Jacobs Technology

111 Corning Road Suite 200
Cary, NC 27518

Uinta Basin
Pneumatic Controller Study 2016

Analytical Reports
(0916-69 & 1016-55)

EPA Method TO-14A

TO14A Target Compound List
Totals Non-Methane as Propane

EPA Method 18-Type (Canisters)

Methane

Enthalpy Analytical, Inc.

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2202 Ellis Road Durham, NC 27703

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF) and contains 440 pages.

Valgena Respass

QA Review Performed by – Valgena Respass

Report Issued: 12/14/2016

ENTHALPY ANALYTICAL

Summary of Results

Enthalpy Analytical

Company: Jacobs Technology

Job No.: 0916-69 - EPA Method 18-Type (Cans)

Client No.: [redacted]

Summary - Methane

Sample Name	Sample Concentration (ppm)
160921A0207A (Can #196)	1,519
160921A0207B (Can #931)	903
160921A01A (Can #173)	872
160921A01B (Can #942)	832

Enthalpy Analytical

Company: Jacobs Technology

Job No.: 1016-55 - Modified EPA Method 18-Type Canister

Client No.: N/A

Summary - Methane

Sample Train Name	Sample Concentration (ppm)
Site 1 161019C01 A (Can #930)	6,547
Site 1 161019C01 B (Can #149)	6,390
Site 2 161017B02 A (Can #114)	4,506
Site 2 161017B02 B (Can #192)	4,987
Site 2 161017B02 C (Can #209)	17,980
Site 2 161017B02 D (Can #577)	19,517
Site 3 101018B03 A (Can #205)	1,951
Site 3 101018B03 B (Can #152)	11,221
Site 3 161020C03 A (Can #167)	2,268
Site 3 161020C03 B (Can #144)	2,237

Results

Enthalpy Analytical

Company: Jacobs Technology

Job No.: 0916-69 - EPA Method 18-Type (Cans)

Client No.: [redacted]

Methane

Sample ID	Filename #1	Filename #2	Filename #3	Analysis Method	Curve Min	Curve Max	MDL	Ret Time (min)	Ret Time (min)	Ret Time (min)	%dif RT	Tank Dil	Conc #1	Conc #2	Conc #3	%dif conc	Units	Avg Conc	Final Conc ppm	Flag
160921A0207A (Can #196)	009F0101.D	009F0102.D	009F0103.D	EDITHP730F_C1-C7_JKG.M	5.00	50,060	0.500	1.53	1.53	1.53	0.0	4.938	313	307	304	1.6	ppm	308	1,519	
160921A0207B (Can #931)	011F0201.D	011F0202.D	011F0203.D	EDITHP730F_C1-C7_JKG.M	5.00	50,060	0.500	1.53	1.53	1.53	0.0	4.748	194	190	186	2.1	ppm	190	903	
160921A01A (Can #173)	011F0301.D	011F0302.D	011F0303.D	EDITHP730F_C1-C7_JKG.M	5.00	50,060	0.500	1.53	1.53	1.53	0.0	4.390	198	199	199	0.4	ppm	199	872	
160921A01B (Can #942)	012F0401.D	012F0402.D	012F0403.D	EDITHP730F_C1-C7_JKG.M	5.00	50,060	0.500	1.53	1.53	1.53	0.0	4.326	192	193	193	0.2	ppm	192	832	

Enthalpy Analytical

Company: Jacobs Technology

Job No.: 1016-55 - Modified EPA Method 18-Type Canister Analysis

Client No.: N/A

Sample Analysis Methods Used:

A = BETTYP445_C1-C7.M

B = BETTYP445_C1-C6_XAS.M

Methane

Sample ID	Filename #1	Filename #2	Filename #3	Analysis Method	Curve Min	Curve Max	MDL	Ret Time (min)	Ret Time (min)	Ret Time (min)	%dif RT	Tank Dil	Conc #1	Conc #2	Conc #3	%dif conc	Units	Avg Conc	Final Conc ppm	Flag
Site 1 161019C01 A (Can #930)	020B0901.D	020B0902.D	020B0903.D	A	5.05	50,060	0.505	1.38	1.38	1.38	0.0	3.775	1,722	1,735	1,745	0.7	ppm	1,734	6,547	
Site 1 161019C01 B (Can #149)	022B0701.D	022B0702.D	022B0801.D	A	5.05	50,060	0.505	1.38	1.38	1.38	0.1	3.800	1,677	1,689	1,679	0.4	ppm	1,682	6,390	
Site 2 161017B02 A (Can #114)	023B1001.D	023B1002.D	023B1003.D	A	5.05	50,060	0.505	1.38	1.38	1.38	0.0	4.143	1,087	1,089	1,086	0.2	ppm	1,087	4,506	
Site 2 161017B02 B (Can #192)	022B0101.D	022B0102.D	022B0103.D	A	5.05	50,060	0.505	1.38	1.38	1.38	0.1	3.954	1,265	1,256	1,263	0.5	ppm	1,261	4,987	
Site 2 161017B02 C (Can #209)	020B0201.D	020B0202.D	020B0203.D	A	5.05	50,060	0.505	1.38	1.38	1.38	0.0	4.026	4,463	4,474	4,461	0.2	ppm	4,466	17,980	
Site 2 161017B02 D (Can #577)	022B0301.D	022B0302.D	022B0303.D	A	5.05	50,060	0.505	1.38	1.38	1.38	0.0	3.694	5,296	5,295	5,258	0.5	ppm	5,283	19,517	
Site 3 101018B03 A (Can #205)	022B0601.D	022B0602.D	022B0603.D	A	5.05	50,060	0.505	1.38	1.38	1.38	0.0	3.736	522	521	523	0.3	ppm	522	1,951	
Site 3 101018B03 B (Can #152)	020B0201.D	020B0202.D	020B0203.D	B	5.05	50,060	0.505	1.38	1.38	1.38	0.0	9.645	1,166	1,161	1,163	0.2	ppm	1,163	11,221	
Site 3 161020C03 A (Can #167)	023B0401.D	023B0402.D	023B0403.D	A	5.05	50,060	0.505	1.38	1.38	1.38	0.0	3.585	632	633	634	0.2	ppm	633	2,268	
Site 3 161020C03 B (Can #144)	020B0501.D	020B0502.D	020B0503.D	A	5.05	50,060	0.505	1.38	1.38	1.38	0.0	3.770	595	593	592	0.3	ppm	593	2,237	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: 160921A0207A Can196
Project #: 0916-69
Lab ID: 0916-69 160921A0207A Can196
Datafile: 002F1201.D

Pressurization Dilution Factor: 8.854
Analyzed Dilution Factor: 500

Time Stamp: 21-Oct-16, 16:29:12

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	174	202	ND
Acetylene	0.0409	181	196	ND
Ethane	27.9	123,332	154,160	
Propylene	0.0384	170	297	ND
Propane	13.1	57,939	106,204	
Isobutane	1.53	6,753	16,316	
1-Butene	0.0431	191	445	ND
Butane	2.50	11,086	26,785	
trans-2-Butene	0.0732	324	755	ND
cis-2-Butene	0.0429	190	443	ND
Isopentane	0.313	1,387	4,160	J
1-Pentene	0.0435	192	561	ND
Pentane	0.301	1,333	3,999	J
Isoprene	0.0478	212	599	ND
trans-2-Pentene	0.0400	177	516	ND
cis-2-Pentene	0.0431	191	556	ND
2,2-Dimethylbutane	0.0635	281	1,007	ND
Cyclopentane	0.0682	302	881	ND
2,3-Dimethylbutane	0.0596	264	945	ND
2-Methylpentane	0.0513	227	813	ND
3-Methylpentane	0.0630	279	999	ND
1-Hexene	0.0630	279	976	ND
Hexane	0.0695	308	1,103	ND
Methylcyclopentane	0.0861	381	1,334	ND
2,4-Dimethylpentane	0.0855	379	1,577	ND
Benzene	0.0950	420	1,365	ND
Cyclohexane	0.0829	367	1,284	ND
2-Methylhexane	0.0772	342	1,423	ND
2,3-Dimethylpentane	0.0787	348	1,450	ND
3-Methylhexane	0.0742	329	1,368	ND
2,2,4-Trimethylpentane	0.0768	340	1,615	ND
Heptane	0.0810	358	1,493	ND
Methylcyclohexane	0.0681	302	1,231	ND
2,3,4-Trimethylpentane	0.0719	318	1,512	ND
Toluene	0.111	491	1,879	ND
2-Methylheptane	0.0952	422	2,002	ND
3-Methylheptane	0.0901	399	1,894	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: 160921A0207A Can196
Project #: 0916-69
Lab ID: 0916-69 160921A0207A Can196
Datafile: 002F1201.D

Pressurization Dilution Factor: 8.854
Analyzed Dilution Factor: 500

Time Stamp: 21-Oct-16, 16:29:12

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Octane	0.0935	414	1,966	ND
Ethylbenzene	0.0781	346	1,525	ND
m&p-Xylene	0.150	666	2,940	ND
Styrene	0.0827	366	1,584	ND
o-Xylene	0.0696	308	1,360	ND
Nonane	0.0722	320	1,705	ND
Isopropylbenzene	0.0617	273	1,364	ND
n-Propylbenzene	0.0725	321	1,603	ND
3-Ethyltoluene	0.0793	351	1,755	ND
4-Ethyltoluene	0.0652	289	1,442	ND
1,3,5-Trimethylbenzene	0.0604	267	1,336	ND
2-Ethyltoluene	0.0610	270	1,349	ND
1,2,4-Trimethylbenzene	0.0628	278	1,389	ND
Decane	0.0589	261	1,541	ND
1,2,3-Trimethylbenzene	0.0702	311	1,553	ND
m-Diethylbenzene	0.0626	277	1,547	ND
p-Diethylbenzene	0.0641	284	1,584	ND
Undecane	0.0553	245	1,591	ND
Dodecane	0.0418	185	1,310	ND
Totals As Propane	37.8	167,379	306,812	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: 160921A0207B Can931
Project #: 0916-69
Lab ID: 0916-69 160921A0207B Can931
Datafile: 002F1001.D

Pressurization Dilution Factor: 17.741
Analyzed Dilution Factor: 250

Time Stamp: 21-Oct-16, 15:15:51

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	174	203	ND
Acetylene	0.0409	181	196	ND
Ethane	17.6	77,893	97,363	
Propylene	0.0384	170	298	ND
Propane	8.33	36,954	67,738	
Isobutane	1.10	4,880	11,790	
1-Butene	0.0548	243	567	J
Butane	1.86	8,248	19,928	
trans-2-Butene	0.0732	325	757	ND
cis-2-Butene	0.0429	190	444	ND
Isopentane	0.225	997	2,991	J
1-Pentene	0.0435	193	562	ND
Pentane	0.0496	220	660	ND
Isoprene	0.0478	212	600	ND
trans-2-Pentene	0.0400	177	517	ND
cis-2-Pentene	0.0431	191	558	ND
2,2-Dimethylbutane	0.0635	282	1,009	ND
Cyclopentane	0.0682	303	882	ND
2,3-Dimethylbutane	0.0596	264	947	ND
2-Methylpentane	0.0513	227	815	ND
3-Methylpentane	0.0630	279	1,001	ND
1-Hexene	0.0630	280	978	ND
Hexane	0.0695	308	1,105	ND
Methylcyclopentane	0.0861	382	1,336	ND
2,4-Dimethylpentane	0.0855	379	1,580	ND
Benzene	0.0950	421	1,368	ND
Cyclohexane	0.0829	368	1,286	ND
2-Methylhexane	0.0772	342	1,426	ND
2,3-Dimethylpentane	0.0787	349	1,453	ND
3-Methylhexane	0.0742	329	1,371	ND
2,2,4-Trimethylpentane	0.0768	341	1,618	ND
Heptane	0.0810	359	1,496	ND
Methylcyclohexane	0.0681	302	1,234	ND
2,3,4-Trimethylpentane	0.0719	319	1,515	ND
Toluene	0.111	491	1,882	ND
2-Methylheptane	0.0952	422	2,006	ND
3-Methylheptane	0.0901	400	1,898	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: 160921A0207B Can931
Project #: 0916-69
Lab ID: 0916-69 160921A0207B Can931
Datafile: 002F1001.D

Pressurization Dilution Factor: 17.741
Analyzed Dilution Factor: 250

Time Stamp: 21-Oct-16, 15:15:51

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Octane	0.0935	415	1,969	ND
Ethylbenzene	0.0781	346	1,528	ND
m&p-Xylene	0.150	667	2,946	ND
Styrene	0.0827	367	1,587	ND
o-Xylene	0.0696	309	1,363	ND
Nonane	0.0722	320	1,708	ND
Isopropylbenzene	0.0617	273	1,366	ND
n-Propylbenzene	0.0725	322	1,606	ND
3-Ethyltoluene	0.0793	352	1,758	ND
4-Ethyltoluene	0.0652	289	1,444	ND
1,3,5-Trimethylbenzene	0.0604	268	1,338	ND
2-Ethyltoluene	0.0610	270	1,351	ND
1,2,4-Trimethylbenzene	0.0628	278	1,391	ND
Decane	0.0589	261	1,544	ND
1,2,3-Trimethylbenzene	0.0702	311	1,556	ND
m-Diethylbenzene	0.0626	278	1,549	ND
p-Diethylbenzene	0.0641	284	1,587	ND
Undecane	0.0553	245	1,594	ND
Dodecane	0.0418	185	1,313	ND
Totals As Propane	25.1	111,397	204,195	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: 160921A01A Can173 (2)
Project #: 0916-69
Lab ID: 0916-69 160921A01A Can173 (2)
Datafile: 002F1301.D

Pressurization Dilution Factor: 7.868
Analyzed Dilution Factor: 1,000

Time Stamp: 21-Oct-16, 17:08:14

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	308	360	ND
Acetylene	0.0409	322	348	ND
Ethane	14.9	117,156	146,440	
Propylene	0.0384	302	528	ND
Propane	7.18	56,509	103,583	
Isobutane	1.07	8,389	20,270	
1-Butene	0.175	1,376	3,208	J
Butane	3.16	24,877	60,107	
trans-2-Butene	0.0732	576	1,343	ND
cis-2-Butene	0.0429	338	788	ND
Isopentane	0.698	5,492	16,471	
1-Pentene	0.0435	342	997	ND
Pentane	1.31	10,318	30,945	
Isoprene	0.0478	376	1,065	ND
trans-2-Pentene	0.0400	315	918	ND
cis-2-Pentene	0.0431	339	989	ND
2,2-Dimethylbutane	0.0635	500	1,790	ND
Cyclopentane	0.0682	537	1,565	ND
2,3-Dimethylbutane	0.0596	469	1,679	ND
2-Methylpentane	0.231	1,816	6,504	J
3-Methylpentane	0.114	894	3,203	J
1-Hexene	0.0630	496	1,735	ND
Hexane	0.0695	547	1,960	ND
Methylcyclopentane	0.0861	678	2,371	ND
2,4-Dimethylpentane	0.0855	673	2,802	ND
Benzene	0.0950	747	2,426	ND
Cyclohexane	0.0829	652	2,282	ND
2-Methylhexane	0.0772	607	2,530	ND
2,3-Dimethylpentane	0.0787	619	2,578	ND
3-Methylhexane	0.0742	584	2,432	ND
2,2,4-Trimethylpentane	0.0768	605	2,871	ND
Heptane	0.0810	637	2,654	ND
Methylcyclohexane	0.0681	536	2,188	ND
2,3,4-Trimethylpentane	0.0719	566	2,687	ND
Toluene	0.111	872	3,339	ND
2-Methylheptane	0.0952	749	3,558	ND
3-Methylheptane	0.0901	709	3,366	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: 160921A01A Can173 (2)
Project #: 0916-69
Lab ID: 0916-69 160921A01A Can173 (2)
Datafile: 002F1301.D

Pressurization Dilution Factor: 7.868
Analyzed Dilution Factor: 1,000

Time Stamp: 21-Oct-16, 17:08:14

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Octane	0.0935	736	3,493	ND
Ethylbenzene	0.0781	614	2,711	ND
m&p-Xylene	0.150	1,184	5,226	ND
Styrene	0.0827	650	2,816	ND
o-Xylene	0.0696	548	2,418	ND
Nonane	0.0722	568	3,031	ND
Isopropylbenzene	0.0617	485	2,424	ND
n-Propylbenzene	0.0725	570	2,850	ND
3-Ethyltoluene	0.0793	624	3,119	ND
4-Ethyltoluene	0.0652	513	2,562	ND
1,3,5-Trimethylbenzene	0.0604	475	2,374	ND
2-Ethyltoluene	0.0610	480	2,397	ND
1,2,4-Trimethylbenzene	0.0628	494	2,468	ND
Decane	0.0589	463	2,740	ND
1,2,3-Trimethylbenzene	0.0702	553	2,761	ND
m-Diethylbenzene	0.0626	493	2,749	ND
p-Diethylbenzene	0.0641	504	2,815	ND
Undecane	0.0553	435	2,828	ND
Dodecane	0.0418	329	2,329	ND
Totals As Propane	30.8	242,205	443,971	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: 160921A01B Can942
Project #: 0916-69
Lab ID: 0916-69 160921A01B Can942
Datafile: 002F1401.D

Pressurization Dilution Factor: 7.776
Analyzed Dilution Factor: 1,000

Time Stamp: 21-Oct-16, 17:46:09

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	305	355	ND
Acetylene	0.0409	318	344	ND
Ethane	14.4	112,329	140,406	
Propylene	0.0384	299	522	ND
Propane	7.01	54,472	99,849	
Isobutane	1.03	8,047	19,443	
1-Butene	0.153	1,188	2,771	J
Butane	3.10	24,124	58,286	
trans-2-Butene	0.0732	569	1,327	ND
cis-2-Butene	0.0429	334	778	ND
Isopentane	0.698	5,426	16,273	
1-Pentene	0.0435	338	985	ND
Pentane	1.33	10,354	31,055	
Isoprene	0.0478	372	1,053	ND
trans-2-Pentene	0.0400	311	907	ND
cis-2-Pentene	0.0431	335	977	ND
2,2-Dimethylbutane	0.0635	494	1,769	ND
Cyclopentane	0.0682	531	1,547	ND
2,3-Dimethylbutane	0.0596	463	1,660	ND
2-Methylpentane	0.234	1,817	6,508	J
3-Methylpentane	0.0630	490	1,755	ND
1-Hexene	0.0630	490	1,715	ND
Hexane	0.0695	541	1,937	ND
Methylcyclopentane	0.0861	670	2,343	ND
2,4-Dimethylpentane	0.0855	665	2,769	ND
Benzene	0.0950	738	2,398	ND
Cyclohexane	0.0829	645	2,255	ND
2-Methylhexane	0.0772	600	2,500	ND
2,3-Dimethylpentane	0.0787	612	2,548	ND
3-Methylhexane	0.0742	577	2,404	ND
2,2,4-Trimethylpentane	0.0768	597	2,837	ND
Heptane	0.0810	630	2,623	ND
Methylcyclohexane	0.0681	530	2,163	ND
2,3,4-Trimethylpentane	0.0719	559	2,656	ND
Toluene	0.111	862	3,300	ND
2-Methylheptane	0.0952	741	3,517	ND
3-Methylheptane	0.0901	701	3,327	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: 160921A01B Can942
Project #: 0916-69
Lab ID: 0916-69 160921A01B Can942
Datafile: 002F1401.D

Pressurization Dilution Factor: 7.776
Analyzed Dilution Factor: 1,000

Time Stamp: 21-Oct-16, 17:46:09

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Octane	0.0935	727	3,453	ND
Ethylbenzene	0.0781	607	2,679	ND
m&p-Xylene	0.150	1,170	5,165	ND
Styrene	0.0827	643	2,783	ND
o-Xylene	0.0696	541	2,390	ND
Nonane	0.0722	562	2,995	ND
Isopropylbenzene	0.0617	479	2,395	ND
n-Propylbenzene	0.0725	564	2,817	ND
3-Ethyltoluene	0.0793	617	3,083	ND
4-Ethyltoluene	0.0652	507	2,532	ND
1,3,5-Trimethylbenzene	0.0604	470	2,347	ND
2-Ethyltoluene	0.0610	474	2,369	ND
1,2,4-Trimethylbenzene	0.0628	488	2,439	ND
Decane	0.0589	458	2,707	ND
1,2,3-Trimethylbenzene	0.0702	546	2,729	ND
m-Diethylbenzene	0.0626	487	2,716	ND
p-Diethylbenzene	0.0641	499	2,782	ND
Undecane	0.0553	430	2,795	ND
Dodecane	0.0418	325	2,301	ND
Totals As Propane	30.4	236,091	432,764	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 1 161019C01 A Can930
Project #: 1016-55
Lab ID: 1016-55 Site 1 161019C01 A Can930
Datafile: 092F2101.D

Pressurization Dilution Factor: 6.169
Analyzed Dilution Factor: 5,000

Time Stamp: 16-Nov-16, 19:35:28

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	1,209	1,410	ND
Acetylene	0.0409	1,261	1,364	ND
Ethane	13.8	424,224	530,263	
Propylene	0.0384	1,184	2,072	ND
Propane	3.79	117,006	214,476	
Isobutane	0.295	9,107	22,004	J
1-Butene	0.0431	1,328	3,098	ND
Butane	0.420	12,957	31,305	
trans-2-Butene	0.0732	2,257	5,263	ND
cis-2-Butene	0.0429	1,324	3,088	ND
Isopentane	0.0630	1,943	5,826	ND
1-Pentene	0.0435	1,341	3,908	ND
Pentane	0.0504	1,554	4,661	J
Isoprene	0.0478	1,475	4,176	ND
trans-2-Pentene	0.0400	1,234	3,597	ND
cis-2-Pentene	0.0431	1,330	3,877	ND
2,2-Dimethylbutane	0.0635	1,959	7,018	ND
Cyclopentane	0.0682	2,105	6,136	ND
2,3-Dimethylbutane	0.0596	1,838	6,583	ND
2-Methylpentane	0.0513	1,581	5,665	ND
3-Methylpentane	0.0630	1,943	6,961	ND
1-Hexene	0.0630	1,944	6,801	ND
Hexane	0.0695	2,145	7,682	ND
Methylcyclopentane	0.0861	2,657	9,294	ND
2,4-Dimethylpentane	0.0855	2,637	10,985	ND
Benzene	0.0950	2,929	9,511	ND
Cyclohexane	0.0829	2,557	8,944	ND
2-Methylhexane	0.0772	2,381	9,917	ND
2,3-Dimethylpentane	0.0787	2,426	10,106	ND
3-Methylhexane	0.0742	2,289	9,535	ND
2,2,4-Trimethylpentane	0.0768	2,370	11,254	ND
Heptane	0.0810	2,498	10,404	ND
Methylcyclohexane	0.0681	2,102	8,579	ND
2,3,4-Trimethylpentane	0.0719	2,218	10,534	ND
Toluene	0.111	3,418	13,091	ND
2-Methylheptane	0.0952	2,938	13,949	ND
3-Methylheptane	0.0901	2,779	13,197	ND
Octane	0.0935	2,884	13,695	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 1 161019C01 A Can930
Project #: 1016-55
Lab ID: 1016-55 Site 1 161019C01 A Can930
Datafile: 092F2101.D

Pressurization Dilution Factor: 6.169
Analyzed Dilution Factor: 5,000

Time Stamp: 16-Nov-16, 19:35:28

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylbenzene	0.0781	2,408	10,627	ND
m&p-Xylene	0.150	4,642	20,486	ND
Styrene	0.0827	2,550	11,038	ND
o-Xylene	0.0696	2,148	9,479	ND
Nonane	0.0722	2,228	11,881	ND
Isopropylbenzene	0.0617	1,902	9,502	ND
n-Propylbenzene	0.0725	2,236	11,172	ND
3-Ethyltoluene	0.0793	2,447	12,228	ND
4-Ethyltoluene	0.0652	2,010	10,044	ND
1,3,5-Trimethylbenzene	0.0604	1,863	9,308	ND
2-Ethyltoluene	0.0610	1,881	9,397	ND
1,2,4-Trimethylbenzene	0.0628	1,936	9,675	ND
Decane	0.0589	1,816	10,740	ND
1,2,3-Trimethylbenzene	0.0702	2,166	10,824	ND
m-Diethylbenzene	0.0626	1,931	10,775	ND
p-Diethylbenzene	0.0641	1,978	11,034	ND
Undecane	0.0553	1,706	11,088	ND
Dodecane	0.0418	1,289	9,129	ND
Totals As Propane	15.6	481,972	883,473	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 1 161019C01 B Can149
Project #: 1016-55
Lab ID: 1016-55 Site 1 161019C01 B Can149
Datafile: 092F2901.D

Pressurization Dilution Factor: 4.685
Analyzed Dilution Factor: 5,000

Time Stamp: 17-Nov-16, 09:08:29

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.239	5,593	6,418	J
Acetylene	0.0409	957	1,019	ND
Ethane	17.9	418,278	514,405	
Propylene	0.104	2,444	4,206	J
Propane	4.96	116,110	209,405	
Isobutane	0.419	9,821	23,348	
1-Butene	0.0431	1,009	2,315	ND
Butane	0.731	17,131	40,723	
trans-2-Butene	0.0732	1,714	3,933	ND
cis-2-Butene	0.0429	1,005	2,307	ND
Isopentane	0.0665	1,559	4,600	J
1-Pentene	0.0435	1,018	2,920	ND
Pentane	0.0672	1,575	4,648	J
Isoprene	0.0478	1,120	3,120	ND
trans-2-Pentene	0.0730	1,711	4,908	J
cis-2-Pentene	0.0431	1,010	2,897	ND
2,2-Dimethylbutane	0.0635	1,488	5,244	ND
Cyclopentane	0.0682	1,598	4,585	ND
2,3-Dimethylbutane	0.0596	1,396	4,919	ND
2-Methylpentane	0.0513	1,201	4,233	ND
3-Methylpentane	0.0630	1,476	5,201	ND
1-Hexene	0.0630	1,476	5,082	ND
Hexane	0.0695	1,629	5,740	ND
Methylcyclopentane	0.0861	2,018	6,945	ND
2,4-Dimethylpentane	0.0855	2,003	8,208	ND
Benzene	0.0950	2,224	7,107	ND
Cyclohexane	0.0829	1,942	6,683	ND
2-Methylhexane	0.0772	1,808	7,410	ND
2,3-Dimethylpentane	0.0787	1,843	7,551	ND
3-Methylhexane	0.0742	1,738	7,124	ND
2,2,4-Trimethylpentane	0.0768	1,800	8,409	ND
Heptane	0.0810	1,897	7,774	ND
Methylcyclohexane	0.0681	1,596	6,411	ND
2,3,4-Trimethylpentane	0.0719	1,685	7,871	ND
Toluene	0.148	3,469	13,073	J
2-Methylheptane	0.0952	2,231	10,423	ND
3-Methylheptane	0.0901	2,111	9,861	ND
Octane	0.0935	2,190	10,233	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 1 161019C01 B Can149
Project #: 1016-55
Lab ID: 1016-55 Site 1 161019C01 B Can149
Datafile: 092F2901.D

Pressurization Dilution Factor: 4.685
Analyzed Dilution Factor: 5,000

Time Stamp: 17-Nov-16, 09:08:29

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylbenzene	0.0781	1,829	7,940	ND
m&p-Xylene	0.150	3,525	15,308	ND
Styrene	0.0827	1,936	8,248	ND
o-Xylene	0.0696	1,631	7,082	ND
Nonane	0.0722	1,692	8,877	ND
Isopropylbenzene	0.0617	1,444	7,100	ND
n-Propylbenzene	0.0725	1,698	8,348	ND
3-Ethyltoluene	0.0793	1,859	9,137	ND
4-Ethyltoluene	0.0652	1,527	7,505	ND
1,3,5-Trimethylbenzene	0.0604	1,415	6,955	ND
2-Ethyltoluene	0.0610	1,428	7,022	ND
1,2,4-Trimethylbenzene	0.0628	1,471	7,229	ND
Decane	0.0589	1,379	8,025	ND
1,2,3-Trimethylbenzene	0.0702	1,645	8,087	ND
m-Diethylbenzene	0.0626	1,467	8,051	ND
p-Diethylbenzene	0.0641	1,502	8,245	ND
Undecane	0.0553	1,296	8,285	ND
Dodecane	0.107	2,497	17,394	J
Totals As Propane	32.2	753,748	1,359,386	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 2 161017B02 A Can114
Project #: 1016-55
Lab ID: 1016-55 Site 2 161017B02 A Can114
Datafile: 092F1501.D

Pressurization Dilution Factor: 8.651
Analyzed Dilution Factor: 1000

Time Stamp: 14-Nov-16, 17:39:34

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	339	395	ND
Acetylene	0.0409	354	383	ND
Ethane	24.8	214,128	267,652	
Propylene	0.0384	332	581	ND
Propane	8.66	74,888	137,273	
Isobutane	1.99	17,247	41,671	
1-Butene	0.0968	838	1,954	J
Butane	2.29	19,801	47,843	
trans-2-Butene	0.0732	633	1,476	ND
cis-2-Butene	0.0429	371	866	ND
Isopentane	0.925	8,004	24,006	
1-Pentene	0.0435	376	1,096	ND
Pentane	0.672	5,811	17,430	
Isoprene	0.0478	414	1,171	ND
trans-2-Pentene	0.0400	346	1,009	ND
cis-2-Pentene	0.0431	373	1,087	ND
2,2-Dimethylbutane	0.0635	549	1,968	ND
Cyclopentane	0.0683	591	1,723	J
2,3-Dimethylbutane	0.0596	515	1,846	ND
2-Methylpentane	0.234	2,022	7,244	J
3-Methylpentane	0.0630	545	1,952	ND
1-Hexene	0.0630	545	1,908	ND
Hexane	0.0695	601	2,155	ND
Methylcyclopentane	0.0861	745	2,607	ND
2,4-Dimethylpentane	0.0855	740	3,081	ND
Benzene	0.0950	822	2,668	ND
Cyclohexane	0.0846	732	2,561	J
2-Methylhexane	0.0772	668	2,781	ND
2,3-Dimethylpentane	0.0787	680	2,834	ND
3-Methylhexane	0.0742	642	2,674	ND
2,2,4-Trimethylpentane	0.0768	665	3,156	ND
Heptane	0.0810	701	2,918	ND
Methylcyclohexane	0.0681	590	2,406	ND
2,3,4-Trimethylpentane	0.0719	622	2,954	ND
Toluene	0.151	1,306	5,002	J
2-Methylheptane	0.0952	824	3,912	ND
3-Methylheptane	0.0901	779	3,701	ND
Octane	0.0935	809	3,841	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 2 161017B02 A Can114
Project #: 1016-55
Lab ID: 1016-55 Site 2 161017B02 A Can114
Datafile: 092F1501.D

Pressurization Dilution Factor: 8.651
Analyzed Dilution Factor: 1000

Time Stamp: 14-Nov-16, 17:39:34

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylbenzene	0.0781	675	2,980	ND
m&p-Xylene	0.150	1,302	5,746	ND
Styrene	0.0827	715	3,096	ND
o-Xylene	0.0696	602	2,658	ND
Nonane	0.0722	625	3,332	ND
Isopropylbenzene	0.0617	533	2,665	ND
n-Propylbenzene	0.0725	627	3,133	ND
3-Ethyltoluene	0.0793	686	3,430	ND
4-Ethyltoluene	0.0652	564	2,817	ND
1,3,5-Trimethylbenzene	0.0604	523	2,611	ND
2-Ethyltoluene	0.0610	528	2,636	ND
1,2,4-Trimethylbenzene	0.0628	543	2,713	ND
Decane	0.0589	509	3,012	ND
1,2,3-Trimethylbenzene	0.0702	608	3,036	ND
m-Diethylbenzene	0.0626	542	3,022	ND
p-Diethylbenzene	0.0641	555	3,095	ND
Undecane	0.0553	479	3,110	ND
Dodecane	0.0418	362	2,560	ND
Totals As Propane	41.2	356,600	653,663	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 2 161017B02 B Can192
Project #: 1016-55
Lab ID: 1016-55 Site 2 161017B02 B Can192
Datafile: 092F1701.D

Pressurization Dilution Factor: 10.774
Analyzed Dilution Factor: 1000

Time Stamp: 14-Nov-16, 19:00:24

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	422	493	ND
Acetylene	0.0409	440	477	ND
Ethane	22.5	242,746	303,423	
Propylene	0.0384	414	724	ND
Propane	7.88	84,923	155,667	
Isobutane	1.83	19,683	47,557	
1-Butene	0.0851	917	2,138	J
Butane	2.08	22,449	54,241	
trans-2-Butene	0.0732	788	1,839	ND
cis-2-Butene	0.0429	462	1,079	ND
Isopentane	0.871	9,381	28,137	
1-Pentene	0.0435	468	1,365	ND
Pentane	0.627	6,757	20,264	
Isoprene	0.0478	515	1,459	ND
trans-2-Pentene	0.0400	431	1,256	ND
cis-2-Pentene	0.0431	465	1,354	ND
2,2-Dimethylbutane	0.0635	684	2,451	ND
Cyclopentane	0.0682	735	2,143	ND
2,3-Dimethylbutane	0.0596	642	2,299	ND
2-Methylpentane	0.214	2,306	8,259	J
3-Methylpentane	0.0630	679	2,431	ND
1-Hexene	0.0630	679	2,376	ND
Hexane	0.0695	749	2,683	ND
Methylcyclopentane	0.0861	928	3,246	ND
2,4-Dimethylpentane	0.0855	921	3,837	ND
Benzene	0.0950	1,023	3,322	ND
Cyclohexane	0.0829	893	3,124	ND
2-Methylhexane	0.0772	832	3,464	ND
2,3-Dimethylpentane	0.0787	847	3,530	ND
3-Methylhexane	0.0742	800	3,330	ND
2,2,4-Trimethylpentane	0.0768	828	3,931	ND
Heptane	0.0810	872	3,634	ND
Methylcyclohexane	0.0681	734	2,997	ND
2,3,4-Trimethylpentane	0.0719	775	3,679	ND
Toluene	0.127	1,369	5,244	J
2-Methylheptane	0.0952	1,026	4,872	ND
3-Methylheptane	0.0901	971	4,610	ND
Octane	0.0935	1,007	4,784	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 2 161017B02 B Can192
Project #: 1016-55
Lab ID: 1016-55 Site 2 161017B02 B Can192
Datafile: 092F1701.D

Pressurization Dilution Factor: 10.774
Analyzed Dilution Factor: 1000

Time Stamp: 14-Nov-16, 19:00:24

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylbenzene	0.0781	841	3,712	ND
m&p-Xylene	0.150	1,621	7,156	ND
Styrene	0.0827	891	3,856	ND
o-Xylene	0.0696	750	3,311	ND
Nonane	0.0722	778	4,150	ND
Isopropylbenzene	0.0617	664	3,319	ND
n-Propylbenzene	0.0725	781	3,902	ND
3-Ethyltoluene	0.0793	855	4,271	ND
4-Ethyltoluene	0.0652	702	3,508	ND
1,3,5-Trimethylbenzene	0.0604	651	3,251	ND
2-Ethyltoluene	0.0610	657	3,282	ND
1,2,4-Trimethylbenzene	0.0628	676	3,379	ND
Decane	0.0589	634	3,751	ND
1,2,3-Trimethylbenzene	0.0702	757	3,781	ND
m-Diethylbenzene	0.0626	675	3,764	ND
p-Diethylbenzene	0.0641	691	3,854	ND
Undecane	0.0553	596	3,873	ND
Dodecane	0.0418	450	3,189	ND
Totals As Propane	37.2	400,830	734,737	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 2 161017B02 C Can209
Project #: 1016-55
Lab ID: 1016-55 Site 2 161017B02 C Can209
Datafile: 092F1901.D

Pressurization Dilution Factor: 4.024
Analyzed Dilution Factor: 10,000

Time Stamp: 14-Nov-16, 20:21:59

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	1,577	1,840	ND
Acetylene	0.0409	1,644	1,780	ND
Ethane	23.3	936,159	1,170,160	
Propylene	0.0384	1,545	2,703	ND
Propane	8.16	328,228	601,654	
Isobutane	1.88	75,788	183,113	
1-Butene	0.0431	1,733	4,041	ND
Butane	2.15	86,602	209,240	
trans-2-Butene	0.0732	2,944	6,867	ND
cis-2-Butene	0.0429	1,727	4,028	ND
Isopentane	0.907	36,506	109,490	
1-Pentene	0.0435	1,749	5,099	ND
Pentane	0.655	26,377	79,109	
Isoprene	0.0478	1,924	5,448	ND
trans-2-Pentene	0.0400	1,610	4,693	ND
cis-2-Pentene	0.0431	1,735	5,058	ND
2,2-Dimethylbutane	0.0635	2,556	9,156	ND
Cyclopentane	0.0705	2,838	8,274	J
2,3-Dimethylbutane	0.0596	2,397	8,588	ND
2-Methylpentane	0.239	9,608	34,419	J
3-Methylpentane	0.0630	2,535	9,081	ND
1-Hexene	0.0630	2,536	8,873	ND
Hexane	0.0695	2,798	10,022	ND
Methylcyclopentane	0.0861	3,466	12,125	ND
2,4-Dimethylpentane	0.0855	3,440	14,331	ND
Benzene	0.0950	3,821	12,408	ND
Cyclohexane	0.0933	3,755	13,136	J
2-Methylhexane	0.0772	3,106	12,937	ND
2,3-Dimethylpentane	0.0787	3,165	13,184	ND
3-Methylhexane	0.0742	2,986	12,439	ND
2,2,4-Trimethylpentane	0.0768	3,092	14,682	ND
Heptane	0.0810	3,259	13,573	ND
Methylcyclohexane	0.0681	2,742	11,193	ND
2,3,4-Trimethylpentane	0.0719	2,894	13,742	ND
Toluene	0.172	6,930	26,541	J
2-Methylheptane	0.0952	3,832	18,198	ND
3-Methylheptane	0.0901	3,626	17,217	ND
Octane	0.0935	3,763	17,867	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 2 161017B02 C Can209
Project #: 1016-55
Lab ID: 1016-55 Site 2 161017B02 C Can209
Datafile: 092F1901.D

Pressurization Dilution Factor: 4.024
Analyzed Dilution Factor: 10,000

Time Stamp: 14-Nov-16, 20:21:59

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylbenzene	0.0781	3,141	13,863	ND
m&p-Xylene	0.150	6,056	26,726	ND
Styrene	0.0827	3,326	14,400	ND
o-Xylene	0.0696	2,802	12,366	ND
Nonane	0.0722	2,907	15,499	ND
Isopropylbenzene	0.0617	2,481	12,396	ND
n-Propylbenzene	0.0725	2,917	14,575	ND
3-Ethyltoluene	0.0793	3,193	15,953	ND
4-Ethyltoluene	0.0652	2,623	13,103	ND
1,3,5-Trimethylbenzene	0.0604	2,431	12,144	ND
2-Ethyltoluene	0.0610	2,454	12,260	ND
1,2,4-Trimethylbenzene	0.0628	2,526	12,621	ND
Decane	0.0589	2,369	14,011	ND
1,2,3-Trimethylbenzene	0.0702	2,826	14,120	ND
m-Diethylbenzene	0.0626	2,520	14,058	ND
p-Diethylbenzene	0.0641	2,580	14,395	ND
Undecane	0.0553	2,226	14,465	ND
Dodecane	0.0418	1,682	11,910	ND
Totals As Propane	39.4	1,586,091	2,907,367	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 2 161017B02 D Can577
Project #: 1016-55
Lab ID: 1016-55 Site 2 161017B02 D Can577
Datafile: 092F1601.D

Pressurization Dilution Factor: 3.693
Analyzed Dilution Factor: 10,000

Time Stamp: 16-Nov-16, 15:38:28

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	1,448	1,688	ND
Acetylene	0.0409	1,509	1,633	ND
Ethane	18.3	674,384	842,952	
Propylene	0.0384	1,418	2,481	ND
Propane	6.36	234,738	430,284	
Isobutane	1.46	53,989	130,444	
1-Butene	0.136	5,030	11,732	J
Butane	1.71	62,984	152,177	
trans-2-Butene	0.0732	2,702	6,302	ND
cis-2-Butene	0.0429	1,585	3,697	ND
Isopentane	0.709	26,169	78,487	
1-Pentene	0.0435	1,605	4,679	ND
Pentane	0.517	19,086	57,242	
Isoprene	0.0478	1,766	5,000	ND
trans-2-Pentene	0.0400	1,477	4,307	ND
cis-2-Pentene	0.0431	1,592	4,642	ND
2,2-Dimethylbutane	0.0635	2,346	8,402	ND
Cyclopentane	0.0682	2,520	7,347	ND
2,3-Dimethylbutane	0.0596	2,200	7,881	ND
2-Methylpentane	0.193	7,131	25,546	J
3-Methylpentane	0.128	4,724	16,922	J
1-Hexene	0.0630	2,328	8,143	ND
Hexane	0.0695	2,568	9,198	ND
Methylcyclopentane	0.0861	3,181	11,128	ND
2,4-Dimethylpentane	0.0855	3,157	13,152	ND
Benzene	0.0950	3,507	11,387	ND
Cyclohexane	0.0829	3,061	10,709	ND
2-Methylhexane	0.0772	2,850	11,873	ND
2,3-Dimethylpentane	0.0787	2,905	12,099	ND
3-Methylhexane	0.0742	2,741	11,416	ND
2,2,4-Trimethylpentane	0.0768	2,838	13,474	ND
Heptane	0.0810	2,991	12,457	ND
Methylcyclohexane	0.0681	2,517	10,272	ND
2,3,4-Trimethylpentane	0.0719	2,656	12,612	ND
Toluene	0.128	4,715	18,059	J
2-Methylheptane	0.0952	3,517	16,701	ND
3-Methylheptane	0.0901	3,328	15,801	ND
Octane	0.0935	3,453	16,397	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 2 161017B02 D Can577
Project #: 1016-55
Lab ID: 1016-55 Site 2 161017B02 D Can577
Datafile: 092F1601.D

Pressurization Dilution Factor: 3.693
Analyzed Dilution Factor: 10,000

Time Stamp: 16-Nov-16, 15:38:28

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylbenzene	0.0781	2,883	12,723	ND
m&p-Xylene	0.150	5,558	24,528	ND
Styrene	0.0827	3,053	13,216	ND
o-Xylene	0.0696	2,571	11,348	ND
Nonane	0.0722	2,668	14,225	ND
Isopropylbenzene	0.0617	2,277	11,376	ND
n-Propylbenzene	0.0725	2,677	13,376	ND
3-Ethyltoluene	0.0793	2,930	14,641	ND
4-Ethyltoluene	0.0652	2,407	12,026	ND
1,3,5-Trimethylbenzene	0.0604	2,231	11,145	ND
2-Ethyltoluene	0.0610	2,252	11,251	ND
1,2,4-Trimethylbenzene	0.0628	2,318	11,583	ND
Decane	0.0589	2,174	12,858	ND
1,2,3-Trimethylbenzene	0.0702	2,594	12,959	ND
m-Diethylbenzene	0.0626	2,312	12,901	ND
p-Diethylbenzene	0.0641	2,368	13,211	ND
Undecane	0.0553	2,043	13,275	ND
Dodecane	0.0418	1,544	10,930	ND
Totals As Propane	31.3	1,157,418	2,121,594	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 3 161018B03 A Can205
Project #: 1016-55
Lab ID: 1016-55 Site 3 161018B03 A Can205
Datafile: 092F2701.D

Pressurization Dilution Factor: 4.543
Analyzed Dilution Factor: 1,000

Time Stamp: 17-Nov-16, 07:38:33

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	178	208	ND
Acetylene	0.0409	186	201	ND
Ethane	16.5	75,149	93,933	
Propylene	0.0384	174	305	ND
Propane	5.34	24,244	44,440	
Isobutane	1.07	4,878	11,787	
1-Butene	0.0431	196	456	ND
Butane	1.22	5,531	13,365	
trans-2-Butene	0.0732	332	775	ND
cis-2-Butene	0.0429	195	455	ND
Isopentane	0.474	2,151	6,453	
1-Pentene	0.0435	197	576	ND
Pentane	0.369	1,675	5,024	J
Isoprene	0.0478	217	615	ND
trans-2-Pentene	0.0400	182	530	ND
cis-2-Pentene	0.0431	196	571	ND
2,2-Dimethylbutane	0.0635	289	1,034	ND
Cyclopentane	0.0682	310	904	ND
2,3-Dimethylbutane	0.0596	271	970	ND
2-Methylpentane	0.151	685	2,454	J
3-Methylpentane	0.0994	452	1,618	J
1-Hexene	0.0630	286	1,002	ND
Hexane	0.192	871	3,121	J
Methylcyclopentane	0.0861	391	1,369	ND
2,4-Dimethylpentane	0.0855	388	1,618	ND
Benzene	0.0950	431	1,401	ND
Cyclohexane	0.0829	377	1,317	ND
2-Methylhexane	0.0772	351	1,461	ND
2,3-Dimethylpentane	0.0787	357	1,488	ND
3-Methylhexane	0.0742	337	1,404	ND
2,2,4-Trimethylpentane	0.0768	349	1,658	ND
Heptane	0.112	508	2,114	J
Methylcyclohexane	0.220	1,000	4,083	J
2,3,4-Trimethylpentane	0.0719	327	1,551	ND
Toluene	0.111	503	1,928	ND
2-Methylheptane	0.0952	433	2,054	ND
3-Methylheptane	0.0901	409	1,944	ND
Octane	0.0935	425	2,017	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 3 161018B03 A Can205
Project #: 1016-55
Lab ID: 1016-55 Site 3 161018B03 A Can205
Datafile: 092F2701.D

Pressurization Dilution Factor: 4.543
Analyzed Dilution Factor: 1,000

Time Stamp: 17-Nov-16, 07:38:33

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylbenzene	0.0781	355	1,565	ND
m&p-Xylene	0.150	684	3,017	ND
Styrene	0.0827	376	1,626	ND
o-Xylene	0.0696	316	1,396	ND
Nonane	0.0722	328	1,750	ND
Isopropylbenzene	0.0617	280	1,399	ND
n-Propylbenzene	0.0725	329	1,646	ND
3-Ethyltoluene	0.0793	360	1,801	ND
4-Ethyltoluene	0.0652	296	1,479	ND
1,3,5-Trimethylbenzene	0.0604	274	1,371	ND
2-Ethyltoluene	0.0610	277	1,384	ND
1,2,4-Trimethylbenzene	0.0628	285	1,425	ND
Decane	0.0589	267	1,582	ND
1,2,3-Trimethylbenzene	0.0702	319	1,594	ND
m-Diethylbenzene	0.0626	284	1,587	ND
p-Diethylbenzene	0.0641	291	1,625	ND
Undecane	0.0553	251	1,633	ND
Dodecane	0.0418	190	1,345	ND
Totals As Propane	27.2	123,411	226,217	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 3 161020B03 B Can144
Project #: 1016-55
Lab ID: 1016-55 Site 3 161020B03 B Can144
Datafile: 092F2401.D

Pressurization Dilution Factor: 4.152
Analyzed Dilution Factor: 2,000

Time Stamp: 16-Nov-16, 21:35:48

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	326	380	ND
Acetylene	0.0409	339	367	ND
Ethane	14.7	122,461	153,071	
Propylene	0.0384	319	558	ND
Propane	8.47	70,363	128,977	
Isobutane	0.996	8,273	19,989	
1-Butene	0.0431	358	834	ND
Butane	1.66	13,780	33,294	
trans-2-Butene	0.0732	608	1,417	ND
cis-2-Butene	0.0429	356	831	ND
Isopentane	0.221	1,834	5,499	J
1-Pentene	0.0435	361	1,052	ND
Pentane	0.195	1,618	4,854	J
Isoprene	0.0478	397	1,124	ND
trans-2-Pentene	0.0400	332	968	ND
cis-2-Pentene	0.0431	358	1,044	ND
2,2-Dimethylbutane	0.0635	527	1,889	ND
Cyclopentane	0.0682	567	1,652	ND
2,3-Dimethylbutane	0.0596	495	1,772	ND
2-Methylpentane	0.0513	426	1,525	ND
3-Methylpentane	0.0630	523	1,874	ND
1-Hexene	0.0630	523	1,831	ND
Hexane	0.0695	577	2,068	ND
Methylcyclopentane	0.0861	715	2,502	ND
2,4-Dimethylpentane	0.0855	710	2,957	ND
Benzene	0.0950	789	2,561	ND
Cyclohexane	0.0829	688	2,408	ND
2-Methylhexane	0.0772	641	2,670	ND
2,3-Dimethylpentane	0.0787	653	2,721	ND
3-Methylhexane	0.0742	616	2,567	ND
2,2,4-Trimethylpentane	0.0768	638	3,030	ND
Heptane	0.0810	672	2,801	ND
Methylcyclohexane	0.0681	566	2,310	ND
2,3,4-Trimethylpentane	0.0719	597	2,836	ND
Toluene	0.111	920	3,524	ND
2-Methylheptane	0.0952	791	3,755	ND
3-Methylheptane	0.0901	748	3,553	ND
Octane	0.0935	776	3,687	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 3 161020B03 B Can144
Project #: 1016-55
Lab ID: 1016-55 Site 3 161020B03 B Can144
Datafile: 092F2401.D

Pressurization Dilution Factor: 4.152
Analyzed Dilution Factor: 2,000

Time Stamp: 16-Nov-16, 21:35:48

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylbenzene	0.0781	648	2,861	ND
m&p-Xylene	0.150	1,250	5,515	ND
Styrene	0.0827	686	2,972	ND
o-Xylene	0.0696	578	2,552	ND
Nonane	0.0722	600	3,198	ND
Isopropylbenzene	0.0617	512	2,558	ND
n-Propylbenzene	0.0725	602	3,008	ND
3-Ethyltoluene	0.0793	659	3,292	ND
4-Ethyltoluene	0.0652	541	2,704	ND
1,3,5-Trimethylbenzene	0.0604	502	2,506	ND
2-Ethyltoluene	0.0610	506	2,530	ND
1,2,4-Trimethylbenzene	0.0628	521	2,605	ND
Decane	0.0589	489	2,891	ND
1,2,3-Trimethylbenzene	0.0702	583	2,914	ND
m-Diethylbenzene	0.0626	520	2,901	ND
p-Diethylbenzene	0.0641	532	2,970	ND
Undecane	0.0553	459	2,985	ND
Dodecane	0.0418	347	2,458	ND
Totals As Propane	24.1	199,958	366,531	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 3 161020B03 A Can167
Project #: 1016-55
Lab ID: 1016-55 Site 3 161020B03 A Can167
Datafile: 092F2801.D

Pressurization Dilution Factor: 4.011
Analyzed Dilution Factor: 2,000

Time Stamp: 17-Nov-16, 08:18:30

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	314	367	ND
Acetylene	0.0409	328	355	ND
Ethane	16.9	135,478	169,342	
Propylene	0.0384	308	539	ND
Propane	9.84	78,943	144,706	
Isobutane	1.16	9,269	22,394	
1-Butene	0.0431	345	806	ND
Butane	1.94	15,583	37,651	
trans-2-Butene	0.0732	587	1,369	ND
cis-2-Butene	0.0429	344	803	ND
Isopentane	0.261	2,092	6,273	J
1-Pentene	0.0435	349	1,016	ND
Pentane	0.220	1,765	5,294	J
Isoprene	0.0478	384	1,086	ND
trans-2-Pentene	0.0400	321	935	ND
cis-2-Pentene	0.0431	346	1,008	ND
2,2-Dimethylbutane	0.0635	510	1,825	ND
Cyclopentane	0.0682	547	1,596	ND
2,3-Dimethylbutane	0.0596	478	1,712	ND
2-Methylpentane	0.0513	411	1,473	ND
3-Methylpentane	0.0630	505	1,810	ND
1-Hexene	0.0630	506	1,769	ND
Hexane	0.0695	558	1,998	ND
Methylcyclopentane	0.0861	691	2,417	ND
2,4-Dimethylpentane	0.0855	686	2,857	ND
Benzene	0.0950	762	2,474	ND
Cyclohexane	0.0829	665	2,326	ND
2-Methylhexane	0.0772	619	2,579	ND
2,3-Dimethylpentane	0.0787	631	2,628	ND
3-Methylhexane	0.0742	595	2,480	ND
2,2,4-Trimethylpentane	0.0768	616	2,927	ND
Heptane	0.0810	650	2,706	ND
Methylcyclohexane	0.0681	547	2,231	ND
2,3,4-Trimethylpentane	0.0719	577	2,740	ND
Toluene	0.111	889	3,405	ND
2-Methylheptane	0.0952	764	3,628	ND
3-Methylheptane	0.0901	723	3,432	ND
Octane	0.0935	750	3,562	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 3 161020B03 A Can167
Project #: 1016-55
Lab ID: 1016-55 Site 3 161020B03 A Can167
Datafile: 092F2801.D

Pressurization Dilution Factor: 4.011
Analyzed Dilution Factor: 2,000

Time Stamp: 17-Nov-16, 08:18:30

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylbenzene	0.0781	626	2,764	ND
m&p-Xylene	0.150	1,207	5,328	ND
Styrene	0.0827	663	2,871	ND
o-Xylene	0.0696	559	2,465	ND
Nonane	0.0722	580	3,090	ND
Isopropylbenzene	0.0617	495	2,471	ND
n-Propylbenzene	0.0725	582	2,906	ND
3-Ethyltoluene	0.0793	637	3,180	ND
4-Ethyltoluene	0.0652	523	2,612	ND
1,3,5-Trimethylbenzene	0.0604	485	2,421	ND
2-Ethyltoluene	0.0610	489	2,444	ND
1,2,4-Trimethylbenzene	0.0628	504	2,516	ND
Decane	0.0589	472	2,793	ND
1,2,3-Trimethylbenzene	0.0702	563	2,815	ND
m-Diethylbenzene	0.0626	502	2,802	ND
p-Diethylbenzene	0.0641	514	2,870	ND
Undecane	0.0553	444	2,884	ND
Dodecane	0.0418	335	2,374	ND
Totals As Propane	28.1	225,553	413,447	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 3 161018B03 B Can152
Project #: 1016-55
Lab ID: 1016-55 Site 3 161018B03 B Can152
Datafile: 092F3001.D

Pressurization Dilution Factor: 9.645
Analyzed Dilution Factor: 125

Time Stamp: 17-Nov-16, 09:48:51

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.106	127	148	J
Acetylene	0.0409	49.3	53	ND
Ethane	13.9	16,741	20,926	
Propylene	0.248	299	523	J
Propane	4.70	5,663	10,380	
Isobutane	0.941	1,134	2,741	
1-Butene	0.0431	51.9	121	ND
Butane	1.06	1,274	3,078	
trans-2-Butene	0.0732	88.2	206	ND
cis-2-Butene	0.0429	51.7	121	ND
Isopentane	0.421	507	1,521	
1-Pentene	0.0435	52.4	153	ND
Pentane	0.335	404	1,211	J
Isoprene	0.0478	57.6	163	ND
trans-2-Pentene	0.0400	48.2	141	ND
cis-2-Pentene	0.0431	52.0	152	ND
2,2-Dimethylbutane	0.0635	76.6	274	ND
Cyclopentane	0.0682	82.3	240	ND
2,3-Dimethylbutane	0.0596	71.8	257	ND
2-Methylpentane	0.123	148	531	J
3-Methylpentane	0.107	129	462	J
1-Hexene	0.0630	76.0	266	ND
Hexane	0.212	256	918	J
Methylcyclopentane	0.0861	104	363	ND
2,4-Dimethylpentane	0.0855	103	429	ND
Benzene	0.0950	114	372	ND
Cyclohexane	0.0829	99.9	350	ND
2-Methylhexane	0.0772	93.1	388	ND
2,3-Dimethylpentane	0.0787	94.8	395	ND
3-Methylhexane	0.0742	89.5	373	ND
2,2,4-Trimethylpentane	0.0768	92.6	440	ND
Heptane	0.0810	97.6	407	ND
Methylcyclohexane	0.0681	82.2	335	ND
2,3,4-Trimethylpentane	0.0719	86.7	412	ND
Toluene	0.111	134	512	ND
2-Methylheptane	0.0952	115	545	ND
3-Methylheptane	0.0901	109	516	ND
Octane	0.0935	113	535	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 3 161018B03 B Can152
Project #: 1016-55
Lab ID: 1016-55 Site 3 161018B03 B Can152
Datafile: 092F3001.D

Pressurization Dilution Factor: 9.645
Analyzed Dilution Factor: 125

Time Stamp: 17-Nov-16, 09:48:51

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylbenzene	0.0781	94.1	415	ND
m&p-Xylene	0.150	181	801	ND
Styrene	0.0827	99.7	431	ND
o-Xylene	0.0696	83.9	370	ND
Nonane	0.0722	87.1	464	ND
Isopropylbenzene	0.0617	74.3	371	ND
n-Propylbenzene	0.0725	87.4	437	ND
3-Ethyltoluene	0.0793	95.7	478	ND
4-Ethyltoluene	0.0652	78.6	393	ND
1,3,5-Trimethylbenzene	0.0604	72.8	364	ND
2-Ethyltoluene	0.0610	73.5	367	ND
1,2,4-Trimethylbenzene	0.0628	75.7	378	ND
Decane	0.0589	71.0	420	ND
1,2,3-Trimethylbenzene	0.0702	84.7	423	ND
m-Diethylbenzene	0.0626	75.5	421	ND
p-Diethylbenzene	0.0641	77.3	431	ND
Undecane	0.0553	66.7	433	ND
Dodecane	0.0418	50.4	357	ND
Totals As Propane	25.2	30,335	55,606	

Company	Jacobs Technology
Analyst	TDD
Parameters	Canister Pressurizations

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

					Pre-sample			Post-sample			Final		
Sample ID	Can #	Press. Factor	Canister Size	Sample Vol (L) at STP	Temp Field (°F)	P_{bar} Field (mmHg)	Gauge Field (mmHg)	Temp Lab/Field (°F)	P_{bar} Lab/Field (mmHg)	Gauge Lab/Field (mmHg)	Temp Lab (°F)	P_{bar} Lab (mmHg)	Gauge Lab (mmHg)
160921A0207A Can196	196	4.938	1.29	0.62	65.5	764.8	-764.8	67.5	771.7	-406.0	67.5	771.7	1,034.0
2nd Pressurization		1.793						68.5	761.7	517.0	68.5	761.7	1,531.0
Total Tank Dilution		8.854											
160921A0207B Can931	931	4.748	1.29	0.65	65.5	764.8	-764.8	67.5	771.7	-392.0	67.5	771.7	1,031.0
2nd Pressurization		3.736						68.5	761.7	-374.0	68.5	761.7	687.0
Total Tank Dilution		17.741											
160921A01A Can173	173	4.390	1.29	0.71	65.5	764.8	-764.8	67.5	771.7	-356.0	67.5	771.7	1,053.0
2nd Pressurization		1.792						68.5	761.7	508.0	68.5	761.7	1,514.0
Total Tank Dilution		7.868											
160921A01B Can942	942	4.326	1.29	0.71	65.5	764.8	-764.8	67.5	771.7	-351.0	67.5	771.7	1,048.0
2nd Pressurization		1.798						68.5	761.7	497.0	68.5	761.7	1,501.0
Total Tank Dilution		7.776											

The canister pressurization factors are calculated using the following formula:

$$\frac{\frac{GaugeLab + PbarLab}{TempLab + 460}}{\frac{GaugeLab / Field + PbarLab / Field}{TempLab / Field + 460} - \frac{GaugeField + PbarField}{TempField + 460}}$$

Company	Jacobs Tecnology
Analyst	DOO / AJP
Parameters	Canister Pressurizations

Client #	
Job #	1016-55
# Samples	10 (1.4L) Canisters

					Pre-sample			Post-sample			Final		
Sample ID	Can #	Press. Factor	Canister Size	Sample Vol (L) at STP	Temp Field (°F)	P_{bar} Field (mmHg)	0.00	Temp Lab/Field (°F)	P_{bar} Lab/Field (mmHg)	Gauge Lab/Field (mmHg)	Temp Lab (°F)	P_{bar} Lab (mmHg)	Gauge Lab (mmHg)
Site 2 161017B02 C Can209	209	4.024	1.29	0.750	65.5	773	-773	67.0	765	-324	67.0	765	1,009
Site 2 161017B02 D Can577	577	3.693	1.29	0.767	65.5	773	-773	67.0	765	-314	67.0	765	900
Site1 161019C01 A Can930	930	3.774	1.29	0.762	65.5	773	-773	67.0	765	-317	67.0	765	925
2nd Pressurization		1.635						67.5	760	151	67.5	760	729
Total Tank Dilution		6.169											
Site1 161019C01 B Can149	149	3.798	1.29	0.770	65.5	773	-773	67.0	765	-312	67.0	765	955
2nd Pressurization		1.234						67.5	760	439	67.5	760	719
Total Tank Dilution		4.685											
Site2 161017B02 A Can114	114	4.142	1.29	0.692	65.5	773	-773	67.0	765	-358	67.0	765	920
2nd Pressurization		2.089						67.5	760	-14.0	67.5	760	798
Total Tank Dilution		8.651											
Site2 161017B02 B Can192	192	3.952	1.29	0.728	65.5	773	-773	67.0	765	-337	67.0	765	926
2nd Pressurization		2.726						67.5	760	-218	67.5	760	717
Total Tank Dilution		10.774											
Site3 161020C03 A Can167	167	3.584	1.29	0.790	65.5	773	-773	67.0	765	-300	67.0	765	901
2nd Pressurization		1.119						67.5	760	548	67.5	760	704
Total Tank Dilution		4.011											

Company	Jacobs Tecnology
Analyst	DOO / AJP
Parameters	Canister Pressurizations

Client #	
Job #	1016-55
# Samples	10 (1.4L) Canisters

					Pre-sample			Post-sample			Final		
Sample ID	Can #	Press. Factor	Canister Size	Sample Vol (L) at STP	Temp Field (°F)	P_{bar} Field (mmHg)	0.00	Temp Lab/Field (°F)	P_{bar} Lab/Field (mmHg)	Gauge Lab/Field (mmHg)	Temp Lab (°F)	P_{bar} Lab (mmHg)	Gauge Lab (mmHg)
Site 3 161020C03 B Can144	144	3.769	1.29	0.753	65.5	773	-773	67.0	765	-322	67.0	765	904
2nd Pressurization		1.102						67.5	760	569	67.5	760	704
Total Tank Dilution		4.152											
Site 3 101018B03 A Can205	205	3.735	1.29	0.765	65.5	773	-773	67.0	765	-315	67.0	765	915
2nd Pressurization		1.216						67.5	760	442	67.5	760	702
Total Tank Dilution		4.543											
Site 3 101018B03 B Can152	152	4.479	1.29	0.634	65.5	773	-773	67.0	765	-392	67.0	765	905
2nd Pressurization		1.626						68.0	762	-6.5	68.0	762	467
3rd Pressurization		1.324						67.5	760	345	67.5	760	703
Total Tank Dilution		9.645											

The canister pressurization factors are calculated using the following formula:

$$\frac{\frac{GaugeLab + PbarLab}{TempLab + 460}}{\frac{GaugeLab\ /\ Field + PbarLab\ /\ Field}{TempLab\ /\ Field + 460} - \frac{GaugeField + PbarField}{TempField + 460}}$$

Narrative Summary

Enthalpy Analytical Narrative Summary

Company	Jacobs Technology
Analyst	NBT
Parameters	EPA Method 18-Type

Client #	[redacted]
Job #	0916-69
# Samples	4 Canisters

Custody

Shannon Hammaker of Enthalpy Analytical, Inc. received the samples on 10/6/16 at ambient temperature after being relinquished by Jacobs Technology. The samples were received in good condition; but without chain-of-custody documentation.

Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for methane using the general analytical procedures in EPA Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography (40 CFR Part 60, Appendix A).

All samples and standards were introduced directly to the column using an automated multi-port Valco gas sampling valve equipped with a stainless steel loop. Methane was referenced to certified gas phase standards.

Upon receipt, the canister pressures were measured and recorded. The cans were then pressurized and a dilution ratio was calculated for each canister. (Refer to the Canister Pressurization page in the Results section of this report.)

The Agilent Technologies Model 7890A, Gas Chromatograph "Edith" (S/N CN10722006) was equipped with a Flame Ionization Detector for these analyses.

Calibration

The calibration curve is included in the Raw Data section of this report. The data analysis method is referenced in the Analysis Method column on the Detailed Results page.

The first page of the curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.

Chromatographic Conditions

The acquisition methods (AQ_EDITHP503_HRVOC.M, AQ_EDITHP274_HRVOC_XLONG.M, AQ_EDITHP274_HRVOC.M, and AQ_EDITHP274_HRVOC_SHORT.M) are included in the Raw Data section of this report.

ENTHALPY ANALYTICAL

Enthalpy Analytical Narrative Summary
(continued)

QC Notes	The analysis of the laboratory zero air blank did not contain methane at a concentration greater than the detection limit.
Reporting Notes	The results presented in this report are representative of the samples as provided to the laboratory. These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.

ENTHALPY
ANALYTICAL

Enthalpy Analytical Narrative Summary

Company	Jacobs Technology	**Client #**	N/A
Analyst	JKG	**Job #**	1016-55
Parameters	EPA Method 18-Type	**# Samples**	10 Canisters

Custody	Shannon Hammaker of Enthalpy Analytical, Inc. received the samples on 10/28/16 at ambient temperature after being relinquished by Jacobs Technology. The samples were received in good condition; but without chain-of-custody documentation. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.
Analysis	The samples were analyzed for methane using the general analytical procedures in EPA Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography (40 CFR Part 60, Appendix A). All samples and standards were introduced directly to the column using an automated multi-port Valco gas sampling valve equipped with a stainless steel loop. Methane was referenced to certified gas phase standards. Upon receipt, the canister pressures were measured and recorded. The canisters were then pressurized and a dilution ratio was calculated for each canister. The Agilent Technologies Model 6890N, Gas Chromatograph "Betty" (S/N US10430048) was equipped with a Flame Ionization Detector for these analyses.
Calibration	The calibration curves are included in the Raw Data section of this report. The data analysis method is referenced in the Analysis Method column on the Detailed Results page. The first page of the curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.
Chromatographic Conditions	The acquisition methods (GC142P133_CAL.M and GC142P133_SHORT.M) are included in the Raw Data section of this report.

Enthalpy Analytical Narrative Summary
(continued)

QC Notes	The analysis of the laboratory zero air blank did not contain methane at a concentration greater than the detection limit.
Reporting Notes	The results presented in this report are representative of the samples as provided to the laboratory. These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.

ENTHALPY
ANALYTICAL

Enthalpy Analytical Narrative Summary

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	0916-69
# Samples	4 Canisters

Custody	Shannon Hammaker received the samples on 10/6/16 after being relinquished by Jacobs Technology. The samples were received at ambient temperature and in good condition without a chain of custody. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.
Analysis	The samples were analyzed for TO14A target compound list and Total Non-Methane as Propane using the analytical procedures in EPA Method TO-14A, *Determination of Volatile Organic Compounds (VOCs) in Ambient Air using Specially Prepared Canisters with Subsequent Analysis by Gas Chromatography*. Upon receipt, the canister pressures were measured and recorded. The canisters were then pressurized and a dilution ratio was calculated for each. The canisters were repressurized after the M18 Methane analysis to insure sufficient sample was available for analysis. (Refer to the Canister Pressurization page in the Results section of this report). The samples were analyzed at various dilutions to bring the target analytes within the instrument's calibrated range. Dilution factors are displayed in the sample header information. The Agilent Technologies Model 6890, Gas Chromatograph "Archie" (S/N US10202039) was equipped with a Flame Ionization Detector (FID) and a Restek Rtx-1 60 m x 0.32 mm x 1.0 um capillary column. All samples and standards were introduced directly to the analyzer using an Entech 7100A Preconcentrator.
Calibration	The Initial Calibration (A101316A-TO14A) met % RSD criteria. The Initial Calibration Verification (ICV) met 30% Recovery criteria. The Continuing Calibration Verifications (CCVs) met 30% Difference criteria.
Chromatographic Conditions	The acquisition method (TO14A-FID.M) used for sample analysis has been included in this report.

ENTHALPY ANALYTICAL

Enthalpy Analytical Narrative Summary
(continued)

QC Notes	The Laboratory Duplicates (LD) associated with this sample set met acceptance criteria. The Humid Blanks associated with this analysis did not contain any target analytes at concentrations greater than 0.2 ppbv. The Laboratory Control Samples analyzed with the samples met the method-required recovery criteria. The samples were analyzed within the 30-day holding time recommended by the method. The TO-14A analysis for this project was conducted with the goal of quantitating the predominant C2 to C5 hydrocarbon compounds present in the samples. The samples had to be significantly diluted in order for these compounds to be detected within the calibration range of the instrumentation. As a result, there are a large number of compounds reported as non-detected "ND" at high detection limits (MDL). The compounds that were ND require a separate analysis to be reported with lower results or MDLs. These lower results are available in a separate report.
Reporting Notes	The results presented in this report are representative of the samples as provided to the laboratory. These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.

Enthalpy Analytical Narrative Summary

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Custody	Shannon Hammaker received the samples on 10/28/16 after being relinquished by Jacobs Technology. The samples were received at ambient temperature and in good condition without a chain of custody. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.
Analysis	The samples were analyzed for TO14A target compound list and Total Non-Methane as Propane using the analytical procedures in EPA Method TO-14A, Determination of Volatile Organic Compounds (VOCs) in Ambient Air using Specially Prepared Canisters with Subsequent Analysis by Gas Chromatography. Upon receipt, the canister pressures were measured and recorded. The canisters were then pressurized and a dilution ratio was calculated for each. The canisters were repressurized after the M18 Methane analysis to insure sufficient sample was available for analysis. (Refer to the Canister Pressurization page in the Results section of this report). The samples were analyzed at various dilutions to bring the target analytes within the instrument's calibrated range. Dilution factors are displayed in the sample header information. The Agilent Technologies Model 6890, Gas Chromatograph "Archie" (S/N US10202039) was equipped with a Flame Ionization Detector (FID) and a Restek Rtx-1 60 m x 0.32 mm x 1.0 um capillary column. All samples and standards were introduced directly to the analyzer using an Entech 7100A Preconcentrator.
Calibration	The Initial Calibration (A111016A-TO14A) met % RSD criteria. The Initial Calibration Verification (ICV) met 30% Recovery criteria. The Continuing Calibration Verifications (CCVs) met 30% Difference criteria.
Chromatographic Conditions	The acquisition method (TO14A-FID.M) used for sample analysis has been included in this report.

ENTHALPY ANALYTICAL

Enthalpy Analytical Narrative Summary
(continued)

QC Notes	The Laboratory Duplicates (LD) associated with this sample set met acceptance criteria. The Humid Blanks associated with this analysis did not contain any target analytes at concentrations greater than 0.2 ppbv. The Laboratory Control Samples analyzed with the samples met the method-required recovery criteria. The samples were analyzed within the 30-day holding time recommended by the method. The TO-14A analysis for this project was conducted with the goal of quantitating the predominant C2 to C5 hydrocarbon compounds present in the samples. The samples had to be significantly diluted in order for these compounds to be detected within the calibration range of the instrumentation. As a result, there are a large number of compounds reported as non-detected "ND" at high detection limits (MDL). The compounds that were ND require a separate analysis to be reported with lower results or MDLs. These lower results are available in a separate report.
Reporting Notes	The results presented in this report are representative of the samples as provided to the laboratory. These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.

General Reporting Notes

The following are general reporting notes that are applicable to all Enthalpy Analytical, Inc. data reports, unless specifically noted otherwise.

- Any analysis which refers to the method as ***"Type"*** represents a planned deviation from the reference method. For instance a Hydrogen Sulfide assay from a Tedlar bag would be labeled as "EPA Method 16-Type" because Tedlar bags are not mentioned as one of the collection options in EPA Method 16.
- The acronym ***MDL*** represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.
- The acronym ***LOQ*** represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.
- The acronym ***ND*** following a value indicates a non-detect or analytical result below the MDL.
- The letter ***J*** in the Qualifier or Flag column in the results indicates that the value is between the MDL and the LOQ. The laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.
- The letter ***E*** in the Qualifier or Flag column indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.
- The acronym ***DF*** represents Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to determine the final undiluted sample results.
- The addition of ***MS*** to the Sample ID represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. The MS analysis indicates what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix interferes with the analysis of the analyte(s).
- The addition of ***MSD*** to the Sample ID represents a Matrix Spike Duplicate. Prepared in the same manner as a MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times.
- The addition of ***LD*** to the Sample ID represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results of the duplicate analysis are compared to the initial result. The result should have a difference value of within 10% of the initial result (if the results of the original analysis are greater than the LOQ).

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ANALYTICAL

General Reporting Notes

(continued)

- The addition of ***AD*** to the Sample ID represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.
- The Sample ID ***LCS*** represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our client projects, two spikes are retained as LCSs. The LCSs are labeled with the associated project number and kept in-house at the appropriate temperature conditions. When the project samples are received for analysis, the LCSs are analyzed to confirm that the analyte could be recovered from the media, separate from the samples which were used on the project and which may have been affected by source matrix, sample collection and/or sample transport.
- **Significant Figures**: Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits.
- **Manual Integration**: The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations on sample chromatograms, if provided in the report. The peak was ***not integrated*** by the software **"NI"**, the peak was ***integrated incorrectly*** by the software **"II"** or the ***wrong peak*** was integrated by the software **"WP"**. These codes will accompany the analyst's manual integration stamp placed next to the compound name on the chromatogram.

ENTHALPY ANALYTICAL

Raw Data

EPA Method 18-Type
Raw Data

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Enthalpy Analytical

Company: Jacobs Technology

Job No.: 0916-69 - EPA Method 18-Type (Cans)

Client No.: [redacted]

Methane -- Calibration Standards, Laboratory Blanks and Controls

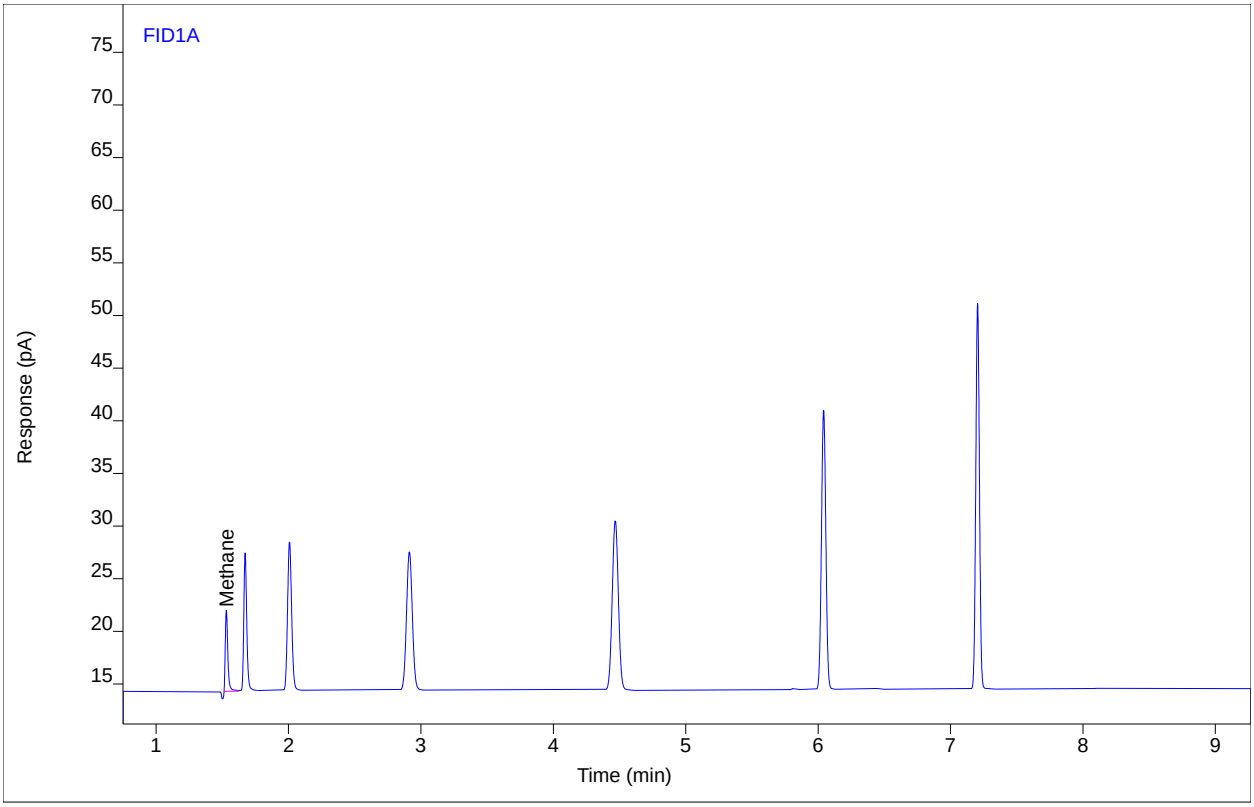
SAMPLE NAME	Filename #1	Filename #2	Filename #3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	%dif RT	Conc # 1	Conc # 2	Conc # 3	%dif conc	Units	Avg Conc	Standard Tag	% Tag
Edithp623 #C3 ENV(1=600,2=400)	002F0402.D	002F0403.D	002F0404.D	EDITHP730F_C1-C7.M	1.53	1.53	1.53	0.0	39.6	39.2	39.3	0.5	ppm	39.4	40.0	98.4
Zero Air Blank #LB	016F0601.D	016F0602.D	016F0603.D	EDITHP730F_C1-C7.M	NA	NA	NA	NA	0.500	0.500	0.500	0.0	ppm	0.500	ND	
Edithp623 #C3 ENV(1=600,2=400)	002F0702.D	002F0703.D	002F0704.D	EDITHP730F_C1-C7_JKG.M	1.53	1.53	1.53	0.0	39.2	39.0	39.3	0.4	ppm	39.2	40.0	97.9
Edithp623 #C3 ENV(1=600,2=400)	002F0402.D	002F0403.D	002F0404.D	EDITHP730F_C1-C7_JKG.M	1.53	1.53	1.53	0.0	39.3	39.4	39.2	0.3	ppm	39.3	40.0	98.2

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp623 #C3 ENV(1=600,2=400)
Sequence Name	EDITHP757 ver.4
Data File	002F0402.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 2:16 AM
File Modified	10/18/2016 11:05 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	2 of 4
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:43 AM
Printed	10/18/2016 11:26 AM



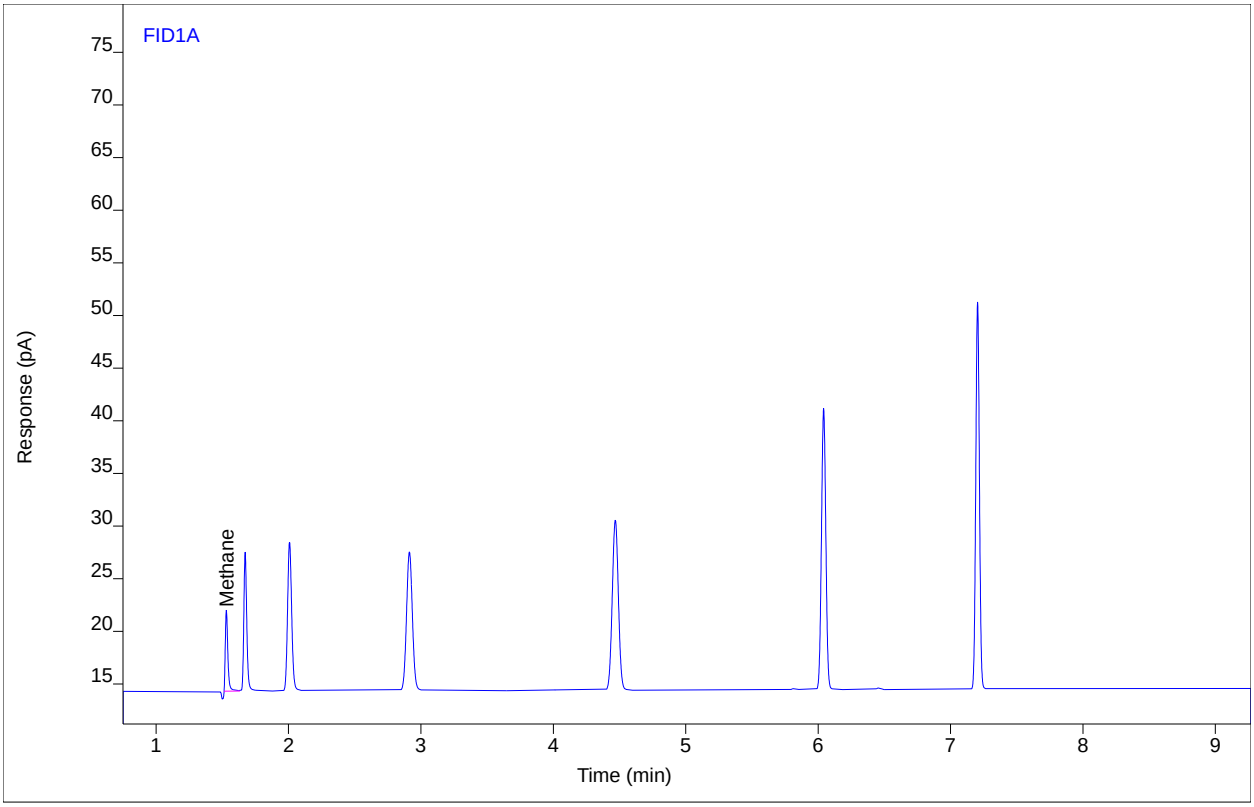
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	10.4317	7.61872	39.5677	1	39.5677	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp623 #C3 ENV(1=600,2=400)
Sequence Name	EDITHP757 ver.4
Data File	002F0403.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 2:30 AM
File Modified	10/18/2016 11:05 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	3 of 4
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:43 AM
Printed	10/18/2016 11:26 AM



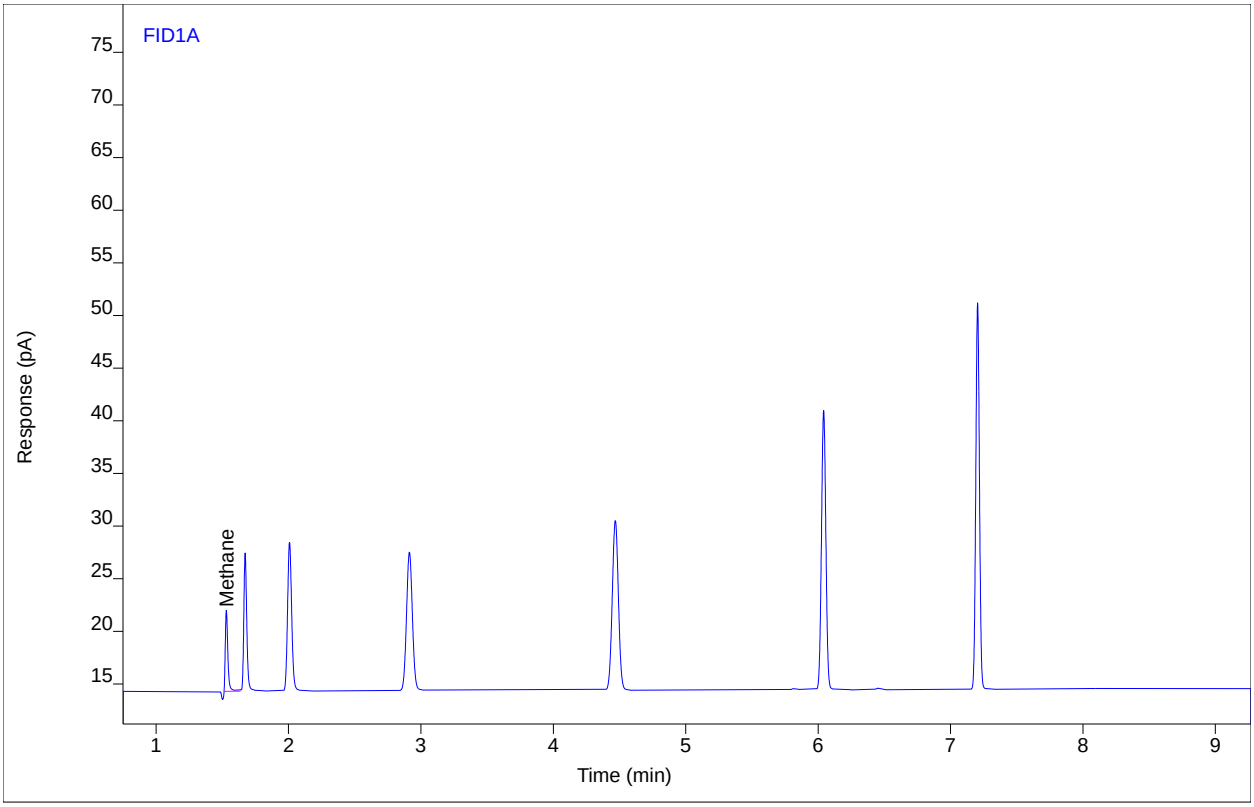
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	10.3440	7.61520	39.2380	1	39.2380	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp623 #C3 ENV(1=600,2=400)
Sequence Name	EDITHP757 ver.4
Data File	002F0404.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 2:45 AM
File Modified	10/18/2016 11:06 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	4 of 4
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:43 AM
Printed	10/18/2016 11:26 AM



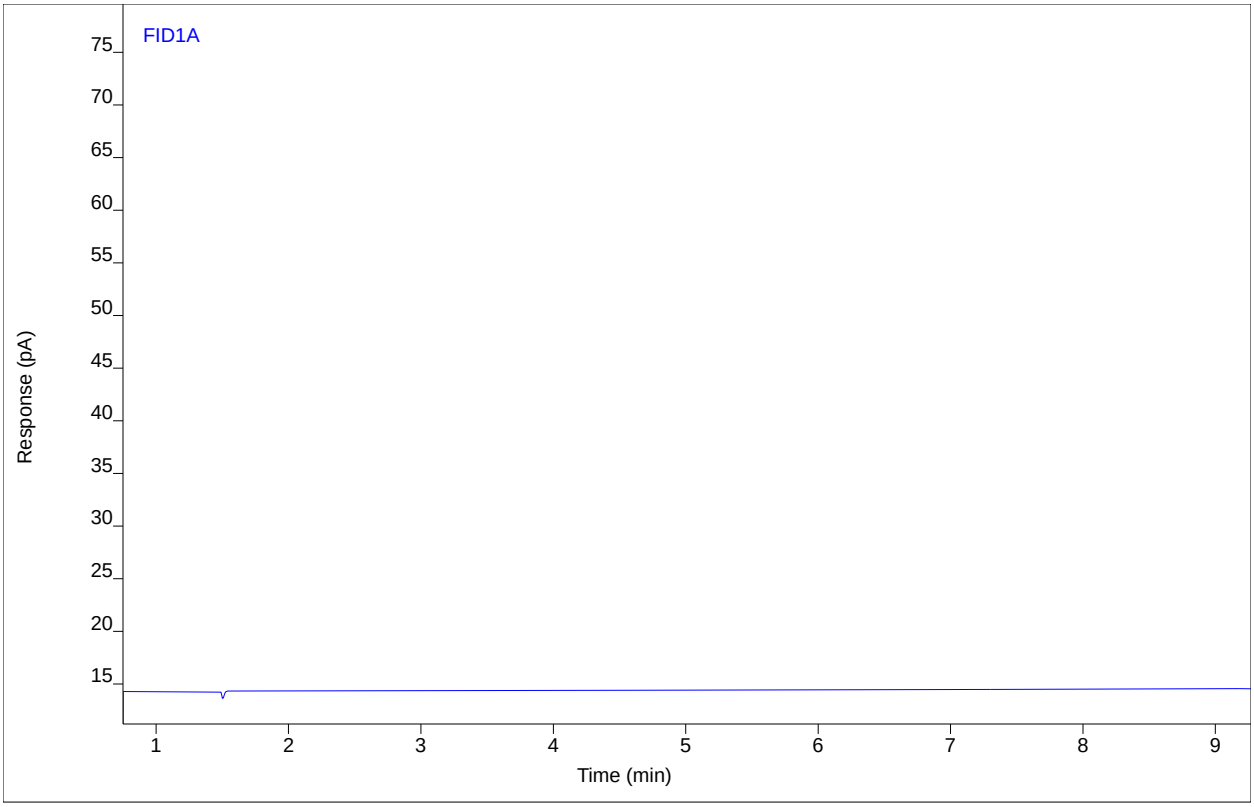
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	10.3528	7.61951	39.2713	1	39.2713	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Zero Air Blank #LB
Sequence Name	EDITHP757 ver.4
Data File	016F0601.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 3:59 AM
File Modified	10/18/2016 11:06 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Control
Vial Number	Vial 16
Injection Volume	250
Injection	1 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_LONG.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:43 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane		(1.53)				1		

Analyst Peak Integration Comments

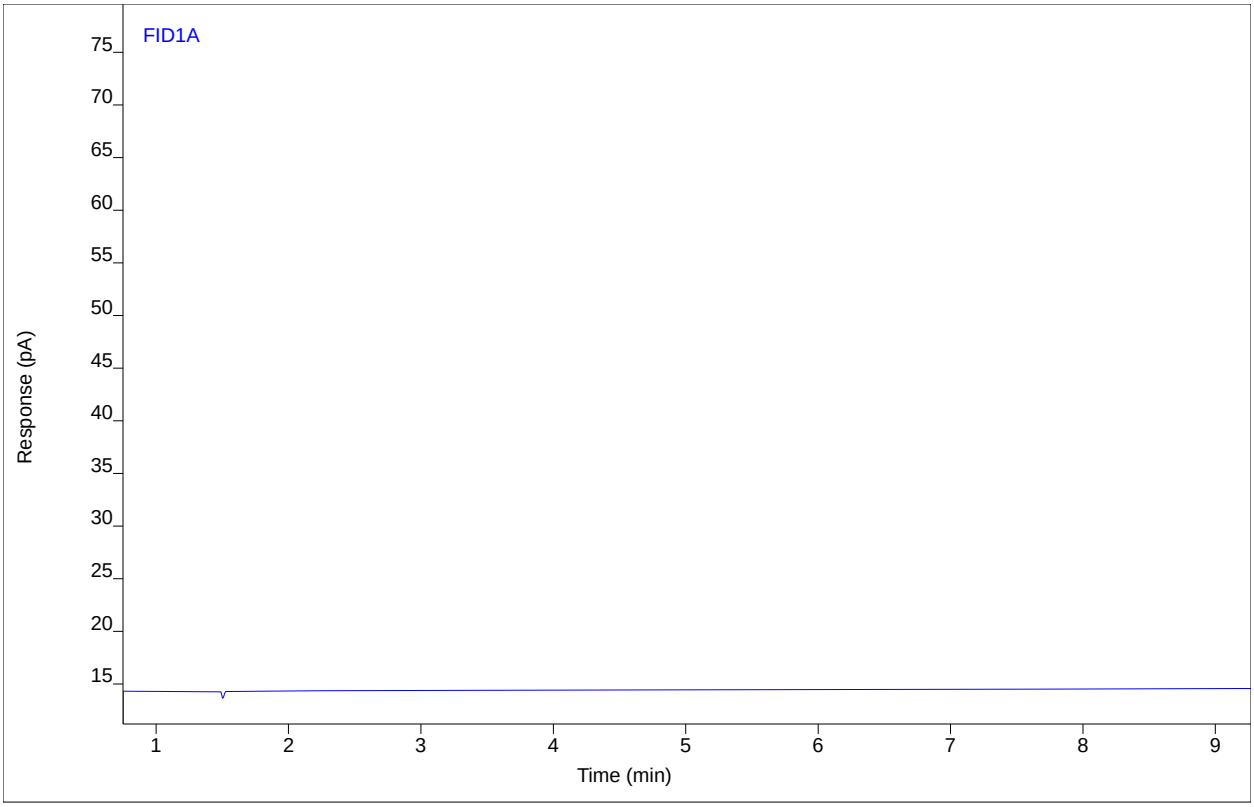
11:04:48 10/18/16 Trevor Lott II

Chromatogram Report

Enthalpy Analytical

Sample Name	Zero Air Blank #LB
Sequence Name	EDITHP757 ver.4
Data File	016F0602.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 4:17 AM
File Modified	10/18/2016 11:06 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Control
Vial Number	Vial 16
Injection Volume	250
Injection	2 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_LONG.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:43 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane		(1.53)				1		

Analyst Peak Integration Comments

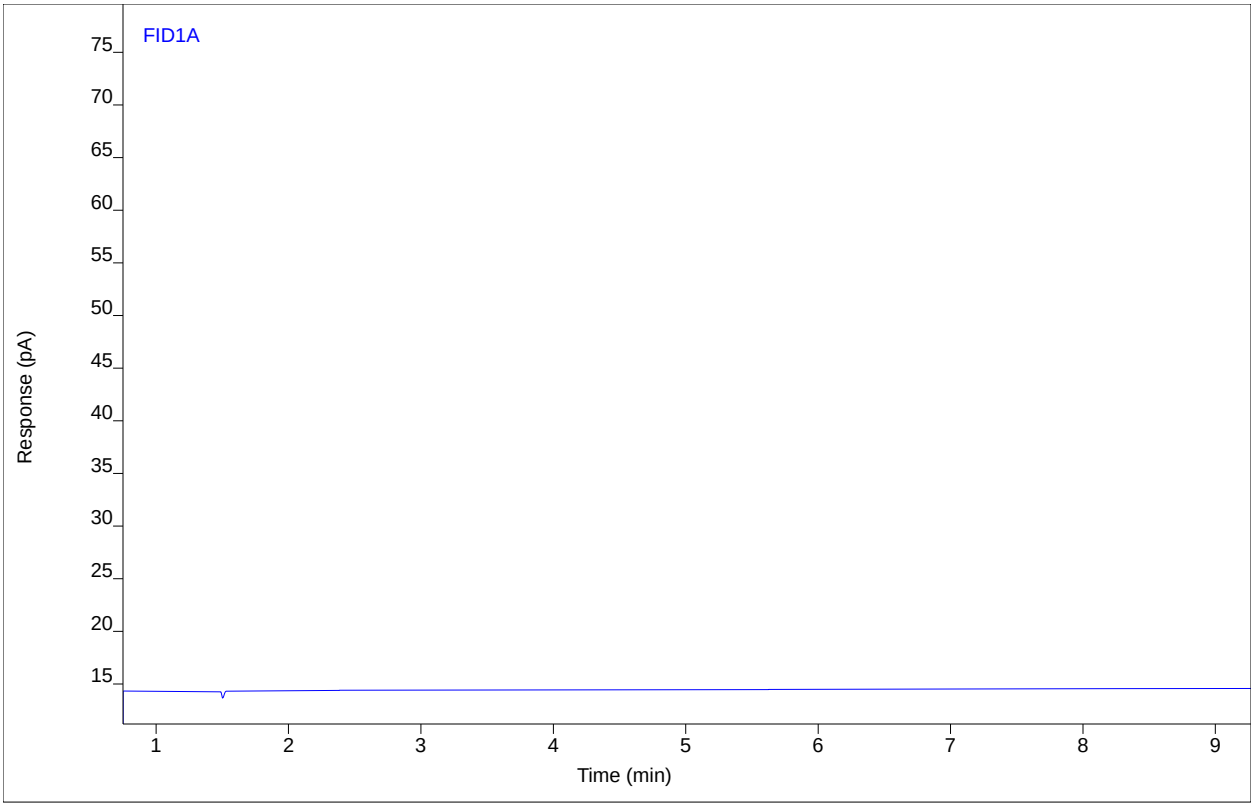
11:04:53 10/18/16 Trevor Lott II

Chromatogram Report

Enthalpy Analytical

Sample Name	Zero Air Blank #LB
Sequence Name	EDITHP757 ver.4
Data File	016F0603.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 4:35 AM
File Modified	10/18/2016 11:06 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Control
Vial Number	Vial 16
Injection Volume	250
Injection	3 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_LONG.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:43 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane		(1.53)				1		

Analyst Peak Integration Comments

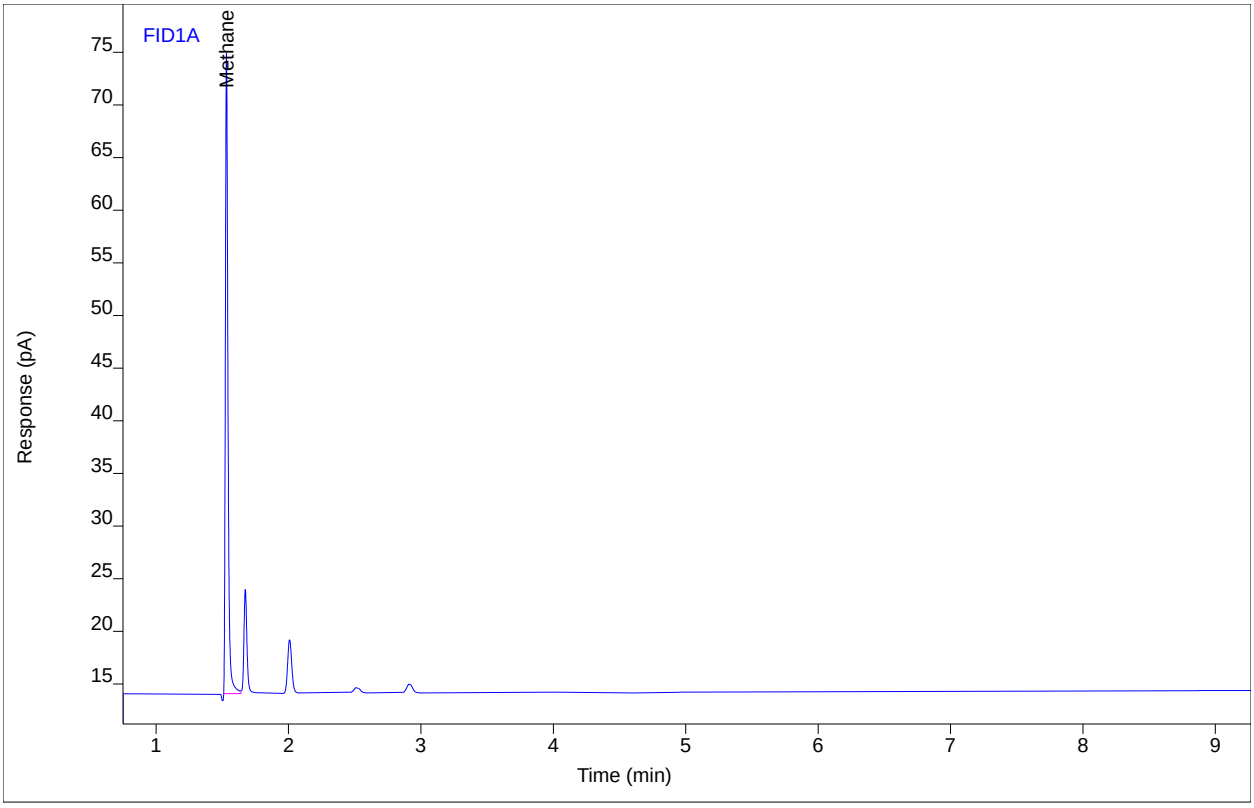
11:05:03 10/18/16 Trevor Lott II

Chromatogram Report

Enthalpy Analytical

Sample Name	0916-69.160921A0207A Can196.Can
Sequence Name	EDITHP759 ver.1
Data File	009F0101.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 2:57 PM
File Modified	10/13/2016 9:08 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Sample
Vial Number	Vial 9
Injection Volume	250
Injection	1 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_XLONG.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	83.0695	60.3567	312.619	1	312.619	ppm

Analyst Peak Integration Comments

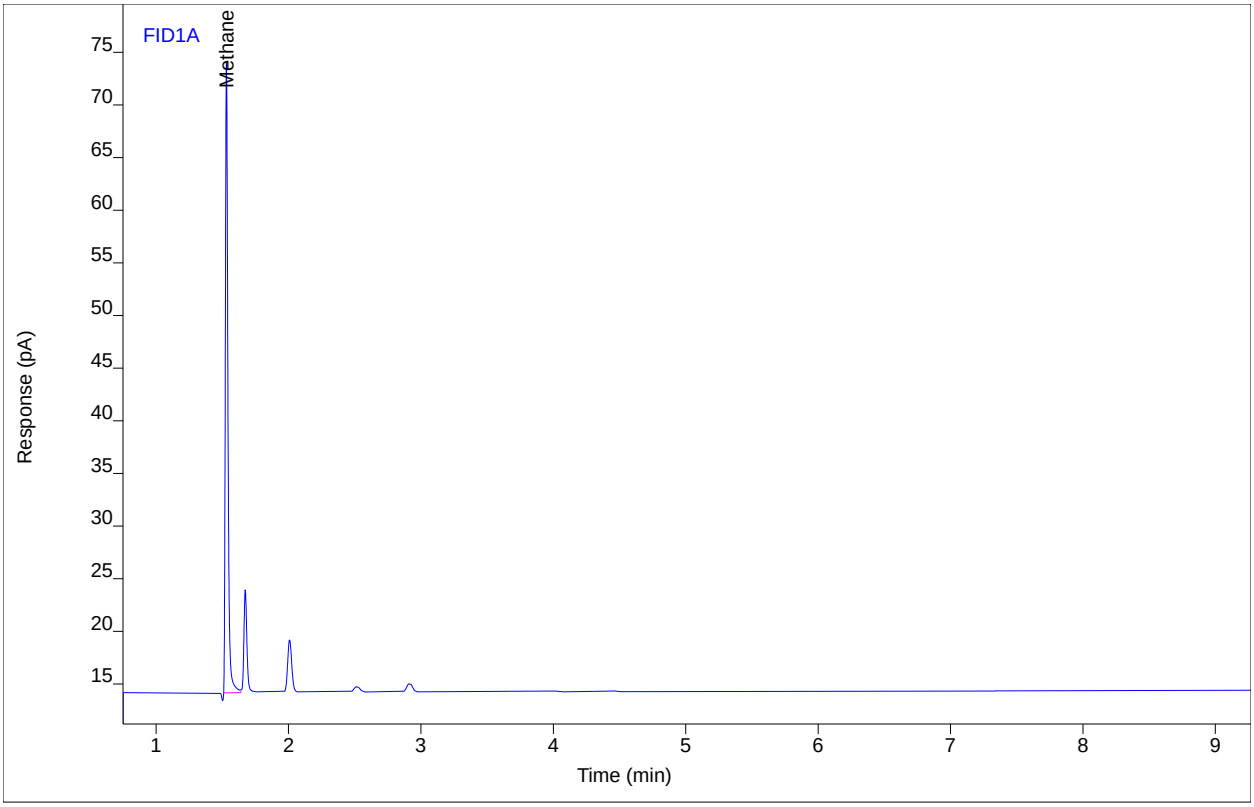
08:55:10 10/13/16 Nicholas Traversa II-FP

Chromatogram Report

Enthalpy Analytical

Sample Name	0916-69.160921A0207A Can196.Can
Sequence Name	EDITHP759 ver.1
Data File	009F0102.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 3:18 PM
File Modified	10/13/2016 9:08 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Sample
Vial Number	Vial 9
Injection Volume	250
Injection	2 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_XLONG.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	81.4977	59.4698	306.711	1	306.711	ppm

Analyst Peak Integration Comments

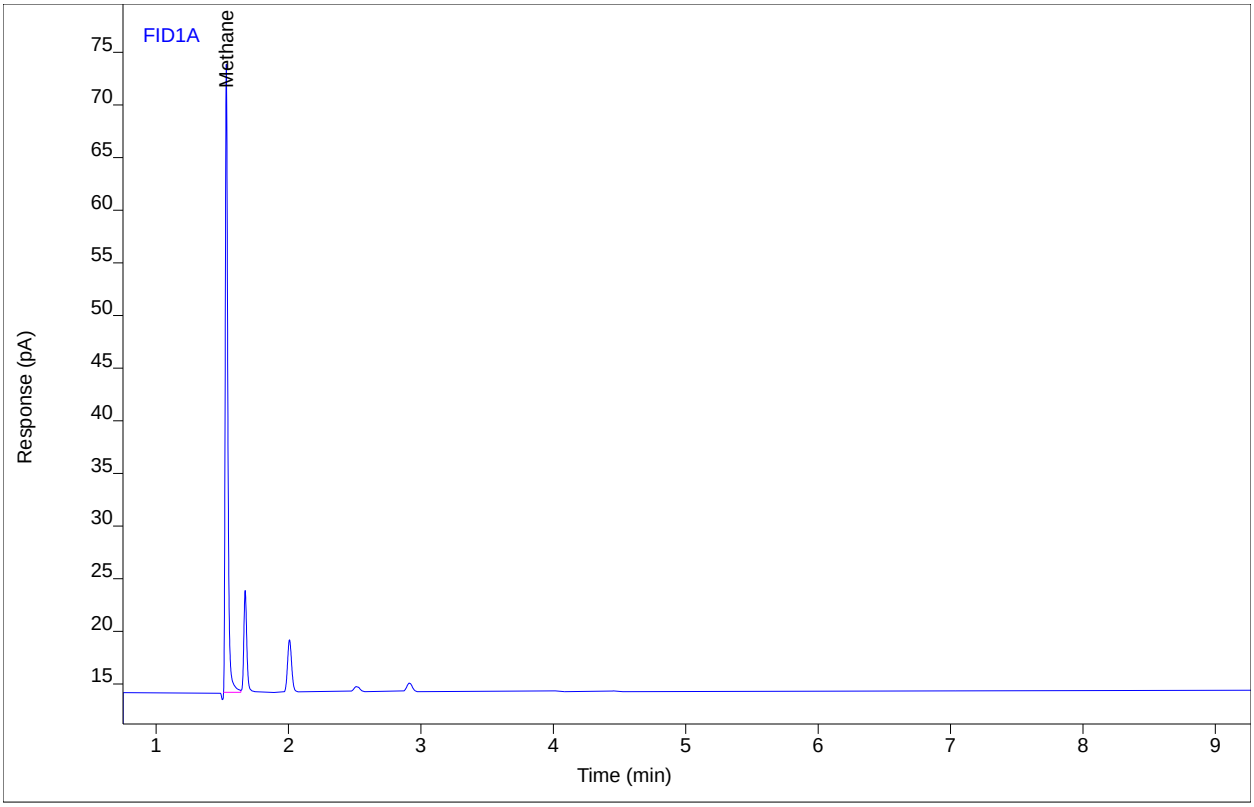
08:55:16 10/13/16 Nicholas Traversa II-FP

Chromatogram Report

Enthalpy Analytical

Sample Name	0916-69.160921A0207A Can196.Can
Sequence Name	EDITHP759 ver.1
Data File	009F0103.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 3:40 PM
File Modified	10/13/2016 9:08 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Sample
Vial Number	Vial 9
Injection Volume	250
Injection	3 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_XLONG.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	80.6906	58.9288	303.677	1	303.677	ppm

Analyst Peak Integration Comments

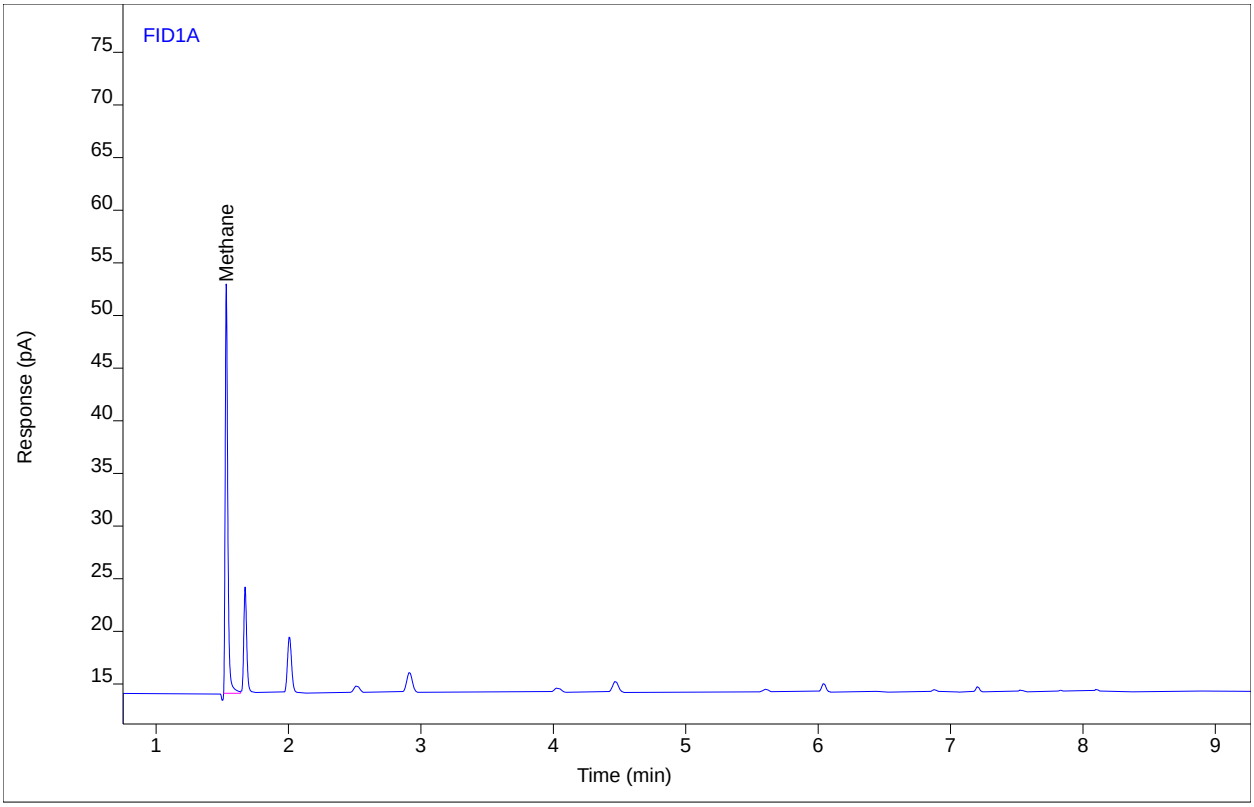
08:55:21 10/13/16 Nicholas Traversa II-FP

Chromatogram Report

Enthalpy Analytical

Sample Name	0916-69.160921A01A Can173.Can
Sequence Name	EDITHP759 ver.1
Data File	011F0301.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 5:10 PM
File Modified	10/13/2016 9:08 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Sample
Vial Number	Vial 11
Injection Volume	250
Injection	1 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_XLONG.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	52.5402	38.6867	197.857	1	197.857	ppm

Analyst Peak Integration Comments

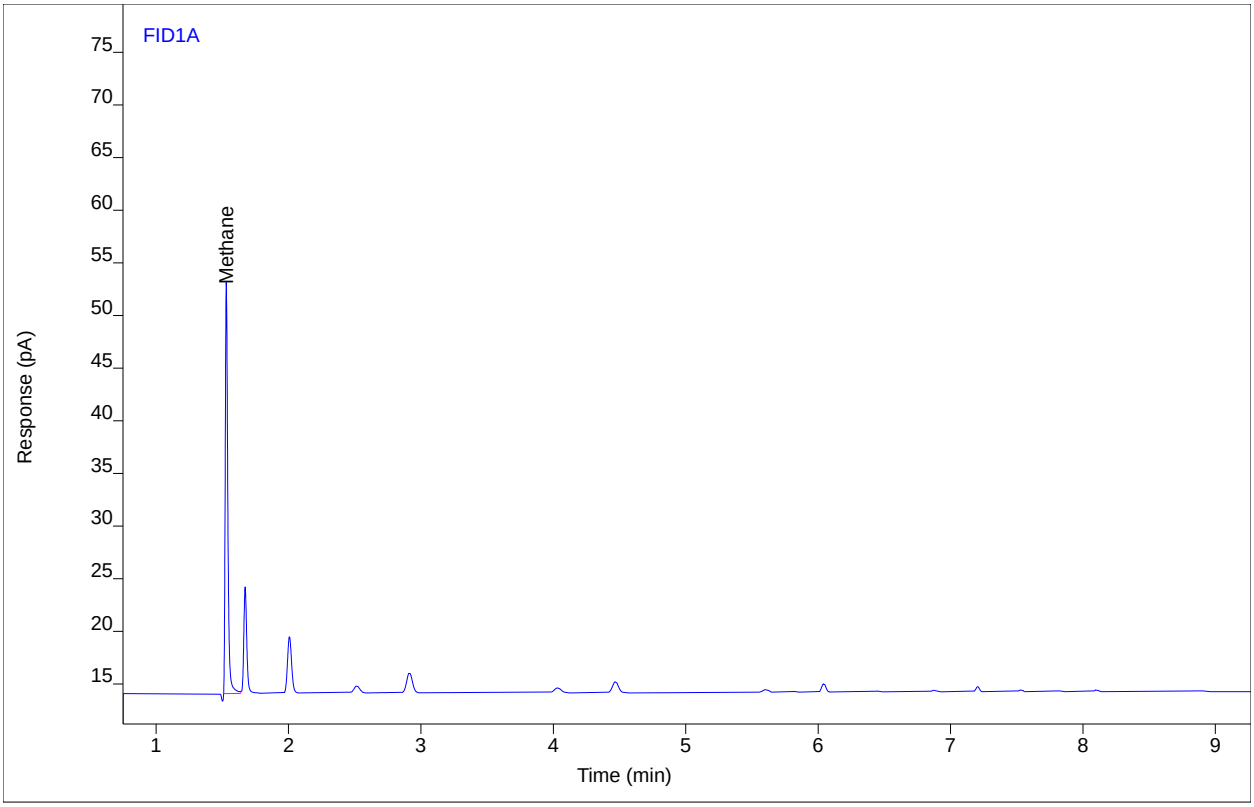
08:55:54 10/13/16 Nicholas Traversa II-FP

Chromatogram Report

Enthalpy Analytical

Sample Name	0916-69.160921A01A Can173.Can
Sequence Name	EDITHP759 ver.1
Data File	011F0302.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 5:32 PM
File Modified	10/13/2016 9:08 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Sample
Vial Number	Vial 11
Injection Volume	250
Injection	2 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_XLONG.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	52.8601	38.5248	199.060	1	199.060	ppm

Analyst Peak Integration Comments

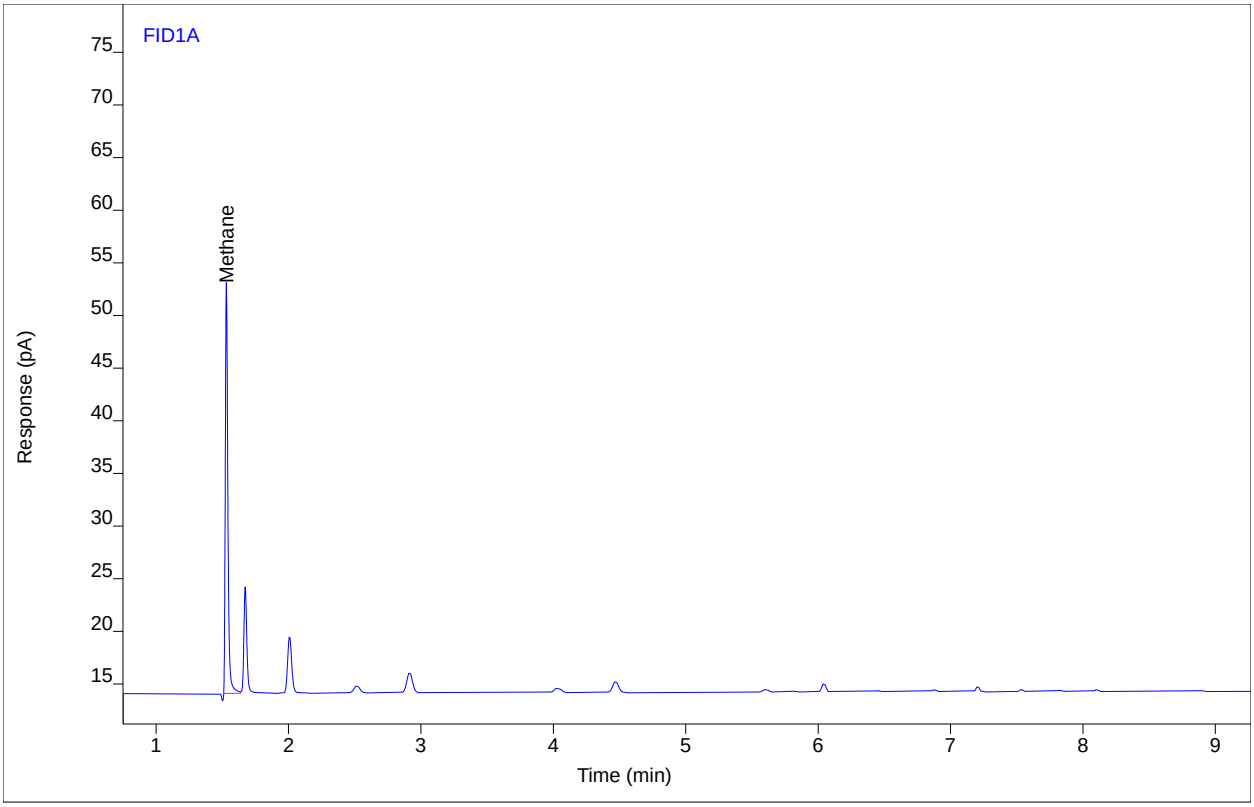
08:56:01 10/13/16 Nicholas Traversa II-FP

Chromatogram Report

Enthalpy Analytical

Sample Name	0916-69.160921A01A Can173.Can
Sequence Name	EDITHP759 ver.1
Data File	011F0303.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 5:53 PM
File Modified	10/13/2016 9:08 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Sample
Vial Number	Vial 11
Injection Volume	250
Injection	3 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_XLONG.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	52.8488	38.6096	199.017	1	199.017	ppm

Analyst Peak Integration Comments

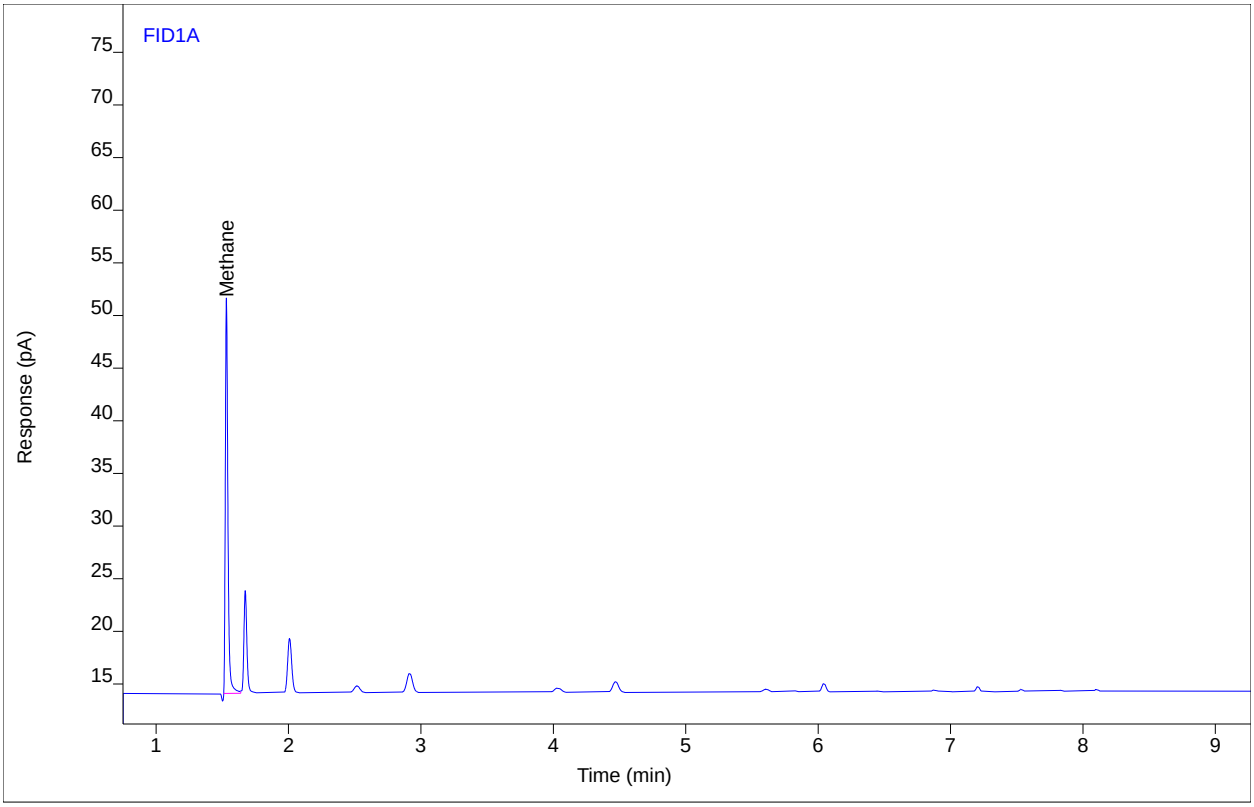
08:56:07 10/13/16 Nicholas Traversa II-FP

Chromatogram Report

Enthalpy Analytical

Sample Name	0916-69.160921A01B Can942.Can
Sequence Name	EDITHP759 ver.1
Data File	012F0401.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 6:14 PM
File Modified	10/13/2016 9:08 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Sample
Vial Number	Vial 12
Injection Volume	250
Injection	1 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_XLONG.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	50.9647	37.2288	191.935	1	191.935	ppm

Analyst Peak Integration Comments

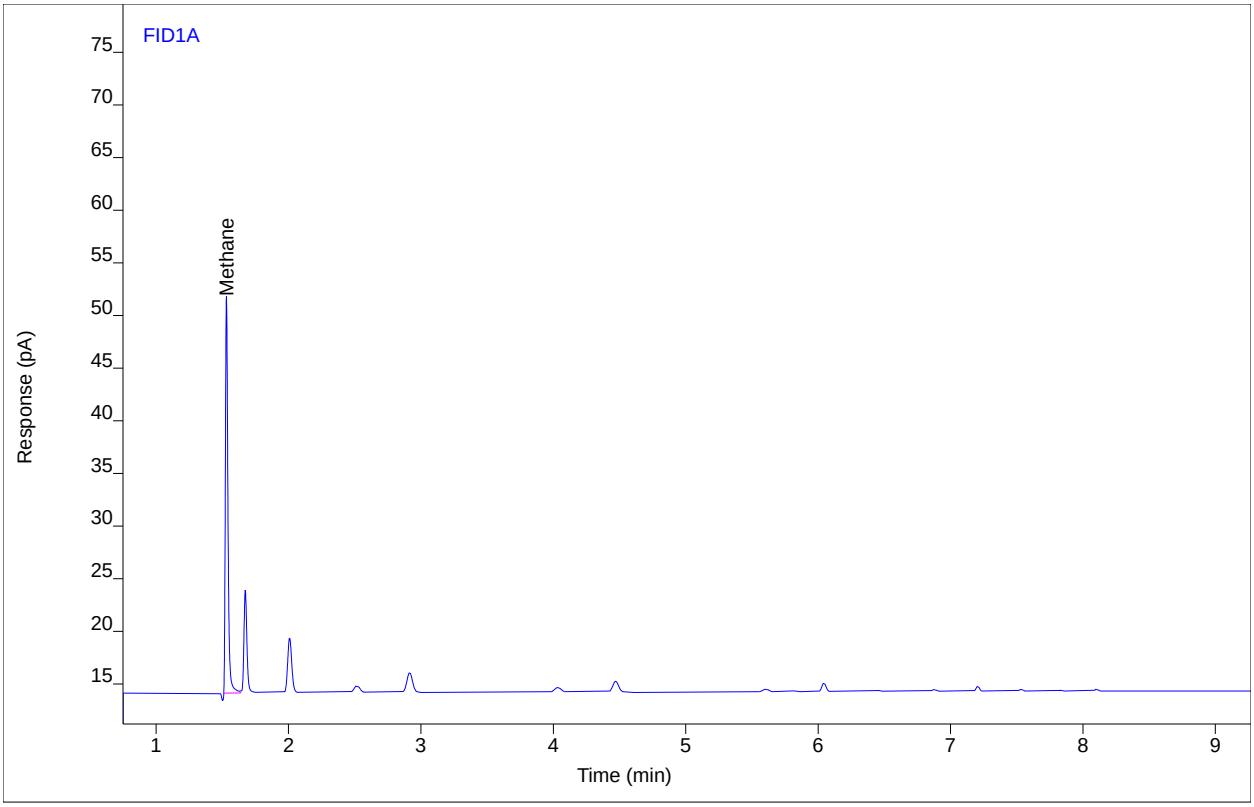
08:56:13 10/13/16 Nicholas Traversa II-FP

Chromatogram Report

Enthalpy Analytical

Sample Name	0916-69.160921A01B Can942.Can
Sequence Name	EDITHP759 ver.1
Data File	012F0402.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 6:35 PM
File Modified	10/13/2016 9:08 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Sample
Vial Number	Vial 12
Injection Volume	250
Injection	2 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_XLONG.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	51.1159	37.3857	192.503	1	192.503	ppm

Analyst Peak Integration Comments

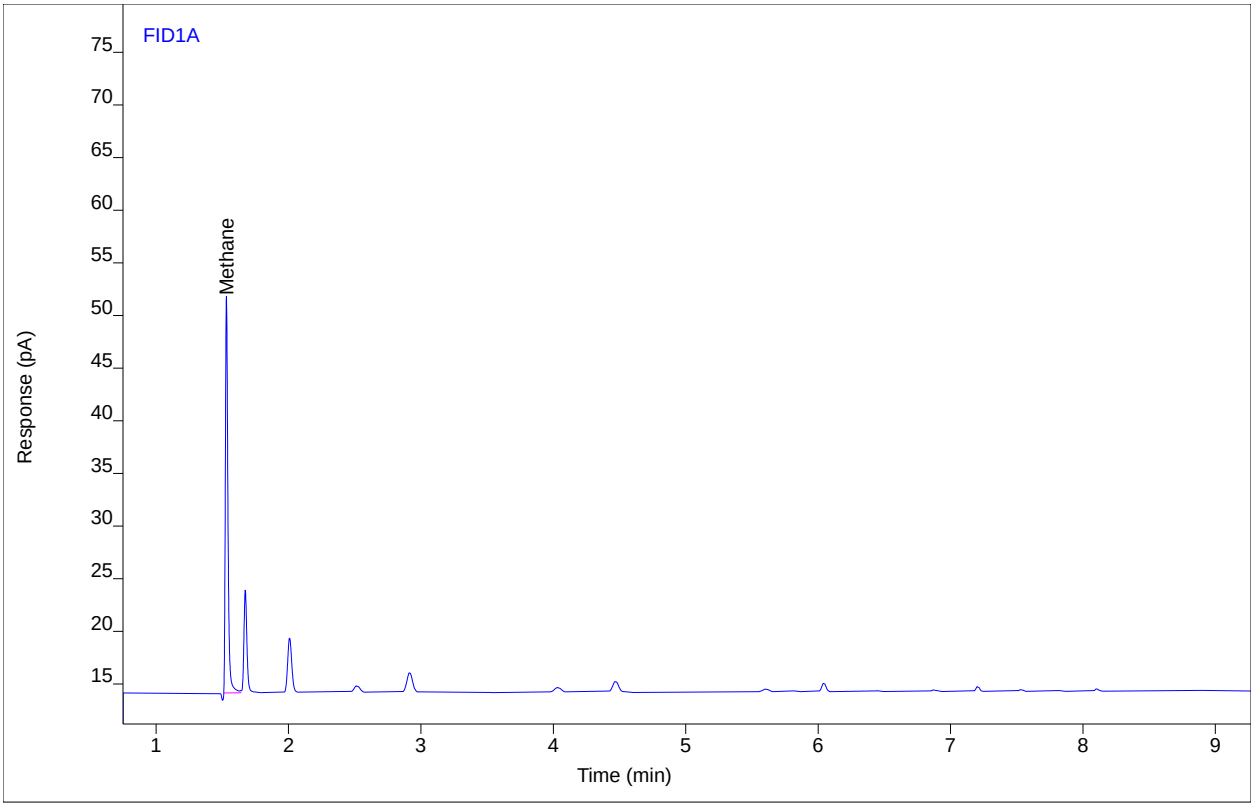
08:56:19 10/13/16 Nicholas Traversa II-FP

Chromatogram Report

Enthalpy Analytical

Sample Name	0916-69.160921A01B Can942.Can
Sequence Name	EDITHP759 ver.1
Data File	012F0403.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/12/2016 6:57 PM
File Modified	10/13/2016 9:08 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Sample
Vial Number	Vial 12
Injection Volume	250
Injection	3 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_XLONG.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	51.1178	37.3913	192.510	1	192.510	ppm

Analyst Peak Integration Comments

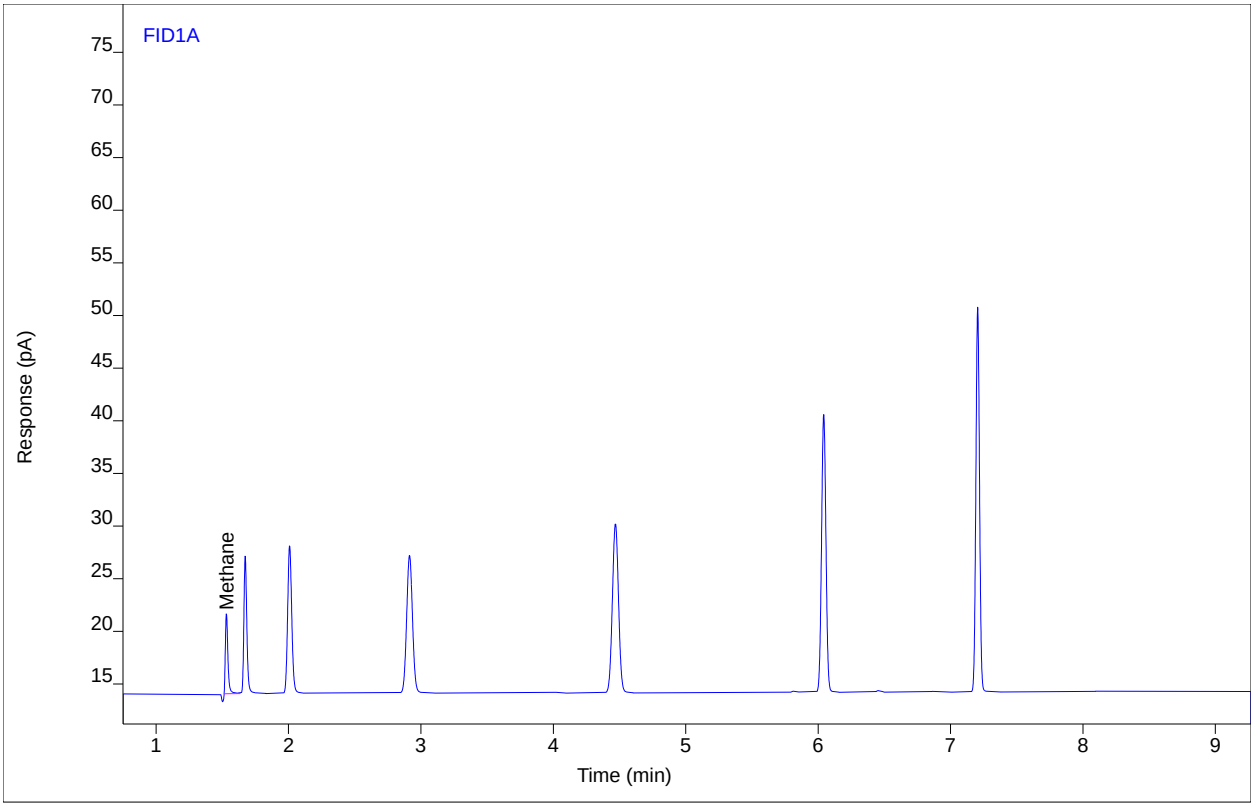
08:56:29 10/13/16 Nicholas Traversa II-FP

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp623 #C3 ENV(1=600,2=400)
Sequence Name	EDITHP759 ver.1
Data File	002F0702.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/13/2016 3:45 AM
File Modified	10/13/2016 9:09 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	2 of 4
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



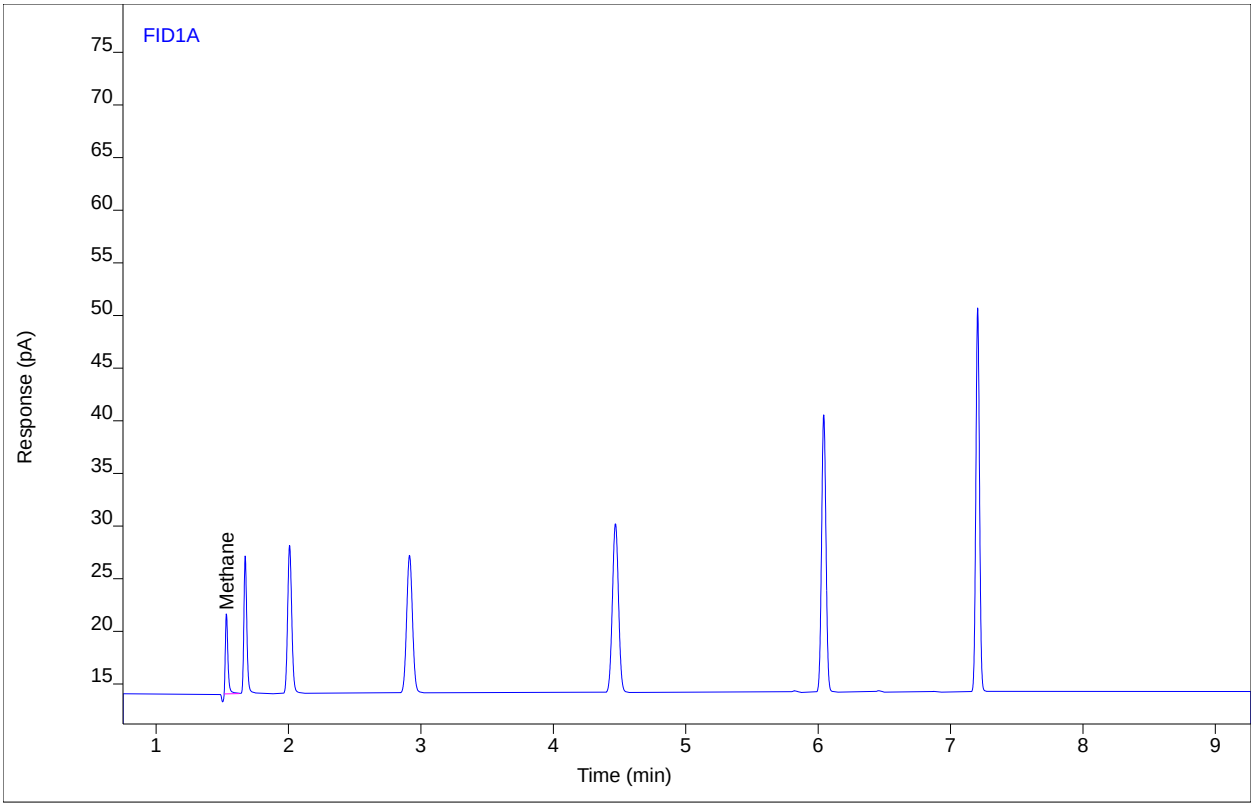
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	10.3265	7.59369	39.1722	1	39.1722	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp623 #C3 ENV(1=600,2=400)
Sequence Name	EDITHP759 ver.1
Data File	002F0703.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/13/2016 4:00 AM
File Modified	10/13/2016 9:09 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	3 of 4
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



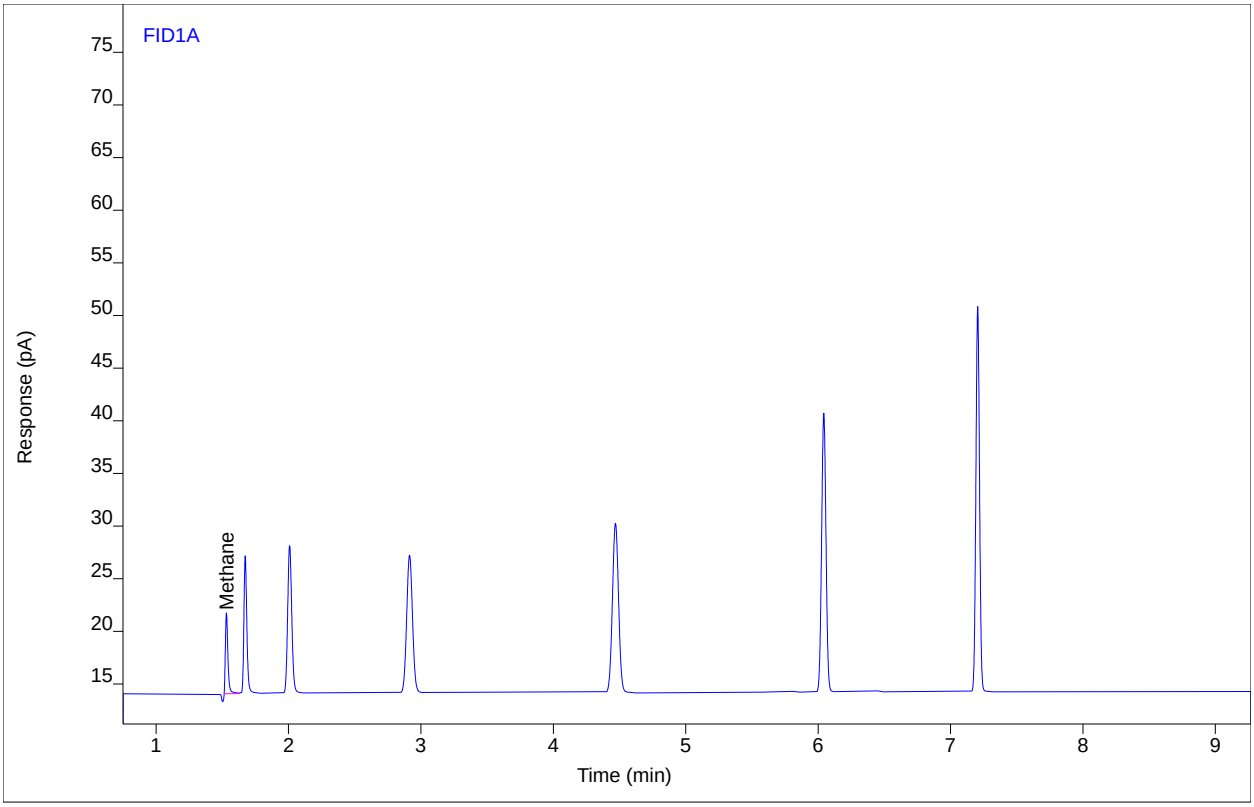
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	10.2815	7.58155	39.0031	1	39.0031	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp623 #C3 ENV(1=600,2=400)
Sequence Name	EDITHP759 ver.1
Data File	002F0704.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/13/2016 4:15 AM
File Modified	10/13/2016 9:09 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	4 of 4
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



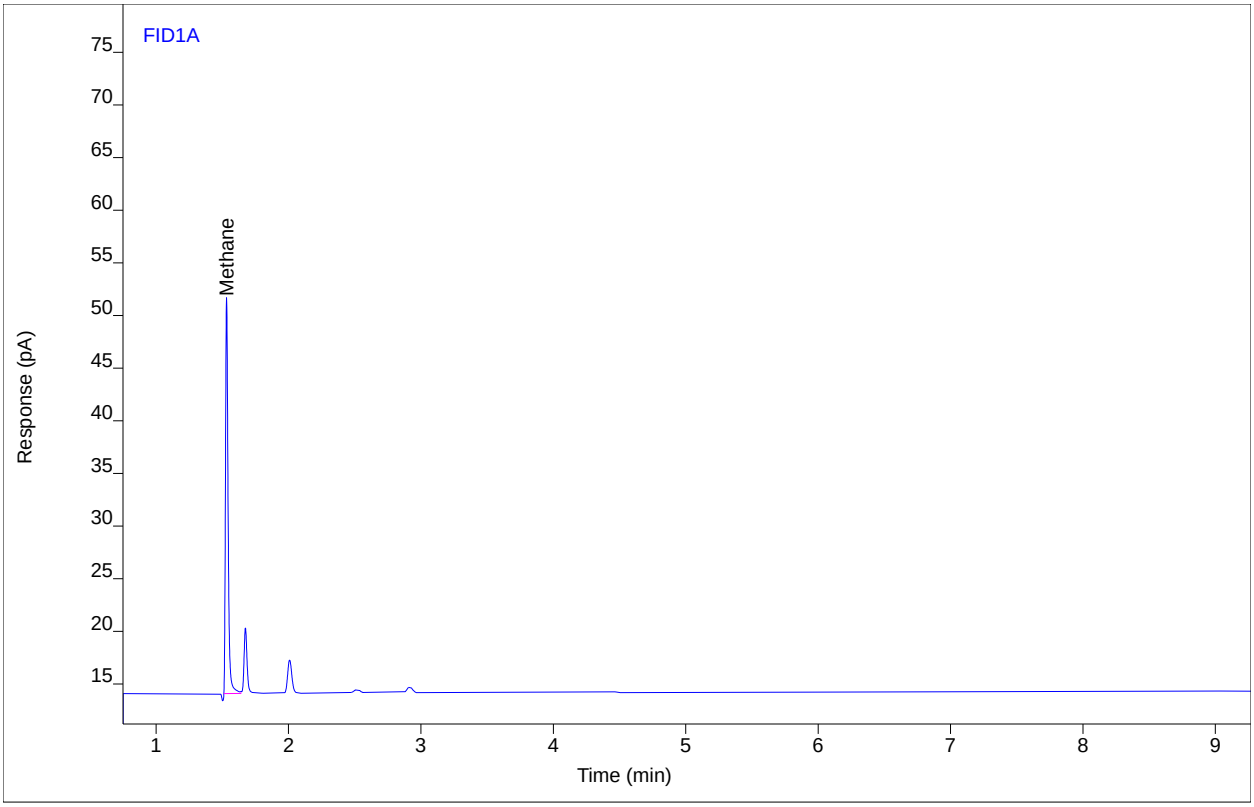
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	10.3733	7.61727	39.3481	1	39.3481	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	0916-69.160921A0207B Can931.Can
Sequence Name	EDITHP760 ver.1
Data File	011F0201.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/13/2016 9:24 AM
File Modified	10/18/2016 10:00 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Sample
Vial Number	Vial 11
Injection Volume	250
Injection	1 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_XLONG.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	51.5441	37.4068	194.113	1	194.113	ppm

Analyst Peak Integration Comments

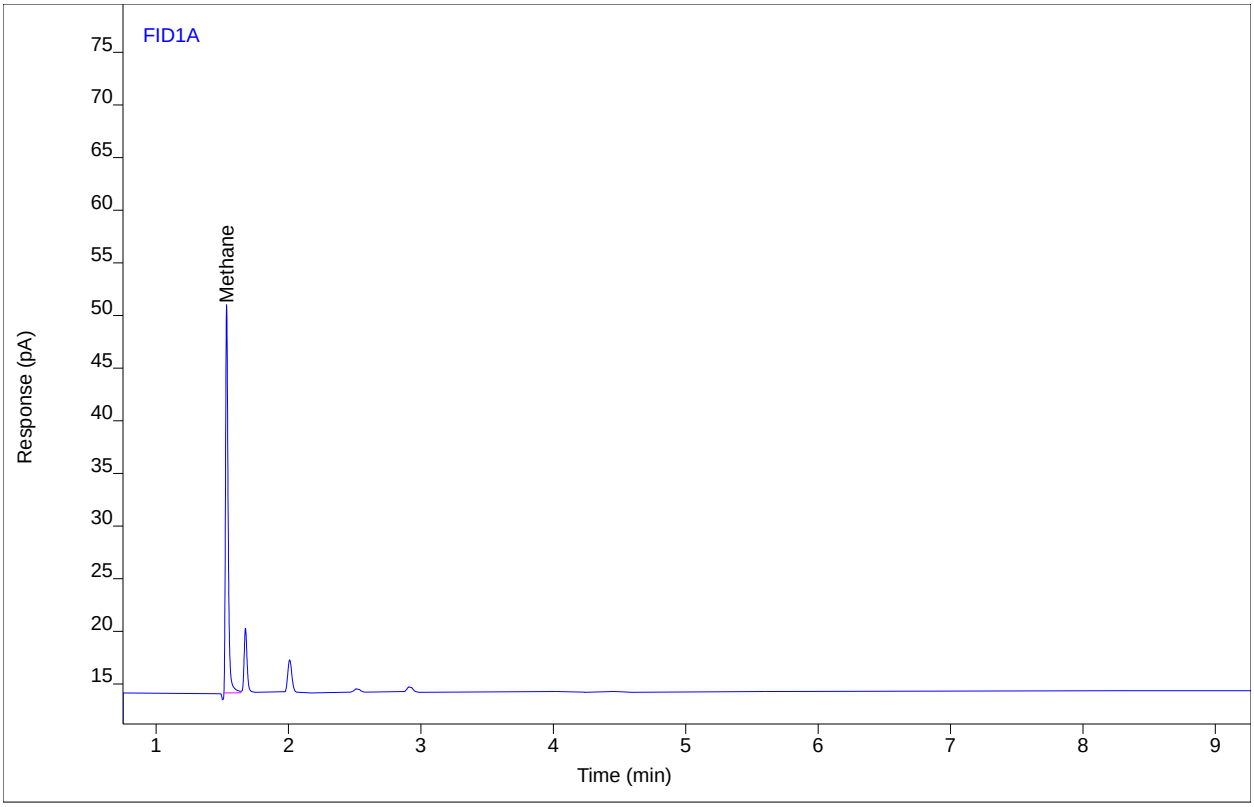
10:48:14 10/13/16 Nicholas Traversa 0916-69.160921A0207B Can931.Can
10:49:26 10/13/16 Nicholas Traversa II-FP
10:49:30 10/13/16 Nicholas Traversa II-FP

Chromatogram Report

Enthalpy Analytical

Sample Name	0916-69.160921A0207B Can931.Can
Sequence Name	EDITHP760 ver.1
Data File	011F0202.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/13/2016 9:45 AM
File Modified	10/18/2016 10:00 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Sample
Vial Number	Vial 11
Injection Volume	250
Injection	2 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_XLONG.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	50.4453	36.6904	189.982	1	189.982	ppm

Analyst Peak Integration Comments

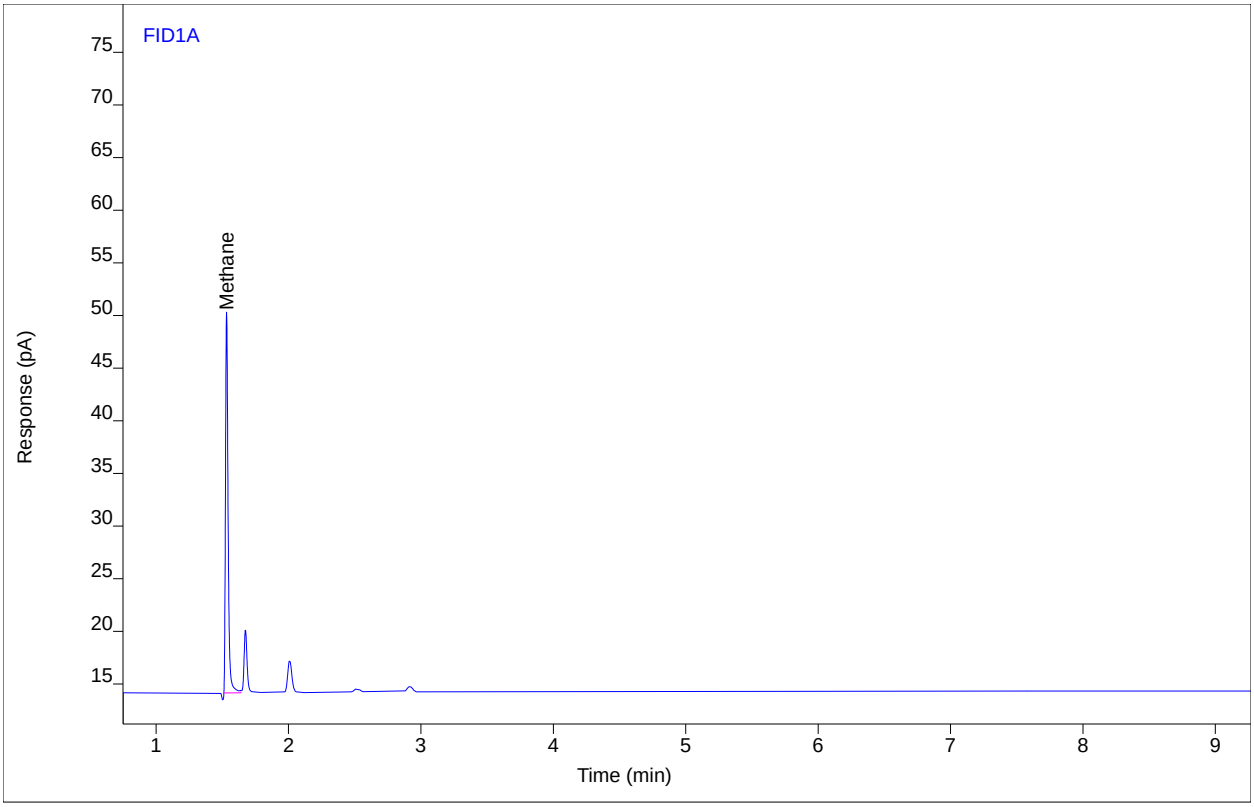
10:48:24 10/13/16 Nicholas Traversa II-BL

Chromatogram Report

Enthalpy Analytical

Sample Name	0916-69.160921A0207B Can931.Can
Sequence Name	EDITHP760 ver.1
Data File	011F0203.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/13/2016 10:06 AM
File Modified	10/18/2016 10:00 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Sample
Vial Number	Vial 11
Injection Volume	250
Injection	3 of 3
Acquisition Method	AQ_EDITHP274_HRVOC_XLONG.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	49.4464	35.9821	186.227	1	186.227	ppm

Analyst Peak Integration Comments

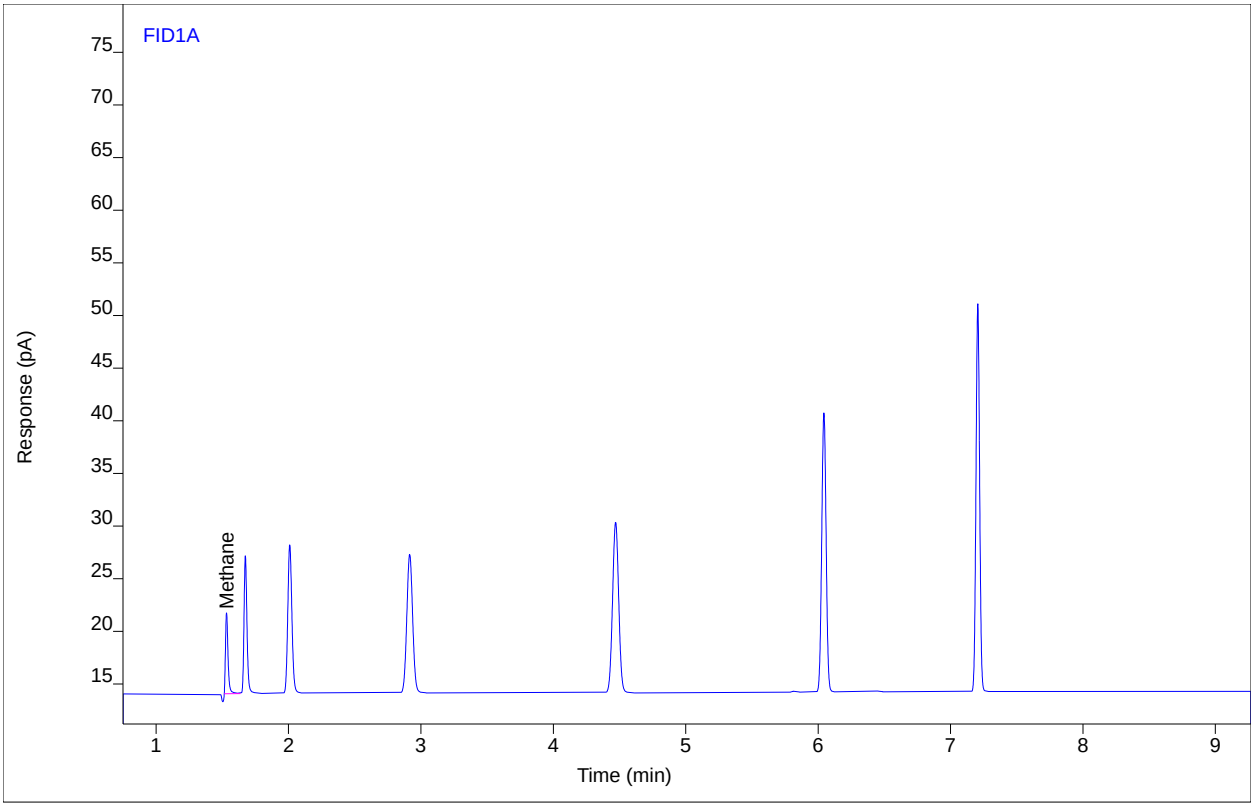
10:48:37 10/13/16 Nicholas Traversa II-FP

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp623 #C3 ENV(1=600,2=400)
Sequence Name	EDITHP760 ver.1
Data File	002F0402.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/13/2016 11:07 AM
File Modified	10/18/2016 10:00 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	2 of 4
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



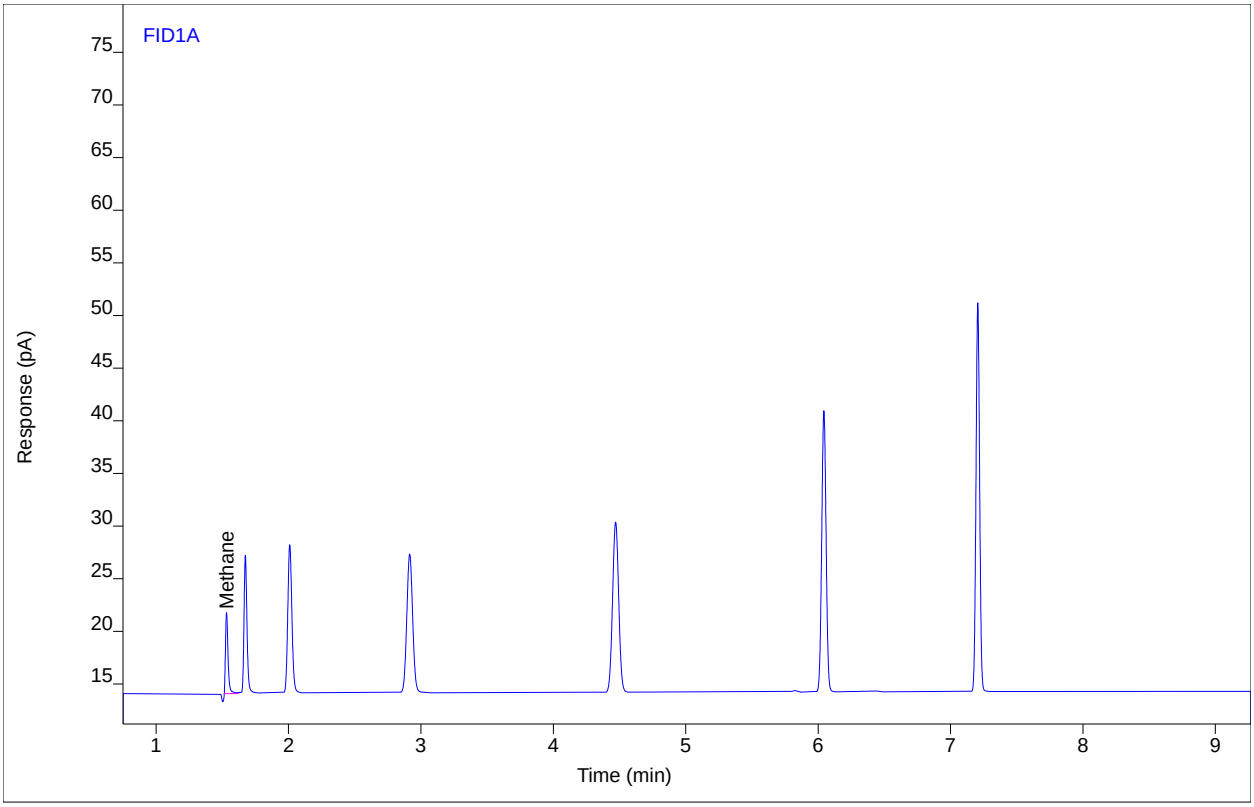
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	10.3723	7.65809	39.3443	1	39.3443	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp623 #C3 ENV(1=600,2=400)
Sequence Name	EDITHP760 ver.1
Data File	002F0403.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/13/2016 11:22 AM
File Modified	10/18/2016 10:00 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	3 of 4
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



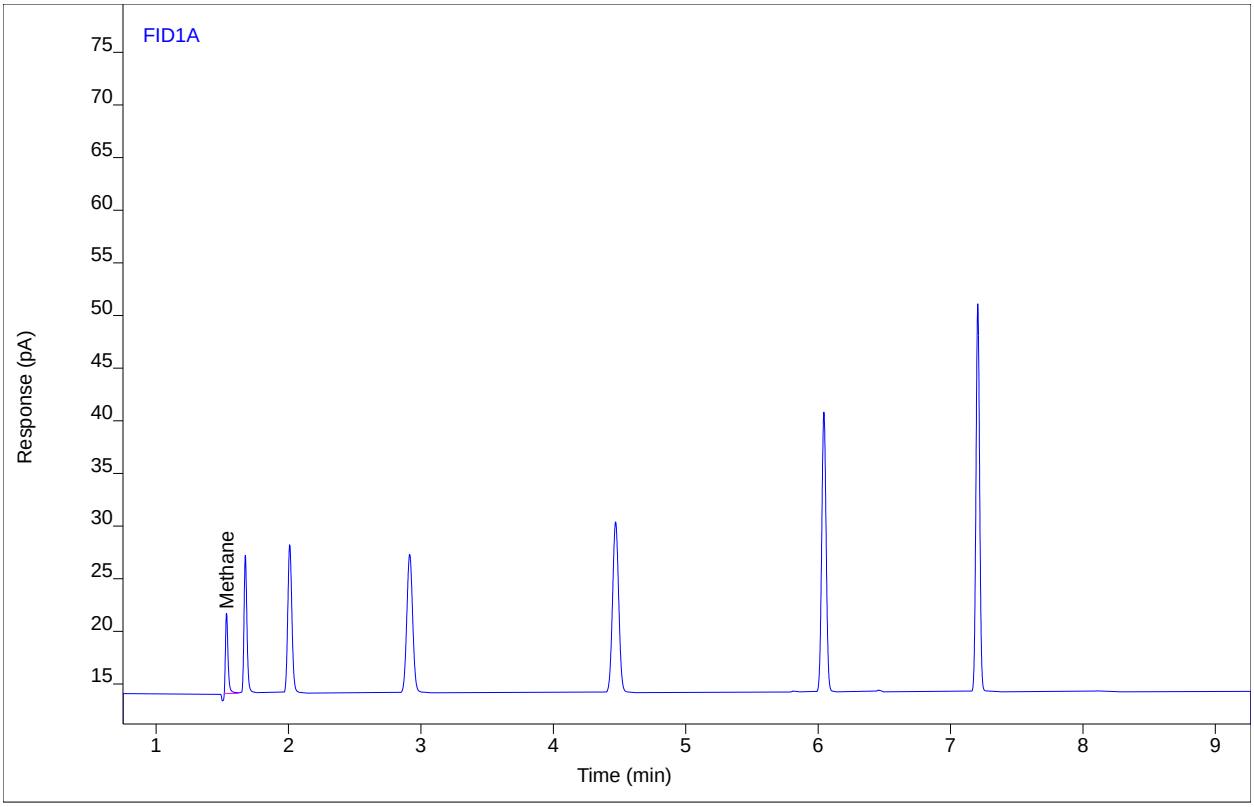
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	10.3787	7.66545	39.3684	1	39.3684	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp623 #C3 ENV(1=600,2=400)
Sequence Name	EDITHP760 ver.1
Data File	002F0404.D
File Location	GC/2016/Edith/Quarter 4
Injection Date	10/13/2016 11:36 AM
File Modified	10/18/2016 10:00 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	4 of 4
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7_JKG.M
Method Modified	9/27/2016 8:42 AM
Printed	10/18/2016 11:26 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	10.3283	7.64519	39.1789	1	39.1789	ppm

Calibration Table

Calib. Data Modified : 9/27/2016 9:41:00 AM

Rel. Reference Window : 0.000 %
Abs. Reference Window : 0.100 min
Rel. Non-ref. Window : 0.000 %
Abs. Non-ref. Window : 0.050 min
Uncalibrated Peaks : Separately calculated (see below)
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Connected
Weight : Quadratic (Amnt)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: FID1 A, Front Signal
Uncalibrated Peaks : using compound Propane
Signal 2: FID3 B, Back Signal
Uncalibrated Peaks : not reported

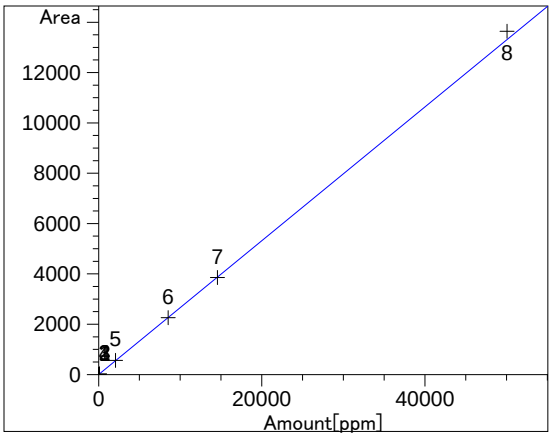
RetTime [min]	Sig	Lvl	Amount [ppm]	Area	Amt/Area	Ref	Grp	Name
1.527	1	1	5.00000	1.24523	4.01531			Methane
		2	20.00000	5.11775	3.90797			
		3	40.00000	10.40647	3.84376			
		4	100.00000	26.34627	3.79560			
		5	2073.00000	561.22530	3.69370			
		6	8524.00000	2257.69914	3.77553			
		7	1.45670e4	3854.73161	3.77899			
		8	5.00600e4	1.36410e4	3.66982			
1.665	1	1	5.00000	2.59503	1.92676			Ethane
		2	20.00000	10.20115	1.96056			
		3	40.00000	20.47167	1.95392			
		4	100.00000	51.69932	1.93426			
		5	2072.00000	1082.67851	1.91377			
		6	8519.00000	4353.15251	1.95697			
		7	1.45580e4	7432.60400	1.95867			
		8	5.00300e4	2.62806e4	1.90369			
1.994	1	1	5.00000	3.92909	1.27256			Propane
		2	20.00000	15.24554	1.31186			
		3	40.00000	30.75794	1.30048			
		4	100.00000	77.68890	1.28719			
		5	2072.00000	1621.69543	1.27768			
		6	8519.00000	6521.97721	1.30620			
		7	1.45580e4	1.11378e4	1.30708			
		8	5.00300e4	3.93981e4	1.26986			
2.907	1	1	5.00000	5.26084	9.50418e-1			Butane

RetTime [min]	Sig	Lvl	Amount [ppm]	Area	Amt/Area	Ref Grp	Name
		2	20.00000	20.20296	9.89954e-1		
		3	40.00000	40.62684	9.84571e-1		
		4	100.00000	102.72145	9.73506e-1		
		5	414.00000	430.28957	9.62143e-1		
		6	1703.00000	1733.93445	9.82159e-1		
		7	2910.00000	2964.44173	9.81635e-1		
		8	1.00000e4	1.05115e4	9.51336e-1		
4.465	1	1	5.15000	6.87926	7.48627e-1		Pentane
		2	20.60000	26.13299	7.88276e-1		
		3	41.20000	52.58876	7.83437e-1		
		4	103.00000	132.20841	7.79073e-1		
		5	207.20000	267.50307	7.74571e-1		
		6	852.00000	1082.24023	7.87256e-1		
		7	1456.00000	1853.30054	7.85625e-1		
		8	5003.00000	6573.36165	7.61102e-1		
6.040	1	1	5.05000	7.95434	6.34874e-1		Hexane
		2	20.20000	30.50312	6.62227e-1		
		3	40.40000	61.57380	6.56123e-1		
		4	101.00000	155.21520	6.50709e-1		
		5	165.90000	253.98077	6.53199e-1		
		6	682.00000	1032.59574	6.60471e-1		
		7	1166.00000	1767.63330	6.59639e-1		
		8	4006.00000	6277.03906	6.38199e-1		
7.204	1	1	5.00000	9.08186	5.50548e-1		Heptane
		2	20.00000	34.88089	5.73380e-1		
		3	40.00000	70.44879	5.67788e-1		
		4	100.00000	177.67182	5.62835e-1		
		8	251.00000	459.73308	5.45969e-1		

Peak Sum Table

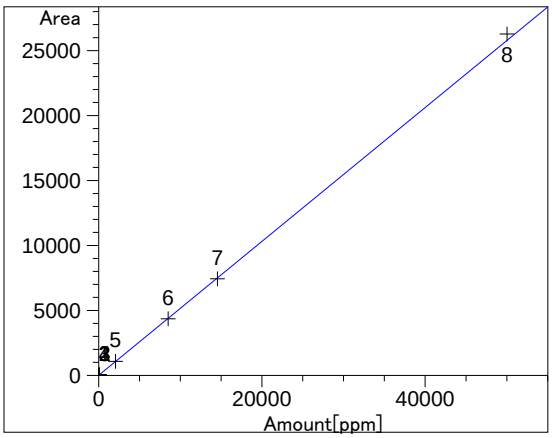
Name	StartTime [min]	EndTime [min]	Use Reference	Response factor	Multiplier	ISTD Peak
as Ethane	1.550	1.855	None	1.9388	1.9388	None
as Propane	1.855	2.479	None	1.2916	1.2916	None
as Butane	2.479	3.714	None	9.7197e-1	0.9720	None
as Pentane	3.714	5.209	None	7.7600e-1	0.7760	None
as Hexane	5.209	6.650	None	6.5193e-1	0.6519	None
as Heptane	6.650	16.300	None	5.6011e-1	0.5601	None

Calibration Curves

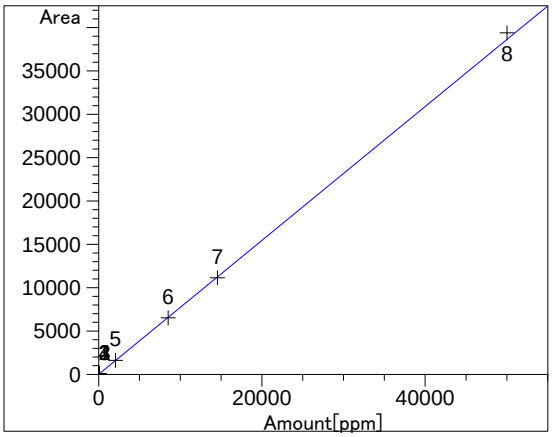


Methane at exp. RT: 1.527
FID1 A, Front Signal
Correlation: 0.99987
Residual Std. Dev.: 132.66368
Formula: y = mx + b
m: 2.66022e-1
b: -9.42011e-2
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.0625
Level 3 : 0.015625
Level 4 : 0.0025
Level 5 : 5.81757e-006
Level 6 : 3.44075e-007
Level 7 : 1.17815e-007

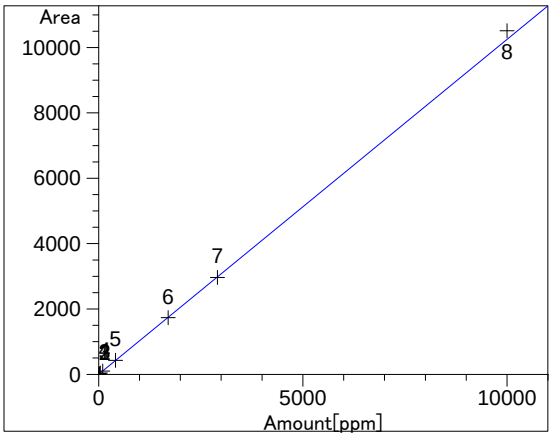
Level 8 : 9.97604e-009



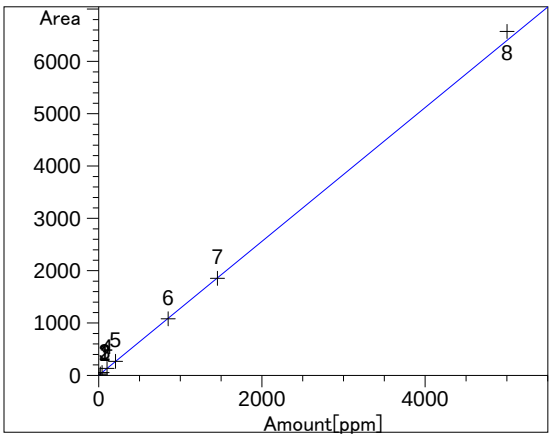
Ethane at exp. RT: 1.665
FID1 A, Front Signal
Correlation: 0.99992
Residual Std. Dev.: 200.20277
Formula: y = mx + b
m: 5.15644e-1
b: 7.24180e-3
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.0625
Level 3 : 0.015625
Level 4 : 0.0025
Level 5 : 5.82318e-006
Level 6 : 3.44479e-007
Level 7 : 1.1796e-007
Level 8 : 9.98801e-009



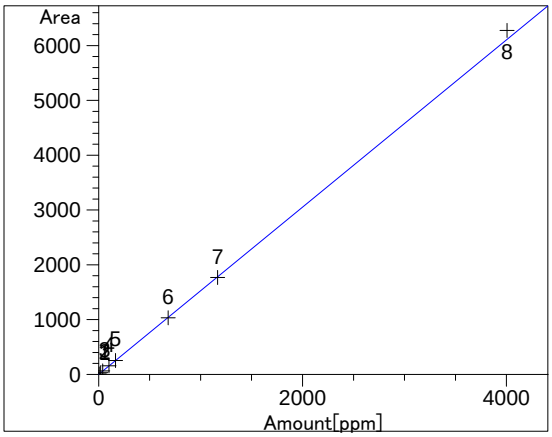
Propane at exp. RT: 1.994
FID1 A, Front Signal
Correlation: 0.99991
Residual Std. Dev.: 307.93752
Formula: y = mx + b
m: 7.72628e-1
b: 4.79983e-2
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.0625
Level 3 : 0.015625
Level 4 : 0.0025
Level 5 : 5.82318e-006
Level 6 : 3.44479e-007
Level 7 : 1.1796e-007
Level 8 : 9.98801e-009



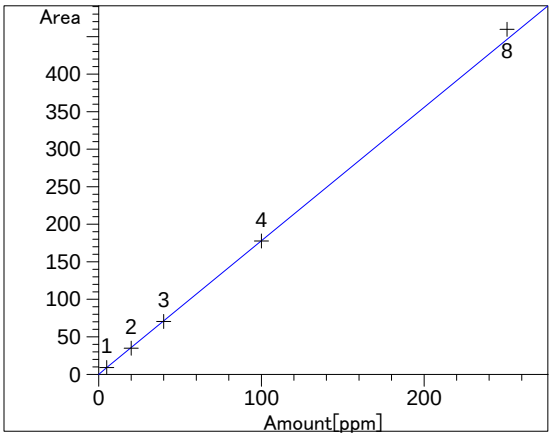
Butane at exp. RT: 2.907
FID1 A, Front Signal
Correlation: 0.99988
Residual Std. Dev.: 105.51569
Formula: y = mx + b
m: 1.02541
b: 1.01631e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.0625
Level 3 : 0.015625
Level 4 : 0.0025
Level 5 : 0.000146
Level 6 : 8.62007e-006
Level 7 : 2.95226e-006
Level 8 : 2.5e-007



Pentane at exp. RT: 4.465
FID1 A, Front Signal
Correlation: 0.99989
Residual Std. Dev.: 69.01461
Formula: y = mx + b
m: 1.28016
b: 2.50753e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.0625
Level 3 : 0.015625
Level 4 : 0.0025
Level 5 : 0.000618
Level 6 : 0.000037
Level 7 : 0.000013
Level 8 : 1.05963e-006



Hexane at exp. RT: 6.040
FID1 A, Front Signal
Correlation: 0.99990
Residual Std. Dev.: 65.98846
Formula: y = mx + b
m: 1.52669
b: 2.07685e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.0625
Level 3 : 0.015625
Level 4 : 0.0025
Level 5 : 0.000927
Level 6 : 0.000055
Level 7 : 0.000019
Level 8 : 1.58914e-006



Heptane at exp. RT: 7.204
FID1 A, Front Signal
Correlation: 0.99974
Residual Std. Dev.: 7.65483
Formula: y = mx + b
m: 1.77848
b: 1.29933e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.0625
Level 3 : 0.015625
Level 4 : 0.0025
Level 8 : 0.000397

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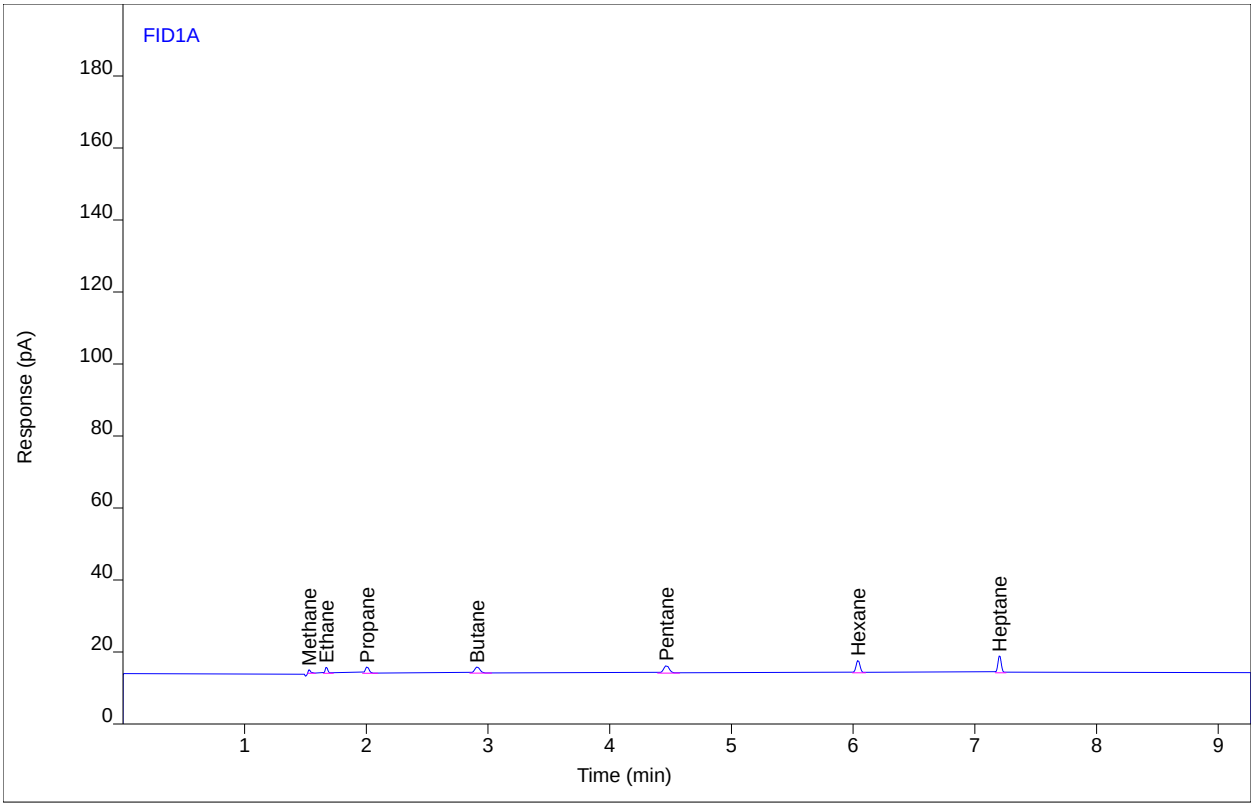
Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C1 ENV(1=3800,2=200)
Sequence Name	EDITHP730 ver.4
Data File	002F1302.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 4:10 PM
File Modified	9/27/2016 9:18 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	2 of 10
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



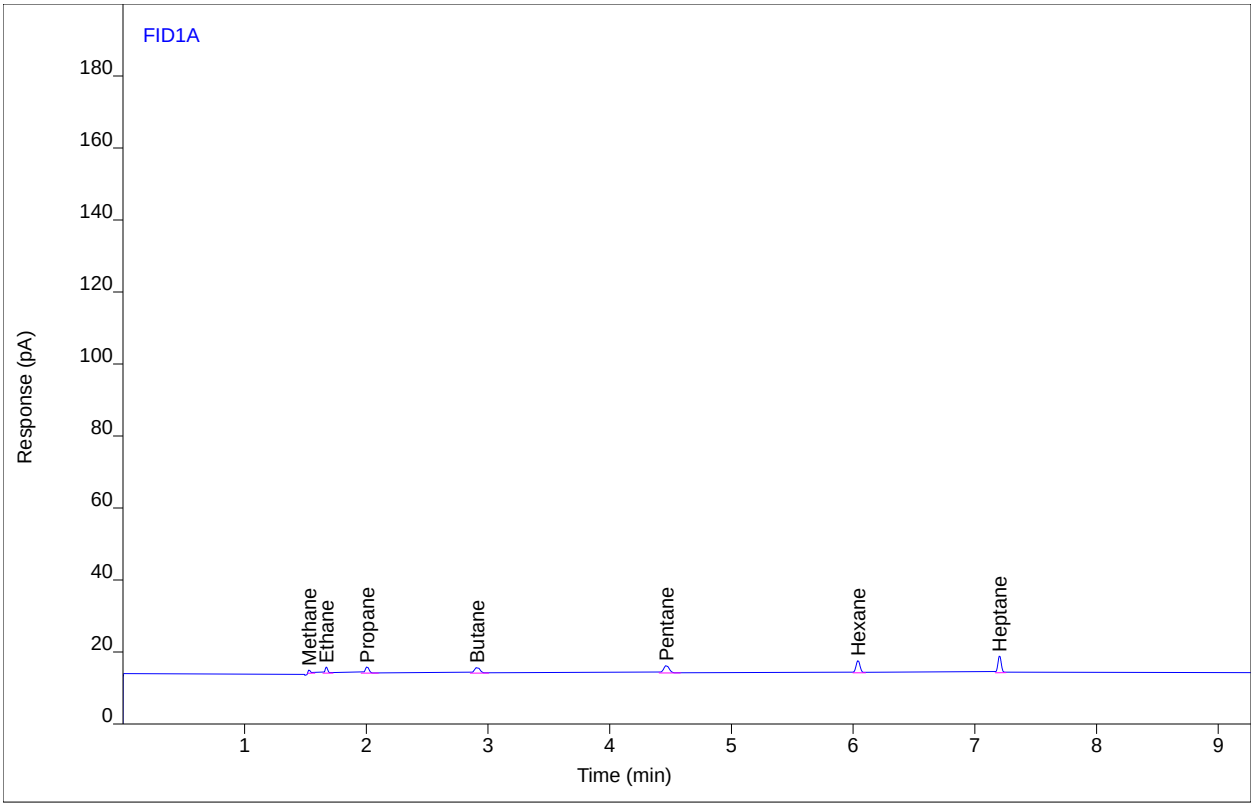
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	1.25738	0.97671	5.08069	1	5.08069	ppm
Ethane	BP	1.67	2.59394	1.69922	5.01644	1	5.01644	ppm
Propane	PB	2.01	3.94762	1.83868	5.04722	1	5.04722	ppm
Butane	BB	2.91	5.32860	1.72420	5.09745	1	5.09745	ppm
Pentane	BB	4.47	6.90751	2.12000	5.19993	1	5.19993	ppm
Hexane	BB	6.04	8.02530	3.46062	5.12061	1	5.12061	ppm
Heptane	BB	7.20	9.14444	4.76599	5.06865	1	5.06865	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C1 ENV(1=3800,2=200)
Sequence Name	EDITHP730 ver.4
Data File	002F1303.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 4:25 PM
File Modified	9/27/2016 9:18 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	3 of 10
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



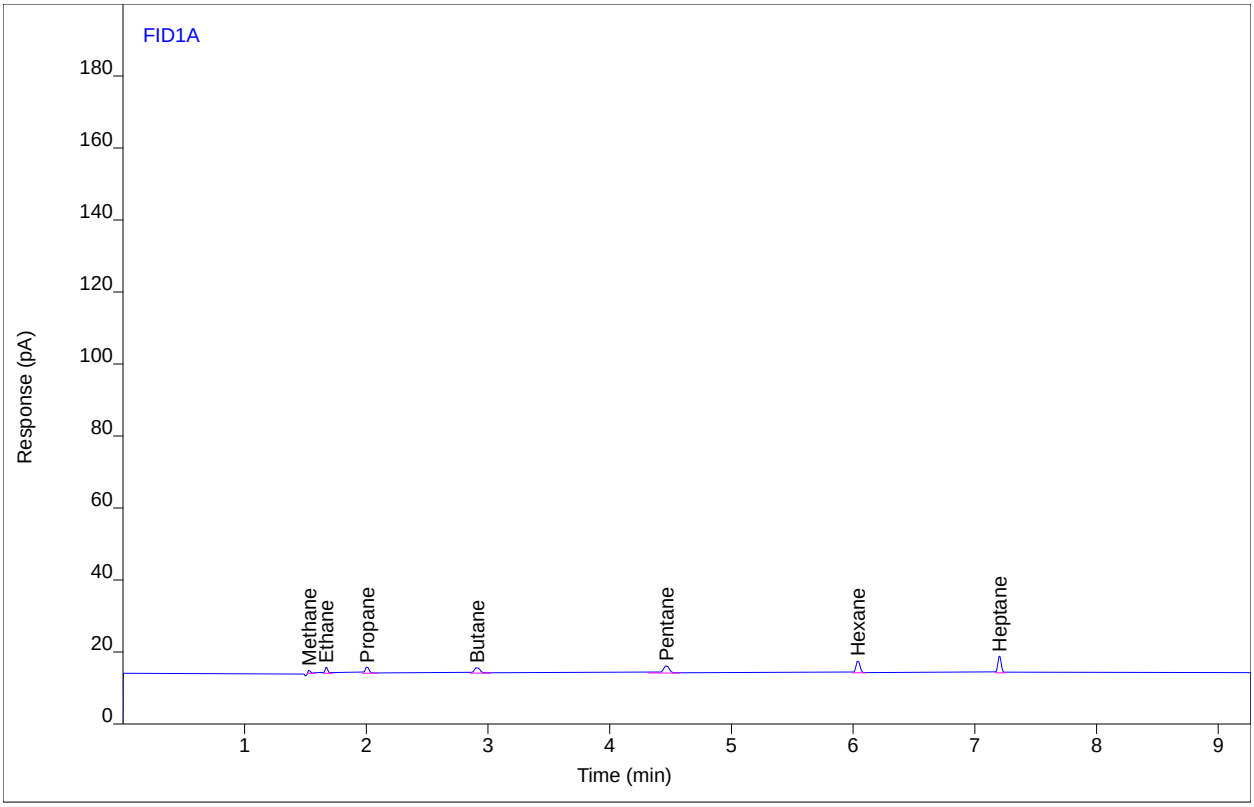
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	1.22340	0.97280	4.94940	1	4.94940	ppm
Ethane	BP	1.67	2.57368	1.68729	4.97722	1	4.97722	ppm
Propane	VB	2.01	3.93967	1.82644	5.03692	1	5.03692	ppm
Butane	BB	2.91	5.22991	1.70405	5.00121	1	5.00121	ppm
Pentane	BB	4.47	6.85265	2.11074	5.15708	1	5.15708	ppm
Hexane	BB	6.04	7.94928	3.44265	5.07082	1	5.07082	ppm
Heptane	BB	7.20	9.06647	4.73224	5.02481	1	5.02481	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C1 ENV(1=3800,2=200)
Sequence Name	EDITHP730 ver.4
Data File	002F1304.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 4:40 PM
File Modified	9/27/2016 9:18 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	4 of 10
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



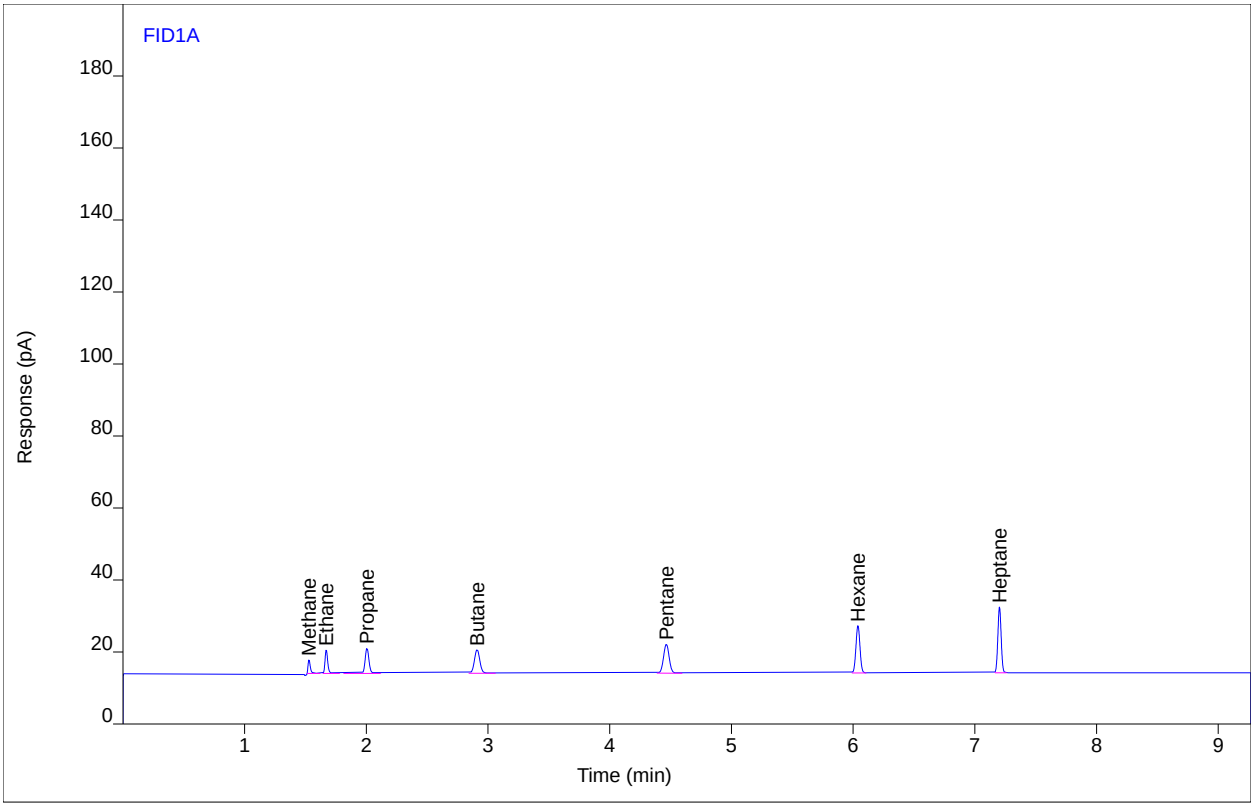
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	MM	1.53	1.25492	0.98533	5.07146	1	5.07146	ppm
Ethane	BB	1.67	2.61747	1.68119	5.06208	1	5.06208	ppm
Propane	BB	2.01	3.89998	1.80976	4.98573	1	4.98573	ppm
Butane	BB	2.91	5.22403	1.69197	4.99556	1	4.99556	ppm
Pentane	BB	4.47	6.87762	2.09426	5.17659	1	5.17659	ppm
Hexane	BB	6.04	7.88844	3.42014	5.03147	1	5.03147	ppm
Heptane	BB	7.20	9.03466	4.71034	5.00692	1	5.00692	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C2 ENV(1=800,2=200)
Sequence Name	EDITHP730 ver.4
Data File	002F1402.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 6:40 PM
File Modified	9/27/2016 9:18 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	2 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



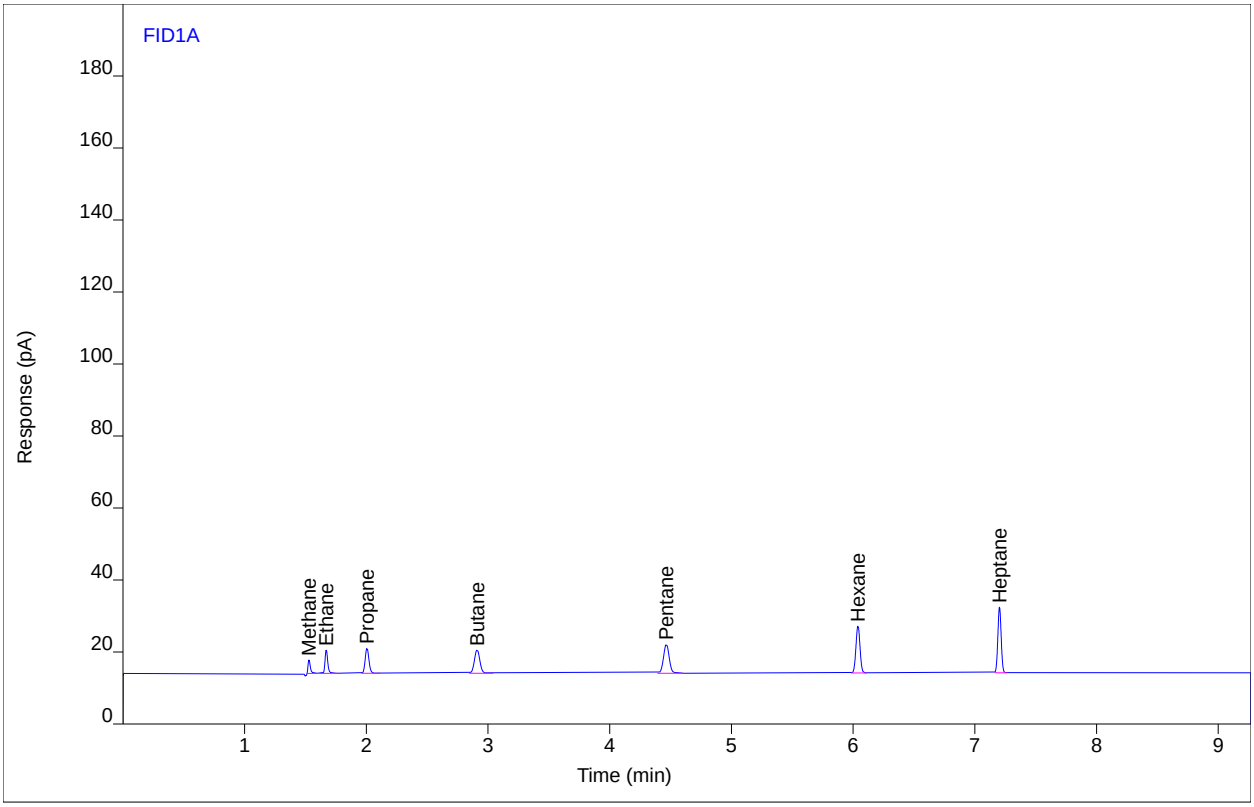
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	5.17497	3.80624	19.8073	1	19.8073	ppm
Ethane	BB	1.67	10.2947	6.50167	19.9507	1	19.9507	ppm
Propane	BB	2.01	15.3446	7.02413	19.7982	1	19.7982	ppm
Butane	BB	2.91	20.2189	6.54498	19.6188	1	19.6188	ppm
Pentane	BB	4.47	26.1365	8.03229	20.2207	1	20.2207	ppm
Hexane	BB	6.04	30.4601	13.1641	19.8156	1	19.8156	ppm
Heptane	BB	7.20	34.8227	18.2292	19.5069	1	19.5069	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C2 ENV(1=800,2=200)
Sequence Name	EDITHP730 ver.4
Data File	002F1403.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 6:55 PM
File Modified	9/27/2016 9:18 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	3 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



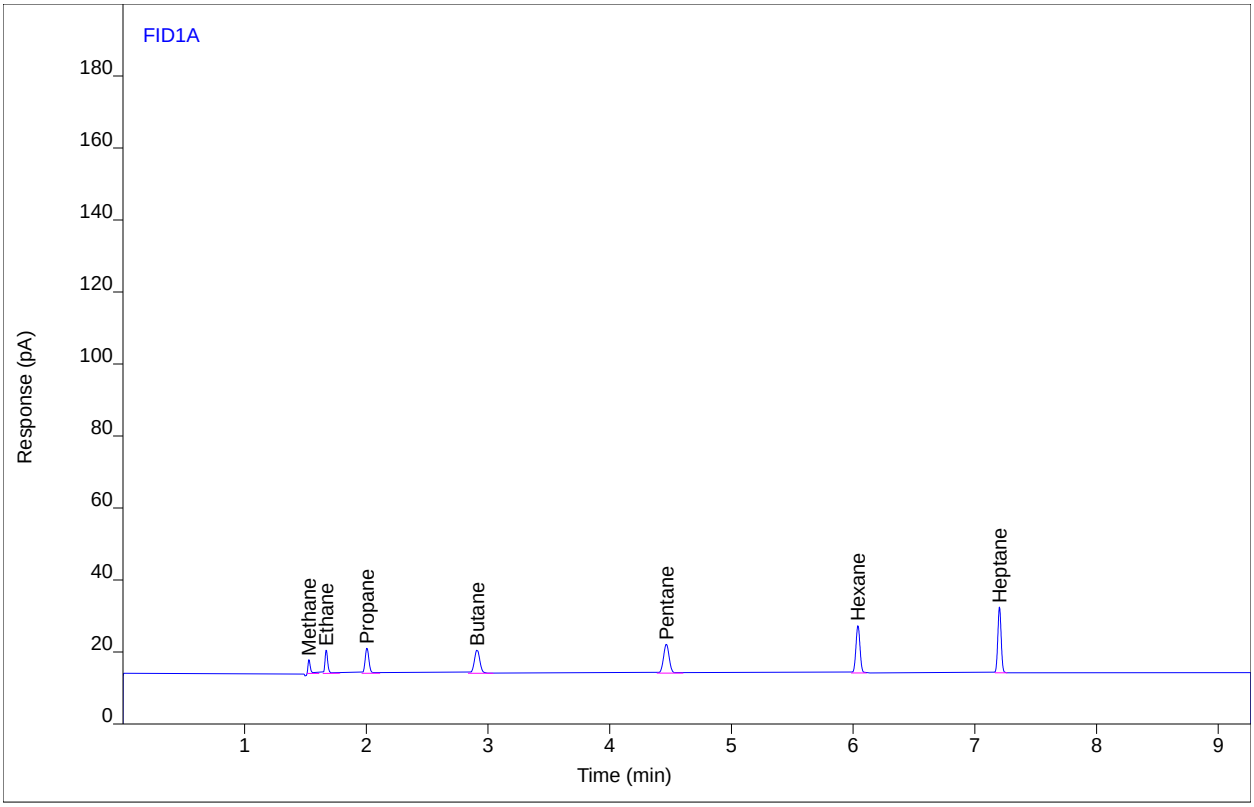
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	5.05994	3.80036	19.3748	1	19.3748	ppm
Ethane	PB	1.67	10.1573	6.50601	19.6843	1	19.6843	ppm
Propane	BB	2.01	15.1891	7.02127	19.5969	1	19.5969	ppm
Butane	BB	2.91	20.1877	6.54983	19.5884	1	19.5884	ppm
Pentane	BB	4.47	26.1340	8.05410	20.2187	1	20.2187	ppm
Hexane	BB	6.04	30.5082	13.1552	19.8471	1	19.8471	ppm
Heptane	BB	7.20	34.8852	18.2153	19.5421	1	19.5421	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C2 ENV(1=800,2=200)
Sequence Name	EDITHP730 ver.4
Data File	002F1404.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 7:10 PM
File Modified	9/27/2016 9:18 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	4 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



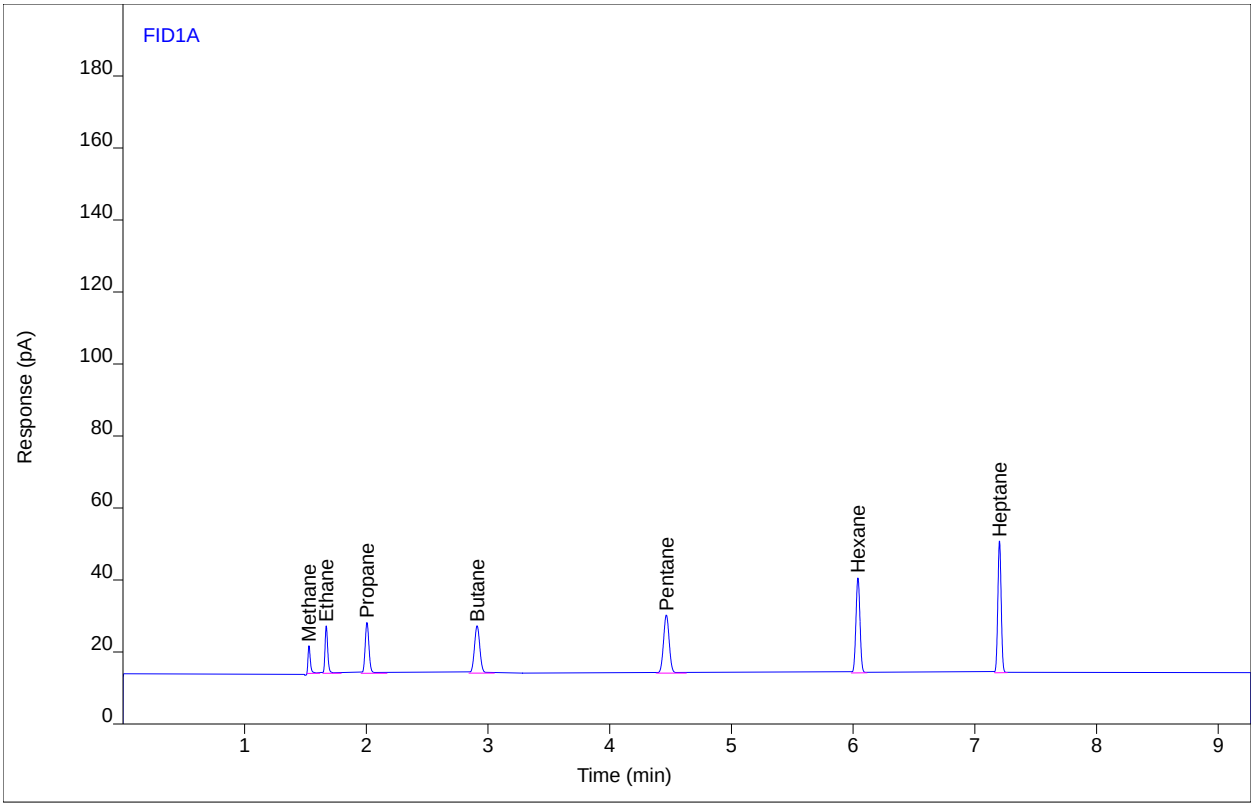
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	5.11833	3.81246	19.5943	1	19.5943	ppm
Ethane	BB	1.67	10.1514	6.50577	19.6728	1	19.6728	ppm
Propane	BB	2.01	15.2029	7.02903	19.6147	1	19.6147	ppm
Butane	BB	2.91	20.2023	6.55027	19.6026	1	19.6026	ppm
Pentane	BB	4.47	26.1284	8.05784	20.2144	1	20.2144	ppm
Hexane	BB	6.04	30.5411	13.1977	19.8687	1	19.8687	ppm
Heptane	BB	7.20	34.9348	18.2486	19.5700	1	19.5700	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C3 ENV(1=600,2=400)
Sequence Name	EDITHP730 ver.4
Data File	002F1502.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 7:54 PM
File Modified	9/27/2016 9:19 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	2 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



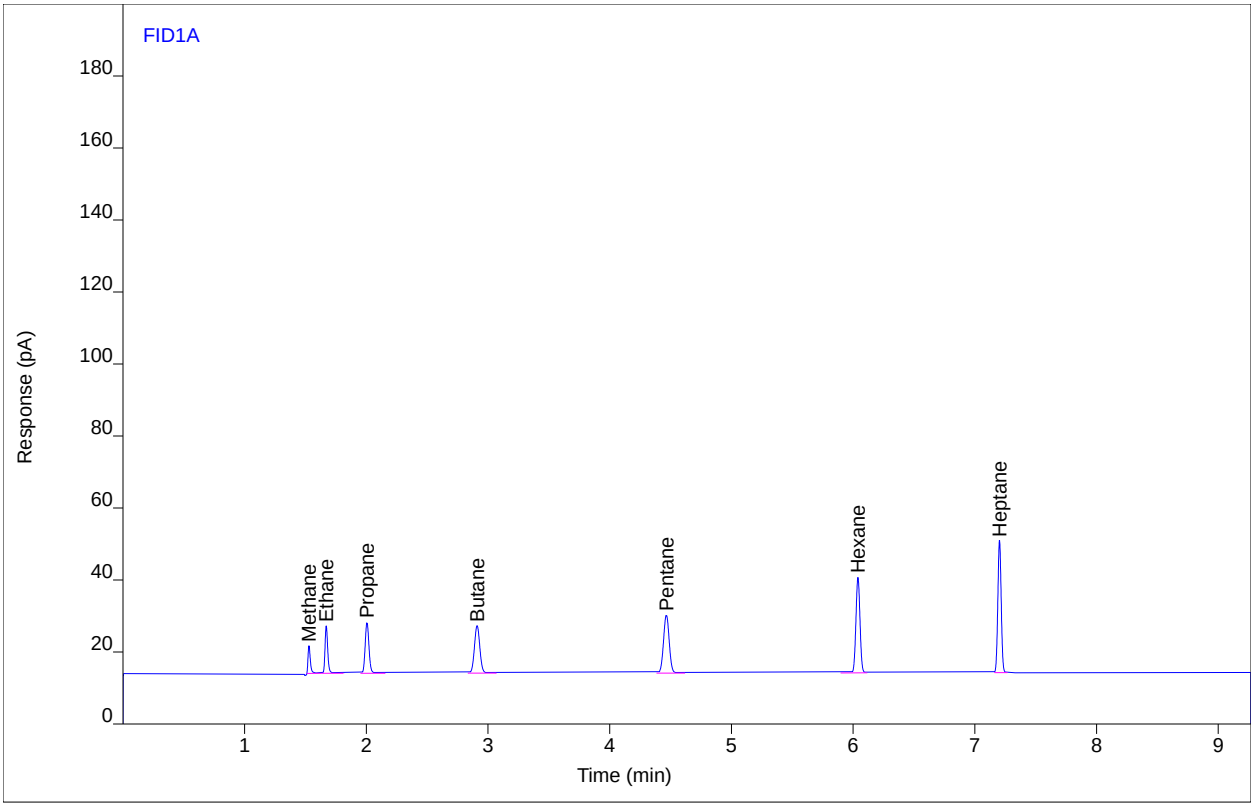
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	10.3539	7.66472	39.2751	1	39.2751	ppm
Ethane	BB	1.67	20.3996	13.0627	39.5475	1	39.5475	ppm
Propane	BB	2.01	30.7017	14.1345	39.6746	1	39.6746	ppm
Butane	BB	2.91	40.5251	13.1351	39.4219	1	39.4219	ppm
Pentane	BB	4.47	52.4794	16.1622	40.7985	1	40.7985	ppm
Hexane	BB	6.04	61.3748	26.4996	40.0651	1	40.0651	ppm
Heptane	BB	7.20	70.2368	36.5081	39.4195	1	39.4195	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C3 ENV(1=600,2=400)
Sequence Name	EDITHP730 ver.4
Data File	002F1503.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 8:09 PM
File Modified	9/27/2016 9:19 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	3 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



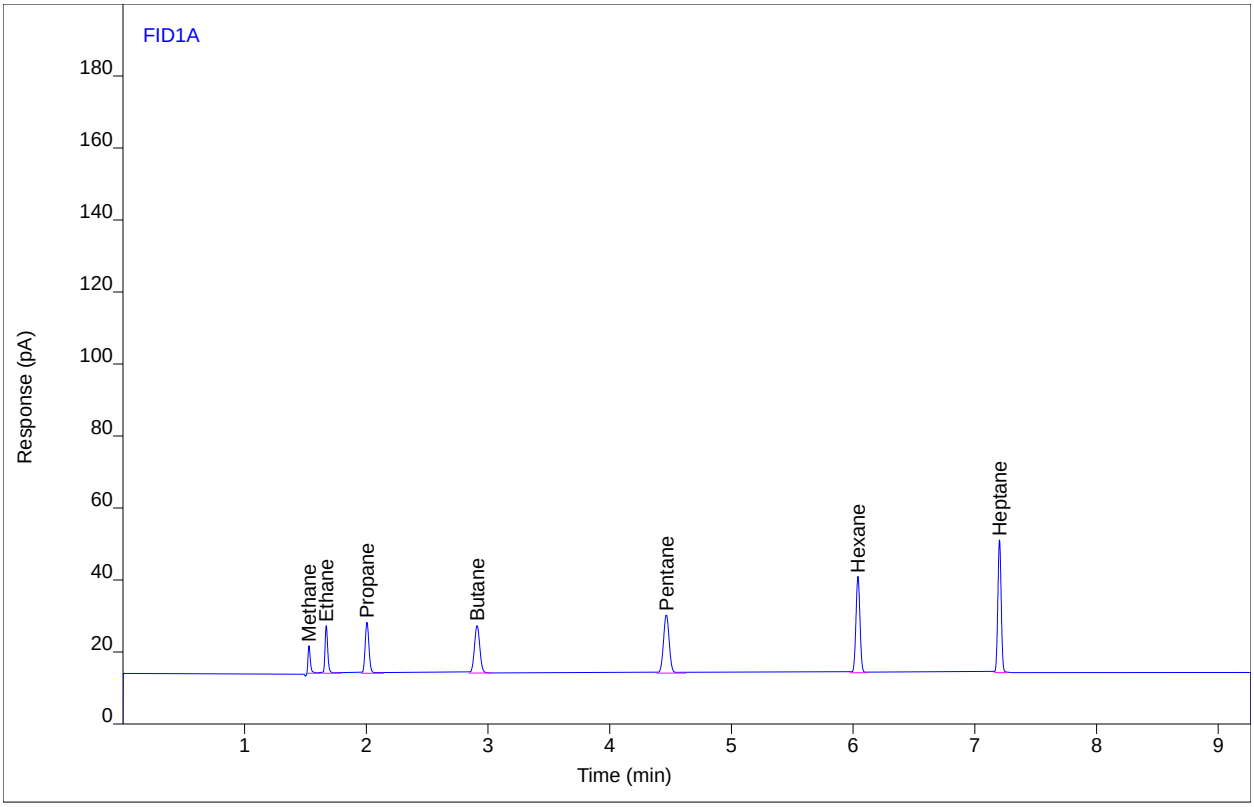
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	10.4372	7.67259	39.5884	1	39.5884	ppm
Ethane	VB	1.67	20.5421	13.0787	39.8238	1	39.8238	ppm
Propane	BB	2.01	30.7724	14.1633	39.7661	1	39.7661	ppm
Butane	BB	2.91	40.7350	13.1930	39.6266	1	39.6266	ppm
Pentane	BB	4.47	52.5999	16.1739	40.8927	1	40.8927	ppm
Hexane	VB	6.04	61.6986	26.4978	40.2772	1	40.2772	ppm
Heptane	BB	7.20	70.5527	36.6769	39.5971	1	39.5971	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C3 ENV(1=600,2=400)
Sequence Name	EDITHP730 ver.4
Data File	002F1504.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 8:24 PM
File Modified	9/27/2016 9:19 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	4 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



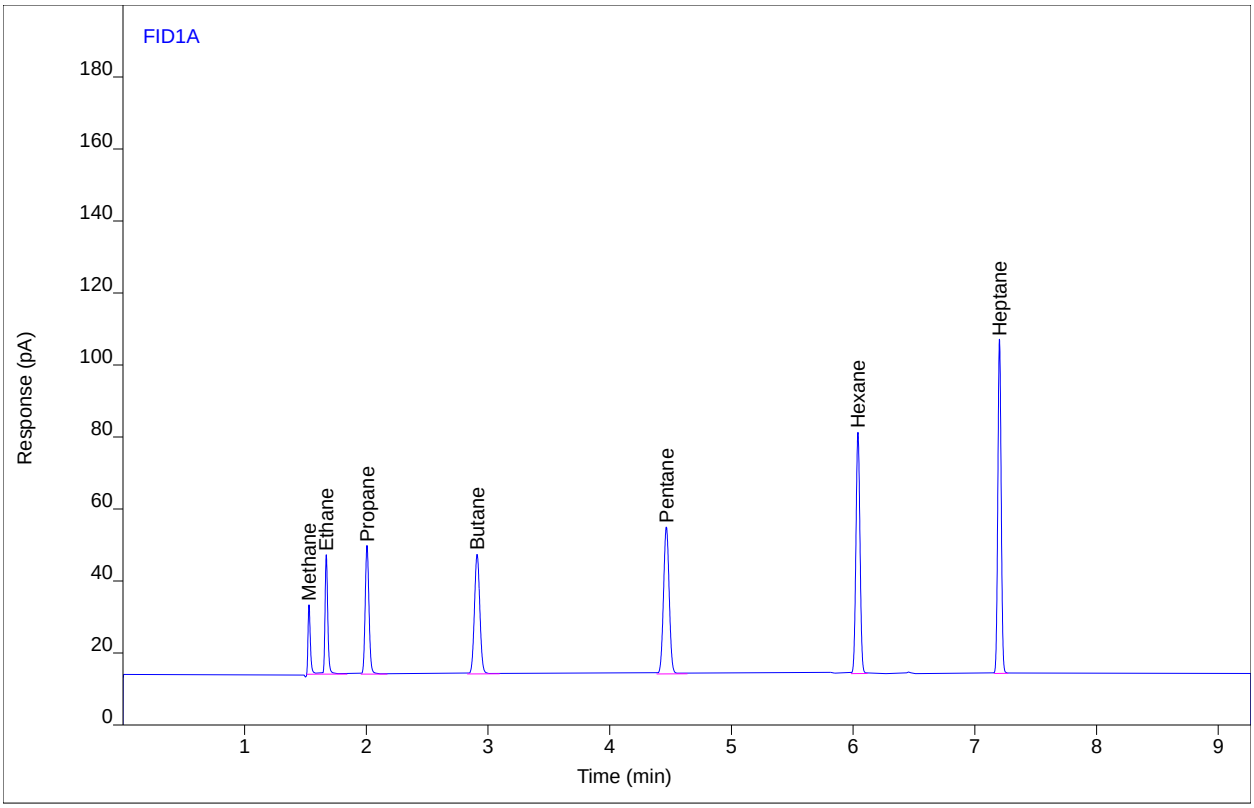
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PB	1.53	10.4284	7.68202	39.5551	1	39.5551	ppm
Ethane	BB	1.67	20.4733	13.1158	39.6902	1	39.6902	ppm
Propane	BB	2.01	30.7997	14.1547	39.8014	1	39.8014	ppm
Butane	BB	2.91	40.6204	13.2042	39.5148	1	39.5148	ppm
Pentane	BB	4.47	52.6870	16.2477	40.9606	1	40.9606	ppm
Hexane	BB	6.04	61.6480	26.7046	40.2440	1	40.2440	ppm
Heptane	BB	7.20	70.5569	36.8397	39.5995	1	39.5995	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C4 ENV(1=0,2=400)
Sequence Name	EDITHP730 ver.4
Data File	002F1602.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 9:15 PM
File Modified	9/27/2016 9:19 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	2 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



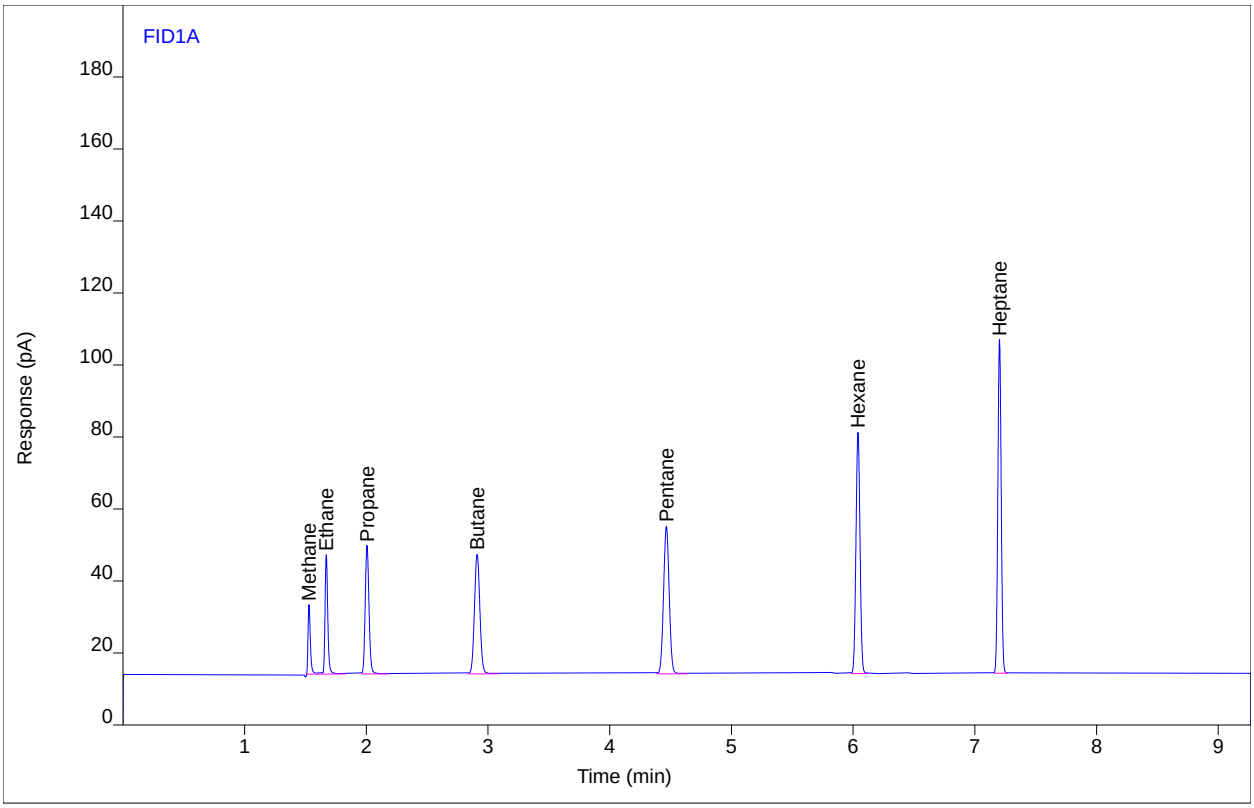
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	26.3382	19.3100	99.3616	1	99.3616	ppm
Ethane	VB	1.67	51.7127	32.9708	100.274	1	100.274	ppm
Propane	BB	2.01	77.6144	35.6266	100.393	1	100.393	ppm
Butane	BB	2.91	102.685	33.2284	100.042	1	100.042	ppm
Pentane	BB	4.47	132.156	40.8597	103.038	1	103.038	ppm
Hexane	BB	6.04	155.125	66.9865	101.472	1	101.472	ppm
Heptane	BB	7.20	177.578	92.5659	99.7750	1	99.7750	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C4 ENV(1=0,2=400)
Sequence Name	EDITHP730 ver.4
Data File	002F1603.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 9:29 PM
File Modified	9/27/2016 9:19 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	3 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



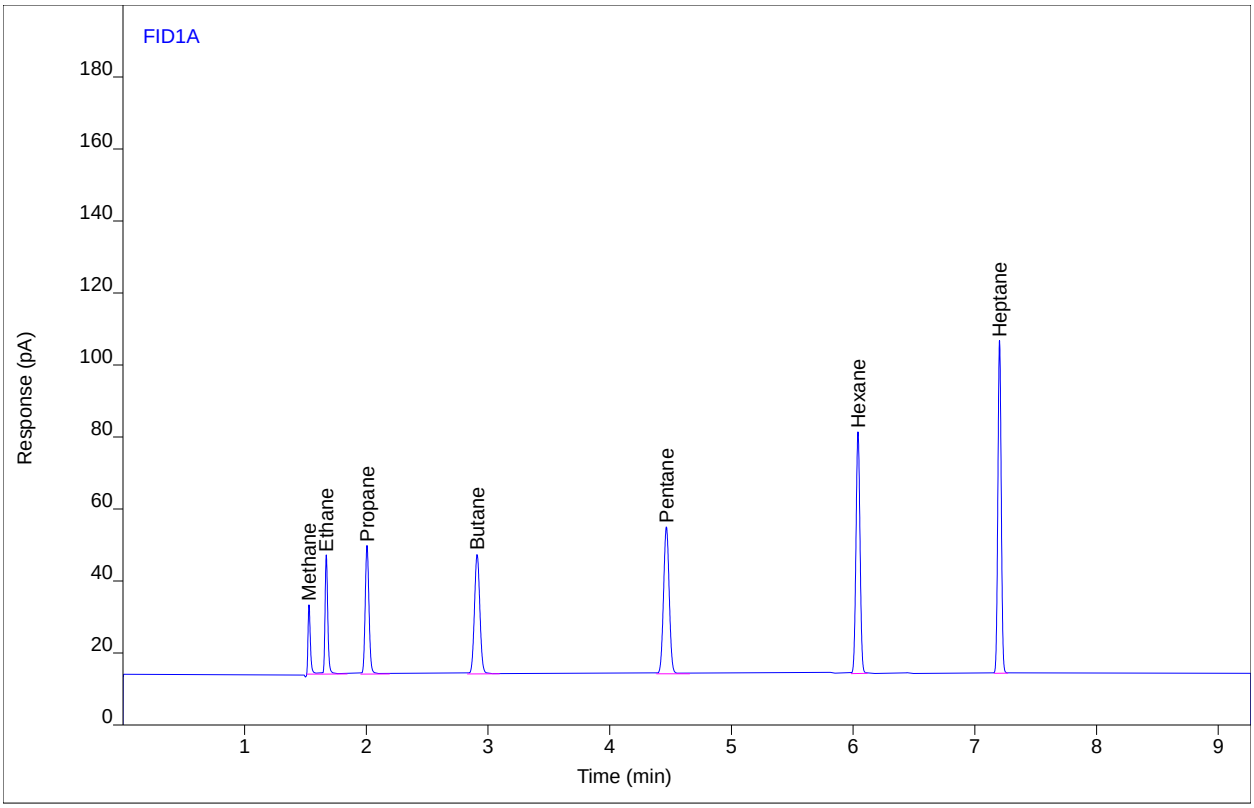
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	26.3630	19.3397	99.4547	1	99.4547	ppm
Ethane	VB	1.67	51.6909	32.9720	100.231	1	100.231	ppm
Propane	BB	2.01	77.7420	35.6761	100.558	1	100.558	ppm
Butane	BB	2.91	102.793	33.2637	100.147	1	100.147	ppm
Pentane	BB	4.47	132.387	40.9456	103.218	1	103.218	ppm
Hexane	BB	6.04	155.396	67.0256	101.650	1	101.650	ppm
Heptane	BB	7.20	177.821	92.5275	99.9115	1	99.9115	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C4 ENV(1=0,2=400)
Sequence Name	EDITHP730 ver.4
Data File	002F1604.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 9:44 PM
File Modified	9/27/2016 9:19 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	4 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



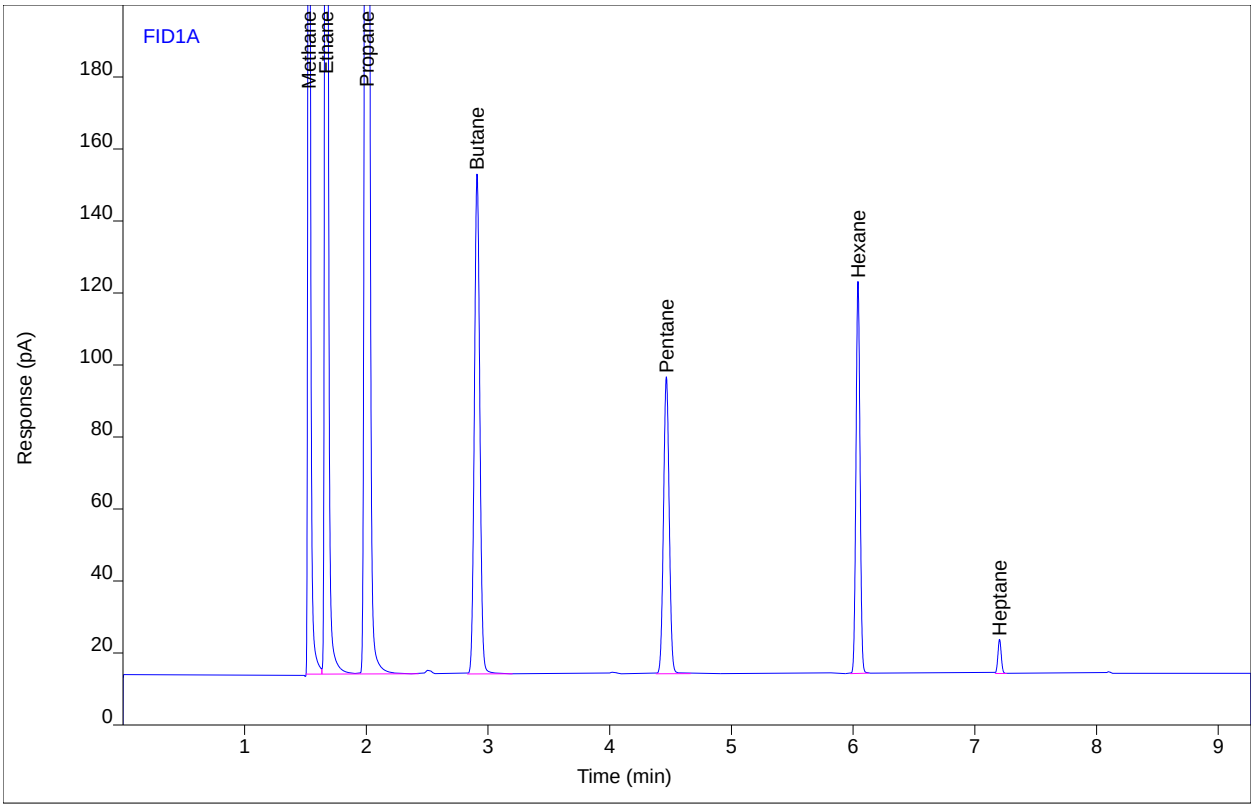
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	26.3376	19.3174	99.3594	1	99.3594	ppm
Ethane	VB	1.67	51.6944	32.9319	100.238	1	100.238	ppm
Propane	BB	2.01	77.7102	35.6454	100.517	1	100.517	ppm
Butane	BB	2.91	102.686	33.2016	100.043	1	100.043	ppm
Pentane	BB	4.47	132.083	40.8333	102.981	1	102.981	ppm
Hexane	BB	6.04	155.125	67.0748	101.472	1	101.472	ppm
Heptane	BB	7.20	177.617	92.1917	99.7967	1	99.7967	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C5 ENV(1=3800,3=200)
Sequence Name	EDITHP730 ver.4
Data File	002F1702.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 10:28 PM
File Modified	9/27/2016 9:19 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	2 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



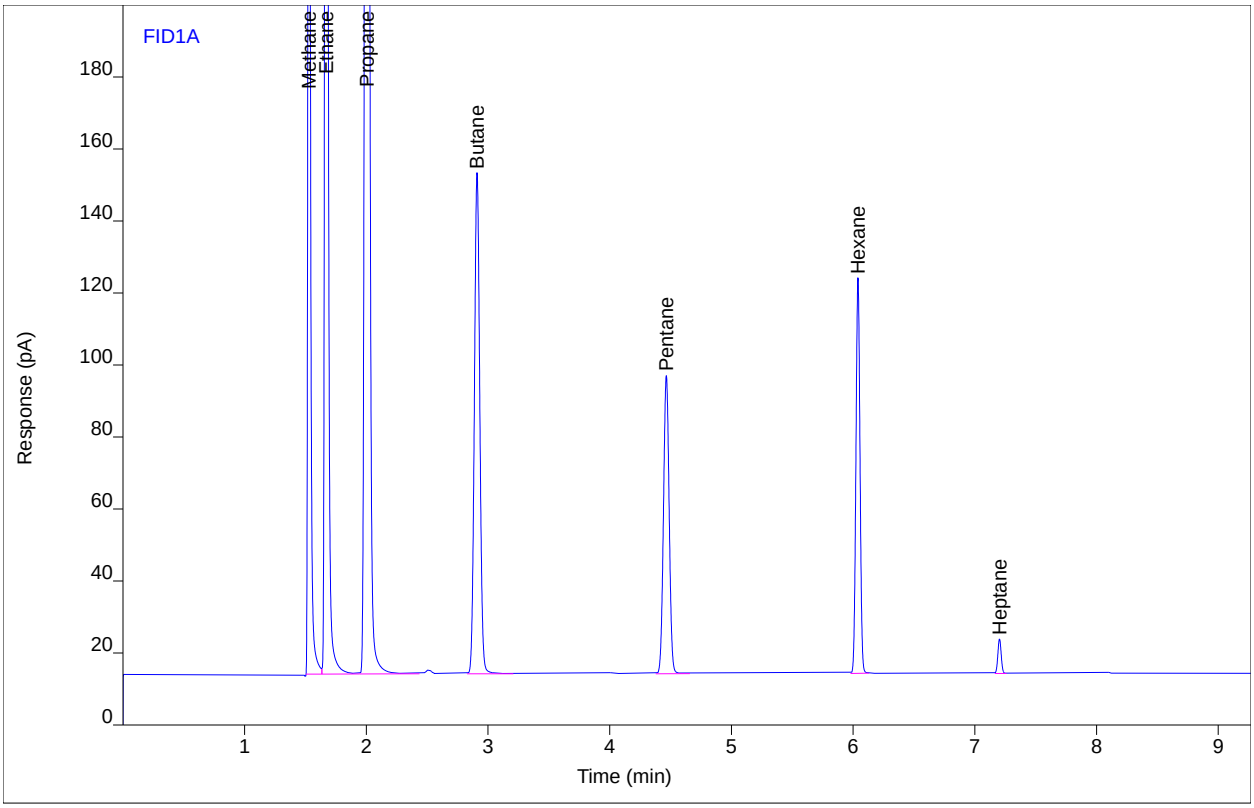
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	MF	1.53	562.993	415.594	2116.69	1	2116.69	ppm
Ethane	FM	1.67	1085.14	696.647	2104.43	1	2104.43	ppm
Propane	FM	2.01	1624.86	745.485	2102.96	1	2102.96	ppm
Butane	BB	2.91	430.744	138.863	419.972	1	419.972	ppm
Pentane	BB	4.47	267.192	82.4072	208.522	1	208.522	ppm
Hexane	BB	6.04	252.493	108.639	165.250	1	165.250	ppm
Heptane	BB	7.20	18.0951	9.43896	10.1014	1	10.1014	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C5 ENV(1=3800,3=200)
Sequence Name	EDITHP730 ver.4
Data File	002F1703.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 10:43 PM
File Modified	9/27/2016 9:19 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	3 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



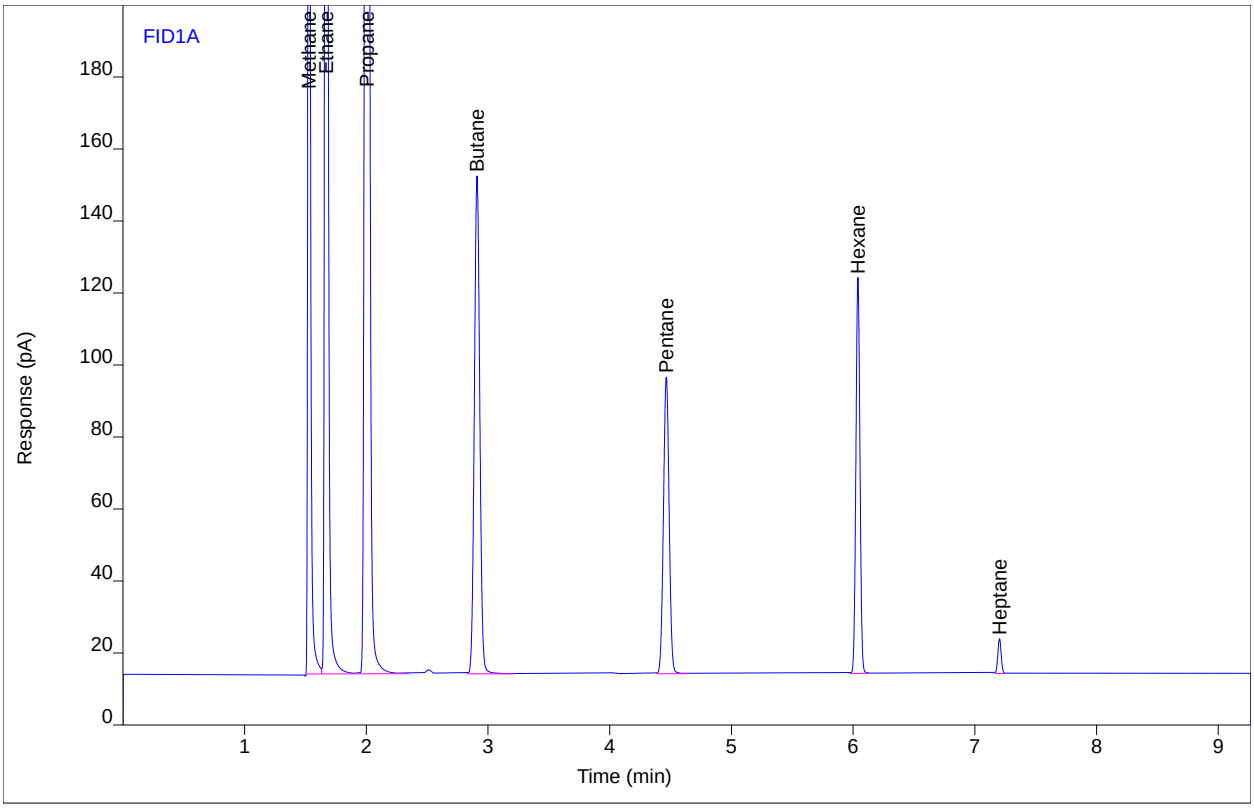
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	MF	1.53	563.268	416.513	2117.72	1	2117.72	ppm
Ethane	FM	1.67	1085.59	696.639	2105.30	1	2105.30	ppm
Propane	FM	2.01	1625.77	745.424	2104.14	1	2104.14	ppm
Butane	BB	2.91	431.166	139.193	420.383	1	420.383	ppm
Pentane	BB	4.47	268.238	82.8787	209.339	1	209.339	ppm
Hexane	BB	6.04	254.964	109.717	166.868	1	166.868	ppm
Heptane	BB	7.20	18.4567	9.63213	10.3047	1	10.3047	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C5 ENV(1=3800,3=200)
Sequence Name	EDITHP730 ver.4
Data File	002F1704.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/16/2016 10:57 PM
File Modified	9/27/2016 9:19 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	4 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM

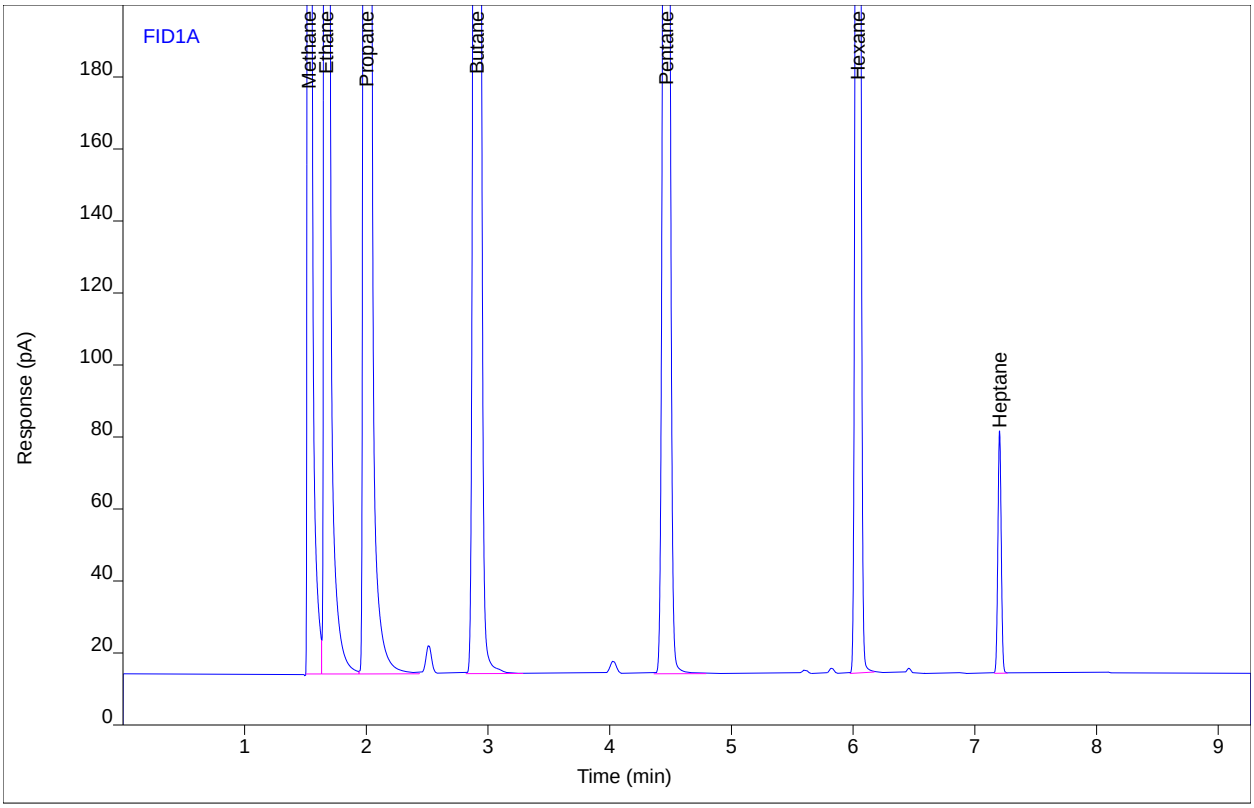


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	557.415	407.087	2095.72	1	2095.72	ppm
Ethane	VV	1.67	1077.30	683.639	2089.22	1	2089.22	ppm
Propane	VB	2.00	1614.46	737.648	2089.51	1	2089.51	ppm
Butane	BB	2.91	428.959	138.262	418.231	1	418.231	ppm
Pentane	BB	4.47	267.079	82.4565	208.433	1	208.433	ppm
Hexane	BB	6.04	254.485	109.890	166.554	1	166.554	ppm
Heptane	BB	7.20	18.5165	9.68164	10.3384	1	10.3384	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C7 ENV(1=800,3=400)	Sample Type	Calibration
Sequence Name	EDITHP730 ver.4	Vial Number	Vial 2
Data File	002F1802.D	Injection Volume	250
File Location	GC/2016/Edith/Quarter 3	Injection	2 of 5
Injection Date	9/16/2016 11:49 PM	Acquisition Method	AQ_EDITHP503_HRVOC.M
File Modified	9/27/2016 9:20 AM	Analysis Method	EDITHP730F_C1-C7.M
Instrument		Method Modified	9/27/2016 9:15 AM
Operator	Nicholas Traversa	Printed	9/27/2016 9:33 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	3834.73	2812.65	14415.4	1	14415.4	ppm
Ethane	VV	1.67	7398.11	4700.39	14347.3	1	14347.3	ppm
Propane	VV	2.00	11088.3	5022.62	14351.4	1	14351.4	ppm
Butane	BB	2.91	2951.28	949.782	2878.06	1	2878.06	ppm
Pentane	BB	4.47	1845.18	568.576	1441.17	1	1441.17	ppm
Hexane	BB	6.04	1759.22	760.166	1152.17	1	1152.17	ppm
Heptane	BB	7.20	128.683	67.1185	72.2827	1	72.2827	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C7 ENV(1=800,3=400)
Sequence Name	EDITHP730 ver.4
Data File	002F1803.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/17/2016 12:04 AM
File Modified	9/27/2016 9:20 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	3 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
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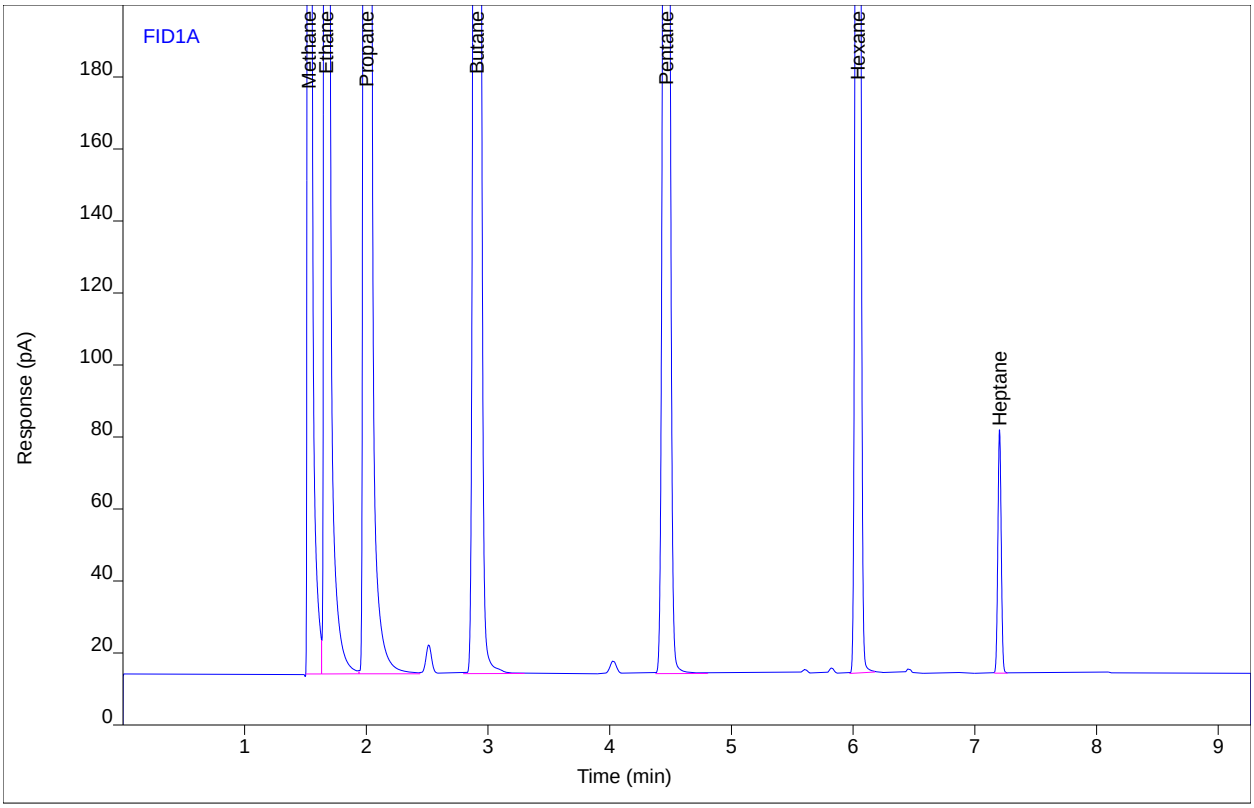
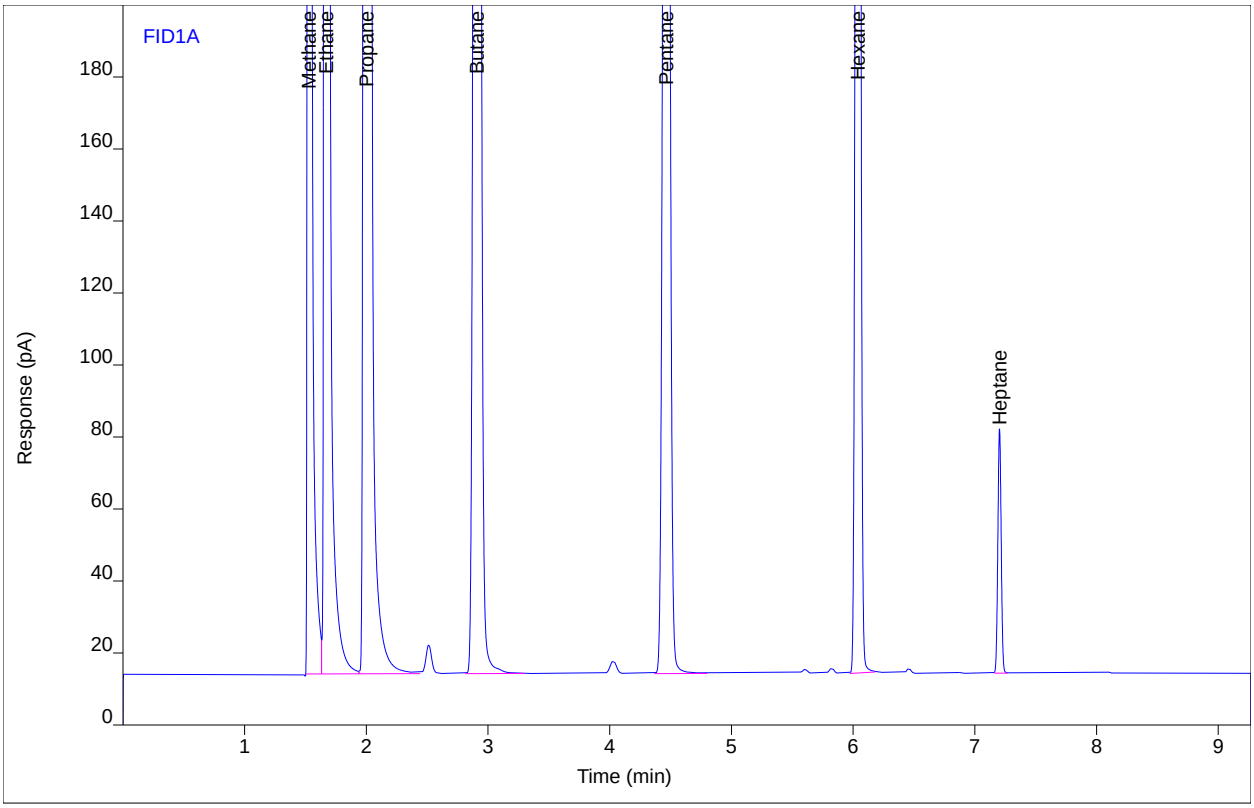


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	3866.73	2835.74	14535.7	1	14535.7	ppm
Ethane	VV	1.67	7454.47	4734.43	14456.6	1	14456.6	ppm
Propane	VV	2.00	11170.1	5062.06	14457.3	1	14457.3	ppm
Butane	BB	2.91	2973.21	957.206	2899.44	1	2899.44	ppm
Pentane	BB	4.47	1858.70	572.096	1451.73	1	1451.73	ppm
Hexane	BB	6.04	1773.11	766.404	1161.27	1	1161.27	ppm
Heptane	BB	7.20	129.634	67.4334	72.8170	1	72.8170	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C7 ENV(1=800,3=400)	Sample Type	Calibration
Sequence Name	EDITHP730 ver.4	Vial Number	Vial 2
Data File	002F1804.D	Injection Volume	250
File Location	GC/2016/Edith/Quarter 3	Injection	4 of 5
Injection Date	9/17/2016 12:18 AM	Acquisition Method	AQ_EDITHP503_HRVOC.M
File Modified	9/27/2016 9:20 AM	Analysis Method	EDITHP730F_C1-C7.M
Instrument		Method Modified	9/27/2016 9:15 AM
Operator	Nicholas Traversa	Printed	9/27/2016 9:33 AM

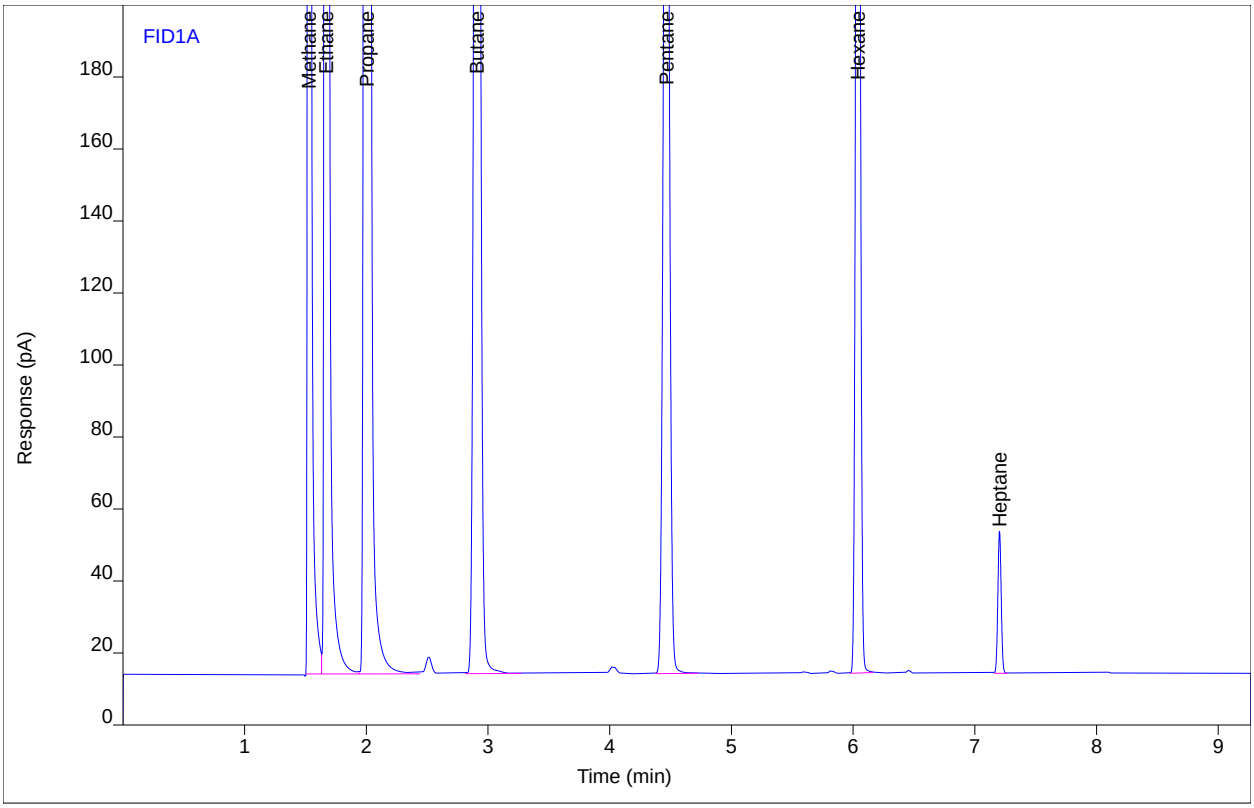


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	3862.74	2835.79	14520.7	1	14520.7	ppm
Ethane	VV	1.67	7445.23	4730.90	14438.7	1	14438.7	ppm
Propane	VV	2.00	11155.0	5055.75	14437.7	1	14437.7	ppm
Butane	BB	2.91	2968.83	956.379	2895.17	1	2895.17	ppm
Pentane	BB	4.47	1856.02	571.947	1449.63	1	1449.63	ppm
Hexane	BB	6.04	1770.57	761.392	1159.61	1	1159.61	ppm
Heptane	BB	7.20	129.468	67.8116	72.7236	1	72.7236	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C6 ENV(1=800,3=200)	Sample Type	Calibration
Sequence Name	EDITHP730 ver.4	Vial Number	Vial 2
Data File	002F1902.D	Injection Volume	250
File Location	GC/2016/Edith/Quarter 3	Injection	2 of 5
Injection Date	9/17/2016 1:02 AM	Acquisition Method	AQ_EDITHP503_HRVOC.M
File Modified	9/27/2016 9:20 AM	Analysis Method	EDITHP730F_C1-C7.M
Instrument		Method Modified	9/27/2016 9:15 AM
Operator	Nicholas Traversa	Printed	9/27/2016 9:33 AM



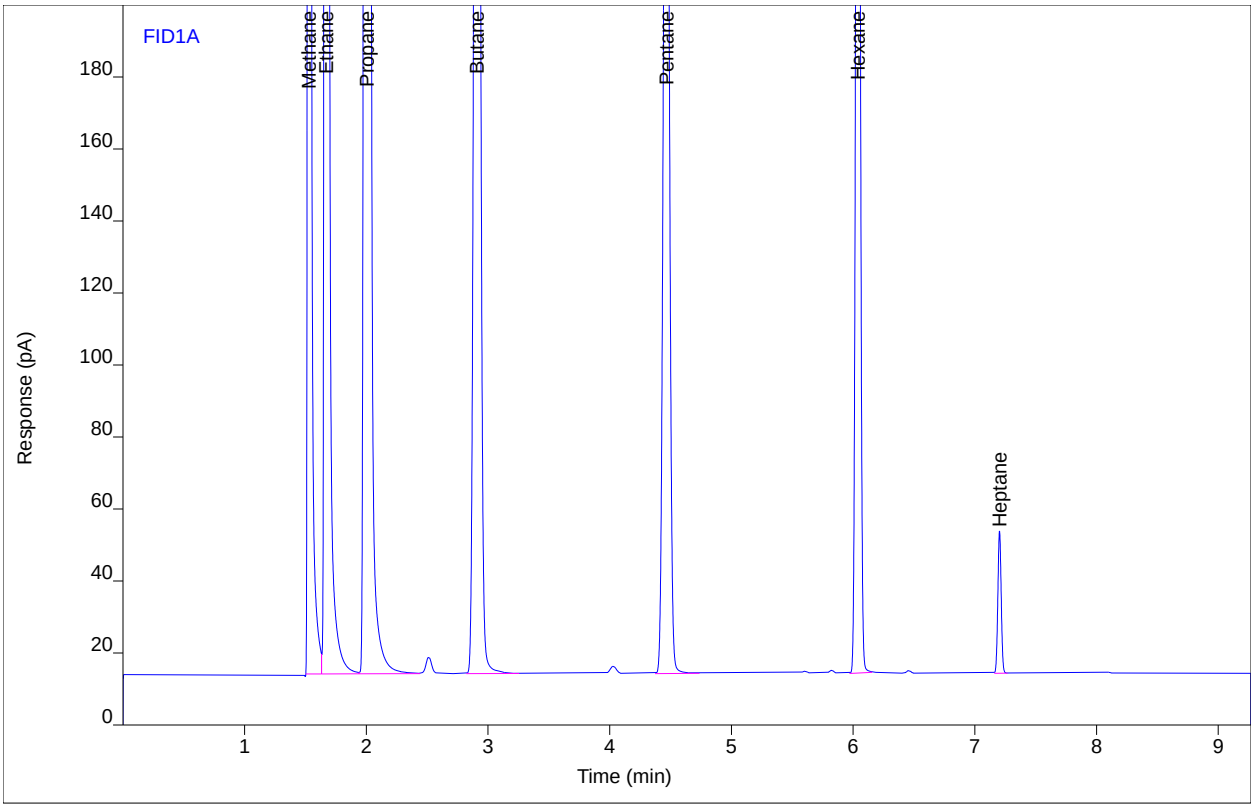
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	2257.17	1651.39	8485.25	1	8485.25	ppm
Ethane	VV	1.67	4352.00	2767.30	8439.92	1	8439.92	ppm
Propane	VV	2.00	6519.92	2958.58	8438.57	1	8438.57	ppm
Butane	BB	2.91	1733.43	558.466	1690.38	1	1690.38	ppm
Pentane	BB	4.47	1081.81	333.393	844.860	1	844.860	ppm
Hexane	BB	6.04	1032.45	446.536	676.129	1	676.129	ppm
Heptane	BB	7.20	75.4116	39.4122	42.3292	1	42.3292	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C6 ENV(1=800,3=200)
Sequence Name	EDITHP730 ver.4
Data File	002F1903.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/17/2016 1:17 AM
File Modified	9/27/2016 9:20 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	3 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM

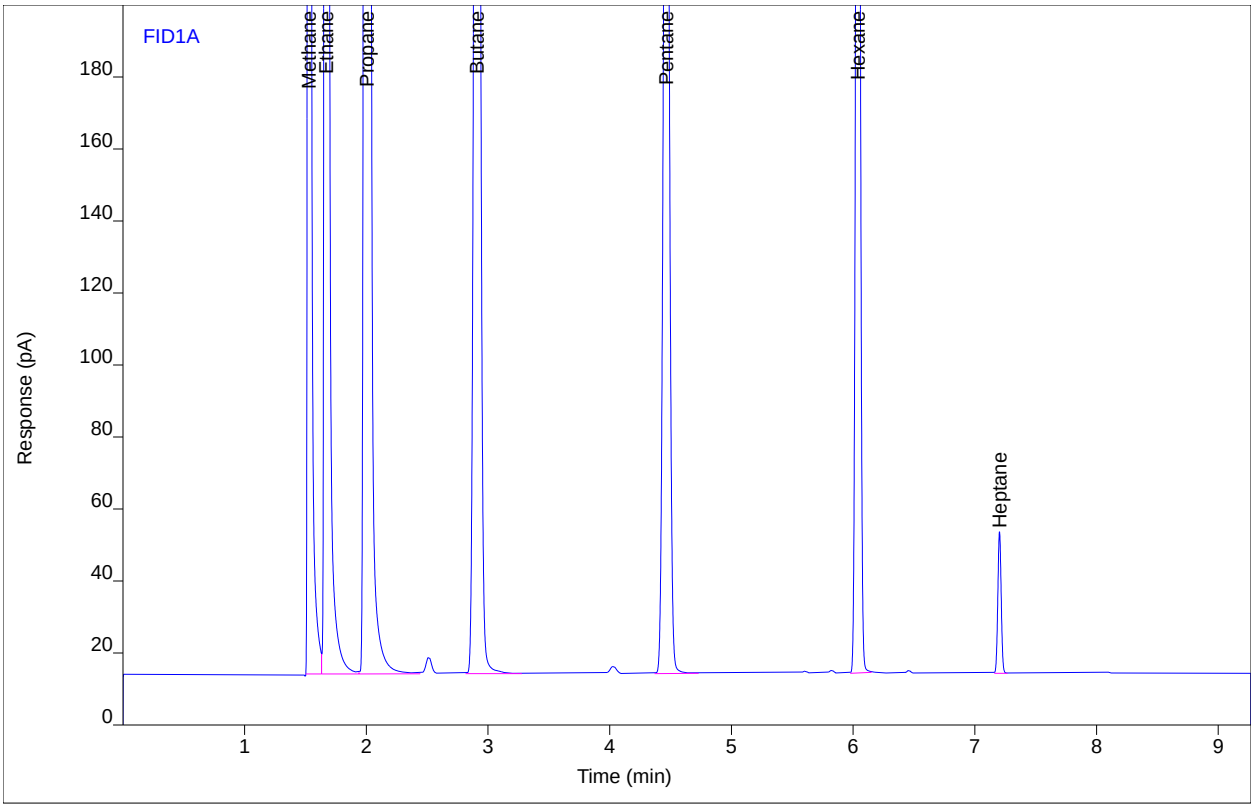


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	2257.48	1652.14	8486.40	1	8486.40	ppm
Ethane	VV	1.67	4352.85	2767.46	8441.58	1	8441.58	ppm
Propane	VV	2.00	6521.64	2963.29	8440.79	1	8440.79	ppm
Butane	BB	2.91	1733.68	558.839	1690.62	1	1690.62	ppm
Pentane	BB	4.47	1082.24	333.424	845.198	1	845.198	ppm
Hexane	BB	6.04	1032.51	444.464	676.165	1	676.165	ppm
Heptane	BB	7.20	75.3985	39.4401	42.3218	1	42.3218	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C6 ENV(1=800,3=200)	Sample Type	Calibration
Sequence Name	EDITHP730 ver.4	Vial Number	Vial 2
Data File	002F1904.D	Injection Volume	250
File Location	GC/2016/Edith/Quarter 3	Injection	4 of 5
Injection Date	9/17/2016 1:32 AM	Acquisition Method	AQ_EDITHP503_HRVOC.M
File Modified	9/27/2016 9:20 AM	Analysis Method	EDITHP730F_C1-C7.M
Instrument		Method Modified	9/27/2016 9:15 AM
Operator	Nicholas Traversa	Printed	9/27/2016 9:33 AM



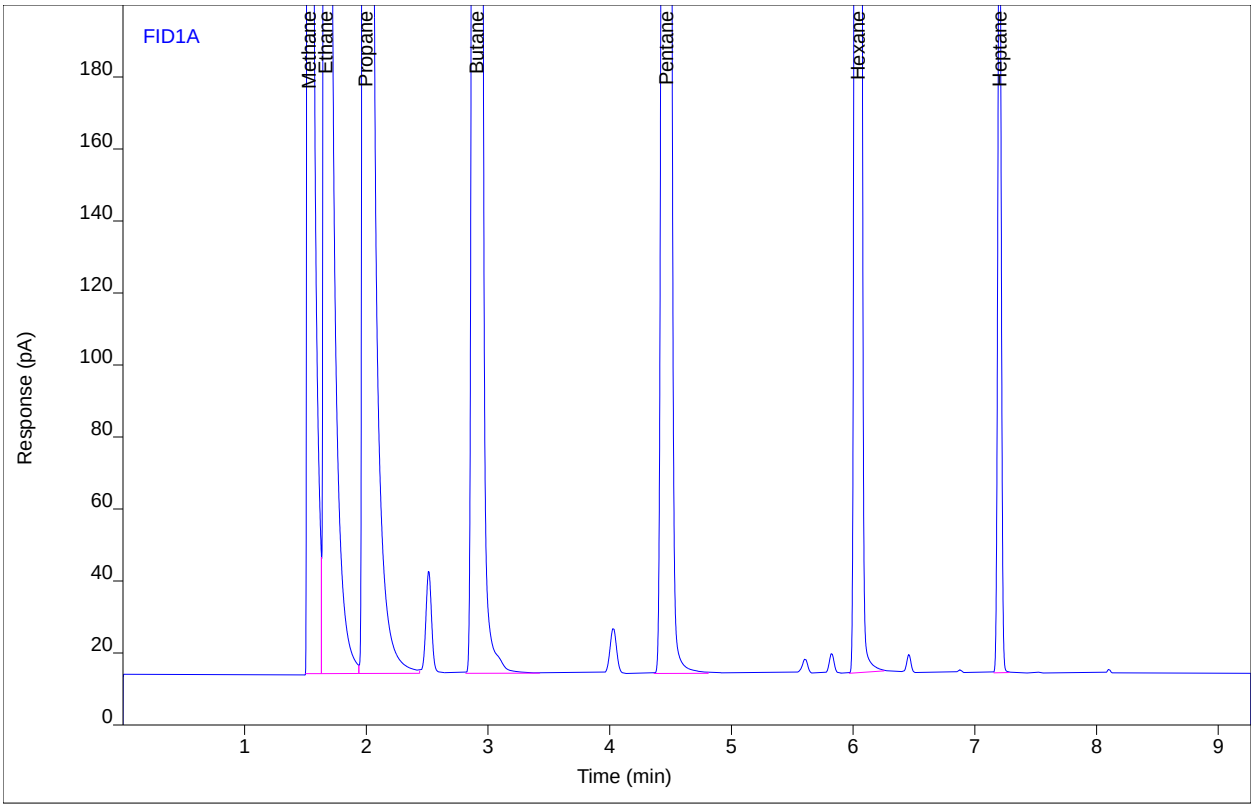
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	2258.45	1652.54	8490.04	1	8490.04	ppm
Ethane	VV	1.67	4354.60	2769.96	8444.97	1	8444.97	ppm
Propane	VV	2.00	6524.37	2963.20	8444.32	1	8444.32	ppm
Butane	BB	2.91	1734.70	558.857	1691.62	1	1691.62	ppm
Pentane	BB	4.47	1082.67	333.521	845.535	1	845.535	ppm
Hexane	BB	6.04	1032.83	444.274	676.379	1	676.379	ppm
Heptane	BB	7.20	75.4717	39.2811	42.3630	1	42.3630	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C8 ENV(1=0,3=400)
Sequence Name	EDITHP730 ver.4
Data File	002F2002.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/17/2016 2:16 AM
File Modified	9/27/2016 9:20 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	2 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



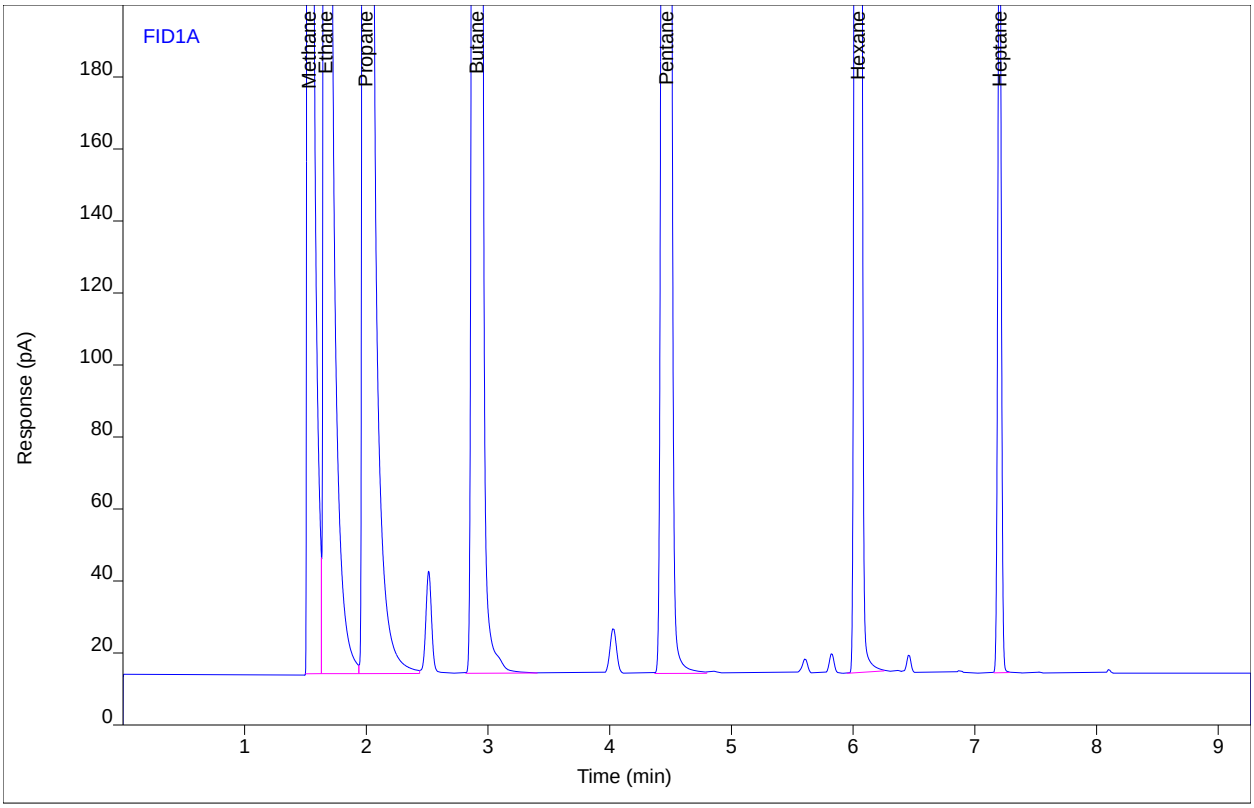
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	13650.7	10107.0	51314.3	1	51314.3	ppm
Ethane	VV	1.67	26300.1	16356.7	51004.4	1	51004.4	ppm
Propane	VV	1.99	39428.0	17177.1	51030.9	1	51030.9	ppm
Butane	BB	2.91	10519.3	3371.92	10258.5	1	10258.5	ppm
Pentane	BB	4.46	6577.94	2028.06	5138.17	1	5138.17	ppm
Hexane	BB	6.04	6280.68	2702.32	4113.77	1	4113.77	ppm
Heptane	BB	7.20	459.873	239.933	258.503	1	258.503	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C8 ENV(1=0,3=400)
Sequence Name	EDITHP730 ver.4
Data File	002F2003.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/17/2016 2:31 AM
File Modified	9/27/2016 9:20 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	3 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



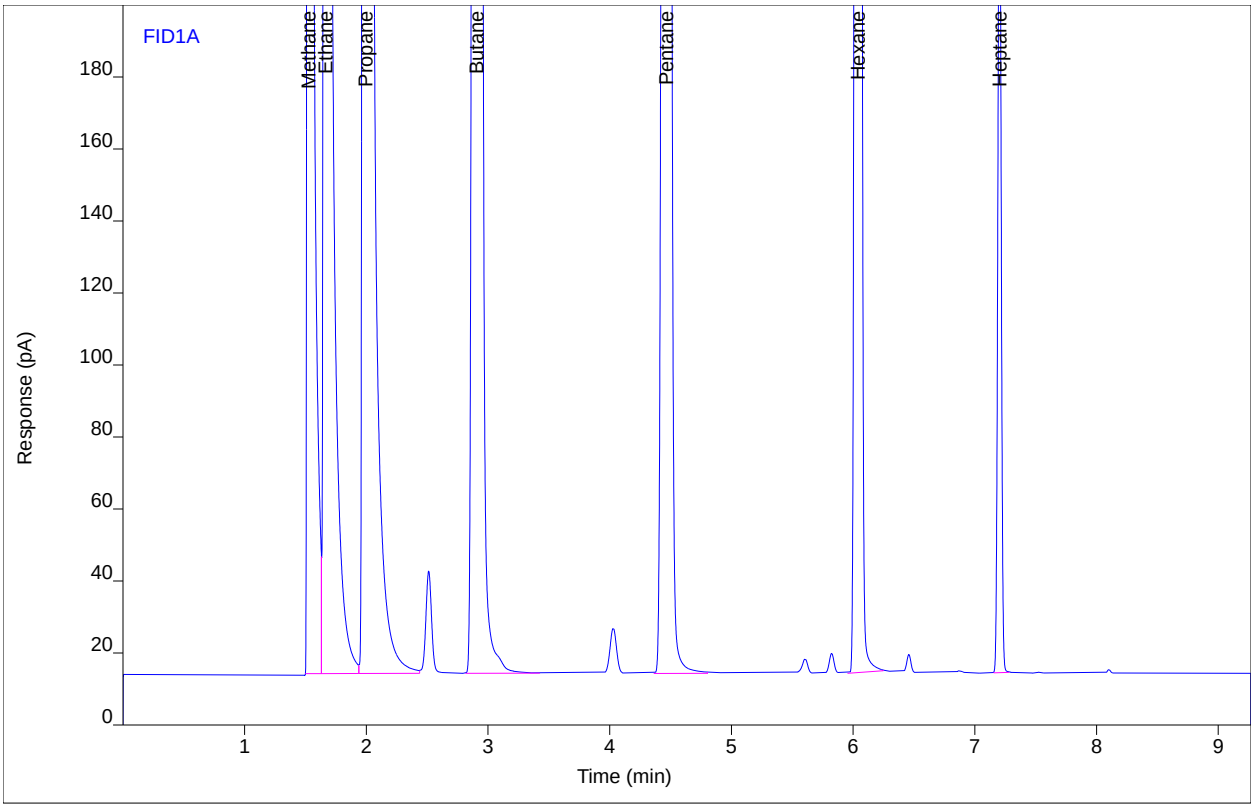
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	13621.8	10091.5	51205.9	1	51205.9	ppm
Ethane	VV	1.67	26243.2	16338.3	50894.0	1	50894.0	ppm
Propane	VV	1.99	39342.7	17147.7	50920.5	1	50920.5	ppm
Butane	BB	2.91	10496.8	3364.44	10236.6	1	10236.6	ppm
Pentane	BV	4.46	6564.15	2018.59	5127.40	1	5127.40	ppm
Hexane	VB	6.04	6268.73	2695.15	4105.94	1	4105.94	ppm
Heptane	BB	7.20	459.186	239.567	258.117	1	258.117	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	Edithp730 #C8 ENV(1=0,3=400)
Sequence Name	EDITHP730 ver.4
Data File	002F2004.D
File Location	GC/2016/Edith/Quarter 3
Injection Date	9/17/2016 2:46 AM
File Modified	9/27/2016 9:20 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 2
Injection Volume	250
Injection	4 of 5
Acquisition Method	AQ_EDITHP503_HRVOC.M
Analysis Method	EDITHP730F_C1-C7.M
Method Modified	9/27/2016 9:15 AM
Printed	9/27/2016 9:33 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	PV	1.53	13650.6	10095.2	51313.9	1	51313.9	ppm
Ethane	VV	1.67	26298.5	16347.4	51001.2	1	51001.2	ppm
Propane	VV	1.99	39423.7	17153.5	51025.4	1	51025.4	ppm
Butane	BB	2.91	10518.6	3371.34	10257.8	1	10257.8	ppm
Pentane	BV	4.46	6577.99	2023.19	5138.21	1	5138.21	ppm
Hexane	VB	6.04	6281.71	2702.16	4114.45	1	4114.45	ppm
Heptane	BB	7.20	460.141	239.162	258.654	1	258.654	ppm

Method Information

Method: C:\GC\2016\EDITH\METHODS\AQ_EDITHP503_HRVOC.M
Modified: 2/5/2016 at 4:56:13 PM

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Agilent 7890A

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Oven
Equilibration Time 0.3 min
Max Temperature 200 degrees C
Slow Fan Disabled
Oven Program On
35 °C for 2.2 min
#1 then 15 °C/min to 70 °C for 0.07 min
#2 then 30 °C/min to 180 °C for 1 min
Run Time 9.27 min

Sample Overlap
Sample overlap is not enabled

Front SS Inlet H2
Mode Split
Heater On 200 °C
Pressure On 5.1931 psi
Total Flow On 15.6 mL/min
Septum Purge Flow On 3 mL/min
Gas Saver Off
Split Ratio 5 :1
Split Flow 10.5 mL/min

Back SS Inlet H2
Mode Split
Heater On 200 °C
Pressure On 14.935 psi
Total Flow On 25.632 mL/min
Septum Purge Flow On 3 mL/min
Gas Saver Off
Split Ratio 2 :1
Split Flow 15.088 mL/min

Column #1
Restek 10198Rtx-1 S/N 806941
280 °C: 30 m x 320 µm x 4 µm
In: Front SS Inlet H2
Out: Front Detector FID

Airgas

CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Part Number:	X08NI99C15A0079	Reference Number:	141-124544672-1
Cylinder Number:	CC16105	Cylinder Volume:	144.4 CF
Laboratory:	ASG - Conley Stryker - OH	Cylinder Pressure:	2015 PSIG
Analysis Date:	Mar 28, 2016	Valve Outlet:	350
Lot Number:	141-124544672-1		

Expiration Date: Mar 28, 2019

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
ETHANE	100.0 PPM	100.0 PPM	+/- 2%
HEXANE	100.0 PPM	101.0 PPM	+/- 2%
METHANE	100.0 PPM	100.0 PPM	+/- 2%
N BUTANE	100.0 PPM	100.0 PPM	+/- 2%
N HEPTANE	100.0 PPM	100.0 PPM	+/- 2%
N PENTANE	100.0 PPM	103.0 PPM	+/- 2%
PROPANE	100.0 PPM	100.0 PPM	+/- 2%
NITROGEN	Balance		

Rebecca J England

Approved for Release

Airgas

Airgas USA, LLC
616 Miller Cut Off Road
Laporte, TX 77571
281-842-6900
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED HYDROCARBON

Customer:	MONTROSE ENVIRONMETAL GROUP - MORRISVILLE , NC		
Part Number:	X08NI83C15AC015	Reference Number:	126-400736189-1
Cylinder Number:	CC425315	Cylinder Volume:	15.8 CF
Laboratory:	ASG - LaPorte Mix (SAP) - TX	Cylinder Pressure:	204 PSIG
Analysis Date:	Jul 11, 2016	Valve Outlet:	350
Lot Number:	126-400736189-1	Expiration Date:	Jul 11, 2019

Traceability Statement: Hydrocarbon Process standards are NIST traceable either directly by weight or by comparison to Airgas laboratory standards that are directly NIST traceable by weight.

CERTIFIED CONCENTRATIONS

Component	Requested Concentration	Reported Mole %	Accuracy
N HEPTANE	250.0 PPM	251.0 PPM	+/- 2%
HEXANE	0.4000 %	0.4006 %	+/- 2%
N PENTANE	0.5000 %	0.5003 %	+/- 2%
N BUTANE	1.000 %	1.000 %	+/- 2%
ETHANE	5.000 %	5.003 %	+/- 2%
METHANE	5.000 %	5.006 %	+/- 2%
PROPANE	5.000 %	5.003 %	+/- 2%
NITROGEN	Balance	Balance	

Notes:

MONTROSE ENVIRONMETAL GROUP

Approved for Release

(Initial) 35 °C
Pressure 5.1931 psi
Flow 2.1 mL/min
Average Velocity 39.91 cm/sec
Holdup Time 1.2528 min
Flow Program On
2.1 mL/min for 0 min
Run Time 9.27 min

Column #2
Restek 19757Rt-Alumina BOND/Na2SO4
200 °C: 30 m x 320 µm x 5 µm
In: Back SS Inlet H2
Out: Back Detector FID

(Initial) 35 °C
Pressure 14.935 psi
Flow 7.5439 mL/min
Average Velocity 110 cm/sec
Holdup Time 0.45455 min
Flow Program On
7.5439 mL/min for 0 min
Run Time 9.27 min

Front Detector FID
Heater On 300 °C
H2 Flow On 50 mL/min
Air Flow On 450 mL/min
Makeup Flow On 35 mL/min
Const Col + Makeup Off
Flame On
Electrometer On

Back Detector FID
Heater On 200 °C
H2 Flow On 50 mL/min
Air Flow On 450 mL/min
Makeup Flow On 35 mL/min
Const Col + Makeup Off
Flame On
Electrometer On

Valve 1
Gas Sampling Valve Unknown
GSV Loop Volume 0.25 mL
Load Time 1.5 min
Inject Time 0.5 min

Valve 2
Gas Sampling Valve Unknown
GSV Loop Volume 0.25 mL
Load Time 1.5 min
Inject Time 0.5 min

Valve Box
Heater On 150 °C

Signals
Signal #1: Front Signal Save On
20 Hz

Signal #2: Test Plot Save Off
50 Hz

Signal #3: Back Signal Save On
20 Hz

Signal #4: Test Plot Save Off
50 Hz

method: C:\GC\2015\EDITH\METHODS\AQ_EDITHP274_HRVOC_XLONG.M
Modified on: 8/19/2015 at 1:48:45 PM

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Agilent 7890A

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Oven

Equilibration Time	0.3 min
Max Temperature	200 degrees C
Slow Fan	Disabled
Oven Program	On
35 °C for 2.2 min	
#1 then 15 °C/min to 70 °C for 0.07 min	
#2 then 30 °C/min to 180 °C for 8 min	
Run Time	16.27 min

Sample Overlap

Sample overlap is not enabled

Front SS Inlet H2

Mode	Split
Heater	On 200 °C
Pressure	On 5.1931 psi
Total Flow	On 15.6 mL/min
Septum Purge Flow	On 3 mL/min
Gas Saver	Off
Split Ratio	5 :1
Split Flow	10.5 mL/min

Back SS Inlet H2

Mode	Split
Heater	On 200 °C
Pressure	On 14.935 psi
Total Flow	On 25.632 mL/min
Septum Purge Flow	On 3 mL/min
Gas Saver	Off
Split Ratio	2 :1
Split Flow	15.088 mL/min

Column #1

Restek 10198Rtx-1 S/N 806941

280 °C: 30 m x 320 µm x 4 µm

In: Front SS Inlet H2

Out: Front Detector FID

(Initial)	35 °C
Pressure	5.1931 psi
Flow	2.1 mL/min
Average Velocity	39.91 cm/sec
Holdup Time	1.2528 min
Flow Program	On
2.1 mL/min for 0 min	
Run Time	16.27 min

Column #2

Restek 19757Rt-Alumina BOND/Na2SO4

200 °C: 30 m x 320 µm x 5 µm

In: Back SS Inlet H2

Out: Back Detector FID

(Initial)	35 °C
Pressure	14.935 psi
Flow	7.5439 mL/min
Average Velocity	110 cm/sec
Holdup Time	0.45455 min
Flow Program	On

method: C:\GC\2015\EDITH\METHODS\AQ_EDITHP274_HRVOC_XLONG.M
Modified on: 8/19/2015 at 1:48:45 PM
7.5439 mL/min for 0 min

Run Time		16.27 min
Front Detector FID		
Heater	On	300 °C
H2 Flow	On	50 mL/min
Air Flow	On	450 mL/min
Makeup Flow	On	35 mL/min
Const Col + Makeup	Off	
Flame	On	
Electrometer	On	
Back Detector FID		
Heater	On	200 °C
H2 Flow	On	50 mL/min
Air Flow	On	450 mL/min
Makeup Flow	On	35 mL/min
Const Col + Makeup	Off	
Flame	On	
Electrometer	On	
Valve 1		
Gas Sampling Valve	Unknown	
GSV Loop Volume	0.25 mL	
Load Time	1.5 min	
Inject Time	0.5 min	
Valve 2		
Gas Sampling Valve	Unknown	
GSV Loop Volume	0.25 mL	
Load Time	1.5 min	
Inject Time	0.5 min	
Valve Box		
Heater	On	150 °C
Signals		
Signal #1: Front Signal	Save On	
	20 Hz	
Signal #2: Test Plot	Save Off	
	50 Hz	
Signal #3: Back Signal	Save On	
	20 Hz	
Signal #4: Test Plot	Save Off	
	50 Hz	

method: C:\GC\2015\EDITH\METHODS\AQ_EDITHP274_HRVOC_SHORT.M
Modified on: 6/9/2015 at 1:23:32 PM

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Agilent 7890A

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Oven

Equilibration Time	0.3 min
Max Temperature	200 degrees C
Slow Fan	Disabled
Oven Program	On
35 °C for 2.2 min	
then 15 °C/min to 70 °C for 0.07 min	
Run Time	4.6033 min

Sample Overlap

Sample overlap is not enabled

Front SS Inlet H2

Mode	Split
Heater	On 200 °C
Pressure	On 5.1931 psi
Total Flow	On 15.6 mL/min
Septum Purge Flow	On 3 mL/min
Gas Saver	Off
Split Ratio	5 :1
Split Flow	10.5 mL/min

Back SS Inlet H2

Mode	Split
Heater	On 200 °C
Pressure	On 14.935 psi
Total Flow	On 25.632 mL/min
Septum Purge Flow	On 3 mL/min
Gas Saver	Off
Split Ratio	2 :1
Split Flow	15.088 mL/min

Column #1

Restek 10198Rtx-1 S/N 806941

280 °C: 30 m x 320 µm x 4 µm

In: Front SS Inlet H2

Out: Front Detector FID

(Initial)	35 °C
Pressure	5.1931 psi
Flow	2.1 mL/min
Average Velocity	39.91 cm/sec
Holdup Time	1.2528 min
Flow Program	On
2.1 mL/min for 0 min	
Run Time	4.6033 min

Column #2

Restek 19757Rt-Alumina BOND/Na2SO4

200 °C: 30 m x 320 µm x 5 µm

In: Back SS Inlet H2

Out: Back Detector FID

(Initial)	35 °C
Pressure	14.935 psi
Flow	7.5439 mL/min
Average Velocity	110 cm/sec
Holdup Time	0.45455 min
Flow Program	On
7.5439 mL/min for 0 min	

method: C:\GC\2015\EDITH\METHODS\AQ_EDITHP274_HRVOC_SHORT.M
Modified on: 6/9/2015 at 1:23:32 PM

Run Time	4.6033 min	
Front Detector FID		
Heater	On	300 °C
H2 Flow	On	50 mL/min
Air Flow	On	450 mL/min
Makeup Flow	On	35 mL/min
Const Col + Makeup	Off	
Flame	On	
Electrometer	On	
Back Detector FID		
Heater	On	200 °C
H2 Flow	On	50 mL/min
Air Flow	On	450 mL/min
Makeup Flow	On	35 mL/min
Const Col + Makeup	Off	
Flame	On	
Electrometer	On	
Valve 1		
Gas Sampling Valve	Unknown	
GSV Loop Volume	0.25 mL	
Load Time	1.5 min	
Inject Time	0.5 min	
Valve 2		
Gas Sampling Valve	Unknown	
GSV Loop Volume	0.25 mL	
Load Time	1.5 min	
Inject Time	0.5 min	
Valve Box		
Heater	On	150 °C
Signals		
Signal #1: Front Signal	Save On	
	20 Hz	
Signal #2: Test Plot	Save Off	
	50 Hz	
Signal #3: Back Signal	Save On	
	20 Hz	
Signal #4: Test Plot	Save Off	
	50 Hz	

method: C:\GC\2015\EDITH\METHODS\AQ_EDITHP274_HRVOC.M
Modified on: 6/9/2015 at 10:42:00 AM

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Agilent 7890A

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Oven
Equilibration Time 0.3 min
Max Temperature 200 degrees C
Slow Fan Disabled
Oven Program On
35 °C for 2.2 min
#1 then 15 °C/min to 70 °C for 0.07 min
#2 then 30 °C/min to 180 °C for 1 min
Run Time 9.27 min

Sample Overlap
Sample overlap is not enabled

Front SS Inlet H2
Mode Split
Heater On 200 °C
Pressure On 5.1931 psi
Total Flow On 15.6 mL/min
Septum Purge Flow On 3 mL/min
Gas Saver Off
Split Ratio 5 :1
Split Flow 10.5 mL/min

Back SS Inlet H2
Mode Split
Heater On 200 °C
Pressure On 14.935 psi
Total Flow On 25.632 mL/min
Septum Purge Flow On 3 mL/min
Gas Saver Off
Split Ratio 2 :1
Split Flow 15.088 mL/min

Column #1
Restek 10198Rtx-1 S/N 806941
280 °C: 30 m x 320 µm x 4 µm
In: Front SS Inlet H2
Out: Front Detector FID

(Initial) 35 °C
Pressure 5.1931 psi
Flow 2.1 mL/min
Average Velocity 39.91 cm/sec
Holdup Time 1.2528 min
Flow Program On
2.1 mL/min for 0 min
Run Time 9.27 min

Column #2
Restek 19757Rt-Alumina BOND/Na2SO4
200 °C: 30 m x 320 µm x 5 µm
In: Back SS Inlet H2
Out: Back Detector FID

(Initial) 35 °C
Pressure 14.935 psi
Flow 7.5439 mL/min
Average Velocity 110 cm/sec
Holdup Time 0.45455 min
Flow Program On

method: C:\GC\2015\EDITH\METHODS\AQ_EDITHP274_HRVOC.M
Modified on: 6/9/2015 at 10:42:00 AM
7.5439 mL/min for 0 min

Run Time	9.27 min
Front Detector FID	
Heater	On 300 °C
H2 Flow	On 50 mL/min
Air Flow	On 450 mL/min
Makeup Flow	On 35 mL/min
Const Col + Makeup	Off
Flame	On
Electrometer	On
Back Detector FID	
Heater	On 200 °C
H2 Flow	On 50 mL/min
Air Flow	On 450 mL/min
Makeup Flow	On 35 mL/min
Const Col + Makeup	Off
Flame	On
Electrometer	On
Valve 1	
Gas Sampling Valve	Off
GSV Loop Volume	0.25 mL
Load Time	1.5 min
Inject Time	0.5 min
Valve 2	
Gas Sampling Valve	Off
GSV Loop Volume	0.25 mL
Load Time	1.5 min
Inject Time	0.5 min
Valve Box	
Heater	On 150 °C
Signals	
Signal #1: Front Signal	Save On 20 Hz
Signal #2: Test Plot	Save Off 50 Hz
Signal #3: Back Signal	Save On 20 Hz
Signal #4: Test Plot	Save Off 50 Hz

Enthalpy Analytical

Company: Jacobs Technology

Job No.: 1016-55 - Modified EPA Method 18-Type Canister Analysis

Client No.: N/A

Methane -- Calibration Standards, Laboratory Blanks and Controls

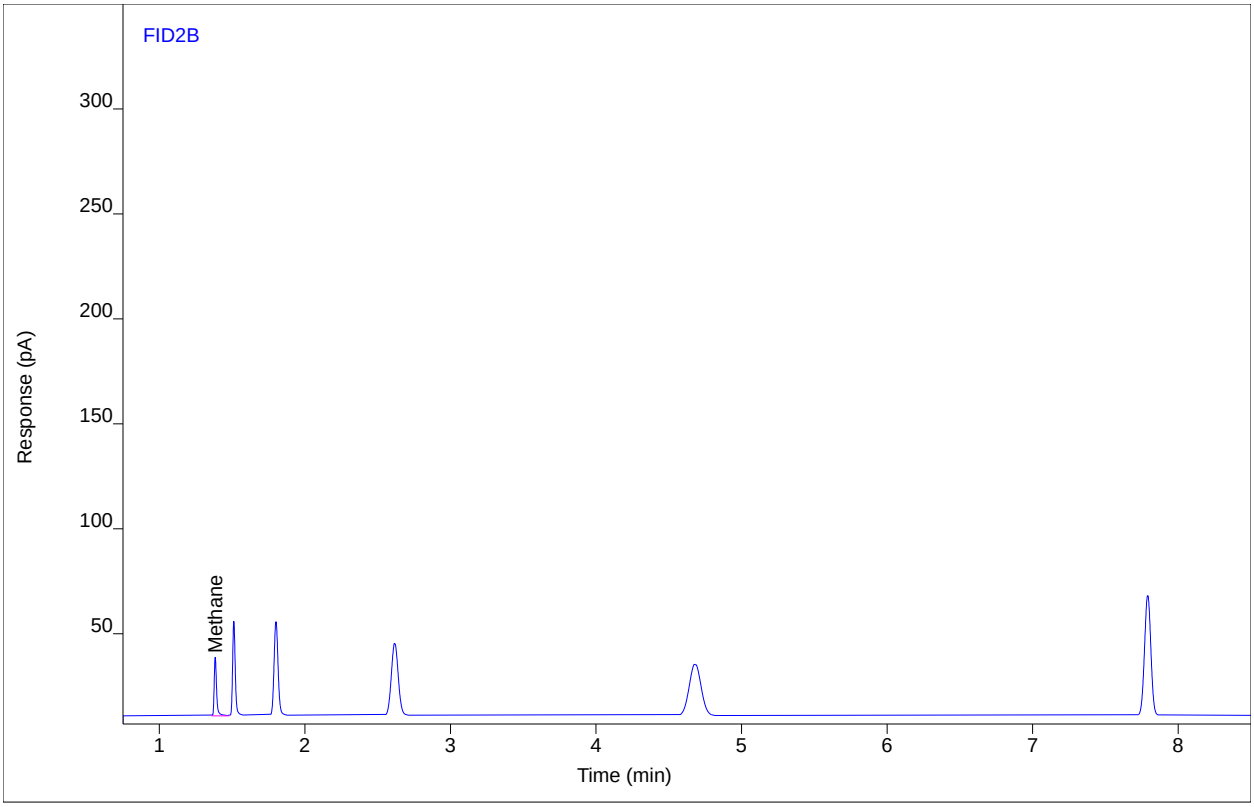
SAMPLE NAME	Filename #1	Filename #2	Filename #3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	%dif RT	Conc # 1	Conc # 2	Conc # 3	%dif conc	Units	Avg Conc	Standard Tag	% Tag
BettyP476 #C4 ENV(1=0,4=450)	025B0501.D	025B0502.D	025B0503.D	BETTYP445_C1-C7.M	1.38	1.38	1.38	0.0	102	99.5	99.5	1.5	ppm	100	101	99.3
BettyP374 Method Blank-1	017B1401.D	017B1402.D	017B1403.D	BETTYP445_C1-C7.M	NA	NA	NA	NA	0.505	0.505	0.505	0.0	ppm	0.505	ND	
BettyP476 #C4 ENV(1=0,4=450)	025B1502.D	025B1503.D	025B1504.D	BETTYP445_C1-C7.M	1.38	1.38	1.38	0.0	106	104	103	1.8	ppm	104	101	103
BettyP476 #C4 ENV(1=0,4=450)	025B1702.D	025B1703.D	025B1704.D	BETTYP445_C1-C7.M	1.38	1.38	1.38	0.0	111	110	109	1.0	ppm	110	101	109
BettyP476 #C4 ENV(1=0,4=450)	025B1702.D	025B1703.D	025B1704.D	BETTYP445_C1-C6_XAS.M	1.38	1.38	1.38	0.0	104	102	102	1.1	ppm	103	101	102

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP481 ver.2
Inj Data File	025B0501.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 12:46 PM
File Modified	11/7/2016 6:40 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	1 of 3
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



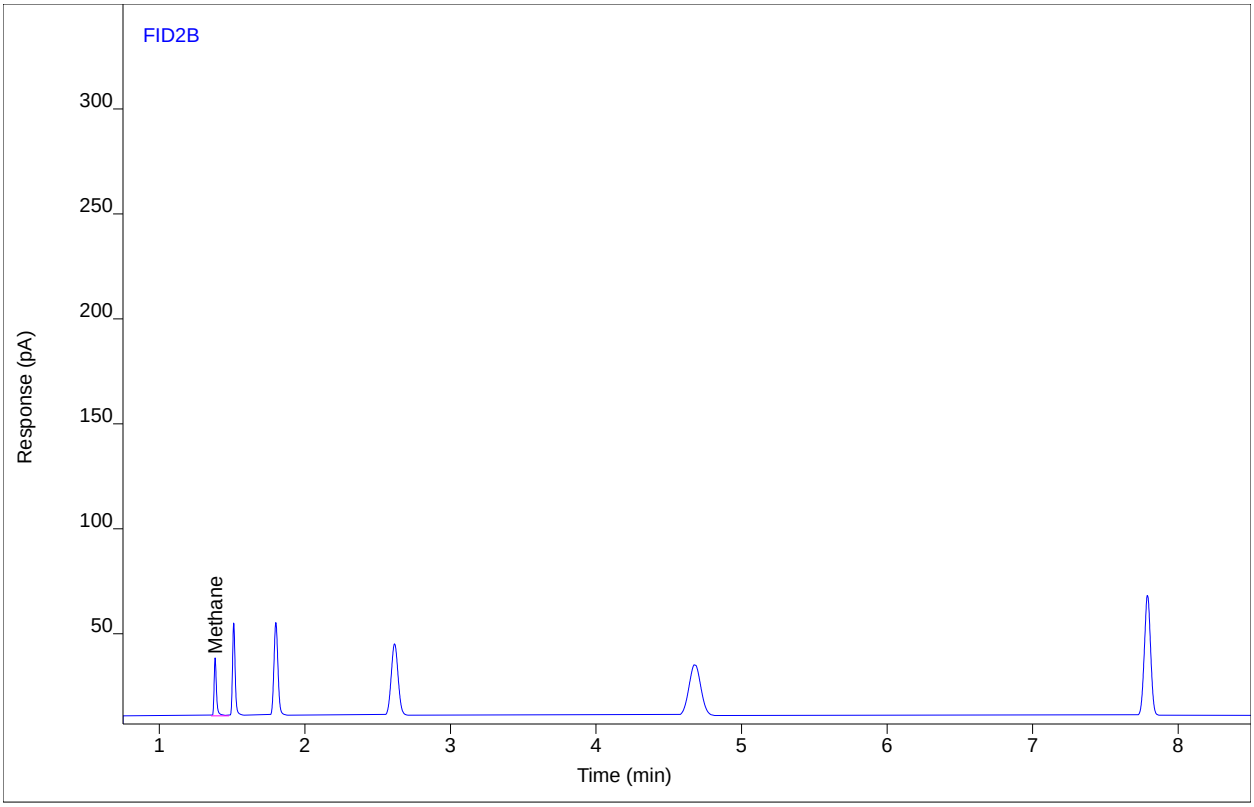
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	32.0168	28.0344	101.766	1	101.766	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP481 ver.2
Inj Data File	025B0502.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 1:10 PM
File Modified	11/7/2016 6:40 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	2 of 3
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



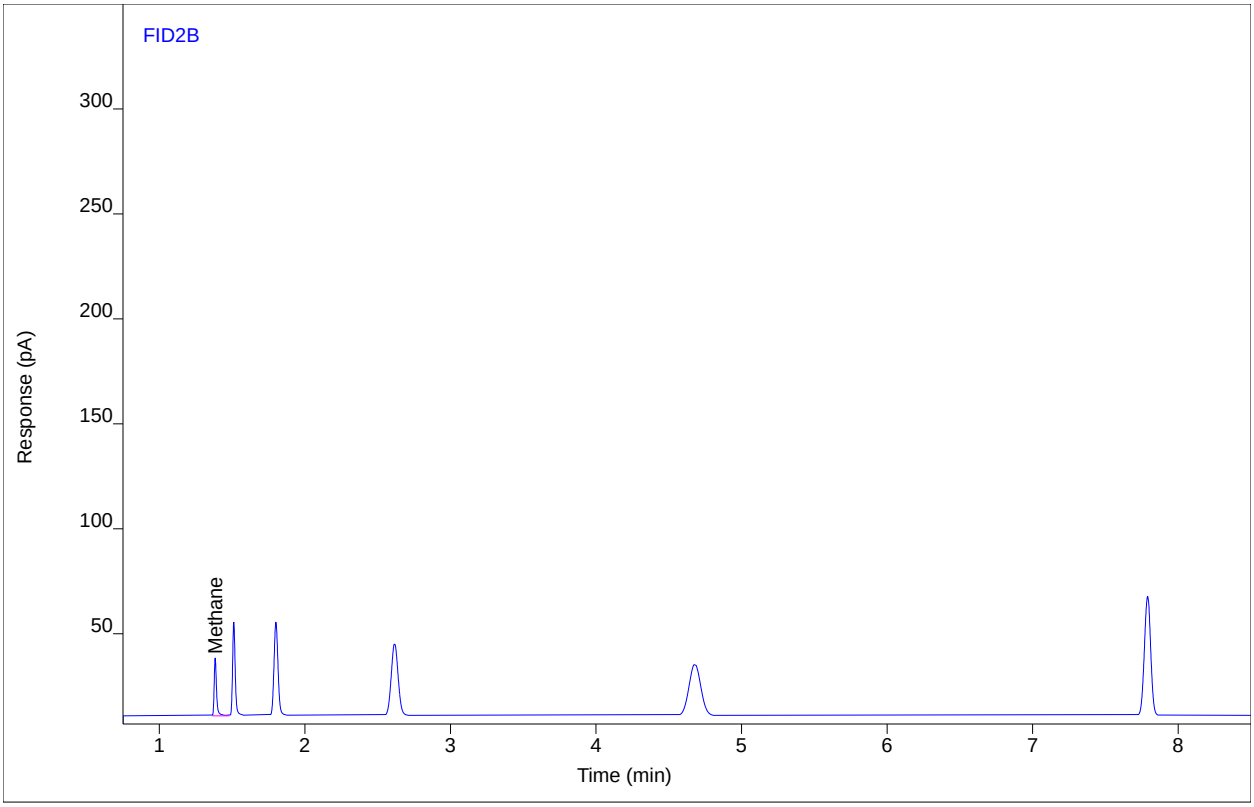
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	31.3039	27.5350	99.4974	1	99.4974	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP481 ver.2
Inj Data File	025B0503.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 1:34 PM
File Modified	11/7/2016 6:40 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 3
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



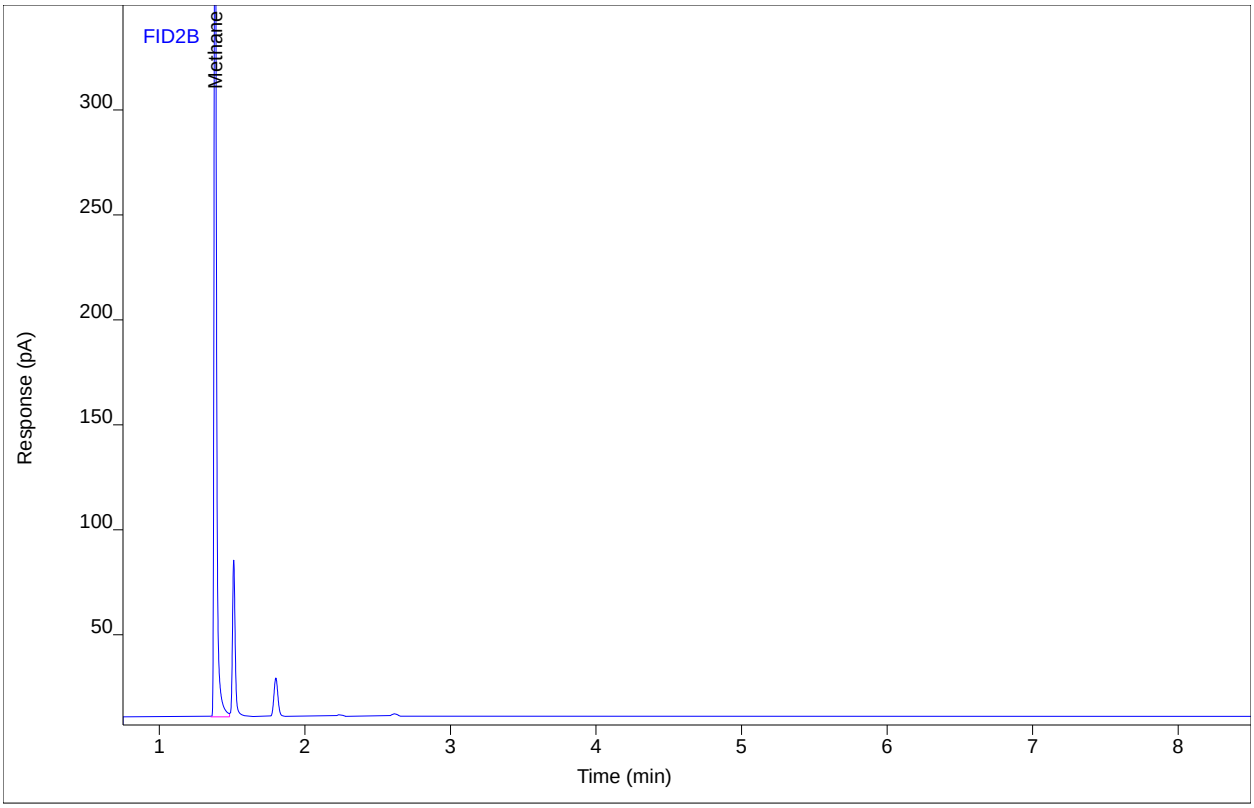
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	31.3190	27.4783	99.5452	1	99.5452	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 1 161019C01 B Can149.Can
Sequence Name	BETTYP481 ver.2
Inj Data File	022B0701.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 2:38 PM
File Modified	11/7/2016 6:40 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Sample
Vial Number	Vial 22
Injection Volume	250
Injection	1 of 2
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



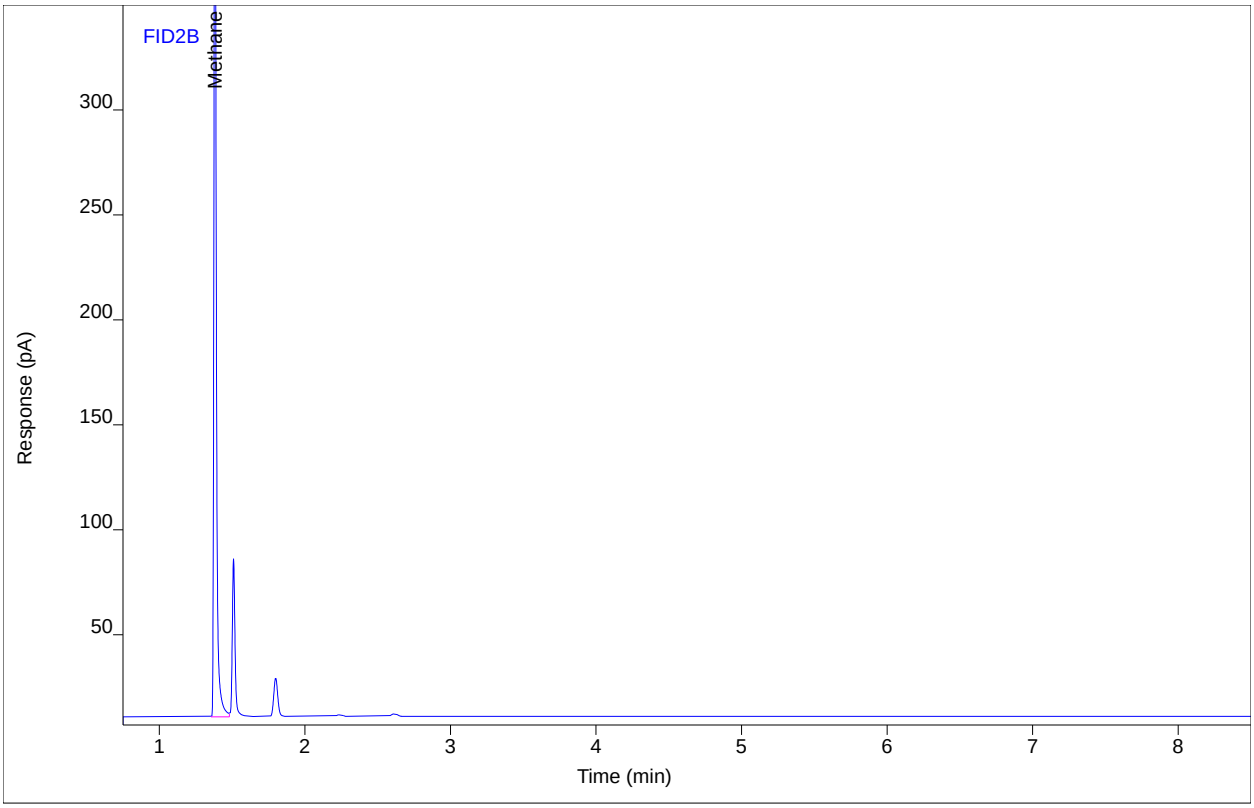
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	527.044	458.139	1677.16	1	1677.16	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 1 161019C01 B Can149.Can
Sequence Name	BETTYP481 ver.2
Inj Data File	022B0702.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 3:00 PM
File Modified	11/7/2016 6:40 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Sample
Vial Number	Vial 22
Injection Volume	250
Injection	2 of 2
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM

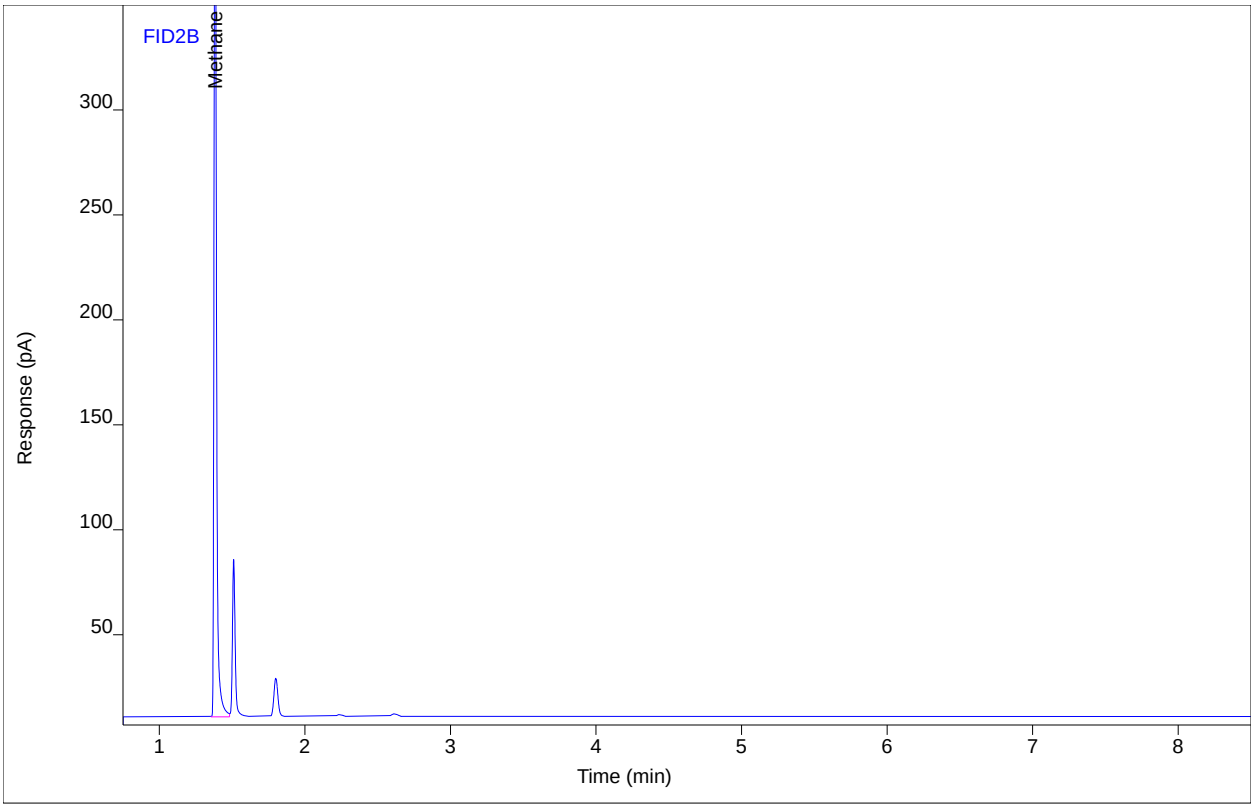


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	530.738	461.395	1688.92	1	1688.92	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 1 161019C01 B Can149.Can	Sample Type	Sample
Sequence Name	BETTYP481 ver.2	Vial Number	Vial 22
Inj Data File	022B0801.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	1 of 1
Injection Date	11/4/2016 3:21 PM	Acquisition Method	GC142P133_CAL.M
File Modified	11/7/2016 6:40 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument	Betty	Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

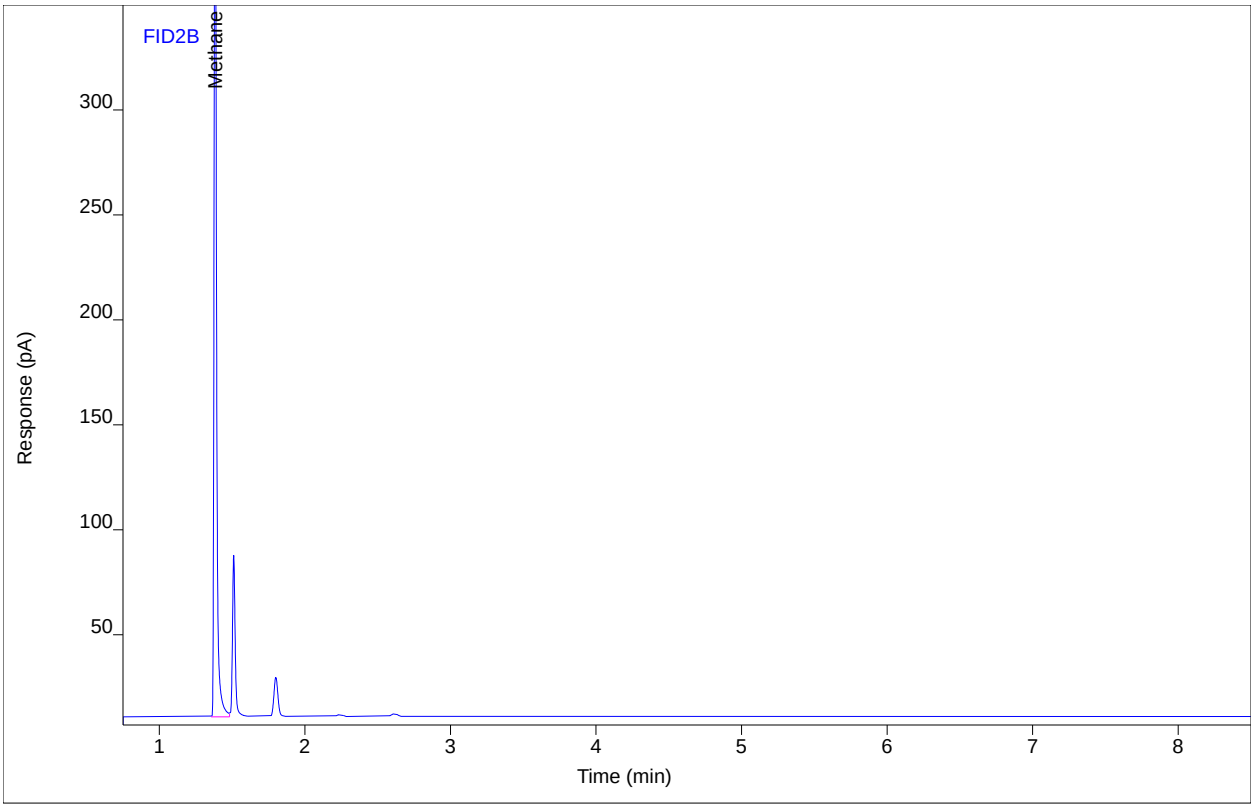


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	527.598	459.349	1678.92	1	1678.92	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 1 161019C01 A Can930.Can	Sample Type	Sample
Sequence Name	BETTYP481 ver.2	Vial Number	Vial 20
Inj Data File	020B0901.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	1 of 3
Injection Date	11/4/2016 3:42 PM	Acquisition Method	GC142P133_CAL.M
File Modified	11/7/2016 6:40 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument	Betty	Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

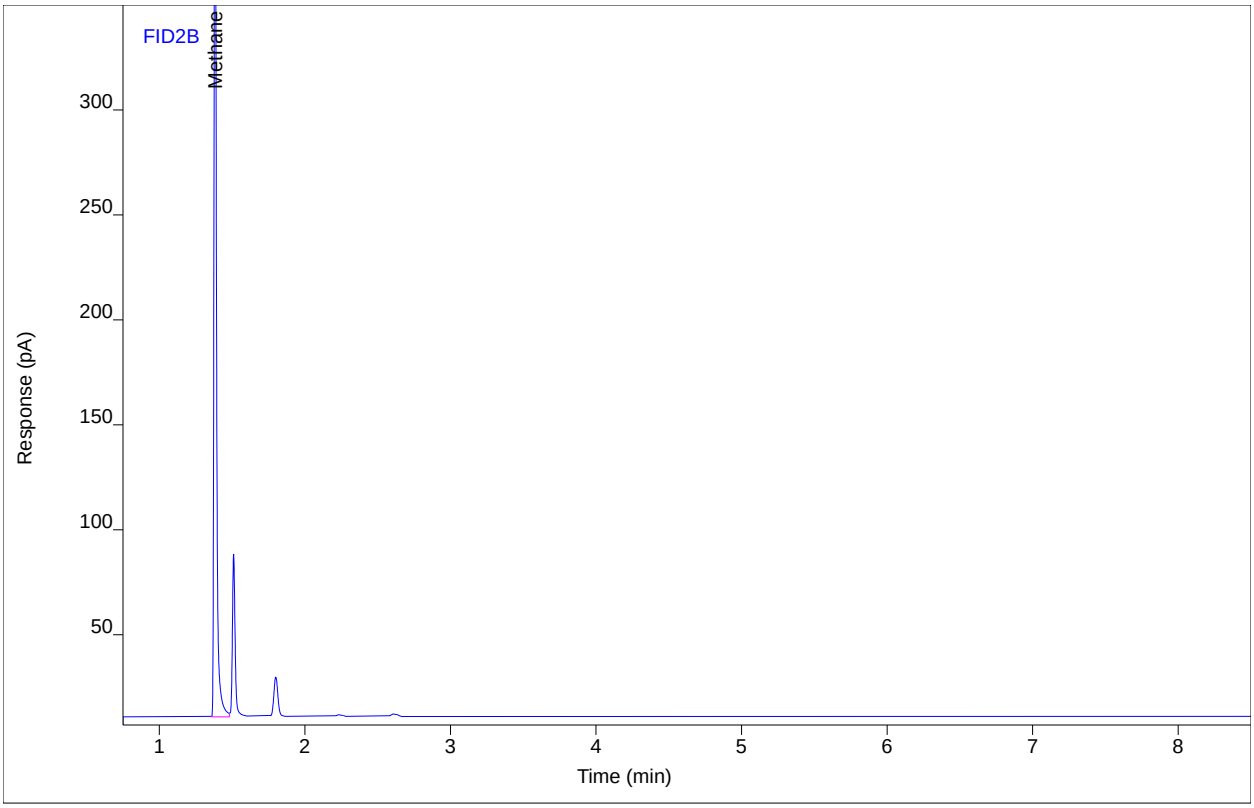


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	541.229	470.832	1722.30	1	1722.30	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 1 161019C01 A Can930.Can	Sample Type	Sample
Sequence Name	BETTYP481 ver.2	Vial Number	Vial 20
Inj Data File	020B0902.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	2 of 3
Injection Date	11/4/2016 4:03 PM	Acquisition Method	GC142P133_CAL.M
File Modified	11/7/2016 6:40 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument	Betty	Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

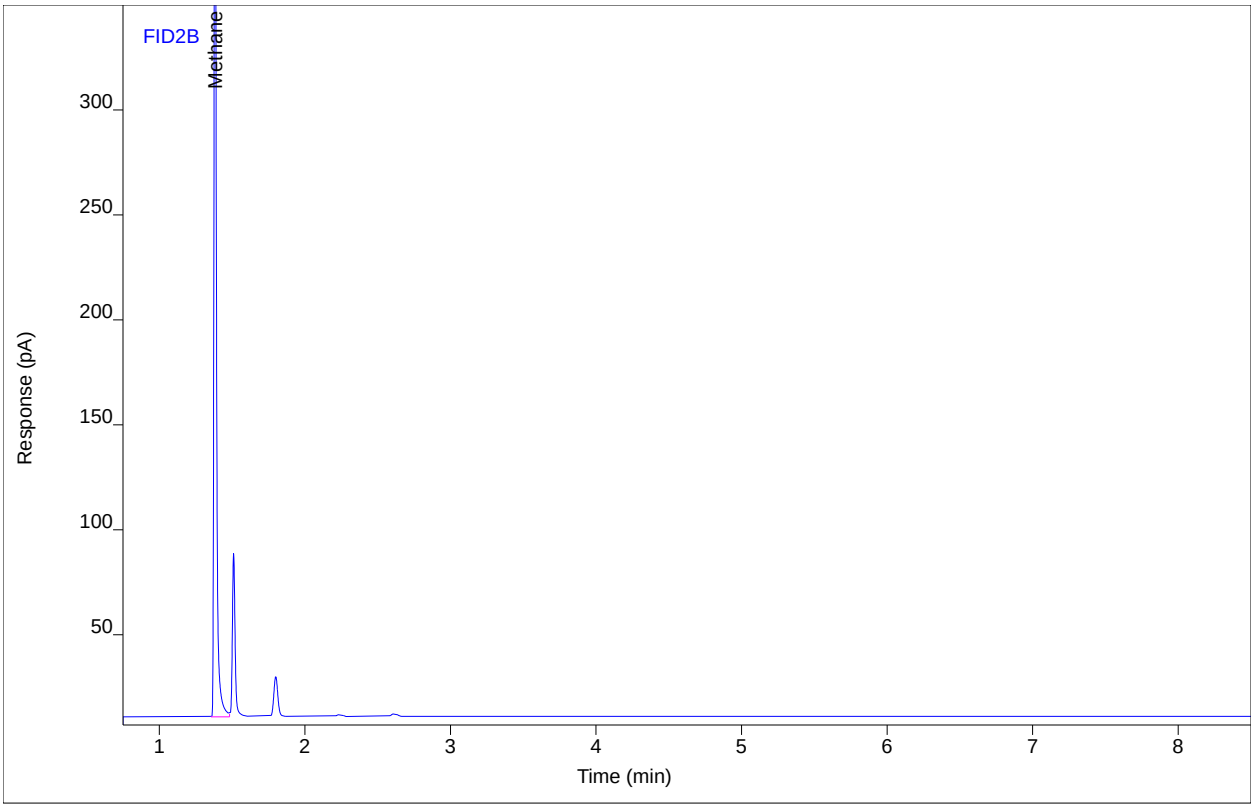


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	545.353	472.173	1735.43	1	1735.43	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 1 161019C01 A Can930.Can	Sample Type	Sample
Sequence Name	BETTYP481 ver.2	Vial Number	Vial 20
Inj Data File	020B0903.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	3 of 3
Injection Date	11/4/2016 4:25 PM	Acquisition Method	GC142P133_CAL.M
File Modified	11/7/2016 6:40 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument	Betty	Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM



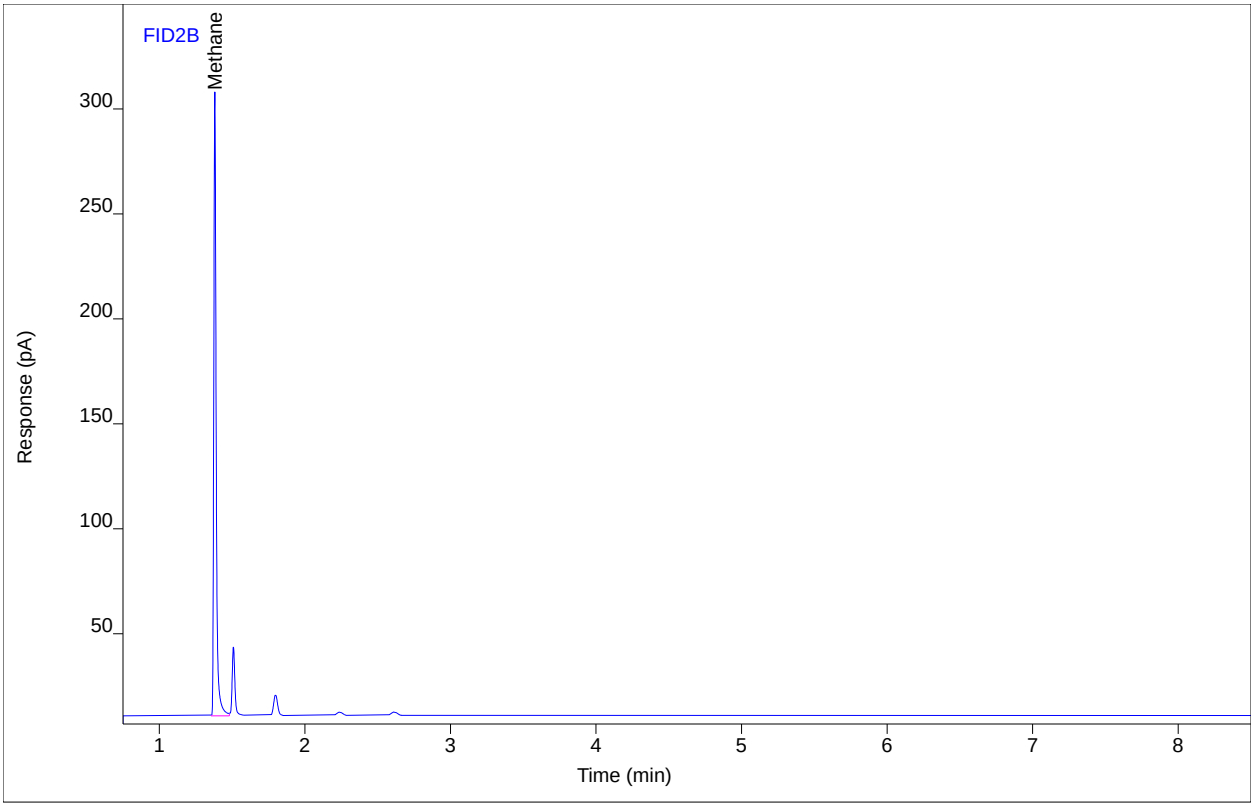
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	548.414	474.616	1745.17	1	1745.17	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 2 161017B02 A Can114.Can
Sequence Name	BETTYP481 ver.2
Inj Data File	023B1001.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 4:46 PM
File Modified	11/7/2016 6:41 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Sample
Vial Number	Vial 23
Injection Volume	250
Injection	1 of 3
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM

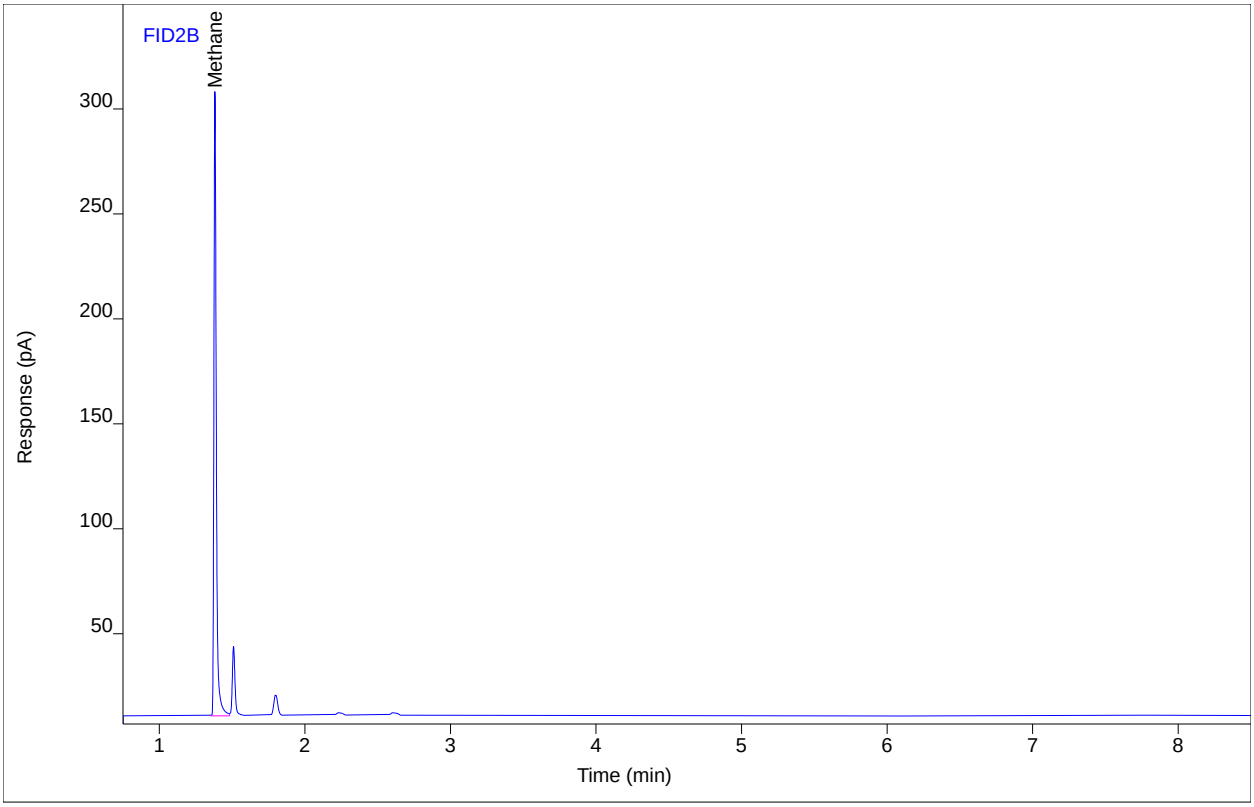


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	341.587	296.322	1086.95	1	1086.95	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 2 161017B02 A Can114.Can	Sample Type	Sample
Sequence Name	BETTYP481 ver.2	Vial Number	Vial 23
Inj Data File	023B1002.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	2 of 3
Injection Date	11/4/2016 5:08 PM	Acquisition Method	GC142P133_CAL.M
File Modified	11/7/2016 6:41 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument	Betty	Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	342.255	297.006	1089.08	1	1089.08	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 2 161017B02 A Can114.Can
Sequence Name	BETTYP481 ver.2
Inj Data File	023B1003.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 5:30 PM
File Modified	11/7/2016 6:41 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Sample
Vial Number	Vial 23
Injection Volume	250
Injection	3 of 3
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
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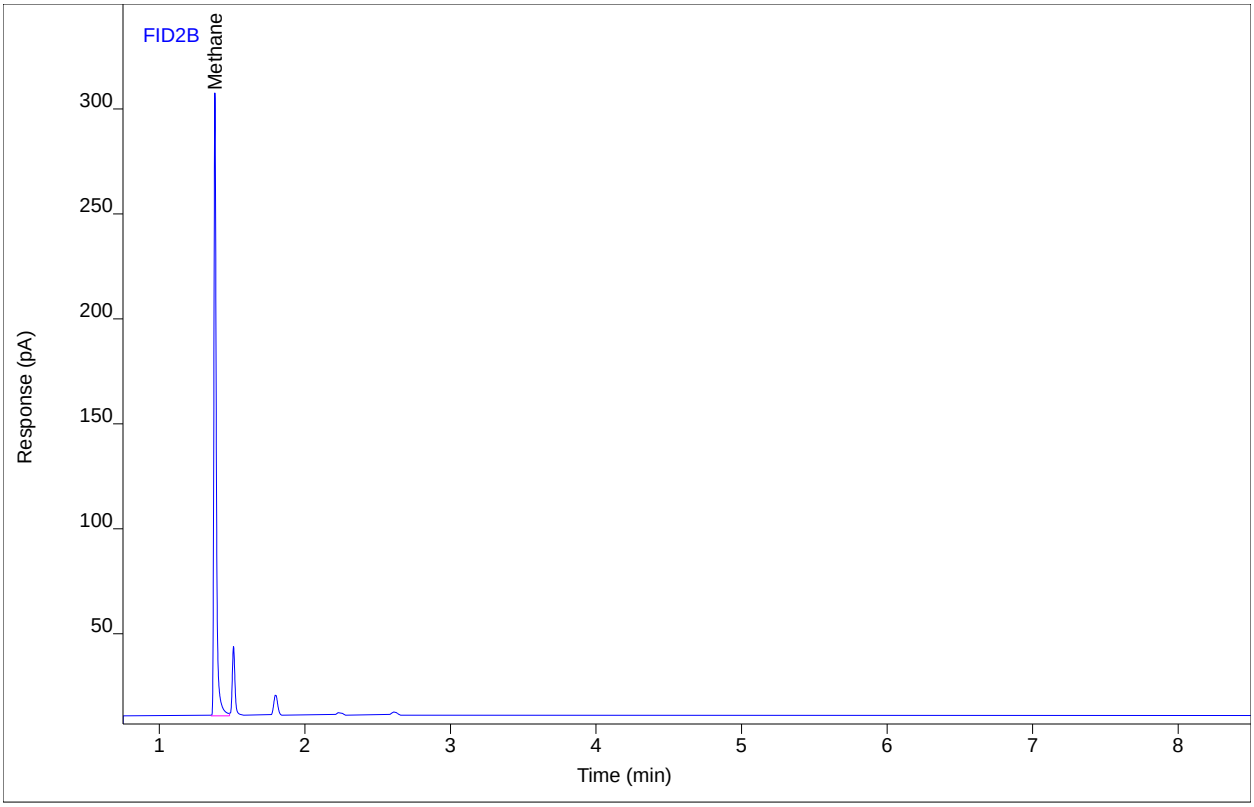


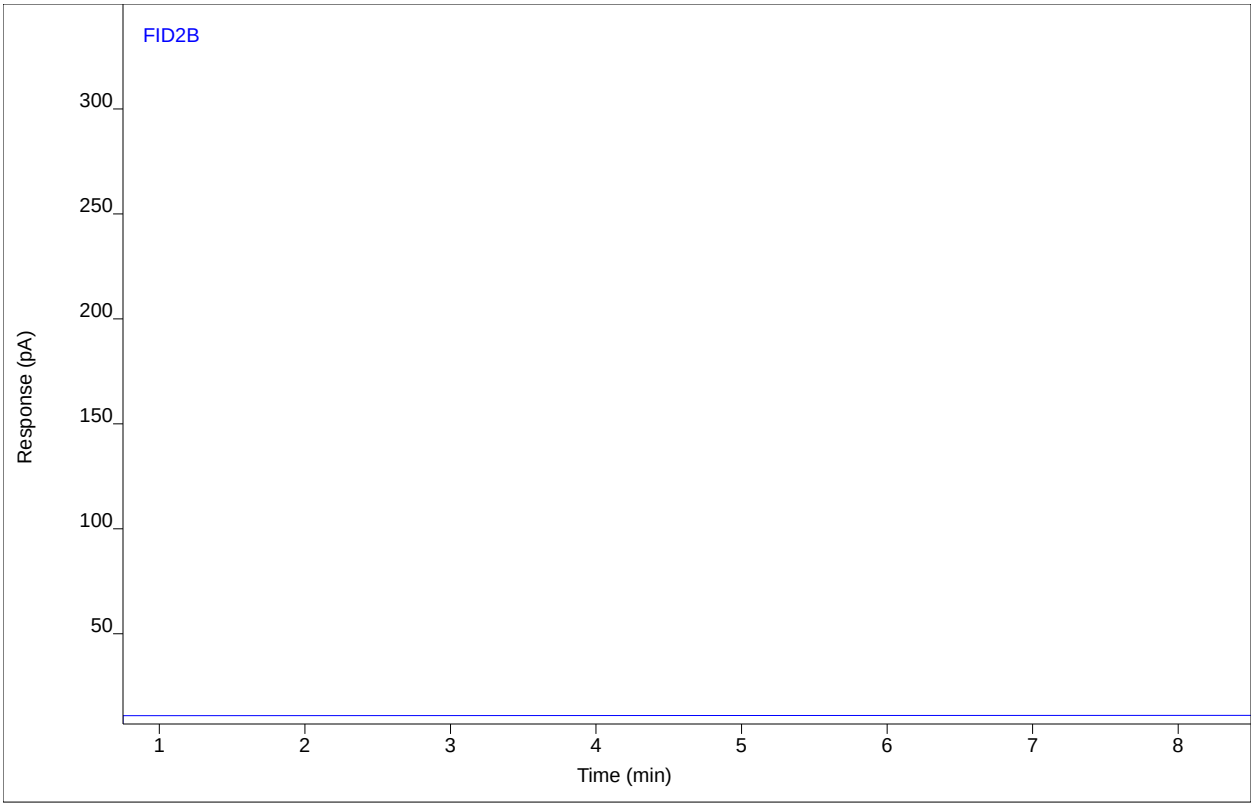
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	341.333	296.132	1086.15	1	1086.15	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP374 Method Blank-1
Sequence Name	BETTYP481 ver.2
Inj Data File	017B1401.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 8:26 PM
File Modified	11/7/2016 6:41 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Sample
Vial Number	Vial 17
Injection Volume	250
Injection	1 of 3
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



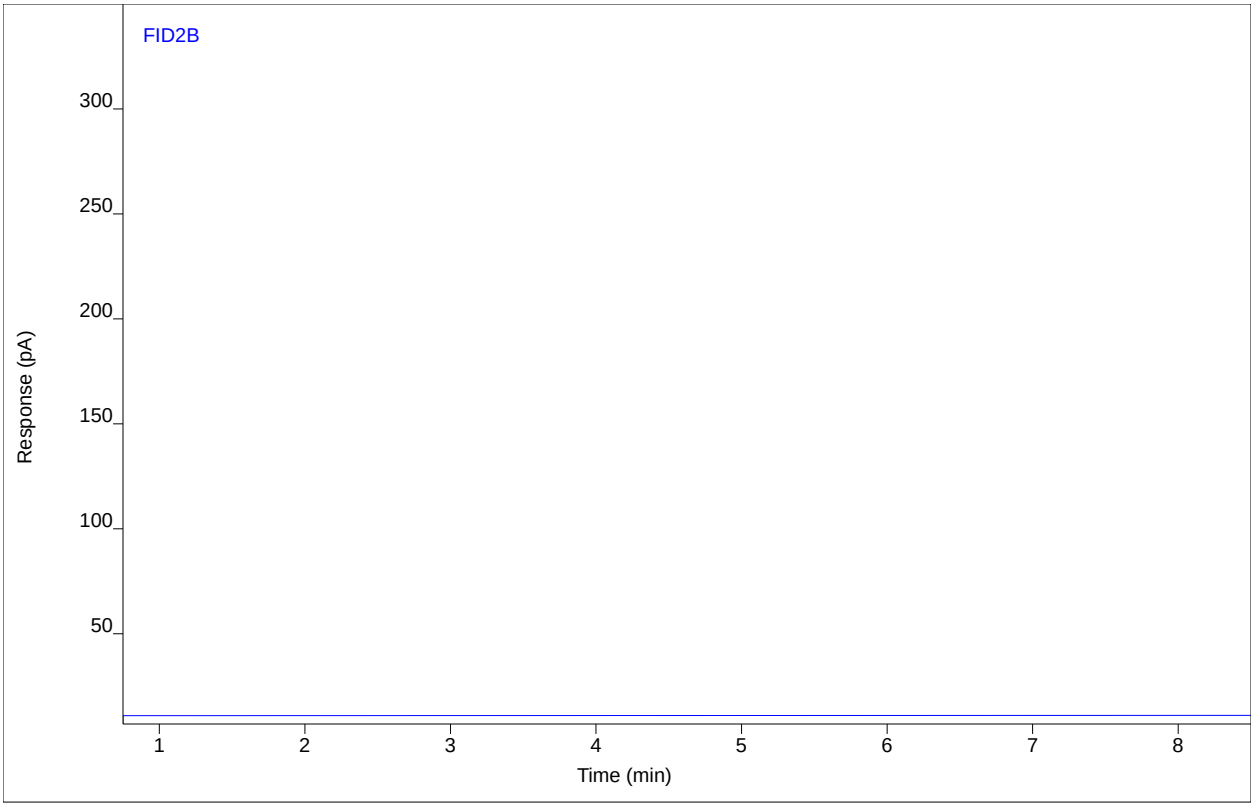
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane		(1.39)				1		

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP374 Method Blank-1
Sequence Name	BETTYP481 ver.2
Inj Data File	017B1402.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 8:47 PM
File Modified	11/7/2016 6:41 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Sample
Vial Number	Vial 17
Injection Volume	250
Injection	2 of 3
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



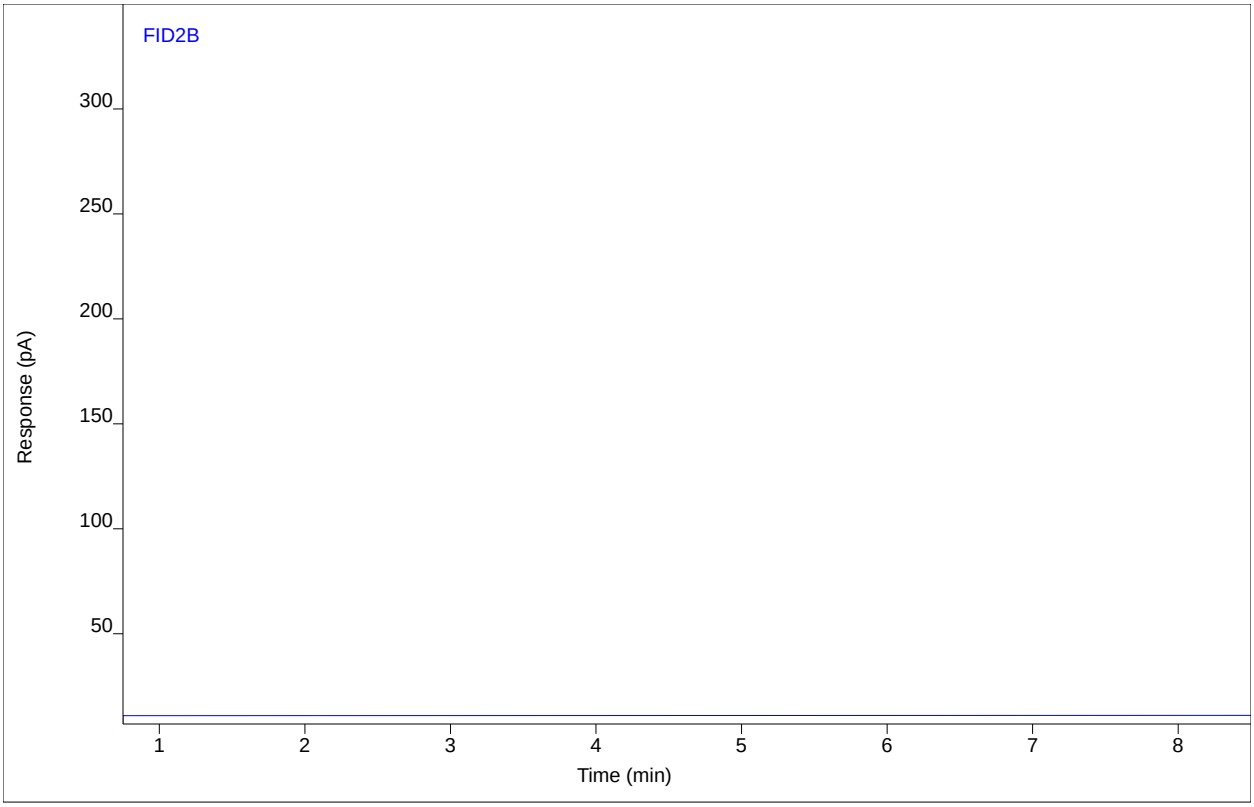
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane		(1.39)				1		

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP374 Method Blank-1
Sequence Name	BETTYP481 ver.2
Inj Data File	017B1403.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 9:08 PM
File Modified	11/7/2016 6:41 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Sample
Vial Number	Vial 17
Injection Volume	250
Injection	3 of 3
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane		(1.39)				1		

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP481 ver.2
Inj Data File	025B1502.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 9:56 PM
File Modified	11/7/2016 6:41 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	2 of 4
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
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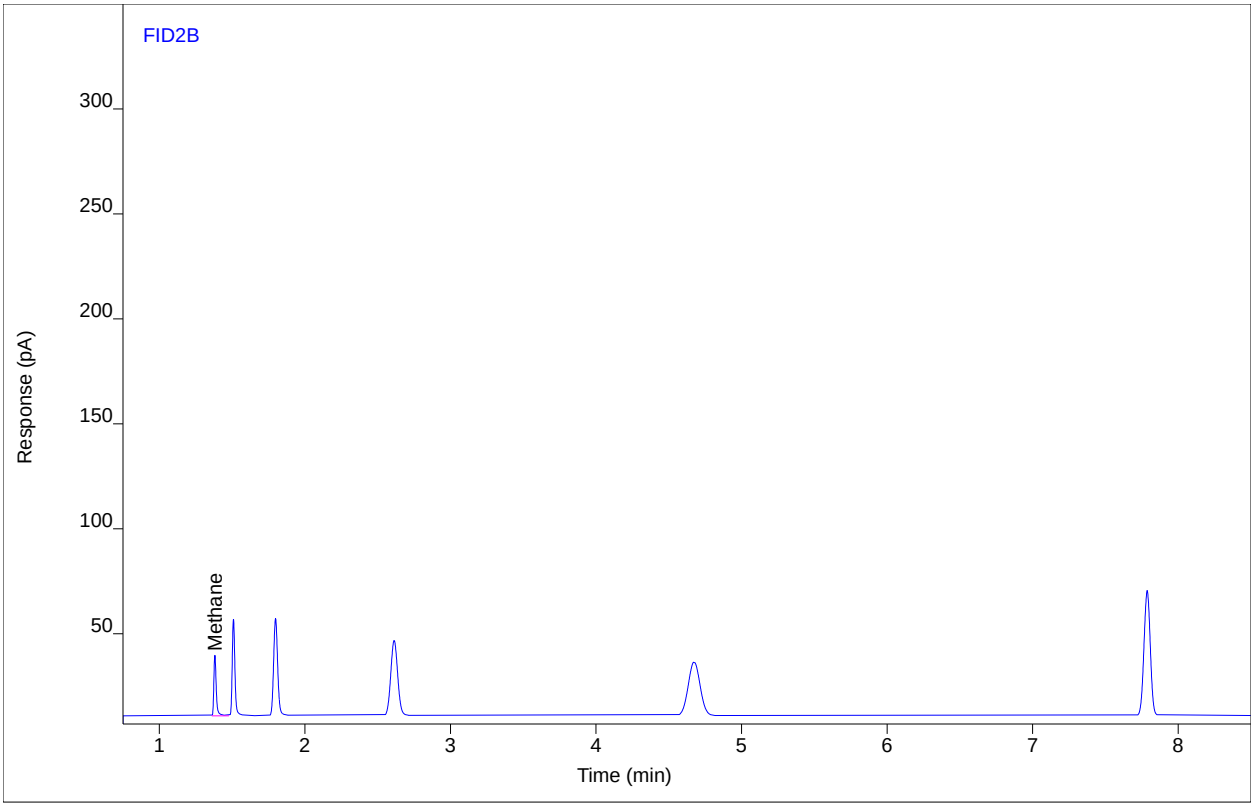


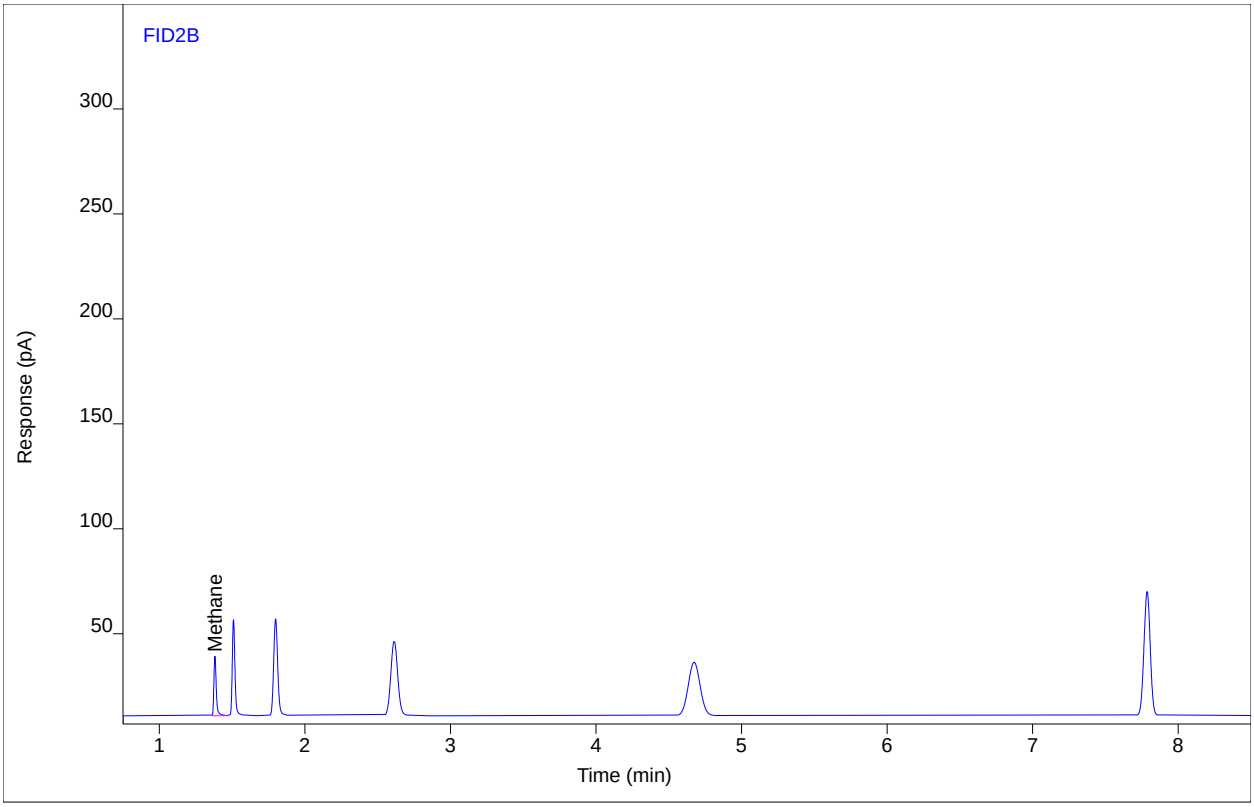
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	33.4461	28.9406	106.315	1	106.315	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP481 ver.2
Inj Data File	025B1503.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 10:19 PM
File Modified	11/7/2016 6:41 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 4
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



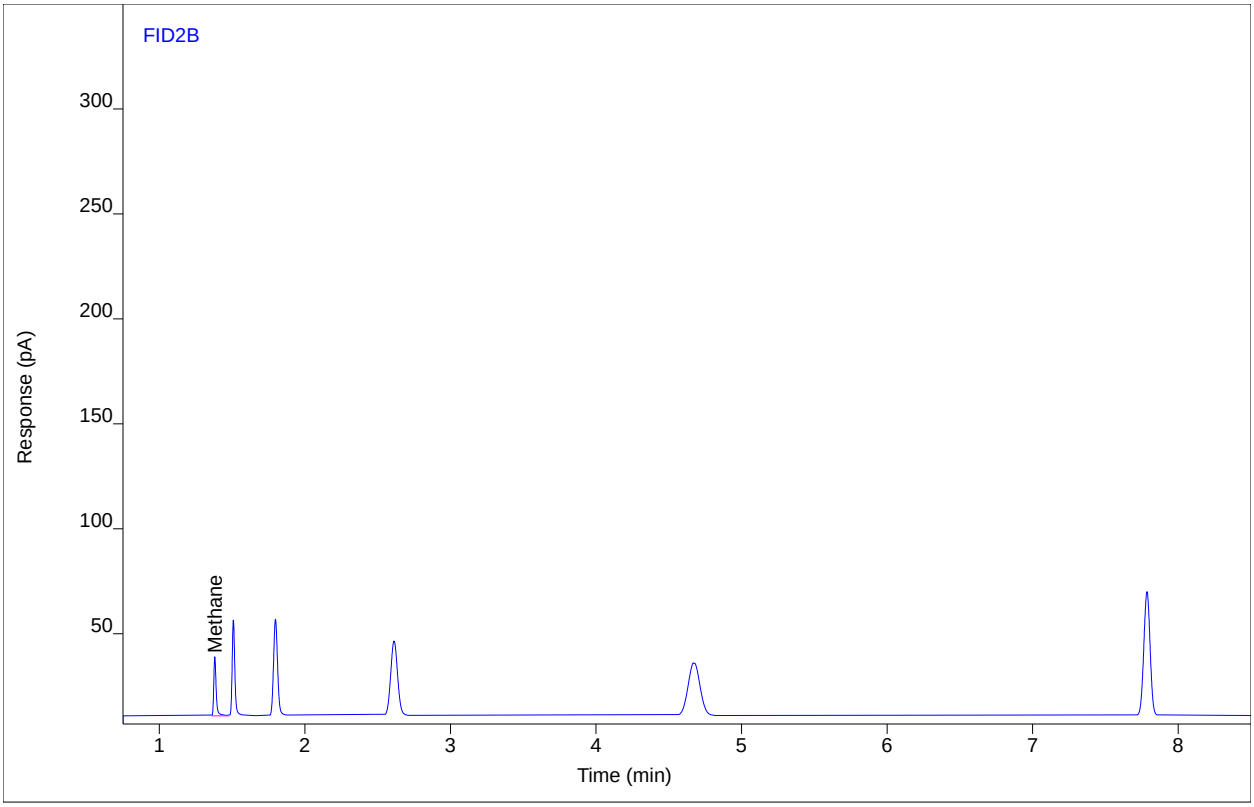
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	32.6464	28.4141	103.770	1	103.770	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP481 ver.2
Inj Data File	025B1504.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/4/2016 10:43 PM
File Modified	11/7/2016 6:41 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	4 of 4
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



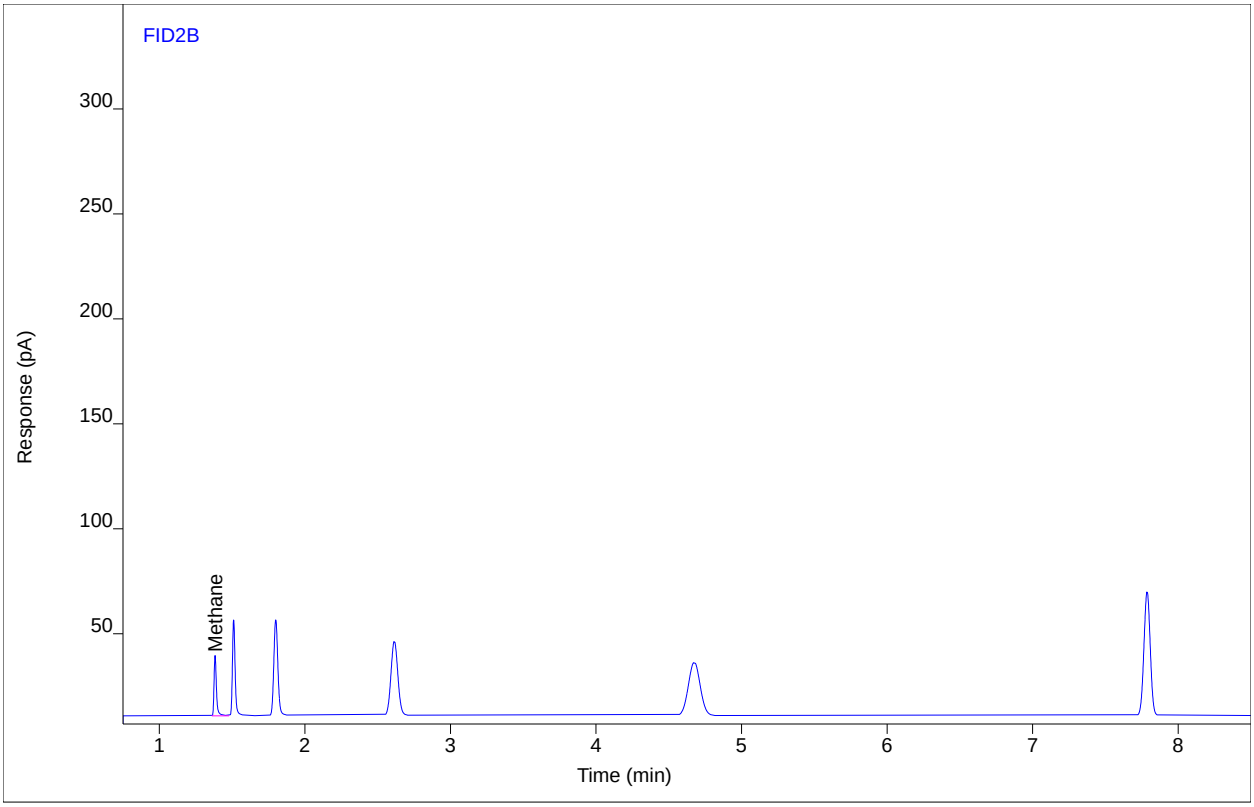
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	32.4525	28.1178	103.153	1	103.153	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP481 ver.2
Inj Data File	025B2002.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/7/2016 4:06 AM
File Modified	11/7/2016 6:42 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	2 of 4
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



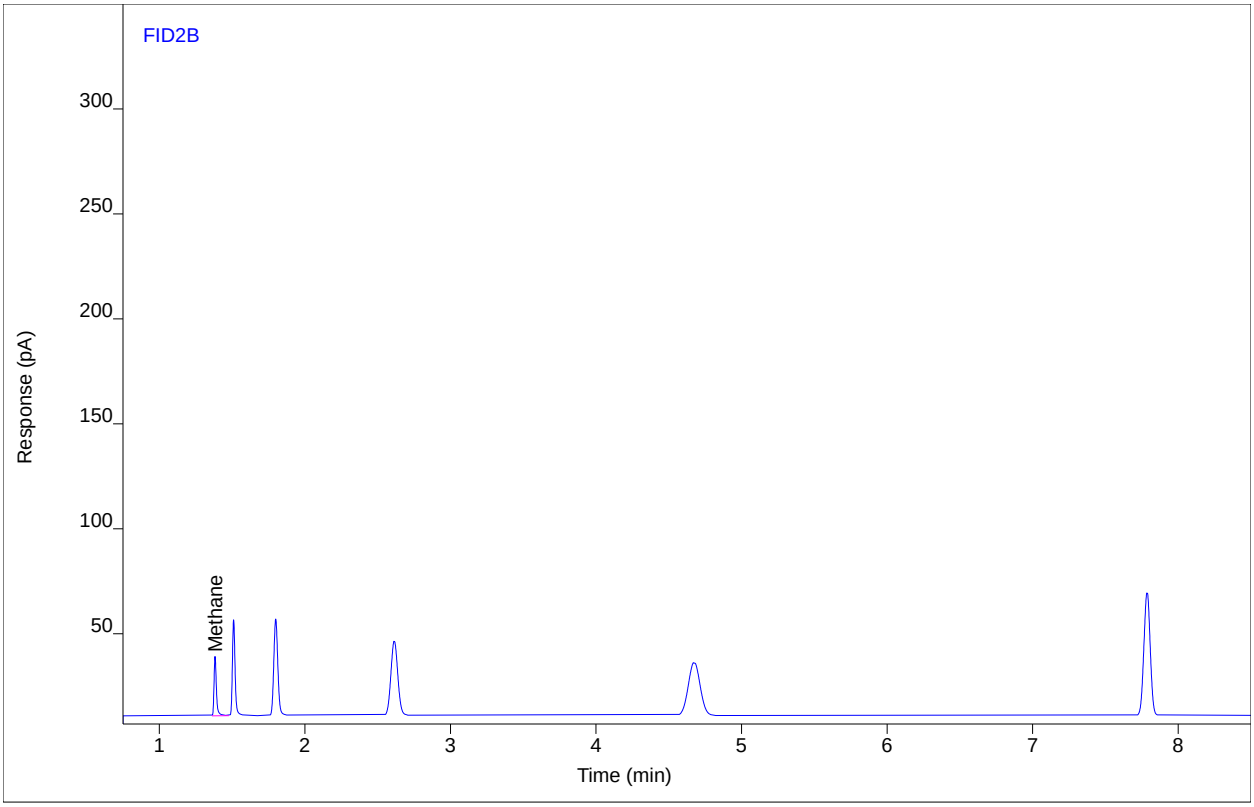
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	33.1628	28.6019	105.413	1	105.413	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP481 ver.2
Inj Data File	025B2003.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/7/2016 4:29 AM
File Modified	11/7/2016 6:42 AM
Instrument	Betty
Operator	Justin Guenzler

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 4
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



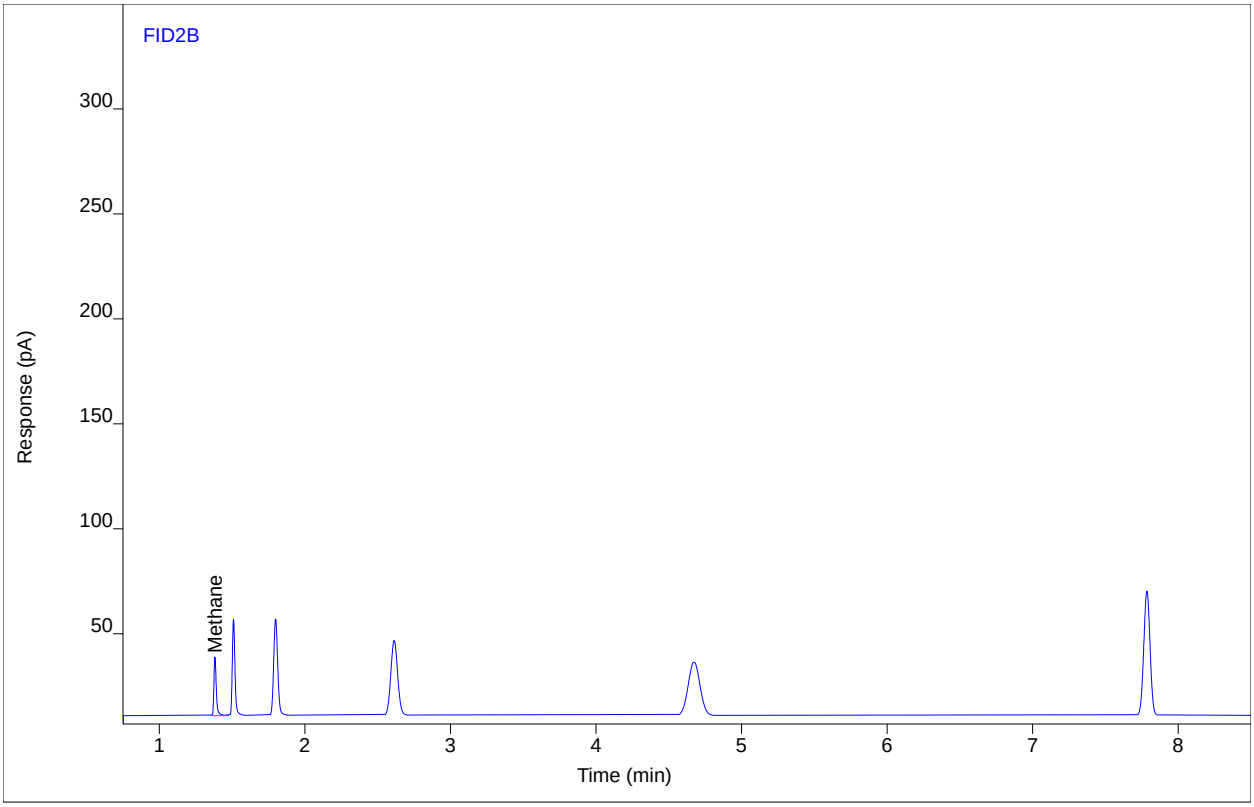
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	32.6684	28.2171	103.840	1	103.840	ppm

Chromatogram Report

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP481 ver.2
Inj Data File	025B2004.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/7/2016 4:52 AM
File Modified	11/7/2016 6:42 AM
Instrument	Betty
Operator	Justin Guenzler

Enthalpy Analytical

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	4 of 4
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM

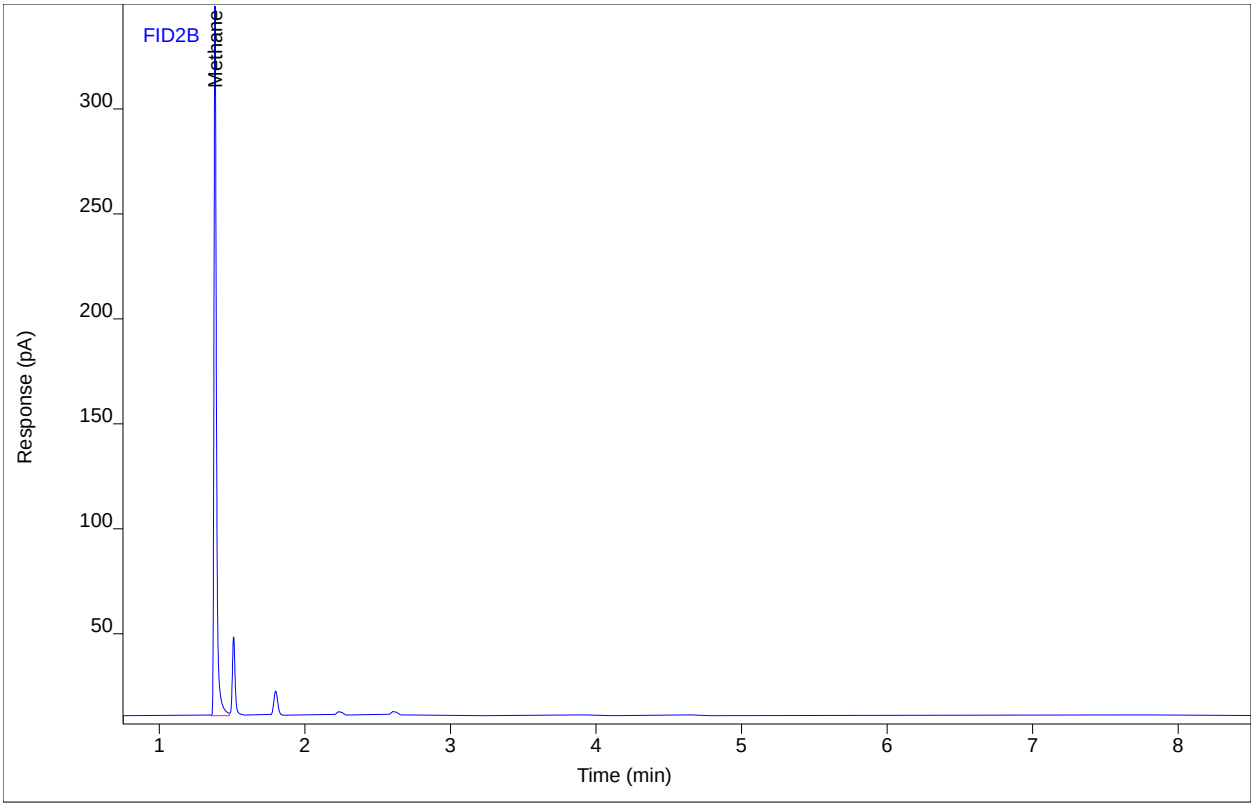


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	32.5856	28.1656	103.576	1	103.576	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 2 161017B02 B Can192.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 22
Inj Data File	022B0101.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	1 of 3
Injection Date	11/7/2016 6:51 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:05 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

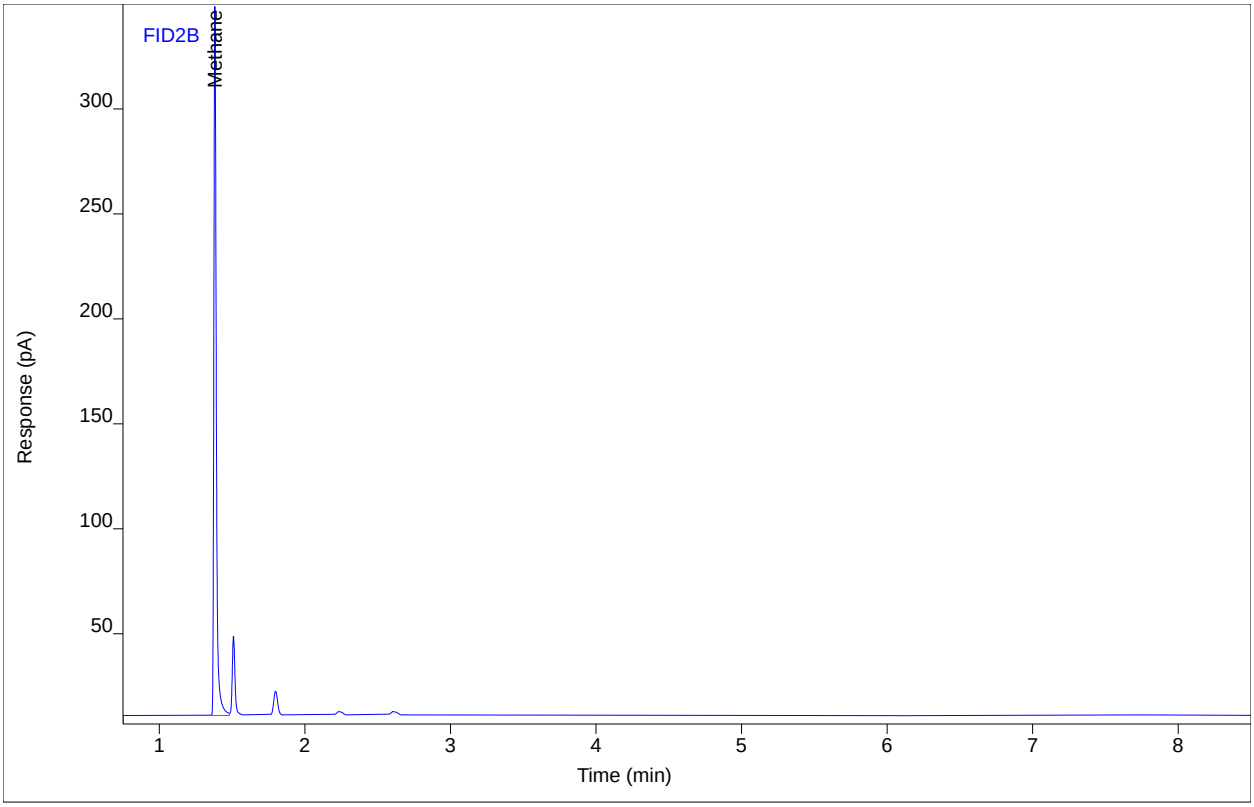


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	397.593	337.765	1265.19	1	1265.19	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 2 161017B02 B Can192.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 22
Inj Data File	022B0102.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	2 of 3
Injection Date	11/7/2016 7:12 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:05 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

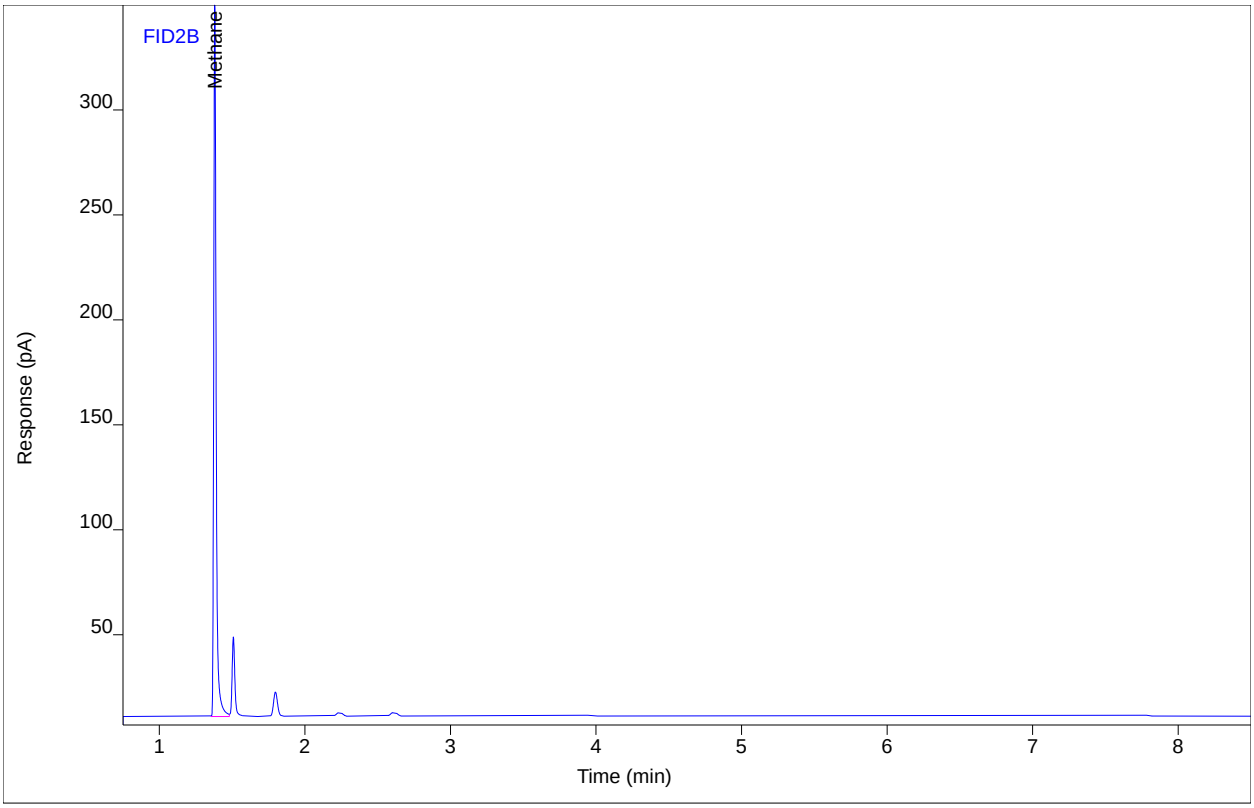


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	394.606	337.252	1255.69	1	1255.69	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 2 161017B02 B Can192.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 22
Inj Data File	022B0103.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	3 of 3
Injection Date	11/7/2016 7:33 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:05 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

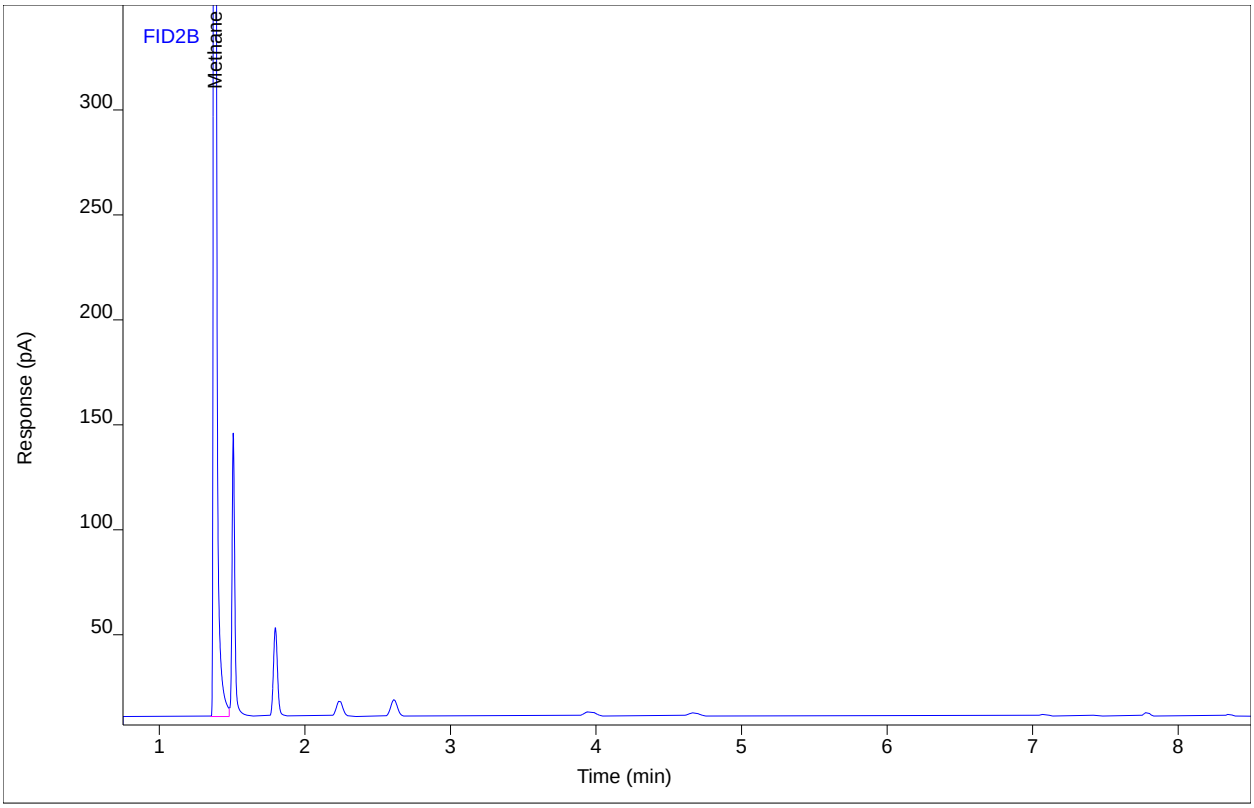


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	396.991	337.455	1263.27	1	1263.27	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 2 161017B02 C Can209.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 20
Inj Data File	020B0201.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	1 of 3
Injection Date	11/7/2016 7:54 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:05 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

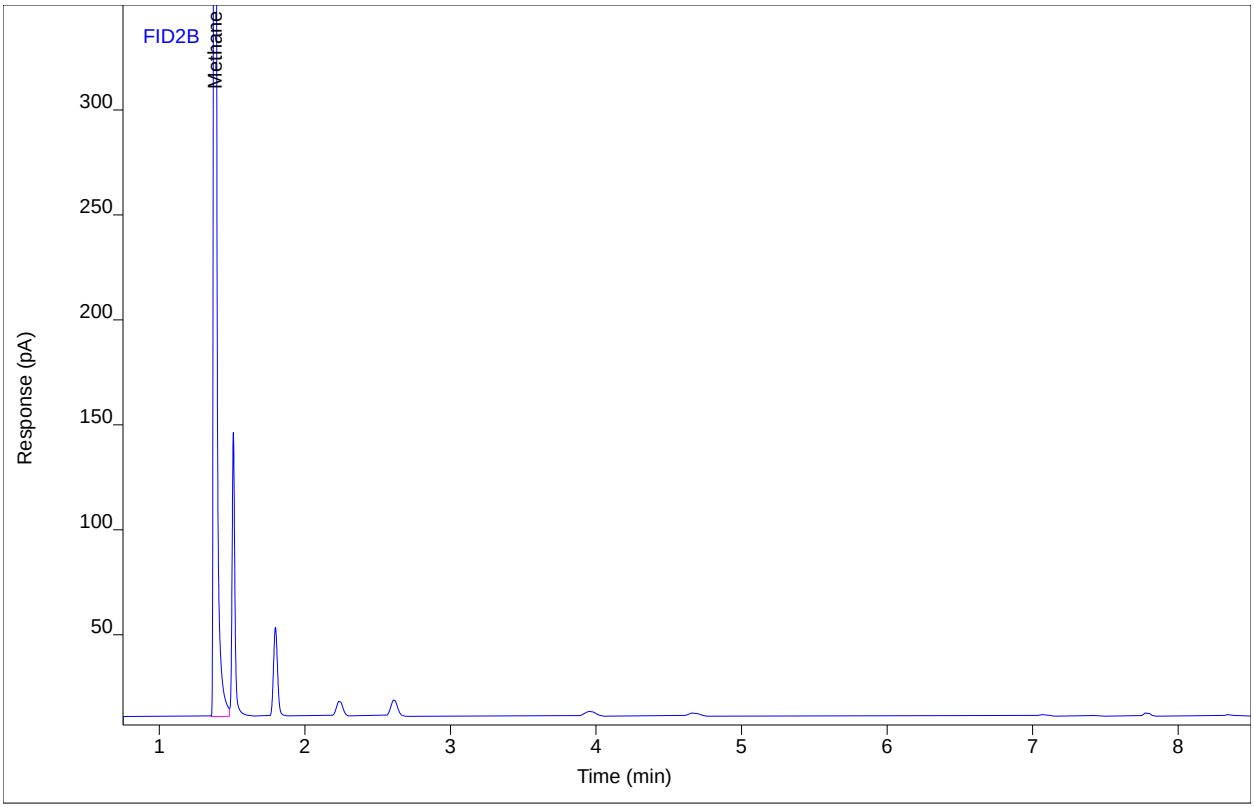


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	1402.48	1203.41	4463.17	1	4463.17	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 2 161017B02 C Can209.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 20
Inj Data File	020B0202.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	2 of 3
Injection Date	11/7/2016 8:15 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:05 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

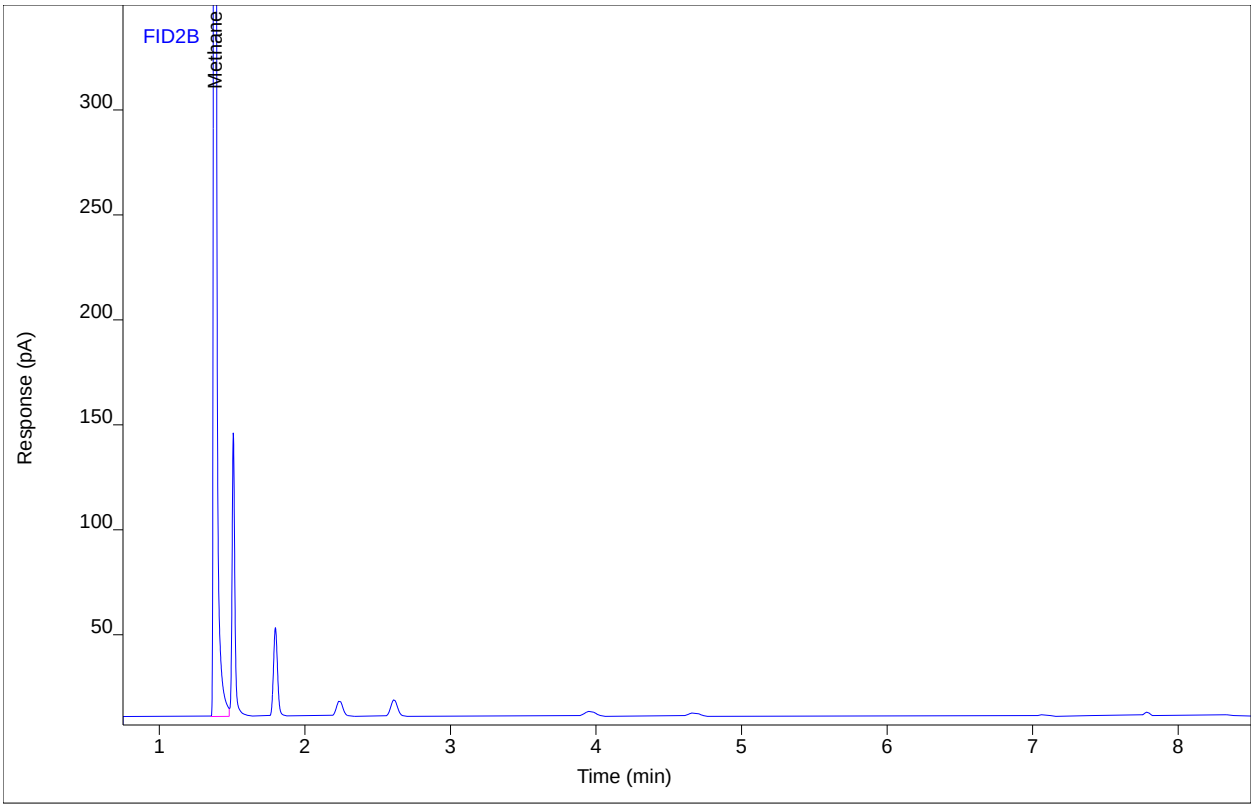


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	1405.88	1205.93	4473.99	1	4473.99	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 2 161017B02 C Can209.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 20
Inj Data File	020B0203.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	3 of 3
Injection Date	11/7/2016 8:36 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:05 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

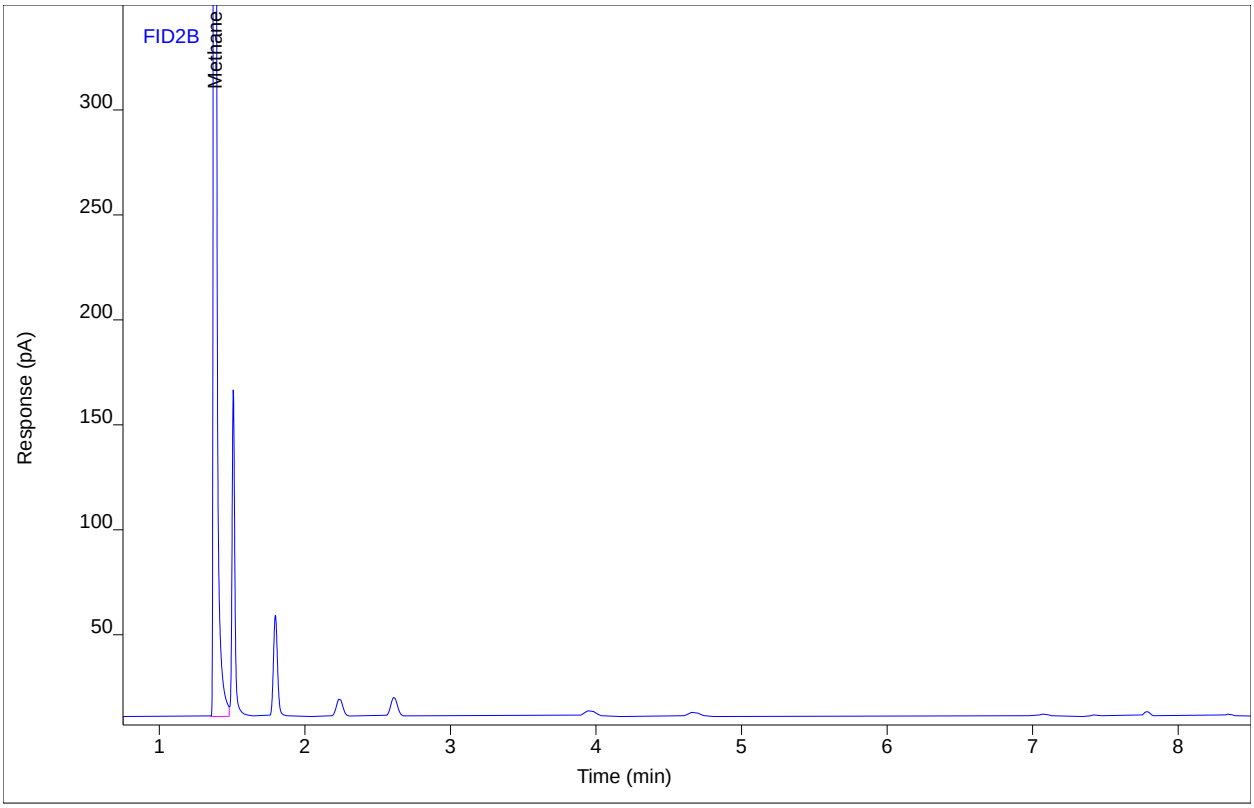


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	1401.92	1205.52	4461.41	1	4461.41	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 2 161017B02 D Can577.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 22
Inj Data File	022B0301.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	1 of 3
Injection Date	11/7/2016 8:57 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:05 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM



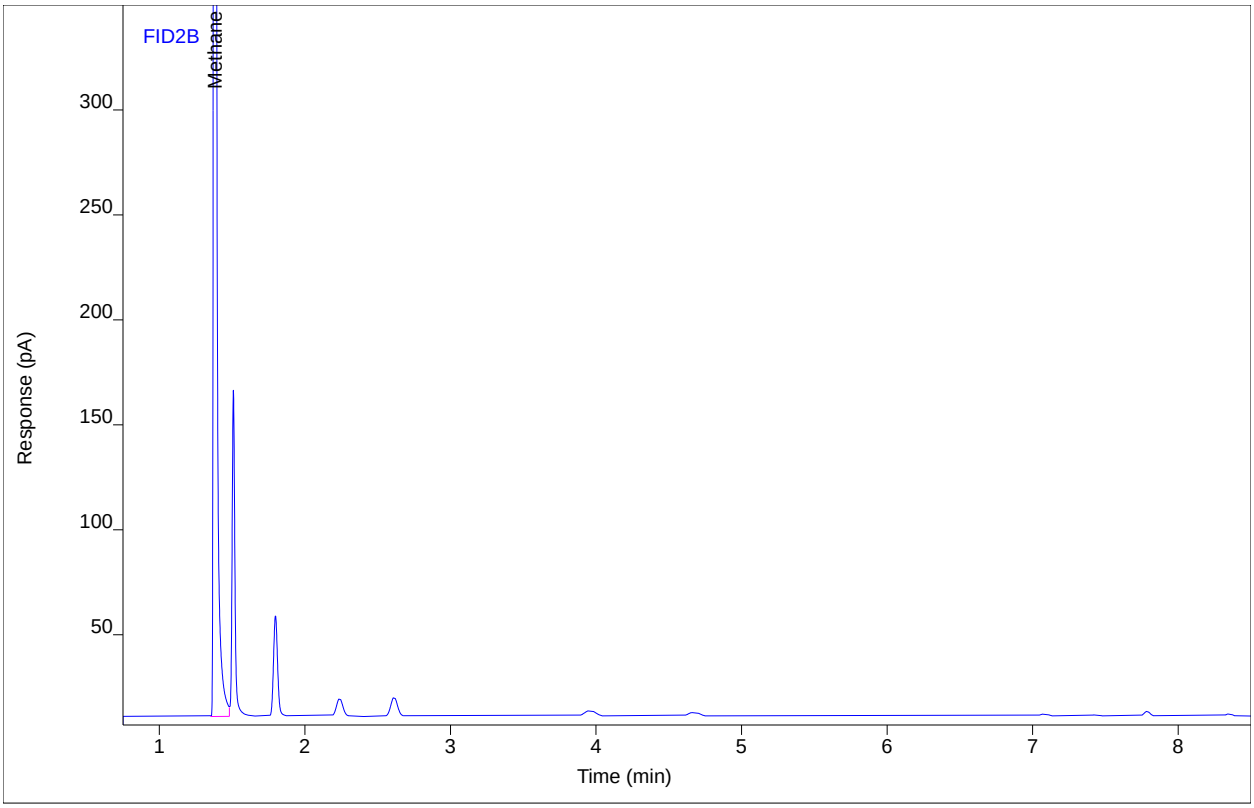
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	1664.05	1431.30	5295.60	1	5295.60	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 2 161017B02 D Can577.Can
Sequence Name	BETTYP483 ver.2
Inj Data File	022B0302.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/7/2016 9:18 AM
File Modified	11/8/2016 7:05 AM
Instrument	
Operator	Justin Guenzler

Sample Type	Sample
Vial Number	Vial 22
Injection Volume	250
Injection	2 of 3
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	1663.71	1422.21	5294.54	1	5294.54	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 2 161017B02 D Can577.Can
Sequence Name	BETTYP483 ver.2
Inj Data File	022B0303.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/7/2016 9:40 AM
File Modified	11/8/2016 7:05 AM
Instrument	
Operator	Justin Guenzler

Sample Type	Sample
Vial Number	Vial 22
Injection Volume	250
Injection	3 of 3
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
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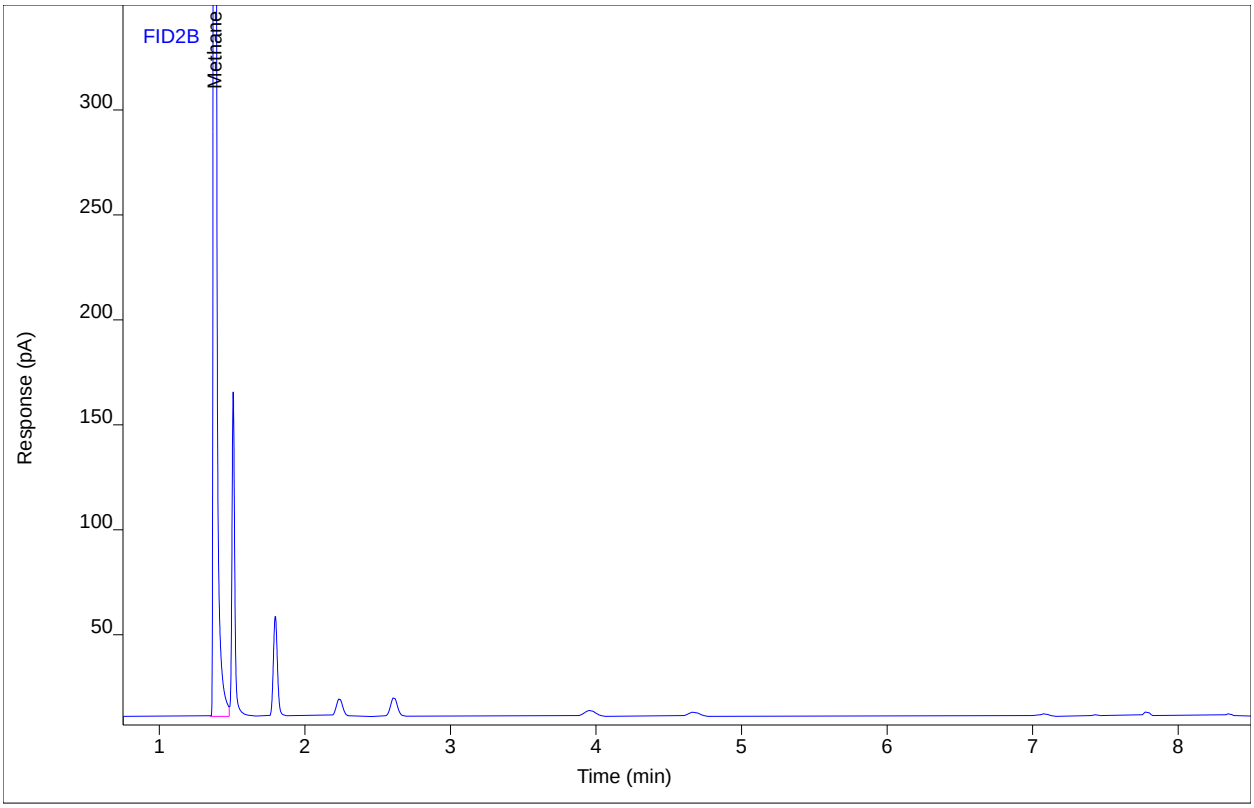
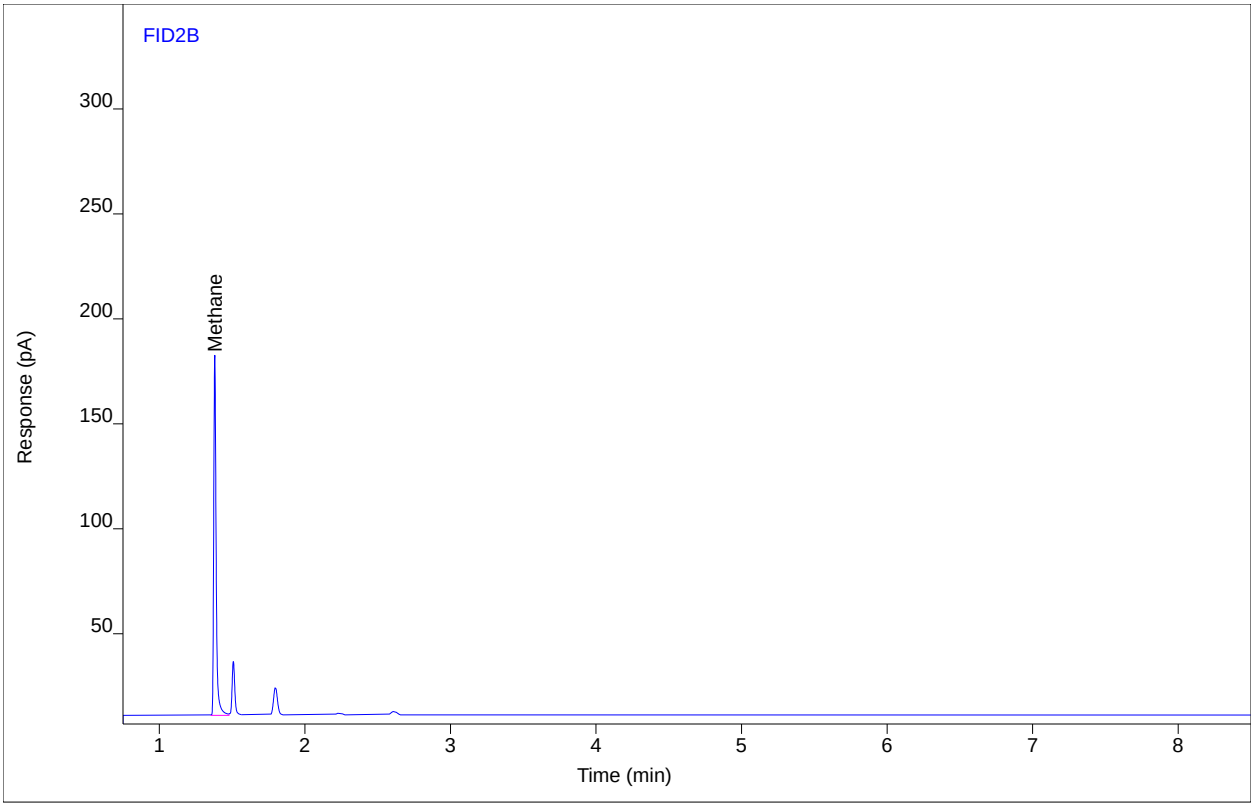


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	1652.20	1424.17	5257.92	1	5257.92	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 3 161020C03 A Can167.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 23
Inj Data File	023B0401.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	1 of 3
Injection Date	11/7/2016 10:01 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:05 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

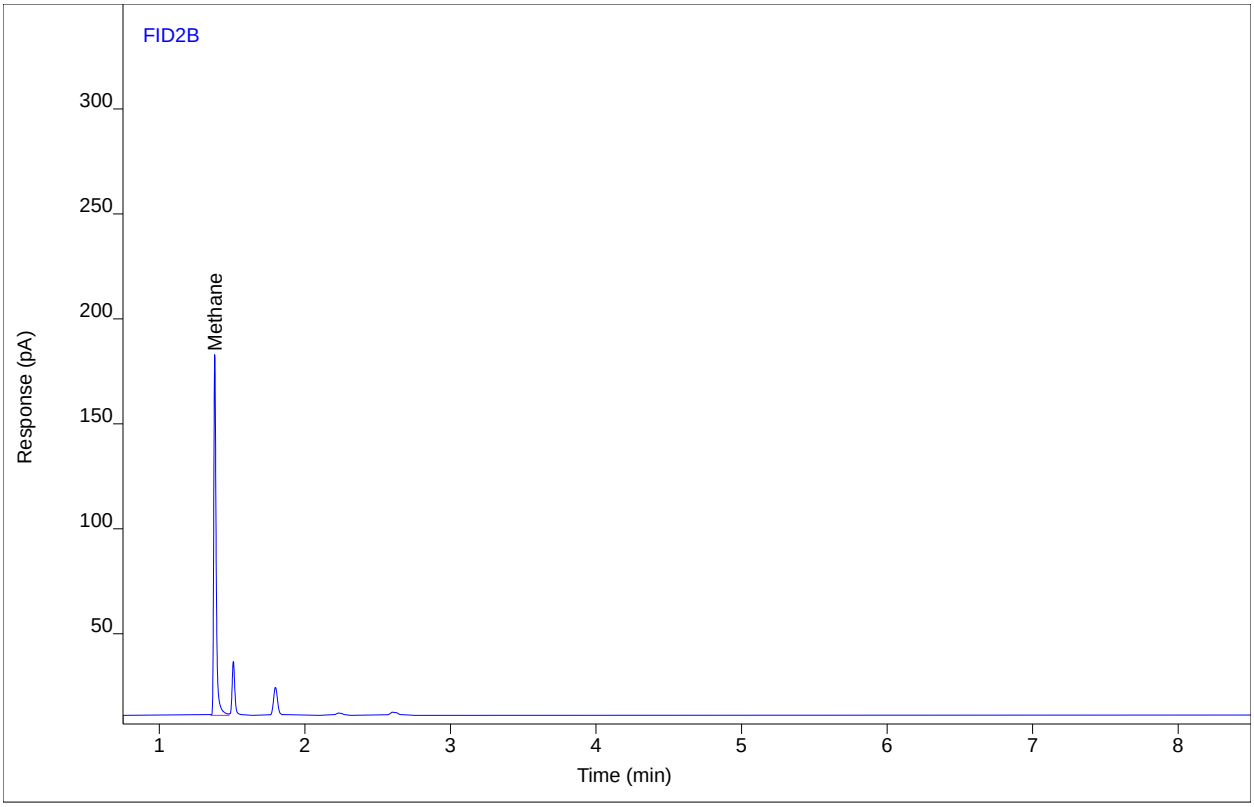


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	198.475	171.361	631.511	1	631.511	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 3 161020C03 A Can167.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 23
Inj Data File	023B0402.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	2 of 3
Injection Date	11/7/2016 10:22 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:05 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

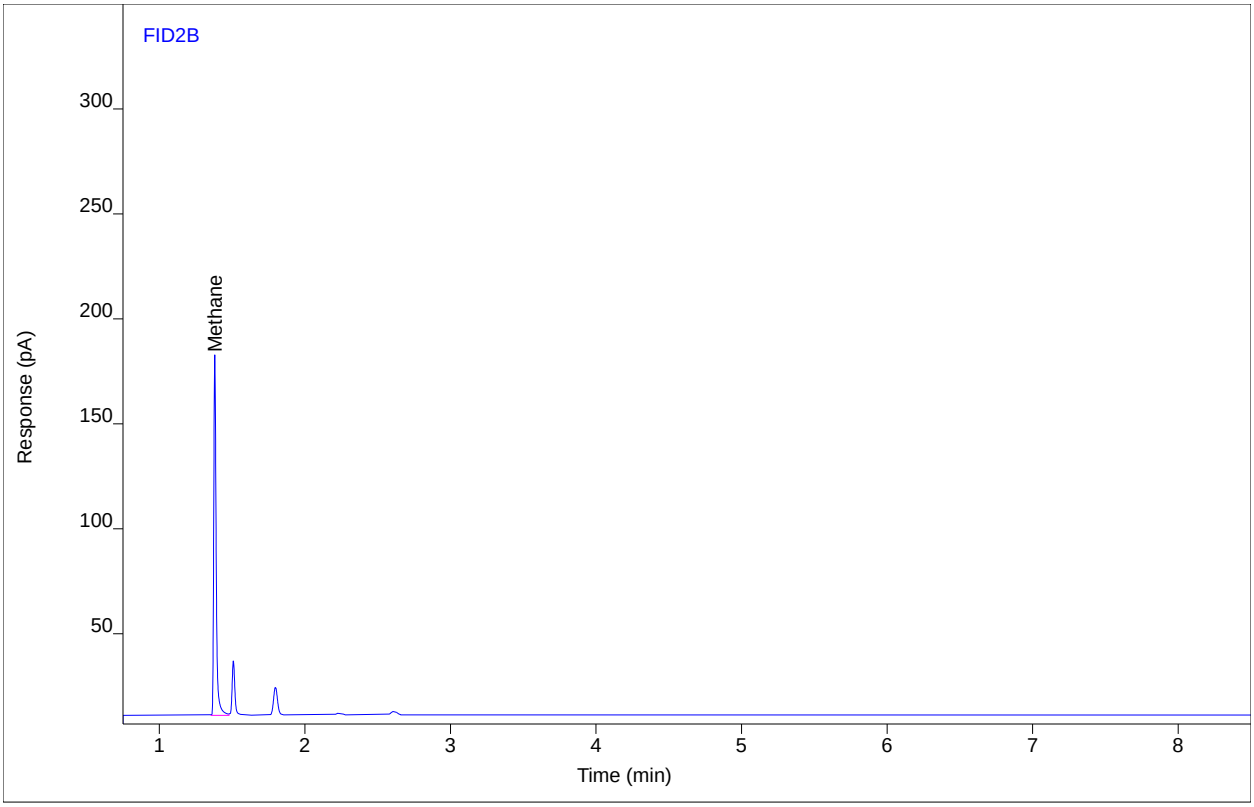


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	198.881	171.719	632.803	1	632.803	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 3 161020C03 A Can167.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 23
Inj Data File	023B0403.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	3 of 3
Injection Date	11/7/2016 10:43 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:05 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

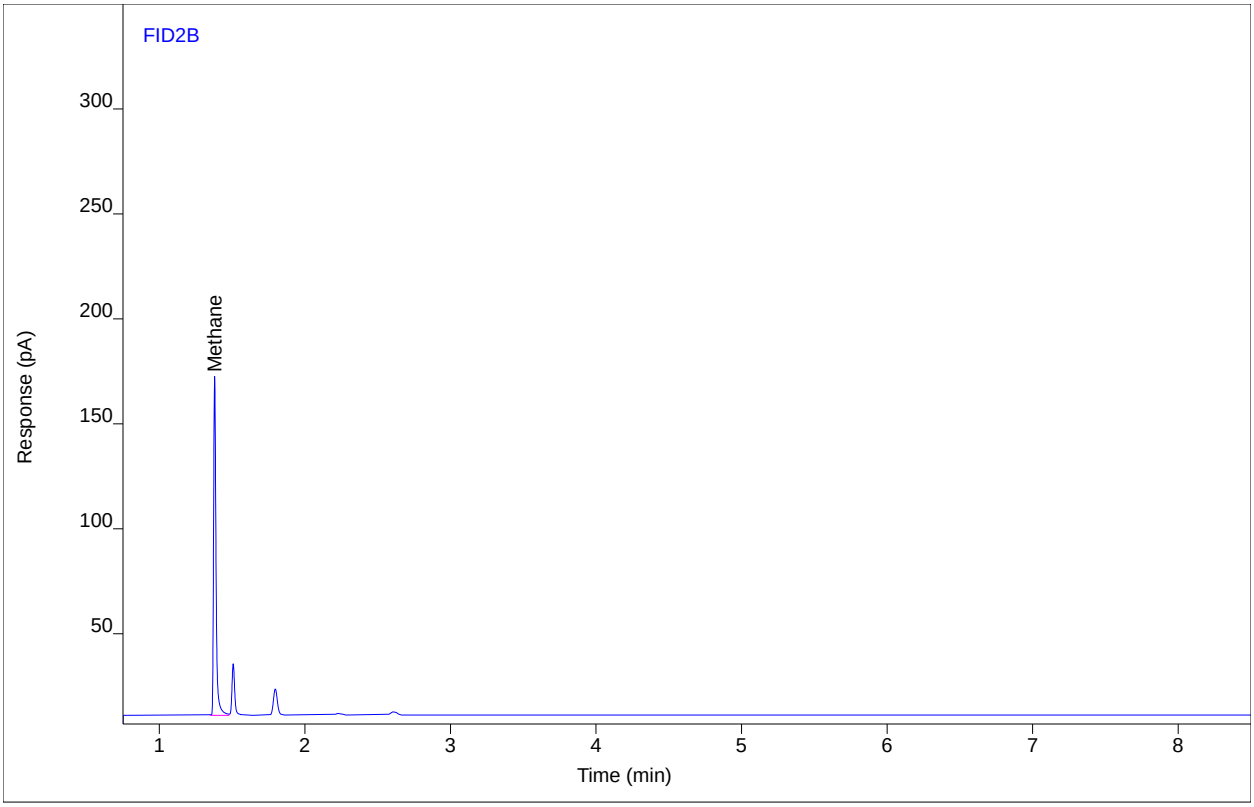


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	199.174	171.067	633.733	1	633.733	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 3 161020C03 B Can144.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 20
Inj Data File	020B0501.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	1 of 3
Injection Date	11/7/2016 11:05 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:05 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

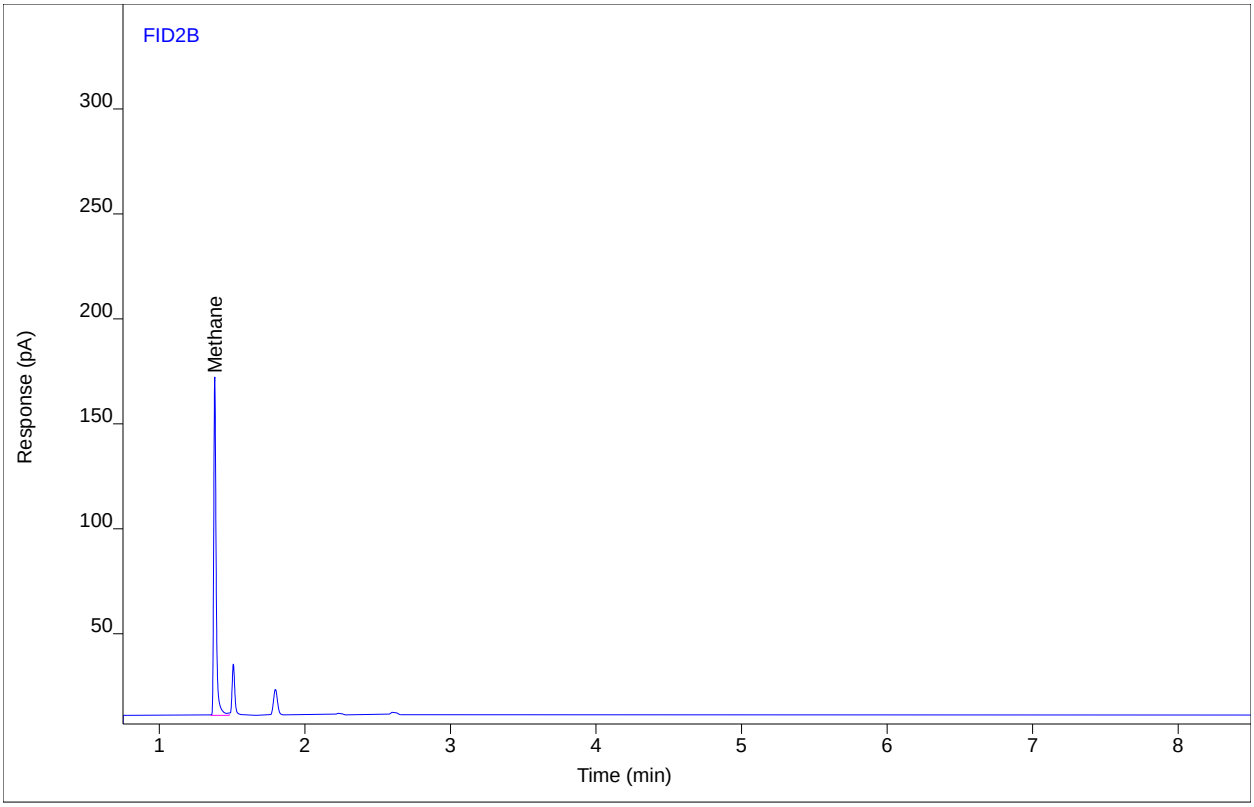


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	187.085	161.435	595.260	1	595.260	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 3 161020C03 B Can144.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 20
Inj Data File	020B0502.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	2 of 3
Injection Date	11/7/2016 11:26 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:05 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

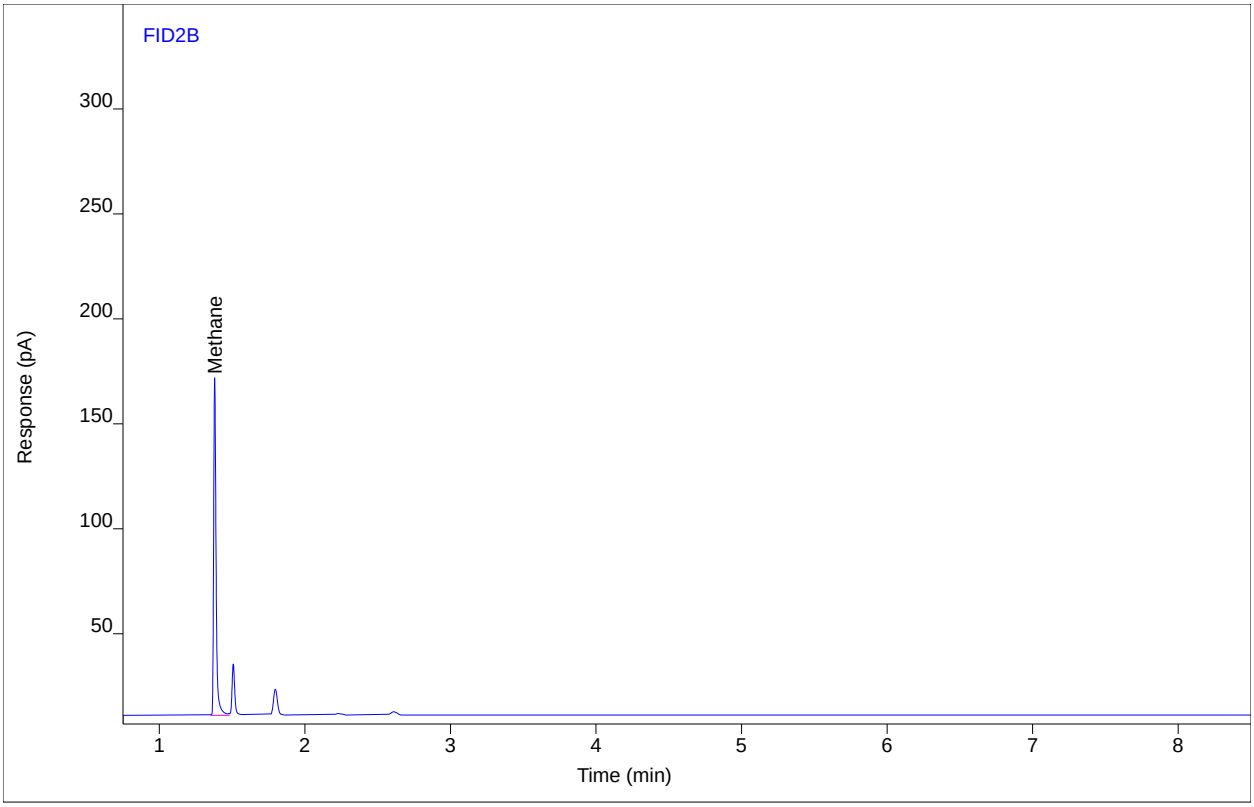


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	186.248	160.999	592.599	1	592.599	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 3 161020C03 B Can144.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 20
Inj Data File	020B0503.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	3 of 3
Injection Date	11/7/2016 11:48 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:06 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

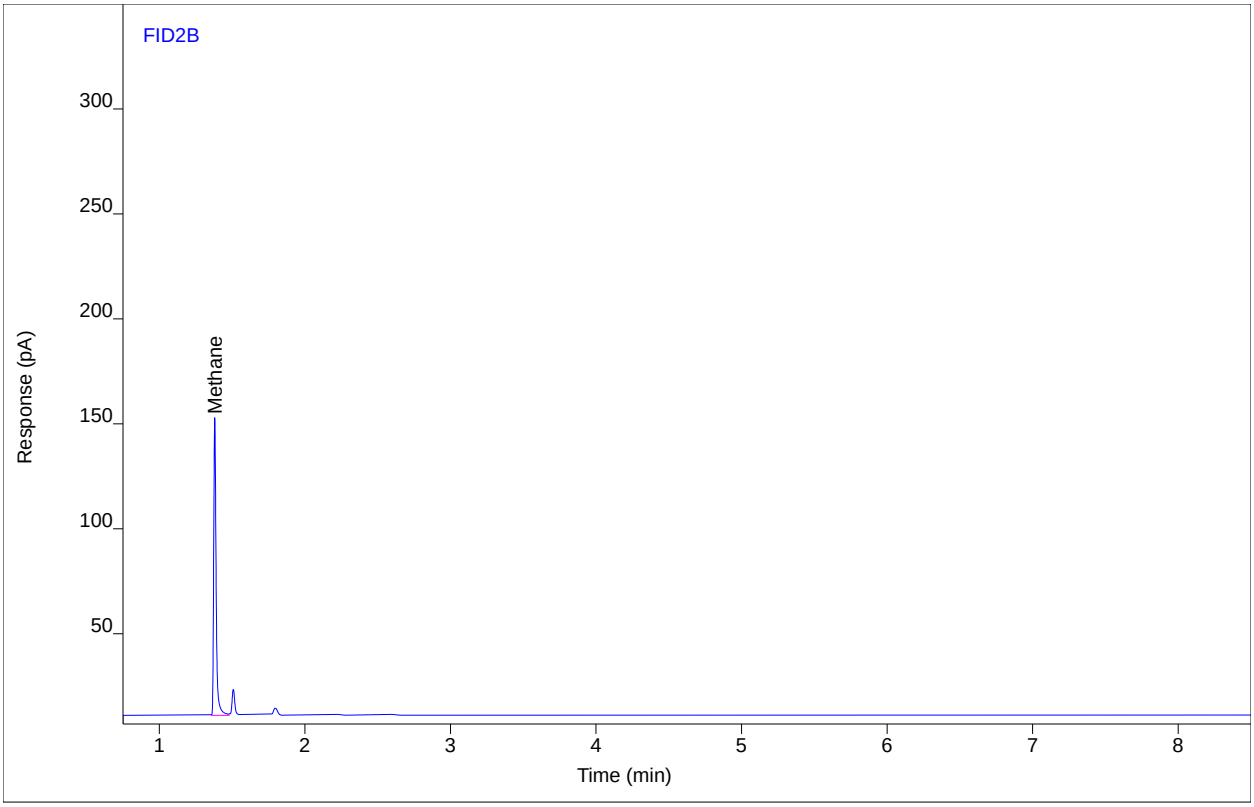


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	186.032	160.866	591.910	1	591.910	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 3 101018B03 A Can205.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 22
Inj Data File	022B0601.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	1 of 3
Injection Date	11/7/2016 12:09 PM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:06 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

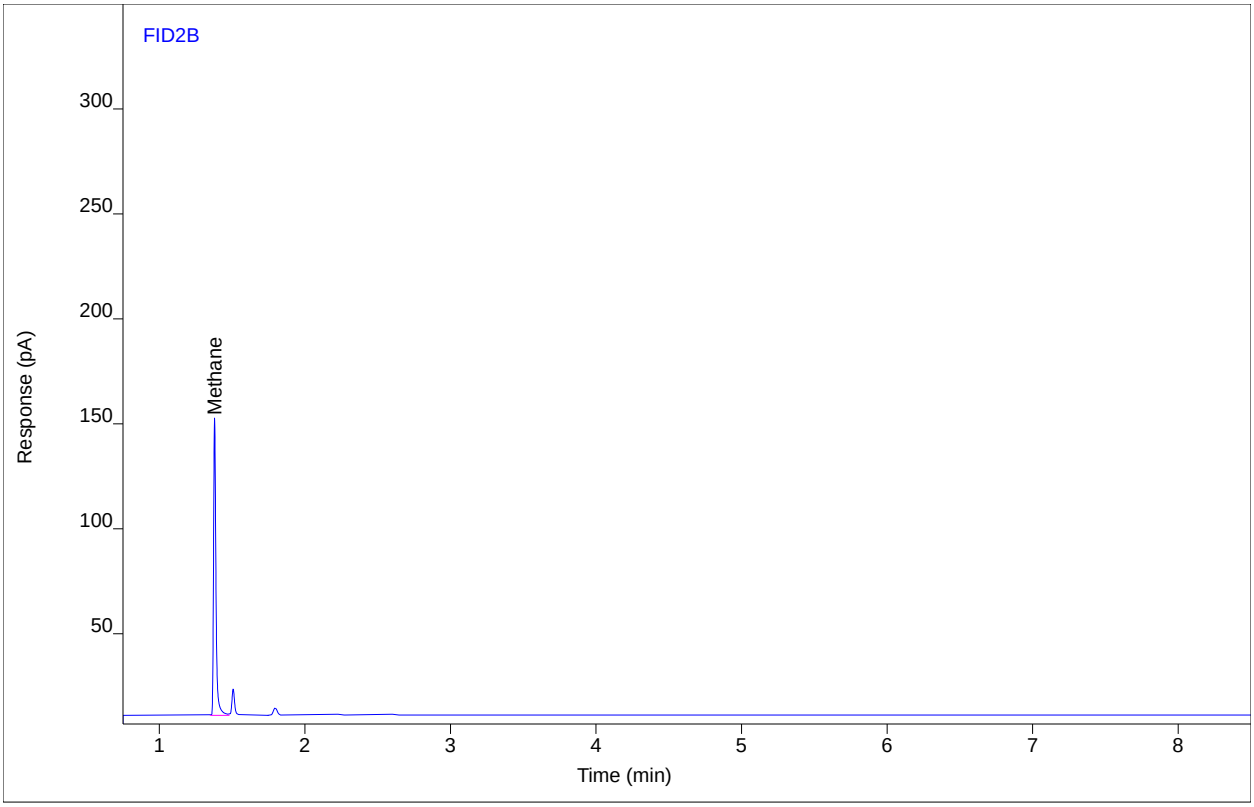


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	164.144	141.700	522.253	1	522.253	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 3 101018B03 A Can205.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 22
Inj Data File	022B0602.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	2 of 3
Injection Date	11/7/2016 12:31 PM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:06 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

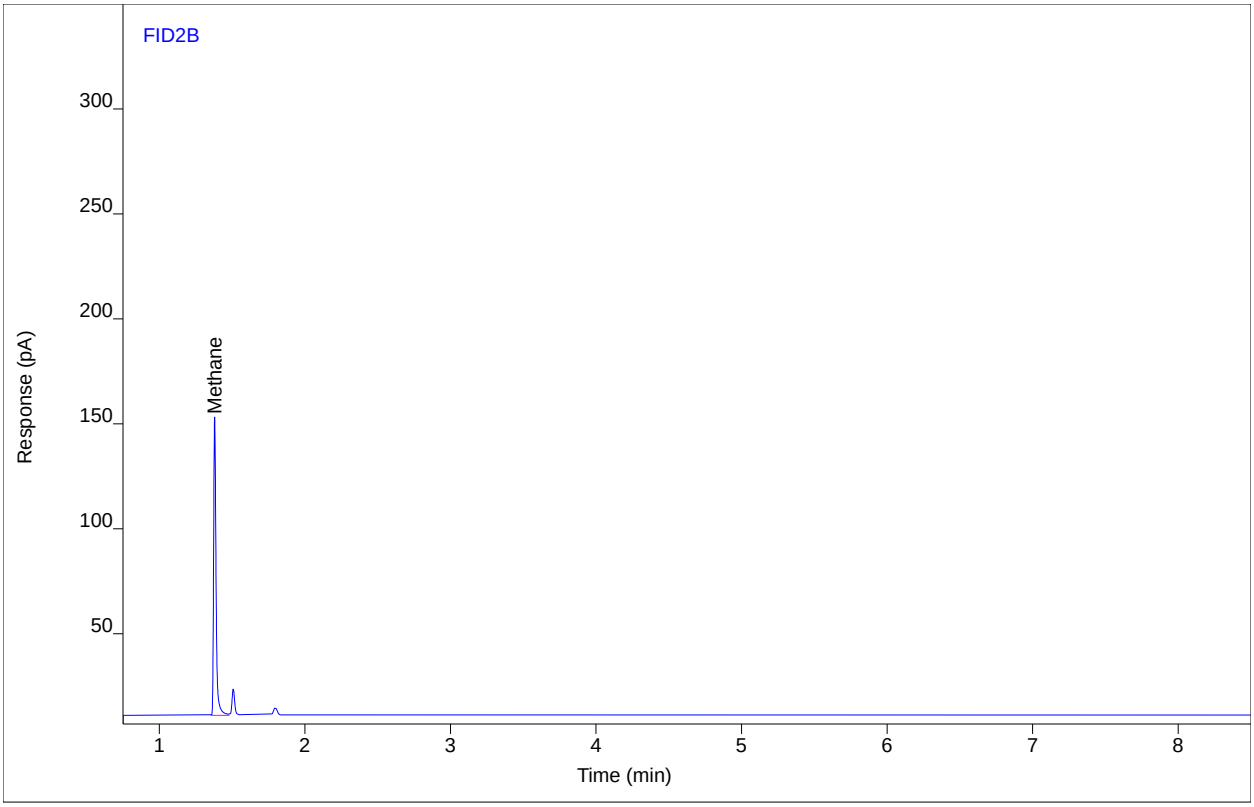


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	163.682	141.204	520.783	1	520.783	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 3 101018B03 A Can205.Can	Sample Type	Sample
Sequence Name	BETTYP483 ver.2	Vial Number	Vial 22
Inj Data File	022B0603.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	3 of 3
Injection Date	11/7/2016 12:52 PM	Acquisition Method	GC142P133_CAL.M
File Modified	11/8/2016 7:06 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument		Method Modified	10/20/2016 8:22 AM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM



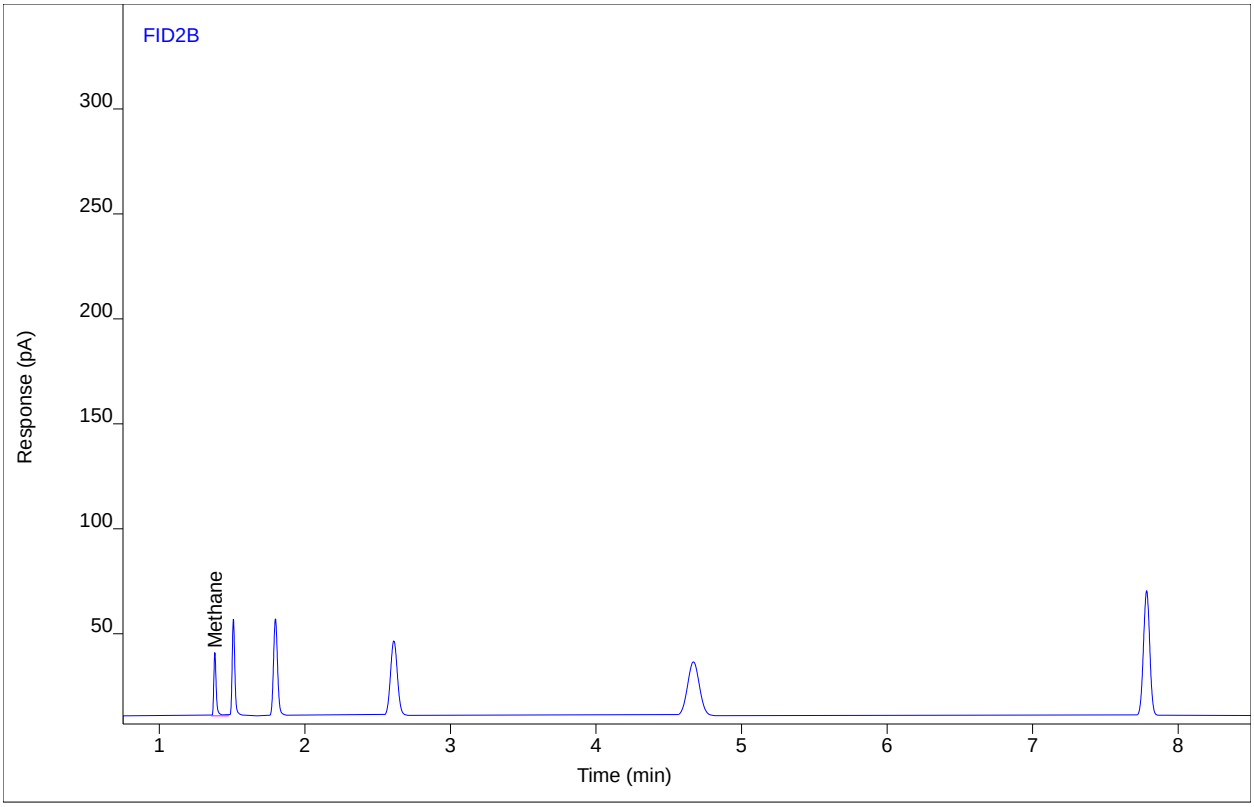
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	164.497	141.604	523.376	1	523.376	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP483 ver.2
Inj Data File	025B1702.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/8/2016 4:05 AM
File Modified	11/8/2016 7:07 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	2 of 4
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



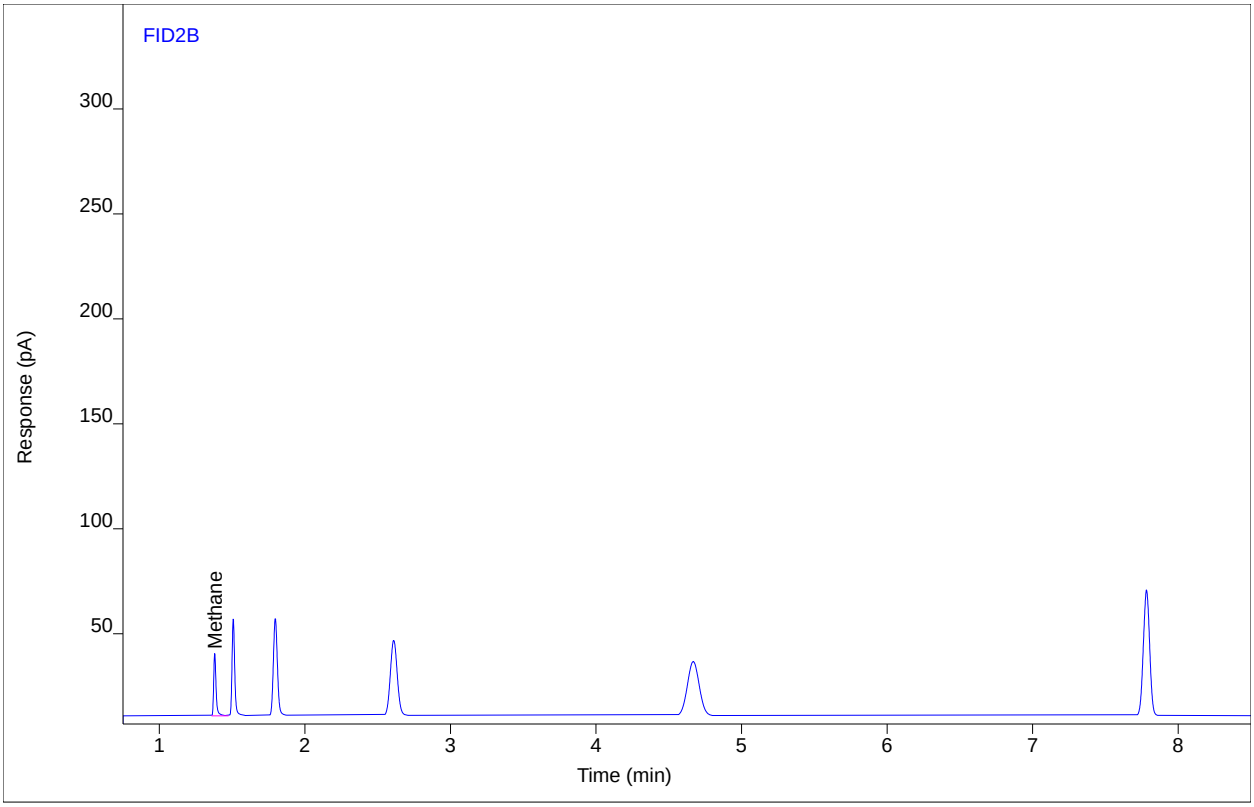
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	34.9440	30.1822	111.082	1	111.082	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP483 ver.2
Inj Data File	025B1703.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/8/2016 4:28 AM
File Modified	11/8/2016 7:07 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 4
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM



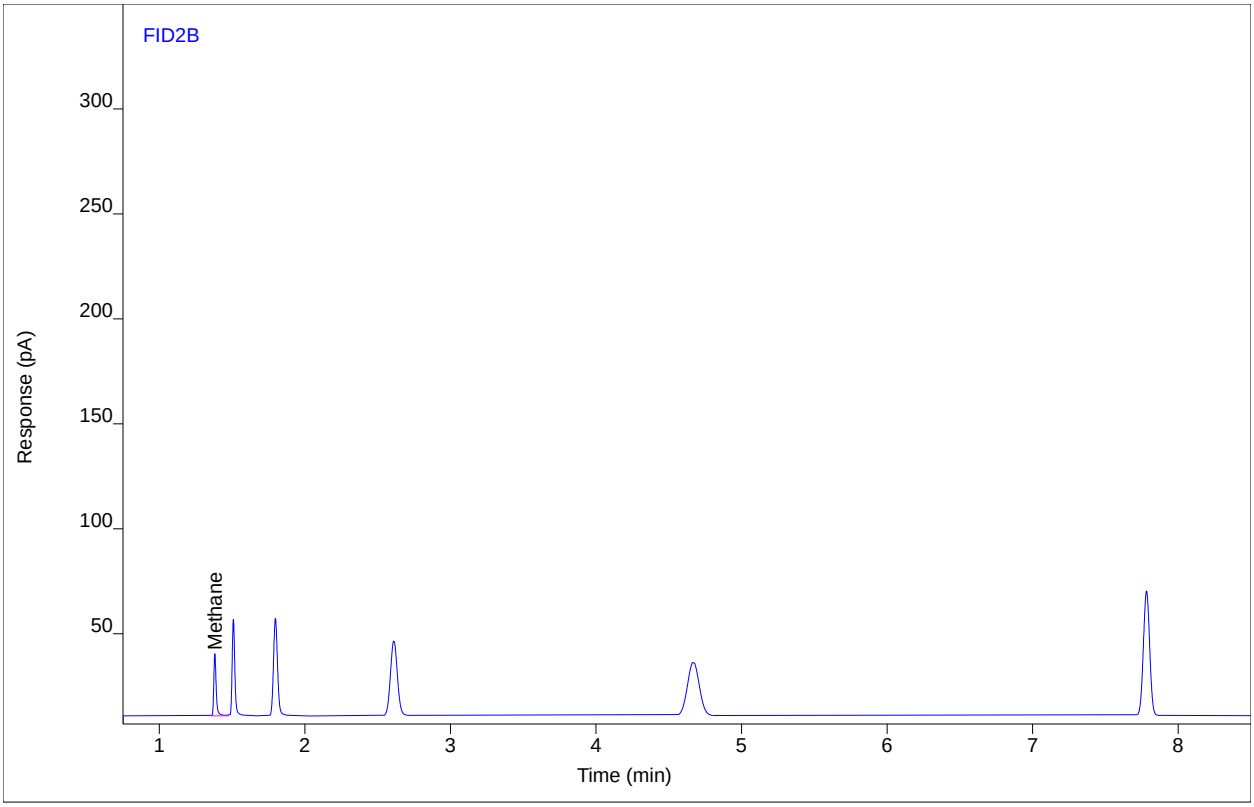
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	34.6335	29.8804	110.094	1	110.094	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP483 ver.2
Inj Data File	025B1704.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/8/2016 4:51 AM
File Modified	11/8/2016 7:07 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	4 of 4
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	10/20/2016 8:22 AM
Printed	11/9/2016 7:29 AM

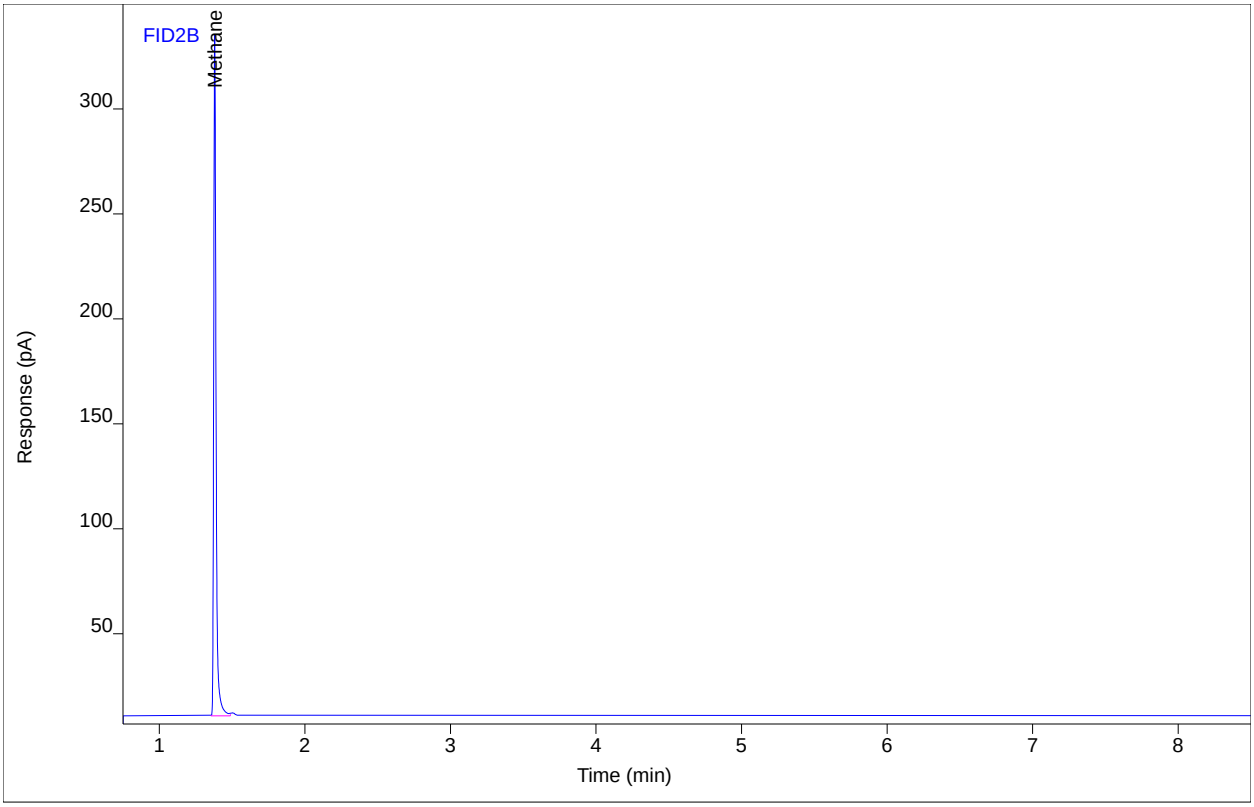


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	34.2796	29.4698	108.967	1	108.967	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 3 101018B03 B Can152.CanP3	Sample Type	Sample
Sequence Name	BETTYP484 ver.2	Vial Number	Vial 20
Inj Data File	020B0201.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	1 of 3
Injection Date	11/8/2016 7:43 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/9/2016 6:37 AM	Analysis Method	BETTYP445_C1-C6_XAS.M
Instrument		Method Modified	10/18/2016 1:29 PM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

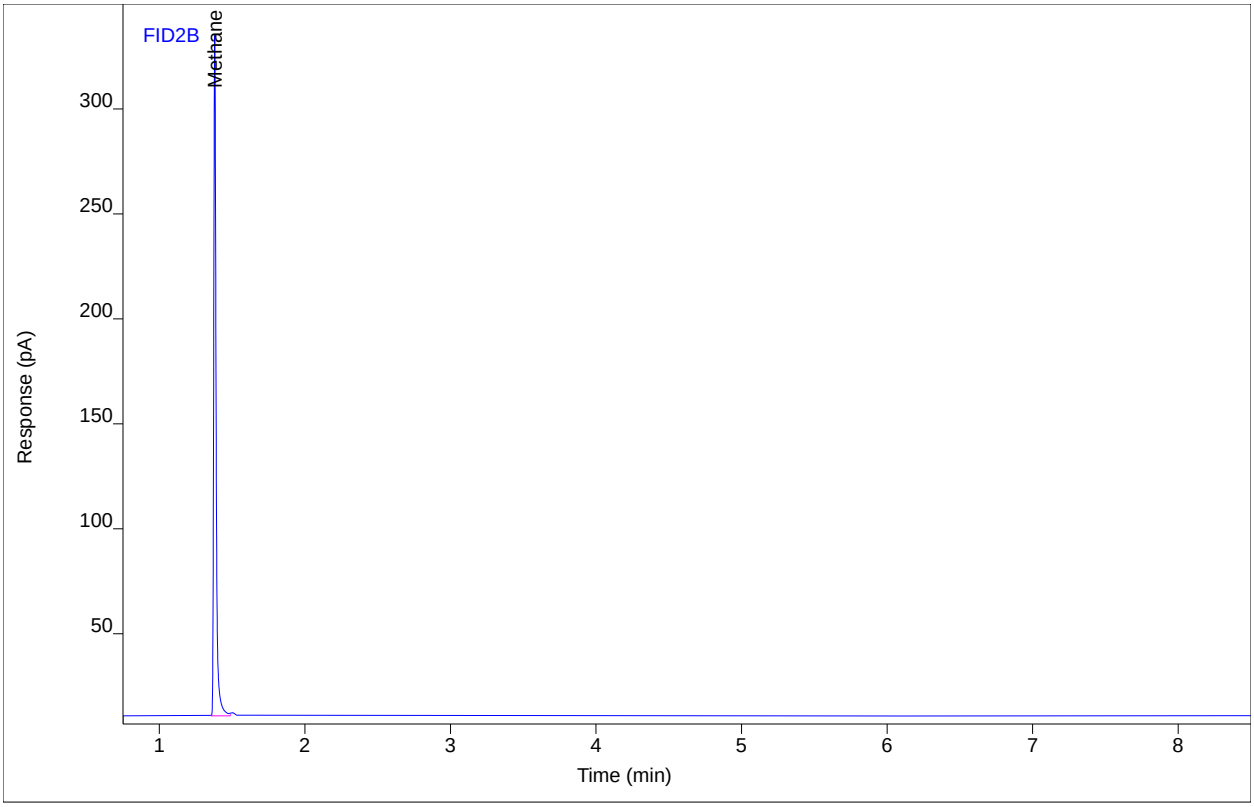


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	366.527	324.484	1166.32	1	1166.32	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 3 101018B03 B Can152.CanP3	Sample Type	Sample
Sequence Name	BETTYP484 ver.2	Vial Number	Vial 20
Inj Data File	020B0202.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	2 of 3
Injection Date	11/8/2016 8:03 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/9/2016 6:37 AM	Analysis Method	BETTYP445_C1-C6_XAS.M
Instrument		Method Modified	10/18/2016 1:29 PM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM

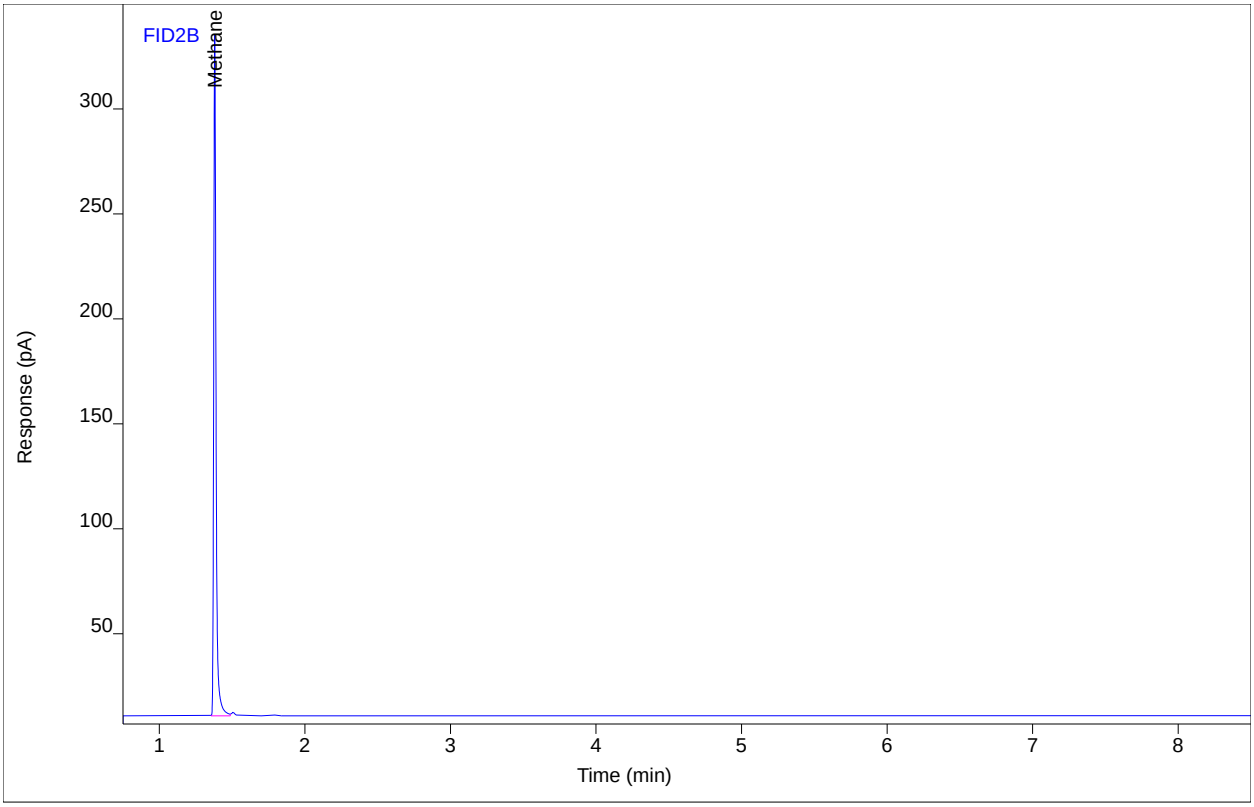


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	364.803	323.802	1160.84	1	1160.84	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	1016-55.Site 3 101018B03 B Can152.CanP3	Sample Type	Sample
Sequence Name	BETTYP484 ver.2	Vial Number	Vial 20
Inj Data File	020B0203.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 4	Injection	3 of 3
Injection Date	11/8/2016 8:24 AM	Acquisition Method	GC142P133_CAL.M
File Modified	11/9/2016 6:37 AM	Analysis Method	BETTYP445_C1-C6_XAS.M
Instrument		Method Modified	10/18/2016 1:29 PM
Operator	Justin Guenzler	Printed	11/9/2016 7:29 AM



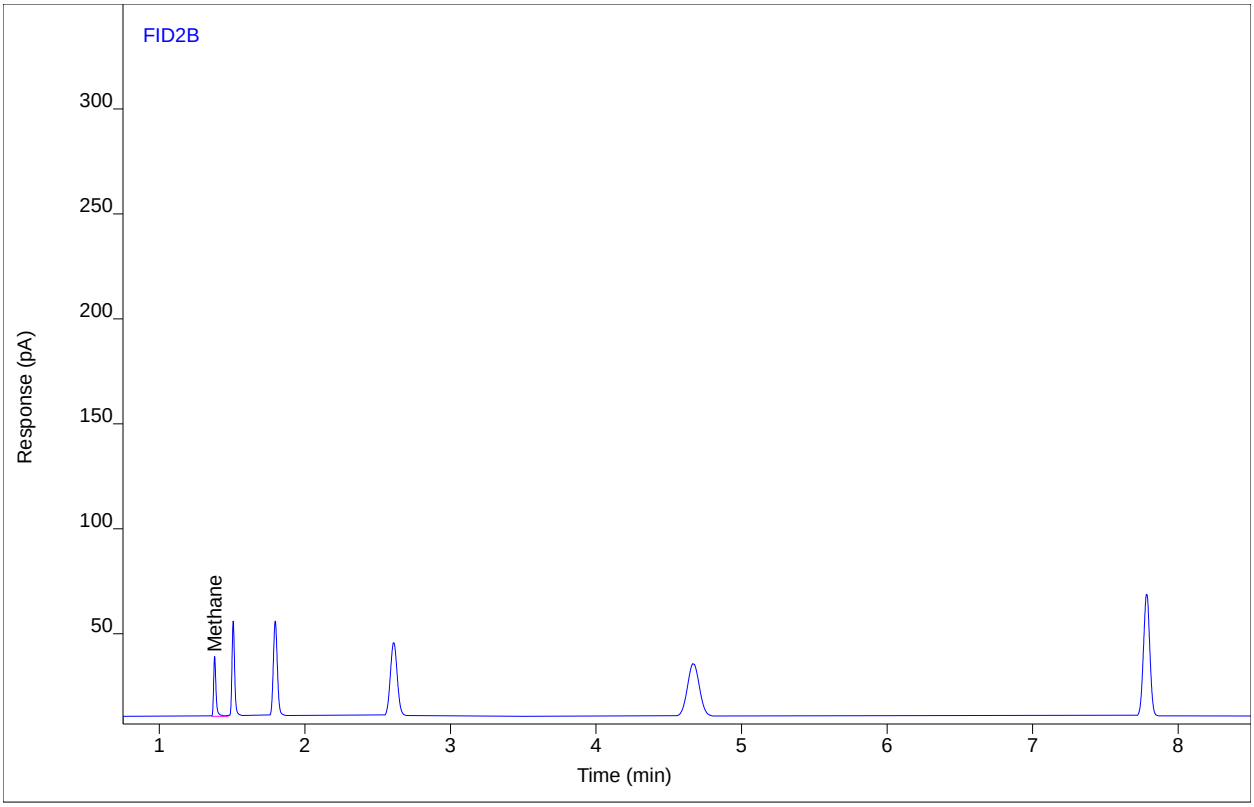
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	365.525	324.173	1163.14	1	1163.14	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP484 ver.2
Inj Data File	025B1702.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/9/2016 4:08 AM
File Modified	11/9/2016 6:38 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	2 of 4
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C6_XAS.M
Method Modified	10/18/2016 1:29 PM
Printed	11/9/2016 7:29 AM



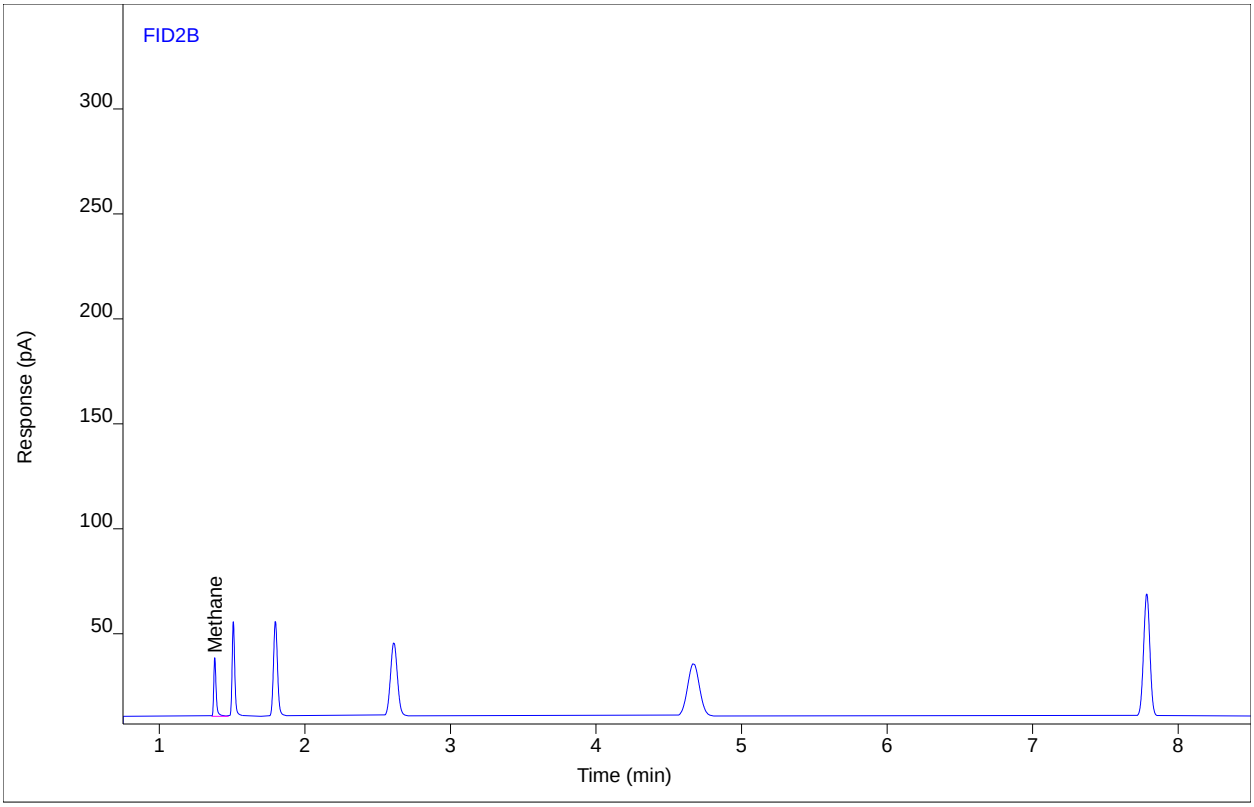
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	32.7613	28.4917	104.135	1	104.135	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP484 ver.2
Inj Data File	025B1703.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/9/2016 4:31 AM
File Modified	11/9/2016 6:38 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 4
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C6_XAS.M
Method Modified	10/18/2016 1:29 PM
Printed	11/9/2016 7:29 AM



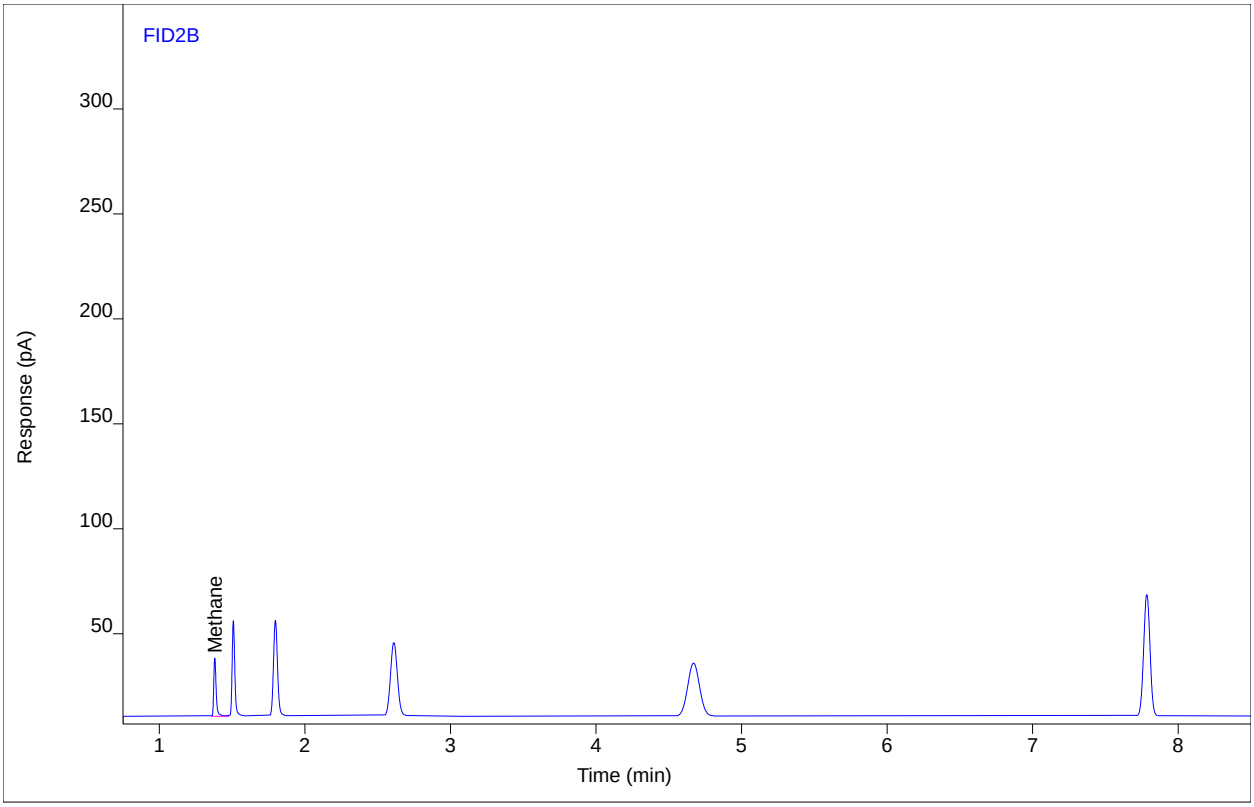
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	32.2239	28.0602	102.425	1	102.425	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP476 #C4 ENV(1=0,4=450)
Sequence Name	BETTYP484 ver.2
Inj Data File	025B1704.D
File Location	GC/2016/Betty/Quarter 4
Injection Date	11/9/2016 4:55 AM
File Modified	11/9/2016 6:38 AM
Instrument	
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	4 of 4
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C6_XAS.M
Method Modified	10/18/2016 1:29 PM
Printed	11/9/2016 7:29 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	32.2409	28.0191	102.479	1	102.479	ppm

Calibration Table

Calib. Data Modified : 10/18/2016 10:55:13 AM

Rel. Reference Window : 1.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 1.000 %
Abs. Non-ref. Window : 0.000 min
Uncalibrated Peaks : using compound Methane
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Connected
Weight : Quadratic (Amnt)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: FID2 B,

RetTime [min]	Sig	Lvl	Amount [ppm]	Area	Amt/Area	Ref	Grp	Name
1.386	1	1	5.05000	1.60890	3.13879			Methane
		2	10.10000	3.27732	3.08179			
		3	20.20000	6.44007	3.13661			
		4	35.10000	11.08395	3.16674			
		5	101.00000	30.80270	3.27893			
		6	2503.00000	804.81809	3.11002			
		7	1.00120e4	3209.42904	3.11956			
		8	1.66770e4	5232.16895	3.18740			
		9	5.00600e4	1.52546e4	3.28164			
1.512	1	1	4.95000	2.97071	1.66627			Ethane
		2	9.90000	6.02119	1.64419			
		3	19.80000	11.83731	1.67268			
		4	34.40000	20.33809	1.69141			
		5	99.00000	56.44310	1.75398			
		6	2502.00000	1519.07617	1.64705			
		7	1.00060e4	6048.86117	1.65420			
		8	1.66770e4	9850.39193	1.69303			
		9	5.00300e4	2.86724e4	1.74488			
1.801	1	1	5.00000	4.55733	1.09713			Propane
		2	10.00000	9.25309	1.08072			
		3	20.00000	18.09366	1.10536			
		4	34.78000	30.96196	1.12331			
		5	100.00000	85.69260	1.16696			
		6	2502.00000	2277.37923	1.09863			
		7	1.00060e4	9062.91764	1.10406			
		8	1.66770e4	1.47523e4	1.13047			
		9	5.00300e4	4.31616e4	1.15913			
2.621	1	1	4.95000	6.08318	8.13719e-1			Butane

RetTime [min]	Sig	Lvl	Amount [ppm]	Area	Amt/Area	Ref Grp	Name
		2	9.90000	12.32426	8.03293e-1		
		3	19.80000	24.02689	8.24077e-1		
		4	34.43000	41.07836	8.38154e-1		
		5	99.00000	113.28871	8.73873e-1		
		6	500.00000	606.09017	8.24960e-1		
		7	2000.00000	2411.30029	8.29428e-1		
		8	3333.00000	3925.30640	8.49106e-1		
		9	1.00000e4	1.14011e4	8.77112e-1		
4.689	1	1	5.00000	7.54657	6.62553e-1		Pentane
		2	10.00000	15.34887	6.51514e-1		
		3	20.00000	29.91114	6.68647e-1		
		4	34.78000	50.98950	6.82101e-1		
		5	100.00000	140.49682	7.11760e-1		
		6	250.00000	378.40611	6.60666e-1		
		7	1001.00000	1506.67460	6.64377e-1		
		8	1668.00000	2452.99585	6.79985e-1		
		9	5003.00000	7116.63167	7.03001e-1		
7.796	1	1	5.05000	9.22128	5.47646e-1		Hexane
		2	10.10000	18.61904	5.42456e-1		
		3	20.20000	36.26922	5.56946e-1		
		4	35.13000	61.94912	5.67078e-1		
		5	101.00000	170.57944	5.92099e-1		
		6	200.00000	361.69618	5.52950e-1		
		7	801.00000	1439.47217	5.56454e-1		
		8	1335.00000	2344.43823	5.69433e-1		
		9	4006.00000	6796.68099	5.89405e-1		

More compound-specific settings:

Compound: Methane
  Time Window : From 1.365 min To 1.405 min

Compound: Ethane
  Time Window : From 1.474 min To 1.534 min

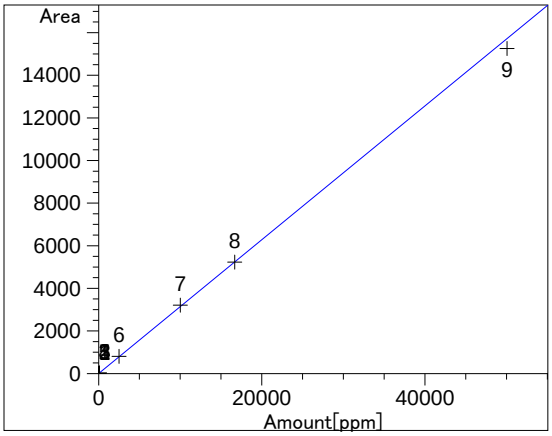
Compound: Propane
  Time Window : From 1.743 min To 1.853 min

Compound: Butane
  Time Window : From 2.575 min To 2.635 min

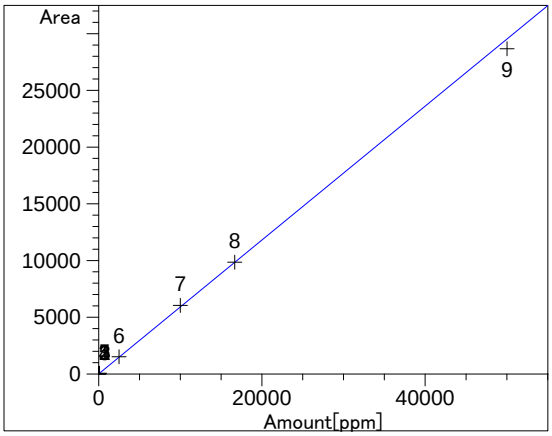
Peak Sum Table

Name	StartTime [min]	EndTime [min]	Use Reference	Response factor	Multiplier	ISTD Peak
as Ethane	1.440	1.657	None	1.6853	1.6051	None
as Propane	1.657	2.211	None	1.1184	1.0623	None
as Butane	2.211	3.652	None	8.3710e-1	0.7963	None
as Pentane	3.652	6.240	None	6.7610e-1	0.6403	None
as Hexane	6.240	14.000	None	5.6380e-1	0.5392	None

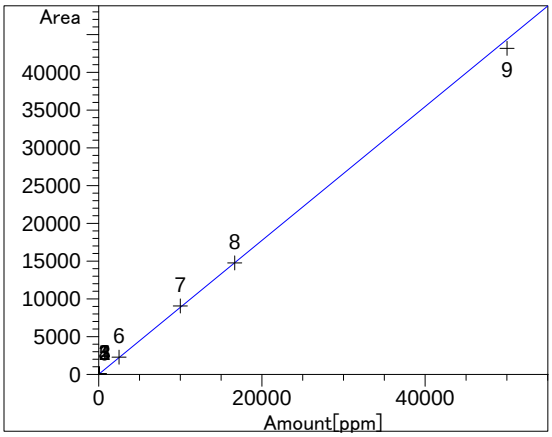
Calibration Curves



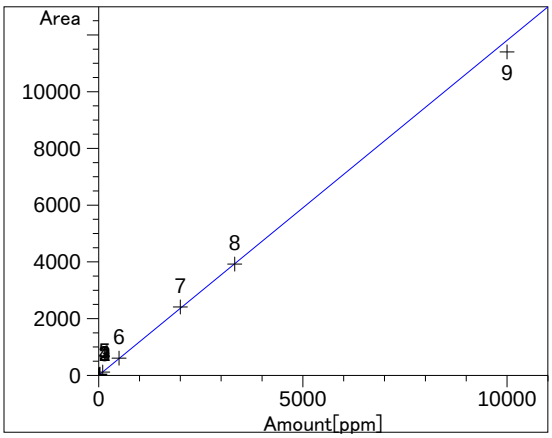
Methane at exp. RT: 1.386
FID2 B,
Correlation: 0.99972
Residual Std. Dev.: 181.47874
Formula: y = mx + b
m: 3.14224e-1
b: 3.94252e-2
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.0207
Level 5 : 0.0025
Level 6 : 4.07062e-006
Level 7 : 2.54414e-007
Level 8 : 9.16953e-008
Level 9 : 1.01766e-008



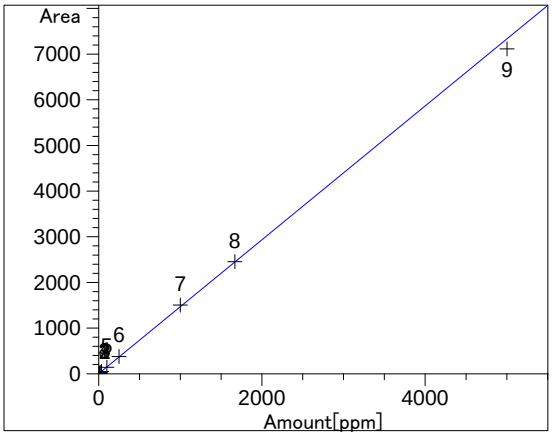
Ethane at exp. RT: 1.512
FID2 B,
Correlation: 0.99968
Residual Std. Dev.: 333.93050
Formula: y = mx + b
m: 5.90520e-1
b: 7.19552e-2
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.020706
Level 5 : 0.0025
Level 6 : 3.91413e-006
Level 7 : 2.44731e-007
Level 8 : 8.80997e-008
Level 9 : 9.78925e-009



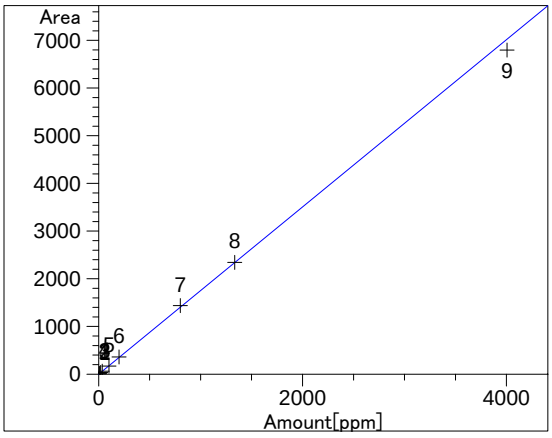
Propane at exp. RT: 1.801
FID2 B,
Correlation: 0.99968
Residual Std. Dev.: 466.40801
Formula: y = mx + b
m: 8.87050e-1
b: 1.75782e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.020667
Level 5 : 0.0025
Level 6 : 3.99361e-006
Level 7 : 2.497e-007
Level 8 : 8.98885e-008
Level 9 : 9.98801e-009



Butane at exp. RT: 2.621
FID2 B,
Correlation: 0.99963
Residual Std. Dev.: 157.17712
Formula: y = mx + b
m: 1.18133
b: 3.24584e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.02067
Level 5 : 0.0025
Level 6 : 0.000098
Level 7 : 6.12563e-006
Level 8 : 2.20567e-006
Level 9 : 2.45025e-007



Pentane at exp. RT: 4.689
FID2 B,
Correlation: 0.99955
Residual Std. Dev.: 85.60755
Formula: y = mx + b
m: 1.46695
b: 3.04408e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.020667
Level 5 : 0.0025
Level 6 : 0.0004
Level 7 : 0.000025
Level 8 : 8.98562e-006
Level 9 : 9.98801e-007



Hexane at exp. RT: 7.796
FID2 B,
Correlation: 0.99959
Residual Std. Dev.: 88.54713
Formula: y = mx + b
m: 1.75429
b: 4.76983e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.020665
Level 5 : 0.0025
Level 6 : 0.000638
Level 7 : 0.00004
Level 8 : 0.000014
Level 9 : 1.58914e-006

==========

Calibration Table

Calib. Data Modified : 9/16/2016 8:43:36 AM

Rel. Reference Window : 1.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 1.000 %
Abs. Non-ref. Window : 0.000 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Connected
Weight : Quadratic (Amnt)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: FID2 B,

RetTime [min]	Sig	Lvl	Amount [ppm]	Area	Amt/Area	Ref	Grp	Name
1.386	1	1	5.05000	1.60890	3.13879			Methane
		2	10.10000	3.27732	3.08179			
		3	20.20000	6.44007	3.13661			
		4	35.10000	11.08395	3.16674			
		5	101.00000	30.80270	3.27893			
		6	2503.00000	804.81809	3.11002			
		7	1.00120e4	3209.42904	3.11956			
		8	1.66770e4	5232.16895	3.18740			
		9	5.00600e4	1.52546e4	3.28164			
1.512	1	1	4.95000	2.97071	1.66627			Ethane
		2	9.90000	6.02119	1.64419			
		3	19.80000	11.83731	1.67268			
		4	34.40000	20.33809	1.69141			
		5	99.00000	56.44310	1.75398			
		6	2502.00000	1519.07617	1.64705			
		7	1.00060e4	6048.86117	1.65420			
		8	1.66770e4	9850.39193	1.69303			
		9	5.00300e4	2.86724e4	1.74488			
1.801	1	1	5.00000	4.55733	1.09713			Propane
		2	10.00000	9.25309	1.08072			
		3	20.00000	18.09366	1.10536			
		4	34.78000	30.96196	1.12331			
		5	100.00000	85.69260	1.16696			
		6	2502.00000	2277.37923	1.09863			
		7	1.00060e4	9062.91764	1.10406			
		8	1.66770e4	1.47523e4	1.13047			
		9	5.00300e4	4.31616e4	1.15913			
2.621	1	1	4.95000	6.08318	8.13719e-1			Butane

RetTime [min]	Sig	Lvl	Amount [ppm]	Area	Amt/Area	Ref Grp	Name
		2	9.90000	12.32426	8.03293e-1		
		3	19.80000	24.02689	8.24077e-1		
		4	34.43000	41.07836	8.38154e-1		
		5	99.00000	113.28871	8.73873e-1		
		6	500.00000	606.09017	8.24960e-1		
		7	2000.00000	2411.30029	8.29428e-1		
		8	3333.00000	3925.30640	8.49106e-1		
		9	1.00000e4	1.14011e4	8.77112e-1		
4.689	1	1	5.00000	7.54657	6.62553e-1		Pentane
		2	10.00000	15.34887	6.51514e-1		
		3	20.00000	29.91114	6.68647e-1		
		4	34.78000	50.98950	6.82101e-1		
		5	100.00000	140.49682	7.11760e-1		
		6	250.00000	378.40611	6.60666e-1		
		7	1001.00000	1506.67460	6.64377e-1		
		8	1668.00000	2452.99585	6.79985e-1		
		9	5003.00000	7116.63167	7.03001e-1		
7.796	1	1	5.05000	9.22128	5.47646e-1		Hexane
		2	10.10000	18.61904	5.42456e-1		
		3	20.20000	36.26922	5.56946e-1		
		4	35.13000	61.94912	5.67078e-1		
		5	101.00000	170.57944	5.92099e-1		
		6	200.00000	361.69618	5.52950e-1		
		7	801.00000	1439.47217	5.56454e-1		
		8	1335.00000	2344.43823	5.69433e-1		
		9	4006.00000	6796.68099	5.89405e-1		
9.361	1	1	4.90000	10.23709	4.78651e-1		Heptane
		2	9.80000	20.68077	4.73870e-1		
		3	19.60000	40.28273	4.86561e-1		
		4	34.09000	68.85067	4.95130e-1		
		5	98.00000	189.84419	5.16213e-1		
		9	251.00000	499.24508	5.02759e-1		

More compound-specific settings:

Compound: Methane
  Time Window : From 1.365 min To 1.405 min

Compound: Ethane
  Time Window : From 1.474 min To 1.534 min

Compound: Propane
  Time Window : From 1.743 min To 1.853 min

Compound: Butane
  Time Window : From 2.575 min To 2.635 min

1 Warnings or Errors :

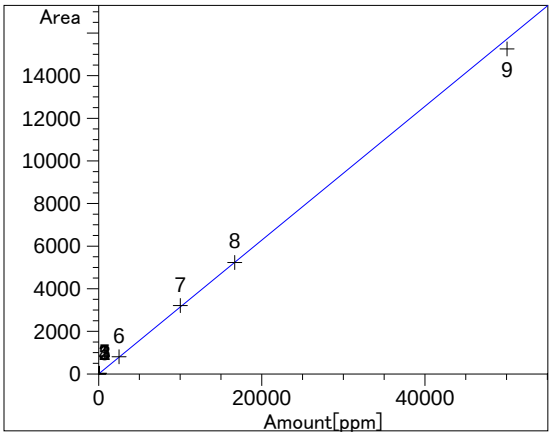
Warning : Cal. table open and changed while report was generated.

Peak Sum Table

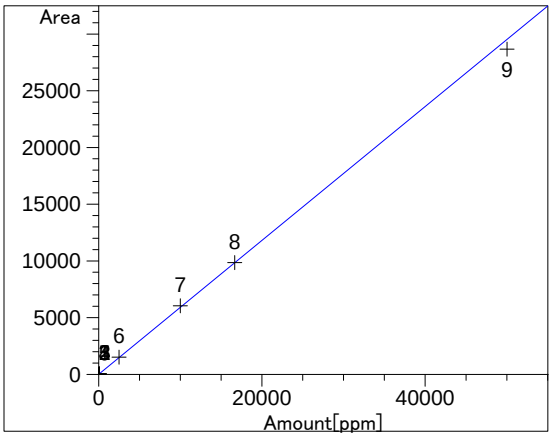
Name	StartTime [min]	EndTime [min]	Use Reference	Response factor	Multiplier	ISTD Peak
as Ethane	1.440	1.657	None	1.6051	1.6051	None
as Propane	1.657	2.211	None	1.0623	1.0623	None
as Butane	2.211	3.652	None	7.9632e-1	0.7963	None
as Pentane	3.652	6.240	None	6.4025e-1	0.6403	None

Name	StartTime [min]	EndTime [min]	Use Reference	Response factor	Multiplier	ISTD Peak
as Hexane	6.240	8.578	None	5.3924e-1	0.5392	None
as Heptane	8.578	14.000	None	4.6928e-1	0.4693	None

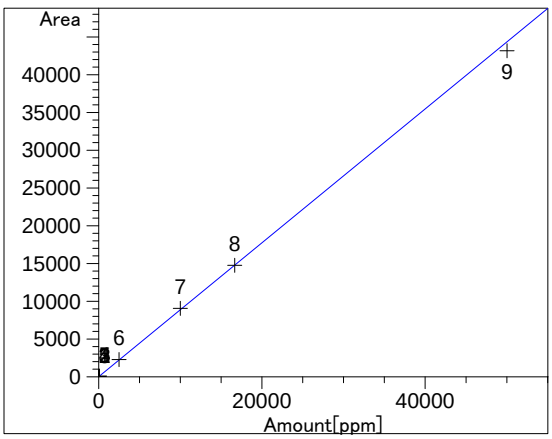
Calibration Curves



Methane at exp. RT: 1.386
FID2 B,
Correlation: 0.99972
Residual Std. Dev.: 181.47874
Formula: y = mx + b
m: 3.14224e-1
b: 3.94252e-2
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.0207
Level 5 : 0.0025
Level 6 : 4.07062e-006
Level 7 : 2.54414e-007
Level 8 : 9.16953e-008
Level 9 : 1.01766e-008

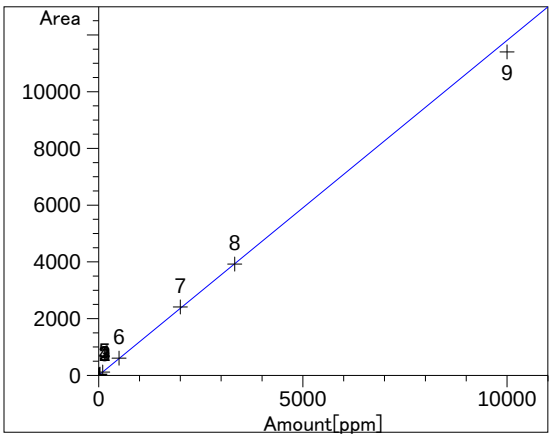


Ethane at exp. RT: 1.512
FID2 B,
Correlation: 0.99968
Residual Std. Dev.: 333.93050
Formula: y = mx + b
m: 5.90520e-1
b: 7.19552e-2
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.020706
Level 5 : 0.0025
Level 6 : 3.91413e-006
Level 7 : 2.44731e-007
Level 8 : 8.80997e-008
Level 9 : 9.78925e-009

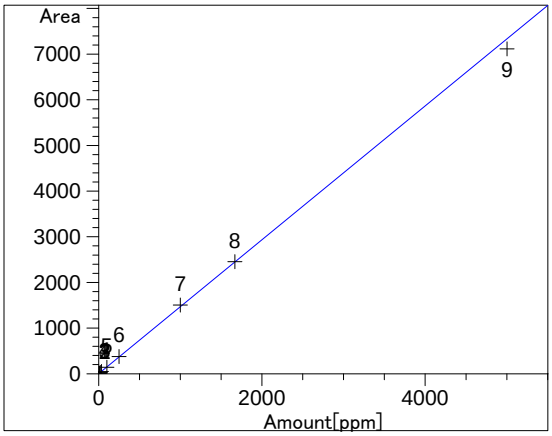


Propane at exp. RT: 1.801
FID2 B,
Correlation: 0.99968
Residual Std. Dev.: 466.40801
Formula: y = mx + b
m: 8.87050e-1
b: 1.75782e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.020667

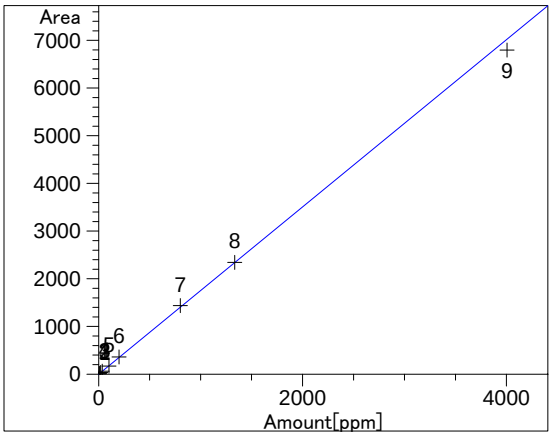
```
        Level 5    : 0.0025
        Level 6    : 3.99361e-006
        Level 7    : 2.497e-007
        Level 8    : 8.98885e-008
        Level 9    : 9.98801e-009
```



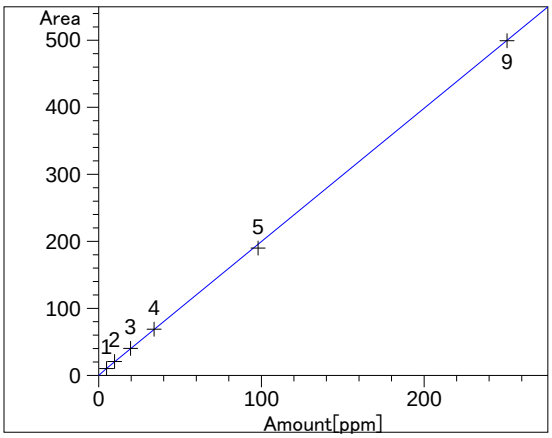
Butane at exp. RT: 2.621
FID2 B,
Correlation: 0.99963
Residual Std. Dev.: 157.17712
Formula: y = mx + b
m: 1.18133
b: 3.24584e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.02067
Level 5 : 0.0025
Level 6 : 0.000098
Level 7 : 6.12563e-006
Level 8 : 2.20567e-006
Level 9 : 2.45025e-007



Pentane at exp. RT: 4.689
FID2 B,
Correlation: 0.99955
Residual Std. Dev.: 85.60755
Formula: y = mx + b
m: 1.46695
b: 3.04408e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.020667
Level 5 : 0.0025
Level 6 : 0.0004
Level 7 : 0.000025
Level 8 : 8.98562e-006
Level 9 : 9.98801e-007



Hexane at exp. RT: 7.796
FID2 B,
Correlation: 0.99959
Residual Std. Dev.: 88.54713
Formula: y = mx + b
m: 1.75429
b: 4.76983e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.020665
Level 5 : 0.0025
Level 6 : 0.000638
Level 7 : 0.00004
Level 8 : 0.000014
Level 9 : 1.58914e-006



Heptane at exp. RT: 9.361
FID2 B,
Correlation: 0.99965
Residual Std. Dev.: 2.98485
Formula: y = mx + b
m: 1.99004
b: 6.49801e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.0625
Level 4 : 0.02066
Level 5 : 0.0025
Level 9 : 0.000381

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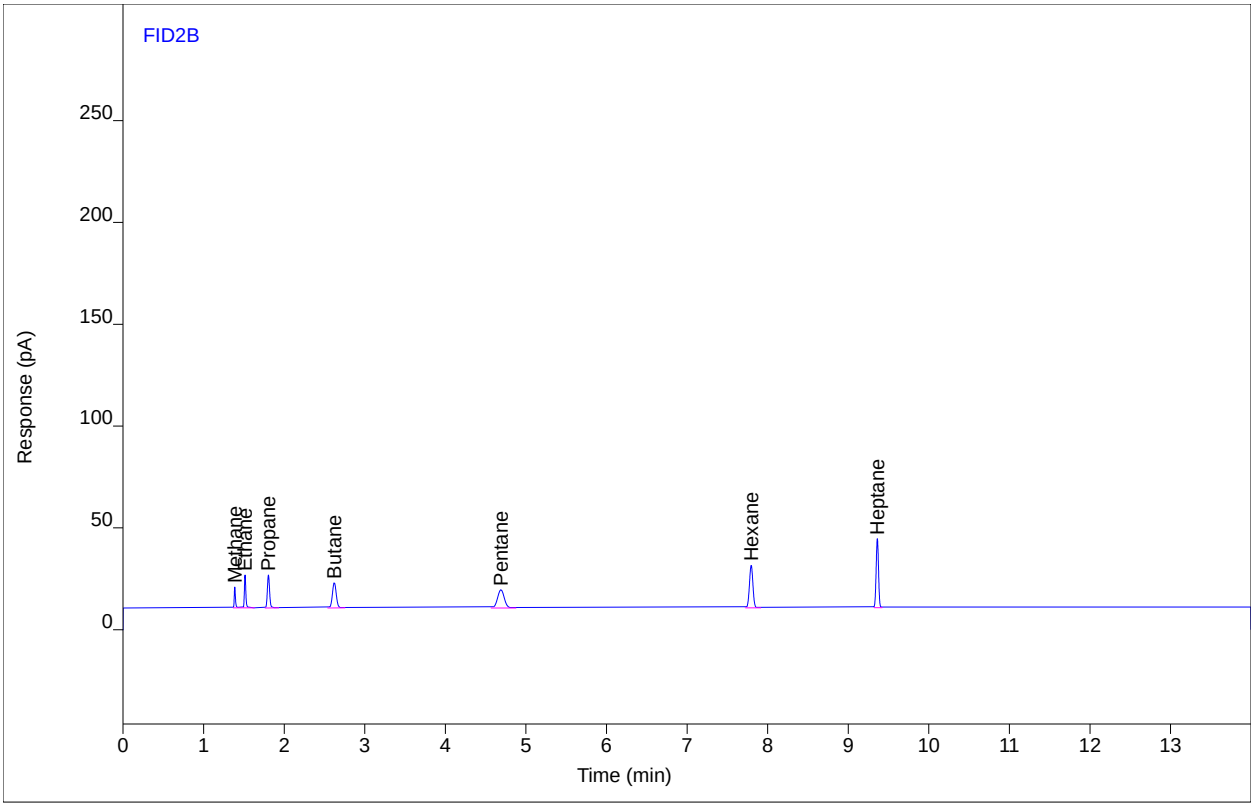
Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C4 ENV(1=530,4=400.67)
Sequence Name	BETTYP445 ver.1
Data File	025B0603.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/14/2016 5:13 PM
File Modified	9/16/2016 8:48 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



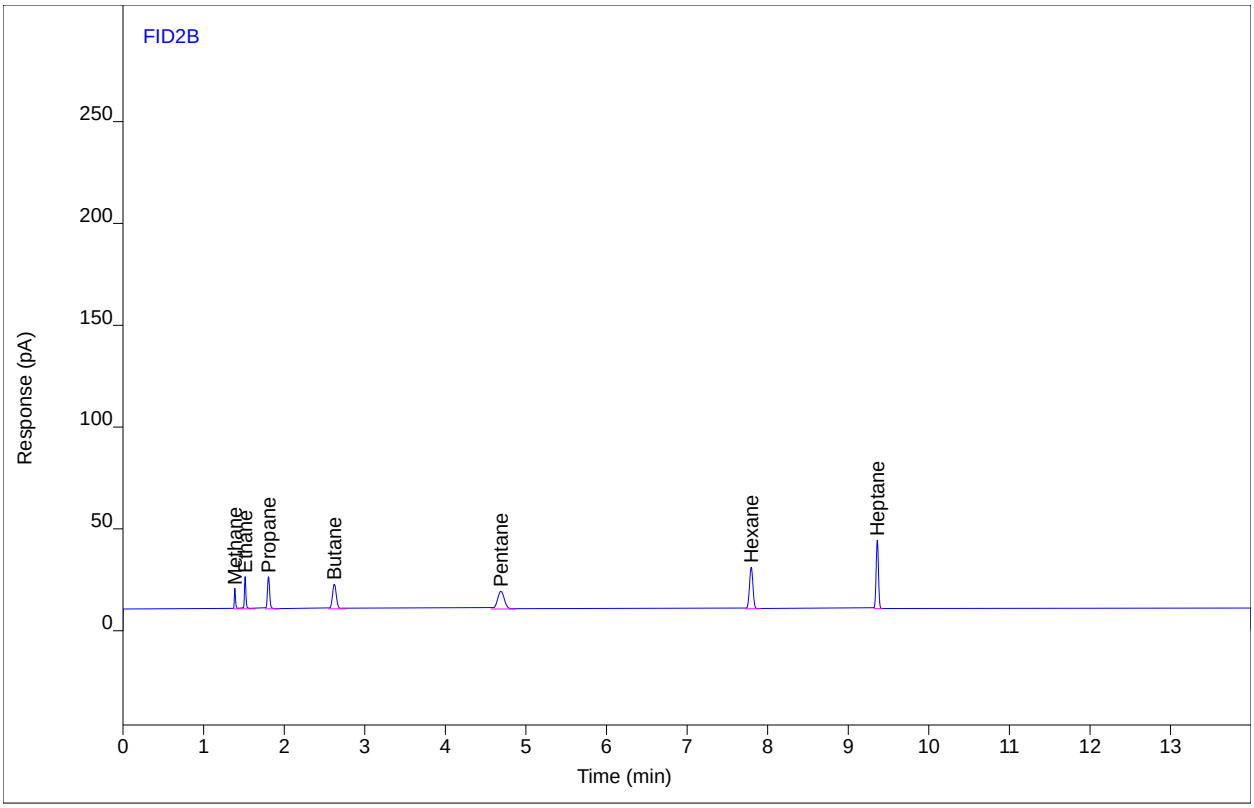
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	11.2193	10.0763	37.4985	1	37.4985	ppm
Ethane	VB	1.51	20.5483	16.0132	36.5159	1	36.5159	ppm
Propane	BB	1.80	31.2429	16.1072	36.8753	1	36.8753	ppm
Butane	BB	2.62	41.4486	12.4621	36.7100	1	36.7100	ppm
Pentane	BB	4.69	51.4349	8.93386	36.5635	1	36.5635	ppm
Hexane	BB	7.80	62.5342	20.9757	37.2005	1	37.2005	ppm
Heptane	BB	9.36	69.5266	33.8886	35.8850	1	35.8850	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C4 ENV(1=530,4=400.67)
Sequence Name	BETTYP445 ver.1
Data File	025B0604.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/14/2016 5:36 PM
File Modified	9/16/2016 8:48 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	4 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



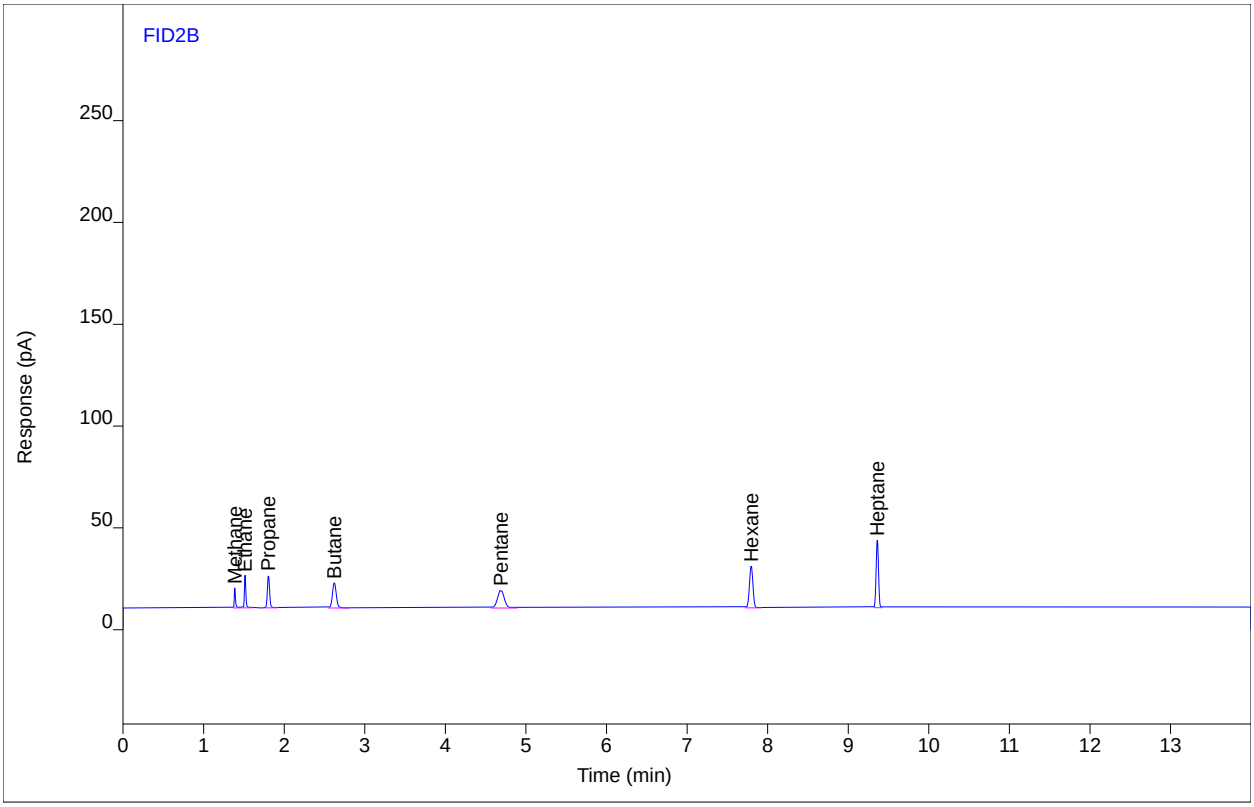
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	10.9947	10.0157	36.7367	1	36.7367	ppm
Ethane	VB	1.52	20.2262	15.7672	35.9353	1	35.9353	ppm
Propane	BB	1.81	30.7192	15.8194	36.2470	1	36.2470	ppm
Butane	BB	2.62	40.6961	12.2434	36.0307	1	36.0307	ppm
Pentane	BB	4.69	50.5511	8.77416	35.9251	1	35.9251	ppm
Hexane	BB	7.80	61.3973	20.4030	36.5117	1	36.5117	ppm
Heptane	BB	9.36	68.2415	33.6508	35.2108	1	35.2108	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C4 ENV(1=530,4=400.67)
Sequence Name	BETTYP445 ver.1
Data File	025B0605.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/14/2016 6:00 PM
File Modified	9/16/2016 8:48 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	5 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



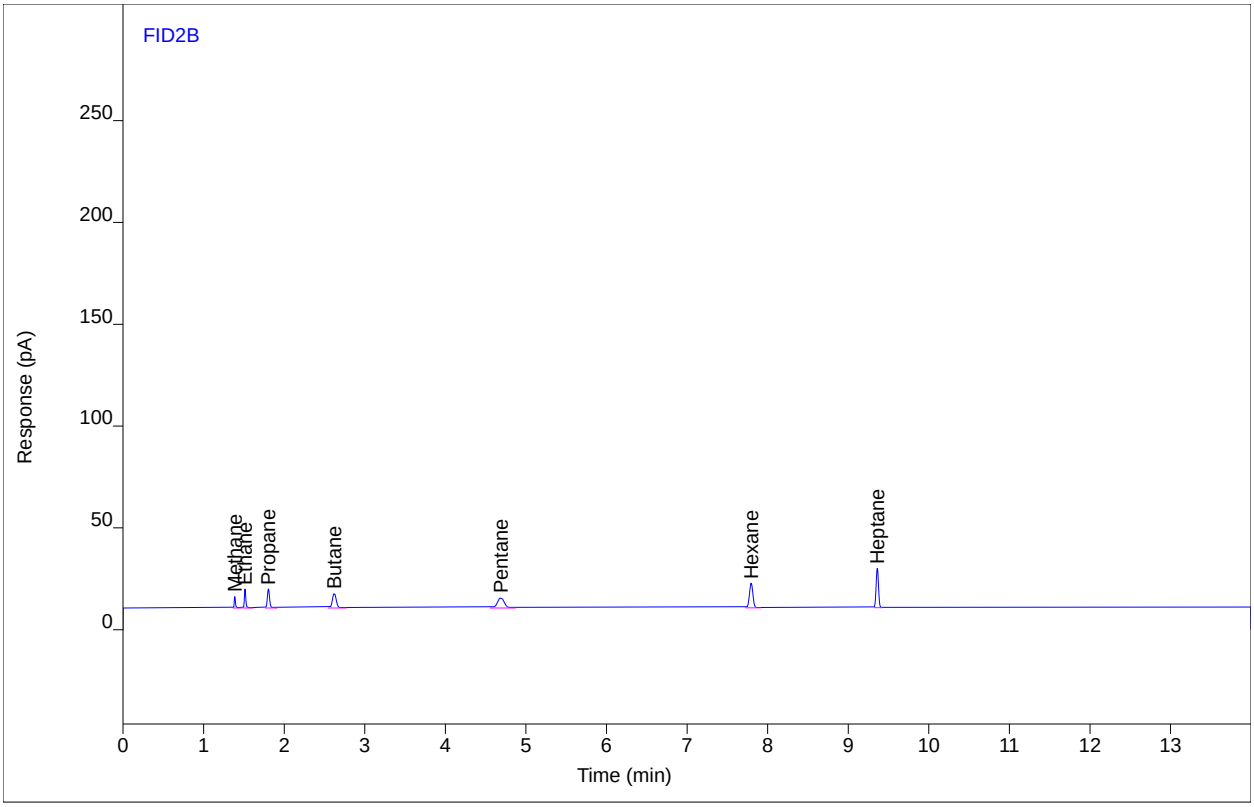
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	11.0379	10.0532	36.8834	1	36.8834	ppm
Ethane	VB	1.51	20.2397	15.8857	35.9597	1	35.9597	ppm
Propane	BB	1.80	30.9237	15.9586	36.4924	1	36.4924	ppm
Butane	BB	2.62	41.0904	12.3361	36.3866	1	36.3866	ppm
Pentane	BB	4.69	50.9825	8.84387	36.2367	1	36.2367	ppm
Hexane	BB	7.80	61.9158	20.5426	36.8259	1	36.8259	ppm
Heptane	BB	9.36	68.7839	33.1127	35.4953	1	35.4953	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C3 ENV(1=1130.66,4=400.67)
Sequence Name	BETTYP445 ver.1
Data File	025B0703.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/14/2016 7:10 PM
File Modified	9/16/2016 8:48 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



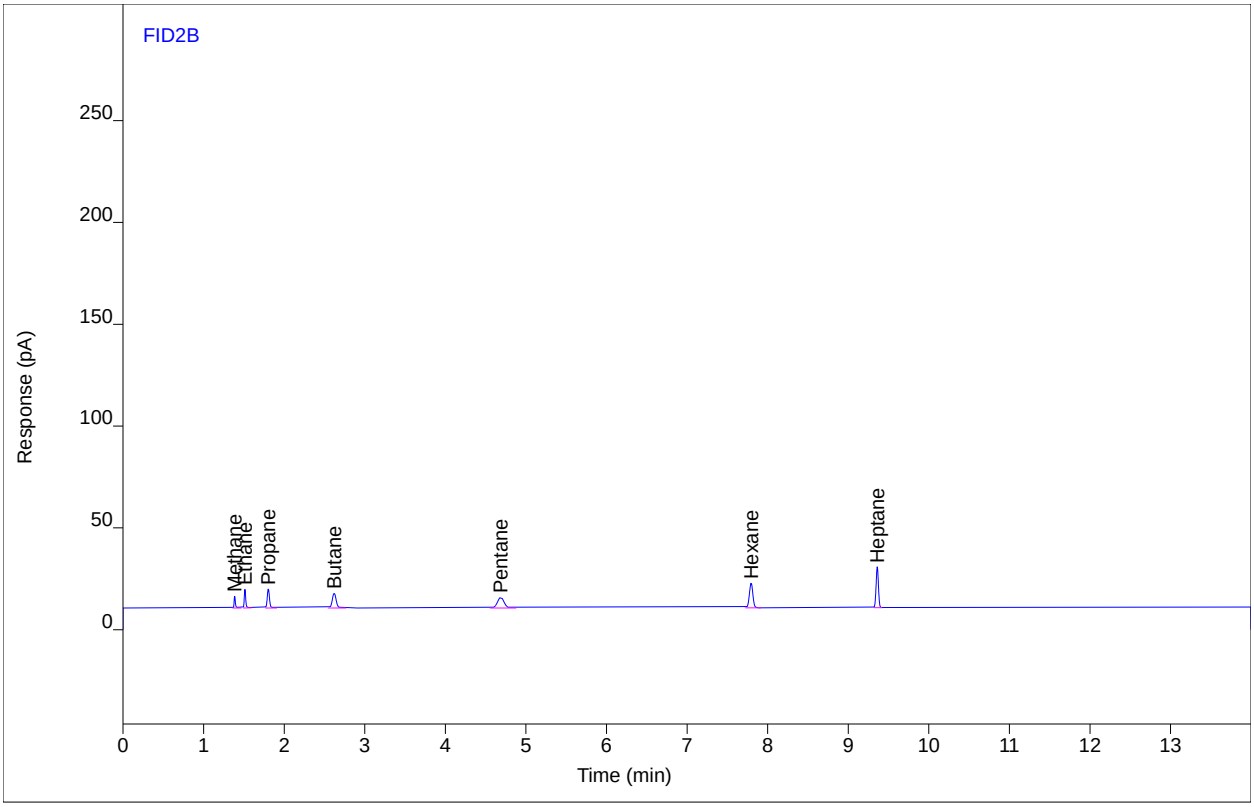
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BB	1.39	6.40194	5.85457	21.1628	1	21.1628	ppm
Ethane	BB	1.51	11.7757	9.26020	20.7011	1	20.7011	ppm
Propane	BB	1.80	18.0060	9.29885	20.9930	1	20.9930	ppm
Butane	BB	2.62	23.9375	7.20901	20.9034	1	20.9034	ppm
Pentane	BB	4.69	29.7402	5.16705	20.8928	1	20.8928	ppm
Hexane	BB	7.80	36.1203	12.1038	21.1980	1	21.1980	ppm
Heptane	BB	9.36	40.1680	19.4222	20.4826	1	20.4826	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C3 ENV(1=1130.66,4=400.67)
Sequence Name	BETTYP445 ver.1
Data File	025B0704.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/14/2016 7:34 PM
File Modified	9/16/2016 8:48 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	4 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



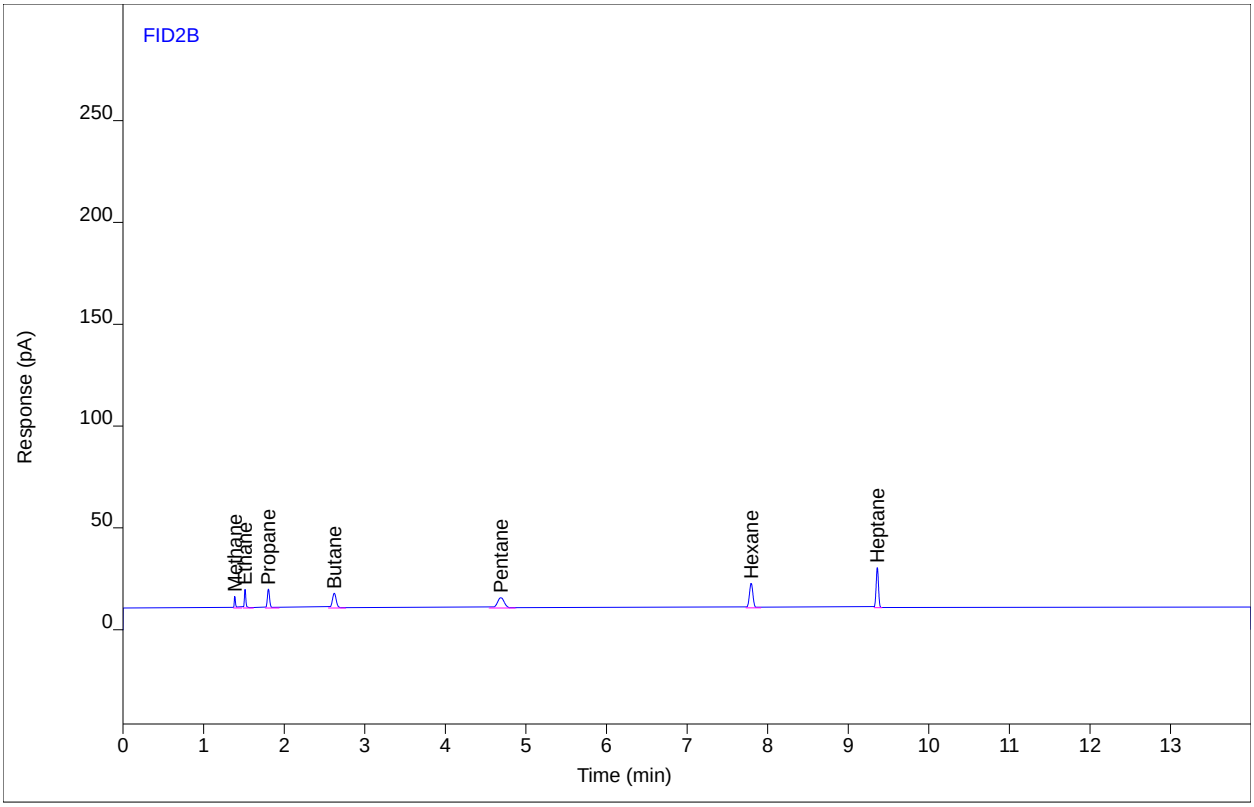
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BB	1.39	6.45569	5.81816	21.3451	1	21.3451	ppm
Ethane	BB	1.51	11.8374	9.28988	20.8123	1	20.8123	ppm
Propane	BB	1.80	18.1015	9.34790	21.1076	1	21.1076	ppm
Butane	BB	2.62	24.1322	7.26004	21.0792	1	21.0792	ppm
Pentane	BB	4.69	30.0586	5.21304	21.1228	1	21.1228	ppm
Hexane	BB	7.80	36.4120	12.1692	21.3747	1	21.3747	ppm
Heptane	BB	9.36	40.3922	19.9484	20.6002	1	20.6002	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C3 ENV(1=1130.66,4=400.67)
Sequence Name	BETTYP445 ver.1
Data File	025B0705.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/14/2016 7:57 PM
File Modified	9/16/2016 8:48 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	5 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



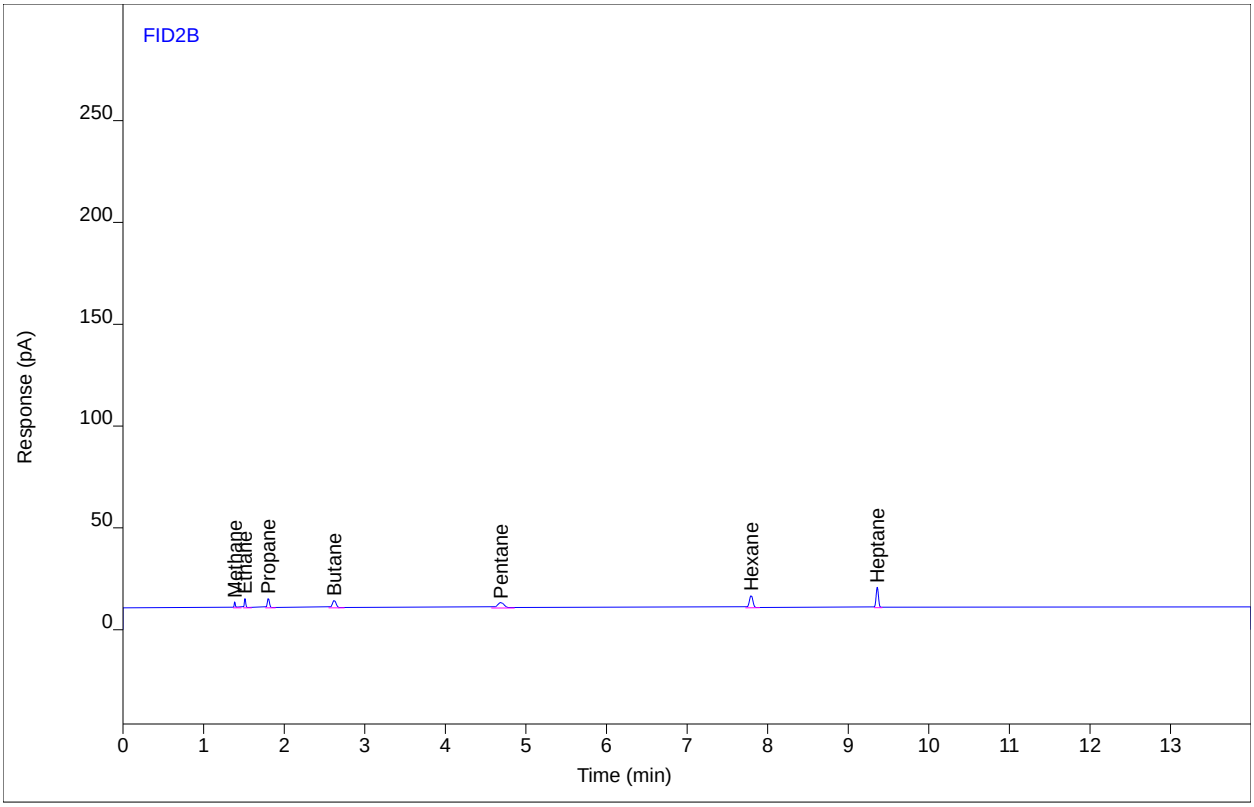
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BB	1.39	6.46259	5.85501	21.3685	1	21.3685	ppm
Ethane	BB	1.51	11.8988	9.29686	20.9231	1	20.9231	ppm
Propane	BB	1.80	18.1735	9.33849	21.1940	1	21.1940	ppm
Butane	BB	2.62	24.0110	7.22420	20.9698	1	20.9698	ppm
Pentane	BB	4.69	29.9347	5.18738	21.0333	1	21.0333	ppm
Hexane	BB	7.80	36.2754	12.0733	21.2919	1	21.2919	ppm
Heptane	BB	9.36	40.2880	19.7785	20.5455	1	20.5455	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C2 ENV(1=1271.99,4=200.34)
Sequence Name	BETTYP445 ver.1
Data File	025B0803.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/14/2016 9:08 PM
File Modified	9/16/2016 8:48 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM

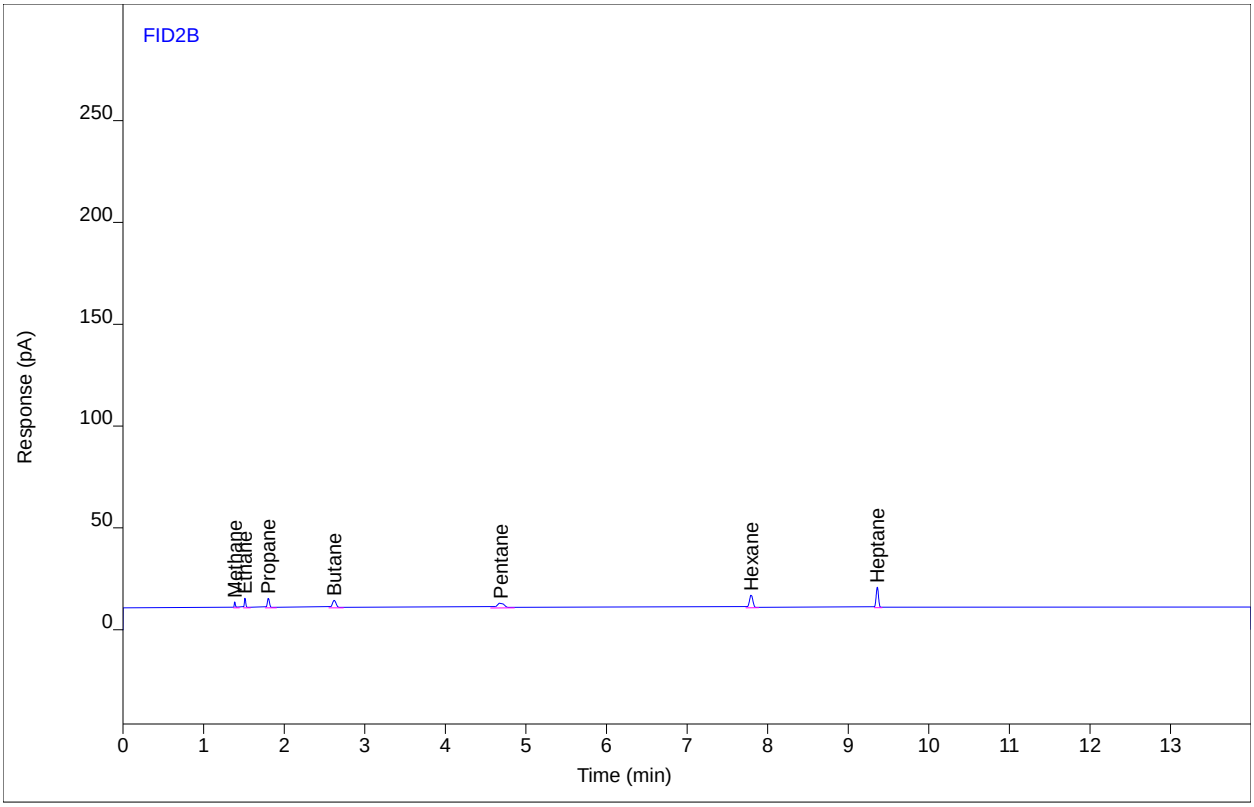


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BB	1.39	3.26206	2.98667	10.5155	1	10.5155	ppm
Ethane	BB	1.51	6.01954	4.72870	10.3242	1	10.3242	ppm
Propane	BB	1.80	9.17047	4.76447	10.3917	1	10.3917	ppm
Butane	BB	2.62	12.2834	3.69762	10.3837	1	10.3837	ppm
Pentane	BB	4.69	15.2894	2.65994	10.4546	1	10.4546	ppm
Hexane	BB	7.80	18.5280	6.14505	10.5399	1	10.5399	ppm
Heptane	BB	9.36	20.5892	9.97835	10.2110	1	10.2110	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C2 ENV(1=1271.99,4=200.34)	Sample Type	Calibration
Sequence Name	BETTYP445 ver.1	Vial Number	Vial 25
Data File	025B0804.D	Injection Volume	250
File Location	GC/2016/Betty/Quarter 3	Injection	4 of 5
Injection Date	9/14/2016 9:31 PM	Acquisition Method	GC142P133_CAL.M
File Modified	9/16/2016 8:48 AM	Analysis Method	BETTYP445_C1-C7.M
Instrument	Betty	Method Modified	9/16/2016 8:29 AM
Operator	Nicholas Traversa	Printed	9/16/2016 10:13 AM



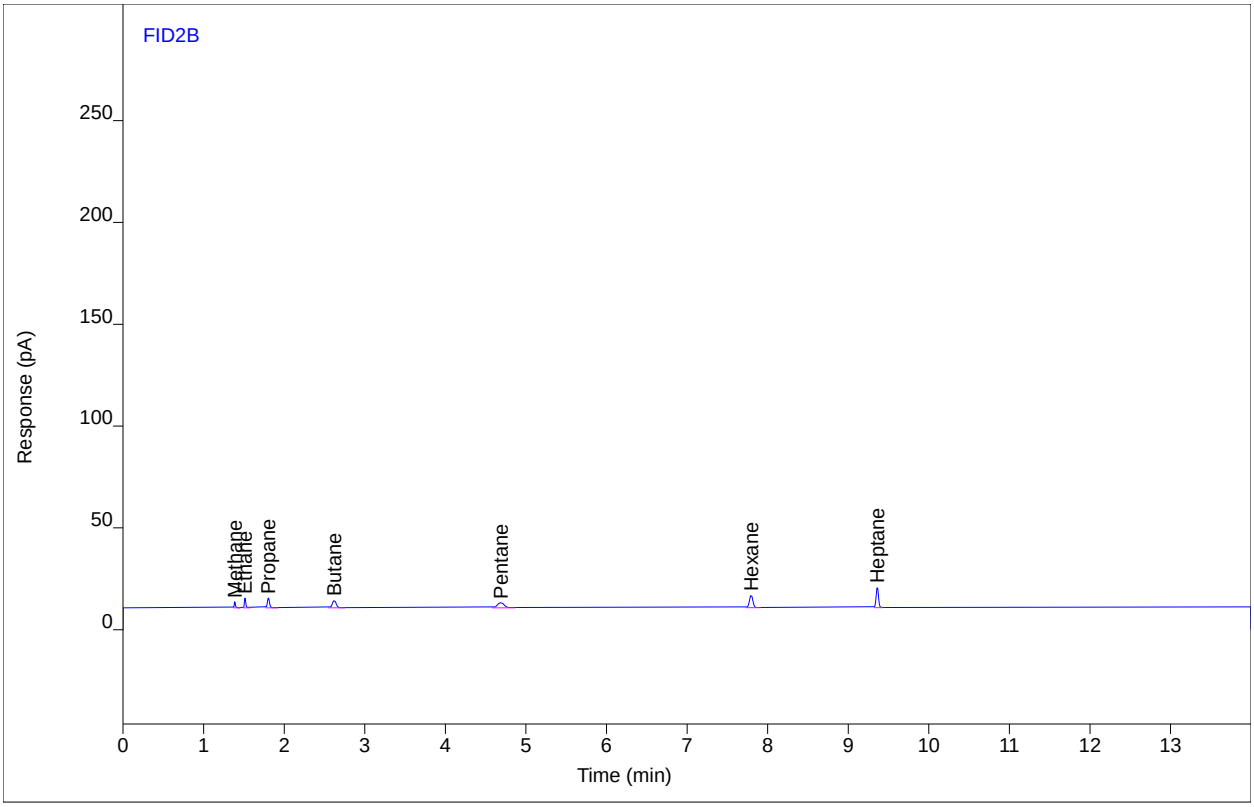
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BB	1.39	3.27781	3.01235	10.5689	1	10.5689	ppm
Ethane	BB	1.51	6.02136	4.76474	10.3274	1	10.3274	ppm
Propane	BB	1.80	9.30250	4.79913	10.5501	1	10.5501	ppm
Butane	BB	2.62	12.3162	3.72704	10.4134	1	10.4134	ppm
Pentane	BB	4.69	15.3777	2.66158	10.5184	1	10.5184	ppm
Hexane	BB	7.80	18.6634	6.26418	10.6219	1	10.6219	ppm
Heptane	BB	9.36	20.7181	10.0282	10.2786	1	10.2786	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C2 ENV(1=1271.99,4=200.34)
Sequence Name	BETTYP445 ver.1
Data File	025B0805.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/14/2016 9:55 PM
File Modified	9/16/2016 8:48 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	5 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



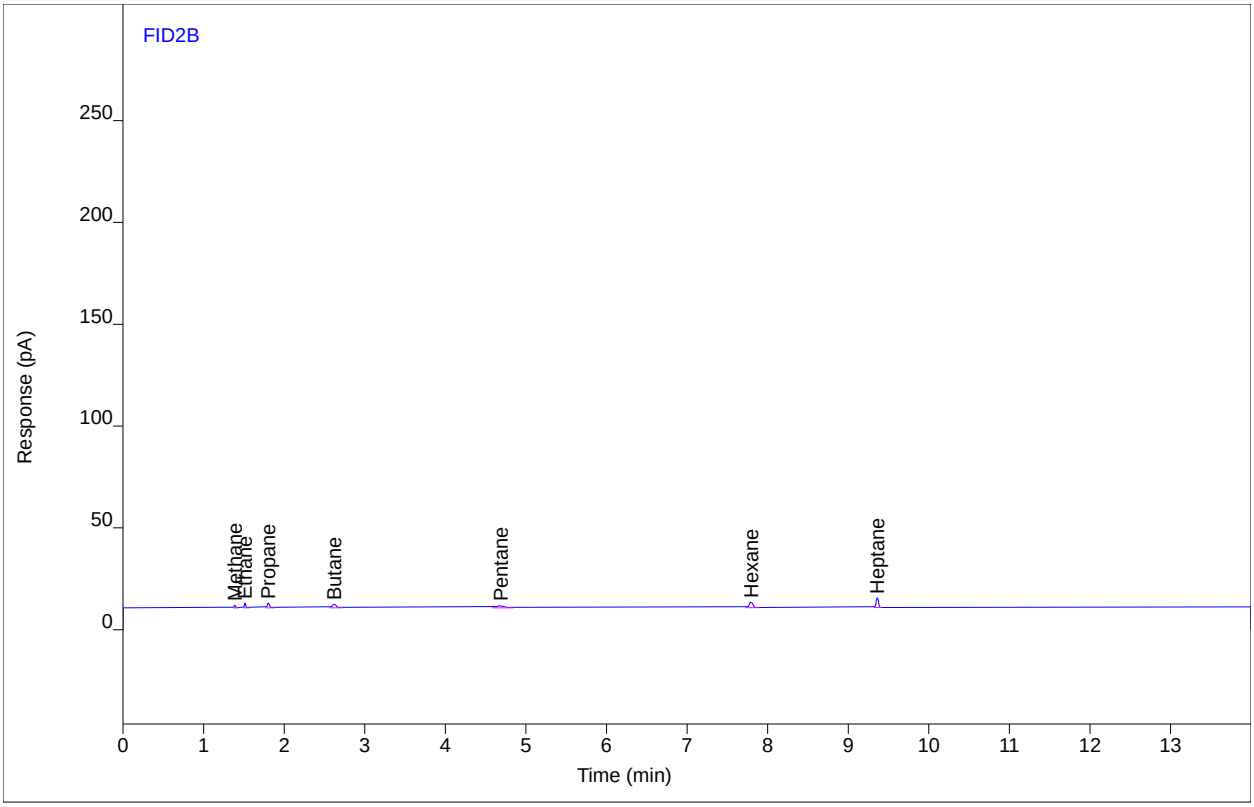
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BB	1.39	3.29209	3.01329	10.6173	1	10.6173	ppm
Ethane	BB	1.51	6.02267	4.76133	10.3298	1	10.3298	ppm
Propane	BB	1.80	9.28630	4.80814	10.5307	1	10.5307	ppm
Butane	BB	2.62	12.3732	3.72136	10.4648	1	10.4648	ppm
Pentane	BB	4.69	15.3795	2.66695	10.5196	1	10.5196	ppm
Hexane	BB	7.80	18.6657	6.22570	10.6234	1	10.6234	ppm
Heptane	BB	9.36	20.7350	10.0982	10.2874	1	10.2874	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C1 ENV(1=1342.66,4=100.17)
Sequence Name	BETTYP445 ver.1
Data File	025B0908.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 1:02 AM
File Modified	9/16/2016 8:49 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	8 of 10
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



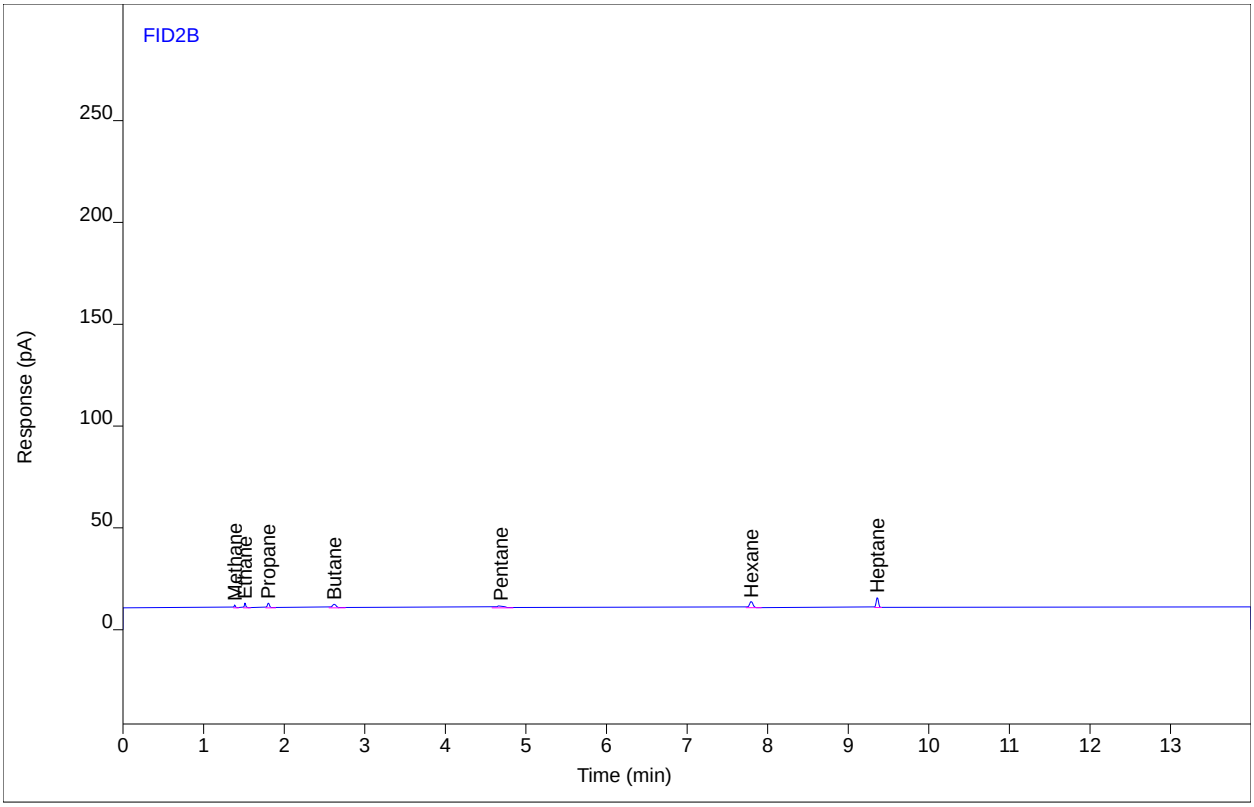
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BB	1.39	1.59011	1.47328	4.86581	1	4.86581	ppm
Ethane	BB	1.51	2.94739	2.33788	4.80166	1	4.80166	ppm
Propane	BB	1.80	4.52910	2.34463	4.84207	1	4.84207	ppm
Butane	BB	2.62	6.07075	1.83671	4.79754	1	4.79754	ppm
Pentane	BB	4.69	7.53109	1.30787	4.86629	1	4.86629	ppm
Hexane	BB	7.80	9.19960	3.03382	4.90772	1	4.90772	ppm
Heptane	BB	9.36	10.2050	4.92322	4.77783	1	4.77783	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C1 ENV(1=1342.66,4=100.17)
Sequence Name	BETTYP445 ver.1
Data File	025B0909.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 1:26 AM
File Modified	9/16/2016 8:49 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	9 of 10
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



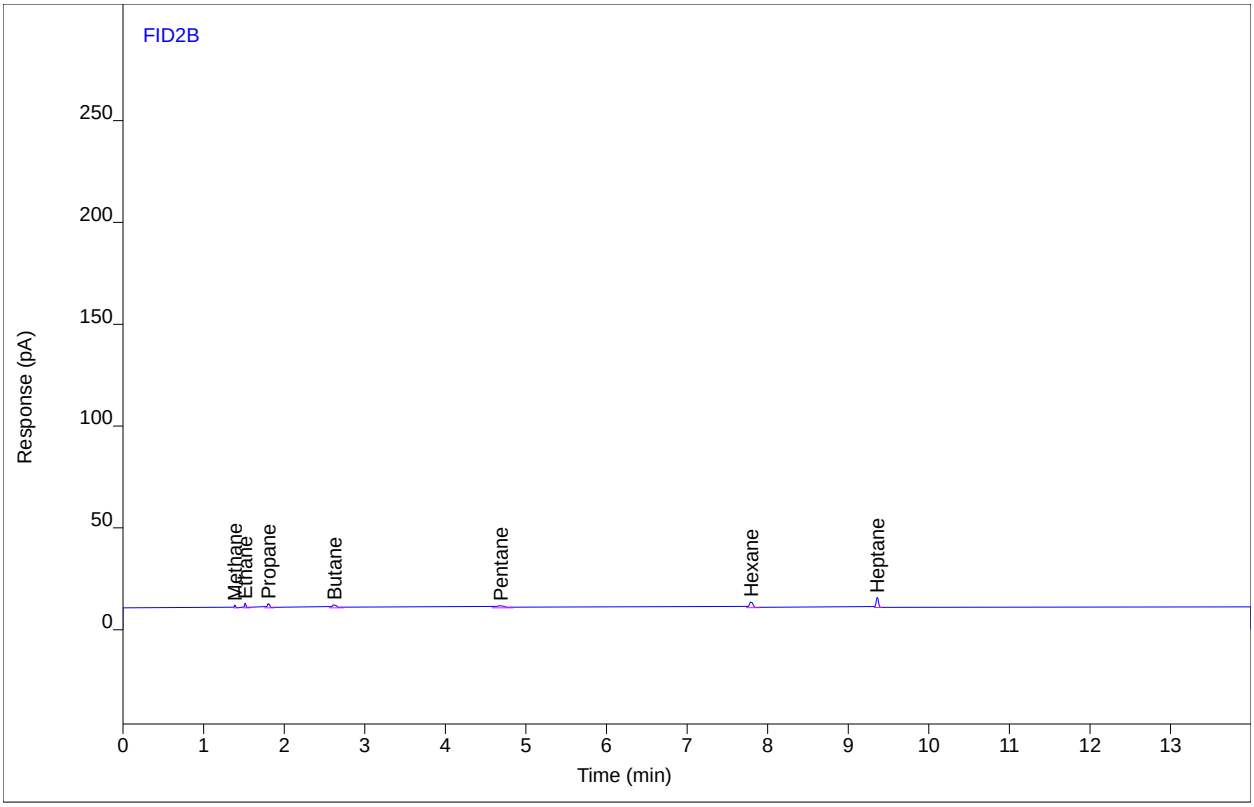
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BB	1.39	1.59363	1.48747	4.87658	1	4.87658	ppm
Ethane	BB	1.51	2.93558	2.34026	4.78241	1	4.78241	ppm
Propane	BB	1.80	4.52645	2.34960	4.83924	1	4.83924	ppm
Butane	BB	2.62	6.09228	1.82591	4.81456	1	4.81456	ppm
Pentane	BB	4.69	7.50409	1.30730	4.84885	1	4.84885	ppm
Hexane	BB	7.80	9.15957	3.04483	4.88637	1	4.88637	ppm
Heptane	BB	9.36	10.1637	4.97681	4.75850	1	4.75850	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C1 ENV(1=1342.66,4=100.17)
Sequence Name	BETTYP445 ver.1
Data File	025B0910.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 1:49 AM
File Modified	9/16/2016 8:49 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	10 of 10
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



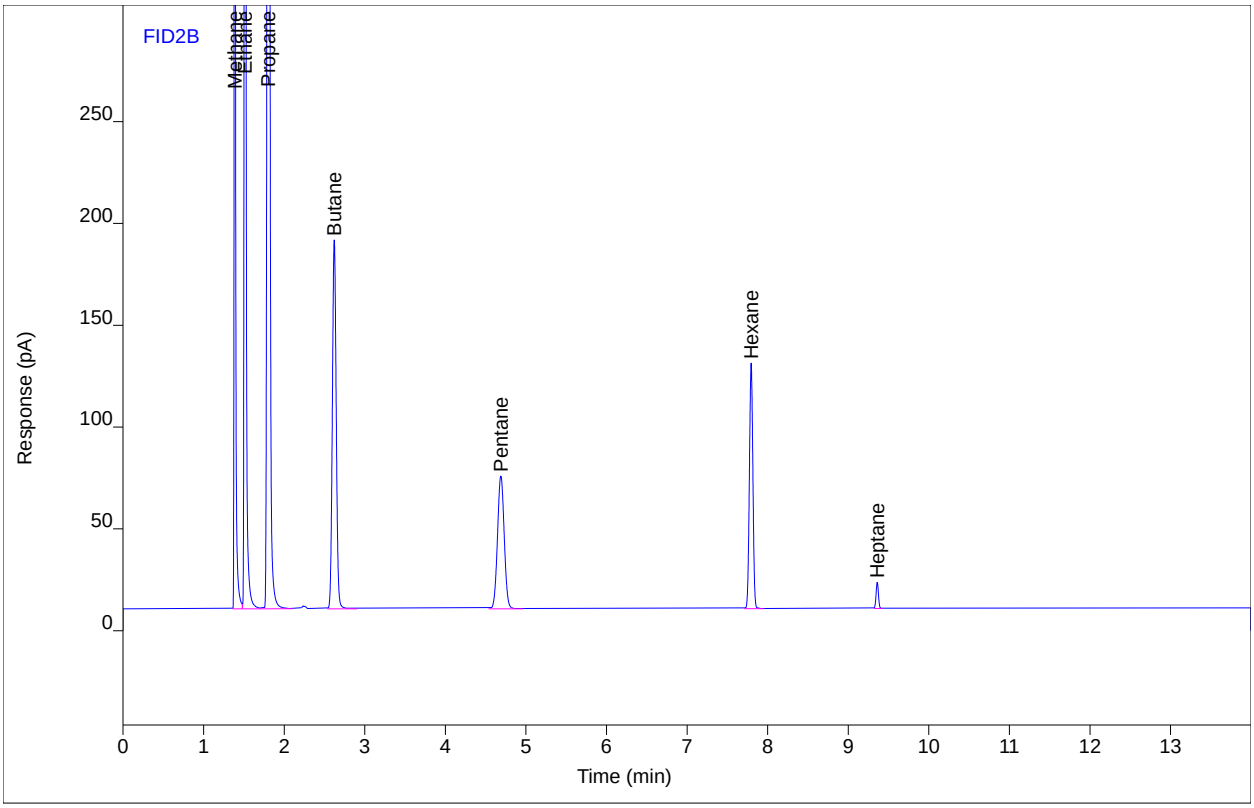
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BB	1.39	1.64297	1.50758	5.02757	1	5.02757	ppm
Ethane	PB	1.52	3.02917	2.36189	4.93489	1	4.93489	ppm
Propane	BB	1.81	4.61645	2.38668	4.93546	1	4.93546	ppm
Butane	BB	2.62	6.08652	1.85269	4.81000	1	4.81000	ppm
Pentane	BB	4.69	7.60452	1.32909	4.91374	1	4.91374	ppm
Hexane	BB	7.80	9.30469	3.09365	4.96379	1	4.96379	ppm
Heptane	BB	9.36	10.3426	5.07487	4.84226	1	4.84226	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C6 ENV(1=2685.32,5=242.1)
Sequence Name	BETTYP445 ver.1
Data File	025B1003.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 3:00 AM
File Modified	9/16/2016 8:49 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



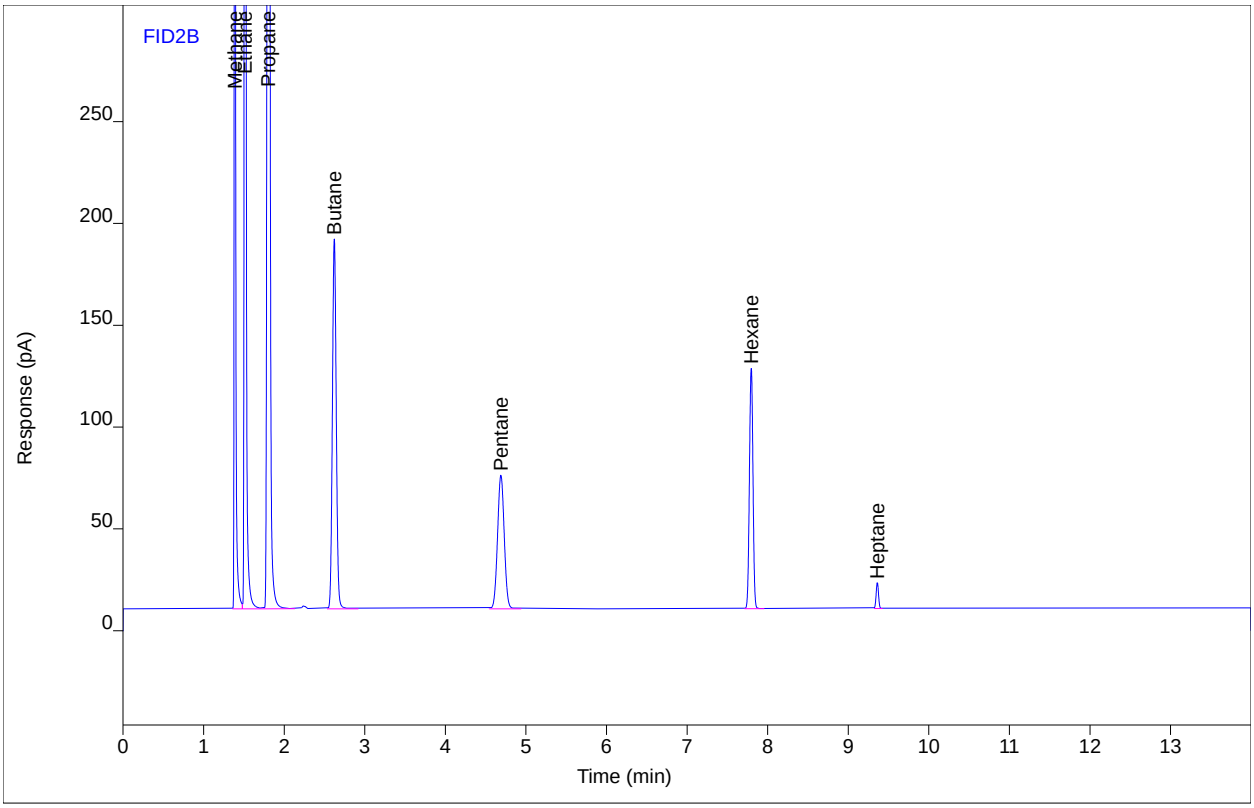
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	802.264	733.781	2719.93	1	2719.93	ppm
Ethane	VV	1.51	1514.15	1178.23	2729.11	1	2729.11	ppm
Propane	VB	1.80	2269.97	1164.78	2723.01	1	2723.01	ppm
Butane	BB	2.62	604.099	181.305	544.590	1	544.590	ppm
Pentane	BB	4.69	377.335	65.4427	271.971	1	271.971	ppm
Hexane	BB	7.80	360.512	120.519	217.726	1	217.726	ppm
Heptane	BB	9.36	26.3320	12.8691	13.2238	1	13.2238	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C6 ENV(1=2685.32,5=242.1)
Sequence Name	BETTYP445 ver.1
Data File	025B1004.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 3:23 AM
File Modified	9/16/2016 8:49 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	4 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



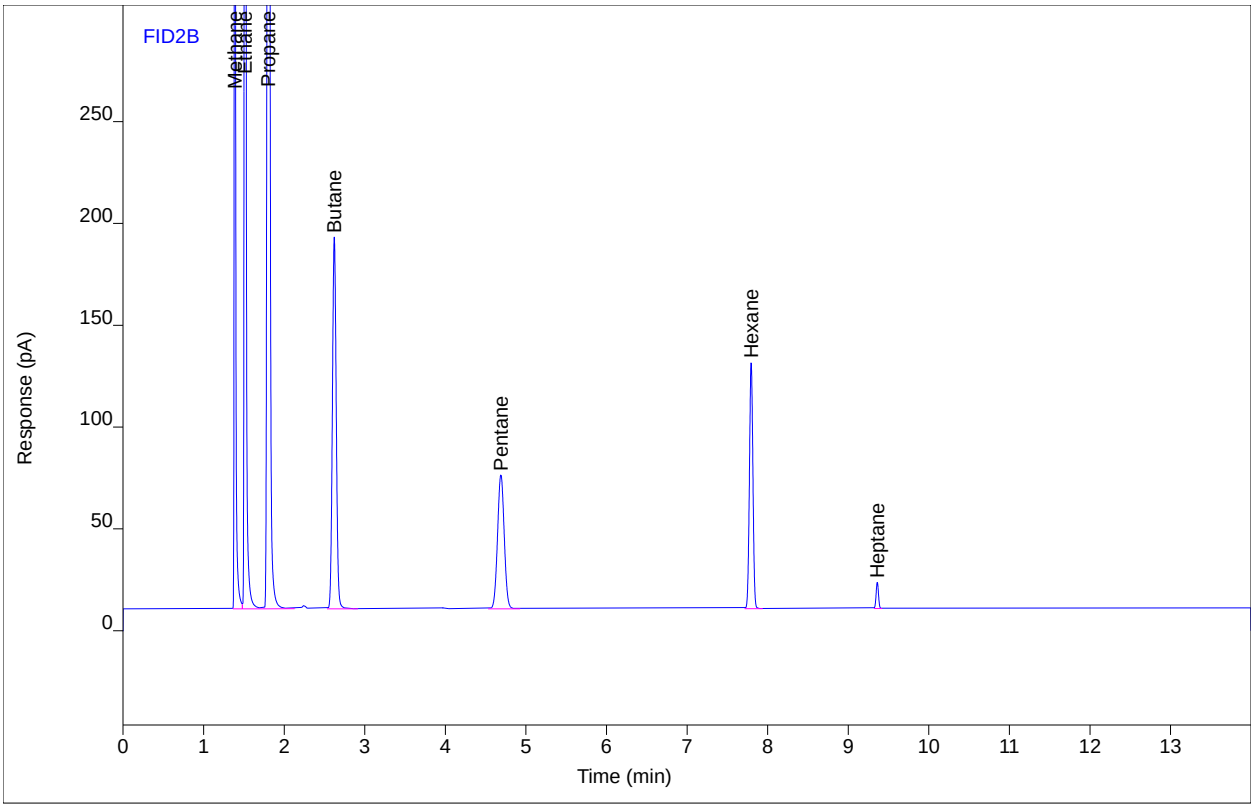
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	804.314	735.695	2726.88	1	2726.88	ppm
Ethane	VV	1.51	1518.18	1180.68	2736.38	1	2736.38	ppm
Propane	VB	1.80	2276.24	1168.58	2730.54	1	2730.54	ppm
Butane	BB	2.62	605.888	181.773	546.205	1	546.205	ppm
Pentane	BB	4.69	378.225	65.6875	272.613	1	272.613	ppm
Hexane	BB	7.80	361.545	118.067	218.352	1	218.352	ppm
Heptane	BB	9.36	26.4321	12.7889	13.2763	1	13.2763	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C6 ENV(1=2685.32,5=242.1)
Sequence Name	BETTYP445 ver.1
Data File	025B1005.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 3:47 AM
File Modified	9/16/2016 8:49 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	5 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



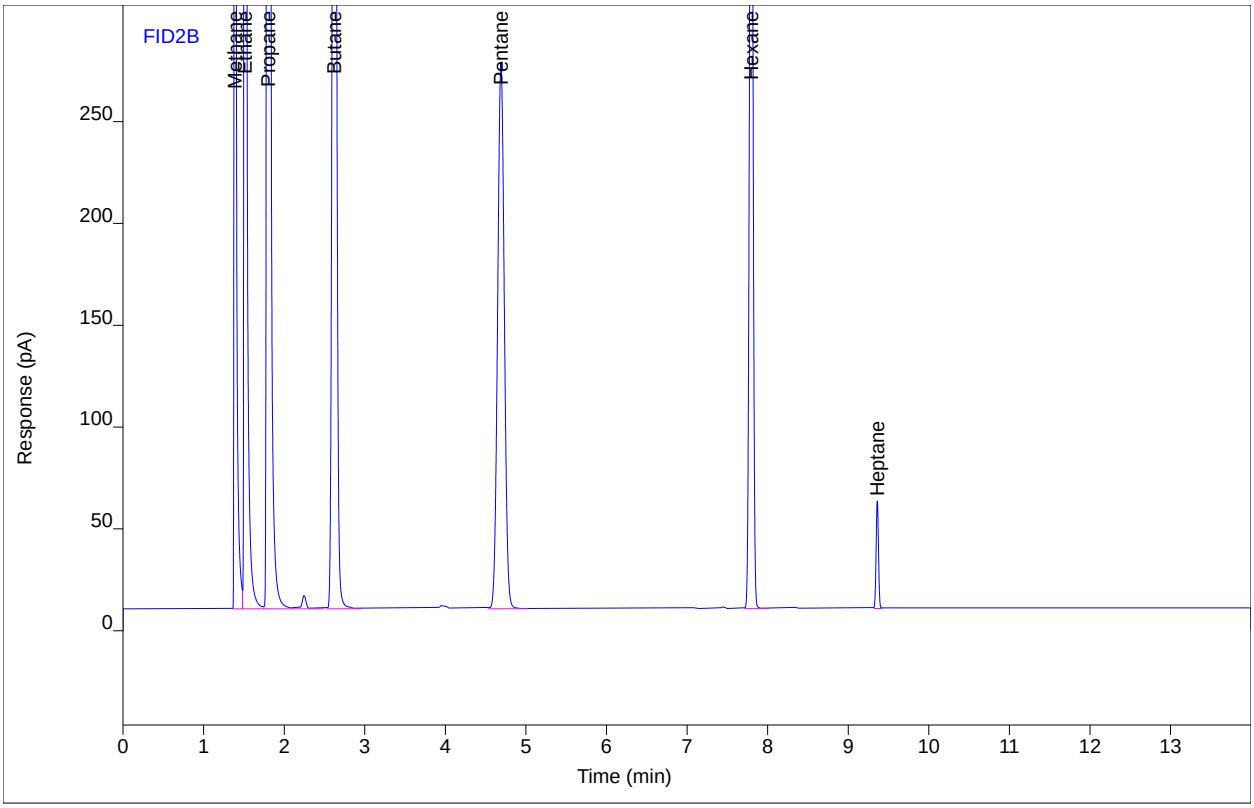
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	807.876	739.518	2738.96	1	2738.96	ppm
Ethane	VV	1.51	1524.90	1186.09	2748.49	1	2748.49	ppm
Propane	VB	1.80	2285.93	1172.25	2742.16	1	2742.16	ppm
Butane	BB	2.62	608.284	182.688	548.368	1	548.368	ppm
Pentane	BB	4.69	379.658	65.9278	273.649	1	273.649	ppm
Hexane	BB	7.80	363.032	121.084	219.253	1	219.253	ppm
Heptane	BB	9.36	26.5264	12.9544	13.3258	1	13.3258	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C7 ENV(1=565.33,5=242.1)
Sequence Name	BETTYP445 ver.1
Data File	025B1103.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 4:57 AM
File Modified	9/16/2016 8:49 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



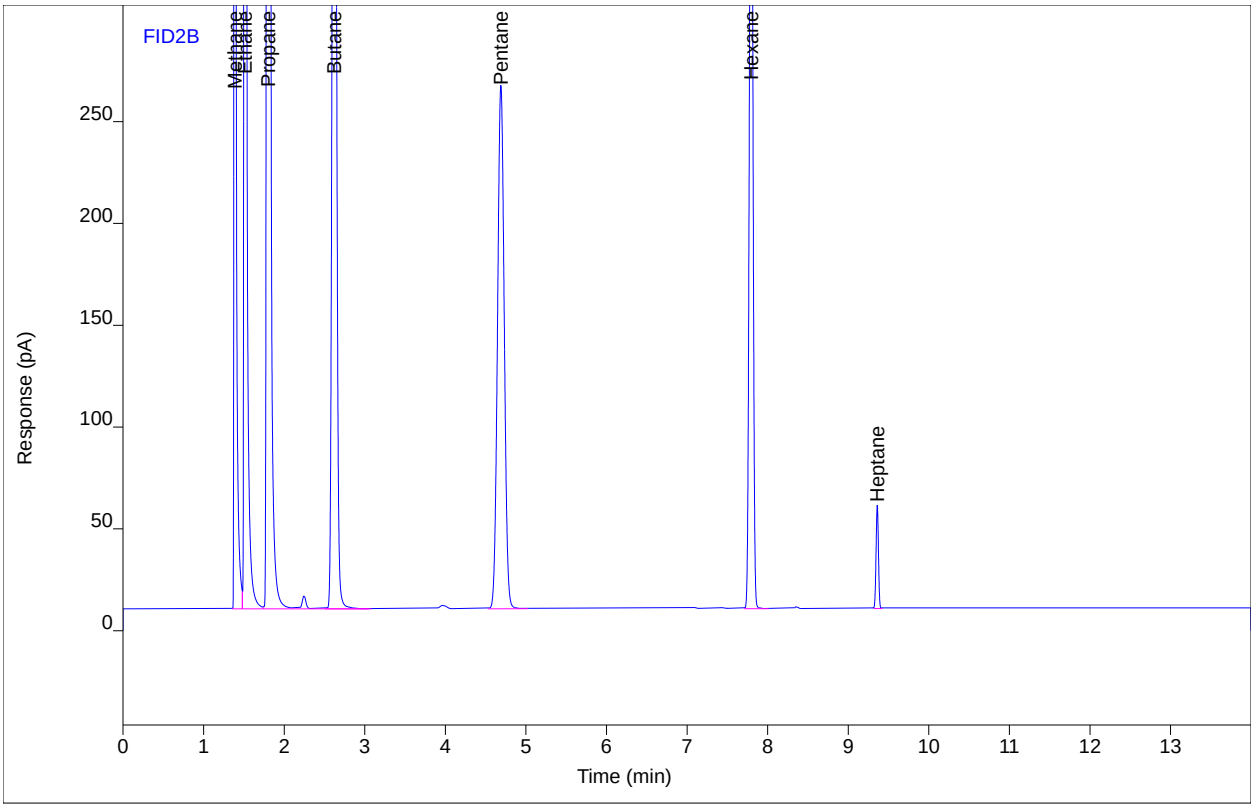
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	3303.13	3024.26	11200.4	1	11200.4	ppm
Ethane	VV S	1.51	6224.79	4825.32	11221.2	1	11221.2	ppm
Propane	VB S	1.80	9326.27	4757.11	11189.5	1	11189.5	ppm
Butane	BB	2.62	2481.07	742.713	2238.86	1	2238.86	ppm
Pentane	BB	4.69	1550.39	268.280	1119.30	1	1119.30	ppm
Hexane	BB	7.80	1481.12	492.789	896.634	1	896.634	ppm
Heptane	BB	9.36	108.416	53.0967	56.2875	1	56.2875	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C7 ENV(1=565.33,5=242.1)
Sequence Name	BETTYP445 ver.1
Data File	025B1104.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 5:20 AM
File Modified	9/16/2016 8:49 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	4 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



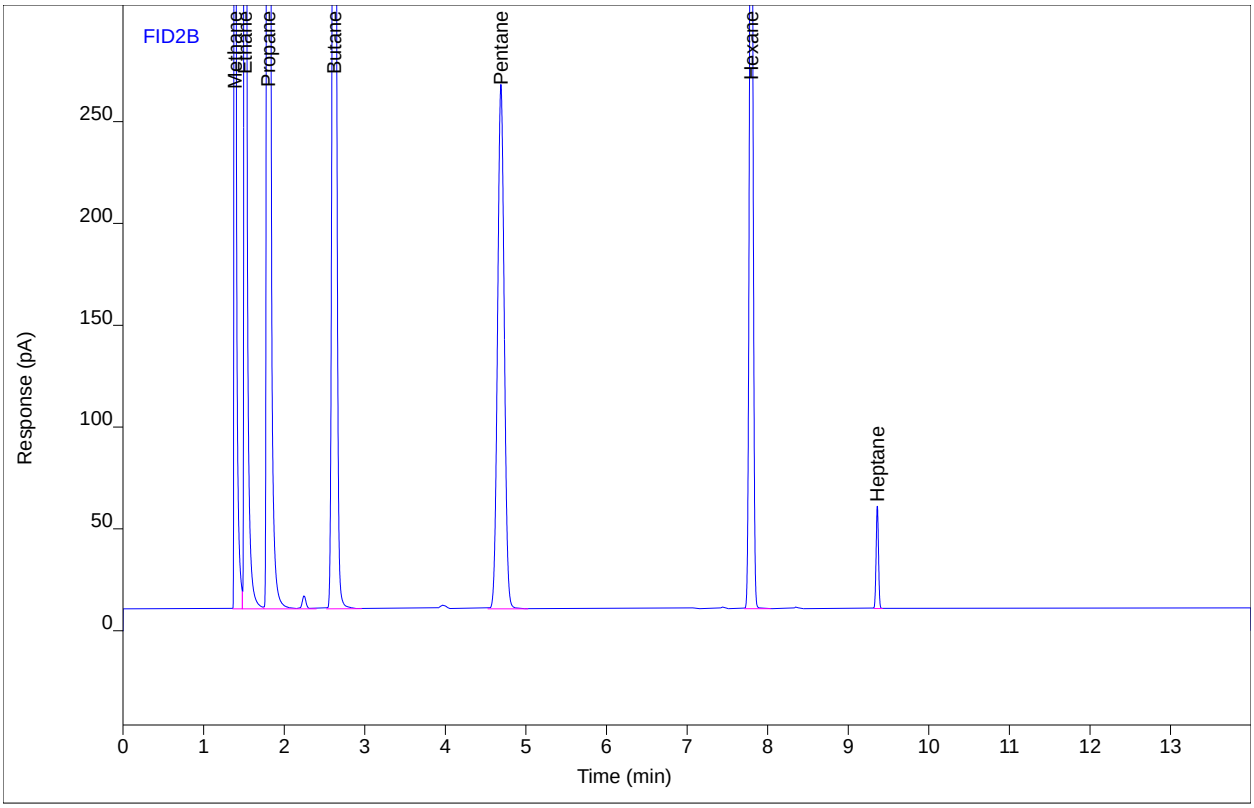
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	3167.98	2906.51	10742.1	1	10742.1	ppm
Ethane	VV S	1.51	5970.96	4636.59	10763.6	1	10763.6	ppm
Propane	VB S	1.80	8946.46	4567.67	10733.8	1	10733.8	ppm
Butane	VB T	2.62	2380.94	712.842	2148.47	1	2148.47	ppm
Pentane	BB	4.69	1487.32	257.356	1073.75	1	1073.75	ppm
Hexane	BB	7.80	1421.00	470.107	860.210	1	860.210	ppm
Heptane	BB	9.36	103.980	50.5614	53.9601	1	53.9601	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C7 ENV(1=565.33,5=242.1)
Sequence Name	BETTYP445 ver.1
Data File	025B1105.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 5:44 AM
File Modified	9/16/2016 8:49 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	5 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



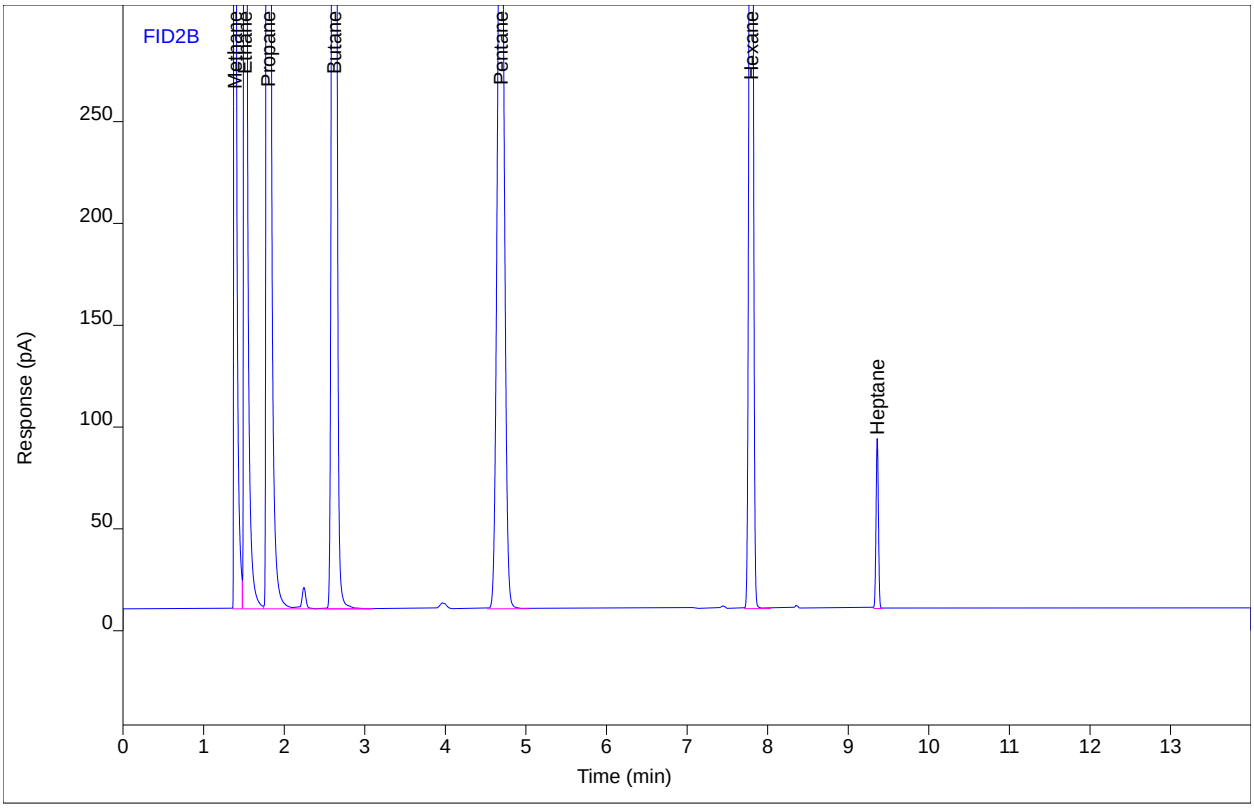
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	3157.18	2901.43	10705.5	1	10705.5	ppm
Ethane	VV S	1.51	5950.83	4620.68	10727.4	1	10727.4	ppm
Propane	VB S	1.80	8916.02	4550.21	10697.3	1	10697.3	ppm
Butane	BB	2.62	2371.88	710.480	2140.29	1	2140.29	ppm
Pentane	BB	4.69	1482.31	257.155	1070.13	1	1070.13	ppm
Hexane	BB	7.80	1416.29	472.695	857.357	1	857.357	ppm
Heptane	BB	9.36	103.664	50.4456	53.7942	1	53.7942	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C8 ENV(1=565.33,5=484.21)
Sequence Name	BETTYP445 ver.1
Data File	025B1203.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 6:54 AM
File Modified	9/16/2016 8:49 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



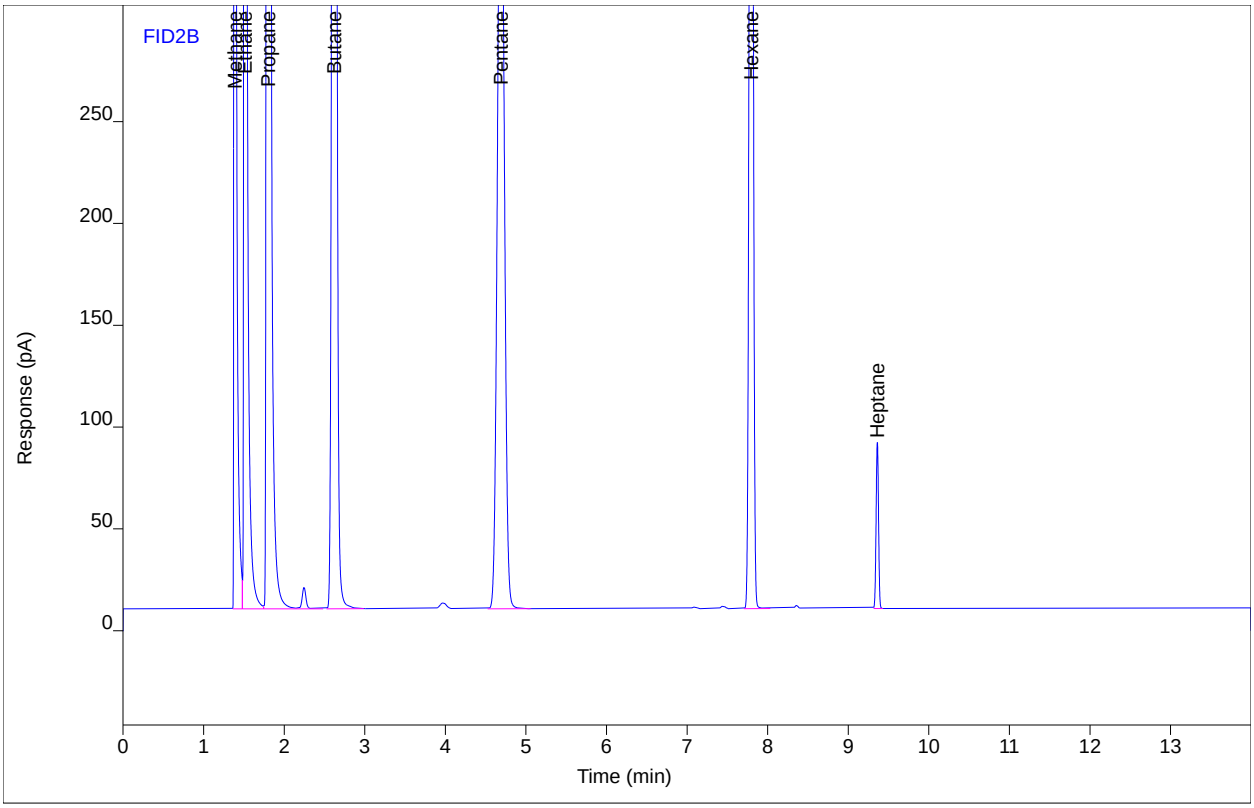
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	5213.74	4731.24	17679.2	1	17679.2	ppm
Ethane	VV S	1.51	9815.85	7648.88	17695.0	1	17695.0	ppm
Propane	VB S	1.80	14701.0	7485.73	17638.4	1	17638.4	ppm
Butane	VB T	2.62	3911.84	1169.81	3530.35	1	3530.35	ppm
Pentane	BB	4.69	2444.33	422.096	1765.02	1	1765.02	ppm
Hexane	BB	7.80	2336.34	778.281	1414.75	1	1414.75	ppm
Heptane	BB	9.36	171.324	83.3764	89.2911	1	89.2911	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C8 ENV(1=565.33,5=484.21)
Sequence Name	BETTYP445 ver.1
Data File	025B1204.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 7:18 AM
File Modified	9/16/2016 8:49 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	4 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



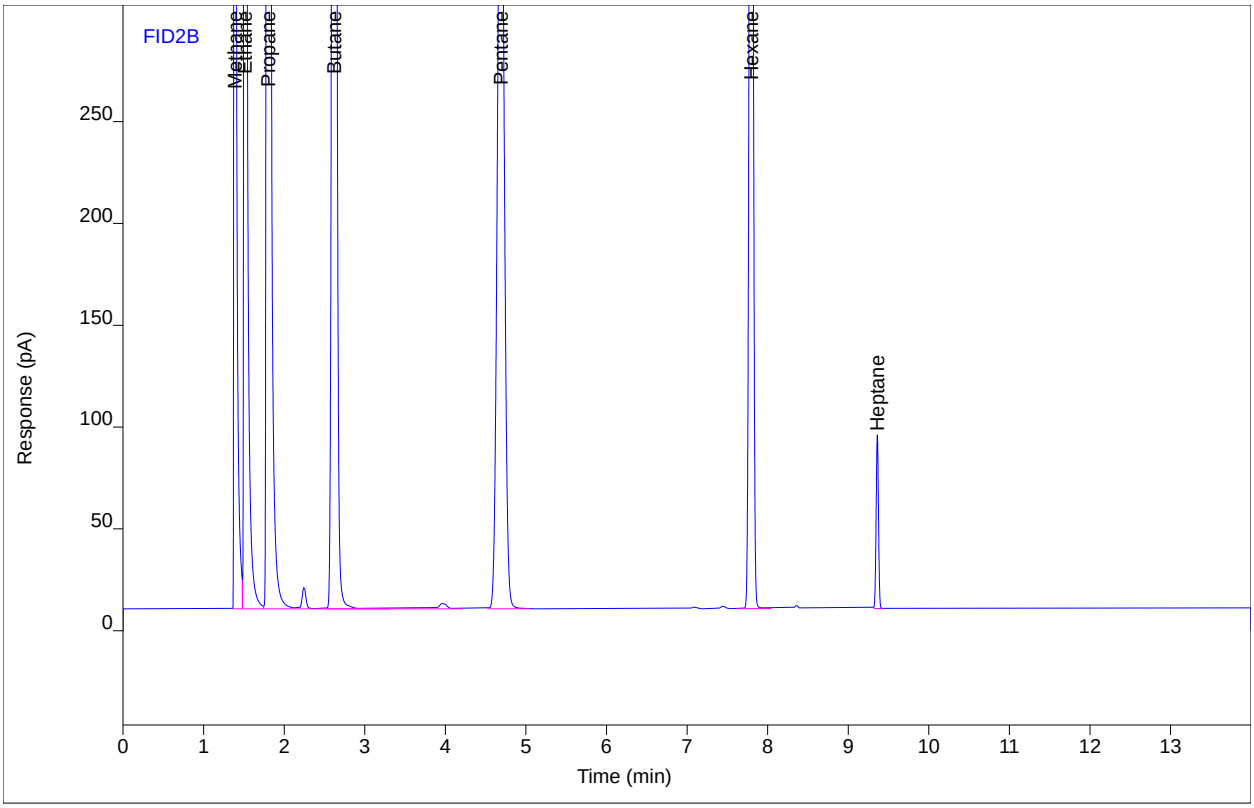
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	5210.87	4743.64	17669.5	1	17669.5	ppm
Ethane	VV S	1.51	9810.59	7637.57	17685.5	1	17685.5	ppm
Propane	VB S	1.80	14691.9	7480.34	17627.5	1	17627.5	ppm
Butane	BB	2.62	3908.32	1167.89	3527.17	1	3527.17	ppm
Pentane	BB	4.69	2443.19	423.467	1764.20	1	1764.20	ppm
Hexane	BB	7.80	2335.02	775.036	1413.95	1	1413.95	ppm
Heptane	BB	9.36	171.202	81.5990	89.2269	1	89.2269	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C8 ENV(1=565.33,5=484.21)
Sequence Name	BETTYP445 ver.1
Data File	025B1205.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 7:41 AM
File Modified	9/16/2016 8:49 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	5 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



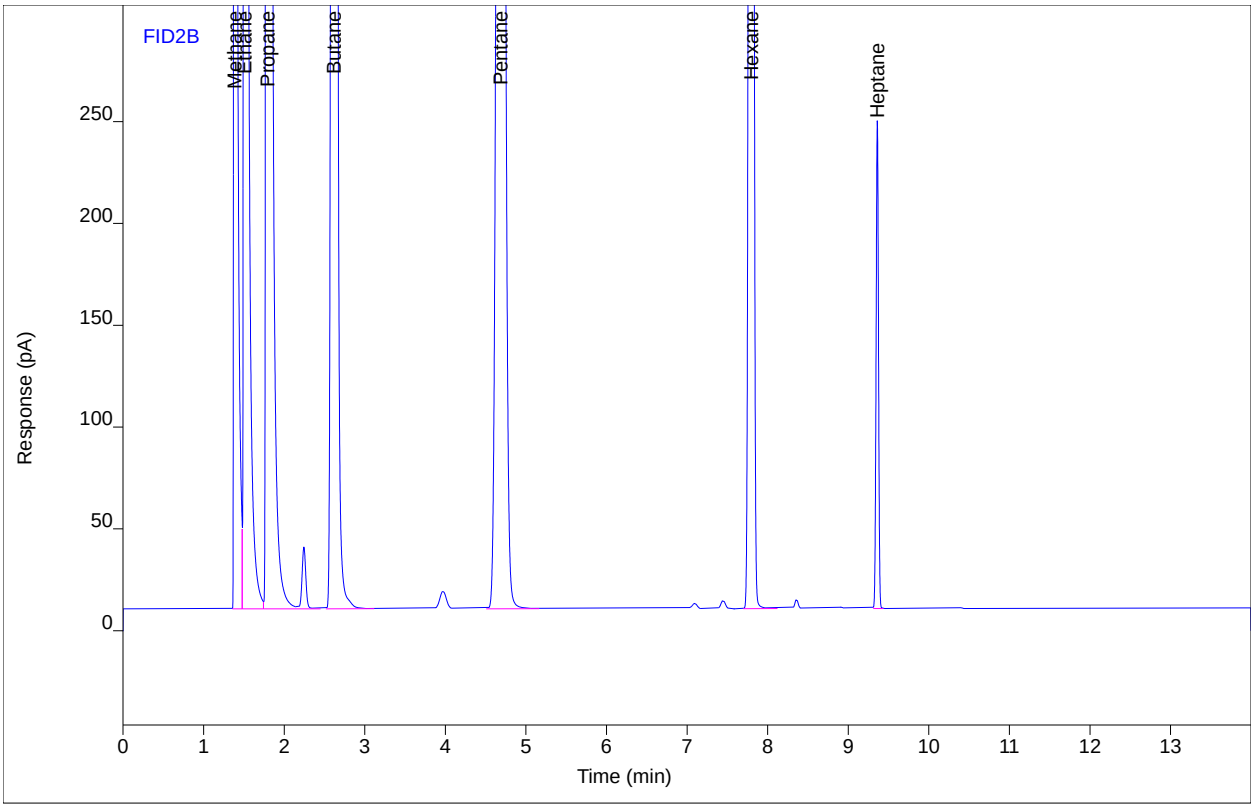
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	5271.90	4794.11	17876.5	1	17876.5	ppm
Ethane	VV S	1.51	9924.74	7713.59	17891.3	1	17891.3	ppm
Propane	VB S	1.80	14864.1	7572.68	17834.0	1	17834.0	ppm
Butane	VV T	2.62	3955.76	1183.51	3569.99	1	3569.99	ppm
Pentane	BB	4.69	2471.47	428.398	1784.62	1	1784.62	ppm
Hexane	BB	7.80	2361.96	795.130	1430.28	1	1430.28	ppm
Heptane	BB	9.36	173.142	85.2499	90.2445	1	90.2445	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C9 ENV(1=0,5=484.21)
Sequence Name	BETTYP445 ver.1
Data File	025B1303.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 8:51 AM
File Modified	9/16/2016 8:50 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



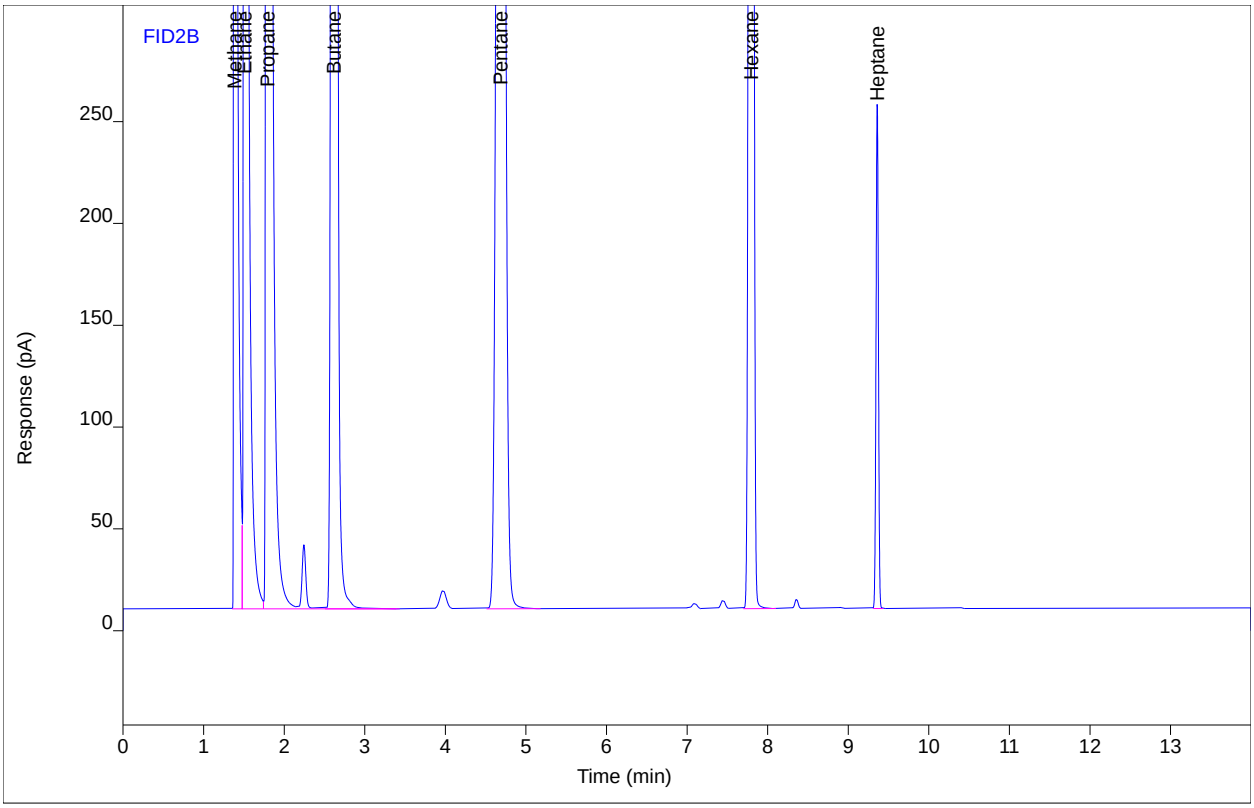
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	15030.1	13760.9	50966.6	1	50966.6	ppm
Ethane	VV S	1.51	28244.8	21860.7	50917.9	1	50917.9	ppm
Propane	VB S	1.79	42483.1	21166.6	50972.7	1	50972.7	ppm
Butane	BB	2.62	11230.9	3346.57	10137.0	1	10137.0	ppm
Pentane	BB	4.69	7012.76	1214.06	5064.93	1	5064.93	ppm
Hexane	BB	7.80	6697.80	2248.42	4057.09	1	4057.09	ppm
Heptane	BB	9.36	491.984	238.785	257.519	1	257.519	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C9 ENV(1=0,5=484.21)
Sequence Name	BETTYP445 ver.1
Data File	025B1304.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 9:15 AM
File Modified	9/16/2016 8:50 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	4 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



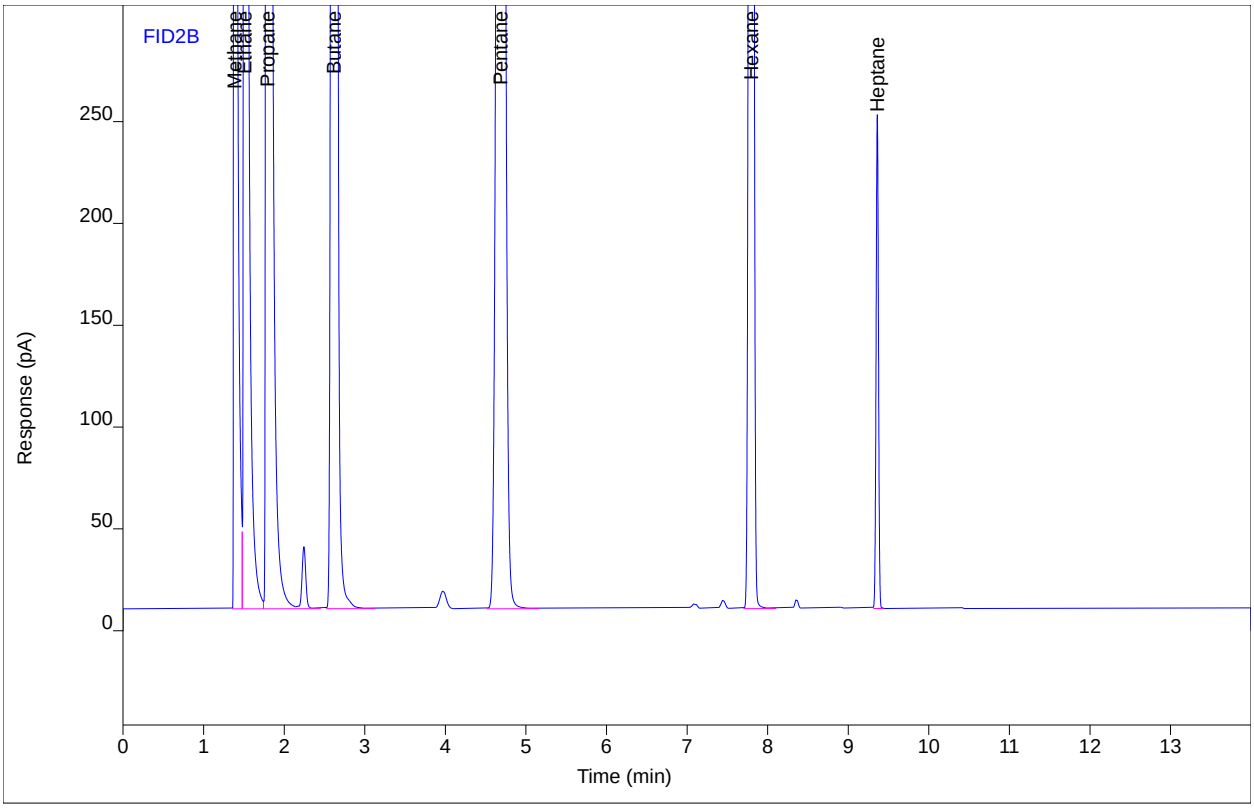
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	15608.4	14177.8	52927.6	1	52927.6	ppm
Ethane	VV S	1.51	29339.4	22602.6	52891.1	1	52891.1	ppm
Propane	VB S	1.79	44182.8	21925.3	53012.1	1	53012.1	ppm
Butane	VB T	2.62	11666.4	3474.13	10530.0	1	10530.0	ppm
Pentane	BB	4.69	7280.40	1259.39	5258.25	1	5258.25	ppm
Hexane	BB	7.80	6952.45	2334.96	4211.37	1	4211.37	ppm
Heptane	BB	9.36	510.677	247.263	267.325	1	267.325	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C9 ENV(1=0,5=484.21)
Sequence Name	BETTYP445 ver.1
Data File	025B1305.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 9:39 AM
File Modified	9/16/2016 8:50 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	5 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



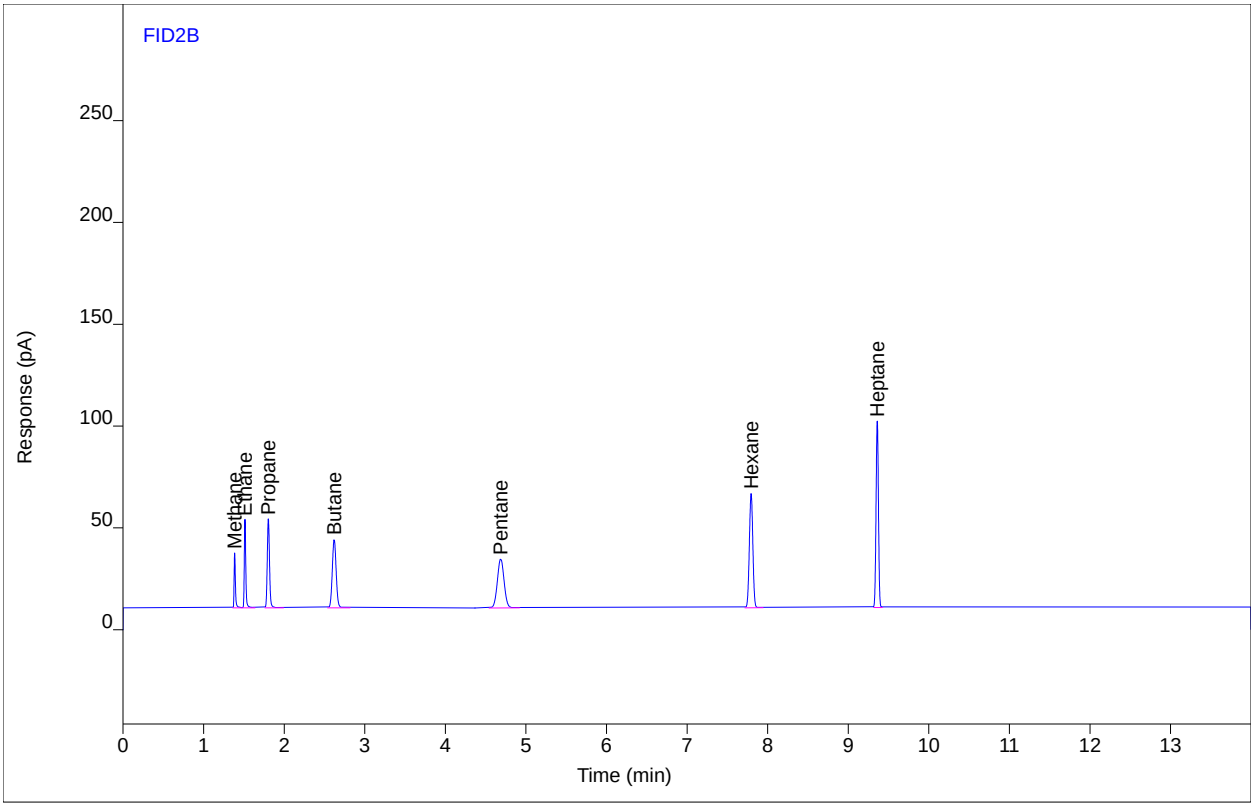
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.38	15125.2	13750.1	51289.0	1	51289.0	ppm
Ethane	VV S	1.51	28433.1	21901.5	51257.3	1	51257.3	ppm
Propane	VB S	1.79	42818.9	21299.8	51375.6	1	51375.6	ppm
Butane	BB	2.62	11305.9	3372.04	10204.6	1	10204.6	ppm
Pentane	BB	4.69	7056.73	1218.82	5096.69	1	5096.69	ppm
Hexane	BB	7.80	6739.79	2241.45	4082.53	1	4082.53	ppm
Heptane	BB	9.36	495.074	241.849	259.140	1	259.140	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C5 ENV(1=0,4=450.75)
Sequence Name	BETTYP445 ver.1
Data File	025B2103.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 5:48 PM
File Modified	9/16/2016 8:51 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	3 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



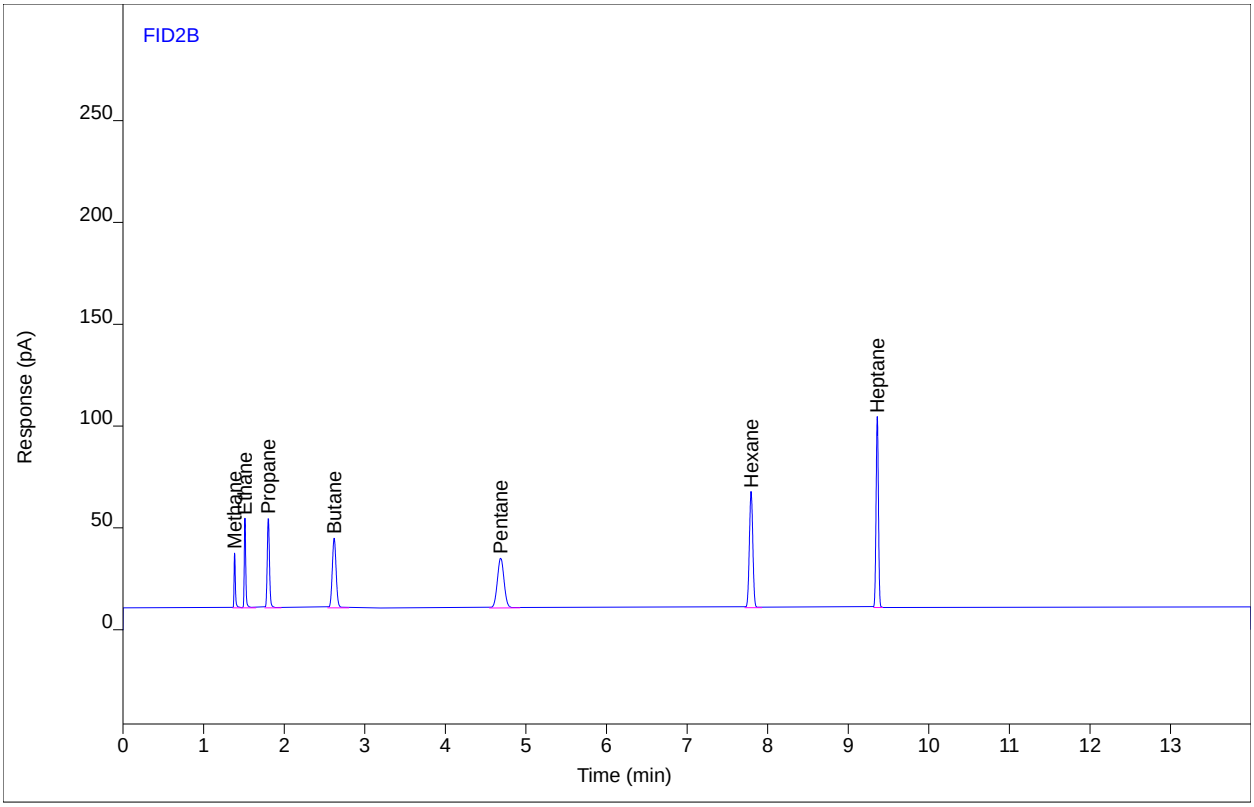
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	30.6969	26.8725	103.547	1	103.547	ppm
Ethane	VB	1.51	56.0943	43.3191	100.597	1	100.597	ppm
Propane	BB	1.80	85.2574	43.5316	101.685	1	101.685	ppm
Butane	BB	2.62	112.718	33.7632	101.042	1	101.042	ppm
Pentane	BB	4.69	139.640	24.2036	100.277	1	100.277	ppm
Hexane	BB	7.80	169.606	56.1518	102.069	1	102.069	ppm
Heptane	BB	9.36	188.729	91.7166	98.4221	1	98.4221	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C5 ENV(1=0,4=450.75)
Sequence Name	BETTYP445 ver.1
Data File	025B2104.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 6:11 PM
File Modified	9/16/2016 8:51 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	4 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



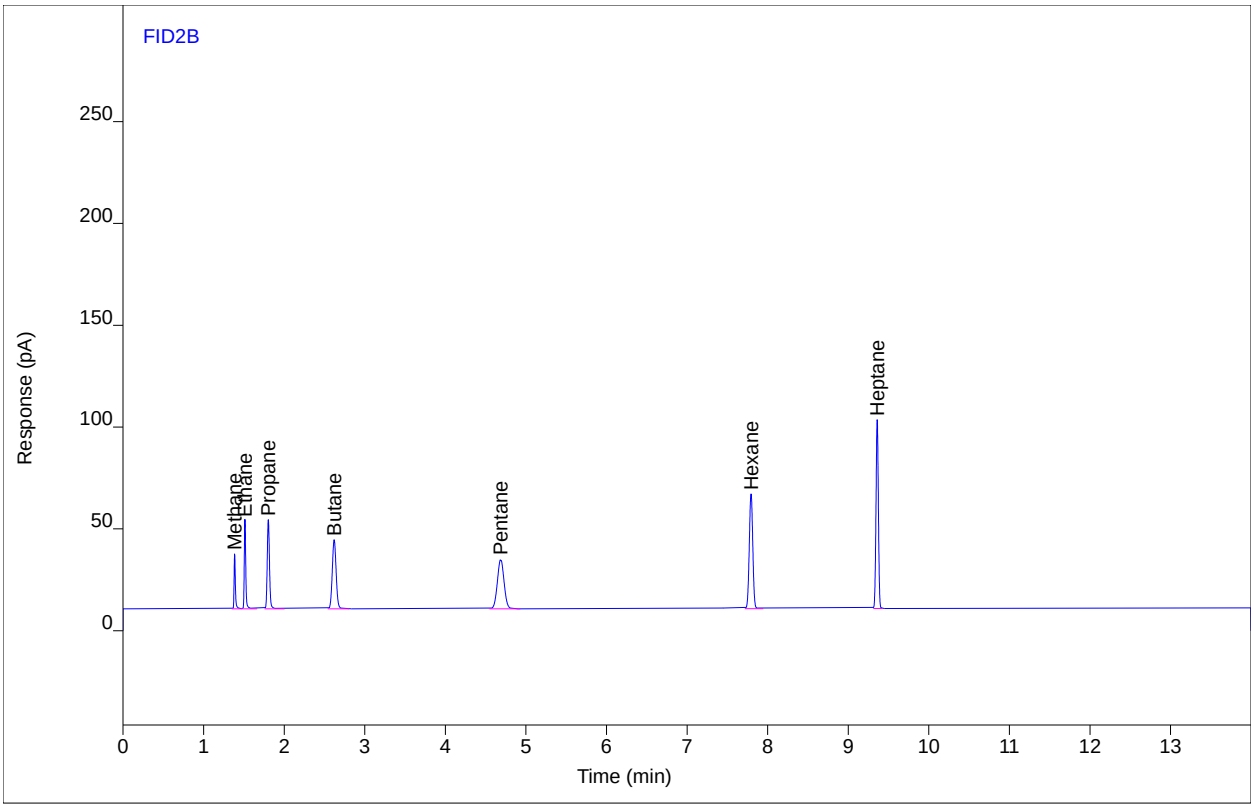
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	30.9852	27.0125	104.525	1	104.525	ppm
Ethane	VB	1.51	56.8521	43.7290	101.963	1	101.963	ppm
Propane	BB	1.80	86.2324	44.0256	102.854	1	102.854	ppm
Butane	BB	2.62	114.108	34.2343	102.297	1	102.297	ppm
Pentane	BB	4.69	141.549	24.5377	101.655	1	101.655	ppm
Hexane	BB	7.79	171.789	57.0484	103.391	1	103.391	ppm
Heptane	BB	9.36	191.212	93.4638	99.7245	1	99.7245	ppm

Chromatogram Report

Enthalpy Analytical

Sample Name	BettyP444 #C5 ENV(1=0,4=450.75)
Sequence Name	BETTYP445 ver.1
Data File	025B2105.D
File Location	GC/2016/Betty/Quarter 3
Injection Date	9/15/2016 6:35 PM
File Modified	9/16/2016 8:51 AM
Instrument	Betty
Operator	Nicholas Traversa

Sample Type	Calibration
Vial Number	Vial 25
Injection Volume	250
Injection	5 of 5
Acquisition Method	GC142P133_CAL.M
Analysis Method	BETTYP445_C1-C7.M
Method Modified	9/16/2016 8:29 AM
Printed	9/16/2016 10:13 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
Methane	BV	1.39	30.7260	26.8051	103.646	1	103.646	ppm
Ethane	VB	1.51	56.3829	43.4105	101.117	1	101.117	ppm
Propane	BB	1.80	85.5880	43.6736	102.081	1	102.081	ppm
Butane	BB	2.62	113.039	33.8980	101.332	1	101.332	ppm
Pentane	BB	4.69	140.302	24.3600	100.755	1	100.755	ppm
Hexane	BB	7.79	170.343	56.2866	102.515	1	102.515	ppm
Heptane	BB	9.36	189.592	92.6979	98.8748	1	98.8748	ppm

method: C:\GC\2014\BETTY\METHODS\GC142P133_CAL.M
Modified on: 5/5/2014 at 7:51:02 AM

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6890 GC METHOD

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OVEN
- Initial temp: 40 C (On)
- Initial time: 6.00 min
- Ramps:

#	Rate	Final temp	Final time
1	30.00	220	2.00
2	0 (Off)		

- Post temp: 40 C
- Post time: 0.00 min
- Run time: 14.00 min
- Maximum temp: 250 C
- Equilibration time: 0.50 min

CRYO (N2)
- Cryo: Off
- Cryo fault: On
- Cryo timeout: 40.00 min (On)
- Quick cryo cool: Off
- Ambient temp: 30 C

FRONT INLET (SPLIT/SPLITLESS)
- Mode: Splitless
- Initial temp: 200 C (On)
- Pressure: 60.0 psi (On)
- Purge flow: 0.0 mL/min
- Purge time: 0.00 min
- Total flow: 12.3 mL/min
- Gas saver: Off
- Gas type: Helium

BACK INLET (SPLIT/SPLITLESS)
- Mode: Split
- Initial temp: 200 C (On)
- Pressure: 11.6 psi (On)
- Split ratio: 5:1
- Split flow: 12.3 mL/min
- Total flow: 17.6 mL/min
- Gas saver: Off
- Gas type: Helium

COLUMN 1
- Packed Column
- Model Number: 19808
- Description: Rt-ShinCarbon 2m x 1mm I
- Max temperature: 250 C
- Mode: constant pressure
- Pressure: 60.0 psi
- Inlet: Front Inlet
- Outlet: Front Detector
- Outlet pressure: ambient

COLUMN 2
- Capillary Column
- Model Number: 10198
- Description: Rtx-1 30m x 0.32mm x 4um
- Max temperature: 250 C
- Nominal length: 30.0 m
- Nominal diameter: 320.00 um
- Nominal film thickness: 4.00 um
- Mode: constant flow
- Initial flow: 2.5 mL/min
- Nominal init pressure: 11.6 psi
- Average velocity: 39 cm/sec
- Inlet: Back Inlet
- Outlet: (other)
- Outlet pressure: ambient

FRONT DETECTOR (TCD)
- Temperature: 275 C (On)
- Reference flow: 20.0 mL/min (On)
- Mode: Constant makeup flow
- Makeup flow: 10.0 mL/min (On)
- Makeup Gas Type: Helium
- Filament: On
- Negative polarity: On

BACK DETECTOR (FID)
- Temperature: 250 C (On)
- Hydrogen flow: 60.0 mL/min (On)
- Air flow: 450.0 mL/min (On)
- Mode: Constant makeup flow
- Makeup flow: 40.0 mL/min (On)
- Makeup Gas Type: Nitrogen
- Flame: On
- Electrometer: On
- Lit offset: 2.0

SIGNAL 1
- Data rate: 20 Hz
- Type: front detector
- Save Data: On

SIGNAL 2
- Data rate: 20 Hz
- Type: back detector
- Save Data: On

THERMAL AUX 1
- Use: Valve Box Heater
- Initial temp: 130 C (On)

VALVES
- Valve 1 Gas Sampling
  - Loop Volume: 0.250 mL

POST RUN
- Post Time: 0.00 min

Airgas

CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Part Number:	X08NI99C15A0079	Reference Number:	141-124539230-1
Cylinder Number:	CC220964	Cylinder Volume:	144.4 CF
Laboratory:	ASG - Conley Stryker - OH	Cylinder Pressure:	2015 PSIG
Analysis Date:	Feb 10, 2016	Valve Outlet:	350
Lot Number:	141-124539230-1		

Expiration Date: Feb 10, 2019

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
ETHANE	100.0 PPM	99.00 PPM	+/- 2%
HEXANE	100.0 PPM	101.0 PPM	+/- 2%
METHANE	100.0 PPM	101.0 PPM	+/- 2%
N BUTANE	100.0 PPM	99.00 PPM	+/- 2%
N HEPTANE	100.0 PPM	98.00 PPM	+/- 2%
N PENTANE	100.0 PPM	100.0 PPM	+/- 2%
PROPANE	100.0 PPM	100.0 PPM	+/- 2%
NITROGEN	Balance		

Rebecca J England

Approved for Release

Airgas

Airgas USA, LLC
616 Miller Cut Off Road
Laporte, TX 77571
281-842-6900
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED HYDROCARBON

Customer:	MONTROSE ENVIRONMETAL GROUP - MORRISVILLE , NC		
Part Number:	X08NI83C15AC015	Reference Number:	126-400736189-1
Cylinder Number:	CC425315	Cylinder Volume:	15.8 CF
Laboratory:	ASG - LaPorte Mix (SAP) - TX	Cylinder Pressure:	204 PSIG
Analysis Date:	Jul 11, 2016	Valve Outlet:	350
Lot Number:	126-400736189-1	Expiration Date:	Jul 11, 2019

Traceability Statement: Hydrocarbon Process standards are NIST traceable either directly by weight or by comparison to Airgas laboratory standards that are directly NIST traceable by weight.

CERTIFIED CONCENTRATIONS

Component	Requested Concentration	Reported Mole %	Accuracy
N HEPTANE	250.0 PPM	251.0 PPM	+/- 2%
HEXANE	0.4000 %	0.4006 %	+/- 2%
N PENTANE	0.5000 %	0.5003 %	+/- 2%
N BUTANE	1.000 %	1.000 %	+/- 2%
ETHANE	5.000 %	5.003 %	+/- 2%
METHANE	5.000 %	5.006 %	+/- 2%
PROPANE	5.000 %	5.003 %	+/- 2%
NITROGEN	Balance	Balance	

Notes:
MONTROSE ENVIRONMETAL GROUP

Approved for Release

method: C:\GC\2014\BETTY\METHODS\GC142P133_CAL.M
Modified on: 5/5/2014 at 7:51:02 AM
Load Time: 0.10 min
Inject Time: 0.50 min
Inlet: Front Inlet
Valve 2 Gas Sampling
Loop Volume: 0.250 mL
Load Time: 0.10 min
Inject Time: 0.50 min
Inlet: Front Inlet

TIME TABLE

Time(min)	Parameter & Setpoint	
3.00	Front Detector Polarity:	Off

method: C:\GC\2014\BETTY\METHODS\GC142P133_SHORT.M
Modified on: 2/17/2014 at 5:52:35 PM

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6890 GC METHOD

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OVEN
- Initial temp: 40 C (On)
- Initial time: 3.00 min
- Ramps:

#	Rate	Final temp	Final time
1	0 (Off)		

- Post temp: 40 C
- Post time: 0.00 min
- Run time: 3.00 min
- Maximum temp: 250 C
- Equilibration time: 0.50 min

CRYO (N2)
- Cryo: Off
- Cryo fault: On
- Cryo timeout: 40.00 min (On)
- Quick cryo cool: Off
- Ambient temp: 30 C

FRONT INLET (SPLIT/SPLITLESS)
- Mode: Splitless
- Initial temp: 200 C (On)
- Pressure: 60.0 psi (On)
- Purge flow: 0.0 mL/min
- Purge time: 0.00 min
- Total flow: 12.3 mL/min
- Gas saver: Off
- Gas type: Helium

BACK INLET (SPLIT/SPLITLESS)
- Mode: Split
- Initial temp: 200 C (On)
- Pressure: 11.7 psi (On)
- Split ratio: 5:1
- Split flow: 12.3 mL/min
- Total flow: 17.6 mL/min
- Gas saver: Off
- Gas type: Helium

COLUMN 1
- Packed Column
- Model Number: 19808
- Description: Rt-ShinCarbon 2m x 1mm I
- Max temperature: 250 C
- Mode: constant pressure
- Pressure: 60.0 psi
- Inlet: Front Inlet
- Outlet: Front Detector
- Outlet pressure: ambient

COLUMN 2
- Capillary Column
- Model Number: 10198
- Description: Rtx-1 30m x 0.32mm x 4um
- Max temperature: 250 C
- Nominal length: 30.0 m
- Nominal diameter: 320.00 um
- Nominal film thickness: 4.00 um
- Mode: constant flow
- Initial flow: 2.5 mL/min
- Nominal init pressure: 11.7 psi
- Average velocity: 39 cm/sec
- Inlet: Back Inlet
- Outlet: (other)
- Outlet pressure: ambient

FRONT DETECTOR (TCD)
- Temperature: 275 C (On)
- Reference flow: 20.0 mL/min (On)
- Mode: Constant makeup flow
- Makeup flow: 10.0 mL/min (On)
- Makeup Gas Type: Helium
- Filament: On
- Negative polarity: On

BACK DETECTOR (FID)
- Temperature: 250 C (On)
- Hydrogen flow: 60.0 mL/min (On)
- Air flow: 450.0 mL/min (On)
- Mode: Constant makeup flow
- Makeup flow: 40.0 mL/min (On)
- Makeup Gas Type: Nitrogen
- Flame: On
- Electrometer: On
- Lit offset: 2.0

SIGNAL 1
- Data rate: 20 Hz
- Type: front detector
- Save Data: On

SIGNAL 2
- Data rate: 20 Hz
- Type: back detector
- Save Data: On

THERMAL AUX 1
- Use: Valve Box Heater
- Initial temp: 130 C (On)

VALVES
- Valve 1 Gas Sampling
  - Loop Volume: 0.250 mL

POST RUN
- Post Time: 0.00 min

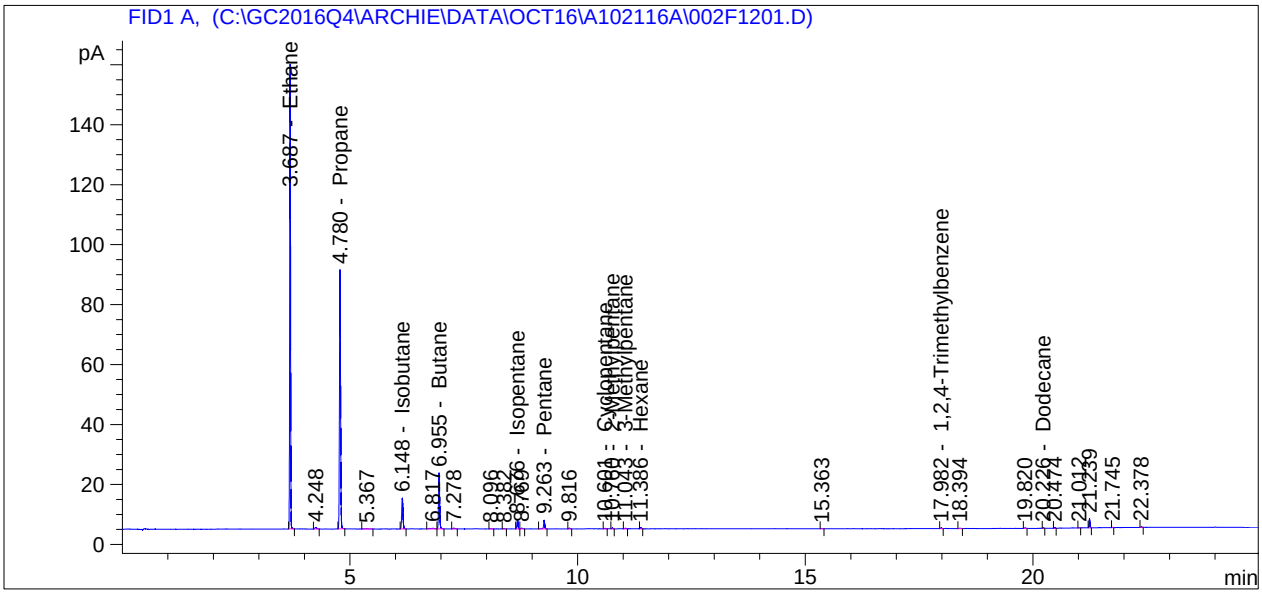
method: C:\GC\2014\BETTY\METHODS\GC142P133_SHORT.M
Modified on: 2/17/2014 at 5:52:35 PM
Load Time: 0.10 min
Inject Time: 0.50 min
Inlet: Front Inlet
Valve 2 Gas Sampling
Loop Volume: 0.250 mL
Load Time: 0.10 min
Inject Time: 0.50 min
Inlet: Front Inlet

TIME TABLE
Time(min) Parameter & Setpoint

EPA TO-14A
Raw Data

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1201.D
Sample Name: 160921A0207A Can196

```
==========================================================================
Acq. Operator    : TDD                              Seq. Line :  12
Acq. Instrument  : Archie                            Location : Vial 2
Injection Date   : 21-Oct-16, 16:29:12                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed     : 10/21/2016 3:50:49 PM by TDD
                   (modified after loading)
Sample Info      : 0916-69; *500=0.5mL load
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/21/2016 3:52:28 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.558            -          -          -          Ethylene
  3.624            -          -          -          Acetylene
  3.687 BB      197.81598 1.40834e-1   27.85915     Ethane
  4.706            -          -          -          Propylene
  4.780 BB      145.20067 9.01342e-2   13.08754     Propane
  6.148 BB  +    20.28535 7.51993e-2    1.52545     Isobutane
  6.757            -          -          -          1-Butene
  6.955 VB       31.91705 7.84574e-2    2.50413     Butane
  7.208            -          -          -          trans-2-Butene
  7.533            -          -          -          cis-2-Butene
  8.676 BB        5.20244 6.02292e-2 3.13338e-1     Isopentane
  8.985            -          -          -          1-Pentene
  9.263 BB        5.11473 5.88865e-2 3.01189e-1     Pentane
  9.337            -          -          -          Isoprene
  9.419            -          -          -          trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1201.D
Sample Name: 160921A0207A Can196

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.587		-	-	-		cis-2-Pentene
10.009		-	-	-		2,2-Dimethylbutane
10.601	BB	3.25317e-1	5.90596e-2	1.92131e-2		Cyclopentane
10.661		-	-	-		2,3-Dimethylbutane
10.760	VB	4.93896e-1	4.83197e-2	2.38649e-2		2-Methylpentane
11.043	BB	4.06383e-1	4.97323e-2	2.02104e-2		3-Methylpentane
11.184		-	-	-		1-Hexene
11.386	BB	4.26116e-1	5.00754e-2	2.13379e-2		Hexane
11.934		-	-	-		Methylcyclopentane
12.015		-	-	-		2,4-Dimethylpentane
12.423		-	-	-		Benzene
12.591		-	-	-		Cyclohexane
12.695		-	-	-		2-Methylhexane
12.760		-	-	-		2,3-Dimethylpentane
12.879		-	-	-		3-Methylhexane
13.140		-	-	-		2,2,4-Trimethylpentane
13.307		-	-	-		Heptane
13.740		-	-	-		Methylcyclohexane
14.230		-	-	-		2,3,4-Trimethylpentane
14.337		-	-	-		Toluene
14.459		-	-	-		2-Methylheptane
14.594		-	-	-		3-Methylheptane
15.017		-	-	-		Octane
15.922		-	-	-		Ethylbenzene
16.053		-	-	-		m&p-Xylene
16.335		-	-	-		Styrene
16.421		-	-	-		o-Xylene
16.595		-	-	-		Nonane
16.906		-	-	-		Isopropylbenzene
17.353		-	-	-		n-Propylbenzene
17.450		-	-	-		3-Ethyltoluene
17.487		-	-	-		4-Ethyltoluene
17.560		-	-	-		1,3,5-Trimethylbenzene
17.737		-	-	-		2-Ethyltoluene
17.982	BB	3.64948e-1	4.50301e-2	1.64336e-2		1,2,4-Trimethylbenzene
18.053		-	-	-		Decane
18.344		-	-	-		1,2,3-Trimethylbenzene
18.637		-	-	-		m-Diethylbenzene
18.722		-	-	-		p-Diethylbenzene
19.249		-	-	-		Undecane
20.226	BB	2.26142e-1	3.87364e-2	8.75993e-3		Dodecane

Totals : 46.75445

2 Warnings or Errors :

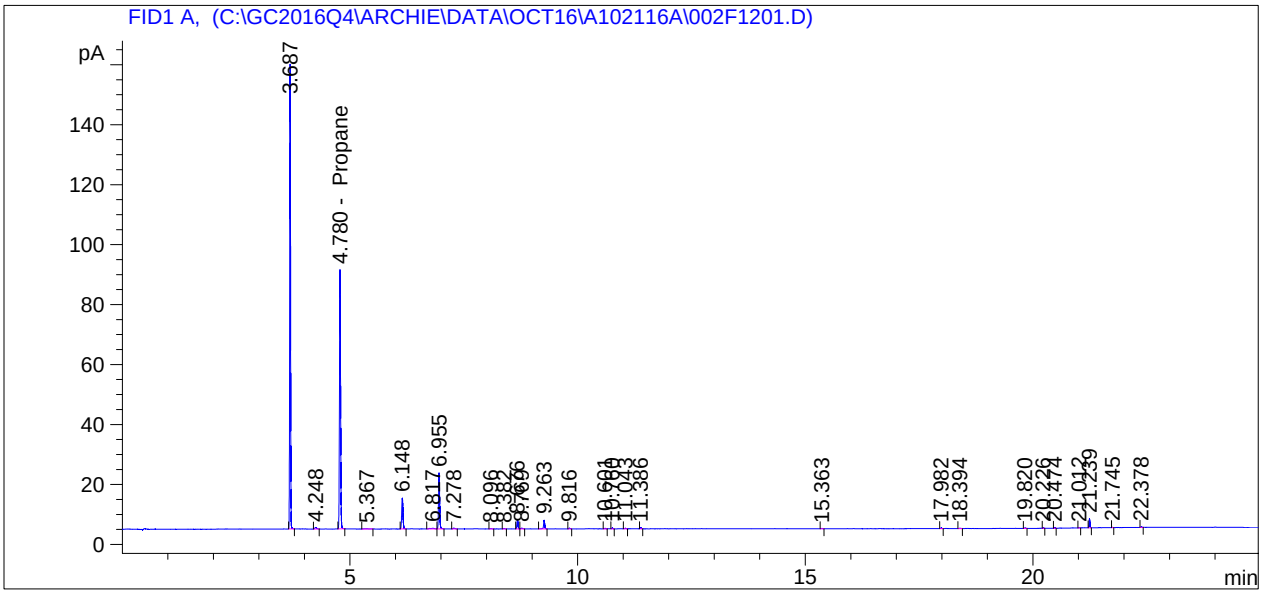
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1201.D
Sample Name: 160921A0207A Can196

```
==========================================================================
Acq. Operator    : TDD                              Seq. Line :  12
Acq. Instrument  : Archie                            Location : Vial 2
Injection Date   : 21-Oct-16, 16:29:12                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-PROPANE.M
Last changed     : 11/3/2016 7:33:13 AM by TDD
                   (modified after loading)
Sample Info      : 0916-69; *500=0.5mL load
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/3/2016 7:29:31 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.780 BB      145.20067 9.01342e-2   13.08754     Propane

Totals :                               13.08754

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.687 BB      197.81598 9.01342e-2   17.82998     ?
  4.248 BB        1.49463 9.01342e-2 1.34717e-1     ?
  5.367 BB     5.88440e-1 9.01342e-2 5.30386e-2     ?
  6.148 BB       20.28535 9.01342e-2    1.82840     ?
  6.817 BV        1.46993 9.01342e-2 1.32491e-1     ?
  6.955 VB       31.91705 9.01342e-2    2.87682     ?
```

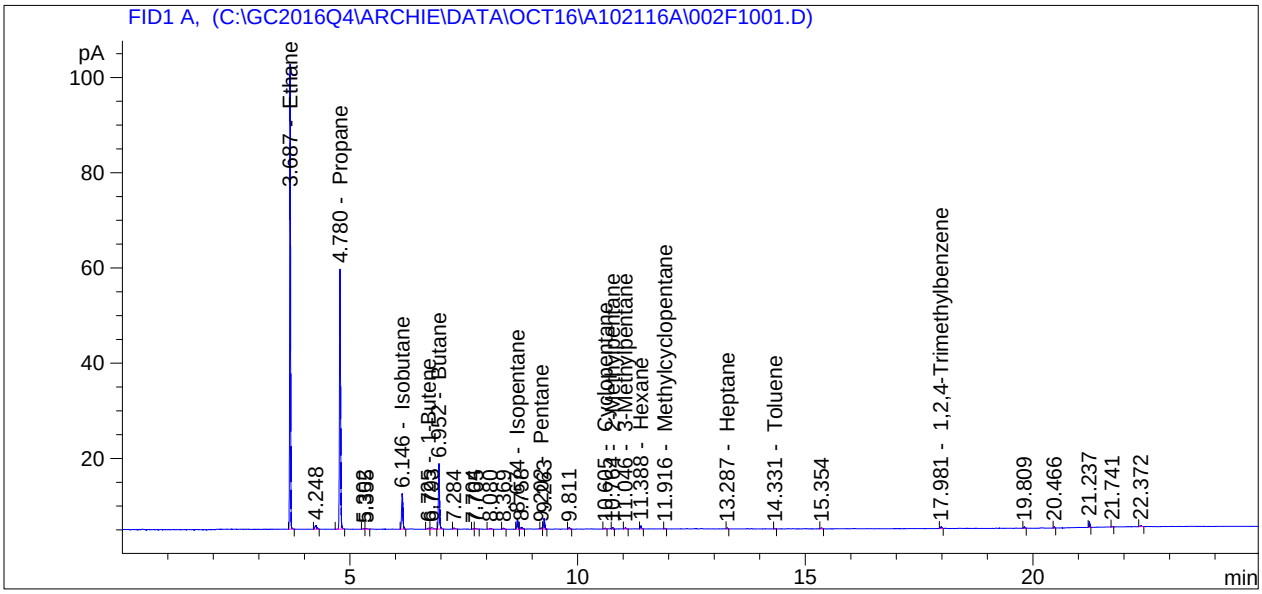
Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1201.D
Sample Name: 160921A0207A Can196

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
7.278	BB	7.55391e-1	9.01342e-2	6.80865e-2		?
8.096	BB	3.35462e-1	9.01342e-2	3.02366e-2		?
8.382	BB	3.51262e-1	9.01342e-2	3.16607e-2		?
8.676	BB	5.20244	9.01342e-2	4.68917e-1		?
8.769	BB	7.67343e-1	9.01342e-2	6.91638e-2		?
9.263	BB	5.11473	9.01342e-2	4.61012e-1		?
9.816	BB	4.94961e-1	9.01342e-2	4.46129e-2		?
10.601	BB	3.25317e-1	9.01342e-2	2.93221e-2		?
10.760	VB	4.93896e-1	9.01342e-2	4.45169e-2		?
11.043	BB	4.06383e-1	9.01342e-2	3.66290e-2		?
11.386	BB	4.26116e-1	9.01342e-2	3.84076e-2		?
15.363	BB	2.35964e-1	9.01342e-2	2.12685e-2		?
17.982	BB	3.64948e-1	9.01342e-2	3.28943e-2		?
18.394	BB	3.12167e-1	9.01342e-2	2.81369e-2		?
19.820	BB	2.55887e-1	9.01342e-2	2.30642e-2		?
20.226	BB	2.26142e-1	9.01342e-2	2.03832e-2		?
20.474	BB	2.86803e-1	9.01342e-2	2.58507e-2		?
21.012	BB	1.15516e-1	9.01342e-2	1.04119e-2		?
21.239	BB	3.85785	9.01342e-2	3.47724e-1		?
21.745	BB	1.28355e-1	9.01342e-2	1.15692e-2		?
22.378	BB	2.41953e-1	9.01342e-2	2.18082e-2		?
Uncalib. totals :				24.72112		

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1001.D
Sample Name: 160921A0207B Can931

```
==========================================================================
Acq. Operator    : TDD                              Seq. Line :  10
Acq. Instrument  : Archie                            Location : Vial 2
Injection Date   : 21-Oct-16, 15:15:51                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed     : 10/21/2016 3:50:49 PM by TDD
                   (modified after loading)
Sample Info      : 0916-69; *250=1mL load
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/21/2016 3:52:28 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.556            -          -          -          Ethylene
  3.623            -          -          -          Acetylene
  3.687 BB      124.70163 1.40834e-1   17.56219      Ethane
  4.704            -          -          -          Propylene
  4.780 BB       92.43822 9.01342e-2    8.33184      Propane
  6.146 BB  +    14.63016 7.51993e-2    1.10018      Isobutane
  6.725 BV     7.08477e-1 7.73414e-2 5.47946e-2      1-Butene
  6.952 BB       23.70246 7.84574e-2    1.85963      Butane
  7.206            -          -          -          trans-2-Butene
  7.531            -          -          -          cis-2-Butene
  8.674 BV        3.73339 6.02292e-2 2.24859e-1      Isopentane
  8.983            -          -          -          1-Pentene
  9.202 VV     5.96788e-1 5.88865e-2 3.51427e-2      Pentane
  9.334            -          -          -          Isoprene
  9.416            -          -          -          trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1001.D
Sample Name: 160921A0207B Can931

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.584		-	-	-		cis-2-Pentene
10.005		-	-	-		2,2-Dimethylbutane
10.605	BV	3.80002e-1	5.90596e-2	2.24427e-2		Cyclopentane
10.658		-	-	-		2,3-Dimethylbutane
10.764	VB	4.52667e-1	4.83197e-2	2.18727e-2		2-Methylpentane
11.046	BB	4.99363e-1	4.97323e-2	2.48345e-2		3-Methylpentane
11.180		-	-	-		1-Hexene
11.388	BB	9.32397e-1	5.00754e-2	4.66902e-2		Hexane
11.916	BB	1.86849e-1	4.95441e-2	9.25726e-3		Methylcyclopentane
12.011		-	-	-		2,4-Dimethylpentane
12.419		-	-	-		Benzene
12.587		-	-	-		Cyclohexane
12.691		-	-	-		2-Methylhexane
12.756		-	-	-		2,3-Dimethylpentane
12.875		-	-	-		3-Methylhexane
13.135		-	-	-		2,2,4-Trimethylpentane
13.287	BB	2.06279e-1	4.90887e-2	1.01259e-2		Heptane
13.736		-	-	-		Methylcyclohexane
14.225		-	-	-		2,3,4-Trimethylpentane
14.331	BB	1.42601e-1	6.01593e-2	8.57876e-3		Toluene
14.454		-	-	-		2-Methylheptane
14.589		-	-	-		3-Methylheptane
15.012		-	-	-		Octane
15.922		-	-	-		Ethylbenzene
16.047		-	-	-		m&p-Xylene
16.330		-	-	-		Styrene
16.415		-	-	-		o-Xylene
16.589		-	-	-		Nonane
16.900		-	-	-		Isopropylbenzene
17.347		-	-	-		n-Propylbenzene
17.444		-	-	-		3-Ethyltoluene
17.481		-	-	-		4-Ethyltoluene
17.554		-	-	-		1,3,5-Trimethylbenzene
17.731		-	-	-		2-Ethyltoluene
17.981	BB	5.92744e-1	4.50301e-2	2.66913e-2		1,2,4-Trimethylbenzene
18.047		-	-	-		Decane
18.338		-	-	-		1,2,3-Trimethylbenzene
18.631		-	-	-		m-Diethylbenzene
18.716		-	-	-		p-Diethylbenzene
19.249		-	-	-		Undecane
20.173		-	-	-		Dodecane

Totals : 30.66867

2 Warnings or Errors :

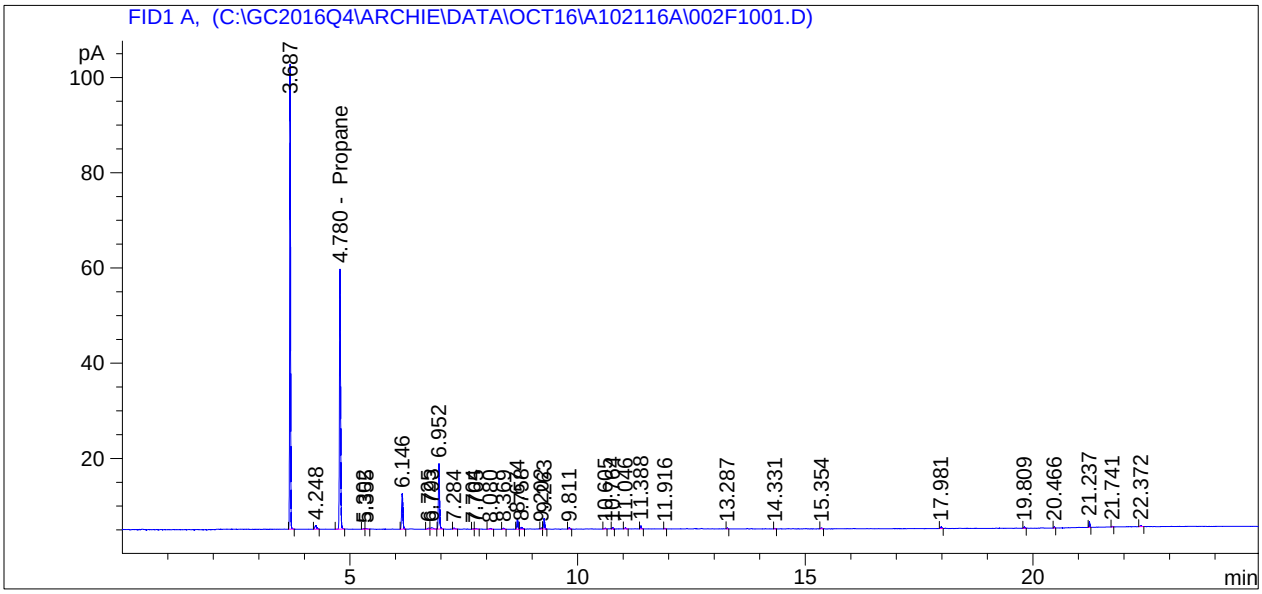
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1001.D
Sample Name: 160921A0207B Can931

```
======================================================================
Acq. Operator   : TDD                          Seq. Line :  10
Acq. Instrument : Archie                        Location : Vial 2
Injection Date  : 21-Oct-16, 15:15:51                Inj :   1
                                              Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A101316A-PROPANE.M
Last changed    : 11/3/2016 7:33:13 AM by TDD
                  (modified after loading)
Sample Info     : 0916-69; *250=1mL load
```




```
======================================================================
                      External Standard Report
======================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/3/2016 7:29:31 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.780 BB       92.43822 9.01342e-2    8.33184     Propane

Totals :                                8.33184

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.687 BB      124.70163 9.01342e-2   11.23988    ?
  4.248 BB        2.13200 9.01342e-2 1.92166e-1    ?
  5.302 BV     3.40169e-1 9.01342e-2 3.06609e-2    ?
  5.355 VB     4.15575e-1 9.01342e-2 3.74575e-2    ?
  6.146 BB       14.63016 9.01342e-2    1.31868    ?
  6.725 BV     7.08477e-1 9.01342e-2 6.38580e-2    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1001.D
Sample Name: 160921A0207B Can931

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
6.793	VB	1.27721	9.01342e-2	1.15120e-1		?
6.952	BB	23.70246	9.01342e-2	2.13640		?
7.284	BB	5.70617e-1	9.01342e-2	5.14321e-2		?
7.704	BV	2.18458e-1	9.01342e-2	1.96906e-2		?
7.765	VB	3.81566e-1	9.01342e-2	3.43922e-2		?
8.080	BB	5.05076e-1	9.01342e-2	4.55246e-2		?
8.369	BB	4.79301e-1	9.01342e-2	4.32014e-2		?
8.674	BV	3.73339	9.01342e-2	3.36506e-1		?
8.758	VB	1.07879	9.01342e-2	9.72356e-2		?
9.202	VV	5.96788e-1	9.01342e-2	5.37910e-2		?
9.263	VB	3.58915	9.01342e-2	3.23505e-1		?
9.811	BB	6.51580e-1	9.01342e-2	5.87296e-2		?
10.605	BV	3.80002e-1	9.01342e-2	3.42511e-2		?
10.764	VB	4.52667e-1	9.01342e-2	4.08008e-2		?
11.046	BB	4.99363e-1	9.01342e-2	4.50097e-2		?
11.388	BB	9.32397e-1	9.01342e-2	8.40409e-2		?
11.916	BB	1.86849e-1	9.01342e-2	1.68415e-2		?
13.287	BB	2.06279e-1	9.01342e-2	1.85928e-2		?
14.331	BB	1.42601e-1	9.01342e-2	1.28532e-2		?
15.354	BB	3.66832e-1	9.01342e-2	3.30641e-2		?
17.981	BB	5.92744e-1	9.01342e-2	5.34265e-2		?
19.809	BB	3.96214e-1	9.01342e-2	3.57124e-2		?
20.466	BB	2.45092e-1	9.01342e-2	2.20912e-2		?
21.237	BB	1.48266	9.01342e-2	1.33638e-1		?
21.741	BB	1.36144e-1	9.01342e-2	1.22712e-2		?
22.372	BB	4.84263e-1	9.01342e-2	4.36487e-2		?

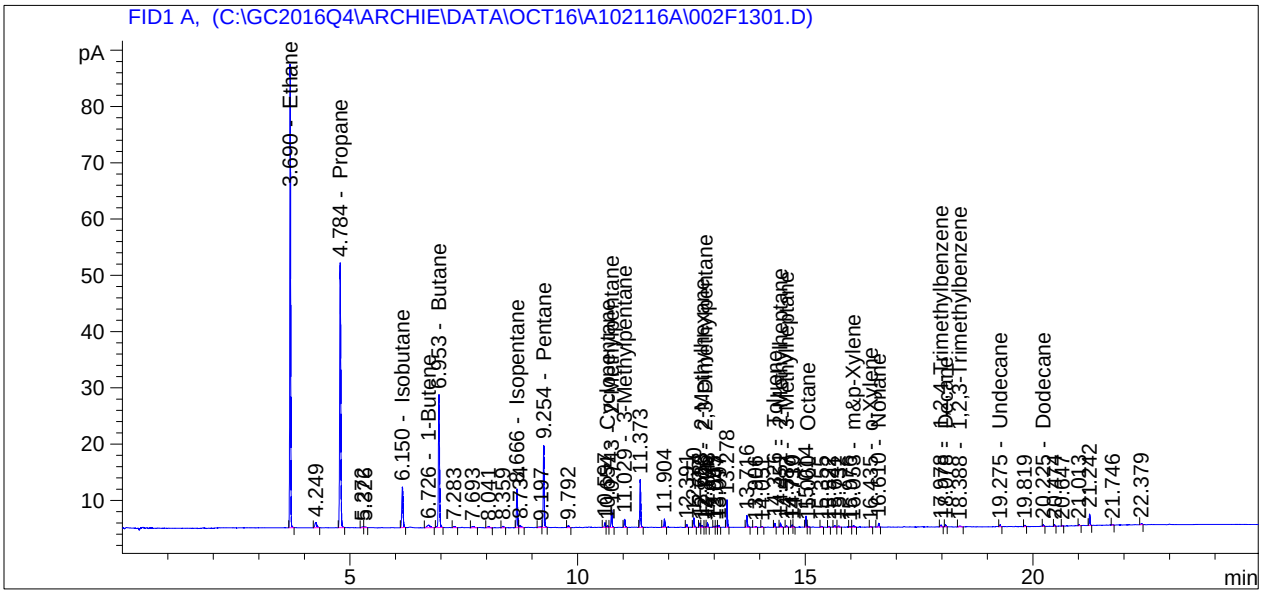
Uncalib. totals : 16.78447

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1301.D
Sample Name: 160921A01A Can173

```
==========================================================================
Acq. Operator    : TDD                                Seq. Line :  13
Acq. Instrument  : Archie                              Location : Vial 2
Injection Date   : 21-Oct-16, 17:08:14                     Inj :   1
                                                    Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed     : 10/21/2016 3:50:49 PM by TDD
                   (modified after loading)
Sample Info      : 0916-69; *1000=0.5mL load @ 2*sry dil
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/21/2016 3:52:28 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                  [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.559             -          -          -          Ethylene
  3.625             -          -          -          Acetylene
  3.690 BB      105.72890 1.40834e-1   14.89019      Ethane
  4.707             -          -          -          Propylene
  4.784 BB       79.68263 9.01342e-2    7.18213      Propane
  6.150 BB  +    14.17910 7.51993e-2    1.06626      Isobutane
  6.726 BB        2.26046 7.73414e-2 1.74827e-1      1-Butene
  6.953 BB       40.30006 7.84574e-2    3.16184      Butane
  7.213             -          -          -          trans-2-Butene
  7.539             -          -          -          cis-2-Butene
  8.666 BV       11.58875 6.02292e-2 6.97981e-1      Isopentane
  8.995             -          -          -          1-Pentene
  9.254 VB       22.26898 5.88865e-2    1.31134      Pentane
  9.348             -          -          -          Isoprene
  9.431             -          -          -          trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1301.D
Sample Name: 160921A01A Can173

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.599			-	-	-		cis-2-Pentene
10.022			-	-	-		2,2-Dimethylbutane
10.654	VV		4.72561e-1	5.90596e-2	2.79092e-2		Cyclopentane
10.676			-	-	-		2,3-Dimethylbutane
10.743	VB		4.77537	4.83197e-2	2.30745e-1		2-Methylpentane
11.029	BB		2.28521	4.97323e-2	1.13649e-1		3-Methylpentane
11.200			-	-	-		1-Hexene
11.429			-	-	-		Hexane
11.952			-	-	-		Methylcyclopentane
12.033			-	-	-		2,4-Dimethylpentane
12.443			-	-	-		Benzene
12.612			-	-	-		Cyclohexane
12.728	VB		4.94490e-1	4.45895e-2	2.20490e-2		2-Methylhexane
12.806	BV		2.00387e-1	4.31845e-2	8.65362e-3		2,3-Dimethylpentane
12.901			-	-	-		3-Methylhexane
13.162			-	-	-		2,2,4-Trimethylpentane
13.330			-	-	-		Heptane
13.764			-	-	-		Methylcyclohexane
14.255			-	-	-		2,3,4-Trimethylpentane
14.326	BV		9.34834e-1	6.01593e-2	5.62390e-2		Toluene
14.451	BB		1.24126	4.63230e-2	5.74988e-2		2-Methylheptane
14.587	BB		3.24075e-1	4.55628e-2	1.47658e-2		3-Methylheptane
15.060	VB		2.07848e-1	4.93236e-2	1.02518e-2		Octane
15.922			-	-	-		Ethylbenzene
16.053	BB		6.73286e-1	5.24257e-2	3.52974e-2		m&p-Xylene
16.367			-	-	-		Styrene
16.435	BB		1.44794e-1	4.95590e-2	7.17587e-3		o-Xylene
16.610	VB		9.03935e-1	4.31035e-2	3.89628e-2		Nonane
16.939			-	-	-		Isopropylbenzene
17.387			-	-	-		n-Propylbenzene
17.484			-	-	-		3-Ethyltoluene
17.522			-	-	-		4-Ethyltoluene
17.595			-	-	-		1,3,5-Trimethylbenzene
17.773			-	-	-		2-Ethyltoluene
17.978	BB		6.14445e-1	4.50301e-2	2.76685e-2		1,2,4-Trimethylbenzene
18.078	BB		4.75810e-1	3.90813e-2	1.85953e-2		Decane
18.388	BB		5.22456e-1	4.33603e-2	2.26538e-2		1,2,3-Trimethylbenzene
18.675			-	-	-		m-Diethylbenzene
18.760			-	-	-		p-Diethylbenzene
19.275	VB	+	4.38615e-1	3.79876e-2	1.66619e-2		Undecane
20.225	VB		3.72600e-1	3.87364e-2	1.44332e-2		Dodecane

Totals : 33.75409

2 Warnings or Errors :

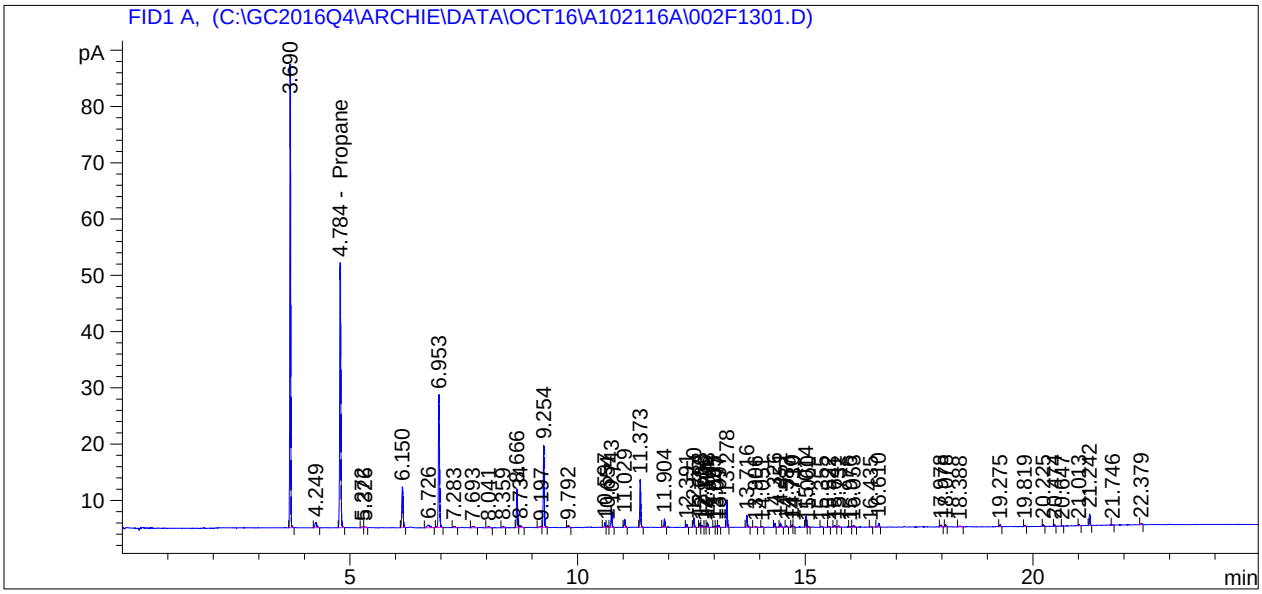
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1301.D
Sample Name: 160921A01A Can173

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  13
Acq. Instrument : Archie                            Location : Vial 2
Injection Date  : 21-Oct-16, 17:08:14                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A101316A-PROPANE.M
Last changed    : 11/3/2016 7:33:13 AM by TDD
                  (modified after loading)
Sample Info     : 0916-69; *1000=0.5mL load @ 2*sry dil
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/3/2016 7:29:31 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.784 BB       79.68263 9.01342e-2    7.18213    Propane

Totals :                                7.18213

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.690 BB      105.72890 9.01342e-2    9.52979    ?
  4.249 BB        2.70038 9.01342e-2 2.43397e-1    ?
  5.272 BV     4.43930e-1 9.01342e-2 4.00132e-2    ?
  5.326 VB     5.10137e-1 9.01342e-2 4.59808e-2    ?
  6.150 BB       14.17910 9.01342e-2    1.27802    ?
  6.726 BB        2.26046 9.01342e-2 2.03745e-1    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1301.D
Sample Name: 160921A01A Can173

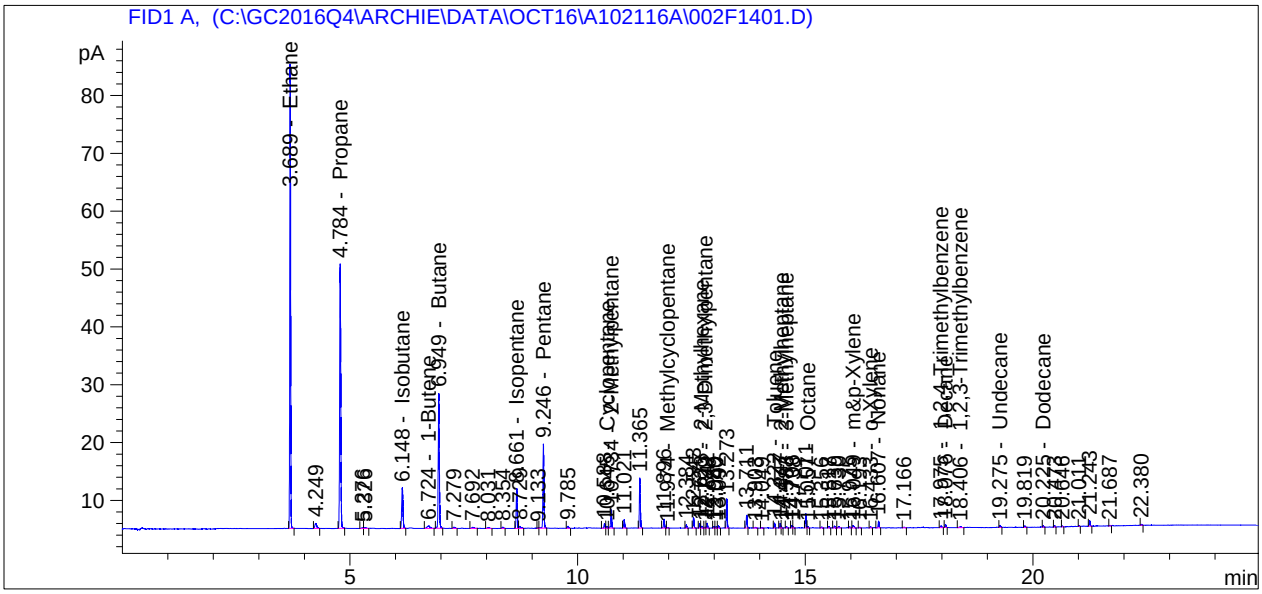
RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
6.953	BB	40.30006	9.01342e-2	3.63241		?
7.283	BB	6.03343e-1	9.01342e-2	5.43819e-2		?
7.693	BB	8.03916e-1	9.01342e-2	7.24603e-2		?
8.041	BB	6.18328e-1	9.01342e-2	5.57325e-2		?
8.359	BB	5.77437e-1	9.01342e-2	5.20468e-2		?
8.666	BV	11.58875	9.01342e-2	1.04454		?
8.734	VB	1.16156	9.01342e-2	1.04696e-1		?
9.197	VV	6.78243e-1	9.01342e-2	6.11329e-2		?
9.254	VB	22.26898	9.01342e-2	2.00720		?
9.792	BB	7.54502e-1	9.01342e-2	6.80064e-2		?
10.597	BV	1.22311	9.01342e-2	1.10244e-1		?
10.654	VV	4.72561e-1	9.01342e-2	4.25939e-2		?
10.743	VB	4.77537	9.01342e-2	4.30424e-1		?
11.029	BB	2.28521	9.01342e-2	2.05975e-1		?
11.373	BB	12.57599	9.01342e-2	1.13353		?
11.904	BB	2.24485	9.01342e-2	2.02338e-1		?
12.391	BB	7.32075e-1	9.01342e-2	6.59850e-2		?
12.550	BB	2.54704	9.01342e-2	2.29576e-1		?
12.683	BV	1.02070	9.01342e-2	9.20003e-2		?
12.728	VB	4.94490e-1	9.01342e-2	4.45705e-2		?
12.806	BV	2.00387e-1	9.01342e-2	1.80617e-2		?
12.848	VB	1.09969	9.01342e-2	9.91193e-2		?
12.995	BV	2.88654e-1	9.01342e-2	2.60176e-2		?
13.047	VV	3.29249e-1	9.01342e-2	2.96766e-2		?
13.097	VB	4.94688e-1	9.01342e-2	4.45883e-2		?
13.278	BB	6.50249	9.01342e-2	5.86096e-1		?
13.716	BB	3.20000	9.01342e-2	2.88430e-1		?
13.906	VB	2.67031e-1	9.01342e-2	2.40686e-2		?
14.051	BB	1.65977e-1	9.01342e-2	1.49602e-2		?
14.326	BV	9.34834e-1	9.01342e-2	8.42605e-2		?
14.451	BB	1.24126	9.01342e-2	1.11880e-1		?
14.587	BB	3.24075e-1	9.01342e-2	2.92102e-2		?
14.710	BV	5.76465e-1	9.01342e-2	5.19592e-2		?
14.739	VB	2.09301e-1	9.01342e-2	1.88652e-2		?
15.014	BV	2.53247	9.01342e-2	2.28262e-1		?
15.060	VB	2.07848e-1	9.01342e-2	1.87342e-2		?
15.355	BB	2.88766e-1	9.01342e-2	2.60277e-2		?
15.522	BV	2.47117e-1	9.01342e-2	2.22737e-2		?
15.641	VB	4.27321e-1	9.01342e-2	3.85163e-2		?
15.732	BB	3.74986e-1	9.01342e-2	3.37991e-2		?
15.976	VB	2.09018e-1	9.01342e-2	1.88397e-2		?
16.053	BB	6.73286e-1	9.01342e-2	6.06860e-2		?
16.435	BB	1.44794e-1	9.01342e-2	1.30509e-2		?
16.610	VB	9.03935e-1	9.01342e-2	8.14755e-2		?
17.978	BB	6.14445e-1	9.01342e-2	5.53825e-2		?
18.078	BB	4.75810e-1	9.01342e-2	4.28868e-2		?
18.388	BB	5.22456e-1	9.01342e-2	4.70911e-2		?
19.275	VB	4.38615e-1	9.01342e-2	3.95342e-2		?
19.819	BB	3.43189e-1	9.01342e-2	3.09331e-2		?
20.225	VB	3.72600e-1	9.01342e-2	3.35840e-2		?
20.474	BB	2.91243e-1	9.01342e-2	2.62510e-2		?
20.647	BB	1.54330e-1	9.01342e-2	1.39104e-2		?
21.013	BB	1.57862e-1	9.01342e-2	1.42287e-2		?
21.242	BB	2.63892	9.01342e-2	2.37856e-1		?
21.746	VB	1.51432e-1	9.01342e-2	1.36492e-2		?
22.379	BB	2.93709e-1	9.01342e-2	2.64732e-2		?

Uncalib. totals : 23.60142

==========

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1401.D
Sample Name: 160921A01B Can942

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  14
Acq. Instrument : Archie                            Location : Vial 2
Injection Date  : 21-Oct-16, 17:46:09                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed    : 10/21/2016 3:50:49 PM by TDD
                  (modified after loading)
Sample Info     : 0916-69; *1000=0.5mL load @ 2*sry dil
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/21/2016 3:52:28 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                  [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.557            -           -          -          Ethylene
  3.624            -           -          -          Acetylene
  3.689 BB      102.57171 1.40834e-1   14.44555      Ethane
  4.706            -           -          -          Propylene
  4.784 BB       77.71902 9.01342e-2    7.00514      Propane
  6.148 BB  +    13.76152 7.51993e-2    1.03486      Isobutane
  6.724 BB        1.97536 7.73414e-2 1.52778e-1      1-Butene
  6.949 BB       39.54183 7.84574e-2    3.10235      Butane
  7.211            -           -          -          trans-2-Butene
  7.537            -           -          -          cis-2-Butene
  8.661 BV       11.58521 6.02292e-2 6.97767e-1      Isopentane
  8.994            -           -          -          1-Pentene
  9.246 VB       22.61246 5.88865e-2    1.33157      Pentane
  9.346            -           -          -          Isoprene
  9.429            -           -          -          trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1401.D
Sample Name: 160921A01B Can942

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.597			-	-	-		cis-2-Pentene
10.020			-	-	-		2,2-Dimethylbutane
10.645	VV		4.96068e-1	5.90596e-2	2.92976e-2		Cyclopentane
10.675			-	-	-		2,3-Dimethylbutane
10.734	VB		4.83535	4.83197e-2	2.33643e-1		2-Methylpentane
11.069			-	-	-		3-Methylpentane
11.199			-	-	-		1-Hexene
11.428			-	-	-		Hexane
11.974	BB		1.49281e-1	4.95441e-2	7.39599e-3		Methylcyclopentane
12.032			-	-	-		2,4-Dimethylpentane
12.441			-	-	-		Benzene
12.611			-	-	-		Cyclohexane
12.723	VB		5.03761e-1	4.45895e-2	2.24624e-2		2-Methylhexane
12.799	BV		2.31377e-1	4.31845e-2	9.99191e-3		2,3-Dimethylpentane
12.900			-	-	-		3-Methylhexane
13.161			-	-	-		2,2,4-Trimethylpentane
13.329			-	-	-		Heptane
13.763			-	-	-		Methylcyclohexane
14.254			-	-	-		2,3,4-Trimethylpentane
14.322	BV		1.11641	6.01593e-2	6.71626e-2		Toluene
14.477	VB		1.92275e-1	4.63230e-2	8.90675e-3		2-Methylheptane
14.583	BB		3.42095e-1	4.55628e-2	1.55868e-2		3-Methylheptane
15.057	VB		2.60865e-1	4.93236e-2	1.28668e-2		Octane
15.922			-	-	-		Ethylbenzene
16.049	BB		9.61164e-1	5.24257e-2	5.03897e-2		m&p-Xylene
16.366			-	-	-		Styrene
16.433	BB		2.16609e-1	4.95590e-2	1.07350e-2		o-Xylene
16.607	VB		1.55691	4.31035e-2	6.71081e-2		Nonane
16.938			-	-	-		Isopropylbenzene
17.386			-	-	-		n-Propylbenzene
17.484			-	-	-		3-Ethyltoluene
17.521			-	-	-		4-Ethyltoluene
17.594			-	-	-		1,3,5-Trimethylbenzene
17.772			-	-	-		2-Ethyltoluene
17.975	BB		6.11885e-1	4.50301e-2	2.75533e-2		1,2,4-Trimethylbenzene
18.076	BB		7.44217e-1	3.90813e-2	2.90850e-2		Decane
18.406	BV		4.50128e-1	4.33603e-2	1.95177e-2		1,2,3-Trimethylbenzene
18.674			-	-	-		m-Diethylbenzene
18.760			-	-	-		p-Diethylbenzene
19.275	BB	+	4.94510e-1	3.79876e-2	1.87852e-2		Undecane
20.225	VB		3.29913e-1	3.87364e-2	1.27796e-2		Dodecane

Totals : 33.24335

2 Warnings or Errors :

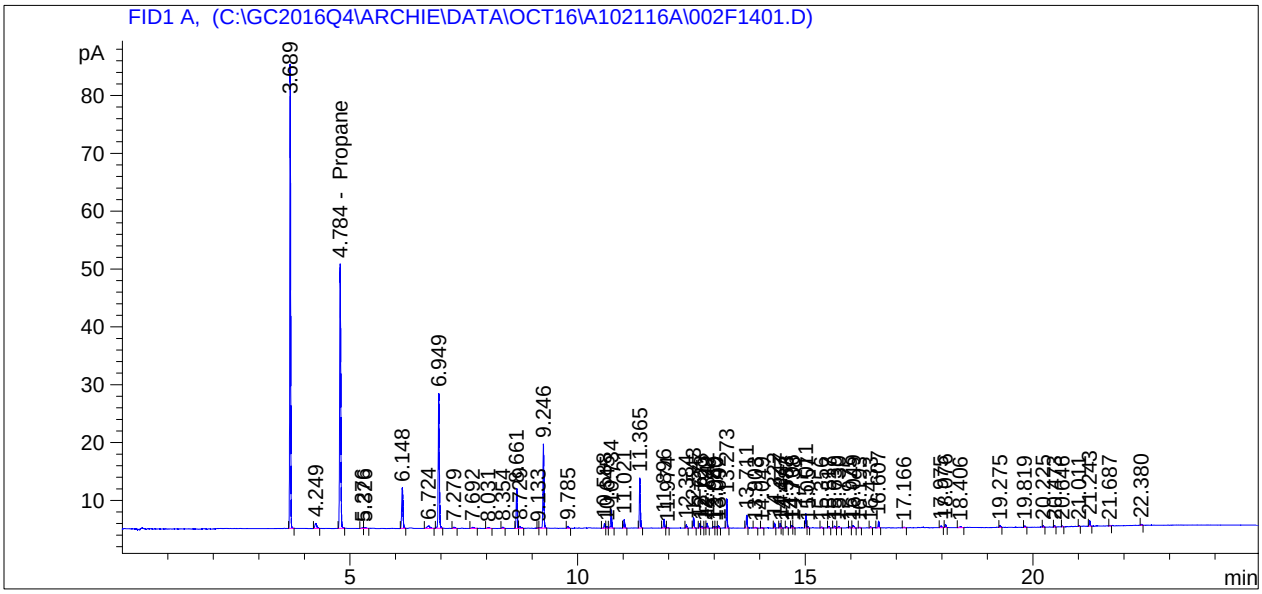
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1401.D
Sample Name: 160921A01B Can942

```
==========================================================================
Acq. Operator    : TDD                              Seq. Line :  14
Acq. Instrument  : Archie                            Location : Vial 2
Injection Date   : 21-Oct-16, 17:46:09                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-PROPANE.M
Last changed     : 11/3/2016 7:33:13 AM by TDD
                   (modified after loading)
Sample Info      : 0916-69; *1000=0.5mL load @ 2*sry dil
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/3/2016 7:29:31 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.784 BB       77.71902 9.01342e-2    7.00514     Propane

Totals :                                7.00514

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.689 BB      102.57171 9.01342e-2    9.24522     ?
  4.249 BB        2.59306 9.01342e-2 2.33724e-1     ?
  5.276 BV     3.91670e-1 9.01342e-2 3.53029e-2     ?
  5.326 VB     5.16611e-1 9.01342e-2 4.65643e-2     ?
  6.148 BB       13.76152 9.01342e-2    1.24038     ?
  6.724 BB        1.97536 9.01342e-2 1.78048e-1     ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1401.D
Sample Name: 160921A01B Can942

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
6.949	BB	39.54183	9.01342e-2	3.56407	?	
7.279	BB	5.96174e-1	9.01342e-2	5.37357e-2	?	
7.692	BB	7.26939e-1	9.01342e-2	6.55220e-2	?	
8.031	BB	5.55751e-1	9.01342e-2	5.00921e-2	?	
8.354	BB	5.07880e-1	9.01342e-2	4.57773e-2	?	
8.661	BV	11.58521	9.01342e-2	1.04422	?	
8.729	VB	1.03078	9.01342e-2	9.29082e-2	?	
9.133	VV	1.71638e-1	9.01342e-2	1.54705e-2	?	
9.246	VB	22.61246	9.01342e-2	2.03816	?	
9.785	BB	7.10332e-1	9.01342e-2	6.40252e-2	?	
10.588	BV	1.26354	9.01342e-2	1.13888e-1	?	
10.645	VV	4.96068e-1	9.01342e-2	4.47127e-2	?	
10.734	VB	4.83535	9.01342e-2	4.35830e-1	?	
11.021	BB	2.28693	9.01342e-2	2.06130e-1	?	
11.365	BB	12.89313	9.01342e-2	1.16211	?	
11.896	BB	2.31948	9.01342e-2	2.09064e-1	?	
11.974	BB	1.49281e-1	9.01342e-2	1.34553e-2	?	
12.384	BB	7.79008e-1	9.01342e-2	7.02152e-2	?	
12.543	BB	2.65657	9.01342e-2	2.39448e-1	?	
12.677	BV	1.07456	9.01342e-2	9.68542e-2	?	
12.723	VB	5.03761e-1	9.01342e-2	4.54061e-2	?	
12.799	BV	2.31377e-1	9.01342e-2	2.08550e-2	?	
12.842	VB	1.15400	9.01342e-2	1.04015e-1	?	
12.989	BV	3.03999e-1	9.01342e-2	2.74007e-2	?	
13.040	VV	3.47200e-1	9.01342e-2	3.12946e-2	?	
13.092	VB	5.30323e-1	9.01342e-2	4.78002e-2	?	
13.273	BB	6.80784	9.01342e-2	6.13619e-1	?	
13.711	BV	3.20027	9.01342e-2	2.88454e-1	?	
13.903	BB	2.08465e-1	9.01342e-2	1.87898e-2	?	
14.049	BB	1.62468e-1	9.01342e-2	1.46439e-2	?	
14.322	BV	1.11641	9.01342e-2	1.00627e-1	?	
14.447	BV	1.14315	9.01342e-2	1.03037e-1	?	
14.477	VB	1.92275e-1	9.01342e-2	1.73306e-2	?	
14.583	BB	3.42095e-1	9.01342e-2	3.08345e-2	?	
14.706	BV	6.05557e-1	9.01342e-2	5.45813e-2	?	
14.738	VB	2.16567e-1	9.01342e-2	1.95201e-2	?	
15.011	BV	3.18923	9.01342e-2	2.87459e-1	?	
15.057	VB	2.60865e-1	9.01342e-2	2.35129e-2	?	
15.356	BB	2.72603e-1	9.01342e-2	2.45708e-2	?	
15.517	BB	2.86285e-1	9.01342e-2	2.58040e-2	?	
15.639	VB	4.58445e-1	9.01342e-2	4.13215e-2	?	
15.730	BB	4.06600e-1	9.01342e-2	3.66486e-2	?	
15.975	VB	2.30899e-1	9.01342e-2	2.08119e-2	?	
16.049	BB	9.61164e-1	9.01342e-2	8.66338e-2	?	
16.193	BB	1.85149e-1	9.01342e-2	1.66882e-2	?	
16.433	BB	2.16609e-1	9.01342e-2	1.95239e-2	?	
16.607	VB	1.55691	9.01342e-2	1.40331e-1	?	
17.166	BB	2.37580e-1	9.01342e-2	2.14141e-2	?	
17.975	BB	6.11885e-1	9.01342e-2	5.51518e-2	?	
18.076	BB	7.44217e-1	9.01342e-2	6.70794e-2	?	
18.406	BV	4.50128e-1	9.01342e-2	4.05719e-2	?	
19.275	BB	4.94510e-1	9.01342e-2	4.45722e-2	?	
19.819	BB	3.70507e-1	9.01342e-2	3.33953e-2	?	
20.225	VB	3.29913e-1	9.01342e-2	2.97365e-2	?	
20.473	BB	2.61213e-1	9.01342e-2	2.35442e-2	?	
20.646	BB	1.62159e-1	9.01342e-2	1.46160e-2	?	
21.011	BB	1.30618e-1	9.01342e-2	1.17732e-2	?	
21.243	BB	1.25197	9.01342e-2	1.12846e-1	?	
21.687	BB	1.56717e-1	9.01342e-2	1.41255e-2	?	
22.380	BB	2.33681e-1	9.01342e-2	2.10626e-2	?	

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\002F1401.D
Sample Name: 160921A01B Can942

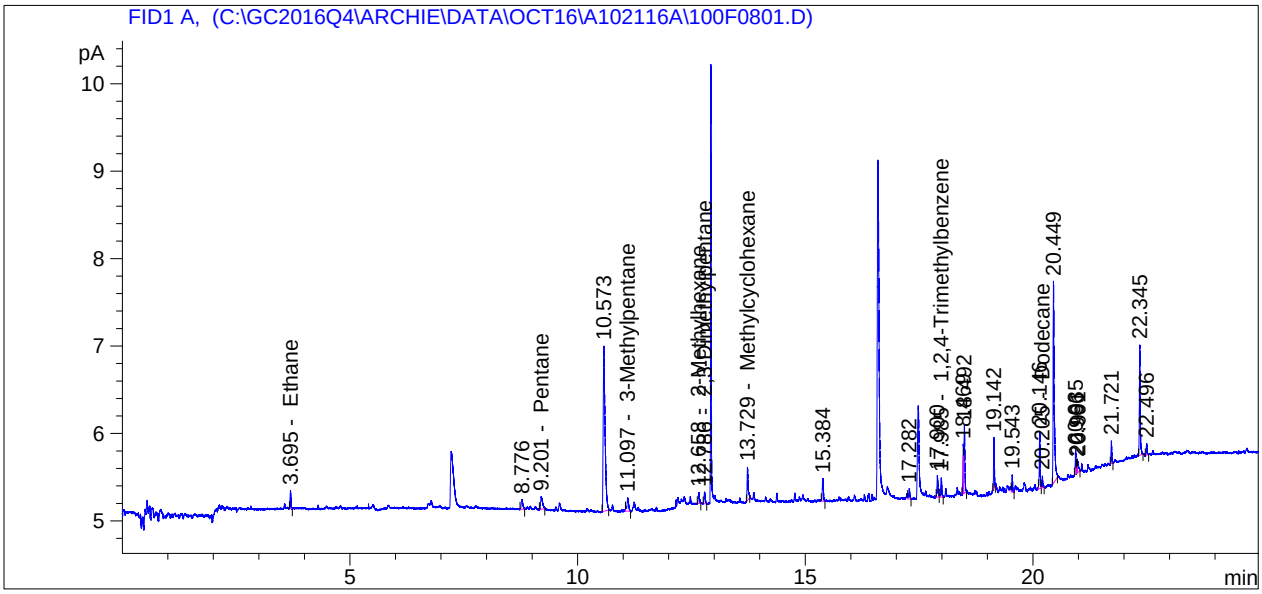
Uncalib. totals : 23.35633

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\100F0801.D
Sample Name: Humid Blank

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :   8
Acq. Instrument : Archie                            Location : Vial 100
Injection Date  : 21-Oct-16, 13:52:19                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed    : 10/21/2016 3:50:49 PM by TDD
                  (modified after loading)
Sample Info     : 250mL load
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/21/2016 3:52:28 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.560		-	-	-		Ethylene
3.627		-	-	-		Acetylene
3.695	BB	2.65412e-1	1.40834e-1	3.73789e-2		Ethane
4.709		-	-	-		Propylene
4.805		-	-	-		Propane
6.152		-	-	-		Isobutane
6.762		-	-	-		1-Butene
6.950		-	-	-		Butane
7.213		-	-	-		trans-2-Butene
7.538		-	-	-		cis-2-Butene
8.648		-	-	-		Isopentane
8.992		-	-	-		1-Pentene
9.201	BB	4.21279e-1	5.88865e-2	2.48076e-2		Pentane
9.343		-	-	-		Isoprene
9.426		-	-	-		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\100F0801.D
Sample Name: Humid Blank

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.593		-	-	-		cis-2-Pentene
10.016		-	-	-		2,2-Dimethylbutane
10.626		-	-	-		Cyclopentane
10.669		-	-	-		2,3-Dimethylbutane
10.763		-	-	-		2-Methylpentane
11.097	BB	3.95789e-1	4.97323e-2	1.96835e-2		3-Methylpentane
11.192		-	-	-		1-Hexene
11.420		-	-	-		Hexane
11.942		-	-	-		Methylcyclopentane
12.023		-	-	-		2,4-Dimethylpentane
12.431		-	-	-		Benzene
12.600		-	-	-		Cyclohexane
12.658	BB	2.18955e-1	4.45895e-2	9.76307e-3		2-Methylhexane
12.786	BB	2.27661e-1	4.31845e-2	9.83142e-3		2,3-Dimethylpentane
12.889		-	-	-		3-Methylhexane
13.149		-	-	-		2,2,4-Trimethylpentane
13.317		-	-	-		Heptane
13.729	BB	6.02234e-1	4.38160e-2	2.63875e-2		Methylcyclohexane
14.240		-	-	-		2,3,4-Trimethylpentane
14.347		-	-	-		Toluene
14.469		-	-	-		2-Methylheptane
14.604		-	-	-		3-Methylheptane
15.027		-	-	-		Octane
15.922		-	-	-		Ethylbenzene
16.064		-	-	-		m&p-Xylene
16.347		-	-	-		Styrene
16.432		-	-	-		o-Xylene
16.606		-	-	-		Nonane
16.918		-	-	-		Isopropylbenzene
17.365		-	-	-		n-Propylbenzene
17.462		-	-	-		3-Ethyltoluene
17.499		-	-	-		4-Ethyltoluene
17.572		-	-	-		1,3,5-Trimethylbenzene
17.750		-	-	-		2-Ethyltoluene
17.985	BB	3.54108e-1	4.50301e-2	1.59455e-2		1,2,4-Trimethylbenzene
18.066		-	-	-		Decane
18.356		-	-	-		1,2,3-Trimethylbenzene
18.650		-	-	-		m-Diethylbenzene
18.735		-	-	-		p-Diethylbenzene
19.249		-	-	-		Undecane
20.205	VB	1.51779e-1	3.87364e-2	5.87936e-3		Dodecane

Totals : 1.67141

2 Warnings or Errors :

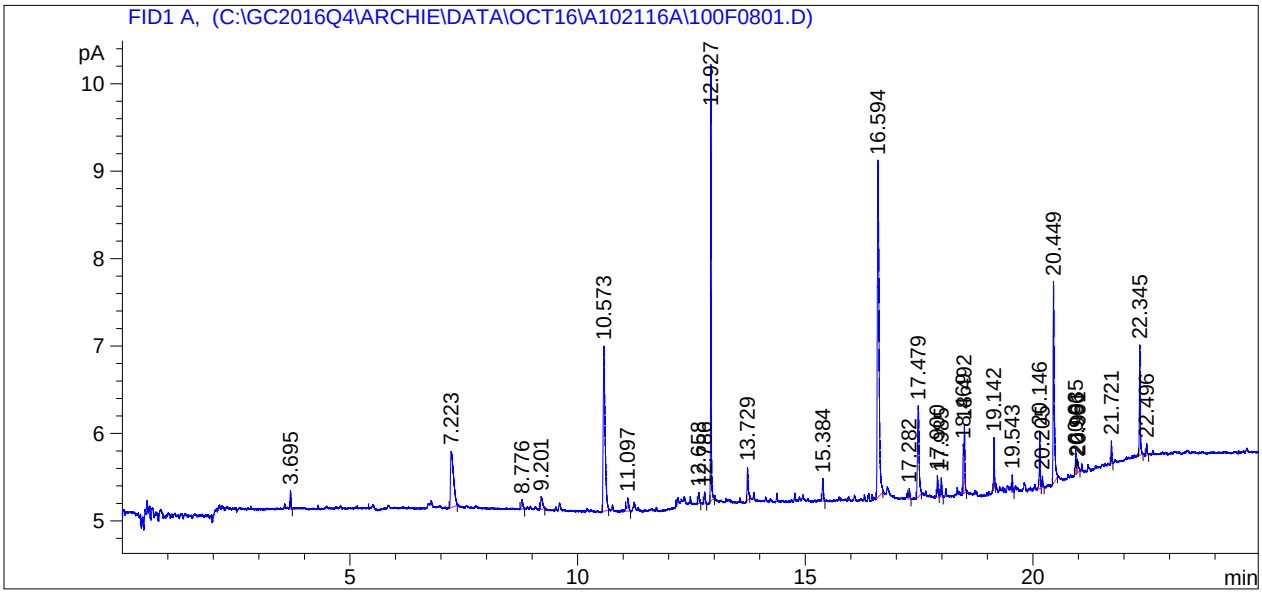
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\100F0801.D
Sample Name: Humid Blank

```
================================================================================
Acq. Operator   : TDD                                 Seq. Line :   8
Acq. Instrument : Archie                               Location : Vial 100
Injection Date  : 21-Oct-16, 13:52:19                      Inj :   1
                                                    Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A101316A-PROPANE.M
Last changed    : 11/3/2016 7:33:13 AM by TDD
                  (modified after loading)
Sample Info     : 250mL load
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/3/2016 7:29:31 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.805            -          -          -          Propane

Totals :                                 0.00000

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.695 BB     2.65412e-1 9.01342e-2 2.39226e-2    ?
  7.223 BB        2.93117 9.01342e-2 2.64198e-1    ?
  8.776 BB     2.72775e-1 9.01342e-2 2.45863e-2    ?
  9.201 BB     4.21279e-1 9.01342e-2 3.79716e-2    ?
 10.573 BB        5.36686 9.01342e-2 4.83738e-1    ?
 11.097 BB     3.95789e-1 9.01342e-2 3.56741e-2    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\100F0801.D
Sample Name: Humid Blank

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
12.658	BB	2.18955e-1	9.01342e-2	1.97353e-2		?
12.786	BB	2.27661e-1	9.01342e-2	2.05200e-2		?
12.927	BB	4.82637	9.01342e-2	4.35021e-1		?
13.729	BB	6.02234e-1	9.01342e-2	5.42818e-2		?
15.384	BB	4.34562e-1	9.01342e-2	3.91689e-2		?
16.594	BB	10.11111	9.01342e-2	9.11357e-1		?
17.282	VB	2.02260e-1	9.01342e-2	1.82305e-2		?
17.479	BB	2.59943	9.01342e-2	2.34297e-1		?
17.900	BB	3.62675e-1	9.01342e-2	3.26894e-2		?
17.985	BB	3.54108e-1	9.01342e-2	3.19172e-2		?
18.469	BV	6.37934e-1	9.01342e-2	5.74997e-2		?
18.492	VB	1.06536	9.01342e-2	9.60252e-2		?
19.142	BB	6.83741e-1	9.01342e-2	6.16284e-2		?
19.543	VV	2.48957e-1	9.01342e-2	2.24395e-2		?
20.146	BV	8.27947e-1	9.01342e-2	7.46264e-2		?
20.205	VB	1.51779e-1	9.01342e-2	1.36805e-2		?
20.449	BB	3.91347	9.01342e-2	3.52738e-1		?
20.935	BV	3.18351e-1	9.01342e-2	2.86943e-2		?
20.966	VV	1.24842e-1	9.01342e-2	1.12525e-2		?
20.991	VB	1.96816e-1	9.01342e-2	1.77398e-2		?
21.721	BB	2.99643e-1	9.01342e-2	2.70080e-2		?
22.345	BB	1.75575	9.01342e-2	1.58253e-1		?
22.496	BB	1.71063e-1	9.01342e-2	1.54186e-2		?

Uncalib. totals : 3.60431

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========
==========
Area Percent Report
==========

Sorted By : Signal
Calib. Data Modified : 11/3/2016 7:29:31 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Area %	Name
1	4.805		0.0000	0.00000	0.00000	Propane

Totals : 0.00000 0.0000

Uncalibrated Peaks:

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Area %	Name
1	3.695	BB	0.0195	2.65412e-1	0.66372	?
2	7.223	BB	0.0606	2.93117	7.33006	?
3	8.776	BB	0.0306	2.72775e-1	0.68214	?
4	9.201	BB	0.0380	4.21279e-1	1.05350	?
5	10.573	BB	0.0412	5.36686	13.42108	?

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\100F0801.D
Sample Name: Humid Blank

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Area %	Name
6	11.097	BB	0.0330	3.95789e-1	0.98976	?
7	12.658	BB	0.0248	2.18955e-1	0.54755	?
8	12.786	BB	0.0248	2.27661e-1	0.56932	?
9	12.927	BB	0.0148	4.82637	12.06946	?
10	13.729	BB	0.0240	6.02234e-1	1.50602	?
11	15.384	BB	0.0253	4.34562e-1	1.08672	?
12	16.594	BB	0.0416	10.11111	25.28517	?
13	17.282	VB	0.0253	2.02260e-1	0.50580	?
14	17.479	BB	0.0366	2.59943	6.50047	?
15	17.900	BB	0.0232	3.62675e-1	0.90695	?
16	17.985	BB	0.0255	3.54108e-1	0.88553	?
17	18.469	BV	0.0182	6.37934e-1	1.59530	?
18	18.492	VB	0.0201	1.06536	2.66417	?
19	19.142	BB	0.0183	6.83741e-1	1.70985	?
20	19.543	VV	0.0204	2.48957e-1	0.62257	?
21	20.146	BV	0.0194	8.27947e-1	2.07047	?
22	20.205	VB	0.0169	1.51779e-1	0.37956	?
23	20.449	BB	0.0248	3.91347	9.78655	?
24	20.935	BV	0.0175	3.18351e-1	0.79611	?
25	20.966	VV	0.0159	1.24842e-1	0.31220	?
26	20.991	VB	0.0226	1.96816e-1	0.49218	?
27	21.721	BB	0.0180	2.99643e-1	0.74933	?
28	22.345	BB	0.0218	1.75575	4.39065	?
29	22.496	BB	0.0190	1.71063e-1	0.42778	?
Uncalib. totals :				39.98830	100.0000	

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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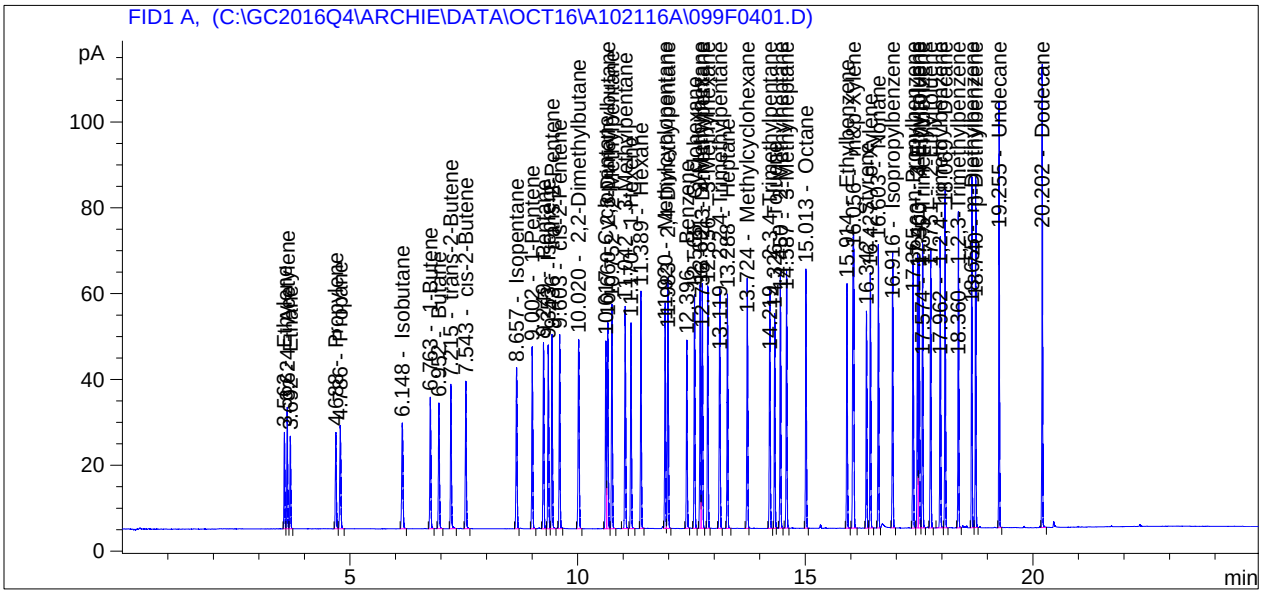
*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\099F0401.D
Sample Name: TO14A Std #3 LCS

```
==========================================================================
Acq. Operator    : TDD                                Seq. Line :   4
Acq. Instrument  : Archie                              Location : Vial 99
Injection Date   : 21-Oct-16, 11:10:29                     Inj :   1
                                                    Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed     : 10/21/2016 3:50:49 PM by TDD
                   (modified after loading)
Sample Info      : Can #10889; 50mL
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/21/2016 3:50:08 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.562	BV		27.73484	1.41171e-1	3.91535		Ethylene
3.624	VV		35.52389	1.13819e-1	4.04329		Acetylene
3.692	VB		27.53282	1.40834e-1	3.87755		Ethane
4.688	BV		34.40385	1.10929e-1	3.81640		Propylene
4.786	VB		40.80396	9.01342e-2	3.67783		Propane
6.148	BB	+	47.83252	7.51993e-2	3.59697		Isobutane
6.763	BB		47.22760	7.73414e-2	3.65265		1-Butene
6.952	BB		45.95245	7.84574e-2	3.60531		Butane
7.215	BB		48.85738	7.47000e-2	3.64965		trans-2-Butene
7.543	BB		51.16478	7.82194e-2	4.00208		cis-2-Butene
8.657	BV		60.84892	6.02292e-2	3.66488		Isopentane
9.002	BB		60.66215	6.10574e-2	3.70387		1-Pentene
9.249	VB		62.31445	5.88865e-2	3.66948		Pentane
9.353	BV		61.80840	6.05279e-2	3.74114		Isoprene
9.436	VV		63.20448	5.89855e-2	3.72815		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\099F0401.D
Sample Name: TO14A Std #3 LCS

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.603	VV		63.70314	6.05314e-2	3.85604		cis-2-Pentene
10.020	BB		76.79944	4.93881e-2	3.79298		2,2-Dimethylbutane
10.617	VV		62.31451	5.90596e-2	3.68027		Cyclopentane
10.660	VV		75.65428	4.93489e-2	3.73346		2,3-Dimethylbutane
10.752	VB		76.04996	4.83197e-2	3.67471		2-Methylpentane
11.042	BB		75.05839	4.97323e-2	3.73283		3-Methylpentane
11.170	BB		67.33348	5.21129e-2	3.50894		1-Hexene
11.389	BB		73.64449	5.00754e-2	3.68778		Hexane
11.920	VV		72.87983	4.95441e-2	3.61076		Methylcyclopentane
11.983	VB		84.64830	4.35398e-2	3.68557		2,4-Dimethylpentane
12.396	VB		59.33934	5.63882e-2	3.34604		Benzene
12.565	BB		77.15155	4.83916e-2	3.73349		Cyclohexane
12.691	BV		77.51492	4.45895e-2	3.45635		2-Methylhexane
12.736	VB		82.49975	4.31845e-2	3.56271		2,3-Dimethylpentane
12.856	BV		78.34592	4.42181e-2	3.46431		3-Methylhexane
13.119	VB		85.49606	4.01614e-2	3.43364		2,2,4-Trimethylpentane
13.288	BB		70.85571	4.90887e-2	3.47821		Heptane
13.724	BV		81.64729	4.38160e-2	3.57746		Methylcyclohexane
14.219	BB		81.44372	4.35789e-2	3.54923		2,3,4-Trimethylpentane
14.326	BV		64.43672	6.01593e-2	3.87647		Toluene
14.450	VB		79.49645	4.63230e-2	3.68251		2-Methylheptane
14.587	BB		80.28593	4.55628e-2	3.65805		3-Methylheptane
15.013	BB		76.74186	4.93236e-2	3.78519		Octane
15.914	BB	+	73.10375	5.28390e-2	3.86273		Ethylbenzene
16.056	BB		146.60710	5.24257e-2	7.68598		m&p-Xylene
16.342	BV		64.61886	5.74423e-2	3.71186		Styrene
16.427	VB		76.92554	4.95590e-2	3.81236		o-Xylene
16.603	BV		83.72771	4.31035e-2	3.60896		Nonane
16.916	BB		85.19572	4.27648e-2	3.64338		Isopropylbenzene
17.365	BV		80.93328	4.48783e-2	3.63214		n-Propylbenzene
17.463	VV		83.44899	4.48763e-2	3.74489		3-Ethyltoluene
17.500	VV		80.90437	4.43324e-2	3.58668		4-Ethyltoluene
17.574	VB		86.98446	4.42370e-2	3.84793		1,3,5-Trimethylbenzene
17.751	VB		85.44283	4.27881e-2	3.65593		2-Ethyltoluene
17.962	BV		85.11457	4.50301e-2	3.83272		1,2,4-Trimethylbenzene
18.069	VB		96.00579	3.90813e-2	3.75203		Decane
18.360	VB		88.93374	4.33603e-2	3.85619		1,2,3-Trimethylbenzene
18.655	BV		95.39561	3.96513e-2	3.78256		m-Diethylbenzene
18.740	VB		92.22146	4.03631e-2	3.72234		p-Diethylbenzene
19.255	BB	+	106.62964	3.79876e-2	4.05060		Undecane
20.202	VB		109.31864	3.87364e-2	4.23461		Dodecane

Totals : 211.93549

1 Warnings or Errors :

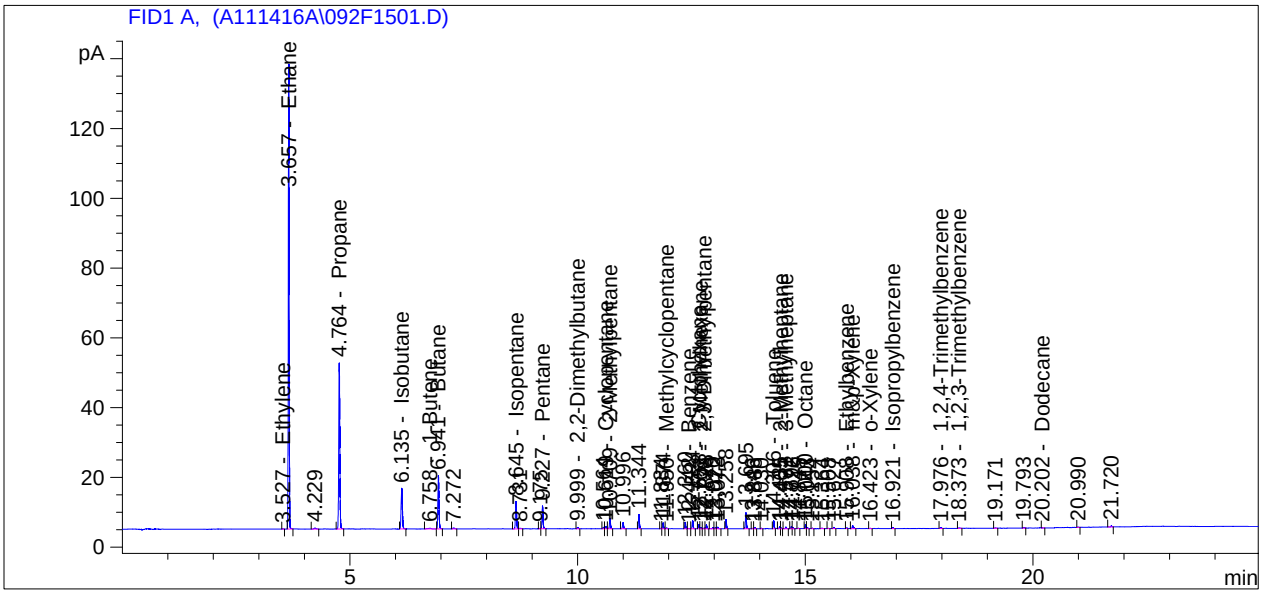
Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1501.D
Sample Name: Site 2 161017B02 A Can114

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  15
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 14-Nov-16, 17:39:34                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111416A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:58:30 PM by TDD
Sample Info     : 1016-55; Can #192; *1000=0.5mL@2* syringe dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:56:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.527 BB     1.43614e-1 1.56174e-1 2.24288e-2     Ethylene
  3.594           -          -          -           Acetylene
  3.657 BB      172.32901 1.43631e-1   24.75187     Ethane
  4.646           -          -          -           Propylene
  4.764 VB       81.23440 1.06563e-1    8.65658     Propane
  6.135 BB  +    23.07372 8.64027e-2    1.99363     Isobutane
  6.758 BB        1.11229 8.70487e-2 9.68232e-2     1-Butene
  6.941 BB       25.93488 8.82564e-2    2.28892     Butane
  7.199           -          -          -           trans-2-Butene
  7.525           -          -          -           cis-2-Butene
  8.645 BV       13.80842 6.70037e-2 9.25215e-1     Isopentane
  8.978           -          -          -           1-Pentene
  9.227 VB       10.21108 6.57885e-2 6.71771e-1     Pentane
  9.327           -          -          -           Isoprene
  9.410           -          -          -           trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1501.D
Sample Name: Site 2 161017B02 A Can114

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.577			-	-	-		cis-2-Pentene
9.999	VB		7.66537e-1	5.45100e-2	4.17839e-2		2,2-Dimethylbutane
10.619	VV		1.05753	6.45958e-2	6.83123e-2		Cyclopentane
10.655			-	-	-		2,3-Dimethylbutane
10.709	VB		4.54729	5.14070e-2	2.33763e-1		2-Methylpentane
11.053			-	-	-		3-Methylpentane
11.179			-	-	-		1-Hexene
11.412			-	-	-		Hexane
11.950	BB		3.57502e-1	5.21637e-2	1.86486e-2		Methylcyclopentane
12.023			-	-	-		2,4-Dimethylpentane
12.442	BV		1.71627e-1	5.48877e-2	9.42019e-3		Benzene
12.658	BV		1.66223	5.09033e-2	8.46129e-2		Cyclohexane
12.703	VV		4.06010e-1	4.45384e-2	1.80831e-2		2-Methylhexane
12.778	VV		3.95481e-1	4.41919e-2	1.74770e-2		2,3-Dimethylpentane
12.892			-	-	-		3-Methylhexane
13.148			-	-	-		2,2,4-Trimethylpentane
13.319			-	-	-		Heptane
13.752			-	-	-		Methylcyclohexane
14.236			-	-	-		2,3,4-Trimethylpentane
14.306	BV		3.01785	5.00187e-2	1.50949e-1		Toluene
14.465	VB		2.37776e-1	3.89937e-2	9.27177e-3		2-Methylheptane
14.571	BB		7.11941e-1	3.85897e-2	2.74736e-2		3-Methylheptane
15.000	BV		1.52889	4.06911e-2	6.22121e-2		Octane
15.908	BV	+	2.47852e-1	4.47089e-2	1.10812e-2		Ethylbenzene
16.038	VB		1.59071	4.45401e-2	7.08502e-2		m&p-Xylene
16.330			-	-	-		Styrene
16.423	BB		1.49925e-1	4.13714e-2	6.20262e-3		o-Xylene
16.587			-	-	-		Nonane
16.921	BB		4.94924e-1	3.56607e-2	1.76494e-2		Isopropylbenzene
17.343			-	-	-		n-Propylbenzene
17.440			-	-	-		3-Ethyltoluene
17.477			-	-	-		4-Ethyltoluene
17.550			-	-	-		1,3,5-Trimethylbenzene
17.726			-	-	-		2-Ethyltoluene
17.976	BB		4.72862e-1	3.83166e-2	1.81185e-2		1,2,4-Trimethylbenzene
18.039			-	-	-		Decane
18.373	BB		4.05786e-1	3.68419e-2	1.49499e-2		1,2,3-Trimethylbenzene
18.620			-	-	-		m-Diethylbenzene
18.705			-	-	-		p-Diethylbenzene
19.254			-	-	-		Undecane
20.202	VB		1.64504e-1	3.61400e-2	5.94516e-3		Dodecane
Totals :					44.61897		

2 Warnings or Errors :

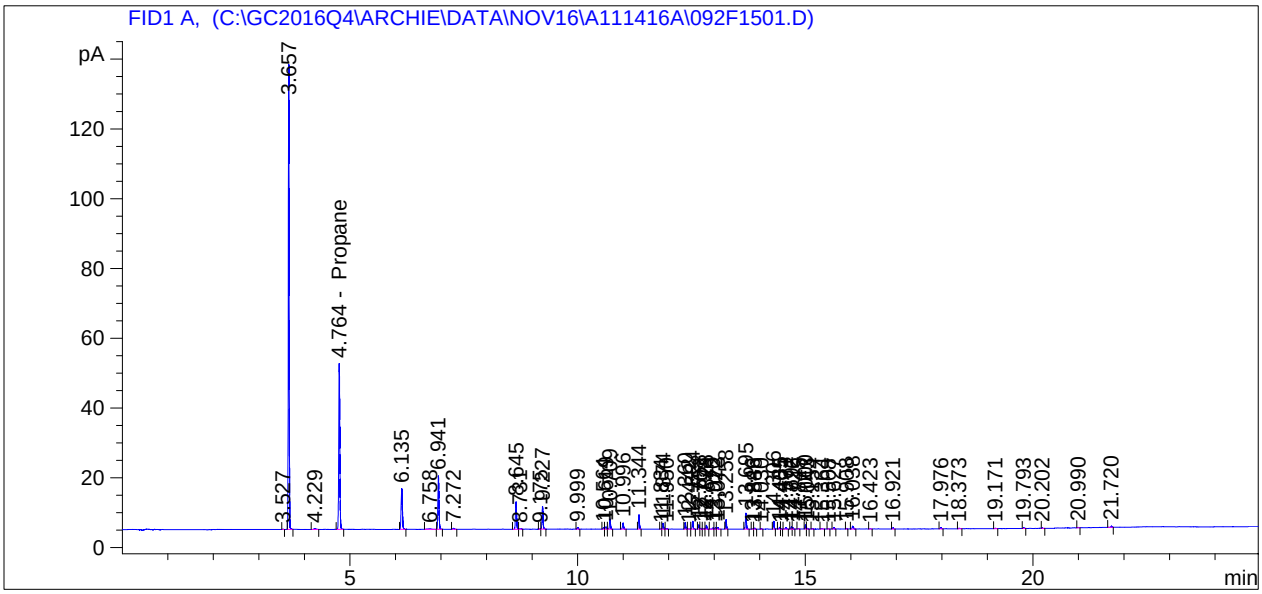
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1501.D
Sample Name: Site 2 161017B02 A Can114

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  15
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 14-Nov-16, 17:39:34                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed    : 11/23/2016 9:42:58 PM by TDD
                  (modified after loading)
Sample Info     : 1016-55; Can #192; *1000=0.5mL@2* syringe dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.764 VB       81.23440 1.06563e-1    8.65658    Propane

Totals :                                8.65658

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.527 BB     1.43614e-1 1.06563e-1 1.53039e-2    ?
  3.657 BB      172.32901 1.06563e-1   18.36389    ?
  4.229 BB     8.71778e-1 1.06563e-1 9.28992e-2    ?
  6.135 BB       23.07372 1.06563e-1    2.45880    ?
  6.758 BB        1.11229 1.06563e-1 1.18529e-1    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1501.D
Sample Name: Site 2 161017B02 A Can114

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
6.941	BB	25.93488	1.06563e-1	2.76370		?
7.272	BB	8.03956e-1	1.06563e-1	8.56719e-2		?
8.645	BV	13.80842	1.06563e-1	1.47147		?
8.731	VB	5.67248e-1	1.06563e-1	6.04476e-2		?
9.175	BV	2.58895e-1	1.06563e-1	2.75886e-2		?
9.227	VB	10.21108	1.06563e-1	1.08812		?
9.999	VB	7.66537e-1	1.06563e-1	8.16845e-2		?
10.564	BV	6.06645e-1	1.06563e-1	6.46459e-2		?
10.619	VV	1.05753	1.06563e-1	1.12694e-1		?
10.709	VB	4.54729	1.06563e-1	4.84573e-1		?
10.996	BB	2.86461	1.06563e-1	3.05262e-1		?
11.344	BB	5.93318	1.06563e-1	6.32257e-1		?
11.834	BV	2.29570e-1	1.06563e-1	2.44637e-2		?
11.874	VB	2.52005	1.06563e-1	2.68544e-1		?
11.950	BB	3.57502e-1	1.06563e-1	3.80965e-2		?
12.360	BB	2.55778	1.06563e-1	2.72564e-1		?
12.442	BV	1.71627e-1	1.06563e-1	1.82891e-2		?
12.524	VB	3.35316	1.06563e-1	3.57323e-1		?
12.658	BV	1.66223	1.06563e-1	1.77132e-1		?
12.703	VV	4.06010e-1	1.06563e-1	4.32657e-2		?
12.778	VV	3.95481e-1	1.06563e-1	4.21436e-2		?
12.825	VB	1.62555	1.06563e-1	1.73224e-1		?
12.970	BV	5.86079e-1	1.06563e-1	6.24543e-2		?
13.022	VV	5.44689e-1	1.06563e-1	5.80437e-2		?
13.073	VB	7.46018e-1	1.06563e-1	7.94979e-2		?
13.258	BB	3.59745	1.06563e-1	3.83355e-1		?
13.695	BB	6.80936	1.06563e-1	7.25625e-1		?
13.846	BV	1.92607e-1	1.06563e-1	2.05248e-2		?
13.888	VB	3.94472e-1	1.06563e-1	4.20361e-2		?
14.030	BB	1.80391e-1	1.06563e-1	1.92230e-2		?
14.306	BV	3.01785	1.06563e-1	3.21591e-1		?
14.435	VV	7.87975e-1	1.06563e-1	8.39690e-2		?
14.465	VB	2.37776e-1	1.06563e-1	2.53381e-2		?
14.571	BB	7.11941e-1	1.06563e-1	7.58666e-2		?
14.692	BV	9.58298e-1	1.06563e-1	1.02119e-1		?
14.726	VB	4.40692e-1	1.06563e-1	4.69615e-2		?
14.845	BB	2.16138e-1	1.06563e-1	2.30323e-2		?
15.000	BV	1.52889	1.06563e-1	1.62923e-1		?
15.043	VB	3.40389e-1	1.06563e-1	3.62729e-2		?
15.154	BB	2.19888e-1	1.06563e-1	2.34319e-2		?
15.364	BB	3.85164e-1	1.06563e-1	4.10442e-2		?
15.508	BV	1.54853e-1	1.06563e-1	1.65016e-2		?
15.627	VB	5.91902e-1	1.06563e-1	6.30748e-2		?
15.908	BV	2.47852e-1	1.06563e-1	2.64118e-2		?
16.038	VB	1.59071	1.06563e-1	1.69510e-1		?
16.423	BB	1.49925e-1	1.06563e-1	1.59765e-2		?
16.921	BB	4.94924e-1	1.06563e-1	5.27406e-2		?
17.976	BB	4.72862e-1	1.06563e-1	5.03896e-2		?
18.373	BB	4.05786e-1	1.06563e-1	4.32418e-2		?
19.171	BB	2.67009e-1	1.06563e-1	2.84532e-2		?
19.793	BB	3.07737e-1	1.06563e-1	3.27934e-2		?
20.202	VB	1.64504e-1	1.06563e-1	1.75300e-2		?
20.990	BB	2.18476e-1	1.06563e-1	2.32815e-2		?
21.720	BB	4.53677e-1	1.06563e-1	4.83452e-2		?

Uncalib. totals : 32.56414

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

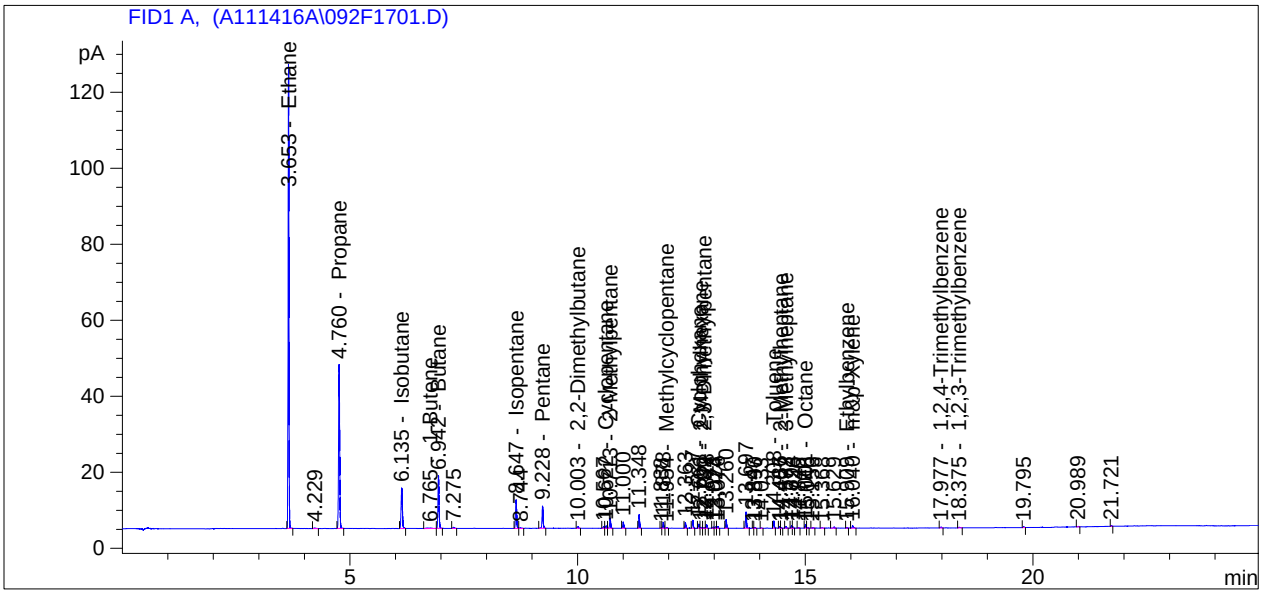
Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1501.D
Sample Name: Site 2 161017B02 A Can114

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1701.D
Sample Name: Site 2 161017B02 B Can192

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  17
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 14-Nov-16, 19:00:24                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111416A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:58:30 PM by TDD
Sample Info     : 1016-55; Can #192; *1000=0.5mL@2* syringe dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:56:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area     Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.527            -          -          -          Ethylene
  3.594            -          -          -          Acetylene
  3.653 BB      156.86488 1.43631e-1   22.53074     Ethane
  4.646            -          -          -          Propylene
  4.760 BB       73.96751 1.06563e-1    7.88220     Propane
  6.135 BB  +    21.14441 8.64027e-2    1.82693     Isobutane
  6.765 BV     9.77352e-1 8.70487e-2 8.50772e-2     1-Butene
  6.942 VB       23.60924 8.82564e-2    2.08367     Butane
  7.199            -          -          -          trans-2-Butene
  7.525            -          -          -          cis-2-Butene
  8.647 BB       12.99538 6.70037e-2 8.70739e-1     Isopentane
  8.978            -          -          -          1-Pentene
  9.228 BB        9.53239 6.57885e-2 6.27121e-1     Pentane
  9.327            -          -          -          Isoprene
  9.410            -          -          -          trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1701.D
Sample Name: Site 2 161017B02 B Can192

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.577			-	-	-		cis-2-Pentene
10.003	BB		7.01350e-1	5.45100e-2	3.82306e-2		2,2-Dimethylbutane
10.622	VV		9.79258e-1	6.45958e-2	6.32560e-2		Cyclopentane
10.655			-	-	-		2,3-Dimethylbutane
10.713	VB		4.16272	5.14070e-2	2.13993e-1		2-Methylpentane
11.053			-	-	-		3-Methylpentane
11.179			-	-	-		1-Hexene
11.412			-	-	-		Hexane
11.954	VB		3.15131e-1	5.21637e-2	1.64384e-2		Methylcyclopentane
12.024			-	-	-		2,4-Dimethylpentane
12.441			-	-	-		Benzene
12.661	BV		1.52473	5.09033e-2	7.76139e-2		Cyclohexane
12.706	VV		3.72180e-1	4.45384e-2	1.65763e-2		2-Methylhexane
12.782	VV		3.59018e-1	4.41919e-2	1.58657e-2		2,3-Dimethylpentane
12.892			-	-	-		3-Methylhexane
13.149			-	-	-		2,2,4-Trimethylpentane
13.320			-	-	-		Heptane
13.753			-	-	-		Methylcyclohexane
14.237			-	-	-		2,3,4-Trimethylpentane
14.308	BV		2.54036	5.00187e-2	1.27066e-1		Toluene
14.467	VB		2.06554e-1	3.89937e-2	8.05432e-3		2-Methylheptane
14.573	BB		5.48334e-1	3.85897e-2	2.11601e-2		3-Methylheptane
15.001	BV		1.28015	4.06911e-2	5.20907e-2		Octane
15.909	BV	+	2.10653e-1	4.47089e-2	9.41806e-3		Ethylbenzene
16.040	VB		1.13917	4.45401e-2	5.07388e-2		m&p-Xylene
16.331			-	-	-		Styrene
16.416			-	-	-		o-Xylene
16.589			-	-	-		Nonane
16.899			-	-	-		Isopropylbenzene
17.344			-	-	-		n-Propylbenzene
17.441			-	-	-		3-Ethyltoluene
17.478			-	-	-		4-Ethyltoluene
17.551			-	-	-		1,3,5-Trimethylbenzene
17.727			-	-	-		2-Ethyltoluene
17.977	BB		4.08515e-1	3.83166e-2	1.56529e-2		1,2,4-Trimethylbenzene
18.040			-	-	-		Decane
18.375	BB		4.32784e-1	3.68419e-2	1.59446e-2		1,2,3-Trimethylbenzene
18.621			-	-	-		m-Diethylbenzene
18.706			-	-	-		p-Diethylbenzene
19.254			-	-	-		Undecane
20.164			-	-	-		Dodecane
Totals :					40.36226		

2 Warnings or Errors :

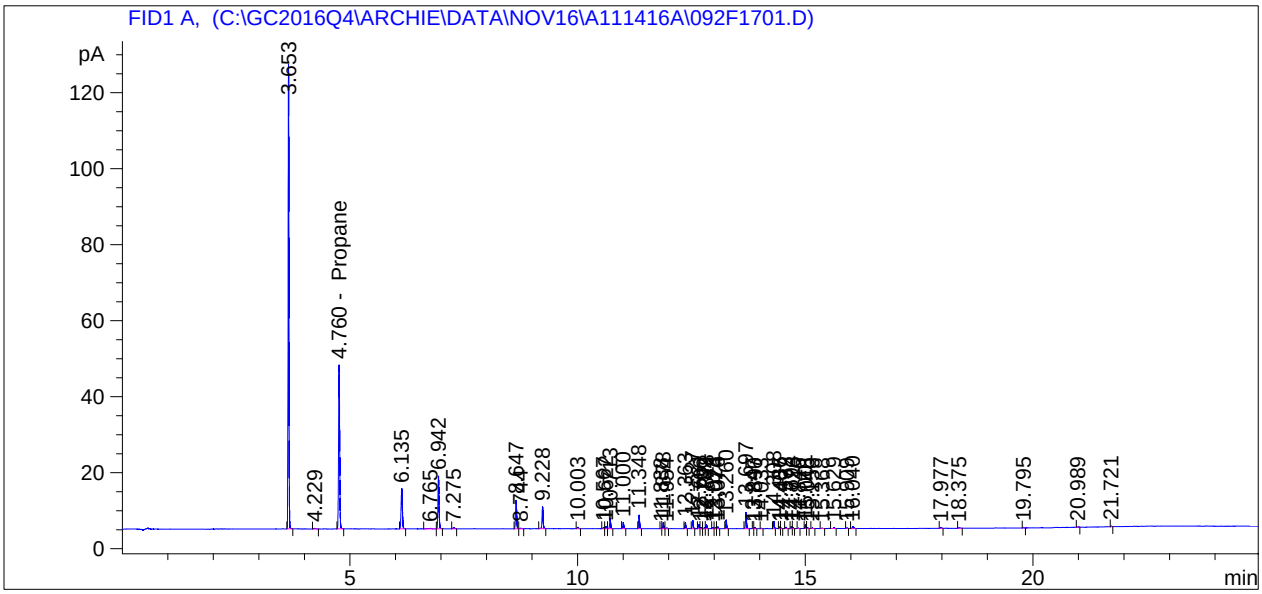
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1701.D
Sample Name: Site 2 161017B02 B Can192

```
==========================================================================
Acq. Operator    : TDD                              Seq. Line :  17
Acq. Instrument  : Archie                            Location : Vial 92
Injection Date   : 14-Nov-16, 19:00:24                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed     : 11/23/2016 9:42:58 PM by TDD
                   (modified after loading)
Sample Info      : 1016-55; Can #192; *1000=0.5mL@2* syringe dil
                   (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.760 BB       73.96751 1.06563e-1    7.88220    Propane

Totals :                                7.88220

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.653 BB      156.86488 1.06563e-1   16.71599    ?
  4.229 BB     4.38787e-1 1.06563e-1 4.67584e-2    ?
  6.135 BB       21.14441 1.06563e-1    2.25321    ?
  6.765 BV     9.77352e-1 1.06563e-1 1.04149e-1    ?
  6.942 VB       23.60924 1.06563e-1    2.51587    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1701.D
Sample Name: Site 2 161017B02 B Can192

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
7.275	BB	7.12371e-1	1.06563e-1	7.59124e-2		?
8.647	BB	12.99538	1.06563e-1	1.38483		?
8.744	BV	5.26645e-1	1.06563e-1	5.61208e-2		?
9.228	BB	9.53239	1.06563e-1	1.01580		?
10.003	BB	7.01350e-1	1.06563e-1	7.47379e-2		?
10.567	BV	5.55880e-1	1.06563e-1	5.92362e-2		?
10.622	VV	9.79258e-1	1.06563e-1	1.04353e-1		?
10.713	VB	4.16272	1.06563e-1	4.43592e-1		?
11.000	BB	2.59381	1.06563e-1	2.76404e-1		?
11.348	BB	5.21528	1.06563e-1	5.55756e-1		?
11.838	BV	1.93887e-1	1.06563e-1	2.06611e-2		?
11.878	VV	2.31732	1.06563e-1	2.46941e-1		?
11.954	VB	3.15131e-1	1.06563e-1	3.35813e-2		?
12.363	BB	2.11540	1.06563e-1	2.25423e-1		?
12.527	BB	3.08034	1.06563e-1	3.28250e-1		?
12.661	BV	1.52473	1.06563e-1	1.62480e-1		?
12.706	VV	3.72180e-1	1.06563e-1	3.96606e-2		?
12.782	VV	3.59018e-1	1.06563e-1	3.82581e-2		?
12.828	VB	1.44083	1.06563e-1	1.53539e-1		?
12.973	VV	4.56705e-1	1.06563e-1	4.86679e-2		?
13.024	VV	5.05971e-1	1.06563e-1	5.39178e-2		?
13.076	VB	6.75169e-1	1.06563e-1	7.19480e-2		?
13.260	BB	3.08045	1.06563e-1	3.28262e-1		?
13.697	BB	6.29842	1.06563e-1	6.71178e-1		?
13.847	BV	1.32108e-1	1.06563e-1	1.40778e-2		?
13.890	VB	3.42830e-1	1.06563e-1	3.65330e-2		?
14.033	BB	1.59510e-1	1.06563e-1	1.69979e-2		?
14.308	BV	2.54036	1.06563e-1	2.70708e-1		?
14.436	BV	6.66600e-1	1.06563e-1	7.10349e-2		?
14.467	VB	2.06554e-1	1.06563e-1	2.20110e-2		?
14.573	BB	5.48334e-1	1.06563e-1	5.84321e-2		?
14.694	BV	8.43550e-1	1.06563e-1	8.98912e-2		?
14.726	VB	3.69078e-1	1.06563e-1	3.93300e-2		?
14.846	BB	1.58337e-1	1.06563e-1	1.68729e-2		?
15.001	BV	1.28015	1.06563e-1	1.36417e-1		?
15.046	VB	2.67532e-1	1.06563e-1	2.85090e-2		?
15.156	BB	2.08591e-1	1.06563e-1	2.22280e-2		?
15.368	BB	3.49314e-1	1.06563e-1	3.72240e-2		?
15.629	BB	5.21781e-1	1.06563e-1	5.56025e-2		?
15.909	BV	2.10653e-1	1.06563e-1	2.24478e-2		?
16.040	VB	1.13917	1.06563e-1	1.21394e-1		?
17.977	BB	4.08515e-1	1.06563e-1	4.35325e-2		?
18.375	BB	4.32784e-1	1.06563e-1	4.61188e-2		?
19.795	BB	2.28075e-1	1.06563e-1	2.43044e-2		?
20.989	BB	1.83996e-1	1.06563e-1	1.96071e-2		?
21.721	BB	2.11130e-1	1.06563e-1	2.24986e-2		?

Uncalib. totals : 29.32125

1 Warnings or Errors :

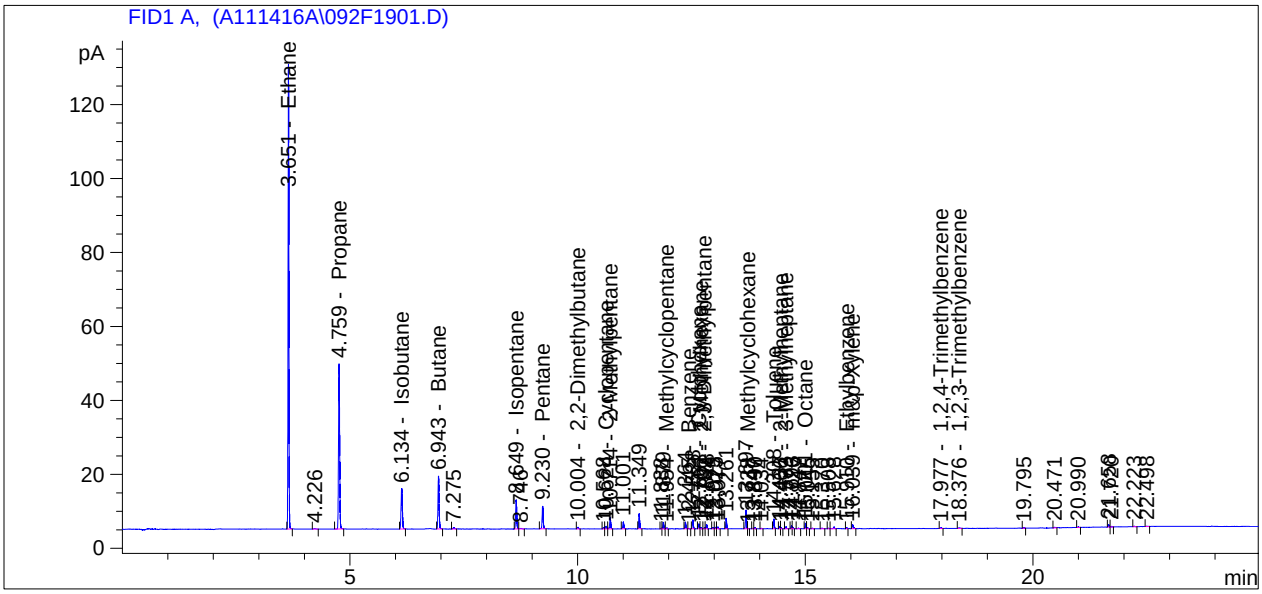
Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1901.D
Sample Name: Site 2 161017B02 C Can209

```
=====================================================================
Acq. Operator   : TDD                          Seq. Line :  19
Acq. Instrument : Archie                        Location : Vial 92
Injection Date  : 14-Nov-16, 20:21:59                Inj :   1
                                              Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111416A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:58:30 PM by TDD
Sample Info     : 1016-55; Can #209; *10,000=0.5mL@20* syringe dil
                  (2nd TP)
```




```
=====================================================================
                      External Standard Report
=====================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:56:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.527            -           -          -          Ethylene
  3.594            -           -          -          Acetylene
  3.651 BB      161.97281 1.43631e-1   23.26440      Ethane
  4.646            -           -          -          Propylene
  4.759 BB       76.54399 1.06563e-1    8.15675      Propane
  6.134 BB  +    21.79796 8.64027e-2    1.88340      Isobutane
  6.747            -           -          -          1-Butene
  6.943 BB       24.38502 8.82564e-2    2.15213      Butane
  7.198            -           -          -          trans-2-Butene
  7.525            -           -          -          cis-2-Butene
  8.649 BV       13.53976 6.70037e-2 9.07214e-1      Isopentane
  8.978            -           -          -          1-Pentene
  9.230 BB        9.96355 6.57885e-2 6.55487e-1      Pentane
  9.327            -           -          -          Isoprene
  9.410            -           -          -          trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1901.D
Sample Name: Site 2 161017B02 C Can209

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.578			-	-	-		cis-2-Pentene
10.004	BB		7.57943e-1	5.45100e-2	4.13155e-2		2,2-Dimethylbutane
10.624	VV		1.09182	6.45958e-2	7.05270e-2		Cyclopentane
10.656			-	-	-		2,3-Dimethylbutane
10.714	VB		4.64470	5.14070e-2	2.38770e-1		2-Methylpentane
11.053			-	-	-		3-Methylpentane
11.180			-	-	-		1-Hexene
11.413			-	-	-		Hexane
11.954	BB		3.64060e-1	5.21637e-2	1.89907e-2		Methylcyclopentane
12.024			-	-	-		2,4-Dimethylpentane
12.445	BB		1.59619e-1	5.48877e-2	8.76113e-3		Benzene
12.662	BV		1.83312	5.09033e-2	9.33118e-2		Cyclohexane
12.706	VB		4.18807e-1	4.45384e-2	1.86530e-2		2-Methylhexane
12.782	BV		3.87072e-1	4.41919e-2	1.71054e-2		2,3-Dimethylpentane
12.893			-	-	-		3-Methylhexane
13.150			-	-	-		2,2,4-Trimethylpentane
13.321			-	-	-		Heptane
13.738	VB		1.46589e-1	4.43425e-2	6.50014e-3		Methylcyclohexane
14.238			-	-	-		2,3,4-Trimethylpentane
14.308	BV		3.44280	5.00187e-2	1.72205e-1		Toluene
14.466	VB		2.69223e-1	3.89937e-2	1.04980e-2		2-Methylheptane
14.573	BB		7.78613e-1	3.85897e-2	3.00465e-2		3-Methylheptane
15.001	BV		1.85922	4.06911e-2	7.56539e-2		Octane
15.910	BV	+	2.46592e-1	4.47089e-2	1.10249e-2		Ethylbenzene
16.039	BB		1.87303	4.45401e-2	8.34251e-2		m&p-Xylene
16.332			-	-	-		Styrene
16.417			-	-	-		o-Xylene
16.590			-	-	-		Nonane
16.900			-	-	-		Isopropylbenzene
17.345			-	-	-		n-Propylbenzene
17.442			-	-	-		3-Ethyltoluene
17.480			-	-	-		4-Ethyltoluene
17.552			-	-	-		1,3,5-Trimethylbenzene
17.728			-	-	-		2-Ethyltoluene
17.977	BB		4.32247e-1	3.83166e-2	1.65622e-2		1,2,4-Trimethylbenzene
18.041			-	-	-		Decane
18.376	BB		4.93530e-1	3.68419e-2	1.81826e-2		1,2,3-Trimethylbenzene
18.622			-	-	-		m-Diethylbenzene
18.708			-	-	-		p-Diethylbenzene
19.254			-	-	-		Undecane
20.166			-	-	-		Dodecane
Totals :					42.47776		

2 Warnings or Errors :

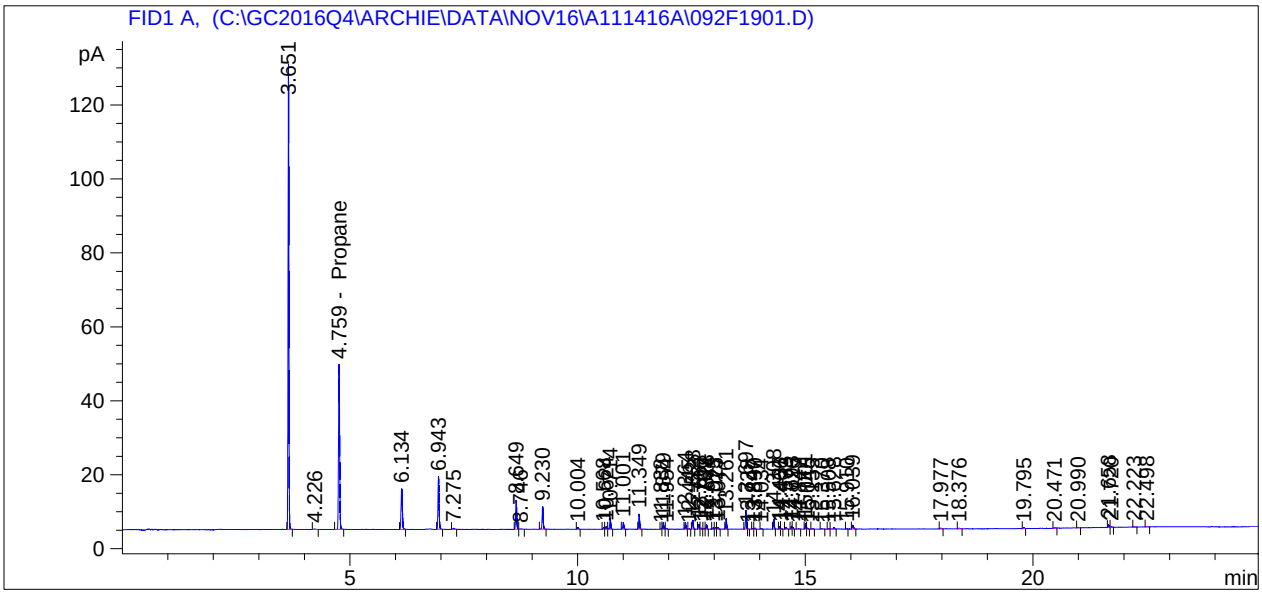
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1901.D
Sample Name: Site 2 161017B02 C Can209

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  19
Acq. Instrument : Archie                           Location : Vial 92
Injection Date  : 14-Nov-16, 20:21:59                    Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed    : 11/23/2016 9:42:58 PM by TDD
                  (modified after loading)
Sample Info     : 1016-55; Can #209; *10,000=0.5mL@20* syringe dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.759 BB       76.54399 1.06563e-1    8.15675    Propane

Totals :                                 8.15675

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.651 BB      161.97281 1.06563e-1   17.26030    ?
  4.226 BB     4.14813e-1 1.06563e-1 4.42038e-2    ?
  6.134 BB       21.79796 1.06563e-1    2.32285    ?
  6.943 BB       24.38502 1.06563e-1    2.59854    ?
  7.275 BB     7.21898e-1 1.06563e-1 7.69276e-2    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1901.D
Sample Name: Site 2 161017B02 C Can209

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
8.649	BV	13.53976	1.06563e-1	1.44284		?
8.746	VV	5.04614e-1	1.06563e-1	5.37732e-2		?
9.230	BB	9.96355	1.06563e-1	1.06175		?
10.004	BB	7.57943e-1	1.06563e-1	8.07687e-2		?
10.568	BV	5.86698e-1	1.06563e-1	6.25203e-2		?
10.624	VV	1.09182	1.06563e-1	1.16348e-1		?
10.714	VB	4.64470	1.06563e-1	4.94953e-1		?
11.001	BB	2.91421	1.06563e-1	3.10547e-1		?
11.349	BB	5.95186	1.06563e-1	6.34248e-1		?
11.838	BV	2.41227e-1	1.06563e-1	2.57058e-2		?
11.879	VB	2.59323	1.06563e-1	2.76342e-1		?
11.954	BB	3.64060e-1	1.06563e-1	3.87954e-2		?
12.364	BB	2.44878	1.06563e-1	2.60949e-1		?
12.445	BB	1.59619e-1	1.06563e-1	1.70095e-2		?
12.528	BB	3.48427	1.06563e-1	3.71294e-1		?
12.662	BV	1.83312	1.06563e-1	1.95343e-1		?
12.706	VB	4.18807e-1	1.06563e-1	4.46293e-2		?
12.782	BV	3.87072e-1	1.06563e-1	4.12475e-2		?
12.828	VB	1.71132	1.06563e-1	1.82364e-1		?
12.973	VV	5.12639e-1	1.06563e-1	5.46284e-2		?
13.025	VV	5.69987e-1	1.06563e-1	6.07395e-2		?
13.077	VB	7.72084e-1	1.06563e-1	8.22756e-2		?
13.261	BB	3.75515	1.06563e-1	4.00160e-1		?
13.697	BV	7.36492	1.06563e-1	7.84828e-1		?
13.738	VB	1.46589e-1	1.06563e-1	1.56210e-2		?
13.847	BV	2.03374e-1	1.06563e-1	2.16721e-2		?
13.890	VB	4.41014e-1	1.06563e-1	4.69958e-2		?
14.034	BB	2.04468e-1	1.06563e-1	2.17888e-2		?
14.308	BV	3.44280	1.06563e-1	3.66875e-1		?
14.437	BV	9.03925e-1	1.06563e-1	9.63249e-2		?
14.466	VB	2.69223e-1	1.06563e-1	2.86892e-2		?
14.573	BB	7.78613e-1	1.06563e-1	8.29713e-2		?
14.693	BV	1.08579	1.06563e-1	1.15705e-1		?
14.726	VB	5.00830e-1	1.06563e-1	5.33699e-2		?
14.847	BB	2.05997e-1	1.06563e-1	2.19516e-2		?
15.001	BV	1.85922	1.06563e-1	1.98124e-1		?
15.045	VB	3.50930e-1	1.06563e-1	3.73961e-2		?
15.155	BB	2.85825e-1	1.06563e-1	3.04584e-2		?
15.370	BB	3.59206e-1	1.06563e-1	3.82781e-2		?
15.508	BV	1.80915e-1	1.06563e-1	1.92788e-2		?
15.628	VB	7.58978e-1	1.06563e-1	8.08789e-2		?
15.910	BV	2.46592e-1	1.06563e-1	2.62776e-2		?
16.039	BB	1.87303	1.06563e-1	1.99596e-1		?
17.977	BB	4.32247e-1	1.06563e-1	4.60615e-2		?
18.376	BB	4.93530e-1	1.06563e-1	5.25920e-2		?
19.795	BB	2.51098e-1	1.06563e-1	2.67577e-2		?
20.471	BV	4.86231e-1	1.06563e-1	5.18143e-2		?
20.990	BB	2.16770e-1	1.06563e-1	2.30996e-2		?
21.658	BV	8.64079e-1	1.06563e-1	9.20788e-2		?
21.720	VB	2.10007e-1	1.06563e-1	2.23790e-2		?
22.223	BB	2.15758e-1	1.06563e-1	2.29918e-2		?
22.498	BB	2.07562e-1	1.06563e-1	2.21185e-2		?

Uncalib. totals : 31.25902

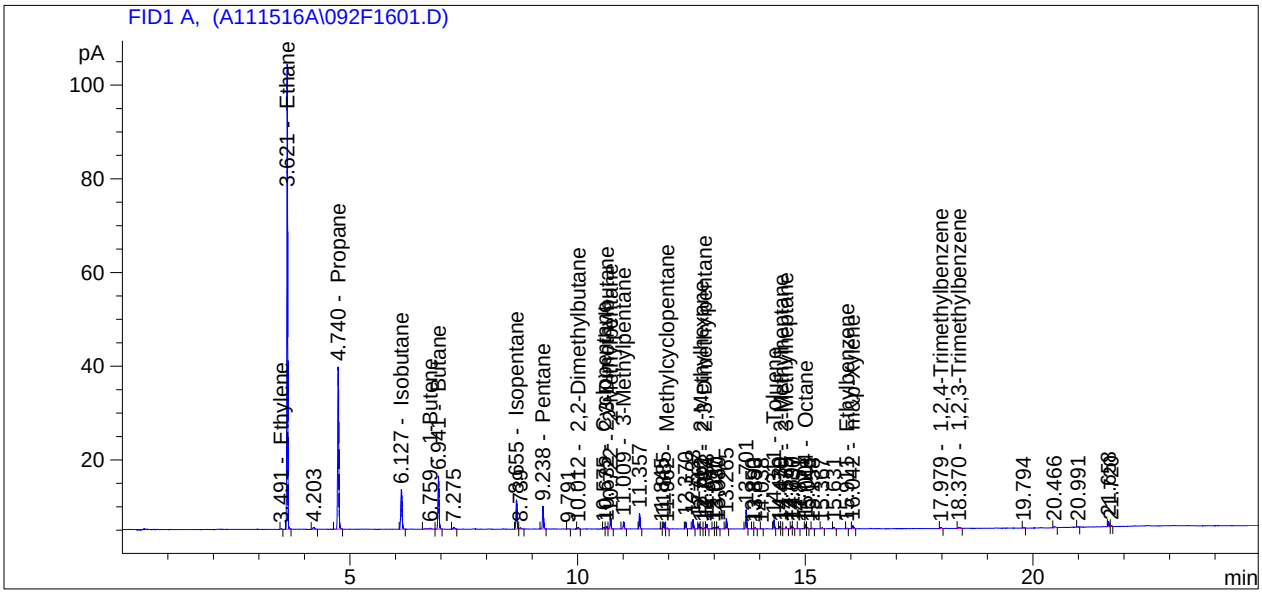
1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F1601.D
Sample Name: Site 2 161017B02 D Can577

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  16
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 16-Nov-16, 15:38:28                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111516A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:37:20 PM by TDD
Sample Info     : 1016-55; Can #577; *10,000=0.5mL@20* syringe dil
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:36:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.491 BB     1.45232e-1 1.56174e-1 2.26815e-2    Ethylene
  3.569           -          -          -          Acetylene
  3.621 BB      127.13889 1.43631e-1   18.26115    Ethane
  4.640           -          -          -          Propylene
  4.740 BB       59.64830 1.06563e-1    6.35630    Propane
  6.127 BB  +    16.91999 8.64027e-2    1.46193    Isobutane
  6.759 BV        1.56475 8.70487e-2 1.36209e-1    1-Butene
  6.941 VB       19.32440 8.82564e-2    1.70550    Butane
  7.192           -          -          -          trans-2-Butene
  7.519           -          -          -          cis-2-Butene
  8.655 BV       10.57581 6.70037e-2 7.08619e-1    Isopentane
  8.973           -          -          -          1-Pentene
  9.238 BB        7.85560 6.57885e-2 5.16808e-1    Pentane
  9.323           -          -          -          Isoprene
  9.405           -          -          -          trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F1601.D
Sample Name: Site 2 161017B02 D Can577

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.573			-	-	-		cis-2-Pentene
10.012	BB		5.91489e-1	5.45100e-2	3.22420e-2		2,2-Dimethylbutane
10.575	BV		4.94855e-1	6.45958e-2	3.19655e-2		Cyclopentane
10.632	VV		8.56246e-1	5.23903e-2	4.48589e-2		2,3-Dimethylbutane
10.722	VB		3.75636	5.14070e-2	1.93103e-1		2-Methylpentane
11.009	BB		2.45004	5.22076e-2	1.27911e-1		3-Methylpentane
11.177			-	-	-		1-Hexene
11.410			-	-	-		Hexane
11.962	BB		3.04888e-1	5.21637e-2	1.59041e-2		Methylcyclopentane
12.022			-	-	-		2,4-Dimethylpentane
12.439			-	-	-		Benzene
12.614			-	-	-		Cyclohexane
12.712	VB		3.41260e-1	4.45384e-2	1.51992e-2		2-Methylhexane
12.787	BV		3.32467e-1	4.41919e-2	1.46923e-2		2,3-Dimethylpentane
12.891			-	-	-		3-Methylhexane
13.148			-	-	-		2,2,4-Trimethylpentane
13.319			-	-	-		Heptane
13.753			-	-	-		Methylcyclohexane
14.237			-	-	-		2,3,4-Trimethylpentane
14.311	BB		2.55250	5.00187e-2	1.27673e-1		Toluene
14.470	VV		2.25449e-1	3.89937e-2	8.79110e-3		2-Methylheptane
14.575	VB		6.45280e-1	3.85897e-2	2.49012e-2		3-Methylheptane
15.004	BV		1.25524	4.06911e-2	5.10771e-2		Octane
15.911	BV	+	1.97666e-1	4.47089e-2	8.83742e-3		Ethylbenzene
16.042	BB		1.18475	4.45401e-2	5.27690e-2		m&p-Xylene
16.333			-	-	-		Styrene
16.418			-	-	-		o-Xylene
16.591			-	-	-		Nonane
16.901			-	-	-		Isopropylbenzene
17.346			-	-	-		n-Propylbenzene
17.443			-	-	-		3-Ethyltoluene
17.481			-	-	-		4-Ethyltoluene
17.553			-	-	-		1,3,5-Trimethylbenzene
17.729			-	-	-		2-Ethyltoluene
17.979	BB		4.14063e-1	3.83166e-2	1.58655e-2		1,2,4-Trimethylbenzene
18.042			-	-	-		Decane
18.370	BB		6.56233e-1	3.68419e-2	2.41769e-2		1,2,3-Trimethylbenzene
18.623			-	-	-		m-Diethylbenzene
18.709			-	-	-		p-Diethylbenzene
19.254			-	-	-		Undecane
20.167			-	-	-		Dodecane
Totals :					33.65422		

2 Warnings or Errors :

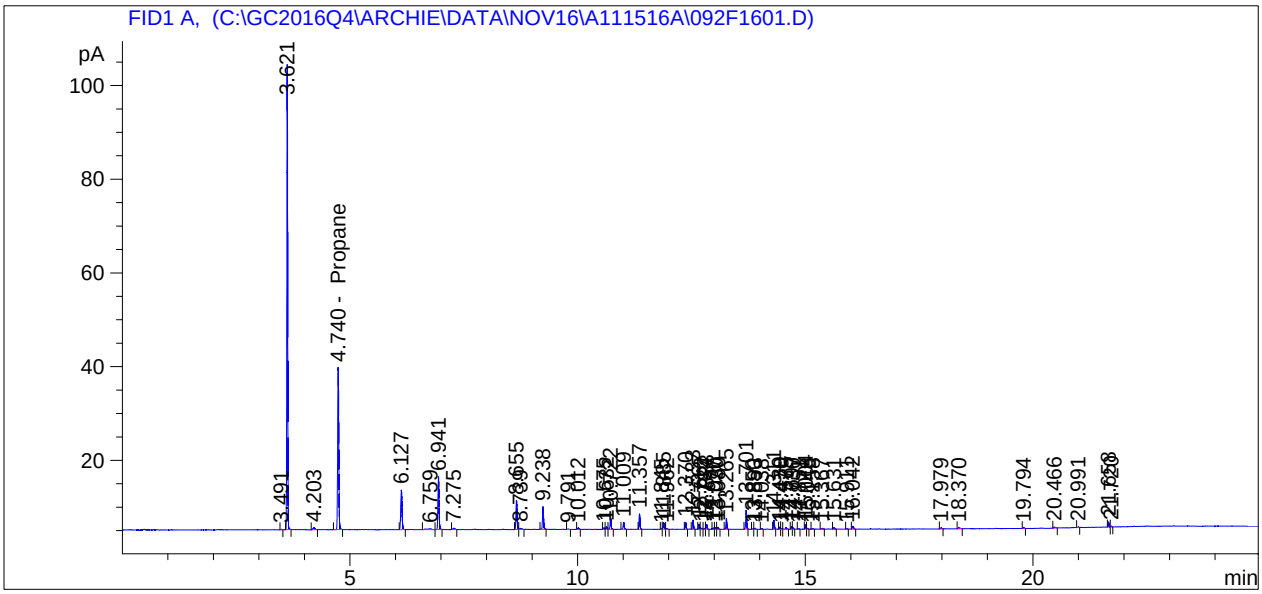
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F1601.D
Sample Name: Site 2 161017B02 D Can577

```
==========================================================================
Acq. Operator    : TDD                              Seq. Line :  16
Acq. Instrument  : Archie                            Location : Vial 92
Injection Date   : 16-Nov-16, 15:38:28                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed     : 11/23/2016 9:42:58 PM by TDD
                   (modified after loading)
Sample Info      : 1016-55; Can #577; *10,000=0.5mL@20* syringe dil
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.740 BB       59.64830 1.06563e-1    6.35630    Propane

Totals :                                6.35630

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.491 BB     1.45232e-1 1.06563e-1 1.54763e-2    ?
  3.621 BB      127.13889 1.06563e-1   13.54830    ?
  4.203 BB        1.19299 1.06563e-1 1.27129e-1    ?
  6.127 BB       16.91999 1.06563e-1    1.80304    ?
  6.759 BV        1.56475 1.06563e-1 1.66744e-1    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F1601.D
Sample Name: Site 2 161017B02 D Can577

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
6.941	VB	19.32440	1.06563e-1	2.05926		?
7.275	BB	7.98077e-1	1.06563e-1	8.50454e-2		?
8.655	BV	10.57581	1.06563e-1	1.12699		?
8.739	VB	7.49601e-1	1.06563e-1	7.98797e-2		?
9.238	BB	7.85560	1.06563e-1	8.37116e-1		?
9.791	BB	2.01868e-1	1.06563e-1	2.15117e-2		?
10.012	BB	5.91489e-1	1.06563e-1	6.30308e-2		?
10.575	BV	4.94855e-1	1.06563e-1	5.27332e-2		?
10.632	VV	8.56246e-1	1.06563e-1	9.12441e-2		?
10.722	VB	3.75636	1.06563e-1	4.00289e-1		?
11.009	BB	2.45004	1.06563e-1	2.61084e-1		?
11.357	BB	4.73222	1.06563e-1	5.04279e-1		?
11.845	BV	1.89201e-1	1.06563e-1	2.01618e-2		?
11.885	VB	2.12625	1.06563e-1	2.26580e-1		?
11.962	BB	3.04888e-1	1.06563e-1	3.24898e-2		?
12.370	BB	2.06160	1.06563e-1	2.19691e-1		?
12.533	VB	2.82428	1.06563e-1	3.00964e-1		?
12.667	BV	1.46975	1.06563e-1	1.56621e-1		?
12.712	VB	3.41260e-1	1.06563e-1	3.63657e-2		?
12.787	BV	3.32467e-1	1.06563e-1	3.54286e-2		?
12.833	VB	1.42291	1.06563e-1	1.51630e-1		?
12.977	VV	4.17059e-1	1.06563e-1	4.44430e-2		?
13.030	VV	4.63773e-1	1.06563e-1	4.94210e-2		?
13.080	VB	6.09988e-1	1.06563e-1	6.50021e-2		?
13.265	BB	3.07032	1.06563e-1	3.27183e-1		?
13.701	BB	5.76124	1.06563e-1	6.13935e-1		?
13.850	BV	1.45985e-1	1.06563e-1	1.55566e-2		?
13.893	VB	3.41471e-1	1.06563e-1	3.63881e-2		?
14.038	BB	1.55843e-1	1.06563e-1	1.66071e-2		?
14.311	BB	2.55250	1.06563e-1	2.72002e-1		?
14.439	BV	6.87616e-1	1.06563e-1	7.32744e-2		?
14.470	VV	2.25449e-1	1.06563e-1	2.40245e-2		?
14.575	VB	6.45280e-1	1.06563e-1	6.87629e-2		?
14.697	BV	8.12180e-1	1.06563e-1	8.65483e-2		?
14.730	VB	3.77221e-1	1.06563e-1	4.01978e-2		?
14.851	BV	1.76291e-1	1.06563e-1	1.87861e-2		?
15.004	BV	1.25524	1.06563e-1	1.33762e-1		?
15.048	VB	2.76240e-1	1.06563e-1	2.94370e-2		?
15.158	BB	2.20359e-1	1.06563e-1	2.34821e-2		?
15.367	BB	3.89621e-1	1.06563e-1	4.15191e-2		?
15.631	VB	4.76471e-1	1.06563e-1	5.07741e-2		?
15.911	BV	1.97666e-1	1.06563e-1	2.10638e-2		?
16.042	BB	1.18475	1.06563e-1	1.26251e-1		?
17.979	BB	4.14063e-1	1.06563e-1	4.41238e-2		?
18.370	BB	6.56233e-1	1.06563e-1	6.99301e-2		?
19.794	BB	2.40218e-1	1.06563e-1	2.55984e-2		?
20.466	BB	5.91711e-1	1.06563e-1	6.30545e-2		?
20.991	BB	1.62601e-1	1.06563e-1	1.73273e-2		?
21.658	BV	1.29773	1.06563e-1	1.38290e-1		?
21.720	VB	2.32193e-1	1.06563e-1	2.47432e-2		?

Uncalib. totals : 24.98457

1 Warnings or Errors :

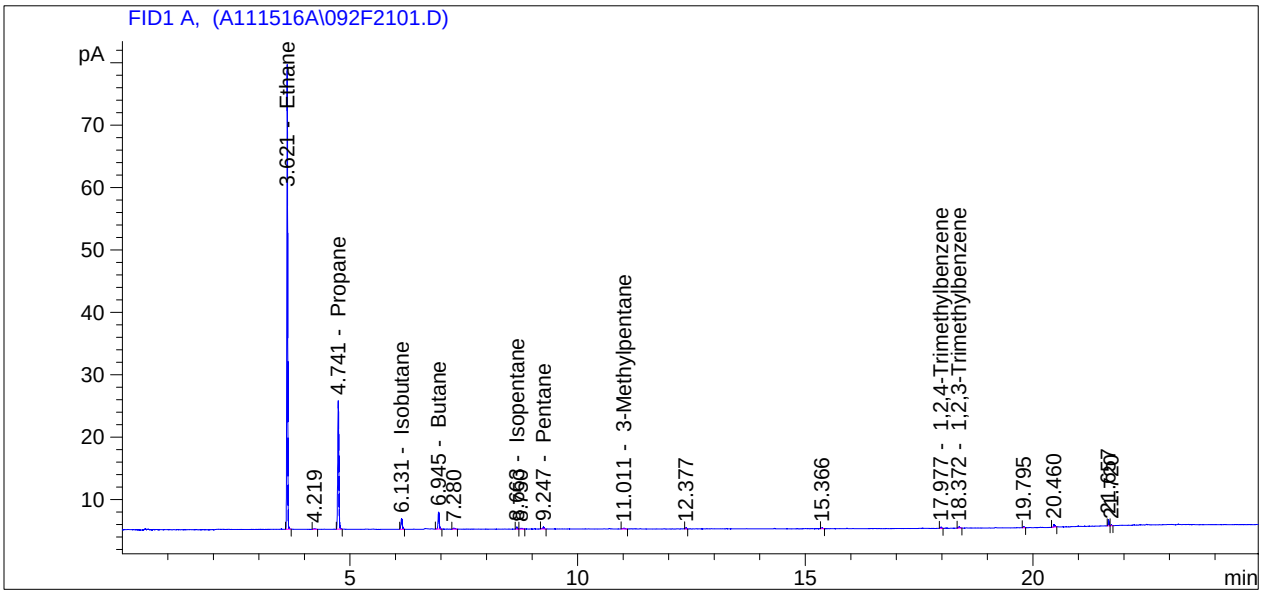
Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2101.D
Sample Name: Site 1 161019C01 A Can930

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  21
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 16-Nov-16, 19:35:28                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111516A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/16/2016 5:13:33 PM by TDD
                  (modified after loading)
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:37:20 PM by TDD
Sample Info     : 1016-55; Can #930; *5,000=0.5mL@10*syr dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:36:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.499            -          -          -          Ethylene
  3.572            -          -          -          Acetylene
  3.621 BB       95.75493 1.43631e-1   13.75342     Ethane
  4.643            -          -          -          Propylene
  4.741 BB       35.59731 1.06563e-1    3.79335     Propane
  6.131 BB  +     3.41728 8.64027e-2 2.95262e-1     Isobutane
  6.744            -          -          -          1-Butene
  6.945 BB        4.75957 8.82564e-2 4.20063e-1     Butane
  7.196            -          -          -          trans-2-Butene
  7.523            -          -          -          cis-2-Butene
  8.663 BB     5.80524e-1 6.70037e-2 3.88973e-2     Isopentane
  8.978            -          -          -          1-Pentene
  9.247 BB     7.65771e-1 6.57885e-2 5.03789e-2     Pentane
  9.327            -          -          -          Isoprene
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2101.D
Sample Name: Site 1 161019C01 A Can930

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.410		-	-	-		trans-2-Pentene
9.578		-	-	-		cis-2-Pentene
10.000		-	-	-		2,2-Dimethylbutane
10.617		-	-	-		Cyclopentane
10.657		-	-	-		2,3-Dimethylbutane
10.752		-	-	-		2-Methylpentane
11.011	BB	3.56567e-1	5.22076e-2	1.86155e-2		3-Methylpentane
11.182		-	-	-		1-Hexene
11.415		-	-	-		Hexane
11.972		-	-	-		Methylcyclopentane
12.027		-	-	-		2,4-Dimethylpentane
12.444		-	-	-		Benzene
12.619		-	-	-		Cyclohexane
12.735		-	-	-		2-Methylhexane
12.781		-	-	-		2,3-Dimethylpentane
12.897		-	-	-		3-Methylhexane
13.154		-	-	-		2,2,4-Trimethylpentane
13.325		-	-	-		Heptane
13.758		-	-	-		Methylcyclohexane
14.243		-	-	-		2,3,4-Trimethylpentane
14.349		-	-	-		Toluene
14.471		-	-	-		2-Methylheptane
14.605		-	-	-		3-Methylheptane
15.026		-	-	-		Octane
15.939		-	-	-		Ethylbenzene
16.059		-	-	-		m&p-Xylene
16.339		-	-	-		Styrene
16.424		-	-	-		o-Xylene
16.597		-	-	-		Nonane
16.907		-	-	-		Isopropylbenzene
17.353		-	-	-		n-Propylbenzene
17.450		-	-	-		3-Ethyltoluene
17.487		-	-	-		4-Ethyltoluene
17.559		-	-	-		1,3,5-Trimethylbenzene
17.736		-	-	-		2-Ethyltoluene
17.977	BB	3.67847e-1	3.83166e-2	1.40946e-2		1,2,4-Trimethylbenzene
18.049		-	-	-		Decane
18.372	BB	5.87952e-1	3.68419e-2	2.16613e-2		1,2,3-Trimethylbenzene
18.630		-	-	-		m-Diethylbenzene
18.715		-	-	-		p-Diethylbenzene
19.254		-	-	-		Undecane
20.174		-	-	-		Dodecane

Totals : 18.87941

2 Warnings or Errors :

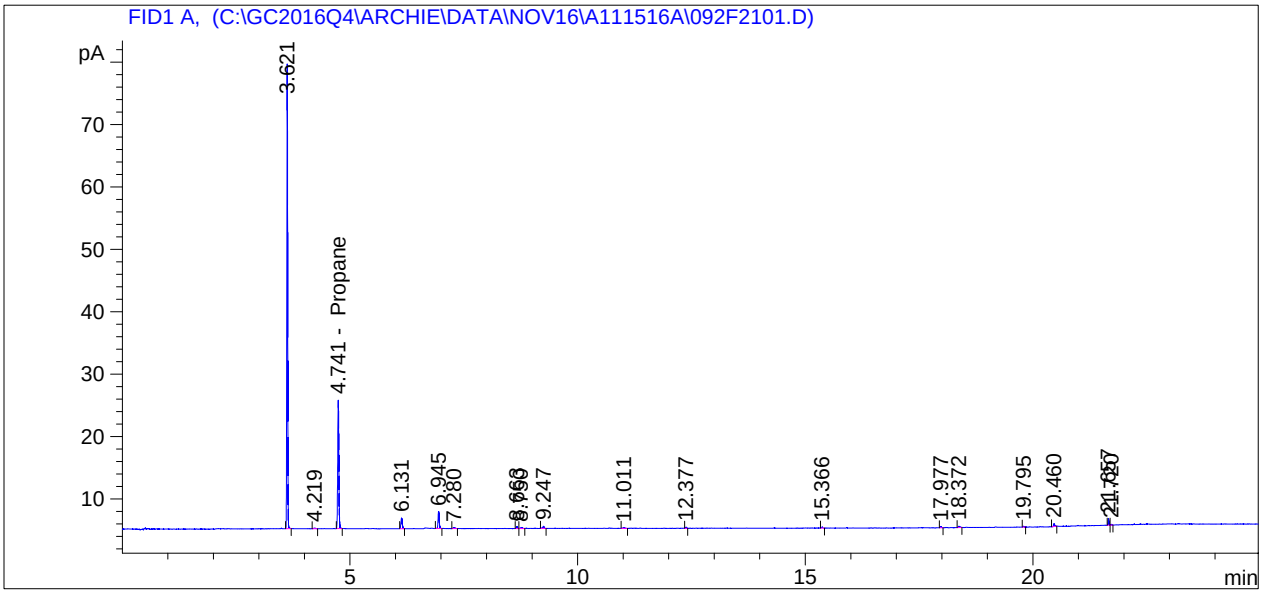
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2101.D
Sample Name: Site 1 161019C01 A Can930

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  21
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 16-Nov-16, 19:35:28                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/16/2016 5:13:33 PM by TDD
                  (modified after loading)
Analysis Method : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed    : 11/23/2016 9:42:58 PM by TDD
                  (modified after loading)
Sample Info     : 1016-55; Can #930; *5,000=0.5mL@10*syr dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.741 BB       35.59731 1.06563e-1    3.79335    Propane

Totals :                                3.79335

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.621 BB       95.75493 1.06563e-1   10.20393    ?
  4.219 BB     3.54370e-1 1.06563e-1 3.77627e-2    ?
  6.131 BB        3.41728 1.06563e-1 3.64156e-1    ?
  6.945 BB        4.75957 1.06563e-1 5.07194e-1    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2101.D
Sample Name: Site 1 161019C01 A Can930

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
7.280	BB	5.11788e-1	1.06563e-1	5.45377e-2		?
8.663	BB	5.80524e-1	1.06563e-1	6.18623e-2		?
8.750	BB	4.98719e-1	1.06563e-1	5.31449e-2		?
9.247	BB	7.65771e-1	1.06563e-1	8.16028e-2		?
11.011	BB	3.56567e-1	1.06563e-1	3.79968e-2		?
12.377	BB	2.76838e-1	1.06563e-1	2.95007e-2		?
15.366	BB	3.52486e-1	1.06563e-1	3.75620e-2		?
17.977	BB	3.67847e-1	1.06563e-1	3.91988e-2		?
18.372	BB	5.87952e-1	1.06563e-1	6.26539e-2		?
19.795	BB	2.17858e-1	1.06563e-1	2.32156e-2		?
20.460	BB	8.15687e-1	1.06563e-1	8.69220e-2		?
21.657	BV	1.22723	1.06563e-1	1.30778e-1		?
21.720	VB	1.89891e-1	1.06563e-1	2.02354e-2		?

Uncalib. totals : 11.83225

1 Warnings or Errors :

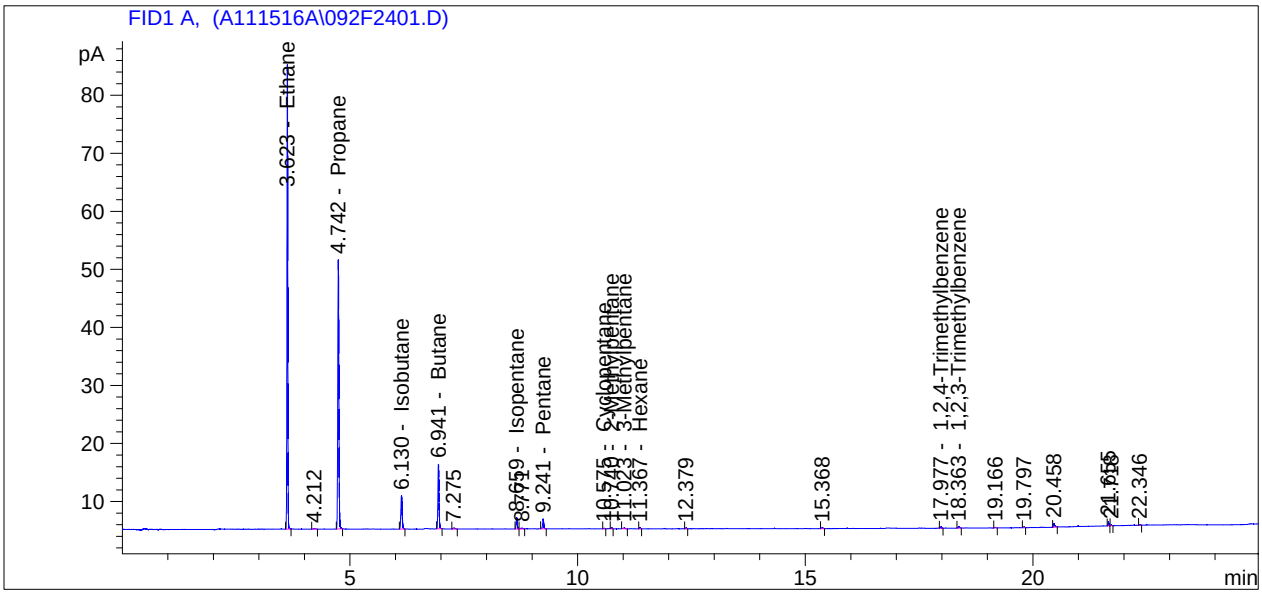
Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2401.D
Sample Name: Site 3 161020B03 B Can144

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  24
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 16-Nov-16, 21:35:48                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111516A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/16/2016 5:13:33 PM by TDD
                  (modified after loading)
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:37:20 PM by TDD
Sample Info     : 1016-55; Can #144; *2,000=0.5mL@4*syr dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:36:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.498            -          -          -          Ethylene
  3.571            -          -          -          Acetylene
  3.623 BB      102.67426 1.43631e-1   14.74726     Ethane
  4.642            -          -          -          Propylene
  4.742 BB       79.51481 1.06563e-1    8.47333     Propane
  6.130 BB  +    11.53075 8.64027e-2 9.96288e-1     Isobutane
  6.743            -          -          -          1-Butene
  6.941 BB       18.80246 8.82564e-2    1.65944     Butane
  7.195            -          -          -          trans-2-Butene
  7.521            -          -          -          cis-2-Butene
  8.659 BB        3.29532 6.70037e-2 2.20799e-1     Isopentane
  8.976            -          -          -          1-Pentene
  9.241 BB        2.96253 6.57885e-2 1.94900e-1     Pentane
  9.325            -          -          -          Isoprene
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2401.D
Sample Name: Site 3 161020B03 B Can144

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.408		-	-	-		trans-2-Pentene
9.575		-	-	-		cis-2-Pentene
9.998		-	-	-		2,2-Dimethylbutane
10.575	BB	1.87954e-1	6.45958e-2	1.21411e-2		Cyclopentane
10.654		-	-	-		2,3-Dimethylbutane
10.740	VB	3.21547e-1	5.14070e-2	1.65297e-2		2-Methylpentane
11.023	BB	4.01939e-1	5.22076e-2	2.09843e-2		3-Methylpentane
11.179		-	-	-		1-Hexene
11.367	BB	2.71960e-1	5.22337e-2	1.42055e-2		Hexane
11.969		-	-	-		Methylcyclopentane
12.024		-	-	-		2,4-Dimethylpentane
12.441		-	-	-		Benzene
12.616		-	-	-		Cyclohexane
12.731		-	-	-		2-Methylhexane
12.778		-	-	-		2,3-Dimethylpentane
12.894		-	-	-		3-Methylhexane
13.150		-	-	-		2,2,4-Trimethylpentane
13.322		-	-	-		Heptane
13.755		-	-	-		Methylcyclohexane
14.239		-	-	-		2,3,4-Trimethylpentane
14.346		-	-	-		Toluene
14.468		-	-	-		2-Methylheptane
14.602		-	-	-		3-Methylheptane
15.022		-	-	-		Octane
15.939		-	-	-		Ethylbenzene
16.054		-	-	-		m&p-Xylene
16.334		-	-	-		Styrene
16.420		-	-	-		o-Xylene
16.593		-	-	-		Nonane
16.903		-	-	-		Isopropylbenzene
17.348		-	-	-		n-Propylbenzene
17.445		-	-	-		3-Ethyltoluene
17.483		-	-	-		4-Ethyltoluene
17.555		-	-	-		1,3,5-Trimethylbenzene
17.731		-	-	-		2-Ethyltoluene
17.977	BB	4.25465e-1	3.83166e-2	1.63024e-2		1,2,4-Trimethylbenzene
18.044		-	-	-		Decane
18.363	BB	6.01439e-1	3.68419e-2	2.21582e-2		1,2,3-Trimethylbenzene
18.625		-	-	-		m-Diethylbenzene
18.711		-	-	-		p-Diethylbenzene
19.254		-	-	-		Undecane
20.169		-	-	-		Dodecane

Totals : 26.92470

2 Warnings or Errors :

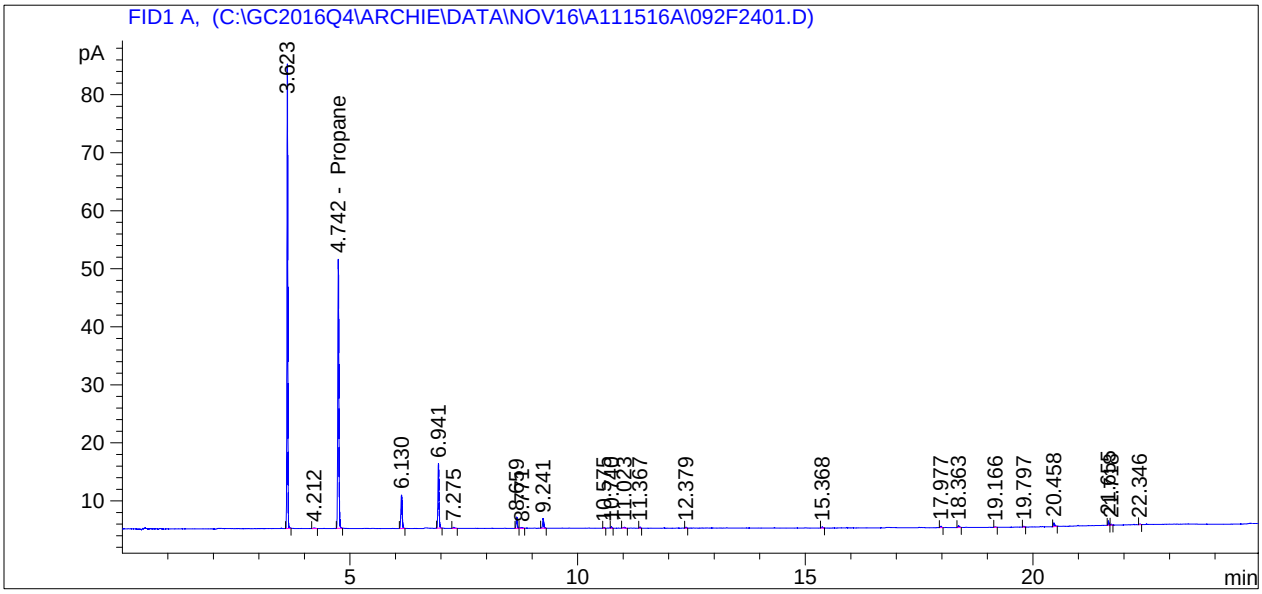
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2401.D
Sample Name: Site 3 161020B03 B Can144

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  24
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 16-Nov-16, 21:35:48                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/16/2016 5:13:33 PM by TDD
                  (modified after loading)
Analysis Method : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed    : 11/23/2016 9:42:58 PM by TDD
                  (modified after loading)
Sample Info     : 1016-55; Can #144; *2,000=0.5mL@4*syr dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.742 BB       79.51481 1.06563e-1    8.47333    Propane

Totals :                                8.47333

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.623 BB      102.67426 1.06563e-1   10.94127    ?
  4.212 BB     3.96318e-1 1.06563e-1 4.22329e-2    ?
  6.130 BB       11.53075 1.06563e-1    1.22875    ?
  6.941 BB       18.80246 1.06563e-1    2.00365    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2401.D
Sample Name: Site 3 161020B03 B Can144

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
7.275	BB	5.14190e-1	1.06563e-1	5.47936e-2		?
8.659	BB	3.29532	1.06563e-1	3.51159e-1		?
8.771	BV	5.14847e-1	1.06563e-1	5.48636e-2		?
9.241	BB	2.96253	1.06563e-1	3.15696e-1		?
10.575	BB	1.87954e-1	1.06563e-1	2.00290e-2		?
10.740	VB	3.21547e-1	1.06563e-1	3.42650e-2		?
11.023	BB	4.01939e-1	1.06563e-1	4.28318e-2		?
11.367	BB	2.71960e-1	1.06563e-1	2.89809e-2		?
12.379	BB	2.62929e-1	1.06563e-1	2.80185e-2		?
15.368	BB	3.47428e-1	1.06563e-1	3.70229e-2		?
17.977	BB	4.25465e-1	1.06563e-1	4.53388e-2		?
18.363	BB	6.01439e-1	1.06563e-1	6.40911e-2		?
19.166	BB	1.86789e-1	1.06563e-1	1.99048e-2		?
19.797	BB	2.26187e-1	1.06563e-1	2.41031e-2		?
20.458	BB	1.25247	1.06563e-1	1.33466e-1		?
21.655	BB	8.88097e-1	1.06563e-1	9.46382e-2		?
21.718	BB	2.03174e-1	1.06563e-1	2.16508e-2		?
22.346	BB	1.84550e-1	1.06563e-1	1.96662e-2		?

Uncalib. totals : 15.60642

1 Warnings or Errors :

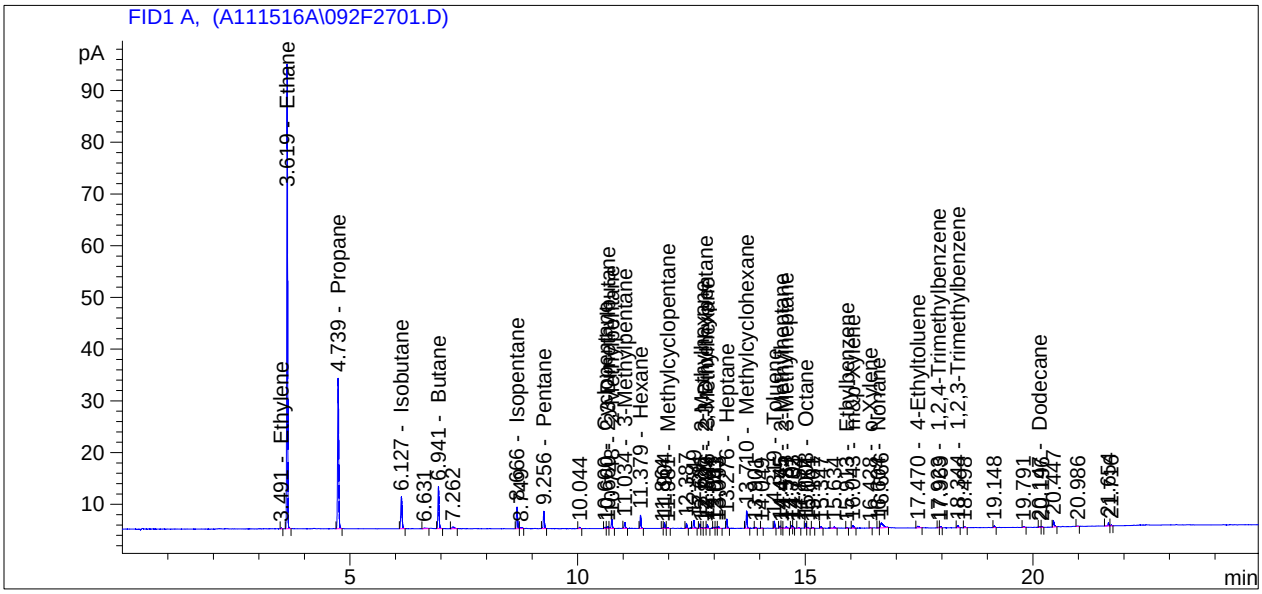
Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2701.D
Sample Name: Site 3 161018B03 A Can205

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  27
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 17-Nov-16, 07:38:33                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111516A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:37:20 PM by TDD
Sample Info     : 1016-55; Can #205; *1000=0.5mL@2*syr dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:36:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.491	BB		1.43741e-1	1.56174e-1	2.24487e-2		Ethylene
3.570			-	-	-		Acetylene
3.619	BB		115.16716	1.43631e-1	16.54163		Ethane
4.641			-	-	-		Propylene
4.739	BB		50.07859	1.06563e-1	5.33652		Propane
6.127	BB	+	12.42832	8.64027e-2	1.07384		Isobutane
6.740			-	-	-		1-Butene
6.941	BB		13.79597	8.82564e-2	1.21758		Butane
7.193			-	-	-		trans-2-Butene
7.519			-	-	-		cis-2-Butene
8.666	BV		7.06774	6.70037e-2	4.73565e-1		Isopentane
8.974			-	-	-		1-Pentene
9.256	BB		5.60510	6.57885e-2	3.68751e-1		Pentane
9.323			-	-	-		Isoprene
9.406			-	-	-		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2701.D
Sample Name: Site 3 161018B03 A Can205

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.574			-	-	-		cis-2-Pentene
9.996			-	-	-		2,2-Dimethylbutane
10.600	BV		4.24965e-1	6.45958e-2	2.74510e-2		Cyclopentane
10.660	VV		6.64182e-1	5.23903e-2	3.47967e-2		2,3-Dimethylbutane
10.748	VB		2.93277	5.14070e-2	1.50765e-1		2-Methylpentane
11.034	BB		1.90484	5.22076e-2	9.94469e-2		3-Methylpentane
11.178			-	-	-		1-Hexene
11.379	BB		3.67115	5.22337e-2	1.91758e-1		Hexane
11.981	VB		2.47265e-1	5.21637e-2	1.28983e-2		Methylcyclopentane
12.023			-	-	-		2,4-Dimethylpentane
12.441			-	-	-		Benzene
12.615			-	-	-		Cyclohexane
12.726	VV		2.91299e-1	4.45384e-2	1.29740e-2		2-Methylhexane
12.803	VV		2.80828e-1	4.41919e-2	1.24103e-2		2,3-Dimethylpentane
12.846	VB		1.16064	4.41469e-2	5.12387e-2		3-Methylhexane
13.150			-	-	-		2,2,4-Trimethylpentane
13.276	VB		2.42772	4.60237e-2	1.11733e-1		Heptane
13.710	BB		4.96565	4.43425e-2	2.20189e-1		Methylcyclohexane
14.239			-	-	-		2,3,4-Trimethylpentane
14.319	BB		1.84236	5.00187e-2	9.21522e-2		Toluene
14.475	VV		2.05965e-1	3.89937e-2	8.03135e-3		2-Methylheptane
14.581	VB		6.56158e-1	3.85897e-2	2.53210e-2		3-Methylheptane
15.008	BV		1.21869	4.06911e-2	4.95900e-2		Octane
15.913	BV	+	1.94471e-1	4.47089e-2	8.69458e-3		Ethylbenzene
16.043	BB		9.97304e-1	4.45401e-2	4.44200e-2		m&p-Xylene
16.335			-	-	-		Styrene
16.428	BB		1.19587e-1	4.13714e-2	4.94749e-3		o-Xylene
16.604	BV		1.40215e-1	3.21996e-2	4.51487e-3		Nonane
16.903			-	-	-		Isopropylbenzene
17.349			-	-	-		n-Propylbenzene
17.445			-	-	-		3-Ethyltoluene
17.470	BB		9.62997e-1	3.89970e-2	3.75540e-2		4-Ethyltoluene
17.555			-	-	-		1,3,5-Trimethylbenzene
17.731			-	-	-		2-Ethyltoluene
17.923	BV		1.99424e-1	3.83166e-2	7.64124e-3		1,2,4-Trimethylbenzene
18.045			-	-	-		Decane
18.344	BB		7.42573e-1	3.68419e-2	2.73578e-2		1,2,3-Trimethylbenzene
18.625			-	-	-		m-Diethylbenzene
18.711			-	-	-		p-Diethylbenzene
19.254			-	-	-		Undecane
20.147	VV		2.22676e-1	3.61400e-2	8.04752e-3		Dodecane

Totals : 28.88256

2 Warnings or Errors :

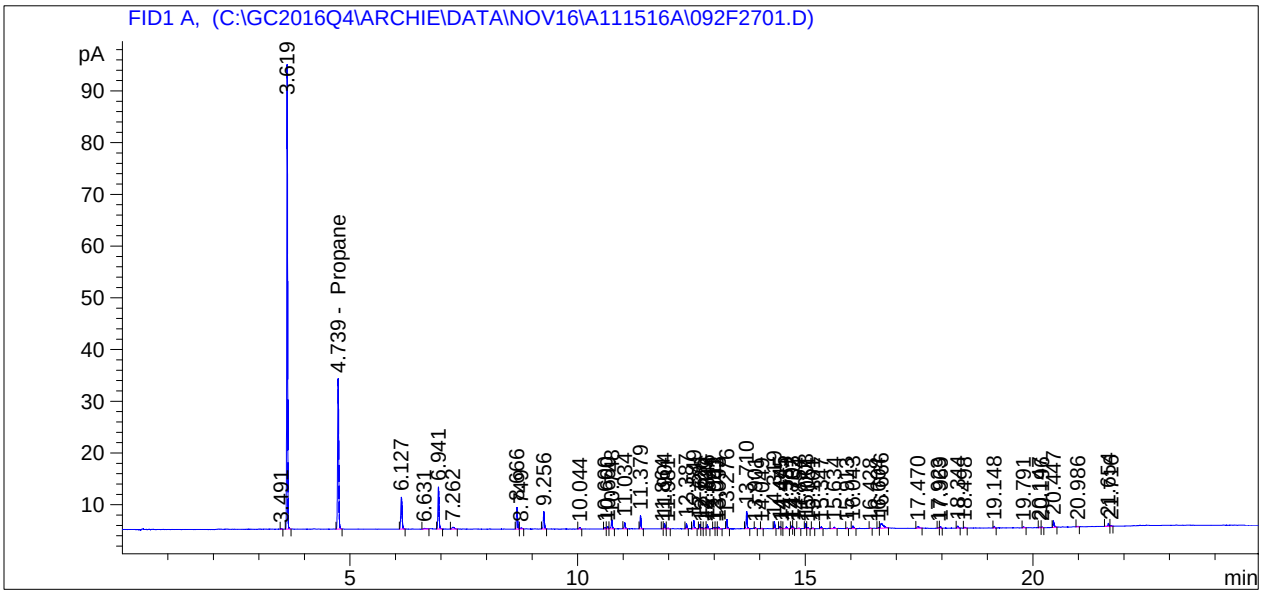
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2701.D
Sample Name: Site 3 161018B03 A Can205

```
==========================================================================
Acq. Operator    : TDD                              Seq. Line :  27
Acq. Instrument  : Archie                            Location : Vial 92
Injection Date   : 17-Nov-16, 07:38:33                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed     : 11/23/2016 9:42:58 PM by TDD
                   (modified after loading)
Sample Info      : 1016-55; Can #205; *1000=0.5mL@2*syr dil
                   (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.739 BB       50.07859 1.06563e-1    5.33652    Propane

Totals :                                5.33652

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.491 BB     1.43741e-1 1.06563e-1 1.53175e-2    ?
  3.619 BB      115.16716 1.06563e-1   12.27255    ?
  6.127 BB       12.42832 1.06563e-1    1.32440    ?
  6.631 BB     6.80010e-1 1.06563e-1 7.24639e-2    ?
  6.941 BB       13.79597 1.06563e-1    1.47014    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2701.D
Sample Name: Site 3 161018B03 A Can205

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
7.262	BB	1.29056	1.06563e-1	1.37526e-1		?
8.666	BV	7.06774	1.06563e-1	7.53160e-1		?
8.749	VB	6.30056e-1	1.06563e-1	6.71406e-2		?
9.256	BB	5.60510	1.06563e-1	5.97296e-1		?
10.044	BB	4.80132e-1	1.06563e-1	5.11642e-2		?
10.600	BV	4.24965e-1	1.06563e-1	4.52855e-2		?
10.660	VV	6.64182e-1	1.06563e-1	7.07772e-2		?
10.748	VB	2.93277	1.06563e-1	3.12525e-1		?
11.034	BB	1.90484	1.06563e-1	2.02985e-1		?
11.379	BB	3.67115	1.06563e-1	3.91209e-1		?
11.864	BV	1.65035e-1	1.06563e-1	1.75866e-2		?
11.904	VV	1.54220	1.06563e-1	1.64342e-1		?
11.981	VB	2.47265e-1	1.06563e-1	2.63493e-2		?
12.387	BB	1.36639	1.06563e-1	1.45607e-1		?
12.549	VB	2.54264	1.06563e-1	2.70952e-1		?
12.681	BV	1.13696	1.06563e-1	1.21158e-1		?
12.726	VV	2.91299e-1	1.06563e-1	3.10417e-2		?
12.803	VV	2.80828e-1	1.06563e-1	2.99259e-2		?
12.846	VB	1.16064	1.06563e-1	1.23681e-1		?
12.991	VV	3.30464e-1	1.06563e-1	3.52152e-2		?
13.043	VV	3.51016e-1	1.06563e-1	3.74053e-2		?
13.093	VB	5.18986e-1	1.06563e-1	5.53047e-2		?
13.276	VB	2.42772	1.06563e-1	2.58705e-1		?
13.710	BB	4.96565	1.06563e-1	5.29154e-1		?
13.901	VB	2.89765e-1	1.06563e-1	3.08782e-2		?
14.049	BV	1.55014e-1	1.06563e-1	1.65188e-2		?
14.319	BB	1.84236	1.06563e-1	1.96327e-1		?
14.445	BV	6.29885e-1	1.06563e-1	6.71224e-2		?
14.475	VV	2.05965e-1	1.06563e-1	2.19482e-2		?
14.581	VB	6.56158e-1	1.06563e-1	6.99222e-2		?
14.703	BV	8.00417e-1	1.06563e-1	8.52948e-2		?
14.732	VB	4.02267e-1	1.06563e-1	4.28667e-2		?
14.854	BB	1.58190e-1	1.06563e-1	1.68572e-2		?
15.008	BV	1.21869	1.06563e-1	1.29868e-1		?
15.054	VB	2.51454e-1	1.06563e-1	2.67956e-2		?
15.161	BB	1.74302e-1	1.06563e-1	1.85742e-2		?
15.347	BB	5.18327e-1	1.06563e-1	5.52344e-2		?
15.634	VB	5.23855e-1	1.06563e-1	5.58236e-2		?
15.913	BV	1.94471e-1	1.06563e-1	2.07234e-2		?
16.043	BB	9.97304e-1	1.06563e-1	1.06276e-1		?
16.428	BB	1.19587e-1	1.06563e-1	1.27436e-2		?
16.604	BV	1.40215e-1	1.06563e-1	1.49417e-2		?
16.666	VB	4.31030	1.06563e-1	4.59319e-1		?
17.470	BB	9.62997e-1	1.06563e-1	1.02620e-1		?
17.923	BV	1.99424e-1	1.06563e-1	2.12512e-2		?
17.969	VB	4.33754e-1	1.06563e-1	4.62221e-2		?
18.344	BB	7.42573e-1	1.06563e-1	7.91307e-2		?
18.498	BB	3.42395e-1	1.06563e-1	3.64866e-2		?
19.148	BB	4.64928e-1	1.06563e-1	4.95441e-2		?
19.791	BB	3.33983e-1	1.06563e-1	3.55902e-2		?
20.147	VV	2.22676e-1	1.06563e-1	2.37291e-2		?
20.196	VB	1.91458e-1	1.06563e-1	2.04024e-2		?
20.447	BB	2.25000	1.06563e-1	2.39766e-1		?
20.986	BV	1.96381e-1	1.06563e-1	2.09270e-2		?
21.654	BB	7.59806e-1	1.06563e-1	8.09672e-2		?
21.716	BB	2.18002e-1	1.06563e-1	2.32309e-2		?

Uncalib. totals : 21.85827

1 Warnings or Errors :

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2701.D
Sample Name: Site 3 161018B03 A Can205

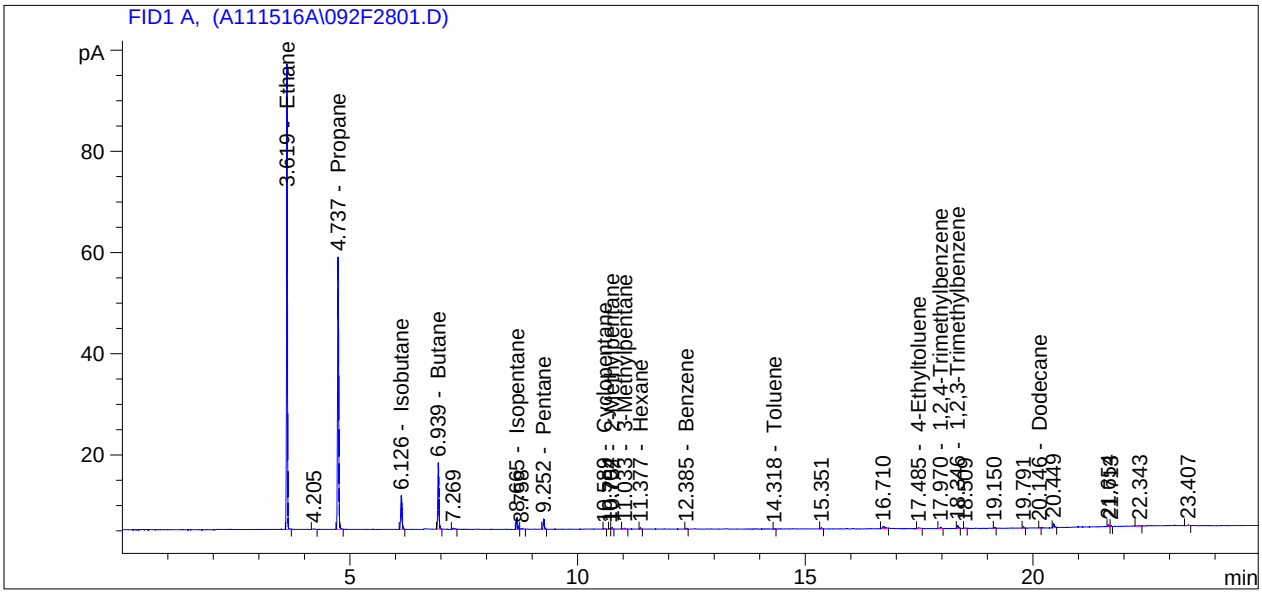
Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2801.D
Sample Name: Site 3 161020B03 A Can167

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  28
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 17-Nov-16, 08:18:30                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111516A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:37:20 PM by TDD
Sample Info     : 1016-55; Can #167; *2,000=0.5mL@4*syr dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:36:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.496			-	-	-		Ethylene
3.569			-	-	-		Acetylene
3.619	BB		117.58064	1.43631e-1	16.88828		Ethane
4.639			-	-	-		Propylene
4.737	BB		92.34763	1.06563e-1	9.84084		Propane
6.126	BB	+	13.37247	8.64027e-2	1.15542		Isobutane
6.738			-	-	-		1-Butene
6.939	BB		22.01035	8.82564e-2	1.94255		Butane
7.190			-	-	-		trans-2-Butene
7.517			-	-	-		cis-2-Butene
8.665	BV		3.89126	6.70037e-2	2.60729e-1		Isopentane
8.970			-	-	-		1-Pentene
9.252	BB		3.34444	6.57885e-2	2.20026e-1		Pentane
9.319			-	-	-		Isoprene
9.402			-	-	-		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2801.D
Sample Name: Site 3 161020B03 A Can167

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.569		-	-	-		cis-2-Pentene
9.991		-	-	-		2,2-Dimethylbutane
10.589	BB	2.42034e-1	6.45958e-2	1.56344e-2		Cyclopentane
10.648		-	-	-		2,3-Dimethylbutane
10.752	VB	3.83491e-1	5.14070e-2	1.97141e-2		2-Methylpentane
11.033	BB	4.55613e-1	5.22076e-2	2.37865e-2		3-Methylpentane
11.172		-	-	-		1-Hexene
11.377	BB	3.39572e-1	5.22337e-2	1.77371e-2		Hexane
11.961		-	-	-		Methylcyclopentane
12.017		-	-	-		2,4-Dimethylpentane
12.385	BB	2.78103e-1	5.48877e-2	1.52644e-2		Benzene
12.608		-	-	-		Cyclohexane
12.723		-	-	-		2-Methylhexane
12.770		-	-	-		2,3-Dimethylpentane
12.885		-	-	-		3-Methylhexane
13.142		-	-	-		2,2,4-Trimethylpentane
13.313		-	-	-		Heptane
13.746		-	-	-		Methylcyclohexane
14.230		-	-	-		2,3,4-Trimethylpentane
14.318	BB	1.52436e-1	5.00187e-2	7.62464e-3		Toluene
14.458		-	-	-		2-Methylheptane
14.592		-	-	-		3-Methylheptane
15.013		-	-	-		Octane
15.939		-	-	-		Ethylbenzene
16.044		-	-	-		m&p-Xylene
16.324		-	-	-		Styrene
16.409		-	-	-		o-Xylene
16.582		-	-	-		Nonane
16.892		-	-	-		Isopropylbenzene
17.337		-	-	-		n-Propylbenzene
17.434		-	-	-		3-Ethyltoluene
17.485	BB	5.59702e-1	3.89970e-2	2.18267e-2		4-Ethyltoluene
17.544		-	-	-		1,3,5-Trimethylbenzene
17.720		-	-	-		2-Ethyltoluene
17.970	BB	5.44931e-1	3.83166e-2	2.08799e-2		1,2,4-Trimethylbenzene
18.033		-	-	-		Decane
18.346	BB	9.50158e-1	3.68419e-2	3.50057e-2		1,2,3-Trimethylbenzene
18.613		-	-	-		m-Diethylbenzene
18.699		-	-	-		p-Diethylbenzene
19.254		-	-	-		Undecane
20.146	BB	1.58499e-1	3.61400e-2	5.72814e-3		Dodecane

Totals : 31.26256

2 Warnings or Errors :

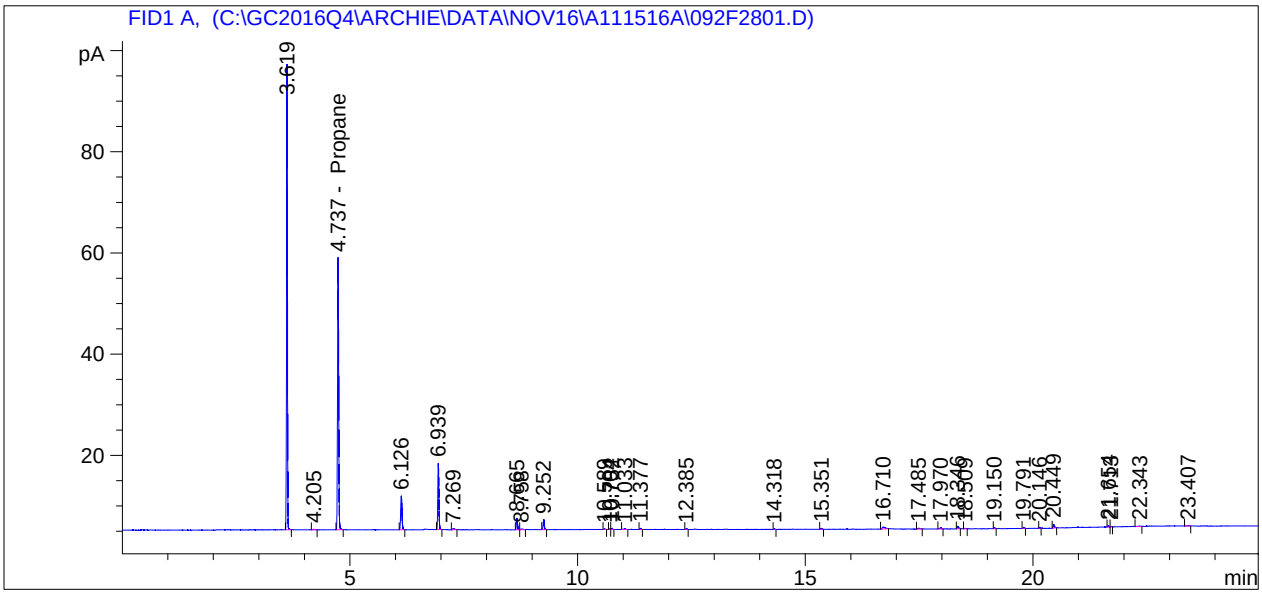
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2801.D
Sample Name: Site 3 161020B03 A Can167

```
==========================================================================
Acq. Operator    : TDD                              Seq. Line :  28
Acq. Instrument  : Archie                            Location : Vial 92
Injection Date   : 17-Nov-16, 08:18:30                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed     : 11/23/2016 9:42:58 PM by TDD
                   (modified after loading)
Sample Info      : 1016-55; Can #167; *2,000=0.5mL@4*syr dil
                   (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.737 BB       92.34763 1.06563e-1    9.84084    Propane

Totals :                                 9.84084

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.619 BB      117.58064 1.06563e-1   12.52974    ?
  4.205 BB     3.47718e-1 1.06563e-1 3.70539e-2    ?
  6.126 BB       13.37247 1.06563e-1    1.42501    ?
  6.939 BB       22.01035 1.06563e-1    2.34549    ?
  7.269 BB     6.67664e-1 1.06563e-1 7.11483e-2    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2801.D
Sample Name: Site 3 161020B03 A Can167

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
8.665	BV	3.89126	1.06563e-1	4.14664e-1		?
8.758	VV	6.01252e-1	1.06563e-1	6.40711e-2		?
9.252	BB	3.34444	1.06563e-1	3.56393e-1		?
10.589	BB	2.42034e-1	1.06563e-1	2.57918e-2		?
10.704	BV	1.67214e-1	1.06563e-1	1.78189e-2		?
10.752	VB	3.83491e-1	1.06563e-1	4.08660e-2		?
11.033	BB	4.55613e-1	1.06563e-1	4.85515e-2		?
11.377	BB	3.39572e-1	1.06563e-1	3.61858e-2		?
12.385	BB	2.78103e-1	1.06563e-1	2.96355e-2		?
14.318	BB	1.52436e-1	1.06563e-1	1.62440e-2		?
15.351	BB	3.68122e-1	1.06563e-1	3.92281e-2		?
16.710	BB	1.73298	1.06563e-1	1.84672e-1		?
17.485	BB	5.59702e-1	1.06563e-1	5.96435e-2		?
17.970	BB	5.44931e-1	1.06563e-1	5.80694e-2		?
18.346	BB	9.50158e-1	1.06563e-1	1.01252e-1		?
18.509	BB	1.93967e-1	1.06563e-1	2.06697e-2		?
19.150	BB	3.30856e-1	1.06563e-1	3.52569e-2		?
19.791	BB	3.53566e-1	1.06563e-1	3.76770e-2		?
20.146	BB	1.58499e-1	1.06563e-1	1.68901e-2		?
20.449	BB	1.42063	1.06563e-1	1.51387e-1		?
21.654	BB	3.89228e-1	1.06563e-1	4.14773e-2		?
21.713	BB	1.69621e-1	1.06563e-1	1.80753e-2		?
22.343	VB	2.54019e-1	1.06563e-1	2.70690e-2		?
23.407	BB	2.43178e-1	1.06563e-1	2.59138e-2		?

Uncalib. totals : 18.27594

1 Warnings or Errors :

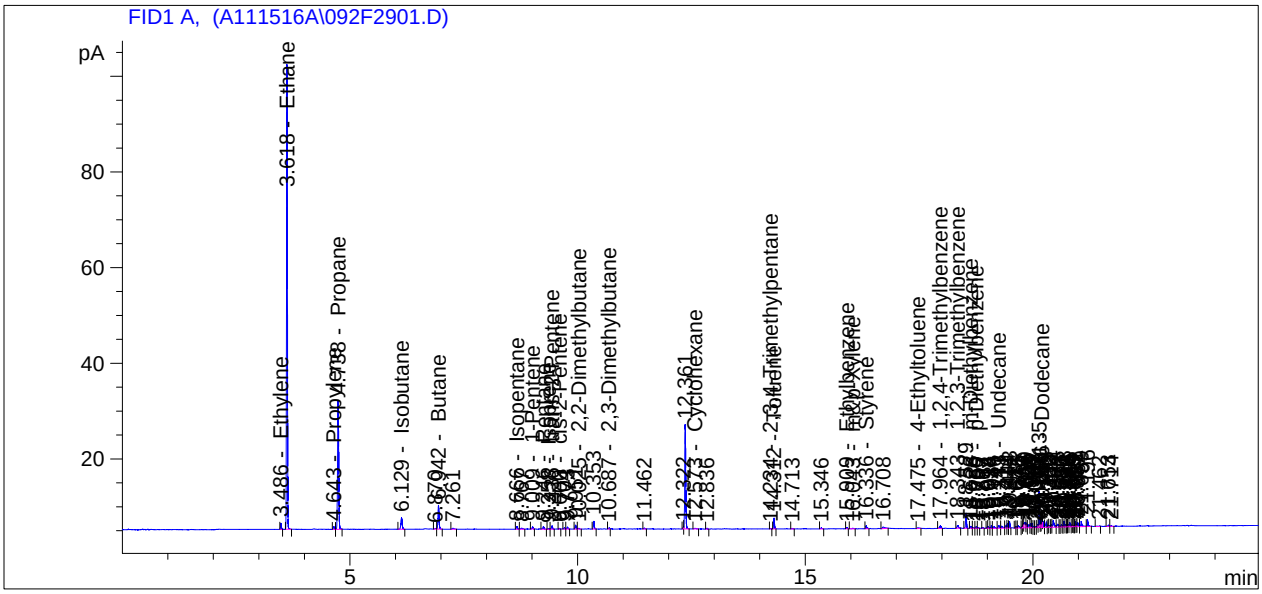
Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2901.D
Sample Name: Site 1 161019C01 B Can149

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  29
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 17-Nov-16, 09:08:29                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111516A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:37:20 PM by TDD
Sample Info     : 1016-55; Can #149; *5,000=0.5mL@10*syr dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:36:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.486	BB		1.52890	1.56174e-1	2.38775e-1		Ethylene
3.571			-	-	-		Acetylene
3.618	BB		124.31854	1.43631e-1	17.85606		Ethane
4.643	BV		8.32962e-1	1.25238e-1	1.04319e-1		Propylene
4.738	VB		46.51410	1.06563e-1	4.95668		Propane
6.129	BB	+	4.85256	8.64027e-2	4.19274e-1		Isobutane
6.742			-	-	-		1-Butene
6.942	VB		8.28610	8.82564e-2	7.31301e-1		Butane
7.194			-	-	-		trans-2-Butene
7.521			-	-	-		cis-2-Butene
8.666	BB		9.93101e-1	6.70037e-2	6.65414e-2		Isopentane
9.009	BB		6.00889e-1	6.71624e-2	4.03571e-2		1-Pentene
9.246	VB		1.02213	6.57885e-2	6.72443e-2		Pentane
9.358	BV		1.99807e-1	6.92963e-2	1.38459e-2		Isoprene
9.436	VB		1.05020	6.95508e-2	7.30422e-2		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2901.D
Sample Name: Site 1 161019C01 B Can149

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.600	BV		2.51189e-1	6.77323e-2	1.70136e-2		cis-2-Pentene
10.025	VB		2.83671e-1	5.45100e-2	1.54629e-2		2,2-Dimethylbutane
10.612			-	-	-		Cyclopentane
10.687	BV		4.10135e-1	5.23903e-2	2.14871e-2		2,3-Dimethylbutane
10.748			-	-	-		2-Methylpentane
11.051			-	-	-		3-Methylpentane
11.177			-	-	-		1-Hexene
11.410			-	-	-		Hexane
11.967			-	-	-		Methylcyclopentane
12.022			-	-	-		2,4-Dimethylpentane
12.439			-	-	-		Benzene
12.573	BB		3.60732e-1	5.09033e-2	1.83625e-2		Cyclohexane
12.729			-	-	-		2-Methylhexane
12.775			-	-	-		2,3-Dimethylpentane
12.891			-	-	-		3-Methylhexane
13.148			-	-	-		2,2,4-Trimethylpentane
13.319			-	-	-		Heptane
13.752			-	-	-		Methylcyclohexane
14.234	BB		1.37830e-1	3.94610e-2	5.43890e-3		2,3,4-Trimethylpentane
14.312	BB		2.96071	5.00187e-2	1.48091e-1		Toluene
14.465			-	-	-		2-Methylheptane
14.599			-	-	-		3-Methylheptane
15.019			-	-	-		Octane
15.909	BB	+	3.79292e-1	4.47089e-2	1.69577e-2		Ethylbenzene
16.043	BB		3.01680e-1	4.45401e-2	1.34369e-2		m&p-Xylene
16.336	BB		1.02260	5.28234e-2	5.40172e-2		Styrene
16.420			-	-	-		o-Xylene
16.594			-	-	-		Nonane
16.907			-	-	-		Isopropylbenzene
17.355			-	-	-		n-Propylbenzene
17.453			-	-	-		3-Ethyltoluene
17.475	BB		5.51323e-1	3.89970e-2	2.14999e-2		4-Ethyltoluene
17.563			-	-	-		1,3,5-Trimethylbenzene
17.741			-	-	-		2-Ethyltoluene
17.964	BB		1.02696	3.83166e-2	3.93497e-2		1,2,4-Trimethylbenzene
18.057			-	-	-		Decane
18.343	BB		1.28328	3.68419e-2	4.72784e-2		1,2,3-Trimethylbenzene
18.628	BV		6.66767e-1	3.50955e-2	2.34005e-2		m-Diethylbenzene
18.750	VV		4.93914e-1	3.68958e-2	1.82233e-2		p-Diethylbenzene
19.243	BV	+	1.18947	3.27367e-2	3.89392e-2		Undecane
20.196	VV		2.94913	3.61400e-2	1.06582e-1		Dodecane

Totals : 35.56135

2 Warnings or Errors :

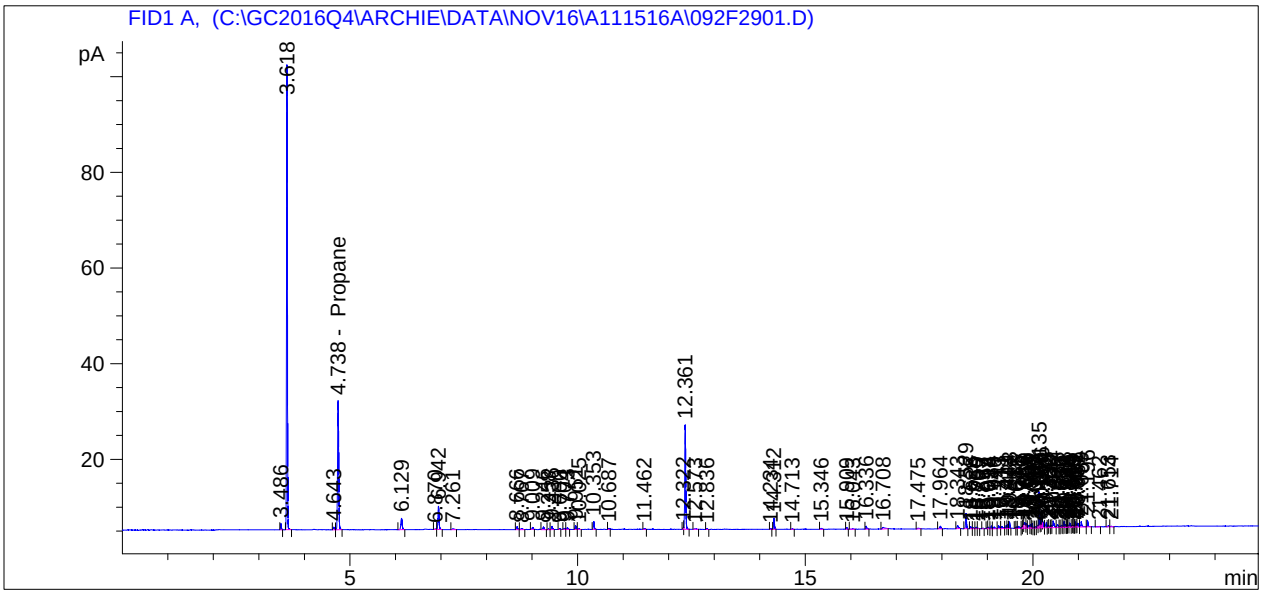
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2901.D
Sample Name: Site 1 161019C01 B Can149

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  29
Acq. Instrument : Archie                           Location : Vial 92
Injection Date  : 17-Nov-16, 09:08:29                   Inj :   1
                                                 Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed    : 11/23/2016 9:42:58 PM by TDD
                  (modified after loading)
Sample Info     : 1016-55; Can #149; *5,000=0.5mL@10*syr dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.738 VB       46.51410 1.06563e-1    4.95668    Propane

Totals :                                 4.95668

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.486 BB        1.52890 1.06563e-1 1.62925e-1    ?
  3.618 BB      124.31854 1.06563e-1   13.24775    ?
  4.643 BV     8.32962e-1 1.06563e-1 8.87629e-2    ?
  6.129 BB        4.85256 1.06563e-1 5.17103e-1    ?
  6.870 BV     2.36147e-1 1.06563e-1 2.51645e-2    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2901.D
Sample Name: Site 1 161019C01 B Can149

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
6.942	VB	8.28610	1.06563e-1	8.82991e-1		?
7.261	BB	5.89297e-1	1.06563e-1	6.27973e-2		?
8.666	BB	9.93101e-1	1.06563e-1	1.05828e-1		?
8.767	BB	6.19308e-1	1.06563e-1	6.59953e-2		?
9.009	BB	6.00889e-1	1.06563e-1	6.40325e-2		?
9.246	VB	1.02213	1.06563e-1	1.08921e-1		?
9.358	BV	1.99807e-1	1.06563e-1	2.12921e-2		?
9.436	VB	1.05020	1.06563e-1	1.11912e-1		?
9.600	BV	2.51189e-1	1.06563e-1	2.67674e-2		?
9.704	VV	3.70241e-1	1.06563e-1	3.94539e-2		?
9.773	VB	5.87201e-1	1.06563e-1	6.25738e-2		?
9.951	BV	1.21805	1.06563e-1	1.29799e-1		?
10.025	VB	2.83671e-1	1.06563e-1	3.02288e-2		?
10.353	BB	2.35208	1.06563e-1	2.50645e-1		?
10.687	BV	4.10135e-1	1.06563e-1	4.37052e-2		?
11.462	BB	3.23360e-1	1.06563e-1	3.44582e-2		?
12.322	BV	5.15124e-1	1.06563e-1	5.48932e-2		?
12.361	VB	32.81886	1.06563e-1	3.49727		?
12.573	BB	3.60732e-1	1.06563e-1	3.84407e-2		?
12.836	BB	2.18171e-1	1.06563e-1	2.32489e-2		?
14.234	BB	1.37830e-1	1.06563e-1	1.46876e-2		?
14.312	BB	2.96071	1.06563e-1	3.15502e-1		?
14.713	BB	1.60016e-1	1.06563e-1	1.70517e-2		?
15.346	BB	3.80598e-1	1.06563e-1	4.05576e-2		?
15.909	BB	3.79292e-1	1.06563e-1	4.04184e-2		?
16.043	BB	3.01680e-1	1.06563e-1	3.21479e-2		?
16.336	BB	1.02260	1.06563e-1	1.08971e-1		?
16.708	BB	1.32698	1.06563e-1	1.41407e-1		?
17.475	BB	5.51323e-1	1.06563e-1	5.87506e-2		?
17.964	BB	1.02696	1.06563e-1	1.09436e-1		?
18.343	BB	1.28328	1.06563e-1	1.36750e-1		?
18.529	BB	4.22842	1.06563e-1	4.50593e-1		?
18.628	BV	6.66767e-1	1.06563e-1	7.10527e-2		?
18.688	VV	2.92154e-1	1.06563e-1	3.11328e-2		?
18.750	VV	4.93914e-1	1.06563e-1	5.26329e-2		?
18.795	VB	1.54616e-1	1.06563e-1	1.64763e-2		?
18.897	BB	1.22314e-1	1.06563e-1	1.30342e-2		?
18.994	BV	3.33795e-1	1.06563e-1	3.55702e-2		?
19.018	VB	4.69958e-1	1.06563e-1	5.00801e-2		?
19.084	BV	6.95249e-1	1.06563e-1	7.40878e-2		?
19.146	VB	7.14984e-1	1.06563e-1	7.61909e-2		?
19.243	BV	1.18947	1.06563e-1	1.26753e-1		?
19.311	VV	1.11131	1.06563e-1	1.18425e-1		?
19.411	VV	1.02723	1.06563e-1	1.09465e-1		?
19.444	VV	1.03918	1.06563e-1	1.10738e-1		?
19.483	VV	1.58192	1.06563e-1	1.68574e-1		?
19.612	BV	2.78194e-1	1.06563e-1	2.96451e-2		?
19.641	VV	3.28232e-1	1.06563e-1	3.49774e-2		?
19.675	VV	9.97101e-1	1.06563e-1	1.06254e-1		?
19.760	VV	3.69475e-1	1.06563e-1	3.93724e-2		?
19.787	VV	1.12997	1.06563e-1	1.20413e-1		?
19.819	VV	2.52830	1.06563e-1	2.69423e-1		?
19.856	VV	1.15765	1.06563e-1	1.23363e-1		?
19.908	VV	1.30701	1.06563e-1	1.39279e-1		?
19.949	VV	9.43754e-1	1.06563e-1	1.00569e-1		?
19.981	VV	9.96086e-1	1.06563e-1	1.06146e-1		?
20.015	VV	1.60055e-1	1.06563e-1	1.70559e-2		?
20.057	VV	2.83344e-1	1.06563e-1	3.01940e-2		?
20.107	VV	6.63123e-1	1.06563e-1	7.06643e-2		?
20.135	VV	8.36664	1.06563e-1	8.91573e-1		?
20.169	VV	1.04638	1.06563e-1	1.11505e-1		?

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F2901.D
Sample Name: Site 1 161019C01 B Can149

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
20.196	VV	2.94913	1.06563e-1	3.14268e-1		?
20.214	VV	1.44787	1.06563e-1	1.54290e-1		?
20.293	VV	2.02481	1.06563e-1	2.15770e-1		?
20.332	VV	4.87196e-1	1.06563e-1	5.19170e-2		?
20.362	VV	7.53036e-1	1.06563e-1	8.02458e-2		?
20.400	VV	5.96236e-1	1.06563e-1	6.35367e-2		?
20.444	VV	2.91353	1.06563e-1	3.10474e-1		?
20.537	VV	1.25273	1.06563e-1	1.33494e-1		?
20.583	VV	2.17954e-1	1.06563e-1	2.32258e-2		?
20.621	VV	7.31115e-1	1.06563e-1	7.79098e-2		?
20.650	VV	2.79314e-1	1.06563e-1	2.97645e-2		?
20.683	VV	1.38436	1.06563e-1	1.47522e-1		?
20.718	VV	6.62381e-1	1.06563e-1	7.05852e-2		?
20.752	VV	2.29572e-1	1.06563e-1	2.44638e-2		?
20.779	VV	5.33735e-1	1.06563e-1	5.68764e-2		?
20.805	VV	1.52907	1.06563e-1	1.62942e-1		?
20.859	VV	4.97679e-1	1.06563e-1	5.30342e-2		?
20.879	VV	4.16604e-1	1.06563e-1	4.43946e-2		?
20.906	VV	1.97571e-1	1.06563e-1	2.10537e-2		?
20.931	VV	1.13745	1.06563e-1	1.21210e-1		?
20.957	VV	4.48157e-1	1.06563e-1	4.77570e-2		?
20.982	VV	1.17368	1.06563e-1	1.25071e-1		?
21.059	VV	1.97081	1.06563e-1	2.10015e-1		?
21.196	VB	1.62271	1.06563e-1	1.72920e-1		?
21.462	VV	3.41561e-1	1.06563e-1	3.63978e-2		?
21.653	VV	4.11627e-1	1.06563e-1	4.38642e-2		?
21.714	VB	1.83138e-1	1.06563e-1	1.95157e-2		?

Uncalib. totals : 27.22041

1 Warnings or Errors :

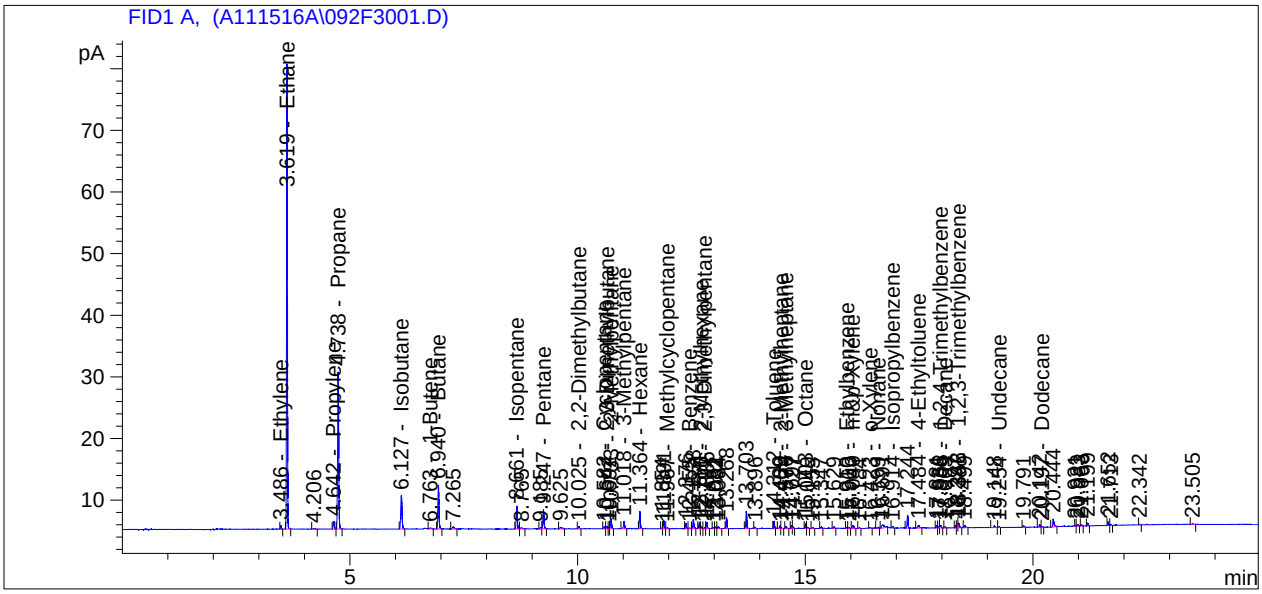
Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F3001.D
Sample Name: Site 3 161018B03 B Can152

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  30
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 17-Nov-16, 09:48:51                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111516A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:37:20 PM by TDD
Sample Info     : 1016-55; Can #152; *125=2mL loop load
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:36:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.486 BB     6.75805e-1 1.56174e-1 1.05543e-1     Ethylene
  3.569           -          -          -           Acetylene
  3.619 BB       96.67886 1.43631e-1   13.88613     Ethane
  4.642 BB        1.98156 1.25238e-1 2.48168e-1     Propylene
  4.738 BB       44.07852 1.06563e-1    4.69714     Propane
  6.127 BB   +    10.89039 8.64027e-2 9.40959e-1     Isobutane
  6.763 BB     3.96791e-1 8.70487e-2 3.45402e-2     1-Butene
  6.940 BB       11.97421 8.82564e-2    1.05680     Butane
  7.192           -          -          -           trans-2-Butene
  7.519           -          -          -           cis-2-Butene
  8.661 BB        6.27623 6.70037e-2 4.20531e-1     Isopentane
  8.973           -          -          -           1-Pentene
  9.247 VB        5.08965 6.57885e-2 3.34841e-1     Pentane
  9.322           -          -          -           Isoprene
  9.405           -          -          -           trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F3001.D
Sample Name: Site 3 161018B03 B Can152

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.573			-	-	-		cis-2-Pentene
10.025	BB		5.57586e-1	5.45100e-2	3.03940e-2		2,2-Dimethylbutane
10.582	BV		5.61609e-1	6.45958e-2	3.62776e-2		Cyclopentane
10.644	VV		5.67049e-1	5.23903e-2	2.97078e-2		2,3-Dimethylbutane
10.733	VB		2.39043	5.14070e-2	1.22885e-1		2-Methylpentane
11.018	BB		2.04706	5.22076e-2	1.06872e-1		3-Methylpentane
11.176			-	-	-		1-Hexene
11.364	BB		4.06823	5.22337e-2	2.12499e-1		Hexane
11.967	BB		2.88362e-1	5.21637e-2	1.50420e-2		Methylcyclopentane
12.022			-	-	-		2,4-Dimethylpentane
12.455	BV		1.85977e-1	5.48877e-2	1.02078e-2		Benzene
12.614			-	-	-		Cyclohexane
12.716	VV		3.95481e-1	4.45384e-2	1.76141e-2		2-Methylhexane
12.791	VV		2.30488e-1	4.41919e-2	1.01857e-2		2,3-Dimethylpentane
12.891			-	-	-		3-Methylhexane
13.148			-	-	-		2,2,4-Trimethylpentane
13.319			-	-	-		Heptane
13.752			-	-	-		Methylcyclohexane
14.237			-	-	-		2,3,4-Trimethylpentane
14.312	BV		1.59583	5.00187e-2	7.98214e-2		Toluene
14.469	VB		1.48972e-1	3.89937e-2	5.80896e-3		2-Methylheptane
14.576	BB		5.07029e-1	3.85897e-2	1.95661e-2		3-Methylheptane
15.003	BV		1.07845	4.06911e-2	4.38835e-2		Octane
15.910	BV	+	2.24894e-1	4.47089e-2	1.00548e-2		Ethylbenzene
16.040	BB		1.00691	4.45401e-2	4.48479e-2		m&p-Xylene
16.337			-	-	-		Styrene
16.423	BB		1.68325e-1	4.13714e-2	6.96384e-3		o-Xylene
16.599	BB		2.40768e-1	3.21996e-2	7.75262e-3		Nonane
16.914	BB		3.05094e-1	3.56607e-2	1.08799e-2		Isopropylbenzene
17.361			-	-	-		n-Propylbenzene
17.459			-	-	-		3-Ethyltoluene
17.484	BB		1.24109	3.89970e-2	4.83989e-2		4-Ethyltoluene
17.570			-	-	-		1,3,5-Trimethylbenzene
17.748			-	-	-		2-Ethyltoluene
17.968	VB		7.65447e-1	3.83166e-2	2.93293e-2		1,2,4-Trimethylbenzene
18.069	BB		2.26523e-1	3.21459e-2	7.28178e-3		Decane
18.366	VB		1.42438	3.68419e-2	5.24768e-2		1,2,3-Trimethylbenzene
18.651			-	-	-		m-Diethylbenzene
18.737			-	-	-		p-Diethylbenzene
19.254	BV	+	1.49516e-1	3.27367e-2	4.89466e-3		Undecane
20.197	VB		2.02481e-1	3.61400e-2	7.31765e-3		Dodecane
Totals :					26.69158		

2 Warnings or Errors :

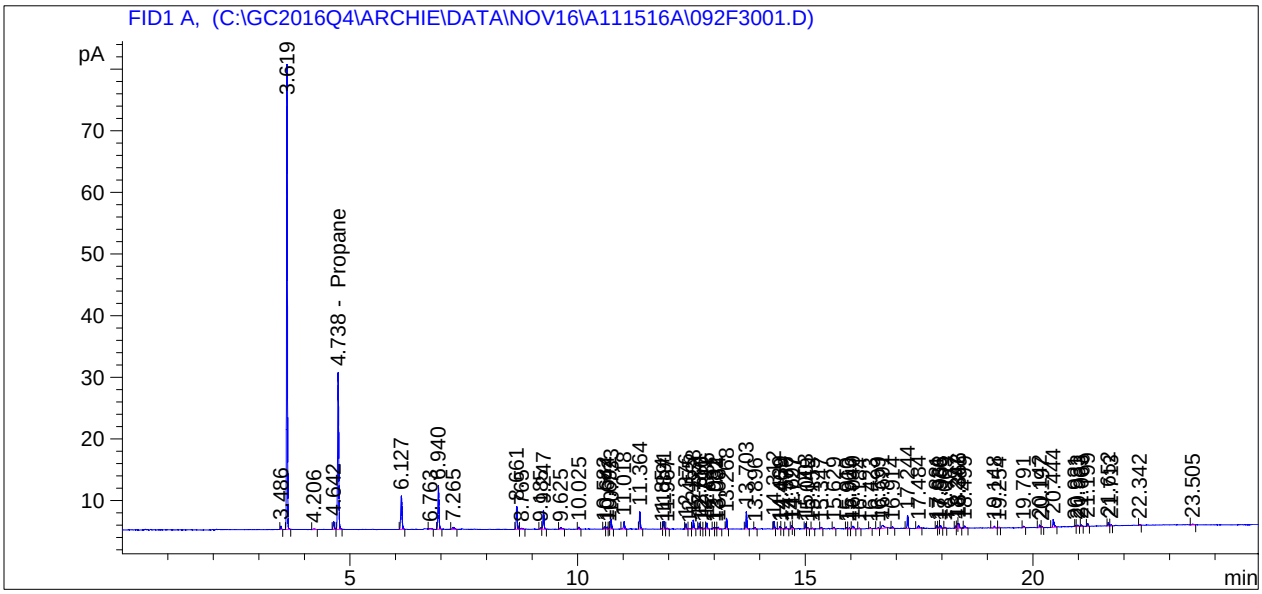
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F3001.D
Sample Name: Site 3 161018B03 B Can152

```
==========================================================================
Acq. Operator    : TDD                              Seq. Line :  30
Acq. Instrument  : Archie                            Location : Vial 92
Injection Date   : 17-Nov-16, 09:48:51                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed     : 11/23/2016 9:42:58 PM by TDD
                   (modified after loading)
Sample Info      : 1016-55; Can #152; *125=2mL loop load
                   (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.738 BB       44.07852 1.06563e-1    4.69714     Propane

Totals :                                4.69714

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.486 BB     6.75805e-1 1.06563e-1 7.20157e-2    ?
  3.619 BB       96.67886 1.06563e-1   10.30238    ?
  4.206 BB     3.44733e-1 1.06563e-1 3.67358e-2    ?
  4.642 BB        1.98156 1.06563e-1 2.11161e-1    ?
  6.127 BB       10.89039 1.06563e-1    1.16051    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F3001.D
Sample Name: Site 3 161018B03 B Can152

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
6.763	BB	3.96791e-1	1.06563e-1	4.22832e-2		?
6.940	BB	11.97421	1.06563e-1	1.27601		?
7.265	BB	1.05371	1.06563e-1	1.12287e-1		?
8.661	BB	6.27623	1.06563e-1	6.68814e-1		?
8.765	BV	5.86556e-1	1.06563e-1	6.25051e-2		?
9.185	BV	4.82113e-1	1.06563e-1	5.13754e-2		?
9.247	VB	5.08965	1.06563e-1	5.42369e-1		?
9.625	BV	8.06063e-1	1.06563e-1	8.58965e-2		?
10.025	BB	5.57586e-1	1.06563e-1	5.94181e-2		?
10.582	BV	5.61609e-1	1.06563e-1	5.98467e-2		?
10.644	VV	5.67049e-1	1.06563e-1	6.04264e-2		?
10.692	VV	2.19771e-1	1.06563e-1	2.34195e-2		?
10.733	VB	2.39043	1.06563e-1	2.54731e-1		?
11.018	BB	2.04706	1.06563e-1	2.18140e-1		?
11.364	BB	4.06823	1.06563e-1	4.33523e-1		?
11.854	BV	1.83452e-1	1.06563e-1	1.95492e-2		?
11.891	VB	1.87556	1.06563e-1	1.99865e-1		?
11.967	BB	2.88362e-1	1.06563e-1	3.07287e-2		?
12.376	BB	1.17978	1.06563e-1	1.25721e-1		?
12.455	BV	1.85977e-1	1.06563e-1	1.98182e-2		?
12.538	VB	2.30601	1.06563e-1	2.45735e-1		?
12.671	BV	1.28963	1.06563e-1	1.37427e-1		?
12.716	VV	3.95481e-1	1.06563e-1	4.21436e-2		?
12.791	VV	2.30488e-1	1.06563e-1	2.45614e-2		?
12.836	VB	1.38856	1.06563e-1	1.47969e-1		?
12.981	VV	2.68768e-1	1.06563e-1	2.86407e-2		?
13.032	VV	3.40936e-1	1.06563e-1	3.63312e-2		?
13.084	VB	5.24190e-1	1.06563e-1	5.58592e-2		?
13.268	VB	2.37815	1.06563e-1	2.53423e-1		?
13.703	BB	4.18192	1.06563e-1	4.45638e-1		?
13.896	VB	3.17492e-1	1.06563e-1	3.38329e-2		?
14.312	BV	1.59583	1.06563e-1	1.70056e-1		?
14.439	VV	5.80055e-1	1.06563e-1	6.18124e-2		?
14.469	VB	1.48972e-1	1.06563e-1	1.58749e-2		?
14.576	BB	5.07029e-1	1.06563e-1	5.40306e-2		?
14.697	BV	7.12562e-1	1.06563e-1	7.59327e-2		?
14.727	VB	3.51602e-1	1.06563e-1	3.74678e-2		?
15.003	BV	1.07845	1.06563e-1	1.14923e-1		?
15.049	VB	2.42904e-1	1.06563e-1	2.58846e-2		?
15.155	BB	1.80203e-1	1.06563e-1	1.92030e-2		?
15.347	BV	4.76050e-1	1.06563e-1	5.07293e-2		?
15.629	VB	4.52094e-1	1.06563e-1	4.81765e-2		?
15.910	BV	2.24894e-1	1.06563e-1	2.39654e-2		?
15.963	VB	1.33514e-1	1.06563e-1	1.42277e-2		?
16.040	BB	1.00691	1.06563e-1	1.07299e-1		?
16.184	BB	1.56627e-1	1.06563e-1	1.66906e-2		?
16.423	BB	1.68325e-1	1.06563e-1	1.79372e-2		?
16.599	BB	2.40768e-1	1.06563e-1	2.56569e-2		?
16.691	BB	1.99928	1.06563e-1	2.13049e-1		?
16.914	BB	3.05094e-1	1.06563e-1	3.25117e-2		?
17.244	VB	3.00117	1.06563e-1	3.19814e-1		?
17.484	BB	1.24109	1.06563e-1	1.32255e-1		?
17.881	BV	6.05595e-1	1.06563e-1	6.45340e-2		?
17.936	VV	3.77542e-1	1.06563e-1	4.02320e-2		?
17.968	VB	7.65447e-1	1.06563e-1	8.15682e-2		?
18.069	BB	2.26523e-1	1.06563e-1	2.41389e-2		?
18.297	BV	4.83581e-1	1.06563e-1	5.15319e-2		?
18.342	VV	9.04266e-1	1.06563e-1	9.63613e-2		?
18.366	VB	1.42438	1.06563e-1	1.51786e-1		?
18.499	VB	6.56839e-1	1.06563e-1	6.99947e-2		?
19.148	BB	4.58044e-1	1.06563e-1	4.88105e-2		?

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F3001.D
Sample Name: Site 3 161018B03 B Can152

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
19.254	BV	1.49516e-1	1.06563e-1	1.59329e-2		?
19.791	BB	4.03172e-1	1.06563e-1	4.29632e-2		?
20.142	BV	5.88630e-1	1.06563e-1	6.27262e-2		?
20.197	VB	2.02481e-1	1.06563e-1	2.15770e-2		?
20.444	BB	2.26982	1.06563e-1	2.41879e-1		?
20.931	VV	1.22521e-1	1.06563e-1	1.30562e-2		?
20.983	VB	3.28082e-1	1.06563e-1	3.49614e-2		?
21.063	BB	3.11973e-1	1.06563e-1	3.32448e-2		?
21.199	BB	5.29399e-1	1.06563e-1	5.64143e-2		?
21.652	BV	7.16346e-1	1.06563e-1	7.63359e-2		?
21.713	VB	2.17816e-1	1.06563e-1	2.32112e-2		?
22.342	BB	1.55918e-1	1.06563e-1	1.66150e-2		?
23.505	BB	3.55683e-1	1.06563e-1	3.79026e-2		?

Uncalib. totals : 20.46437

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Lab QC

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: Humid Blank
Project #: 0916-69
Lab ID: 0916-69 Humid Blank
Datafile: 100F0801.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 21-Oct-16, 13:52:19

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	0.0392	0.0450	ND
Acetylene	0.0409	0.0409	0.0435	ND
Ethane	0.0392	0.0392	0.0482	ND
Propylene	0.0384	0.0384	0.0661	ND
Propane	0.0384	0.0384	0.0693	ND
Isobutane	0.0395	0.0395	0.0938	ND
1-Butene	0.0431	0.0431	0.0988	ND
Butane	0.0407	0.0407	0.0968	ND
trans-2-Butene	0.0732	0.0732	0.168	ND
cis-2-Butene	0.0429	0.0429	0.0985	ND
Isopentane	0.0630	0.0630	0.186	ND
1-Pentene	0.0435	0.0435	0.125	ND
Pentane	0.0496	0.0496	0.146	ND
Isoprene	0.0478	0.0478	0.133	ND
trans-2-Pentene	0.0400	0.0400	0.115	ND
cis-2-Pentene	0.0431	0.0431	0.124	ND
2,2-Dimethylbutane	0.0635	0.0635	0.224	ND
Cyclopentane	0.0682	0.0682	0.196	ND
2,3-Dimethylbutane	0.0596	0.0596	0.210	ND
2-Methylpentane	0.0513	0.0513	0.181	ND
3-Methylpentane	0.0630	0.0630	0.222	ND
1-Hexene	0.0630	0.0630	0.217	ND
Hexane	0.0695	0.0695	0.245	ND
Methylcyclopentane	0.0861	0.0861	0.296	ND
2,4-Dimethylpentane	0.0855	0.0855	0.350	ND
Benzene	0.0950	0.0950	0.303	ND
Cyclohexane	0.0829	0.0829	0.285	ND
2-Methylhexane	0.0772	0.0772	0.316	ND
2,3-Dimethylpentane	0.0787	0.0787	0.322	ND
3-Methylhexane	0.0742	0.0742	0.304	ND
2,2,4-Trimethylpentane	0.0768	0.0768	0.359	ND
Heptane	0.0810	0.0810	0.332	ND
Methylcyclohexane	0.0681	0.0681	0.274	ND
2,3,4-Trimethylpentane	0.0719	0.0719	0.336	ND
Toluene	0.111	0.111	0.418	ND
2-Methylheptane	0.0952	0.0952	0.445	ND
3-Methylheptane	0.0901	0.0901	0.421	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: Humid Blank
Project #: 0916-69
Lab ID: 0916-69 Humid Blank
Datafile: 100F0801.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 21-Oct-16, 13:52:19

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Octane	0.0935	0.0935	0.437	ND
Ethylbenzene	0.0781	0.0781	0.339	ND
m&p-Xylene	0.150	0.150	0.653	ND
Styrene	0.0827	0.0827	0.352	ND
o-Xylene	0.0696	0.0696	0.302	ND
Nonane	0.0722	0.0722	0.379	ND
Isopropylbenzene	0.0617	0.0617	0.303	ND
n-Propylbenzene	0.0725	0.0725	0.356	ND
3-Ethyltoluene	0.0793	0.0793	0.390	ND
4-Ethyltoluene	0.0652	0.0652	0.320	ND
1,3,5-Trimethylbenzene	0.0604	0.0604	0.297	ND
2-Ethyltoluene	0.0610	0.0610	0.300	ND
1,2,4-Trimethylbenzene	0.0628	0.0628	0.309	ND
Decane	0.0589	0.0589	0.343	ND
1,2,3-Trimethylbenzene	0.0702	0.0702	0.345	ND
m-Diethylbenzene	0.0626	0.0626	0.344	ND
p-Diethylbenzene	0.0641	0.0641	0.352	ND
Undecane	0.0553	0.0553	0.354	ND
Dodecane	0.0418	0.0418	0.291	ND
Totals As Propane	3.60	3.60	6.50	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: TO14A Std #3 LCS
Project #: 0916-69
Lab ID: 0916-69 TO14A Std #3 LCS
Datafile: 099F0401.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 21-Oct-16, 11:10:29

Compound	Conc as Analyzed (ppbV)	Tag Value	% Diff. From Tag	Pass/Fail
Ethylene	3.92	3.92	0.1	PASS
Acetylene	4.04	3.92	3.1	PASS
Ethane	3.88	3.95	1.9	PASS
Propylene	3.82	3.84	0.6	PASS
Propane	3.68	3.84	4.2	PASS
Isobutane	3.60	3.76	4.3	PASS
1-Butene	3.65	3.76	2.9	PASS
Butane	3.61	3.76	4.1	PASS
trans-2-Butene	3.65	3.72	1.9	PASS
cis-2-Butene	4.00	4.00	0.1	PASS
Isopentane	3.66	3.80	3.6	PASS
1-Pentene	3.70	3.76	1.5	PASS
Pentane	3.67	3.84	4.4	PASS
Isoprene	3.74	3.88	3.6	PASS
trans-2-Pentene	3.73	4.00	6.8	PASS
cis-2-Pentene	3.86	3.96	2.6	PASS
2,2-Dimethylbutane	3.79	3.88	2.2	PASS
Cyclopentane	3.68	3.80	3.2	PASS
2,3-Dimethylbutane	3.73	3.88	3.8	PASS
2-Methylpentane	3.67	3.84	4.3	PASS
3-Methylpentane	3.73	3.92	4.8	PASS
1-Hexene	3.51	3.84	8.6	PASS
Hexane	3.69	3.88	5.0	PASS
Methylcyclopentane	3.61	3.76	4.0	PASS
2,4-Dimethylpentane	3.69	3.96	6.9	PASS
Benzene	3.35	3.96	15.5	PASS
Cyclohexane	3.73	4.00	6.7	PASS
2-Methylhexane	3.46	3.92	11.8	PASS
2,3-Dimethylpentane	3.56	3.92	9.1	PASS
3-Methylhexane	3.46	3.92	11.6	PASS
2,2,4-Trimethylpentane	3.43	3.92	12.4	PASS
Heptane	3.48	3.96	12.2	PASS
Methylcyclohexane	3.58	3.96	9.7	PASS
2,3,4-Trimethylpentane	3.55	3.96	10.4	PASS
Toluene	3.88	3.96	2.1	PASS
2-Methylheptane	3.68	3.92	6.1	PASS
3-Methylheptane	3.66	3.92	6.7	PASS

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: TO14A Std #3 LCS
Project #: 0916-69
Lab ID: 0916-69 TO14A Std #3 LCS
Datafile: 099F0401.D

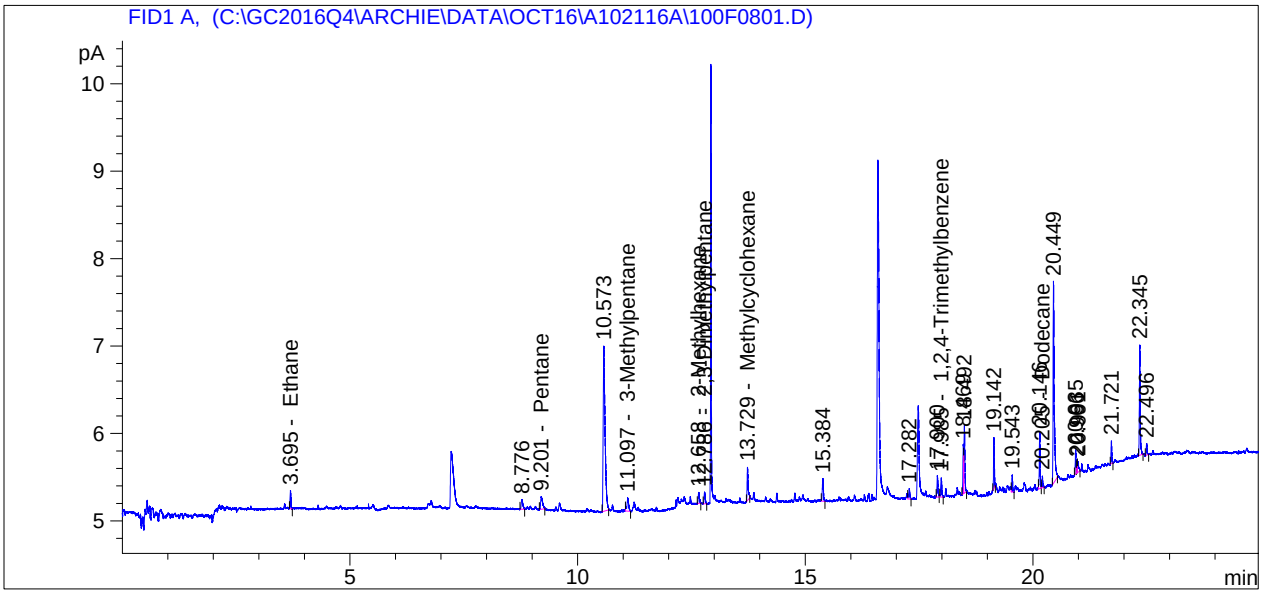
Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 21-Oct-16, 11:10:29

Compound	Conc as Analyzed (ppbV)	Tag Value	% Diff. From Tag	Pass/Fail
Octane	3.79	3.92	3.4	PASS
Ethylbenzene	3.86	3.92	1.5	PASS
m&p-Xylene	7.69	7.84	2.0	PASS
Styrene	3.71	3.88	4.3	PASS
o-Xylene	3.81	3.92	2.7	PASS
Nonane	3.61	3.88	7.0	PASS
Isopropylbenzene	3.64	3.80	4.1	PASS
n-Propylbenzene	3.63	3.80	4.4	PASS
3-Ethyltoluene	3.74	3.92	4.5	PASS
4-Ethyltoluene	3.59	3.72	3.6	PASS
1,3,5-Trimethylbenzene	3.85	3.92	1.8	PASS
2-Ethyltoluene	3.66	3.76	2.8	PASS
1,2,4-Trimethylbenzene	3.83	3.92	2.2	PASS
Decane	3.75	3.76	0.2	PASS
1,2,3-Trimethylbenzene	3.86	3.88	0.6	PASS
m-Diethylbenzene	3.78	3.72	1.7	PASS
p-Diethylbenzene	3.72	3.68	1.2	PASS
Undecane	4.05	3.76	7.7	PASS
Dodecane	4.23	3.64	16.3	PASS

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\100F0801.D
Sample Name: Humid Blank

```
==========================================================================
Acq. Operator   : TDD                          Seq. Line :   8
Acq. Instrument : Archie                        Location : Vial 100
Injection Date  : 21-Oct-16, 13:52:19                Inj :   1
                                              Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed    : 10/21/2016 3:50:49 PM by TDD
                  (modified after loading)
Sample Info     : 250mL load
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/21/2016 3:52:28 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.560		-	-	-		Ethylene
3.627		-	-	-		Acetylene
3.695	BB	2.65412e-1	1.40834e-1	3.73789e-2		Ethane
4.709		-	-	-		Propylene
4.805		-	-	-		Propane
6.152		-	-	-		Isobutane
6.762		-	-	-		1-Butene
6.950		-	-	-		Butane
7.213		-	-	-		trans-2-Butene
7.538		-	-	-		cis-2-Butene
8.648		-	-	-		Isopentane
8.992		-	-	-		1-Pentene
9.201	BB	4.21279e-1	5.88865e-2	2.48076e-2		Pentane
9.343		-	-	-		Isoprene
9.426		-	-	-		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\100F0801.D
Sample Name: Humid Blank

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.593		-	-	-		cis-2-Pentene
10.016		-	-	-		2,2-Dimethylbutane
10.626		-	-	-		Cyclopentane
10.669		-	-	-		2,3-Dimethylbutane
10.763		-	-	-		2-Methylpentane
11.097	BB	3.95789e-1	4.97323e-2	1.96835e-2		3-Methylpentane
11.192		-	-	-		1-Hexene
11.420		-	-	-		Hexane
11.942		-	-	-		Methylcyclopentane
12.023		-	-	-		2,4-Dimethylpentane
12.431		-	-	-		Benzene
12.600		-	-	-		Cyclohexane
12.658	BB	2.18955e-1	4.45895e-2	9.76307e-3		2-Methylhexane
12.786	BB	2.27661e-1	4.31845e-2	9.83142e-3		2,3-Dimethylpentane
12.889		-	-	-		3-Methylhexane
13.149		-	-	-		2,2,4-Trimethylpentane
13.317		-	-	-		Heptane
13.729	BB	6.02234e-1	4.38160e-2	2.63875e-2		Methylcyclohexane
14.240		-	-	-		2,3,4-Trimethylpentane
14.347		-	-	-		Toluene
14.469		-	-	-		2-Methylheptane
14.604		-	-	-		3-Methylheptane
15.027		-	-	-		Octane
15.922		-	-	-		Ethylbenzene
16.064		-	-	-		m&p-Xylene
16.347		-	-	-		Styrene
16.432		-	-	-		o-Xylene
16.606		-	-	-		Nonane
16.918		-	-	-		Isopropylbenzene
17.365		-	-	-		n-Propylbenzene
17.462		-	-	-		3-Ethyltoluene
17.499		-	-	-		4-Ethyltoluene
17.572		-	-	-		1,3,5-Trimethylbenzene
17.750		-	-	-		2-Ethyltoluene
17.985	BB	3.54108e-1	4.50301e-2	1.59455e-2		1,2,4-Trimethylbenzene
18.066		-	-	-		Decane
18.356		-	-	-		1,2,3-Trimethylbenzene
18.650		-	-	-		m-Diethylbenzene
18.735		-	-	-		p-Diethylbenzene
19.249		-	-	-		Undecane
20.205	VB	1.51779e-1	3.87364e-2	5.87936e-3		Dodecane

Totals : 1.67141

2 Warnings or Errors :

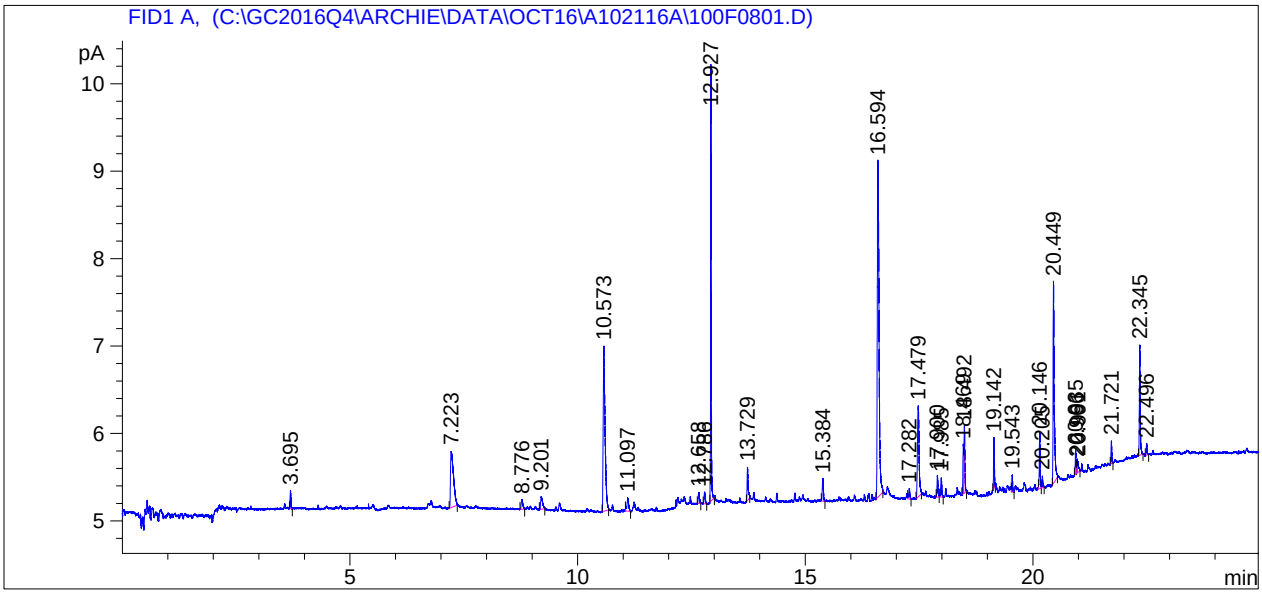
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\100F0801.D
Sample Name: Humid Blank

```
================================================================================
Acq. Operator   : TDD                                 Seq. Line :   8
Acq. Instrument : Archie                               Location : Vial 100
Injection Date  : 21-Oct-16, 13:52:19                      Inj :   1
                                                    Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A101316A-PROPANE.M
Last changed    : 11/3/2016 7:33:13 AM by TDD
                  (modified after loading)
Sample Info     : 250mL load
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/3/2016 7:29:31 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.805            -          -          -          Propane

Totals :                                 0.00000

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.695 BB     2.65412e-1 9.01342e-2 2.39226e-2    ?
  7.223 BB        2.93117 9.01342e-2 2.64198e-1    ?
  8.776 BB     2.72775e-1 9.01342e-2 2.45863e-2    ?
  9.201 BB     4.21279e-1 9.01342e-2 3.79716e-2    ?
 10.573 BB        5.36686 9.01342e-2 4.83738e-1    ?
 11.097 BB     3.95789e-1 9.01342e-2 3.56741e-2    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\100F0801.D
Sample Name: Humid Blank

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
12.658	BB	2.18955e-1	9.01342e-2	1.97353e-2		?
12.786	BB	2.27661e-1	9.01342e-2	2.05200e-2		?
12.927	BB	4.82637	9.01342e-2	4.35021e-1		?
13.729	BB	6.02234e-1	9.01342e-2	5.42818e-2		?
15.384	BB	4.34562e-1	9.01342e-2	3.91689e-2		?
16.594	BB	10.11111	9.01342e-2	9.11357e-1		?
17.282	VB	2.02260e-1	9.01342e-2	1.82305e-2		?
17.479	BB	2.59943	9.01342e-2	2.34297e-1		?
17.900	BB	3.62675e-1	9.01342e-2	3.26894e-2		?
17.985	BB	3.54108e-1	9.01342e-2	3.19172e-2		?
18.469	BV	6.37934e-1	9.01342e-2	5.74997e-2		?
18.492	VB	1.06536	9.01342e-2	9.60252e-2		?
19.142	BB	6.83741e-1	9.01342e-2	6.16284e-2		?
19.543	VV	2.48957e-1	9.01342e-2	2.24395e-2		?
20.146	BV	8.27947e-1	9.01342e-2	7.46264e-2		?
20.205	VB	1.51779e-1	9.01342e-2	1.36805e-2		?
20.449	BB	3.91347	9.01342e-2	3.52738e-1		?
20.935	BV	3.18351e-1	9.01342e-2	2.86943e-2		?
20.966	VV	1.24842e-1	9.01342e-2	1.12525e-2		?
20.991	VB	1.96816e-1	9.01342e-2	1.77398e-2		?
21.721	BB	2.99643e-1	9.01342e-2	2.70080e-2		?
22.345	BB	1.75575	9.01342e-2	1.58253e-1		?
22.496	BB	1.71063e-1	9.01342e-2	1.54186e-2		?

Uncalib. totals : 3.60431

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========
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Area Percent Report
==========

Sorted By : Signal
Calib. Data Modified : 11/3/2016 7:29:31 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Area %	Name
1	4.805		0.0000	0.00000	0.00000	Propane

Totals : 0.00000 0.0000

Uncalibrated Peaks:

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Area %	Name
1	3.695	BB	0.0195	2.65412e-1	0.66372	?
2	7.223	BB	0.0606	2.93117	7.33006	?
3	8.776	BB	0.0306	2.72775e-1	0.68214	?
4	9.201	BB	0.0380	4.21279e-1	1.05350	?
5	10.573	BB	0.0412	5.36686	13.42108	?

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\100F0801.D
Sample Name: Humid Blank

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Area %	Name
6	11.097	BB	0.0330	3.95789e-1	0.98976	?
7	12.658	BB	0.0248	2.18955e-1	0.54755	?
8	12.786	BB	0.0248	2.27661e-1	0.56932	?
9	12.927	BB	0.0148	4.82637	12.06946	?
10	13.729	BB	0.0240	6.02234e-1	1.50602	?
11	15.384	BB	0.0253	4.34562e-1	1.08672	?
12	16.594	BB	0.0416	10.11111	25.28517	?
13	17.282	VB	0.0253	2.02260e-1	0.50580	?
14	17.479	BB	0.0366	2.59943	6.50047	?
15	17.900	BB	0.0232	3.62675e-1	0.90695	?
16	17.985	BB	0.0255	3.54108e-1	0.88553	?
17	18.469	BV	0.0182	6.37934e-1	1.59530	?
18	18.492	VB	0.0201	1.06536	2.66417	?
19	19.142	BB	0.0183	6.83741e-1	1.70985	?
20	19.543	VV	0.0204	2.48957e-1	0.62257	?
21	20.146	BV	0.0194	8.27947e-1	2.07047	?
22	20.205	VB	0.0169	1.51779e-1	0.37956	?
23	20.449	BB	0.0248	3.91347	9.78655	?
24	20.935	BV	0.0175	3.18351e-1	0.79611	?
25	20.966	VV	0.0159	1.24842e-1	0.31220	?
26	20.991	VB	0.0226	1.96816e-1	0.49218	?
27	21.721	BB	0.0180	2.99643e-1	0.74933	?
28	22.345	BB	0.0218	1.75575	4.39065	?
29	22.496	BB	0.0190	1.71063e-1	0.42778	?
Uncalib. totals :				39.98830	100.0000	

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

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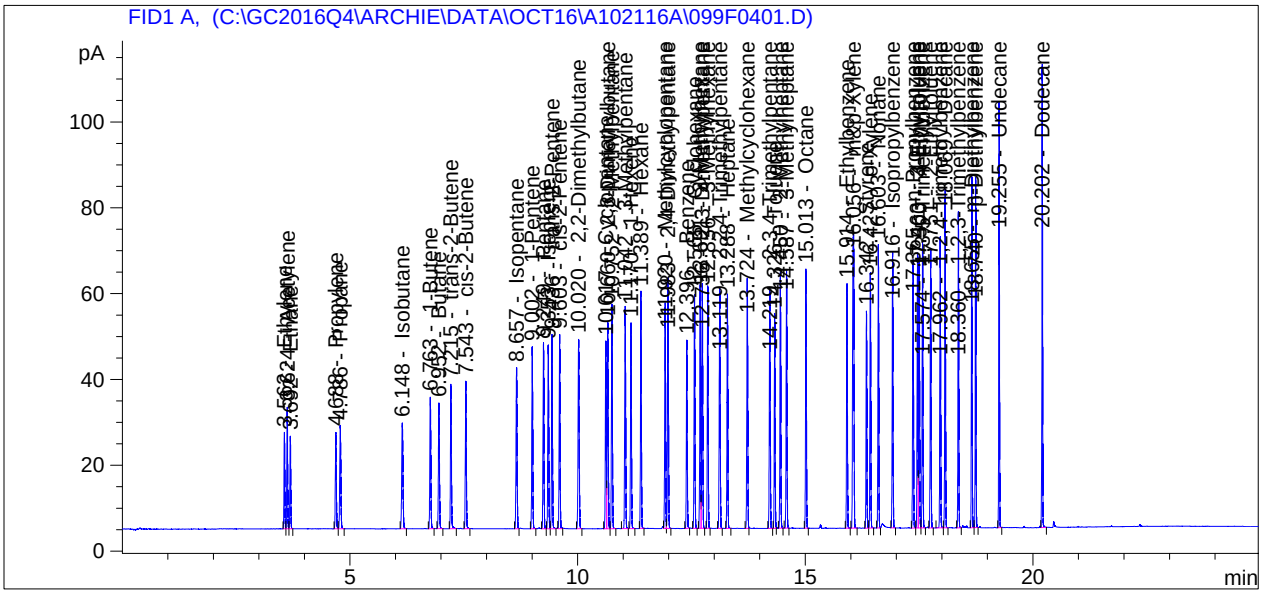
*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\099F0401.D
Sample Name: TO14A Std #3 LCS

```
================================================================================
Acq. Operator    : TDD                                  Seq. Line :   4
Acq. Instrument  : Archie                                Location : Vial 99
Injection Date   : 21-Oct-16, 11:10:29                       Inj :   1
                                                      Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed     : 10/21/2016 3:50:49 PM by TDD
                   (modified after loading)
Sample Info      : Can #10889; 50mL
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/21/2016 3:50:08 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.562	BV		27.73484	1.41171e-1	3.91535		Ethylene
3.624	VV		35.52389	1.13819e-1	4.04329		Acetylene
3.692	VB		27.53282	1.40834e-1	3.87755		Ethane
4.688	BV		34.40385	1.10929e-1	3.81640		Propylene
4.786	VB		40.80396	9.01342e-2	3.67783		Propane
6.148	BB	+	47.83252	7.51993e-2	3.59697		Isobutane
6.763	BB		47.22760	7.73414e-2	3.65265		1-Butene
6.952	BB		45.95245	7.84574e-2	3.60531		Butane
7.215	BB		48.85738	7.47000e-2	3.64965		trans-2-Butene
7.543	BB		51.16478	7.82194e-2	4.00208		cis-2-Butene
8.657	BV		60.84892	6.02292e-2	3.66488		Isopentane
9.002	BB		60.66215	6.10574e-2	3.70387		1-Pentene
9.249	VB		62.31445	5.88865e-2	3.66948		Pentane
9.353	BV		61.80840	6.05279e-2	3.74114		Isoprene
9.436	VV		63.20448	5.89855e-2	3.72815		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\099F0401.D
Sample Name: TO14A Std #3 LCS

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.603	VV		63.70314	6.05314e-2	3.85604		cis-2-Pentene
10.020	BB		76.79944	4.93881e-2	3.79298		2,2-Dimethylbutane
10.617	VV		62.31451	5.90596e-2	3.68027		Cyclopentane
10.660	VV		75.65428	4.93489e-2	3.73346		2,3-Dimethylbutane
10.752	VB		76.04996	4.83197e-2	3.67471		2-Methylpentane
11.042	BB		75.05839	4.97323e-2	3.73283		3-Methylpentane
11.170	BB		67.33348	5.21129e-2	3.50894		1-Hexene
11.389	BB		73.64449	5.00754e-2	3.68778		Hexane
11.920	VV		72.87983	4.95441e-2	3.61076		Methylcyclopentane
11.983	VB		84.64830	4.35398e-2	3.68557		2,4-Dimethylpentane
12.396	VB		59.33934	5.63882e-2	3.34604		Benzene
12.565	BB		77.15155	4.83916e-2	3.73349		Cyclohexane
12.691	BV		77.51492	4.45895e-2	3.45635		2-Methylhexane
12.736	VB		82.49975	4.31845e-2	3.56271		2,3-Dimethylpentane
12.856	BV		78.34592	4.42181e-2	3.46431		3-Methylhexane
13.119	VB		85.49606	4.01614e-2	3.43364		2,2,4-Trimethylpentane
13.288	BB		70.85571	4.90887e-2	3.47821		Heptane
13.724	BV		81.64729	4.38160e-2	3.57746		Methylcyclohexane
14.219	BB		81.44372	4.35789e-2	3.54923		2,3,4-Trimethylpentane
14.326	BV		64.43672	6.01593e-2	3.87647		Toluene
14.450	VB		79.49645	4.63230e-2	3.68251		2-Methylheptane
14.587	BB		80.28593	4.55628e-2	3.65805		3-Methylheptane
15.013	BB		76.74186	4.93236e-2	3.78519		Octane
15.914	BB	+	73.10375	5.28390e-2	3.86273		Ethylbenzene
16.056	BB		146.60710	5.24257e-2	7.68598		m&p-Xylene
16.342	BV		64.61886	5.74423e-2	3.71186		Styrene
16.427	VB		76.92554	4.95590e-2	3.81236		o-Xylene
16.603	BV		83.72771	4.31035e-2	3.60896		Nonane
16.916	BB		85.19572	4.27648e-2	3.64338		Isopropylbenzene
17.365	BV		80.93328	4.48783e-2	3.63214		n-Propylbenzene
17.463	VV		83.44899	4.48763e-2	3.74489		3-Ethyltoluene
17.500	VV		80.90437	4.43324e-2	3.58668		4-Ethyltoluene
17.574	VB		86.98446	4.42370e-2	3.84793		1,3,5-Trimethylbenzene
17.751	VB		85.44283	4.27881e-2	3.65593		2-Ethyltoluene
17.962	BV		85.11457	4.50301e-2	3.83272		1,2,4-Trimethylbenzene
18.069	VB		96.00579	3.90813e-2	3.75203		Decane
18.360	VB		88.93374	4.33603e-2	3.85619		1,2,3-Trimethylbenzene
18.655	BV		95.39561	3.96513e-2	3.78256		m-Diethylbenzene
18.740	VB		92.22146	4.03631e-2	3.72234		p-Diethylbenzene
19.255	BB	+	106.62964	3.79876e-2	4.05060		Undecane
20.202	VB		109.31864	3.87364e-2	4.23461		Dodecane

Totals : 211.93549

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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*** End of Report ***

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 2 161017B02 A Can114 LD
Project #: 1016-55
Lab ID: 1016-55 Site 2 161017B02 A Can114 LD
Datafile: 092F1601.D

Pressurization Dilution Factor: 8.651
Analyzed Dilution Factor: 1000
Time Stamp: 14-Nov-16, 18:19:44

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual	%Diff
Ethylene	0.0392	339	395	ND	NA
Acetylene	0.0409	354	383	ND	NA
Ethane	22.9	198,203	247,745		7.7
Propylene	0.0384	332	581	ND	NA
Propane	8.00	69,197	126,840		7.9
Isobutane	1.83	15,869	38,342		8.3
1-Butene	0.0431	372	869	ND	NA
Butane	2.09	18,100	43,731		9.0
trans-2-Butene	0.0732	633	1,476	ND	NA
cis-2-Butene	0.0429	371	866	ND	NA
Isopentane	0.830	7,182	21,539		10.8
1-Pentene	0.0435	376	1,096	ND	NA
Pentane	0.602	5,208	15,619		11.0
Isoprene	0.0478	414	1,171	ND	NA
trans-2-Pentene	0.0400	346	1,009	ND	NA
cis-2-Pentene	0.0431	373	1,087	ND	NA
2,2-Dimethylbutane	0.0635	549	1,968	ND	NA
Cyclopentane	0.0682	590	1,721	ND	NA
2,3-Dimethylbutane	0.0596	515	1,846	ND	NA
2-Methylpentane	0.204	1,763	6,315	J	NA
3-Methylpentane	0.0630	545	1,952	ND	NA
1-Hexene	0.0630	545	1,908	ND	NA
Hexane	0.0695	601	2,155	ND	NA
Methylcyclopentane	0.0861	745	2,607	ND	NA
2,4-Dimethylpentane	0.0855	740	3,081	ND	NA
Benzene	0.0950	822	2,668	ND	NA
Cyclohexane	0.0829	717	2,509	ND	NA
2-Methylhexane	0.0772	668	2,781	ND	NA
2,3-Dimethylpentane	0.0787	680	2,834	ND	NA
3-Methylhexane	0.0742	642	2,674	ND	NA
2,2,4-Trimethylpentane	0.0768	665	3,156	ND	NA
Heptane	0.0810	701	2,918	ND	NA
Methylcyclohexane	0.0681	590	2,406	ND	NA
2,3,4-Trimethylpentane	0.0719	622	2,954	ND	NA
Toluene	0.111	959	3,672	ND	NA
2-Methylheptane	0.0952	824	3,912	ND	NA
3-Methylheptane	0.0901	779	3,701	ND	NA
Octane	0.0935	809	3,841	ND	NA

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 2 161017B02 A Can114 LD
Project #: 1016-55
Lab ID: 1016-55 Site 2 161017B02 A Can114 LD
Datafile: 092F1601.D

Pressurization Dilution Factor: 8.651
Analyzed Dilution Factor: 1000
Time Stamp: 14-Nov-16, 18:19:44

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual	%Diff
Ethylbenzene	0.0781	675	2,980	ND	NA
m&p-Xylene	0.150	1,302	5,746	ND	NA
Styrene	0.0827	715	3,096	ND	NA
o-Xylene	0.0696	602	2,658	ND	NA
Nonane	0.0722	625	3,332	ND	NA
Isopropylbenzene	0.0617	533	2,665	ND	NA
n-Propylbenzene	0.0725	627	3,133	ND	NA
3-Ethyltoluene	0.0793	686	3,430	ND	NA
4-Ethyltoluene	0.0652	564	2,817	ND	NA
1,3,5-Trimethylbenzene	0.0604	523	2,611	ND	NA
2-Ethyltoluene	0.0610	528	2,636	ND	NA
1,2,4-Trimethylbenzene	0.0628	543	2,713	ND	NA
Decane	0.0589	509	3,012	ND	NA
1,2,3-Trimethylbenzene	0.0702	608	3,036	ND	NA
m-Diethylbenzene	0.0626	542	3,022	ND	NA
p-Diethylbenzene	0.0641	555	3,095	ND	NA
Undecane	0.0553	479	3,110	ND	NA
Dodecane	0.0418	362	2,560	ND	NA
Totals As Propane	37.2	321,854	589,971		10.2

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 2 161017B02 D Can577 LD
Project #: 1016-55
Lab ID: 1016-55 Site 2 161017B02 D Can577 LD
Datafile: 092F1701.D

Pressurization Dilution Factor: 3.693
Analyzed Dilution Factor: 10,000
Time Stamp: 16-Nov-16, 16:18:20

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual	%Diff
Ethylene	0.0712	2,631	3,068	J	NA
Acetylene	0.0619	2,287	2,475	J	NA
Ethane	20.3	749,295	936,587		10.5
Propylene	0.0384	1,418	2,481	ND	NA
Propane	7.07	261,043	478,502		10.6
Isobutane	1.63	60,021	145,019		10.6
1-Butene	0.133	4,908	11,446	J	2.5
Butane	1.90	70,243	169,715		10.9
trans-2-Butene	0.0732	2,702	6,302	ND	NA
cis-2-Butene	0.0429	1,585	3,697	ND	NA
Isopentane	0.799	29,489	88,444		11.9
1-Pentene	0.0435	1,605	4,679	ND	NA
Pentane	0.578	21,329	63,970		11.1
Isoprene	0.0478	1,766	5,000	ND	NA
trans-2-Pentene	0.0400	1,477	4,307	ND	NA
cis-2-Pentene	0.0431	1,592	4,642	ND	NA
2,2-Dimethylbutane	0.0635	2,346	8,402	ND	NA
Cyclopentane	0.0682	2,520	7,347	ND	NA
2,3-Dimethylbutane	0.0596	2,200	7,881	ND	NA
2-Methylpentane	0.217	8,022	28,737	J	NA
3-Methylpentane	0.144	5,310	19,022	J	NA
1-Hexene	0.0630	2,328	8,143	ND	NA
Hexane	0.0695	2,568	9,198	ND	NA
Methylcyclopentane	0.0861	3,181	11,128	ND	NA
2,4-Dimethylpentane	0.0855	3,157	13,152	ND	NA
Benzene	0.0950	3,507	11,387	ND	NA
Cyclohexane	0.0829	3,061	10,709	ND	NA
2-Methylhexane	0.0772	2,850	11,873	ND	NA
2,3-Dimethylpentane	0.0787	2,905	12,099	ND	NA
3-Methylhexane	0.0742	2,741	11,416	ND	NA
2,2,4-Trimethylpentane	0.0768	2,838	13,474	ND	NA
Heptane	0.0810	2,991	12,457	ND	NA
Methylcyclohexane	0.0681	2,517	10,272	ND	NA
2,3,4-Trimethylpentane	0.0719	2,656	12,612	ND	NA
Toluene	0.140	5,153	19,736	J	NA
2-Methylheptane	0.0952	3,517	16,701	ND	NA
3-Methylheptane	0.0901	3,328	15,801	ND	NA
Octane	0.0935	3,453	16,397	ND	NA

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Site 2 161017B02 D Can577 LD
Project #: 1016-55
Lab ID: 1016-55 Site 2 161017B02 D Can577 LD
Datafile: 092F1701.D

Pressurization Dilution Factor: 3.693
Analyzed Dilution Factor: 10,000
Time Stamp: 16-Nov-16, 16:18:20

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual	%Diff
Ethylbenzene	0.0781	2,883	12,723	ND	NA
m&p-Xylene	0.150	5,558	24,528	ND	NA
Styrene	0.0827	3,053	13,216	ND	NA
o-Xylene	0.0696	2,571	11,348	ND	NA
Nonane	0.0722	2,668	14,225	ND	NA
Isopropylbenzene	0.0617	2,277	11,376	ND	NA
n-Propylbenzene	0.0725	2,677	13,376	ND	NA
3-Ethyltoluene	0.0793	2,930	14,641	ND	NA
4-Ethyltoluene	0.0652	2,407	12,026	ND	NA
1,3,5-Trimethylbenzene	0.0604	2,231	11,145	ND	NA
2-Ethyltoluene	0.0610	2,252	11,251	ND	NA
1,2,4-Trimethylbenzene	0.0628	2,318	11,583	ND	NA
Decane	0.0589	2,174	12,858	ND	NA
1,2,3-Trimethylbenzene	0.0702	2,594	12,959	ND	NA
m-Diethylbenzene	0.0626	2,312	12,901	ND	NA
p-Diethylbenzene	0.0641	2,368	13,211	ND	NA
Undecane	0.0553	2,043	13,275	ND	NA
Dodecane	0.0418	1,544	10,930	ND	NA
Totals As Propane	34.9	1,290,611	2,365,741		10.9

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Humid Blank
Project #: 1016-55
Lab ID: 1016-55 Humid Blank
Datafile: 098F0501.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 14-Nov-16, 10:35:32

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	0.0392	0.0450	ND
Acetylene	0.0409	0.0409	0.0435	ND
Ethane	0.166	0.166	0.204	J
Propylene	0.0384	0.0384	0.0661	ND
Propane	0.0384	0.0384	0.0693	ND
Isobutane	0.0395	0.0395	0.0938	ND
1-Butene	0.0431	0.0431	0.0988	ND
Butane	0.0407	0.0407	0.0968	ND
trans-2-Butene	0.0732	0.0732	0.168	ND
cis-2-Butene	0.0429	0.0429	0.0985	ND
Isopentane	0.0630	0.0630	0.186	ND
1-Pentene	0.0435	0.0435	0.125	ND
Pentane	0.0496	0.0496	0.146	ND
Isoprene	0.0478	0.0478	0.133	ND
trans-2-Pentene	0.0400	0.0400	0.115	ND
cis-2-Pentene	0.0431	0.0431	0.124	ND
2,2-Dimethylbutane	0.0635	0.0635	0.224	ND
Cyclopentane	0.0682	0.0682	0.196	ND
2,3-Dimethylbutane	0.0596	0.0596	0.210	ND
2-Methylpentane	0.0513	0.0513	0.181	ND
3-Methylpentane	0.0630	0.0630	0.222	ND
1-Hexene	0.0630	0.0630	0.217	ND
Hexane	0.0695	0.0695	0.245	ND
Methylcyclopentane	0.0861	0.0861	0.296	ND
2,4-Dimethylpentane	0.0855	0.0855	0.350	ND
Benzene	0.0950	0.0950	0.303	ND
Cyclohexane	0.0829	0.0829	0.285	ND
2-Methylhexane	0.0772	0.0772	0.316	ND
2,3-Dimethylpentane	0.0787	0.0787	0.322	ND
3-Methylhexane	0.0742	0.0742	0.304	ND
2,2,4-Trimethylpentane	0.0768	0.0768	0.359	ND
Heptane	0.0810	0.0810	0.332	ND
Methylcyclohexane	0.0681	0.0681	0.274	ND
2,3,4-Trimethylpentane	0.0719	0.0719	0.336	ND
Toluene	0.111	0.111	0.418	ND
2-Methylheptane	0.0952	0.0952	0.445	ND
3-Methylheptane	0.0901	0.0901	0.421	ND
Octane	0.0935	0.0935	0.437	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Humid Blank
Project #: 1016-55
Lab ID: 1016-55 Humid Blank
Datafile: 098F0501.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 14-Nov-16, 10:35:32

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylbenzene	0.0781	0.0781	0.339	ND
m&p-Xylene	0.150	0.150	0.653	ND
Styrene	0.0827	0.0827	0.352	ND
o-Xylene	0.0696	0.0696	0.302	ND
Nonane	0.0722	0.0722	0.379	ND
Isopropylbenzene	0.0617	0.0617	0.303	ND
n-Propylbenzene	0.0725	0.0725	0.356	ND
3-Ethyltoluene	0.0793	0.0793	0.390	ND
4-Ethyltoluene	0.0652	0.0652	0.320	ND
1,3,5-Trimethylbenzene	0.0604	0.0604	0.297	ND
2-Ethyltoluene	0.0610	0.0610	0.300	ND
1,2,4-Trimethylbenzene	0.0628	0.0628	0.309	ND
Decane	0.0589	0.0589	0.343	ND
1,2,3-Trimethylbenzene	0.0702	0.0702	0.345	ND
m-Diethylbenzene	0.0626	0.0626	0.344	ND
p-Diethylbenzene	0.0641	0.0641	0.352	ND
Undecane	0.0553	0.0553	0.354	ND
Dodecane	0.0418	0.0418	0.291	ND
Totals As Propane	7.41	7.41	13.4	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Humid Blank
Project #: 1016-55
Lab ID: 1016-55 Humid Blank
Datafile: 100F1201.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 16-Nov-16, 12:56:12

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylene	0.0392	0.0392	0.0450	ND
Acetylene	0.0409	0.0409	0.0435	ND
Ethane	0.158	0.158	0.195	J
Propylene	0.0384	0.0384	0.0661	ND
Propane	0.0384	0.0384	0.0693	ND
Isobutane	0.0395	0.0395	0.0938	ND
1-Butene	0.0431	0.0431	0.0988	ND
Butane	0.0407	0.0407	0.0968	ND
trans-2-Butene	0.140	0.140	0.321	J
cis-2-Butene	0.0429	0.0429	0.0985	ND
Isopentane	0.0630	0.0630	0.186	ND
1-Pentene	0.0435	0.0435	0.125	ND
Pentane	0.0496	0.0496	0.146	ND
Isoprene	0.0478	0.0478	0.133	ND
trans-2-Pentene	0.0400	0.0400	0.115	ND
cis-2-Pentene	0.0431	0.0431	0.124	ND
2,2-Dimethylbutane	0.0635	0.0635	0.224	ND
Cyclopentane	0.0682	0.0682	0.196	ND
2,3-Dimethylbutane	0.0596	0.0596	0.210	ND
2-Methylpentane	0.0513	0.0513	0.181	ND
3-Methylpentane	0.0630	0.0630	0.222	ND
1-Hexene	0.0630	0.0630	0.217	ND
Hexane	0.0695	0.0695	0.245	ND
Methylcyclopentane	0.0861	0.0861	0.296	ND
2,4-Dimethylpentane	0.0855	0.0855	0.350	ND
Benzene	0.0950	0.0950	0.303	ND
Cyclohexane	0.0829	0.0829	0.285	ND
2-Methylhexane	0.0772	0.0772	0.316	ND
2,3-Dimethylpentane	0.0787	0.0787	0.322	ND
3-Methylhexane	0.0742	0.0742	0.304	ND
2,2,4-Trimethylpentane	0.0768	0.0768	0.359	ND
Heptane	0.0810	0.0810	0.332	ND
Methylcyclohexane	0.0681	0.0681	0.274	ND
2,3,4-Trimethylpentane	0.0719	0.0719	0.336	ND
Toluene	0.111	0.111	0.418	ND
2-Methylheptane	0.0952	0.0952	0.445	ND
3-Methylheptane	0.0901	0.0901	0.421	ND
Octane	0.0935	0.0935	0.437	ND

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: Humid Blank
Project #: 1016-55
Lab ID: 1016-55 Humid Blank
Datafile: 100F1201.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 16-Nov-16, 12:56:12

Compound	Conc as Analyzed (ppbV)	Conc (ppbV)	Conc (ug/m^3)	Qual
Ethylbenzene	0.0781	0.0781	0.339	ND
m&p-Xylene	0.150	0.150	0.653	ND
Styrene	0.0827	0.0827	0.352	ND
o-Xylene	0.0696	0.0696	0.302	ND
Nonane	0.542	0.542	2.84	
Isopropylbenzene	0.0617	0.0617	0.303	ND
n-Propylbenzene	0.0725	0.0725	0.356	ND
3-Ethyltoluene	0.109	0.109	0.536	J
4-Ethyltoluene	0.0652	0.0652	0.320	ND
1,3,5-Trimethylbenzene	0.0604	0.0604	0.297	ND
2-Ethyltoluene	0.0610	0.0610	0.300	ND
1,2,4-Trimethylbenzene	0.0628	0.0628	0.309	ND
Decane	0.0589	0.0589	0.343	ND
1,2,3-Trimethylbenzene	0.0702	0.0702	0.345	ND
m-Diethylbenzene	0.0626	0.0626	0.344	ND
p-Diethylbenzene	0.0641	0.0641	0.352	ND
Undecane	0.0553	0.0553	0.354	ND
Dodecane	0.0418	0.0418	0.291	ND
Totals As Propane	5.35	5.35	9.65	

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: TO14A Std #3 LCS
Project #: 1016-55
Lab ID: 1016-55 TO14A Std #3 LCS
Datafile: 098F0401.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 14-Nov-16, 09:44:16

Compound	Conc as Analyzed (ppbV)	Tag Value	% Recovery	Pass/Fail
Ethylene	4.42	3.92	112.8	PASS
Acetylene	4.60	3.92	117.5	PASS
Ethane	4.15	3.95	105.0	PASS
Propylene	4.47	3.84	116.3	PASS
Propane	4.45	3.84	115.8	PASS
Isobutane	4.37	3.76	116.2	PASS
1-Butene	4.18	3.76	111.1	PASS
Butane	4.23	3.76	112.6	PASS
trans-2-Butene	3.79	3.72	101.9	PASS
cis-2-Butene	4.24	4.00	105.9	PASS
Isopentane	3.83	3.80	100.8	PASS
1-Pentene	3.68	3.76	98.0	PASS
Pentane	3.73	3.84	97.1	PASS
Isoprene	3.82	3.88	98.4	PASS
trans-2-Pentene	3.92	4.00	98.1	PASS
cis-2-Pentene	3.85	3.96	97.2	PASS
2,2-Dimethylbutane	3.75	3.88	96.6	PASS
Cyclopentane	3.58	3.80	94.3	PASS
2,3-Dimethylbutane	3.60	3.88	92.7	PASS
2-Methylpentane	3.59	3.84	93.5	PASS
3-Methylpentane	3.59	3.92	91.7	PASS
1-Hexene	3.56	3.84	92.8	PASS
Hexane	3.63	3.88	93.5	PASS
Methylcyclopentane	3.49	3.76	92.8	PASS
2,4-Dimethylpentane	3.68	3.96	92.9	PASS
Benzene	3.42	3.96	86.3	PASS
Cyclohexane	3.59	4.00	89.8	PASS
2-Methylhexane	3.61	3.92	92.1	PASS
2,3-Dimethylpentane	3.62	3.92	92.3	PASS
3-Methylhexane	3.59	3.92	91.7	PASS
2,2,4-Trimethylpentane	3.62	3.92	92.2	PASS
Heptane	3.56	3.96	89.9	PASS
Methylcyclohexane	3.64	3.96	91.9	PASS
2,3,4-Trimethylpentane	3.59	3.96	90.7	PASS
Toluene	3.34	3.96	84.3	PASS
2-Methylheptane	3.47	3.92	88.4	PASS
3-Methylheptane	3.46	3.92	88.3	PASS
Octane	3.42	3.92	87.2	PASS

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: TO14A Std #3 LCS
Project #: 1016-55
Lab ID: 1016-55 TO14A Std #3 LCS
Datafile: 098F0401.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 14-Nov-16, 09:44:16

Compound	Conc as Analyzed (ppbV)	Tag Value	% Recovery	Pass/Fail
Ethylbenzene	3.39	3.92	86.4	PASS
m&p-Xylene	6.83	7.84	87.1	PASS
Styrene	3.37	3.88	86.9	PASS
o-Xylene	3.43	3.92	87.5	PASS
Nonane	3.38	3.88	87.2	PASS
Isopropylbenzene	3.38	3.80	89.0	PASS
n-Propylbenzene	3.42	3.80	90.1	PASS
3-Ethyltoluene	3.52	3.92	89.7	PASS
4-Ethyltoluene	3.36	3.72	90.3	PASS
1,3,5-Trimethylbenzene	3.54	3.92	90.4	PASS
2-Ethyltoluene	3.40	3.76	90.4	PASS
1,2,4-Trimethylbenzene	3.50	3.92	89.3	PASS
Decane	3.48	3.76	92.5	PASS
1,2,3-Trimethylbenzene	3.54	3.88	91.2	PASS
m-Diethylbenzene	3.48	3.72	93.6	PASS
p-Diethylbenzene	3.45	3.68	93.8	PASS
Undecane	3.76	3.76	100.1	PASS
Dodecane	3.97	3.64	109.2	PASS

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: TO14A Std #3 LCS
Project #: 1016-55
Lab ID: 1016-55 TO14A Std #3 LCS
Datafile: 098F1101.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00
Time Stamp: 16-Nov-16, 12:14:35

Compound	Conc as Analyzed (ppbV)	Tag Value	% Recovery	Pass/Fail
Ethylene	4.39	3.92	112.1	PASS
Acetylene	4.65	3.92	118.6	PASS
Ethane	4.14	3.95	104.7	PASS
Propylene	4.44	3.84	115.7	PASS
Propane	4.42	3.84	115.1	PASS
Isobutane	4.46	3.76	118.6	PASS
1-Butene	4.49	3.76	119.3	PASS
Butane	4.61	3.76	122.5	PASS
trans-2-Butene	4.22	3.72	113.5	PASS
cis-2-Butene	4.82	4.00	120.5	PASS
Isopentane	4.78	3.80	125.9	PASS
1-Pentene	4.59	3.76	122.0	PASS
Pentane	4.73	3.84	123.1	PASS
Isoprene	4.78	3.88	123.2	PASS
trans-2-Pentene	4.87	4.00	121.8	PASS
cis-2-Pentene	4.83	3.96	122.0	PASS
2,2-Dimethylbutane	4.80	3.88	123.8	PASS
Cyclopentane	4.69	3.80	123.5	PASS
2,3-Dimethylbutane	4.63	3.88	119.3	PASS
2-Methylpentane	4.59	3.84	119.6	PASS
3-Methylpentane	4.61	3.92	117.7	PASS
1-Hexene	4.58	3.84	119.2	PASS
Hexane	4.58	3.88	118.0	PASS
Methylcyclopentane	4.47	3.76	119.0	PASS
2,4-Dimethylpentane	4.65	3.96	117.3	PASS
Benzene	4.67	3.96	117.8	PASS
Cyclohexane	4.60	4.00	115.1	PASS
2-Methylhexane	4.60	3.92	117.2	PASS
2,3-Dimethylpentane	4.58	3.92	117.0	PASS
3-Methylhexane	4.57	3.92	116.6	PASS
2,2,4-Trimethylpentane	4.58	3.92	116.9	PASS
Heptane	4.63	3.96	117.0	PASS
Methylcyclohexane	4.60	3.96	116.2	PASS
2,3,4-Trimethylpentane	4.60	3.96	116.2	PASS
Toluene	4.64	3.96	117.2	PASS
2-Methylheptane	4.57	3.92	116.5	PASS
3-Methylheptane	4.55	3.92	116.0	PASS
Octane	4.60	3.92	117.2	PASS

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: TO14A Std #3 LCS
Project #: 1016-55
Lab ID: 1016-55 TO14A Std #3 LCS
Datafile: 098F1101.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

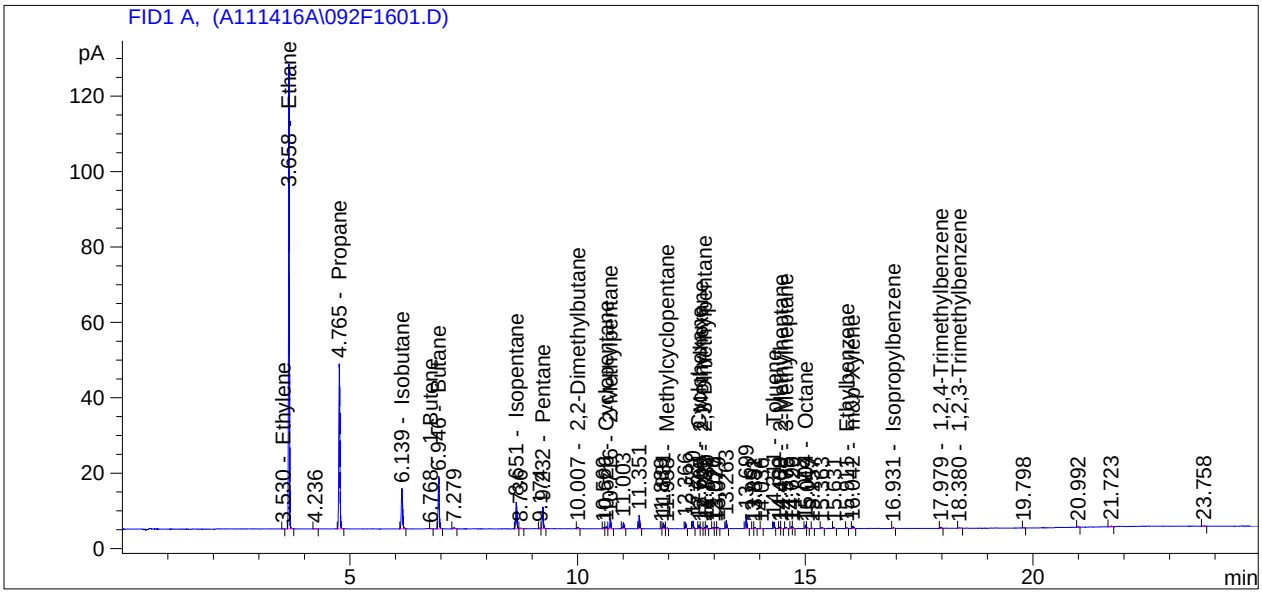
Time Stamp: 16-Nov-16, 12:14:35

Compound	Conc as Analyzed (ppbV)	Tag Value	% Recovery	Pass/Fail
Ethylbenzene	4.62	3.92	118.0	PASS
m&p-Xylene	9.27	7.84	118.3	PASS
Styrene	4.57	3.88	117.7	PASS
o-Xylene	4.58	3.92	116.8	PASS
Nonane	4.39	3.88	113.2	PASS
Isopropylbenzene	4.46	3.80	117.3	PASS
n-Propylbenzene	4.52	3.80	118.9	PASS
3-Ethyltoluene	4.62	3.92	117.9	PASS
4-Ethyltoluene	4.42	3.72	118.9	PASS
1,3,5-Trimethylbenzene	4.62	3.92	117.8	PASS
2-Ethyltoluene	4.43	3.76	117.7	PASS
1,2,4-Trimethylbenzene	4.53	3.92	115.5	PASS
Decane	4.45	3.76	118.4	PASS
1,2,3-Trimethylbenzene	4.56	3.88	117.4	PASS
m-Diethylbenzene	4.42	3.72	118.8	PASS
p-Diethylbenzene	4.38	3.68	119.1	PASS
Undecane	4.51	3.76	120.0	PASS
Dodecane	4.41	3.64	121.1	PASS

Peak #	Compound	TO14A Std #3 099F0201.D A111416A	TO14A Std #3 099F0301.D A111416A	TO14A Std #3 098F0401.D A111416A	AVG RT	STD DEV	Lower RT	Upper RT
1	Ethylene	3.57	3.57	3.56	3.57	0.00890	3.54	3.59
2	Acetylene	3.64	3.63	3.62	3.63	0.008817	3.60	3.66
3	Ethane	3.70	3.70	3.69	3.70	0.008649	3.67	3.72
4	Propylene	4.70	4.69	4.69	4.69	0.00586	4.68	4.71
5	Propane	4.79	4.79	4.78	4.79	0.00549	4.77	4.81
6	Isobutane	6.15	6.15	6.15	6.15	0.00430	6.14	6.16
7	1-Butene	6.77	6.76	6.76	6.76	0.00421	6.75	6.78
8	Butane	6.96	6.95	6.95	6.95	0.00364	6.94	6.96
9	trans-2-Butene	7.22	7.22	7.21	7.22	0.00378	7.21	7.23
10	cis-2-Butene	7.55	7.54	7.54	7.54	0.00379	7.53	7.56
11	Isopentane	8.66	8.65	8.65	8.65	0.00345	8.64	8.66
12	1-Pentene	9.00	9.00	9.00	9.00	0.00325	8.99	9.01
13	Pentane	9.25	9.24	9.24	9.24	0.00306	9.23	9.25
14	Isoprene	9.35	9.35	9.35	9.35	0.00303	9.34	9.36
15	trans-2-Pentene	9.43	9.43	9.43	9.43	0.00294	9.42	9.44
16	cis-2-Pentene	9.60	9.60	9.60	9.60	0.00295	9.59	9.61
17	2,2-Dimethylbutane	10.02	10.02	10.02	10.02	0.00254	10.0	10.0
18	Cyclopentane	10.63	10.63	10.63	10.63	0.00084	10.6	10.6
19	2,3-Dimethylbutane	10.67	10.67	10.67	10.67	0.0011	10.7	10.7
20	2-Methylpentane	10.8	10.8	10.8	10.8	0.0009	10.8	10.8
21	3-Methylpentane	11.1	11.1	11.1	11.1	0.0011	11.1	11.1
22	1-Hexene	11.2	11.2	11.2	11.2	0.0022	11.2	11.2
23	Hexane	11.4	11.4	11.4	11.4	0.0031	11.4	11.4
24	Methylcyclopentane	12.0	12.0	12.0	12.0	0.0074	12.0	12.0
25	2,4-Dimethylpentane	12.0	12.1	12.1	12.1	0.0086	12.0	12.1
26	Benzene	12.5	12.5	12.5	12.5	0.0092	12.4	12.5
27	Cyclohexane	12.6	12.6	12.6	12.6	0.0094	12.6	12.7
28	2-Methylhexane	12.8	12.8	12.8	12.8	0.0104	12.7	12.8
29	2,3-Dimethylpentane	12.8	12.8	12.8	12.8	0.0107	12.8	12.8
30	3-Methylhexane	12.9	12.9	12.9	12.9	0.0117	12.9	13.0
31	2,2,4-Trimethylpentane	13.2	13.2	13.2	13.2	0.0113	13.2	13.2
32	Heptane	13.3	13.4	13.4	13.4	0.0108	13.3	13.4
33	Methylcyclohexane	13.8	13.8	13.8	13.8	0.0100	13.8	13.8
34	2,3,4-Trimethylpentane	14.3	14.3	14.3	14.3	0.0094	14.2	14.3
35	Toluene	14.4	14.4	14.4	14.4	0.0095	14.3	14.4
36	2-Methylheptane	14.5	14.5	14.5	14.5	0.0090	14.5	14.5
37	3-Methylheptane	14.6	14.6	14.6	14.6	0.0088	14.6	14.7
38	Octane	15.0	15.1	15.1	15.1	0.0081	15.0	15.1
39	Ethylbenzene	15.9	15.9	15.9	15.9	0.00675	15.9	16.0
40	m&p-Xylene	16.1	16.1	16.1	16.1	0.00410	16.1	16.1
41	Styrene	16.4	16.4	16.4	16.4	0.00602	16.3	16.4
42	o-Xylene	16.4	16.4	16.5	16.4	0.00581	16.4	16.5
43	Nonane	16.6	16.6	16.6	16.6	0.00518	16.6	16.6
44	Isopropylbenzene	16.9	16.9	16.9	16.9	0.00495	16.9	16.9
45	n-Propylbenzene	17.4	17.4	17.4	17.4	0.00441	17.4	17.4
46	3-Ethyltoluene	17.5	17.5	17.5	17.5	0.00422	17.5	17.5
47	4-Ethyltoluene	17.5	17.5	17.5	17.5	0.00415	17.5	17.5
48	1,3,5-Trimethylbenzene	17.6	17.6	17.6	17.6	0.00409	17.6	17.6
49	2-Ethyltoluene	17.8	17.8	17.8	17.8	0.00389	17.7	17.8
50	1,2,4-Trimethylbenzene	18.0	18.0	18.0	18.0	0.00353	18.0	18.0
51	1,2,3-Trimethylbenzene	18.1	18.1	18.1	18.1	0.00303	18.1	18.1
52	Decane	18.4	18.4	18.4	18.4	0.00288	18.4	18.4
53	m-Diethylbenzene	18.7	18.7	18.7	18.7	0.00255	18.6	18.7
54	p-Diethylbenzene	18.7	18.7	18.7	18.7	0.00248	18.7	18.7
55	Undecane	19.2	19.3	19.3	19.3	0.00242	19.2	19.3
56	Dodecane	20.2	20.2	20.2	20.2	0.00094	20.2	20.2

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1601.D
Sample Name: Site 2 161017B02 A Can114 LD

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  16
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 14-Nov-16, 18:19:44                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111416A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:58:30 PM by TDD
Sample Info     : 1016-55; Can #192; *1000=0.5mL@2* syringe dil
                  (2nd TP)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:56:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.530	BB		1.42501e-1	1.56174e-1	2.22549e-2		Ethylene
3.597			-	-	-		Acetylene
3.658	BB		159.51207	1.43631e-1	22.91096		Ethane
4.650			-	-	-		Propylene
4.765	BB		75.06060	1.06563e-1	7.99868		Propane
6.139	BB	+	21.23038	8.64027e-2	1.83436		Isobutane
6.768	BB		3.37460e-1	8.70487e-2	2.93755e-2		1-Butene
6.946	BB		23.70610	8.82564e-2	2.09221		Butane
7.203			-	-	-		trans-2-Butene
7.530			-	-	-		cis-2-Butene
8.651	BV		12.38965	6.70037e-2	8.30153e-1		Isopentane
8.982			-	-	-		1-Pentene
9.232	VB		9.15031	6.57885e-2	6.01985e-1		Pentane
9.331			-	-	-		Isoprene
9.414			-	-	-		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1601.D
Sample Name: Site 2 161017B02 A Can114 LD

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.581			-	-	-		cis-2-Pentene
10.007	VB		6.73977e-1	5.45100e-2	3.67384e-2		2,2-Dimethylbutane
10.626	VV		9.21878e-1	6.45958e-2	5.95494e-2		Cyclopentane
10.659			-	-	-		2,3-Dimethylbutane
10.716	VB		3.96406	5.14070e-2	2.03780e-1		2-Methylpentane
11.057			-	-	-		3-Methylpentane
11.183			-	-	-		1-Hexene
11.416			-	-	-		Hexane
11.958	BB		2.93331e-1	5.21637e-2	1.53012e-2		Methylcyclopentane
12.027			-	-	-		2,4-Dimethylpentane
12.444			-	-	-		Benzene
12.664	BV		1.32935	5.09033e-2	6.76685e-2		Cyclohexane
12.709	VB		3.05966e-1	4.45384e-2	1.36272e-2		2-Methylhexane
12.785	BV		3.06790e-1	4.41919e-2	1.35576e-2		2,3-Dimethylpentane
12.896			-	-	-		3-Methylhexane
13.152			-	-	-		2,2,4-Trimethylpentane
13.323			-	-	-		Heptane
13.756			-	-	-		Methylcyclohexane
14.240			-	-	-		2,3,4-Trimethylpentane
14.311	BB		2.18416	5.00187e-2	1.09249e-1		Toluene
14.468	VB		1.67935e-1	3.89937e-2	6.54842e-3		2-Methylheptane
14.575	BB		5.14003e-1	3.85897e-2	1.98353e-2		3-Methylheptane
15.004	BV		1.18788	4.06911e-2	4.83362e-2		Octane
15.911	BB	+	1.90827e-1	4.47089e-2	8.53165e-3		Ethylbenzene
16.042	BB		1.12067	4.45401e-2	4.99149e-2		m&p-Xylene
16.333			-	-	-		Styrene
16.419			-	-	-		o-Xylene
16.591			-	-	-		Nonane
16.931	BB		3.74743e-1	3.56607e-2	1.33636e-2		Isopropylbenzene
17.347			-	-	-		n-Propylbenzene
17.444			-	-	-		3-Ethyltoluene
17.481			-	-	-		4-Ethyltoluene
17.554			-	-	-		1,3,5-Trimethylbenzene
17.730			-	-	-		2-Ethyltoluene
17.979	BB		4.71906e-1	3.83166e-2	1.80818e-2		1,2,4-Trimethylbenzene
18.043			-	-	-		Decane
18.380	BB		4.10318e-1	3.68419e-2	1.51169e-2		1,2,3-Trimethylbenzene
18.624			-	-	-		m-Diethylbenzene
18.709			-	-	-		p-Diethylbenzene
19.254			-	-	-		Undecane
20.167			-	-	-		Dodecane

Totals : 40.55519

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

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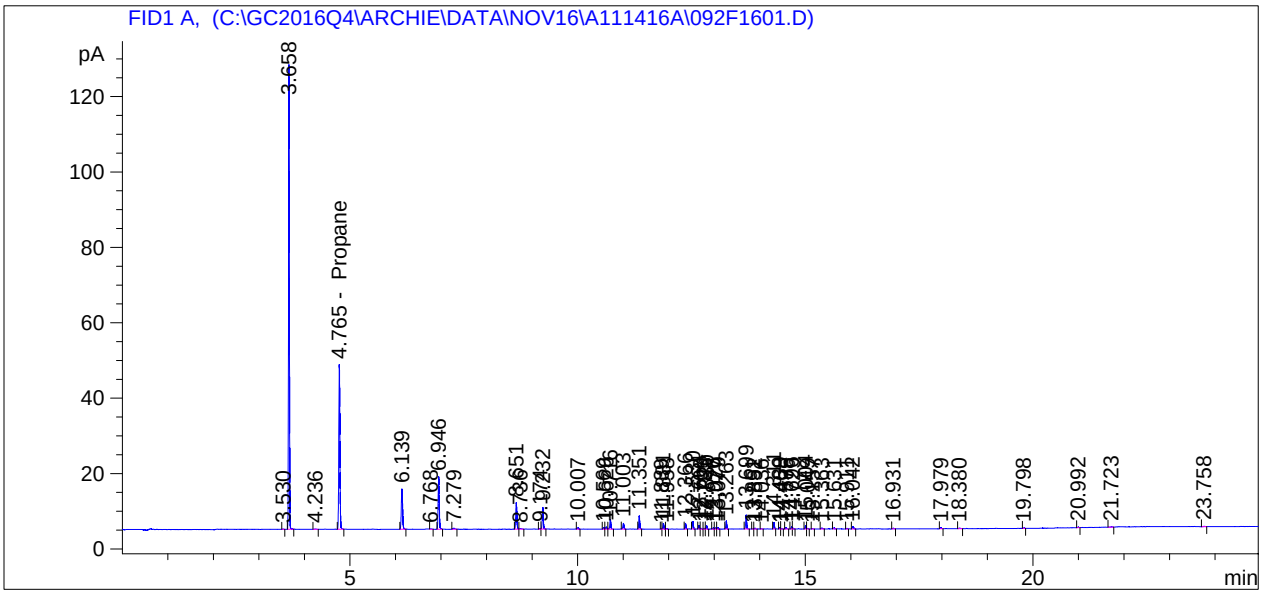
*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1601.D
Sample Name: Site 2 161017B02 A Can114 LD

```
==========================================================================
Acq. Operator    : TDD                              Seq. Line :  16
Acq. Instrument  : Archie                            Location : Vial 92
Injection Date   : 14-Nov-16, 18:19:44                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed     : 11/23/2016 9:42:58 PM by TDD
                   (modified after loading)
Sample Info      : 1016-55; Can #192; *1000=0.5mL@2* syringe dil
                   (2nd TP)
```

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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.765 BB       75.06060 1.06563e-1    7.99868    Propane

Totals :                                7.99868

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.530 BB     1.42501e-1 1.06563e-1 1.51853e-2    ?
  3.658 BB      159.51207 1.06563e-1   16.99808    ?
  4.236 BB     2.81185e-1 1.06563e-1 2.99639e-2    ?
  6.139 BB       21.23038 1.06563e-1    2.26237    ?
  6.768 BB     3.37460e-1 1.06563e-1 3.59608e-2    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\092F1601.D
Sample Name: Site 2 161017B02 A Can114 LD

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
6.946	BB	23.70610	1.06563e-1	2.52619		?
7.279	BB	7.61590e-1	1.06563e-1	8.11573e-2		?
8.651	BV	12.38965	1.06563e-1	1.32028		?
8.736	VB	5.50015e-1	1.06563e-1	5.86112e-2		?
9.174	BV	3.63476e-1	1.06563e-1	3.87330e-2		?
9.232	VB	9.15031	1.06563e-1	9.75084e-1		?
10.007	VB	6.73977e-1	1.06563e-1	7.18209e-2		?
10.569	BV	5.40042e-1	1.06563e-1	5.75485e-2		?
10.626	VV	9.21878e-1	1.06563e-1	9.82380e-2		?
10.716	VB	3.96406	1.06563e-1	4.22422e-1		?
11.003	BB	2.50238	1.06563e-1	2.66661e-1		?
11.351	BB	5.12256	1.06563e-1	5.45875e-1		?
11.839	BV	1.75001e-1	1.06563e-1	1.86486e-2		?
11.881	VB	2.16218	1.06563e-1	2.30408e-1		?
11.958	BB	2.93331e-1	1.06563e-1	3.12582e-2		?
12.366	BB	2.09402	1.06563e-1	2.23145e-1		?
12.530	BB	2.81657	1.06563e-1	3.00142e-1		?
12.664	BV	1.32935	1.06563e-1	1.41660e-1		?
12.709	VB	3.05966e-1	1.06563e-1	3.26046e-2		?
12.785	BV	3.06790e-1	1.06563e-1	3.26925e-2		?
12.830	VB	1.28360	1.06563e-1	1.36785e-1		?
12.976	VV	3.84333e-1	1.06563e-1	4.09557e-2		?
13.027	VV	4.32592e-1	1.06563e-1	4.60983e-2		?
13.079	VB	5.94727e-1	1.06563e-1	6.33759e-2		?
13.263	BB	2.89980	1.06563e-1	3.09011e-1		?
13.699	BB	5.54852	1.06563e-1	5.91267e-1		?
13.851	BV	1.46106e-1	1.06563e-1	1.55694e-2		?
13.892	VB	3.30669e-1	1.06563e-1	3.52370e-2		?
14.036	BB	1.53488e-1	1.06563e-1	1.63562e-2		?
14.311	BB	2.18416	1.06563e-1	2.32750e-1		?
14.439	BV	5.89424e-1	1.06563e-1	6.28108e-2		?
14.468	VB	1.67935e-1	1.06563e-1	1.78957e-2		?
14.575	BB	5.14003e-1	1.06563e-1	5.47737e-2		?
14.696	BV	7.38759e-1	1.06563e-1	7.87243e-2		?
14.729	VB	3.33151e-1	1.06563e-1	3.55016e-2		?
15.004	BV	1.18788	1.06563e-1	1.26584e-1		?
15.049	VB	2.40228e-1	1.06563e-1	2.55994e-2		?
15.157	BB	1.86774e-1	1.06563e-1	1.99031e-2		?
15.363	BB	5.92433e-1	1.06563e-1	6.31314e-2		?
15.631	BB	3.90065e-1	1.06563e-1	4.15665e-2		?
15.911	BB	1.90827e-1	1.06563e-1	2.03350e-2		?
16.042	BB	1.12067	1.06563e-1	1.19422e-1		?
16.931	BB	3.74743e-1	1.06563e-1	3.99338e-2		?
17.979	BB	4.71906e-1	1.06563e-1	5.02877e-2		?
18.380	BB	4.10318e-1	1.06563e-1	4.37247e-2		?
19.798	BB	2.28839e-1	1.06563e-1	2.43857e-2		?
20.992	BB	2.02301e-1	1.06563e-1	2.15578e-2		?
21.723	BB	2.95064e-1	1.06563e-1	3.14429e-2		?
23.758	BB	2.42407e-1	1.06563e-1	2.58316e-2		?

Uncalib. totals : 29.20556

1 Warnings or Errors :

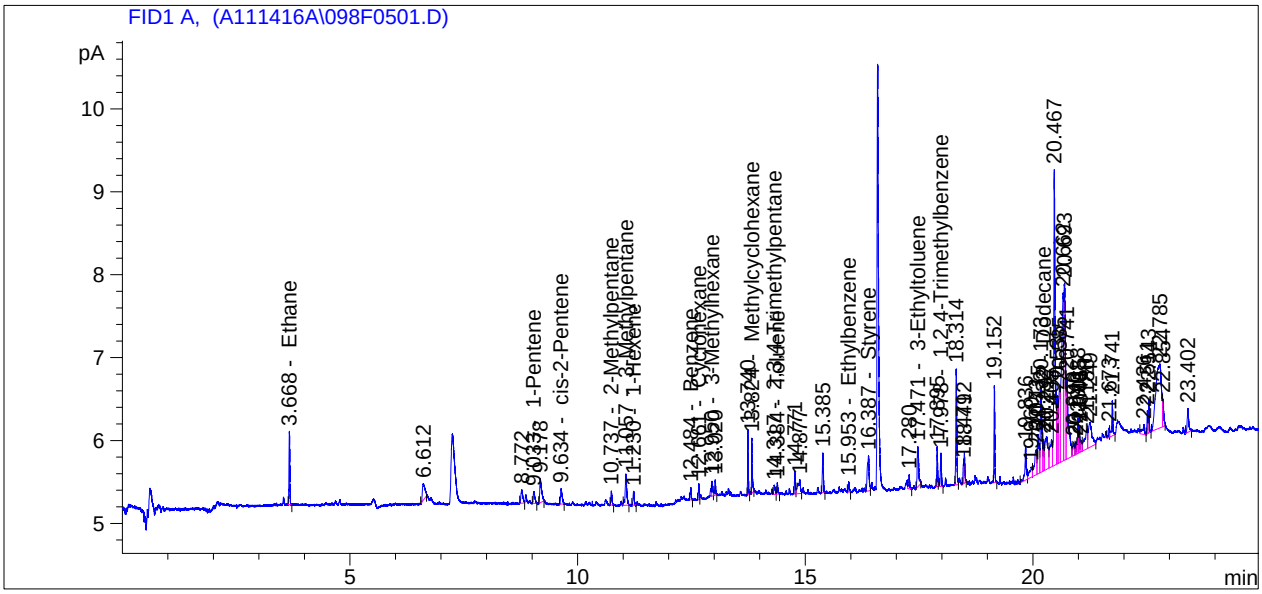
Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\098F0501.D
Sample Name: Humid Blank

Acq. Operator	: TDD	Seq. Line	: 5
Acq. Instrument	: Archie	Location	: Vial 98
Injection Date	: 14-Nov-16, 10:35:32	Inj	: 1
		Inj Volume	: Manually
Sequence File	: C:\GC2016Q4\ARCHIE\SEQUENCE\A111416A.S		
Acq. Method	: C:\ARCHIE\METHODS\TO14A-FID.M		
Last changed	: 11/28/2014 10:08:25 AM by DBS		
Analysis Method	: C:\ARCHIE\METHODS\A111016A-TO14A.M		
Last changed	: 11/21/2016 8:58:30 PM by TDD		
Sample Info	: Can #1422; 50mL		



External Standard Report

Sorted By	:	Signal	
Calib. Data Modified	:	11/21/2016 8:56:06 PM	
Multiplier:	:	1.0000	
Dilution:	:	1.0000	

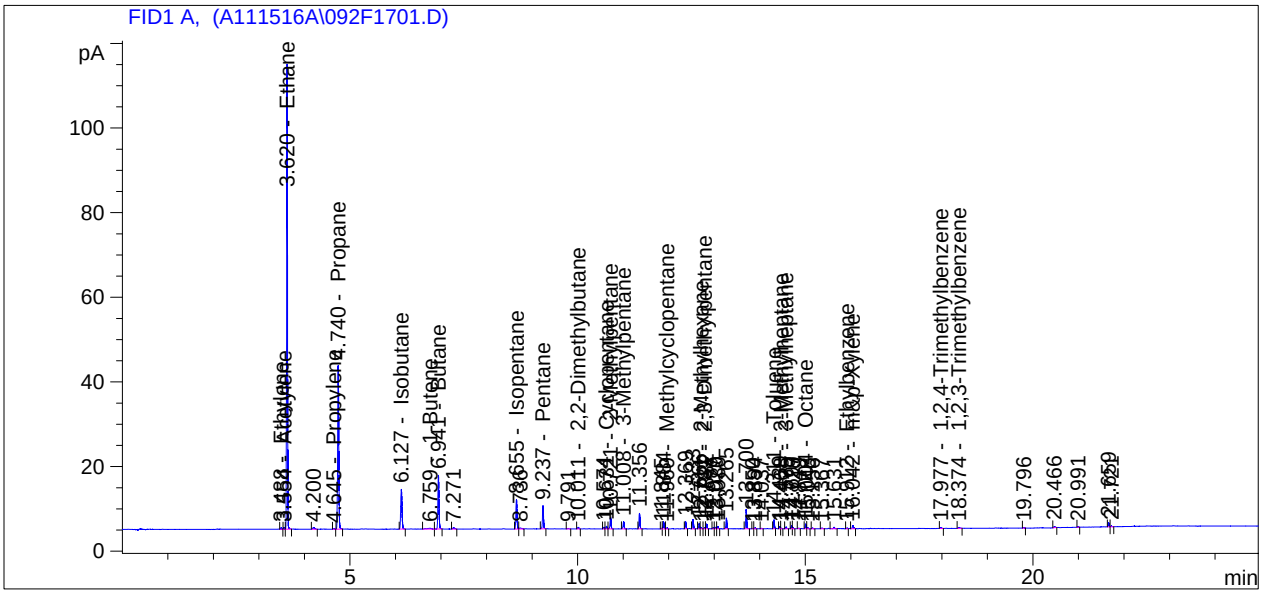
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.533		-	-	-		Ethylene
3.600		-	-	-		Acetylene
3.668	BB	1.15251	1.43631e-1	1.65537e-1		Ethane
4.654		-	-	-		Propylene
4.762		-	-	-		Propane
6.140		-	-	-		Isobutane
6.760		-	-	-		1-Butene
6.951		-	-	-		Butane
7.213		-	-	-		trans-2-Butene
7.541		-	-	-		cis-2-Butene
8.655		-	-	-		Isopentane
9.033	BB	3.40285e-1	6.71624e-2	2.28544e-2		1-Pentene
9.248		-	-	-		Pentane
9.349		-	-	-		Isoprene
9.432		-	-	-		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F1701.D
Sample Name: Site 2 161017B02 D Can577 LD

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  17
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 16-Nov-16, 16:18:20                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111516A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:37:20 PM by TDD
Sample Info     : 1016-55; Can #577; *10,000=0.5mL@20* syringe dil
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:36:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area     Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.488 VB     4.56140e-1 1.56174e-1 7.12372e-2    Ethylene
  3.554 BV     4.74212e-1 1.30564e-1 6.19149e-2    Acetylene
  3.620 VB      141.26146 1.43631e-1   20.28959    Ethane
  4.645 BB     1.58864e-1 1.25238e-1 1.98959e-2    Propylene
  4.740 BB       66.33239 1.06563e-1    7.06858    Propane
  6.127 BB   +    18.81044 8.64027e-2    1.62527    Isobutane
  6.759 BV        1.52659 8.70487e-2 1.32887e-1    1-Butene
  6.941 VB       21.55147 8.82564e-2    1.90205    Butane
  7.192            -          -          -        trans-2-Butene
  7.519            -          -          -        cis-2-Butene
  8.655 BV       11.91747 6.70037e-2 7.98515e-1    Isopentane
  8.973            -          -          -        1-Pentene
  9.237 BB        8.77887 6.57885e-2 5.77549e-1    Pentane
  9.323            -          -          -        Isoprene
  9.405            -          -          -        trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F1701.D
Sample Name: Site 2 161017B02 D Can577 LD

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.573			-	-	-		cis-2-Pentene
10.011	BB		6.59475e-1	5.45100e-2	3.59479e-2		2,2-Dimethylbutane
10.631	VV		9.83381e-1	6.45958e-2	6.35223e-2		Cyclopentane
10.652			-	-	-		2,3-Dimethylbutane
10.721	VB		4.22551	5.14070e-2	2.17221e-1		2-Methylpentane
11.008	BB		2.75406	5.22076e-2	1.43783e-1		3-Methylpentane
11.177			-	-	-		1-Hexene
11.410			-	-	-		Hexane
11.960	VB		3.34119e-1	5.21637e-2	1.74289e-2		Methylcyclopentane
12.022			-	-	-		2,4-Dimethylpentane
12.440			-	-	-		Benzene
12.614			-	-	-		Cyclohexane
12.711	VB		3.95862e-1	4.45384e-2	1.76311e-2		2-Methylhexane
12.787	BV		3.65461e-1	4.41919e-2	1.61504e-2		2,3-Dimethylpentane
12.892			-	-	-		3-Methylhexane
13.149			-	-	-		2,2,4-Trimethylpentane
13.320			-	-	-		Heptane
13.753			-	-	-		Methylcyclohexane
14.238			-	-	-		2,3,4-Trimethylpentane
14.311	BV		2.78947	5.00187e-2	1.39526e-1		Toluene
14.468	VB		2.22176e-1	3.89937e-2	8.66347e-3		2-Methylheptane
14.575	BB		6.41831e-1	3.85897e-2	2.47681e-2		3-Methylheptane
15.004	BV		1.40491	4.06911e-2	5.71676e-2		Octane
15.912	BV	+	2.03948e-1	4.47089e-2	9.11829e-3		Ethylbenzene
16.042	VB		1.37206	4.45401e-2	6.11115e-2		m&p-Xylene
16.334			-	-	-		Styrene
16.419			-	-	-		o-Xylene
16.592			-	-	-		Nonane
16.902			-	-	-		Isopropylbenzene
17.347			-	-	-		n-Propylbenzene
17.444			-	-	-		3-Ethyltoluene
17.482			-	-	-		4-Ethyltoluene
17.554			-	-	-		1,3,5-Trimethylbenzene
17.730			-	-	-		2-Ethyltoluene
17.977	BB		4.36181e-1	3.83166e-2	1.67130e-2		1,2,4-Trimethylbenzene
18.044			-	-	-		Decane
18.374	BB		5.99404e-1	3.68419e-2	2.20832e-2		1,2,3-Trimethylbenzene
18.624			-	-	-		m-Diethylbenzene
18.710			-	-	-		p-Diethylbenzene
19.254			-	-	-		Undecane
20.168			-	-	-		Dodecane

Totals : 37.58580

2 Warnings or Errors :

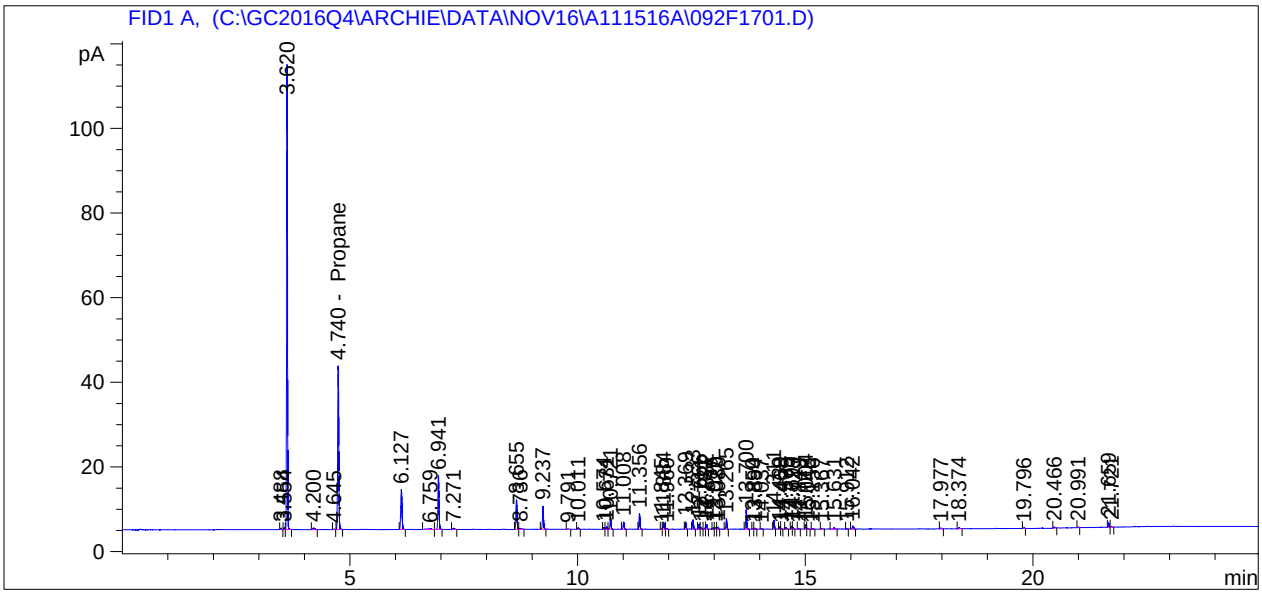
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F1701.D
Sample Name: Site 2 161017B02 D Can577 LD

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  17
Acq. Instrument : Archie                            Location : Vial 92
Injection Date  : 16-Nov-16, 16:18:20                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed    : 11/23/2016 9:42:58 PM by TDD
                  (modified after loading)
Sample Info     : 1016-55; Can #577; *10,000=0.5mL@20* syringe dil
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.740 BB       66.33239 1.06563e-1    7.06858    Propane

Totals :                                7.06858

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.488 VB     4.56140e-1 1.06563e-1 4.86076e-2    ?
  3.554 BV     4.74212e-1 1.06563e-1 5.05334e-2    ?
  3.620 VB      141.26146 1.06563e-1   15.05324    ?
  4.200 BB        1.11316 1.06563e-1 1.18622e-1    ?
  4.645 BB     1.58864e-1 1.06563e-1 1.69290e-2    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\092F1701.D
Sample Name: Site 2 161017B02 D Can577 LD

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
6.127	BB	18.81044	1.06563e-1	2.00450		?
6.759	BV	1.52659	1.06563e-1	1.62677e-1		?
6.941	VB	21.55147	1.06563e-1	2.29659		?
7.271	BB	8.49899e-1	1.06563e-1	9.05677e-2		?
8.655	BV	11.91747	1.06563e-1	1.26996		?
8.736	VB	8.21029e-1	1.06563e-1	8.74913e-2		?
9.237	BB	8.77887	1.06563e-1	9.35502e-1		?
9.791	BB	2.14284e-1	1.06563e-1	2.28347e-2		?
10.011	BB	6.59475e-1	1.06563e-1	7.02756e-2		?
10.574	BV	5.54391e-1	1.06563e-1	5.90775e-2		?
10.631	VV	9.83381e-1	1.06563e-1	1.04792e-1		?
10.721	VB	4.22551	1.06563e-1	4.50283e-1		?
11.008	BB	2.75406	1.06563e-1	2.93481e-1		?
11.356	BB	5.33852	1.06563e-1	5.68889e-1		?
11.845	BV	2.20816e-1	1.06563e-1	2.35308e-2		?
11.884	VV	2.38383	1.06563e-1	2.54028e-1		?
11.960	VB	3.34119e-1	1.06563e-1	3.56047e-2		?
12.369	BB	2.30857	1.06563e-1	2.46008e-1		?
12.533	BB	3.23072	1.06563e-1	3.44275e-1		?
12.666	VV	1.69060	1.06563e-1	1.80155e-1		?
12.711	VB	3.95862e-1	1.06563e-1	4.21842e-2		?
12.787	BV	3.65461e-1	1.06563e-1	3.89446e-2		?
12.832	VB	1.59524	1.06563e-1	1.69994e-1		?
12.977	VV	4.63387e-1	1.06563e-1	4.93799e-2		?
13.029	VV	5.22156e-1	1.06563e-1	5.56425e-2		?
13.080	VB	7.03785e-1	1.06563e-1	7.49974e-2		?
13.265	BB	3.46993	1.06563e-1	3.69766e-1		?
13.700	BB	6.83899	1.06563e-1	7.28783e-1		?
13.850	BV	1.68639e-1	1.06563e-1	1.79707e-2		?
13.894	VB	3.96026e-1	1.06563e-1	4.22017e-2		?
14.037	BB	1.83638e-1	1.06563e-1	1.95690e-2		?
14.311	BV	2.78947	1.06563e-1	2.97254e-1		?
14.439	BV	7.52573e-1	1.06563e-1	8.01964e-2		?
14.468	VB	2.22176e-1	1.06563e-1	2.36757e-2		?
14.575	BB	6.41831e-1	1.06563e-1	6.83954e-2		?
14.697	BV	9.52484e-1	1.06563e-1	1.01500e-1		?
14.729	VB	4.36923e-1	1.06563e-1	4.65599e-2		?
14.849	BB	1.77262e-1	1.06563e-1	1.88896e-2		?
15.004	BV	1.40491	1.06563e-1	1.49712e-1		?
15.048	VB	3.04327e-1	1.06563e-1	3.24300e-2		?
15.156	BB	2.15719e-1	1.06563e-1	2.29876e-2		?
15.367	BB	3.76532e-1	1.06563e-1	4.01244e-2		?
15.631	VB	6.07416e-1	1.06563e-1	6.47281e-2		?
15.912	BV	2.03948e-1	1.06563e-1	2.17333e-2		?
16.042	VB	1.37206	1.06563e-1	1.46210e-1		?
17.977	BB	4.36181e-1	1.06563e-1	4.64808e-2		?
18.374	BB	5.99404e-1	1.06563e-1	6.38743e-2		?
19.796	BB	2.03806e-1	1.06563e-1	2.17181e-2		?
20.466	BB	5.36836e-1	1.06563e-1	5.72069e-2		?
20.991	BB	1.69930e-1	1.06563e-1	1.81082e-2		?
21.659	BV	1.25359	1.06563e-1	1.33586e-1		?
21.721	VB	2.40756e-1	1.06563e-1	2.56557e-2		?

Uncalib. totals : 27.87891

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\098F0501.D
Sample Name: Humid Blank

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.634	BB		4.44258e-1	6.77323e-2	3.00906e-2		cis-2-Pentene
10.023			-	-	-		2,2-Dimethylbutane
10.641			-	-	-		Cyclopentane
10.682			-	-	-		2,3-Dimethylbutane
10.737	BB		2.84667e-1	5.14070e-2	1.46339e-2		2-Methylpentane
11.057	BB		9.28246e-1	5.22076e-2	4.84615e-2		3-Methylpentane
11.230	BB		2.85253e-1	5.50856e-2	1.57133e-2		1-Hexene
11.441			-	-	-		Hexane
12.000			-	-	-		Methylcyclopentane
12.055			-	-	-		2,4-Dimethylpentane
12.484	BB		2.16598e-1	5.48877e-2	1.18885e-2		Benzene
12.661	BV		2.68138e-1	5.09033e-2	1.36491e-2		Cyclohexane
12.764			-	-	-		2-Methylhexane
12.810			-	-	-		2,3-Dimethylpentane
12.950	VB		2.54326e-1	4.41469e-2	1.12277e-2		3-Methylhexane
13.184			-	-	-		2,2,4-Trimethylpentane
13.355			-	-	-		Heptane
13.824	VB		7.74571e-1	4.43425e-2	3.43464e-2		Methylcyclohexane
14.317	VV		2.25124e-1	3.94610e-2	8.88359e-3		2,3,4-Trimethylpentane
14.384	VB		2.07293e-1	5.00187e-2	1.03685e-2		Toluene
14.504			-	-	-		2-Methylheptane
14.639			-	-	-		3-Methylheptane
15.060			-	-	-		Octane
15.953	BB	+	1.82754e-1	4.47089e-2	8.17071e-3		Ethylbenzene
16.095			-	-	-		m&p-Xylene
16.387	BV		1.16030	5.28234e-2	6.12911e-2		Styrene
16.462			-	-	-		o-Xylene
16.635			-	-	-		Nonane
16.946			-	-	-		Isopropylbenzene
17.392			-	-	-		n-Propylbenzene
17.471	BB		1.13041	3.87972e-2	4.38567e-2		3-Ethyltoluene
17.527			-	-	-		4-Ethyltoluene
17.600			-	-	-		1,3,5-Trimethylbenzene
17.776			-	-	-		2-Ethyltoluene
17.978	VB		6.32726e-1	3.83166e-2	2.42439e-2		1,2,4-Trimethylbenzene
18.090			-	-	-		Decane
18.381			-	-	-		1,2,3-Trimethylbenzene
18.673			-	-	-		m-Diethylbenzene
18.758			-	-	-		p-Diethylbenzene
19.254			-	-	-		Undecane
20.232	VV		5.71474e-1	3.61400e-2	2.06531e-2		Dodecane

Totals : 6.99300

2 Warnings or Errors :

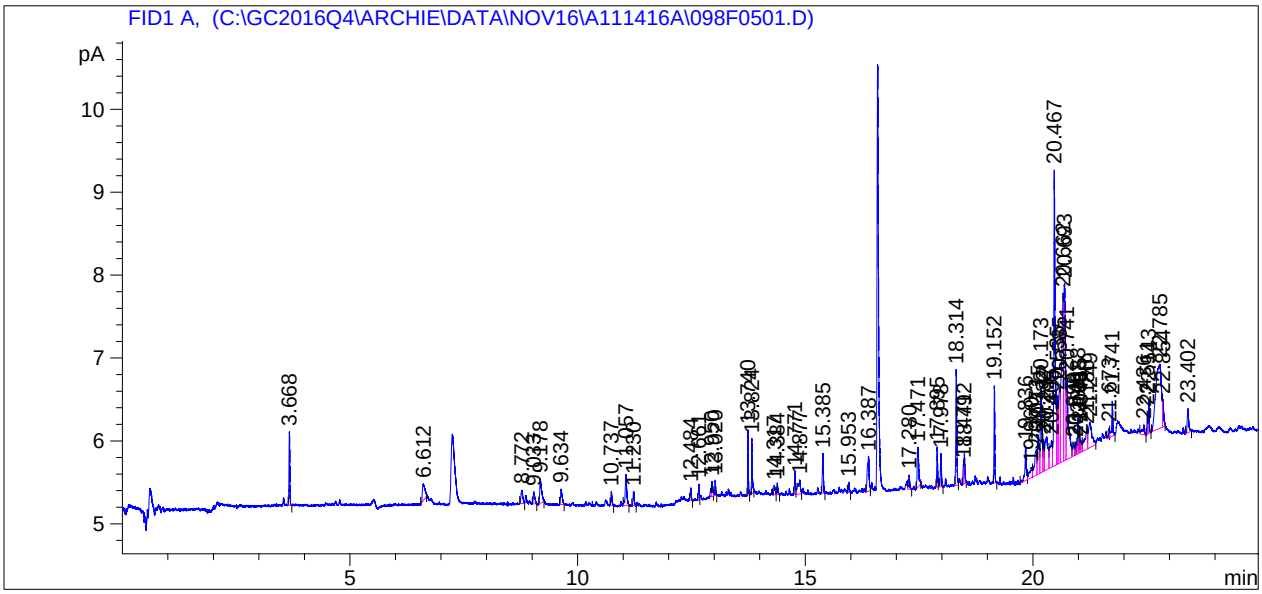
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\098F0501.D
Sample Name: TO14A Std #3 LCS

```
==========================================================================
Acq. Operator    : TDD                                Seq. Line :   5
Acq. Instrument  : Archie                              Location : Vial 98
Injection Date   : 14-Nov-16, 10:35:32                     Inj :   1
                                                    Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed     : 11/23/2016 9:42:58 PM by TDD
                   (modified after loading)
Sample Info      : Can #1422; 50mL
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.758            -          -          -         Propane

Totals :                                0.00000

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.668 BB        1.15251 1.06563e-1 1.22815e-1    ?
  6.612 BB     7.51554e-1 1.06563e-1 8.00878e-2    ?
  8.772 BV     4.53714e-1 1.06563e-1 4.83491e-2    ?
  9.033 BB     3.40285e-1 1.06563e-1 3.62618e-2    ?
  9.178 BB     8.04383e-1 1.06563e-1 8.57174e-2    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\098F0501.D
Sample Name: TO14A Std #3 LCS

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.634	BB	4.44258e-1	1.06563e-1	4.73414e-2		?
10.737	BB	2.84667e-1	1.06563e-1	3.03350e-2		?
11.057	BB	9.28246e-1	1.06563e-1	9.89166e-2		?
11.230	BB	2.85253e-1	1.06563e-1	3.03974e-2		?
12.484	BB	2.16598e-1	1.06563e-1	2.30813e-2		?
12.661	BV	2.68138e-1	1.06563e-1	2.85736e-2		?
12.950	VB	2.54326e-1	1.06563e-1	2.71018e-2		?
13.020	BB	2.81390e-1	1.06563e-1	2.99858e-2		?
13.740	BB	8.05144e-1	1.06563e-1	8.57985e-2		?
13.824	VB	7.74571e-1	1.06563e-1	8.25405e-2		?
14.317	VV	2.25124e-1	1.06563e-1	2.39898e-2		?
14.384	VB	2.07293e-1	1.06563e-1	2.20897e-2		?
14.771	BV	3.65694e-1	1.06563e-1	3.89695e-2		?
14.877	VV	6.69935e-1	1.06563e-1	7.13902e-2		?
15.385	BB	7.55799e-1	1.06563e-1	8.05402e-2		?
15.953	BB	1.82754e-1	1.06563e-1	1.94748e-2		?
16.387	BV	1.16030	1.06563e-1	1.23645e-1		?
17.280	VB	2.93250e-1	1.06563e-1	3.12496e-2		?
17.471	BB	1.13041	1.06563e-1	1.20460e-1		?
17.895	BV	6.41066e-1	1.06563e-1	6.83139e-2		?
17.978	VB	6.32726e-1	1.06563e-1	6.74252e-2		?
18.314	BV	2.05986	1.06563e-1	2.19505e-1		?
18.471	BV	2.49316e-1	1.06563e-1	2.65679e-2		?
18.492	VB	5.46337e-1	1.06563e-1	5.82193e-2		?
19.152	BB	1.38832	1.06563e-1	1.47944e-1		?
19.836	BV	8.81870e-1	1.06563e-1	9.39747e-2		?
19.960	VV	5.02924e-1	1.06563e-1	5.35931e-2		?
20.073	VV	1.10835	1.06563e-1	1.18109e-1		?
20.115	VV	1.25013	1.06563e-1	1.33218e-1		?
20.173	VV	2.50987	1.06563e-1	2.67459e-1		?
20.232	VV	5.71474e-1	1.06563e-1	6.08980e-2		?
20.297	VV	1.91769	1.06563e-1	2.04354e-1		?
20.405	VV	1.24926	1.06563e-1	1.33124e-1		?
20.467	VV	7.31567	1.06563e-1	7.79580e-1		?
20.535	VV	1.51701	1.06563e-1	1.61657e-1		?
20.585	VV	2.47198	1.06563e-1	2.63421e-1		?
20.662	VV	6.37952	1.06563e-1	6.79820e-1		?
20.693	VV	5.22504	1.06563e-1	5.56795e-1		?
20.741	VB	3.33540	1.06563e-1	3.55430e-1		?
20.890	BV	4.04141e-1	1.06563e-1	4.30665e-2		?
20.943	VV	2.70893e-1	1.06563e-1	2.88671e-2		?
20.988	VV	6.24729e-1	1.06563e-1	6.65730e-2		?
21.015	VV	3.92065e-1	1.06563e-1	4.17796e-2		?
21.045	VB	3.46077e-1	1.06563e-1	3.68790e-2		?
21.180	BV	1.08232	1.06563e-1	1.15335e-1		?
21.249	VV	1.64914	1.06563e-1	1.75737e-1		?
21.673	VV	1.79508e-1	1.06563e-1	1.91289e-2		?
21.741	VV	7.49802e-1	1.06563e-1	7.99011e-2		?
22.436	BV	3.74244e-1	1.06563e-1	3.98805e-2		?
22.511	VV	3.42657e-1	1.06563e-1	3.65145e-2		?
22.543	VB	5.52162e-1	1.06563e-1	5.88400e-2		?
22.785	BV	6.58658	1.06563e-1	7.01885e-1		?
22.854	VB	5.48637e-1	1.06563e-1	5.84643e-2		?
23.402	BB	6.67288e-1	1.06563e-1	7.11082e-2		?

Uncalib. totals : 7.41248

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\098F0501.D
Sample Name: TO14A Std #3 LCS

Warning : Calibrated compound(s) not found

==========
==========
Area Percent Report
==========

Sorted By : Signal
Calib. Data Modified : 11/23/2016 1:24:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Area %	Name
1	4.758		0.0000	0.00000	0.00000	Propane

Totals : 0.00000 0.0000

Uncalibrated Peaks:

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Area %	Name
1	3.668	BB	0.0203	1.15251	1.65687	?
2	6.612	BB	0.0452	7.51554e-1	1.08045	?
3	8.772	BV	0.0348	4.53714e-1	0.65227	?
4	9.033	BB	0.0317	3.40285e-1	0.48920	?
5	9.178	BB	0.0387	8.04383e-1	1.15639	?
6	9.634	BB	0.0324	4.44258e-1	0.63867	?
7	10.737	BB	0.0238	2.84667e-1	0.40924	?
8	11.057	BB	0.0338	9.28246e-1	1.33446	?
9	11.230	BB	0.0251	2.85253e-1	0.41008	?
10	12.484	BB	0.0206	2.16598e-1	0.31138	?
11	12.661	BV	0.0199	2.68138e-1	0.38548	?
12	12.950	VB	0.0204	2.54326e-1	0.36562	?
13	13.020	BB	0.0214	2.81390e-1	0.40453	?
14	13.740	BB	0.0155	8.05144e-1	1.15749	?
15	13.824	VB	0.0171	7.74571e-1	1.11353	?
16	14.317	VV	0.0302	2.25124e-1	0.32364	?
17	14.384	VB	0.0213	2.07293e-1	0.29801	?
18	14.771	BV	0.0221	3.65694e-1	0.52573	?
19	14.877	VV	0.0494	6.69935e-1	0.96311	?
20	15.385	BB	0.0244	7.55799e-1	1.08655	?
21	15.953	BB	0.0213	1.82754e-1	0.26273	?
22	16.387	BV	0.0373	1.16030	1.66807	?
23	17.280	VB	0.0238	2.93250e-1	0.42158	?
24	17.471	BB	0.0335	1.13041	1.62509	?
25	17.895	BV	0.0199	6.41066e-1	0.92161	?
26	17.978	VB	0.0240	6.32726e-1	0.90962	?
27	18.314	BV	0.0232	2.05986	2.96129	?
28	18.471	BV	0.0157	2.49316e-1	0.35842	?
29	18.492	VB	0.0212	5.46337e-1	0.78542	?
30	19.152	BB	0.0184	1.38832	1.99587	?
31	19.836	BV	0.0288	8.81870e-1	1.26779	?
32	19.960	VV	0.0491	5.02924e-1	0.72301	?
33	20.073	VV	0.0445	1.10835	1.59337	?
34	20.115	VV	0.0366	1.25013	1.79721	?
35	20.173	VV	0.0336	2.50987	3.60823	?
36	20.232	VV	0.0220	5.71474e-1	0.82156	?
37	20.297	VV	0.0585	1.91769	2.75690	?

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\098F0501.D
Sample Name: TO14A Std #3 LCS

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Area %	Name
38	20.405	VV	0.0494	1.24926	1.79595	?
39	20.467	VV	0.0289	7.31567	10.51712	?
40	20.535	VV	0.0260	1.51701	2.18088	?
41	20.585	VV	0.0350	2.47198	3.55375	?
42	20.662	VV	0.0392	6.37952	9.17129	?
43	20.693	VV	0.0361	5.22504	7.51159	?
44	20.741	VB	0.0439	3.33540	4.79502	?
45	20.890	BV	0.0344	4.04141e-1	0.58100	?
46	20.943	VV	0.0249	2.70893e-1	0.38944	?
47	20.988	VV	0.0211	6.24729e-1	0.89812	?
48	21.015	VV	0.0193	3.92065e-1	0.56364	?
49	21.045	VB	0.0303	3.46077e-1	0.49753	?
50	21.180	BV	0.0550	1.08232	1.55596	?
51	21.249	VV	0.0672	1.64914	2.37082	?
52	21.673	VV	0.0197	1.79508e-1	0.25806	?
53	21.741	VV	0.0247	7.49802e-1	1.07793	?
54	22.436	BV	0.0409	3.74244e-1	0.53802	?
55	22.511	VV	0.0188	3.42657e-1	0.49261	?
56	22.543	VB	0.0213	5.52162e-1	0.79380	?
57	22.785	BV	0.1010	6.58658	9.46896	?
58	22.854	VB	0.0244	5.48637e-1	0.78873	?
59	23.402	BB	0.0310	6.67288e-1	0.95930	?

Uncalib. totals : 69.55963 100.0000

2 Warnings or Errors :

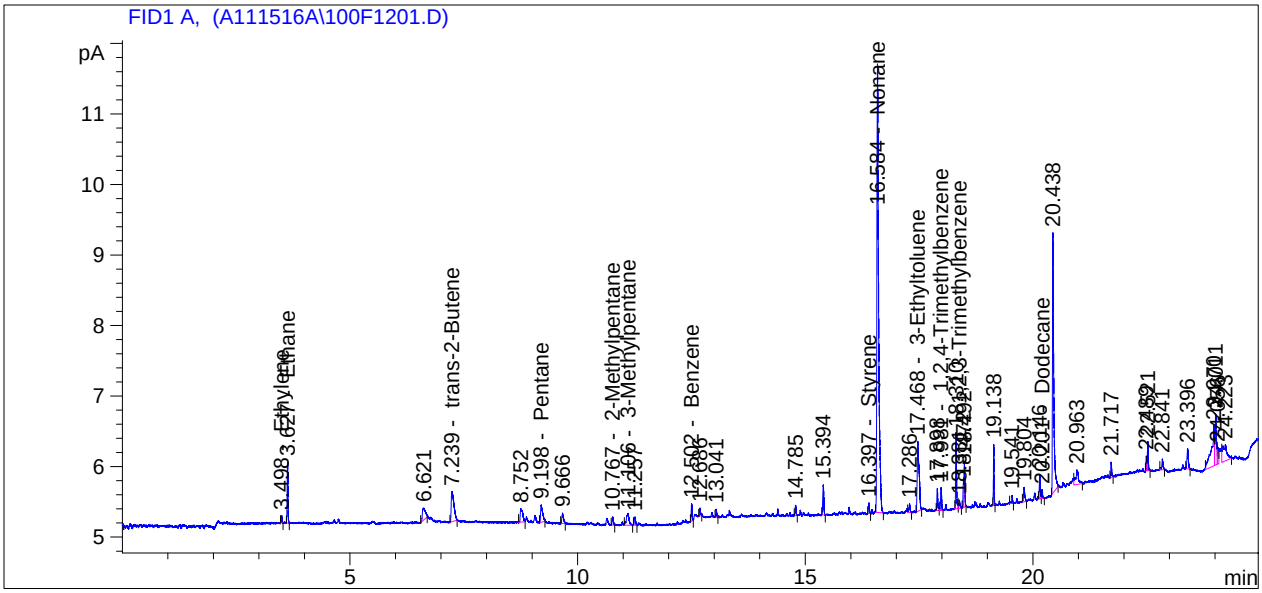
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\100F1201.D
Sample Name: Humid Blank

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  12
Acq. Instrument : Archie                            Location : Vial 100
Injection Date  : 16-Nov-16, 12:56:12                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111516A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:37:20 PM by TDD
Sample Info     : 250mL load
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:36:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.498	BB	1.18263e-1	1.56174e-1	1.84696e-2		Ethylene
3.577		-	-	-		Acetylene
3.627	BB	1.10264	1.43631e-1	1.58374e-1		Ethane
4.650		-	-	-		Propylene
4.758		-	-	-		Propane
6.140		-	-	-		Isobutane
6.754		-	-	-		1-Butene
6.945		-	-	-		Butane
7.239	BB	1.75777	7.95259e-2	1.39788e-1		trans-2-Butene
7.534		-	-	-		cis-2-Butene
8.648		-	-	-		Isopentane
8.991		-	-	-		1-Pentene
9.198	BB	7.48327e-1	6.57885e-2	4.92313e-2		Pentane
9.340		-	-	-		Isoprene
9.423		-	-	-		trans-2-Pentene
9.591		-	-	-		cis-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\100F1201.D
Sample Name: Humid Blank

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
10.014		-	-	-		2,2-Dimethylbutane
10.632		-	-	-		Cyclopentane
10.672		-	-	-		2,3-Dimethylbutane
10.767	BB	2.18344e-1	5.14070e-2	1.12244e-2		2-Methylpentane
11.106	BB	6.79405e-1	5.22076e-2	3.54701e-2		3-Methylpentane
11.197		-	-	-		1-Hexene
11.431		-	-	-		Hexane
11.989		-	-	-		Methylcyclopentane
12.044		-	-	-		2,4-Dimethylpentane
12.502	BV	3.34372e-1	5.48877e-2	1.83529e-2		Benzene
12.637		-	-	-		Cyclohexane
12.752		-	-	-		2-Methylhexane
12.799		-	-	-		2,3-Dimethylpentane
12.915		-	-	-		3-Methylhexane
13.172		-	-	-		2,2,4-Trimethylpentane
13.344		-	-	-		Heptane
13.777		-	-	-		Methylcyclohexane
14.263		-	-	-		2,3,4-Trimethylpentane
14.370		-	-	-		Toluene
14.492		-	-	-		2-Methylheptane
14.626		-	-	-		3-Methylheptane
15.047		-	-	-		Octane
15.939		-	-	-		Ethylbenzene
16.081		-	-	-		m&p-Xylene
16.397	BB	2.12059e-1	5.28234e-2	1.12017e-2		Styrene
16.447		-	-	-		o-Xylene
16.584	BB	16.82007	3.21996e-2	5.41600e-1		Nonane
16.931		-	-	-		Isopropylbenzene
17.377		-	-	-		n-Propylbenzene
17.468	BB	2.81290	3.87972e-2	1.09133e-1		3-Ethyltoluene
17.512		-	-	-		4-Ethyltoluene
17.584		-	-	-		1,3,5-Trimethylbenzene
17.761		-	-	-		2-Ethyltoluene
17.981	BB	5.17097e-1	3.83166e-2	1.98134e-2		1,2,4-Trimethylbenzene
18.074		-	-	-		Decane
18.381	VB	2.19284e-1	3.68419e-2	8.07887e-3		1,2,3-Trimethylbenzene
18.656		-	-	-		m-Diethylbenzene
18.742		-	-	-		p-Diethylbenzene
19.254		-	-	-		Undecane
20.201	VB	1.54831e-1	3.61400e-2	5.59560e-3		Dodecane

Totals : 3.74016

2 Warnings or Errors :

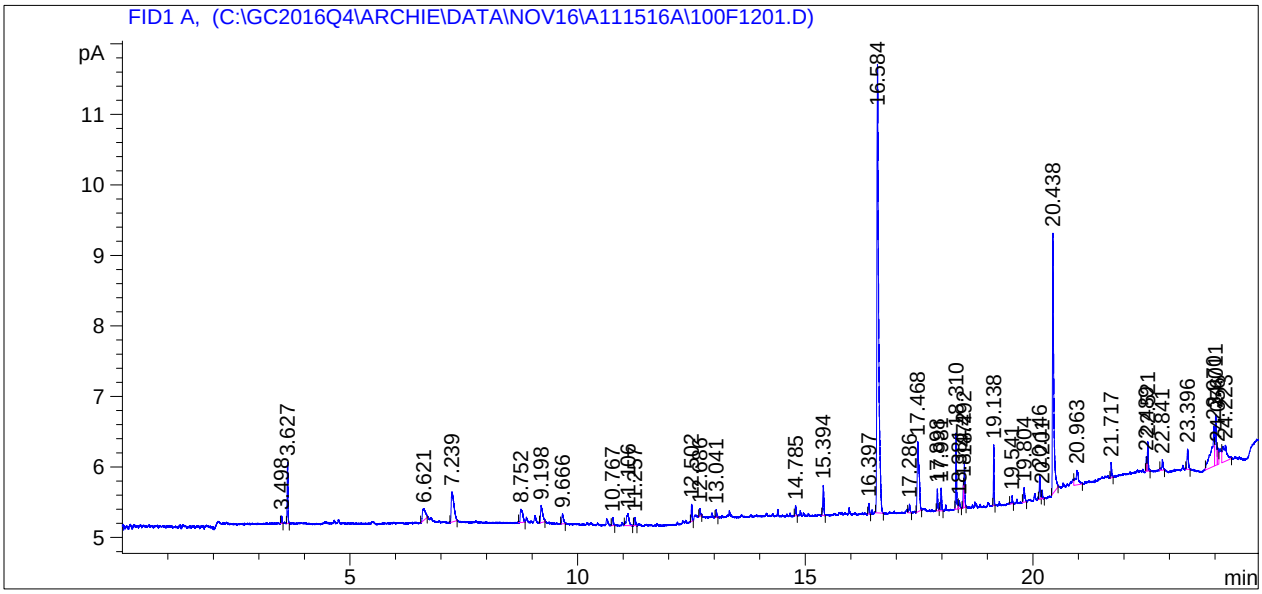
Warning : Calibration warnings (see calibration table listing)
Warning : Time reference compound(s) not found

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\100F1201.D
Sample Name: Humid Blank

```
==========================================================================
Acq. Operator   : TDD                          Seq. Line :  12
Acq. Instrument : Archie                        Location : Vial 100
Injection Date  : 16-Nov-16, 12:56:12                Inj :   1
                                              Inj Volume : Manually
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-PROPANE.M
Last changed    : 11/23/2016 9:42:58 PM by TDD
                  (modified after loading)
Sample Info     : 250mL load
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/23/2016 1:24:42 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  4.758            -          -          -          Propane

Totals :                                 0.00000

Uncalibrated Peaks    :      using compound Propane

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.498 BB     1.18263e-1 1.06563e-1 1.26024e-2    ?
  3.627 BB        1.10264 1.06563e-1 1.17501e-1    ?
  6.621 BB     7.58151e-1 1.06563e-1 8.07908e-2    ?
  7.239 BB        1.75777 1.06563e-1 1.87313e-1    ?
  8.752 BV     6.89850e-1 1.06563e-1 7.35125e-2    ?
  9.198 BB     7.48327e-1 1.06563e-1 7.97439e-2    ?
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\100F1201.D
Sample Name: Humid Blank

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.666	BB	3.47589e-1	1.06563e-1	3.70401e-2		?
10.767	BB	2.18344e-1	1.06563e-1	2.32674e-2		?
11.106	BB	6.79405e-1	1.06563e-1	7.23994e-2		?
11.257	BB	2.21290e-1	1.06563e-1	2.35813e-2		?
12.502	BV	3.34372e-1	1.06563e-1	3.56317e-2		?
12.686	BB	1.70312e-1	1.06563e-1	1.81490e-2		?
13.041	BB	1.38819e-1	1.06563e-1	1.47930e-2		?
14.785	BB	1.94895e-1	1.06563e-1	2.07686e-2		?
15.394	BB	6.89799e-1	1.06563e-1	7.35070e-2		?
16.397	BB	2.12059e-1	1.06563e-1	2.25976e-2		?
16.584	BB	16.82007	1.06563e-1	1.79240		?
17.286	VB	2.17769e-1	1.06563e-1	2.32061e-2		?
17.468	BB	2.81290	1.06563e-1	2.99751e-1		?
17.898	BB	4.46348e-1	1.06563e-1	4.75642e-2		?
17.981	BB	5.17097e-1	1.06563e-1	5.51034e-2		?
18.310	BV	1.45022	1.06563e-1	1.54540e-1		?
18.381	VB	2.19284e-1	1.06563e-1	2.33676e-2		?
18.472	BV	3.59207e-1	1.06563e-1	3.82781e-2		?
18.492	VB	8.78354e-1	1.06563e-1	9.36000e-2		?
19.138	BB	9.14414e-1	1.06563e-1	9.74427e-2		?
19.541	BB	1.47936e-1	1.06563e-1	1.57645e-2		?
19.804	BB	3.98909e-1	1.06563e-1	4.25089e-2		?
20.146	VV	4.87185e-1	1.06563e-1	5.19159e-2		?
20.201	VB	1.54831e-1	1.06563e-1	1.64993e-2		?
20.438	BB	7.07559	1.06563e-1	7.53996e-1		?
20.963	BB	8.85826e-1	1.06563e-1	9.43962e-2		?
21.717	BB	2.92884e-1	1.06563e-1	3.12106e-2		?
22.489	BV	2.47436e-1	1.06563e-1	2.63675e-2		?
22.521	VB	5.88500e-1	1.06563e-1	6.27123e-2		?
22.841	BB	2.95358e-1	1.06563e-1	3.14742e-2		?
23.396	BB	5.97771e-1	1.06563e-1	6.37002e-2		?
23.970	BV	2.63963	1.06563e-1	2.81287e-1		?
24.011	VV	1.44271	1.06563e-1	1.53739e-1		?
24.056	VV	4.52268e-1	1.06563e-1	4.81951e-2		?
24.223	BB	1.49950	1.06563e-1	1.59791e-1		?

Uncalib. totals : 5.35201

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

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Area Percent Report
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Sorted By : Signal
Calib. Data Modified : 11/23/2016 1:24:42 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\100F1201.D
Sample Name: Humid Blank

Signal 1: FID1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Area %	Name
1	4.758		0.0000	0.00000	0.00000	Propane

Totals : 0.00000 0.0000

Uncalibrated Peaks:

Peak #	RetTime [min]	Type	Width [min]	Area [pA*s]	Area %	Name
1	3.498	BB	0.0167	1.18263e-1	0.23547	?
2	3.627	BB	0.0198	1.10264	2.19545	?
3	6.621	BB	0.0542	7.58151e-1	1.50954	?
4	7.239	BB	0.0553	1.75777	3.49987	?
5	8.752	BV	0.0454	6.89850e-1	1.37355	?
6	9.198	BB	0.0418	7.48327e-1	1.48998	?
7	9.666	BB	0.0294	3.47589e-1	0.69208	?
8	10.767	BB	0.0261	2.18344e-1	0.43474	?
9	11.106	BB	0.0496	6.79405e-1	1.35275	?
10	11.257	BB	0.0252	2.21290e-1	0.44061	?
11	12.502	BV	0.0201	3.34372e-1	0.66576	?
12	12.686	BB	0.0220	1.70312e-1	0.33911	?
13	13.041	BB	0.0197	1.38819e-1	0.27640	?
14	14.785	BB	0.0204	1.94895e-1	0.38805	?
15	15.394	BB	0.0244	6.89799e-1	1.37345	?
16	16.397	BB	0.0212	2.12059e-1	0.42223	?
17	16.584	BB	0.0389	16.82007	33.49018	?
18	17.286	VB	0.0231	2.17769e-1	0.43360	?
19	17.468	BB	0.0389	2.81290	5.60073	?
20	17.898	BB	0.0219	4.46348e-1	0.88872	?
21	17.981	BB	0.0243	5.17097e-1	1.02958	?
22	18.310	BV	0.0206	1.45022	2.88751	?
23	18.381	VB	0.0252	2.19284e-1	0.43661	?
24	18.472	BV	0.0153	3.59207e-1	0.71521	?
25	18.492	VB	0.0203	8.78354e-1	1.74888	?
26	19.138	BB	0.0169	9.14414e-1	1.82068	?
27	19.541	BB	0.0199	1.47936e-1	0.29455	?
28	19.804	BB	0.0281	3.98909e-1	0.79426	?
29	20.146	VV	0.0210	4.87185e-1	0.97003	?
30	20.201	VB	0.0194	1.54831e-1	0.30828	?
31	20.438	BB	0.0273	7.07559	14.08810	?
32	20.963	BB	0.0537	8.85826e-1	1.76375	?
33	21.717	BB	0.0203	2.92884e-1	0.58316	?
34	22.489	BV	0.0181	2.47436e-1	0.49267	?
35	22.521	VB	0.0216	5.88500e-1	1.17175	?
36	22.841	BB	0.0255	2.95358e-1	0.58808	?
37	23.396	BB	0.0274	5.97771e-1	1.19021	?
38	23.970	BV	0.0586	2.63963	5.25572	?
39	24.011	VV	0.0272	1.44271	2.87255	?
40	24.056	VV	0.0243	4.52268e-1	0.90050	?
41	24.223	BB	0.0843	1.49950	2.98563	?

Uncalib. totals : 50.22389 100.0000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\100F1201.D
Sample Name: Humid Blank

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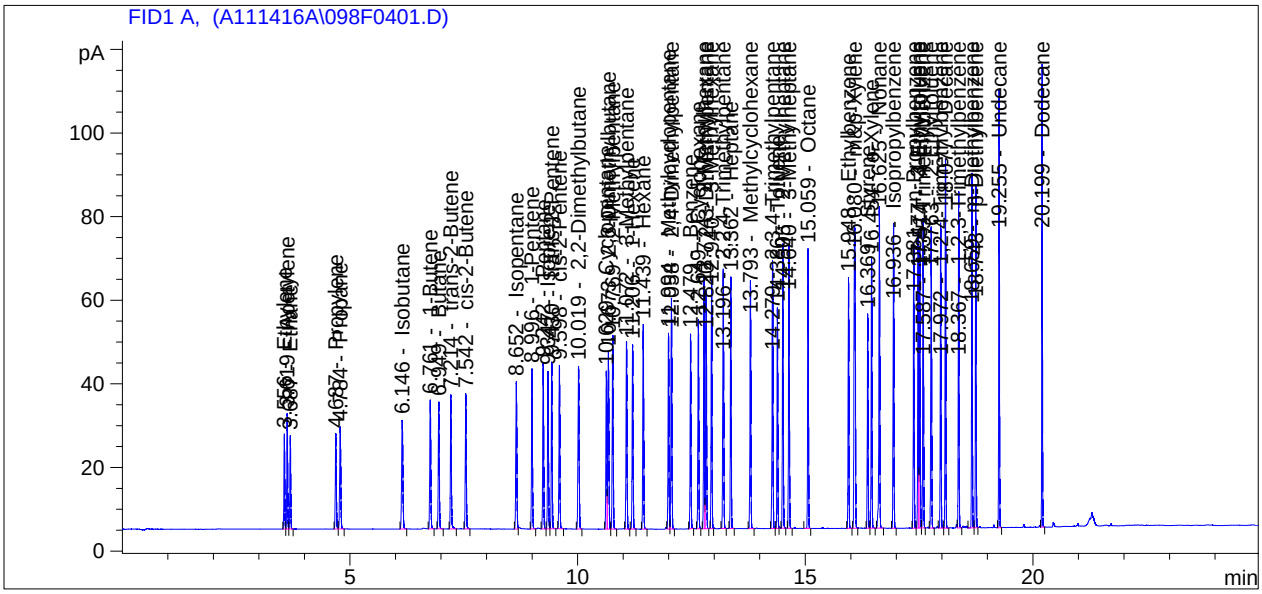
*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\098F0401.D
Sample Name: TO14A Std #3 LCS

```
==========================================================================
Acq. Operator   : TDD                                 Seq. Line :   4
Acq. Instrument : Archie                               Location : Vial 98
Injection Date  : 14-Nov-16, 09:44:16                      Inj :   1
                                                     Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111416A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:58:30 PM by TDD
Sample Info     : Can #1422; 50mL
```

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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:56:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.556	BV		28.30717	1.56174e-1	4.42085		Ethylene
3.619	VV		35.26735	1.30564e-1	4.60464		Acetylene
3.687	VB		28.90039	1.43631e-1	4.15101		Ethane
4.687	BV		35.66274	1.25238e-1	4.46635		Propylene
4.784	VB		41.73381	1.06563e-1	4.44728		Propane
6.146	BB	+	50.56920	8.64027e-2	4.36931		Isobutane
6.761	VB		47.99187	8.70487e-2	4.17763		1-Butene
6.949	BB		47.95937	8.82564e-2	4.23272		Butane
7.214	BB		47.67876	7.95259e-2	3.79170		trans-2-Butene
7.542	BB		49.14269	8.62054e-2	4.23636		cis-2-Butene
8.652	BV		57.14093	6.70037e-2	3.82865		Isopentane
8.996	BB		54.85187	6.71624e-2	3.68398		1-Pentene
9.242	VV		56.68826	6.57885e-2	3.72943		Pentane
9.347	VV		55.11190	6.92963e-2	3.81905		Isoprene
9.430	VB		56.43084	6.95508e-2	3.92481		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\098F0401.D
Sample Name: TO14A Std #3 LCS

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.598	BB		56.80328	6.77323e-2	3.84742		cis-2-Pentene
10.019	BB		68.74848	5.45100e-2	3.74748		2,2-Dimethylbutane
10.629	BV		55.49517	6.45958e-2	3.58475		Cyclopentane
10.673	VV		68.65871	5.23903e-2	3.59705		2,3-Dimethylbutane
10.769	VB		69.85320	5.14070e-2	3.59094		2-Methylpentane
11.072	VB		68.81870	5.22076e-2	3.59286		3-Methylpentane
11.206	BB		64.68847	5.50856e-2	3.56340		1-Hexene
11.439	BB		69.47879	5.22337e-2	3.62913		Hexane
11.994	VV		66.87212	5.21637e-2	3.48830		Methylcyclopentane
12.058	VB		81.84741	4.49272e-2	3.67718		2,4-Dimethylpentane
12.479	VB		62.26833	5.48877e-2	3.41776		Benzene
12.649	BB		70.57500	5.09033e-2	3.59250		Cyclohexane
12.774	BV		81.08880	4.45384e-2	3.61157		2-Methylhexane
12.820	VB		81.83670	4.41919e-2	3.61652		2,3-Dimethylpentane
12.940	BV		81.38616	4.41469e-2	3.59294		3-Methylhexane
13.196	VB		93.19883	3.87985e-2	3.61598		2,2,4-Trimethylpentane
13.362	VB		77.31190	4.60237e-2	3.55818		Heptane
13.793	BB		82.05830	4.43425e-2	3.63867		Methylcyclohexane
14.279	BB		91.03353	3.94610e-2	3.59227		2,3,4-Trimethylpentane
14.386	BV		66.73803	5.00187e-2	3.33815		Toluene
14.505	VB		88.90675	3.89937e-2	3.46681		2-Methylheptane
14.640	BB		89.70053	3.85897e-2	3.46152		3-Methylheptane
15.059	BB		83.98238	4.06911e-2	3.41734		Octane
15.948	BB	+	75.76673	4.47089e-2	3.38745		Ethylbenzene
16.080	BV		153.35805	4.45401e-2	6.83058		m&p-Xylene
16.369	BV		63.79741	5.28234e-2	3.37000		Styrene
16.454	VB		82.93647	4.13714e-2	3.43120		o-Xylene
16.625	BB		105.12405	3.21996e-2	3.38495		Nonane
16.936	VB		94.87644	3.56607e-2	3.38336		Isopropylbenzene
17.381	BV		87.94223	3.89259e-2	3.42323		n-Propylbenzene
17.477	VV		90.61937	3.87972e-2	3.51578		3-Ethyltoluene
17.514	VV		86.15512	3.89970e-2	3.35979		4-Ethyltoluene
17.587	VB		94.90022	3.73277e-2	3.54241		1,3,5-Trimethylbenzene
17.763	VB		93.74123	3.62433e-2	3.39749		2-Ethyltoluene
17.972	VV		91.33610	3.83166e-2	3.49969		1,2,4-Trimethylbenzene
18.077	VB		108.17197	3.21459e-2	3.47728		Decane
18.367	VB		96.06383	3.68419e-2	3.53918		1,2,3-Trimethylbenzene
18.659	VV		99.22128	3.50955e-2	3.48222		m-Diethylbenzene
18.743	VV		93.60149	3.68958e-2	3.45350		p-Diethylbenzene
19.255	BV	+	114.96806	3.27367e-2	3.76367		Undecane
20.199	VB		109.94215	3.61400e-2	3.97331		Dodecane

Totals : 210.33756

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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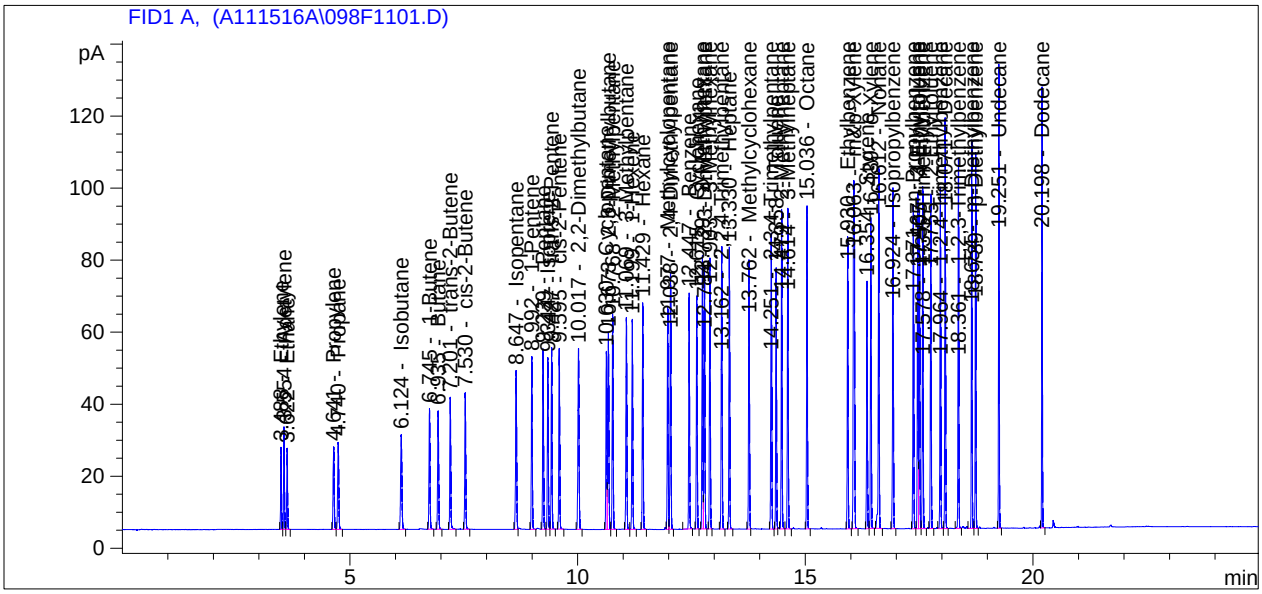
*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\098F1101.D
Sample Name: TO14A Std #3 LCS

```
==========================================================================
Acq. Operator   : TDD                                 Seq. Line :  11
Acq. Instrument : Archie                               Location : Vial 98
Injection Date  : 16-Nov-16, 12:14:35                      Inj :   1
                                                    Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111516A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:37:20 PM by TDD
Sample Info     : Can #1422; 50mL
```

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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:36:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.488	BV		28.12671	1.56174e-1	4.39266		Ethylene
3.554	VV		35.59688	1.30564e-1	4.64766		Acetylene
3.622	VB		28.80554	1.43631e-1	4.13738		Ethane
4.641	BV		35.48156	1.25238e-1	4.44366		Propylene
4.740	VB		41.46449	1.06563e-1	4.41858		Propane
6.124	BB	+	51.59175	8.64027e-2	4.45766		Isobutane
6.745	BB		51.54154	8.70487e-2	4.48662		1-Butene
6.935	BB		52.18283	8.82564e-2	4.60547		Butane
7.201	BB		53.11257	7.95259e-2	4.22383		trans-2-Butene
7.530	BB		55.92378	8.62054e-2	4.82093		cis-2-Butene
8.647	BV		71.40795	6.70037e-2	4.78460		Isopentane
8.992	BB		68.31566	6.71624e-2	4.58824		1-Pentene
9.239	VV		71.87193	6.57885e-2	4.72834		Pentane
9.344	VV		69.00795	6.92963e-2	4.78199		Isoprene
9.427	VB		70.02876	6.95508e-2	4.87056		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\098F1101.D
Sample Name: TO14A Std #3 LCS

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.595	BB		71.32992	6.77323e-2	4.83134		cis-2-Pentene
10.017	BB		88.09919	5.45100e-2	4.80228		2,2-Dimethylbutane
10.630	BV		72.66517	6.45958e-2	4.69387		Cyclopentane
10.673	VV		88.34326	5.23903e-2	4.62833		2,3-Dimethylbutane
10.768	VB		89.30611	5.14070e-2	4.59096		2-Methylpentane
11.069	VV		88.34935	5.22076e-2	4.61251		3-Methylpentane
11.199	VB		83.11269	5.50856e-2	4.57831		1-Hexene
11.429	BB		87.63678	5.22337e-2	4.57759		Hexane
11.977	VV		85.78245	5.21637e-2	4.47473		Methylcyclopentane
12.038	VB		103.39142	4.49272e-2	4.64509		2,4-Dimethylpentane
12.447	BB		85.01601	5.48877e-2	4.66633		Benzene
12.615	BB		90.43231	5.09033e-2	4.60331		Cyclohexane
12.739	BV		103.18443	4.45384e-2	4.59567		2-Methylhexane
12.784	VB		103.74845	4.41919e-2	4.58484		2,3-Dimethylpentane
12.903	BV		103.50378	4.41469e-2	4.56937		3-Methylhexane
13.162	VB		118.10327	3.87985e-2	4.58223		2,2,4-Trimethylpentane
13.330	VB		100.66276	4.60237e-2	4.63288		Heptane
13.762	BV		103.77018	4.43425e-2	4.60143		Methylcyclohexane
14.251	BB		116.60977	3.94610e-2	4.60153		2,3,4-Trimethylpentane
14.358	BV		92.77206	5.00187e-2	4.64034		Toluene
14.479	VV		117.11983	3.89937e-2	4.56694		2-Methylheptane
14.614	VB		117.86013	3.85897e-2	4.54819		3-Methylheptane
15.036	VB		112.93890	4.06911e-2	4.59561		Octane
15.930	BB	+	103.42188	4.47089e-2	4.62388		Ethylbenzene
16.063	BB		208.21097	4.45401e-2	9.27374		m&p-Xylene
16.354	BV		86.43987	5.28234e-2	4.56605		Styrene
16.439	VB		110.68750	4.13714e-2	4.57929		o-Xylene
16.612	BB		136.45496	3.21996e-2	4.39380		Nonane
16.924	VB		124.97565	3.56607e-2	4.45672		Isopropylbenzene
17.371	BB		116.10983	3.89259e-2	4.51968		n-Propylbenzene
17.467	BV		119.13884	3.87972e-2	4.62226		3-Ethyltoluene
17.505	VV		113.45820	3.89970e-2	4.42453		4-Ethyltoluene
17.578	VB		123.75008	3.73277e-2	4.61930		1,3,5-Trimethylbenzene
17.755	VB		122.13463	3.62433e-2	4.42656		2-Ethyltoluene
17.964	VV		118.13098	3.83166e-2	4.52638		1,2,4-Trimethylbenzene
18.071	VB		138.47066	3.21459e-2	4.45126		Decane
18.361	BB		123.67542	3.68419e-2	4.55644		1,2,3-Trimethylbenzene
18.654	VV		125.95866	3.50955e-2	4.42058		m-Diethylbenzene
18.739	VB		118.77033	3.68958e-2	4.38212		p-Diethylbenzene
19.251	BB	+	137.84447	3.27367e-2	4.51257		Undecane
20.198	VB		122.01312	3.61400e-2	4.40955		Dodecane

Totals : 260.37656

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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*** End of Report ***

Calibration Summary Reports

ICAL Name: A101316A-TO14

#	RT	Compound	Lvl	Amt (ppbv)	Area	RF	ICAL RRF	% RSD
1	3.5963998	Ethylene	1	0.392	2.568849	0.152598		
			2	0.98	6.418299	0.152688		
			3	3.92	29.84241	0.131357		
			4	9.8	72.41946	0.135323		
			5	29.4	215.0015	0.136743	0.1417417	7.157667
2	3.65716	Acetylene	1	0.392	2.91976	0.134258		
			2	0.98	8.135185	0.120464		
			3	3.92	35.00631	0.11198		
			4	9.8	93.62668	0.104671		
			5	29.4	285.0591	0.103136	0.1149019	11.15573
3	3.7247202	Ethane	1	0.392	2.682446	0.146135		
			2	0.98	6.390307	0.153357		
			3	3.952	29.71356	0.133003		
			4	9.8	71.85267	0.13639		
			5	29.4	214.2866	0.137199	0.1412171	5.908534
4	4.7089362	Propylene	1	0.384	2.979349	0.128887		
			2	0.96	8.083888	0.118755		
			3	3.84	35.4414	0.108348		
			4	9.6	93.49522	0.102679		
			5	28.8	285.8596	0.100749	0.1118835	10.55223
5	4.8053741	Propane	1	0.384	4.115454	0.093307		
			2	0.96	9.954108	0.096443		
			3	3.84	43.31152	0.08866		
			4	9.6	110.7851	0.086654		
			5	28.8	333.1443	0.086449	0.0903025	4.87702
6	6.1522799	Isobutane	1	0.376	4.161992	0.090341		
			2	0.94	11.94152	0.078717		
			3	3.76	49.66031	0.075714		
			4	9.4	137.5582	0.068335		
			5	28.2	419.4944	0.067224	0.0760662	12.27793
7	6.7620158	1-Butene	1	0.376	4.282726	0.087795		
			2	0.94	11.59307	0.081083		
			3	3.76	48.69022	0.077223		
			4	9.4	134.529	0.069873		
			5	28.2	385.3247	0.073185	0.0778318	8.973667
8	6.9502506	Butane	1	0.376	4.185997	0.089823		
			2	0.94	11.62648	0.08085		
			3	3.76	48.20242	0.078004		
			4	9.4	129.9508	0.072335		
			5	28.2	383.0389	0.073622	0.0789269	8.843514
9	7.2130427	trans-2-Buter	1	0.372	4.661508	0.079803		
			2	0.93	12.05401	0.077153		
			3	3.72	50.06149	0.074309		
			4	9.3	135.5252	0.068622		
			5	27.9	374.1987	0.074559	0.074889	5.545506
10	7.5384154	cis-2-Butene	1	0.4	4.539905	0.088108		
			2	1	12.14151	0.082362		
			3	4	52.49825	0.076193		

ICAL Name: A101316A-TO14

#	RT	Compound	Lvl	Amt (ppbv)	Area	RF	ICAL RRF	% RSD
			4	10	144.1341	0.06938		
			5	30	386.8061	0.077558	0.0787201	8.900536
11	8.6482821	Isopentane	1	0.38	5.401703	0.070348		
			2	0.95	14.75903	0.064367		
			3	3.8	63.74224	0.059615		
			4	9.5	178.5871	0.053195		
			5	28.5	504.237	0.056521	0.0608094	11.0755
12	8.9917917	1-Pentene	1	0.376	5.382553	0.069855		
			2	0.94	14.06196	0.066847		
			3	3.76	65.40915	0.057484		
			4	9.4	170.2182	0.055223		
			5	28.2	482.5287	0.058442	0.0615704	10.37591
13	9.2385702	Pentane	1	0.384	5.679365	0.067613		
			2	0.96	14.44171	0.066474		
			3	3.84	67.60634	0.056799		
			4	9.6	177.8065	0.053991		
			5	28.8	545.7133	0.052775	0.0595306	11.79828
14	9.3433552	Isoprene	1	0.388	5.350443	0.072517		
			2	0.97	14.11606	0.068716		
			3	3.88	67.5728	0.05742		
			4	9.7	183.9644	0.052728		
			5	29.1	520.394	0.055919	0.0614599	14.04848
15	9.4259291	trans-2-Pente	1	0.4	5.488356	0.072882		
			2	1	14.34542	0.069709		
			3	4	81.90546	0.048837		
			4	10	189.4972	0.052771		
			5	30	518.2268	0.05789	0.0604176	17.37208
16	9.5934982	cis-2-Pentene	1	0.396	5.606321	0.070635		
			2	0.99	14.92859	0.066316		
			3	3.96	71.16414	0.055646		
			4	9.9	177.9454	0.055635		
			5	29.7	517.3724	0.057405	0.0611274	11.31541
17	10.015731	2,2-Dimethyll	1	0.388	6.626973	0.058549		
			2	0.97	17.71486	0.054756		
			3	3.88	85.11064	0.045588		
			4	9.7	216.3428	0.044836		
			5	29.1	630.2266	0.046174	0.0499805	12.51369
18	10.625915	Cyclopentane	1	0.38	5.432838	0.069945		
			2	0.95	14.97645	0.063433		
			3	3.8	69.73854	0.054489		
			4	9.5	179.1743	0.053021		
			5	28.5	495.4995	0.057518	0.0596812	11.71154
19	10.668757	2,3-Dimethyll	1	0.388	6.377563	0.060838		
			2	0.97	18.27524	0.053077		
			3	3.88	86.85201	0.044674		
			4	9.7	216.0851	0.04489		
			5	29.1	622.1739	0.046771	0.0500501	13.83653
20	10.762939	2-Methylpent	1	0.384	6.386271	0.060129		

ICAL Name: A101316A-TO14

#	RT	Compound	Lvl	Amt (ppbv)	Area	RF	ICAL RRF	% RSD
			2	0.96	18.34219	0.052338		
			3	3.84	88.26511	0.043505		
			4	9.6	219.7031	0.043695		
			5	28.8	629.8159	0.045728	0.0490791	14.55111
21	11.061607	3-Methylpent	1	0.392	6.287648	0.062344		
			2	0.98	18.45216	0.05311		
			3	3.92	87.35534	0.044874		
			4	9.8	217.4605	0.045066		
			5	29.4	623.1376	0.047181	0.050515	14.65793
22	11.191751	1-Hexene	1	0.384	5.758584	0.066683		
			2	0.96	17.08354	0.056194		
			3	3.84	82.22535	0.046701		
			4	9.6	205.3598	0.046747		
			5	28.8	586.0604	0.049142	0.0530935	16.06616
23	11.420199	Hexane	1	0.388	6.018577	0.064467		
			2	0.97	17.84558	0.054355		
			3	3.88	86.8056	0.044698		
			4	9.7	216.4738	0.044809		
			5	29.1	618.3934	0.047057	0.0510773	16.56008
24	11.961843	Methylcyclop	1	0.376	5.8734	0.064017		
			2	0.94	17.66348	0.053217		
			3	3.76	85.16834	0.044148		
			4	9.4	210.9973	0.04455		
			5	28.2	603.7861	0.046705	0.0505276	16.56581
25	12.023035	2,4-Dimethyl	1	0.396	7.315054	0.054135		
			2	0.99	21.1499	0.046809		
			3	3.96	101.1069	0.039166		
			4	9.9	251.1608	0.039417		
			5	29.7	715.7596	0.041494	0.0442043	14.35409
26	12.431285	Benzene	1	0.396	5.737438	0.06902		
			2	0.99	16.91466	0.058529		
			3	3.96	76.42241	0.051817		
			4	9.9	185.9951	0.053227		
			5	29.7	564.6284	0.052601	0.057039	12.62007
27	12.600127	Cyclohexane	1	0.4	6.481212	0.061717		
			2	1	18.71393	0.053436		
			3	4	90.42808	0.044234		
			4	9	222.0291	0.040535		
			5	30	633.8958	0.047326	0.0494497	16.84534
28	12.723868	2-Methylhexa	1	0.392	7.420005	0.05283		
			2	0.98	20.68834	0.04737		
			3	3.92	94.77328	0.041362		
			4	9.8	235.3157	0.041646		
			5	29.4	702.8463	0.04183	0.0450076	11.19005
29	12.76907	2,3-Dimethyl	1	0.392	7.649059	0.051248		
			2	0.98	21.17666	0.046277		
			3	3.92	99.14146	0.039539		
			4	9.8	246.5868	0.039743		

ICAL Name: A101316A-TO14

#	RT	Compound	Lvl	Amt (ppbv)	Area	RF	ICAL RRF	% RSD
			5	29.4	711.7001	0.04131	0.0436234	11.59127
30	12.888512	3-Methylhexa	1	0.392	7.571831	0.051771		
			2	0.98	20.87874	0.046938		
			3	3.92	95.43382	0.041076		
			4	9.8	236.6123	0.041418		
			5	29.4	704.5875	0.041727	0.0445857	10.50135
31	13.148804	2,2,4-Trimeth	1	0.392	8.412619	0.046597		
			2	0.98	23.3373	0.041993		
			3	3.92	104.9907	0.037337		
			4	9.8	252.7411	0.038775		
			5	29.4	783.5123	0.037523	0.0404449	9.673315
32	13.316661	Heptane	1	0.396	6.933037	0.057118		
			2	0.99	19.36096	0.051134		
			3	3.96	87.42236	0.045297		
			4	9.9	202.3706	0.04892		
			5	29.7	661.5519	0.044894	0.0494727	10.10187
33	13.749998	Methylcycloh	1	0.396	7.872834	0.0503		
			2	0.99	21.01403	0.047111		
			3	3.96	97.89818	0.04045		
			4	9.9	242.7313	0.040786		
			5	29.7	705.8553	0.042077	0.0441447	9.867072
34	14.23966	2,3,4-Trimeth	1	0.396	8.271198	0.047877		
			2	0.99	22.51715	0.043966		
			3	3.96	99.47638	0.039808		
			4	9.9	216.3714	0.045755		
			5	29.7	716.5709	0.041447	0.0437708	7.397152
35	14.347045	Toluene	1	0.396	5.640544	0.070206		
			2	0.99	15.9514	0.062064		
			3	3.96	80.4786	0.049206		
			4	9.9	145.3924	0.068092		
			5	29.7	527.0956	0.056347	0.0611826	14.07829
36	14.469167	2-Methylhept	1	0.392	7.675507	0.051072		
			2	0.98	21.39065	0.045814		
			3	3.92	97.84846	0.040062		
			4	9.8	184.7057	0.053057		
			5	29.4	668.0087	0.044011	0.0468033	11.28308
37	14.604322	3-Methylhept	1	0.392	7.873471	0.049787		
			2	0.98	21.79138	0.044972		
			3	3.92	98.69557	0.039718		
			4	9.8	188.333	0.052035		
			5	29.4	676.8475	0.043437	0.0459899	10.75507
38	15.027451	Octane	1	0.392	7.10011	0.05521		
			2	0.98	19.8183	0.049449		
			3	3.92	94.99363	0.041266		
			4	9.8	167.5591	0.058487		
			5	29.4	638.1286	0.046072	0.0500969	13.79868
39	15.922199	Ethylbenzene	1	0.392	6.332551	0.061902		
			2	0.98	17.16382	0.057097		

ICAL Name: A101316A-TO14

#	RT	Compound	Lvl	Amt (ppbv)	Area	RF	ICAL RRF	% RSD
			3	3.92	92.91402	0.04219		
			4	9.8	159.5071	0.061439		
			5	29.4	616.8044	0.047665	0.0540586	16.20548
40	16.063808	m&p-Xylene	1	0.784	12.83853	0.061066		
			2	1.96	34.37	0.057026		
			3	7.84	187.3895	0.041838		
			4	19.6	320.6306	0.06113		
			5	58.8	1246.637	0.047167	0.0536454	16.24804
41	16.346867	Styrene	1	0.388	5.565505	0.069715		
			2	0.97	14.77018	0.065673		
			3	3.88	86.00706	0.045113		
			4	9.7	145.3343	0.066743		
			5	29.1	591.4024	0.049205	0.0592897	19.00127
42	16.432167	o-Xylene	1	0.392	7.015759	0.055874		
			2	0.98	18.42787	0.05318		
			3	3.92	98.21024	0.039914		
			4	9.8	168.1335	0.058287		
			5	29.4	646.1635	0.045499	0.0505511	15.12232
43	16.60634	Nonane	1	0.388	8.983765	0.043189		
			2	0.97	20.85905	0.046503		
			3	3.88	108.1788	0.035867		
			4	9.7	180.499	0.05374		
			5	29.1	723.2065	0.040237	0.0439071	15.36505
44	16.917702	Isopropylben	1	0.38	7.902077	0.048089		
			2	0.95	20.4574	0.046438		
			3	3.8	110.4547	0.034403		
			4	9.5	189.0631	0.050248		
			5	28.5	730.2043	0.03903	0.0436416	15.27906
45	17.36488	n-Propylbenz	1	0.38	7.175568	0.052957		
			2	0.95	18.9759	0.050064		
			3	3.8	106.9015	0.035547		
			4	9.5	181.2484	0.052414		
			5	28.5	722.3062	0.039457	0.0460878	17.42939
46	17.461887	3-Ethyltoluen	1	0.392	7.749516	0.050584		
			2	0.98	19.51568	0.050216		
			3	3.92	109.3284	0.035855		
			4	9.8	185.8404	0.052733		
			5	29.4	731.4992	0.040191	0.045916	16.17898
47	17.499109	4-Ethyltoluen	1	0.372	7.1343	0.052142		
			2	0.93	18.86607	0.049295		
			3	3.72	105.7149	0.035189		
			4	9.3	178.8011	0.052013		
			5	27.9	716.3655	0.038947	0.0455172	17.37577
48	17.572309	1,3,5-Trimeth	1	0.392	7.886662	0.049704		
			2	0.98	20.2794	0.048325		
			3	3.92	110.374	0.035516		
			4	9.8	188.9627	0.051862		
			5	29.4	728.4338	0.040361	0.0451535	15.329

ICAL Name: A101316A-TO14

#	RT	Compound	Lvl	Amt (ppbv)	Area	RF	ICAL RRF	% RSD
49	17.74951	2-Ethyltoluen	1	0.376	7.807065	0.048162		
			2	0.94	19.9833	0.047039		
			3	3.76	109.6545	0.03429		
			4	9.4	187.1995	0.050214		
			5	28.2	726.2756	0.038828	0.0437065	15.59263
50	17.958887	1,2,4-Trimeth	1	0.392	8.022631	0.048862		
			2	0.98	19.70164	0.049742		
			3	3.92	107.3812	0.036505		
			4	9.8	183.491	0.053409		
			5	29.4	715.9044	0.041067	0.045917	15.06997
51	18.065857	Decane	1	0.376	8.394047	0.044794		
			2	0.94	21.96515	0.042795		
			3	3.76	120.8167	0.031122		
			4	9.4	201.5566	0.046637		
			5	28.2	808.5615	0.034877	0.0400448	16.74738
52	18.356386	1,2,3-Trimeth	1	0.388	8.350072	0.046467		
			2	0.97	19.98894	0.048527		
			3	3.88	110.6501	0.035065		
			4	9.7	189.7699	0.051115		
			5	29.1	730.4952	0.039836	0.0442019	14.92779
53	18.649866	m-Diethylben	1	0.372	8.244793	0.045119		
			2	0.93	20.26714	0.045887		
			3	3.72	118.4928	0.031394		
			4	9.3	200.8456	0.046304		
			5	27.9	800.5594	0.034851	0.0407111	17.31037
54	18.735027	p-Diethylbenz	1	0.368	7.899118	0.046587		
			2	0.92	19.28915	0.047695		
			3	3.68	116.0668	0.031706		
			4	9.2	195.5762	0.04704		
			5	27.6	790.6302	0.034909	0.0415876	18.40274
55	19.24884	Undecane	1	0.376	8.599112	0.043725		
			2	0.94	21.27942	0.044174		
			3	3.76	126.6895	0.029679		
			4	9.4	210.7221	0.044609		
			5	28.2	846.0836	0.03333	0.0391034	18.062
56	20.194109	Dodecane	1	0.364	7.89362	0.046113		
			2	0.91	18.79593	0.048415		
			3	3.64	124.0925	0.029333		
			4	9.1	207.5453	0.043846		
			5	27.3	814.5909	0.033514	0.0402441	20.73494

Calibration Table

Calib. Data Modified : Friday, October 14, 2016 10:31:59 AM

Rel. Reference Window : 0.050 %
Abs. Reference Window : 0.090 min
Rel. Non-ref. Window : 0.050 %
Abs. Non-ref. Window : 0.090 min
Uncalibrated Peaks : using compound Propane
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Average Response/Amount
Origin : Ignored
Weight : Equal

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Average all calibrations

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: FID1 A,

RetTime [min]	Sig	Lvl	Amount [ppbv]	Area	Amt/Area	Ref	Grp	Name
3.596	1	1	3.92000e-1	2.56885	1.52598e-1			Ethylene
		2	9.80000e-1	6.41830	1.52688e-1			
		3	3.92000	29.84241	1.31357e-1			
		4	9.80000	72.41946	1.35323e-1			
		5	29.40000	215.00148	1.36743e-1			
3.657	1	1	3.92000e-1	2.91976	1.34258e-1			Acetylene
		2	9.80000e-1	8.13519	1.20464e-1			
		3	3.92000	35.00631	1.11980e-1			
		4	9.80000	93.62668	1.04671e-1			
		5	29.40000	285.05914	1.03136e-1			
3.725	1	1	3.92000e-1	2.68245	1.46135e-1			Ethane
		2	9.80000e-1	6.39031	1.53357e-1			
		3	3.95200	29.71356	1.33003e-1			
		4	9.80000	71.85267	1.36390e-1			
		5	29.40000	214.28661	1.37199e-1			
4.709	1	1	3.84000e-1	2.97935	1.28887e-1			Propylene
		2	9.60000e-1	8.08389	1.18755e-1			
		3	3.84000	35.44140	1.08348e-1			
		4	9.60000	93.49522	1.02679e-1			
		5	28.80000	285.85965	1.00749e-1			
4.805	1	1	3.84000e-1	4.11545	9.33068e-2			Propane
		2	9.60000e-1	9.95411	9.64426e-2			
		3	3.84000	43.31152	8.86600e-2			
		4	9.60000	110.78507	8.66543e-2			
		5	28.80000	333.14432	8.64490e-2			
6.152	1	1	3.76000e-1	4.16199	9.03414e-2	+		Isobutane
		2	9.40000e-1	11.94152	7.87169e-2			
		3	3.76000	49.66031	7.57144e-2			

RetTime [min]	Sig	Lvl	Amount [ppbv]	Area	Amt/Area	Ref	Grp	Name
		4	9.40000	137.55823	6.83347e-2			
		5	28.20000	419.49438	6.72238e-2			
6.762	1	1	3.76000e-1	4.28273	8.77946e-2			1-Butene
		2	9.40000e-1	11.59307	8.10829e-2			
		3	3.76000	48.69022	7.72229e-2			
		4	9.40000	134.52898	6.98734e-2			
		5	28.20000	385.32468	7.31850e-2			
6.950	1	1	3.76000e-1	4.18600	8.98233e-2			Butane
		2	9.40000e-1	11.62648	8.08499e-2			
		3	3.76000	48.20242	7.80044e-2			
		4	9.40000	129.95078	7.23351e-2			
		5	28.20000	383.03891	7.36218e-2			
7.213	1	1	3.72000e-1	4.66151	7.98025e-2			trans-2-Butene
		2	9.30000e-1	12.05401	7.71527e-2			
		3	3.72000	50.06149	7.43086e-2			
		4	9.30000	135.52519	6.86219e-2			
		5	27.90000	374.19870	7.45593e-2			
7.538	1	1	4.00000e-1	4.53990	8.81076e-2			cis-2-Butene
		2	1.00000	12.14151	8.23621e-2			
		3	4.00000	52.49825	7.61930e-2			
		4	10.00000	144.13408	6.93798e-2			
		5	30.00000	386.80612	7.75582e-2			
8.648	1	1	3.80000e-1	5.40170	7.03482e-2			Isopentane
		2	9.50000e-1	14.75903	6.43674e-2			
		3	3.80000	63.74224	5.96151e-2			
		4	9.50000	178.58707	5.31953e-2			
		5	28.50000	504.23697	5.65210e-2			
8.992	1	1	3.76000e-1	5.38255	6.98553e-2			1-Pentene
		2	9.40000e-1	14.06196	6.68470e-2			
		3	3.76000	65.40915	5.74843e-2			
		4	9.40000	170.21819	5.52232e-2			
		5	28.20000	482.52866	5.84421e-2			
9.239	1	1	3.84000e-1	5.67937	6.76132e-2			Pentane
		2	9.60000e-1	14.44171	6.64741e-2			
		3	3.84000	67.60634	5.67994e-2			
		4	9.60000	177.80653	5.39913e-2			
		5	28.80000	545.71326	5.27750e-2			
9.343	1	1	3.88000e-1	5.35044	7.25174e-2			Isoprene
		2	9.70000e-1	14.11606	6.87161e-2			
		3	3.88000	67.57280	5.74196e-2			
		4	9.70000	183.96443	5.27276e-2			
		5	29.10000	520.39404	5.59192e-2			
9.426	1	1	4.00000e-1	5.48836	7.28816e-2			trans-2-Pentene
		2	1.00000	14.34542	6.97087e-2			
		3	4.00000	81.90546	4.88368e-2			
		4	10.00000	189.49722	5.27712e-2			
		5	30.00000	518.22681	5.78897e-2			
9.593	1	1	3.96000e-1	5.60632	7.06346e-2			cis-2-Pentene
		2	9.90000e-1	14.92859	6.63157e-2			
		3	3.96000	71.16414	5.56460e-2			
		4	9.90000	177.94536	5.56351e-2			
		5	29.70000	517.37244	5.74055e-2			
10.016	1	1	3.88000e-1	6.62697	5.85486e-2			2,2-Dimethylbutane
		2	9.70000e-1	17.71486	5.47563e-2			
		3	3.88000	85.11064	4.55877e-2			
		4	9.70000	216.34283	4.48362e-2			
		5	29.10000	630.22656	4.61739e-2			
10.626	1	1	3.80000e-1	5.43284	6.99450e-2			Cyclopentane
		2	9.50000e-1	14.97645	6.34329e-2			
		3	3.80000	69.73854	5.44892e-2			
		4	9.50000	179.17430	5.30210e-2			
		5	28.50000	495.49951	5.75177e-2			

RetTime [min]	Sig	Lvl	Amount [ppbv]	Area	Amt/Area	Ref	Grp	Name
10.669	1	1	3.88000e-1	6.37756	6.08383e-2			2,3-Dimethylbutane
		2	9.70000e-1	18.27524	5.30773e-2			
		3	3.88000	86.85201	4.46737e-2			
		4	9.70000	216.08507	4.48897e-2			
		5	29.10000	622.17389	4.67715e-2			
10.763	1	1	3.84000e-1	6.38627	6.01290e-2			2-Methylpentane
		2	9.60000e-1	18.34219	5.23383e-2			
		3	3.84000	88.26511	4.35053e-2			
		4	9.60000	219.70312	4.36953e-2			
		5	28.80000	629.81592	4.57276e-2			
11.062	1	1	3.92000e-1	6.28765	6.23445e-2			3-Methylpentane
		2	9.80000e-1	18.45216	5.31103e-2			
		3	3.92000	87.35534	4.48742e-2			
		4	9.80000	217.46048	4.50657e-2			
		5	29.40000	623.13763	4.71806e-2			
11.192	1	1	3.84000e-1	5.75858	6.66831e-2			1-Hexene
		2	9.60000e-1	17.08354	5.61944e-2			
		3	3.84000	82.22535	4.67009e-2			
		4	9.60000	205.35985	4.67472e-2			
		5	28.80000	586.06036	4.91417e-2			
11.420	1	1	3.88000e-1	6.01858	6.44671e-2			Hexane
		2	9.70000e-1	17.84558	5.43552e-2			
		3	3.88000	86.80560	4.46976e-2			
		4	9.70000	216.47380	4.48091e-2			
		5	29.10000	618.39343	4.70574e-2			
11.962	1	1	3.76000e-1	5.87340	6.40174e-2			Methylcyclopentane
		2	9.40000e-1	17.66348	5.32171e-2			
		3	3.76000	85.16834	4.41479e-2			
		4	9.40000	210.99727	4.45503e-2			
		5	28.20000	603.78607	4.67053e-2			
12.023	1	1	3.96000e-1	7.31505	5.41349e-2			2,4-Dimethylpentane
		2	9.90000e-1	21.14990	4.68087e-2			
		3	3.96000	101.10690	3.91665e-2			
		4	9.90000	251.16077	3.94170e-2			
		5	29.70000	715.75958	4.14944e-2			
12.431	1	1	3.96000e-1	5.73744	6.90204e-2			Benzene
		2	9.90000e-1	16.91466	5.85291e-2			
		3	3.96000	76.42241	5.18173e-2			
		4	9.90000	185.99507	5.32272e-2			
		5	29.70000	564.62836	5.26010e-2			
12.600	1	1	4.00000e-1	6.48121	6.17169e-2			Cyclohexane
		2	1.00000	18.71393	5.34361e-2			
		3	4.00000	90.42808	4.42340e-2			
		4	9.00000	222.02913	4.05352e-2			
		5	30.00000	633.89581	4.73264e-2			
12.724	1	1	3.92000e-1	7.42000	5.28302e-2			2-Methylhexane
		2	9.80000e-1	20.68834	4.73697e-2			
		3	3.92000	94.77328	4.13619e-2			
		4	9.80000	235.31573	4.16462e-2			
		5	29.40000	702.84625	4.18299e-2			
12.769	1	1	3.92000e-1	7.64906	5.12481e-2			2,3-Dimethylpentane
		2	9.80000e-1	21.17666	4.62774e-2			
		3	3.92000	99.14146	3.95395e-2			
		4	9.80000	246.58678	3.97426e-2			
		5	29.40000	711.70013	4.13095e-2			
12.889	1	1	3.92000e-1	7.57183	5.17708e-2			3-Methylhexane
		2	9.80000e-1	20.87874	4.69377e-2			
		3	3.92000	95.43382	4.10756e-2			
		4	9.80000	236.61234	4.14180e-2			
		5	29.40000	704.58752	4.17265e-2			
13.149	1	1	3.92000e-1	8.41262	4.65967e-2			2,2,4-Trimethylpentane
		2	9.80000e-1	23.33730	4.19929e-2			

RetTime [min]	Sig	Lvl	Amount [ppbv]	Area	Amt/Area	Ref	Grp	Name
		3	3.92000	104.99068	3.73366e-2			
		4	9.80000	252.74112	3.87749e-2			
		5	29.40000	783.51233	3.75233e-2			
13.317	1	1	3.96000e-1	6.93304	5.71178e-2			Heptane
		2	9.90000e-1	19.36096	5.11338e-2			
		3	3.96000	87.42236	4.52973e-2			
		4	9.90000	202.37056	4.89202e-2			
		5	29.70000	661.55194	4.48944e-2			
13.750	1	1	3.96000e-1	7.87283	5.02995e-2			Methylcyclohexane
		2	9.90000e-1	21.01403	4.71114e-2			
		3	3.96000	97.89818	4.04502e-2			
		4	9.90000	242.73129	4.07858e-2			
		5	29.70000	705.85535	4.20766e-2			
14.240	1	1	3.96000e-1	8.27120	4.78770e-2			2,3,4-Trimethylpentane
		2	9.90000e-1	22.51715	4.39665e-2			
		3	3.96000	99.47638	3.98084e-2			
		4	9.90000	216.37135	4.57547e-2			
		5	29.70000	716.57086	4.14474e-2			
14.347	1	1	3.96000e-1	5.64054	7.02060e-2			Toluene
		2	9.90000e-1	15.95140	6.20635e-2			
		3	3.96000	80.47860	4.92056e-2			
		4	9.90000	145.39241	6.80916e-2			
		5	29.70000	527.09564	5.63465e-2			
14.469	1	1	3.92000e-1	7.67551	5.10715e-2			2-Methylheptane
		2	9.80000e-1	21.39065	4.58144e-2			
		3	3.92000	97.84846	4.00619e-2			
		4	9.80000	184.70567	5.30574e-2			
		5	29.40000	668.00873	4.40114e-2			
14.604	1	1	3.92000e-1	7.87347	4.97874e-2			3-Methylheptane
		2	9.80000e-1	21.79138	4.49719e-2			
		3	3.92000	98.69557	3.97181e-2			
		4	9.80000	188.33298	5.20355e-2			
		5	29.40000	676.84747	4.34367e-2			
15.027	1	1	3.92000e-1	7.10011	5.52104e-2			Octane
		2	9.80000e-1	19.81830	4.94493e-2			
		3	3.92000	94.99363	4.12659e-2			
		4	9.80000	167.55913	5.84868e-2			
		5	29.40000	638.12860	4.60722e-2			
15.922	1	1	3.92000e-1	6.33255	6.19024e-2	+		Ethylbenzene
		2	9.80000e-1	17.16382	5.70968e-2			
		3	3.92000	92.91402	4.21895e-2			
		4	9.80000	159.50710	6.14393e-2			
		5	29.40000	616.80438	4.76650e-2			
16.064	1	1	7.84000e-1	12.83853	6.10662e-2			m&p-Xylene
		2	1.96000	34.37000	5.70265e-2			
		3	7.84000	187.38947	4.18380e-2			
		4	19.60000	320.63065	6.11295e-2			
		5	58.80000	1246.63672	4.71669e-2			
16.347	1	1	3.88000e-1	5.56551	6.97151e-2			Styrene
		2	9.70000e-1	14.77018	6.56728e-2			
		3	3.88000	86.00706	4.51126e-2			
		4	9.70000	145.33426	6.67427e-2			
		5	29.10000	591.40240	4.92051e-2			
16.432	1	1	3.92000e-1	7.01576	5.58742e-2			o-Xylene
		2	9.80000e-1	18.42787	5.31803e-2			
		3	3.92000	98.21024	3.99144e-2			
		4	9.80000	168.13351	5.82870e-2			
		5	29.40000	646.16345	4.54993e-2			
16.606	1	1	3.88000e-1	8.98376	4.31890e-2			Nonane
		2	9.70000e-1	20.85905	4.65026e-2			
		3	3.88000	108.17876	3.58666e-2			
		4	9.70000	180.49901	5.37399e-2			

RetTime [min]	Sig	Lvl	Amount [ppbv]	Area	Amt/Area	Ref	Grp	Name
		5	29.10000	723.20654	4.02375e-2			
16.918	1	1	3.80000e-1	7.90208	4.80886e-2			Isopropylbenzene
		2	9.50000e-1	20.45740	4.64380e-2			
		3	3.80000	110.45473	3.44032e-2			
		4	9.50000	189.06308	5.02478e-2			
		5	28.50000	730.20428	3.90302e-2			
17.365	1	1	3.80000e-1	7.17557	5.29575e-2			n-Propylbenzene
		2	9.50000e-1	18.97590	5.00635e-2			
		3	3.80000	106.90150	3.55467e-2			
		4	9.50000	181.24840	5.24143e-2			
		5	28.50000	722.30621	3.94569e-2			
17.462	1	1	3.92000e-1	7.74952	5.05838e-2			3-Ethyltoluene
		2	9.80000e-1	19.51568	5.02160e-2			
		3	3.92000	109.32840	3.58553e-2			
		4	9.80000	185.84044	5.27334e-2			
		5	29.40000	731.49921	4.01914e-2			
17.499	1	1	3.72000e-1	7.13430	5.21425e-2			4-Ethyltoluene
		2	9.30000e-1	18.86607	4.92949e-2			
		3	3.72000	105.71493	3.51890e-2			
		4	9.30000	178.80106	5.20131e-2			
		5	27.90000	716.36554	3.89466e-2			
17.572	1	1	3.92000e-1	7.88666	4.97042e-2			1,3,5-Trimethylbenzene
		2	9.80000e-1	20.27940	4.83249e-2			
		3	3.92000	110.37399	3.55156e-2			
		4	9.80000	188.96268	5.18621e-2			
		5	29.40000	728.43384	4.03606e-2			
17.750	1	1	3.76000e-1	7.80706	4.81615e-2			2-Ethyltoluene
		2	9.40000e-1	19.98330	4.70393e-2			
		3	3.76000	109.65446	3.42895e-2			
		4	9.40000	187.19951	5.02138e-2			
		5	28.20000	726.27557	3.88282e-2			
17.959	1	1	3.92000e-1	8.02263	4.88618e-2			1,2,4-Trimethylbenzene
		2	9.80000e-1	19.70164	4.97421e-2			
		3	3.92000	107.38124	3.65054e-2			
		4	9.80000	183.49103	5.34086e-2			
		5	29.40000	715.90442	4.10669e-2			
18.066	1	1	3.76000e-1	8.39405	4.47937e-2			Decane
		2	9.40000e-1	21.96515	4.27951e-2			
		3	3.76000	120.81667	3.11215e-2			
		4	9.40000	201.55664	4.66370e-2			
		5	28.20000	808.56152	3.48768e-2			
18.356	1	1	3.88000e-1	8.35007	4.64667e-2			1,2,3-Trimethylbenzene
		2	9.70000e-1	19.98894	4.85268e-2			
		3	3.88000	110.65008	3.50655e-2			
		4	9.70000	189.76987	5.11145e-2			
		5	29.10000	730.49524	3.98360e-2			
18.650	1	1	3.72000e-1	8.24479	4.51194e-2			m-Diethylbenzene
		2	9.30000e-1	20.26714	4.58871e-2			
		3	3.72000	118.49283	3.13943e-2			
		4	9.30000	200.84563	4.63042e-2			
		5	27.90000	800.55945	3.48506e-2			
18.735	1	1	3.68000e-1	7.89912	4.65875e-2			p-Diethylbenzene
		2	9.20000e-1	19.28915	4.76952e-2			
		3	3.68000	116.06676	3.17059e-2			
		4	9.20000	195.57625	4.70405e-2			
		5	27.60000	790.63019	3.49089e-2			
19.249	1	1	3.76000e-1	8.59911	4.37254e-2	+		Undecane
		2	9.40000e-1	21.27942	4.41741e-2			
		3	3.76000	126.68952	2.96789e-2			
		4	9.40000	210.72211	4.46085e-2			
		5	28.20000	846.08362	3.33300e-2			
20.194	1	1	3.64000e-1	7.89362	4.61132e-2			Dodecane

RetTime [min]	Sig	Lvl	Amount [ppbv]	Area	Amt/Area	Ref	Grp	Name
		2	9.10000e-1	18.79593	4.84147e-2			
		3	3.64000	124.09254	2.93329e-2			
		4	9.10000	207.54527	4.38459e-2			
		5	27.30000	814.59094	3.35138e-2			

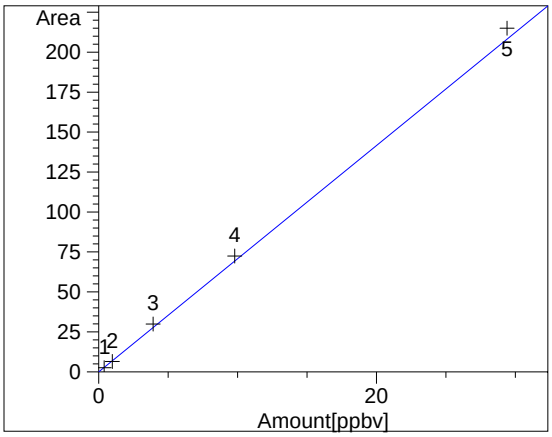
12 Warnings or Errors (10 first messages follow) :

Warning : Overlapping peak time windows at 3.596 min, signal 1
Warning : Overlapping peak time windows at 3.657 min, signal 1
Warning : Overlapping peak time windows at 9.343 min, signal 1
Warning : Overlapping peak time windows at 10.626 min, signal 1
Warning : Overlapping peak time windows at 10.669 min, signal 1
Warning : Overlapping peak time windows at 11.962 min, signal 1
Warning : Overlapping peak time windows at 12.724 min, signal 1
Warning : Overlapping peak time windows at 16.347 min, signal 1
Warning : Overlapping peak time windows at 17.365 min, signal 1
Warning : Overlapping peak time windows at 17.462 min, signal 1

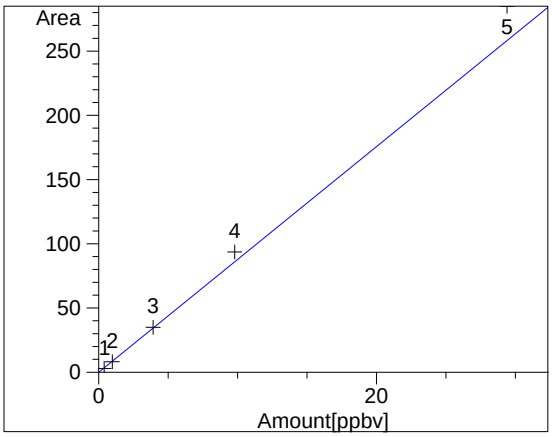
Peak Sum Table

No Entries in table

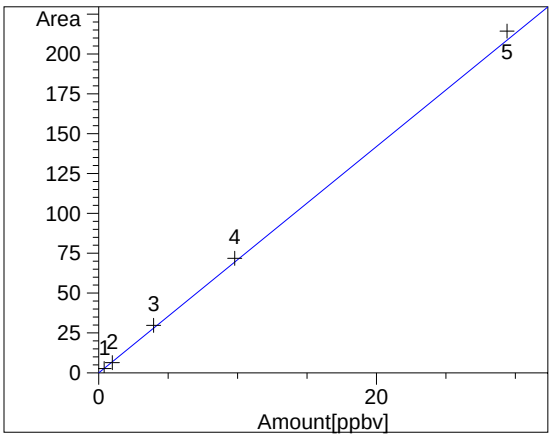
Calibration Curves



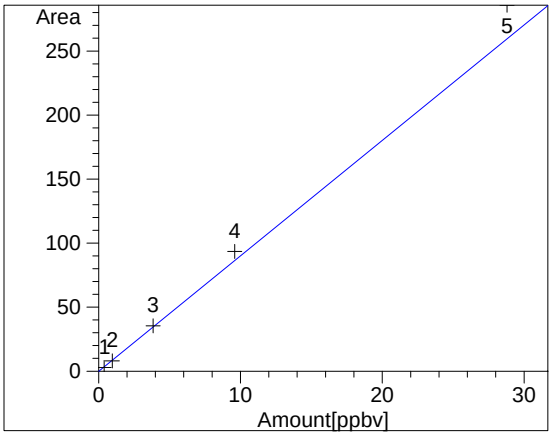
Ethylene at exp. RT: 3.596
FID1 A,
Correlation: 0.99996
Residual Std. Dev.: 4.43829
Formula: y = mx
m: 7.08361
x: Amount
y: Area



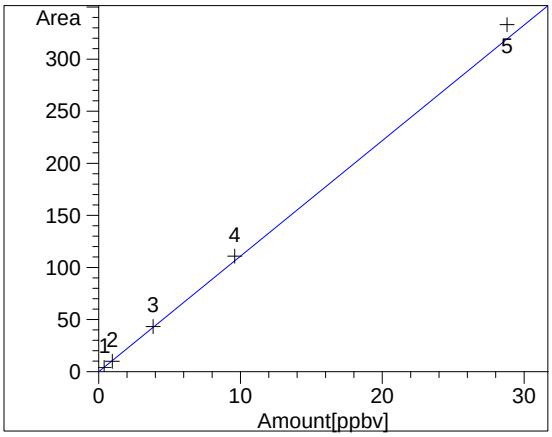
Acetylene at exp. RT: 3.657
FID1 A,
Correlation: 0.99997
Residual Std. Dev.: 16.05450
Formula: y = mx
m: 8.78588
x: Amount
y: Area



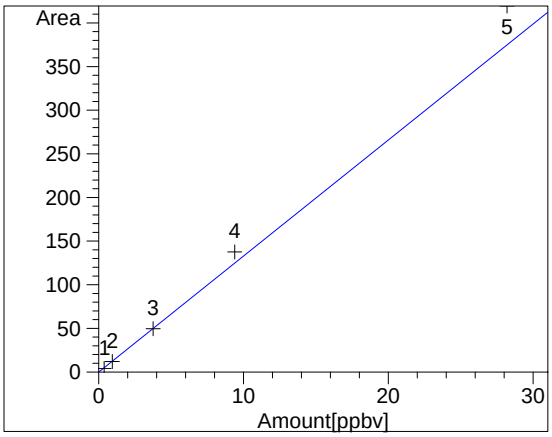
Ethane at exp. RT: 3.725
FID1 A,
Correlation: 0.99997
Residual Std. Dev.: 3.59535
Formula: y = mx
m: 7.10057
x: Amount
y: Area



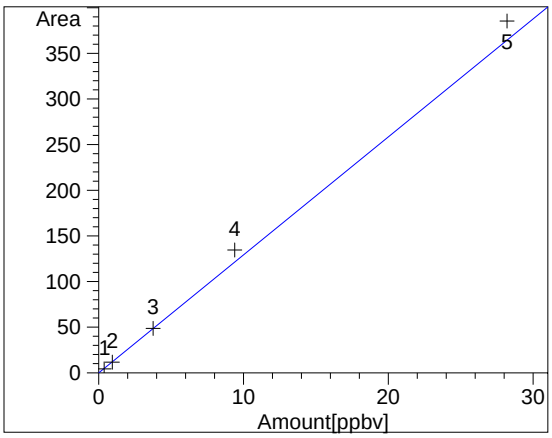
Propylene at exp. RT: 4.709
FID1 A,
Correlation: 0.99998
Residual Std. Dev.: 15.68292
Formula: y = mx
m: 9.01475
x: Amount
y: Area



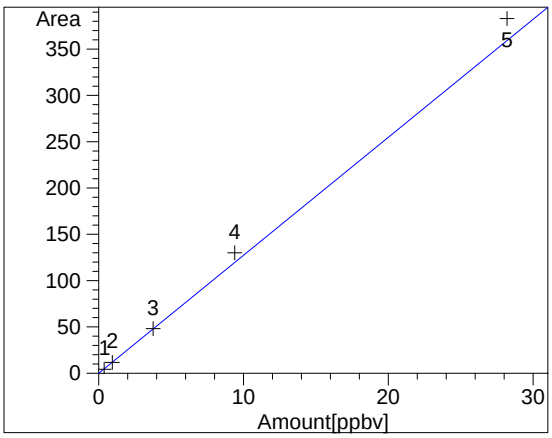
Propane at exp. RT: 4.805
FID1 A,
Correlation: 1.00000
Residual Std. Dev.: 8.26287
Formula: y = mx
m: 11.09457
x: Amount
y: Area



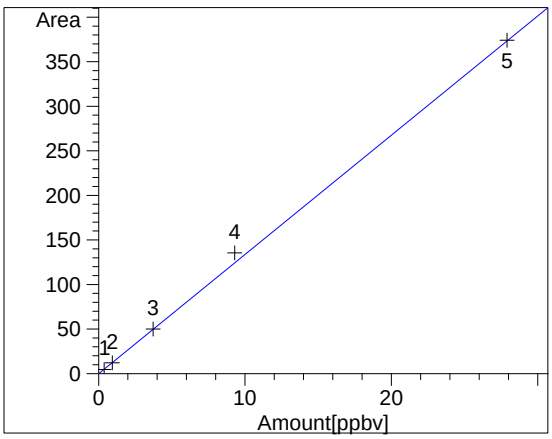
Isobutane at exp. RT: 6.152
FID1 A,
Correlation: 0.99993
Residual Std. Dev.: 26.69749
Formula: y = mx
m: 13.29799
x: Amount
y: Area



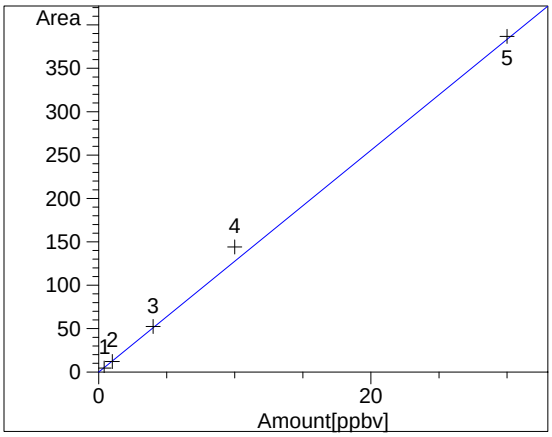
1-Butene at exp. RT: 6.762
FID1 A,
Correlation: 0.99978
Residual Std. Dev.: 14.12097
Formula: y = mx
m: 12.92968
x: Amount
y: Area



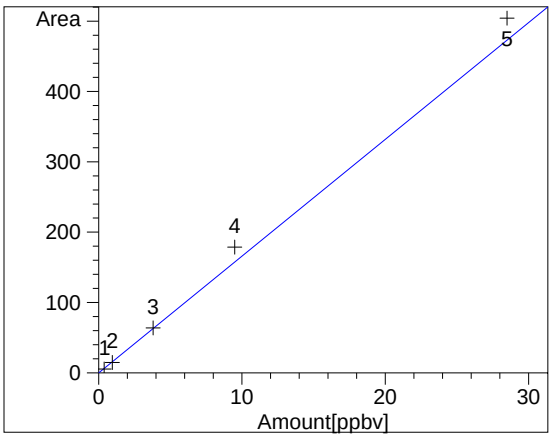
Butane at exp. RT: 6.950
FID1 A,
Correlation: 0.99994
Residual Std. Dev.: 14.84081
Formula: y = mx
m: 12.74577
x: Amount
y: Area



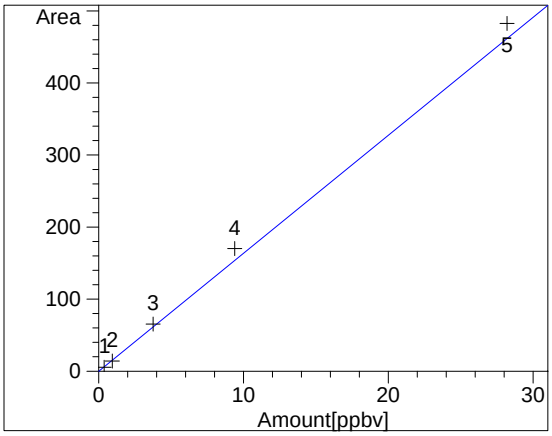
trans-2-Butene at exp. RT: 7.213
FID1 A,
Correlation: 0.99949
Residual Std. Dev.: 6.38813
Formula: y = mx
m: 13.38687
x: Amount
y: Area



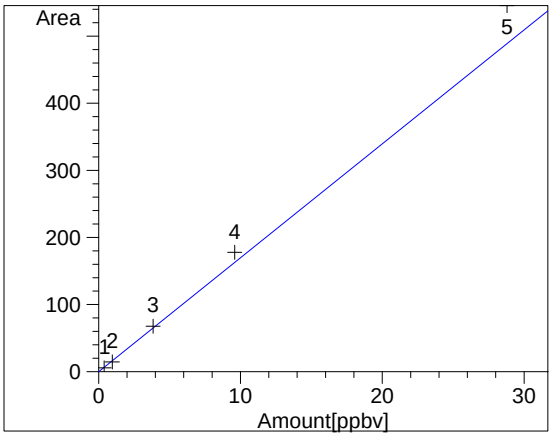
cis-2-Butene at exp. RT: 7.538
FID1 A,
Correlation: 0.99907
Residual Std. Dev.: 9.63669
Formula: y = mx
m: 12.78456
x: Amount
y: Area



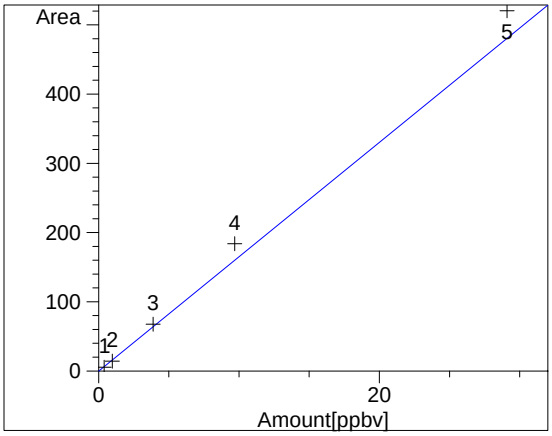
Isopentane at exp. RT: 8.648
FID1 A,
Correlation: 0.99965
Residual Std. Dev.: 21.61019
Formula: y = mx
m: 16.60325
x: Amount
y: Area



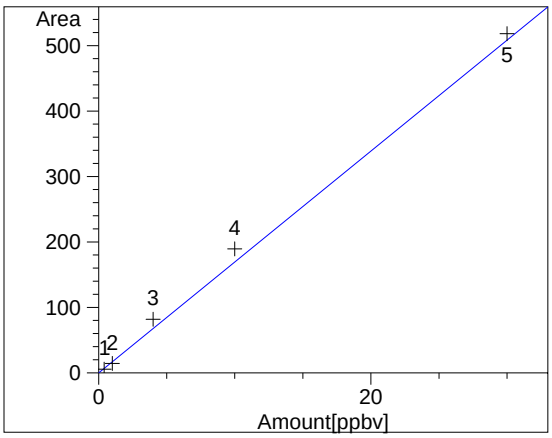
1-Pentene at exp. RT: 8.992
FID1 A,
Correlation: 0.99974
Residual Std. Dev.: 15.37040
Formula: y = mx
m: 16.37803
x: Amount
y: Area



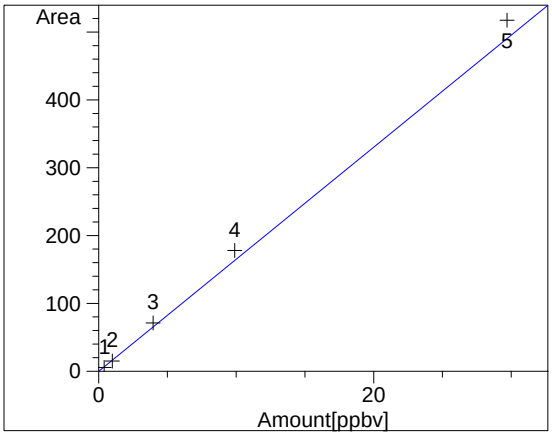
Pentane at exp. RT: 9.239
FID1 A,
Correlation: 0.99998
Residual Std. Dev.: 33.84315
Formula: y = mx
m: 16.98183
x: Amount
y: Area



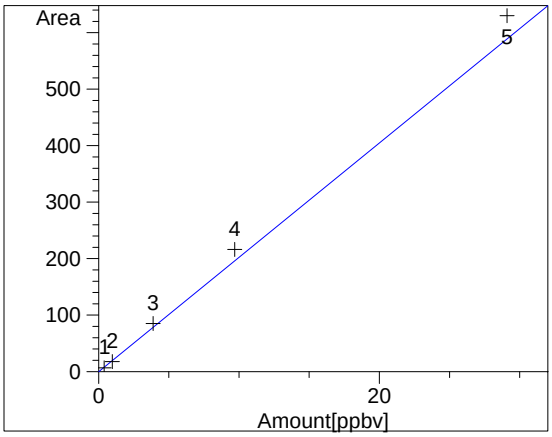
Isoprene at exp. RT: 9.343
FID1 A,
Correlation: 0.99968
Residual Std. Dev.: 26.76419
Formula: y = mx
m: 16.52129
x: Amount
y: Area



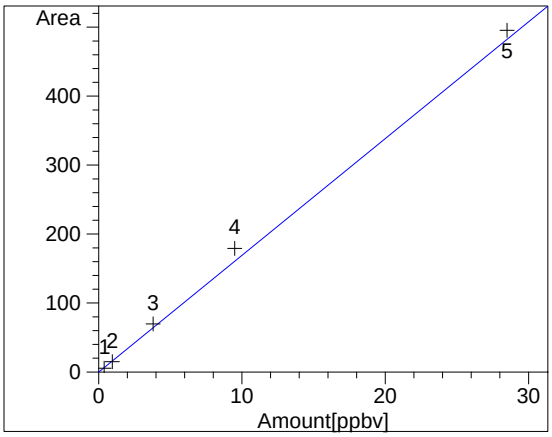
trans-2-Pentene at exp. RT: 9.426
FID1 A,
Correlation: 0.99909
Residual Std. Dev.: 15.25672
Formula: y = mx
m: 16.95333
x: Amount
y: Area



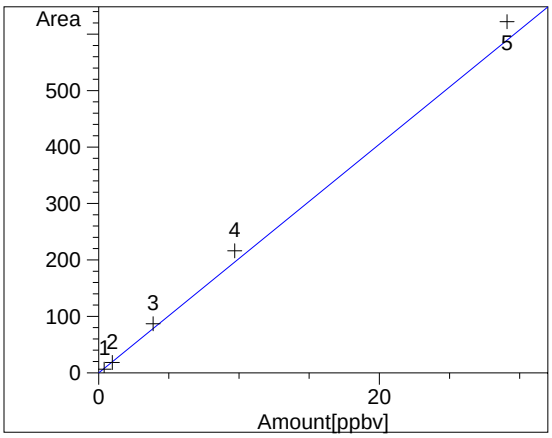
cis-2-Pentene at exp. RT: 9.593
FID1 A,
Correlation: 0.99990
Residual Std. Dev.: 17.86007
Formula: y = mx
m: 16.52035
x: Amount
y: Area



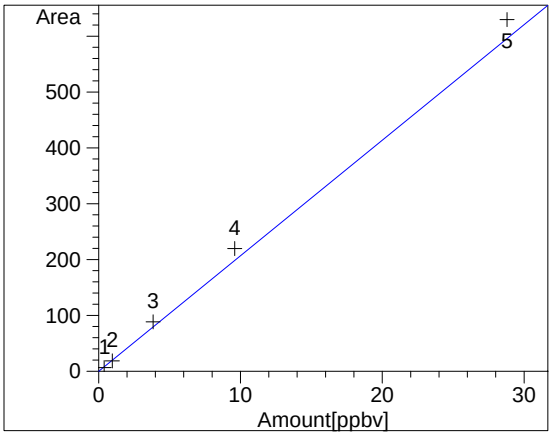
2,2-Dimethylbutane at exp. RT: 10.016
FID1 A,
Correlation: 0.99991
Residual Std. Dev.: 26.63319
Formula: y = mx
m: 20.24779
x: Amount
y: Area



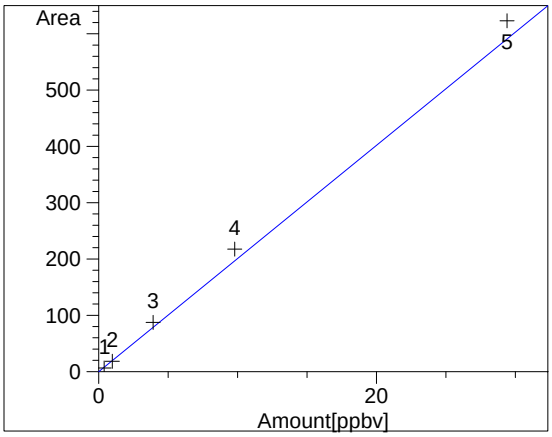
Cyclopentane at exp. RT: 10.626
FID1 A,
Correlation: 0.99949
Residual Std. Dev.: 13.34556
Formula: y = mx
m: 16.93205
x: Amount
y: Area



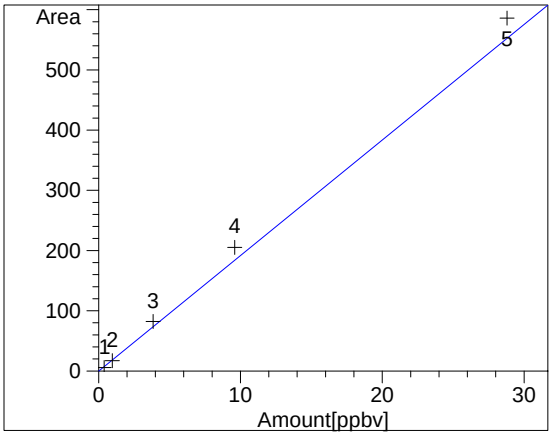
2,3-Dimethylbutane at exp. RT: 10.669
FID1 A,
Correlation: 0.99984
Residual Std. Dev.: 22.42762
Formula: y = mx
m: 20.26387
x: Amount
y: Area



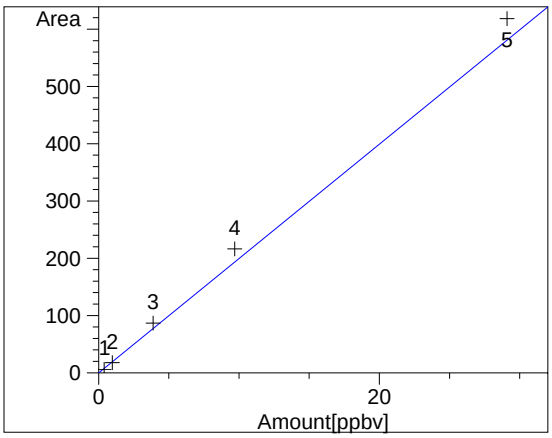
2-Methylpentane at exp. RT: 10.763
FID1 A,
Correlation: 0.99980
Residual Std. Dev.: 23.56347
Formula: y = mx
m: 20.69548
x: Amount
y: Area



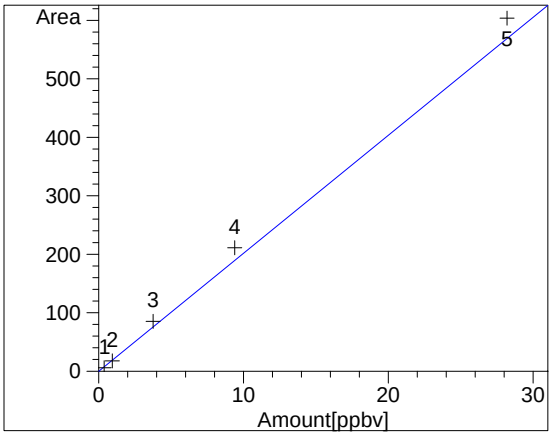
3-Methylpentane at exp. RT: 11.062
FID1 A,
Correlation: 0.99980
Residual Std. Dev.: 22.47668
Formula: y = mx
m: 20.10764
x: Amount
y: Area



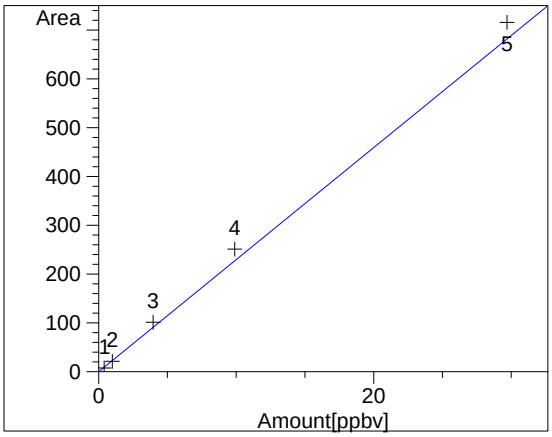
1-Hexene at exp. RT: 11.192
FID1 A,
Correlation: 0.99977
Residual Std. Dev.: 23.38740
Formula: y = mx
m: 19.18910
x: Amount
y: Area



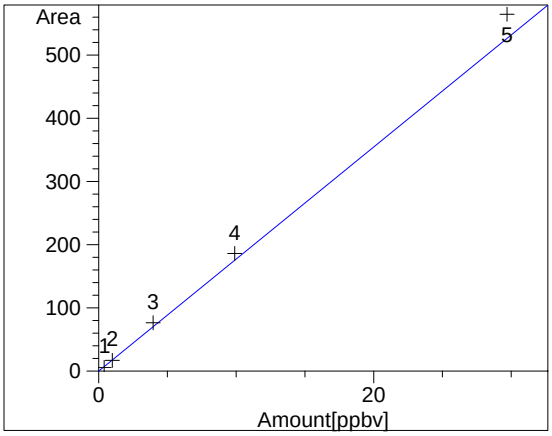
Hexane at exp. RT: 11.420
FID1 A,
Correlation: 0.99977
Residual Std. Dev.: 25.81706
Formula: y = mx
m: 19.96988
x: Amount
y: Area



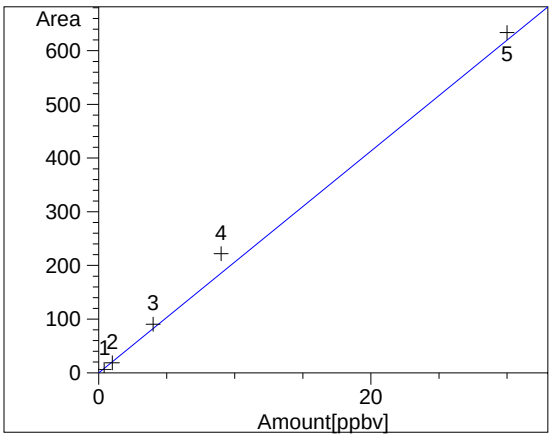
Methylcyclopentane at exp. RT: 11.962
FID1 A,
Correlation: 0.99978
Residual Std. Dev.: 24.08247
Formula: y = mx
m: 20.18404
x: Amount
y: Area



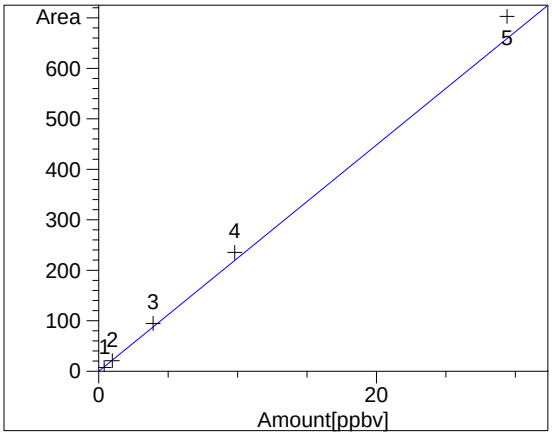
2,4-Dimethylpentane at exp. RT: 12.023
FID1 A,
Correlation: 0.99976
Residual Std. Dev.: 24.52981
Formula: y = mx
m: 22.96747
x: Amount
y: Area



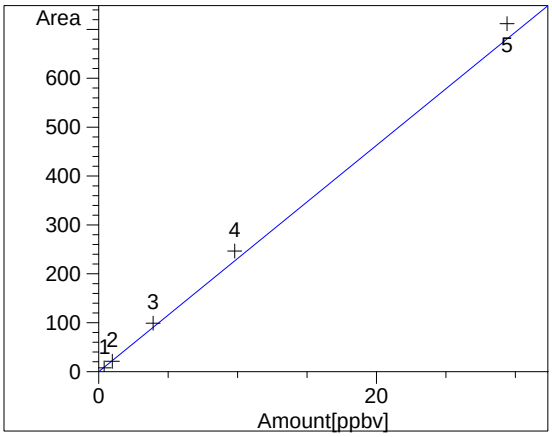
Benzene at exp. RT: 12.431
FID1 A,
Correlation: 0.99998
Residual Std. Dev.: 23.00194
Formula: y = mx
m: 17.73420
x: Amount
y: Area



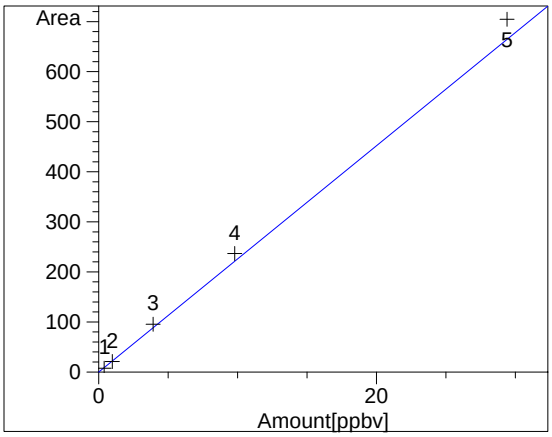
Cyclohexane at exp. RT: 12.600
FID1 A,
Correlation: 0.99845
Residual Std. Dev.: 22.81364
Formula: y = mx
m: 20.66475
x: Amount
y: Area



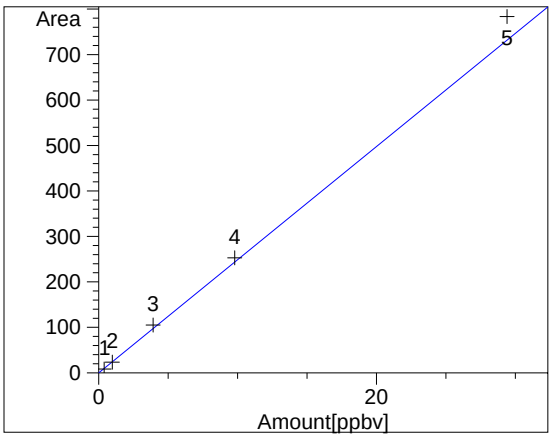
2-Methylhexane at exp. RT: 12.724
FID1 A,
Correlation: 0.99998
Residual Std. Dev.: 26.98091
Formula: y = mx
m: 22.42683
x: Amount
y: Area



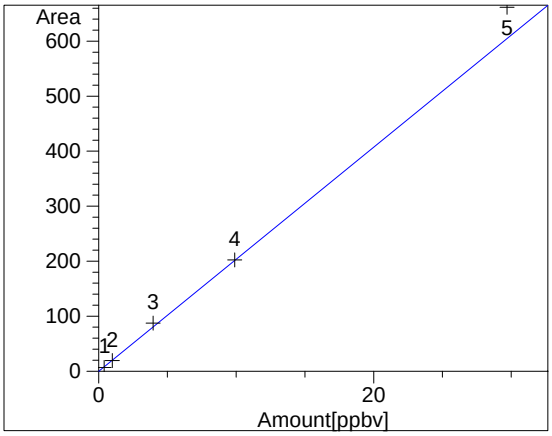
2,3-Dimethylpentane at exp. RT: 12.769
FID1 A,
Correlation: 0.99986
Residual Std. Dev.: 21.72120
Formula: y = mx
m: 23.15647
x: Amount
y: Area



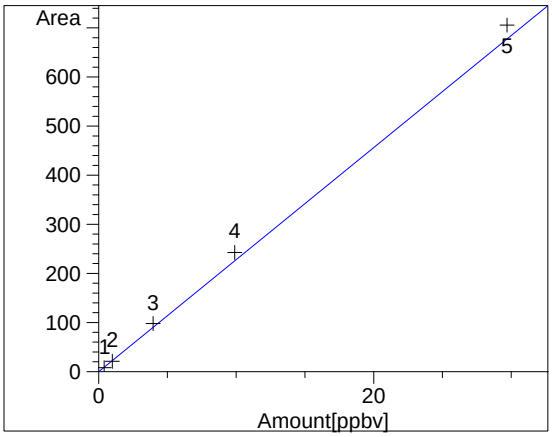
3-Methylhexane at exp. RT: 12.889
FID1 A,
Correlation: 0.99998
Residual Std. Dev.: 24.83335
Formula: y = mx
m: 22.61515
x: Amount
y: Area



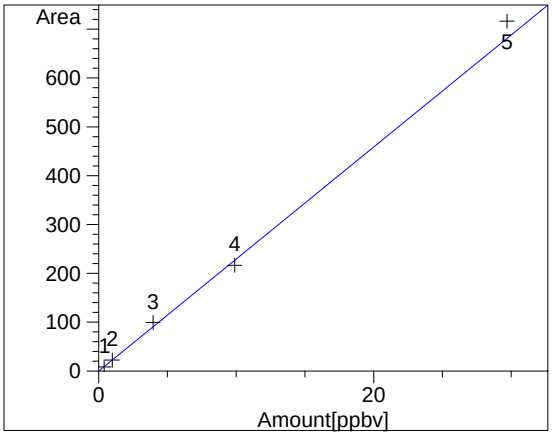
2,2,4-Trimethylpentane at exp. RT: 13.149
FID1 A,
Correlation: 0.99994
Residual Std. Dev.: 30.45423
Formula: y = mx
m: 24.89953
x: Amount
y: Area



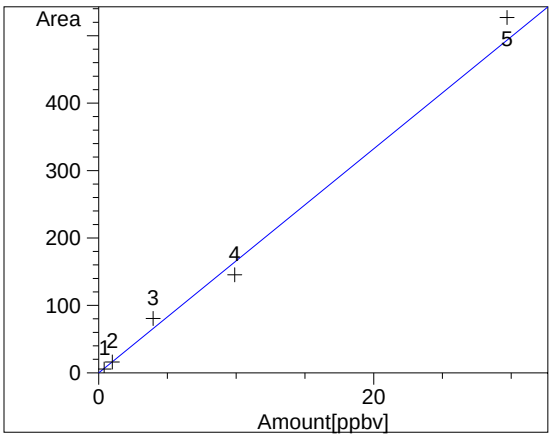
Heptane at exp. RT: 13.317
FID1 A,
Correlation: 0.99961
Residual Std. Dev.: 32.87862
Formula: y = mx
m: 20.37130
x: Amount
y: Area



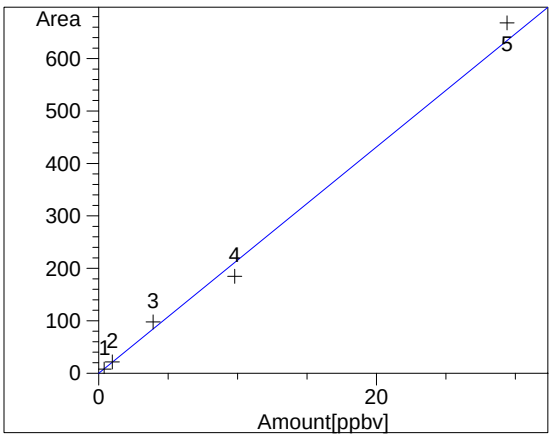
Methylcyclohexane at exp. RT: 13.750
FID1 A,
Correlation: 0.99990
Residual Std. Dev.: 19.38564
Formula: y = mx
m: 22.82269
x: Amount
y: Area



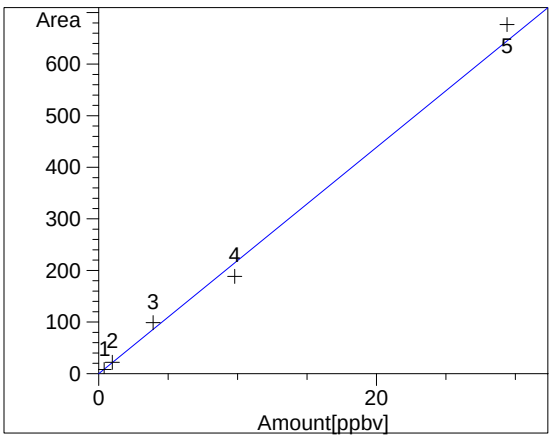
2,3,4-Trimethylpentane at exp. RT: 14.240
FID1 A,
Correlation: 0.99937
Residual Std. Dev.: 21.75527
Formula: y = mx
m: 22.94688
x: Amount
y: Area



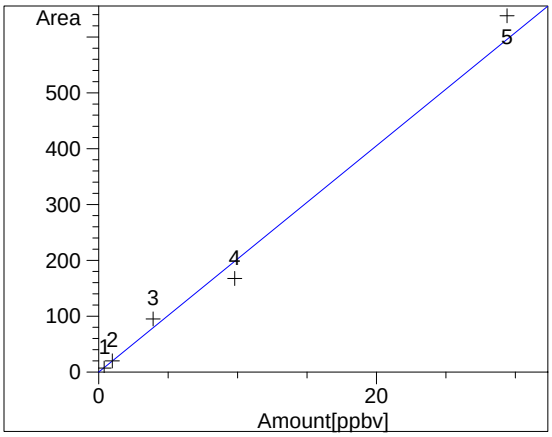
Toluene at exp. RT: 14.347
FID1 A,
Correlation: 0.99753
Residual Std. Dev.: 23.80040
Formula: y = mx
m: 16.62253
x: Amount
y: Area



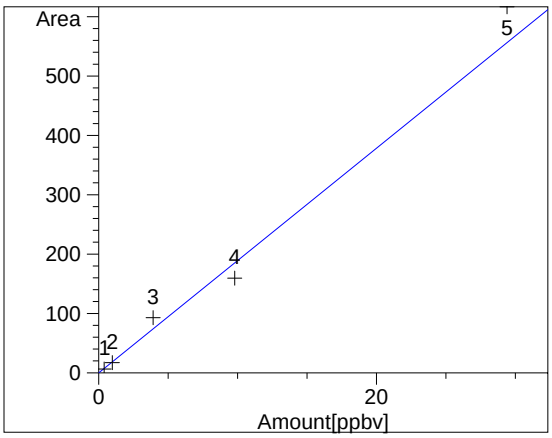
2-Methylheptane at exp. RT: 14.469
FID1 A,
Correlation: 0.99779
Residual Std. Dev.: 25.87029
Formula: y = mx
m: 21.58756
x: Amount
y: Area



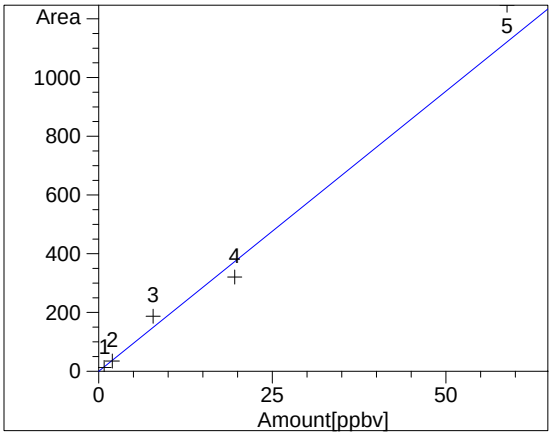
3-Methylheptane at exp. RT: 14.604
FID1 A,
Correlation: 0.99793
Residual Std. Dev.: 24.99530
Formula: y = mx
m: 21.94772
x: Amount
y: Area



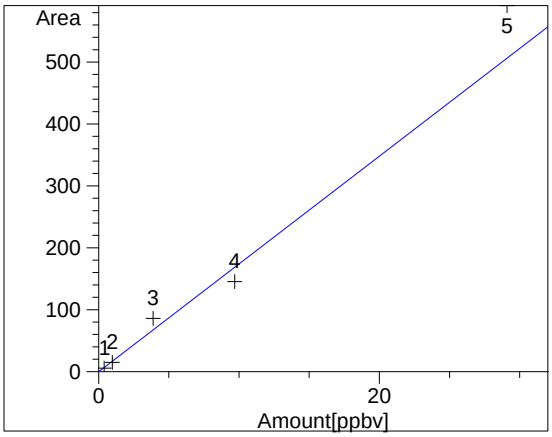
Octane at exp. RT: 15.027
FID1 A,
Correlation: 0.99661
Residual Std. Dev.: 31.51741
Formula: y = mx
m: 20.27425
x: Amount
y: Area



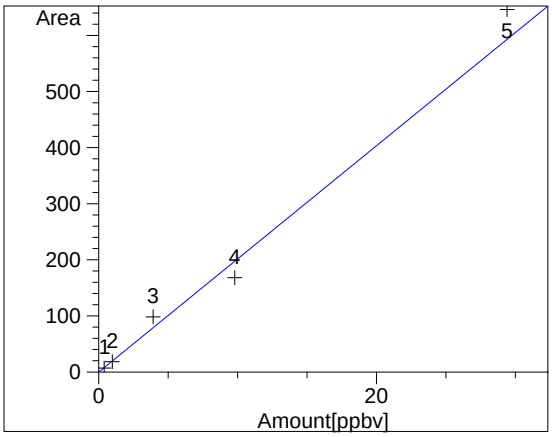
Ethylbenzene at exp. RT: 15.922
FID1 A,
Correlation: 0.99624
Residual Std. Dev.: 39.47825
Formula: y = mx
m: 18.92542
x: Amount
y: Area



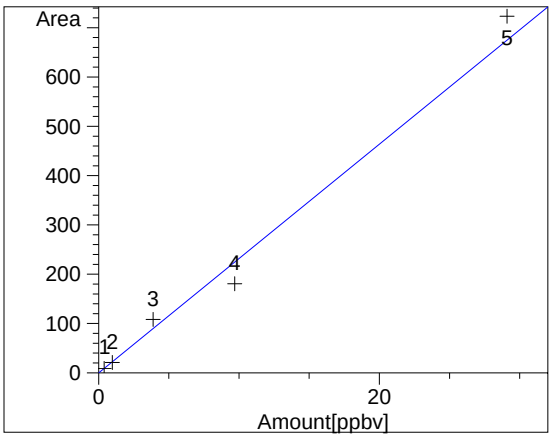
m&p-Xylene at exp. RT: 16.064
FID1 A,
Correlation: 0.99613
Residual Std. Dev.: 81.47932
Formula: y = mx
m: 19.07462
x: Amount
y: Area



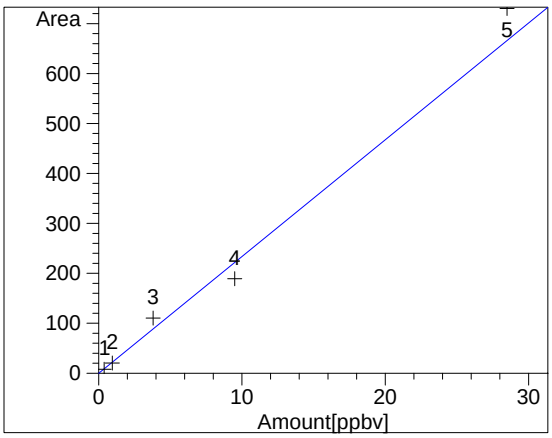
Styrene at exp. RT: 16.347
FID1 A,
Correlation: 0.99528
Residual Std. Dev.: 51.93793
Formula: y = mx
m: 17.40877
x: Amount
y: Area



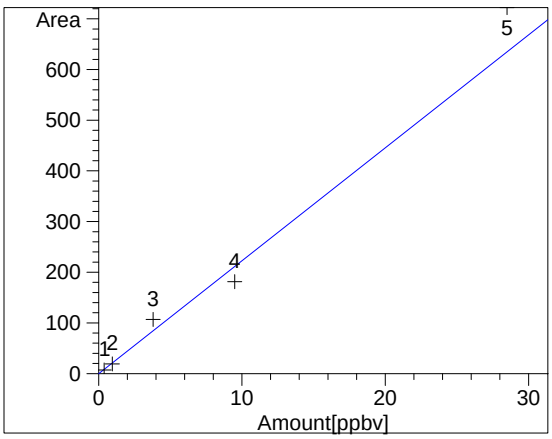
o-Xylene at exp. RT: 16.432
FID1 A,
Correlation: 0.99630
Residual Std. Dev.: 36.72624
Formula: y = mx
m: 20.17795
x: Amount
y: Area



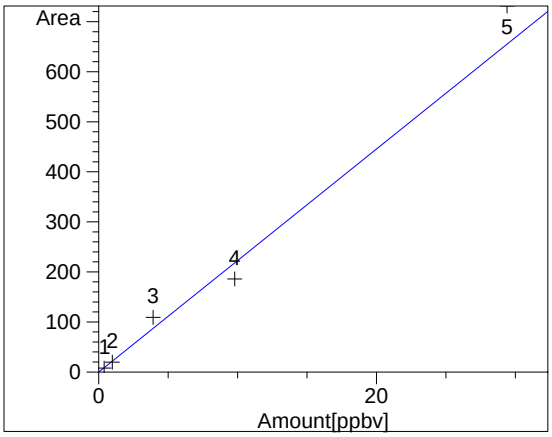
Nonane at exp. RT: 16.606
FID1 A,
Correlation: 0.99536
Residual Std. Dev.: 39.28035
Formula: y = mx
m: 23.19999
x: Amount
y: Area



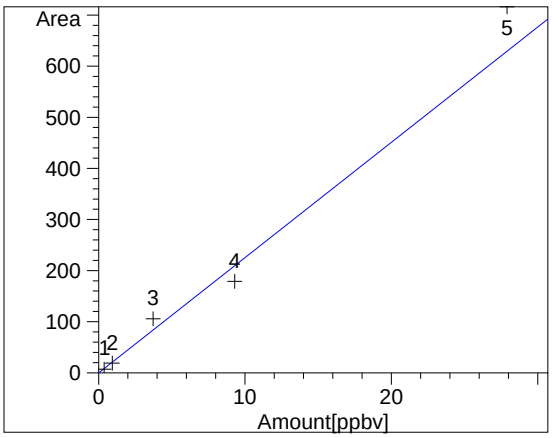
Isopropylbenzene at exp. RT: 16.918
FID1 A,
Correlation: 0.99623
Residual Std. Dev.: 43.32536
Formula: y = mx
m: 23.38373
x: Amount
y: Area



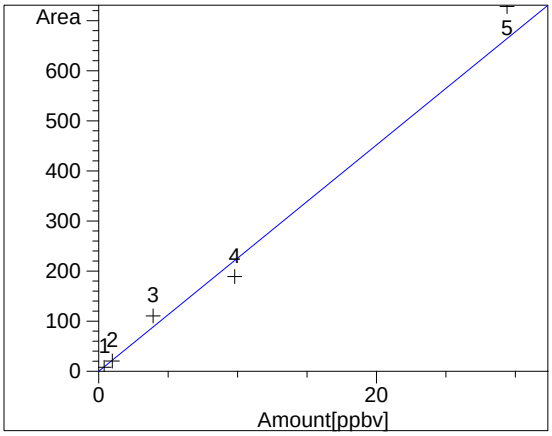
n-Propylbenzene at exp. RT: 17.365
FID1 A,
Correlation: 0.99566
Residual Std. Dev.: 54.89465
Formula: y = mx
m: 22.28251
x: Amount
y: Area



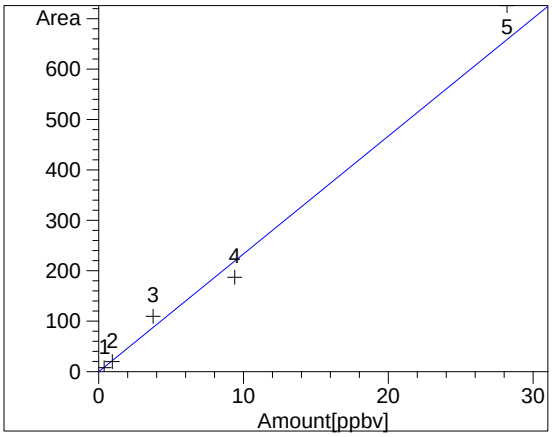
3-Ethyltoluene at exp. RT: 17.462
FID1 A,
Correlation: 0.99588
Residual Std. Dev.: 49.59760
Formula: y = mx
m: 22.28345
x: Amount
y: Area



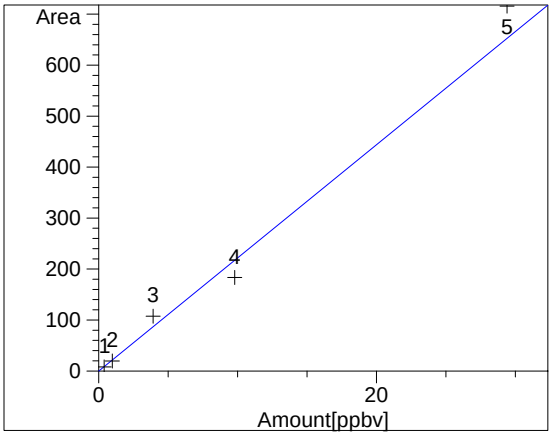
4-Ethyltoluene at exp. RT: 17.499
FID1 A,
Correlation: 0.99554
Residual Std. Dev.: 54.81794
Formula: y = mx
m: 22.55688
x: Amount
y: Area



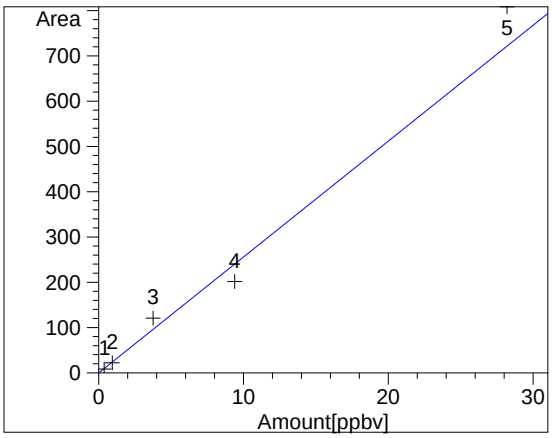
1,3,5-Trimethylbenzene at exp. RT: 17.572
FID1 A,
Correlation: 0.99626
Residual Std. Dev.: 43.25663
Formula: y = mx
m: 22.60550
x: Amount
y: Area



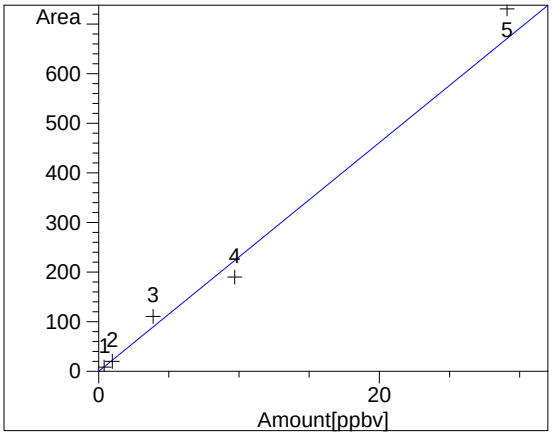
2-Ethyltoluene at exp. RT: 17.750
FID1 A,
Correlation: 0.99614
Residual Std. Dev.: 44.91601
Formula: y = mx
m: 23.37100
x: Amount
y: Area



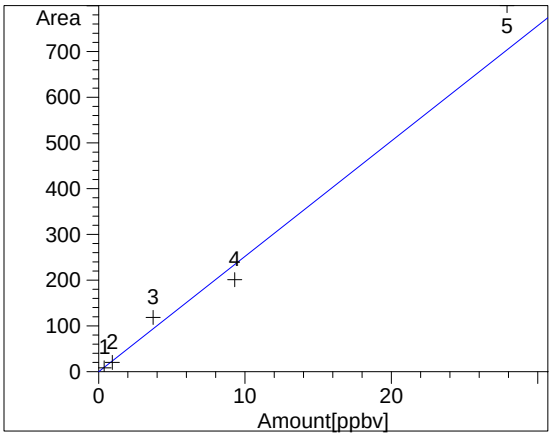
1,2,4-Trimethylbenzene at exp. RT: 17.959
FID1 A,
Correlation: 0.99604
Residual Std. Dev.: 43.02541
Formula: y = mx
m: 22.20737
x: Amount
y: Area



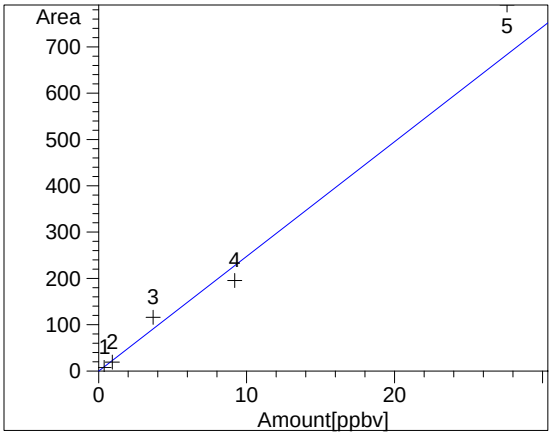
Decane at exp. RT: 18.066
FID1 A,
Correlation: 0.99540
Residual Std. Dev.: 56.85322
Formula: y = mx
m: 25.58769
x: Amount
y: Area



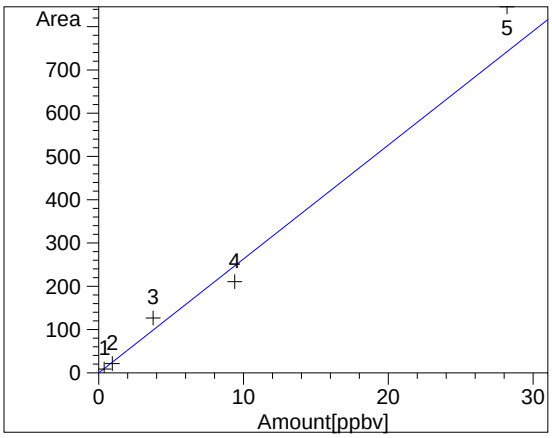
1,2,3-Trimethylbenzene at exp. RT: 18.356
FID1 A,
Correlation: 0.99629
Residual Std. Dev.: 41.35671
Formula: y = mx
m: 23.06257
x: Amount
y: Area



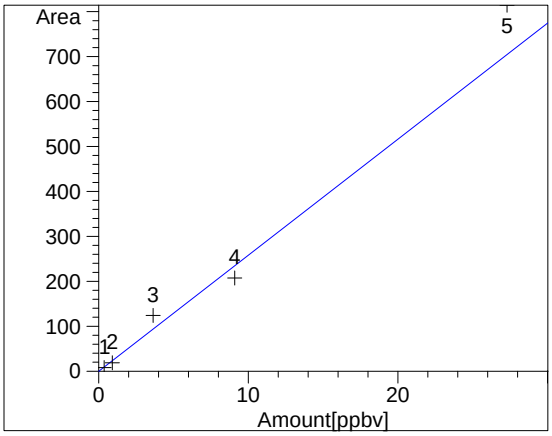
m-Diethylbenzene at exp. RT: 18.650
FID1 A,
Correlation: 0.99566
Residual Std. Dev.: 60.96614
Formula: y = mx
m: 25.21983
x: Amount
y: Area



p-Diethylbenzene at exp. RT: 18.735
FID1 A,
Correlation: 0.99538
Residual Std. Dev.: 66.06660
Formula: y = mx
m: 24.77513
x: Amount
y: Area



Undecane at exp. RT: 19.249
FID1 A,
Correlation: 0.99540
Residual Std. Dev.: 65.55304
Formula: y = mx
m: 26.32438
x: Amount
y: Area



Dodecane at exp. RT: 20.194
FID1 A,
Correlation: 0.99586
Residual Std. Dev.: 67.68347
Formula: y = mx
m: 25.81553
x: Amount
y: Area

==========

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A101316A\096F2901.D
Sample Name: TO14A Std #1

```
==========================================================================
Acq. Operator    : TDD                                Seq. Line :  29
Acq. Instrument  : Archie                              Location : Vial 96
Injection Date   : 14-Oct-16, 09:09:11                     Inj :   1
                                                    Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed     : 10/14/2016 10:32:14 AM by TDD
Sample Info      : Can #C8800; 50mL
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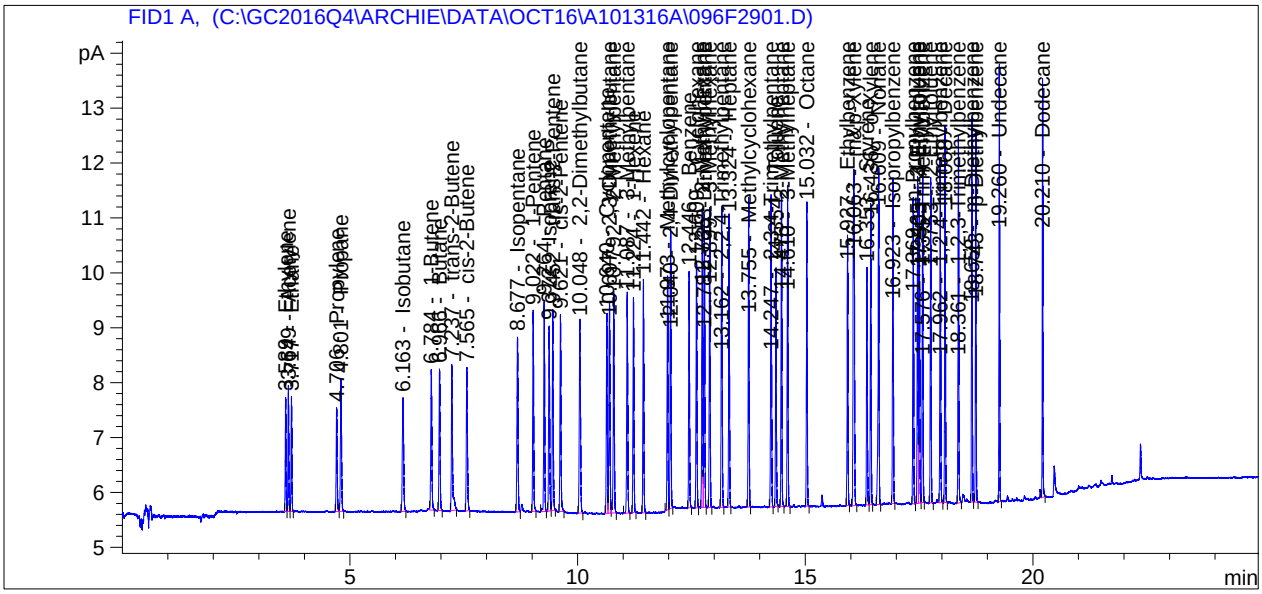


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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, October 14, 2016 10:31:59 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.589	BV		2.56885	1.41171e-1	3.62647e-1		Ethylene
3.649	VV		2.91976	1.13819e-1	3.32324e-1		Acetylene
3.717	VB		2.68245	1.40834e-1	3.77779e-1		Ethane
4.706	BB		2.97935	1.10929e-1	3.30497e-1		Propylene
4.801	BB		4.11545	9.01342e-2	3.70943e-1		Propane
6.163	BB	+	4.16199	7.51993e-2	3.12979e-1		Isobutane
6.784	BB		4.28273	7.73414e-2	3.31232e-1		1-Butene
6.966	BB		4.18600	7.84574e-2	3.28423e-1		Butane
7.237	BB		4.66151	7.47000e-2	3.48215e-1		trans-2-Butene
7.565	BB		4.53990	7.82194e-2	3.55109e-1		cis-2-Butene
8.677	BB		5.40170	6.02292e-2	3.25340e-1		Isopentane
9.022	BB		5.38255	6.10574e-2	3.28645e-1		1-Pentene
9.264	BB		5.67937	5.88865e-2	3.34438e-1		Pentane
9.372	BV		5.35044	6.05279e-2	3.23851e-1		Isoprene
9.452	VB		5.48836	5.89855e-2	3.23733e-1		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A101316A\096F2901.D
Sample Name: TO14A Std #1

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.621	BB		5.60632	6.05314e-2	3.39359e-1		cis-2-Pentene
10.048	BB		6.62697	4.93881e-2	3.27294e-1		2,2-Dimethylbutane
10.640	BV		5.43284	5.90596e-2	3.20861e-1		Cyclopentane
10.697	VV		6.37756	4.93489e-2	3.14726e-1		2,3-Dimethylbutane
10.792	VB		6.38627	4.83197e-2	3.08583e-1		2-Methylpentane
11.087	BB		6.28765	4.97323e-2	3.12700e-1		3-Methylpentane
11.224	BB		5.75858	5.21129e-2	3.00097e-1		1-Hexene
11.442	BB		6.01858	5.00754e-2	3.01383e-1		Hexane
11.973	BV		5.87340	4.95441e-2	2.90992e-1		Methylcyclopentane
12.040	VB		7.31505	4.35398e-2	3.18496e-1		2,4-Dimethylpentane
12.446	BB		5.73744	5.63882e-2	3.23524e-1		Benzene
12.609	BB		6.48121	4.83916e-2	3.13636e-1		Cyclohexane
12.735	BV		7.42000	4.45895e-2	3.30854e-1		2-Methylhexane
12.781	VB		7.64906	4.31845e-2	3.30321e-1		2,3-Dimethylpentane
12.899	BB		7.57183	4.42181e-2	3.34812e-1		3-Methylhexane
13.162	BB		8.41262	4.01614e-2	3.37863e-1		2,2,4-Trimethylpentane
13.324	BB		6.93304	4.90887e-2	3.40334e-1		Heptane
13.755	BB		7.87283	4.38160e-2	3.44956e-1		Methylcyclohexane
14.247	BB		8.27120	4.35789e-2	3.60450e-1		2,3,4-Trimethylpentane
14.354	BB		5.64054	6.01593e-2	3.39331e-1		Toluene
14.475	BB		7.67551	4.63230e-2	3.55552e-1		2-Methylheptane
14.610	BB		7.87347	4.55628e-2	3.58738e-1		3-Methylheptane
15.032	BB		7.10011	4.93236e-2	3.50203e-1		Octane
15.927	BB	+	6.33255	5.28390e-2	3.34606e-1		Ethylbenzene
16.063	BB		12.83853	5.24257e-2	6.73068e-1		m&p-Xylene
16.353	BB		5.56551	5.74423e-2	3.19695e-1		Styrene
16.436	BB		7.01576	4.95590e-2	3.47694e-1		o-Xylene
16.609	BB		8.98376	4.31035e-2	3.87231e-1		Nonane
16.923	BB		7.90208	4.27648e-2	3.37931e-1		Isopropylbenzene
17.369	BB		7.17557	4.48783e-2	3.22027e-1		n-Propylbenzene
17.465	BV		7.74952	4.48763e-2	3.47770e-1		3-Ethyltoluene
17.503	VV		7.13430	4.43324e-2	3.16280e-1		4-Ethyltoluene
17.576	VB		7.88666	4.42370e-2	3.48882e-1		1,3,5-Trimethylbenzene
17.753	BB		7.80706	4.27881e-2	3.34049e-1		2-Ethyltoluene
17.962	BB		8.02263	4.50301e-2	3.61260e-1		1,2,4-Trimethylbenzene
18.068	BB		8.39405	3.90813e-2	3.28050e-1		Decane
18.361	BB		8.35007	4.33603e-2	3.62062e-1		1,2,3-Trimethylbenzene
18.658	BB		8.24479	3.96513e-2	3.26917e-1		m-Diethylbenzene
18.743	BB		7.89912	4.03631e-2	3.18833e-1		p-Diethylbenzene
19.260	BB	+	8.59911	3.79876e-2	3.26660e-1		Undecane
20.210	VB		7.89362	3.87364e-2	3.05770e-1		Dodecane

Totals : 19.04000

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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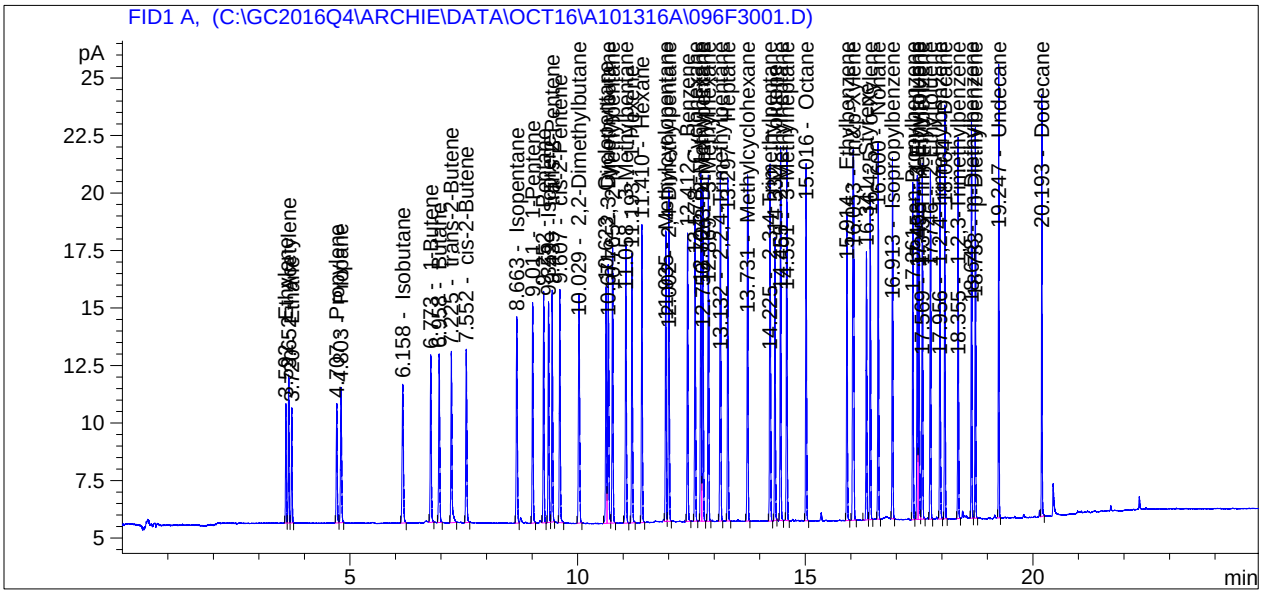
*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A101316A\096F3001.D
Sample Name: TO14A Std #2

```
==========================================================================
Acq. Operator    : TDD                                Seq. Line :  30
Acq. Instrument  : Archie                              Location : Vial 96
Injection Date   : 14-Oct-16, 09:44:51                     Inj :   1
                                                    Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed     : 10/14/2016 10:32:14 AM by TDD
Sample Info      : Can #C8800; 125mL
```

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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, October 14, 2016 10:31:59 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.592	BV		6.41830	1.41171e-1	9.06077e-1		Ethylene
3.652	VV		8.13519	1.13819e-1	9.25939e-1		Acetylene
3.720	VB		6.39031	1.40834e-1	8.99970e-1		Ethane
4.707	BV		8.08389	1.10929e-1	8.96740e-1		Propylene
4.803	VB		9.95411	9.01342e-2	8.97205e-1		Propane
6.158	BB	+	11.94152	7.51993e-2	8.97995e-1		Isobutane
6.773	BB		11.59307	7.73414e-2	8.96625e-1		1-Butene
6.958	BB		11.62648	7.84574e-2	9.12183e-1		Butane
7.225	BB		12.05401	7.47000e-2	9.00435e-1		trans-2-Butene
7.552	BB		12.14151	7.82194e-2	9.49702e-1		cis-2-Butene
8.663	BV		14.75903	6.02292e-2	8.88924e-1		Isopentane
9.011	BB		14.06196	6.10574e-2	8.58587e-1		1-Pentene
9.252	VB		14.44171	5.88865e-2	8.50421e-1		Pentane
9.359	BV		14.11606	6.05279e-2	8.54416e-1		Isoprene
9.439	VB		14.34542	5.89855e-2	8.46172e-1		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A101316A\096F3001.D
Sample Name: TO14A Std #2

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.607	BB		14.92859	6.05314e-2	9.03649e-1		cis-2-Pentene
10.029	BB		17.71486	4.93881e-2	8.74904e-1		2,2-Dimethylbutane
10.623	BV		14.97645	5.90596e-2	8.84503e-1		Cyclopentane
10.671	VV		18.27524	4.93489e-2	9.01863e-1		2,3-Dimethylbutane
10.765	VB		18.34219	4.83197e-2	8.86290e-1		2-Methylpentane
11.058	BB		18.45216	4.97323e-2	9.17669e-1		3-Methylpentane
11.193	BB		17.08354	5.21129e-2	8.90273e-1		1-Hexene
11.410	BB		17.84558	5.00754e-2	8.93625e-1		Hexane
11.935	VV		17.66348	4.95441e-2	8.75121e-1		Methylcyclopentane
12.002	VB		21.14990	4.35398e-2	9.20863e-1		2,4-Dimethylpentane
12.412	BB		16.91466	5.63882e-2	9.53787e-1		Benzene
12.578	BB		18.71393	4.83916e-2	9.05597e-1		Cyclohexane
12.704	BV		20.68834	4.45895e-2	9.22482e-1		2-Methylhexane
12.750	VB		21.17666	4.31845e-2	9.14503e-1		2,3-Dimethylpentane
12.869	BB		20.87874	4.42181e-2	9.23219e-1		3-Methylhexane
13.132	BB		23.33730	4.01614e-2	9.37258e-1		2,2,4-Trimethylpentane
13.297	BB		19.36096	4.90887e-2	9.50404e-1		Heptane
13.731	BB		21.01403	4.38160e-2	9.20752e-1		Methylcyclohexane
14.225	BB		22.51715	4.35789e-2	9.81273e-1		2,3,4-Trimethylpentane
14.332	BB		15.95140	6.01593e-2	9.59625e-1		Toluene
14.455	BB		21.39065	4.63230e-2	9.90878e-1		2-Methylheptane
14.591	BB		21.79138	4.55628e-2	9.92877e-1		3-Methylheptane
15.016	BB		19.81830	4.93236e-2	9.77511e-1		Octane
15.914	BB	+	17.16382	5.28390e-2	9.06919e-1		Ethylbenzene
16.053	BB		34.37000	5.24257e-2	1.80187		m&p-Xylene
16.341	BV		14.77018	5.74423e-2	8.48433e-1		Styrene
16.425	VB		18.42787	4.95590e-2	9.13268e-1		o-Xylene
16.600	BB		20.85905	4.31035e-2	8.99097e-1		Nonane
16.913	BB		20.45740	4.27648e-2	8.74856e-1		Isopropylbenzene
17.361	BB		18.97590	4.48783e-2	8.51605e-1		n-Propylbenzene
17.458	BV		19.51568	4.48763e-2	8.75792e-1		3-Ethyltoluene
17.495	VV		18.86607	4.43324e-2	8.36377e-1		4-Ethyltoluene
17.569	VB		20.27940	4.42370e-2	8.97100e-1		1,3,5-Trimethylbenzene
17.746	VB		19.98330	4.27881e-2	8.55047e-1		2-Ethyltoluene
17.956	BB		19.70164	4.50301e-2	8.87167e-1		1,2,4-Trimethylbenzene
18.064	BB		21.96515	3.90813e-2	8.58426e-1		Decane
18.355	BB		19.98894	4.33603e-2	8.66727e-1		1,2,3-Trimethylbenzene
18.648	BB		20.26714	3.96513e-2	8.03619e-1		m-Diethylbenzene
18.733	BB		19.28915	4.03631e-2	7.78569e-1		p-Diethylbenzene
19.247	BB	+	21.27942	3.79876e-2	8.08354e-1		Undecane
20.193	VB		18.79593	3.87364e-2	7.28086e-1		Dodecane

Totals : 50.95163

1 Warnings or Errors :

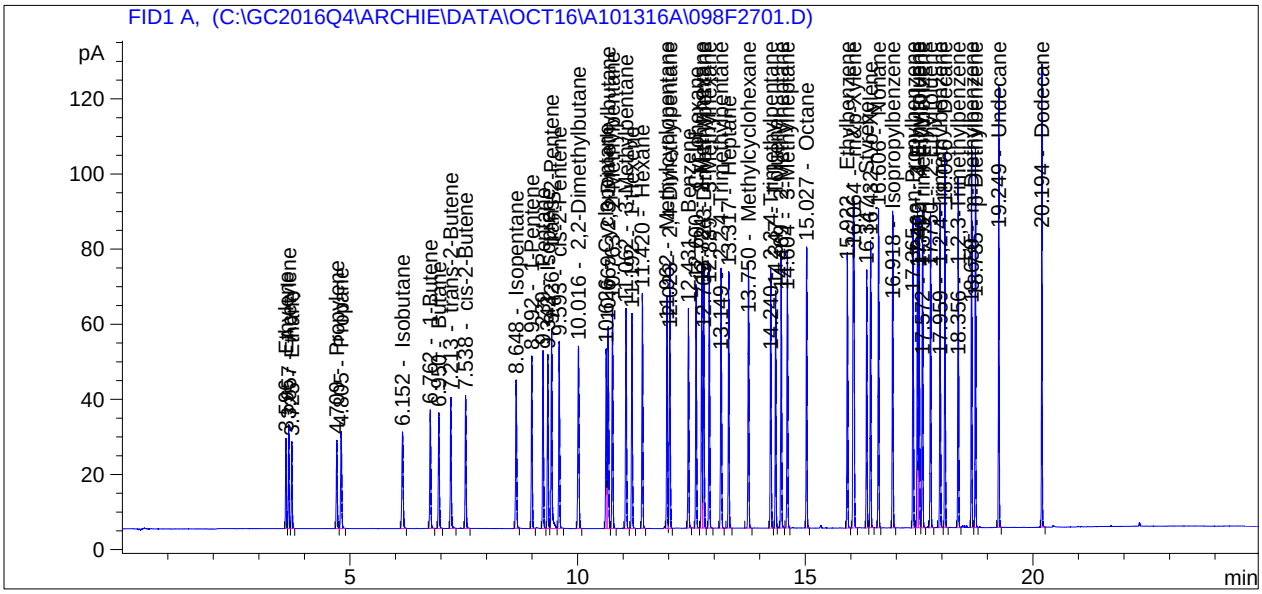
Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A101316A\098F2701.D
Sample Name: TO14A Std #3

```
==========================================================================
Acq. Operator    : TDD                                 Seq. Line :  27
Acq. Instrument  : Archie                               Location : Vial 98
Injection Date   : 14-Oct-16, 07:53:53                      Inj :   1
                                                    Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed     : 10/14/2016 10:32:14 AM by TDD
Sample Info      : Can #1455; 50mL
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, October 14, 2016 10:31:59 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.596	BV		29.84241	1.41171e-1	4.21288		Ethylene
3.657	VV		35.00631	1.13819e-1	3.98438		Acetylene
3.725	VB		29.71356	1.40834e-1	4.18467		Ethane
4.709	BV		35.44140	1.10929e-1	3.93149		Propylene
4.805	VB		43.31152	9.01342e-2	3.90385		Propane
6.152	BB	+	49.66031	7.51993e-2	3.73442		Isobutane
6.762	BB		48.69022	7.73414e-2	3.76577		1-Butene
6.950	BB		48.20242	7.84574e-2	3.78184		Butane
7.213	BB		50.06149	7.47000e-2	3.73960		trans-2-Butene
7.538	BB		52.49825	7.82194e-2	4.10638		cis-2-Butene
8.648	BB		63.74224	6.02292e-2	3.83914		Isopentane
8.992	BB		65.40915	6.10574e-2	3.99371		1-Pentene
9.239	BB		67.60634	5.88865e-2	3.98110		Pentane
9.343	BV		67.57280	6.05279e-2	4.09004		Isoprene
9.426	VV		81.90546	5.89855e-2	4.83123		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A101316A\098F2701.D
Sample Name: TO14A Std #3

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.593	VB		71.16414	6.05314e-2	4.30767		cis-2-Pentene
10.016	BB		85.11064	4.93881e-2	4.20345		2,2-Dimethylbutane
10.626	BV		69.73854	5.90596e-2	4.11873		Cyclopentane
10.669	VV		86.85201	4.93489e-2	4.28605		2,3-Dimethylbutane
10.763	VB		88.26511	4.83197e-2	4.26495		2-Methylpentane
11.062	VB		87.35534	4.97323e-2	4.34439		3-Methylpentane
11.192	BB		82.22535	5.21129e-2	4.28500		1-Hexene
11.420	BB		86.80560	5.00754e-2	4.34683		Hexane
11.962	VV		85.16834	4.95441e-2	4.21959		Methylcyclopentane
12.023	VB		101.10690	4.35398e-2	4.40218		2,4-Dimethylpentane
12.431	BB		76.42241	5.63882e-2	4.30932		Benzene
12.600	BV		90.42808	4.83916e-2	4.37596		Cyclohexane
12.724	VV		94.77328	4.45895e-2	4.22589		2-Methylhexane
12.769	VB		99.14146	4.31845e-2	4.28137		2,3-Dimethylpentane
12.889	BB		95.43382	4.42181e-2	4.21991		3-Methylhexane
13.149	VB		104.99068	4.01614e-2	4.21657		2,2,4-Trimethylpentane
13.317	BB		87.42236	4.90887e-2	4.29145		Heptane
13.750	BB		97.89818	4.38160e-2	4.28951		Methylcyclohexane
14.240	BB		99.47638	4.35789e-2	4.33507		2,3,4-Trimethylpentane
14.347	BV		80.47860	6.01593e-2	4.84154		Toluene
14.469	VB		97.84846	4.63230e-2	4.53263		2-Methylheptane
14.604	BB		98.69557	4.55628e-2	4.49685		3-Methylheptane
15.027	BB		94.99363	4.93236e-2	4.68543		Octane
15.922	BB	+	92.91402	5.28390e-2	4.90948		Ethylbenzene
16.064	BB		187.38947	5.24257e-2	9.82402		m&p-Xylene
16.347	BV		86.00706	5.74423e-2	4.94044		Styrene
16.432	VB		98.21024	4.95590e-2	4.86721		o-Xylene
16.606	BB		108.17876	4.31035e-2	4.66288		Nonane
16.918	BB		110.45473	4.27648e-2	4.72357		Isopropylbenzene
17.365	BV		106.90150	4.48783e-2	4.79755		n-Propylbenzene
17.462	VV		109.32840	4.48763e-2	4.90626		3-Ethyltoluene
17.499	VV		105.71493	4.43324e-2	4.68659		4-Ethyltoluene
17.572	VB		110.37399	4.42370e-2	4.88262		1,3,5-Trimethylbenzene
17.750	VB		109.65446	4.27881e-2	4.69190		2-Ethyltoluene
17.959	VV		107.38124	4.50301e-2	4.83539		1,2,4-Trimethylbenzene
18.066	VB		120.81667	3.90813e-2	4.72167		Decane
18.356	VV		110.65008	4.33603e-2	4.79782		1,2,3-Trimethylbenzene
18.650	BV		118.49283	3.96513e-2	4.69840		m-Diethylbenzene
18.735	VB		116.06676	4.03631e-2	4.68481		p-Diethylbenzene
19.249	BB	+	126.68952	3.79876e-2	4.81263		Undecane
20.194	VB		124.09254	3.87364e-2	4.80689		Dodecane

Totals : 251.21098

1 Warnings or Errors :

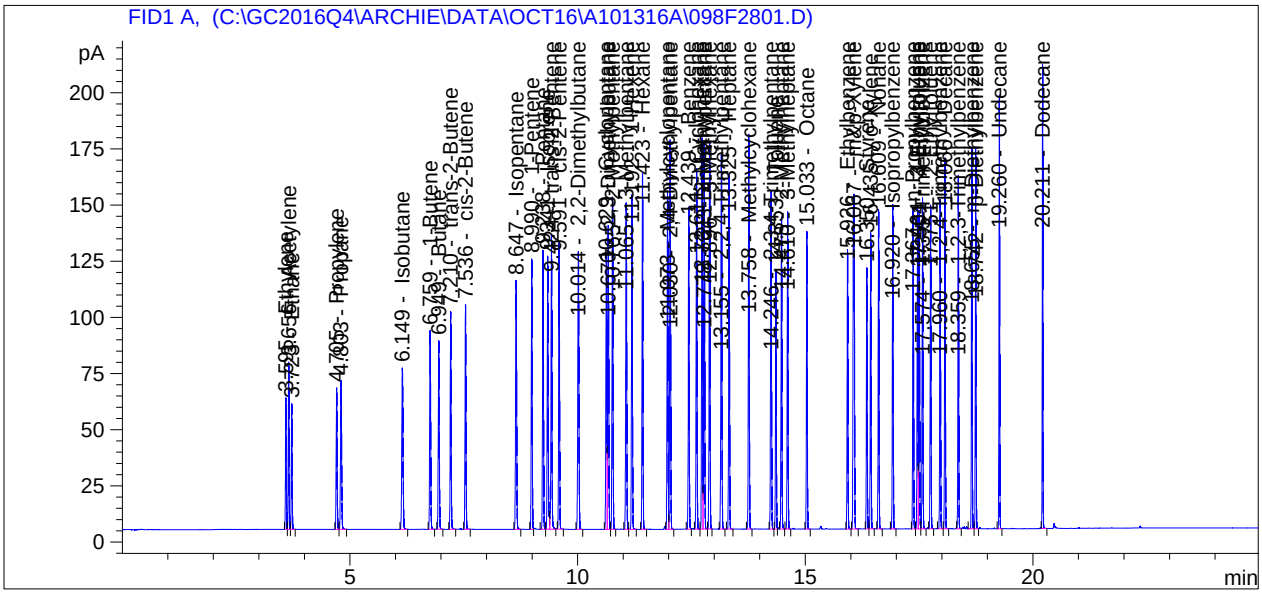
Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A101316A\098F2801.D
Sample Name: TO14A Std #4

```
==========================================================================
Acq. Operator    : TDD                              Seq. Line :  28
Acq. Instrument  : Archie                            Location : Vial 98
Injection Date   : 14-Oct-16, 08:35:11                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed     : 10/14/2016 10:32:14 AM by TDD
Sample Info      : Can #1455; 125mL
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, October 14, 2016 10:31:59 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.595 BV       72.41946 1.41171e-1   10.22353     Ethylene
  3.656 VV       93.62668 1.13819e-1   10.65650     Acetylene
  3.723 VB       71.85267 1.40834e-1   10.11927     Ethane
  4.705 BV       93.49522 1.10929e-1   10.37136     Propylene
  4.803 VB      110.78507 9.01342e-2    9.98552     Propane
  6.149 BB   +  137.55823 7.51993e-2   10.34429     Isobutane
  6.759 BB      134.52898 7.73414e-2   10.40467     1-Butene
  6.949 BB      129.95078 7.84574e-2   10.19560     Butane
  7.210 BB      135.52519 7.47000e-2   10.12374     trans-2-Butene
  7.536 BB      144.13408 7.82194e-2   11.27408     cis-2-Butene
  8.647 BB      178.58707 6.02292e-2   10.75615     Isopentane
  8.990 BV      170.21819 6.10574e-2   10.39308     1-Pentene
  9.238 VV      177.80653 5.88865e-2   10.47040     Pentane
  9.341 VV      183.96443 6.05279e-2   11.13499     Isoprene
  9.424 VV      189.49722 5.89855e-2   11.17758     trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A101316A\098F2801.D
Sample Name: TO14A Std #4

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.591	VB		177.94536	6.05314e-2	10.77129		cis-2-Pentene
10.014	BB		216.34283	4.93881e-2	10.68476		2,2-Dimethylbutane
10.629	BV		179.17430	5.90596e-2	10.58196		Cyclopentane
10.670	VV		216.08507	4.93489e-2	10.66356		2,3-Dimethylbutane
10.765	VV		219.70312	4.83197e-2	10.61599		2-Methylpentane
11.065	VV		217.46048	4.97323e-2	10.81482		3-Methylpentane
11.192	VB		205.35985	5.21129e-2	10.70190		1-Hexene
11.423	BB		216.47380	5.00754e-2	10.84001		Hexane
11.973	VV		210.99727	4.95441e-2	10.45367		Methylcyclopentane
12.030	VB		251.16077	4.35398e-2	10.93550		2,4-Dimethylpentane
12.439	VV		185.99507	5.63882e-2	10.48793		Benzene
12.611	VV		222.02913	4.83916e-2	10.74434		Cyclohexane
12.731	VV		235.31573	4.45895e-2	10.49260		2-Methylhexane
12.778	VV		246.58678	4.31845e-2	10.64872		2,3-Dimethylpentane
12.896	VB		236.61234	4.42181e-2	10.46256		3-Methylhexane
13.155	VB		252.74112	4.01614e-2	10.15044		2,2,4-Trimethylpentane
13.325	BB		202.37056	4.90887e-2	9.93410		Heptane
13.758	BB		242.73129	4.38160e-2	10.63553		Methylcyclohexane
14.246	BB		216.37135	4.35789e-2	9.42923		2,3,4-Trimethylpentane
14.353	BV		145.39241	6.01593e-2	8.74671		Toluene
14.475	VB		184.70567	4.63230e-2	8.55612		2-Methylheptane
14.610	BB		188.33298	4.55628e-2	8.58098		3-Methylheptane
15.033	VB		167.55913	4.93236e-2	8.26463		Octane
15.926	BB	+	159.50710	5.28390e-2	8.42819		Ethylbenzene
16.067	BB		320.63065	5.24257e-2	16.80928		m&p-Xylene
16.350	BV		145.33426	5.74423e-2	8.34833		Styrene
16.435	VB		168.13351	4.95590e-2	8.33254		o-Xylene
16.609	BV		180.49901	4.31035e-2	7.78013		Nonane
16.920	VB		189.06308	4.27648e-2	8.08524		Isopropylbenzene
17.367	BV		181.24840	4.48783e-2	8.13411		n-Propylbenzene
17.464	VV		185.84044	4.48763e-2	8.33984		3-Ethyltoluene
17.501	VV		178.80106	4.43324e-2	7.92667		4-Ethyltoluene
17.574	VB		188.96268	4.42370e-2	8.35915		1,3,5-Trimethylbenzene
17.751	VB		187.19951	4.27881e-2	8.00991		2-Ethyltoluene
17.960	VV		183.49103	4.50301e-2	8.26262		1,2,4-Trimethylbenzene
18.066	VB		201.55664	3.90813e-2	7.87709		Decane
18.359	VV		189.76987	4.33603e-2	8.22848		1,2,3-Trimethylbenzene
18.655	VV		200.84563	3.96513e-2	7.96380		m-Diethylbenzene
18.742	VV		195.57625	4.03631e-2	7.89406		p-Diethylbenzene
19.260	BB	+	210.72211	3.79876e-2	8.00483		Undecane
20.211	VB		207.54527	3.87364e-2	8.03955		Dodecane

Totals : 546.65191

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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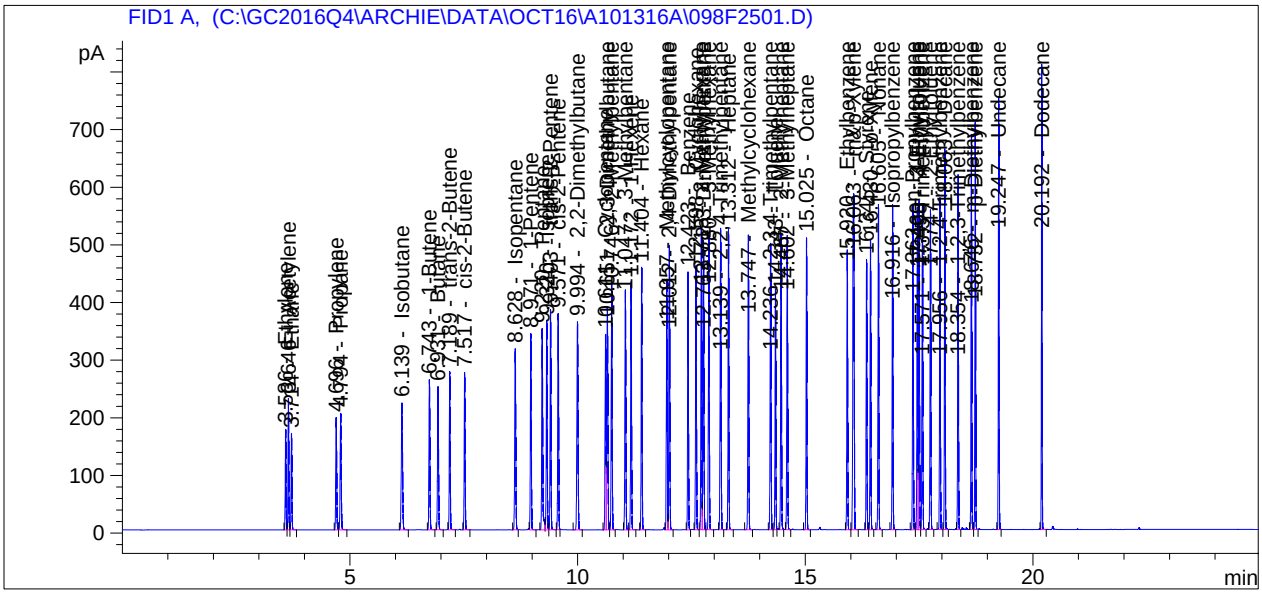
*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A101316A\098F2501.D
Sample Name: TO14A Std #5

```
==========================================================================
Acq. Operator    : TDD                                Seq. Line :  25
Acq. Instrument  : Archie                              Location : Vial 98
Injection Date   : 14-Oct-16, 07:11:27                     Inj :   1
                                                    Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed     : 10/14/2016 10:32:14 AM by TDD
Sample Info      : Can #1455; 375mL
```

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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, October 14, 2016 10:31:59 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.586	BV		215.00148	1.41171e-1	30.35197		Ethylene
3.646	VV		285.05914	1.13819e-1	32.44515		Acetylene
3.714	VB		214.28661	1.40834e-1	30.17877		Ethane
4.696	BV		285.85965	1.10929e-1	31.71022		Propylene
4.794	VB		333.14432	9.01342e-2	30.02769		Propane
6.139	BB	+	419.49438	7.51993e-2	31.54570		Isobutane
6.743	BB		385.32468	7.73414e-2	29.80157		1-Butene
6.931	BB		383.03891	7.84574e-2	30.05224		Butane
7.189	VB		374.19870	7.47000e-2	27.95266		trans-2-Butene
7.517	BB		386.80612	7.82194e-2	30.25573		cis-2-Butene
8.628	BB		504.23697	6.02292e-2	30.36977		Isopentane
8.971	VB		482.52866	6.10574e-2	29.46195		1-Pentene
9.220	VV		545.71326	5.88865e-2	32.13512		Pentane
9.320	VV		520.39404	6.05279e-2	31.49838		Isoprene
9.403	VB		518.22681	5.89855e-2	30.56786		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A101316A\098F2501.D
Sample Name: TO14A Std #5

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.571	BV		517.37244	6.05314e-2	31.31729		cis-2-Pentene
9.994	BB		630.22656	4.93881e-2	31.12569		2,2-Dimethylbutane
10.611	BV		495.49951	5.90596e-2	29.26399		Cyclopentane
10.651	VV		622.17389	4.93489e-2	30.70360		2,3-Dimethylbutane
10.746	VB		629.81592	4.83197e-2	30.43253		2-Methylpentane
11.047	BV		623.13763	4.97323e-2	30.99010		3-Methylpentane
11.172	VB		586.06036	5.21129e-2	30.54132		1-Hexene
11.404	BB		618.39343	5.00754e-2	30.96631		Hexane
11.957	VV		603.78607	4.95441e-2	29.91403		Methylcyclopentane
12.012	VB		715.75958	4.35398e-2	31.16406		2,4-Dimethylpentane
12.423	BV		564.62836	5.63882e-2	31.83838		Benzene
12.598	VV		633.89581	4.83916e-2	30.67522		Cyclohexane
12.715	VV		702.84625	4.45895e-2	31.33953		2-Methylhexane
12.763	VV		711.70013	4.31845e-2	30.73440		2,3-Dimethylpentane
12.880	VB		704.58752	4.42181e-2	31.15555		3-Methylhexane
13.139	VV		783.51233	4.01614e-2	31.46695		2,2,4-Trimethylpentane
13.312	VB		661.55194	4.90887e-2	32.47471		Heptane
13.747	BV		705.85535	4.38160e-2	30.92779		Methylcyclohexane
14.236	VV		716.57086	4.35789e-2	31.22737		2,3,4-Trimethylpentane
14.343	VV		527.09564	6.01593e-2	31.70972		Toluene
14.467	VV		668.00873	4.63230e-2	30.94415		2-Methylheptane
14.602	VV		676.84747	4.55628e-2	30.83908		3-Methylheptane
15.025	VB		638.12860	4.93236e-2	31.47482		Octane
15.920	BV	+	616.80438	5.28390e-2	32.59132		Ethylbenzene
16.063	VV		1246.63672	5.24257e-2	65.35577		m&p-Xylene
16.345	BV		591.40240	5.74423e-2	33.97151		Styrene
16.430	VV		646.16345	4.95590e-2	32.02325		o-Xylene
16.605	VB		723.20654	4.31035e-2	31.17271		Nonane
16.916	VB		730.20428	4.27648e-2	31.22702		Isopropylbenzene
17.363	VV		722.30621	4.48783e-2	32.41584		n-Propylbenzene
17.460	VV		731.49921	4.48763e-2	32.82701		3-Ethyltoluene
17.498	VV		716.36554	4.43324e-2	31.75818		4-Ethyltoluene
17.571	VV		728.43384	4.42370e-2	32.22375		1,3,5-Trimethylbenzene
17.747	VB		726.27557	4.27881e-2	31.07593		2-Ethyltoluene
17.956	VV		715.90442	4.50301e-2	32.23725		1,2,4-Trimethylbenzene
18.063	VV		808.56152	3.90813e-2	31.59963		Decane
18.354	VV		730.49524	4.33603e-2	31.67449		1,2,3-Trimethylbenzene
18.646	VV		800.55945	3.96513e-2	31.74325		m-Diethylbenzene
18.732	VV		790.63019	4.03631e-2	31.91225		p-Diethylbenzene
19.247	VV	+	846.08362	3.79876e-2	32.14069		Undecane
20.192	VB		814.59094	3.87364e-2	31.55429		Dodecane

Totals : 1781.08552

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Company	In-House
Analyst	TDD
Parameters	EPA Method TO14A

Client #	
Job #	2016 TO14A MDL Study
# Samples	9 Runs

Sample ID: TO14A Std #3 ICV
Project #: 2016 TO14A MDL Study
Lab ID: 2016 TO14A MDL Study TO14A Std #3 ICV
Datafile: 099F3301.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00
Time Stamp: 14-Oct-16, 11:06:06

Compound	Conc as Analyzed (ppbV)	Tag Value	% Diff. From Tag	Pass/Fail
Ethylene	4.05	3.92	3.3	PASS
Acetylene	4.13	3.92	5.5	PASS
Ethane	4.02	3.95	1.6	PASS
Propylene	4.03	3.84	4.9	PASS
Propane	3.91	3.84	1.8	PASS
Isobutane	4.03	3.76	7.3	PASS
1-Butene	4.09	3.76	8.9	PASS
Butane	4.16	3.76	10.5	PASS
trans-2-Butene	4.00	3.72	7.6	PASS
cis-2-Butene	4.43	4.00	10.7	PASS
Isopentane	4.22	3.80	11.2	PASS
1-Pentene	4.08	3.76	8.5	PASS
Pentane	4.11	3.84	6.9	PASS
Isoprene	4.10	3.88	5.7	PASS
trans-2-Pentene	4.07	4.00	1.6	PASS
cis-2-Pentene	4.25	3.96	7.2	PASS
2,2-Dimethylbutane	4.21	3.88	8.5	PASS
Cyclopentane	4.16	3.80	9.6	PASS
2,3-Dimethylbutane	4.22	3.88	8.7	PASS
2-Methylpentane	4.19	3.84	9.2	PASS
3-Methylpentane	4.28	3.92	9.2	PASS
1-Hexene	4.21	3.84	9.6	PASS
Hexane	4.27	3.88	10.1	PASS
Methylcyclopentane	4.14	3.76	10.1	PASS
2,4-Dimethylpentane	4.34	3.96	9.5	PASS
Benzene	4.36	3.96	10.2	PASS
Cyclohexane	4.25	4.00	6.4	PASS
2-Methylhexane	4.30	3.92	9.7	PASS
2,3-Dimethylpentane	4.28	3.92	9.1	PASS
3-Methylhexane	4.28	3.92	9.3	PASS
2,2,4-Trimethylpentane	4.27	3.92	8.9	PASS
Heptane	4.27	3.96	7.8	PASS
Methylcyclohexane	4.31	3.96	8.7	PASS
2,3,4-Trimethylpentane	4.17	3.96	5.3	PASS
Toluene	3.74	3.96	5.7	PASS
2-Methylheptane	3.77	3.92	3.8	PASS
3-Methylheptane	3.80	3.92	3.1	PASS

Company	In-House
Analyst	TDD
Parameters	EPA Method TO14A

Client #	
Job #	2016 TO14A MDL Study
# Samples	9 Runs

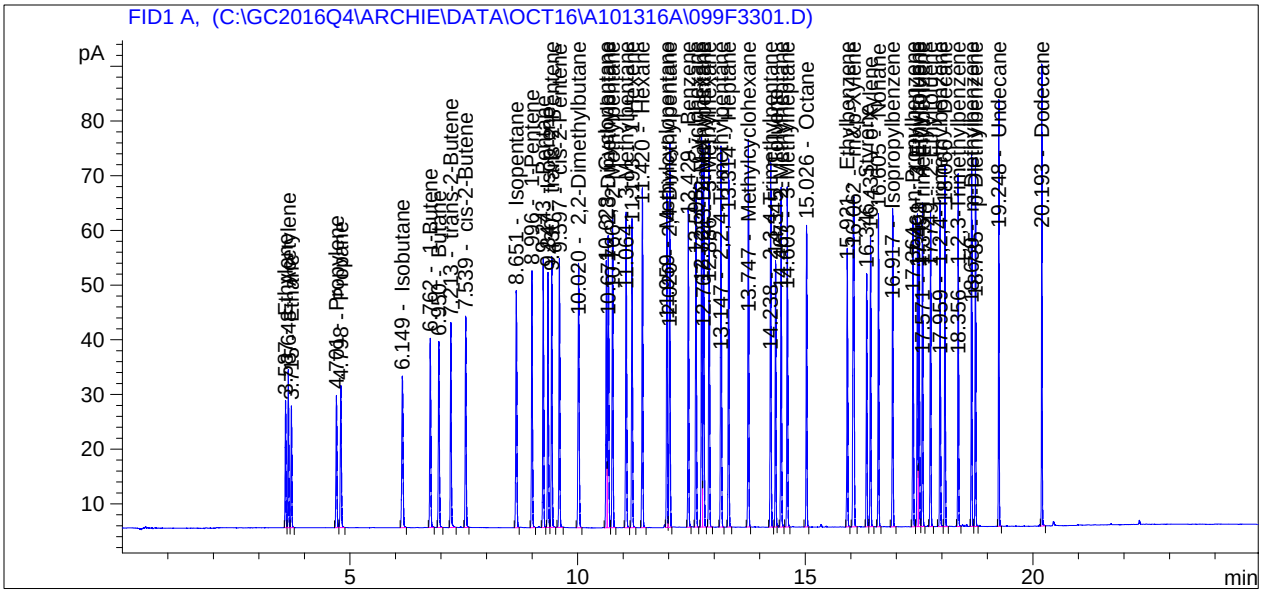
Sample ID: TO14A Std #3 ICV
Project #: 2016 TO14A MDL Study
Lab ID: 2016 TO14A MDL Study TO14A Std #3 ICV
Datafile: 099F3301.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00
Time Stamp: 14-Oct-16, 11:06:06

Compound	Conc as Analyzed (ppbV)	Tag Value	% Diff. From Tag	Pass/Fail
Octane	3.50	3.92	10.8	PASS
Ethylbenzene	3.41	3.92	12.9	PASS
m&p-Xylene	6.80	7.84	13.3	PASS
Styrene	3.33	3.88	14.3	PASS
o-Xylene	3.41	3.92	13.0	PASS
Nonane	3.15	3.88	18.7	PASS
Isopropylbenzene	3.28	3.80	13.7	PASS
n-Propylbenzene	3.24	3.80	14.8	PASS
3-Ethyltoluene	3.31	3.92	15.5	PASS
4-Ethyltoluene	3.13	3.72	15.8	PASS
1,3,5-Trimethylbenzene	3.38	3.92	13.9	PASS
2-Ethyltoluene	3.24	3.76	13.9	PASS
1,2,4-Trimethylbenzene	3.32	3.92	15.2	PASS
Decane	3.14	3.76	16.6	PASS
1,2,3-Trimethylbenzene	3.34	3.88	14.0	PASS
m-Diethylbenzene	3.15	3.72	15.3	PASS
p-Diethylbenzene	3.10	3.68	15.7	PASS
Undecane	3.21	3.76	14.6	PASS
Dodecane	3.33	3.64	8.5	PASS

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A101316A\099F3301.D
Sample Name: TO14A Std #3 ICV

```
==========================================================================
Acq. Operator    : TDD                                  Seq. Line :  33
Acq. Instrument  : Archie                                Location : Vial 99
Injection Date   : 14-Oct-16, 11:06:06                       Inj :   1
                                                      Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed     : 10/14/2016 10:32:14 AM by TDD
Sample Info      : Can #10889; 50mL
```

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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, October 14, 2016 10:31:59 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.587	BV		28.67411	1.41171e-1	4.04795		Ethylene
3.648	VV		36.32364	1.13819e-1	4.13432		Acetylene
3.715	VB		28.51489	1.40834e-1	4.01586		Ethane
4.701	BV		36.32543	1.10929e-1	4.02956		Propylene
4.798	VB		43.36470	9.01342e-2	3.90864		Propane
6.149	BB	+	53.63339	7.51993e-2	4.03320		Isobutane
6.762	BB		52.93000	7.73414e-2	4.09368		1-Butene
6.950	BB		52.96413	7.84574e-2	4.15543		Butane
7.213	BB		53.56089	7.47000e-2	4.00100		trans-2-Butene
7.539	BB		56.61838	7.82194e-2	4.42865		cis-2-Butene
8.651	BB		70.13898	6.02292e-2	4.22441		Isopentane
8.996	BB		66.83111	6.10574e-2	4.08053		1-Pentene
9.243	VB		69.71831	5.88865e-2	4.10546		Pentane
9.347	BV		67.73299	6.05279e-2	4.09974		Isoprene
9.430	VB		68.93167	5.89855e-2	4.06597		trans-2-Pentene
9.597	BV		70.13218	6.05314e-2	4.24520		cis-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A101316A\099F3301.D
Sample Name: TO14A Std #3 ICV

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
10.020	BB		85.25420	4.93881e-2	4.21054		2,2-Dimethylbutane
10.628	VV		70.51846	5.90596e-2	4.16479		Cyclopentane
10.671	VV		85.50326	4.93489e-2	4.21949		2,3-Dimethylbutane
10.766	VB		86.78993	4.83197e-2	4.19367		2-Methylpentane
11.064	VB		86.06837	4.97323e-2	4.28038		3-Methylpentane
11.193	BB		80.78101	5.21129e-2	4.20973		1-Hexene
11.420	BB		85.29108	5.00754e-2	4.27099		Hexane
11.959	VV		83.58277	4.95441e-2	4.14103		Methylcyclopentane
12.020	VV		99.58181	4.35398e-2	4.33578		2,4-Dimethylpentane
12.429	BV		77.38057	5.63882e-2	4.36335		Benzene
12.598	BB		87.91169	4.83916e-2	4.25419		Cyclohexane
12.721	BV		96.42078	4.45895e-2	4.29935		2-Methylhexane
12.767	VB		99.01001	4.31845e-2	4.27570		2,3-Dimethylpentane
12.886	BB		96.89669	4.42181e-2	4.28459		3-Methylhexane
13.147	VB		106.31064	4.01614e-2	4.26958		2,2,4-Trimethylpentane
13.314	BB		86.99297	4.90887e-2	4.27037		Heptane
13.747	BB		98.25220	4.38160e-2	4.30502		Methylcyclohexane
14.238	BB		95.67088	4.35789e-2	4.16923		2,3,4-Trimethylpentane
14.345	BV		62.09627	6.01593e-2	3.73567		Toluene
14.467	VB		81.41041	4.63230e-2	3.77117		2-Methylheptane
14.603	BB		83.33884	4.55628e-2	3.79715		3-Methylheptane
15.026	BB		70.92743	4.93236e-2	3.49840		Octane
15.921	BB	+	64.58353	5.28390e-2	3.41253		Ethylbenzene
16.062	BB		129.71310	5.24257e-2	6.80030		m&p-Xylene
16.346	BV		57.89283	5.74423e-2	3.32550		Styrene
16.431	VB		68.78436	4.95590e-2	3.40889		o-Xylene
16.605	BB		73.14433	4.31035e-2	3.15277		Nonane
16.917	VB		76.69960	4.27648e-2	3.28004		Isopropylbenzene
17.364	BV		72.10528	4.48783e-2	3.23596		n-Propylbenzene
17.461	VV		73.81364	4.48763e-2	3.31249		3-Ethyltoluene
17.498	VV		70.69290	4.43324e-2	3.13398		4-Ethyltoluene
17.571	VB		76.31145	4.42370e-2	3.37579		1,3,5-Trimethylbenzene
17.749	VB		75.64388	4.27881e-2	3.23666		2-Ethyltoluene
17.959	VV		73.80882	4.50301e-2	3.32362		1,2,4-Trimethylbenzene
18.066	VB		80.27516	3.90813e-2	3.13726		Decane
18.356	VB		76.95710	4.33603e-2	3.33688		1,2,3-Trimethylbenzene
18.650	BV		79.43701	3.96513e-2	3.14978		m-Diethylbenzene
18.735	VB		76.87145	4.03631e-2	3.10277		p-Diethylbenzene
19.248	BB	+	84.48261	3.79876e-2	3.20929		Undecane
20.193	VB		85.97444	3.87364e-2	3.33034		Dodecane

Totals : 219.25463

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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*** End of Report ***

Peak #	Compound	TO14A Std #5 098F2501.D A101316A	TO14A Std #1 096F2901.D A101316A	TO14A Std #3 ICV 099F3301.D A101316A	AVG RT	STD DEV	Lower RT	Upper RT
1	Ethylene	3.59	3.59	3.59	3.59	0.00177	3.58	3.59
2	Acetylene	3.65	3.65	3.65	3.65	0.001447	3.64	3.65
3	Ethane	3.71	3.72	3.72	3.72	0.001521	3.71	3.72
4	Propylene	4.70	4.71	4.70	4.70	0.00511	4.69	4.72
5	Propane	4.79	4.80	4.80	4.80	0.00350	4.79	4.81
6	Isobutane	6.14	6.16	6.15	6.15	0.01196	6.11	6.19
7	1-Butene	6.74	6.78	6.76	6.76	0.02078	6.70	6.83
8	Butane	6.93	6.97	6.95	6.95	0.01710	6.90	7.00
9	trans-2-Butene	7.19	7.24	7.21	7.21	0.02356	7.14	7.28
10	cis-2-Butene	7.52	7.57	7.54	7.54	0.02421	7.47	7.61
11	Isopentane	8.63	8.68	8.65	8.65	0.02496	8.58	8.73
12	1-Pentene	8.97	9.02	9.00	9.00	0.02563	8.92	9.07
13	Pentane	9.22	9.26	9.24	9.24	0.02232	9.18	9.31
14	Isoprene	9.32	9.37	9.35	9.35	0.02591	9.27	9.42
15	trans-2-Pentene	9.40	9.45	9.43	9.43	0.02467	9.35	9.50
16	cis-2-Pentene	9.57	9.62	9.60	9.60	0.02483	9.52	9.67
17	2,2-Dimethylbutane	9.99	10.05	10.02	10.02	0.02678	9.9	10.1
18	Cyclopentane	10.61	10.64	10.63	10.63	0.01424	10.6	10.7
19	2,3-Dimethylbutane	10.65	10.70	10.67	10.67	0.0232	10.6	10.7
20	2-Methylpentane	10.7	10.8	10.8	10.8	0.0230	10.7	10.8
21	3-Methylpentane	11.0	11.1	11.1	11.1	0.0204	11.0	11.1
22	1-Hexene	11.2	11.2	11.2	11.2	0.0262	11.1	11.3
23	Hexane	11.4	11.4	11.4	11.4	0.0191	11.4	11.5
24	Methylcyclopentane	12.0	12.0	12.0	12.0	0.0082	11.9	12.0
25	2,4-Dimethylpentane	12.0	12.0	12.0	12.0	0.0143	12.0	12.1
26	Benzene	12.4	12.4	12.4	12.4	0.0121	12.4	12.5
27	Cyclohexane	12.6	12.6	12.6	12.6	0.0064	12.6	12.6
28	2-Methylhexane	12.7	12.7	12.7	12.7	0.0103	12.7	12.8
29	2,3-Dimethylpentane	12.8	12.8	12.8	12.8	0.0094	12.7	12.8
30	3-Methylhexane	12.9	12.9	12.9	12.9	0.0096	12.9	12.9
31	2,2,4-Trimethylpentane	13.1	13.2	13.1	13.1	0.0119	13.1	13.2
32	Heptane	13.3	13.3	13.3	13.3	0.0063	13.3	13.3
33	Methylcyclohexane	13.7	13.8	13.7	13.7	0.0043	13.7	13.8
34	2,3,4-Trimethylpentane	14.2	14.2	14.2	14.2	0.0057	14.2	14.3
35	Toluene	14.3	14.4	14.3	14.3	0.0059	14.3	14.4
36	2-Methylheptane	14.5	14.5	14.5	14.5	0.0045	14.5	14.5
37	3-Methylheptane	14.6	14.6	14.6	14.6	0.0047	14.6	14.6
38	Octane	15.0	15.0	15.0	15.0	0.0039	15.0	15.0
39	Ethylbenzene	15.9	15.9	15.9	15.9	0.00370	15.9	15.9
40	m&p-Xylene	16.1	16.1	16.1	16.1	0.00075	16.1	16.1
41	Styrene	16.3	16.4	16.3	16.3	0.00436	16.3	16.4
42	o-Xylene	16.4	16.4	16.4	16.4	0.00322	16.4	16.4
43	Nonane	16.6	16.6	16.6	16.6	0.00254	16.6	16.6
44	Isopropylbenzene	16.9	16.9	16.9	16.9	0.00404	16.9	16.9
45	n-Propylbenzene	17.4	17.4	17.4	17.4	0.00308	17.4	17.4
46	3-Ethyltoluene	17.5	17.5	17.5	17.5	0.00272	17.5	17.5
47	4-Ethyltoluene	17.5	17.5	17.5	17.5	0.00265	17.5	17.5
48	1,3,5-Trimethylbenzene	17.6	17.6	17.6	17.6	0.00272	17.6	17.6
49	2-Ethyltoluene	17.7	17.8	17.7	17.7	0.00297	17.7	17.8
50	1,2,4-Trimethylbenzene	18.0	18.0	18.0	18.0	0.00294	18.0	18.0
51	1,2,3-Trimethylbenzene	18.1	18.1	18.1	18.1	0.00232	18.1	18.1
52	Decane	18.4	18.4	18.4	18.4	0.00345	18.3	18.4
53	m-Diethylbenzene	18.6	18.7	18.6	18.7	0.00580	18.6	18.7
54	p-Diethylbenzene	18.7	18.7	18.7	18.7	0.00570	18.7	18.8
55	Undecane	19.2	19.3	19.2	19.3	0.00708	19.2	19.3
56	Dodecane	20.2	20.2	20.2	20.2	0.00979	20.2	20.2

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: TO14A Std #3 CCV
Project #: 0916-69
Lab ID: 0916-69 TO14A Std #3 CCV
Datafile: 098F0301.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 21-Oct-16, 10:35:15

Compound	Conc as Analyzed (ppbV)	Area	Tag Value (ppbV)	CCAL RF	ICAL RRF	%D
Ethylene	4.10	29.1	3.92	0.135	0.142	4.8
Acetylene	4.09	35.9	3.92	0.109	0.115	5.0
Ethane	4.06	28.8	3.95	0.137	0.141	2.9
Propylene	3.93	35.5	3.84	0.108	0.112	3.2
Propane	3.82	42.3	3.84	0.0907	0.0903	0.4
Isobutane	3.68	49.0	3.76	0.0767	0.0761	0.9
1-Butene	3.73	48.3	3.76	0.0779	0.0778	0.1
Butane	3.71	47.3	3.76	0.0794	0.0789	0.6
trans-2-Butene	3.70	49.5	3.72	0.0751	0.0749	0.3
cis-2-Butene	4.09	52.3	4.00	0.0765	0.0787	2.9
Isopentane	3.74	62.1	3.80	0.0612	0.0608	0.7
1-Pentene	3.82	62.5	3.76	0.0601	0.0616	2.3
Pentane	3.76	63.9	3.84	0.0601	0.0595	1.0
Isoprene	3.84	63.4	3.88	0.0612	0.0615	0.5
trans-2-Pentene	5.16	87.5	4.00	0.0457	0.0604	24.4
cis-2-Pentene	3.98	65.8	3.96	0.0602	0.0611	1.6
2,2-Dimethylbutane	3.89	78.7	3.88	0.0493	0.0500	1.4
Cyclopentane	3.74	63.4	3.80	0.0600	0.0597	0.5
2,3-Dimethylbutane	3.80	76.9	3.88	0.0504	0.0501	0.8
2-Methylpentane	3.73	77.2	3.84	0.0498	0.0491	1.4
3-Methylpentane	3.78	76.1	3.92	0.0515	0.0505	2.0
1-Hexene	3.54	67.9	3.84	0.0566	0.0531	6.5
Hexane	3.73	74.4	3.88	0.0522	0.0511	2.1
Methylcyclopentane	3.67	74.1	3.76	0.0507	0.0505	0.4
2,4-Dimethylpentane	3.68	85	3.96	0.0468	0.0442	5.9
Benzene	3.31	58.8	3.96	0.0674	0.0570	18.1
Cyclohexane	3.81	78.7	4.00	0.0509	0.0494	2.8
2-Methylhexane	3.39	76.0	3.92	0.0516	0.0450	14.6
2,3-Dimethylpentane	3.52	81.5	3.92	0.0481	0.0436	10.2
3-Methylhexane	3.40	76.8	3.92	0.0510	0.0446	14.4
2,2,4-Trimethylpentane	3.36	84	3.92	0.0469	0.0404	15.8
Heptane	3.39	69.0	3.96	0.0574	0.0495	16.0
Methylcyclohexane	3.53	80.5	3.96	0.0492	0.0441	11.4
2,3,4-Trimethylpentane	3.46	79.4	3.96	0.0498	0.0438	13.9
Toluene	3.79	63.0	3.96	0.0629	0.0612	2.8
2-Methylheptane	3.59	77.6	3.92	0.0505	0.0468	8.0
3-Methylheptane	3.57	78.3	3.92	0.0501	0.0460	8.9

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: TO14A Std #3 CCV
Project #: 0916-69
Lab ID: 0916-69 TO14A Std #3 CCV
Datafile: 098F0301.D

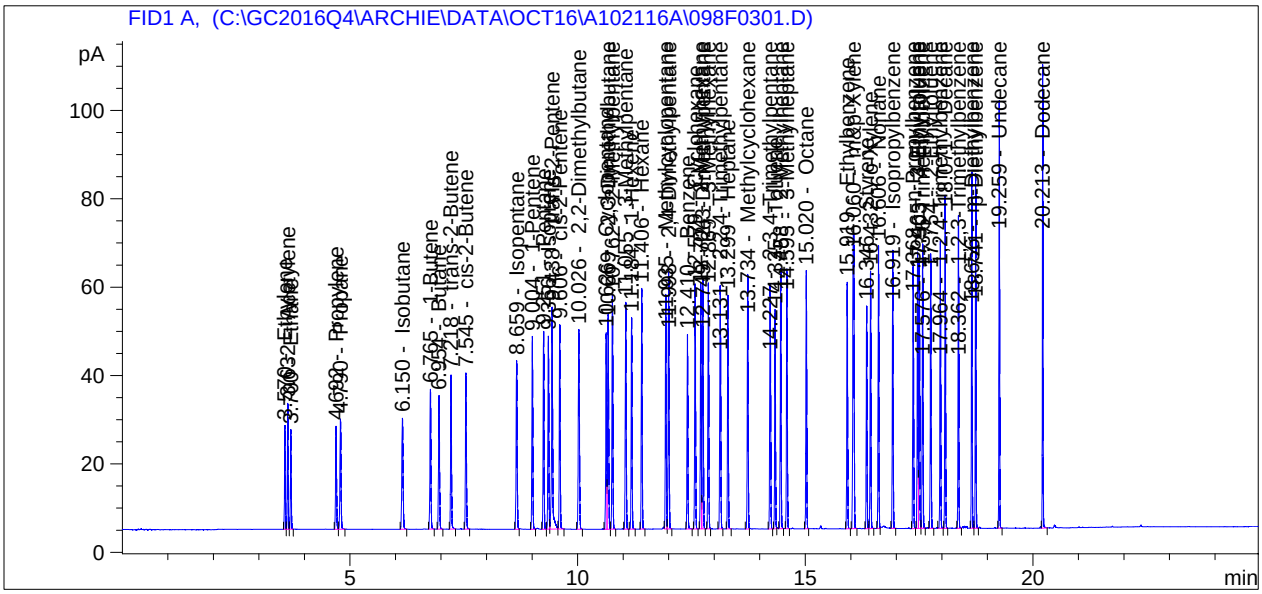
Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 21-Oct-16, 10:35:15

Compound	Conc as Analyzed (ppbV)	Area	Tag Value (ppbV)	CCAL RF	ICAL RRF	%D
Octane	3.69	74.8	3.92	0.0524	0.0501	4.6
Ethylbenzene	3.78	71.5	3.92	0.0548	0.0541	1.4
m&p-Xylene	7.52	144	7.84	0.0546	0.0536	1.8
Styrene	3.66	63.8	3.88	0.0609	0.0593	2.6
o-Xylene	3.74	75.4	3.92	0.0520	0.0506	2.8
Nonane	3.52	82	3.88	0.0475	0.0439	8.3
Isopropylbenzene	3.53	83	3.80	0.0460	0.0436	5.5
n-Propylbenzene	3.49	78	3.80	0.0489	0.0461	6.0
3-Ethyltoluene	3.63	81	3.92	0.0485	0.0459	5.7
4-Ethyltoluene	3.46	78	3.72	0.0477	0.0455	4.7
1,3,5-Trimethylbenzene	3.68	83	3.92	0.0471	0.0452	4.3
2-Ethyltoluene	3.50	82	3.76	0.0460	0.0437	5.2
1,2,4-Trimethylbenzene	3.66	81	3.92	0.0482	0.0459	5.0
Decane	3.59	92	3.76	0.0409	0.0400	2.2
1,2,3-Trimethylbenzene	3.69	85	3.88	0.0456	0.0442	3.1
m-Diethylbenzene	3.71	94	3.72	0.0397	0.0407	2.5
p-Diethylbenzene	3.69	91	3.68	0.0403	0.0416	3.2
Undecane	4.00	105	3.76	0.0357	0.0391	8.7
Dodecane	4.11	106	3.64	0.0343	0.0402	14.8

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\098F0301.D
Sample Name: TO14A Std #3 CCV

Acq. Operator	: TDD	Seq. Line	: 3
Acq. Instrument	: Archie	Location	: Vial 98
Injection Date	: 21-Oct-16, 10:35:15	Inj	: 1
		Inj Volume	: Manually
Acq. Method	: C:\ARCHIE\METHODS\TO14A-FID.M		
Last changed	: 11/28/2014 10:08:25 AM by DBS		
Analysis Method	: C:\ARCHIE\METHODS\A101316A-TO14A.M		
Last changed	: 10/21/2016 3:50:49 PM by TDD (modified after loading)		
Sample Info	: Can #1455; 50mL		



External Standard Report

Sorted By	:	Signal	
Calib. Data Modified	:	10/21/2016 3:50:08 PM	
Multiplier:	:	1.0000	
Dilution:	:	1.0000	

Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.570	BV		29.05729	1.41171e-1	4.10205		Ethylene
3.632	VV		35.89705	1.13819e-1	4.08577		Acetylene
3.700	VB		28.81444	1.40834e-1	4.05804		Ethane
4.692	BV		35.46170	1.10929e-1	3.93374		Propylene
4.790	VB		42.33537	9.01342e-2	3.81586		Propane
6.150	BB	+	48.99794	7.51993e-2	3.68461		Isobutane
6.765	BB		48.26625	7.73414e-2	3.73298		1-Butene
6.954	BB		47.34978	7.84574e-2	3.71494		Butane
7.218	BB		49.51839	7.47000e-2	3.69903		trans-2-Butene
7.545	BB		52.31678	7.82194e-2	4.09219		cis-2-Butene
8.659	BV		62.07915	6.02292e-2	3.73898		Isopentane
9.004	BB		62.53560	6.10574e-2	3.81826		1-Pentene
9.251	BV		63.89272	5.88865e-2	3.76242		Pentane
9.356	VV		63.43222	6.05279e-2	3.83942		Isoprene

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\098F0301.D
Sample Name: TO14A Std #3 CCV

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.438	VV		87.52566	5.89855e-2	5.16274		trans-2-Pentene
9.606	VB		65.81382	6.05314e-2	3.98380		cis-2-Pentene
10.026	BB		78.74991	4.93881e-2	3.88931		2,2-Dimethylbutane
10.626	VV		63.37926	5.90596e-2	3.74315		Cyclopentane
10.669	VV		76.92757	4.93489e-2	3.79629		2,3-Dimethylbutane
10.762	VB		77.18501	4.83197e-2	3.72956		2-Methylpentane
11.055	VB		76.05069	4.97323e-2	3.78218		3-Methylpentane
11.184	BB		67.89333	5.21129e-2	3.53812		1-Hexene
11.406	BB		74.39529	5.00754e-2	3.72538		Hexane
11.935	VV		74.14069	4.95441e-2	3.67323		Methylcyclopentane
11.998	VB		84.56322	4.35398e-2	3.68187		2,4-Dimethylpentane
12.410	BB		58.78664	5.63882e-2	3.31487		Benzene
12.579	BB		78.65288	4.83916e-2	3.80614		Cyclohexane
12.704	BV		76.00691	4.45895e-2	3.38911		2-Methylhexane
12.749	VB		81.50947	4.31845e-2	3.51994		2,3-Dimethylpentane
12.869	BV		76.83551	4.42181e-2	3.39752		3-Methylhexane
13.131	VB		83.66928	4.01614e-2	3.36028		2,2,4-Trimethylpentane
13.299	BB		68.99792	4.90887e-2	3.38702		Heptane
13.734	BV		80.52129	4.38160e-2	3.52812		Methylcyclohexane
14.227	BB		79.44682	4.35789e-2	3.46221		2,3,4-Trimethylpentane
14.335	BV		62.98729	6.01593e-2	3.78927		Toluene
14.458	VB		77.56440	4.63230e-2	3.59301		2-Methylheptane
14.595	BB		78.29102	4.55628e-2	3.56716		3-Methylheptane
15.020	VB		74.80942	4.93236e-2	3.68987		Octane
15.919	BB	+	71.53025	5.28390e-2	3.77959		Ethylbenzene
16.060	BB		143.52954	5.24257e-2	7.52463		m&p-Xylene
16.346	BV		63.75241	5.74423e-2	3.66209		Styrene
16.432	VB		75.44305	4.95590e-2	3.73889		o-Xylene
16.606	BV		81.63313	4.31035e-2	3.51867		Nonane
16.919	VB		82.55746	4.27648e-2	3.53055		Isopropylbenzene
17.368	BB		77.77996	4.48783e-2	3.49063		n-Propylbenzene
17.465	BV		80.77994	4.48763e-2	3.62511		3-Ethyltoluene
17.503	VV		78.03313	4.43324e-2	3.45939		4-Ethyltoluene
17.576	VB		83.25703	4.42370e-2	3.68304		1,3,5-Trimethylbenzene
17.754	VB		81.78481	4.27881e-2	3.49941		2-Ethyltoluene
17.964	VB		81.27711	4.50301e-2	3.65992		1,2,4-Trimethylbenzene
18.071	BB		91.84534	3.90813e-2	3.58943		Decane
18.362	VB		85.13576	4.33603e-2	3.69151		1,2,3-Trimethylbenzene
18.656	BV		93.68540	3.96513e-2	3.71475		m-Diethylbenzene
18.741	VB		91.38198	4.03631e-2	3.68846		p-Diethylbenzene
19.259	BV	+	105.32691	3.79876e-2	4.00112		Undecane
20.213	VB		106.17390	3.87364e-2	4.11279		Dodecane

Totals : 212.55842

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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*** End of Report ***

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: TO14A Std #3 CCV
Project #: 0916-69
Lab ID: 0916-69 TO14A Std #3 CCV
Datafile: 098F1901.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 21-Oct-16, 20:46:00

Compound	Conc as Analyzed (ppbV)	Area	Tag Value (ppbV)	CCAL RF	ICAL RRF	%D
Ethylene	4.15	29.4	3.92	0.133	0.142	5.9
Acetylene	4.13	36.3	3.92	0.108	0.115	6.1
Ethane	4.11	29.2	3.95	0.135	0.141	4.1
Propylene	3.94	35.5	3.84	0.108	0.112	3.3
Propane	3.81	42.2	3.84	0.0909	0.0903	0.7
Isobutane	3.84	51.1	3.76	0.0736	0.0761	3.2
1-Butene	3.80	49.1	3.76	0.0766	0.0778	1.6
Butane	3.87	49.3	3.76	0.0762	0.0789	3.4
trans-2-Butene	3.70	49.6	3.72	0.0751	0.0749	0.2
cis-2-Butene	4.06	51.9	4.00	0.0771	0.0787	2.0
Isopentane	3.71	61.6	3.80	0.0617	0.0608	1.5
1-Pentene	3.77	61.8	3.76	0.0609	0.0616	1.1
Pentane	3.71	63.0	3.84	0.0609	0.0595	2.4
Isoprene	3.81	62.9	3.88	0.0616	0.0615	0.3
trans-2-Pentene	4.99	84.6	4.00	0.0473	0.0604	21.7
cis-2-Pentene	4.00	66.1	3.96	0.0599	0.0611	2.0
2,2-Dimethylbutane	3.84	77.8	3.88	0.0499	0.0500	0.2
Cyclopentane	3.70	62.7	3.80	0.0606	0.0597	1.5
2,3-Dimethylbutane	3.88	78.5	3.88	0.0494	0.0501	1.3
2-Methylpentane	3.85	79.7	3.84	0.0482	0.0491	1.8
3-Methylpentane	3.88	78.0	3.92	0.0503	0.0505	0.5
1-Hexene	3.81	73.1	3.84	0.0525	0.0531	1.0
Hexane	3.83	76.6	3.88	0.0507	0.0511	0.8
Methylcyclopentane	3.69	74.4	3.76	0.0505	0.0505	0.0
2,4-Dimethylpentane	3.89	89	3.96	0.0444	0.0442	0.4
Benzene	3.75	66.4	3.96	0.0596	0.0570	4.5
Cyclohexane	3.79	78.4	4.00	0.0510	0.0494	3.2
2-Methylhexane	3.81	85.4	3.92	0.0459	0.0450	2.0
2,3-Dimethylpentane	3.83	88.7	3.92	0.0442	0.0436	1.3
3-Methylhexane	3.81	86.1	3.92	0.0456	0.0446	2.2
2,2,4-Trimethylpentane	3.84	95	3.92	0.0410	0.0404	1.5
Heptane	3.91	79.7	3.96	0.0497	0.0495	0.4
Methylcyclohexane	3.88	88.6	3.96	0.0447	0.0441	1.3
2,3,4-Trimethylpentane	4.00	91.8	3.96	0.0431	0.0438	1.5
Toluene	4.39	73.0	3.96	0.0542	0.0612	11.3
2-Methylheptane	4.18	90.2	3.92	0.0435	0.0468	7.1
3-Methylheptane	4.14	90.9	3.92	0.0431	0.0460	6.2

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO14A

Client #	[redacted]
Job #	0916-69
# Samples	4 (1.4L) Canisters

Sample ID: TO14A Std #3 CCV
Project #: 0916-69
Lab ID: 0916-69 TO14A Std #3 CCV
Datafile: 098F1901.D

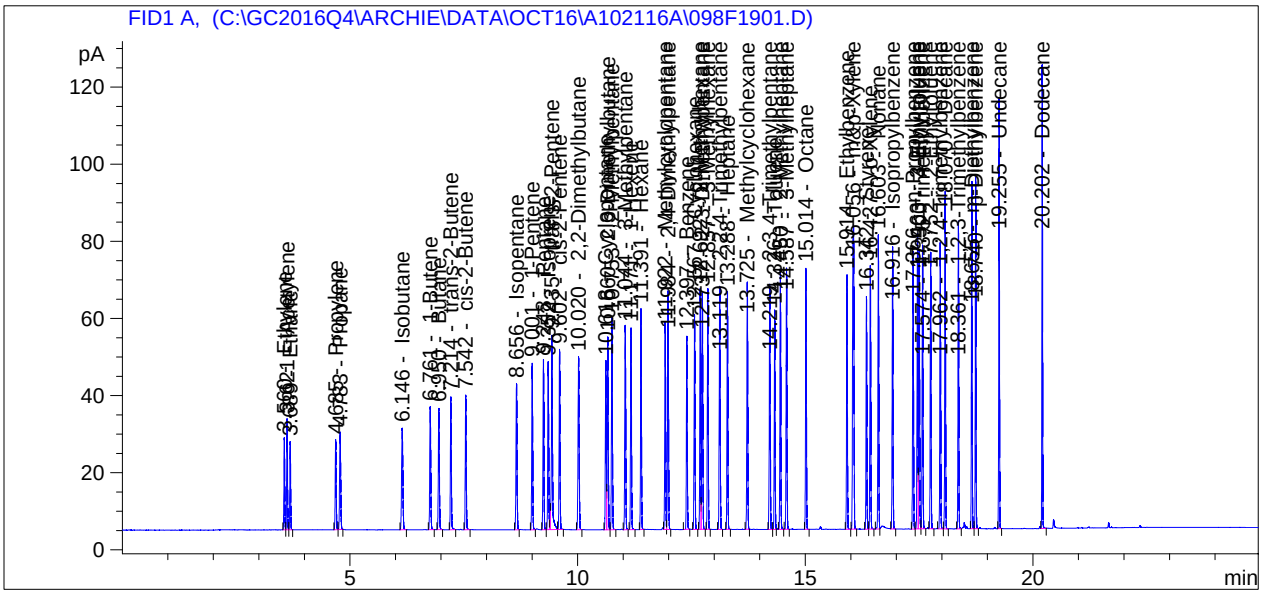
Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 21-Oct-16, 20:46:00

Compound	Conc as Analyzed (ppbV)	Area	Tag Value (ppbV)	CCAL RF	ICAL RRF	%D
Octane	4.29	86.9	3.92	0.0451	0.0501	10.0
Ethylbenzene	4.43	83.8	3.92	0.0468	0.0541	13.5
m&p-Xylene	8.84	169	7.84	0.0465	0.0536	13.4
Styrene	4.38	76.2	3.88	0.0509	0.0593	14.1
o-Xylene	4.38	88.5	3.92	0.0443	0.0506	12.3
Nonane	4.22	98	3.88	0.0396	0.0439	9.8
Isopropylbenzene	4.16	97	3.80	0.0391	0.0436	10.5
n-Propylbenzene	4.14	92	3.80	0.0412	0.0461	10.7
3-Ethyltoluene	4.53	101	3.92	0.0388	0.0459	15.5
4-Ethyltoluene	4.12	93	3.72	0.0401	0.0455	12.0
1,3,5-Trimethylbenzene	4.25	96	3.92	0.0408	0.0452	9.6
2-Ethyltoluene	4.05	95	3.76	0.0397	0.0437	9.2
1,2,4-Trimethylbenzene	4.19	93	3.92	0.0421	0.0459	8.3
Decane	4.17	107	3.76	0.0352	0.0400	12.1
1,2,3-Trimethylbenzene	4.18	97	3.88	0.0402	0.0442	9.0
m-Diethylbenzene	4.22	106	3.72	0.0350	0.0407	14.1
p-Diethylbenzene	4.20	104	3.68	0.0354	0.0416	14.9
Undecane	4.59	121	3.76	0.0311	0.0391	20.3
Dodecane	4.65	120	3.64	0.0303	0.0402	24.6

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\098F1901.D
Sample Name: TO14A Std #3 CCV

```
==========================================================================
Acq. Operator    : TDD                              Seq. Line :  19
Acq. Instrument  : Archie                            Location : Vial 98
Injection Date   : 21-Oct-16, 20:46:00                    Inj :   1
                                                  Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A101316A-TO14A.M
Last changed     : 11/3/2016 4:03:34 PM by TDD
                   (modified after loading)
Sample Info      : Can #1455; 50mL
```

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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/3/2016 4:02:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
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RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.560	BV		29.38111	1.41171e-1	4.14776		Ethylene
3.621	VV		36.32065	1.13819e-1	4.13398		Acetylene
3.689	VB		29.17226	1.40834e-1	4.10844		Ethane
4.685	BV		35.47732	1.10929e-1	3.93548		Propylene
4.783	VB		42.23783	9.01342e-2	3.80707		Propane
6.146	BB	+	51.07168	7.51993e-2	3.84056		Isobutane
6.761	BB		49.09299	7.73414e-2	3.79692		1-Butene
6.950	BB		49.33288	7.84574e-2	3.87053		Butane
7.214	BB		49.55906	7.47000e-2	3.70206		trans-2-Butene
7.542	BB		51.85793	7.82194e-2	4.05629		cis-2-Butene
8.656	BV		61.59260	6.02292e-2	3.70967		Isopentane
9.001	BV		61.75472	6.10574e-2	3.77058		1-Pentene
9.248	BV		63.01040	5.88865e-2	3.71046		Pentane
9.352	VV		62.93700	6.05279e-2	3.80945		Isoprene

Data File C:\GC2016Q4\ARCHIE\DATA\OCT16\A102116A\098F1901.D
Sample Name: TO14A Std #3 CCV

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.435	VV		84.58116	5.89855e-2	4.98906		trans-2-Pentene
9.602	VB		66.11996	6.05314e-2	4.00234		cis-2-Pentene
10.020	BB		77.76444	4.93881e-2	3.84064		2,2-Dimethylbutane
10.618	BV		62.70729	5.90596e-2	3.70347		Cyclopentane
10.660	VV		78.53924	4.93489e-2	3.87583		2,3-Dimethylbutane
10.753	VB		79.66560	4.83197e-2	3.84942		2-Methylpentane
11.044	VB		78.00356	4.97323e-2	3.87930		3-Methylpentane
11.171	BB		73.08600	5.21129e-2	3.80873		1-Hexene
11.391	BB		76.56927	5.00754e-2	3.83424		Hexane
11.922	VV		74.44919	4.95441e-2	3.68852		Methylcyclopentane
11.984	VB		89.26832	4.35398e-2	3.88673		2,4-Dimethylpentane
12.397	BB		66.42665	5.63882e-2	3.74568		Benzene
12.567	BB		78.37504	4.83916e-2	3.79269		Cyclohexane
12.692	BV		85.38207	4.45895e-2	3.80714		2-Methylhexane
12.737	VB		88.68630	4.31845e-2	3.82987		2,3-Dimethylpentane
12.857	BB		86.05410	4.42181e-2	3.80515		3-Methylhexane
13.119	VB		95.49759	4.01614e-2	3.83532		2,2,4-Trimethylpentane
13.288	BB		79.74887	4.90887e-2	3.91477		Heptane
13.725	BB		88.57150	4.38160e-2	3.88085		Methylcyclohexane
14.219	BV		91.81528	4.35789e-2	4.00121		2,3,4-Trimethylpentane
14.326	VV		73.00497	6.01593e-2	4.39193		Toluene
14.450	VB		90.15070	4.63230e-2	4.17605		2-Methylheptane
14.587	BB		90.89124	4.55628e-2	4.14126		3-Methylheptane
15.014	BB		86.91511	4.93236e-2	4.28697		Octane
15.914	BB	+	83.82111	5.28390e-2	4.42902		Ethylbenzene
16.056	BB		168.69081	5.24257e-2	8.84373		m&p-Xylene
16.342	VV		76.20243	5.74423e-2	4.37724		Styrene
16.427	VB		88.45126	4.95590e-2	4.38356		o-Xylene
16.603	BV		97.97828	4.31035e-2	4.22320		Nonane
16.916	VB		97.30419	4.27648e-2	4.16119		Isopropylbenzene
17.366	BV		92.31393	4.48783e-2	4.14289		n-Propylbenzene
17.463	VV		100.98651	4.48763e-2	4.53191		3-Ethyltoluene
17.500	VV		92.86826	4.43324e-2	4.11707		4-Ethyltoluene
17.574	VB		96.02432	4.42370e-2	4.24783		1,3,5-Trimethylbenzene
17.752	VB		94.75102	4.27881e-2	4.05421		2-Ethyltoluene
17.962	VV		93.14563	4.50301e-2	4.19436		1,2,4-Trimethylbenzene
18.070	VB		106.78001	3.90813e-2	4.17310		Decane
18.361	VV		96.50489	4.33603e-2	4.18448		1,2,3-Trimethylbenzene
18.655	BV		106.31652	3.96513e-2	4.21559		m-Diethylbenzene
18.740	VB		103.95095	4.03631e-2	4.19578		p-Diethylbenzene
19.255	BB	+	120.71859	3.79876e-2	4.58581		Undecane
20.202	VB		119.99971	3.87364e-2	4.64835		Dodecane

Totals : 231.07573

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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*** End of Report ***

Peak #	Compound	TO14A Std #3 RT Marker 098F0201.D A102116A	TO14A Std #3 CCV 098F0301.D A102116A	TO14A Std #3 LCS 099F0401.D A102116A	AVG RT	STD DEV	Lower RT	Upper RT
1	Ethylene	3.58	3.57	3.56	3.57	0.00778	3.55	3.59
2	Acetylene	3.64	3.63	3.62	3.63	0.007027	3.61	3.65
3	Ethane	3.71	3.70	3.69	3.70	0.006975	3.68	3.72
4	Propylene	4.70	4.69	4.69	4.69	0.00385	4.68	4.70
5	Propane	4.79	4.79	4.79	4.79	0.00360	4.78	4.80
6	Isobutane	6.15	6.15	6.15	6.15	0.00127	6.14	6.15
7	1-Butene	6.76	6.76	6.76	6.76	0.00297	6.75	6.77
8	Butane	6.95	6.95	6.95	6.95	0.00271	6.94	6.96
9	trans-2-Butene	7.21	7.22	7.22	7.21	0.00297	7.21	7.22
10	cis-2-Butene	7.54	7.54	7.54	7.54	0.00345	7.53	7.55
11	Isopentane	8.65	8.66	8.66	8.66	0.00427	8.64	8.67
12	1-Pentene	9.00	9.00	9.00	9.00	0.00426	8.99	9.01
13	Pentane	9.24	9.25	9.25	9.25	0.00426	9.23	9.26
14	Isoprene	9.35	9.36	9.35	9.35	0.00433	9.34	9.37
15	trans-2-Pentene	9.43	9.44	9.44	9.43	0.00441	9.42	9.45
16	cis-2-Pentene	9.60	9.61	9.60	9.60	0.00432	9.59	9.61
17	2,2-Dimethylbutane	10.02	10.03	10.02	10.02	0.00409	10.0	10.0
18	Cyclopentane	10.62	10.63	10.62	10.62	0.00475	10.6	10.6
19	2,3-Dimethylbutane	10.66	10.67	10.66	10.66	0.0049	10.6	10.7
20	2-Methylpentane	10.8	10.8	10.8	10.8	0.0052	10.7	10.8
21	3-Methylpentane	11.0	11.1	11.0	11.0	0.0064	11.0	11.1
22	1-Hexene	11.2	11.2	11.2	11.2	0.0070	11.2	11.2
23	Hexane	11.4	11.4	11.4	11.4	0.0091	11.4	11.4
24	Methylcyclopentane	11.9	11.9	11.9	11.9	0.0076	11.9	12.0
25	2,4-Dimethylpentane	12.0	12.0	12.0	12.0	0.0077	12.0	12.0
26	Benzene	12.4	12.4	12.4	12.4	0.0074	12.4	12.4
27	Cyclohexane	12.6	12.6	12.6	12.6	0.0070	12.6	12.6
28	2-Methylhexane	12.7	12.7	12.7	12.7	0.0069	12.7	12.7
29	2,3-Dimethylpentane	12.7	12.7	12.7	12.7	0.0068	12.7	12.8
30	3-Methylhexane	12.9	12.9	12.9	12.9	0.0066	12.8	12.9
31	2,2,4-Trimethylpentane	13.1	13.1	13.1	13.1	0.0064	13.1	13.1
32	Heptane	13.3	13.3	13.3	13.3	0.0059	13.3	13.3
33	Methylcyclohexane	13.7	13.7	13.7	13.7	0.0054	13.7	13.7
34	2,3,4-Trimethylpentane	14.2	14.2	14.2	14.2	0.0044	14.2	14.2
35	Toluene	14.3	14.3	14.3	14.3	0.0042	14.3	14.3
36	2-Methylheptane	14.5	14.5	14.5	14.5	0.0042	14.4	14.5
37	3-Methylheptane	14.6	14.6	14.6	14.6	0.0041	14.6	14.6
38	Octane	15.0	15.0	15.0	15.0	0.0036	15.0	15.0
39	Ethylbenzene	15.9	15.9	15.9	15.9	0.00248	15.9	15.9
40	m&p-Xylene	16.1	16.1	16.1	16.1	0.00191	16.1	16.1
41	Styrene	16.3	16.3	16.3	16.3	0.00227	16.3	16.4
42	o-Xylene	16.4	16.4	16.4	16.4	0.00225	16.4	16.4
43	Nonane	16.6	16.6	16.6	16.6	0.00172	16.6	16.6
44	Isopropylbenzene	16.9	16.9	16.9	16.9	0.00157	16.9	16.9
45	n-Propylbenzene	17.4	17.4	17.4	17.4	0.00141	17.4	17.4
46	3-Ethyltoluene	17.5	17.5	17.5	17.5	0.00128	17.5	17.5
47	4-Ethyltoluene	17.5	17.5	17.5	17.5	0.00127	17.5	17.5
48	1,3,5-Trimethylbenzene	17.6	17.6	17.6	17.6	0.00109	17.6	17.6
49	2-Ethyltoluene	17.8	17.8	17.8	17.8	0.00112	17.7	17.8
50	1,2,4-Trimethylbenzene	18.0	18.0	18.0	18.0	0.00119	18.0	18.0
51	1,2,3-Trimethylbenzene	18.1	18.1	18.1	18.1	0.00101	18.1	18.1
52	Decane	18.4	18.4	18.4	18.4	0.00079	18.4	18.4
53	m-Diethylbenzene	18.7	18.7	18.7	18.7	0.00058	18.7	18.7
54	p-Diethylbenzene	18.7	18.7	18.7	18.7	0.00043	18.7	18.7
55	Undecane	19.3	19.3	19.3	19.3	0.00219	19.3	19.3
56	Dodecane	20.2	20.2	20.2	20.2	0.00629	20.2	20.2

method: C:\GC2015Q1\ARCHIE\METHODS\TO14A-FID.M
Modified on: 11/28/2014 at 10:08:25 AM

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6890 GC METHOD

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OVEN
Initial temp: -50 'C (On)
Initial time: 2.00 min
Ramps:

#	Rate	Final temp	Final time
1	15.00	-20	0.00
2	12.00	145	0.00
3	25.00	225	4.00
4	0.0(Off)		

Post temp: 50 'C
Post time: 0.00 min
Run time: 24.95 min

Maximum temp: 280 'C
Equilibration time: 0.50 min

CRYO (N2)
Cryo: On
Cryo fault: Off
Cryo timeout: 45.00 min (On)
Quick cryo cool: Off
Ambient temp: 25 'C

FRONT INLET (SPLIT/SPLITLESS)
Mode: Split
Initial temp: 200 'C (On)
Pressure: 8.04 psi (On)
Split ratio: 6.67:1
Split flow: 21.8 mL/min
Total flow: 32.6 mL/min
Gas saver: Off
Gas type: Hydrogen

BACK INLET (UNKNOWN)

COLUMN 1
Capillary Column
Model Number: Restek 10157
60m x 0.32mm x 1.0 um Rtx-1
Max temperature: 340 'C
Nominal length: 60.0 m
Nominal diameter: 320.00 um
Nominal film thickness: 1.00 um
Mode: constant flow
Initial flow: 3.3 mL/min
Nominal init pressure: 8.05 psi
Average velocity: 40 cm/sec
Inlet: Front Inlet
Outlet: Front Detector
Outlet pressure: ambient

COLUMN 2
(not installed)

FRONT DETECTOR (FID)
Temperature: 250 'C (On)
Hydrogen flow: 40.0 mL/min (On)
Air flow: 450.0 mL/min (On)
Mode: Constant makeup flow
Makeup flow: 45.0 mL/min (On)
Makeup Gas Type: Nitrogen
Flame: On
Electrometer: On
Lit offset: 2.0

BACK DETECTOR (FPD)
Temperature: 250 'C (Off)
Hydrogen flow: 65.0 mL/min (Off)
Oxidizer flow: 75.0 mL/min (Off)
Oxidizer Gas Type: Air
Mode: Constant makeup flow
Makeup flow: 45.0 mL/min (Off)
Makeup Gas Type: Nitrogen
Flame: Off
Lit offset: 0.20
Photo multiplier: Off

SIGNAL 1
Data rate: 20 Hz
Type: front detector
Save Data: On
Zero: 0.0 (On)
Range: 0
Fast Peaks: Off

SIGNAL 2
Data rate: 20 Hz
Type: back detector
Save Data: Off
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off

method: C:\GC2015Q1\ARCHIE\METHODS\TO14A-FID.M
Modified on: 11/28/2014 at 10:08:25 AM
Attenuation: 0 Attenuation: 0

COLUMN COMP 1
Derive from front detector

COLUMN COMP 2
Derive from front detector

THERMAL AUX 2
Unknown Thermal Aux Type

POST RUN
Post Time: 0.00 min

TIME TABLE
Time Specifier Parameter & Setpoint

GC Injector

Front Injector:
No parameters specified

Back Injector:
No parameters specified

ICAL Name: A111016A-TO14

#	RT	Compound	Lvl	Amt (ppbv)	Area	RF	ICAL RRF	% RSD
1	3.5537515	Ethylene	1	0.392	2.307882	0.169853		
			2	0.98	5.749899	0.170438		
			3	3.92	25.68611	0.152612		
			4	9.8	66.61786	0.147108		
			5	29.4	203.1697	0.144707	0.1569433	7.89
2	3.6168485	Acetylene	1	0.392	2.194506	0.178628		
			2	0.98	6.87288	0.142589		
			3	3.92	30.85447	0.127048		
			4	9.8	86.2009	0.113688		
			5	29.4	265.1016	0.110901	0.1345708	20.5
3	3.6847947	Ethane	1	0.392	3.075511	0.127458		
			2	0.98	6.463535	0.15162		
			3	3.952	26.33957	0.15004		
			4	9.8	66.89126	0.146506		
			5	29.4	202.262	0.145356	0.1441962	6.72
4	4.6801567	Propylene	1	0.384	2.537006	0.15136		
			2	0.96	6.963798	0.137856		
			3	3.84	30.54706	0.125708		
			4	9.6	85.7043	0.112013		
			5	28.8	264.4013	0.108925	0.1271723	14.0
5	4.7783456	Propane	1	0.384	3.074143	0.124913		
			2	0.96	8.183238	0.117313		
			3	3.84	35.77277	0.107344		
			4	9.6	99.8465	0.096148		
			5	28.8	307.4207	0.093683	0.1078801	12.4
6	6.1399188	Isobutane	1	0.376	3.562395	0.105547		
			2	0.94	10.03931	0.093632		
			3	3.76	39.81322	0.094441		
			4	9.4	125.4313	0.074941		
			5	28.2	388.6419	0.07256	0.0882243	15.9
7	6.7537241	1-Butene	1	0.376	3.793024	0.099129		
			2	0.94	9.835777	0.095569		
			3	3.76	40.94666	0.091827		
			4	9.4	122.9885	0.07643		
			5	28.2	364.1671	0.077437	0.0880785	11.9
8	6.9446564	Butane	1	0.376	3.696579	0.101716		
			2	0.94	9.775014	0.096164		
			3	3.76	39.55064	0.095068		
			4	9.4	123.5092	0.076108		
			5	28.2	359.9672	0.07834	0.0894791	12.8
9	7.2064867	trans-2-Butene	1	0.372	4.879574	0.076236		
			2	0.93	10.73705	0.086616		
			3	3.72	43.1873	0.086136		
			4	9.3	122.8077	0.075728		
			5	27.9	373.7372	0.074651	0.0798736	7.47
10	7.5338869	cis-2-Butene	1	0.4	4.221957	0.094743		
			2	1	10.17113	0.098317		
			3	4	44.12597	0.09065		
			4	10	129.7662	0.077062		
			5	30	398.0069	0.075376	0.0872294	12.0

ICAL Name: A111016A-TO14

#	RT	Compound	Lvl	Amt (ppbv)	Area	RF	ICAL RRF	% RSD
11	8.6476812	Isopentane	1	0.38	4.976551	0.076358		
			2	0.95	12.07523	0.078673		
			3	3.8	52.12867	0.072897		
			4	9.5	161.7627	0.058728		
			5	28.5	514.9965	0.05534	0.0683993	15.6
12	8.990859	1-Pentene	1	0.376	5.132756	0.073255		
			2	0.94	11.92741	0.07881		
			3	3.76	54.66643	0.068781		
			4	9.4	152.64	0.061583		
			5	28.2	488.6913	0.057705	0.0680268	12.6
13	9.2393665	Pentane	1	0.384	5.336907	0.071952		
			2	0.96	12.20851	0.078634		
			3	3.84	57.12379	0.067222		
			4	9.6	160.9265	0.059655		
			5	28.8	511.1022	0.056349	0.0667623	13.5
14	9.3404341	Isoprene	1	0.388	4.981672	0.077885		
			2	0.97	11.62421	0.083447		
			3	3.88	55.93798	0.069363		
			4	9.7	155.0107	0.062576		
			5	29.1	492.761	0.059055	0.0704652	14.5
15	9.4233608	trans-2-Pentene	1	0.4	5.119838	0.078127		
			2	1	11.99828	0.083345		
			3	4	58.25228	0.068667		
			4	10	157.5663	0.063465		
			5	30	503.1702	0.059622	0.0706454	14.1
16	9.5913658	cis-2-Pentene	1	0.396	5.268334	0.075166		
			2	0.99	12.38643	0.079926		
			3	3.96	58.86482	0.067273		
			4	9.9	159.6745	0.062001		
			5	29.7	505.2275	0.058785	0.0686303	12.9
17	10.01424	2,2-Dimethylbutane	1	0.388	6.513445	0.059569		
			2	0.97	14.61049	0.066391		
			3	3.88	70.71954	0.054865		
			4	9.7	197.144	0.049203		
			5	29.1	620.5854	0.046891	0.0553836	14.3
18	10.631582	Cyclopentane	1	0.38	5.40715	0.070277		
			2	0.95	12.12954	0.078321		
			3	3.8	57.64476	0.065921		
			4	9.5	163.2169	0.058205		
			5	28.5	514.6166	0.055381	0.0656211	14.1
19	10.672053	2,3-Dimethylbutane	1	0.388	7.263958	0.053414		
			2	0.97	15.55696	0.062352		
			3	3.88	73.96498	0.052457		
			4	9.7	197.9257	0.049008		
			5	29.1	617.2136	0.047147	0.0528758	11.1
20	10.767234	2-Methylpentane	1	0.384	6.982066	0.054998		
			2	0.96	15.65459	0.061324		
			3	3.84	76.72652	0.050048		
			4	9.6	201.751	0.047583		
			5	28.8	627.1826	0.04592	0.0519746	12.0

ICAL Name: A111016A-TO14

#	RT	Compound	Lvl	Amt (ppbv)	Area	RF	ICAL RRF	% RSD
21	11.070724	3-Methylpentane	1	0.392	7.407075	0.052922		
			2	0.98	15.65346	0.062606		
			3	3.92	76.00097	0.051578		
			4	9.8	199.9422	0.049014		
			5	29.4	620.7144	0.047365	0.0526971	11.3
22	11.197375	1-Hexene	1	0.384	6.415365	0.059856		
			2	0.96	14.83569	0.064709		
			3	3.84	71.323	0.05384		
			4	9.6	188.4786	0.050934		
			5	28.8	587.5338	0.049018	0.0556715	11.7
23	11.431013	Hexane	1	0.388	6.860192	0.056558		
			2	0.97	15.82543	0.061294		
			3	3.88	77.47338	0.050082		
			4	9.7	199.5205	0.048617		
			5	29.1	616.6688	0.047189	0.0527478	11.3
24	11.988972	Methylcyclopentane	1	0.376	6.724905	0.055912		
			2	0.94	15.02778	0.062551		
			3	3.76	74.96255	0.050158		
			4	9.4	194.8767	0.048236		
			5	28.2	600.9791	0.046923	0.052756	12.3
25	12.044149	2,4-Dimethylpentane	1	0.396	8.256209	0.047964		
			2	0.99	18.98934	0.052135		
			3	3.96	91.97226	0.043056		
			4	9.9	235.7102	0.042001		
			5	29.7	719.5287	0.041277	0.0452865	10.2
26	12.461881	Benzene	1	0.396	6.820214	0.058063		
			2	0.99	15.41043	0.064242		
			3	3.96	73.39784	0.053953		
			4	9.9	192.7565	0.05136		
			5	29.7	602.9442	0.049258	0.0553752	10.7
27	12.636995	Cyclohexane	1	0.4	7.270993	0.055013		
			2	1	16.15247	0.06191		
			3	4	79.93261	0.050042		
			4	9	205.7892	0.043734		
			5	30	631.4052	0.047513	0.0516425	13.7
28	12.752404	2-Methylhexane	1	0.392	8.161084	0.048033		
			2	0.98	19.27395	0.050846		
			3	3.92	91.41798	0.04288		
			4	9.8	235.0192	0.041699		
			5	29.4	719.528	0.04086	0.0448635	9.70
29	12.798944	2,3-Dimethylpentane	1	0.392	8.323796	0.047094		
			2	0.98	19.29873	0.050781		
			3	3.92	92.43341	0.042409		
			4	9.8	236.2577	0.04148		
			5	29.4	721.1328	0.040769	0.0445065	9.64
30	12.914925	3-Methylhexane	1	0.392	8.37758	0.046792		
			2	0.98	19.46688	0.050342		
			3	3.92	91.8065	0.042699		
			4	9.8	235.6789	0.041582		
			5	29.4	721.8846	0.040727	0.0444281	9.10

ICAL Name: A111016A-TO14

#	RT	Compound	Lvl	Amt (ppbv)	Area	RF	ICAL RRF	% RSD
31	13.172116	2,2,4-Trimethylpentane	1	0.392	9.447764	0.041491		
			2	0.98	22.26583	0.044014		
			3	3.92	104.5499	0.037494		
			4	9.8	268.4032	0.036512		
			5	29.4	822.9117	0.035727	0.0390476	9.10
32	13.343611	Heptane	1	0.396	7.814836	0.050673		
			2	0.99	18.93199	0.052292		
			3	3.96	89.34102	0.044325		
			4	9.9	229.6861	0.043102		
			5	29.7	713.4075	0.041631	0.0464047	10.3
33	13.777334	Methylcyclohexane	1	0.396	8.388961	0.047205		
			2	0.99	19.53064	0.05069		
			3	3.96	93.14744	0.042513		
			4	9.9	237.2786	0.041723		
			5	29.7	723.3977	0.041056	0.0446374	9.31
34	14.262723	2,3,4-Trimethylpentane	1	0.396	9.339942	0.042399		
			2	0.99	22.35912	0.044277		
			3	3.96	104.1243	0.038031		
			4	9.9	265.2696	0.037321		
			5	29.7	815.2021	0.036433	0.0396921	8.67
35	14.369504	Toluene	1	0.396	6.960019	0.056896		
			2	0.99	17.02748	0.058141		
			3	3.96	82.69044	0.047889		
			4	9.9	211.8556	0.04673		
			5	29.7	680.319	0.043656	0.0506626	12.8
36	14.491525	2-Methylheptane	1	0.392	9.147646	0.042853		
			2	0.98	22.39908	0.043752		
			3	3.92	105.1217	0.03729		
			4	9.8	266.0086	0.036841		
			5	29.4	825.3536	0.035621	0.0392713	9.53
37	14.625854	3-Methylheptane	1	0.392	9.297921	0.04216		
			2	0.98	22.60006	0.043363		
			3	3.92	106.2124	0.036907		
			4	9.8	269.1206	0.036415		
			5	29.4	830.0021	0.035422	0.0388533	9.35
38	15.047074	Octane	1	0.392	8.541131	0.045896		
			2	0.98	21.19528	0.046237		
			3	3.92	101.1911	0.038739		
			4	9.8	256.329	0.038232		
			5	29.4	808.2184	0.036376	0.0410959	11.2
39	15.938838	Ethylbenzene	1	0.392	7.334634	0.053445		
			2	0.98	18.49935	0.052975		
			3	3.92	92.58153	0.042341		
			4	9.8	239.3192	0.040949		
			5	29.4	770.5382	0.038155	0.0455731	15.7
40	16.0811	m&p-Xylene	1	0.784	14.50426	0.054053		
			2	1.96	37.16973	0.052731		
			3	7.84	186.6527	0.042003		
			4	19.6	482.9562	0.040583		
			5	58.8	1549.118	0.037957	0.0454656	16.3

ICAL Name: A111016A-TO14

#	RT	Compound	Lvl	Amt (ppbv)	Area	RF	ICAL RRF	% RSD
41	16.361572	Styrene	1	0.388	5.45961	0.071067		
			2	0.97	14.06513	0.068965		
			3	3.88	78.00184	0.049742		
			4	9.7	210.3171	0.046121		
			5	29.1	707.071	0.041156	0.0554102	24.7
42	16.447025	o-Xylene	1	0.392	8.213756	0.047725		
			2	0.98	20.69978	0.047344		
			3	3.92	99.7709	0.03929		
			4	9.8	254.9024	0.038446		
			5	29.4	803.1671	0.036605	0.0418819	12.5
43	16.620052	Nonane	1	0.388	12.37997	0.031341		
			2	0.97	30.7819	0.031512		
			3	3.88	116.6332	0.033267		
			4	9.7	294.2608	0.032964		
			5	29.1	909.2026	0.032006	0.0322179	2.67
44	16.930725	Isopropylbenzene	1	0.38	9.292004	0.040895		
			2	0.95	23.42954	0.040547		
			3	3.8	112.2986	0.033838		
			4	9.5	285.9616	0.033221		
			5	28.5	896.0804	0.031805	0.0360615	12.0
45	17.377068	n-Propylbenzene	1	0.38	7.695413	0.04938		
			2	0.95	20.24213	0.046932		
			3	3.8	104.2932	0.036436		
			4	9.5	272.9396	0.034806		
			5	28.5	875.3655	0.032558	0.0400223	19.0
46	17.474133	3-Ethyltoluene	1	0.392	8.44203	0.046434		
			2	0.98	21.47912	0.045626		
			3	3.92	106.4297	0.036832		
			4	9.8	277.0575	0.035372		
			5	29.4	882.0084	0.033333	0.0395193	15.4
47	17.511658	4-Ethyltoluene	1	0.372	7.455312	0.049897		
			2	0.93	19.66611	0.047289		
			3	3.72	101.7376	0.036565		
			4	9.3	267.6353	0.034749		
			5	27.9	862.1278	0.032362	0.0401724	19.6
48	17.583994	1,3,5-Trimethylbenzene	1	0.392	9.075417	0.043194		
			2	0.98	23.11582	0.042395		
			3	3.92	110.942	0.035334		
			4	9.8	282.9013	0.034641		
			5	29.4	883.1962	0.033288	0.0377704	12.3
49	17.760546	2-Ethyltoluene	1	0.376	8.884544	0.042321		
			2	0.94	22.65231	0.041497		
			3	3.76	109.5648	0.034318		
			4	9.4	280.5289	0.033508		
			5	28.2	881.1439	0.032004	0.0367294	13.1
50	17.968933	1,2,4-Trimethylbenzene	1	0.392	9.121678	0.042975		
			2	0.98	22.56344	0.043433		
			3	3.92	106.0507	0.036963		
			4	9.8	272.6925	0.035938		
			5	29.4	861.9704	0.034108	0.0386834	11.0

ICAL Name: A111016A-TO14

#	RT	Compound	Lvl	Amt (ppbv)	Area	RF	ICAL RRF	% RSD
51	18.074301	Decane	1	0.376	9.778364	0.038452		
			2	0.94	25.31189	0.037137		
			3	3.76	124.0531	0.03031		
			4	9.4	318.944	0.029472		
			5	28.2	1006.288	0.028024	0.0326789	14.6
52	18.364962	1,2,3-Trimethylbenzene	1	0.388	9.33939	0.041544		
			2	0.97	23.23576	0.041746		
			3	3.88	110.6732	0.035058		
			4	9.7	281.062	0.034512		
			5	29.1	878.5411	0.033123	0.0371967	11.1
53	18.656115	m-Diethylbenzene	1	0.372	8.54158	0.043552		
			2	0.93	22.31851	0.041669		
			3	3.72	112.2222	0.033149		
			4	9.3	293.4464	0.031692		
			5	27.9	942.6945	0.029596	0.0359316	17.4
54	18.741735	p-Diethylbenzene	1	0.368	7.68581	0.04788		
			2	0.92	20.20056	0.045543		
			3	3.68	105.6802	0.034822		
			4	9.2	281.7175	0.032657		
			5	27.6	920.0611	0.029998	0.0381801	21.0
55	19.254028	Undecane	1	0.376	9.109262	0.041277		
			2	0.94	24.04482	0.039094		
			3	3.76	122.0513	0.030807		
			4	9.4	319.2002	0.029449		
			5	28.2	1029.571	0.02739	0.0336031	18.4
56	20.202452	Dodecane	1	0.364	8.108177	0.044893		
			2	0.91	20.70931	0.043942		
			3	3.64	105.5587	0.034483		
			4	9.1	285.1857	0.031909		
			5	27.3	900.3414	0.030322	0.0371097	18.4

Calibration Table

Calib. Data Modified : 11/21/2016 8:56:06 PM

Rel. Reference Window : 0.050 %
Abs. Reference Window : 0.090 min
Rel. Non-ref. Window : 0.050 %
Abs. Non-ref. Window : 0.090 min
Uncalibrated Peaks : using compound Propane
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Average Response/Amount
Origin : Ignored
Weight : Equal

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Average all calibrations

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: FID1 A,

RetTime [min]	Sig	Lvl	Amount [ppbv]	Area	Amt/Area	Ref	Grp	Name
3.530	1	1	3.92000e-1	2.30788	1.69853e-1			Ethylene
		2	9.80000e-1	5.74990	1.70438e-1			
		3	3.92000	25.68611	1.52612e-1			
		4	9.80000	66.61786	1.47108e-1			
		5	29.40000	203.16969	1.44707e-1			
3.597	1	1	3.92000e-1	2.19451	1.78628e-1			Acetylene
		2	9.80000e-1	6.87288	1.42589e-1			
		3	3.92000	30.85447	1.27048e-1			
		4	9.80000	86.20090	1.13688e-1			
		5	29.40000	265.10162	1.10901e-1			
3.665	1	1	3.92000e-1	3.07551	1.27458e-1			Ethane
		2	9.80000e-1	6.46354	1.51620e-1			
		3	3.95200	26.33957	1.50040e-1			
		4	9.80000	66.89126	1.46506e-1			
		5	29.40000	202.26199	1.45356e-1			
4.650	1	1	3.84000e-1	2.53701	1.51360e-1			Propylene
		2	9.60000e-1	6.96380	1.37856e-1			
		3	3.84000	30.54706	1.25708e-1			
		4	9.60000	85.70430	1.12013e-1			
		5	28.80000	264.40128	1.08925e-1			
4.758	1	1	3.84000e-1	3.07414	1.24913e-1			Propane
		2	9.60000e-1	8.18324	1.17313e-1			
		3	3.84000	35.77277	1.07344e-1			
		4	9.60000	99.84650	9.61476e-2			
		5	28.80000	307.42072	9.36827e-2			
6.140	1	1	3.76000e-1	3.56239	1.05547e-1	+		Isobutane
		2	9.40000e-1	10.03931	9.36319e-2			
		3	3.76000	39.81322	9.44410e-2			

RetTime [min]	Sig	Lvl	Amount [ppbv]	Area	Amt/Area	Ref	Grp	Name
		4	9.40000	125.43132	7.49414e-2			
		5	28.20000	388.64188	7.25604e-2			
6.754	1	1	3.76000e-1	3.79302	9.91294e-2			1-Butene
		2	9.40000e-1	9.83578	9.55695e-2			
		3	3.76000	40.94666	9.18268e-2			
		4	9.40000	122.98853	7.64299e-2			
		5	28.20000	364.16708	7.74370e-2			
6.945	1	1	3.76000e-1	3.69658	1.01716e-1			Butane
		2	9.40000e-1	9.77501	9.61635e-2			
		3	3.76000	39.55064	9.50680e-2			
		4	9.40000	123.50918	7.61077e-2			
		5	28.20000	359.96719	7.83405e-2			
7.206	1	1	3.72000e-1	4.87957	7.62362e-2			trans-2-Butene
		2	9.30000e-1	10.73705	8.66160e-2			
		3	3.72000	43.18730	8.61364e-2			
		4	9.30000	122.80769	7.57282e-2			
		5	27.90000	373.73724	7.46514e-2			
7.534	1	1	4.00000e-1	4.22196	9.47428e-2			cis-2-Butene
		2	1.00000	10.17113	9.83175e-2			
		3	4.00000	44.12597	9.06496e-2			
		4	10.00000	129.76624	7.70616e-2			
		5	30.00000	398.00687	7.53756e-2			
8.648	1	1	3.80000e-1	4.97655	7.63581e-2			Isopentane
		2	9.50000e-1	12.07523	7.86734e-2			
		3	3.80000	52.12867	7.28965e-2			
		4	9.50000	161.76270	5.87280e-2			
		5	28.50000	514.99652	5.53402e-2			
8.991	1	1	3.76000e-1	5.13276	7.32550e-2			1-Pentene
		2	9.40000e-1	11.92741	7.88101e-2			
		3	3.76000	54.66643	6.87808e-2			
		4	9.40000	152.64000	6.15828e-2			
		5	28.20000	488.69125	5.77051e-2			
9.239	1	1	3.84000e-1	5.33691	7.19518e-2			Pentane
		2	9.60000e-1	12.20851	7.86337e-2			
		3	3.84000	57.12379	6.72224e-2			
		4	9.60000	160.92653	5.96546e-2			
		5	28.80000	511.10223	5.63488e-2			
9.340	1	1	3.88000e-1	4.98167	7.78855e-2			Isoprene
		2	9.70000e-1	11.62421	8.34465e-2			
		3	3.88000	55.93798	6.93625e-2			
		4	9.70000	155.01070	6.25763e-2			
		5	29.10000	492.76096	5.90550e-2			
9.423	1	1	4.00000e-1	5.11984	7.81275e-2			trans-2-Pentene
		2	1.00000	11.99828	8.33453e-2			
		3	4.00000	58.25228	6.86668e-2			
		4	10.00000	157.56635	6.34653e-2			
		5	30.00000	503.17017	5.96220e-2			
9.591	1	1	3.96000e-1	5.26833	7.51661e-2			cis-2-Pentene
		2	9.90000e-1	12.38643	7.99262e-2			
		3	3.96000	58.86482	6.72728e-2			
		4	9.90000	159.67450	6.20011e-2			
		5	29.70000	505.22754	5.87854e-2			
10.014	1	1	3.88000e-1	6.51345	5.95691e-2			2,2-Dimethylbutane
		2	9.70000e-1	14.61049	6.63906e-2			
		3	3.88000	70.71954	5.48646e-2			
		4	9.70000	197.14400	4.92026e-2			
		5	29.10000	620.58545	4.68912e-2			
10.632	1	1	3.80000e-1	5.40715	7.02773e-2			Cyclopentane
		2	9.50000e-1	12.12954	7.83212e-2			
		3	3.80000	57.64476	6.59210e-2			
		4	9.50000	163.21689	5.82048e-2			
		5	28.50000	514.61664	5.53810e-2			

RetTime [min]	Sig	Lvl	Amount [ppbv]	Area	Amt/Area	Ref	Grp	Name
10.672	1	1	3.88000e-1	7.26396	5.34144e-2			2,3-Dimethylbutane
		2	9.70000e-1	15.55696	6.23515e-2			
		3	3.88000	73.96498	5.24573e-2			
		4	9.70000	197.92570	4.90083e-2			
		5	29.10000	617.21356	4.71474e-2			
10.767	1	1	3.84000e-1	6.98207	5.49980e-2			2-Methylpentane
		2	9.60000e-1	15.65459	6.13239e-2			
		3	3.84000	76.72652	5.00479e-2			
		4	9.60000	201.75099	4.75834e-2			
		5	28.80000	627.18262	4.59196e-2			
11.071	1	1	3.92000e-1	7.40708	5.29224e-2			3-Methylpentane
		2	9.80000e-1	15.65346	6.26060e-2			
		3	3.92000	76.00097	5.15783e-2			
		4	9.80000	199.94221	4.90142e-2			
		5	29.40000	620.71436	4.73648e-2			
11.197	1	1	3.84000e-1	6.41536	5.98563e-2			1-Hexene
		2	9.60000e-1	14.83569	6.47088e-2			
		3	3.84000	71.32300	5.38396e-2			
		4	9.60000	188.47856	5.09342e-2			
		5	28.80000	587.53375	4.90185e-2			
11.431	1	1	3.88000e-1	6.86019	5.65582e-2			Hexane
		2	9.70000e-1	15.82543	6.12937e-2			
		3	3.88000	77.47338	5.00817e-2			
		4	9.70000	199.52046	4.86166e-2			
		5	29.10000	616.66876	4.71890e-2			
11.989	1	1	3.76000e-1	6.72491	5.59116e-2			Methylcyclopentane
		2	9.40000e-1	15.02778	6.25508e-2			
		3	3.76000	74.96255	5.01584e-2			
		4	9.40000	194.87672	4.82356e-2			
		5	28.20000	600.97913	4.69234e-2			
12.044	1	1	3.96000e-1	8.25621	4.79639e-2			2,4-Dimethylpentane
		2	9.90000e-1	18.98934	5.21345e-2			
		3	3.96000	91.97226	4.30565e-2			
		4	9.90000	235.71016	4.20007e-2			
		5	29.70000	719.52875	4.12770e-2			
12.462	1	1	3.96000e-1	6.82021	5.80627e-2			Benzene
		2	9.90000e-1	15.41043	6.42422e-2			
		3	3.96000	73.39784	5.39525e-2			
		4	9.90000	192.75648	5.13601e-2			
		5	29.70000	602.94415	4.92583e-2			
12.637	1	1	4.00000e-1	7.27099	5.50131e-2			Cyclohexane
		2	1.00000	16.15247	6.19100e-2			
		3	4.00000	79.93261	5.00422e-2			
		4	9.00000	205.78920	4.37341e-2			
		5	30.00000	631.40521	4.75131e-2			
12.752	1	1	3.92000e-1	8.16108	4.80328e-2			2-Methylhexane
		2	9.80000e-1	19.27395	5.08458e-2			
		3	3.92000	91.41798	4.28800e-2			
		4	9.80000	235.01923	4.16987e-2			
		5	29.40000	719.52795	4.08601e-2			
12.799	1	1	3.92000e-1	8.32380	4.70939e-2			2,3-Dimethylpentane
		2	9.80000e-1	19.29873	5.07805e-2			
		3	3.92000	92.43341	4.24089e-2			
		4	9.80000	236.25774	4.14801e-2			
		5	29.40000	721.13281	4.07692e-2			
12.915	1	1	3.92000e-1	8.37758	4.67916e-2			3-Methylhexane
		2	9.80000e-1	19.46688	5.03419e-2			
		3	3.92000	91.80650	4.26985e-2			
		4	9.80000	235.67892	4.15820e-2			
		5	29.40000	721.88464	4.07267e-2			
13.172	1	1	3.92000e-1	9.44776	4.14913e-2			2,2,4-Trimethylpentane
		2	9.80000e-1	22.26583	4.40136e-2			

RetTime [min]	Sig	Lvl	Amount [ppbv]	Area	Amt/Area	Ref	Grp	Name
		3	3.92000	104.54989	3.74941e-2			
		4	9.80000	268.40323	3.65122e-2			
		5	29.40000	822.91168	3.57268e-2			
13.344	1	1	3.96000e-1	7.81484	5.06729e-2			Heptane
		2	9.90000e-1	18.93199	5.22924e-2			
		3	3.96000	89.34102	4.43245e-2			
		4	9.90000	229.68614	4.31023e-2			
		5	29.70000	713.40753	4.16312e-2			
13.777	1	1	3.96000e-1	8.38896	4.72049e-2			Methylcyclohexane
		2	9.90000e-1	19.53064	5.06896e-2			
		3	3.96000	93.14744	4.25132e-2			
		4	9.90000	237.27859	4.17231e-2			
		5	29.70000	723.39771	4.10563e-2			
14.263	1	1	3.96000e-1	9.33994	4.23986e-2			2,3,4-Trimethylpentane
		2	9.90000e-1	22.35912	4.42772e-2			
		3	3.96000	104.12429	3.80315e-2			
		4	9.90000	265.26959	3.73205e-2			
		5	29.70000	815.20215	3.64327e-2			
14.370	1	1	3.96000e-1	6.96002	5.68964e-2			Toluene
		2	9.90000e-1	17.02748	5.81413e-2			
		3	3.96000	82.69044	4.78895e-2			
		4	9.90000	211.85558	4.67299e-2			
		5	29.70000	680.31903	4.36560e-2			
14.492	1	1	3.92000e-1	9.14765	4.28526e-2			2-Methylheptane
		2	9.80000e-1	22.39908	4.37518e-2			
		3	3.92000	105.12167	3.72901e-2			
		4	9.80000	266.00861	3.68409e-2			
		5	29.40000	825.35358	3.56211e-2			
14.626	1	1	3.92000e-1	9.29792	4.21600e-2			3-Methylheptane
		2	9.80000e-1	22.60006	4.33627e-2			
		3	3.92000	106.21243	3.69072e-2			
		4	9.80000	269.12064	3.64149e-2			
		5	29.40000	830.00214	3.54216e-2			
15.047	1	1	3.92000e-1	8.54113	4.58956e-2			Octane
		2	9.80000e-1	21.19528	4.62367e-2			
		3	3.92000	101.19106	3.87386e-2			
		4	9.80000	256.32898	3.82321e-2			
		5	29.40000	808.21838	3.63763e-2			
15.939	1	1	3.92000e-1	7.33463	5.34451e-2	+		Ethylbenzene
		2	9.80000e-1	18.49935	5.29748e-2			
		3	3.92000	92.58153	4.23411e-2			
		4	9.80000	239.31918	4.09495e-2			
		5	29.40000	770.53821	3.81551e-2			
16.081	1	1	7.84000e-1	14.50426	5.40531e-2			m&p-Xylene
		2	1.96000	37.16973	5.27311e-2			
		3	7.84000	186.65273	4.20031e-2			
		4	19.60000	482.95621	4.05834e-2			
		5	58.80000	1549.11792	3.79571e-2			
16.362	1	1	3.88000e-1	5.45961	7.10673e-2			Styrene
		2	9.70000e-1	14.06513	6.89649e-2			
		3	3.88000	78.00184	4.97424e-2			
		4	9.70000	210.31714	4.61208e-2			
		5	29.10000	707.07104	4.11557e-2			
16.447	1	1	3.92000e-1	8.21376	4.77248e-2			o-Xylene
		2	9.80000e-1	20.69978	4.73435e-2			
		3	3.92000	99.77090	3.92900e-2			
		4	9.80000	254.90240	3.84461e-2			
		5	29.40000	803.16711	3.66051e-2			
16.620	1	1	3.88000e-1	12.37997	3.13409e-2			Nonane
		2	9.70000e-1	30.78190	3.15120e-2			
		3	3.88000	116.63319	3.32667e-2			
		4	9.70000	294.26077	3.29640e-2			

RetTime [min]	Sig	Lvl	Amount [ppbv]	Area	Amt/Area	Ref	Grp	Name
		5	29.10000	909.20264	3.20061e-2			
16.931	1	1	3.80000e-1	9.29200	4.08954e-2			Isopropylbenzene
		2	9.50000e-1	23.42954	4.05471e-2			
		3	3.80000	112.29856	3.38384e-2			
		4	9.50000	285.96164	3.32212e-2			
		5	28.50000	896.08038	3.18052e-2			
17.377	1	1	3.80000e-1	7.69541	4.93801e-2			n-Propylbenzene
		2	9.50000e-1	20.24213	4.69318e-2			
		3	3.80000	104.29322	3.64357e-2			
		4	9.50000	272.93964	3.48062e-2			
		5	28.50000	875.36554	3.25578e-2			
17.474	1	1	3.92000e-1	8.44203	4.64343e-2			3-Ethyltoluene
		2	9.80000e-1	21.47912	4.56257e-2			
		3	3.92000	106.42969	3.68318e-2			
		4	9.80000	277.05750	3.53717e-2			
		5	29.40000	882.00836	3.33330e-2			
17.512	1	1	3.72000e-1	7.45531	4.98973e-2			4-Ethyltoluene
		2	9.30000e-1	19.66611	4.72895e-2			
		3	3.72000	101.73764	3.65646e-2			
		4	9.30000	267.63535	3.47488e-2			
		5	27.90000	862.12781	3.23618e-2			
17.584	1	1	3.92000e-1	9.07542	4.31936e-2			1,3,5-Trimethylbenzene
		2	9.80000e-1	23.11582	4.23952e-2			
		3	3.92000	110.94202	3.53338e-2			
		4	9.80000	282.90128	3.46411e-2			
		5	29.40000	883.19617	3.32882e-2			
17.761	1	1	3.76000e-1	8.88454	4.23207e-2			2-Ethyltoluene
		2	9.40000e-1	22.65231	4.14969e-2			
		3	3.76000	109.56477	3.43176e-2			
		4	9.40000	280.52890	3.35081e-2			
		5	28.20000	881.14386	3.20039e-2			
17.969	1	1	3.92000e-1	9.12168	4.29745e-2			1,2,4-Trimethylbenzene
		2	9.80000e-1	22.56344	4.34331e-2			
		3	3.92000	106.05071	3.69634e-2			
		4	9.80000	272.69254	3.59379e-2			
		5	29.40000	861.97040	3.41079e-2			
18.074	1	1	3.76000e-1	9.77836	3.84522e-2			Decane
		2	9.40000e-1	25.31189	3.71367e-2			
		3	3.76000	124.05306	3.03096e-2			
		4	9.40000	318.94397	2.94723e-2			
		5	28.20000	1006.28784	2.80238e-2			
18.365	1	1	3.88000e-1	9.33939	4.15445e-2			1,2,3-Trimethylbenzene
		2	9.70000e-1	23.23576	4.17460e-2			
		3	3.88000	110.67320	3.50582e-2			
		4	9.70000	281.06204	3.45120e-2			
		5	29.10000	878.54114	3.31231e-2			
18.656	1	1	3.72000e-1	8.54158	4.35517e-2			m-Diethylbenzene
		2	9.30000e-1	22.31851	4.16695e-2			
		3	3.72000	112.22218	3.31485e-2			
		4	9.30000	293.44635	3.16923e-2			
		5	27.90000	942.69452	2.95960e-2			
18.742	1	1	3.68000e-1	7.68581	4.78804e-2			p-Diethylbenzene
		2	9.20000e-1	20.20056	4.55433e-2			
		3	3.68000	105.68023	3.48220e-2			
		4	9.20000	281.71750	3.26568e-2			
		5	27.60000	920.06110	2.99980e-2			
19.254	1	1	3.76000e-1	9.10926	4.12767e-2	+		Undecane
		2	9.40000e-1	24.04482	3.90937e-2			
		3	3.76000	122.05131	3.08067e-2			
		4	9.40000	319.20016	2.94486e-2			
		5	28.20000	1029.57104	2.73900e-2			
20.202	1	1	3.64000e-1	8.10818	4.48930e-2			Dodecane

RetTime [min]	Sig	Lvl	Amount [ppbv]	Area	Amt/Area	Ref	Grp	Name
		2	9.10000e-1	20.70931	4.39416e-2			
		3	3.64000	105.55869	3.44832e-2			
		4	9.10000	285.18567	3.19090e-2			
		5	27.30000	900.34143	3.03218e-2			

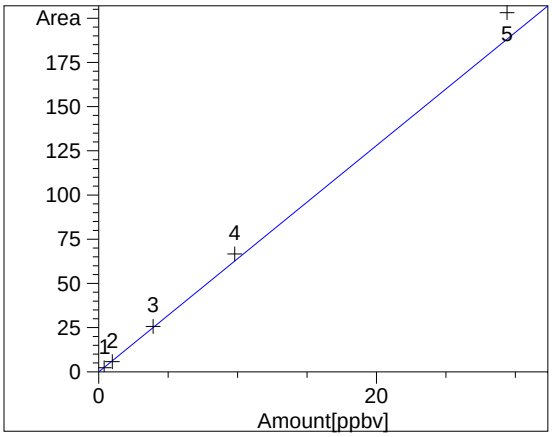
12 Warnings or Errors (10 first messages follow) :

Warning : Overlapping peak time windows at 3.53 min, signal 1
Warning : Overlapping peak time windows at 3.597 min, signal 1
Warning : Overlapping peak time windows at 9.34 min, signal 1
Warning : Overlapping peak time windows at 10.632 min, signal 1
Warning : Overlapping peak time windows at 10.672 min, signal 1
Warning : Overlapping peak time windows at 11.989 min, signal 1
Warning : Overlapping peak time windows at 12.752 min, signal 1
Warning : Overlapping peak time windows at 16.362 min, signal 1
Warning : Overlapping peak time windows at 17.377 min, signal 1
Warning : Overlapping peak time windows at 17.474 min, signal 1

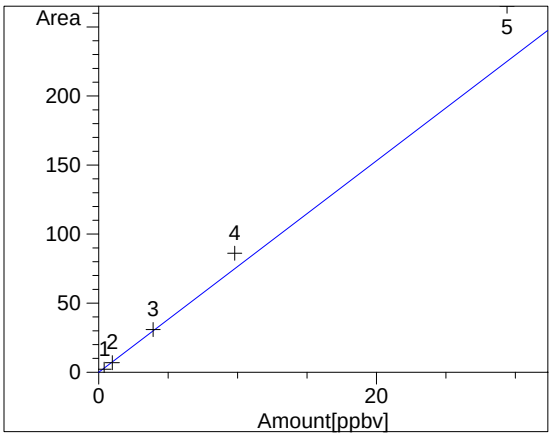
Peak Sum Table

No Entries in table

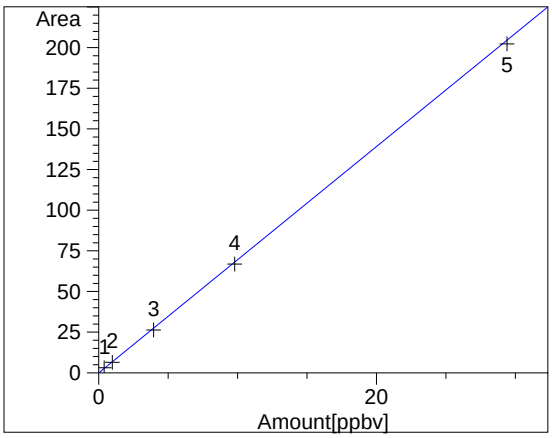
Calibration Curves



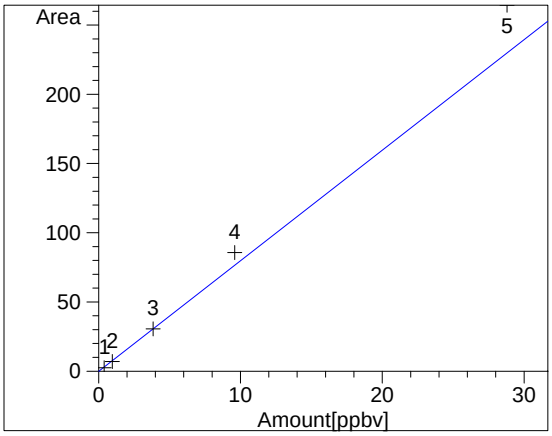
Ethylene at exp. RT: 3.530
FID1 A,
Correlation: 0.99999
Residual Std. Dev.: 8.91012
Formula: y = mx
m: 6.40311
x: Amount
y: Area



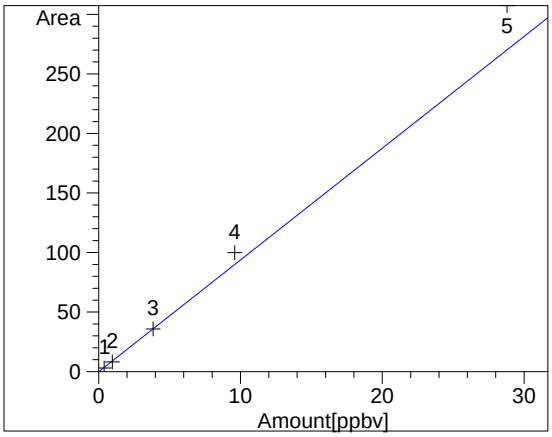
Acetylene at exp. RT: 3.597
FID1 A,
Correlation: 0.99993
Residual Std. Dev.: 23.94315
Formula: y = mx
m: 7.65910
x: Amount
y: Area



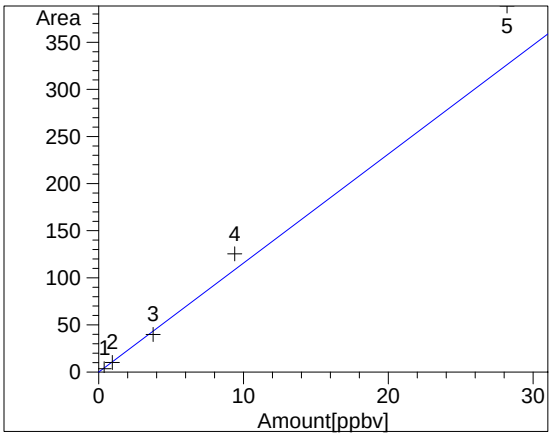
Ethane at exp. RT: 3.665
FID1 A,
Correlation: 0.99998
Residual Std. Dev.: 1.76264
Formula: y = mx
m: 6.96226
x: Amount
y: Area



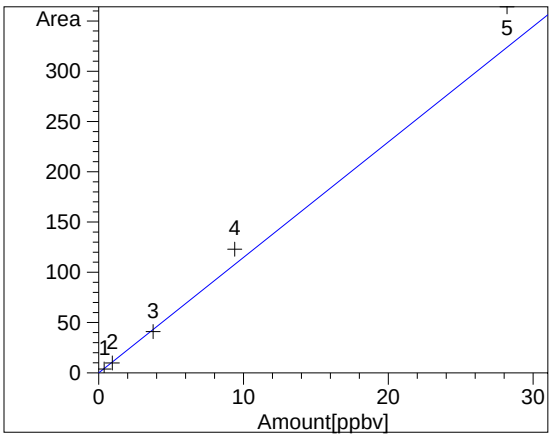
Propylene at exp. RT: 4.650
FID1 A,
Correlation: 0.99990
Residual Std. Dev.: 20.56541
Formula: y = mx
m: 7.98477
x: Amount
y: Area



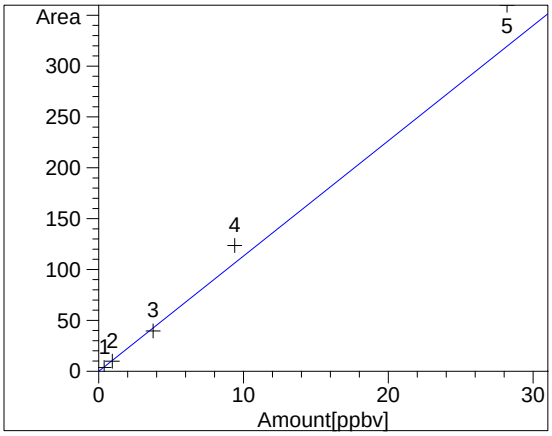
Propane at exp. RT: 4.758
FID1 A,
Correlation: 0.99991
Residual Std. Dev.: 22.18843
Formula: y = mx
m: 9.38412
x: Amount
y: Area



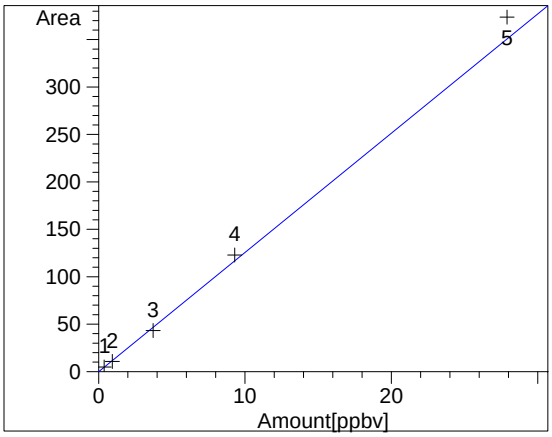
Isobutane at exp. RT: 6.140
FID1 A,
Correlation: 0.99965
Residual Std. Dev.: 37.27633
Formula: y = mx
m: 11.57372
x: Amount
y: Area



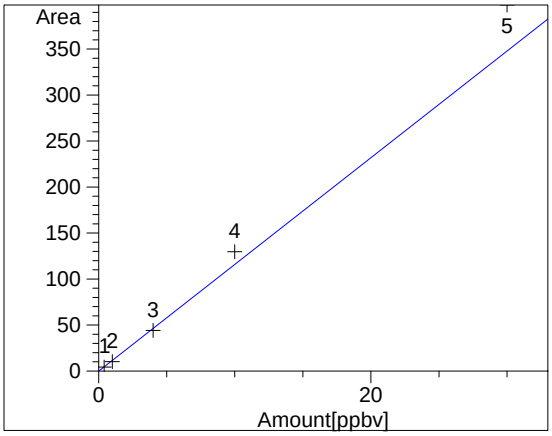
1-Butene at exp. RT: 6.754
FID1 A,
Correlation: 0.99977
Residual Std. Dev.: 24.82092
Formula: y = mx
m: 11.48782
x: Amount
y: Area



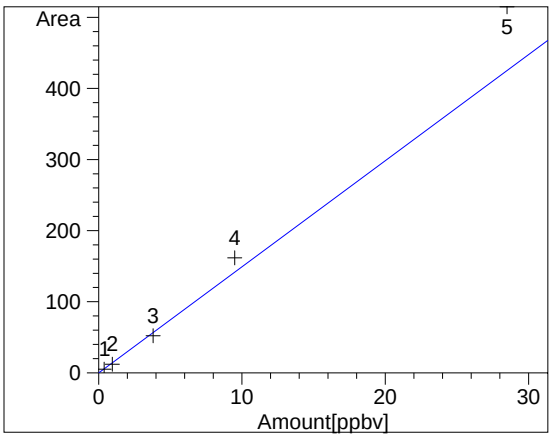
Butane at exp. RT: 6.945
FID1 A,
Correlation: 0.99962
Residual Std. Dev.: 25.39766
Formula: y = mx
m: 11.33063
x: Amount
y: Area



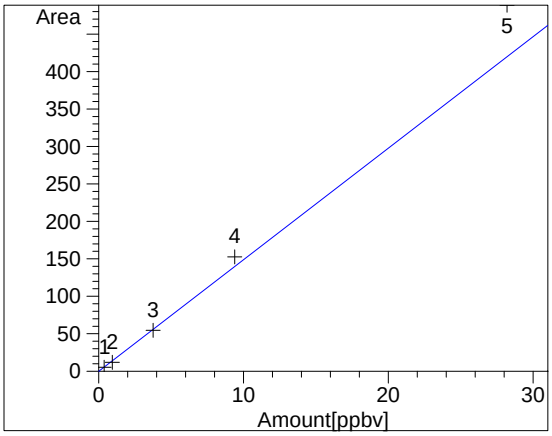
trans-2-Butene at exp. RT: 7.206
FID1 A,
Correlation: 0.99987
Residual Std. Dev.: 13.82066
Formula: y = mx
m: 12.57451
x: Amount
y: Area



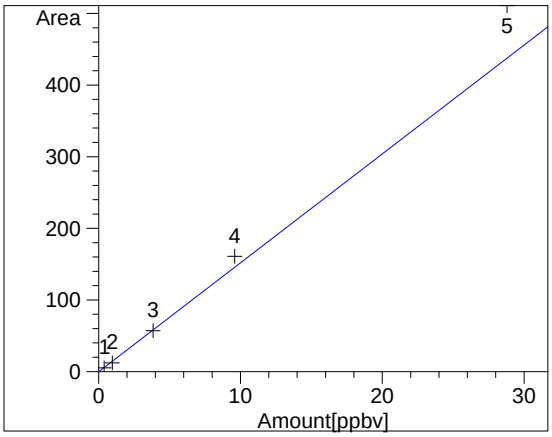
cis-2-Butene at exp. RT: 7.534
FID1 A,
Correlation: 0.99983
Residual Std. Dev.: 29.98283
Formula: y = mx
m: 11.60021
x: Amount
y: Area



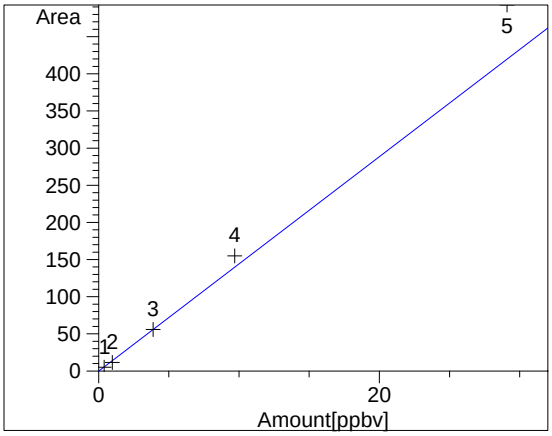
Isopentane at exp. RT: 8.648
FID1 A,
Correlation: 0.99959
Residual Std. Dev.: 53.10894
Formula: y = mx
m: 14.92455
x: Amount
y: Area



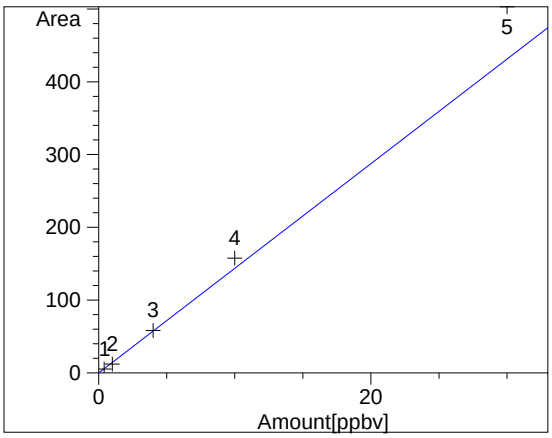
1-Pentene at exp. RT: 8.991
FID1 A,
Correlation: 0.99975
Residual Std. Dev.: 40.42416
Formula: y = mx
m: 14.88928
x: Amount
y: Area



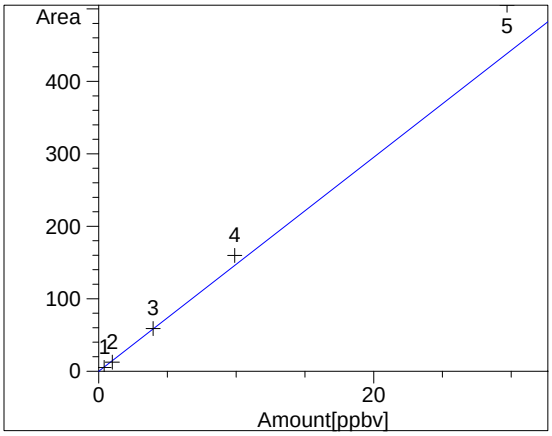
Pentane at exp. RT: 9.239
FID1 A,
Correlation: 0.99979
Residual Std. Dev.: 43.24624
Formula: y = mx
m: 15.20023
x: Amount
y: Area



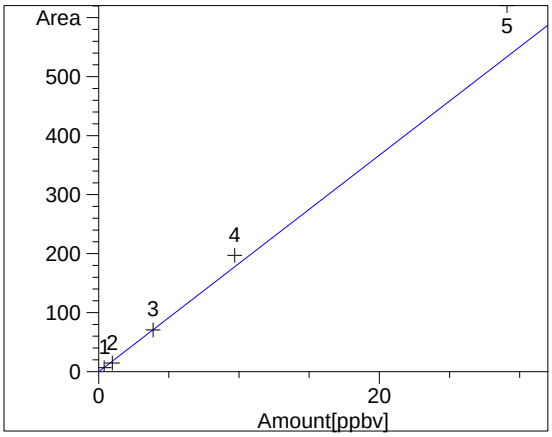
Isoprene at exp. RT: 9.340
FID1 A,
Correlation: 0.99981
Residual Std. Dev.: 42.95527
Formula: y = mx
m: 14.43079
x: Amount
y: Area



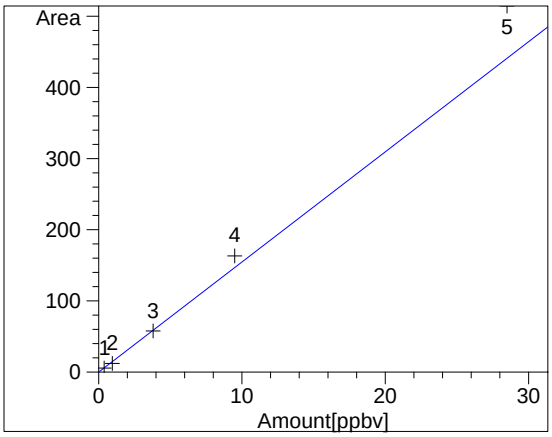
trans-2-Pentene at exp. RT: 9.423
FID1 A,
Correlation: 0.99981
Residual Std. Dev.: 42.25448
Formula: y = mx
m: 14.37798
x: Amount
y: Area



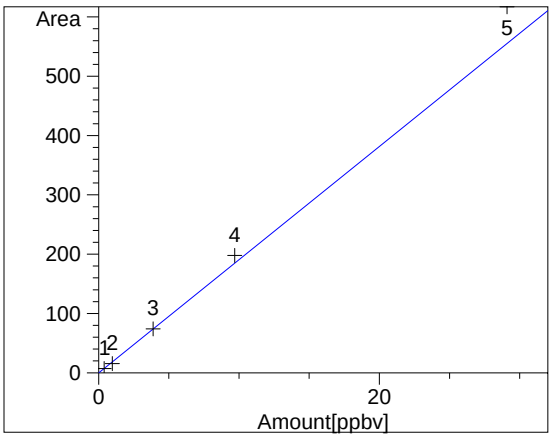
cis-2-Pentene at exp. RT: 9.591
FID1 A,
Correlation: 0.99985
Residual Std. Dev.: 39.33518
Formula: y = mx
m: 14.76401
x: Amount
y: Area



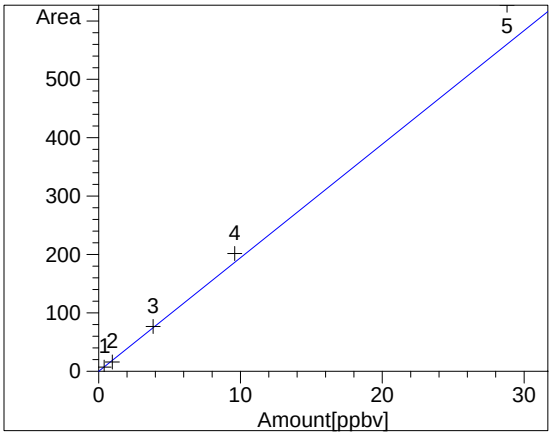
2,2-Dimethylbutane at exp. RT: 10.014
FID1 A,
Correlation: 0.99985
Residual Std. Dev.: 51.32460
Formula: y = mx
m: 18.34527
x: Amount
y: Area



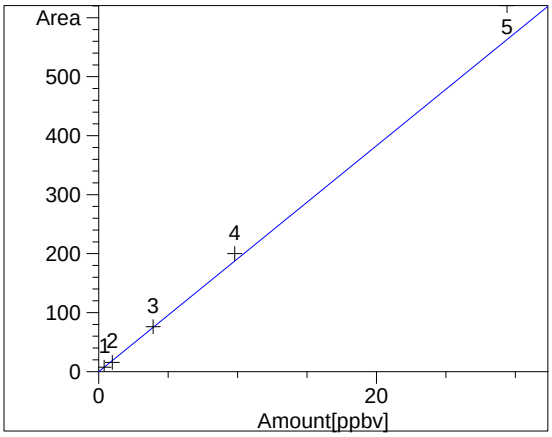
Cyclopentane at exp. RT: 10.632
FID1 A,
Correlation: 0.99981
Residual Std. Dev.: 43.42922
Formula: y = mx
m: 15.48088
x: Amount
y: Area



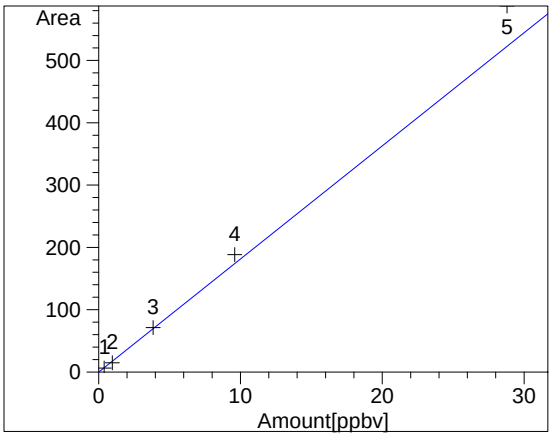
2,3-Dimethylbutane at exp. RT: 10.672
FID1 A,
Correlation: 0.99991
Residual Std. Dev.: 36.45620
Formula: y = mx
m: 19.08752
x: Amount
y: Area



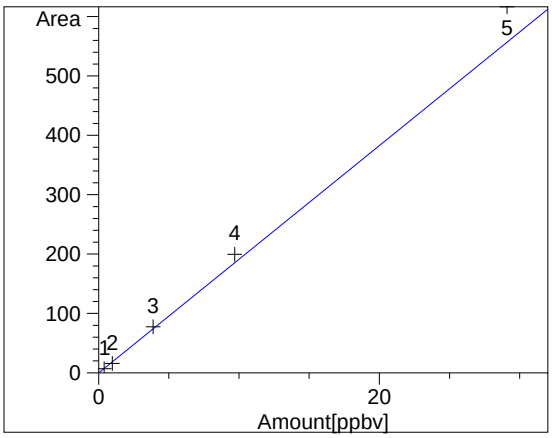
2-Methylpentane at exp. RT: 10.767
FID1 A,
Correlation: 0.99994
Residual Std. Dev.: 39.66766
Formula: y = mx
m: 19.45262
x: Amount
y: Area



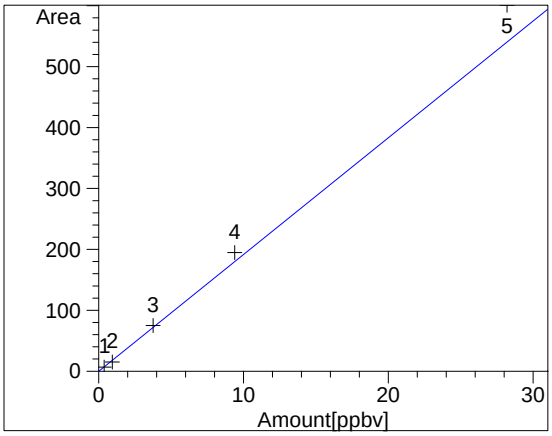
3-Methylpentane at exp. RT: 11.071
FID1 A,
Correlation: 0.99994
Residual Std. Dev.: 34.03601
Formula: y = mx
m: 19.15430
x: Amount
y: Area



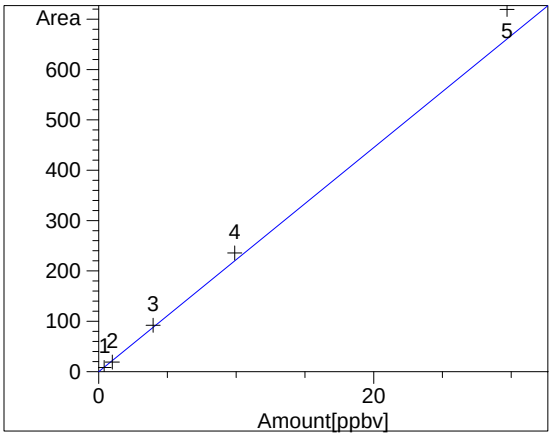
1-Hexene at exp. RT: 11.197
FID1 A,
Correlation: 0.99993
Residual Std. Dev.: 38.29218
Formula: y = mx
m: 18.15358
x: Amount
y: Area



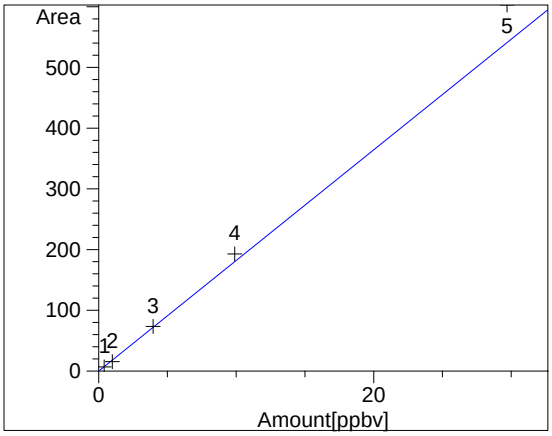
Hexane at exp. RT: 11.431
FID1 A,
Correlation: 0.99996
Residual Std. Dev.: 35.38363
Formula: y = mx
m: 19.14473
x: Amount
y: Area



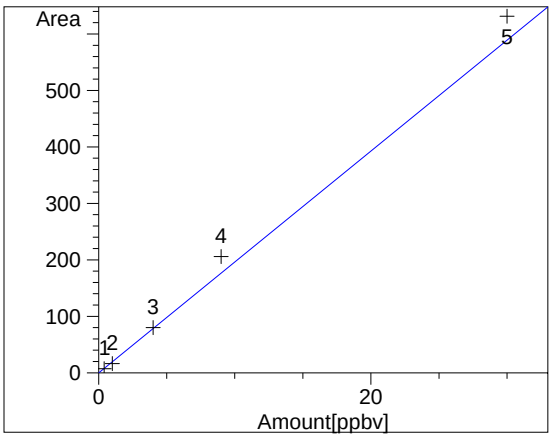
Methylcyclopentane at exp. RT: 11.989
FID1 A,
Correlation: 0.99997
Residual Std. Dev.: 35.95256
Formula: y = mx
m: 19.17042
x: Amount
y: Area



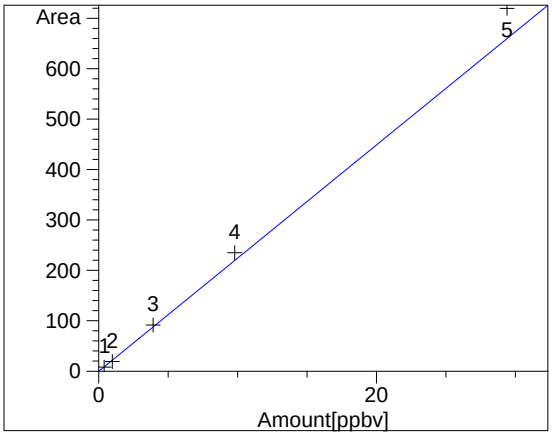
2,4-Dimethylpentane at exp. RT: 12.044
FID1 A,
Correlation: 0.99999
Residual Std. Dev.: 35.01185
Formula: y = mx
m: 22.25823
x: Amount
y: Area



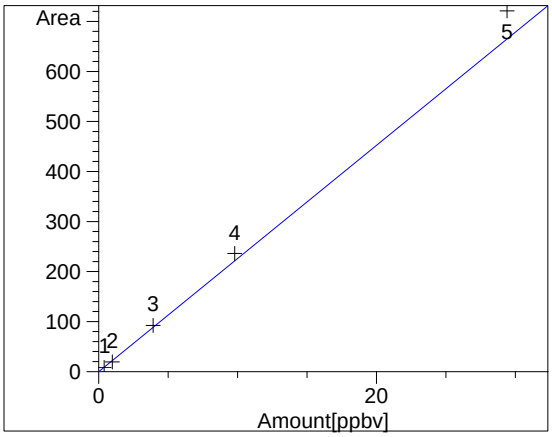
Benzene at exp. RT: 12.462
FID1 A,
Correlation: 0.99992
Residual Std. Dev.: 36.45148
Formula: y = mx
m: 18.21903
x: Amount
y: Area



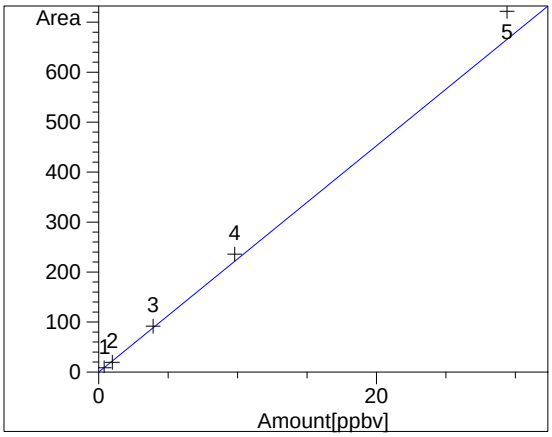
Cyclohexane at exp. RT: 12.637
FID1 A,
Correlation: 0.99945
Residual Std. Dev.: 29.56825
Formula: y = mx
m: 19.64508
x: Amount
y: Area



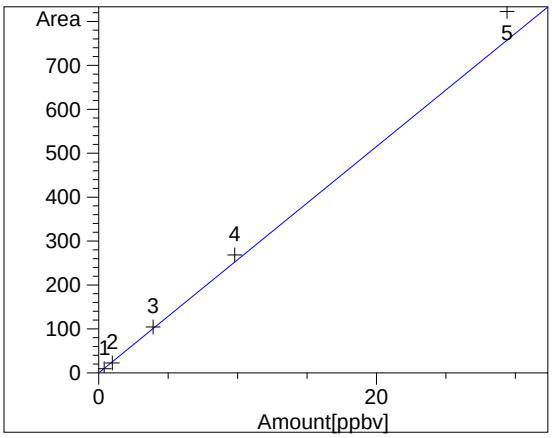
2-Methylhexane at exp. RT: 12.752
FID1 A,
Correlation: 0.99998
Residual Std. Dev.: 35.47385
Formula: y = mx
m: 22.45252
x: Amount
y: Area



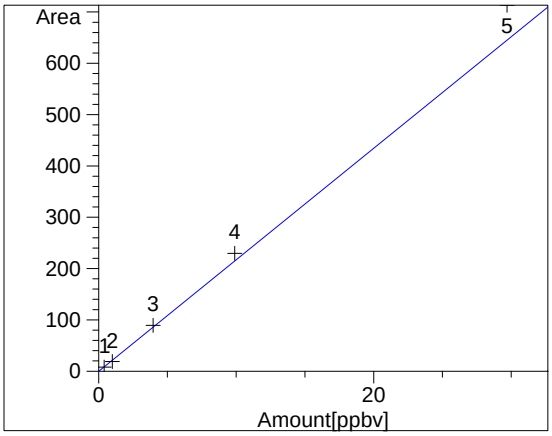
2,3-Dimethylpentane at exp. RT: 12.799
FID1 A,
Correlation: 0.99999
Residual Std. Dev.: 33.42718
Formula: y = mx
m: 22.62859
x: Amount
y: Area



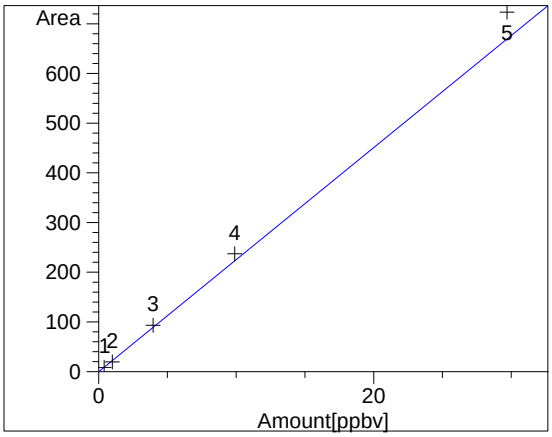
3-Methylhexane at exp. RT: 12.915
FID1 A,
Correlation: 0.99998
Residual Std. Dev.: 33.32643
Formula: y = mx
m: 22.65167
x: Amount
y: Area



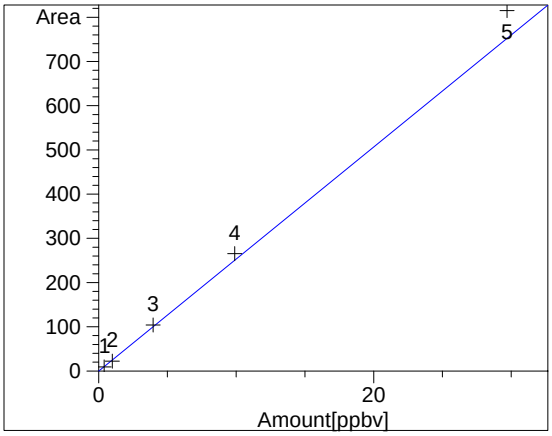
2,2,4-Trimethylpentane at exp. RT: 13.172
FID1 A,
Correlation: 0.99998
Residual Std. Dev.: 38.80107
Formula: y = mx
m: 25.77417
x: Amount
y: Area



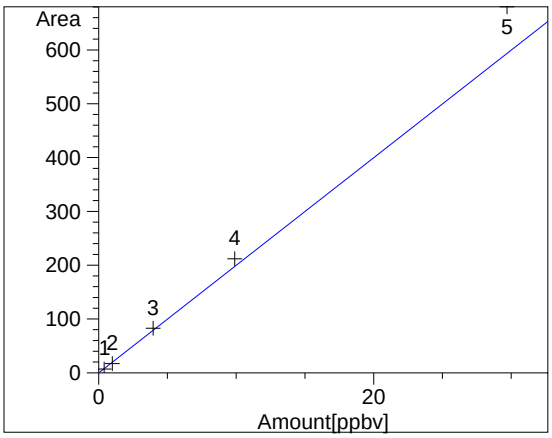
Heptane at exp. RT: 13.344
FID1 A,
Correlation: 0.99995
Residual Std. Dev.: 40.27714
Formula: y = mx
m: 21.72792
x: Amount
y: Area



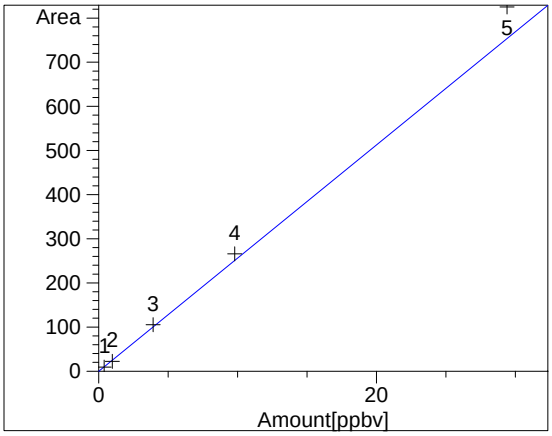
Methylcyclohexane at exp. RT: 13.777
FID1 A,
Correlation: 0.99999
Residual Std. Dev.: 32.11201
Formula: y = mx
m: 22.55172
x: Amount
y: Area



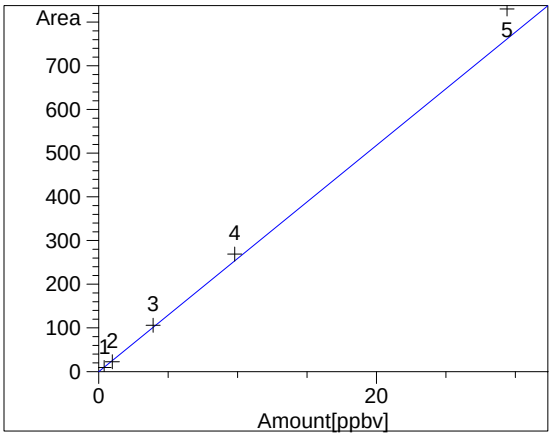
2,3,4-Trimethylpentane at exp. RT: 14.263
FID1 A,
Correlation: 0.99998
Residual Std. Dev.: 37.16139
Formula: y = mx
m: 25.34150
x: Amount
y: Area



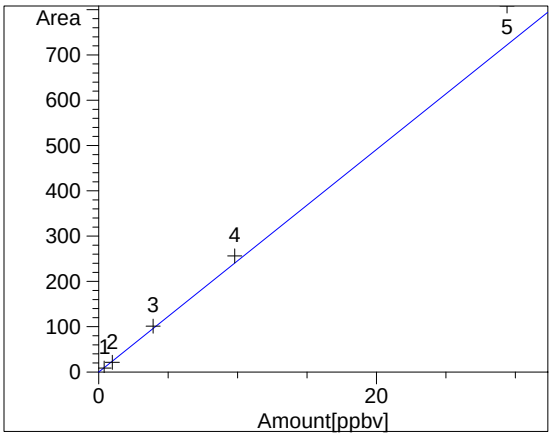
Toluene at exp. RT: 14.370
FID1 A,
Correlation: 0.99981
Residual Std. Dev.: 50.67654
Formula: y = mx
m: 19.99253
x: Amount
y: Area



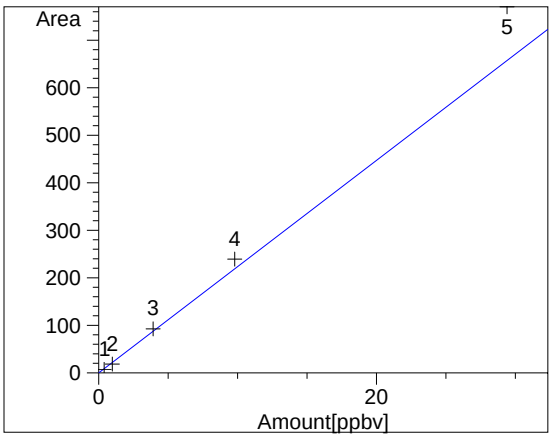
2-Methylheptane at exp. RT: 14.492
FID1 A,
Correlation: 0.99996
Residual Std. Dev.: 42.19412
Formula: y = mx
m: 25.64515
x: Amount
y: Area



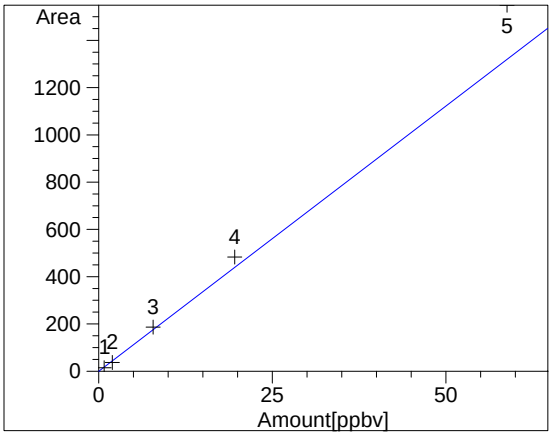
3-Methylheptane at exp. RT: 14.626
FID1 A,
Correlation: 0.99997
Residual Std. Dev.: 40.42815
Formula: y = mx
m: 25.91363
x: Amount
y: Area



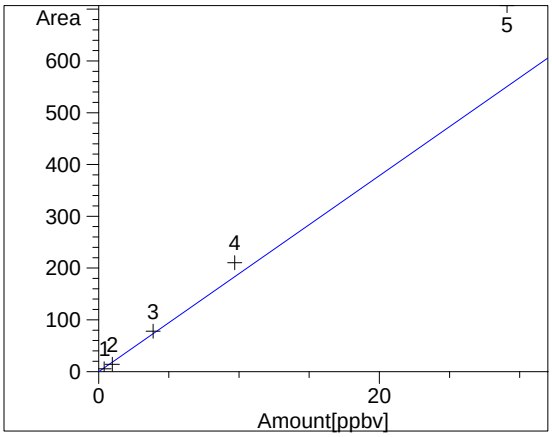
Octane at exp. RT: 15.047
FID1 A,
Correlation: 0.99990
Residual Std. Dev.: 50.39151
Formula: y = mx
m: 24.57538
x: Amount
y: Area



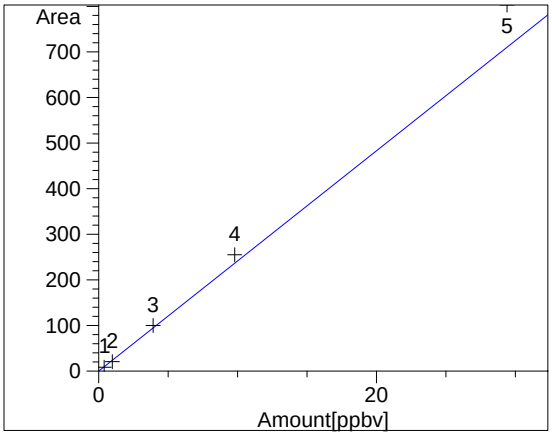
Ethylbenzene at exp. RT: 15.939
FID1 A,
Correlation: 0.99980
Residual Std. Dev.: 66.33427
Formula: y = mx
m: 22.36691
x: Amount
y: Area



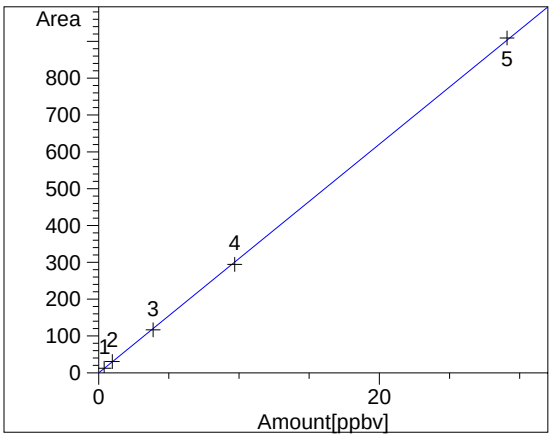
m&p-Xylene at exp. RT: 16.081
FID1 A,
Correlation: 0.99983
Residual Std. Dev.: 134.70013
Formula: y = mx
m: 22.45168
x: Amount
y: Area



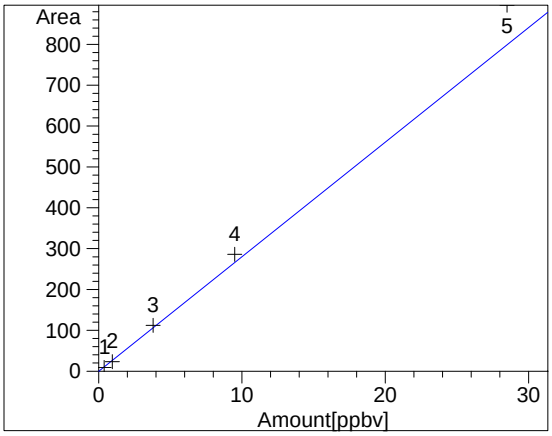
Styrene at exp. RT: 16.362
FID1 A,
Correlation: 0.99948
Residual Std. Dev.: 91.55460
Formula: y = mx
m: 18.93100
x: Amount
y: Area



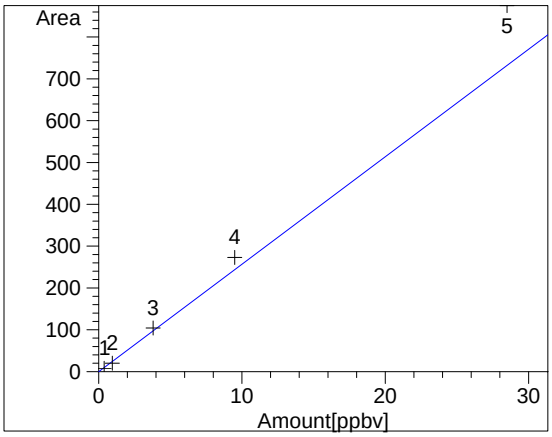
o-Xylene at exp. RT: 16.447
FID1 A,
Correlation: 0.99991
Residual Std. Dev.: 54.53603
Formula: y = mx
m: 24.17130
x: Amount
y: Area



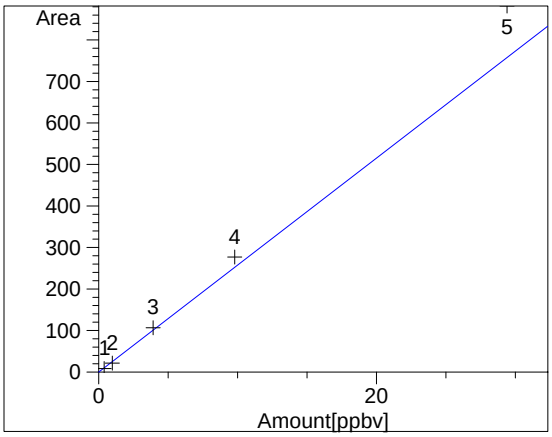
Nonane at exp. RT: 16.620
FID1 A,
Correlation: 0.99994
Residual Std. Dev.: 5.60172
Formula: y = mx
m: 31.05628
x: Amount
y: Area



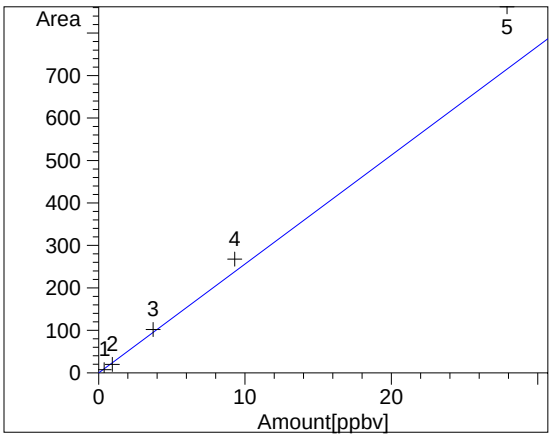
Isopropylbenzene at exp. RT: 16.931
FID1 A,
Correlation: 0.99993
Residual Std. Dev.: 57.19538
Formula: y = mx
m: 28.04204
x: Amount
y: Area



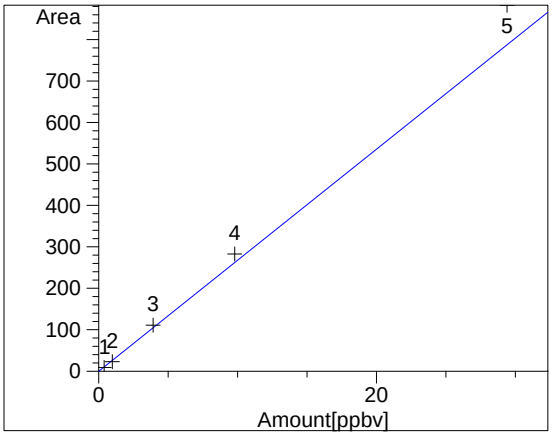
n-Propylbenzene at exp. RT: 17.377
FID1 A,
Correlation: 0.99983
Residual Std. Dev.: 84.47515
Formula: y = mx
m: 25.68985
x: Amount
y: Area



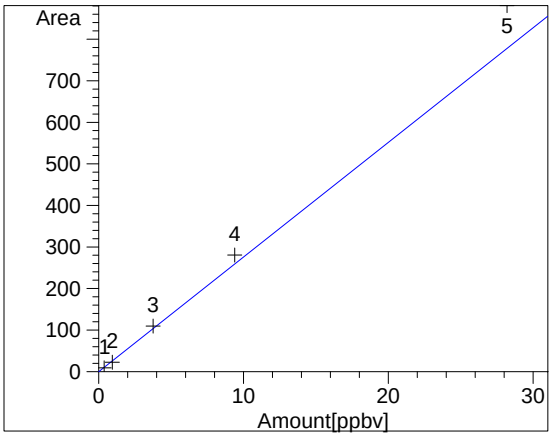
3-Ethyltoluene at exp. RT: 17.474
FID1 A,
Correlation: 0.99986
Residual Std. Dev.: 73.20234
Formula: y = mx
m: 25.77503
x: Amount
y: Area



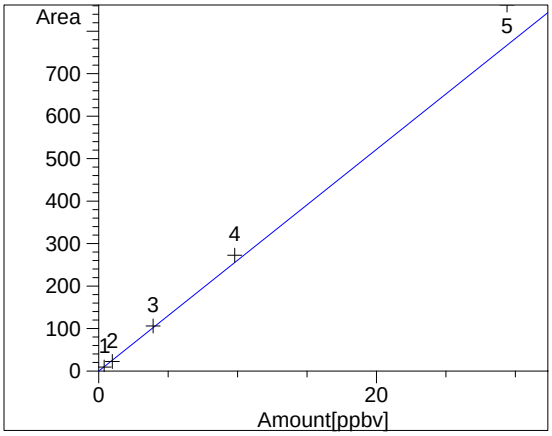
4-Ethyltoluene at exp. RT: 17.512
FID1 A,
Correlation: 0.99981
Residual Std. Dev.: 86.46690
Formula: y = mx
m: 25.64300
x: Amount
y: Area



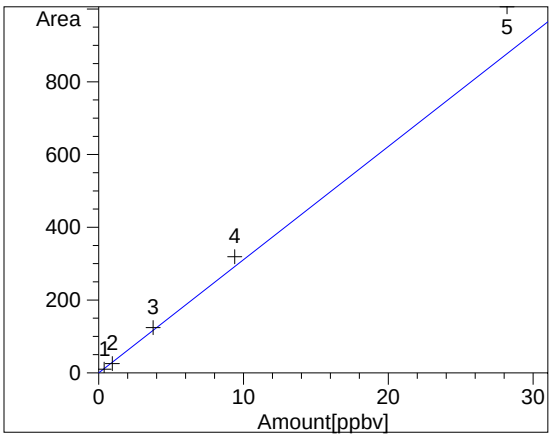
1,3,5-Trimethylbenzene at exp. RT: 17.584
FID1 A,
Correlation: 0.99994
Residual Std. Dev.: 56.55837
Formula: y = mx
m: 26.78977
x: Amount
y: Area



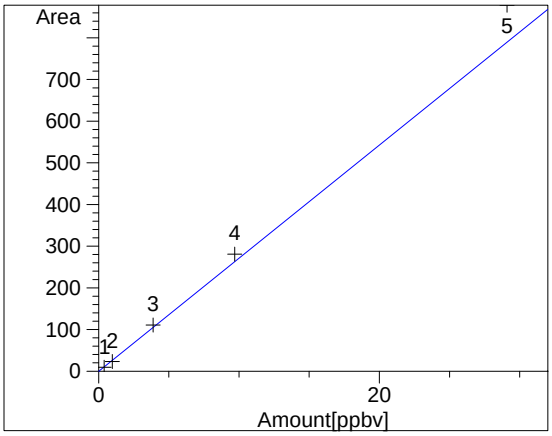
2-Ethyltoluene at exp. RT: 17.761
FID1 A,
Correlation: 0.99992
Residual Std. Dev.: 60.87748
Formula: y = mx
m: 27.59132
x: Amount
y: Area



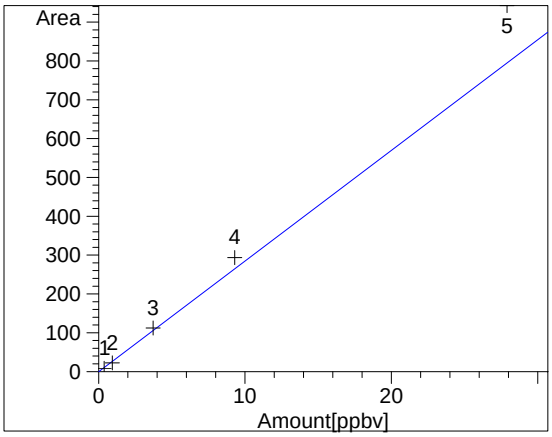
1,2,4-Trimethylbenzene at exp. RT: 17.969
FID1 A,
Correlation: 0.99989
Residual Std. Dev.: 55.60278
Formula: y = mx
m: 26.09835
x: Amount
y: Area



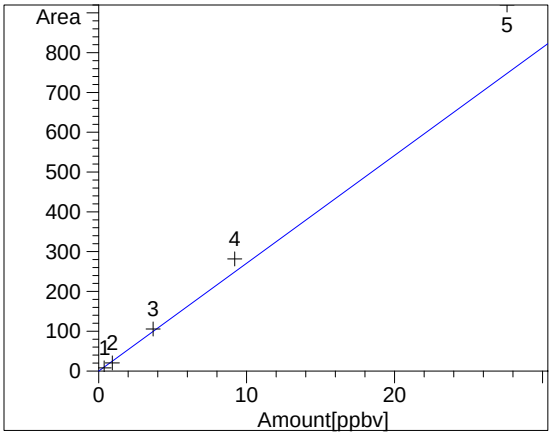
Decane at exp. RT: 18.074
FID1 A,
Correlation: 0.99991
Residual Std. Dev.: 76.20959
Formula: y = mx
m: 31.10817
x: Amount
y: Area



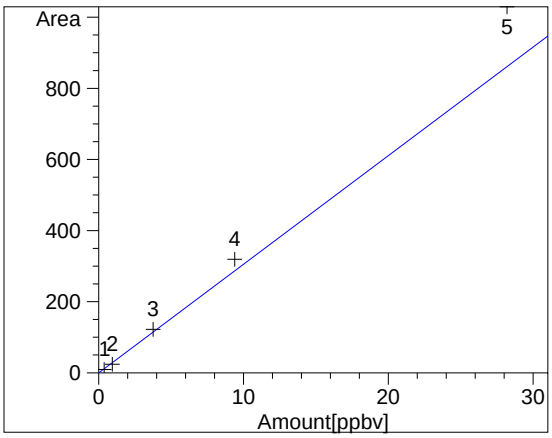
1,2,3-Trimethylbenzene at exp. RT: 18.365
FID1 A,
Correlation: 0.99994
Residual Std. Dev.: 52.34464
Formula: y = mx
m: 27.14298
x: Amount
y: Area



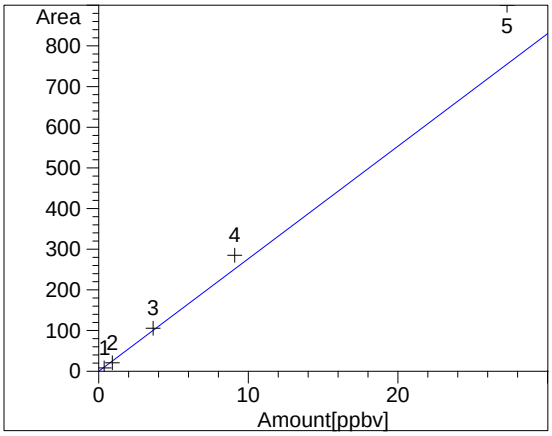
m-Diethylbenzene at exp. RT: 18.656
FID1 A,
Correlation: 0.99982
Residual Std. Dev.: 86.96988
Formula: y = mx
m: 28.49372
x: Amount
y: Area



p-Diethylbenzene at exp. RT: 18.742
FID1 A,
Correlation: 0.99971
Residual Std. Dev.: 101.15517
Formula: y = mx
m: 27.10339
x: Amount
y: Area



Undecane at exp. RT: 19.254
FID1 A,
Correlation: 0.99980
Residual Std. Dev.: 98.96493
Formula: y = mx
m: 30.54678
x: Amount
y: Area

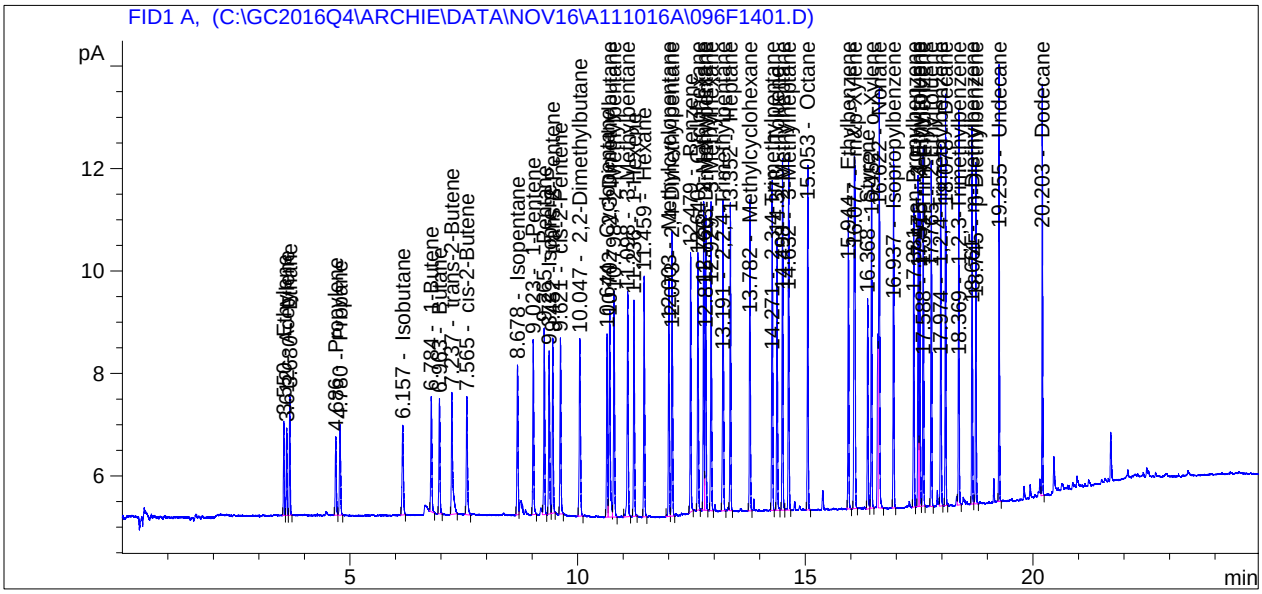


Dodecane at exp. RT: 20.202
FID1 A,
Correlation: 0.99989
Residual Std. Dev.: 85.96714
Formula: y = mx
m: 27.67019
x: Amount
y: Area

==========

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111016A\096F1401.D
Sample Name: TO14A Std #1 Std

```
==========================================================================
Acq. Operator    : TDD                                Seq. Line :  14
Acq. Instrument  : Archie                              Location : Vial 96
Injection Date   : 11-Nov-16, 08:06:21                     Inj :   1
                                                    Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed     : 11/11/2016 8:15:37 PM by TDD
Sample Info      : Can #C8800; 50mL
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, November 11, 2016 8:15:26 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.550	BV		2.30788	1.56174e-1	3.60431e-1		Ethylene
3.612	VV		2.19451	1.30564e-1	2.86523e-1		Acetylene
3.680	VB		3.07551	1.43631e-1	4.41740e-1		Ethane
4.686	BV		2.53701	1.25238e-1	3.17731e-1		Propylene
4.780	VB		3.07414	1.06563e-1	3.27590e-1		Propane
6.157	BB	+	3.56239	8.64027e-2	3.07800e-1		Isobutane
6.784	BB		3.79302	8.70487e-2	3.30178e-1		1-Butene
6.963	BB		3.69658	8.82564e-2	3.26247e-1		Butane
7.237	BB		4.87957	7.95259e-2	3.88053e-1		trans-2-Butene
7.565	BV		4.22196	8.62054e-2	3.63955e-1		cis-2-Butene
8.678	BV		4.97655	6.70037e-2	3.33447e-1		Isopentane
9.023	BB		5.13276	6.71624e-2	3.44728e-1		1-Pentene
9.265	VB		5.33691	6.57885e-2	3.51107e-1		Pentane
9.372	BV		4.98167	6.92963e-2	3.45211e-1		Isoprene
9.452	VB		5.11984	6.95508e-2	3.56089e-1		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111016A\096F1401.D
Sample Name: TO14A Std #1 Std

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.621	BB		5.26833	6.77323e-2	3.56836e-1		cis-2-Pentene
10.047	BB		6.51345	5.45100e-2	3.55048e-1		2,2-Dimethylbutane
10.644	BV		5.40715	6.45958e-2	3.49279e-1		Cyclopentane
10.702	VV		7.26396	5.23903e-2	3.80561e-1		2,3-Dimethylbutane
10.798	VB		6.98207	5.14070e-2	3.58927e-1		2-Methylpentane
11.098	BB		7.40708	5.22076e-2	3.86706e-1		3-Methylpentane
11.236	BB		6.41536	5.50856e-2	3.53394e-1		1-Hexene
11.459	BB		6.86019	5.22337e-2	3.58333e-1		Hexane
12.003	BV		6.72491	5.21637e-2	3.50796e-1		Methylcyclopentane
12.073	VB		8.25621	4.49272e-2	3.70928e-1		2,4-Dimethylpentane
12.479	BB		6.82021	5.48877e-2	3.74346e-1		Benzene
12.640	BB		7.27099	5.09033e-2	3.70118e-1		Cyclohexane
12.766	BV		8.16108	4.45384e-2	3.63482e-1		2-Methylhexane
12.811	VB		8.32380	4.41919e-2	3.67844e-1		2,3-Dimethylpentane
12.929	BB		8.37758	4.41469e-2	3.69844e-1		3-Methylhexane
13.191	BB		9.44776	3.87985e-2	3.66559e-1		2,2,4-Trimethylpentane
13.352	VB		7.81484	4.60237e-2	3.59668e-1		Heptane
13.782	BB		8.38896	4.43425e-2	3.71988e-1		Methylcyclohexane
14.271	BB		9.33994	3.94610e-2	3.68563e-1		2,3,4-Trimethylpentane
14.378	BB		6.96002	5.00187e-2	3.48131e-1		Toluene
14.498	BV		9.14765	3.89937e-2	3.56701e-1		2-Methylheptane
14.632	VB		9.29792	3.85897e-2	3.58804e-1		3-Methylheptane
15.053	BB		8.54113	4.06911e-2	3.47548e-1		Octane
15.944	BB	+	7.33463	4.47089e-2	3.27923e-1		Ethylbenzene
16.077	BB		14.50426	4.45401e-2	6.46021e-1		m&p-Xylene
16.368	BB		5.45961	5.28234e-2	2.88395e-1		Styrene
16.452	BB		8.21376	4.13714e-2	3.39814e-1		o-Xylene
16.622	VB		12.37997	3.21996e-2	3.98630e-1		Nonane
16.937	BB		9.29200	3.56607e-2	3.31360e-1		Isopropylbenzene
17.381	BB		7.69541	3.89259e-2	2.99551e-1		n-Propylbenzene
17.478	BV		8.44203	3.87972e-2	3.27527e-1		3-Ethyltoluene
17.515	VV		7.45531	3.89970e-2	2.90735e-1		4-Ethyltoluene
17.588	VB		9.07542	3.73277e-2	3.38764e-1		1,3,5-Trimethylbenzene
17.765	BB		8.88454	3.62433e-2	3.22005e-1		2-Ethyltoluene
17.974	BB		9.12168	3.83166e-2	3.49512e-1		1,2,4-Trimethylbenzene
18.078	BB		9.77836	3.21459e-2	3.14334e-1		Decane
18.369	VB		9.33939	3.68419e-2	3.44081e-1		1,2,3-Trimethylbenzene
18.661	BB		8.54158	3.50955e-2	2.99771e-1		m-Diethylbenzene
18.745	BB		7.68581	3.68958e-2	2.83574e-1		p-Diethylbenzene
19.255	BB	+	9.10926	3.27367e-2	2.98207e-1		Undecane
20.203	VB		8.10818	3.61400e-2	2.93029e-1		Dodecane

Totals : 19.61847

1 Warnings or Errors :

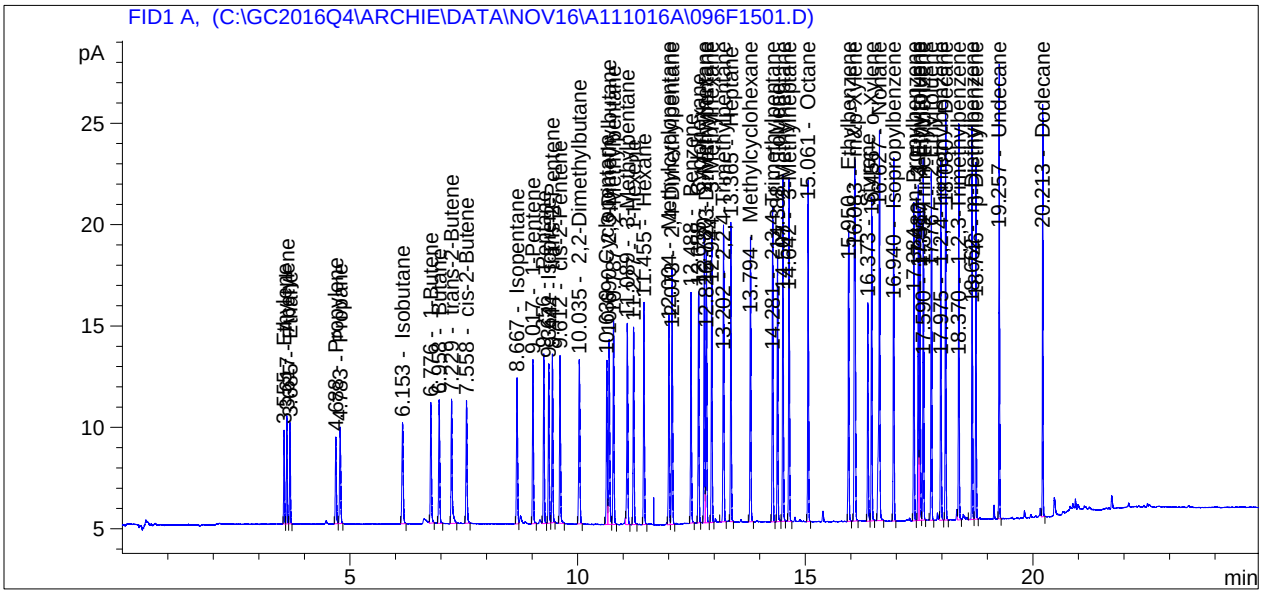
Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111016A\096F1501.D
Sample Name: TO14A Std #2 Std

```
==========================================================================
Acq. Operator    : TDD                                Seq. Line :  15
Acq. Instrument  : Archie                              Location : Vial 96
Injection Date   : 11-Nov-16, 08:45:48                     Inj :   1
                                                    Inj Volume : Manually
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed     : 11/11/2016 8:15:37 PM by TDD
Sample Info      : Can #C8800; 125mL
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, November 11, 2016 8:15:26 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.555	BV		5.74990	1.56174e-1	8.97985e-1		Ethylene
3.617	VV		6.87288	1.30564e-1	8.97349e-1		Acetylene
3.685	VB		6.46354	1.43631e-1	9.28367e-1		Ethane
4.688	BV		6.96380	1.25238e-1	8.72135e-1		Propylene
4.783	VB		8.18324	1.06563e-1	8.72030e-1		Propane
6.153	BB	+	10.03931	8.64027e-2	8.67424e-1		Isobutane
6.776	BB		9.83578	8.70487e-2	8.56192e-1		1-Butene
6.958	BB		9.77501	8.82564e-2	8.62707e-1		Butane
7.229	BB		10.73705	7.95259e-2	8.53874e-1		trans-2-Butene
7.558	BB		10.17113	8.62054e-2	8.76806e-1		cis-2-Butene
8.667	BV		12.07523	6.70037e-2	8.09085e-1		Isopentane
9.017	BB		11.92741	6.71624e-2	8.01074e-1		1-Pentene
9.256	VB		12.20851	6.57885e-2	8.03179e-1		Pentane
9.364	BV		11.62421	6.92963e-2	8.05515e-1		Isoprene
9.444	VB		11.99828	6.95508e-2	8.34490e-1		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111016A\096F1501.D
Sample Name: TO14A Std #2 Std

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.612	BB		12.38643	6.77323e-2	8.38961e-1		cis-2-Pentene
10.035	BB		14.61049	5.45100e-2	7.96417e-1		2,2-Dimethylbutane
10.639	BV		12.12954	6.45958e-2	7.83518e-1		Cyclopentane
10.690	VV		15.55696	5.23903e-2	8.15033e-1		2,3-Dimethylbutane
10.787	VB		15.65459	5.14070e-2	8.04755e-1		2-Methylpentane
11.089	VB		15.65346	5.22076e-2	8.17229e-1		3-Methylpentane
11.227	BB		14.83569	5.50856e-2	8.17232e-1		1-Hexene
11.455	BB		15.82543	5.22337e-2	8.26621e-1		Hexane
12.004	VV		15.02778	5.21637e-2	7.83905e-1		Methylcyclopentane
12.073	VB		18.98934	4.49272e-2	8.53138e-1		2,4-Dimethylpentane
12.488	BB		15.41043	5.48877e-2	8.45842e-1		Benzene
12.655	BB		16.15247	5.09033e-2	8.22214e-1		Cyclohexane
12.780	BV		19.27395	4.45384e-2	8.58432e-1		2-Methylhexane
12.826	VB		19.29873	4.41919e-2	8.52847e-1		2,3-Dimethylpentane
12.944	BB		19.46688	4.41469e-2	8.59401e-1		3-Methylhexane
13.202	BB		22.26583	3.87985e-2	8.63882e-1		2,2,4-Trimethylpentane
13.365	VB		18.93199	4.60237e-2	8.71321e-1		Heptane
13.794	BB		19.53064	4.43425e-2	8.66038e-1		Methylcyclohexane
14.281	BB		22.35912	3.94610e-2	8.82313e-1		2,3,4-Trimethylpentane
14.388	BV		17.02748	5.00187e-2	8.51693e-1		Toluene
14.507	VB		22.39908	3.89937e-2	8.73423e-1		2-Methylheptane
14.642	BB		22.60006	3.85897e-2	8.72130e-1		3-Methylheptane
15.061	BB		21.19528	4.06911e-2	8.62460e-1		Octane
15.950	BB	+	18.49935	4.47089e-2	8.27086e-1		Ethylbenzene
16.083	BB		37.16973	4.45401e-2	1.65554		m&p-Xylene
16.373	BV		14.06513	5.28234e-2	7.42968e-1		Styrene
16.456	VB		20.69978	4.13714e-2	8.56378e-1		o-Xylene
16.627	BB		30.78190	3.21996e-2	9.91165e-1		Nonane
16.940	BB		23.42954	3.56607e-2	8.35515e-1		Isopropylbenzene
17.384	BB		20.24213	3.89259e-2	7.87943e-1		n-Propylbenzene
17.480	BV		21.47912	3.87972e-2	8.33331e-1		3-Ethyltoluene
17.517	VV		19.66611	3.89970e-2	7.66919e-1		4-Ethyltoluene
17.590	VB		23.11582	3.73277e-2	8.62860e-1		1,3,5-Trimethylbenzene
17.767	VB		22.65231	3.62433e-2	8.20994e-1		2-Ethyltoluene
17.975	BB		22.56344	3.83166e-2	8.64554e-1		1,2,4-Trimethylbenzene
18.080	BB		25.31189	3.21459e-2	8.13673e-1		Decane
18.370	VB		23.23576	3.68419e-2	8.56050e-1		1,2,3-Trimethylbenzene
18.662	VV		22.31851	3.50955e-2	7.83278e-1		m-Diethylbenzene
18.746	VB		20.20056	3.68958e-2	7.45315e-1		p-Diethylbenzene
19.257	BB	+	24.04482	3.27367e-2	7.87147e-1		Undecane
20.213	VB		20.70931	3.61400e-2	7.48434e-1		Dodecane

Totals : 47.73617

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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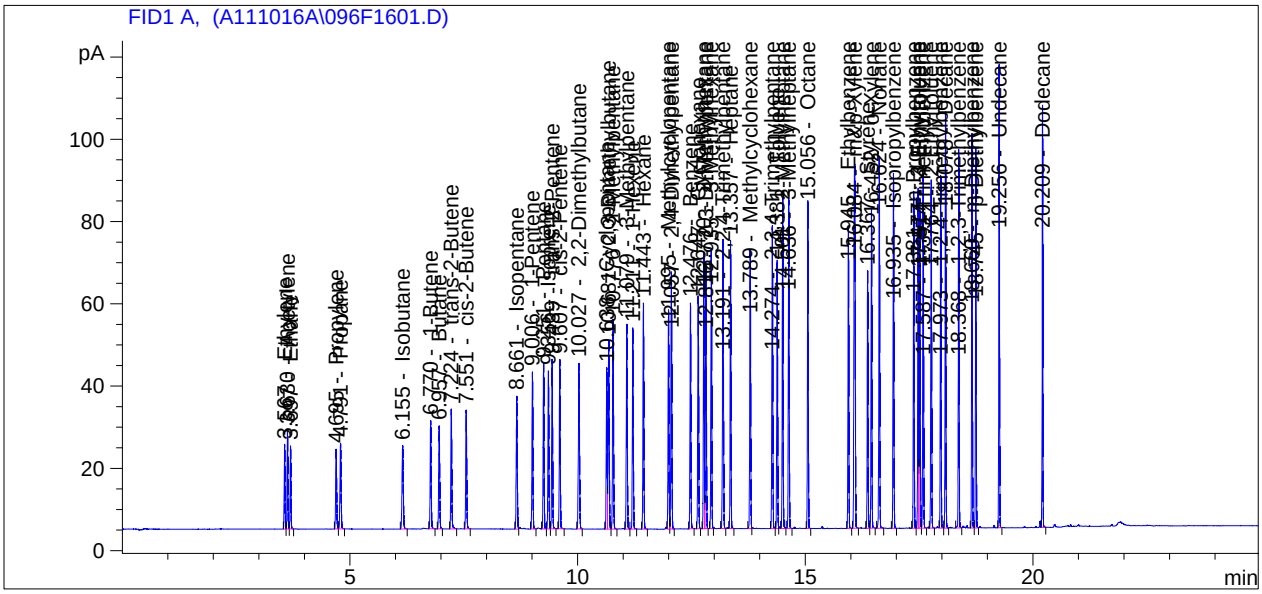
*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111016A\096F1601.D
Sample Name: TO14A Std #3 Std

```
==========================================================================
Acq. Operator   : TDD                                 Seq. Line :  16
Acq. Instrument : Archie                               Location : Vial 96
Injection Date  : 11-Nov-16, 09:23:40                      Inj :   1
                                                     Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111016A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/11/2016 8:15:37 PM by TDD
Sample Info     : Can #C8800; 125mL
```

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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, November 11, 2016 8:15:26 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.567	BV		25.68611	1.56174e-1	4.01150		Ethylene
3.630	VV		30.85447	1.30564e-1	4.02847		Acetylene
3.697	VB		26.33957	1.43631e-1	3.78319		Ethane
4.695	BV		30.54706	1.25238e-1	3.82567		Propylene
4.791	VB		35.77277	1.06563e-1	3.81205		Propane
6.155	BB	+	39.81322	8.64027e-2	3.43997		Isobutane
6.770	BB		40.94666	8.70487e-2	3.56435		1-Butene
6.957	BB		39.55064	8.82564e-2	3.49060		Butane
7.224	BB		43.18730	7.95259e-2	3.43451		trans-2-Butene
7.551	BB		44.12597	8.62054e-2	3.80389		cis-2-Butene
8.661	BV		52.12867	6.70037e-2	3.49281		Isopentane
9.006	BB		54.66643	6.71624e-2	3.67153		1-Pentene
9.251	VV		57.12379	6.57885e-2	3.75809		Pentane
9.356	VV		55.93798	6.92963e-2	3.87629		Isoprene
9.439	VB		58.25228	6.95508e-2	4.05149		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111016A\096F1601.D
Sample Name: TO14A Std #3 Std

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.607	VB		58.86482	6.77323e-2	3.98705		cis-2-Pentene
10.027	BB		70.71954	5.45100e-2	3.85492		2,2-Dimethylbutane
10.638	VV		57.64476	6.45958e-2	3.72361		Cyclopentane
10.681	VV		73.96498	5.23903e-2	3.87504		2,3-Dimethylbutane
10.776	VB		76.72652	5.14070e-2	3.94428		2-Methylpentane
11.079	VV		76.00097	5.22076e-2	3.96783		3-Methylpentane
11.211	VB		71.32300	5.50856e-2	3.92887		1-Hexene
11.443	BB		77.47338	5.22337e-2	4.04672		Hexane
11.995	VV		74.96255	5.21637e-2	3.91032		Methylcyclopentane
12.057	VB		91.97226	4.49272e-2	4.13206		2,4-Dimethylpentane
12.476	BB		73.39784	5.48877e-2	4.02864		Benzene
12.647	BB		79.93261	5.09033e-2	4.06884		Cyclohexane
12.770	BV		91.41798	4.45384e-2	4.07161		2-Methylhexane
12.816	VB		92.43341	4.41919e-2	4.08481		2,3-Dimethylpentane
12.935	BV		91.80650	4.41469e-2	4.05297		3-Methylhexane
13.191	VB		104.54989	3.87985e-2	4.05638		2,2,4-Trimethylpentane
13.357	VB		89.34102	4.60237e-2	4.11181		Heptane
13.789	BV		93.14744	4.43425e-2	4.13039		Methylcyclohexane
14.274	BB		104.12429	3.94610e-2	4.10885		2,3,4-Trimethylpentane
14.381	BV		82.69044	5.00187e-2	4.13607		Toluene
14.501	VB		105.12167	3.89937e-2	4.09908		2-Methylheptane
14.636	BB		106.21243	3.85897e-2	4.09871		3-Methylheptane
15.056	BB		101.19106	4.06911e-2	4.11758		Octane
15.945	BB	+	92.58153	4.47089e-2	4.13922		Ethylbenzene
16.084	BB		186.65273	4.45401e-2	8.31353		m&p-Xylene
16.367	VV		78.00184	5.28234e-2	4.12032		Styrene
16.452	VB		99.77090	4.13714e-2	4.12766		o-Xylene
16.624	BB		116.63319	3.21996e-2	3.75554		Nonane
16.935	VB		112.29856	3.56607e-2	4.00465		Isopropylbenzene
17.381	BV		104.29322	3.89259e-2	4.05971		n-Propylbenzene
17.477	VV		106.42969	3.87972e-2	4.12918		3-Ethyltoluene
17.514	VV		101.73764	3.89970e-2	3.96746		4-Ethyltoluene
17.587	VB		110.94202	3.73277e-2	4.14121		1,3,5-Trimethylbenzene
17.764	VB		109.56477	3.62433e-2	3.97099		2-Ethyltoluene
17.973	VV		106.05071	3.83166e-2	4.06350		1,2,4-Trimethylbenzene
18.078	VB		124.05306	3.21459e-2	3.98780		Decane
18.368	BV		110.67320	3.68419e-2	4.07742		1,2,3-Trimethylbenzene
18.660	VV		112.22218	3.50955e-2	3.93849		m-Diethylbenzene
18.745	VV		105.68023	3.68958e-2	3.89915		p-Diethylbenzene
19.256	BB	+	122.05131	3.27367e-2	3.99555		Undecane
20.209	VB		105.55869	3.61400e-2	3.81489		Dodecane

Totals : 225.08712

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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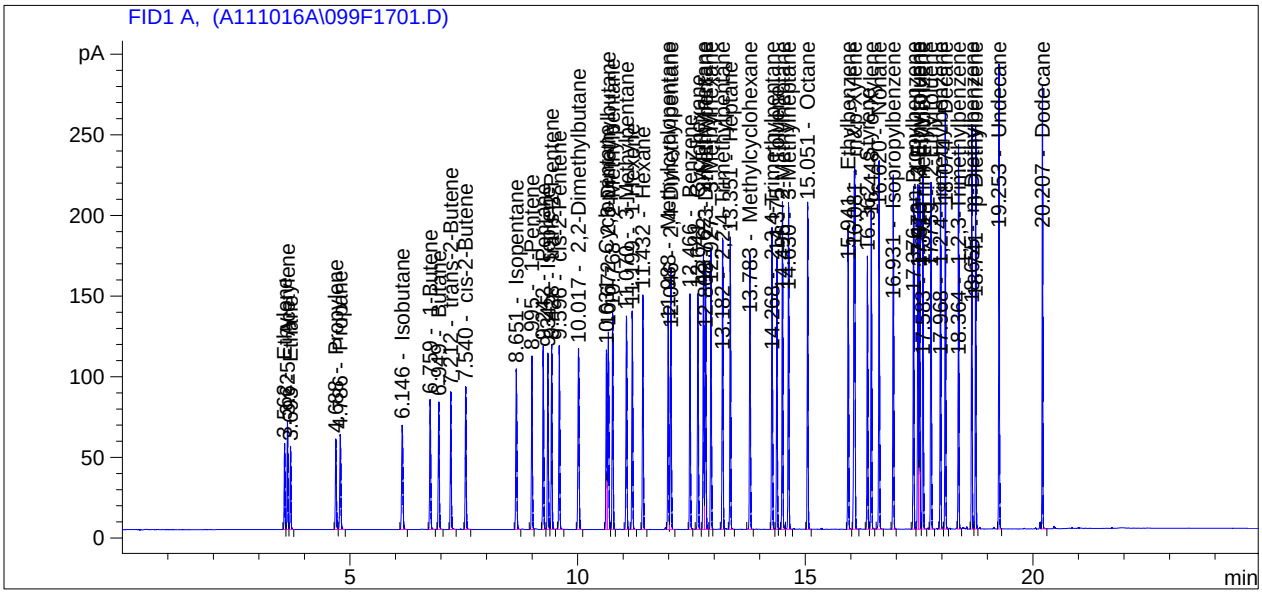
*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111016A\099F1701.D
Sample Name: TO14A Std #4 Std

```
================================================================================
Acq. Operator   : TDD                                 Seq. Line :  17
Acq. Instrument : Archie                               Location : Vial 99
Injection Date  : 11-Nov-16, 10:03:09                      Inj :   1
                                                     Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111016A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/11/2016 8:15:37 PM by TDD
Sample Info     : Can #000006; 50mL
```

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================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, November 11, 2016 8:15:26 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.562 BV       66.61786 1.56174e-1   10.40398     Ethylene
  3.625 VV       86.20090 1.30564e-1   11.25471     Acetylene
  3.693 VB       66.89126 1.43631e-1    9.60769     Ethane
  4.688 BV       85.70430 1.25238e-1   10.73347     Propylene
  4.786 VB       99.84650 1.06563e-1   10.63994     Propane
  6.146 BB   +  125.43132 8.64027e-2   10.83760     Isobutane
  6.759 BB      122.98853 8.70487e-2   10.70599     1-Butene
  6.949 BB      123.50918 8.82564e-2   10.90047     Butane
  7.212 BB      122.80769 7.95259e-2    9.76640     trans-2-Butene
  7.540 BB      129.76624 8.62054e-2   11.18655     cis-2-Butene
  8.651 BB      161.76270 6.70037e-2   10.83870     Isopentane
  8.995 BV      152.64000 6.71624e-2   10.25167     1-Pentene
  9.242 BV      160.92653 6.57885e-2   10.58711     Pentane
  9.345 VV      155.01070 6.92963e-2   10.74167     Isoprene
  9.428 VV      157.56635 6.95508e-2   10.95886     trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111016A\099F1701.D
Sample Name: TO14A Std #4 Std

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.596	VB		159.67450	6.77323e-2	10.81512		cis-2-Pentene
10.017	BB		197.14400	5.45100e-2	10.74631		2,2-Dimethylbutane
10.631	BV		163.21689	6.45958e-2	10.54313		Cyclopentane
10.672	VV		197.92570	5.23903e-2	10.36938		2,3-Dimethylbutane
10.768	VV		201.75099	5.14070e-2	10.37140		2-Methylpentane
11.070	VV		199.94221	5.22076e-2	10.43850		3-Methylpentane
11.199	VB		188.47856	5.50856e-2	10.38245		1-Hexene
11.432	BB		199.52046	5.22337e-2	10.42169		Hexane
11.988	VV		194.87672	5.21637e-2	10.16549		Methylcyclopentane
12.046	VB		235.71016	4.49272e-2	10.58980		2,4-Dimethylpentane
12.466	BV		192.75648	5.48877e-2	10.57995		Benzene
12.641	VV		205.78920	5.09033e-2	10.47535		Cyclohexane
12.762	VV		235.01923	4.45384e-2	10.46739		2-Methylhexane
12.808	VV		236.25774	4.41919e-2	10.44067		2,3-Dimethylpentane
12.927	VV		235.67892	4.41469e-2	10.40449		3-Methylhexane
13.182	VV		268.40323	3.87985e-2	10.41365		2,2,4-Trimethylpentane
13.351	VB		229.68614	4.60237e-2	10.57101		Heptane
13.783	BB		237.27859	4.43425e-2	10.52153		Methylcyclohexane
14.268	BV		265.26959	3.94610e-2	10.46779		2,3,4-Trimethylpentane
14.375	VV		211.85558	5.00187e-2	10.59674		Toluene
14.496	VV		266.00861	3.89937e-2	10.37267		2-Methylheptane
14.630	VB		269.12064	3.85897e-2	10.38529		3-Methylheptane
15.051	VB		256.32898	4.06911e-2	10.43031		Octane
15.941	BB	+	239.31918	4.47089e-2	10.69970		Ethylbenzene
16.081	BB		482.95621	4.45401e-2	21.51092		m&p-Xylene
16.362	VV		210.31714	5.28234e-2	11.10967		Styrene
16.448	VV		254.90240	4.13714e-2	10.54566		o-Xylene
16.620	VB		294.26077	3.21996e-2	9.47508		Nonane
16.931	VB		285.96164	3.56607e-2	10.19760		Isopropylbenzene
17.376	BV		272.93964	3.89259e-2	10.62442		n-Propylbenzene
17.473	VV		277.05750	3.87972e-2	10.74907		3-Ethyltoluene
17.510	VV		267.63535	3.89970e-2	10.43698		4-Ethyltoluene
17.583	VV		282.90128	3.73277e-2	10.56005		1,3,5-Trimethylbenzene
17.759	VB		280.52890	3.62433e-2	10.16729		2-Ethyltoluene
17.968	VV		272.69254	3.83166e-2	10.44865		1,2,4-Trimethylbenzene
18.074	VV		318.94397	3.21459e-2	10.25274		Decane
18.364	VV		281.06204	3.68419e-2	10.35487		1,2,3-Trimethylbenzene
18.655	VV		293.44635	3.50955e-2	10.29863		m-Diethylbenzene
18.741	VV		281.71750	3.68958e-2	10.39418		p-Diethylbenzene
19.253	BV	+	319.20016	3.27367e-2	10.44955		Undecane
20.207	VB		285.18567	3.61400e-2	10.30660		Dodecane

Totals : 598.96660

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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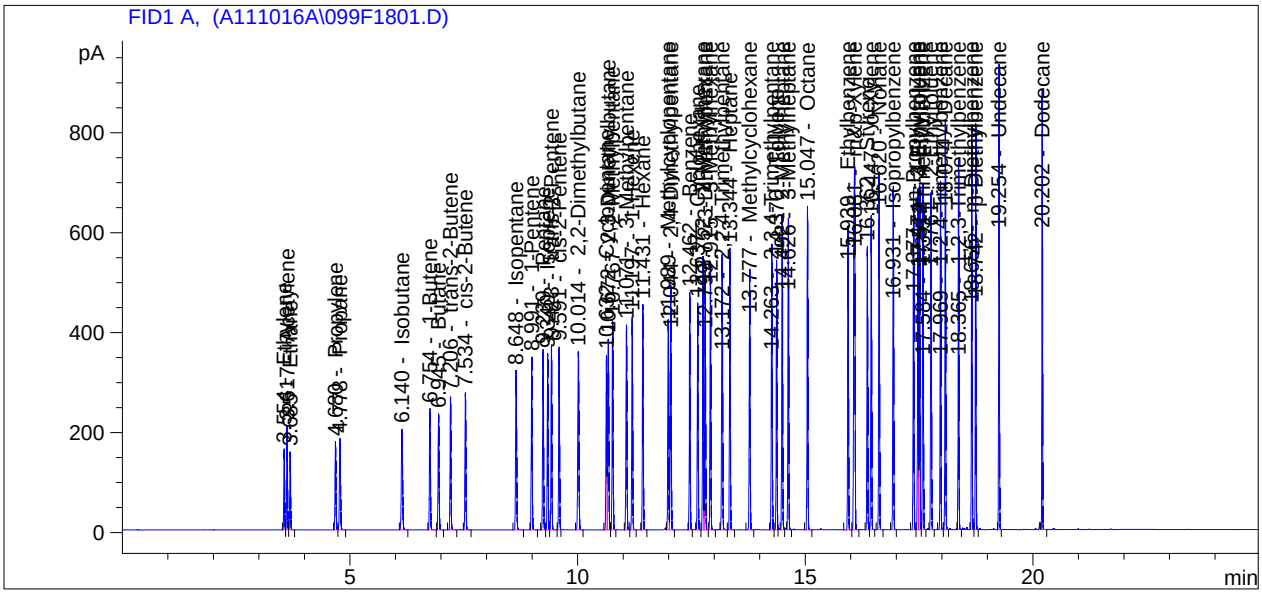
*** End of Report ***

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111016A\099F1801.D
Sample Name: TO14A Std #5 Std

```
==========================================================================
Acq. Operator   : TDD                                 Seq. Line :  18
Acq. Instrument : Archie                               Location : Vial 99
Injection Date  : 11-Nov-16, 10:47:54                      Inj :   1
                                                    Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111016A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/11/2016 8:15:37 PM by TDD
Sample Info     : Can #000006; 125mL
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, November 11, 2016 8:15:26 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.554	BV		203.16969	1.56174e-1	31.72985		Ethylene
3.617	VV		265.10162	1.30564e-1	34.61265		Acetylene
3.685	VB		202.26199	1.43631e-1	29.05119		Ethane
4.680	BV		264.40128	1.25238e-1	33.11321		Propylene
4.778	VB		307.42072	1.06563e-1	32.75966		Propane
6.140	BB	+	388.64188	8.64027e-2	33.57970		Isobutane
6.754	BB		364.16708	8.70487e-2	31.70028		1-Butene
6.945	BB		359.96719	8.82564e-2	31.76940		Butane
7.206	BB		373.73724	7.95259e-2	29.72181		trans-2-Butene
7.534	BB		398.00687	8.62054e-2	34.31033		cis-2-Butene
8.648	BB		514.99652	6.70037e-2	34.50668		Isopentane
8.991	BB		488.69125	6.71624e-2	32.82168		1-Pentene
9.239	VV		511.10223	6.57885e-2	33.62463		Pentane
9.340	VV		492.76096	6.92963e-2	34.14650		Isoprene
9.423	VV		503.17017	6.95508e-2	34.99588		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111016A\099F1801.D
Sample Name: TO14A Std #5 Std

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.591	VV		505.22754	6.77323e-2	34.22022		cis-2-Pentene
10.014	VB		620.58545	5.45100e-2	33.82808		2,2-Dimethylbutane
10.632	BV		514.61664	6.45958e-2	33.24208		Cyclopentane
10.672	VV		617.21356	5.23903e-2	32.33598		2,3-Dimethylbutane
10.767	VV		627.18262	5.14070e-2	32.24155		2-Methylpentane
11.071	BV		620.71436	5.22076e-2	32.40600		3-Methylpentane
11.197	VB		587.53375	5.50856e-2	32.36463		1-Hexene
11.431	BB		616.66876	5.22337e-2	32.21089		Hexane
11.989	VV		600.97913	5.21637e-2	31.34929		Methylcyclopentane
12.044	VB		719.52875	4.49272e-2	32.32641		2,4-Dimethylpentane
12.462	BV		602.94415	5.48877e-2	33.09419		Benzene
12.637	VV		631.40521	5.09033e-2	32.14062		Cyclohexane
12.752	VV		719.52795	4.45384e-2	32.04665		2-Methylhexane
12.799	VV		721.13281	4.41919e-2	31.86821		2,3-Dimethylpentane
12.915	VB		721.88464	4.41469e-2	31.86894		3-Methylhexane
13.172	VV		822.91168	3.87985e-2	31.92777		2,2,4-Trimethylpentane
13.344	VB		713.40753	4.60237e-2	32.83368		Heptane
13.777	BB		723.39771	4.43425e-2	32.07727		Methylcyclohexane
14.263	VV		815.20215	3.94610e-2	32.16867		2,3,4-Trimethylpentane
14.370	VV		680.31903	5.00187e-2	34.02867		Toluene
14.492	VV		825.35358	3.89937e-2	32.18361		2-Methylheptane
14.626	VV		830.00214	3.85897e-2	32.02956		3-Methylheptane
15.047	VB		808.21838	4.06911e-2	32.88732		Octane
15.939	VV	+	770.53821	4.47089e-2	34.44992		Ethylbenzene
16.081	VV		1549.11792	4.45401e-2	68.99787		m&p-Xylene
16.362	VV		707.07104	5.28234e-2	37.34990		Styrene
16.447	VV		803.16711	4.13714e-2	33.22813		o-Xylene
16.620	VV		909.20264	3.21996e-2	29.27597		Nonane
16.931	VB		896.08038	3.56607e-2	31.95489		Isopropylbenzene
17.377	VV		875.36554	3.89259e-2	34.07438		n-Propylbenzene
17.474	VV		882.00836	3.87972e-2	34.21949		3-Ethyltoluene
17.512	VV		862.12781	3.89970e-2	33.62040		4-Ethyltoluene
17.584	VB		883.19617	3.73277e-2	32.96767		1,3,5-Trimethylbenzene
17.761	VV		881.14386	3.62433e-2	31.93554		2-Ethyltoluene
17.969	VV		861.97040	3.83166e-2	33.02777		1,2,4-Trimethylbenzene
18.074	VV		1006.28784	3.21459e-2	32.34803		Decane
18.365	VV		878.54114	3.68419e-2	32.36716		1,2,3-Trimethylbenzene
18.656	VV		942.69452	3.50955e-2	33.08429		m-Diethylbenzene
18.742	VV		920.06110	3.68958e-2	33.94635		p-Diethylbenzene
19.254	BV	+	1029.57104	3.27367e-2	33.70474		Undecane
20.202	VB		900.34143	3.61400e-2	32.53831		Dodecane

Totals : 1873.21453

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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*** End of Report ***

Company	In-House
Analyst	TDD
Parameters	EPA Method TO14A

Client #	NA
Job #	A111016A
# Samples	NA

Sample ID: TO14A Std #4 ICV
Project #: A111016A
Lab ID: A111016A TO14A Std #4 ICV
Datafile: 099F1901.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 26-Aug-16, 21:14:27

Compound	Conc as Analyzed (ppbV)	Tag Value	% Recovery	Pass/Fail
Ethylene	4.31	3.92	110.1	PASS
Acetylene	4.27	3.92	108.9	PASS
Ethane	4.06	3.95	102.8	PASS
Propylene	4.16	3.84	108.2	PASS
Propane	4.15	3.84	108.0	PASS
Isobutane	3.86	3.76	102.7	PASS
1-Butene	3.80	3.76	101.1	PASS
Butane	3.75	3.76	99.7	PASS
trans-2-Butene	3.57	3.72	96.0	PASS
cis-2-Butene	3.96	4.00	99.0	PASS
Isopentane	3.49	3.80	91.9	PASS
1-Pentene	3.54	3.76	94.1	PASS
Pentane	3.55	3.84	92.4	PASS
Isoprene	3.66	3.88	94.3	PASS
trans-2-Pentene	3.82	4.00	95.6	PASS
cis-2-Pentene	3.73	3.96	94.1	PASS
2,2-Dimethylbutane	3.49	3.88	90.0	PASS
Cyclopentane	3.33	3.80	87.7	PASS
2,3-Dimethylbutane	3.38	3.88	87.0	PASS
2-Methylpentane	3.42	3.84	89.2	PASS
3-Methylpentane	3.41	3.92	87.1	PASS
1-Hexene	3.50	3.84	91.1	PASS
Hexane	3.57	3.88	91.9	PASS
Methylcyclopentane	3.31	3.76	88.0	PASS
2,4-Dimethylpentane	3.69	3.96	93.2	PASS
Benzene	3.55	3.96	89.6	PASS
Cyclohexane	3.44	4.00	86.1	PASS
2-Methylhexane	3.82	3.92	97.3	PASS
2,3-Dimethylpentane	3.75	3.92	95.6	PASS
3-Methylhexane	3.81	3.92	97.2	PASS
2,2,4-Trimethylpentane	3.85	3.92	98.2	PASS
Heptane	3.99	3.96	100.7	PASS
Methylcyclohexane	3.85	3.96	97.2	PASS
2,3,4-Trimethylpentane	3.99	3.96	100.7	PASS
Toluene	3.99	3.96	100.8	PASS
2-Methylheptane	4.05	3.92	103.2	PASS
3-Methylheptane	4.02	3.92	102.6	PASS
Octane	4.17	3.92	106.3	PASS

Company	In-House
Analyst	TDD
Parameters	EPA Method TO14A

Client #	NA
Job #	A111016A
# Samples	NA

Sample ID: TO14A Std #4 ICV
Project #: A111016A
Lab ID: A111016A TO14A Std #4 ICV
Datafile: 099F1901.D

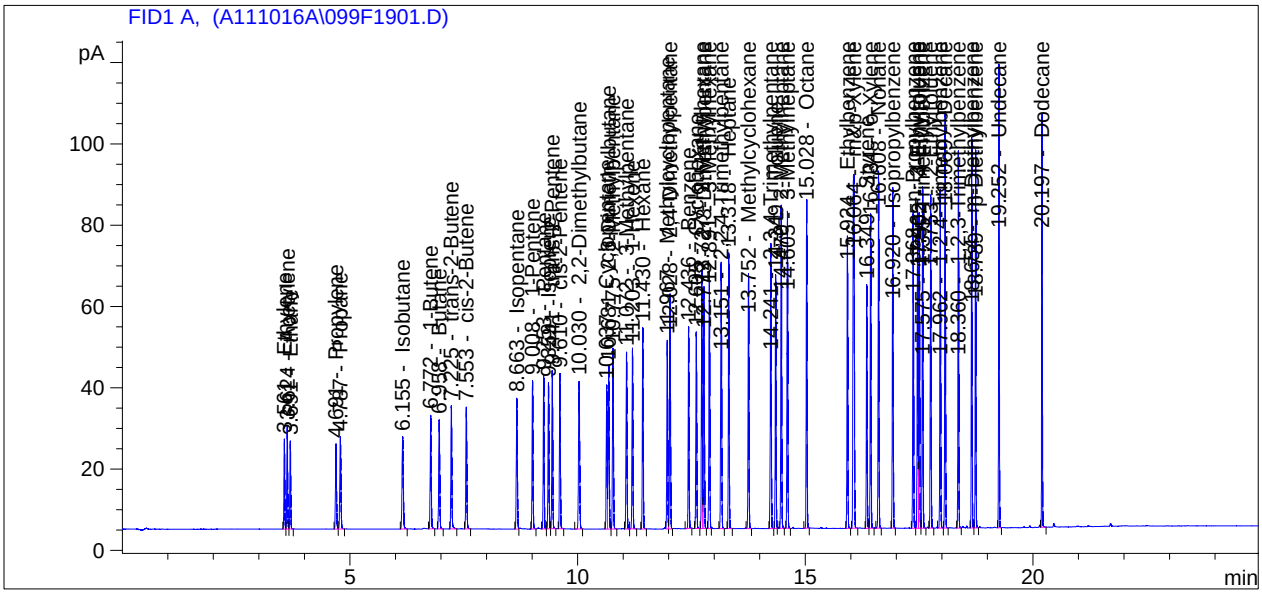
Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00

Time Stamp: 26-Aug-16, 21:14:27

Compound	Conc as Analyzed (ppbV)	Tag Value	% Recovery	Pass/Fail
Ethylbenzene	4.13	3.92	105.3	PASS
m&p-Xylene	8.28	7.84	105.6	PASS
Styrene	3.99	3.88	102.9	PASS
o-Xylene	4.10	3.92	104.7	PASS
Nonane	3.63	3.88	93.6	PASS
Isopropylbenzene	3.92	3.80	103.0	PASS
n-Propylbenzene	3.94	3.80	103.8	PASS
3-Ethyltoluene	4.03	3.92	102.9	PASS
4-Ethyltoluene	3.85	3.72	103.6	PASS
1,3,5-Trimethylbenzene	4.08	3.92	104.2	PASS
2-Ethyltoluene	3.91	3.76	104.0	PASS
1,2,4-Trimethylbenzene	4.02	3.92	102.5	PASS
Decane	3.99	3.76	106.2	PASS
1,2,3-Trimethylbenzene	4.07	3.88	105.0	PASS
m-Diethylbenzene	3.94	3.72	106.0	PASS
p-Diethylbenzene	3.89	3.68	105.6	PASS
Undecane	4.01	3.76	106.5	PASS
Dodecane	3.68	3.64	101.2	PASS

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111016A\099F1901.D
Sample Name: TO14A Std #3 ICV

```
==========================================================================
Acq. Operator   : TDD                                 Seq. Line :  19
Acq. Instrument : Archie                               Location : Vial 99
Injection Date  : 11-Nov-16, 11:25:44                      Inj :   1
                                                    Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111016A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/11/2016 8:15:37 PM by TDD
Sample Info     : Can #000006; 375mL
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Friday, November 11, 2016 8:15:26 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppbv]
-------|------|----------|----------|----------|--|------------------
  3.561 BV       27.62360 1.56174e-1    4.31409    Ethylene
  3.624 VV       32.68306 1.30564e-1    4.26722    Acetylene
  3.691 VB       28.29774 1.43631e-1    4.06445    Ethane
  4.691 BV       33.19044 1.25238e-1    4.15672    Propylene
  4.787 VB       38.93216 1.06563e-1    4.14873    Propane
  6.155 BB   +   44.67178 8.64027e-2    3.85976    Isobutane
  6.772 VB       43.67394 8.70487e-2    3.80176    1-Butene
  6.958 BB       42.49567 8.82564e-2    3.75051    Butane
  7.225 BB       44.89235 7.95259e-2    3.57011    trans-2-Butene
  7.553 BB       45.93747 8.62054e-2    3.96006    cis-2-Butene
  8.663 BV       52.11359 6.70037e-2    3.49180    Isopentane
  9.008 BB       52.67081 6.71624e-2    3.53750    1-Pentene
  9.253 VV       53.91976 6.57885e-2    3.54730    Pentane
  9.359 VV       52.82759 6.92963e-2    3.66076    Isoprene
  9.441 VB       54.96696 6.95508e-2    3.82299    trans-2-Pentene
```

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111016A\099F1901.D
Sample Name: TO14A Std #3 ICV

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.610	BB		55.04437	6.77323e-2	3.72828		cis-2-Pentene
10.030	BB		64.07491	5.45100e-2	3.49272		2,2-Dimethylbutane
10.637	BV		51.59772	6.45958e-2	3.33300		Cyclopentane
10.681	VV		64.44013	5.23903e-2	3.37604		2,3-Dimethylbutane
10.775	VB		66.60719	5.14070e-2	3.42407		2-Methylpentane
11.072	VV		65.36597	5.22076e-2	3.41260		3-Methylpentane
11.203	VB		63.47358	5.50856e-2	3.49648		1-Hexene
11.430	BB		68.30011	5.22337e-2	3.56757		Hexane
11.967	VV		63.39767	5.21637e-2	3.30706		Methylcyclopentane
12.028	VB		82.12717	4.49272e-2	3.68974		2,4-Dimethylpentane
12.436	BB		64.64328	5.48877e-2	3.54812		Benzene
12.605	BB		67.67528	5.09033e-2	3.44490		Cyclohexane
12.727	BV		85.67548	4.45384e-2	3.81585		2-Methylhexane
12.773	VB		84.80253	4.41919e-2	3.74758		2,3-Dimethylpentane
12.891	BV		86.26591	4.41469e-2	3.80837		3-Methylhexane
13.151	VB		99.18379	3.87985e-2	3.84819		2,2,4-Trimethylpentane
13.318	VB		86.65845	4.60237e-2	3.98835		Heptane
13.752	VB		86.80999	4.43425e-2	3.84937		Methylcyclohexane
14.241	BB		101.08829	3.94610e-2	3.98904		2,3,4-Trimethylpentane
14.349	BV		79.83916	5.00187e-2	3.99345		Toluene
14.470	VB		103.74691	3.89937e-2	4.04548		2-Methylheptane
14.605	BB		104.25539	3.85897e-2	4.02319		3-Methylheptane
15.028	BB		102.38720	4.06911e-2	4.16625		Octane
15.924	BB	+	92.31176	4.47089e-2	4.12716		Ethylbenzene
16.064	BB		185.90112	4.45401e-2	8.28005		m&p-Xylene
16.349	BV		75.55775	5.28234e-2	3.99122		Styrene
16.434	VV		99.19677	4.13714e-2	4.10391		o-Xylene
16.608	VB		112.74271	3.21996e-2	3.63027		Nonane
16.920	BB		109.79868	3.56607e-2	3.91550		Isopropylbenzene
17.368	BV		101.31960	3.89259e-2	3.94395		n-Propylbenzene
17.465	VV		103.92001	3.87972e-2	4.03181		3-Ethyltoluene
17.502	VV		98.82565	3.89970e-2	3.85390		4-Ethyltoluene
17.575	VB		109.40037	3.73277e-2	4.08366		1,3,5-Trimethylbenzene
17.753	VB		107.90176	3.62433e-2	3.91071		2-Ethyltoluene
17.962	VV		104.89291	3.83166e-2	4.01914		1,2,4-Trimethylbenzene
18.069	VB		124.22998	3.21459e-2	3.99348		Decane
18.360	VV		110.57732	3.68419e-2	4.07388		1,2,3-Trimethylbenzene
18.654	BV		112.37550	3.50955e-2	3.94387		m-Diethylbenzene
18.739	VB		105.32246	3.68958e-2	3.88595		p-Diethylbenzene
19.252	BV	+	122.34610	3.27367e-2	4.00520		Undecane
20.197	VB		101.93275	3.61400e-2	3.68385		Dodecane

Totals : 218.52697

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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*** End of Report ***

Peak #	Compound	TO14A Std #1 RT Marker 096F1401.D A111016A	TO14A Std #3 RT Marker 096F1601.D A111016A	TO14A Std #3 ICV RT Marker 099F1901.D A111016A	AVG RT	STD DEV	Lower RT	Upper RT
1	Ethylene	3.55	3.57	3.56	3.56	0.00850	3.53	3.58
2	Acetylene	3.61	3.63	3.62	3.62	0.009312	3.59	3.65
3	Ethane	3.68	3.70	3.69	3.69	0.008828	3.66	3.72
4	Propylene	4.69	4.69	4.69	4.69	0.00419	4.68	4.70
5	Propane	4.78	4.79	4.79	4.79	0.00541	4.77	4.80
6	Isobutane	6.16	6.16	6.16	6.16	0.00096	6.15	6.16
7	1-Butene	6.78	6.77	6.77	6.78	0.00753	6.75	6.80
8	Butane	6.96	6.96	6.96	6.96	0.00306	6.95	6.97
9	trans-2-Butene	7.24	7.22	7.22	7.23	0.00732	7.21	7.25
10	cis-2-Butene	7.56	7.55	7.55	7.56	0.00737	7.53	7.58
11	Isopentane	8.68	8.66	8.66	8.67	0.00882	8.64	8.69
12	1-Pentene	9.02	9.01	9.01	9.01	0.00969	8.98	9.04
13	Pentane	9.27	9.25	9.25	9.26	0.00759	9.23	9.28
14	Isoprene	9.37	9.36	9.36	9.36	0.00866	9.34	9.39
15	trans-2-Pentene	9.45	9.44	9.44	9.44	0.00717	9.42	9.47
16	cis-2-Pentene	9.62	9.61	9.61	9.61	0.00745	9.59	9.63
17	2,2-Dimethylbutane	10.05	10.03	10.03	10.03	0.01056	10.0	10.1
18	Cyclopentane	10.64	10.64	10.64	10.64	0.00412	10.6	10.7
19	2,3-Dimethylbutane	10.70	10.68	10.68	10.69	0.0120	10.7	10.7
20	2-Methylpentane	10.8	10.8	10.8	10.8	0.0130	10.7	10.8
21	3-Methylpentane	11.1	11.1	11.1	11.1	0.0133	11.0	11.1
22	1-Hexene	11.2	11.2	11.2	11.2	0.0175	11.2	11.3
23	Hexane	11.5	11.4	11.4	11.4	0.0147	11.4	11.5
24	Methylcyclopentane	12.0	12.0	12.0	12.0	0.0187	11.9	12.0
25	2,4-Dimethylpentane	12.1	12.1	12.0	12.1	0.0228	12.0	12.1
26	Benzene	12.5	12.5	12.4	12.5	0.0239	12.4	12.5
27	Cyclohexane	12.6	12.6	12.6	12.6	0.0227	12.6	12.7
28	2-Methylhexane	12.8	12.8	12.7	12.8	0.0239	12.7	12.8
29	2,3-Dimethylpentane	12.8	12.8	12.8	12.8	0.0238	12.7	12.9
30	3-Methylhexane	12.9	12.9	12.9	12.9	0.0237	12.8	13.0
31	2,2,4-Trimethylpentane	13.2	13.2	13.2	13.2	0.0232	13.1	13.2
32	Heptane	13.4	13.4	13.3	13.3	0.0213	13.3	13.4
33	Methylcyclohexane	13.8	13.8	13.8	13.8	0.0196	13.7	13.8
34	2,3,4-Trimethylpentane	14.3	14.3	14.2	14.3	0.0182	14.2	14.3
35	Toluene	14.4	14.4	14.3	14.4	0.0181	14.3	14.4
36	2-Methylheptane	14.5	14.5	14.5	14.5	0.0172	14.4	14.5
37	3-Methylheptane	14.6	14.6	14.6	14.6	0.0166	14.6	14.7
38	Octane	15.1	15.1	15.0	15.0	0.0149	15.0	15.1
39	Ethylbenzene	15.9	15.9	15.9	15.9	0.01203	15.9	16.0
40	m&p-Xylene	16.1	16.1	16.1	16.1	0.01024	16.0	16.1
41	Styrene	16.4	16.4	16.3	16.4	0.01104	16.3	16.4
42	o-Xylene	16.5	16.5	16.4	16.4	0.01050	16.4	16.5
43	Nonane	16.6	16.6	16.6	16.6	0.00897	16.6	16.6
44	Isopropylbenzene	16.9	16.9	16.9	16.9	0.00938	16.9	17.0
45	n-Propylbenzene	17.4	17.4	17.4	17.4	0.00770	17.4	17.4
46	3-Ethyltoluene	17.5	17.5	17.5	17.5	0.00729	17.5	17.5
47	4-Ethyltoluene	17.5	17.5	17.5	17.5	0.00727	17.5	17.5
48	1,3,5-Trimethylbenzene	17.6	17.6	17.6	17.6	0.00710	17.6	17.6
49	2-Ethyltoluene	17.8	17.8	17.8	17.8	0.00695	17.7	17.8
50	1,2,4-Trimethylbenzene	18.0	18.0	18.0	18.0	0.00625	18.0	18.0
51	1,2,3-Trimethylbenzene	18.1	18.1	18.1	18.1	0.00506	18.1	18.1
52	Decane	18.4	18.4	18.4	18.4	0.00503	18.4	18.4
53	m-Diethylbenzene	18.7	18.7	18.7	18.7	0.00385	18.6	18.7
54	p-Diethylbenzene	18.7	18.7	18.7	18.7	0.00364	18.7	18.8
55	Undecane	19.3	19.3	19.3	19.3	0.00230	19.2	19.3
56	Dodecane	20.2	20.2	20.2	20.2	0.00569	20.2	20.2

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: TO14A Std #3 CCV
Project #: 1016-55
Lab ID: 1016-55 TO14A Std #3 CCV
Datafile: 099F0301.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00
Time Stamp: 14-Nov-16, 09:02:55

Compound	Conc as Analyzed (ppbV)	Area	Tag Value (ppbV)	CCAL RF	ICAL RRF	%D
Ethylene	4.40	28.2	3.92	0.139	0.157	11.3
Acetylene	4.67	35.8	3.92	0.110	0.135	18.5
Ethane	4.13	28.7	3.95	0.138	0.144	4.6
Propylene	4.53	36.1	3.84	0.106	0.127	16.4
Propane	4.48	42.0	3.84	0.0914	0.108	15.3
Isobutane	4.62	53.5	3.76	0.0703	0.0882	20.3
1-Butene	4.61	52.9	3.76	0.0711	0.0881	19.3
Butane	4.72	53.5	3.76	0.0703	0.0895	21.4
trans-2-Butene	4.28	53.8	3.72	0.0691	0.0799	13.5
cis-2-Butene	4.87	56.5	4.00	0.0708	0.0872	18.9
Isopentane	4.84	72.2	3.80	0.0526	0.0684	23.1
1-Pentene	4.53	67.4	3.76	0.0558	0.0680	18.0
Pentane	4.68	71.1	3.84	0.0540	0.0668	19.1
Isoprene	4.73	68.2	3.88	0.0569	0.0705	19.3
trans-2-Pentene	4.82	69.3	4.00	0.0577	0.0706	18.3
cis-2-Pentene	4.77	70.4	3.96	0.0562	0.0686	18.1
2,2-Dimethylbutane	4.75	87.1	3.88	0.0445	0.0554	19.6
Cyclopentane	4.64	71.8	3.80	0.0529	0.0656	19.4
2,3-Dimethylbutane	4.58	87.5	3.88	0.0443	0.0529	16.2
2-Methylpentane	4.54	88.4	3.84	0.0435	0.0520	16.4
3-Methylpentane	4.56	87.4	3.92	0.0448	0.0527	14.9
1-Hexene	4.50	81.6	3.84	0.0471	0.0557	15.5
Hexane	4.52	86.4	3.88	0.0449	0.0527	14.9
Methylcyclopentane	4.43	84.9	3.76	0.0443	0.0528	16.0
2,4-Dimethylpentane	4.59	102	3.96	0.0388	0.0453	14.4
Benzene	4.51	82.2	3.96	0.0482	0.0554	13.0
Cyclohexane	4.56	89.5	4.00	0.0447	0.0516	13.5
2-Methylhexane	4.52	101	3.92	0.0386	0.0449	13.9
2,3-Dimethylpentane	4.52	102	3.92	0.0383	0.0445	13.9
3-Methylhexane	4.49	102	3.92	0.0385	0.0444	13.3
2,2,4-Trimethylpentane	4.50	116	3.92	0.0338	0.0390	13.5
Heptane	4.51	97.9	3.96	0.0404	0.0464	12.8
Methylcyclohexane	4.56	103	3.96	0.0385	0.0446	13.7
2,3,4-Trimethylpentane	4.49	114	3.96	0.0348	0.0397	12.2
Toluene	4.43	88.6	3.96	0.0447	0.0507	11.8
2-Methylheptane	4.40	113	3.92	0.0347	0.0393	11.6
3-Methylheptane	4.40	114	3.92	0.0344	0.0389	11.6
Octane	4.38	108	3.92	0.0364	0.0411	11.4

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: TO14A Std #3 CCV
Project #: 1016-55
Lab ID: 1016-55 TO14A Std #3 CCV
Datafile: 099F0301.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00
Time Stamp: 14-Nov-16, 09:02:55

Compound	Conc as Analyzed (ppbV)	Area	Tag Value (ppbV)	CCAL RF	ICAL RRF	%D
Ethylbenzene	4.39	98.3	3.92	0.0399	0.0456	12.5
m&p-Xylene	8.82	198	7.84	0.0396	0.0455	13.0
Styrene	4.33	82.0	3.88	0.0473	0.0554	14.6
o-Xylene	4.39	106	3.92	0.0370	0.0419	11.8
Nonane	4.13	128	3.88	0.0302	0.0322	6.2
Isopropylbenzene	4.26	119	3.80	0.0318	0.0361	11.8
n-Propylbenzene	4.31	111	3.80	0.0343	0.0400	14.2
3-Ethyltoluene	4.40	113	3.92	0.0346	0.0395	12.5
4-Ethyltoluene	4.21	108	3.72	0.0344	0.0402	14.3
1,3,5-Trimethylbenzene	4.40	118	3.92	0.0333	0.0378	12.0
2-Ethyltoluene	4.21	116	3.76	0.0323	0.0367	11.9
1,2,4-Trimethylbenzene	4.32	113	3.92	0.0348	0.0387	10.0
Decane	4.24	132	3.76	0.0285	0.0327	12.8
1,2,3-Trimethylbenzene	4.31	117	3.88	0.0332	0.0372	10.7
m-Diethylbenzene	4.17	119	3.72	0.0313	0.0359	12.9
p-Diethylbenzene	4.14	112	3.68	0.0328	0.0382	14.1
Undecane	4.28	131	3.76	0.0288	0.0336	14.4
Dodecane	4.21	117	3.64	0.0312	0.0371	15.9

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\099F0301.D
Sample Name: TO14A Std #3 CCV

```
==========================================================================
Acq. Operator    : TDD                                Seq. Line :   3
Acq. Instrument  : Archie                              Location : Vial 99
Injection Date   : 14-Nov-16, 09:02:55                     Inj :   1
                                                     Inj Volume : Manually
Sequence File    : C:\GC2016Q4\ARCHIE\SEQUENCE\A111416A.S
Acq. Method      : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed     : 11/28/2014 10:08:25 AM by DBS
Analysis Method  : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed     : 11/21/2016 8:58:30 PM by TDD
Sample Info      : Can #000006; 50mL
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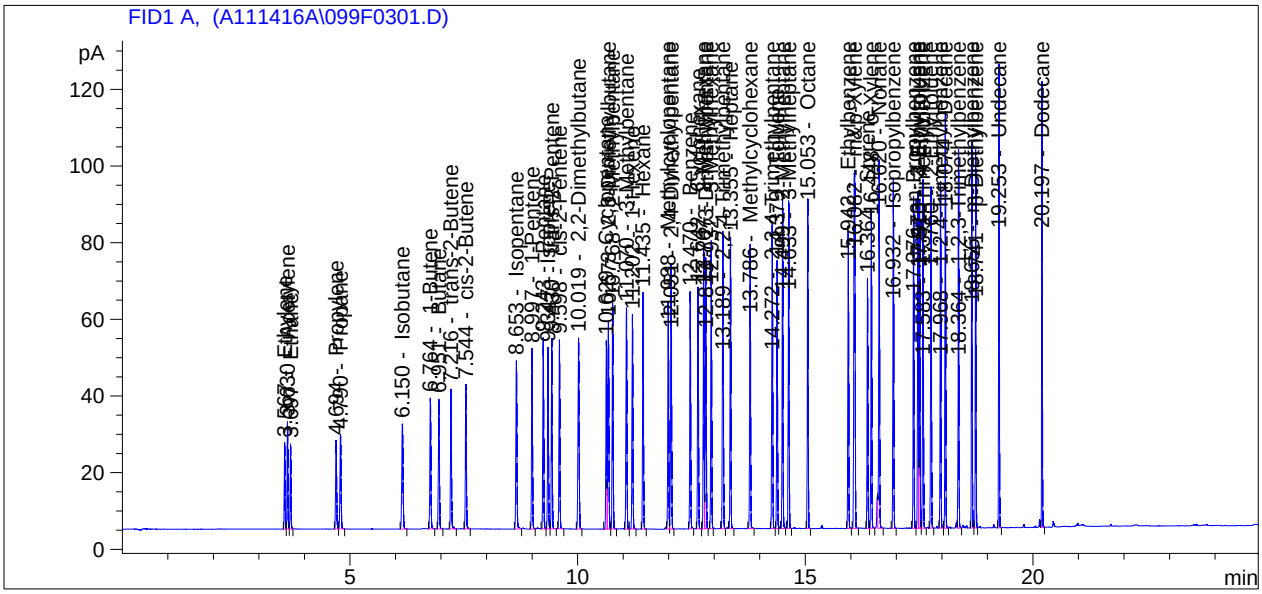


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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:56:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.567	BV		28.16941	1.56174e-1	4.39933		Ethylene
3.630	VV		35.75102	1.30564e-1	4.66779		Acetylene
3.697	VB		28.73833	1.43631e-1	4.12773		Ethane
4.694	BV		36.13695	1.25238e-1	4.52574		Propylene
4.790	VB		42.03006	1.06563e-1	4.47885		Propane
6.150	BB	+	53.50332	8.64027e-2	4.62283		Isobutane
6.764	BB		52.90965	8.70487e-2	4.60572		1-Butene
6.951	BB		53.45407	8.82564e-2	4.71766		Butane
7.216	BB		53.81406	7.95259e-2	4.27961		trans-2-Butene
7.544	BB		56.52374	8.62054e-2	4.87265		cis-2-Butene
8.653	BV		72.21804	6.70037e-2	4.83888		Isopentane
8.997	BB		67.41915	6.71624e-2	4.52803		1-Pentene
9.243	VV		71.06717	6.57885e-2	4.67540		Pentane
9.347	VV		68.23953	6.92963e-2	4.72875		Isoprene
9.430	VB		69.33310	6.95508e-2	4.82217		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\099F0301.D
Sample Name: TO14A Std #3 CCV

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.598	BB		70.41624	6.77323e-2	4.76945		cis-2-Pentene
10.019	BB		87.09512	5.45100e-2	4.74755		2,2-Dimethylbutane
10.629	BV		71.82845	6.45958e-2	4.63982		Cyclopentane
10.673	VV		87.51467	5.23903e-2	4.58492		2,3-Dimethylbutane
10.768	VB		88.37108	5.14070e-2	4.54289		2-Methylpentane
11.070	VV		87.42621	5.22076e-2	4.56431		3-Methylpentane
11.202	VB		81.61121	5.50856e-2	4.49560		1-Hexene
11.435	BB		86.44846	5.22337e-2	4.51552		Hexane
11.988	VV		84.85857	5.21637e-2	4.42654		Methylcyclopentane
12.051	VB		102.12103	4.49272e-2	4.58801		2,4-Dimethylpentane
12.470	BB		82.21692	5.48877e-2	4.51269		Benzene
12.642	BV		89.49665	5.09033e-2	4.55568		Cyclohexane
12.767	VV		101.48634	4.45384e-2	4.52004		2-Methylhexane
12.813	VB		102.31031	4.41919e-2	4.52128		2,3-Dimethylpentane
12.932	BV		101.76888	4.41469e-2	4.49278		3-Methylhexane
13.189	VV		116.10516	3.87985e-2	4.50471		2,2,4-Trimethylpentane
13.355	VB		97.90314	4.60237e-2	4.50587		Heptane
13.786	BB		102.80205	4.43425e-2	4.55850		Methylcyclohexane
14.272	BB		113.68326	3.94610e-2	4.48605		2,3,4-Trimethylpentane
14.379	BV		88.61224	5.00187e-2	4.43227		Toluene
14.499	VB		112.85303	3.89937e-2	4.40056		2-Methylheptane
14.633	BB		114.08710	3.85897e-2	4.40259		3-Methylheptane
15.053	VB		107.68016	4.06911e-2	4.38163		Octane
15.942	BB	+	98.30073	4.47089e-2	4.39492		Ethylbenzene
16.082	BB		198.10085	4.45401e-2	8.82343		m&p-Xylene
16.364	BV		82.03229	5.28234e-2	4.33322		Styrene
16.448	VB		106.08616	4.13714e-2	4.38893		o-Xylene
16.620	VB		128.33374	3.21996e-2	4.13230		Nonane
16.932	VB		119.43513	3.56607e-2	4.25915		Isopropylbenzene
17.376	BV		110.70456	3.89259e-2	4.30927		n-Propylbenzene
17.473	VV		113.35518	3.87972e-2	4.39787		3-Ethyltoluene
17.510	VV		108.00358	3.89970e-2	4.21182		4-Ethyltoluene
17.583	VB		117.89379	3.73277e-2	4.40070		1,3,5-Trimethylbenzene
17.760	VB		116.23471	3.62433e-2	4.21273		2-Ethyltoluene
17.968	VV		112.64076	3.83166e-2	4.31601		1,2,4-Trimethylbenzene
18.074	VB		131.95267	3.21459e-2	4.24174		Decane
18.364	VV		116.86253	3.68419e-2	4.30544		1,2,3-Trimethylbenzene
18.656	BV		118.89138	3.50955e-2	4.17255		m-Diethylbenzene
18.741	VV		112.19545	3.68958e-2	4.13954		p-Diethylbenzene
19.253	BB	+	130.69002	3.27367e-2	4.27836		Undecane
20.197	VB		116.56458	3.61400e-2	4.21264		Dodecane

Totals : 254.57099

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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*** End of Report ***

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: TO14A Std #3 CCV
Project #: 1016-55
Lab ID: 1016-55 TO14A Std #3 CCV
Datafile: 099F2201.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00
Time Stamp: 14-Nov-16, 22:30:00

Compound	Conc as Analyzed (ppbV)	Area	Tag Value (ppbV)	CCAL RF	ICAL RRF	%D
Ethylene	4.40	28.2	3.92	0.139	0.157	11.4
Acetylene	4.68	35.8	3.92	0.109	0.135	18.7
Ethane	4.14	28.8	3.95	0.137	0.144	4.8
Propylene	4.53	36.2	3.84	0.106	0.127	16.6
Propane	4.49	42.1	3.84	0.0911	0.108	15.5
Isobutane	4.63	53.6	3.76	0.0702	0.0882	20.5
1-Butene	4.60	52.8	3.76	0.0712	0.0881	19.2
Butane	4.71	53.3	3.76	0.0705	0.0895	21.2
trans-2-Butene	4.22	53.1	3.72	0.0700	0.0799	12.3
cis-2-Butene	4.85	56.3	4.00	0.0711	0.0872	18.5
Isopentane	4.74	70.7	3.80	0.0537	0.0684	21.5
1-Pentene	4.52	67.3	3.76	0.0559	0.0680	17.8
Pentane	4.66	70.8	3.84	0.0542	0.0668	18.8
Isoprene	4.72	68.0	3.88	0.0570	0.0705	19.1
trans-2-Pentene	4.81	69.1	4.00	0.0579	0.0706	18.1
cis-2-Pentene	4.77	70.4	3.96	0.0563	0.0686	18.0
2,2-Dimethylbutane	4.74	86.9	3.88	0.0447	0.0554	19.4
Cyclopentane	4.63	71.6	3.80	0.0531	0.0656	19.1
2,3-Dimethylbutane	4.57	87.3	3.88	0.0445	0.0529	15.9
2-Methylpentane	4.54	88.3	3.84	0.0435	0.0520	16.3
3-Methylpentane	4.56	87.3	3.92	0.0449	0.0527	14.8
1-Hexene	4.52	82.0	3.84	0.0468	0.0557	15.9
Hexane	4.53	86.8	3.88	0.0447	0.0527	15.2
Methylcyclopentane	4.42	84.8	3.76	0.0443	0.0528	16.0
2,4-Dimethylpentane	4.59	102	3.96	0.0388	0.0453	14.3
Benzene	4.56	83.1	3.96	0.0476	0.0554	14.0
Cyclohexane	4.54	89.2	4.00	0.0448	0.0516	13.2
2-Methylhexane	4.54	102	3.92	0.0385	0.0449	14.2
2,3-Dimethylpentane	4.54	103	3.92	0.0381	0.0445	14.3
3-Methylhexane	4.51	102	3.92	0.0384	0.0444	13.7
2,2,4-Trimethylpentane	4.50	116	3.92	0.0338	0.0390	13.5
Heptane	4.55	98.8	3.96	0.0401	0.0464	13.7
Methylcyclohexane	4.55	103	3.96	0.0386	0.0446	13.5
2,3,4-Trimethylpentane	4.51	114	3.96	0.0347	0.0397	12.6
Toluene	4.51	90.3	3.96	0.0439	0.0507	13.4
2-Methylheptane	4.45	114	3.92	0.0344	0.0393	12.5
3-Methylheptane	4.45	115	3.92	0.0340	0.0389	12.5
Octane	4.46	110	3.92	0.0358	0.0411	12.9

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

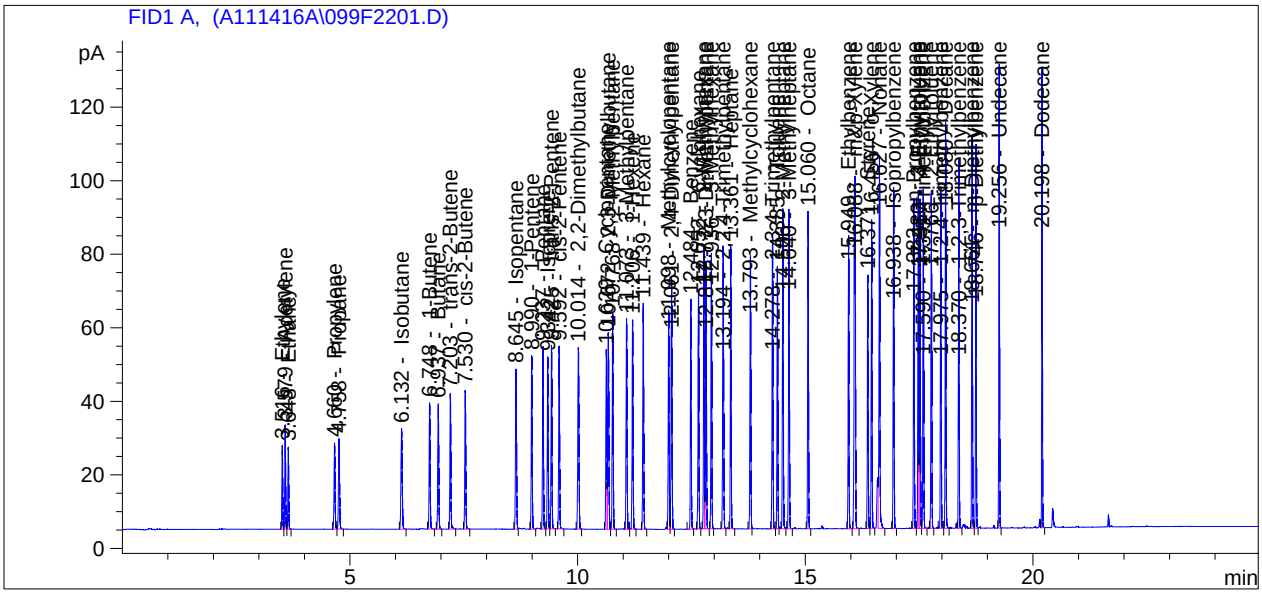
Sample ID: TO14A Std #3 CCV
Project #: 1016-55
Lab ID: 1016-55 TO14A Std #3 CCV
Datafile: 099F2201.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00
Time Stamp: 14-Nov-16, 22:30:00

Compound	Conc as Analyzed (ppbV)	Area	Tag Value (ppbV)	CCAL RF	ICAL RRF	%D
Ethylbenzene	4.53	101	3.92	0.0387	0.0456	15.0
m&p-Xylene	9.10	204	7.84	0.0384	0.0455	15.6
Styrene	4.59	86.8	3.88	0.0447	0.0554	19.3
o-Xylene	4.46	108	3.92	0.0363	0.0419	13.3
Nonane	4.62	144	3.88	0.0270	0.0322	16.1
Isopropylbenzene	4.34	122	3.80	0.0312	0.0361	13.5
n-Propylbenzene	4.47	115	3.80	0.0331	0.0400	17.3
3-Ethyltoluene	4.59	118	3.92	0.0331	0.0395	16.2
4-Ethyltoluene	4.45	114	3.72	0.0326	0.0402	18.8
1,3,5-Trimethylbenzene	4.50	121	3.92	0.0325	0.0378	14.0
2-Ethyltoluene	4.31	119	3.76	0.0316	0.0367	14.0
1,2,4-Trimethylbenzene	4.44	116	3.92	0.0338	0.0387	12.6
Decane	4.36	136	3.76	0.0277	0.0327	15.2
1,2,3-Trimethylbenzene	4.40	119	3.88	0.0325	0.0372	12.7
m-Diethylbenzene	4.36	124	3.72	0.0300	0.0359	16.6
p-Diethylbenzene	4.37	118	3.68	0.0311	0.0382	18.6
Undecane	4.47	137	3.76	0.0275	0.0336	18.1
Dodecane	4.51	125	3.64	0.0292	0.0371	21.4

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\099F2201.D
Sample Name: TO14A Std #3 CCV

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  22
Acq. Instrument : Archie                            Location : Vial 99
Injection Date  : 14-Nov-16, 22:30:00                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111416A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:58:30 PM by TDD
Sample Info     : Can #000006; 50mL
```

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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:56:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.516	BV		28.20173	1.56174e-1	4.40438		Ethylene
3.579	VV		35.80907	1.30564e-1	4.67536		Acetylene
3.648	VB		28.80164	1.43631e-1	4.13682		Ethane
4.660	BV		36.19194	1.25238e-1	4.53262		Propylene
4.758	VB		42.13055	1.06563e-1	4.48956		Propane
6.132	BB	+	53.57502	8.64027e-2	4.62903		Isobutane
6.748	BB		52.83821	8.70487e-2	4.59950		1-Butene
6.937	BB		53.33180	8.82564e-2	4.70687		Butane
7.203	BB		53.12593	7.95259e-2	4.22489		trans-2-Butene
7.530	BB		56.26759	8.62054e-2	4.85057		cis-2-Butene
8.645	BV		70.74428	6.70037e-2	4.74013		Isopentane
8.990	BB		67.27746	6.71624e-2	4.51852		1-Pentene
9.237	VV		70.80780	6.57885e-2	4.65834		Pentane
9.342	VV		68.04883	6.92963e-2	4.71553		Isoprene
9.425	VB		69.13060	6.95508e-2	4.80809		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111416A\099F2201.D
Sample Name: TO14A Std #3 CCV

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.592	BB		70.37605	6.77323e-2	4.76673		cis-2-Pentene
10.014	BB		86.88708	5.45100e-2	4.73621		2,2-Dimethylbutane
10.629	BV		71.61510	6.45958e-2	4.62603		Cyclopentane
10.672	VV		87.27294	5.23903e-2	4.57225		2,3-Dimethylbutane
10.768	VB		88.25098	5.14070e-2	4.53671		2-Methylpentane
11.073	VV		87.32737	5.22076e-2	4.55915		3-Methylpentane
11.206	VB		82.03551	5.50856e-2	4.51897		1-Hexene
11.439	BB		86.75792	5.22337e-2	4.53169		Hexane
11.998	VV		84.79743	5.21637e-2	4.42335		Methylcyclopentane
12.061	VB		102.08753	4.49272e-2	4.58651		2,4-Dimethylpentane
12.484	BV		83.12453	5.48877e-2	4.56251		Benzene
12.652	BB		89.18959	5.09033e-2	4.54005		Cyclohexane
12.772	BV		101.89166	4.45384e-2	4.53809		2-Methylhexane
12.817	VB		102.75690	4.41919e-2	4.54102		2,3-Dimethylpentane
12.936	BV		102.18006	4.41469e-2	4.51093		3-Methylhexane
13.194	VB		116.01853	3.87985e-2	4.50135		2,2,4-Trimethylpentane
13.361	VB		98.83725	4.60237e-2	4.54886		Heptane
13.793	BV		102.50346	4.43425e-2	4.54526		Methylcyclohexane
14.278	BB		114.18085	3.94610e-2	4.50569		2,3,4-Trimethylpentane
14.385	BV		90.25253	5.00187e-2	4.51431		Toluene
14.506	VB		114.06548	3.89937e-2	4.44784		2-Methylheptane
14.640	BB		115.29828	3.85897e-2	4.44933		3-Methylheptane
15.060	VB		109.57392	4.06911e-2	4.45869		Octane
15.949	BB	+	101.25435	4.47089e-2	4.52697		Ethylbenzene
16.088	BB		204.21799	4.45401e-2	9.09589		m&p-Xylene
16.371	VV		86.80103	5.28234e-2	4.58513		Styrene
16.456	VB		107.91468	4.13714e-2	4.46458		o-Xylene
16.627	VB		143.51927	3.21996e-2	4.62126		Nonane
16.938	VB		121.82154	3.56607e-2	4.34425		Isopropylbenzene
17.383	BV		114.83835	3.89259e-2	4.47018		n-Propylbenzene
17.480	VV		118.36914	3.87972e-2	4.59240		3-Ethyltoluene
17.517	VV		114.09627	3.89970e-2	4.44941		4-Ethyltoluene
17.590	VB		120.61867	3.73277e-2	4.50242		1,3,5-Trimethylbenzene
17.766	VB		118.96618	3.62433e-2	4.31172		2-Ethyltoluene
17.975	VV		115.88782	3.83166e-2	4.44043		1,2,4-Trimethylbenzene
18.080	VV		135.67743	3.21459e-2	4.36147		Decane
18.370	VV		119.42470	3.68419e-2	4.39984		1,2,3-Trimethylbenzene
18.661	BV		124.16537	3.50955e-2	4.35764		m-Diethylbenzene
18.746	VV		118.39948	3.68958e-2	4.36844		p-Diethylbenzene
19.256	BB	+	136.54005	3.27367e-2	4.46987		Undecane
20.198	VB		124.78371	3.61400e-2	4.50968		Dodecane

Totals : 258.08330

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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*** End of Report ***

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: TO14A Std #3 CCV
Project #: 1016-55
Lab ID: 1016-55 TO14A Std #3 CCV
Datafile: 099F1001.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00
Time Stamp: 16-Nov-16, 11:36:09

Compound	Conc as Analyzed (ppbV)	Area	Tag Value (ppbV)	CCAL RF	ICAL RRF	%D
Ethylene	4.14	26.5	3.92	0.148	0.157	5.9
Acetylene	4.64	35.6	3.92	0.110	0.135	18.1
Ethane	4.14	28.8	3.95	0.137	0.144	4.9
Propylene	4.48	35.8	3.84	0.107	0.127	15.6
Propane	4.46	41.8	3.84	0.0918	0.108	14.9
Isobutane	4.26	49.3	3.76	0.0762	0.0882	13.6
1-Butene	4.18	48.1	3.76	0.0782	0.0881	11.2
Butane	4.22	47.8	3.76	0.0786	0.0895	12.2
trans-2-Butene	3.86	48.5	3.72	0.0766	0.0799	4.1
cis-2-Butene	4.39	50.9	4.00	0.0785	0.0872	10.0
Isopentane	4.19	62.5	3.80	0.0608	0.0684	11.2
1-Pentene	4.04	60.2	3.76	0.0625	0.0680	8.1
Pentane	4.14	63.0	3.84	0.0610	0.0668	8.7
Isoprene	4.21	60.7	3.88	0.0639	0.0705	9.3
trans-2-Pentene	4.30	61.9	4.00	0.0646	0.0706	8.5
cis-2-Pentene	4.26	62.8	3.96	0.0630	0.0686	8.2
2,2-Dimethylbutane	4.21	77.3	3.88	0.0502	0.0554	9.3
Cyclopentane	4.09	63.4	3.80	0.0599	0.0656	8.6
2,3-Dimethylbutane	4.05	77.4	3.88	0.0501	0.0529	5.2
2-Methylpentane	4.03	78.4	3.84	0.0490	0.0520	5.7
3-Methylpentane	4.05	77.6	3.92	0.0505	0.0527	4.2
1-Hexene	3.98	72.2	3.84	0.0532	0.0557	4.4
Hexane	4.02	77.0	3.88	0.0504	0.0527	4.5
Methylcyclopentane	3.94	75.6	3.76	0.0498	0.0528	5.7
2,4-Dimethylpentane	4.08	90.9	3.96	0.0436	0.0453	3.8
Benzene	3.92	71.4	3.96	0.0555	0.0554	0.2
Cyclohexane	4.06	79.9	4.00	0.0501	0.0516	3.0
2-Methylhexane	3.97	89.2	3.92	0.0439	0.0449	2.1
2,3-Dimethylpentane	4.00	90.6	3.92	0.0433	0.0445	2.8
3-Methylhexane	3.96	89.6	3.92	0.0437	0.0444	1.5
2,2,4-Trimethylpentane	3.95	102	3.92	0.0385	0.0390	1.4
Heptane	3.89	84.5	3.96	0.0469	0.0464	1.0
Methylcyclohexane	4.00	90.3	3.96	0.0439	0.0446	1.8
2,3,4-Trimethylpentane	3.90	98.8	3.96	0.0401	0.0397	1.0
Toluene	3.70	74.0	3.96	0.0535	0.0507	5.6
2-Methylheptane	3.76	96.5	3.92	0.0406	0.0393	3.4
3-Methylheptane	3.78	97.9	3.92	0.0401	0.0389	3.1
Octane	3.69	90.7	3.92	0.0432	0.0411	5.1

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

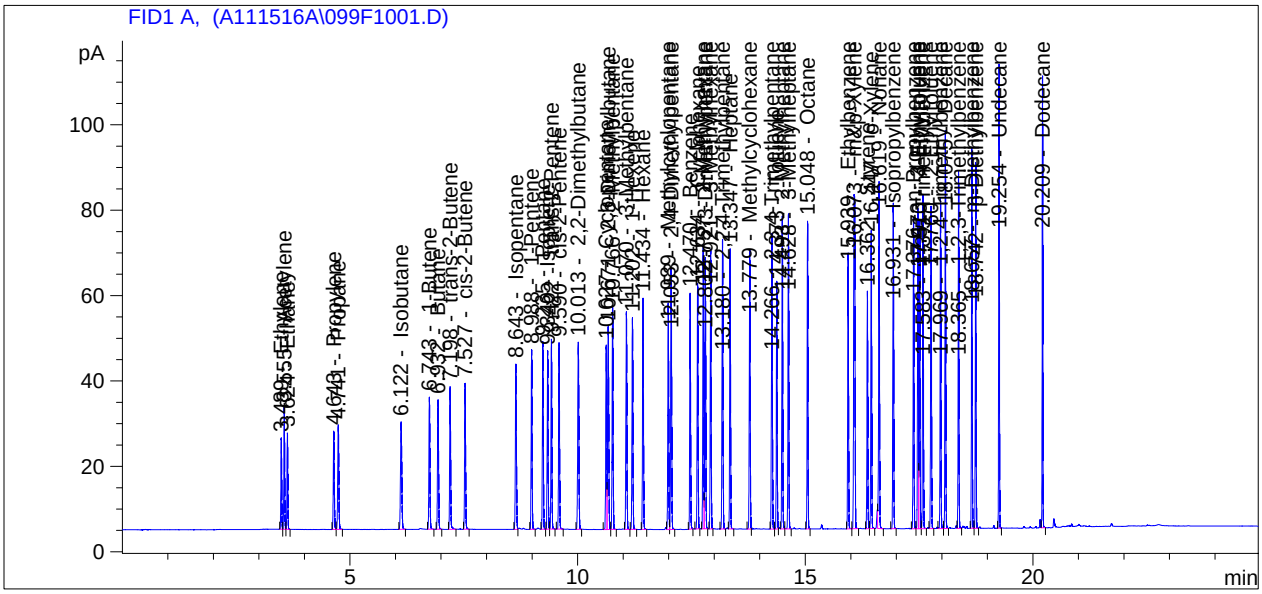
Sample ID: TO14A Std #3 CCV
Project #: 1016-55
Lab ID: 1016-55 TO14A Std #3 CCV
Datafile: 099F1001.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00
Time Stamp: 16-Nov-16, 11:36:09

Compound	Conc as Analyzed (ppbV)	Area	Tag Value (ppbV)	CCAL RF	ICAL RRF	%D
Ethylbenzene	3.70	82.7	3.92	0.0474	0.0456	3.9
m&p-Xylene	7.43	167	7.84	0.0470	0.0455	3.4
Styrene	3.68	69.7	3.88	0.0557	0.0554	0.5
o-Xylene	3.69	89.1	3.92	0.0440	0.0419	5.0
Nonane	3.46	107	3.88	0.0361	0.0322	12.1
Isopropylbenzene	3.59	101	3.80	0.0377	0.0361	4.6
n-Propylbenzene	3.65	93.8	3.80	0.0405	0.0400	1.2
3-Ethyltoluene	3.74	96.5	3.92	0.0406	0.0395	2.8
4-Ethyltoluene	3.59	92.0	3.72	0.0404	0.0402	0.7
1,3,5-Trimethylbenzene	3.75	101	3.92	0.0390	0.0378	3.2
2-Ethyltoluene	3.59	99.1	3.76	0.0379	0.0367	3.3
1,2,4-Trimethylbenzene	3.71	96.8	3.92	0.0405	0.0387	4.6
Decane	3.67	114	3.76	0.0330	0.0327	0.9
1,2,3-Trimethylbenzene	3.70	101	3.88	0.0386	0.0372	3.8
m-Diethylbenzene	3.65	104	3.72	0.0357	0.0359	0.5
p-Diethylbenzene	3.63	98.4	3.68	0.0374	0.0382	2.1
Undecane	3.85	118	3.76	0.0320	0.0336	4.8
Dodecane	3.90	108	3.64	0.0337	0.0371	9.1

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\099F1001.D
Sample Name: TO14A Std #3 CCV

```
==========================================================================
Acq. Operator   : TDD                              Seq. Line :  10
Acq. Instrument : Archie                            Location : Vial 99
Injection Date  : 16-Nov-16, 11:36:09                    Inj :   1
                                                  Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111516A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:37:20 PM by TDD
Sample Info     : Can #000006; 50mL
```

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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:36:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
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RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.489	BV		26.52932	1.56174e-1	4.14319		Ethylene
3.555	VV		35.57246	1.30564e-1	4.64447		Acetylene
3.624	VB		28.82851	1.43631e-1	4.14068		Ethane
4.643	BV		35.76283	1.25238e-1	4.47888		Propylene
4.741	VB		41.82016	1.06563e-1	4.45648		Propane
6.122	BB	+	49.34724	8.64027e-2	4.26373		Isobutane
6.743	BB		48.06654	8.70487e-2	4.18413		1-Butene
6.932	BB		47.84397	8.82564e-2	4.22253		Butane
7.198	BB		48.54601	7.95259e-2	3.86067		trans-2-Butene
7.527	BB		50.93155	8.62054e-2	4.39057		cis-2-Butene
8.643	BV		62.53249	6.70037e-2	4.18991		Isopentane
8.988	BB		60.16903	6.71624e-2	4.04110		1-Pentene
9.235	VB		62.96828	6.57885e-2	4.14259		Pentane
9.340	BV		60.69418	6.92963e-2	4.20588		Isoprene
9.422	VB		61.88142	6.95508e-2	4.30390		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\099F1001.D
Sample Name: TO14A Std #3 CCV

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.590	BB		62.83781	6.77323e-2	4.25615		cis-2-Pentene
10.013	BB		77.27455	5.45100e-2	4.21223		2,2-Dimethylbutane
10.627	VV		63.38954	6.45958e-2	4.09470		Cyclopentane
10.671	VV		77.39253	5.23903e-2	4.05461		2,3-Dimethylbutane
10.766	VB		78.35301	5.14070e-2	4.02789		2-Methylpentane
11.070	VB		77.61415	5.22076e-2	4.05205		3-Methylpentane
11.202	BB		72.18472	5.50856e-2	3.97634		1-Hexene
11.434	BB		77.01282	5.22337e-2	4.02266		Hexane
11.989	VV		75.57626	5.21637e-2	3.94234		Methylcyclopentane
12.053	VB		90.85141	4.49272e-2	4.08170		2,4-Dimethylpentane
12.470	VB		71.35670	5.48877e-2	3.91660		Benzene
12.634	BB		79.85011	5.09033e-2	4.06464		Cyclohexane
12.757	BV		89.20646	4.45384e-2	3.97312		2-Methylhexane
12.802	VB		90.58621	4.41919e-2	4.00317		2,3-Dimethylpentane
12.921	BV		89.60639	4.41469e-2	3.95584		3-Methylhexane
13.180	VB		101.83918	3.87985e-2	3.95121		2,2,4-Trimethylpentane
13.347	VB		84.45233	4.60237e-2	3.88681		Heptane
13.779	BV		90.30737	4.43425e-2	4.00446		Methylcyclohexane
14.266	BV		98.80748	3.94610e-2	3.89904		2,3,4-Trimethylpentane
14.373	VV		74.02357	5.00187e-2	3.70256		Toluene
14.493	VV		96.52065	3.89937e-2	3.76370		2-Methylheptane
14.628	VB		97.85458	3.85897e-2	3.77618		3-Methylheptane
15.048	VB		90.73699	4.06911e-2	3.69219		Octane
15.939	BV	+	82.74993	4.47089e-2	3.69966		Ethylbenzene
16.073	VB		166.72350	4.45401e-2	7.42588		m&p-Xylene
16.362	BV		69.68386	5.28234e-2	3.68094		Styrene
16.447	VB		89.12194	4.13714e-2	3.68710		o-Xylene
16.619	VB		107.39670	3.21996e-2	3.45813		Nonane
16.931	VB		100.77145	3.56607e-2	3.59358		Isopropylbenzene
17.376	BV		93.81330	3.89259e-2	3.65177		n-Propylbenzene
17.473	VV		96.45485	3.87972e-2	3.74218		3-Ethyltoluene
17.510	VV		91.99873	3.89970e-2	3.58767		4-Ethyltoluene
17.583	VB		100.57780	3.73277e-2	3.75434		1,3,5-Trimethylbenzene
17.760	VV		99.09370	3.62433e-2	3.59148		2-Ethyltoluene
17.969	VV		96.84743	3.83166e-2	3.71086		1,2,4-Trimethylbenzene
18.075	VB		114.01694	3.21459e-2	3.66518		Decane
18.365	VV		100.52009	3.68419e-2	3.70336		1,2,3-Trimethylbenzene
18.657	BV		104.06958	3.50955e-2	3.65237		m-Diethylbenzene
18.742	VB		98.43555	3.68958e-2	3.63185		p-Diethylbenzene
19.254	BV	+	117.57522	3.27367e-2	3.84902		Undecane
20.209	VB		107.89059	3.61400e-2	3.89916		Dodecane

Totals : 224.96345

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

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*** End of Report ***

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

Sample ID: TO14A Std #3 CCV
Project #: 1016-55
Lab ID: 1016-55 TO14A Std #3 CCV
Datafile: 099F3401.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00
Time Stamp: 17-Nov-16, 12:35:03

Compound	Conc as Analyzed (ppbV)	Area	Tag Value (ppbV)	CCAL RF	ICAL RRF	%D
Ethylene	3.60	23.0	3.92	0.170	0.157	8.5
Acetylene	4.69	35.9	3.92	0.109	0.135	19.0
Ethane	4.12	28.7	3.95	0.138	0.144	4.3
Propylene	4.55	36.3	3.84	0.106	0.127	16.8
Propane	4.48	42.0	3.84	0.0913	0.108	15.3
Isobutane	4.68	54.2	3.76	0.0694	0.0882	21.4
1-Butene	4.67	53.7	3.76	0.0701	0.0881	20.4
Butane	4.80	54.4	3.76	0.0692	0.0895	22.7
trans-2-Butene	4.35	54.7	3.72	0.0680	0.0799	14.9
cis-2-Butene	4.95	57.5	4.00	0.0696	0.0872	20.2
Isopentane	4.84	72.2	3.80	0.0526	0.0684	23.1
1-Pentene	4.60	68.5	3.76	0.0549	0.0680	19.3
Pentane	4.73	71.9	3.84	0.0534	0.0668	20.0
Isoprene	4.78	69.0	3.88	0.0563	0.0705	20.2
trans-2-Pentene	4.86	69.9	4.00	0.0573	0.0706	19.0
cis-2-Pentene	4.81	71.1	3.96	0.0557	0.0686	18.8
2,2-Dimethylbutane	4.76	87.4	3.88	0.0444	0.0554	19.8
Cyclopentane	4.67	72.3	3.80	0.0526	0.0656	19.9
2,3-Dimethylbutane	4.60	87.8	3.88	0.0442	0.0529	16.4
2-Methylpentane	4.55	88.4	3.84	0.0434	0.0520	16.5
3-Methylpentane	4.57	87.5	3.92	0.0448	0.0527	15.0
1-Hexene	4.54	82.4	3.84	0.0466	0.0557	16.3
Hexane	4.53	86.8	3.88	0.0447	0.0527	15.2
Methylcyclopentane	4.43	84.8	3.76	0.0443	0.0528	16.0
2,4-Dimethylpentane	4.58	102	3.96	0.0388	0.0453	14.2
Benzene	4.63	84.3	3.96	0.0469	0.0554	15.2
Cyclohexane	4.53	89.0	4.00	0.0450	0.0516	12.9
2-Methylhexane	4.55	102	3.92	0.0384	0.0449	14.5
2,3-Dimethylpentane	4.53	102	3.92	0.0383	0.0445	14.0
3-Methylhexane	4.52	102	3.92	0.0383	0.0444	13.8
2,2,4-Trimethylpentane	4.54	117	3.92	0.0335	0.0390	14.2
Heptane	4.63	101	3.96	0.0394	0.0464	15.1
Methylcyclohexane	4.56	103	3.96	0.0385	0.0446	13.8
2,3,4-Trimethylpentane	4.58	116	3.96	0.0342	0.0397	14.0
Toluene	4.57	91.3	3.96	0.0434	0.0507	14.4
2-Methylheptane	4.52	116	3.92	0.0338	0.0393	14.0
3-Methylheptane	4.53	117	3.92	0.0334	0.0389	14.0
Octane	4.53	111	3.92	0.0352	0.0411	14.3

Company	Jacobs Technology
Analyst	TDD
Parameters	EPA Method TO-14A

Client #	
Job #	1016-55
# Samples	10 Canisters

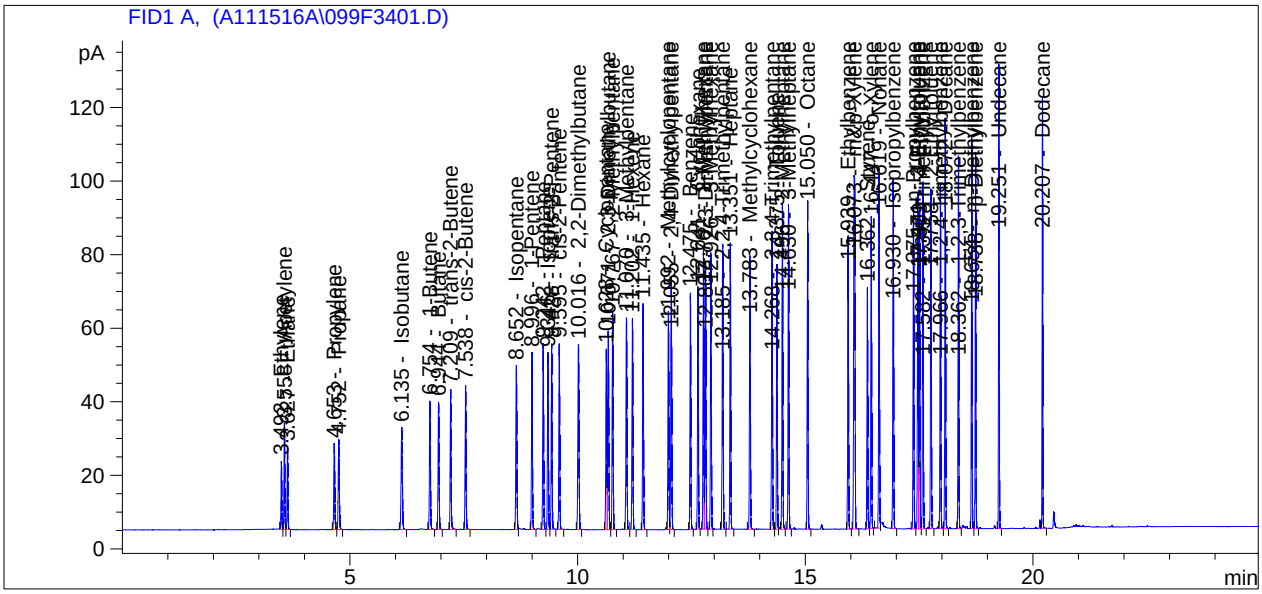
Sample ID: TO14A Std #3 CCV
Project #: 1016-55
Lab ID: 1016-55 TO14A Std #3 CCV
Datafile: 099F3401.D

Pressurization Dilution Factor: 1.00
Analyzed Dilution Factor: 1.00
Time Stamp: 17-Nov-16, 12:35:03

Compound	Conc as Analyzed (ppbV)	Area	Tag Value (ppbV)	CCAL RF	ICAL RRF	%D
Ethylbenzene	4.52	101	3.92	0.0388	0.0456	14.9
m&p-Xylene	9.08	204	7.84	0.0385	0.0455	15.4
Styrene	4.34	82.3	3.88	0.0472	0.0554	14.9
o-Xylene	4.49	109	3.92	0.0361	0.0419	13.8
Nonane	4.05	126	3.88	0.0308	0.0322	4.3
Isopropylbenzene	4.39	123	3.80	0.0309	0.0361	14.4
n-Propylbenzene	4.41	113	3.80	0.0335	0.0400	16.3
3-Ethyltoluene	4.52	116	3.92	0.0337	0.0395	14.8
4-Ethyltoluene	4.36	112	3.72	0.0333	0.0402	17.2
1,3,5-Trimethylbenzene	4.55	122	3.92	0.0322	0.0378	14.9
2-Ethyltoluene	4.35	120	3.76	0.0313	0.0367	14.7
1,2,4-Trimethylbenzene	4.45	116	3.92	0.0337	0.0387	12.8
Decane	4.39	136	3.76	0.0276	0.0327	15.7
1,2,3-Trimethylbenzene	4.48	122	3.88	0.0319	0.0372	14.2
m-Diethylbenzene	4.30	123	3.72	0.0303	0.0359	15.6
p-Diethylbenzene	4.23	115	3.68	0.0321	0.0382	15.9
Undecane	4.44	136	3.76	0.0277	0.0336	17.4
Dodecane	4.31	119	3.64	0.0305	0.0371	17.8

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\099F3401.D
Sample Name: TO14A Std #3 CCV

```
==========================================================================
Acq. Operator   : TDD                                 Seq. Line :  34
Acq. Instrument : Archie                               Location : Vial 99
Injection Date  : 17-Nov-16, 12:35:03                      Inj :   1
                                                     Inj Volume : Manually
Sequence File   : C:\GC2016Q4\ARCHIE\SEQUENCE\A111516A.S
Acq. Method     : C:\ARCHIE\METHODS\TO14A-FID.M
Last changed    : 11/28/2014 10:08:25 AM by DBS
Analysis Method : C:\ARCHIE\METHODS\A111016A-TO14A.M
Last changed    : 11/21/2016 8:37:20 PM by TDD
Sample Info     : Can #000006; 50mL
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      11/21/2016 8:36:25 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
3.492	BV		23.02661	1.56174e-1	3.59616		Ethylene
3.558	VV		35.94436	1.30564e-1	4.69303		Acetylene
3.627	VB		28.65195	1.43631e-1	4.11532		Ethane
4.653	BV		36.31227	1.25238e-1	4.54769		Propylene
4.752	VB		42.04438	1.06563e-1	4.48037		Propane
6.135	BB	+	54.18813	8.64027e-2	4.68200		Isobutane
6.754	BB		53.65689	8.70487e-2	4.67076		1-Butene
6.944	BB		54.35865	8.82564e-2	4.79750		Butane
7.209	BB		54.74151	7.95259e-2	4.35337		trans-2-Butene
7.538	BB		57.46789	8.62054e-2	4.95404		cis-2-Butene
8.652	BV		72.21246	6.70037e-2	4.83850		Isopentane
8.996	BB		68.45841	6.71624e-2	4.59783		1-Pentene
9.242	VV		71.85286	6.57885e-2	4.72709		Pentane
9.346	VV		68.96835	6.92963e-2	4.77925		Isoprene
9.428	VB		69.85980	6.95508e-2	4.85880		trans-2-Pentene

Data File C:\GC2016Q4\ARCHIE\DATA\NOV16\A111516A\099F3401.D
Sample Name: TO14A Std #3 CCV

RetTime [min]	Type		Area [pA*s]	Amt/Area	Amount [ppbv]	Grp	Name
9.595	BB		71.06410	6.77323e-2	4.81333		cis-2-Pentene
10.016	BB		87.40390	5.45100e-2	4.76438		2,2-Dimethylbutane
10.628	BV		72.26186	6.45958e-2	4.66781		Cyclopentane
10.671	VV		87.78827	5.23903e-2	4.59925		2,3-Dimethylbutane
10.767	VB		88.44772	5.14070e-2	4.54683		2-Methylpentane
11.070	VB		87.46713	5.22076e-2	4.56645		3-Methylpentane
11.202	BB		82.44317	5.50856e-2	4.54143		1-Hexene
11.435	BB		86.75299	5.22337e-2	4.53143		Hexane
11.992	VV		84.84152	5.21637e-2	4.42565		Methylcyclopentane
12.055	VB		101.96911	4.49272e-2	4.58119		2,4-Dimethylpentane
12.475	BB		84.34802	5.48877e-2	4.62967		Benzene
12.641	BB		88.97429	5.09033e-2	4.52909		Cyclohexane
12.762	BV		102.14341	4.45384e-2	4.54931		2-Methylhexane
12.807	VB		102.44137	4.41919e-2	4.52708		2,3-Dimethylpentane
12.926	BV		102.39541	4.41469e-2	4.52044		3-Methylhexane
13.185	VB		116.99221	3.87985e-2	4.53913		2,2,4-Trimethylpentane
13.351	BV		100.56803	4.60237e-2	4.62852		Heptane
13.783	BB		102.92582	4.43425e-2	4.56399		Methylcyclohexane
14.268	BV		115.94290	3.94610e-2	4.57522		2,3,4-Trimethylpentane
14.375	VV		91.30812	5.00187e-2	4.56711		Toluene
14.496	VB		116.04235	3.89937e-2	4.52492		2-Methylheptane
14.630	BB		117.30096	3.85897e-2	4.52661		3-Methylheptane
15.050	BB		111.33144	4.06911e-2	4.53020		Octane
15.939	BB	+	101.10607	4.47089e-2	4.52034		Ethylbenzene
16.073	BB		203.87665	4.45401e-2	9.08069		m&p-Xylene
16.362	BV		82.25400	5.28234e-2	4.34494		Styrene
16.447	VB		108.53706	4.13714e-2	4.49033		o-Xylene
16.619	BV		125.80791	3.21996e-2	4.05097		Nonane
16.930	BB		123.12906	3.56607e-2	4.39087		Isopropylbenzene
17.375	BV		113.37556	3.89259e-2	4.41324		n-Propylbenzene
17.471	VV		116.38979	3.87972e-2	4.51560		3-Ethyltoluene
17.509	VV		111.80151	3.89970e-2	4.35992		4-Ethyltoluene
17.582	VB		121.91663	3.73277e-2	4.55087		1,3,5-Trimethylbenzene
17.758	VB		120.05492	3.62433e-2	4.35118		2-Ethyltoluene
17.966	VV		116.23270	3.83166e-2	4.45364		1,2,4-Trimethylbenzene
18.072	VB		136.44226	3.21459e-2	4.38606		Decane
18.362	VV		121.55333	3.68419e-2	4.47826		1,2,3-Trimethylbenzene
18.654	BV		122.61541	3.50955e-2	4.30324		m-Diethylbenzene
18.738	VB		114.61806	3.68958e-2	4.22892		p-Diethylbenzene
19.251	VV	+	135.54230	3.27367e-2	4.43720		Undecane
20.207	VB		119.39504	3.61400e-2	4.31493		Dodecane

Totals : 257.61196

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

==========

*** End of Report ***

method: C:\GC2015Q1\ARCHIE\METHODS\TO14A-FID.M
Modified on: 11/28/2014 at 10:08:25 AM

==========

6890 GC METHOD

==========

OVEN
Initial temp: -50 'C (On)
Initial time: 2.00 min
Ramps:

#	Rate	Final temp	Final time
1	15.00	-20	0.00
2	12.00	145	0.00
3	25.00	225	4.00
4	0.0(Off)		

Post temp: 50 'C
Post time: 0.00 min
Run time: 24.95 min

Maximum temp: 280 'C
Equilibration time: 0.50 min

CRYO (N2)
Cryo: On
Cryo fault: Off
Cryo timeout: 45.00 min (On)
Quick cryo cool: Off
Ambient temp: 25 'C

FRONT INLET (SPLIT/SPLITLESS)
Mode: Split
Initial temp: 200 'C (On)
Pressure: 8.04 psi (On)
Split ratio: 6.67:1
Split flow: 21.8 mL/min
Total flow: 32.6 mL/min
Gas saver: Off
Gas type: Hydrogen

BACK INLET (UNKNOWN)

COLUMN 1
Capillary Column
Model Number: Restek 10157
60m x 0.32mm x 1.0 um Rtx-1
Max temperature: 340 'C
Nominal length: 60.0 m
Nominal diameter: 320.00 um
Nominal film thickness: 1.00 um
Mode: constant flow
Initial flow: 3.3 mL/min
Nominal init pressure: 8.05 psi
Average velocity: 40 cm/sec
Inlet: Front Inlet
Outlet: Front Detector
Outlet pressure: ambient

COLUMN 2
(not installed)

FRONT DETECTOR (FID)
Temperature: 250 'C (On)
Hydrogen flow: 40.0 mL/min (On)
Air flow: 450.0 mL/min (On)
Mode: Constant makeup flow
Makeup flow: 45.0 mL/min (On)
Makeup Gas Type: Nitrogen
Flame: On
Electrometer: On
Lit offset: 2.0

BACK DETECTOR (FPD)
Temperature: 250 'C (Off)
Hydrogen flow: 65.0 mL/min (Off)
Oxidizer flow: 75.0 mL/min (Off)
Oxidizer Gas Type: Air
Mode: Constant makeup flow
Makeup flow: 45.0 mL/min (Off)
Makeup Gas Type: Nitrogen
Flame: Off
Lit offset: 0.20
Photo multiplier: Off

SIGNAL 1
Data rate: 20 Hz
Type: front detector
Save Data: On
Zero: 0.0 (On)
Range: 0
Fast Peaks: Off

SIGNAL 2
Data rate: 20 Hz
Type: back detector
Save Data: Off
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off

method: C:\GC2015Q1\ARCHIE\METHODS\TO14A-FID.M
Modified on: 11/28/2014 at 10:08:25 AM
Attenuation: 0 Attenuation: 0

COLUMN COMP 1
Derive from front detector

COLUMN COMP 2
Derive from front detector

THERMAL AUX 2
Unknown Thermal Aux Type

POST RUN
Post Time: 0.00 min

TIME TABLE
Time Specifier Parameter & Setpoint

GC Injector

Front Injector:
No parameters specified

Back Injector:
No parameters specified

This Is The Last Page Of This Report.

ENTHALPY ANALYTICAL