

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



284 Sheffield Street, Mountainside, New Jersey - 07092

Phone: (908) 789 8900 Fax: (908) 789 8922

LAB CHRONICLE

OrderID: O1232
Client: Louis Berger U.S., Inc., A WSP Company
Contact: Jonathan Ganz

OrderDate: 1/19/2023 1:44:00 PM
Project: NYCDDC Phase II SCI Arthur Kill Road CEQR
Location: N11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
O1232-03	WC-17	SOIL	Diesel Range Organics	8015D	01/18/23	01/20/23	01/20/23	01/19/23

QC
SUMMARY



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

SOIL DIESEL RANGE ORGANICS SURROGATE RECOVERY

Lab Name: Chemtech Client: Louis Berger U.S., Inc., A WSP Company
Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

EPA SAMPLE NO.	S1 TETRACOSANE-d50	S2	S3	S4	TOT OUT
PIBLK-FF011890.D	68				0
PIBLK-FF011899.D	68				0
WC-17	52				0
WC-17MS	83				0
WC-17MSD	74				0
PB150379BL	71				0
PB150379BS	63				0

QC LIMITS

TETRACOSANE-d50

For Water : 29-130

For Soil : 37-130

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate Diluted Out



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SOIL DIESEL RANGE ORGANICS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech Client: Louis Berger U.S., Inc., A WSP Company
Lab Code: CHEM Cas No: O1232 SAS No : O1232 SDG No: O1232
Client SampleID : WC-17MS Datafile: FF011896.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
DRO	7272	1920	10471	118%		68-131



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SOIL DIESEL RANGE ORGANICS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Chemtech Client: Louis Berger U.S., Inc., A WSP Company
Lab Code: CHEM Cas No: O1232 SAS No : O1232 SDG No: O1232
Client SampleID : WC-17MSD Datafile: FF011897.D

COMPOUND	SPIKE ADDED ug/kg	SAMPLE CONCENTRATION ug/kg	MS/MSD CONCENTRATION ug/kg	% REC	Qual	QC LIMITS
DRO	7277	1920	9258	101%		68-131

MS/MSD % Recovery RPD : 15.4



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

Lab Name:

Chemtech

Client:

Louis Berger U.S., Inc., A WSP Company

Lab Code:

CHEM

Cas No:

O1232

SAS No :

O1232

SDG No:

O1232

Matrix Spike - EPA Sample No :

PB150379BS

Datafile:

FF011894.D

COMPOUND	SPIKE ADDED ug/kg	CONCENTRATION ug/kg	LCS/LCSD CONCENTRATION ug/kg	% REC	QC LIMITS
DRO	6660	0	5212	78	68-131



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4B

METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB150379BL

Lab Name: CHEMTECH

Contract: loui01

Lab Code: CHEM Case No.: O1232

SAS No.: O1232 SDG NO.: O1232

Lab File ID: FF011893.D

Lab Sample ID: PB150379BL

Instrument ID: FF

Date Extracted: 01/20/2023

Matrix: (soil/water) Soil

Date Analyzed: 01/20/23

Level: (low/med) low

Time Analyzed: 16:30

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
PB150379BS	PB150379BS	FF011894.D	01/20/23
WC-17	O1232-03	FF011895.D	01/20/23
WC-17MS	O1232-03MS	FF011896.D	01/20/23
WC-17MSD	O1232-03MSD	FF011897.D	01/20/23

COMMENTS:

SAMPLE DATA



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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23		
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23		
Client Sample ID:	WC-17	SDG No.:	O1232		
Lab Sample ID:	O1232-03	Matrix:	SOIL		
Analytical Method:	8015D DRO	% Solid:	91.4	Decanted:	
Sample Wt/Vol:	30.04	Units:	g	Final Vol:	1 mL
Soil Aliquot Vol:			uL	Test:	Diesel Range Organics
Extraction Type:				Injection Volume :	
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011895.D	1	01/20/23 13:10	01/20/23 17:29	PB150379

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	1920		239	1820	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	10.4		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_F\Data\FF012023\
Data File : FF011895.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 17:29
Operator : YP\AJ
Sample : 01232-03
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:04:22 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
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...	15.049	1637387	10.360 ug/ml
Target Compounds			

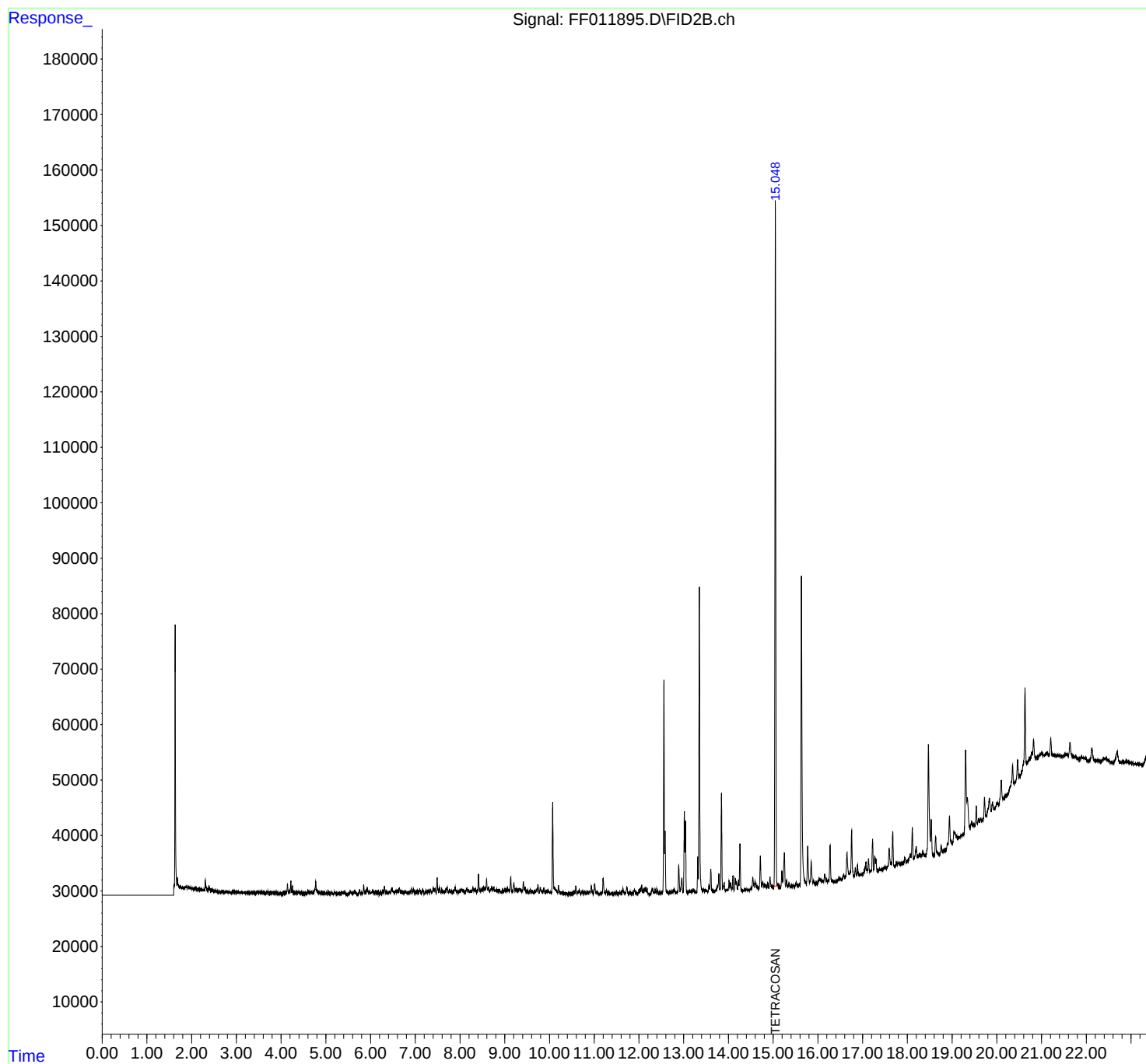
(f)=RT Delta > 1/2 Window

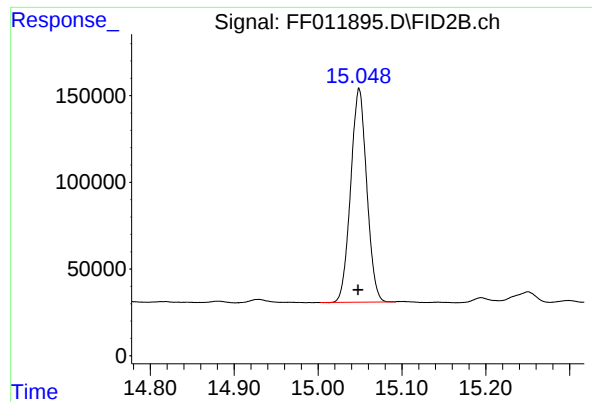
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011895.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 17:29
Operator : YP\AJ
Sample : 01232-03
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:04:22 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
Response via : Initial Calibration
Integrator: ChemStation

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





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.049 min
Delta R.T.: 0.001 min
Response: 1637387
Conc: 10.36 ug/ml

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
 Data File : FF011895.D
 Signal(s) : FID2B.ch
 Acq On : 20 Jan 2023 17:29
 Sample : 01232-03
 Misc :
 ALS Vial : 58 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
 Title :

Signal : FID2B.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.603	4.560	4.628	BH	333	1430	0.08%	0.013%
2	4.651	4.628	4.664	PH	136	-32	-0.00%	-0.000%
3	4.683	4.664	4.702	PH	97	818	0.05%	0.008%
4	4.711	4.702	4.716	PH	89	277	0.02%	0.003%
5	4.775	4.716	4.809	PH	2074	35699	2.10%	0.333%
6	4.821	4.809	4.853	HH	322	3892	0.23%	0.036%
7	4.857	4.853	4.874	HH	33	-494	-0.03%	-0.005%
8	4.891	4.874	4.904	PH	195	178	0.01%	0.002%
9	4.918	4.904	4.931	PH	77	-949	-0.06%	-0.009%
10	4.947	4.931	4.962	PH	50	-836	-0.05%	-0.008%
11	4.964	4.962	4.994	PH	87	-743	-0.04%	-0.007%
12	5.003	4.994	5.008	PH	-73	-938	-0.06%	-0.009%
13	5.022	5.008	5.035	PH	1	-1116	-0.07%	-0.010%
14	5.052	5.035	5.061	PH	127	302	0.02%	0.003%
15	5.066	5.061	5.087	HH	190	-600	-0.04%	-0.006%
16	5.092	5.087	5.100	PH	-130	-1681	-0.10%	-0.016%
17	5.121	5.100	5.156	PH	333	-2343	-0.14%	-0.022%
18	5.172	5.156	5.180	PH	-116	-2934	-0.17%	-0.027%
19	5.196	5.180	5.235	PH	227	-328	-0.02%	-0.003%
20	5.246	5.235	5.253	PH	-153	-2201	-0.13%	-0.021%
21	5.287	5.253	5.305	PH	-34	-3713	-0.22%	-0.035%
22	5.314	5.305	5.331	PH	-3	-2020	-0.12%	-0.019%
23	5.354	5.331	5.379	PH	128	-1905	-0.11%	-0.018%
24	5.389	5.379	5.403	PH	140	156	0.01%	0.001%
25	5.422	5.403	5.459	PH	234	-2306	-0.14%	-0.022%
26	5.483	5.459	5.488	PH	-186	-4474	-0.26%	-0.042%
27	5.494	5.488	5.508	PH	-202	-2858	-0.17%	-0.027%
28	5.525	5.508	5.532	PH	7	-1395	-0.08%	-0.013%
29	5.545	5.532	5.576	PH	394	1760	0.10%	0.016%
30	5.583	5.576	5.602	PH	59	-1308	-0.08%	-0.012%
31	5.617	5.602	5.631	PH	128	-291	-0.02%	-0.003%
32	5.644	5.631	5.672	PH	321	2456	0.14%	0.023%
33	5.676	5.672	5.701	PH	-78	-2726	-0.16%	-0.025%
34	5.711	5.701	5.726	PH	-190	-3514	-0.21%	-0.033%
35	5.759	5.726	5.783	PH	556	3549	0.21%	0.033%
36	5.795	5.783	5.809	PH	91	-614	-0.04%	-0.006%

					rteres			
37	5.817	5.809	5.828	PH	36	-885	-0.05%	-0.008%
38	5.846	5.828	5.870	PH	1502	14124	0.83%	0.132%
39	5.873	5.870	5.882	HH	141	442	0.03%	0.004%
40	5.927	5.882	5.954	PH	794	13024	0.77%	0.122%
41	5.980	5.954	5.997	PH	186	2061	0.12%	0.019%
42	6.004	5.997	6.020	PH	83	81	0.00%	0.001%
43	6.046	6.020	6.086	PH	457	6691	0.39%	0.062%
44	6.108	6.086	6.123	PH	351	2718	0.16%	0.025%
45	6.128	6.123	6.141	PH	-18	-537	-0.03%	-0.005%
46	6.173	6.141	6.203	PH	211	-1691	-0.10%	-0.016%
47	6.220	6.203	6.241	PH	273	-420	-0.02%	-0.004%
48	6.275	6.241	6.294	PH	576	3807	0.22%	0.036%
49	6.310	6.294	6.333	PH	1167	13418	0.79%	0.125%
50	6.336	6.333	6.344	HH	145	596	0.04%	0.006%
51	6.362	6.344	6.389	PH	204	2090	0.12%	0.020%
52	6.422	6.389	6.438	PH	187	1211	0.07%	0.011%
53	6.481	6.438	6.529	PH	961	16922	1.00%	0.158%
54	6.538	6.529	6.555	PH	203	1672	0.10%	0.016%
55	6.569	6.555	6.590	HH	413	4916	0.29%	0.046%
56	6.609	6.590	6.619	HH	447	4942	0.29%	0.046%
57	6.640	6.619	6.674	HH	818	12809	0.76%	0.120%
58	6.693	6.674	6.711	HH	325	4235	0.25%	0.040%
59	6.716	6.711	6.738	HH	168	1792	0.11%	0.017%
60	6.742	6.738	6.747	PH	19	-35	-0.00%	-0.000%
61	6.768	6.747	6.777	PH	243	1686	0.10%	0.016%
62	6.789	6.777	6.818	HH	228	1548	0.09%	0.014%
63	6.828	6.818	6.833	PH	17	-518	-0.03%	-0.005%
64	6.856	6.833	6.871	PH	213	1278	0.08%	0.012%
65	6.888	6.871	6.908	PH	375	3923	0.23%	0.037%
66	6.922	6.908	6.949	PH	819	8903	0.52%	0.083%
67	6.963	6.949	6.984	HH	655	6804	0.40%	0.064%
68	6.999	6.984	7.017	PH	305	1762	0.10%	0.016%
69	7.055	7.017	7.073	PH	376	3865	0.23%	0.036%
70	7.100	7.073	7.130	PH	454	6401	0.38%	0.060%
71	7.133	7.130	7.146	PH	0	-424	-0.03%	-0.004%
72	7.175	7.146	7.199	PH	453	5213	0.31%	0.049%
73	7.241	7.199	7.263	PH	385	4026	0.24%	0.038%
74	7.299	7.263	7.325	PH	570	10870	0.64%	0.102%
75	7.341	7.325	7.374	HH	654	7543	0.44%	0.070%
76	7.405	7.374	7.426	PH	790	13582	0.80%	0.127%
77	7.439	7.426	7.467	HH	828	10673	0.63%	0.100%
78	7.488	7.467	7.526	HH	2755	34874	2.06%	0.326%
79	7.543	7.526	7.568	HH	976	12162	0.72%	0.114%
80	7.590	7.568	7.610	HH	669	7814	0.46%	0.073%
81	7.615	7.610	7.645	HH	206	2057	0.12%	0.019%
82	7.676	7.645	7.680	PH	347	3517	0.21%	0.033%
83	7.714	7.680	7.741	HH	1038	18298	1.08%	0.171%
84	7.764	7.741	7.769	HH	389	4338	0.26%	0.041%
85	7.772	7.769	7.795	HH	353	4129	0.24%	0.039%
86	7.806	7.795	7.827	HH	338	3670	0.22%	0.034%
87	7.849	7.827	7.861	HH	220	3484	0.21%	0.033%
88	7.890	7.861	7.926	HH	1054	19655	1.16%	0.184%
89	7.940	7.926	7.960	HH	330	3844	0.23%	0.036%

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90	7.980	7.960	7.991	PH	202	2213	0.13%	0.021%
91	8.011	7.991	8.018	HH	459	4915	0.29%	0.046%
92	8.031	8.018	8.044	HH	544	7272	0.43%	0.068%
93	8.050	8.044	8.068	HH	517	6519	0.38%	0.061%
94	8.074	8.068	8.089	HH	336	2842	0.17%	0.027%
95	8.097	8.089	8.117	HH	149	1761	0.10%	0.016%
96	8.147	8.117	8.167	HH	798	11966	0.71%	0.112%
97	8.179	8.167	8.189	HH	393	4586	0.27%	0.043%
98	8.198	8.189	8.220	HH	500	5417	0.32%	0.051%
99	8.239	8.220	8.257	HH	388	5644	0.33%	0.053%
100	8.289	8.257	8.317	HH	740	17253	1.02%	0.161%
101	8.331	8.317	8.335	HH	614	5693	0.34%	0.053%
102	8.340	8.335	8.375	HH	611	7737	0.46%	0.072%
103	8.378	8.375	8.385	HH	227	970	0.06%	0.009%
104	8.414	8.385	8.452	HH	3397	47355	2.79%	0.442%
105	8.465	8.452	8.481	HH	505	7833	0.46%	0.073%
106	8.523	8.481	8.534	HH	842	20380	1.20%	0.190%
107	8.550	8.534	8.569	HH	945	14295	0.84%	0.134%
108	8.593	8.569	8.619	HH	2440	36031	2.12%	0.337%
109	8.638	8.619	8.660	HH	983	16478	0.97%	0.154%
110	8.705	8.660	8.742	HH	954	29066	1.71%	0.271%
111	8.757	8.742	8.778	HH	989	14352	0.85%	0.134%
112	8.785	8.778	8.801	HH	444	5100	0.30%	0.048%
113	8.816	8.801	8.832	HH	685	8339	0.49%	0.078%
114	8.842	8.832	8.854	HH	408	4194	0.25%	0.039%
115	8.871	8.854	8.908	HH	504	11988	0.71%	0.112%
116	8.921	8.908	8.937	HH	207	2237	0.13%	0.021%
117	8.957	8.937	8.972	HH	524	6616	0.39%	0.062%
118	9.010	8.972	9.039	HH	576	16459	0.97%	0.154%
119	9.057	9.039	9.079	HH	946	13670	0.81%	0.128%
120	9.092	9.079	9.099	HH	505	4893	0.29%	0.046%
121	9.133	9.099	9.161	HH	2789	41005	2.42%	0.383%
122	9.168	9.161	9.175	HH	339	2262	0.13%	0.021%
123	9.203	9.175	9.230	HH	1700	28972	1.71%	0.271%
124	9.247	9.230	9.269	HH	825	12746	0.75%	0.119%
125	9.280	9.269	9.298	HH	714	8492	0.50%	0.079%
126	9.322	9.298	9.337	HH	841	12811	0.76%	0.120%
127	9.346	9.337	9.351	HH	526	4269	0.25%	0.040%
128	9.357	9.351	9.382	HH	553	8298	0.49%	0.078%
129	9.417	9.382	9.445	HH	1930	35040	2.07%	0.327%
130	9.456	9.445	9.489	HH	984	13528	0.80%	0.126%
131	9.505	9.489	9.529	HH	420	5534	0.33%	0.052%
132	9.571	9.529	9.592	HH	653	10063	0.59%	0.094%
133	9.603	9.592	9.638	HH	358	4500	0.27%	0.042%
134	9.657	9.638	9.677	HH	304	3253	0.19%	0.030%
135	9.710	9.677	9.723	HH	578	8904	0.52%	0.083%
136	9.741	9.723	9.772	HH	1506	20686	1.22%	0.193%
137	9.793	9.772	9.833	PH	985	15979	0.94%	0.149%
138	9.837	9.833	9.849	HH	146	978	0.06%	0.009%
139	9.872	9.849	9.902	HH	864	13028	0.77%	0.122%
140	9.919	9.902	9.927	HH	192	1942	0.11%	0.018%
141	9.958	9.927	9.966	HH	347	5894	0.35%	0.055%

					rteres			
142	9.973	9.966	9.995	HH	347	3961	0.23%	0.037%
143	9.998	9.995	10.007	HH	123	400	0.02%	0.004%
144	10.033	10.007	10.045	PH	151	1307	0.08%	0.012%
145	10.071	10.045	10.105	PH	16321	197232	11.63%	1.842%
146	10.115	10.105	10.182	HH	925	23731	1.40%	0.222%
147	10.200	10.182	10.259	PH	1366	15848	0.93%	0.148%
148	10.269	10.259	10.278	PH	45	-298	-0.02%	-0.003%
149	10.281	10.278	10.295	PH	-16	-656	-0.04%	-0.006%
150	10.307	10.295	10.352	PH	44	-4389	-0.26%	-0.041%
151	10.372	10.352	10.408	PH	72	-3856	-0.23%	-0.036%
152	10.416	10.408	10.421	PH	-174	-1635	-0.10%	-0.015%
153	10.434	10.421	10.449	PH	-150	-3822	-0.23%	-0.036%
154	10.452	10.449	10.462	PH	-244	-1982	-0.12%	-0.019%
155	10.478	10.462	10.493	PH	-84	-3158	-0.19%	-0.029%
156	10.500	10.493	10.510	PH	-207	-2268	-0.13%	-0.021%
157	10.539	10.510	10.563	PH	288	69	0.00%	0.001%
158	10.589	10.563	10.614	PH	1225	13334	0.79%	0.125%
159	10.646	10.614	10.663	PH	281	2638	0.16%	0.025%
160	10.672	10.663	10.699	HH	320	1899	0.11%	0.018%
161	10.716	10.699	10.728	PH	210	719	0.04%	0.007%
162	10.733	10.728	10.739	HH	204	791	0.05%	0.007%
163	10.742	10.739	10.767	HH	154	630	0.04%	0.006%
164	10.789	10.767	10.828	PH	176	-1167	-0.07%	-0.011%
165	10.852	10.828	10.856	PH	161	460	0.03%	0.004%
166	10.861	10.856	10.882	HH	195	1580	0.09%	0.015%
167	10.891	10.882	10.906	HH	301	1988	0.12%	0.019%
168	10.936	10.906	10.982	PH	1256	17380	1.02%	0.162%
169	11.010	10.982	11.039	PH	1508	19552	1.15%	0.183%
170	11.043	11.039	11.054	PH	59	-85	-0.01%	-0.001%
171	11.072	11.054	11.095	PH	133	-613	-0.04%	-0.006%
172	11.100	11.095	11.113	PH	-123	-2148	-0.13%	-0.020%
173	11.134	11.113	11.147	PH	-146	-3925	-0.23%	-0.037%
174	11.163	11.147	11.167	PH	-92	-1977	-0.12%	-0.018%
175	11.200	11.167	11.243	PH	2525	33985	2.00%	0.317%
176	11.274	11.243	11.297	PH	569	4240	0.25%	0.040%
177	11.301	11.297	11.306	PH	-62	-492	-0.03%	-0.005%
178	11.313	11.306	11.320	PH	14	-424	-0.02%	-0.004%
179	11.335	11.320	11.355	PH	118	-1106	-0.07%	-0.010%
180	11.361	11.355	11.366	PH	-142	-1133	-0.07%	-0.011%
181	11.373	11.366	11.399	PH	-81	-2856	-0.17%	-0.027%
182	11.405	11.399	11.409	PH	-123	-1006	-0.06%	-0.009%
183	11.413	11.409	11.427	PH	-144	-2120	-0.13%	-0.020%
184	11.430	11.427	11.438	PH	-183	-1425	-0.08%	-0.013%
185	11.447	11.438	11.475	PH	-80	-2998	-0.18%	-0.028%
186	11.487	11.475	11.493	PH	-48	-928	-0.05%	-0.009%
187	11.502	11.493	11.529	PH	112	-1730	-0.10%	-0.016%
188	11.592	11.529	11.604	PH	116	-1751	-0.10%	-0.016%
189	11.641	11.604	11.682	PH	825	10339	0.61%	0.097%
190	11.690	11.682	11.697	PH	-52	-715	-0.04%	-0.007%
191	11.731	11.697	11.773	PH	998	11665	0.69%	0.109%
192	11.799	11.773	11.822	PH	176	-1980	-0.12%	-0.018%
193	11.845	11.822	11.871	PH	53	-3101	-0.18%	-0.029%
194	11.898	11.871	11.947	PH	561	4643	0.27%	0.043%

					rteres			
195	11.956	11.947	11.975	PH	-55	-1906	-0.11%	-0.018%
196	12.001	11.975	12.016	PH	598	4244	0.25%	0.040%
197	12.032	12.016	12.044	PH	846	7649	0.45%	0.071%
198	12.062	12.044	12.086	HH	1450	17581	1.04%	0.164%
199	12.117	12.086	12.135	HH	791	13174	0.78%	0.123%
200	12.149	12.135	12.164	HH	916	9552	0.56%	0.089%
201	12.180	12.164	12.207	HH	805	7827	0.46%	0.073%
202	12.212	12.207	12.232	PH	-215	-3836	-0.23%	-0.036%
203	12.250	12.232	12.269	PH	-20	-3688	-0.22%	-0.034%
204	12.306	12.269	12.333	PH	747	12397	0.73%	0.116%
205	12.337	12.333	12.344	PH	24	80	0.00%	0.001%
206	12.363	12.344	12.382	PH	689	7344	0.43%	0.069%
207	12.401	12.382	12.436	HH	688	7171	0.42%	0.067%
208	12.440	12.436	12.448	PH	-123	-1022	-0.06%	-0.010%
209	12.473	12.448	12.490	PH	241	462	0.03%	0.004%
210	12.499	12.490	12.519	PH	-2	-1037	-0.06%	-0.010%
211	12.559	12.519	12.574	PH	38437	394500	23.26%	3.685%
212	12.584	12.574	12.614	HH	11129	122603	7.23%	1.145%
213	12.617	12.614	12.633	HH	305	1677	0.10%	0.016%
214	12.644	12.633	12.667	PH	149	895	0.05%	0.008%
215	12.678	12.667	12.688	PH	121	292	0.02%	0.003%
216	12.705	12.688	12.712	HH	174	1309	0.08%	0.012%
217	12.721	12.712	12.737	HH	205	1776	0.10%	0.017%
218	12.747	12.737	12.757	HH	185	1506	0.09%	0.014%
219	12.787	12.757	12.802	HH	603	9821	0.58%	0.092%
220	12.809	12.802	12.827	HH	316	1907	0.11%	0.018%
221	12.830	12.827	12.835	PH	-31	-363	-0.02%	-0.003%
222	12.848	12.835	12.863	PH	187	1623	0.10%	0.015%
223	12.890	12.863	12.921	HH	4938	71357	4.21%	0.667%
224	12.958	12.921	12.986	HH	2580	46236	2.73%	0.432%
225	13.015	12.986	13.028	HH	14705	170879	10.07%	1.596%
226	13.040	13.028	13.089	HH	12976	144421	8.51%	1.349%
227	13.120	13.089	13.140	PH	472	6364	0.38%	0.059%
228	13.152	13.140	13.166	HH	284	3617	0.21%	0.034%
229	13.175	13.166	13.190	HH	271	2666	0.16%	0.025%
230	13.208	13.190	13.258	HH	674	13438	0.79%	0.126%
231	13.262	13.258	13.288	HH	216	2036	0.12%	0.019%
232	13.315	13.288	13.328	PH	6488	71169	4.20%	0.665%
233	13.350	13.328	13.423	HH	55184	689763	40.67%	6.443%
234	13.446	13.423	13.469	HH	620	12198	0.72%	0.114%
235	13.483	13.469	13.503	HH	478	7869	0.46%	0.073%
236	13.522	13.503	13.539	HH	361	5665	0.33%	0.053%
237	13.563	13.539	13.580	HH	1160	17819	1.05%	0.166%
238	13.606	13.580	13.635	HH	4245	63161	3.72%	0.590%
239	13.648	13.635	13.674	HH	558	8023	0.47%	0.075%
240	13.687	13.674	13.701	HH	311	3731	0.22%	0.035%
241	13.714	13.701	13.722	HH	488	4798	0.28%	0.045%
242	13.787	13.722	13.813	HH	3481	71202	4.20%	0.665%
243	13.844	13.813	13.871	HH	18008	229330	13.52%	2.142%
244	13.903	13.871	13.937	HH	1705	40237	2.37%	0.376%
245	13.944	13.937	13.967	HH	524	8438	0.50%	0.079%
246	13.971	13.967	13.991	HH	510	6808	0.40%	0.064%

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247	14.015	13.991	14.033	HH	2142	33118	1.95%	0.309%
248	14.050	14.033	14.072	HH	1818	28311	1.67%	0.264%
249	14.101	14.072	14.126	HH	3079	46995	2.77%	0.439%
250	14.149	14.126	14.166	HH	2551	39177	2.31%	0.366%
251	14.179	14.166	14.204	HH	1939	31030	1.83%	0.290%
252	14.224	14.204	14.237	HH	2343	31652	1.87%	0.296%
253	14.257	14.237	14.289	HH	8846	117870	6.95%	1.101%
254	14.299	14.289	14.319	HH	528	7735	0.46%	0.072%
255	14.343	14.319	14.350	HH	496	8193	0.48%	0.077%
256	14.380	14.350	14.387	HH	644	12731	0.75%	0.119%
257	14.389	14.387	14.403	HH	648	5323	0.31%	0.050%
258	14.408	14.403	14.410	HH	531	2206	0.13%	0.021%
259	14.414	14.410	14.417	HH	538	2131	0.13%	0.020%
260	14.421	14.417	14.432	HH	559	4471	0.26%	0.042%
261	14.438	14.432	14.445	HH	495	3504	0.21%	0.033%
262	14.488	14.445	14.492	HH	654	13869	0.82%	0.130%
263	14.511	14.492	14.522	HH	859	13480	0.79%	0.126%
264	14.544	14.522	14.575	HH	2767	55760	3.29%	0.521%
265	14.595	14.575	14.626	HH	2066	47733	2.81%	0.446%
266	14.639	14.626	14.659	HH	1321	21269	1.25%	0.199%
267	14.664	14.659	14.675	HH	825	7894	0.47%	0.074%
268	14.713	14.675	14.751	HH	6666	120151	7.08%	1.122%
269	14.768	14.751	14.797	HH	2006	42766	2.52%	0.399%
270	14.813	14.797	14.856	HH	1566	45084	2.66%	0.421%
271	14.881	14.856	14.902	HH	1787	36127	2.13%	0.337%
272	14.929	14.902	14.955	HH	2832	56642	3.34%	0.529%
273	14.965	14.955	14.994	HH	1153	24725	1.46%	0.231%
274	14.999	14.994	15.014	HH	1047	12144	0.72%	0.113%
275	15.049	15.014	15.092	HH	124668	1696115	100.00%	15.842%
276	15.102	15.092	15.127	HH	1644	29191	1.72%	0.273%
277	15.143	15.127	15.167	HH	1259	25877	1.53%	0.242%
278	15.194	15.167	15.216	HH	3864	68438	4.03%	0.639%
279	15.250	15.216	15.277	HH	7249	150103	8.85%	1.402%
280	15.298	15.277	15.320	HH	2186	42419	2.50%	0.396%
281	15.328	15.320	15.337	HH	1240	11915	0.70%	0.111%
282	15.355	15.337	15.384	HH	1660	37515	2.21%	0.350%
283	15.403	15.384	15.424	HH	1369	28532	1.68%	0.267%
284	15.449	15.424	15.483	HH	1452	40551	2.39%	0.379%
285	15.516	15.483	15.545	HH	1845	53702	3.17%	0.502%
286	15.553	15.545	15.574	HH	1447	23563	1.39%	0.220%
287	15.588	15.574	15.602	HH	1487	23476	1.38%	0.219%
288	15.632	15.602	15.745	HH	57118	1008583	59.46%	9.421%
289	15.772	15.745	15.814	HH	8417	169126	9.97%	1.580%
290	15.850	15.814	15.888	HH	5546	139447	8.22%	1.302%
291	15.902	15.888	15.932	HH	2156	49705	2.93%	0.464%
292	15.944	15.932	15.963	HH	1782	31351	1.85%	0.293%
293	15.969	15.963	15.983	HH	1711	20693	1.22%	0.193%
294	16.029	15.983	16.049	HH	2533	84171	4.96%	0.786%
295	16.060	16.049	16.084	HH	2395	45657	2.69%	0.426%
296	16.100	16.084	16.116	HH	2189	39715	2.34%	0.371%
297	16.153	16.116	16.182	HH	3373	101804	6.00%	0.951%
298	16.190	16.182	16.215	HH	2288	42179	2.49%	0.394%
299	16.231	16.215	16.243	HH	2194	35390	2.09%	0.331%

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300	16.273	16.243	16.311	HH	8568	170697	10.06%	1.594%
301	16.317	16.311	16.322	HH	2131	13208	0.78%	0.123%
302	16.334	16.322	16.352	HH	2269	38029	2.24%	0.355%
303	16.364	16.352	16.369	HH	2046	20462	1.21%	0.191%
304	16.377	16.369	16.383	HH	2043	16547	0.98%	0.155%
305	16.413	16.383	16.422	HH	2130	48920	2.88%	0.457%
306	16.478	16.422	16.487	HH	2633	91403	5.39%	0.854%
307	16.489	16.487	16.534	HH	2562	67864	4.00%	0.634%
308	16.579	16.534	16.600	HH	3236	111060	6.55%	1.037%
309	16.649	16.600	16.701	HH	7219	258907	15.26%	2.418%
310	16.721	16.701	16.730	HH	3755	62580	3.69%	0.585%
311	16.755	16.730	16.806	HH	11277	257450	15.18%	2.405%
312	16.838	16.806	16.862	HH	4371	120466	7.10%	1.125%
313	16.885	16.862	16.908	HH	5065	109768	6.47%	1.025%
314	16.924	16.908	16.935	HH	3400	54565	3.22%	0.510%
315	16.941	16.935	16.947	HH	3306	22723	1.34%	0.212%
316	16.951	16.947	16.956	HH	3306	17709	1.04%	0.165%
317	16.976	16.956	16.992	HH	3410	71363	4.21%	0.667%
318	17.072	16.992	17.099	HH	5514	265217	15.64%	2.477%
319	17.132	17.099	17.171	HH	6092	197340	11.63%	1.843%
320	17.222	17.171	17.252	HH	9638	271774	16.02%	2.538%

Sum of corrected areas: 10706184

FF123022.M Sat Jan 21 03:24:36 2023

CALIBRATION SUMMARY



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

DIESEL RANGE ORGANICS INITIAL CALIBRATION SUMMARY

Lab Name: Chemtech Contract: loui01
ProjectID: NYCDDC Phase II SCI Arthur Kill Road CEQR
Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232

Calibration Sequence : FF123022		Test : Diesel Range Organics	
Concentration (PPM)	Area Count	Reference Factor	File ID
1000	150435250	150435	FF011840.D
500	78485683	156971	FF011841.D
200	33452553	167263	FF011842.D
100	18725781	187258	FF011843.D
50	9861875	197238	FF011844.D
AVG RF : 171833		% RSD : 11.577	AVG RT : 15.0486



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

DIESEL RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: loui01
ProjectID: NYCDDC Phase II SCI Arthur Kill Road CEQR
Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232
DataFile: FF011891.D Analyst Name: YP\AJ Analyst Date: 01-20-2023

Conc. (PPM)	Area Count	RF	Average RF	%D
500	90909856	181820	171833	5.812

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
 Data File : FF011891.D
 Signal(s) : FID2B.ch
 Acq On : 20 Jan 2023 15:29
 Operator : YP\AJ
 Sample : 50 PPM TRPH STD
 Misc :
 ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Jan 21 03:03:49 2023
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
 Quant Title :
 QLast Update : Mon Jan 02 03:26:15 2023
 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...	15.053	8292131	52.464 ug/ml
Target Compounds				
2)	N-DECANE	4.607	8480236	53.862 ug/ml
3)	N-DODECANE	6.770	8716478	54.151 ug/ml
4)	N-TETRADECANE	8.596	8906983	54.146 ug/ml
5)	N-HEXADECANE	10.203	9200906	53.950 ug/ml
6)	N-OCTADECANE	11.646	9487214	53.713 ug/ml
7)	N-EICOSANE	12.956	9443479	53.184 ug/ml
8)	N-DOCOSANE	14.154	9432040	52.705 ug/ml
10)	N-TETRACOSANE	15.258	9352232	51.833 ug/ml
11)	N-HEXACOSANE	16.279	9116679	51.127 ug/ml
12)	N-OCTACOSANE	17.229	8773609	50.719 ug/ml

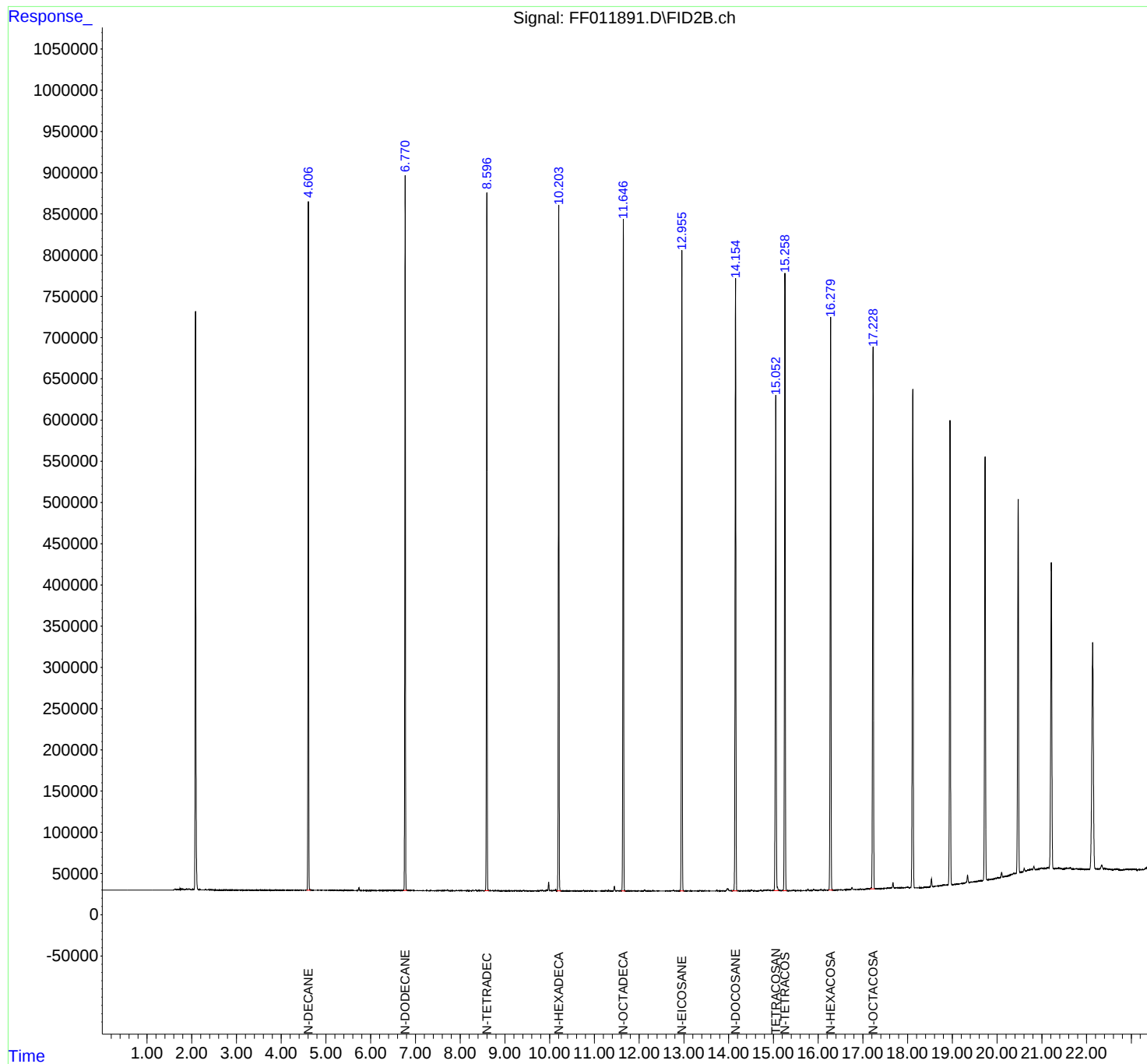
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011891.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 15:29
Operator : YP\AJ
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:03:49 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
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_F\Data\FF012023\
Data File : FF011891.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 15:29
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Title :

Signal : FID2B.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.607	4.568	4.656	BB	836498	8480236	89.39%	8.548%
2	6.770	6.728	6.815	BB	868297	8716478	91.88%	8.787%
3	8.596	8.550	8.643	BB	845619	8906983	93.88%	8.979%
4	10.203	10.156	10.255	BB	830810	9200906	96.98%	9.275%
5	11.646	11.600	11.691	BB	814061	9487214	100.00%	9.564%
6	12.956	12.904	13.004	BB	776589	9443479	99.54%	9.519%
7	14.154	14.075	14.196	BB	743260	9432040	99.42%	9.508%
8	15.053	15.007	15.122	BB	600542	8292131	87.40%	8.359%
9	15.258	15.203	15.300	BB	748009	9352232	98.58%	9.427%
10	16.279	16.235	16.331	BB	694314	9116679	96.09%	9.190%
11	17.229	17.153	17.265	BB	656818	8773609	92.48%	8.844%
Sum of corrected areas:						99201987		

FF123022.M Sat Jan 21 03:19:54 2023



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

DIESEL RANGE ORGANICS CONTINUING CALIBRATION SUMMARY

50 PPM TRPH STD

Lab Name: Chemtech Contract: loui01
ProjectID: NYCDDC Phase II SCI Arthur Kill Road CEQR
Lab Code: CHEM Case No.: O1232 SAS No.: O1232 SDG No.: O1232
DataFile: FF011900.D Analyst Name: YP\AJ Analyst Date: 01-20-2023

Conc. (PPM)	Area Count	RF	Average RF	%D
500	90844238	181688	171833	5.735

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
 Data File : FF011900.D
 Signal(s) : FID2B.ch
 Acq On : 20 Jan 2023 20:56
 Operator : YP\AJ
 Sample : 50 PPM TRPH STD
 Misc :
 ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Jan 21 03:05:06 2023
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
 Quant Title :
 QLast Update : Mon Jan 02 03:26:15 2023
 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...	15.054	8188278	51.807 ug/ml
Target Compounds			
2) N-DECANE	4.609	8487544	53.908 ug/ml
3) N-DODECANE	6.772	8788903	54.601 ug/ml
4) N-TETRADECANE	8.598	9026461	54.872 ug/ml
5) N-HEXADECANE	10.205	9326409	54.686 ug/ml
6) N-OCTADECANE	11.647	9564876	54.153 ug/ml
7) N-EICOSANE	12.957	9447248	53.205 ug/ml
8) N-DOCOSANE	14.155	9349999	52.247 ug/ml
10) N-TETRACOSANE	15.258	9234864	51.183 ug/ml
11) N-HEXACOSANE	16.278	8976605	50.342 ug/ml
12) N-OCTACOSANE	17.227	8641329	49.954 ug/ml

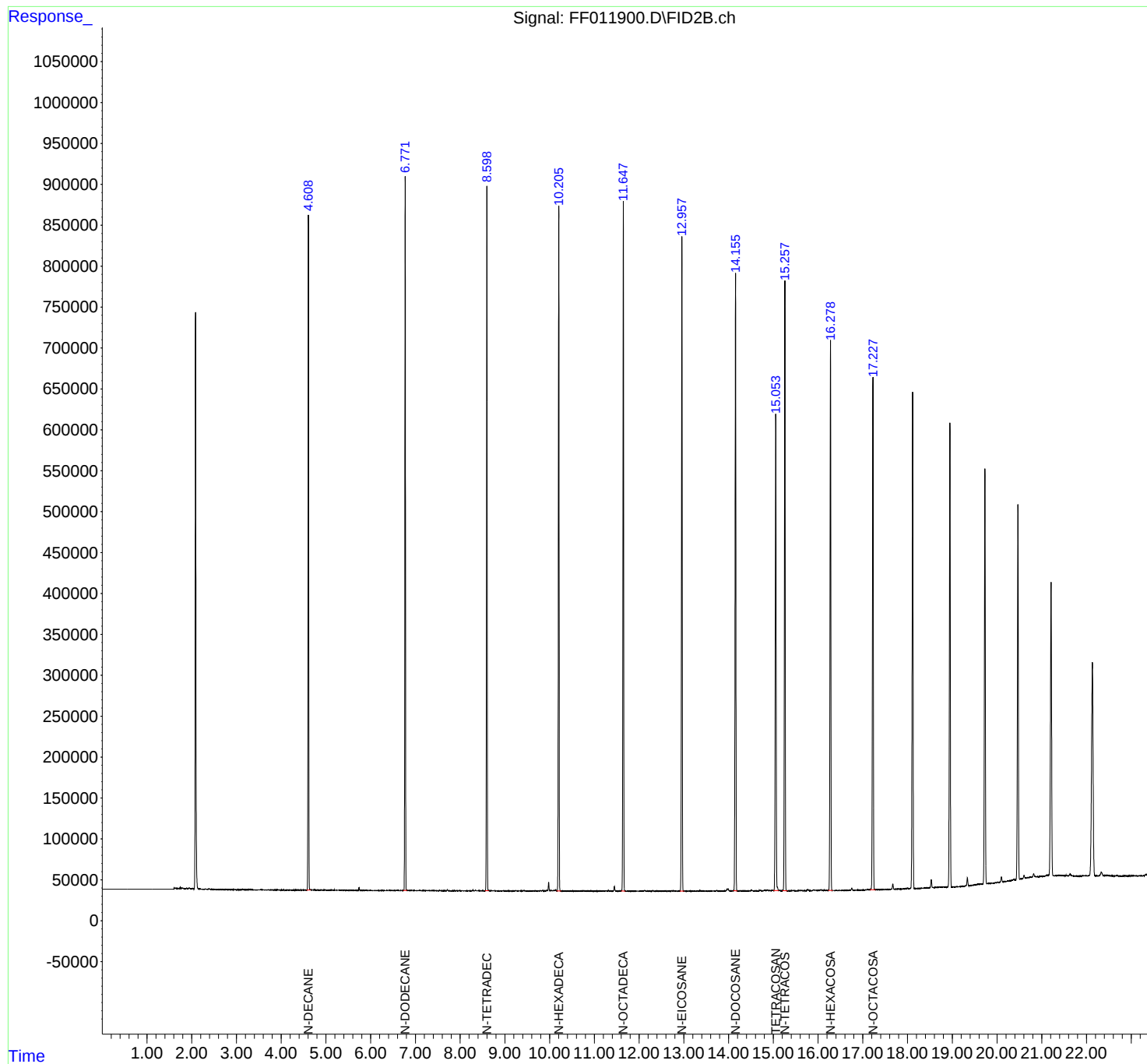
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011900.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 20:56
Operator : YP\AJ
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:05:06 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
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_F\Data\FF012023\
Data File : FF011900.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 20:56
Sample : 50 PPM TRPH STD
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Title :

Signal : FID2B.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.609	4.564	4.657	BB	824765	8487544	88.74%	8.570%
2	6.772	6.724	6.818	BB	872204	8788903	91.89%	8.875%
3	8.598	8.555	8.640	BB	860671	9026461	94.37%	9.115%
4	10.205	10.159	10.258	BB	837434	9326409	97.51%	9.418%
5	11.647	11.600	11.685	BB	841936	9564876	100.00%	9.658%
6	12.957	12.908	13.008	BB	799710	9447248	98.77%	9.540%
7	14.155	14.105	14.196	BB	754852	9349999	97.75%	9.441%
8	15.054	14.999	15.123	BB	582319	8188278	85.61%	8.268%
9	15.258	15.201	15.310	BB	745344	9234864	96.55%	9.325%
10	16.278	16.223	16.329	BB	671866	8976605	93.85%	9.064%
11	17.227	17.153	17.285	BB	626078	8641329	90.34%	8.726%
Sum of corrected areas:						99032516		

FF123022.M Sat Jan 21 03:21:36 2023



Analytical Sequence

Client: Louis Berger U.S., Inc., A WSP Company

SDG No.: O1232

Project: NYCDDC Phase II SCI Arthur Kill Road CEQR

Instrument ID: FID_F

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 15.0486					
EPA SAMPLE NO.	LAB SAMPLE ID	DATE AND TIME ANALYZED	DATAFILE	RT	#
PIBLK01	LBLK01	20 Jan 2023 15:00	FF011890.D	15.046	
50 PPM TRPH STD	50 PPM TRPH STD	20 Jan 2023 15:29	FF011891.D	15.053	
PB150379BL	PB150379BL	20 Jan 2023 16:30	FF011893.D	15.050	
PB150379BS	PB150379BS	20 Jan 2023 17:00	FF011894.D	15.050	
WC-17	O1232-03	20 Jan 2023 17:29	FF011895.D	15.049	
WC-17MS	O1232-03MS	20 Jan 2023 17:59	FF011896.D	15.050	
WC-17MSD	O1232-03MSD	20 Jan 2023 18:28	FF011897.D	15.050	
PIBLK02	LBLK02	20 Jan 2023 19:57	FF011899.D	15.049	
50 PPM TRPH STD	50 PPM TRPH STD	20 Jan 2023 20:56	FF011900.D	15.054	

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

QC Limits
(± 0.10 minutes)

Lower Limit
14.9486

Upper Limits
15.1486

QC SAMPLE DATA



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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	
Client Sample ID:	PB150379BL	SDG No.:	O1232
Lab Sample ID:	PB150379BL	Matrix:	SOIL
Analytical Method:	8015D DRO	% Solid:	100
Sample Wt/Vol:	30.01	Units:	g
Soil Aliquot Vol:			uL
Extraction Type:		Final Vol:	1
GPC Factor :		Test:	Diesel Range Organics
Prep Method :	SW3541	Injection Volume :	

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011893.D	1	01/20/23 13:10	01/20/23 16:30	PB150379

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	219	U	219	1670	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	14.2		37 - 130	71%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

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

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

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

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011893.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 16:30
Operator : YP\AJ
Sample : PB150379BL
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:04:06 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
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...	15.050	2250673	14.240 ug/ml
Target Compounds			

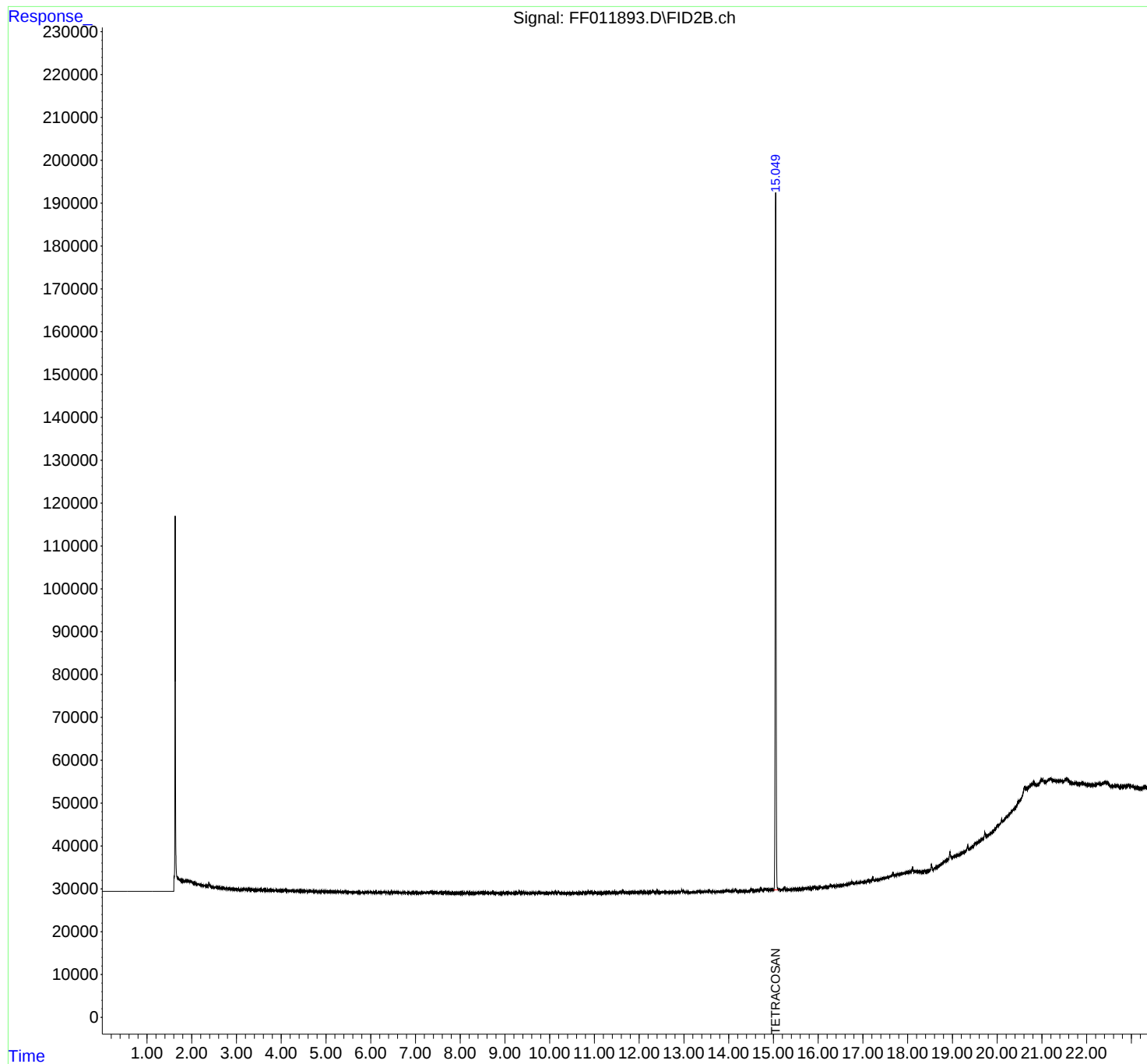
(f)=RT Delta > 1/2 Window

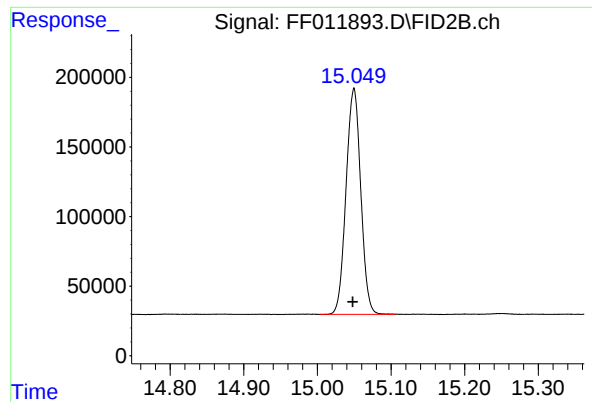
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011893.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 16:30
Operator : YP\AJ
Sample : PB150379BL
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:04:06 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
Response via : Initial Calibration
Integrator: ChemStation

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





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.050 min
Delta R.T.: 0.002 min
Response: 2250673
Conc: 14.24 ug/ml

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011893.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 16:30
Sample : PB150379BL
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Title :

Signal : FID2B.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	15.050	15.004	15.106	BB	162582	2250673	100.00%	100.000%
Sum of corrected areas:						2250673		

FF123022.M Sat Jan 21 03:20:28 2023



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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/20/23		
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/20/23		
Client Sample ID:	PIBLK-FF011890.D	SDG No.:	O1232		
Lab Sample ID:	I.BLK-FF011890.D	Matrix:	Water		
Analytical Method:	8015D DRO	% Solid:	0	Decanted:	
Sample Wt/Vol:	1000	Units:	mL	Final Vol:	1 mL
Soil Aliquot Vol:			uL	Test:	Diesel Range Organics
Extraction Type:				Injection Volume :	
GPC Factor :		PH :			
Prep Method :	SW3510				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011890.D	1		01/20/23	FF012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
DRO	DRO	7.00	U	7.00	50.0	ug/L
SURROGATES						
16416-32-3	Tetracosane-d50	13.6		29 - 130	68%	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_F\Data\FF012023\
Data File : FF011890.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 15:00
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:03:42 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
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...	15.046	2141869	13.552 ug/ml

Target Compounds

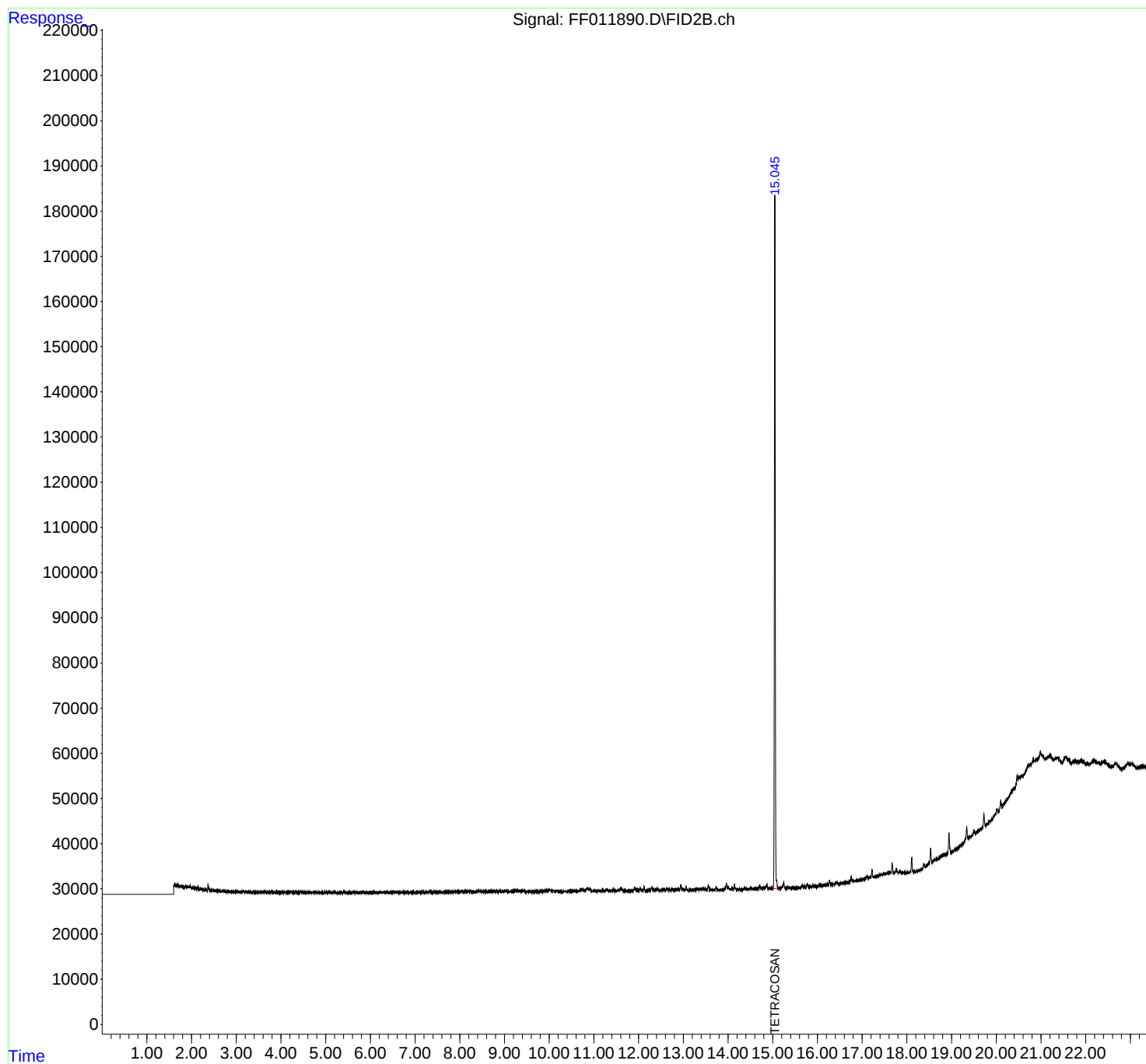
(f)=RT Delta > 1/2 Window

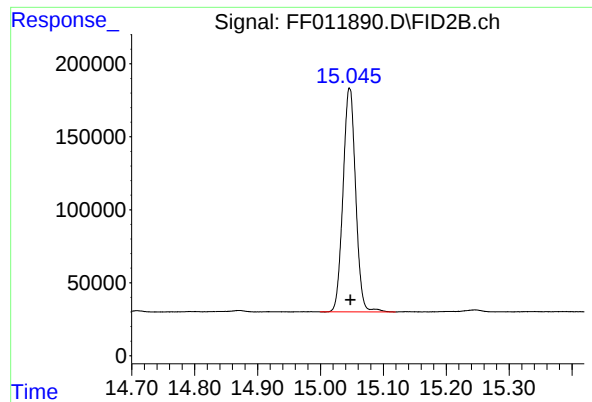
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011890.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 15:00
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:03:42 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
Response via : Initial Calibration
Integrator: ChemStation

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





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.046 min
Delta R.T.: -0.002 min
Response: 2141869
Conc: 13.55 ug/ml

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011890.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 15:00
Sample : I.BLK
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Title :

Signal : FID2B.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	15.046	15.000	15.120	BB	153237	2141869	100.00%	100.000%
Sum of corrected areas:						2141869		

FF123022.M Sat Jan 21 03:19:30 2023



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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/20/23		
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/20/23		
Client Sample ID:	PIBLK-FF011899.D	SDG No.:	O1232		
Lab Sample ID:	I.BLK-FF011899.D	Matrix:	Water		
Analytical Method:	8015D DRO	% Solid:	0	Decanted:	
Sample Wt/Vol:	1000	Units:	mL	Final Vol:	1 mL
Soil Aliquot Vol:			uL	Test:	Diesel Range Organics
Extraction Type:				Injection Volume :	
GPC Factor :		PH :			
Prep Method :	SW3510				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011899.D	1		01/20/23	FF012023

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
DRO	DRO	7.00	U	7.00	50.0	ug/L
SURROGATES						
16416-32-3	Tetracosane-d50	13.6		29 - 130	68%	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_F\Data\FF012023\
Data File : FF011899.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 19:57
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:04:58 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
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...	15.049	2154647	13.632 ug/ml

Target Compounds

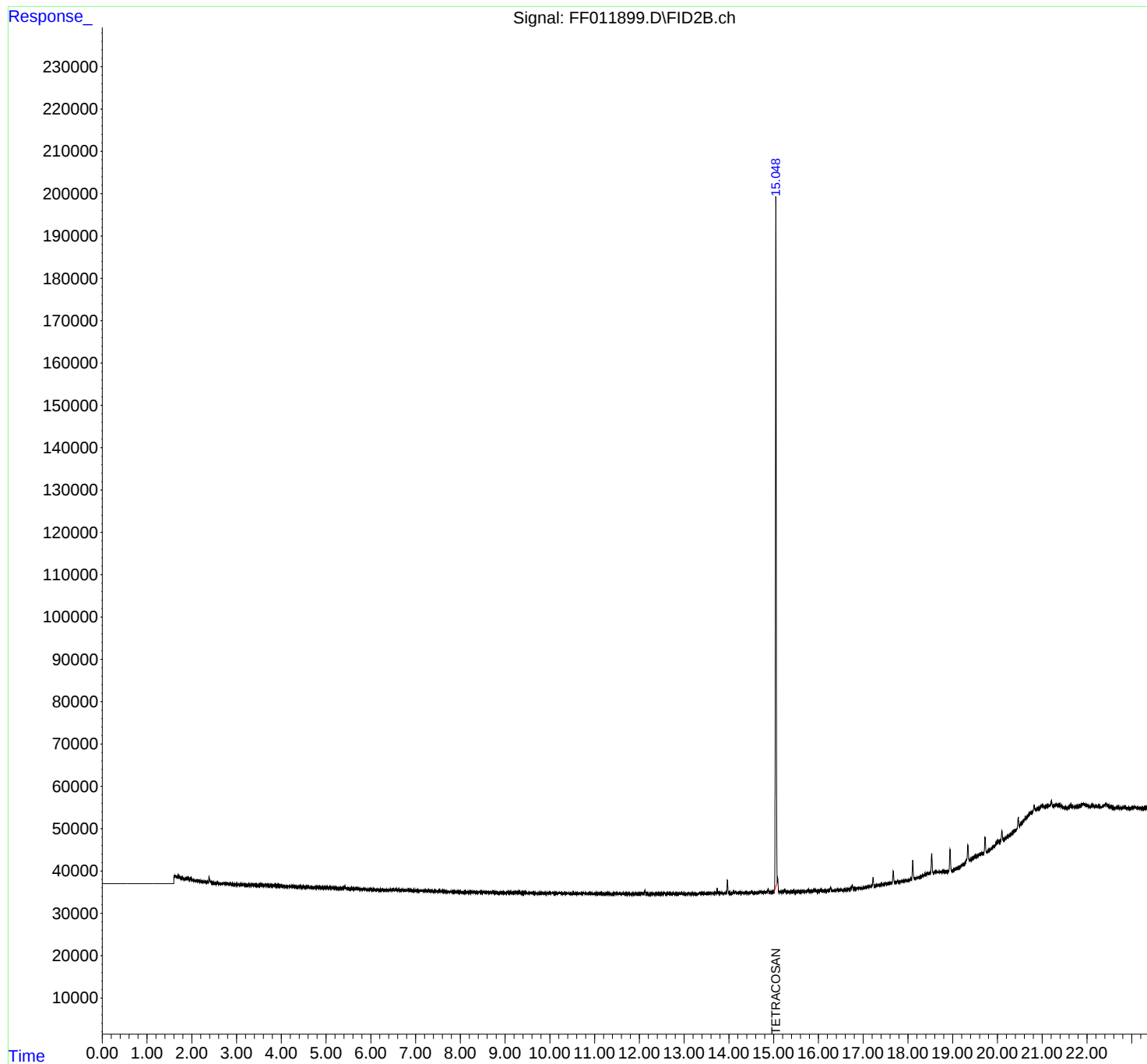
(f)=RT Delta > 1/2 Window

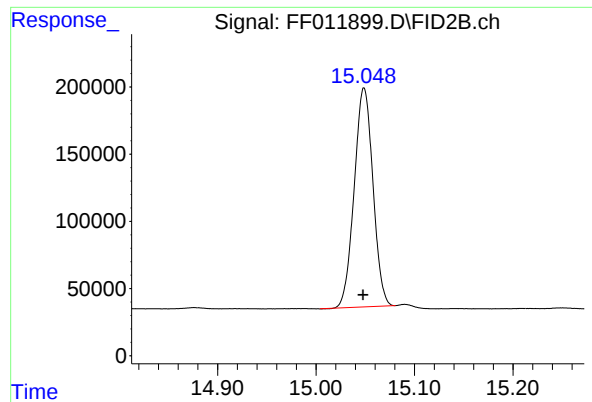
(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011899.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 19:57
Operator : YP\AJ
Sample : I.BLK
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:04:58 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
Response via : Initial Calibration
Integrator: ChemStation

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





#9 TETRACOSANE-d50 (SURROGATE)

R.T.: 15.049 min
Delta R.T.: 0.000 min
Response: 2154647
Conc: 13.63 ug/ml

rteres

Area Percent Report

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011899.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 19:57
Sample : I.BLK
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Title :

Signal : FID2B.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	15.049	15.004	15.081	BV	163130	2154647	100.00%	100.000%
Sum of corrected areas:						2154647		

FF123022.M Sat Jan 21 03:21:07 2023



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Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:			
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:			
Client Sample ID:	PB150379BS	SDG No.:	O1232		
Lab Sample ID:	PB150379BS	Matrix:	SOIL		
Analytical Method:	8015D DRO	% Solid:	100	Decanted:	
Sample Wt/Vol:	30.03	Units:	g	Final Vol:	1 mL
Soil Aliquot Vol:			uL	Test:	Diesel Range Organics
Extraction Type:				Injection Volume :	
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011894.D	1	01/20/23 13:10	01/20/23 17:00	PB150379

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	5210		219	1670	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_F\Data\FF012023\
 Data File : FF011894.D
 Signal(s) : FID2B.ch
 Acq On : 20 Jan 2023 17:00
 Operator : YP\AJ
 Sample : PB150379BS
 Misc :
 ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Jan 21 03:04:13 2023
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
 Quant Title :
 QLast Update : Mon Jan 02 03:26:15 2023
 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...	15.050	1989799	12.589 ug/ml
Target Compounds				
2)	N-DECANE	4.606	2503789	15.903 ug/ml
3)	N-DODECANE	6.769	2613189	16.234 ug/ml
4)	N-TETRADECANE	8.594	2683156	16.311 ug/ml
5)	N-HEXADECANE	10.201	2771383	16.250 ug/ml
6)	N-OCTADECANE	11.642	2839801	16.078 ug/ml
7)	N-EICOSANE	12.952	2798772	15.762 ug/ml
8)	N-DOCOSANE	14.150	2769867	15.478 ug/ml
10)	N-TETRACOSANE	15.253	2729622	15.129 ug/ml
11)	N-HEXACOSANE	16.275	2650560	14.865 ug/ml
12)	N-OCTACOSANE	17.224	2534577	14.652 ug/ml

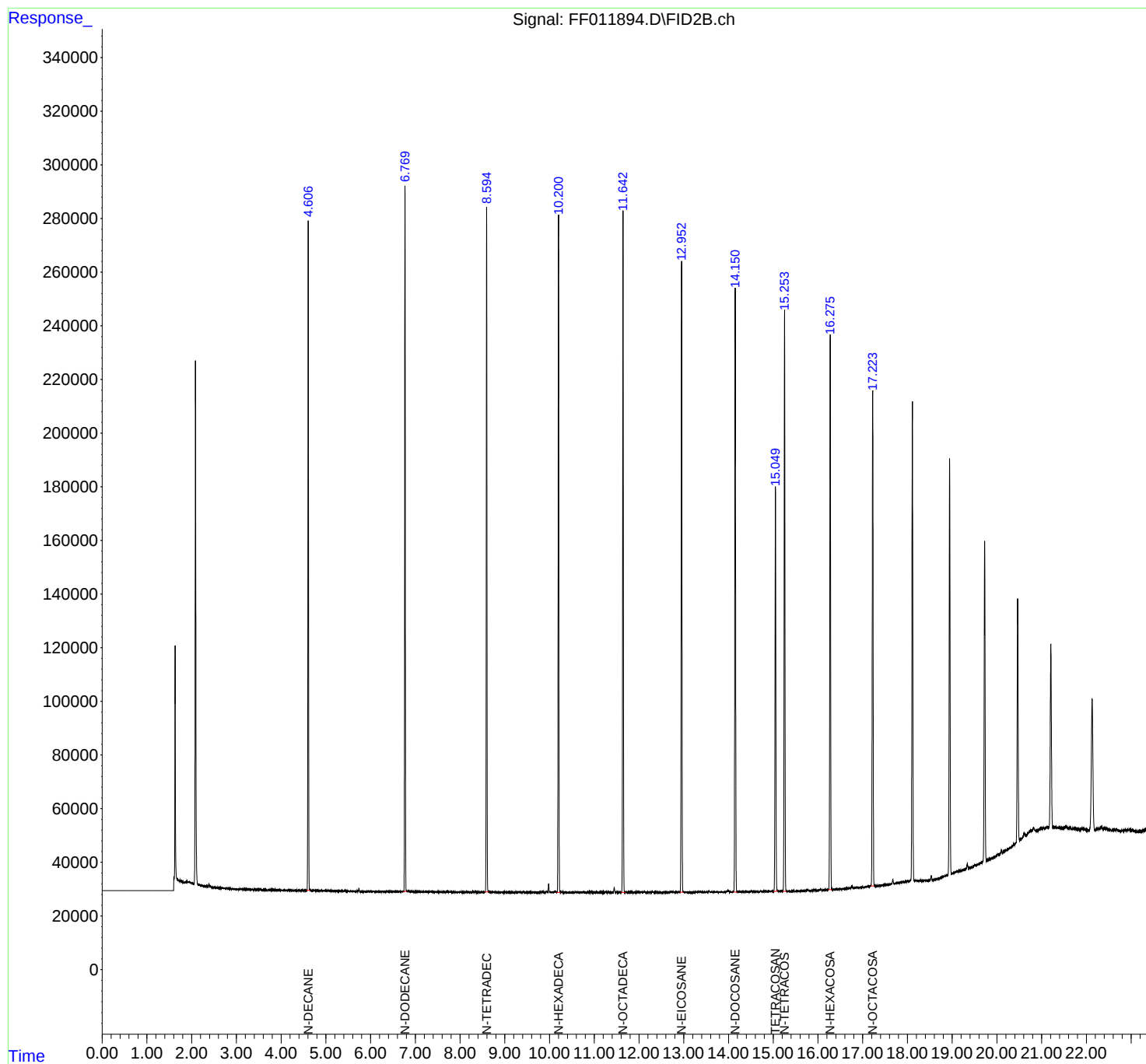
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011894.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 17:00
Operator : YP\AJ
Sample : PB150379BS
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:04:13 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
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_F\Data\FF012023\
Data File : FF011894.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 17:00
Sample : PB150379BS
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Title :

Signal : FID2B.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.606	4.573	4.651	BB	249398	2503789	88.17%	8.668%
2	6.769	6.733	6.813	BB	263390	2613189	92.02%	9.047%
3	8.594	8.556	8.641	BB	255064	2683156	94.48%	9.289%
4	10.201	10.158	10.248	BB	252500	2771383	97.59%	9.595%
5	11.642	11.600	11.689	BB	254128	2839801	100.00%	9.832%
6	12.952	12.909	12.995	BB	235179	2798772	98.56%	9.690%
7	14.150	14.113	14.198	BB	225099	2769867	97.54%	9.589%
8	15.050	15.012	15.101	BB	150885	1989799	70.07%	6.889%
9	15.253	15.216	15.297	BB	216224	2729622	96.12%	9.450%
10	16.275	16.233	16.313	BB	207201	2650560	93.34%	9.176%
11	17.224	17.176	17.259	BB	184586	2534577	89.25%	8.775%
Sum of corrected areas:						28884517		

FF123022.M Sat Jan 21 03:20:50 2023



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

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23		
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23		
Client Sample ID:	WC-17MS	SDG No.:	O1232		
Lab Sample ID:	O1232-03MS	Matrix:	SOIL		
Analytical Method:	8015D DRO	% Solid:	91.4	Decanted:	
Sample Wt/Vol:	30.09	Units:	g	Final Vol:	1 mL
Soil Aliquot Vol:			uL	Test:	Diesel Range Organics
Extraction Type:				Injection Volume :	
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011896.D	1	01/20/23 13:10	01/20/23 17:59	PB150379

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	10500		239	1820	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	16.6		37 - 130	83%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

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

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

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

() = Laboratory InHouse Limit

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
 Data File : FF011896.D
 Signal(s) : FID2B.ch
 Acq On : 20 Jan 2023 17:59
 Operator : YP\AJ
 Sample : 01232-03MS
 Misc :
 ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Jan 21 03:04:31 2023
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
 Quant Title :
 QLast Update : Mon Jan 02 03:26:15 2023
 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...	15.050	2616923	16.557 ug/ml
Target Compounds				
2)	N-DECANE	4.607	3099695	19.688 ug/ml
3)	N-DODECANE	6.769	3486299	21.659 ug/ml
4)	N-TETRADECANE	8.595	3783472	23.000 ug/ml
5)	N-HEXADECANE	10.202	3996655	23.435 ug/ml
6)	N-OCTADECANE	11.643	4107259	23.254 ug/ml
7)	N-EICOSANE	12.954	4086179	23.013 ug/ml
8)	N-DOCOSANE	14.152	4032186	22.531 ug/ml
10)	N-TETRACOSANE	15.255	4039805	22.390 ug/ml
11)	N-HEXACOSANE	16.276	3913863	21.949 ug/ml
12)	N-OCTACOSANE	17.225	3728831	21.556 ug/ml

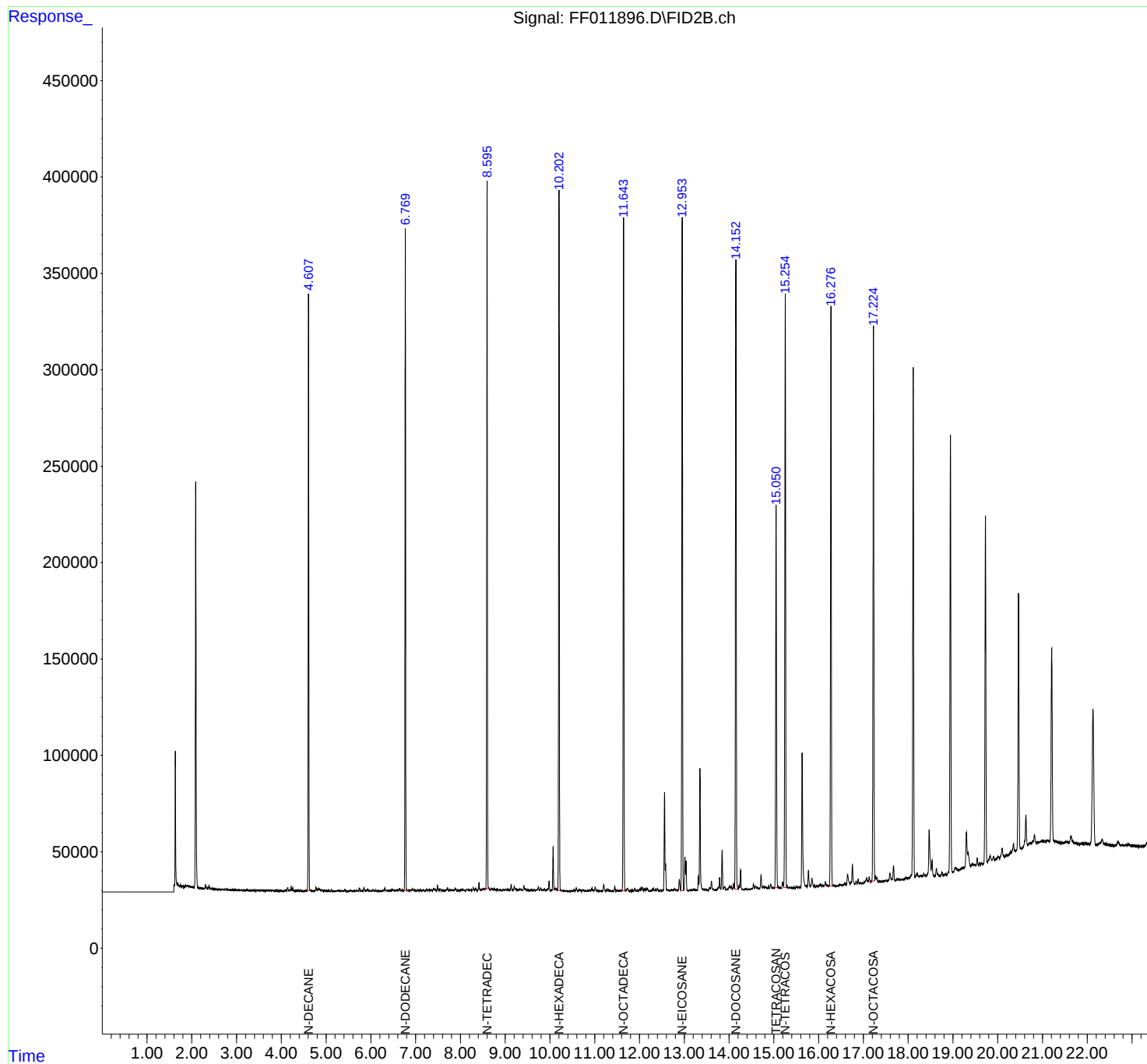
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011896.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 17:59
Operator : YP\AJ
Sample : 01232-03MS
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:04:31 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
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_F\Data\FF012023\
 Data File : FF011896.D
 Signal(s) : FID2B.ch
 Acq On : 20 Jan 2023 17:59
 Sample : 01232-03MS
 Misc :
 ALS Vial : 59 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
 Title :

Signal : FID2B.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.607	4.560	4.639	BH	309354	3103947	75.43%	5.958%
2	4.646	4.639	4.670	HH	306	3036	0.07%	0.006%
3	4.683	4.670	4.700	PH	114	70	0.00%	0.000%
4	4.709	4.700	4.715	PH	-24	-808	-0.02%	-0.002%
5	4.723	4.715	4.727	PH	129	-7	-0.00%	-0.000%
6	4.731	4.727	4.749	PH	129	94	0.00%	0.000%
7	4.775	4.749	4.796	PH	1615	19575	0.48%	0.038%
8	4.827	4.796	4.831	HH	1104	16044	0.39%	0.031%
9	4.834	4.831	4.880	HH	1071	18829	0.46%	0.036%
10	4.889	4.880	4.906	HH	498	4486	0.11%	0.009%
11	4.917	4.906	4.933	HH	287	1574	0.04%	0.003%
12	4.954	4.933	4.962	PH	112	281	0.01%	0.001%
13	4.972	4.962	4.978	PH	77	484	0.01%	0.001%
14	4.982	4.978	4.990	PH	13	-234	-0.01%	-0.000%
15	4.993	4.990	4.999	PH	-67	-575	-0.01%	-0.001%
16	5.004	4.999	5.010	PH	-51	-677	-0.02%	-0.001%
17	5.021	5.010	5.037	PH	48	-771	-0.02%	-0.001%
18	5.049	5.037	5.063	PH	145	754	0.02%	0.001%
19	5.068	5.063	5.101	HH	226	-1295	-0.03%	-0.002%
20	5.122	5.101	5.159	PH	357	-1008	-0.02%	-0.002%
21	5.164	5.159	5.168	PH	-220	-1312	-0.03%	-0.003%
22	5.173	5.168	5.207	PH	-143	-4553	-0.11%	-0.009%
23	5.212	5.207	5.216	PH	-200	-1168	-0.03%	-0.002%
24	5.221	5.216	5.236	PH	-162	-2748	-0.07%	-0.005%
25	5.258	5.236	5.275	PH	292	881	0.02%	0.002%
26	5.292	5.275	5.306	PH	91	369	0.01%	0.001%
27	5.309	5.306	5.334	PH	13	-2196	-0.05%	-0.004%
28	5.353	5.334	5.378	PH	156	-1123	-0.03%	-0.002%
29	5.390	5.378	5.403	PH	169	-77	-0.00%	-0.000%
30	5.418	5.403	5.460	PH	683	2564	0.06%	0.005%
31	5.484	5.460	5.504	PH	-151	-6514	-0.16%	-0.013%
32	5.522	5.504	5.534	PH	-38	-2623	-0.06%	-0.005%
33	5.547	5.534	5.568	PH	532	2538	0.06%	0.005%
34	5.586	5.568	5.601	PH	-18	-2430	-0.06%	-0.005%
35	5.616	5.601	5.636	PH	125	-1842	-0.04%	-0.004%
36	5.648	5.636	5.669	PH	-50	-2670	-0.06%	-0.005%

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37	5.682	5.669	5.712	PH	363	1333	0.03%	0.003%
38	5.716	5.712	5.724	PH	-189	-1482	-0.04%	-0.003%
39	5.740	5.724	5.782	PH	1435	15433	0.38%	0.030%
40	5.798	5.782	5.828	PH	115	-1942	-0.05%	-0.004%
41	5.846	5.828	5.884	PH	1869	17375	0.42%	0.033%
42	5.928	5.884	5.957	PH	777	11174	0.27%	0.021%
43	5.982	5.957	5.999	PH	205	1100	0.03%	0.002%
44	6.006	5.999	6.018	PH	44	-381	-0.01%	-0.001%
45	6.044	6.018	6.049	PH	455	2974	0.07%	0.006%
46	6.053	6.049	6.085	HH	406	2547	0.06%	0.005%
47	6.107	6.085	6.124	PH	294	969	0.02%	0.002%
48	6.131	6.124	6.146	PH	-60	-2026	-0.05%	-0.004%
49	6.156	6.146	6.162	PH	81	-336	-0.01%	-0.001%
50	6.170	6.162	6.200	PH	205	-1695	-0.04%	-0.003%
51	6.218	6.200	6.243	PH	235	-1969	-0.05%	-0.004%
52	6.272	6.243	6.290	PH	472	2431	0.06%	0.005%
53	6.309	6.290	6.342	PH	1552	17438	0.42%	0.033%
54	6.348	6.342	6.359	HH	102	975	0.02%	0.002%
55	6.368	6.359	6.391	HH	251	1578	0.04%	0.003%
56	6.421	6.391	6.442	PH	300	2225	0.05%	0.004%
57	6.461	6.442	6.467	PH	409	3890	0.09%	0.007%
58	6.481	6.467	6.527	HH	981	13022	0.32%	0.025%
59	6.544	6.527	6.553	PH	232	1263	0.03%	0.002%
60	6.569	6.553	6.585	HH	611	6320	0.15%	0.012%
61	6.608	6.585	6.623	HH	549	7493	0.18%	0.014%
62	6.642	6.623	6.673	HH	1077	16591	0.40%	0.032%
63	6.694	6.673	6.707	PH	482	6236	0.15%	0.012%
64	6.717	6.707	6.735	HH	329	2874	0.07%	0.006%
65	6.769	6.735	6.822	PH	342902	3489834	84.81%	6.699%
66	6.833	6.822	6.844	HH	196	1996	0.05%	0.004%
67	6.859	6.844	6.873	HH	338	3007	0.07%	0.006%
68	6.888	6.873	6.905	PH	478	5286	0.13%	0.010%
69	6.922	6.905	6.947	HH	1041	13217	0.32%	0.025%
70	6.963	6.947	6.987	HH	757	8264	0.20%	0.016%
71	6.997	6.987	7.022	PH	321	2348	0.06%	0.005%
72	7.052	7.022	7.074	PH	496	5770	0.14%	0.011%
73	7.099	7.074	7.125	PH	539	8182	0.20%	0.016%
74	7.130	7.125	7.147	PH	61	118	0.00%	0.000%
75	7.172	7.147	7.201	PH	499	6230	0.15%	0.012%
76	7.243	7.201	7.263	PH	616	8187	0.20%	0.016%
77	7.305	7.263	7.324	HH	652	13747	0.33%	0.026%
78	7.341	7.324	7.371	HH	844	10386	0.25%	0.020%
79	7.404	7.371	7.425	PH	1041	17208	0.42%	0.033%
80	7.439	7.425	7.468	HH	1078	14302	0.35%	0.027%
81	7.487	7.468	7.528	HH	3031	38895	0.95%	0.075%
82	7.544	7.528	7.569	HH	1147	13361	0.32%	0.026%
83	7.591	7.569	7.642	PH	715	8958	0.22%	0.017%
84	7.713	7.642	7.741	PH	1660	29057	0.71%	0.056%
85	7.762	7.741	7.778	HH	479	7161	0.17%	0.014%
86	7.782	7.778	7.797	HH	407	3701	0.09%	0.007%
87	7.802	7.797	7.817	HH	304	3058	0.07%	0.006%
88	7.820	7.817	7.845	HH	283	3968	0.10%	0.008%
89	7.849	7.845	7.860	HH	321	2262	0.05%	0.004%

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90	7.888	7.860	7.921	HH	1168	22700	0.55%	0.044%
91	7.941	7.921	7.962	HH	500	5865	0.14%	0.011%
92	7.974	7.962	7.992	PH	302	2709	0.07%	0.005%
93	8.012	7.992	8.024	HH	559	7697	0.19%	0.015%
94	8.031	8.024	8.037	HH	540	3861	0.09%	0.007%
95	8.051	8.037	8.119	HH	727	16632	0.40%	0.032%
96	8.147	8.119	8.166	HH	870	13609	0.33%	0.026%
97	8.176	8.166	8.182	HH	487	4048	0.10%	0.008%
98	8.198	8.182	8.219	HH	634	9304	0.23%	0.018%
99	8.240	8.219	8.259	HH	567	7884	0.19%	0.015%
100	8.287	8.259	8.310	HH	1294	22207	0.54%	0.043%
101	8.343	8.310	8.370	HH	1105	21919	0.53%	0.042%
102	8.414	8.370	8.455	HH	4160	60841	1.48%	0.117%
103	8.467	8.455	8.482	HH	667	9711	0.24%	0.019%
104	8.503	8.482	8.510	HH	1009	13236	0.32%	0.025%
105	8.522	8.510	8.535	HH	1269	14081	0.34%	0.027%
106	8.549	8.535	8.565	HH	1112	15510	0.38%	0.030%
107	8.595	8.565	8.630	HH	368018	3820139	92.84%	7.333%
108	8.638	8.630	8.664	HH	1395	19857	0.48%	0.038%
109	8.702	8.664	8.741	HH	1257	37335	0.91%	0.072%
110	8.758	8.741	8.777	HH	1147	16666	0.41%	0.032%
111	8.794	8.777	8.801	HH	587	7461	0.18%	0.014%
112	8.816	8.801	8.834	HH	747	11337	0.28%	0.022%
113	8.844	8.834	8.856	HH	465	5164	0.13%	0.010%
114	8.886	8.856	8.914	HH	632	14531	0.35%	0.028%
115	8.924	8.914	8.935	HH	304	2601	0.06%	0.005%
116	8.956	8.935	8.977	HH	636	10213	0.25%	0.020%
117	9.008	8.977	9.030	HH	767	18600	0.45%	0.036%
118	9.033	9.030	9.037	HH	370	1637	0.04%	0.003%
119	9.059	9.037	9.099	HH	1138	23210	0.56%	0.045%
120	9.134	9.099	9.161	HH	3306	48108	1.17%	0.092%
121	9.169	9.161	9.175	HH	424	3007	0.07%	0.006%
122	9.203	9.175	9.231	HH	2045	35097	0.85%	0.067%
123	9.246	9.231	9.265	HH	993	14626	0.36%	0.028%
124	9.280	9.265	9.300	HH	826	10590	0.26%	0.020%
125	9.322	9.300	9.338	HH	937	14044	0.34%	0.027%
126	9.354	9.338	9.361	HH	644	7879	0.19%	0.015%
127	9.366	9.361	9.382	HH	608	6665	0.16%	0.013%
128	9.390	9.382	9.396	HH	508	3641	0.09%	0.007%
129	9.418	9.396	9.442	HH	2711	38029	0.92%	0.073%
130	9.455	9.442	9.490	HH	1087	15626	0.38%	0.030%
131	9.504	9.490	9.536	HH	470	6044	0.15%	0.012%
132	9.572	9.536	9.588	HH	739	10267	0.25%	0.020%
133	9.604	9.588	9.635	HH	498	6238	0.15%	0.012%
134	9.654	9.635	9.671	HH	380	3909	0.09%	0.008%
135	9.710	9.671	9.725	PH	802	12246	0.30%	0.024%
136	9.741	9.725	9.774	HH	2238	28533	0.69%	0.055%
137	9.793	9.774	9.826	HH	1476	23159	0.56%	0.044%
138	9.837	9.826	9.852	HH	599	6874	0.17%	0.013%
139	9.873	9.852	9.904	HH	1080	17861	0.43%	0.034%
140	9.940	9.904	9.953	HH	977	14223	0.35%	0.027%
141	9.979	9.953	10.012	HH	5016	60917	1.48%	0.117%

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142	10.037	10.012	10.049	HH	387	5394	0.13%	0.010%
143	10.070	10.049	10.105	HH	23080	243593	5.92%	0.468%
144	10.134	10.105	10.168	HH	1388	30589	0.74%	0.059%
145	10.202	10.168	10.256	HH	363578	4005823	97.35%	7.689%
146	10.261	10.256	10.270	PH	107	568	0.01%	0.001%
147	10.274	10.270	10.294	HH	102	893	0.02%	0.002%
148	10.305	10.294	10.351	PH	188	-237	-0.01%	-0.000%
149	10.376	10.351	10.403	PH	177	-1409	-0.03%	-0.003%
150	10.406	10.403	10.425	PH	-104	-2153	-0.05%	-0.004%
151	10.435	10.425	10.447	PH	-117	-2632	-0.06%	-0.005%
152	10.476	10.447	10.499	PH	-48	-4855	-0.12%	-0.009%
153	10.539	10.499	10.560	PH	460	1884	0.05%	0.004%
154	10.588	10.560	10.616	PH	1501	17651	0.43%	0.034%
155	10.647	10.616	10.660	PH	446	4707	0.11%	0.009%
156	10.673	10.660	10.700	HH	493	4113	0.10%	0.008%
157	10.721	10.700	10.735	PH	420	3459	0.08%	0.007%
158	10.748	10.735	10.771	HH	305	3317	0.08%	0.006%
159	10.788	10.771	10.830	PH	189	590	0.01%	0.001%
160	10.849	10.830	10.864	PH	192	2349	0.06%	0.005%
161	10.867	10.864	10.878	HH	218	1251	0.03%	0.002%
162	10.891	10.878	10.907	HH	370	2926	0.07%	0.006%
163	10.937	10.907	10.955	PH	1469	20029	0.49%	0.038%
164	10.961	10.955	10.982	HH	358	2437	0.06%	0.005%
165	11.010	10.982	11.040	PH	1719	23341	0.57%	0.045%
166	11.068	11.040	11.090	PH	153	652	0.02%	0.001%
167	11.094	11.090	11.110	PH	-21	-2126	-0.05%	-0.004%
168	11.160	11.110	11.175	PH	19	-5732	-0.14%	-0.011%
169	11.199	11.175	11.240	PH	3290	45165	1.10%	0.087%
170	11.271	11.240	11.291	PH	936	8581	0.21%	0.016%
171	11.310	11.291	11.380	PH	331	1526	0.04%	0.003%
172	11.387	11.380	11.391	PH	-67	-817	-0.02%	-0.002%
173	11.397	11.391	11.404	PH	-66	-762	-0.02%	-0.001%
174	11.409	11.404	11.420	PH	-95	-1270	-0.03%	-0.002%
175	11.447	11.420	11.475	PH	2341	23360	0.57%	0.045%
176	11.502	11.475	11.529	PH	266	1203	0.03%	0.002%
177	11.559	11.529	11.563	PH	81	-1163	-0.03%	-0.002%
178	11.567	11.563	11.575	HH	103	465	0.01%	0.001%
179	11.589	11.575	11.602	HH	248	2017	0.05%	0.004%
180	11.643	11.602	11.699	HH	347335	4111117	99.91%	7.891%
181	11.729	11.699	11.768	HH	1311	20100	0.49%	0.039%
182	11.801	11.768	11.821	PH	299	538	0.01%	0.001%
183	11.846	11.821	11.869	PH	156	-145	-0.00%	-0.000%
184	11.895	11.869	11.927	PH	981	12321	0.30%	0.024%
185	11.940	11.927	11.949	PH	92	627	0.02%	0.001%
186	11.954	11.949	11.979	HH	136	-92	-0.00%	-0.000%
187	12.000	11.979	12.015	PH	803	8001	0.19%	0.015%
188	12.031	12.015	12.044	HH	1119	11842	0.29%	0.023%
189	12.060	12.044	12.083	HH	1971	24912	0.61%	0.048%
190	12.119	12.083	12.135	HH	1102	20737	0.50%	0.040%
191	12.150	12.135	12.167	HH	1239	15268	0.37%	0.029%
192	12.181	12.167	12.230	HH	1121	11203	0.27%	0.022%
193	12.249	12.230	12.265	PH	76	-851	-0.02%	-0.002%
194	12.309	12.265	12.339	PH	1146	21636	0.53%	0.042%

					rteres			
195	12.361	12.339	12.383	HH	1149	14845	0.36%	0.028%
196	12.402	12.383	12.433	HH	1292	16794	0.41%	0.032%
197	12.470	12.433	12.490	HH	465	5612	0.14%	0.011%
198	12.499	12.490	12.520	PH	165	1193	0.03%	0.002%
199	12.559	12.520	12.575	HH	51151	586424	14.25%	1.126%
200	12.583	12.575	12.615	HH	13598	138396	3.36%	0.266%
201	12.618	12.615	12.633	HH	516	3606	0.09%	0.007%
202	12.646	12.633	12.664	HH	369	4647	0.11%	0.009%
203	12.677	12.664	12.692	HH	342	4165	0.10%	0.008%
204	12.701	12.692	12.707	HH	373	2934	0.07%	0.006%
205	12.723	12.707	12.736	HH	628	8425	0.20%	0.016%
206	12.783	12.736	12.802	HH	933	23284	0.57%	0.045%
207	12.806	12.802	12.832	HH	563	5458	0.13%	0.010%
208	12.851	12.832	12.861	PH	412	4204	0.10%	0.008%
209	12.890	12.861	12.918	HH	5838	88533	2.15%	0.170%
210	12.954	12.918	12.990	HH	349245	4090794	99.41%	7.852%
211	13.015	12.990	13.028	HH	17635	202212	4.91%	0.388%
212	13.039	13.028	13.074	HH	15258	171684	4.17%	0.330%
213	13.077	13.074	13.089	HH	232	1204	0.03%	0.002%
214	13.118	13.089	13.139	HH	655	10692	0.26%	0.021%
215	13.149	13.139	13.164	HH	427	5270	0.13%	0.010%
216	13.175	13.164	13.186	HH	473	5248	0.13%	0.010%
217	13.207	13.186	13.244	HH	861	17486	0.42%	0.034%
218	13.246	13.244	13.290	HH	364	7818	0.19%	0.015%
219	13.315	13.290	13.327	HH	7721	83902	2.04%	0.161%
220	13.350	13.327	13.421	HH	63545	809983	19.68%	1.555%
221	13.442	13.421	13.469	HH	929	18582	0.45%	0.036%
222	13.485	13.469	13.500	HH	787	11174	0.27%	0.021%
223	13.518	13.500	13.539	HH	642	10900	0.26%	0.021%
224	13.563	13.539	13.583	HH	1671	28798	0.70%	0.055%
225	13.606	13.583	13.635	HH	5136	80454	1.96%	0.154%
226	13.641	13.635	13.675	HH	816	14141	0.34%	0.027%
227	13.691	13.675	13.698	HH	509	6230	0.15%	0.012%
228	13.710	13.698	13.724	HH	620	8829	0.21%	0.017%
229	13.756	13.724	13.763	HH	1541	25524	0.62%	0.049%
230	13.788	13.763	13.814	HH	7033	93038	2.26%	0.179%
231	13.845	13.814	13.871	HH	21135	273313	6.64%	0.525%
232	13.903	13.871	13.931	HH	2217	51614	1.25%	0.099%
233	13.944	13.931	13.963	HH	783	13755	0.33%	0.026%
234	13.994	13.963	14.000	HH	1860	27113	0.66%	0.052%
235	14.015	14.000	14.034	HH	2786	42295	1.03%	0.081%
236	14.051	14.034	14.079	HH	2190	40520	0.98%	0.078%
237	14.101	14.079	14.119	HH	3753	55519	1.35%	0.107%
238	14.152	14.119	14.200	HH	327197	4071122	98.94%	7.814%
239	14.223	14.200	14.236	HH	2742	41008	1.00%	0.079%
240	14.257	14.236	14.287	HH	10918	143677	3.49%	0.276%
241	14.297	14.287	14.322	HH	796	13907	0.34%	0.027%
242	14.339	14.322	14.347	HH	764	9813	0.24%	0.019%
243	14.366	14.347	14.374	HH	956	13258	0.32%	0.025%
244	14.385	14.374	14.413	HH	971	19996	0.49%	0.038%
245	14.417	14.413	14.428	HH	789	6555	0.16%	0.013%
246	14.432	14.428	14.440	HH	733	5187	0.13%	0.010%

					rteres			
247	14.446	14.440	14.454	HH	807	6068	0.15%	0.012%
248	14.480	14.454	14.485	HH	866	14889	0.36%	0.029%
249	14.512	14.485	14.523	HH	1325	24268	0.59%	0.047%
250	14.544	14.523	14.572	HH	3512	68228	1.66%	0.131%
251	14.596	14.572	14.628	HH	2511	63945	1.55%	0.123%
252	14.640	14.628	14.663	HH	1729	29538	0.72%	0.057%
253	14.668	14.663	14.678	HH	1165	9793	0.24%	0.019%
254	14.714	14.678	14.754	HH	8108	151126	3.67%	0.290%
255	14.766	14.754	14.795	HH	2534	50804	1.23%	0.098%
256	14.814	14.795	14.835	HH	2040	43154	1.05%	0.083%
257	14.842	14.835	14.865	HH	1581	27200	0.66%	0.052%
258	14.882	14.865	14.905	HH	2357	41413	1.01%	0.079%
259	14.929	14.905	14.955	HH	3599	70381	1.71%	0.135%
260	14.964	14.955	14.989	HH	1572	30283	0.74%	0.058%
261	14.997	14.989	15.013	HH	1410	19472	0.47%	0.037%
262	15.050	15.013	15.091	HH	200091	2697552	65.56%	5.178%
263	15.104	15.091	15.128	HH	2143	41940	1.02%	0.081%
264	15.143	15.128	15.169	HH	1703	35973	0.87%	0.069%
265	15.193	15.169	15.215	HH	4634	82732	2.01%	0.159%
266	15.255	15.215	15.287	HH	308489	4114891	100.00%	7.898%
267	15.299	15.287	15.327	HH	2609	47925	1.16%	0.092%
268	15.356	15.327	15.379	HH	2200	53990	1.31%	0.104%
269	15.402	15.379	15.429	HH	1743	46984	1.14%	0.090%
270	15.446	15.429	15.470	HH	1867	39407	0.96%	0.076%
271	15.515	15.470	15.536	HH	2419	72628	1.76%	0.139%
272	15.554	15.536	15.573	HH	1834	38875	0.94%	0.075%
273	15.588	15.573	15.599	HH	1877	27357	0.66%	0.053%
274	15.632	15.599	15.743	HH	71648	1206296	29.32%	2.315%
275	15.772	15.743	15.812	HH	10438	211540	5.14%	0.406%
276	15.851	15.812	15.889	HH	6538	174648	4.24%	0.335%
277	15.905	15.889	15.930	HH	2927	61907	1.50%	0.119%
278	15.945	15.930	15.974	HH	2389	60834	1.48%	0.117%
279	16.032	15.974	16.051	HH	3241	124403	3.02%	0.239%
280	16.062	16.051	16.083	HH	3023	52945	1.29%	0.102%
281	16.095	16.083	16.117	HH	2756	54175	1.32%	0.104%
282	16.152	16.117	16.181	HH	4282	126804	3.08%	0.243%
283	16.189	16.181	16.209	HH	2850	45303	1.10%	0.087%
284	16.276	16.209	16.325	HH	303322	4095949	99.54%	7.862%
285	16.334	16.325	16.360	HH	2800	54594	1.33%	0.105%
286	16.370	16.360	16.392	HH	2543	47081	1.14%	0.090%
287	16.401	16.392	16.409	HH	2607	26448	0.64%	0.051%
288	16.414	16.409	16.432	HH	2570	34325	0.83%	0.066%
289	16.441	16.432	16.448	HH	2693	24903	0.61%	0.048%
290	16.478	16.448	16.494	HH	3269	82520	2.01%	0.158%
291	16.500	16.494	16.515	HH	3042	37274	0.91%	0.072%
292	16.529	16.515	16.537	HH	2954	38551	0.94%	0.074%
293	16.580	16.537	16.602	HH	3861	131934	3.21%	0.253%
294	16.648	16.602	16.701	HH	8712	305534	7.43%	0.586%
295	16.721	16.701	16.729	HH	4407	70088	1.70%	0.135%
296	16.755	16.729	16.809	HH	13537	317890	7.73%	0.610%
297	16.839	16.809	16.859	HH	5200	130172	3.16%	0.250%
298	16.885	16.859	16.907	HH	6106	134343	3.26%	0.258%
299	16.921	16.907	16.941	HH	4024	80400	1.95%	0.154%

					rteres				
300	16.951	16.941	16.971	HH	4008	71034	1.73%	0.136%	
301	16.977	16.971	16.991	HH	3972	46421	1.13%	0.089%	
302	17.072	16.991	17.094	HH	6634	312955	7.61%	0.601%	
303	17.107	17.094	17.111	HH	5147	49665	1.21%	0.095%	
304	17.130	17.111	17.168	HH	7268	191773	4.66%	0.368%	
305	17.225	17.168	17.257	HH	293086	3998873	97.18%	7.676%	

Sum of corrected areas: 52098425

FF123022.M Sat Jan 21 03:26:15 2023



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

Report of Analysis

Client:	Louis Berger U.S., Inc., A WSP Company	Date Collected:	01/18/23		
Project:	NYCDDC Phase II SCI Arthur Kill Road CEQR	Date Received:	01/19/23		
Client Sample ID:	WC-17MSD	SDG No.:	O1232		
Lab Sample ID:	O1232-03MSD	Matrix:	SOIL		
Analytical Method:	8015D DRO	% Solid:	91.4	Decanted:	
Sample Wt/Vol:	30.07	Units:	g	Final Vol:	1 mL
Soil Aliquot Vol:			uL	Test:	Diesel Range Organics
Extraction Type:				Injection Volume :	
GPC Factor :		PH :			
Prep Method :	SW3541				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
FF011897.D	1	01/20/23 13:10	01/20/23 18:28	PB150379

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units(Dry Weight)
TARGETS						
DRO	DRO	9260		239	1820	ug/kg
SURROGATES						
16416-32-3	Tetracosane-d50	14.8		37 - 130	74%	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_F\Data\FF012023\
 Data File : FF011897.D
 Signal(s) : FID2B.ch
 Acq On : 20 Jan 2023 18:28
 Operator : YP\AJ
 Sample : 01232-03MSD
 Misc :
 ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Jan 21 03:04:40 2023
 Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
 Quant Title :
 QLast Update : Mon Jan 02 03:26:15 2023
 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...	15.050	2336745	14.785 ug/ml
Target Compounds				
2)	N-DECANE	4.607	2774996	17.625 ug/ml
3)	N-DODECANE	6.769	3108080	19.309 ug/ml
4)	N-TETRADECANE	8.595	3403062	20.687 ug/ml
5)	N-HEXADECANE	10.201	3556999	20.857 ug/ml
6)	N-OCTADECANE	11.643	3662826	20.738 ug/ml
7)	N-EICOSANE	12.953	3639958	20.500 ug/ml
8)	N-DOCOSANE	14.151	3597243	20.101 ug/ml
10)	N-TETRACOSANE	15.254	3609512	20.005 ug/ml
11)	N-HEXACOSANE	16.275	3498777	19.622 ug/ml
12)	N-OCTACOSANE	17.225	3334042	19.274 ug/ml

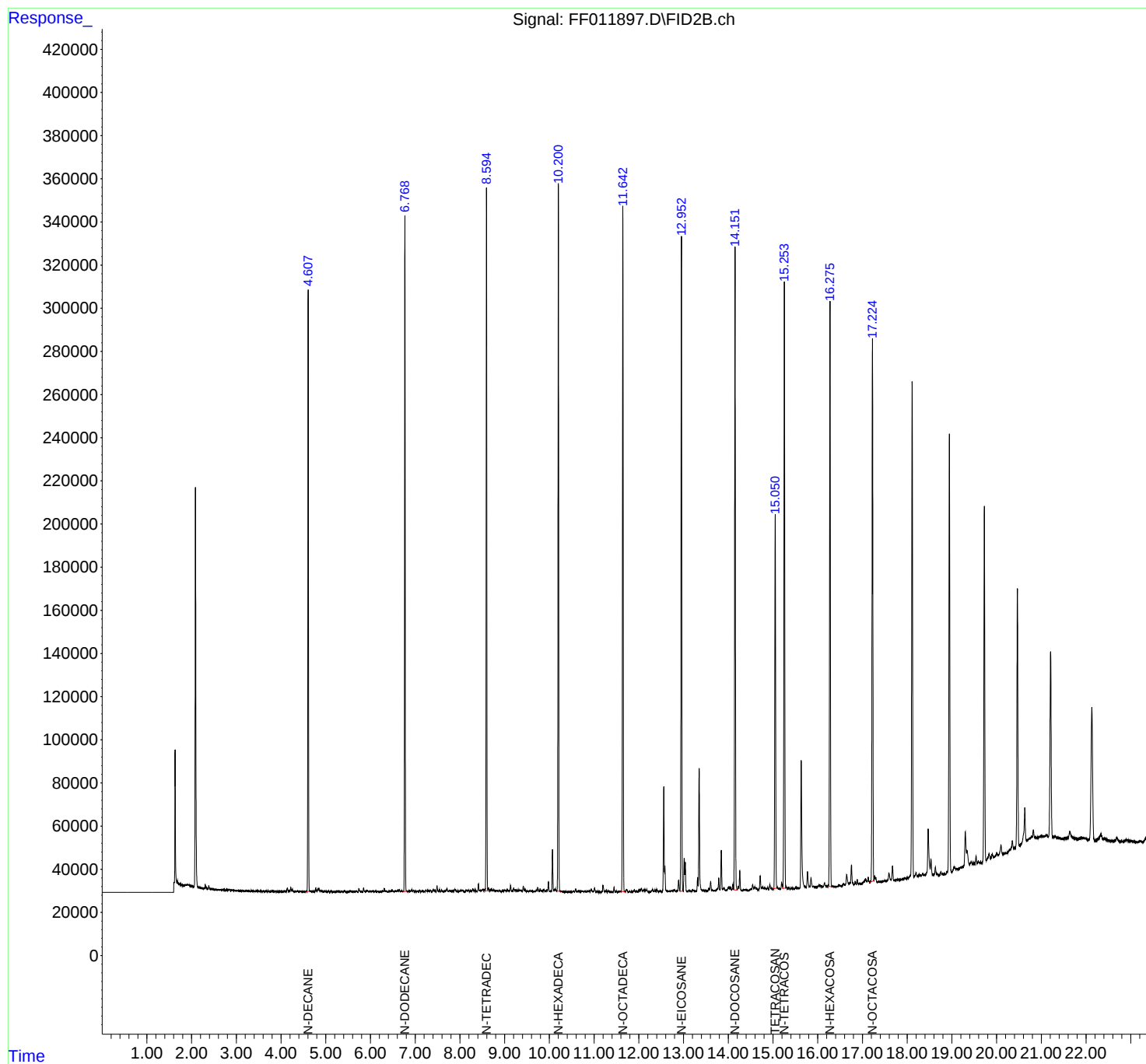
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : Z:\pestpcbsrv\HPCHEM1\FID_F\Data\FF012023\
Data File : FF011897.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 18:28
Operator : YP\AJ
Sample : 01232-03MSD
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Jan 21 03:04:40 2023
Quant Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Quant Title :
QLast Update : Mon Jan 02 03:26:15 2023
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_F\Data\FF012023\
Data File : FF011897.D
Signal(s) : FID2B.ch
Acq On : 20 Jan 2023 18:28
Sample : 01232-03MSD
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: Sample.e

Method : Z:\pestpcbsrv\HPCHEM1\FID_F\Method\FF123022.M
Title :

Signal : FID2B.ch

peak #	R.T. min	Start min	End min	PK TY	peak height	peak area	peak % max.	% of total
1	4.607	4.560	4.638	BH	278962	2777809	75.60%	6.031%
2	4.647	4.638	4.671	HH	239	2886	0.08%	0.006%
3	4.678	4.671	4.714	PH	201	41	0.00%	0.000%
4	4.720	4.714	4.750	PH	-7	-904	-0.02%	-0.002%
5	4.775	4.750	4.793	PH	1465	16199	0.44%	0.035%
6	4.839	4.793	4.876	HH	1034	32301	0.88%	0.070%
7	4.889	4.876	4.907	HH	365	3945	0.11%	0.009%
8	4.919	4.907	4.935	PH	150	173	0.00%	0.000%
9	4.950	4.935	4.955	PH	68	-48	-0.00%	-0.000%
10	4.973	4.955	4.991	HH	136	489	0.01%	0.001%
11	4.998	4.991	5.002	PH	-74	-547	-0.01%	-0.001%
12	5.022	5.002	5.038	PH	82	-1034	-0.03%	-0.002%
13	5.054	5.038	5.059	PH	96	178	0.00%	0.000%
14	5.064	5.059	5.095	HH	97	-1285	-0.03%	-0.003%
15	5.123	5.095	5.145	PH	260	-1086	-0.03%	-0.002%
16	5.149	5.145	5.165	PH	-189	-2788	-0.08%	-0.006%
17	5.172	5.165	5.178	PH	-176	-1407	-0.04%	-0.003%
18	5.185	5.178	5.207	PH	-75	-2612	-0.07%	-0.006%
19	5.220	5.207	5.233	PH	-85	-2743	-0.07%	-0.006%
20	5.255	5.233	5.279	PH	260	608	0.02%	0.001%
21	5.292	5.279	5.309	PH	37	271	0.01%	0.001%
22	5.313	5.309	5.335	PH	22	-2057	-0.06%	-0.004%
23	5.351	5.335	5.379	PH	137	-1362	-0.04%	-0.003%
24	5.391	5.379	5.402	PH	103	-486	-0.01%	-0.001%
25	5.418	5.402	5.470	PH	565	-700	-0.02%	-0.002%
26	5.483	5.470	5.487	PH	-206	-2371	-0.06%	-0.005%
27	5.491	5.487	5.506	PH	-178	-2878	-0.08%	-0.006%
28	5.520	5.506	5.530	PH	83	-1858	-0.05%	-0.004%
29	5.545	5.530	5.566	PH	448	2475	0.07%	0.005%
30	5.581	5.566	5.602	PH	-28	-2625	-0.07%	-0.006%
31	5.617	5.602	5.635	PH	132	-859	-0.02%	-0.002%
32	5.644	5.635	5.648	PH	-80	-893	-0.02%	-0.002%
33	5.654	5.648	5.669	PH	-44	-1459	-0.04%	-0.003%
34	5.685	5.669	5.720	PH	391	395	0.01%	0.001%
35	5.741	5.720	5.782	PH	1303	12359	0.34%	0.027%
36	5.797	5.782	5.810	PH	36	-1178	-0.03%	-0.003%

					rteres			
37	5.816	5.810	5.829	PH	-37	-1380	-0.04%	-0.003%
38	5.846	5.829	5.884	PH	1677	14477	0.39%	0.031%
39	5.909	5.884	5.916	PH	294	1105	0.03%	0.002%
40	5.927	5.916	5.957	HH	612	5401	0.15%	0.012%
41	5.983	5.957	6.003	PH	97	-347	-0.01%	-0.001%
42	6.007	6.003	6.023	PH	1	-782	-0.02%	-0.002%
43	6.051	6.023	6.083	PH	347	3821	0.10%	0.008%
44	6.108	6.083	6.126	PH	248	15	0.00%	0.000%
45	6.130	6.126	6.144	PH	-45	-1497	-0.04%	-0.003%
46	6.172	6.144	6.202	PH	141	-3619	-0.10%	-0.008%
47	6.219	6.202	6.240	PH	157	-1849	-0.05%	-0.004%
48	6.273	6.240	6.291	PH	488	1641	0.04%	0.004%
49	6.309	6.291	6.346	PH	1388	15505	0.42%	0.034%
50	6.365	6.346	6.394	PH	195	-124	-0.00%	-0.000%
51	6.419	6.394	6.441	PH	194	189	0.01%	0.000%
52	6.459	6.441	6.469	PH	341	3081	0.08%	0.007%
53	6.480	6.469	6.522	HH	861	9460	0.26%	0.021%
54	6.540	6.522	6.552	PH	164	197	0.01%	0.000%
55	6.568	6.552	6.589	PH	422	4569	0.12%	0.010%
56	6.604	6.589	6.621	HH	416	4835	0.13%	0.010%
57	6.645	6.621	6.668	HH	848	12232	0.33%	0.027%
58	6.691	6.668	6.708	PH	315	3811	0.10%	0.008%
59	6.716	6.708	6.736	HH	174	999	0.03%	0.002%
60	6.769	6.736	6.824	PH	312967	3110456	84.65%	6.753%
61	6.830	6.824	6.843	PH	149	757	0.02%	0.002%
62	6.860	6.843	6.869	PH	172	1151	0.03%	0.002%
63	6.886	6.869	6.907	PH	354	3827	0.10%	0.008%
64	6.921	6.907	6.947	HH	893	10449	0.28%	0.023%
65	6.962	6.947	6.984	HH	589	6558	0.18%	0.014%
66	6.998	6.984	7.028	PH	304	1377	0.04%	0.003%
67	7.051	7.028	7.073	PH	346	2710	0.07%	0.006%
68	7.097	7.073	7.125	PH	430	5553	0.15%	0.012%
69	7.134	7.125	7.145	PH	57	-420	-0.01%	-0.001%
70	7.175	7.145	7.197	PH	452	4342	0.12%	0.009%
71	7.243	7.197	7.264	PH	756	6946	0.19%	0.015%
72	7.280	7.264	7.289	HH	385	3443	0.09%	0.007%
73	7.302	7.289	7.322	HH	491	5873	0.16%	0.013%
74	7.341	7.322	7.366	PH	706	6898	0.19%	0.015%
75	7.404	7.366	7.423	PH	800	10804	0.29%	0.023%
76	7.439	7.423	7.464	HH	870	9704	0.26%	0.021%
77	7.487	7.464	7.524	PH	2641	31160	0.85%	0.068%
78	7.544	7.524	7.571	HH	895	10259	0.28%	0.022%
79	7.589	7.571	7.611	PH	584	5765	0.16%	0.013%
80	7.617	7.611	7.637	HH	93	455	0.01%	0.001%
81	7.638	7.637	7.652	PH	18	-438	-0.01%	-0.001%
82	7.674	7.652	7.681	PH	303	2437	0.07%	0.005%
83	7.712	7.681	7.741	HH	1400	20436	0.56%	0.044%
84	7.765	7.741	7.795	PH	393	6765	0.18%	0.015%
85	7.801	7.795	7.814	HH	258	2034	0.06%	0.004%
86	7.818	7.814	7.824	HH	161	734	0.02%	0.002%
87	7.832	7.824	7.861	HH	211	3210	0.09%	0.007%
88	7.890	7.861	7.920	HH	1085	18427	0.50%	0.040%
89	7.939	7.920	7.958	HH	386	4316	0.12%	0.009%

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90	7.976	7.958	7.991	PH	150	1270	0.03%	0.003%
91	8.012	7.991	8.017	HH	400	3482	0.09%	0.008%
92	8.028	8.017	8.042	HH	471	5869	0.16%	0.013%
93	8.051	8.042	8.103	HH	591	9551	0.26%	0.021%
94	8.109	8.103	8.115	PH	49	127	0.00%	0.000%
95	8.146	8.115	8.164	PH	680	10126	0.28%	0.022%
96	8.180	8.164	8.185	HH	357	3704	0.10%	0.008%
97	8.194	8.185	8.216	HH	466	5366	0.15%	0.012%
98	8.241	8.216	8.262	PH	434	4393	0.12%	0.010%
99	8.288	8.262	8.313	PH	1033	16509	0.45%	0.036%
100	8.344	8.313	8.366	HH	864	14429	0.39%	0.031%
101	8.413	8.366	8.454	PH	3533	47510	1.29%	0.103%
102	8.469	8.454	8.488	HH	552	8703	0.24%	0.019%
103	8.503	8.488	8.509	HH	757	7812	0.21%	0.017%
104	8.519	8.509	8.534	HH	1007	10771	0.29%	0.023%
105	8.551	8.534	8.563	HH	825	11372	0.31%	0.025%
106	8.595	8.563	8.628	HH	325779	3398770	92.50%	7.379%
107	8.633	8.628	8.663	HH	1293	18669	0.51%	0.041%
108	8.703	8.663	8.739	HH	984	29064	0.79%	0.063%
109	8.757	8.739	8.778	HH	870	13294	0.36%	0.029%
110	8.785	8.778	8.803	HH	402	4945	0.13%	0.011%
111	8.816	8.803	8.833	HH	587	7302	0.20%	0.016%
112	8.844	8.833	8.854	HH	369	3079	0.08%	0.007%
113	8.867	8.854	8.880	HH	443	4840	0.13%	0.011%
114	8.887	8.880	8.914	HH	408	4249	0.12%	0.009%
115	8.920	8.914	8.933	PH	153	850	0.02%	0.002%
116	8.953	8.933	8.973	PH	508	5991	0.16%	0.013%
117	9.003	8.973	9.035	HH	592	14525	0.40%	0.032%
118	9.058	9.035	9.093	HH	907	16727	0.46%	0.036%
119	9.133	9.093	9.159	HH	2908	40271	1.10%	0.087%
120	9.170	9.159	9.179	HH	277	2397	0.07%	0.005%
121	9.202	9.179	9.230	HH	1637	24473	0.67%	0.053%
122	9.244	9.230	9.267	HH	802	10759	0.29%	0.023%
123	9.279	9.267	9.300	HH	639	7332	0.20%	0.016%
124	9.321	9.300	9.339	HH	888	10911	0.30%	0.024%
125	9.360	9.339	9.383	HH	509	9664	0.26%	0.021%
126	9.390	9.383	9.398	HH	296	2376	0.06%	0.005%
127	9.418	9.398	9.441	HH	2393	31215	0.85%	0.068%
128	9.455	9.441	9.487	HH	932	11105	0.30%	0.024%
129	9.501	9.487	9.531	PH	354	2859	0.08%	0.006%
130	9.571	9.531	9.590	PH	564	6901	0.19%	0.015%
131	9.604	9.590	9.634	PH	369	3500	0.10%	0.008%
132	9.651	9.634	9.670	PH	203	1718	0.05%	0.004%
133	9.708	9.670	9.724	PH	633	7614	0.21%	0.017%
134	9.739	9.724	9.774	HH	1825	22748	0.62%	0.049%
135	9.793	9.774	9.826	PH	1267	17694	0.48%	0.038%
136	9.837	9.826	9.853	HH	431	4845	0.13%	0.011%
137	9.872	9.853	9.905	HH	935	12684	0.35%	0.028%
138	9.939	9.905	9.955	HH	687	10509	0.29%	0.023%
139	9.979	9.955	10.014	HH	4512	50581	1.38%	0.110%
140	10.034	10.014	10.046	PH	256	2915	0.08%	0.006%
141	10.069	10.046	10.106	HH	19502	214662	5.84%	0.466%

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142	10.135	10.106	10.169	HH	1132	24045	0.65%	0.052%
143	10.201	10.169	10.256	HH	328106	3562804	96.96%	7.736%
144	10.260	10.256	10.277	PH	10	-358	-0.01%	-0.001%
145	10.281	10.277	10.291	PH	-16	-401	-0.01%	-0.001%
146	10.303	10.291	10.344	PH	124	-2712	-0.07%	-0.006%
147	10.347	10.344	10.351	PH	-244	-1038	-0.03%	-0.002%
148	10.375	10.351	10.421	PH	60	-7193	-0.20%	-0.016%
149	10.426	10.421	10.445	PH	-218	-3404	-0.09%	-0.007%
150	10.449	10.445	10.461	PH	-231	-2713	-0.07%	-0.006%
151	10.477	10.461	10.487	PH	-151	-3334	-0.09%	-0.007%
152	10.494	10.487	10.507	PH	-144	-3007	-0.08%	-0.007%
153	10.541	10.507	10.562	PH	331	-1442	-0.04%	-0.003%
154	10.588	10.562	10.614	PH	1233	12625	0.34%	0.027%
155	10.644	10.614	10.660	PH	219	1094	0.03%	0.002%
156	10.674	10.660	10.699	PH	324	1177	0.03%	0.003%
157	10.717	10.699	10.730	PH	213	370	0.01%	0.001%
158	10.744	10.730	10.772	HH	164	965	0.03%	0.002%
159	10.791	10.772	10.807	PH	94	-865	-0.02%	-0.002%
160	10.812	10.807	10.830	PH	-45	-1546	-0.04%	-0.003%
161	10.860	10.830	10.879	PH	176	1725	0.05%	0.004%
162	10.893	10.879	10.907	PH	272	1711	0.05%	0.004%
163	10.937	10.907	10.982	PH	1265	16983	0.46%	0.037%
164	11.009	10.982	11.038	PH	1482	18042	0.49%	0.039%
165	11.040	11.038	11.052	PH	-69	-915	-0.02%	-0.002%
166	11.064	11.052	11.112	PH	50	-4401	-0.12%	-0.010%
167	11.121	11.112	11.144	PH	-209	-4876	-0.13%	-0.011%
168	11.162	11.144	11.174	PH	-96	-3245	-0.09%	-0.007%
169	11.199	11.174	11.244	PH	2801	37104	1.01%	0.081%
170	11.271	11.244	11.295	PH	693	5241	0.14%	0.011%
171	11.312	11.295	11.320	PH	173	264	0.01%	0.001%
172	11.330	11.320	11.350	PH	80	-739	-0.02%	-0.002%
173	11.361	11.350	11.368	PH	-152	-2188	-0.06%	-0.005%
174	11.384	11.368	11.424	PH	-159	-7339	-0.20%	-0.016%
175	11.446	11.424	11.478	PH	1993	17501	0.48%	0.038%
176	11.504	11.478	11.525	PH	179	-679	-0.02%	-0.001%
177	11.556	11.525	11.559	PH	-34	-3163	-0.09%	-0.007%
178	11.586	11.559	11.609	PH	118	213	0.01%	0.000%
179	11.643	11.609	11.694	PH	315567	3660008	99.61%	7.947%
180	11.730	11.694	11.769	PH	995	12523	0.34%	0.027%
181	11.797	11.769	11.819	PH	177	-2949	-0.08%	-0.006%
182	11.845	11.819	11.870	PH	30	-3952	-0.11%	-0.009%
183	11.897	11.870	11.925	PH	712	8077	0.22%	0.018%
184	11.940	11.925	11.975	PH	-23	-2072	-0.06%	-0.004%
185	12.000	11.975	12.016	PH	634	4500	0.12%	0.010%
186	12.031	12.016	12.043	PH	833	7830	0.21%	0.017%
187	12.059	12.043	12.086	HH	1578	19779	0.54%	0.043%
188	12.118	12.086	12.136	HH	906	15439	0.42%	0.034%
189	12.148	12.136	12.163	HH	945	10247	0.28%	0.022%
190	12.179	12.163	12.218	HH	861	7555	0.21%	0.016%
191	12.222	12.218	12.229	PH	-218	-1892	-0.05%	-0.004%
192	12.249	12.229	12.259	PH	-26	-2966	-0.08%	-0.006%
193	12.306	12.259	12.341	PH	981	14184	0.39%	0.031%
194	12.360	12.341	12.380	PH	796	8963	0.24%	0.019%

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195	12.402	12.380	12.447	HH	1067	11297	0.31%	0.025%
196	12.470	12.447	12.493	PH	299	1152	0.03%	0.003%
197	12.502	12.493	12.516	PH	0	-935	-0.03%	-0.002%
198	12.559	12.516	12.575	PH	48494	542265	14.76%	1.177%
199	12.583	12.575	12.613	HH	11871	123125	3.35%	0.267%
200	12.617	12.613	12.634	HH	345	2558	0.07%	0.006%
201	12.648	12.634	12.664	HH	184	1958	0.05%	0.004%
202	12.679	12.664	12.692	PH	222	1748	0.05%	0.004%
203	12.697	12.692	12.707	HH	205	1480	0.04%	0.003%
204	12.724	12.707	12.739	HH	465	5726	0.16%	0.012%
205	12.746	12.739	12.753	HH	312	2312	0.06%	0.005%
206	12.780	12.753	12.804	HH	799	14937	0.41%	0.032%
207	12.808	12.804	12.829	HH	424	2945	0.08%	0.006%
208	12.852	12.829	12.860	PH	250	2221	0.06%	0.005%
209	12.890	12.860	12.919	HH	5225	76547	2.08%	0.166%
210	12.953	12.919	12.988	HH	303703	3646031	99.23%	7.916%
211	13.015	12.988	13.028	HH	15353	177573	4.83%	0.386%
212	13.039	13.028	13.084	HH	13480	150973	4.11%	0.328%
213	13.117	13.084	13.139	PH	507	6931	0.19%	0.015%
214	13.172	13.139	13.186	HH	356	6721	0.18%	0.015%
215	13.207	13.186	13.270	HH	707	15859	0.43%	0.034%
216	13.274	13.270	13.288	HH	151	976	0.03%	0.002%
217	13.314	13.288	13.327	PH	6588	71781	1.95%	0.156%
218	13.349	13.327	13.423	HH	57047	716177	19.49%	1.555%
219	13.438	13.423	13.472	HH	669	13515	0.37%	0.029%
220	13.484	13.472	13.499	HH	529	6543	0.18%	0.014%
221	13.516	13.499	13.540	HH	394	7401	0.20%	0.016%
222	13.565	13.540	13.579	HH	1466	22034	0.60%	0.048%
223	13.606	13.579	13.637	HH	4618	72323	1.97%	0.157%
224	13.644	13.637	13.670	HH	663	9297	0.25%	0.020%
225	13.678	13.670	13.682	HH	352	2044	0.06%	0.004%
226	13.688	13.682	13.697	HH	387	2983	0.08%	0.006%
227	13.710	13.697	13.725	HH	505	7514	0.20%	0.016%
228	13.788	13.725	13.811	HH	6247	101079	2.75%	0.219%
229	13.844	13.811	13.870	HH	19192	239640	6.52%	0.520%
230	13.903	13.870	13.929	HH	1766	41788	1.14%	0.091%
231	13.949	13.929	13.959	HH	619	10037	0.27%	0.022%
232	14.015	13.959	14.032	HH	2318	56805	1.55%	0.123%
233	14.050	14.032	14.076	HH	1963	35241	0.96%	0.077%
234	14.101	14.076	14.118	HH	3310	48261	1.31%	0.105%
235	14.151	14.118	14.201	HH	297346	3631641	98.83%	7.885%
236	14.223	14.201	14.236	HH	2469	34831	0.95%	0.076%
237	14.257	14.236	14.325	HH	9590	137739	3.75%	0.299%
238	14.348	14.325	14.352	HH	627	8754	0.24%	0.019%
239	14.386	14.352	14.410	HH	773	23235	0.63%	0.050%
240	14.419	14.410	14.437	HH	644	9585	0.26%	0.021%
241	14.443	14.437	14.454	HH	606	5741	0.16%	0.012%
242	14.513	14.454	14.520	HH	1119	31446	0.86%	0.068%
243	14.544	14.520	14.574	HH	3057	63058	1.72%	0.137%
244	14.595	14.574	14.626	HH	2131	51587	1.40%	0.112%
245	14.638	14.626	14.677	HH	1500	33649	0.92%	0.073%
246	14.713	14.677	14.750	HH	7333	128543	3.50%	0.279%

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247	14.767	14.750	14.799	HH	2219	51000	1.39%	0.111%
248	14.814	14.799	14.836	HH	1721	33379	0.91%	0.072%
249	14.844	14.836	14.861	HH	1322	18522	0.50%	0.040%
250	14.880	14.861	14.901	HH	2008	35050	0.95%	0.076%
251	14.928	14.901	14.987	HH	3162	87849	2.39%	0.191%
252	14.990	14.987	15.012	HH	1182	16458	0.45%	0.036%
253	15.050	15.012	15.088	HH	174464	2403082	65.40%	5.218%
254	15.104	15.088	15.127	HH	1929	38517	1.05%	0.084%
255	15.147	15.127	15.169	HH	1337	30099	0.82%	0.065%
256	15.193	15.169	15.214	HH	4135	70834	1.93%	0.154%
257	15.254	15.214	15.286	HH	282651	3674494	100.00%	7.978%
258	15.299	15.286	15.321	HH	2218	36351	0.99%	0.079%
259	15.353	15.321	15.388	HH	1825	57950	1.58%	0.126%
260	15.401	15.388	15.424	HH	1534	29776	0.81%	0.065%
261	15.444	15.424	15.472	HH	1636	39335	1.07%	0.085%
262	15.514	15.472	15.540	HH	2047	64531	1.76%	0.140%
263	15.559	15.540	15.575	HH	1581	31164	0.85%	0.068%
264	15.589	15.575	15.599	HH	1647	22705	0.62%	0.049%
265	15.631	15.599	15.742	HH	60798	1073406	29.21%	2.331%
266	15.772	15.742	15.811	HH	9271	187342	5.10%	0.407%
267	15.851	15.811	15.889	HH	6290	160310	4.36%	0.348%
268	15.905	15.889	15.934	HH	2565	59074	1.61%	0.128%
269	15.953	15.934	15.981	HH	2120	55522	1.51%	0.121%
270	16.030	15.981	16.050	HH	2906	101051	2.75%	0.219%
271	16.061	16.050	16.080	HH	2763	45673	1.24%	0.099%
272	16.097	16.080	16.117	HH	2505	53444	1.45%	0.116%
273	16.151	16.117	16.214	HH	3838	159317	4.34%	0.346%
274	16.275	16.214	16.323	HH	273850	3649456	99.32%	7.924%
275	16.336	16.323	16.357	HH	2473	47302	1.29%	0.103%
276	16.372	16.357	16.377	HH	2308	26566	0.72%	0.058%
277	16.412	16.377	16.416	HH	2326	52485	1.43%	0.114%
278	16.420	16.416	16.422	HH	2304	8435	0.23%	0.018%
279	16.426	16.422	16.434	HH	2344	16126	0.44%	0.035%
280	16.480	16.434	16.512	HH	2894	123896	3.37%	0.269%
281	16.518	16.512	16.531	HH	2643	28691	0.78%	0.062%
282	16.577	16.531	16.608	HH	3566	141791	3.86%	0.308%
283	16.648	16.608	16.702	HH	7751	264355	7.19%	0.574%
284	16.721	16.702	16.729	HH	4027	61212	1.67%	0.133%
285	16.755	16.729	16.802	HH	12276	274216	7.46%	0.595%
286	16.838	16.802	16.862	HH	4676	136483	3.71%	0.296%
287	16.884	16.862	16.911	HH	5542	126803	3.45%	0.275%
288	16.917	16.911	16.922	HH	3701	22735	0.62%	0.049%
289	16.929	16.922	16.944	HH	3689	48591	1.32%	0.106%
290	16.956	16.944	16.972	HH	3681	60452	1.65%	0.131%
291	16.985	16.972	16.992	HH	3702	44677	1.22%	0.097%
292	17.072	16.992	17.093	HH	5960	283145	7.71%	0.615%
293	17.130	17.093	17.167	HH	6626	222980	6.07%	0.484%
294	17.224	17.167	17.256	HH	255521	3582385	97.49%	7.778%
					Sum of corrected areas:		46056975	



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

Instrument ID: FID_F

Daily Analysis Runlog For Sequence/QC Batch ID # FF012023

Review By	yogesh	Review On	1/20/2023 4:28:51 PM
Supervise By	Ankita	Supervise On	1/23/2023 9:00:59 AM
SubDirectory	FF012023	HP Acquire Method	HP Processing Method FF123022
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	PP21133,PP21323,PP21324,PP21325,PP21326		
CCC	PP21324		
Internal Standard/PEM	PP21134,PP21327		
ICV/I.BLK			
Surrogate Standard			
MS/MSD Standard			
LCS Standard			

Sr#	SampleID	Data File Name	Date-Time	Operator	Status
1	MECL2	FF011889.D	20 Jan 2023 12:08	YP\AJ	Ok
2	I.BLK	FF011890.D	20 Jan 2023 15:00	YP\AJ	Ok
3	50 PPM TRPH STD	FF011891.D	20 Jan 2023 15:29	YP\AJ	Ok
4	RT MARKER	FF011892.D	20 Jan 2023 15:58	YP\AJ	Ok
5	PB150379BL	FF011893.D	20 Jan 2023 16:30	YP\AJ	Ok
6	PB150379BS	FF011894.D	20 Jan 2023 17:00	YP\AJ	Ok
7	O1232-03	FF011895.D	20 Jan 2023 17:29	YP\AJ	Ok
8	O1232-03MS	FF011896.D	20 Jan 2023 17:59	YP\AJ	Ok
9	O1232-03MSD	FF011897.D	20 Jan 2023 18:28	YP\AJ	Ok
10	O1233-10	FF011898.D	20 Jan 2023 18:58	YP\AJ	Dilution
11	I.BLK	FF011899.D	20 Jan 2023 19:57	YP\AJ	Ok
12	50 PPM TRPH STD	FF011900.D	20 Jan 2023 20:56	YP\AJ	Ok

M : Manual Integration



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

Instrument ID: FID_F

Daily Analysis Runlog For Sequence/QC Batch ID # FF123022

Review By	yogesh	Review On	12/30/2022 1:32:06 PM
Supervise By	Ankita	Supervise On	1/3/2023 8:32:25 AM
SubDirectory	FF123022	HP Acquire Method	HP Processing Method FF123022
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	PP21133,PP21323,PP21324,PP21325,PP21326		
CCC Internal Standard/PEM ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	PP21134,PP21327		

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	MECL2	FF011838.D	30 Dec 2022 13:33	YP\AJ	Ok
2	I.BLK	FF011839.D	30 Dec 2022 14:02	YP\AJ	Ok
3	100 TRPH STD	FF011840.D	30 Dec 2022 14:32	YP\AJ	Ok
4	50 TRPH STD	FF011841.D	30 Dec 2022 15:01	YP\AJ	Ok
5	20 TRPH STD	FF011842.D	30 Dec 2022 16:00	YP\AJ	Ok
6	10 TRPH STD	FF011843.D	30 Dec 2022 16:30	YP\AJ	Ok
7	5 TRPH STD	FF011844.D	30 Dec 2022 16:59	YP\AJ	Ok
8	FF123022ICV	FF011845.D	30 Dec 2022 18:28	YP\AJ	Ok

M : Manual Integration



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

Instrument ID: FID_F

Daily Analysis Runlog For Sequence/QC Batch ID # FF012023

Review By	yogesh	Review On	1/20/2023 4:28:51 PM				
Supervise By	Ankita	Supervise On	1/23/2023 9:00:59 AM				
SubDirectory	FF012023	HP Acquire Method	HP Processing Method			FF123022	
STD. NAME		STD REF.#					
Tune/Reschk Initial Calibration Stds		PP21133,PP21323,PP21324,PP21325,PP21326					
CCC		PP21324					
Internal Standard/PEM		PP21134,PP21327					
ICV/I.BLK							
Surrogate Standard							
MS/MSD Standard							
LCS Standard							

Sr#	SampleId	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	MECL2		FF011889.D	20 Jan 2023 12:08		YP\AJ	Ok
2	I.BLK		FF011890.D	20 Jan 2023 15:00		YP\AJ	Ok
3	50 PPM TRPH STD		FF011891.D	20 Jan 2023 15:29		YP\AJ	Ok
4	RT MARKER		FF011892.D	20 Jan 2023 15:58		YP\AJ	Ok
5	PB150379BL		FF011893.D	20 Jan 2023 16:30		YP\AJ	Ok
6	PB150379BS		FF011894.D	20 Jan 2023 17:00		YP\AJ	Ok
7	O1232-03		FF011895.D	20 Jan 2023 17:29		YP\AJ	Ok
8	O1232-03MS		FF011896.D	20 Jan 2023 17:59		YP\AJ	Ok
9	O1232-03MSD		FF011897.D	20 Jan 2023 18:28		YP\AJ	Ok
10	O1233-10		FF011898.D	20 Jan 2023 18:58	need 5x	YP\AJ	Dilution
11	I.BLK		FF011899.D	20 Jan 2023 19:57		YP\AJ	Ok
12	50 PPM TRPH STD		FF011900.D	20 Jan 2023 20:56		YP\AJ	Ok

M : Manual Integration



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

Instrument ID: FID_F

Daily Analysis Runlog For Sequence/QC Batch ID # FF123022

Review By	yogesh	Review On	12/30/2022 1:32:06 PM				
Supervise By	Ankita	Supervise On	1/3/2023 8:32:25 AM				
SubDirectory	FF123022	HP Acquire Method	HP Processing Method			FF123022	
STD. NAME		STD REF.#					
Tune/Reschk Initial Calibration Stds		PP21133,PP21323,PP21324,PP21325,PP21326					
CCC Internal Standard/PEM ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard		PP21134,PP21327					
Sr#	SampleId	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	MECL2		FF011838.D	30 Dec 2022 13:33		YP\AJ	Ok
2	I.BLK		FF011839.D	30 Dec 2022 14:02		YP\AJ	Ok
3	100 TRPH STD		FF011840.D	30 Dec 2022 14:32		YP\AJ	Ok
4	50 TRPH STD		FF011841.D	30 Dec 2022 15:01		YP\AJ	Ok
5	20 TRPH STD		FF011842.D	30 Dec 2022 16:00		YP\AJ	Ok
6	10 TRPH STD		FF011843.D	30 Dec 2022 16:30		YP\AJ	Ok
7	5 TRPH STD		FF011844.D	30 Dec 2022 16:59		YP\AJ	Ok
8	FF123022ICV		FF011845.D	30 Dec 2022 18:28		YP\AJ	Ok

M : Manual Integration

**PERCENT SOLID**

Supervisor: Iwona

Analyst: jignesh

Date: 1/23/2023

OVENTEMP IN Celsius(°C): 107

Time IN: 17:15

In Date: 01/20/2023

Weight Check 1.0g: 1.00

Weight Check 10g: 10.00

OvenID: M OVEN-1

OVENTEMP OUT Celsius(°C): 103

Time OUT: 08:30

Out Date: 01/21/2023

Weight Check 1.0g: 1.00

Weight Check 10g: 10.00

BalanceID: M SC-4

Thermometer ID: %SOLIDS-OVEN

QC:LB123747

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
O1229-01	OK-02-011923	1	1.12	8.72	9.84	8.73	87.3	
O1229-02	OK-02-011923-EPH-2	2	1.12	8.72	9.84	8.73	87.3	
O1230-01	BBC	3	1.15	8.45	9.6	9.47	98.5	
O1231-01	BBC	4	1.19	8.53	9.72	9.57	98.2	
O1232-01	B-P-17A	18	1.15	8.78	9.93	9.00	89.4	
O1232-02	B-P-17B	19	1.15	8.41	9.56	8.46	86.9	
O1232-03	WC-17	20	1.13	8.64	9.77	9.03	91.4	
O1232-04	B-P-18A	21	1.13	8.57	9.7	8.63	87.5	
O1232-05	B-P-18B	22	1.15	8.83	9.98	9.22	91.4	
O1232-06	B-P-19A	23	1.12	8.57	9.69	8.68	88.2	
O1232-07	B-P-19B	24	1.18	8.35	9.53	8.53	88.0	
O1232-08	B-P-35A	25	1.13	8.62	9.75	9.00	91.3	
O1232-09	B-P-35B	26	1.17	8.53	9.7	9.13	93.3	
O1232-10	DUP01	27	1.15	8.80	9.95	9.08	90.1	
O1233-02	B-P34A	28	1.13	8.76	9.89	8.6	85.3	
O1233-03	B-P34B	29	1.13	8.71	9.84	9.03	90.7	
O1233-04	B-P36A	30	1.16	8.75	9.91	9.00	89.6	
O1233-05	B-P36B	31	1.13	8.84	9.97	9.12	90.4	
O1233-06	B-P37A	32	1.18	8.60	9.78	8.74	87.9	
O1233-07	B-P37B	33	1.18	8.38	9.56	8.18	83.5	
O1233-08	B-P38A	34	1.12	8.66	9.78	8.85	89.3	
O1233-09	B-P38B	35	1.15	8.81	9.96	8.26	80.7	
O1233-10	WC-38	36	1.18	8.59	9.77	8.47	84.9	
O1233-11	B-P38C	37	1.15	8.82	9.97	8.73	85.9	
O1234-01	EO-02-11923	5	1.14	8.82	9.96	8.72	85.9	
O1234-02	EO-02-11923	6	1.12	8.54	9.66	8.48	86.2	
O1235-04	12X52	7	1.12	7.08	8.2	6.57	77.0	
O1235-05	12X53	8	1.16	5.17	6.33	5.91	91.9	



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 1/23/2023

OVENTEMP IN Celsius(°C): 107
Time IN: 17:15
In Date: 01/20/2023
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN-1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:30
Out Date: 01/21/2023
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: %SOLIDS-OVEN

QC:LB123747

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
O1235-06	12X54	9	1.11	8.50	9.61	5.73	54.4	
O1235-07	12X55	10	1.13	8.43	9.56	7.14	71.3	
O1237-01	COMP-1-2-3A	11	1.18	8.72	9.9	9.24	92.4	
O1237-02	3A	12	1.13	8.44	9.57	9.33	97.2	
O1238-01	RBRB22281-OILY-DEBRIS	13	1.00	1.00	2.00	2.00	100.0	OILY DEBRIS
O1239-01	BORING-3	14	1.17	8.73	9.9	8.29	81.6	
O1239-03	BORING-3-EPH-2	15	1.13	8.64	9.77	8.31	83.1	
O1240-01	TR-05-011923	16	1.18	8.50	9.68	8.38	84.7	
O1240-02	TR-05-011923-EPH-2	17	1.17	8.67	9.84	8.73	87.2	
O1241-01	34326-FRONT	38	1.00	1.00	2.00	2.00	100.0	PILC REEL
O1241-02	34326-BACK	39	1.00	1.00	2.00	2.00	100.0	PILC REEL
O1241-03	34327-FRONT	40	1.00	1.00	2.00	2.00	100.0	PILC REEL
O1241-04	34327-BACK	41	1.00	1.00	2.00	2.00	100.0	PILC REEL
O1241-05	34328-FRONT	42	1.00	1.00	2.00	2.00	100.0	PILC REEL
O1241-06	34328BACK	43	1.00	1.00	2.00	2.00	100.0	PILC REEL
O1241-07	343269-FRONT	44	1.00	1.00	2.00	2.00	100.0	PILC REEL
O1241-08	34329-BACK	45	1.00	1.00	2.00	2.00	100.0	PILC REEL
O1243-01	TJRC-11823-B4-0-10	60	1.12	8.65	9.77	8.54	85.8	
O1243-02	TJRC-11823-B4-0-10	61	1.14	8.45	9.59	8.02	81.4	
O1243-03	TJRC-11823-B4-10-20	62	1.15	8.81	9.96	8.85	87.4	
O1243-04	TJRC-11823-B4-10-20	63	1.17	8.57	9.74	8.16	81.6	
O1243-05	TJRC-11923-B4-20-30	64	1.15	8.75	9.9	8.28	81.5	
O1243-06	TJRC-11923-B4-20-30	65	1.13	8.70	9.83	8.43	83.9	
O1243-07	TJRC-11923-B4-30-40	66	1.16	8.77	9.93	8.29	81.3	
O1243-08	TJRC-11923-B4-30-40	67	1.14	8.83	9.97	8.47	83.0	
O1244-01	VNJ-223	46	1.12	8.62	9.74	8.59	86.7	
O1244-02	VNJ-223	47	1.16	8.80	9.96	8.62	84.8	
O1248-05	SVOC-GPC-BLANK	50	1.00	1.00	2.00	2.00	100.0	



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 1/23/2023

OVENTEMP IN Celsius(°C): 107
Time IN: 17:15
In Date: 01/20/2023
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN-1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:30
Out Date: 01/21/2023
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: %SOLIDS-OVEN

QC:LB123747

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
O1248-06	PEST-GPC-BLANK	51	1.00	1.00	2.00	2.00	100.0	
O1248-07	PEST-GPC-BLANK-SPIKE	52	1.00	1.00	2.00	2.00	100.0	
O1248-08	PCB-GPC-BLANK	53	1.00	1.00	2.00	2.00	100.0	
O1248-09	PCB-GPC-BLANK-SPIKE	54	1.00	1.00	2.00	2.00	100.0	
O1248-10	SVOC-GPC2-BLANK	55	1.00	1.00	2.00	2.00	100.0	
O1248-11	PEST-GPC2-BLANK	56	1.00	1.00	2.00	2.00	100.0	
O1248-12	PEST-GPC2-BLANK-SPIKE	57	1.00	1.00	2.00	2.00	100.0	
O1248-13	PCB-GCP2-BLANK	58	1.00	1.00	2.00	2.00	100.0	
O1248-14	PCB-GCP2-BLANK-SPIKE	59	1.00	1.00	2.00	2.00	100.0	
O1251-01	COMP-1	68	1.13	8.43	9.56	8.44	86.7	
O1251-03	EPH-1	69	1.11	8.51	9.62	8.47	86.5	
O1251-05	TOT-VOC-1	70	1.00	1.00	2.00	2.00	100.0	no jar
O1251-06	TOT-VOC-2	71	1.00	1.00	2.00	2.00	100.0	no jar
O1251-07	COMP-2	72	1.12	8.74	9.86	8.75	87.3	
O1251-09	EPH-2	73	1.14	8.80	9.94	8.8	87.0	
O1251-11	TOT-VOC-3	74	1.00	1.00	2.00	2.00	100.0	no jar
O1251-12	TOT-VOC-4	75	1.00	1.00	2.00	2.00	100.0	no jar
O1252-01	MH-9	48	1.14	8.84	9.98	9.47	94.2	
O1252-02	MH-9-EPH	49	1.12	8.46	9.58	8.67	89.2	
O1253-01	SU-04-012023	79	1.12	8.47	9.59	8.99	92.9	
O1253-02	SU-04-012023-EPH-2	80	1.18	8.69	9.87	9.17	91.9	
O1254-01	HR-04-012023	81	1.13	8.66	9.79	9.09	91.9	
O1254-02	HR-04-012023-EPH-2	82	1.16	8.69	9.85	8.95	89.6	
O1255-01	BORING-1	76	1.18	8.61	9.79	8.32	82.9	
O1255-03	BORING-1-EPH-2	77	1.11	8.78	9.89	8.35	82.5	
O1256-01	OR-02-012023	83	1.15	8.81	9.96	9.09	90.1	
O1256-02	OR-02-012023-EPH-2	84	1.1	8.87	9.97	8.66	85.2	



PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 1/23/2023

OVENTEMP IN Celsius(°C): 107
Time IN: 17:15
In Date: 01/20/2023
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN-1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:30
Out Date: 01/21/2023
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: %SOLIDS-OVEN

QC:LB123747

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
O1258-01	WASTE-VOA-2	78	1.12	8.58	9.7	8.62	87.4	

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

WORKLIST(Hardcopy Internal Chain)

123747

WorkList Name : %1-012023

WorkList ID : 166715

Department : Wet-Chemistry

Date : 01-20-2023 09:10:27

Due Date	Matrix	Sample	Test	Preservative	Customer	Raw Sample Storage Location	Customer Sample	Collect Date	Method
01/24/2023	Solid	O1229-01	Percent Solids	Cool 4 deg C	PSEG05	N11	OK-02-011923	01/19/2023	Chemtech -SO
01/24/2023	Solid	O1229-02	Percent Solids	Cool 4 deg C	PSEG05	N11	OK-02-011923-EPH-2	01/19/2023	Chemtech -SO
01/26/2023	Solid	O1230-01	Percent Solids	Cool 4 deg C	EART12	N11	BBC	01/19/2023	Chemtech -SO
01/26/2023	Solid	O1231-01	Percent Solids	Cool 4 deg C	EART12	N11	BBC	01/19/2023	Chemtech -SO
01/26/2023	Solid	O1232-01	Percent Solids	Cool 4 deg C	loui01	N11	B-P-17A	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1232-02	Percent Solids	Cool 4 deg C	loui01	N11	B-P-17B	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1232-03	Percent Solids	Cool 4 deg C	loui01	N11	WC-17	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1232-04	Percent Solids	Cool 4 deg C	loui01	N11	B-P-18A	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1232-05	Percent Solids	Cool 4 deg C	loui01	N11	B-P-18B	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1232-06	Percent Solids	Cool 4 deg C	loui01	N11	B-P-19A	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1232-07	Percent Solids	Cool 4 deg C	loui01	N11	B-P-19B	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1232-08	Percent Solids	Cool 4 deg C	loui01	N11	B-P-35A	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1232-09	Percent Solids	Cool 4 deg C	loui01	N11	B-P-35B	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1232-10	Percent Solids	Cool 4 deg C	loui01	N11	DUP01	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1233-02	Percent Solids	Cool 4 deg C	loui01	N11	B-P-34A	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1233-03	Percent Solids	Cool 4 deg C	loui01	N11	B-P-34B	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1233-04	Percent Solids	Cool 4 deg C	loui01	N11	B-P-36A	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1233-05	Percent Solids	Cool 4 deg C	loui01	N11	B-P-36B	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1233-06	Percent Solids	Cool 4 deg C	loui01	N11	B-P-37A	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1233-07	Percent Solids	Cool 4 deg C	loui01	N11	B-P-37B	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1233-08	Percent Solids	Cool 4 deg C	loui01	N11	B-P-38A	01/18/2023	Chemtech -SO

Date/Time 01-20-23 15:45

Date/Time 01-20-23

17:25

Raw Sample Received by: 70 (w2c)

Raw Sample Received by:

JD CSM

Raw Sample Relinquished by:

JD CSM

Raw Sample Relinquished by:

Page 1 of 4

18 CWC

123747

WORKLIST(Hardcopy Internal Chain)

WorkList Name : %1-012023 WorkList ID : 166715 Department : Wet-Chemistry Date : 01-20-2023 09:10:27

Due Date	Matrix	Sample	Test	Preservative	Customer	Raw Sample Storage Location	Customer Sample	Collect Date	Method
01/26/2023	Solid	O1233-09	Percent Solids	Cool 4 deg C	loui01	N11	B-P38B	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1233-10	Percent Solids	Cool 4 deg C	loui01	N11	WC-38	01/18/2023	Chemtech -SO
01/26/2023	Solid	O1233-11	Percent Solids	Cool 4 deg C	loui01	N11	B-P38C	01/18/2023	Chemtech -SO
01/24/2023	Solid	O1234-01	Percent Solids	Cool 4 deg C	PSEG05	N11	EO-02-11923	01/19/2023	Chemtech -SO
01/24/2023	Solid	O1234-02	Percent Solids	Cool 4 deg C	PSEG05	N11	EO-02-11923	01/19/2023	Chemtech -SO
01/28/2023	Solid	O1235-04	Percent Solids	Cool 4 deg C	ATCE02	N11	12X52	01/18/2023	Chemtech -SO
01/28/2023	Solid	O1235-05	Percent Solids	Cool 4 deg C	ATCE02	N11	12X53	01/18/2023	Chemtech -SO
01/28/2023	Solid	O1235-06	Percent Solids	Cool 4 deg C	ATCE02	N11	12X54	01/18/2023	Chemtech -SO
01/28/2023	Solid	O1235-07	Percent Solids	Cool 4 deg C	ATCE02	N11	12X55	01/18/2023	Chemtech -SO
01/24/2023	Solid	O1237-01	Percent Solids	Cool 4 deg C	PSEG03	N12	COMP-1-2-3A	01/19/2023	Chemtech -SO
01/24/2023	Solid	O1237-02	Percent Solids	Cool 4 deg C	PSEG03	N12	3A	01/19/2023	Chemtech -SO
01/24/2023	Solid	O1238-01	Percent Solids	Cool 4 deg C	PSEG03	N12	RBRB22281-OILY-DEBRIS	01/19/2023	Chemtech -SO
01/26/2023	Solid	O1239-01	Percent Solids	Cool 4 deg C	PSEG03	N12	BORING-3	01/19/2023	Chemtech -SO
01/26/2023	Solid	O1239-03	Percent Solids	Cool 4 deg C	PSEG03	N12	BORING-3-EPH-2	01/19/2023	Chemtech -SO
01/24/2023	Solid	O1240-01	Percent Solids	Cool 4 deg C	PSEG05	N12	TR-05-011923	01/19/2023	Chemtech -SO
01/24/2023	Solid	O1240-02	Percent Solids	Cool 4 deg C	PSEG05	N12	TR-05-011923-EPH-2	01/19/2023	Chemtech -SO
01/27/2023	Solid	O1241-01	Percent Solids	Cool 4 deg C	PSEG03	N11	34326-FRONT	01/20/2023	Chemtech -SO
01/27/2023	Solid	O1241-02	Percent Solids	Cool 4 deg C	PSEG03	N11	34326-BACK	01/20/2023	Chemtech -SO
01/27/2023	Solid	O1241-03	Percent Solids	Cool 4 deg C	PSEG03	N11	34327-FRONT	01/20/2023	Chemtech -SO
01/27/2023	Solid	O1241-04	Percent Solids	Cool 4 deg C	PSEG03	N11	34327-BACK	01/20/2023	Chemtech -SO
01/27/2023	Solid	O1241-05	Percent Solids	Cool 4 deg C	PSEG03	N11	34328-FRONT	01/20/2023	Chemtech -SO

Date/Time 01-20-23 15:45
 Raw Sample Received by: JO (WCC)
 Raw Sample Relinquished by: JO CSM

Date/Time 01-20-23 17:25
 Raw Sample Received by: JDCSM
 Raw Sample Relinquished by: JO (WCC)

123747

WORKLIST(Hardcopy Internal Chain)

WorkList Name : %1-01/2023 WorkList ID : 166715 Department : Wet-Chemistry Date : 01-20-2023 09:10:27

Due Date	Matrix	Sample	Test	Preservative	Customer	Raw Sample Storage Location	Customer Sample	Collect Date	Method
01/27/2023	Solid	O1241-06	Percent Solids	Cool 4 deg C	PSEG03	N11	34328BACK	01/20/2023	Chemtech -SO
01/27/2023	Solid	O1241-07	Percent Solids	Cool 4 deg C	PSEG03	N11	343269-FRONT	01/20/2023	Chemtech -SO
01/27/2023	Solid	O1241-08	Percent Solids	Cool 4 deg C	PSEG03	N11	34329-BACK	01/20/2023	Chemtech -SO
01/28/2023	Solid	O1243-01	Percent Solids	Cool 4 deg C	ENTE01	N11	TJRC-11823-B4-0-10	01/18/2023	Chemtech -SO
01/28/2023	Solid	O1243-02	Percent Solids	Cool 4 deg C	ENTE01	N11	TJRC-11823-B4-0-10	01/18/2023	Chemtech -SO
01/28/2023	Solid	O1243-03	Percent Solids	Cool 4 deg C	ENTE01	N11	TJRC-11823-B4-10-20	01/18/2023	Chemtech -SO
01/28/2023	Solid	O1243-04	Percent Solids	Cool 4 deg C	ENTE01	N11	TJRC-11823-B4-10-20	01/18/2023	Chemtech -SO
01/29/2023	Solid	O1243-05	Percent Solids	Cool 4 deg C	ENTE01	N11	TJRC-11823-B4-20-30	01/19/2023	Chemtech -SO
01/29/2023	Solid	O1243-06	Percent Solids	Cool 4 deg C	ENTE01	N11	TJRC-11823-B4-20-30	01/19/2023	Chemtech -SO
01/29/2023	Solid	O1243-07	Percent Solids	Cool 4 deg C	ENTE01	N11	TJRC-11823-B4-30-40	01/19/2023	Chemtech -SO
01/29/2023	Solid	O1243-08	Percent Solids	Cool 4 deg C	ENTE01	N11	TJRC-11823-B4-30-40	01/19/2023	Chemtech -SO
01/27/2023	Solid	O1244-01	Percent Solids	Cool 4 deg C	PSEG03	N11	VNJ-223	01/20/2023	Chemtech -SO
01/27/2023	Solid	O1244-02	Percent Solids	Cool 4 deg C	PSEG03	N11	VNJ-223	01/20/2023	Chemtech -SO
01/23/2023	Solid	O1248-05	Percent Solids	Cool 4 deg C	CHEM02	N11	SVOC-GPC-BLANK	01/13/2023	Chemtech -SO
01/23/2023	Solid	O1248-06	Percent Solids	Cool 4 deg C	CHEM02	N11	PEST-GPC-BLANK	01/13/2023	Chemtech -SO
01/23/2023	Solid	O1248-07	Percent Solids	Cool 4 deg C	CHEM02	N11	PEST-GPC-BLANK-SPIKE	01/13/2023	Chemtech -SO
01/23/2023	Solid	O1248-08	Percent Solids	Cool 4 deg C	CHEM02	N11	PCB-GPC-BLANK	01/13/2023	Chemtech -SO
01/23/2023	Solid	O1248-09	Percent Solids	Cool 4 deg C	CHEM02	N11	PCB-GPC-BLANK-SPIKE	01/13/2023	Chemtech -SO
01/23/2023	Solid	O1248-10	Percent Solids	Cool 4 deg C	CHEM02	N11	SVOC-GPC2-BLANK	01/13/2023	Chemtech -SO
01/23/2023	Solid	O1248-11	Percent Solids	Cool 4 deg C	CHEM02	N11	PEST-GPC2-BLANK	01/13/2023	Chemtech -SO
01/23/2023	Solid	O1248-12	Percent Solids	Cool 4 deg C	CHEM02	N11	PEST-GPC2-BLANK-SPIKE	01/13/2023	Chemtech -SO

Date/Time 01/20/23 15:45
Raw Sample Received by: JP (WC)
Raw Sample Relinquished by: JDCSM2

Date/Time 01/20/23 17:25
Raw Sample Received by: JDCSM2
Raw Sample Relinquished by: JP (WC)

2523747

WORKLIST(Hardcopy Internal Chain)

WorkList Name : %1-012023 WorkList ID : 166715 Department : Wet-Chemistry Date : 01-20-2023 09:10:27

Due Date	Matrix	Sample	Test	Preservative	Customer	Raw Sample Storage Location	Customer Sample	Collect Date	Method
01/23/2023	Solid	O1248-13	Percent Solids	Cool 4 deg C	CHEM02	N11	PCB-GCP2-BLANK	01/13/2023	Chemtech -SO
01/23/2023	Solid	O1248-14	Percent Solids	Cool 4 deg C	CHEM02	N11	PCB-GCP2-BLANK-SPIKE	01/13/2023	Chemtech -SO
01/25/2023	Solid	O1251-01	Percent Solids	Cool 4 deg C	SOUN03	N11	COMP-1	01/20/2023	Chemtech -SO
01/25/2023	Solid	O1251-03	Percent Solids	Cool 4 deg C	SOUN03	N11	EPH-1	01/20/2023	Chemtech -SO
01/25/2023	Solid	O1251-05	Percent Solids	Cool 4 deg C	SOUN03	N11	TOT-VOC-1	01/20/2023	Chemtech -SO
01/25/2023	Solid	O1251-06	Percent Solids	Cool 4 deg C	SOUN03	N11	TOT-VOC-2	01/20/2023	Chemtech -SO
01/25/2023	Solid	O1251-07	Percent Solids	Cool 4 deg C	SOUN03	N11	COMP-2	01/20/2023	Chemtech -SO
01/25/2023	Solid	O1251-09	Percent Solids	Cool 4 deg C	SOUN03	N11	EPH-2	01/20/2023	Chemtech -SO
01/25/2023	Solid	O1251-11	Percent Solids	Cool 4 deg C	SOUN03	N11	TOT-VOC-3	01/20/2023	Chemtech -SO
01/25/2023	Solid	O1251-12	Percent Solids	Cool 4 deg C	SOUN03	N11	TOT-VOC-4	01/20/2023	Chemtech -SO
01/27/2023	Solid	O1252-01	Percent Solids	Cool 4 deg C	PSEG03	N11	MH-9	01/20/2023	Chemtech -SO
01/27/2023	Solid	O1252-02	Percent Solids	Cool 4 deg C	PSEG03	N11	MH-9-EPH	01/20/2023	Chemtech -SO
01/25/2023	Solid	O1253-01	Percent Solids	Cool 4 deg C	PSEG05	N13	SU-04-012023	01/20/2023	Chemtech -SO
01/25/2023	Solid	O1253-02	Percent Solids	Cool 4 deg C	PSEG05	N13	SU-04-012023-EPH-2	01/20/2023	Chemtech -SO
01/26/2023	Solid	O1254-01	Percent Solids	Cool 4 deg C	PSEG05	N11	HR-04-012023	01/20/2023	Chemtech -SO
01/26/2023	Solid	O1254-02	Percent Solids	Cool 4 deg C	PSEG05	N11	HR-04-012023-EPH-2	01/20/2023	Chemtech -SO
01/27/2023	Solid	O1255-01	Percent Solids	Cool 4 deg C	PSEG03	N11	BORING-1	01/20/2023	Chemtech -SO
01/27/2023	Solid	O1255-03	Percent Solids	Cool 4 deg C	PSEG03	N11	BORING-1-EPH-2	01/20/2023	Chemtech -SO
01/25/2023	Solid	O1256-01	Percent Solids	Cool 4 deg C	PSEG05	N11	OR-02-012023	01/20/2023	Chemtech -SO
01/25/2023	Solid	O1256-02	Percent Solids	Cool 4 deg C	PSEG05	N11	OR-02-012023-EPH-2	01/20/2023	Chemtech -SO
01/23/2023	Solid	O1258-01	Percent Solids	Cool 4 deg C	RMJE02	N11	WASTE-VOA-2	01/20/2023	Chemtech -SO

Date/Time 01-20-23 15:43
Raw Sample Received by: JP (wc)
Raw Sample Relinquished by: JDCSM

Date/Time 01-20-23 17:25
Raw Sample Received by: JDCSM
Raw Sample Relinquished by: JP (wc)

SOP ID: M3541-ASE Extraction-14

Clean Up SOP #: N/A

Extraction Start Date : 01/20/2023

Matrix : Solid

Extraction Start Time : 13:10

Weigh By: RJ

Extraction By: RJ

Extraction End Date : 01/20/2023

Balance check: RJ

Filter By: RJ

Extraction End Time : 16:00

Balance ID: EX-SC-2

pH Meter ID: N/A

Concentration By: RS

pH Strip Lot#: N/A

Hood ID: 3,7

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	PP21001
Surrogate	1.0ML	20 PPM	PP21215
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	EP2293
Baked Na2SO4	N/A	EP2279
Sand	N/A	E2865
Methylene Chloride	N/A	E3459
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# 2200532.

KD Bath ID: N/A

Envap ID: NE VAP-02

KD Bath Temperature: N/A

Envap Temperature: 40 °C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
01/20/23 16:05	RJ (Prep Lab)	AJ/B7 rca Lab
	Preparation Group	Analysis Group

Analytical Method: M3541-ASE Extraction-14

Concentration Date: 01/20/2023

Sample ID	Client Sample ID	Test	g / mL	PH	Surr / Spike By:		Final Vol. (mL)	JarID	Comments	Prep Pos
					AddedBy	VerifiedBy				
PB150379BL	PB150379BL	Diesel Range Organics	30.01	N/A	ritesh	RUPESH	1			U7-1
PB150379BS	PB150379BS	Diesel Range Organics	30.03	N/A	ritesh	RUPESH	1			2
O1232-03	WC-17	Diesel Range Organics	30.04	N/A	ritesh	RUPESH	1			3
O1232-03MS	WC-17MS	Diesel Range Organics	30.09	N/A	ritesh	RUPESH	1			4
O1232-03MS D	WC-17MSD	Diesel Range Organics	30.07	N/A	ritesh	RUPESH	1			5
O1233-10	WC-38	Diesel Range Organics	30.10	N/A	ritesh	RUPESH	1		Gasoline Smell	6

* Extracts relinquished on the same date as received.

R
1/20/23

WORKLIST(Hardcopy Internal Chain)

WorkList Name : o1233d

WorkList ID : 166740

Department : Extraction

Date : 01-20-2023 13:07:11

Due Date	Matrix	Sample	Test	Preservative	Customer	Raw Sample Storage Location	Customer Sample	Collect Date	Method
01/24/2023	Solid	O1232-03	Diesel Range Organics	Cool 4 deg C	loui01	N11	WC-17	01/18/2023	8015D
01/24/2023	Solid	O1233-10	Diesel Range Organics	Cool 4 deg C	loui01	N11	WC-38	01/18/2023	8015D

Date/Time 01/20/23 13:04
 Raw Sample Received by: RT (Sat-104)
 Raw Sample Relinquished by: OP SM

Date/Time 01/20/23 13:15
 Raw Sample Received by: OP SM
 Raw Sample Relinquished by: RT (Sat-104)

Prep Standard - Chemical Standard Summary**Order ID :** O1232**Test :** Diesel Range Organics**Prepbatch ID :** PB150379,**Sequence ID/Qc Batch ID:** FF012023,**Standard ID :**

EP2279,EP2293,PP20614,PP21001,PP21133,PP21134,PP21215,PP21323,PP21324,PP21325,PP21326,PP21327,

Chemical ID :E2865,E3386,E3412,E3419,E3427,E3432,E3452,E3456,E3459,P10858,P11154,P11164,P11165,P11166,P11167,P11168,
P11169,P11473,P11474,P11749,P11750,P11751,

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Extractions STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3923	Baked Sodium Sulfate	EP2279	11/28/2022	04/13/2023	Rajesh Parikh	None	None	RUPESHKUMAR SHAH 11/28/2022

FROM 4000.00000gram of E3412 = 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	EP2293	01/17/2023	06/21/2023	Rajesh Parikh	None	None	RUPESHKUMAR SHAH 01/17/2023

FROM 8000.00000ml of E3452 + 8000.00000ml of E3456 = Final Quantity: 16000.000 ml

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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>
3979	100/100 PPM DRO ICV (RESTEK)	PP20614	08/26/2022	01/27/2023	Yogesh Patel	None	None	Ankita Jodhani
								08/29/2022

FROM 1.00000ml of P11154 + 2.00000ml of P11749 + 7.00000ml of E3386 = 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>
3609	20 PPM DRO SPIKE SOLUTION (RESTEK)	PP21001	10/24/2022	01/27/2023	Yogesh Patel	None	None	Ankita Jodhani
								10/27/2022

FROM 1.00000ml of P10858 + 1.00000ml of P11749 + 48.00000ml of E3419 = Final Quantity: 50.000 ml

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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)	PP21133	11/14/2022	05/07/2023	Yogesh Patel	None	None	Ankita Jodhani
11/15/2022								

FROM 1.00000ml of P11164 + 1.00000ml of P11750 + 1.00000ml of P11751 + 7.00000ml of E3427 = 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)	PP21134	11/14/2022	05/07/2023	Yogesh Patel	None	None	Ankita Jodhani
11/15/2022								

FROM 1.00000ml of P11165 + 1.00000ml of P11473 + 1.00000ml of P11474 + 7.00000ml of E3427 = Final Quantity: 10.000 ml

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<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	PP21215	12/02/2022	05/22/2023	Yogesh Patel	None	None	Ankita Jodhani 12/05/2022
<u>FROM</u>	1.00000ml of P11166 + 1.00000ml of P11167 + 1.00000ml of P11168 + 1.00000ml of P11169 + 196.00000ml of E3432 = Final Quantity: 200.000 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>
435	50 PPM ICC DRO STD (Restek)	PP21323	12/30/2022	05/07/2023	Yogesh Patel	None	None	Ankita Jodhani 01/03/2023
<u>FROM</u>	0.50000ml of E3452 + 0.50000ml of PP21133 = Final Quantity: 1.000 ml							

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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>
437	20 PPM ICC DRO STD (Restek)	PP21324	12/30/2022	05/07/2023	Yogesh Patel	None	None	Ankita Jodhani
01/03/2023								

FROM 0.80000ml of E3452 + 0.20000ml of PP21133 = 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>
438	10 PPM ICC DRO STD (Restek)	PP21325	12/30/2022	05/07/2023	Yogesh Patel	None	None	Ankita Jodhani
01/03/2023								

FROM 0.90000ml of E3452 + 0.10000ml of PP21133 = Final Quantity: 1.000 ml

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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>
439	5 PPM ICC DRO STD (Restek)	PP21326	12/30/2022	05/07/2023	Yogesh Patel	None	None	Ankita Jodhani
01/03/2023								

FROM 0.90000ml of E3452 + 0.10000ml of PP21323 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3608	50 PPM ICV DRO STD (RESTEK)	PP21327	12/30/2022	01/27/2023	Yogesh Patel	None	None	Ankita Jodhani
01/03/2023								

FROM 0.50000ml of E3452 + 0.50000ml of PP20614 = Final Quantity: 1.000 ml

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3382-05 / Sand, Purified (cs/4x2.5kg)	0000243821	12/31/2024	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 #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	22G0762001	02/14/2023	08/15/2022 / Rajesh	08/05/2022 / Rajesh	E3386

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	139404	04/13/2023	10/18/2022 / Rajesh	10/13/2022 / Rajesh	E3412

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)	22H1562002	03/17/2023	10/17/2022 / Rajesh	09/28/2022 / Rajesh	E3419

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)	2212962012	05/07/2023	11/07/2022 / Rajesh	10/18/2022 / Rajesh	E3427

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)	2212962012	05/22/2023	11/22/2022 / Rajesh	11/14/2022 / Rajesh	E3432

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	22K0762004	06/21/2023	12/29/2022 / Rajesh	12/21/2022 / Rajesh	E3452

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	9005-05 / Acetone Ultra (cs/4x4L)	22J0461011	07/17/2023	01/17/2023 / Rajesh	01/11/2023 / Rajesh	E3456

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)	22J1962006	07/19/2023	01/19/2023 / Rajesh	12/19/2022 / Rajesh	E3459

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31266 / Florida TRPH Standard	A0174144	03/14/2023	09/14/2022 / yogesh	07/09/2021 / Abdul	P10858

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	091120	02/09/2023	08/09/2022 / yogesh	10/29/2021 / Abdul	P11154

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	091120	05/14/2023	11/14/2022 / yogesh	10/29/2021 / Abdul	P11164

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	72072 / n-Tetracosane-d50, 1000 ug/ml	091120	05/14/2023	11/14/2022 / yogesh	10/29/2021 / Abdul	P11165

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	091120	06/02/2023	12/02/2022 / yogesh	10/29/2021 / Abdul	P11166

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	091120	06/02/2023	12/02/2022 / yogesh	10/29/2021 / Abdul	P11167

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	091120	06/02/2023	12/02/2022 / yogesh	10/29/2021 / Abdul	P11168

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	091120	06/02/2023	12/02/2022 / yogesh	10/29/2021 / Abdul	P11169

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	472647	05/14/2023	11/14/2022 / yogesh	02/10/2022 / Yogesh	P11473

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	472647	05/14/2023	11/14/2022 / yogesh	02/10/2022 / Yogesh	P11474

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31266 / Florida TRPH Standard	A0181886	01/27/2023	07/27/2022 / yogesh	05/27/2022 / Sohil	P11749

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31266 / Florida TRPH Standard	A0181886	05/14/2023	11/14/2022 / yogesh	05/27/2022 / Sohil	P11750

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31266 / Florida TRPH Standard	A0181886	05/14/2023	11/14/2022 / yogesh	05/27/2022 / Sohil	P11751



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

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

Date Received: _____

Certificate of Analysis

Rev 0

Page 1 of 1

Catalog No.: Lot No.: Storage:

Z-110400 472647 $\leq -10^{\circ}\text{C}$
-05-01

Solvent:

Hexane

Exp. Date:

11/18/2023

Description:

TRPH Standard (C8-C40), 500 mg/L, 10 x 1 ml

-10PAK	Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
decane (C10)		124-18-5	99.5	415.7.1P	500.2 $\pm$ 2.29
docosane (C22)		629-97-0	99	420.1.1P	502.4 $\pm$ 5.5
dodecane (C12)		112-40-3	99.2	416.7.1P	500.7 $\pm$ 2.29
dotriacontane (C32)		544-85-4	98	425.29.2P	499.8 $\pm$ 5.47
eicosane (C20)		112-95-8	98.9	419.29.1P	505.1 $\pm$ 2.31
hexacosane (C26)		630-01-3	99.3	422.7.2P	500 $\pm$ 2.29
hexatriacontane (C36)		630-06-8	98	427.29.1P	500.3 $\pm$ 5.48
n-hexadecane (C16)		544-76-3	99.45	368.271.1P	499.6 $\pm$ 2.23
octacosane (C28)		630-02-4	98.7	423.400.1P	498.3 $\pm$ 5.45
n-octadecane (C18)		593-45-3	99.5	418.29.1P	501.9 $\pm$ 2.24
octane (C8)		111-65-9	99.5	385.9.1P	499.8 $\pm$ 2.23
octatriacontane (C38)		7194-85-6	99	428.7.1P	499.8 $\pm$ 2.29
tetracontane (C40)		4181-95-7	100	429.7.1P	504.1 $\pm$ 5.52
n-tetradecane (C14)		629-59-4	99	417.29.4P	500.4 $\pm$ 5.48
tetratriacontane (C34)		14167-59-0	98.1	426.7.2P	499.6 $\pm$ 2.28
triacontane (C30)		638-68-6	99.5	424.7.1.1P	499.9 $\pm$ 2.29
tetracosane (C24)		646-31-1	99	421.1.1P	500.1 $\pm$ 5.47

P11469
J
P11488
Y.P.
02/12/22

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

*Not a certified value

Certified By: _____

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

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

Date Received: _____

Certificate of Analysis

Rev 0

Page 1 of 1

Catalog No.: Lot No.: Storage:

Z-110400 472647 $\leq -10^{\circ}\text{C}$
-05-01

Solvent:

Hexane

Exp. Date:

11/18/2023

Description:

TRPH Standard (C8-C40), 500 mg/L, 10 x 1 ml

-10PAK	Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
decane (C10)		124-18-5	99.5	415.7.1P	500.2 $\pm$ 2.29
docosane (C22)		629-97-0	99	420.1.1P	502.4 $\pm$ 5.5
dodecane (C12)		112-40-3	99.2	416.7.1P	500.7 $\pm$ 2.29
dotriacontane (C32)		544-85-4	98	425.29.2P	499.8 $\pm$ 5.47
eicosane (C20)		112-95-8	98.9	419.29.1P	505.1 $\pm$ 2.31
hexacosane (C26)		630-01-3	99.3	422.7.2P	500 $\pm$ 2.29
hexatriacontane (C36)		630-06-8	98	427.29.1P	500.3 $\pm$ 5.48
n-hexadecane (C16)		544-76-3	99.45	368.271.1P	499.6 $\pm$ 2.23
octacosane (C28)		630-02-4	98.7	423.400.1P	498.3 $\pm$ 5.45
n-octadecane (C18)		593-45-3	99.5	418.29.1P	501.9 $\pm$ 2.24
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octatriacontane (C38)		7194-85-6	99	428.7.1P	499.8 $\pm$ 2.29
tetracontane (C40)		4181-95-7	100	429.7.1P	504.1 $\pm$ 5.52
n-tetradecane (C14)		629-59-4	99	417.29.4P	500.4 $\pm$ 5.48
tetratriacontane (C34)		14167-59-0	98.1	426.7.2P	499.6 $\pm$ 2.28
triacontane (C30)		638-68-6	99.5	424.7.1.1P	499.9 $\pm$ 2.29
tetracosane (C24)		646-31-1	99	421.1.1P	500.1 $\pm$ 5.47

P11469
J
P11488
Y.P.
02/12/22

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

*Not a certified value

Certified By: _____

Jarrett Howard
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.

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

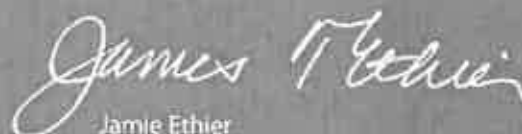
Certificate of Analysis

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

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



Material No.: 9266-A4
Batch No.: 22G0762001
Manufactured Date: 2022-05-23
Expiration Date: 2023-08-22
Revision No.: 0

Certificate of Analysis

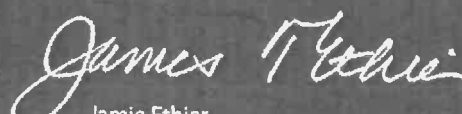
Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	6
Assay (CH ₂ Cl ₂) (by GC, exclusive of preservative, corrected for water)	$\geq 99.8 \%$	100.0 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.1 ppm
Titration Acid (μ eq/g)	≤ 0.3	< 0.1
Chloride (Cl)	≤ 10 ppm	5 ppm
Water (by KF, coulometric)	$\leq 0.02 \%$	< 0.01 %

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

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Recd by RP 08 8/15/22

E 3386


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

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Page 1 of 1



**PRODUCTOS
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MONTERREY, N.L. MÉXICO
CP 64070
TEL +52 81 13 52 57 57
www.pqm.com.mx

CERTIFICATE OF ANALYSIS

PRODUCT : SODIUM SULFATE CRYSTALS ANHYDROUS
QUALITY : ACS (CODE RMB3375) **FORMULA :** Na₂SO₄
SPECIFICATION NUMBER : 6399 **RELEASE DATE:** OCT/28/2021
LOT NUMBER : 139404

TEST	SPECIFICATIONS	LOT VALUES
Assay (Na ₂ SO ₄)	Min. 99.0%	99.8 %
pH of a 5% solution at 25°C	5.2 - 9.2	6.0
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%	0.002 %
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%	0.2 %
Retained on US Standard No. 60 sieve	Min. 94%	97.6 %
Through US Standard No. 60 sieve	Max. 5%	2.1 %
Through US Standard No. 100 sieve	Max. 10%	0.2 %
COMMENTS		
 QC: PhC Irma Belmares		

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

E 3412

Recd. by RP on 10/13/22

RE-02-01, Ed. 3

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



Material No.: 9266-A4
Batch No.: 22H1562002
Manufactured Date: 2022-07-28
Expiration Date: 2023-10-27
Revision No.: 0

Certificate of Analysis

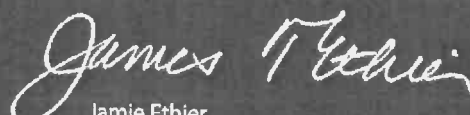
Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	2
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	$\geq 99.8 \%$	100.0 %
Color (APHA)	≤ 10	10
Residue after Evaporation	$\leq 1.0 \text{ ppm}$	0.3 ppm
Titration Acid ($\mu\text{eq/g}$)	≤ 0.3	< 0.1
Chloride (Cl)	$\leq 10 \text{ ppm}$	< 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: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Recd. by RP on 10/17/22

E 3419


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

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Page 1 of 1

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



Material No.: 9266-A4
Batch No.: 2212962012
Manufactured Date: 2022-09-10
Expiration Date: 2023-12-10
Revision No.: 0

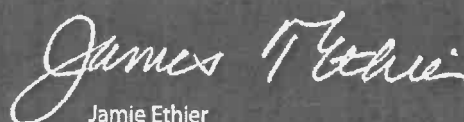
Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	2
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	2
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	$\geq 99.8 \%$	100.0 %
Color (APHA)	≤ 10	5
Residue after Evaporation	$\leq 1.0 \text{ ppm}$	< 0.1 ppm
Titration Acid ($\mu\text{eq/g}$)	≤ 0.3	< 0.1
Chloride (Cl)	$\leq 10 \text{ ppm}$	< 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: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

E 3427


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

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Page 1 of 1

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



Material No.: 9266-A4
Batch No.: 2212962012
Manufactured Date: 2022-09-10
Expiration Date: 2023-12-10
Revision No.: 0

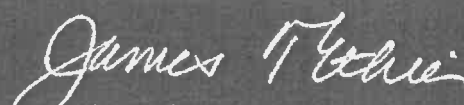
Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	2
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	2
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	$\geq 99.8 \%$	100.0 %
Color (APHA)	≤ 10	5
Residue after Evaporation	$\leq 1.0 \text{ ppm}$	< 0.1 ppm
Titration Acid ($\mu\text{eq/g}$)	≤ 0.3	< 0.1
Chloride (Cl)	$\leq 10 \text{ ppm}$	< 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: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

E 3432


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
Page 1 of 1

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



Material No.: 9266-A4
Batch No.: 22K0762004
Manufactured Date: 2022-10-10
Expiration Date: 2024-01-09
Revision No.: 0

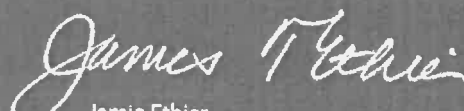
Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	4
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	$\geq 99.8 \%$	100.0 %
Color (APHA)	≤ 10	5
Residue after Evaporation	$\leq 1.0 \text{ ppm}$	0.5 ppm
Titration Acid ($\mu\text{eq/g}$)	≤ 0.3	< 0.1
Chloride (Cl)	$\leq 10 \text{ ppm}$	< 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: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

E 3452


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

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Page 1 of 1

Acetone
CMOS



Material No.: 9005-05
Batch No.: 22J0461011
Manufactured Date: 2022-09-29
Retest Date: 2027-09-28
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ((CH ₃) ₂ CO) (by GC, corrected for water)	≥ 99.5 %	99.8 %
Color (APHA)	≤ 10	< 5
Residue after Evaporation	≤ 5 ppm	< 1 ppm
Titration Acid (μeq/g)	≤ 0.3	0.2
Titration Base (μeq/g)	≤ 0.5	0.1
Water (H ₂ O)	≤ 0.5 %	0.2 %
Solubility in H ₂ O	Passes Test	Passes Test
Chloride (Cl)	≤ 0.2 ppm	< 0.2 ppm
Phosphate (PO ₄)	≤ 0.05 ppm	< 0.05 ppm
Trace Impurities – Aluminum (Al)	≤ 50.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 5.0 ppb
Trace Impurities – Barium (Ba)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Calcium (Ca)	≤ 25.0 ppb	4.9 ppb
Trace Impurities – Chromium (Cr)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Trace Impurities – Iron (Fe)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb

Recd. by R2 on 01/11/23

>>> Continued on page 2 >>>

E 3456

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
CMOS



Material No.: 9005-05
Batch No.: 22J0461011

Test	Specification	Result
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Nickel (Ni)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 50.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	1.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater (Rion KS42AF)	≤ 100 par/ml	4 par/ml
Particle Count – 1.0 µm and greater (Rion KS42AF)	≤ 8 par/ml	2 par/ml

>>> Continued on page 3 >>>

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
CMOS

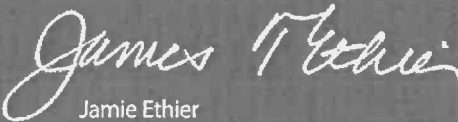


Material No.: 9005-05
Batch No.: 22J0461011

Test	Specification	Result
------	---------------	--------

For Microelectronic Use

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


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

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



Material No.: 9266-A4
Batch No.: 22J1962006
Manufactured Date: 2022-09-23
Expiration Date: 2023-12-23
Revision No.: 0

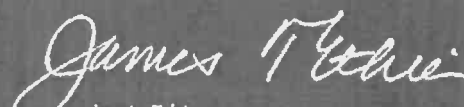
Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	3
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	6
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	0.1 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: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

E 3459


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

Page 1 of 1



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.:** A0174144

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

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

Expiration Date : August 31, 2028 **Storage:** 25°C nominal

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

P 10853
↓
P 10862
07/12/2021

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	n-Octane (C8) CAS # 111-65-9 (Lot SHBM4827) Purity 99%	504.5 µg/mL	+/- 2.9966 µg/mL +/- 12.5340 µg/mL +/- 15.0241 µg/mL	Gravimetric Unstressed Stressed
2	n-Decane (C10) CAS # 124-18-5 (Lot SHBL4313) Purity 99%	500.5 µg/mL	+/- 2.9728 µg/mL +/- 12.4347 µg/mL +/- 14.9050 µg/mL	Gravimetric Unstressed Stressed
3	n-Dodecane (C12) CAS # 112-40-3 (Lot SHBK0925) Purity 99%	501.5 µg/mL	+/- 2.9788 µg/mL +/- 12.4595 µg/mL +/- 14.9348 µg/mL	Gravimetric Unstressed Stressed
4	n-Tetradecane (C14) CAS # 629-59-4 (Lot STBJ7343) Purity 99%	502.5 µg/mL	+/- 2.9847 µg/mL +/- 12.4844 µg/mL +/- 14.9646 µg/mL	Gravimetric Unstressed Stressed
5	n-Hexadecane (C16) CAS # 544-76-3 (Lot SHBM4146) Purity 98%	501.3 µg/mL	+/- 2.9774 µg/mL +/- 12.4538 µg/mL +/- 14.9280 µg/mL	Gravimetric Unstressed Stressed
6	n-Octadecane (C18) CAS # 593-45-3 (Lot VZKOJ) Purity 97%	500.5 µg/mL	+/- 2.9729 µg/mL +/- 12.4352 µg/mL +/- 14.9056 µg/mL	Gravimetric Unstressed Stressed
7	n-Eicosane (C20) CAS # 112-95-8 (Lot MKCF7888) Purity 99%	501.5 µg/mL	+/- 2.9788 µg/mL +/- 12.4595 µg/mL +/- 14.9348 µg/mL	Gravimetric Unstressed Stressed

8	n-Docosane (C22)		504.0	µg/mL	+/-	2.9936	µg/mL	Gravimetric
	CAS # 629-97-0	(Lot MKCL8918)			+/-	12.5216	µg/mL	Unstressed
	Purity 99%				+/-	15.0093	µg/mL	Stressed
9	n-Tetracosane (C24)		500.5	µg/mL	+/-	2.9728	µg/mL	Gravimetric
	CAS # 646-31-1	(Lot MKBZ5406V)			+/-	12.4347	µg/mL	Unstressed
	Purity 99%				+/-	14.9050	µg/mL	Stressed
10	n-Hexacosane (C26)		502.0	µg/mL	+/-	2.9817	µg/mL	Gravimetric
	CAS # 630-01-3	(Lot MKCD4540)			+/-	12.4719	µg/mL	Unstressed
	Purity 99%				+/-	14.9497	µg/mL	Stressed
11	n-Octacosane (C28)		501.5	µg/mL	+/-	2.9788	µg/mL	Gravimetric
	CAS # 630-02-4	(Lot BCCB6836)			+/-	12.4595	µg/mL	Unstressed
	Purity 99%				+/-	14.9348	µg/mL	Stressed
12	n-Triacontane (C30)		504.2	µg/mL	+/-	2.9949	µg/mL	Gravimetric
	CAS # 638-68-6	(Lot MKCJ4572)			+/-	12.5268	µg/mL	Unstressed
	Purity 98%				+/-	15.0155	µg/mL	Stressed
13	n-Dotriacontane (C32)		501.0	µg/mL	+/-	2.9758	µg/mL	Gravimetric
	CAS # 544-85-4	(Lot BCBW0661)			+/-	12.4471	µg/mL	Unstressed
	Purity 99%				+/-	14.9199	µg/mL	Stressed
14	n-Tetratriacontane (C34)		504.5	µg/mL	+/-	2.9966	µg/mL	Gravimetric
	CAS # 14167-59-0	(Lot OML4N)			+/-	12.5340	µg/mL	Unstressed
	Purity 99%				+/-	15.0241	µg/mL	Stressed
15	n-Hexatriacontane (C36)		502.0	µg/mL	+/-	2.9817	µg/mL	Gravimetric
	CAS # 630-06-8	(Lot MKCK2834)			+/-	12.4719	µg/mL	Unstressed
	Purity 99%				+/-	14.9497	µg/mL	Stressed
16	n-Octatriacontane (C38)		501.5	µg/mL	+/-	2.9788	µg/mL	Gravimetric
	CAS # 7194-85-6	(Lot 0000050904)			+/-	12.4595	µg/mL	Unstressed
	Purity 99%				+/-	14.9348	µg/mL	Stressed
17	n-Tetracontane (C40)		504.6	µg/mL	+/-	2.9969	µg/mL	Gravimetric
	CAS # 4181-95-7	(Lot 4LJYN)			+/-	12.5354	µg/mL	Unstressed
	Purity 98%				+/-	15.0257	µg/mL	Stressed
Solvent: Hexane								
	CAS # 110-54-3							
	Purity 99%							

P 10853

↓
P 10862

AR
07/12/2021

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:

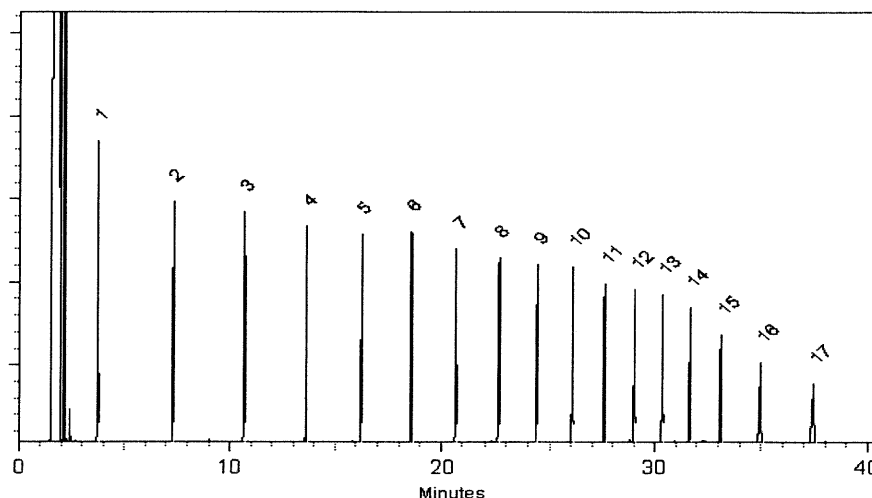
250°C

Det. Temp:

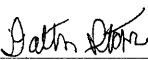
330°C

Det. Type:

FID

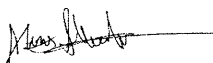


This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Dalton Stover - Operations Technician I

Date Mixed: 06-Jul-2021

Balance: 1128353505


Alexis Shelow - Operations Tech I

Date Passed: 08-Jul-2021

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

General Certified Reference Material Notes

Expiration Notes:

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

Purity Notes:

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

Certified Uncertainty Value Notes:

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

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

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

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

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

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

Manufacturing Notes:

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

Handling Notes:

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



Certified Reference Material CRM

CERTIFIED WEIGHT REPORT

Part Number:
Lot Number:
Description:

Solvent(s):
Methylene chloride

Formulated By:	DATE
Benson Chan	091120
Reviewed By:	DATE
Pedro L. Rentas	091120

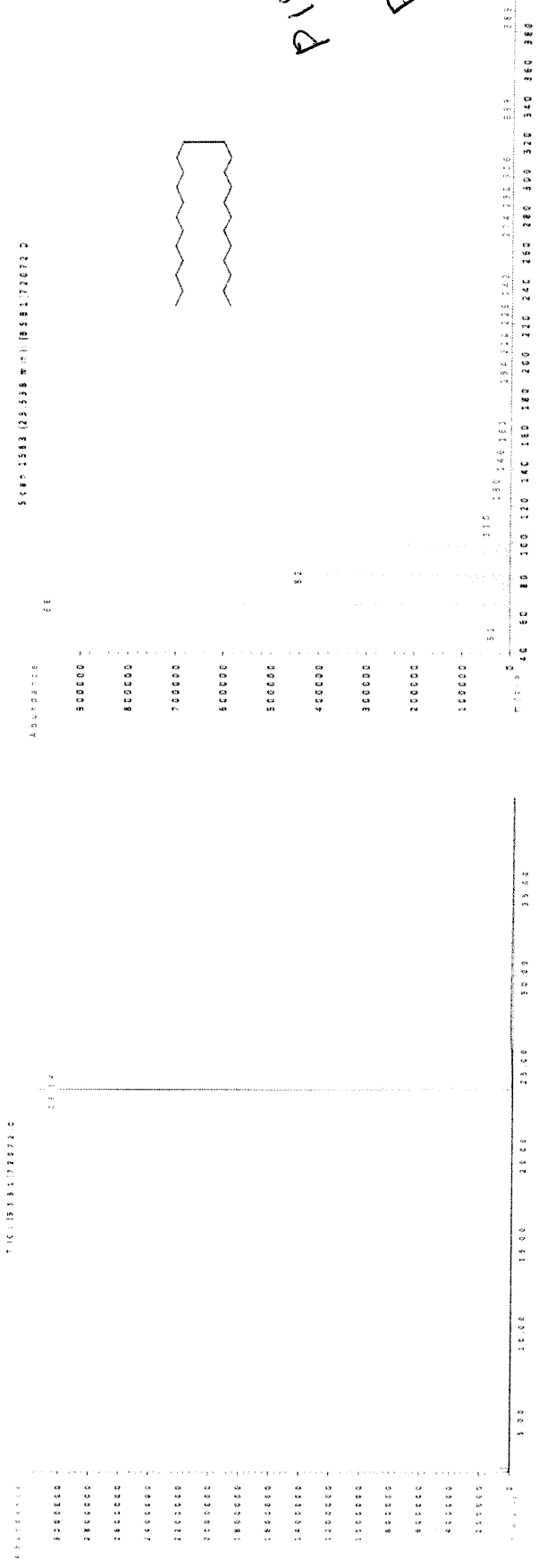
Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test ID#:

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

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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.)	OSHA PEL (TWA)	LDSO
1. n-Tetracosane-d50	2072	PR-26606	1000	98.7	0.2	99.0	0.20471	0.20481	1000.5	4.1	16416-32-3	N/A	N/A

Method GCMSD-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 Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

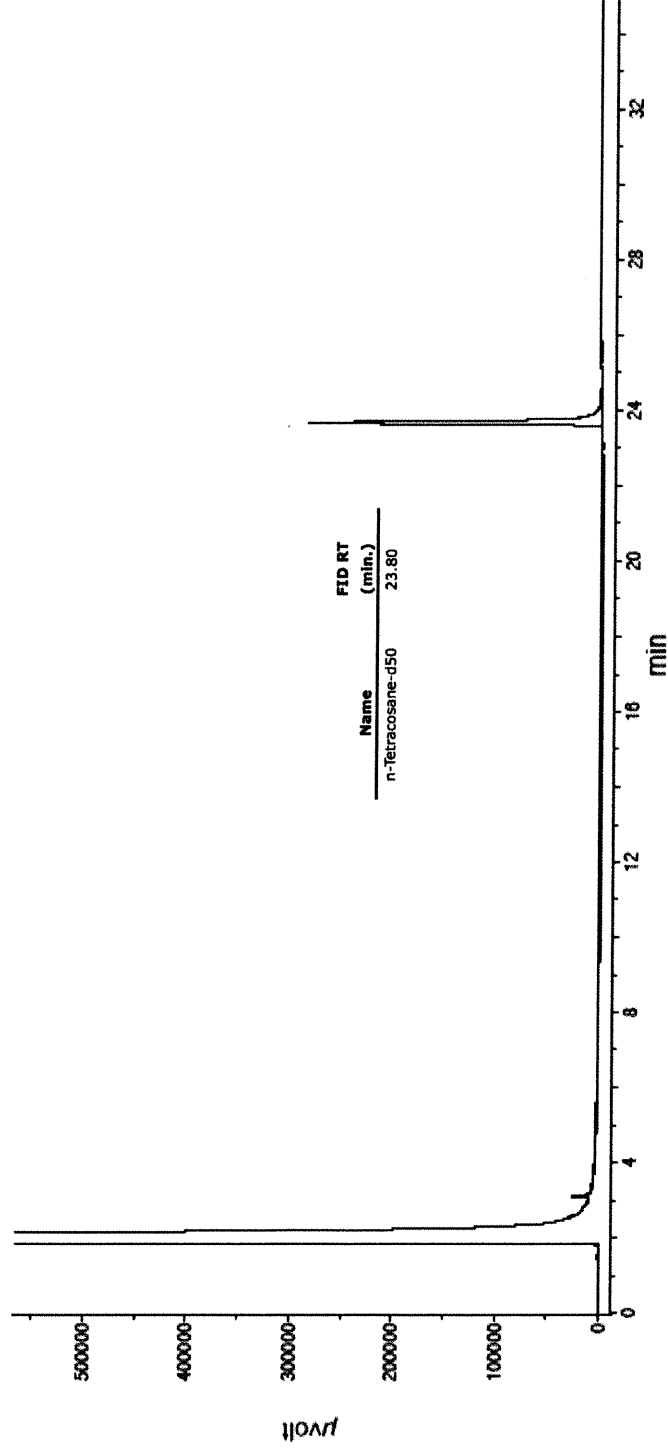


Run 75, "P72072 L091120 [1000µg/mL in MeCl2]"

Run Length: 35.00 min, 20999 points at 10 points/second.
Created: Thu, Sep 17, 2020 at 9:46:03 AM.
Sampled: Sequence "091420-GC4M2", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments

GC4-M1 Analysis by Candice Warren
Column ID SPB5 L#60062-01A : 30 meter x 0.53mm x 1.5µm Film Thickness
Flow rates: Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL,
Air (detector) = 360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDAQ Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 µL, Range = 3



P11176
 11/02/21
 12

CERTIFIED WEIGHT REPORT

Part Number:
 Lot Number:
 Description:

72072
091120
n-Tetracosane-d50

Solvent(s):
Lot#

Methylene chloride
104929

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

091130
Ambient (20 °C)
1000
23060

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

200.0
0.058

5E-05
Balance Uncertainty
0.058
Flask Uncertainty

Formulated By:
Reviewed By:
DATE

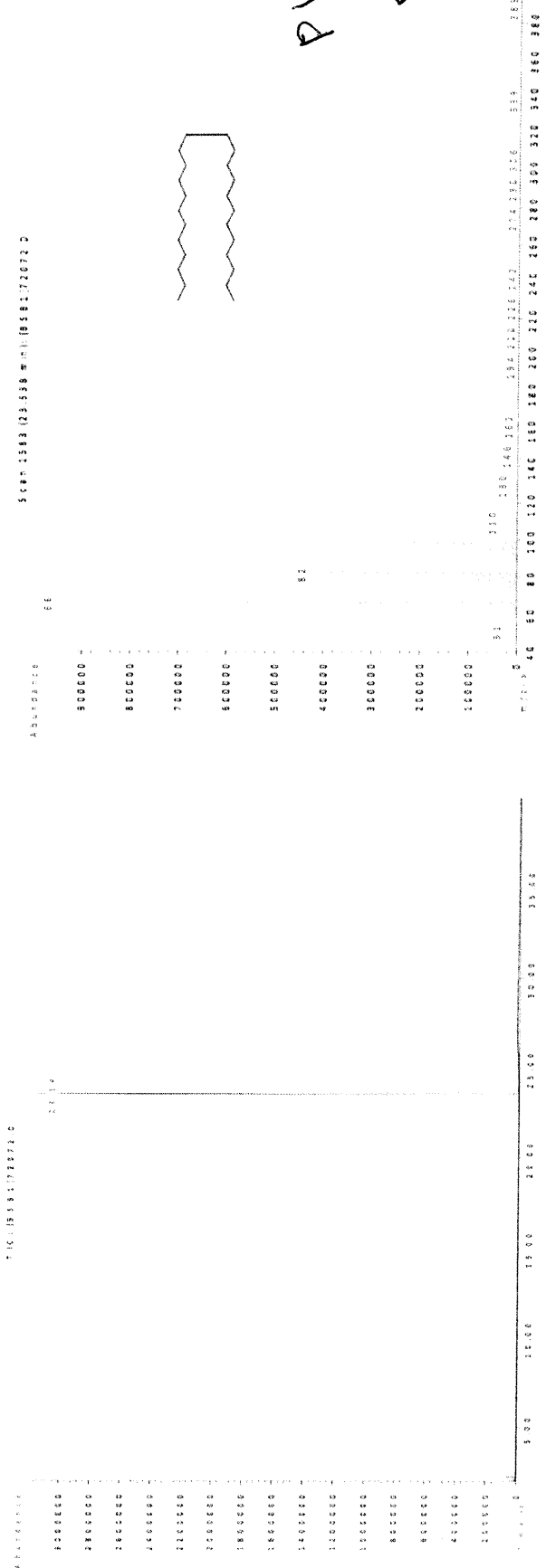
Benson Chan
Pedro L. Rentas
091120
091120

Expanded
Uncertainty
(+/-) (µg/mL)
CAS#
OSHA PEL (TWA)
LDSO

4.1
16416-32-3
N/A

1. n-Tetracosane-d50
2072
PR-26606
1000
98.7
0.2
99.0
0.20471
0.20481
1000.5
4.1
16416-32-3
N/A
N/A

Method GCMSD-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 Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

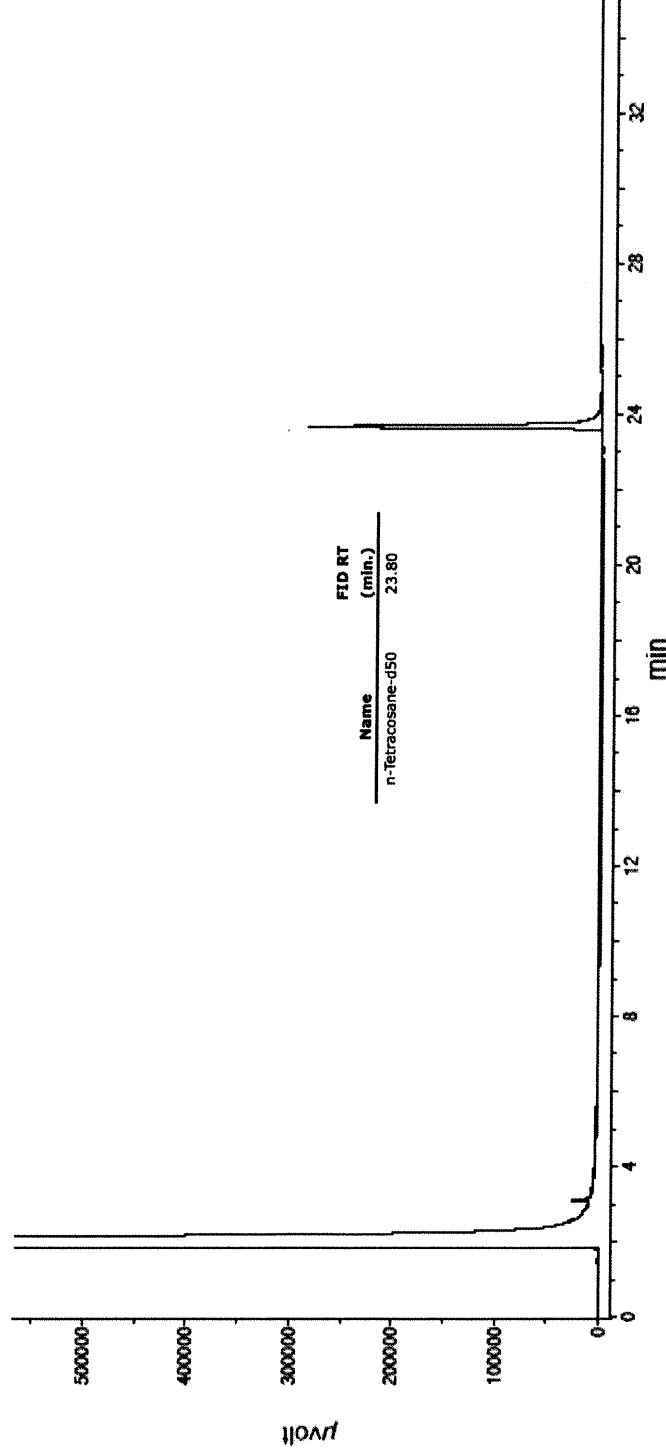


Run 75, "P72072 L091120 [1000µg/mL in MeCl2]"

Run Length: 35.00 min, 20999 points at 10 points/second.
Created: Thu, Sep 17, 2020 at 9:46:03 AM.
Sampled: Sequence "091420-GC4M2", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments

GC4-M1 Analysis by Candice Warren
Column ID SPB5 L#60062-01A : 30 meter x 0.53mm x 1.5µm Film Thickness
Flow rates: Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL,
Air (detector) = 360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDAQ Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 µL, Range = 3



P1114P
 K1117b
 11/02/21

CERTIFIED WEIGHT REPORT

Part Number:
 Lot Number:
 Description:

72072
091120
 n-Tetracosane-d50

Solvent(s):
 Methylene chloride

Lot#
 104929

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

091130
 Ambient (20 °C)
 1000
 23060

5E-05 Balance Uncertainty
 0.058 Flask Uncertainty

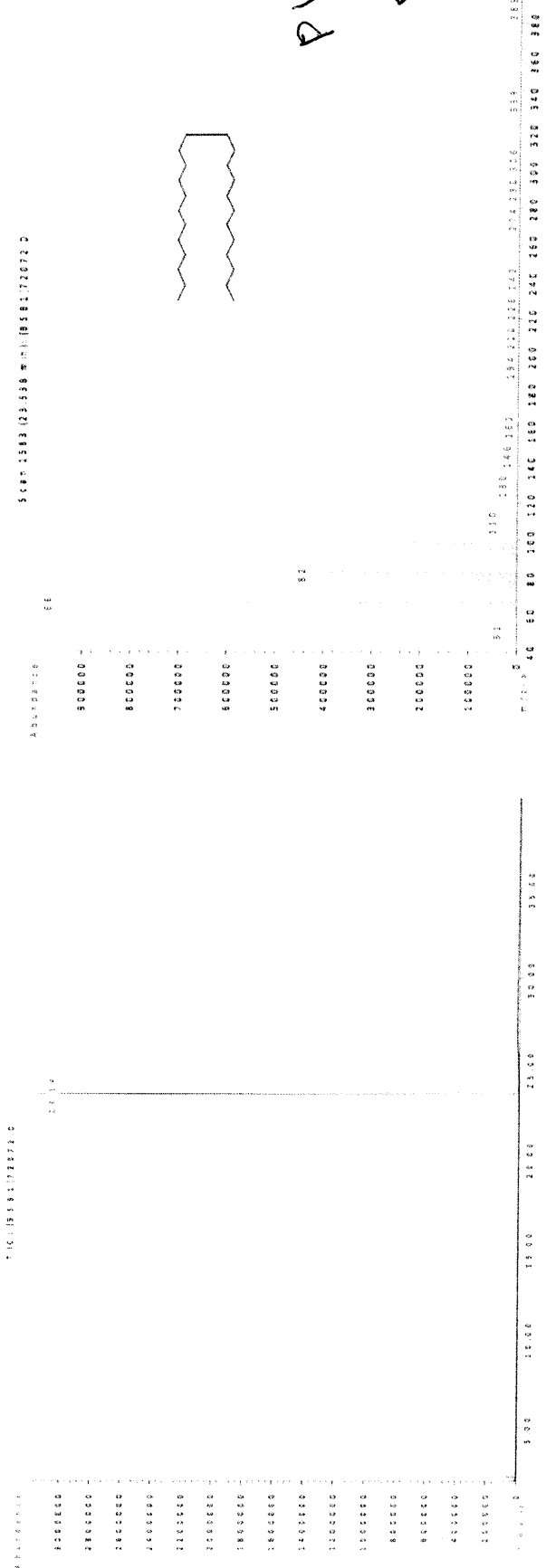
Weight(s) shown below were combined and diluted to (mL):

200.0

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%D)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (±) (µg/mL)	(Solvent Safety Info. On Attached pg.)	OSHA PEL (TWA)	LDSO
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1. n-Tetracosane-d50	2072	PR-26606	1000	98.7	0.2	99.0	0.20471	0.20481	1000.5	4.1	16416-32-3	N/A	N/A
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Method GCMSD-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 Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Handwritten notes: *11/11/21*, *11/12/21*, *AR*, *11/12/21*

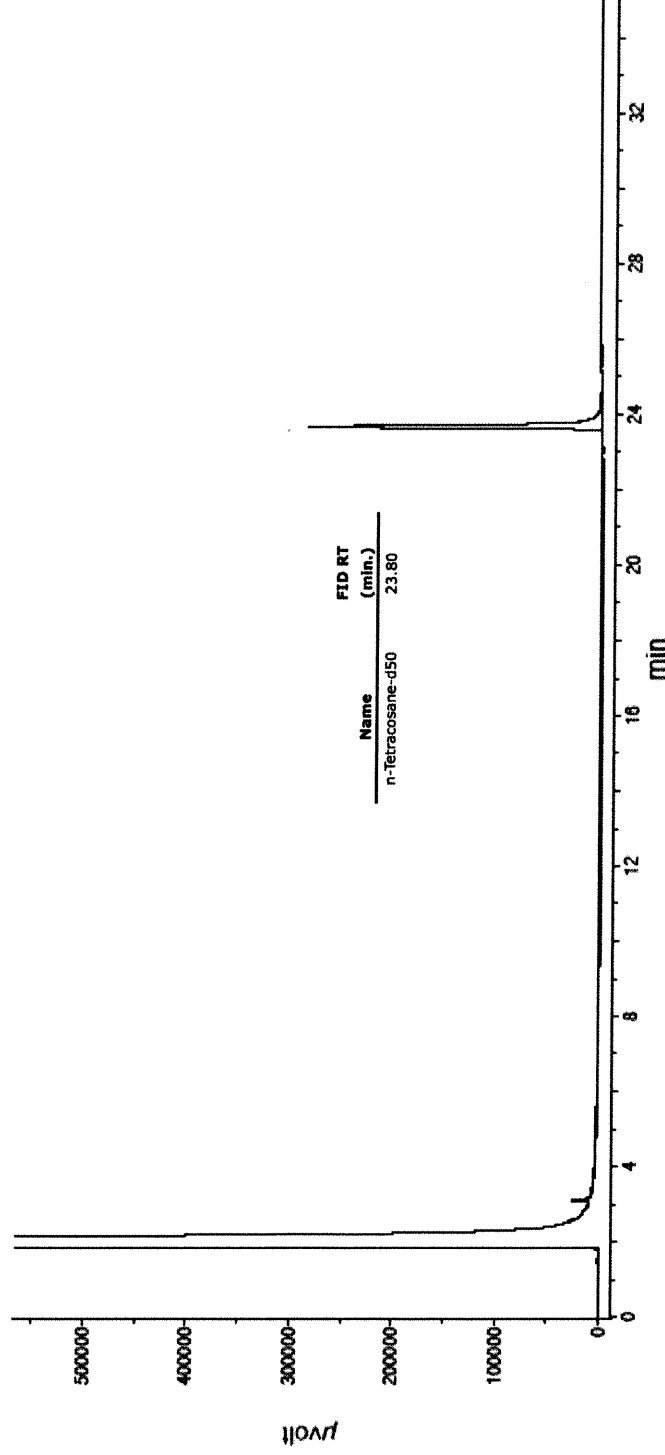


Run 75, "P72072 L091120 [1000µg/mL in MeCl2]"

Run Length: 35.00 min, 20999 points at 10 points/second.
Created: Thu, Sep 17, 2020 at 9:46:03 AM.
Sampled: Sequence "091420-GC4M2", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments

GC4-M1 Analysis by Candice Warren
Column ID SPB5 L#60062-01A : 30 meter x 0.53mm x 1.5µm Film Thickness
Flow rates: Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL,
Air (detector) = 360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDAQ Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 µL, Range = 3



P11176
 11/02/21
 12

CERTIFIED WEIGHT REPORT

Part Number:
 Lot Number:
 Description:

72072
091120
n-Tetracosane-d50

Solvent(s):
Lot#

Methylene chloride **104929**

Formulated By: Benson Chan **091120**
DATE

Reviewed By: Pedro L. Rentas **091120**
DATE

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

091130
Ambient (20 °C)
1000
23060

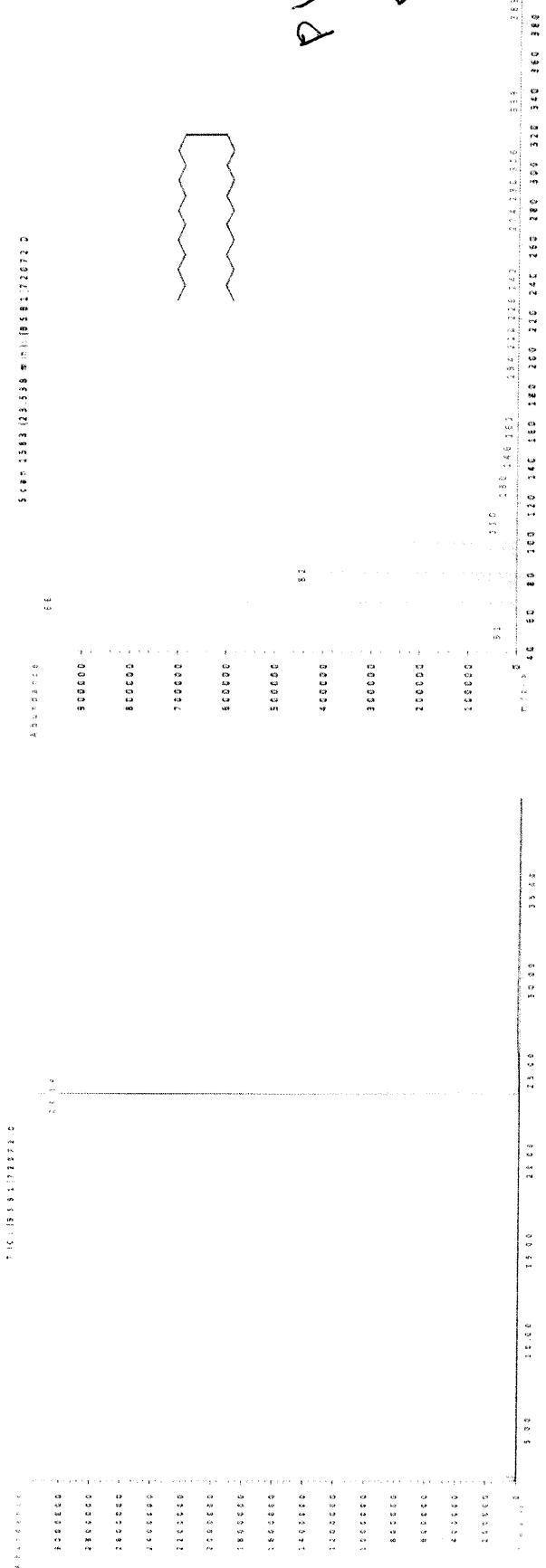
Weight(s) shown below were combined and diluted to (mL):

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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)	(Solvent Safety Info. On Attached pg.)	OSHA PEL (TWA)	LDSO
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1. n-Tetracosane-d50 2072 PR-26606 1000 98.7 0.2 99.0 0.20471 0.20481 1000.5 4.1 16416-32-3 N/A

Method GCMSD-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 Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

11/10/21
 AR
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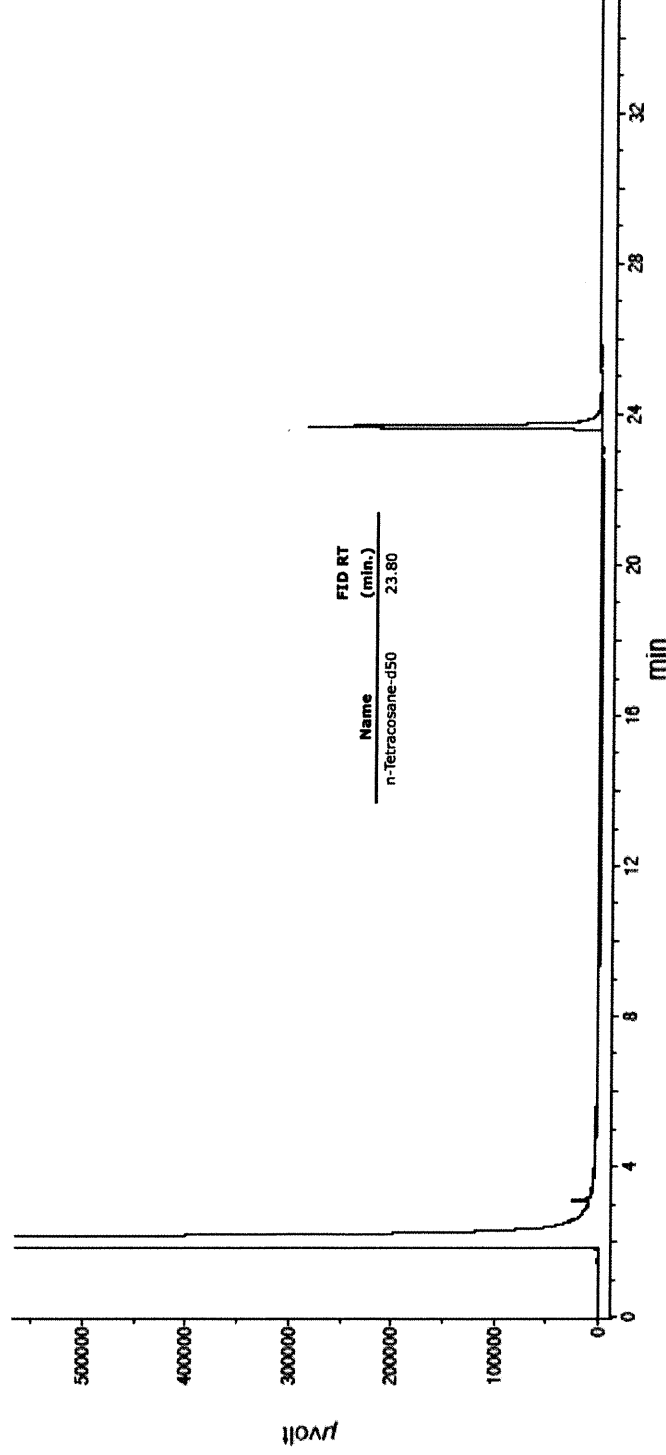


Run 75, "P72072 L091120 [1000µg/mL in MeCl2]"

Run Length: 35.00 min, 20999 points at 10 points/second.
Created: Thu, Sep 17, 2020 at 9:46:03 AM.
Sampled: Sequence "091420-GC4M2", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments

GC4-M1 Analysis by Candice Warren
Column ID SPB5 L#60062-01A : 30 meter x 0.53mm x 1.5µm Film Thickness
Flow rates: Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL,
Air (detector) = 360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDAQ Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 µL, Range = 3



P11176
 11/02/21
 12

CERTIFIED WEIGHT REPORT

Part Number:
 Lot Number:
 Description:

72072
091120
n-Tetracosane-d50

Solvent(s):
Lot#
104929

Formulated By:	Benson Chan	091120	DATE
Reviewed By:	Pedro L. Rentas	091120	DATE

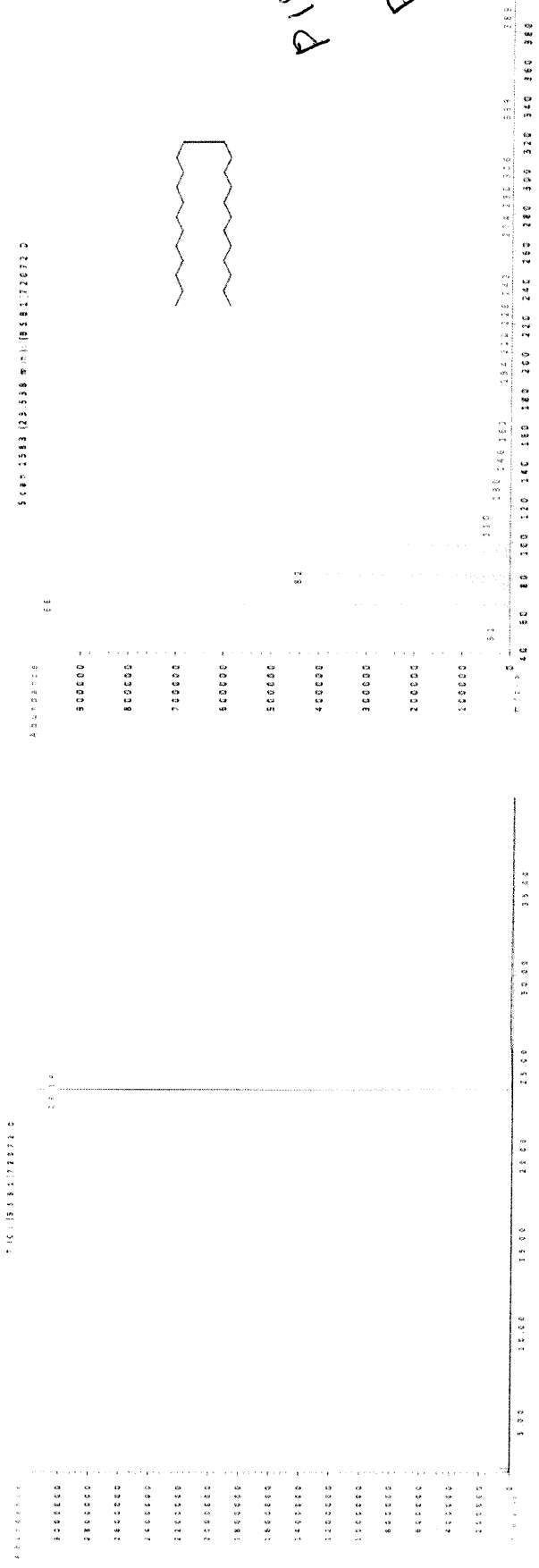
Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test ID#:

091130
Ambient (20 °C)
1000
23060

Weight(s) shown below were combined and diluted to (mL):
200.0
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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.)	OSHA PEL (TWA)	LDSO
1. n-Tetracosane-d50	2072	PR-26606	1000	98.7	0.2	99.0	0.20471	0.20481	1000.5	4.1	16416-32-3	N/A	N/A

Method GCMSD-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 Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Handwritten notes: *11/10/21*, *AR*, *11/10/21*, *11/10/21*

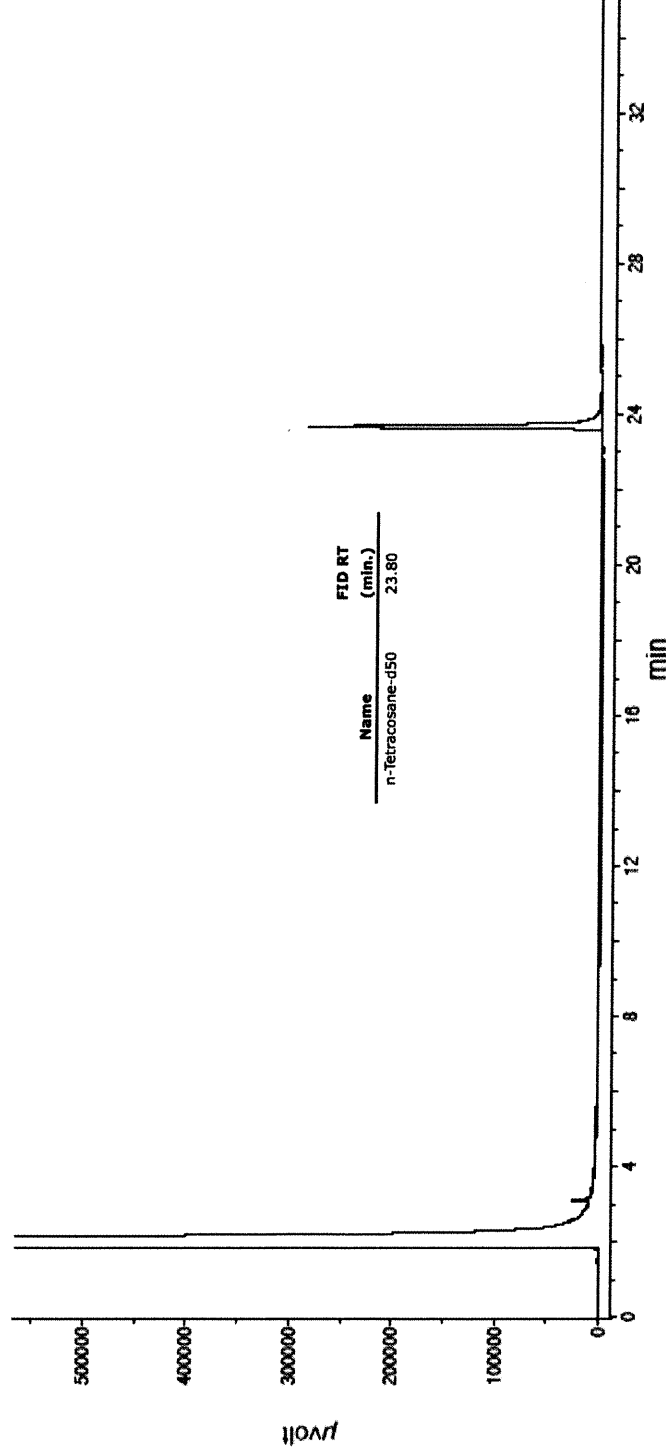


Run 75, "P72072 L091120 [1000µg/mL in MeCl2]"

Run Length: 35.00 min, 20999 points at 10 points/second.
Created: Thu, Sep 17, 2020 at 9:46:03 AM.
Sampled: Sequence "091420-GC4M2", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments

GC4-M1 Analysis by Candice Warren
Column ID SPB5 L#60062-01A : 30 meter x 0.53mm x 1.5µm Film Thickness
Flow rates: Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL,
Air (detector) = 360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDAQ Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 µL, Range = 3



P11176
 11/02/21
 12

CERTIFIED WEIGHT REPORT

Part Number:
 Lot Number:
 Description:

72072
091120
n-Tetracosane-d50

Solvent(s):
Lot#
104929

Formulated By:	Benson Chan	091120	DATE
Reviewed By:	Pedro L. Rentas	091120	DATE

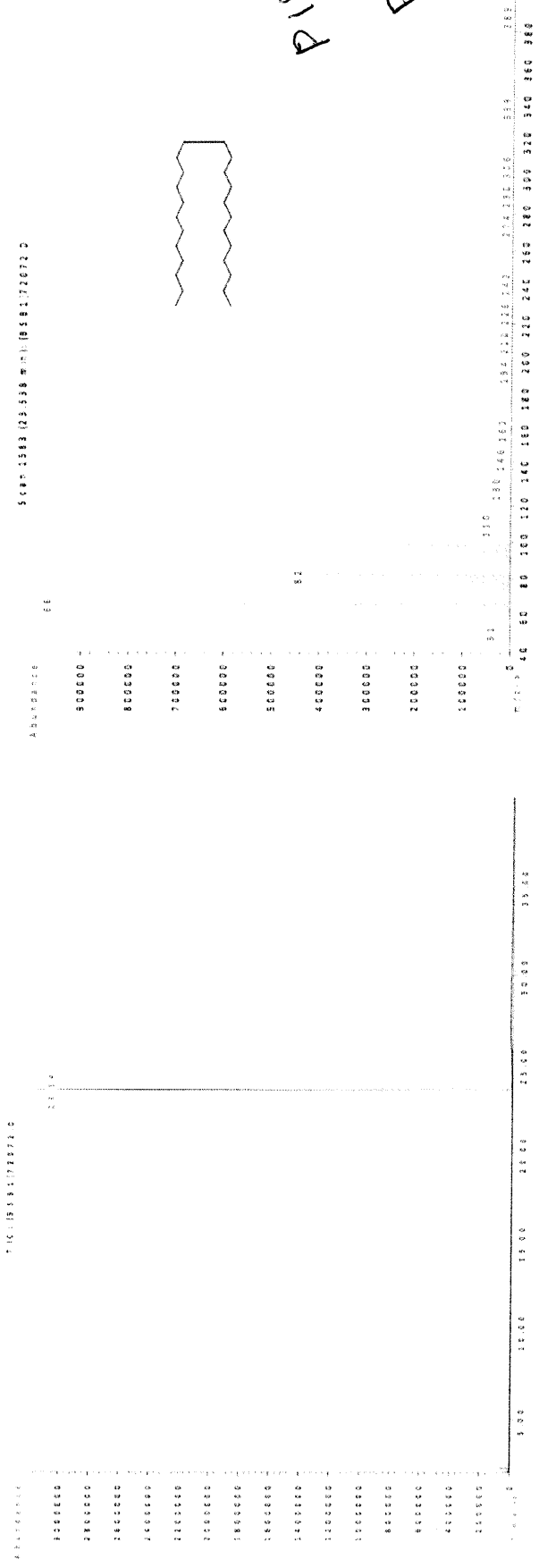
Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test ID#:

091130
Ambient (20 °C)
1000
23060

Weight(s) shown below were combined and diluted to (mL):
200.0
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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.)	OSHA PEL (TWA)	LDSO
1. n-Tetracosane-d50	2072	PR-26606	1000	98.7	0.2	99.0	0.20471	0.20481	1000.5	4.1	16416-32-3	N/A	N/A

Method GCMSD-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 Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Handwritten notes: *11/10/21*, *AR*, *11/10/21*, *11/10/21*

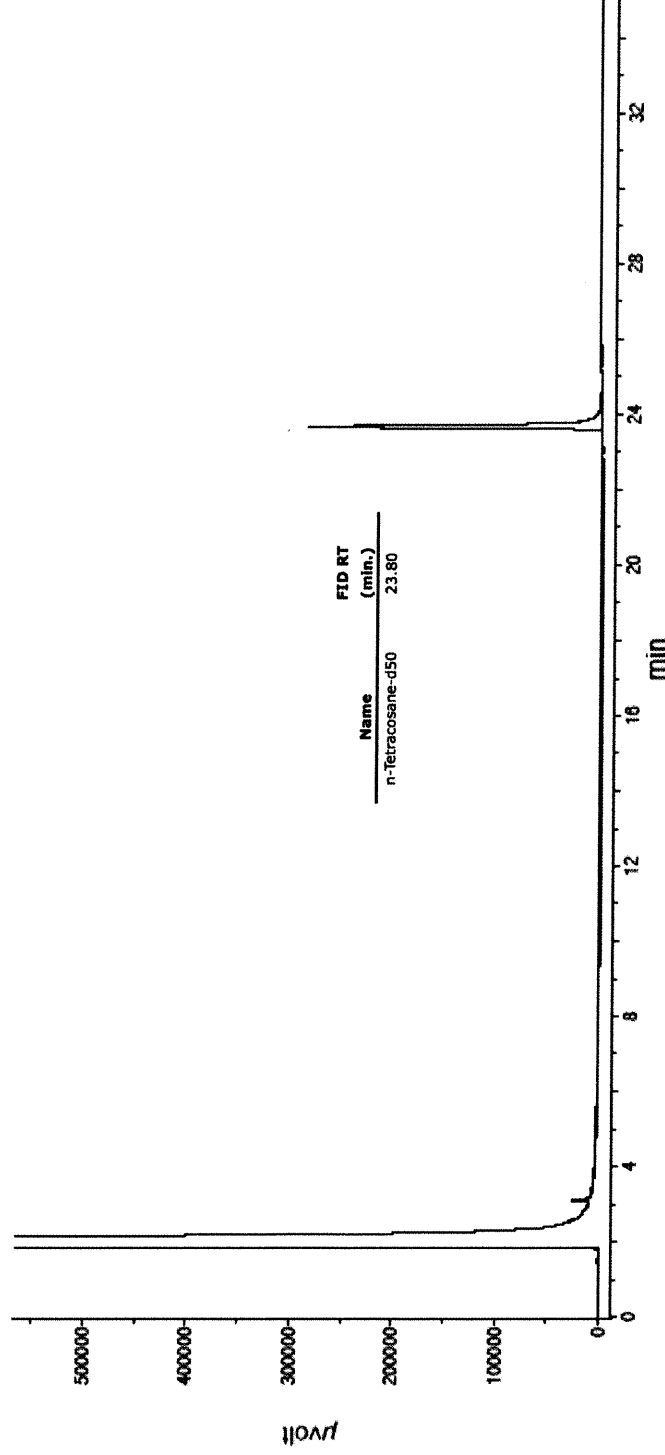


Run 75, "P72072 L091120 [1000µg/mL in MeCl2]"

Run Length: 35.00 min, 20999 points at 10 points/second.
Created: Thu, Sep 17, 2020 at 9:46:03 AM.
Sampled: Sequence "091420-GC4M2", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments

GC4-M1 Analysis by Candice Warren
Column ID SPB5 L#60062-01A : 30 meter x 0.53mm x 1.5µm Film Thickness
Flow rates: Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL,
Air (detector) = 360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDAQ Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 µL, Range = 3



P1117b
 11/02/21
 12



Certified Reference Material CRM

CERTIFIED WEIGHT REPORT

Part Number:
Lot Number:
Description:

72072
091120
n-Tetracosane-d50

Solvent(s):
Lot#

Methylene chloride
104929

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

091130
Ambient (20 °C)
1000
23060

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

200.0
0.058

5E-05
Balance Uncertainty
0.058
Flask Uncertainty

Formulated By:
Reviewed By:

Benson Chan
Pedro L. Rentas

091120
DATE

091120
DATE

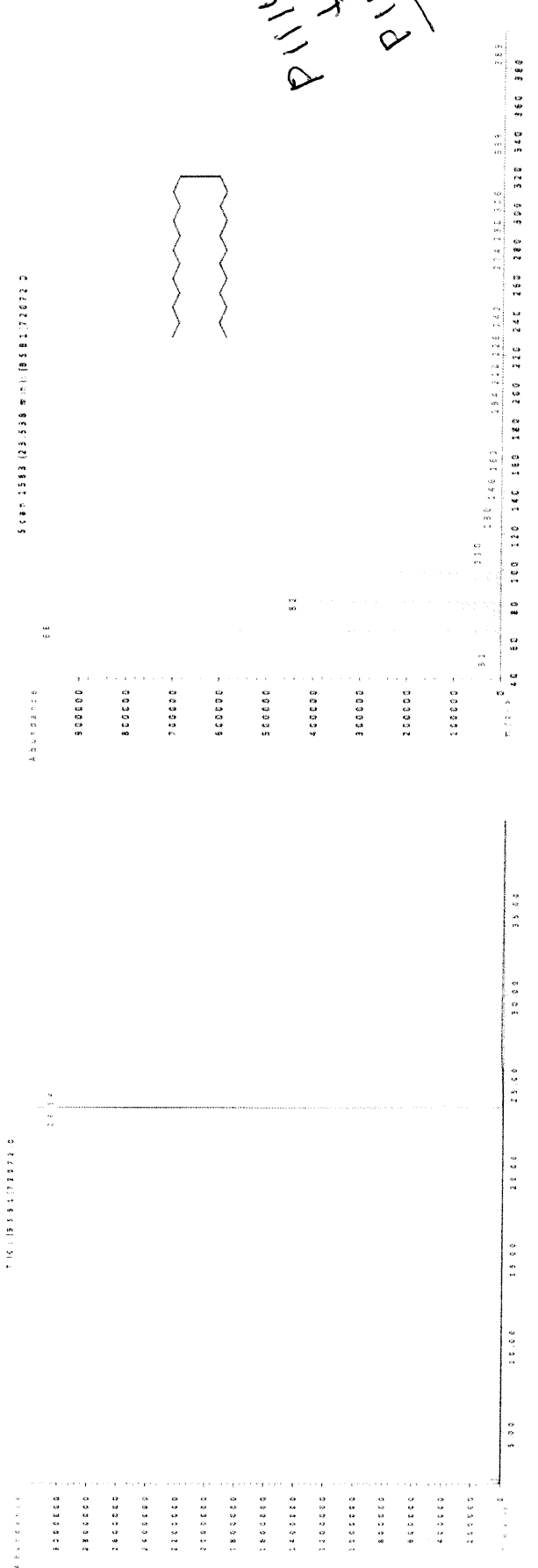
SDS Information
Expanded
Uncertainty
(+/-) (µg/mL)
Actual
Conc (µg/mL)
Target
Weight(g)
Assay
(%D)
Purity
(%)
Nominal
Conc (µg/mL)
Lot
Number
RM#

4.1
1000.5
0.20471
99.0
0.2
98.7
1000
2072

OSHA PEL (TWA)
CAS#
16416-32-3
N/A
N/A

1. n-Tetracosane-d50
2072
PR-26606
1000
98.7
0.2
99.0
0.20471
0.20481
1000.5
4.1
16416-32-3
N/A
N/A

Method GCMSD-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 Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

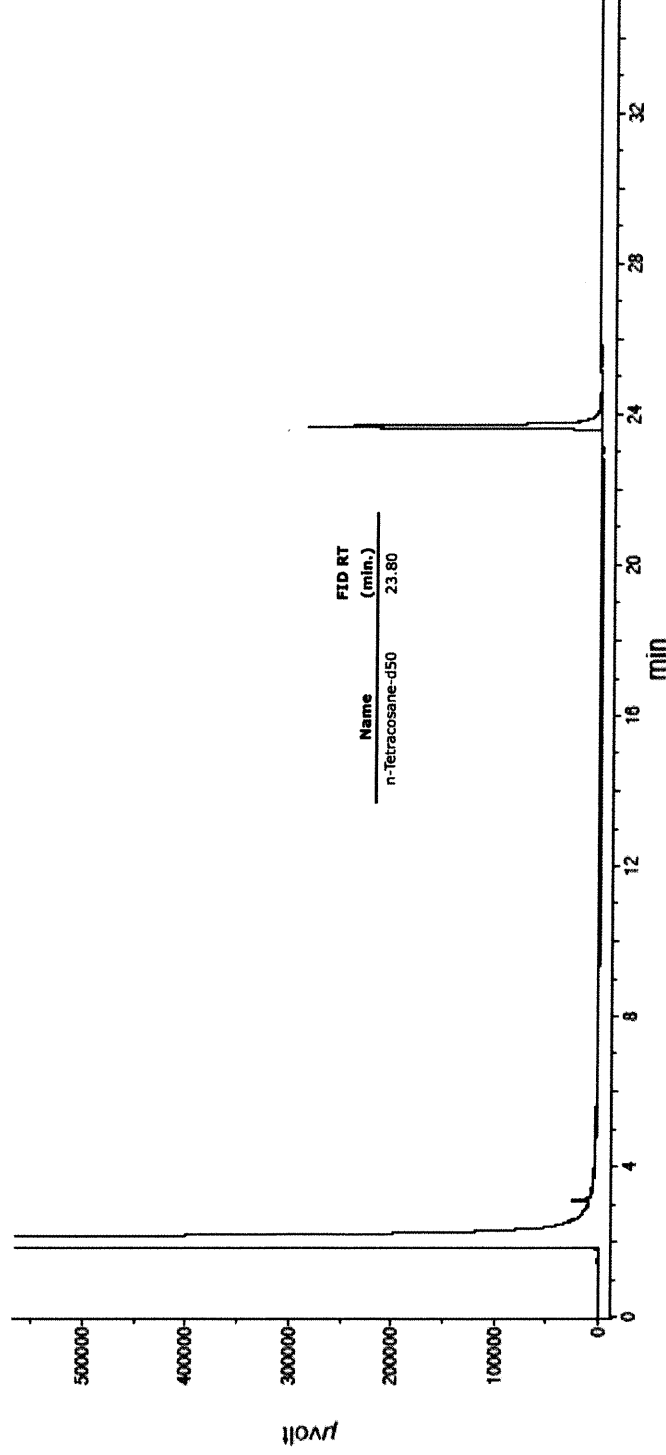


Run 75, "P72072 L091120 [1000µg/mL in MeCl2]"

Run Length: 35.00 min, 20999 points at 10 points/second.
Created: Thu, Sep 17, 2020 at 9:46:03 AM.
Sampled: Sequence "091420-GC4M2", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments

GC4-M1 Analysis by Candice Warren
Column ID SPB5 L#60062-01A : 30 meter x 0.53mm x 1.5µm Film Thickness
Flow rates: Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL,
Air (detector) = 360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDAQ Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 µL, Range = 3



P11176
 K11176
 11/02/21



CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

Certificate of Analysis

P11749 to P11758

Received by SJ 5/27/2022



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.:** A0181886
Description : Florida TRPH Standard
Florida TRPH Standard 500µg/mL, Hexane, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : March 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 (Lot SHBM4827) Purity 99%	501.6 µg/mL	+/- 2.9794 µg/mL Gravimetric +/- 12.4620 µg/mL Unstressed +/- 14.9378 µg/mL Stressed
2	n-Decane (C10) CAS # 124-18-5 (Lot SHBM1113) Purity 99%	501.8 µg/mL	+/- 2.9802 µg/mL Gravimetric +/- 12.4657 µg/mL Unstressed +/- 14.9423 µg/mL Stressed
3	n-Dodecane (C12) CAS # 112-40-3 (Lot SHBK0925) Purity 99%	500.9 µg/mL	+/- 2.9752 µg/mL Gravimetric +/- 12.4446 µg/mL Unstressed +/- 14.9169 µg/mL Stressed
4	n-Tetradecane (C14) CAS # 629-59-4 (Lot STBK2282) Purity 99%	500.7 µg/mL	+/- 2.9740 µg/mL Gravimetric +/- 12.4396 µg/mL Unstressed +/- 14.9110 µg/mL Stressed
5	n-Hexadecane (C16) CAS # 544-76-3 (Lot SHBM4146) Purity 98%	500.5 µg/mL	+/- 2.9727 µg/mL Gravimetric +/- 12.4343 µg/mL Unstressed +/- 14.9046 µg/mL Stressed
6	n-Octadecane (C18) CAS # 593-45-3 (Lot UE5NG) Purity 98%	500.5 µg/mL	+/- 2.9730 µg/mL Gravimetric +/- 12.4355 µg/mL Unstressed +/- 14.9061 µg/mL Stressed
7	n-Eicosane (C20) CAS # 112-95-8 (Lot MKCF7888) Purity 99%	500.6 µg/mL	+/- 2.9731 µg/mL Gravimetric +/- 12.4359 µg/mL Unstressed +/- 14.9065 µg/mL Stressed

8	n-Docosane (C22)		501.5	µg/mL	+/-	2.9785	µg/mL	Gravimetric
	CAS # 629-97-0	(Lot MKCL8918)			+/-	12.4583	µg/mL	Unstressed
	Purity 99%				+/-	14.9333	µg/mL	Stressed
9	n-Tetracosane (C24)		500.6	µg/mL	+/-	2.9731	µg/mL	Gravimetric
	CAS # 646-31-1	(Lot MKCJ8741)			+/-	12.4359	µg/mL	Unstressed
	Purity 99%				+/-	14.9065	µg/mL	Stressed
10	n-Hexacosane (C26)		500.5	µg/mL	+/-	2.9728	µg/mL	Gravimetric
	CAS # 630-01-3	(Lot MKCD4540)			+/-	12.4347	µg/mL	Unstressed
	Purity 99%				+/-	14.9050	µg/mL	Stressed
11	n-Octacosane (C28)		500.6	µg/mL	+/-	2.9734	µg/mL	Gravimetric
	CAS # 630-02-4	(Lot BCCG0084)			+/-	12.4371	µg/mL	Unstressed
	Purity 99%				+/-	14.9080	µg/mL	Stressed
12	n-Triacontane (C30)		501.7	µg/mL	+/-	2.9799	µg/mL	Gravimetric
	CAS # 638-68-6	(Lot MKCN9321)			+/-	12.4645	µg/mL	Unstressed
	Purity 99%				+/-	14.9408	µg/mL	Stressed
13	n-Dotriacontane (C32)		501.8	µg/mL	+/-	2.9805	µg/mL	Gravimetric
	CAS # 544-85-4	(Lot BCBW0661)			+/-	12.4670	µg/mL	Unstressed
	Purity 99%				+/-	14.9437	µg/mL	Stressed
14	n-Tetratriacontane (C34)		501.3	µg/mL	+/-	2.9773	µg/mL	Gravimetric
	CAS # 14167-59-0	(Lot OML4N)			+/-	12.4533	µg/mL	Unstressed
	Purity 99%				+/-	14.9274	µg/mL	Stressed
15	n-Hexatriacontane (C36)		502.4	µg/mL	+/-	2.9841	µg/mL	Gravimetric
	CAS # 630-06-8	(Lot U25B014)			+/-	12.4819	µg/mL	Unstressed
	Purity 99%				+/-	14.9616	µg/mL	Stressed
16	n-Octatriacontane (C38)		501.7	µg/mL	+/-	2.9801	µg/mL	Gravimetric
	CAS # 7194-85-6	(Lot 0000127235)			+/-	12.4653	µg/mL	Unstressed
	Purity 97%				+/-	14.9417	µg/mL	Stressed
17	n-Tetracontane (C40)		500.2	µg/mL	+/-	2.9713	µg/mL	Gravimetric
	CAS # 4181-95-7	(Lot PADGI)			+/-	12.4282	µg/mL	Unstressed
	Purity 98%				+/-	14.8973	µg/mL	Stressed
Solvent:	Hexane							
	CAS # 110-54-3							
	Purity 99%							

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

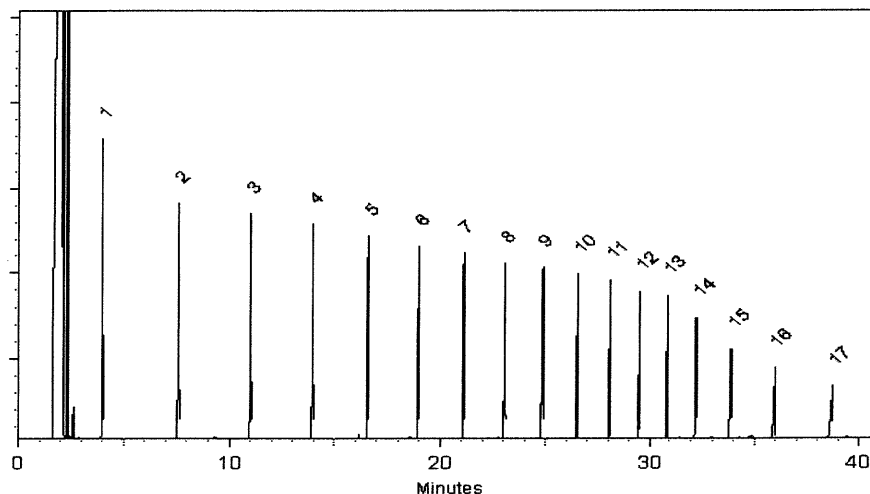
Carrier Gas:
hydrogen-constant pressure 10 psi.

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.

Penelope S. Riglin
Penelope Riglin - Operations Tech I

Date Mixed: 16-Feb-2022 Balance: 1128360905

Clara Windle
Clara Windle - Operations Technician I

Date Passed: 21-Feb-2022

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

General Certified Reference Material Notes

Expiration Notes:

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

Purity Notes:

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

Certified Uncertainty Value Notes:

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

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

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

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

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

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

Manufacturing Notes:

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

Handling Notes:

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



CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

Certificate of Analysis

P11749 to P11758

Received by SJ 5/27/2022



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.:** A0181886
Description : Florida TRPH Standard
Florida TRPH Standard 500µg/mL, Hexane, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : March 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 (Lot SHBM4827) Purity 99%	501.6 µg/mL	+/- 2.9794 µg/mL Gravimetric +/- 12.4620 µg/mL Unstressed +/- 14.9378 µg/mL Stressed
2	n-Decane (C10) CAS # 124-18-5 (Lot SHBM1113) Purity 99%	501.8 µg/mL	+/- 2.9802 µg/mL Gravimetric +/- 12.4657 µg/mL Unstressed +/- 14.9423 µg/mL Stressed
3	n-Dodecane (C12) CAS # 112-40-3 (Lot SHBK0925) Purity 99%	500.9 µg/mL	+/- 2.9752 µg/mL Gravimetric +/- 12.4446 µg/mL Unstressed +/- 14.9169 µg/mL Stressed
4	n-Tetradecane (C14) CAS # 629-59-4 (Lot STBK2282) Purity 99%	500.7 µg/mL	+/- 2.9740 µg/mL Gravimetric +/- 12.4396 µg/mL Unstressed +/- 14.9110 µg/mL Stressed
5	n-Hexadecane (C16) CAS # 544-76-3 (Lot SHBM4146) Purity 98%	500.5 µg/mL	+/- 2.9727 µg/mL Gravimetric +/- 12.4343 µg/mL Unstressed +/- 14.9046 µg/mL Stressed
6	n-Octadecane (C18) CAS # 593-45-3 (Lot UE5NG) Purity 98%	500.5 µg/mL	+/- 2.9730 µg/mL Gravimetric +/- 12.4355 µg/mL Unstressed +/- 14.9061 µg/mL Stressed
7	n-Eicosane (C20) CAS # 112-95-8 (Lot MKCF7888) Purity 99%	500.6 µg/mL	+/- 2.9731 µg/mL Gravimetric +/- 12.4359 µg/mL Unstressed +/- 14.9065 µg/mL Stressed

8	n-Docosane (C22)		501.5	µg/mL	+/-	2.9785	µg/mL	Gravimetric
	CAS # 629-97-0	(Lot MKCL8918)			+/-	12.4583	µg/mL	Unstressed
	Purity 99%				+/-	14.9333	µg/mL	Stressed
9	n-Tetracosane (C24)		500.6	µg/mL	+/-	2.9731	µg/mL	Gravimetric
	CAS # 646-31-1	(Lot MKCJ8741)			+/-	12.4359	µg/mL	Unstressed
	Purity 99%				+/-	14.9065	µg/mL	Stressed
10	n-Hexacosane (C26)		500.5	µg/mL	+/-	2.9728	µg/mL	Gravimetric
	CAS # 630-01-3	(Lot MKCD4540)			+/-	12.4347	µg/mL	Unstressed
	Purity 99%				+/-	14.9050	µg/mL	Stressed
11	n-Octacosane (C28)		500.6	µg/mL	+/-	2.9734	µg/mL	Gravimetric
	CAS # 630-02-4	(Lot BCCG0084)			+/-	12.4371	µg/mL	Unstressed
	Purity 99%				+/-	14.9080	µg/mL	Stressed
12	n-Triacontane (C30)		501.7	µg/mL	+/-	2.9799	µg/mL	Gravimetric
	CAS # 638-68-6	(Lot MKCN9321)			+/-	12.4645	µg/mL	Unstressed
	Purity 99%				+/-	14.9408	µg/mL	Stressed
13	n-Dotriacontane (C32)		501.8	µg/mL	+/-	2.9805	µg/mL	Gravimetric
	CAS # 544-85-4	(Lot BCBW0661)			+/-	12.4670	µg/mL	Unstressed
	Purity 99%				+/-	14.9437	µg/mL	Stressed
14	n-Tetratriacontane (C34)		501.3	µg/mL	+/-	2.9773	µg/mL	Gravimetric
	CAS # 14167-59-0	(Lot OML4N)			+/-	12.4533	µg/mL	Unstressed
	Purity 99%				+/-	14.9274	µg/mL	Stressed
15	n-Hexatriacontane (C36)		502.4	µg/mL	+/-	2.9841	µg/mL	Gravimetric
	CAS # 630-06-8	(Lot U25B014)			+/-	12.4819	µg/mL	Unstressed
	Purity 99%				+/-	14.9616	µg/mL	Stressed
16	n-Octatriacontane (C38)		501.7	µg/mL	+/-	2.9801	µg/mL	Gravimetric
	CAS # 7194-85-6	(Lot 0000127235)			+/-	12.4653	µg/mL	Unstressed
	Purity 97%				+/-	14.9417	µg/mL	Stressed
17	n-Tetracontane (C40)		500.2	µg/mL	+/-	2.9713	µg/mL	Gravimetric
	CAS # 4181-95-7	(Lot PADGI)			+/-	12.4282	µg/mL	Unstressed
	Purity 98%				+/-	14.8973	µg/mL	Stressed
Solvent: Hexane								
	CAS # 110-54-3							
	Purity 99%							

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

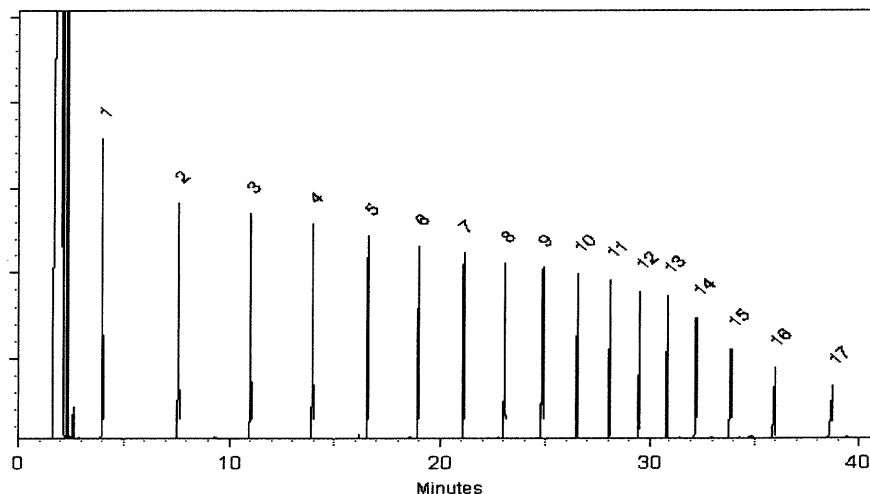
Carrier Gas:
hydrogen-constant pressure 10 psi.

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.

Penelope S. Riglin
Penelope Riglin - Operations Tech I

Date Mixed: 16-Feb-2022 Balance: 1128360905

Clara Windle
Clara Windle - Operations Technician I

Date Passed: 21-Feb-2022

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

General Certified Reference Material Notes

Expiration Notes:

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

Purity Notes:

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

Certified Uncertainty Value Notes:

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

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

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

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

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

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

Manufacturing Notes:

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

Handling Notes:

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



CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

Certificate of Analysis

P11749 to P11758

Received by SJ 5/27/2022



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.:** A0181886
Description : Florida TRPH Standard
Florida TRPH Standard 500µg/mL, Hexane, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : March 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 (Lot SHBM4827) Purity 99%	501.6 µg/mL	+/- 2.9794 µg/mL Gravimetric +/- 12.4620 µg/mL Unstressed +/- 14.9378 µg/mL Stressed
2	n-Decane (C10) CAS # 124-18-5 (Lot SHBM1113) Purity 99%	501.8 µg/mL	+/- 2.9802 µg/mL Gravimetric +/- 12.4657 µg/mL Unstressed +/- 14.9423 µg/mL Stressed
3	n-Dodecane (C12) CAS # 112-40-3 (Lot SHBK0925) Purity 99%	500.9 µg/mL	+/- 2.9752 µg/mL Gravimetric +/- 12.4446 µg/mL Unstressed +/- 14.9169 µg/mL Stressed
4	n-Tetradecane (C14) CAS # 629-59-4 (Lot STBK2282) Purity 99%	500.7 µg/mL	+/- 2.9740 µg/mL Gravimetric +/- 12.4396 µg/mL Unstressed +/- 14.9110 µg/mL Stressed
5	n-Hexadecane (C16) CAS # 544-76-3 (Lot SHBM4146) Purity 98%	500.5 µg/mL	+/- 2.9727 µg/mL Gravimetric +/- 12.4343 µg/mL Unstressed +/- 14.9046 µg/mL Stressed
6	n-Octadecane (C18) CAS # 593-45-3 (Lot UE5NG) Purity 98%	500.5 µg/mL	+/- 2.9730 µg/mL Gravimetric +/- 12.4355 µg/mL Unstressed +/- 14.9061 µg/mL Stressed
7	n-Eicosane (C20) CAS # 112-95-8 (Lot MKCF7888) Purity 99%	500.6 µg/mL	+/- 2.9731 µg/mL Gravimetric +/- 12.4359 µg/mL Unstressed +/- 14.9065 µg/mL Stressed

8	n-Docosane (C22)		501.5	µg/mL	+/-	2.9785	µg/mL	Gravimetric
	CAS # 629-97-0	(Lot MKCL8918)			+/-	12.4583	µg/mL	Unstressed
	Purity 99%				+/-	14.9333	µg/mL	Stressed
9	n-Tetracosane (C24)		500.6	µg/mL	+/-	2.9731	µg/mL	Gravimetric
	CAS # 646-31-1	(Lot MKCJ8741)			+/-	12.4359	µg/mL	Unstressed
	Purity 99%				+/-	14.9065	µg/mL	Stressed
10	n-Hexacosane (C26)		500.5	µg/mL	+/-	2.9728	µg/mL	Gravimetric
	CAS # 630-01-3	(Lot MKCD4540)			+/-	12.4347	µg/mL	Unstressed
	Purity 99%				+/-	14.9050	µg/mL	Stressed
11	n-Octacosane (C28)		500.6	µg/mL	+/-	2.9734	µg/mL	Gravimetric
	CAS # 630-02-4	(Lot BCCG0084)			+/-	12.4371	µg/mL	Unstressed
	Purity 99%				+/-	14.9080	µg/mL	Stressed
12	n-Triacontane (C30)		501.7	µg/mL	+/-	2.9799	µg/mL	Gravimetric
	CAS # 638-68-6	(Lot MKCN9321)			+/-	12.4645	µg/mL	Unstressed
	Purity 99%				+/-	14.9408	µg/mL	Stressed
13	n-Dotriacontane (C32)		501.8	µg/mL	+/-	2.9805	µg/mL	Gravimetric
	CAS # 544-85-4	(Lot BCBW0661)			+/-	12.4670	µg/mL	Unstressed
	Purity 99%				+/-	14.9437	µg/mL	Stressed
14	n-Tetratriacontane (C34)		501.3	µg/mL	+/-	2.9773	µg/mL	Gravimetric
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	Purity 99%				+/-	14.9274	µg/mL	Stressed
15	n-Hexatriacontane (C36)		502.4	µg/mL	+/-	2.9841	µg/mL	Gravimetric
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17	n-Tetracontane (C40)		500.2	µg/mL	+/-	2.9713	µg/mL	Gravimetric
	CAS # 4181-95-7	(Lot PADGI)			+/-	12.4282	µg/mL	Unstressed
	Purity 98%				+/-	14.8973	µg/mL	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:

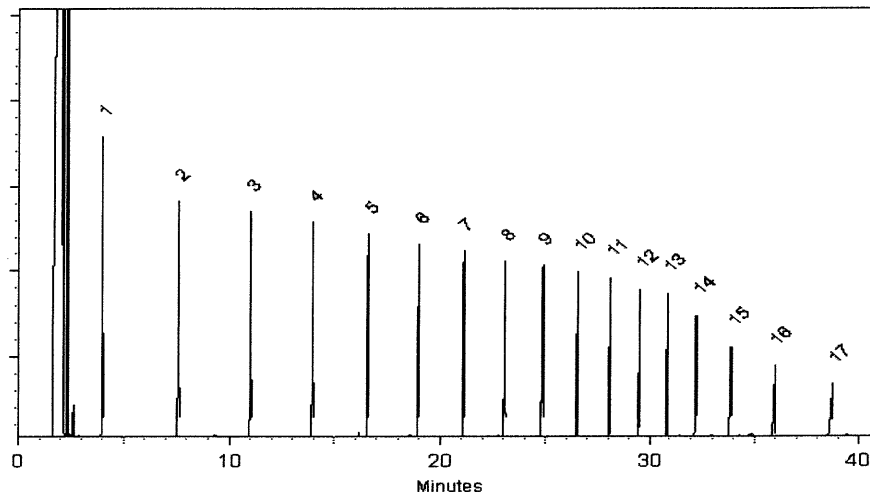
250°C

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.

Penelope S. Riglin

Penelope Riglin - Operations Tech I

Date Mixed: 16-Feb-2022

Balance: 1128360905

Clara Windle

Clara Windle - Operations Technician I

Date Passed: 21-Feb-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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- 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.
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- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

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- 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.

SHIPPING DOCUMENTS

CHEMTECH

CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092

(908) 789-8900 Fax: (908) 78-8922

www.chemtech.net

Chemtech Project Number:

01232/33

COC Number:

CLIENT INFORMATION

COMPANY: Louis Berger dba WSP USA Inc.

ADDRESS: 350 Mt. Kemble Ave

CITY: Morristown STATE: NJ ZIP: 07962

ATTENTION: Jonathan Ganz (Jon.Ganz@wsp.com)

PHONE: 212-612-7995

FAX:

PROJECT INFORMATION

PROJECT NAME: HWR1140A PCSMP Ph II SCI

PROJECT #: 31202661.297 Task 02 LOCATION: Staten Island

PROJECT MANAGER: Jon Ganz

E-MAIL: Jon.Ganz@wsp.com

PHONE: 212-612-7995

FAX:

BILLING INFORMATION

BILL TO: Louis Berger

PO# 31202661.297 Task 02

ADDRESS: 350 Mt. Kemble Ave

CITY: Morristown

STATE: NJ ZIP: 07962

ATTENTION: Jon Ganz

PHONE: 212-612-7995

DATA TURNAROUND INFORMATION

HARD COPY: _____ DAYS*
EDD See Contract Rates below _____ DAYS*
* TO BE APPROVED BY CHEMTECH
STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

TCL VOC - 2 days

TCL SVOC - 5 days

PAH - 5 days

TPH GRO/DRO - 3 days

TAL Metals - 5 Days

PCBs and Pesticides - 5 Day

TCLP RCRA Metals - 5 Day

RCRA Characteristics and Paint Filter - 3 Days

DATA DELIVERABLE INFORMATION

- ☐ RESULTS ONLY ☐ USEPA CLP
☐ RESULTS + QC ☐ New York State ASP "B"
☐ New Jersey REDUCED ☐ New York State ASP "A"
☐ New Jersey CLP ☐ Other _____

Level 2

☐ EDD Format

ANALYSIS

TCL VOC (8260C)	TCL SVOC (8270C/625)	TCL Pest (8081A/608)	PCB (3550B, 8082/608)	TAL Metals (7471A and 6010B)	PCBs (8082), PAHs (8270)	TCLP Metals (RCRA 8) EPA 1311/ 6010B	RCRA Char- EPA 9012B/9034, 1030/1010A, 9045C, 9095B	TPH-DRO/GRO (8015B)	Paint Filter Test (EPA 9095B)
1	2	3	4	5	6	7	8	9	

PRESERVATIVES

COMMENTS

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# of Bottles	Preservatives									Comments ← Specify Preservatives A-HCl B-HNO3 C-H2SO4 D-NaOH E-ICE F-Other
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9	
1.	B-P17A	507		X	1/18/23	0950	1	X	X	X	X	X					
2.	B-P17B	508		X	1/18/23	1005	1	X	X	X	X	X					
3.	WCL7	509	X		1/18/23	1010	1						X	X	X	X	
4.	B-P18A			X	1/18/23	1025		X	X	X	X	X					
5.	B-P18B			X	1/18/23	1045		X	X	X	X	X					
6.	B-P19A			X	1/18/23	1125		X	X	X	X	X					
7.	B-P19B			X	1/18/23	1135		X	X	X	X	X					
8.	B-P35A			X	1/18/23	1225		X	X	X	X	X					
9.	B-P35B			X	1/18/23	1245		X	X	X	X	X					
10.	DUPO1			X				X	X	X	X	X					

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

RELINQUISHED BY SAMPLER	DATE/TIME	RECEIVED BY	1333	Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant ☐ Cooler Temp <u>3.0</u>
1. <i>[Signature]</i>	1/19/23	<i>[Signature]</i>	1-19-23	MeOH extraction requires an additional 4oz. Jar for percent solid
RELINQUISHED BY	DATE/TIME	RECEIVED BY		Comments:
2. <i>[Signature]</i>	1-19-23	2. <i>[Signature]</i>		
RELINQUISHED BY	DATE/TIME	RECEIVED FOR LAB BY		SHIPPED VIA: CLIENT: ☐ Hand Delivered ☐ Overnight
3. <i>[Signature]</i>	1-19-23	3. <i>[Signature]</i>		CHEMTECH: ☐ Picked Up ☐ Overnight
				Shipment Complete ☐ YES ☐ NO

Page 1 of 3

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT

YELLOW - CHEMTECH COPY

PINK - SAMPLER COPY

CHEMTECH CHAIN OF CUSTODY RECORD		284 Sheffield Street, Mountainside, NJ 07092 (908) 789-8900 Fax: (908) 78-8922 www.chemtech.net		Chemtech Project Number: <u>01232/33</u>																			
CLIENT INFORMATION		PROJECT INFORMATION		BILLING INFORMATION																			
COMPANY: Louis Berger dba WSP USA Inc. ADDRESS: 350 Mt. Kemble Ave CITY: Morristown STATE: NJ ZIP: 07962 ATTENTION: Jonathan Ganz (Jon.Ganz@wsp.com) PHONE: 212-612-7995 FAX:		PROJECT NAME: HWR1140A PCSMP Ph II SCI PROJECT #: 31202661.297 Task 02 LOCATION: Staten Island PROJECT MANAGER: Jon Ganz E-MAIL: Jon.Ganz@wsp.com PHONE: 212-612-7995 FAX:		BILL TO: Louis Berger PO# 31202661.297 Task 02 ADDRESS: 350 Mt. Kemble Ave CITY: Morristown STATE: NJ ZIP: 07962 ATTENTION: Jon Ganz PHONE: 212-612-7995																			
DATA TURNAROUND INFORMATION		DATA DELIVERABLE INFORMATION		ANALYSIS																			
FAX: _____ DAYS HARD COPY: _____ DAYS* EDD See Contract Rates below DAYS* * TO BE APPROVED BY CHEMTECH STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS TCL VOC - 2 days TCL SVOC - 5 days PAH - 5 days TPH GRO/DRO - 3 days TAL Metals - 5 Days PCBs and Pesticides - 5 Day TCLP RCRA Metals - 5 Day RCRA Characteristics and Paint Filter - 3 Days		☐ RESULTS ONLY ☐ USEPA CLP ☐ RESULTS + QC ☐ New York State ASP "B" ☐ New Jersey REDUCED ☐ New York State ASP "A" ☐ New Jersey CLP ☐ Other _____ Level 2 ☐ EDD Format _____		<table border="1" style="width:100%; border-collapse: collapse; font-size: 0.8em;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">TCL VOC (8260C)</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">TCL SVOC (8270C/625)</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">TCL Pest (8081A/608)</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">PCB (3550B, 8082/608)</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">TAL Metals (7471A and 6010B)</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">PCBs (8082), PAHs (8270)</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">TCLP Metals (RCRA 8) EPA 1311/6010B</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">RCRA Char- EPA 9012B/9034, 1030/1010A, 9045C, 9095B</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH-DRO/GRO (8015B), Paint Filter Test (EPA 9095B)</th> </tr> <tr> <td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td><td style="text-align: center;">4</td><td style="text-align: center;">5</td><td style="text-align: center;">6</td><td style="text-align: center;">7</td><td style="text-align: center;">8</td><td style="text-align: center;">9</td> </tr> </table>		TCL VOC (8260C)	TCL SVOC (8270C/625)	TCL Pest (8081A/608)	PCB (3550B, 8082/608)	TAL Metals (7471A and 6010B)	PCBs (8082), PAHs (8270)	TCLP Metals (RCRA 8) EPA 1311/6010B	RCRA Char- EPA 9012B/9034, 1030/1010A, 9045C, 9095B	TPH-DRO/GRO (8015B), Paint Filter Test (EPA 9095B)	1	2	3	4	5	6	7	8	9
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CHEMTECH SAMPLE ID		PROJECT SAMPLE IDENTIFICATION		SAMPLE MATRIX																			
				<table border="1" style="width:100%; border-collapse: collapse; font-size: 0.8em;"> <tr> <th rowspan="2">COMP</th> <th rowspan="2">GRAB</th> <th colspan="2">SAMPLE COLLECTION</th> <th rowspan="2"># of Bottles</th> </tr> <tr> <th>DATE</th> <th>TIME</th> </tr> </table>		COMP	GRAB	SAMPLE COLLECTION		# of Bottles	DATE	TIME											
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1.		B-P38C		<table border="1" style="width:100%; border-collapse: collapse; font-size: 0.8em;"> <tr> <td style="width: 10%;">1</td><td style="width: 10%;">2</td><td style="width: 10%;">3</td><td style="width: 10%;">4</td><td style="width: 10%;">5</td><td style="width: 10%;">6</td><td style="width: 10%;">7</td><td style="width: 10%;">8</td><td style="width: 10%;">9</td> </tr> <tr> <td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td></td><td></td><td></td><td></td> </tr> </table>		1	2	3	4	5	6	7	8	9	X	X	X	X	X				
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X	X	X	X	X																			
2.																							
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10.																							
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE PROSESSION INCLUDING COURIER DELIVERY																							
RELINQUISHED BY SAMPLER 1. <u>[Signature]</u> DATE/TIME: <u>1/19/23</u>		RECEIVED BY <u>[Signature]</u> DATE/TIME: <u>1-19-23</u>		Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant ☐ Cooler Temp <u>3.0</u> MeOH extraction requires an additional 4oz. Jar for percent solid ☐ Ice in Cooler?: _____ Comments:																			
RELINQUISHED BY 2. <u>[Signature]</u> DATE/TIME: <u>1-19-23</u>		RECEIVED BY <u>[Signature]</u> DATE/TIME: <u>1-19-23</u>		Comments:																			
RELINQUISHED BY 3. <u>[Signature]</u> DATE/TIME: <u>1-19-23</u>		RECEIVED FOR LAB BY <u>[Signature]</u> DATE/TIME: <u>1-19-23</u>		SHIPPED VIA: CLIENT: ☐ Hand Delivered ☐ Overnight CHEMTECH: ☐ Picked Up ☐ Overnight Page <u>3</u> of <u>3</u>																			
WHITE - CHEMTECH COPY FOR RETURN TO CLIENT		YELLOW - CHEMTECH COPY		PINK - SAMPLER COPY																			



284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0649
DOD ELAP (L-A-B)	L2219
Maine	2022022
Maryland	296
New Hampshire	255422
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	P330-21-00137
Texas	T104704488-22-15



LOGIN REPORT/SAMPLE TRANSFER

Order ID : O1232 loui01
Client Name : Louis Berger U.S., Inc., A V
Client Contact : Jonathan Ganz
Invoice Name : Louis Berger U.S., Inc., A V
Invoice Contact : Jonathan Ganz

Order Date : 1/19/2023 1:44:00 PM
Project Name : NYCDDC Phase II SCI Artl
Receive DateTime : 1/19/2023 12:00:00 AM
Purchase Order : 18:05

Project Mgr :
Report Type : Level 1
EDD Type : Excel NY
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
O1232-01	B-P-17A	Solid	01/18/2023	09:50	VOC-TCLVOA-10		8260D	2 Bus. Days	
O1232-02	B-P-17B	Solid	01/18/2023	10:05	VOC-TCLVOA-10		8260D	2 Bus. Days	
O1232-04	B-P-18A	Solid	01/18/2023	10:25	VOC-TCLVOA-10		8260D	2 Bus. Days	
O1232-05	B-P-18B	Solid	01/18/2023	10:45	VOC-TCLVOA-10		8260D	2 Bus. Days	
O1232-06	B-P-19A	Solid	01/18/2023	11:25	VOC-TCLVOA-10		8260D	2 Bus. Days	
O1232-07	B-P-19B	Solid	01/18/2023	11:35	VOC-TCLVOA-10		8260D	2 Bus. Days	
O1232-08	B-P-35A	Solid	01/18/2023	12:25	VOC-TCLVOA-10		8260D	2 Bus. Days	
O1232-09	B-P-35B	Solid	01/18/2023	12:45	VOC-TCLVOA-10		8260D	2 Bus. Days	
O1232-10	DUP01	Solid	01/18/2023	00:00					

LOGIN REPORT/SAMPLE TRANSFER

Order ID : O1232	loui01	Order Date : 1/19/2023 1:44:00 PM	Project Mgr :
Client Name : Louis Berger U.S., Inc., A V		Project Name : NYCDDC Phase II SCI Artl	Report Type : Level 1
Client Contact : Jonathan Ganz		Receive DateTime : 1/19/2023 12:00:00 AM	EDD Type : Excel NY
Invoice Name : Louis Berger U.S., Inc., A V		Purchase Order : 18:05	Hard Copy Date :
Invoice Contact : Jonathan Ganz			Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
					VOC-TCLVOA-10		8260D	2 Bus. Days	

JAN
samples

stored in roa
#22 #02

Relinquished By : cl
Date / Time : 1/20/23 9:20

Received By : mmTadu
Date / Time : 1/20/23 9:20

Storage Area : VOA Refridgerator Room