr & DC

E 3828

Jamie Croak
Director Quality Operations, Bioscience Production

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

Avantor Performance Materials LLC

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



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

Certificate of Analysis

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

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

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

E 3874

Jamie Croak
Director Quality Operations, Bioscience Production

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

Avantor Performance Materials, LLC

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

Acetone

BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™



Material No.: 9254-03

Batch No.: 24H2762008

Manufactured Date: 2024-04-18

Expiration Date: 2027-04-18

Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ((CH ₃) ₂ CO) (by GC, corrected for water)	>= 99.4 %	100.0 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.0 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 %	<0.1 %
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

Country of Origin: United States

Packaging Site: Phillipsburg Mfg Ctr & DC

Recd by RP on 03/31/25

E3917

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



CERTIFIED REFERENCE MATERIAL

110 Benner Circle

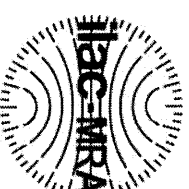
Bellefonte, PA 16823-8812

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:

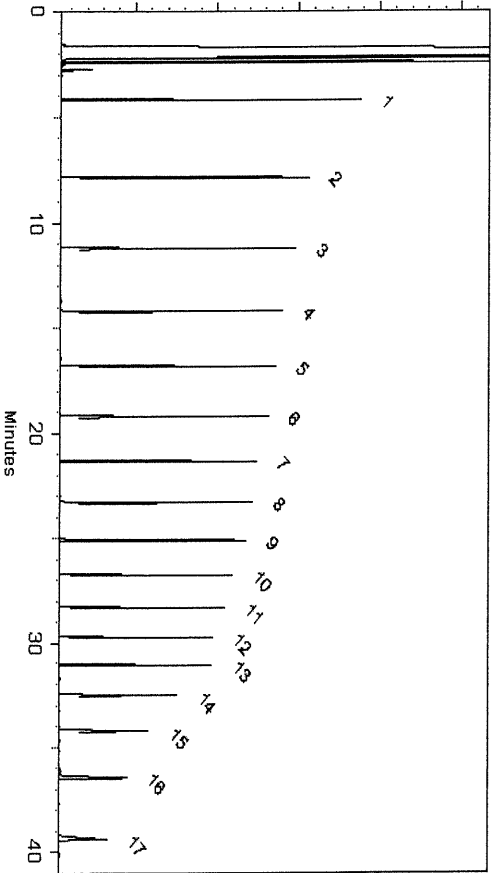
250°C

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

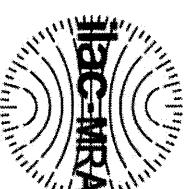
Bellevonte, PA 16823-8812

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:

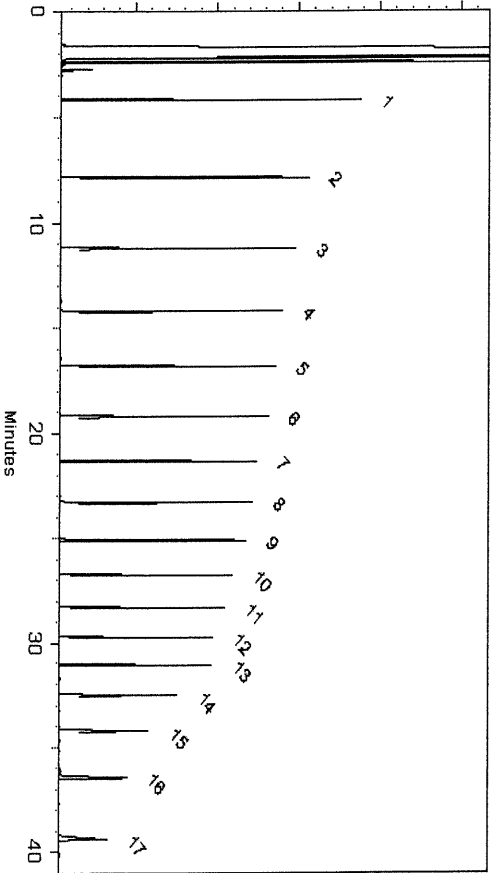
250°C

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:

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- 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:

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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

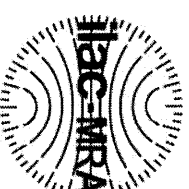
Bellevonte, PA 16823-8812

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Certificate of Analysis



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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:

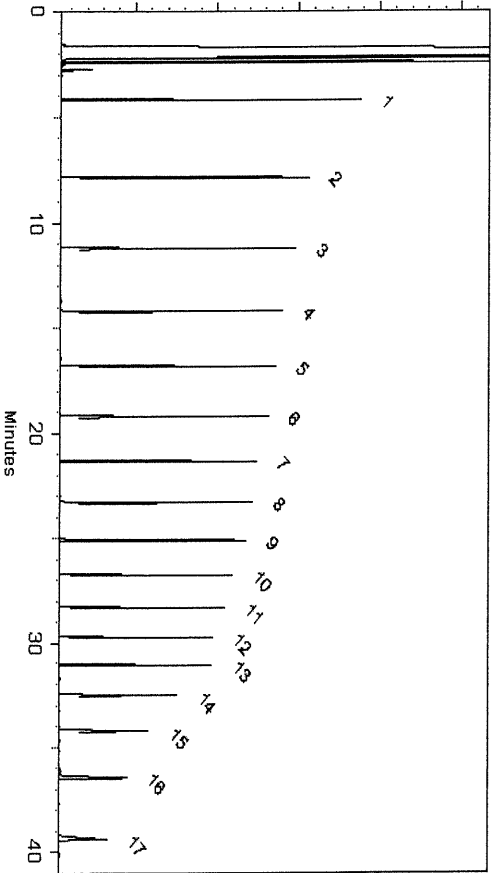
250°C

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

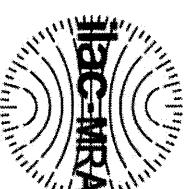
Bellevonte, PA 16823-8812

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:

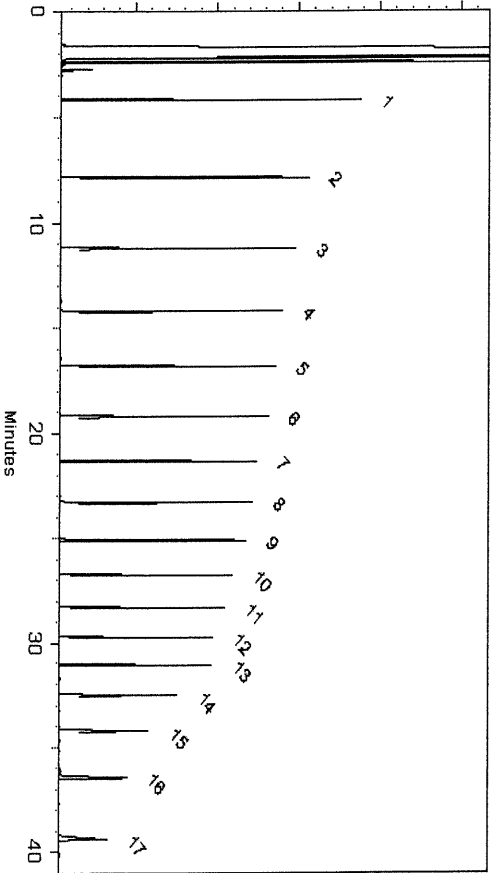
250°C

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

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

Manufacturing Notes:

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

Handling Notes:

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



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT

Part Number:
Lot Number:
Description:

72072
101122
n-Tetracosane-d50

Solvent(s):
Methylene chloride

Lot#
105345

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

101132
Ambient (20 °C)
1000
6UTB

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

200.0

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Purity Uncertainty (%)	Assay (%D)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)	CAS#	OSHA PEL (TWA)	LD50
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1. n-Tetracosane-d50

2072 PR-26606

1000

98.7

0.2

99.0

0.20471

0.20482

1000.6

4.1

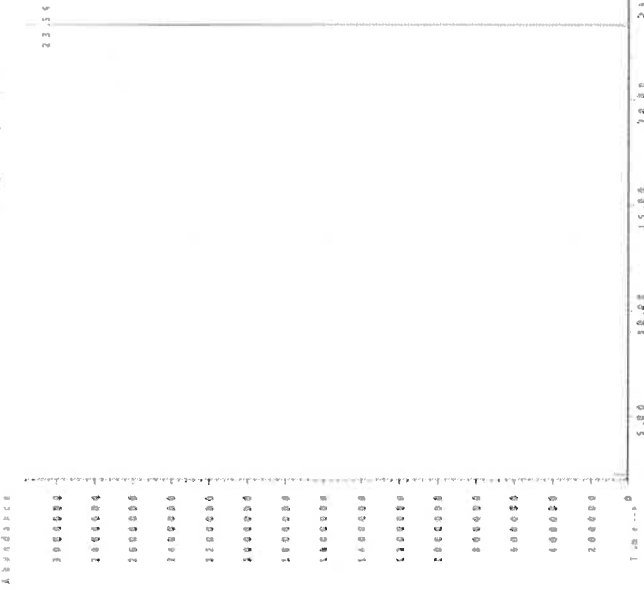
16416-32-3

N/A

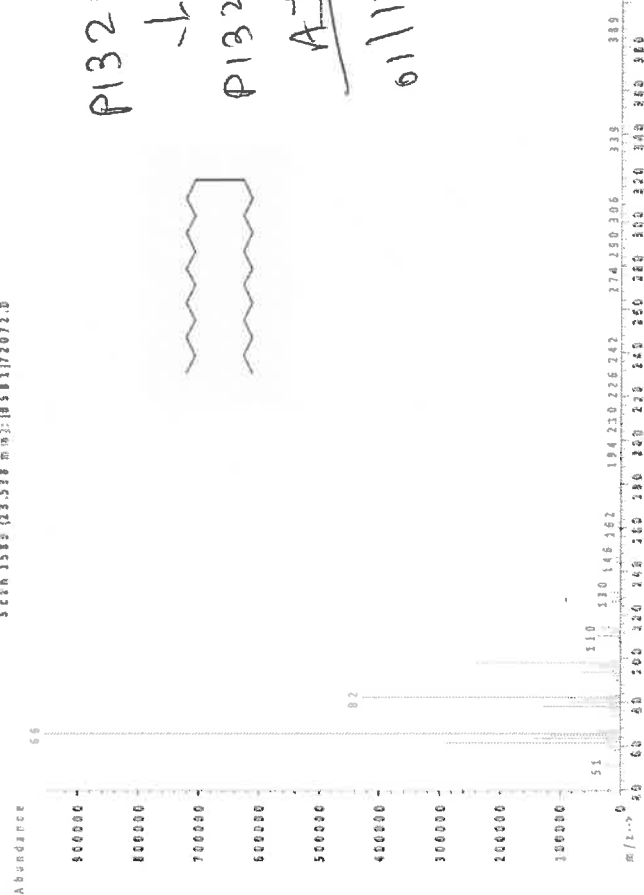
N/A

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

FIGURE 1: TETRACOSANE-D50



Scan 1589 (3.538 min): [8.58172072.D



P13205
↓
P13214
A3
61/17/24

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

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

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

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

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



5580 Skyline Blvd
Santa Rosa, CA 95403

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

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

Date Received: _____

Certificate of Analysis

Page 1 of 1

Catalog No.: Lot No.: Storage:

Z-110400-05 514983 ≤-10 Degrees C

Solvent:

Hexane

Exp. Date:

11/20/2028

Description:

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

-01

Compound

CAS No.

Purity (%)

Compound Lot No.

Concentration, mg/L

decane (C10)

124-18-5

99.7

415.7.2P

498.5 ± 6.92

docosane (C22)

629-97-0

98.8

420.9.1P

499.4 ± 6.93

dodecane (C12)

112-40-3

99.7

416.9.3P

502 ± 6.97

dotriacontane (C32)

544-85-4

97

425.9.2.2P

499.6 ± 8.53

eicosane (C20)

112-95-8

99.8

419.7.1P

501 ± 6.95

hexacosane (C26)

630-01-3

99.3

422.7.2.1P

501 ± 6.95

hexatriacontane (C36)

630-06-8

98

427.29.1.1P

499.3 ± 8.53

n-hexadecane (C16)

544-76-3

99.45

368.27.1.1P

498.7 ± 6.91

octacosane (C28)

630-02-4

99.1

423.24.1P

500.5 ± 6.95

n-octadecane (C18)

593-45-3

99.5

418.29.1P

499.5 ± 6.92

octane (C8)

111-65-9

99.4

385.7.2.1P

498.5 ± 6.92

octatriacontane (C38)

7194-85-6

95

428.1.2P

500.2 ± 6.94

tetracontane (C40)

4181-95-7

97

429.7.2P

499.6 ± 6.93

n-tetracosane (C24)

646-31-1

99.5

421.7.1P

499.5 ± 6.93

n-tetradecane (C14)

629-59-4

99.3

417.9.1P

500 ± 6.94

tetratriacontane (C34)

14167-59-0

96.1

426.7.2.2P

499.7 ± 8.53

triacontane (C30)

638-68-6

99.5

424.7.1.1P

500 ± 6.94

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

P13215

↓

P13224

AJ
01131124

*Not a certified value

Andrea Schaible

Certified By: _____
Andrea Schaible
Chemist

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



5580 Skylane Blvd
Santa Rosa, CA 95403

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

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

Date Received: _____

Certificate of Analysis

Page 1 of 1

Catalog No.: Lot No.: Storage:

Z-110400-05 514983 ≤ -10 Degrees C

Solvent:

Hexane

Exp. Date:

11/20/2028

Description:

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

-01

Compound

CAS No.

Purity (%)

Compound Lot No.

Concentration, mg/L

decane (C10)

124-18-5

99.7

415.7.2P

498.5 ± 6.92

docosane (C22)

629-97-0

98.8

420.9.1P

499.4 ± 6.93

dodecane (C12)

112-40-3

99.7

416.9.3P

502 ± 6.97

dotriacontane (C32)

544-85-4

97

425.9.2.2P

499.6 ± 8.53

eicosane (C20)

112-95-8

99.8

419.7.1P

501 ± 6.95

hexacosane (C26)

630-01-3

99.3

422.7.2.1P

501 ± 6.95

hexatriacontane (C36)

630-06-8

98

427.29.1.1P

499.3 ± 8.53

n-hexadecane (C16)

544-76-3

99.45

368.27.1.1P

498.7 ± 6.91

octacosane (C28)

630-02-4

99.1

423.24.1P

500.5 ± 6.95

n-octadecane (C18)

593-45-3

99.5

418.29.1P

499.5 ± 6.92

octane (C8)

111-65-9

99.4

385.7.2.1P

498.5 ± 6.92

octatriacontane (C38)

7194-85-6

95

428.1.2P

500.2 ± 6.94

tetracontane (C40)

4181-95-7

97

429.7.2P

499.6 ± 6.93

n-tetracosane (C24)

646-31-1

99.5

421.7.1P

499.5 ± 6.93

n-tetradecane (C14)

629-59-4

99.3

417.9.1P

500 ± 6.94

tetratriacontane (C34)

14167-59-0

96.1

426.7.2.2P

499.7 ± 8.53

triacontane (C30)

638-68-6

99.5

424.7.1.1P

500 ± 6.94

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

P13215

↓

P13224

AJ
01131124

*Not a certified value

Andrea Schaible

Andrea Schaible
Chemist

Certified By: _____

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

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	2.04159	4001.3	15.4	1719-03-5	N/A	N/A	N/A
6. Perylene-d12	247	PR-24113	4000	98	0.2	2.04093	2.04158	4001.2	15.4	1503-58-3	N/A	N/A	N/A

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

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

Peak No. Name FID RT (min)

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

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

Part # 10009R Lot # 041219 1 of 2

Formulator
Reviewer

Actual
Concentration
Uncertainty
Values

Health &
Safety

3rd Party
Comparison

For More Information, Contact:

StephenArpie@AbsoluteStandards.com

Page 2 of 2



CERTIFIED WEIGHT REPORT

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

Solvent(s):
Methylene chloride
Lot#
105345

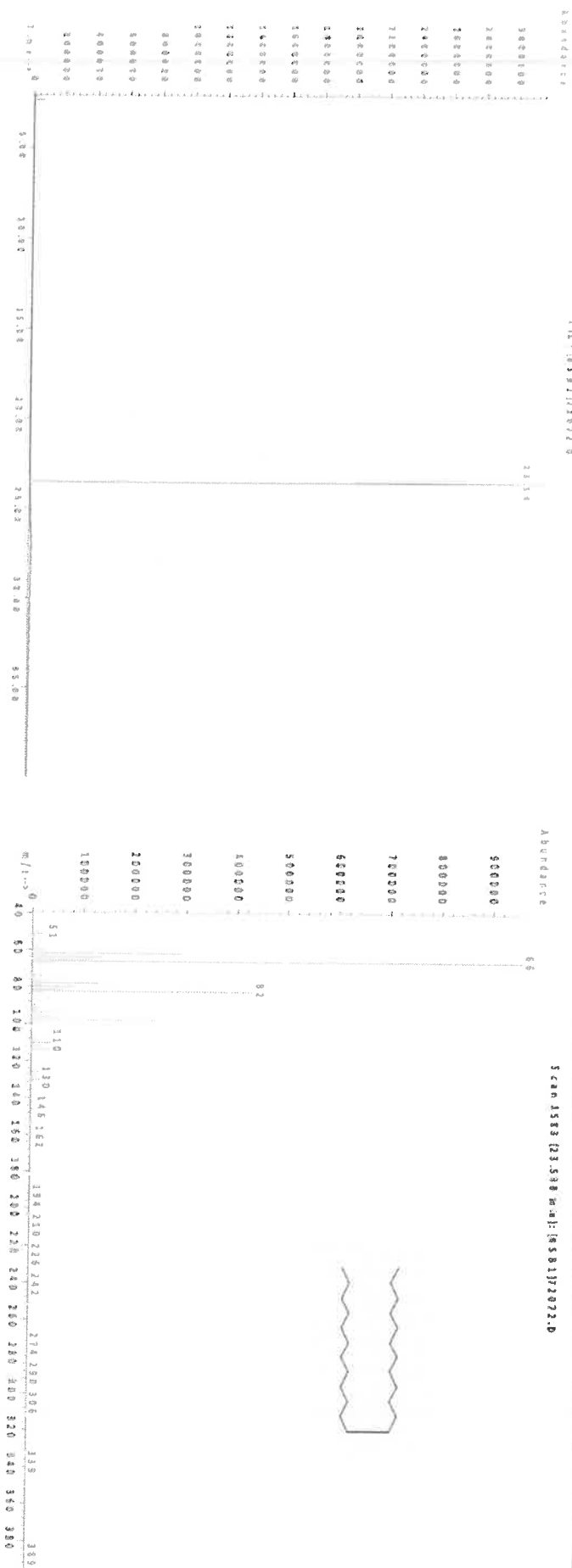
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

P13437
13496
07/24/24
X.F.

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

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

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



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

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



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Document Identification: Certificate of Analysis Rev 14, Date Issued: 05/30/2019



ABSOLUTE STANDARDS, INC.

ISO - 17034

Understanding the Certified Weight Report

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

Run 35, "P10009R L070716 [4000µg/mL in MeCl2]"

Run Length: 40.00 min, 23900 points at 10 points/second.
Created: Sat, Jul 9, 2016 at 1:54:53 PM.
Sampled: Sequence "070716-GC/MS", Method "GC-MS".
Analyzed using Method "GC-MS".

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

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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

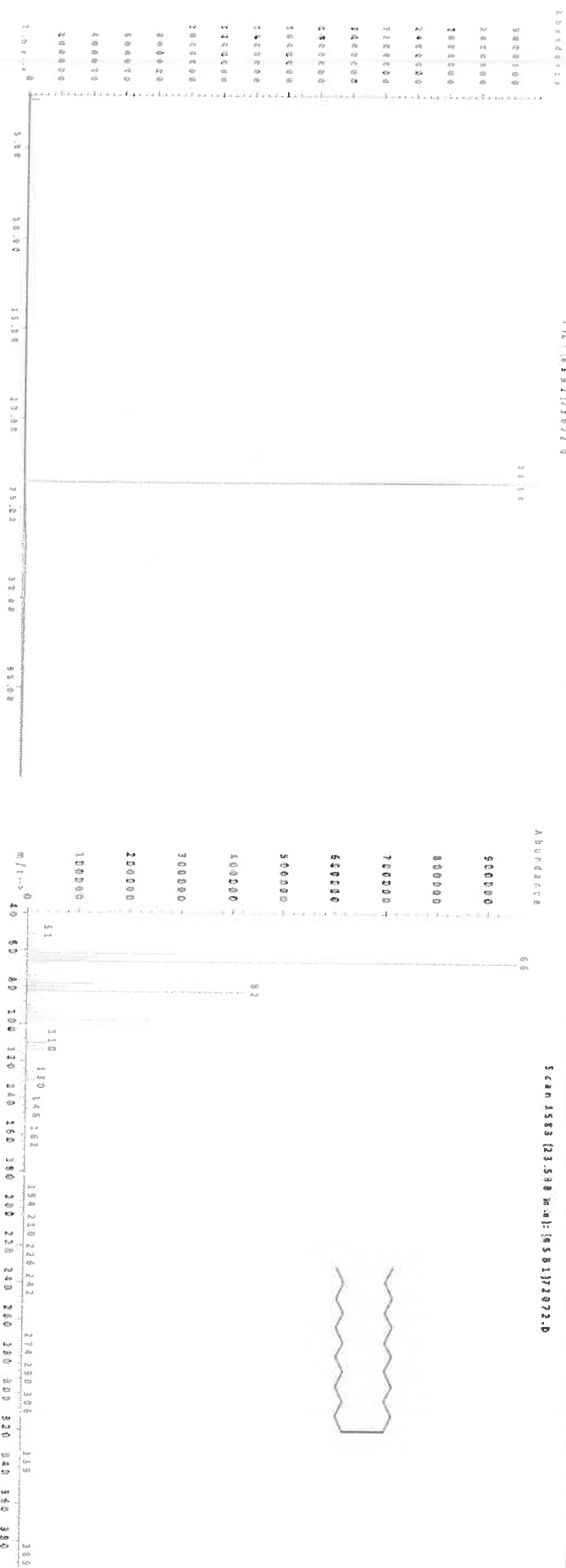
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

P13437
13496
07/24/24
X.F.

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

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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.
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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	2.04136	4000.8	15.4	1517-25-2	N/A	N/A	N/A
5. Chrysene-d12	92	I-19290	4000	98	0.2	2.04093	2.04159	4001.3	15.4	1719-03-5	N/A	N/A	N/A
6. Perylene-d12	247	PR-24113	4000	98	0.2	2.04093	2.04156	4001.2	15.4	1503-58-3	N/A	N/A	N/A

Run 35, "P10009R L070716 [4000µg/mL in MeCl2]"

Run Length: 40.00 min, 23900 points at 10 points/second.
Created: Sat, Jul 9, 2016 at 1:54:53 PM.
Sampled: Sequence "070716-GC/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

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Part # 10009R Lot # 041219 1 of 2

Formulator
Reviewer

Actual
Concentration

Uncertainty
Values

Health &
Safety

3rd Party
Comparison

For More Information, Contact:

StephenArpie@AbsoluteStandards.com

Page 2 of 2



CERTIFIED WEIGHT REPORT

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

Solvent(s):
Methylene chloride
Lot#
105345

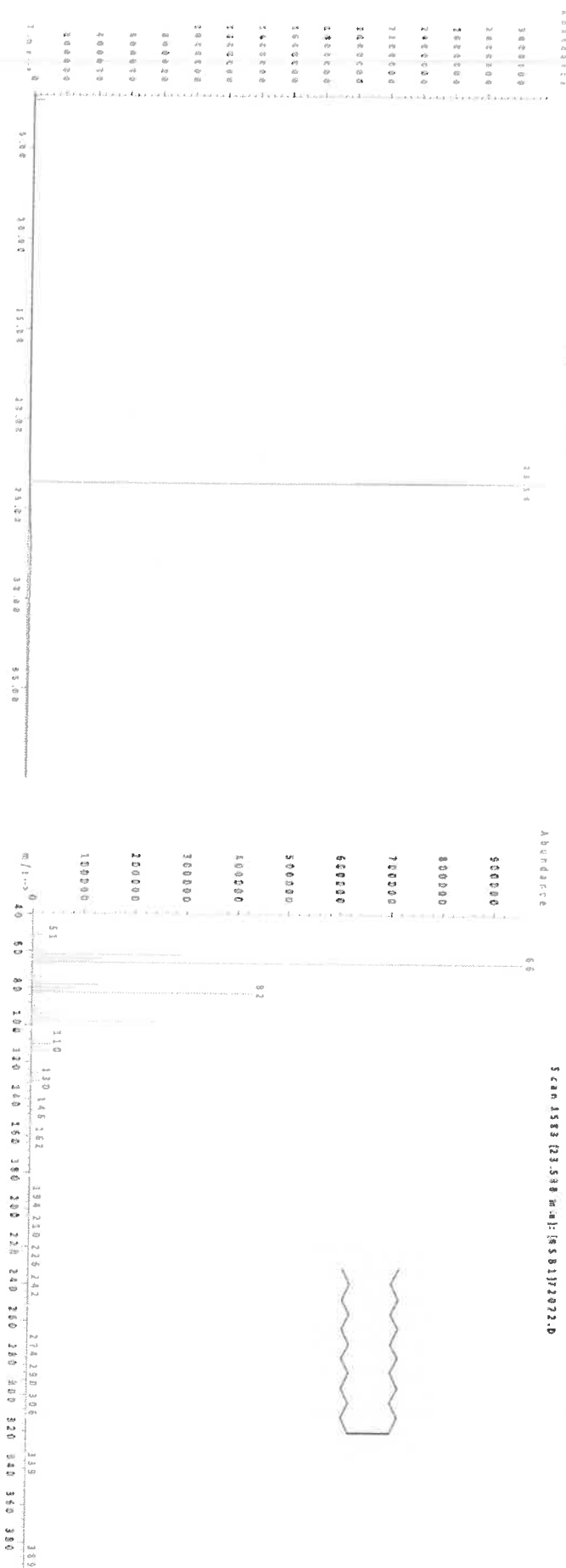
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

P13437
13436
07/24/24
X.F.

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

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-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

Part # 10009R Lot # 041219 1 of 2

Formulator
Reviewer

Actual
Concentration
Uncertainty
Values

Health &
Safety

3rd Party
Comparison

For More Information, Contact:

StephenArpie@AbsoluteStandards.com

Page 2 of 2



CERTIFIED WEIGHT REPORT

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

Solvent(s):
Methylene chloride
Lot#
105345

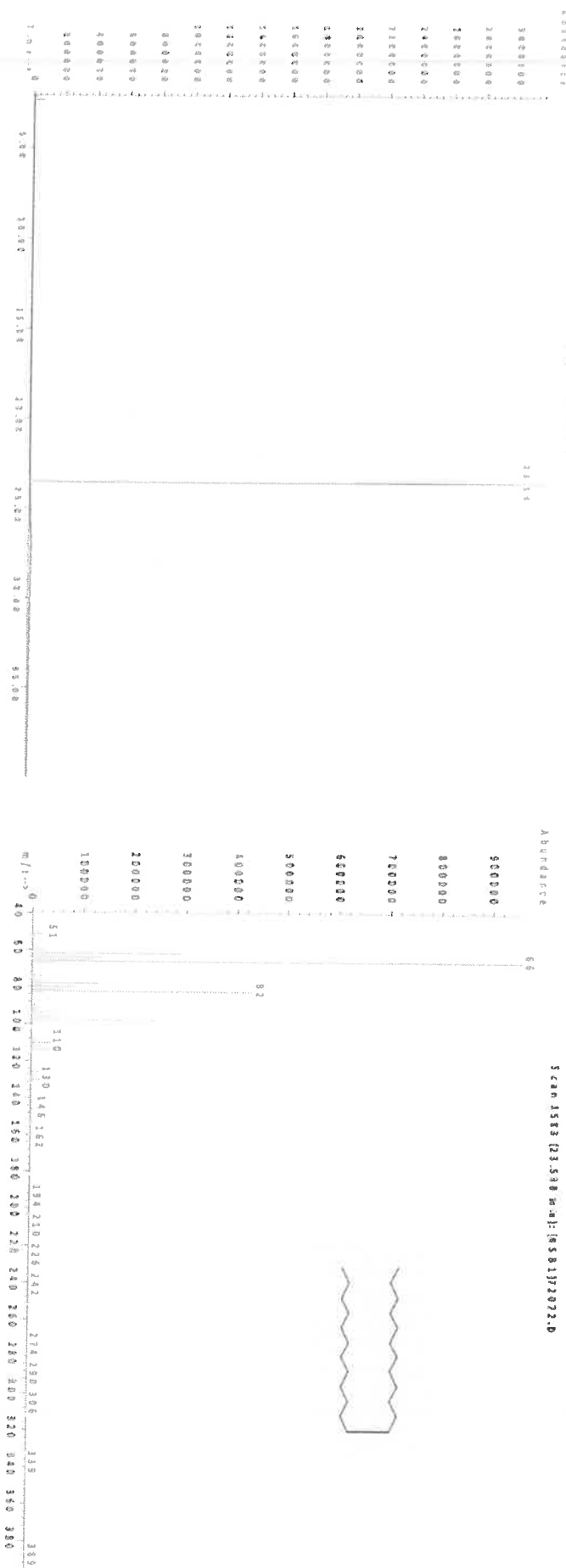
Expiration Date: **101132**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test ID#: **6UB3**
Weight(s) shown below were combined and diluted to (mL): **200.0**
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

P13437
13436
07/24/24
X.F.

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



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SHIPPING DOCUMENTS

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Gannett Fleming
ADDRESS: 1010 Adams Ave
CITY: Arlabon STATE: PA ZIP: 19405
ATTENTION: Joe Krupansky
PHONE: 610-301-8342 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: Amtrak replacement of SR
PROJECT NO.: 950000818 LOCATION: Kearny, NJ
PROJECT MANAGER: Joe Krupansky
e-mail: QASRC@BEMSYS.com
PHONE: 610-301-8432 FAX:

CLIENT BILLING INFORMATION

BILL TO: Alliance PO#:
ADDRESS: 284 Sheffield St
CITY: Mountainside STATE: NJ ZIP: 07093
ATTENTION: Samavla Beasley PHONE: 908-788-3148

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): 10 DAYS*
EDD: 10 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 BEMED0

1. Full TCLP Analysis
2. RCRA parameters
3. PCBs
4. TAL Metals
5. TCL-VOC+10
6. Cr(VI)
7. TCL-SVOCs-BVA+20
8. EPH
9.

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES									COMMENTS	
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9	← Specify Preservatives A-HCl D-NaOH B-HNO3 E-ICE C-H2SO4 F-OTHER	
1.	B-188-SB01	S		X	4/5/25	13:20	9	X	X	X	X	X	X	X	X			
2.	B-158-SB02	S		X	4/5/25	17:10	9	X	X	X	X	X	X	X	X			
3.	IB				NA	NA						X						
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

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

RELINQUISHED BY SAMPLER: 1. <u>[Signature]</u>	DATE/TIME: <u>1040</u> <u>4-5-25</u>	RECEIVED BY: 1. <u>[Signature]</u>	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP <u>2.1</u> °C
RELINQUISHED BY SAMPLER: 2. <u>Natalie Zaca</u>	DATE/TIME: <u>1040</u> <u>4-7-25</u>	RECEIVED BY: 2. <u>[Signature]</u>	Comments: <u>IR. Gun #1</u> <u>"Adjust factor +1"</u>
RELINQUISHED BY SAMPLER: 3.	DATE/TIME:	RECEIVED BY: 3.	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