ALS Environmental

received 09/27/2013
Project 2130

Dissolved Gasses

Case Narrative

Colorado Oil & Gas Conservation Commission

TBAL

Work Order Number: 1308545

1. This report consists of 2 water samples. The samples were received cool and intact by ALS on 08/30/2013.

   All samples were free of headspace prior to analysis.

   The samples had a pH > 2 at the time of analysis.

2. These samples were prepared and analyzed according to method RSK-175 procedures and the current revision of SOP 449.

3. The preparation batch included a method blank, laboratory control sample, laboratory control sample duplicate, sample duplicate, and matrix spike. Per method requirements, matrix QC was performed for this analysis. Since a sample from this order number was not the selected quality control (QC) sample, matrix specific QC results are not included in this report.

   All preparation QC were within the acceptance criteria.

4. All samples are associated with one or more of the following analytical QC: initial calibrations, initial calibration verifications (ICV), and continuing calibration verifications (CCV).

5. All analytical QC were within the acceptance criteria.

6. Sample dilutions were not required for the requested analysis.

7. The samples were prepared and analyzed within the established holding times.

8. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in the current revision of SOP 939. Whenever manual integrations are performed, before and after chromatograms of the peak that was manually integrated are included in the report along with the reason re-integration was necessary.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Mindy Norton

Mindy Norton
Organics Primary Data Reviewer

9/9/13
Date

Organics Final Data Reviewer

9/9/13
Date

ALS
Data Qualifier Flags
Chromatography and Mass Spectrometry

U or ND:	**This flag indicates that the compound was analyzed for but not detected.**
J:	**This flag indicates an estimated value. This flag is used as follows : (1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the reporting limit (RL) but greater than the method detection limit (MDL); (3) when the data indicate the presence of a compound that meets the identification criteria, and the result is less than the RL but greater than the MDL; and (4) the reported value is estimated.**
B:	**This flag is used when the analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user. This flag shall be used for a tentatively identified compound (TIC) as well as for a positively identified target compound.**
E:	**This flag identifies compounds whose concentration exceeds the upper level of the calibration range.**
A:	**This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.**
X:	**This flag indicates that the analyte was diluted below an accurate quantitation level.**
***:**	**This flag indicates that a spike recovery is outside the control criteria.**
+:	**This flag indicates that the relative percent difference (RPD) exceeds the control criteria.**

Chain of Custody

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1308545
Client Name: Colorado Oil & Gas Conservation Commission
Client Project Name: TBAL
Client Project Number:
Client PO Number: PHA 14-22

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
704681 Dolores WW	1308545-1		WATER	29-Aug-13	9:01
Trip Blank	1308545-2		WATER	29-Aug-13	6:00
705737 Dolores MW	1308545-3		WATER	29-Aug-13	10:20
704681 Dolores WW 20	1308545-4		WATER	29-Aug-13	8:44
704681 Dolores WW 5	1308545-5		WATER	29-Aug-13	8:26

ALS Laboratory Group

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Form 202r8

WORKORDER #	1308545				
SAMPLER	PAE	DATE	29 Ag 2013	PAGE	1 of 1
SITE ID		TURNAROUND	7 E. dy	DISPOSAL	(By Lab) or Return to Client
PROJECT NAME	TBAL	EDD FORMAT			
PROJECT No.		PURCHASE ORDER			
COMPANY NAME	Colo. Oil + Gas Cons Com	BILL TO COMPANY			
SEND REPORT TO	Peter Gintautas	INVOICE ATTN TO			
ADDRESS	PO Box 108	ADDRESS			
CITY / STATE / ZIP	Trinidad CO 81082	CITY / STATE / ZIP			
PHONE	719-846-3091	PHONE			
FAX		FAX			
E-MAIL	peter.gintautas@state.co.us	E-MAIL			

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	8260 + TICs	TVPH	8270 + 1,4-Dioxane + TICs	8270 SIM PAH	200.7 metals dissolved	200.8 metals dissolved	SAR Calc	Anion Cation Balance	Alk (tot, HCO3, CO3)	pH	Conductance	Anions	TDS	TOC
1	704681 Dolores MW	W	29 Ag 13	09:01	6	1		X	X												
	"	↓	↓	↓	6	8				X		X	X	X	X	X	X	X	X	X	
	"	↓	↓	↓	1	3															X
2	Trip Blk	W	29 Ag 13	06:00	2	1		X													
3	705737 Dolores MW	W	29 Ag 13	10:20	6	1		X	X												
	" "	"	"		3	8	X			X	X										
		↓			6	8					X	X	X	X	X	X	X	X	X	X	
		↓			1	3															X
4	704681 Dolores MW 20	W	29 Ag 13	08:44	3	1		X													
5	704681 Dolores MW 5	W	29 Ag 13	08:26	3	1		X													

*Time Zone (Circle): EST CST (MST) PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments: Anions = Br, Cl, F, NO2, NO3, SO4
filter and preserve metals on reagent = dissolved
metals list as in other TBAL

QC PACKAGE (check below)	
	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
X	LEVEL IV (Std QC + forms + raw data) (Std) only

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	[signature]	Peter Gintautas	29Aug13	16:40
RECEIVED BY	[signature]	Jacob Reddy	8/30/13	0930
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC Workorder No: 1308545

Project Manager: ARW Initials: JLR Date: 8/30/13

1. Does this project require any special handling in addition to standard ALS procedures?		YES	(NO)
2. Are custody seals on shipping containers intact?	NONE	(YES)	NO
3. Are Custody seals on sample containers intact?	(NONE)	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		(YES)	NO
5. Are the COC and bottle labels complete and legible?		(YES)	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	(YES)	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	(YES)	NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	(YES)	NO
10. Is there sufficient sample for the requested analyses?		(YES)	NO
11. Were all samples placed in the proper containers for the requested analyses?		(YES)	NO
12. Are all samples within holding times for the requested analyses?		(YES)	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea	N/A	(YES)	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	N/A	YES	(NO)
16. Were the samples shipped on ice?		(YES)	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 (#4)	RAD ONLY	(YES)	NO

Cooler #:	1	2							
Temperature (°C):	2°C	4°C							
No. of custody seals on cooler:	2	1							
DOT Survey/ Acceptance Information — External µR/hr reading:	11	11							
Background µR/hr reading:	10								

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? (YES) / NO / NA (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

If applicable, was the client contacted? YES / NO / (NA) Contact: _____ Date/Time: _____

Project Manager Signature / Date: 8/30/13

*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

1308545


PETER GINTAUTAS
719-846-3091
COLORADO OIL & GAS CONSERVATIO
213 CORUNDUM RD
TRINIDAD CO 81082
41 LBS
2 OF 2
DWT: 26,16,15
SHIP TO:
AMY WOLF
970-490-1511
ALS LABORATORY GROUP
225 COMMERCE DRIVE
FORT COLLINS CO 80524-2762
CO 805 0-01
UPS NEXT DAY AIR
TRACKING #: 1Z 014 8WR 01 9830 5716
1
BILLING: P/P
Reference#1: Special Project TBAL
UIS 15.6.12.
WNTE90 36.0A 01/2013
TM

Analytical Results

Dissolved Gasses

Method RSK175

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1308545

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Lab ID: HC130904-9AMB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 04-Sep-13
Date Analyzed: 04-Sep-13
Prep Method: METHOD

Prep Batch: HC130904-9A
QCBatchID: HC130904-9A-2
Run ID: HC130904-99A
Cleanup: NONE
Basis: N/A
File Name: 06032.dat

Sample Aliquot: 38.5 ml
Final Volume: 38.5 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit LOD/LOQ	Result Qualifier	EPA Qualifier
74-82-8	METHANE	1	1	1	U	
74-84-0	ETHANE	1	2	2	U	
74-98-6	PROPANE	1	1	1	U	

Data Package ID: *MEE1308545-1*

Dissolved Gasses

Method RSK175

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1308545

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Field ID: 704681 Dolores WW
Lab ID: 1308545-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 29-Aug-13
Date Extracted: 04-Sep-13
Date Analyzed: 04-Sep-13
Prep Method: METHOD

Prep Batch: HC130904-9A
QCBatchID: HC130904-9A-2
Run ID: HC130904-99A
Cleanup: NONE
Basis: As Received
File Name: 06047.dat

Analyst: Dan Sheneman
Sample Aliquot: 38.5 ML
Final Volume: 38.5 ML
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit\ LOD\LOQ	Result Qualifier	EPA Qualifier
74-82-8	METHANE	1	3300	1		
74-84-0	ETHANE	1	2.1	2		
74-98-6	PROPANE	1	1	1	U	

Data Package ID: *MEE1308545-1*

Dissolved Gasses

Method RSK175

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1308545

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Field ID: 705737 Dolores MW
Lab ID: 1308545-3

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 29-Aug-13
Date Extracted: 04-Sep-13
Date Analyzed: 04-Sep-13
Prep Method: METHOD

Prep Batch: HC130904-9A
QCBatchID: HC130904-9A-2
Run ID: HC130904-99A
Cleanup: NONE
Basis: As Received
File Name: 06048.dat

Analyst: Dan Sheneman
Sample Aliquot: 38.5 ML
Final Volume: 38.5 ML
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit\ LOD\LOQ	Result Qualifier	EPA Qualifier
74-82-8	METHANE	1	4500	1		
74-84-0	ETHANE	1	2.4	2		
74-98-6	PROPANE	1	1	1	U	

Data Package ID: *MEE1308545-1*

Supporting QA/QC Data

Dissolved Gasses

Method RSK175

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1308545

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: TBAL

Lab ID: HC130904-9ALCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 09/04/2013
Date Analyzed: 09/04/2013
Prep Method: METHOD

Prep Batch: HC130904-9A
QCBatchID: HC130904-9A-2
Run ID: HC130904-99A
Cleanup: NONE
Basis: N/A
File Name: 06031.dat

Sample Aliquot: 38.5 ml
Final Volume: 38.5 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
74-82-8	METHANE	142	158	1		111	80 - 120%
74-84-0	ETHANE	267	293	2		110	80 - 120%
74-98-6	PROPANE	391	416	1		106	80 - 120%

Lab ID: HC130904-9ALCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 09/04/2013
Date Analyzed: 09/04/2013
Prep Method: METHOD

Prep Batch: HC130904-9A
QCBatchID: HC130904-9A-2
Run ID: HC130904-99A
Cleanup: NONE
Basis: N/A
File Name: 06041.dat

Sample Aliquot: 38.5 ml
Final Volume: 38.5 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
74-82-8	METHANE	142	160	1		112	25	1
74-84-0	ETHANE	267	297	2		111	25	1
74-98-6	PROPANE	391	421	1		107	25	1

Data Package ID: *MEE1308545-1*

Prep Batch ID: HC130904-9A

Start Date: 09/04/13
Start Time: 12:00
Prep Analyst: Tyler Knaebel

End Date: 09/04/13
End Time: 15:00

Concentration Method: NONE
Extract Method: METHOD
Initial Volume Units: ml
Final Volume Units: ml

Batch Created By: dms
Date Created: 09/07/13
Time Created: 15:57
Validated By: dms
Date Validated: 09/07/13
Time Validated: 16:15

Comments:

QC Batch ID: HC130904-9A-2

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
HC130904-9A	MB	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308515
HC130904-9A	LCS	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308515
HC130904-9A	LCSD	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308515
1308515-3	MS	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308515
1308515-1	DUP	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308515
1308462-1	SMP	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308462
1308488-1	SMP	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308488
1308488-2	SMP	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308488
1308488-3	SMP	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308488
1308488-4	SMP	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308488
1308515-1	SMP	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308515
1308515-2	SMP	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308515
1308515-3	SMP	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308515
1308545-1	SMP	704681 Dolores WW	WATER	8/29/2013	38.5	38.5	NONE	1	1308545
1308545-3	SMP	705737 Dolores MW	WATER	8/29/2013	38.5	38.5	NONE	1	1308545
1308546-1	SMP	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	1308546

QC Types

CAR	Carrier reference sample		DUP	Laboratory Duplicate
LCS	Laboratory Control Sample		LCSD	Laboratory Control Sample Duplicat
MB	Method Blank		MS	Laboratory Matrix Spike
MSD	Laboratory Matrix Spike Duplicate		REP	Sample replicate
RVS	Reporting Level Verification Standar		SMP	Field Sample
SYS	Sample Yield Spike			

Calibration Report

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
User : noltej
Printed : 9/28/2012 5:02:46 PM

Methane (FID 1)
Average RF: 4182.10 RF StDev: 1567.96 RF %RSD: 37.4921
Scaling: None LSQ Weighting: 1/Amount Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 3683.71x + 2371.90
Goodness of fit (r^2): 0.999945

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Amount	0.5691	3.5569	10.6706	35.5687	142.275	355.687	711.374	1422.75	7113.74	28454.9
Area	4748	15803*	38329	117812	543268	1336985	2697589	5121198	2671984 1	1043345 53
RF	8342.997 7156914 4	4442.913 7732295	3592.019 1929226 1	3312.238 0070117 8	3818.444 1787612 3	3758.882 8148809 6	3792.085 3110215 7	3599.513 9262627 9	3756.091 5430744 2	3666.658 5345114
Last Area Residual	-0.07592 91	-0.08917 9	0.909492	4.23071	-4.55987	-6.61447	-20.2847	33.163	-139.133	132.365
Rep StDev										
Rep %RSD										
Rep 1 Area	4748	15803*	38329	117812	543268	1336985	2697589	5121198	2671984 1	1043345 53

(NOT USED)

Ethene (FID 1)
Average RF: 2289.92 RF StDev: 149.816 RF %RSD: 6.54243
Scaling: None LSQ Weighting: 1/Amount Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 2283.65x + 40.6353
Goodness of fit (r^2): 0.998721

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8
Amount	0.9959	6.2245	18.6736	62.2452	248.981	622.452	1244.9	2489.81
Area	2471	14591*	39331	130522	599031	1472496	2924981	5537326
RF	2481.172 8085149 1	2344.124 0260261 9	2106.235 5410847 4	2096.900 6445476 9	2405.933 4719518 4	2365.638 5924179 2	2349.564 0666824 3	2223.997 7276957 2
Last Area Residual	-0.06834 68	-0.14704 5	1.46851	5.10794	-13.3147	-22.3304	-35.9157	65.0528
Rep StDev								
Rep %RSD								
Rep 1 Area	2471	14591*	39331	130522	599031	1472496	2924981	5537326

(NOT USED)

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
User : noltej
Printed : 9/28/2012 5:02:46 PM

Ethane (FID 1)
Average RF: 3331.45 RF StDev: 296.992 RF %RSD: 8.91479
Scaling: None LSQ Weighting: 1/Amount Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 3301.37x + 208.802
Goodness of fit (r^2): 0.999122

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8
Amount	1.0671	6.6691	20.0074	66.6913	266.765	666.913	1333.83	2667.65
Area	4121	22629*	59981	200747	925135	2233101	4535931	8624957
RF	3861.868	3393.111	2997.940	3010.092	3467.976	3348.415	3400.693	3233.165
	6158748	5142972 8	7619180 9	7707212 2	1333097 9	7671611 3	2241656 2	7964065 5
Last Area Residual	-0.11792 3	-0.12208 2	1.90212	5.94735	-13.3993	-9.44072	-40.0659	55.1744
Rep StDev								
Rep %RSD								
Rep 1 Area	4121	22629*	59981	200747	925135	2233101	4535931	8624957

(NOT USED)

Propane (FID 1)
Average RF: 5590.35 RF StDev: 5911.31 RF %RSD: 105.741
Scaling: None LSQ Weighting: 1/Amount Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 3683.56x + 14240.9
Goodness of fit (r^2): 0.998684

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9
Amount	0.9781	5.8688	29.3442	97.8139	391.255	978.139	1956.28	3912.55	7825.11
Area	19762	91371*	87432	317871	1472347	3426675	7203010	13896020	29649557
RF	20204.478	15568.940	2979.5325	3249.7528	3763.1352	3503.2611	3681.9986	3551.6490	3789.0280
	069727	8396947	8224794	46988	8196672	9427247	4518178	1988328	8354562
Last Area Residual	-0.520754	-15.0702	9.47455	15.3855	-4.58578	51.7438	4.69714	143.981	-220.176
Rep StDev									
Rep %RSD									
Rep 1 Area	19762	91371*	87432	317871	1472347	3426675	7203010	13896020	29649557

(NOT USED)

Dissolved Gases (RSK175) Calibration Verification Summary

Acq. Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
Instrument : GC9
Data Acquired By : noltej
Data Processed By : noltej

Methane
(nom. conc. = 142.275 ppb)

Ethene
(nom. conc. = 248.981 ppb)

Sample	Filename	Exp. RT (min.)	RT	Dev.	Avg RF	Conc. ug/L	Nom. Conc.	% Rec.	Exp RT (min.)	RT	Dev.	Avg RF	Conc. ug/L	Nom. Conc.	% Rec.
400uL MEEP ICV	05048.dat	0.488	0.493	0.005	4182.103	291.004	284.549	**102**	0.548	0.552	0.003	2289.920	509.315	497.961	**102**
HC120928-9CCSD	05058.dat	0.488	0.492	0.003	4182.103	142.665	142.275	**100**	0.548	0.550	0.002	2289.920	267.389	248.981	**107**

Ethane
(nom. conc. = 266.765 ppb)

Propane
(nom. conc. = 391.255 ppb)

Sample	Filename	Exp. RT (min.)	RT	Dev.	Avg RF	Conc. ug/L	Nom. Conc.	% Rec.	Exp. RT (min.)	RT	Dev.	Avg RF	Conc. ug/L	Nom. Conc.	% Rec.
400uL MEEP ICV	05048.dat	0.578	0.583	0.005	3331.450	544.339	533.530	**102**	1.028	1.030	0.002	5590.354	777.835	782.511	**99**
HC120928-9CCSD	05058.dat	0.578	0.580	0.002	3331.450	283.725	266.765	**106**	1.028	1.028	0.000	5590.354	405.783	391.255	**104**

Dissolved Gases (RSK175) Calibration Verification Summary

Acq. Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2013\Meep130904.seq
Instrument : GC9
Data Acquired By : sheneman
Data Processed By : sheneman

Methane

(nom. conc. = 142.275 ppb)

Ethene

(nom. conc. = 248.981 ppb)

Sample	Filename	Exp. RT (min.)	RT	Dev.	Avg RF	Conc. ug/L	Nom. Conc.	% Rec.	Exp. RT (min.)	RT	Dev.	Avg RF	Conc. ug/L	Nom. Conc.	% Rec.
HC130904-9CCS	06031.dat	0.468	0.472	0.003	4182.103	157.759	142.275	**111**	0.523	0.528	0.005	2289.920	278.910	248.981	**112**
HC130904-9CCSD	06041.dat	0.468	0.470	0.002	4182.103	160.035	142.275	**112**	0.523	0.525	0.002	2289.920	285.641	248.981	**115**
CCV	06054.dat	0.468	0.468	0.000	4182.103	157.722	142.275	**111**	0.523	0.525	0.002	2289.920	277.779	248.981	**112**

Ethane

(nom. conc. = 266.765 ppb)

Propane

(nom. conc. = 391.255 ppb)

Sample	Filename	Exp. RT (min.)	RT	Dev.	Avg RF	Conc. ug/L	Nom. Conc.	% Rec.	Exp. RT (min.)	RT	Dev.	Avg RF	Conc. ug/L	Nom. Conc.	% Rec.
HC130904-9CCS	06031.dat	0.552	0.557	0.005	3331.450	293.455	266.765	**110**	0.982	0.987	0.005	5590.354	415.975	391.255	**106**
HC130904-9CCSD	06041.dat	0.552	0.553	0.002	3331.450	297.162	266.765	**111**	0.982	0.982	0.000	5590.354	420.576	391.255	**107**
CCV	06054.dat	0.552	0.553	0.002	3331.450	291.612	266.765	**109**	0.982	0.982	0.000	5590.354	407.153	391.255	**104**

Supporting Raw Data

Dissolved Gases (RSK175) Sequence Log

Logbook No. / Page : 3652 / 238

Analytical Method : RSK-175 SOP : 449r3

Data Acquired By : noltej
Data Processed By : noltej

Instrument : GC9
(1st file) Acq. Date : 9/28/2012 12:29:09 PM
(1st file) Data Path : \\gcserver\gcdata\Projects\GC9\Data\2012\Meep120928\05034.dat
Sequence File : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
Acq. Method Path : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928.met

QC Name	Std ID #	Spike Vol. Added (uL)	Final Std Vol. (uL)
CCV (LCS)	ST120227-4	200	38500
MS	ST120227-4	200	38500
ICV	ST120927-4	400	38500

Temp. = 21.7 C
Atm. Pressure = 850.3 mbar
Final Sample Vol. = 38.5 mL
Headspace Vol. = 4.0 mL

Data File	Acq. Method	Sample	Head Space?	pH <= 2?	RR?	Comments
05034.dat	meep120928.met	blank run	~~Y/N~~	~~Y/N~~	Y / (N)	
05035.dat	meep120928.met	Instrument Blank	Y / N	Y / N	(Y) N	
05036.dat	meep120928.met	Instrument Blank	Y / N	Y / N	Y / (N)	
05037.dat	meep120928.met	4uL MEE, 0.25uL Propane	Y / N	Y / N	Y / (N)	MEE = ST120227-5, P = ST120227-6
05038.dat	meep120928.met	*25uL MEE, 1.5uL Propane	Y / N	Y / N	~~Y/N~~	(*SEE BELOW
05039.dat	meep120928.met	15uL MEEP - ICAL	Y / N	Y / N	Y (N)	MEEP = ST120227-4
05040.dat	meep120928.met	50uL MEEP - ICAL	Y / N	Y / N	Y / N	
05041.dat	meep120928.met	200uL MEEP - ICAL	Y / N	Y / N	Y / N	
05042.dat	meep120928.met	500uL MEEP - ICAL	Y / N	Y / N	Y / N	
05043.dat	meep120928.met	1000uL MEEP - ICAL	Y / N	Y / N	Y / N	
05044.dat	meep120928.met	2000uL MEEP - ICAL	~~Y/N~~	Y / N	Y / N	
05045.dat	meep120928.met	500uL Methane, 200uL Propane	~~Y/N~~	Y / N	Y / N	M = ST120227-1, P = ST120227-3
05046.dat	meep120928.met	2000uL Methane - ICAL	~~Y/N~~	Y / N	Y / N	
05047.dat	meep120928.met	400uL MEEP ICV	Y / N	Y / N	~~Y/N~~	All PASSED, but baseline unstable - SEE NEXT FILE
05048.dat	meep120928.met	400uL MEEP ICV	Y / N	Y / N	Y (N)	All pass (MEEP = ~~ST120927-4~~ ST120927-4)
05049.dat	meep120928.met	blank run	Y / N	Y / N	Y / N	<RL
05050.dat	meep120928.met	Instrument Blank	Y / N	Y / N	Y / N	<RL
05051.dat	meep120928.met	HC120928-9MB	~~Y/N~~	Y / N	Y / N	<RL
05052.dat	meep120928.met	Ref Blank RU20	Y / N	Y / N	Y / N	<RL
05053.dat	meep120928.met	HC120928-9LCS	~~Y/N~~	~~Y/N~~	Y / N	PASS
05054.dat	meep120928.met	1209298-2	Y / N	(Y) N	Y / N	
05055.dat	meep120928.met	1209298-2MS	Y / N	(Y) N	Y / N	
05056.dat	meep120928.met	1209343-2	Y / N	(Y) N	Y / N	
05057.dat	meep120928.met	1209395-1	Y / N	Y (N)	Y / N	(pH ~ 7)
05058.dat	meep120928.met	HC120928-9CCSD	~~Y/N~~	~~Y/N~~	Y / N	PASS

* NOTE : THE SECOND-TO-LOWEST ICAL point (file 05038.dat) was NOT included in the curve - Inspection of the plot showed an anomalous Recovery for propane, indicating a problem w/ preparation of that standard - this data point was removed for ALL targets.

9/28/12

Dissolved Gases (RSK175) Sequence Log

Logbook No. / Page : 3652 / 299

Analytical Method : RSK-175 SOP : 449r3

Data Acquired By : sheneman
Data Processed By : sheneman

Instrument : GC9
(1st file) Acq. Date : 9/4/2013 2:58:36 PM
(1st file) Data Path : \\gcserver\gcdata\Projects\GC9\Data\2013\Meep130903\06030.dat
Sequence File : \\gcserver\gcdata\Projects\GC9\Sequence\2013\Meep130904.seq
Acq. Method Path : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928f.met

QC Name	Std ID #	Spike Vol. Added (uL)	Final Std Vol. (uL)
CCV (LCS)	ST120227-4	200	38500
MS	ST120227-4	200	38500
ICV	ST120927-4	400	38500

Temp. = 21.0 C
Atm. Pressure = 851 mba
Final Sample Vol. = 38.5 mL
Headspace Vol. = 4.0 mL

Data File	Acq. Method	Sample		Head Space?	pH <= 2?	RR?	Comments
06030.dat	meep120928f.met	Instrument Blank DS		~~Y/N~~	~~Y/N~~	Y/N	
06031.dat	meep120928f.met	HC130904-9CCS		Y/N	Y/N	Y/N	
06032.dat	meep120928f.met	HC130904-9MB		Y/N	Y/N	Y/N	
06033.dat	meep120928f.met	FRIG. BLANK 11-12-12		~~Y/N~~	~~Y/N~~	Y/N	
06034.dat	meep120928f.met	~~1308391-3~~	1	Y/N	Y/N	Y/N	
06035.dat	meep120928f.met	1308468-10	1	Y/N	Y/N	Y/N	
06036.dat	meep120928f.met	1308462-1	4	Y/N	Y/N	Y/N	
06037.dat	meep120928f.met	1308488-1	1	Y/N	Y/N	Y/N	
06038.dat	meep120928f.met	1308488-2		Y/N	Y/N	Y/N	
06039.dat	meep120928f.met	1308488-3		Y/N	Y/N	Y/N	
06040.dat	meep120928f.met	1308488-4		Y/N	Y/N	Y/N	
06041.dat	meep120928f.met	HC130904-9CCSD		~~Y/N~~	~~Y/N~~	Y/N	
06042.dat	meep120928f.met	1308515-1		Y/N	Y/N	Y/N	
06043.dat	meep120928f.met	1308515-1DUP	5	Y/N	Y/N	Y/N	
06044.dat	meep120928f.met	1308515-2		Y/N	Y/N	Y/N	
06045.dat	meep120928f.met	1308515-3		Y/N	Y/N	Y/N	
06046.dat	meep120928f.met	1308515-3MS		Y/N	Y/N	Y/N	
06047.dat	meep120928f.met	1308545-1	11	Y/N	Y/N	Y/N	
06048.dat	meep120928f.met	1308545-3		Y/N	Y/N	Y/N	
06049.dat	meep120928f.met	1308546-1	4	Y/N	Y/N	Y/N	
06050.dat	meep120928f.met	1308401-1		Y/N	Y/N	Y/N	
06051.dat	meep120928f.met	1308401-2	1	Y/N	Y/N	Y/N	
06052.dat	meep120928f.met	1308401-3		Y/N	Y/N	Y/N	
06053.dat	meep120928f.met	1308401-4		Y/N	Y/N	Y/N	
06054.dat	meep120928f.met	CCV		~~Y/N~~	~~Y/N~~	Y/N	

Calibration Raw Data

Dissolved Gases Quantitation Report

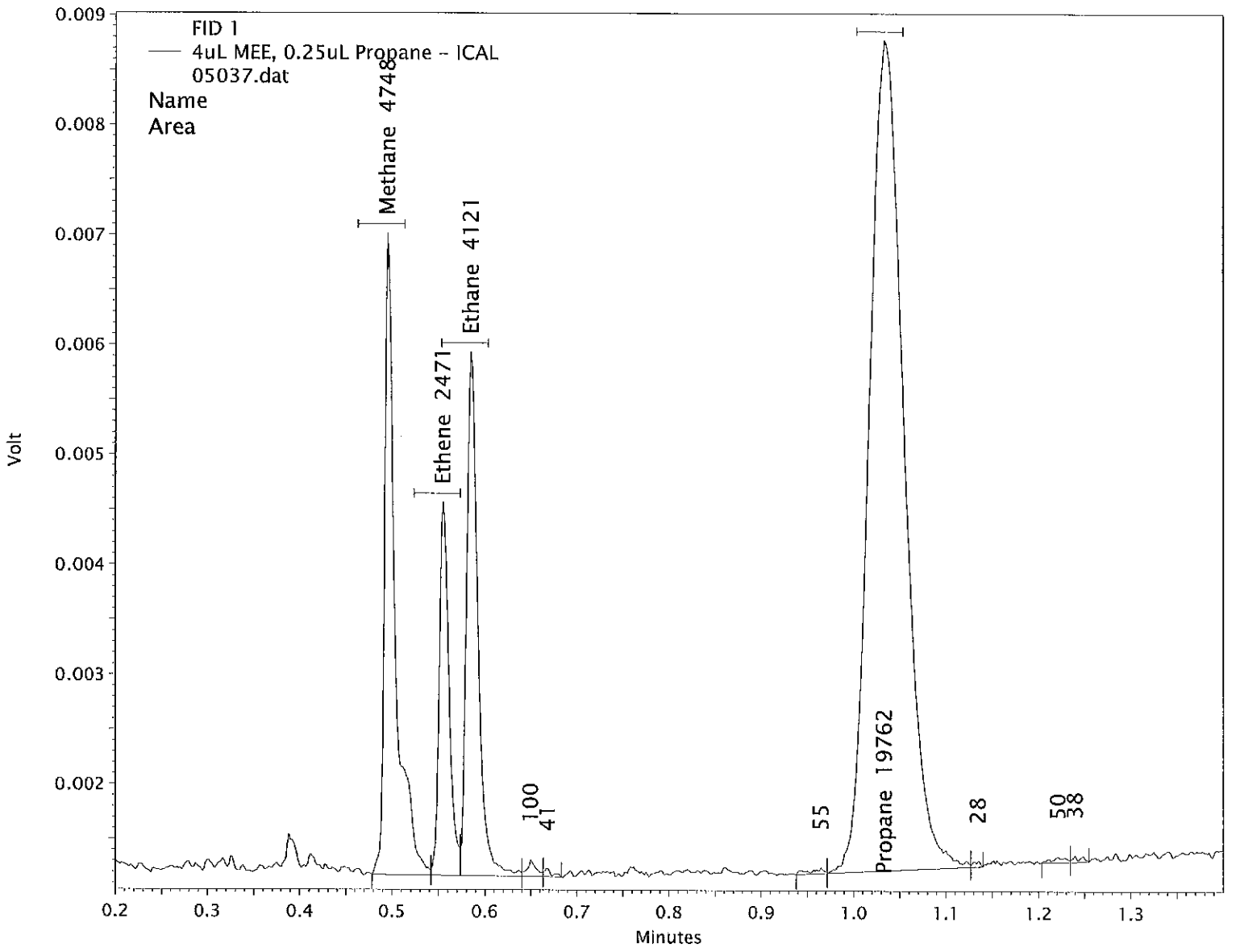
ALSLG-Fort Collins

Sample : 4uL MEE, 0.25uL Propane - ICAL
Filename : \\gcserver\gcdata\Projects\GC9\Data\2012\Meep120928\05037.dat
Acquisition Date : 9/28/2012 12:41:06 PM
Quantitation Date : 9/28/2012 4:54:36 PM
Last Method Update : 9/28/2012 4:53:48 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
Data Description : MEE=ST120227-5, P=ST120227-6

Instrument : GC9
Data Acquired By : noltej
Data Processed By : noltej
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	0.495	0.488	4748	BV	0.65	ug/L
Ethene	0.555	0.548	2471	VV	1.06	ug/L
Ethane	0.585	0.578	4121	VV	1.19	ug/L
Propane	1.033	1.028	19762	VV	1.50	ug/L



Column : CarbonPLOT

{1st int. code is for peak start, 2nd int code is for peak stop} B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

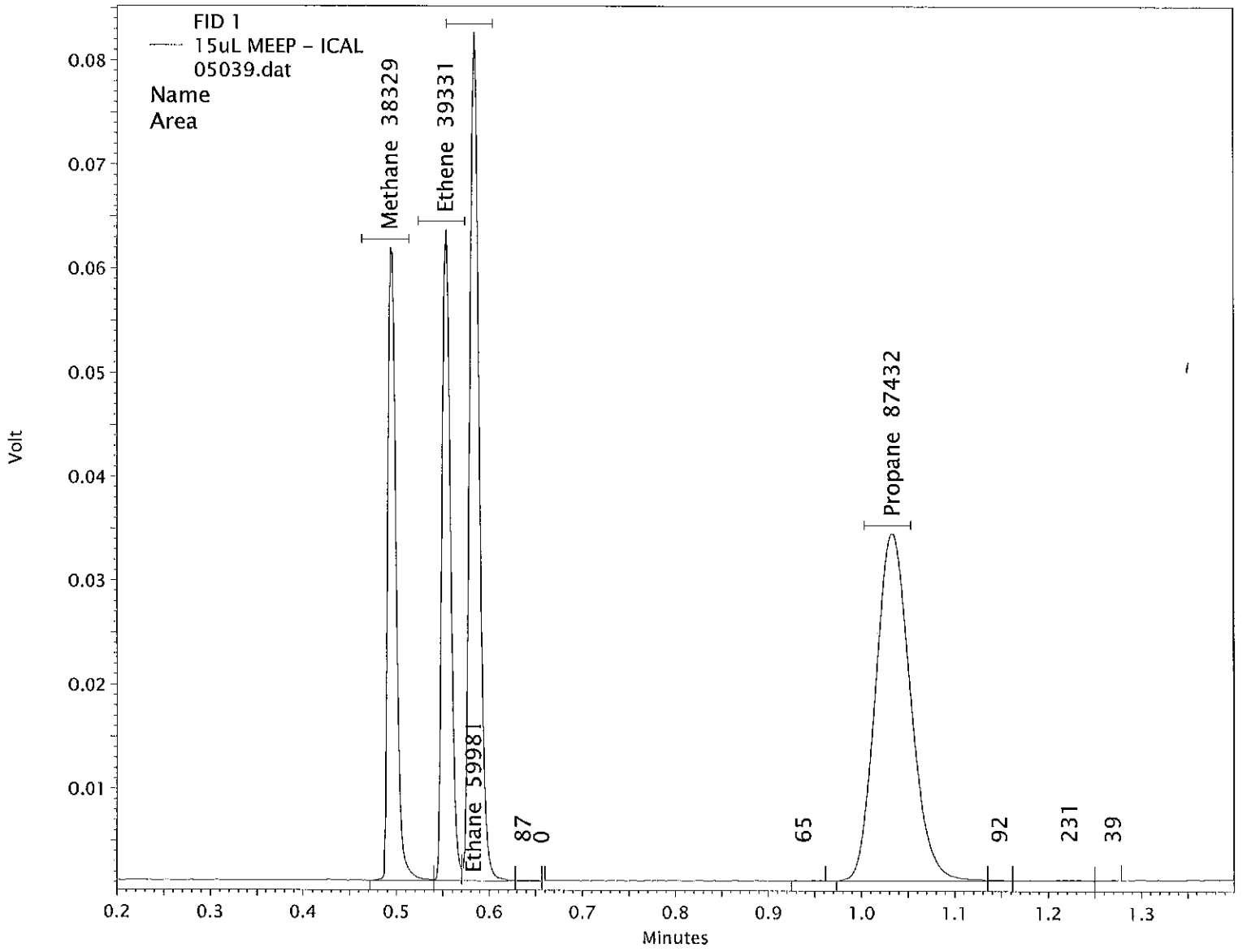
Dissolved Gases Quantitation Report

Sample : 15uL MEEP - ICAL
Filename : \\gcserver\gcdata\Projects\GC9\Data\2012\Meep120928\05039.dat
Acquisition Date : 9/28/2012 12:47:18 PM
Quantitation Date : 9/28/2012 4:54:42 PM
Last Method Update : 9/28/2012 4:53:48 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
Data Description : MEEP=ST120227-4

Instrument : GC9
Data Acquired By : noltej
Data Processed By : noltej
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	0.493	0.488	38329	BV	9.76	ug/L
Ethene	0.553	0.548	39331	VV	17.21	ug/L
Ethane	0.583	0.578	59981	VV	18.11	ug/L
Propane	1.033	1.028	87432	BV	19.87	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

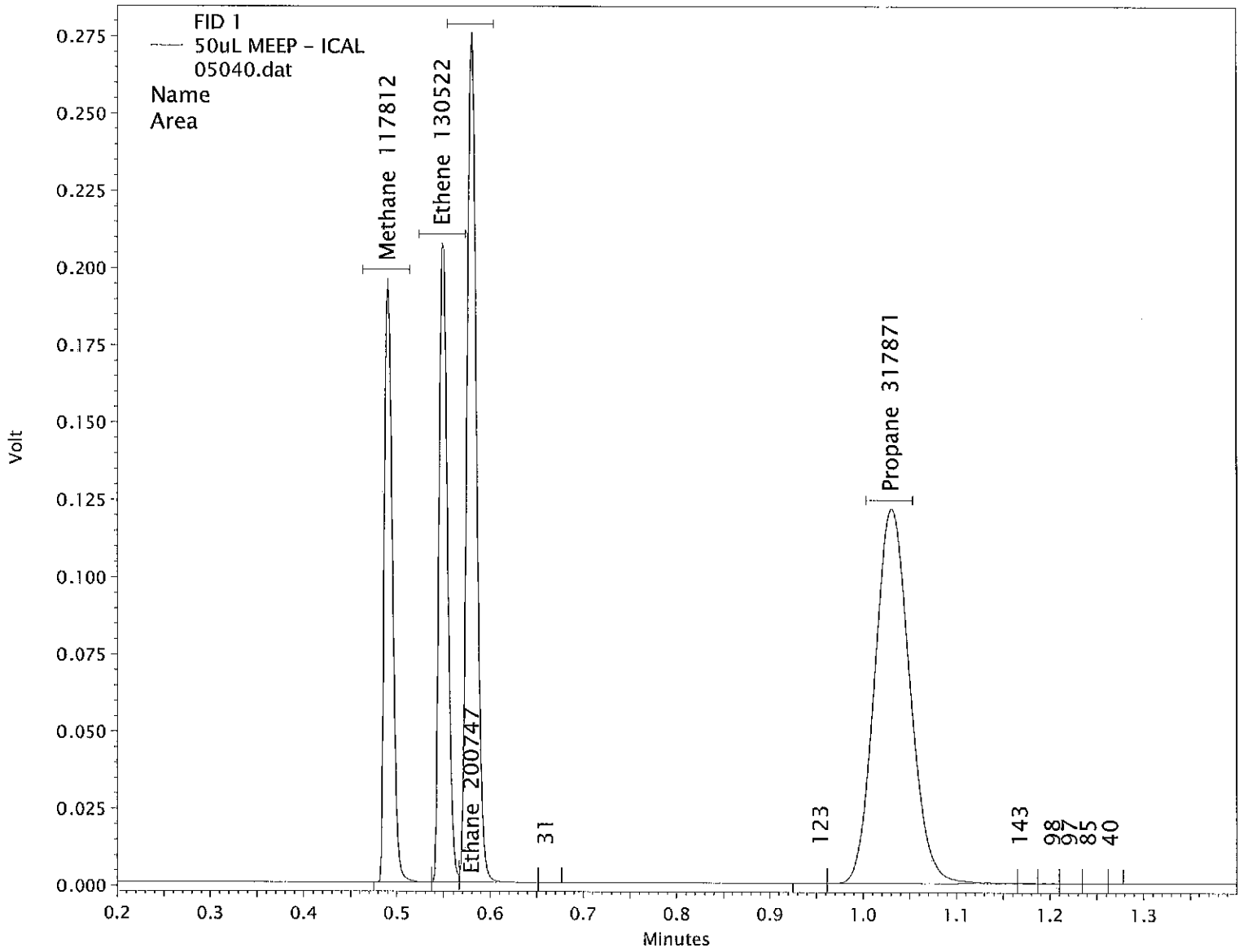
Dissolved Gases Quantitation Report

Sample : 50uL MEEP - ICAL
Filename : \\gcserver\gcdata\Projects\GC9\Data\2012\Meep120928\05040.dat
Acquisition Date : 9/28/2012 12:49:50 PM
Quantitation Date : 9/28/2012 4:54:45 PM
Last Method Update : 9/28/2012 4:53:48 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
Data Description : MEEP=ST120227-4

Instrument : GC9
Data Acquired By : noltej
Data Processed By : noltej
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	0.490	0.488	117812	BV	31.34	ug/L
Ethene	0.548	0.548	130522	VV	57.14	ug/L
Ethane	0.580	0.578	200747	VB	60.74	ug/L
Propane	1.030	1.028	317871	VV	82.43	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

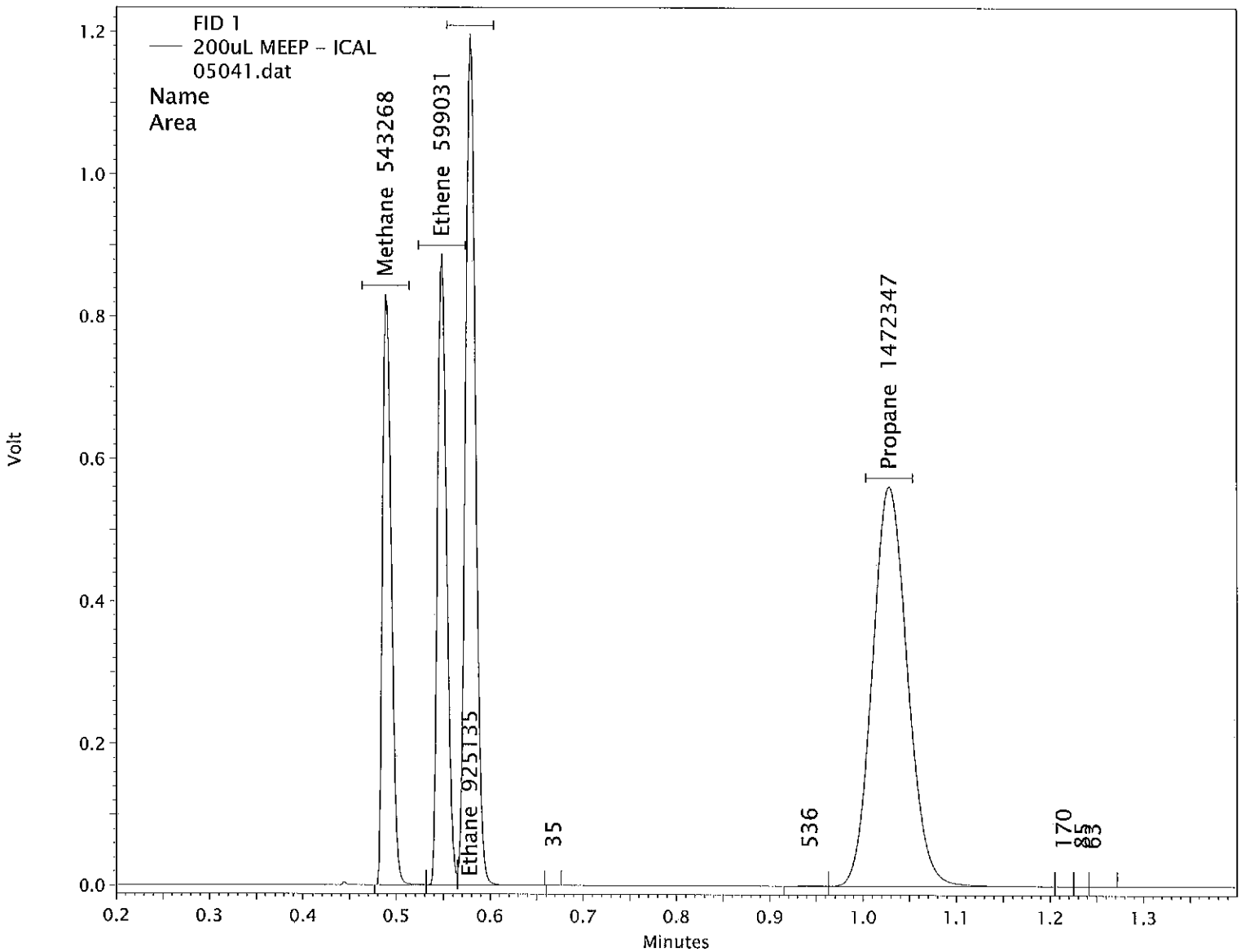
Dissolved Gases Quantitation Report

Sample : 200uL MEEP - ICAL
Filename : \\gcserver\gcdata\Projects\GC9\Data\2012\Meep120928\05041.dat
Acquisition Date : 9/28/2012 12:52:54 PM
Quantitation Date : 9/28/2012 4:54:48 PM
Last Method Update : 9/28/2012 4:53:48 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
Data Description : MEEP=ST120227-4

Instrument : GC9
Data Acquired By : noltej
Data Processed By : noltej
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	0.488	0.488	543268	BV	146.83	ug/L
Ethene	0.548	0.548	599031	VV	262.30	ug/L
Ethane	0.578	0.578	925135	VB	280.16	ug/L
Propane	1.028	1.028	1472347	VV	395.84	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

Dissolved Gases Quantitation Report

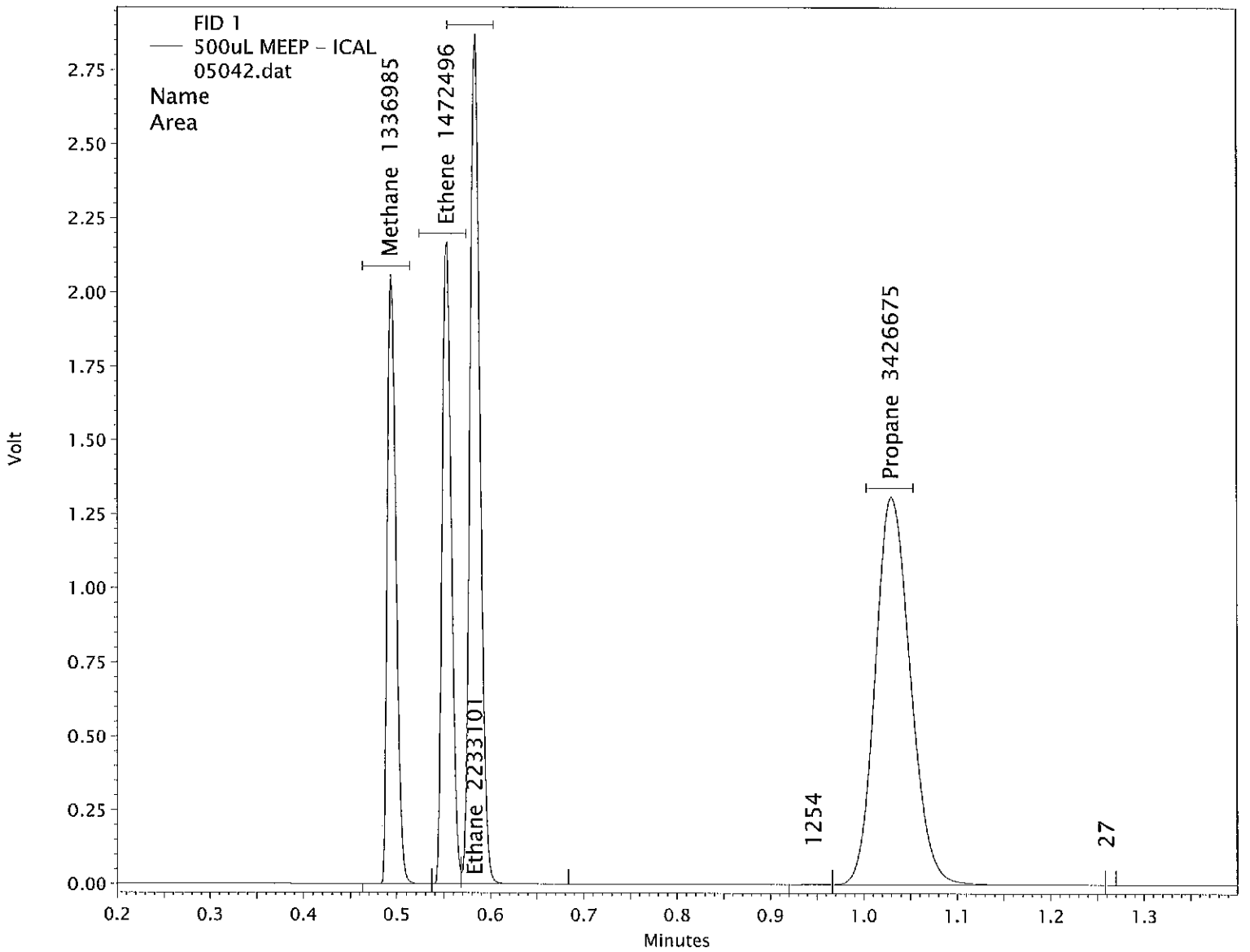
ALSLG-Fort Collins

Sample : 500uL MEEP - ICAL
Filename : \\gcserver\gcdata\Projects\GC9\Data\2012\Meep120928\05042.dat
Acquisition Date : 9/28/2012 12:57:00 PM
Quantitation Date : 9/28/2012 4:54:51 PM
Last Method Update : 9/28/2012 4:53:48 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
Data Description : MEEP=ST120227-4

Instrument : GC9
Data Acquired By : noltej
Data Processed By : noltej
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	0.493	0.488	1336985	BV	362.30	ug/L
Ethene	0.553	0.548	1472496	VV	644.78	ug/L
Ethane	0.583	0.578	2233101	VI	676.35	ug/L
Propane	1.030	1.028	3426675	VV	926.39	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

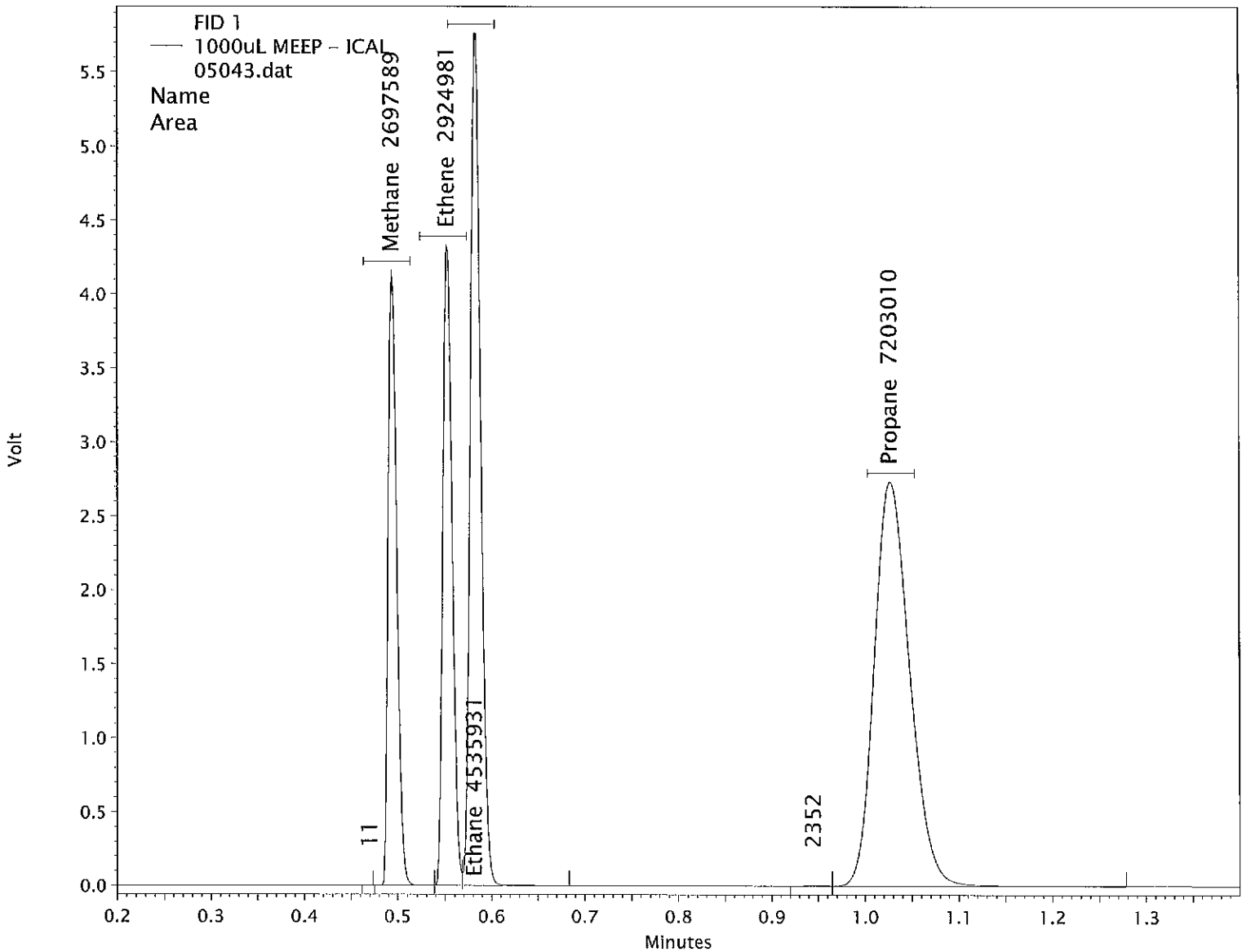
Dissolved Gases Quantitation Report

Sample : 1000uL MEEP - ICAL
Filename : \\gcserver\gcdata\Projects\GC9\Data\2012\Meep120928\05043.dat
Acquisition Date : 9/28/2012 1:00:48 PM
Quantitation Date : 9/28/2012 4:54:54 PM
Last Method Update : 9/28/2012 4:53:48 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
Data Description : MEEP=ST120227-4

Instrument : GC9
Data Acquired By : noltej
Data Processed By : noltej
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	0.493	0.488	2697589	BV	731.66	ug/L
Ethene	0.552	0.548	2924981	VV	1280.82	ug/L
Ethane	0.582	0.578	4535931	VI	1373.89	ug/L
Propane	1.027	1.028	7203010	VI	1951.58	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

Dissolved Gases Quantitation Report

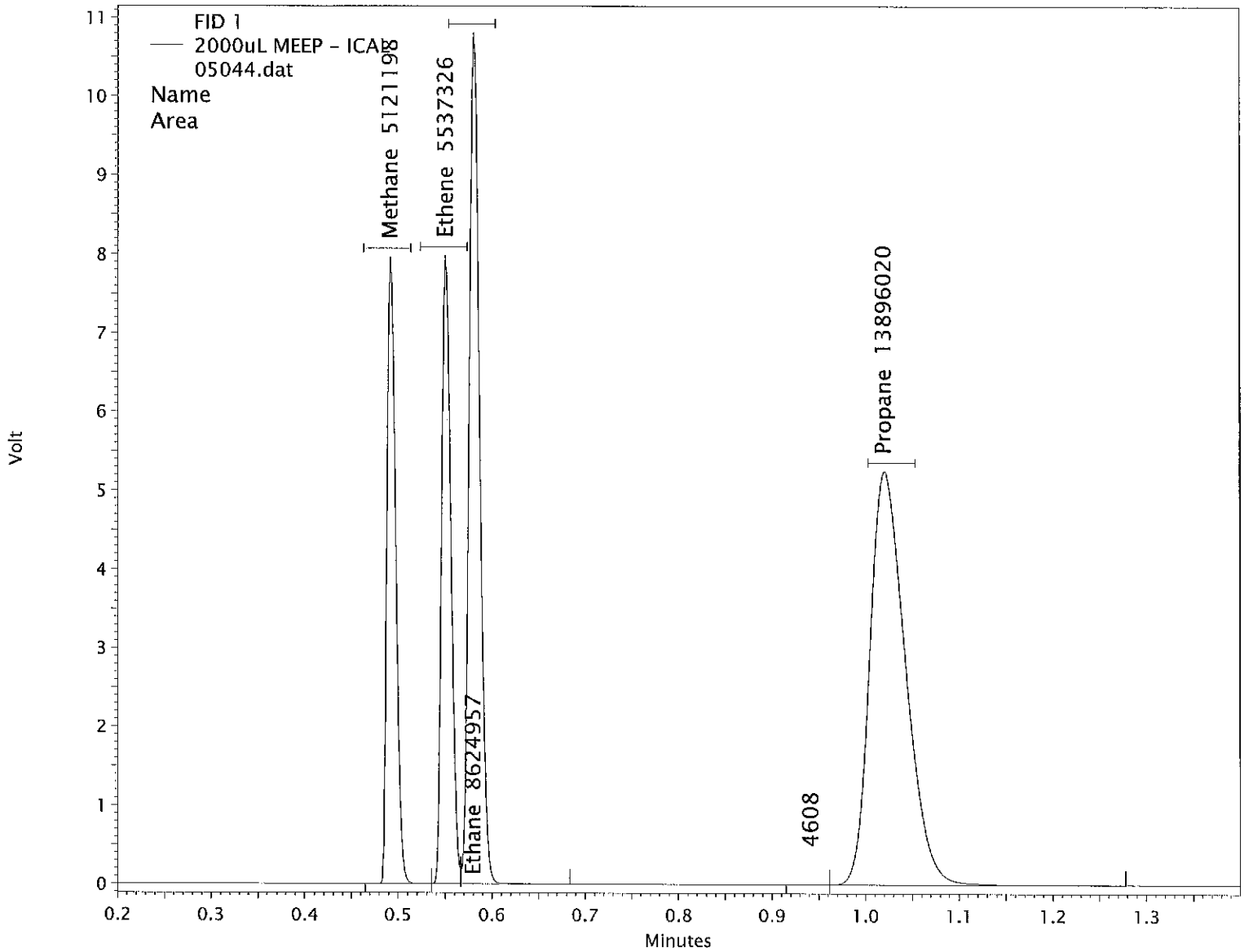
ALSLG-Fort Collins

Sample : 2000uL MEEP - ICAL
Filename : \\gcserver\gcdata\Projects\GC9\Data\2012\Meep120928\05044.dat
Acquisition Date : 9/28/2012 1:03:59 PM
Quantitation Date : 9/28/2012 4:54:57 PM
Last Method Update : 9/28/2012 4:53:48 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
Data Description : MEEP=ST120227-4

Instrument : GC9
Data Acquired By : noltej
Data Processed By : noltej
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	0.492	0.488	5121198	BV	1389.58	ug/L
Ethene	0.550	0.548	5537326	VV	2424.75	ug/L
Ethane	0.580	0.578	8624957	VI	2612.48	ug/L
Propane	1.020	1.028	13896020	VI	3768.57	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

Dissolved Gases Quantitation Report

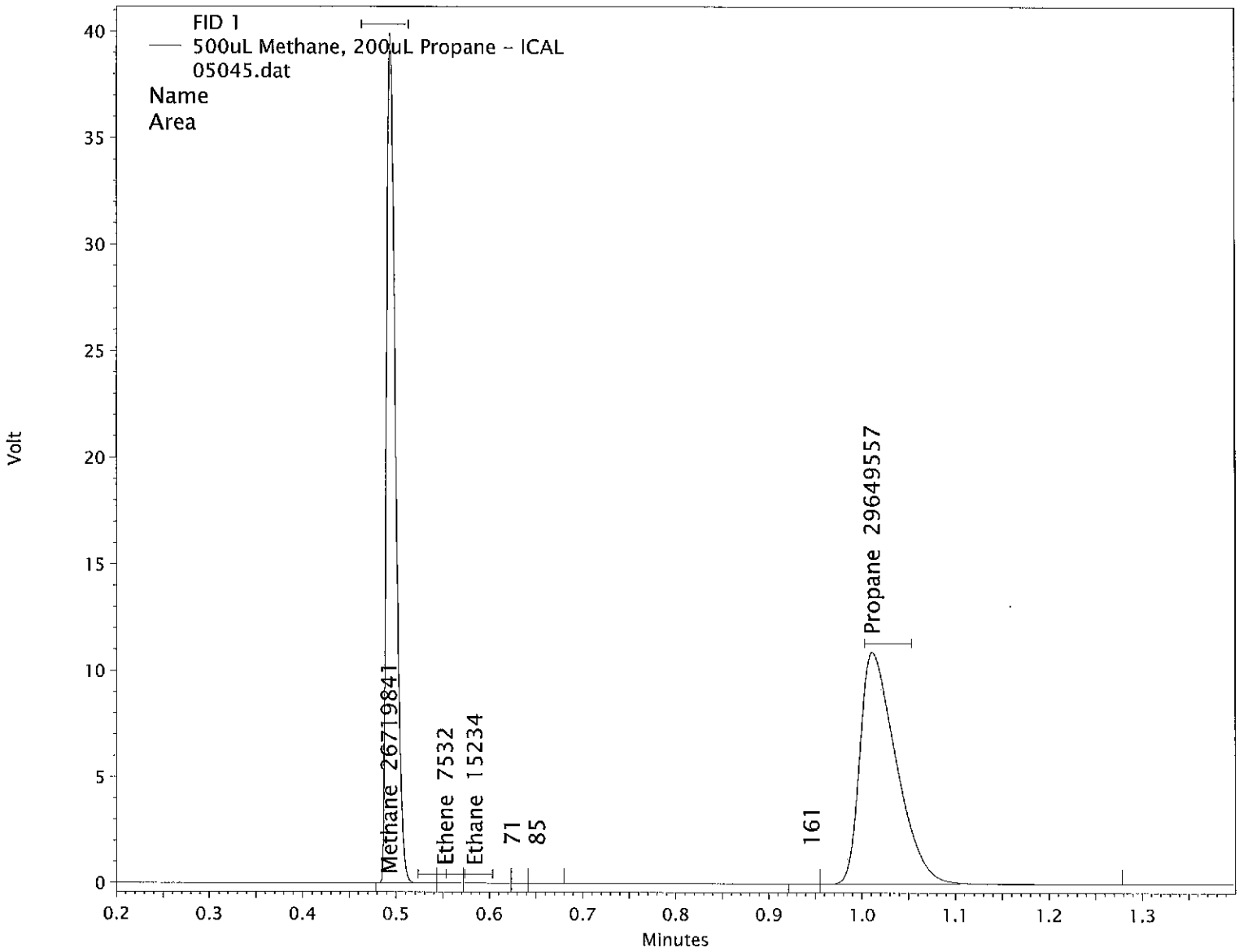
ALSLG-Fort Collins

Sample : 500uL Methane, 200uL Propane - ICAL
Filename : \\gcserver\gcdata\Projects\GC9\Data\2012\Meep120928\05045.dat
Acquisition Date : 9/28/2012 1:13:32 PM
Quantitation Date : 9/28/2012 4:55:00 PM
Last Method Update : 9/28/2012 4:53:48 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
Data Description : M=ST120227-1, P=ST120227-3

Instrument : GC9
Data Acquired By : noltej
Data Processed By : noltej
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	0.493	0.488	26719841	BV	7252.87	ug/L
Ethene	0.553	0.548	7532	VV	3.28	ug/L
Ethane	0.585	0.578	15234	VV	4.55	ug/L
Propane	1.012	1.028	29649557	VI	8045.28	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

Dissolved Gases Quantitation Report

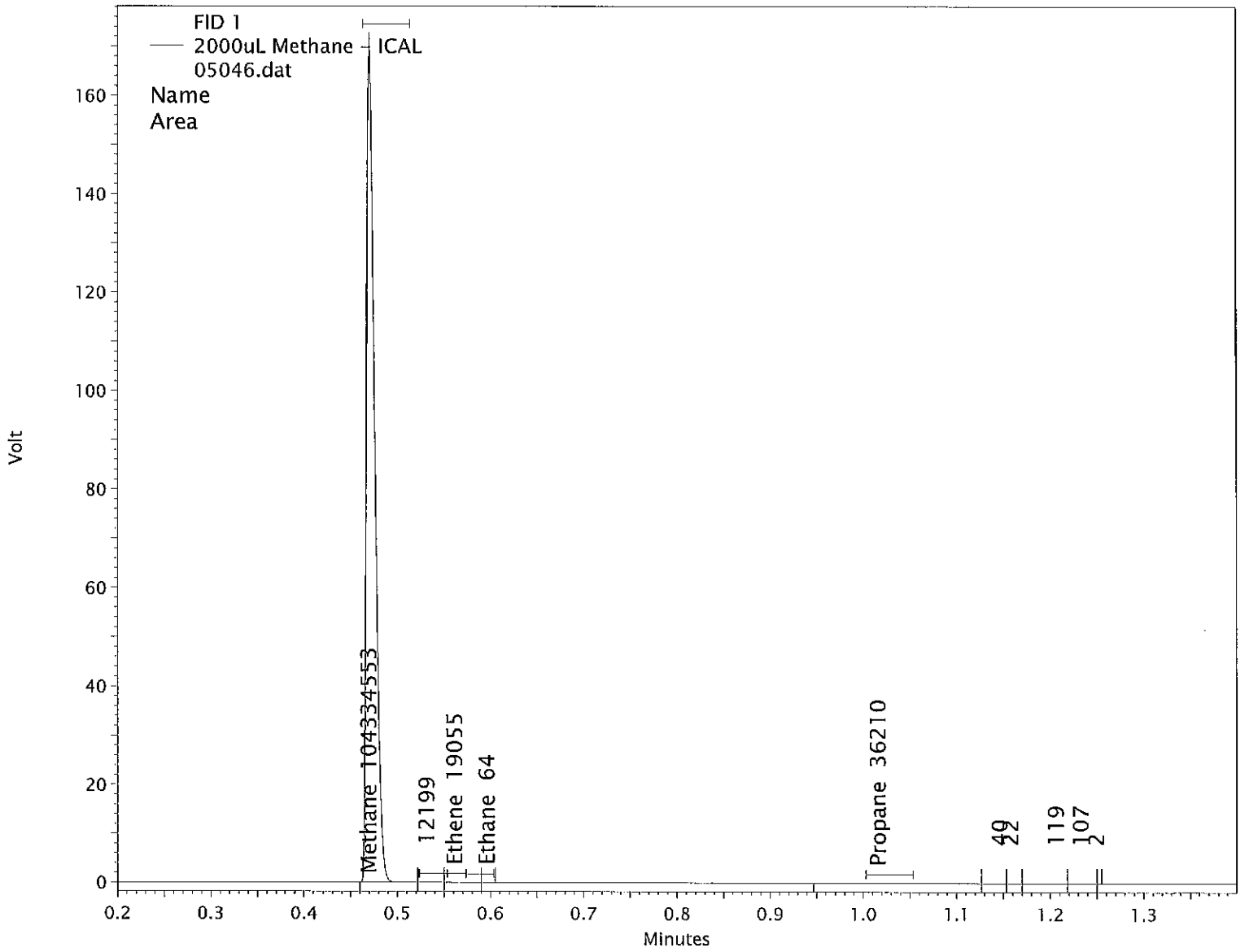
ALSLG-Fort Collins

Sample : 2000uL Methane - ICAL
Filename : \\gcserver\gcdata\Projects\GC9\Data\2012\Meep120928\05046.dat
Acquisition Date : 9/28/2012 1:16:11 PM
Quantitation Date : 9/28/2012 4:55:03 PM
Last Method Update : 9/28/2012 4:53:48 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
Data Description : M=ST120227-1

Instrument : GC9
Data Acquired By : noltej
Data Processed By : noltej
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	0.470	0.488	104334553	IV	28322.58	ug/L
Ethene	0.562	0.548	19055	VV	8.33	ug/L
Ethane	0.597	0.578	64	VB	0.00	ug/L
Propane	1.017	1.028	36210	BB	5.96	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

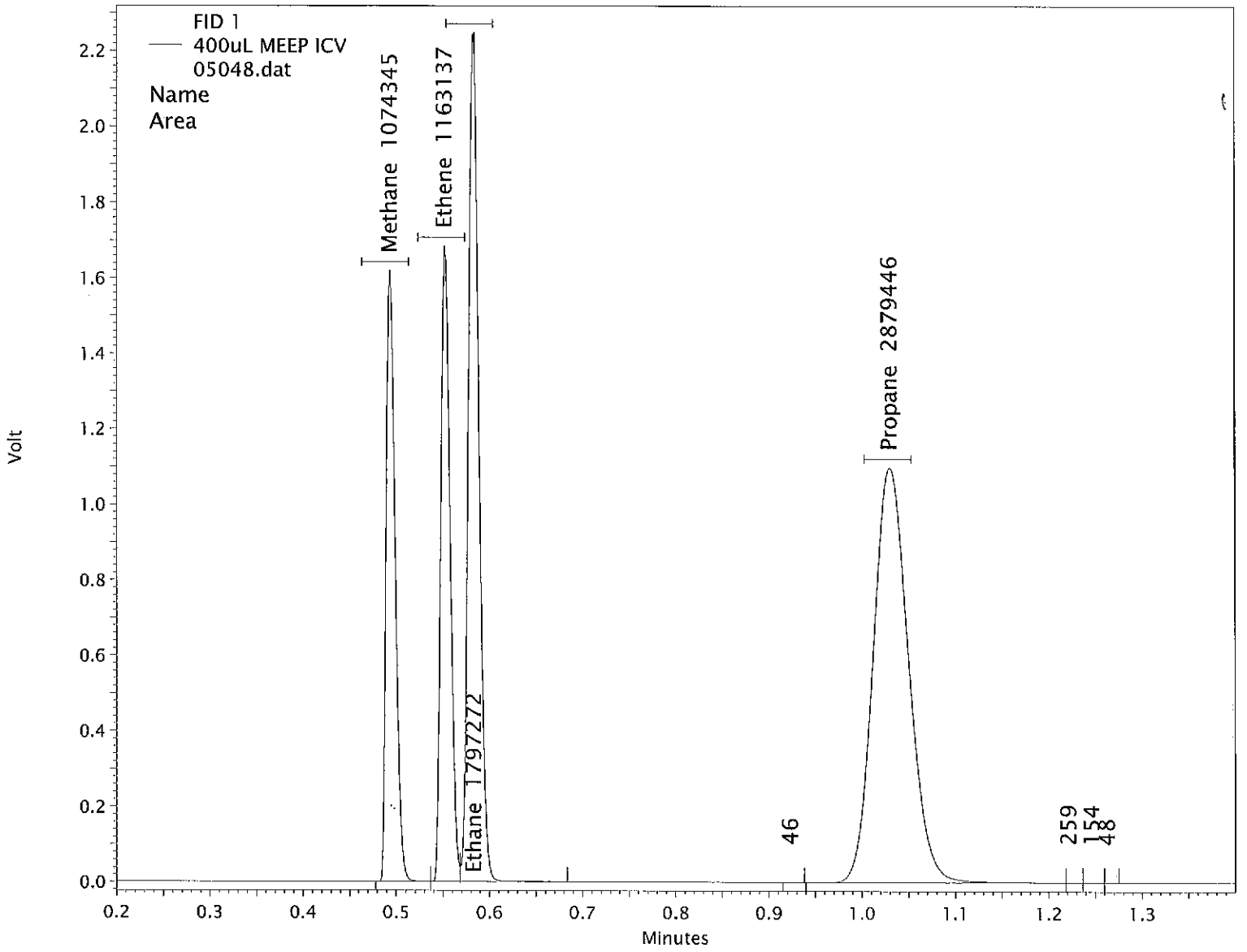
Dissolved Gases Quantitation Report

Sample : 400uL MEEP ICV
Filename : \\gcserver\gcdata\Projects\GC9\Data\2012\Meep120928\05048.dat
Acquisition Date : 9/28/2012 1:48:16 PM
Quantitation Date : 9/28/2012 4:55:09 PM
Last Method Update : 9/28/2012 4:53:48 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2012\meep120928.seq
Data Description : MEEP=ST120927-4

Instrument : GC9
Data Acquired By : noltej
Data Processed By : noltej
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	0.493	0.488	1074345	BV	291.00	ug/L
Ethene	0.552	0.548	1163137	VV	509.32	ug/L
Ethane	0.583	0.578	1797272	VI	544.34	ug/L
Propane	1.030	1.028	2879446	BV	777.84	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

35a713

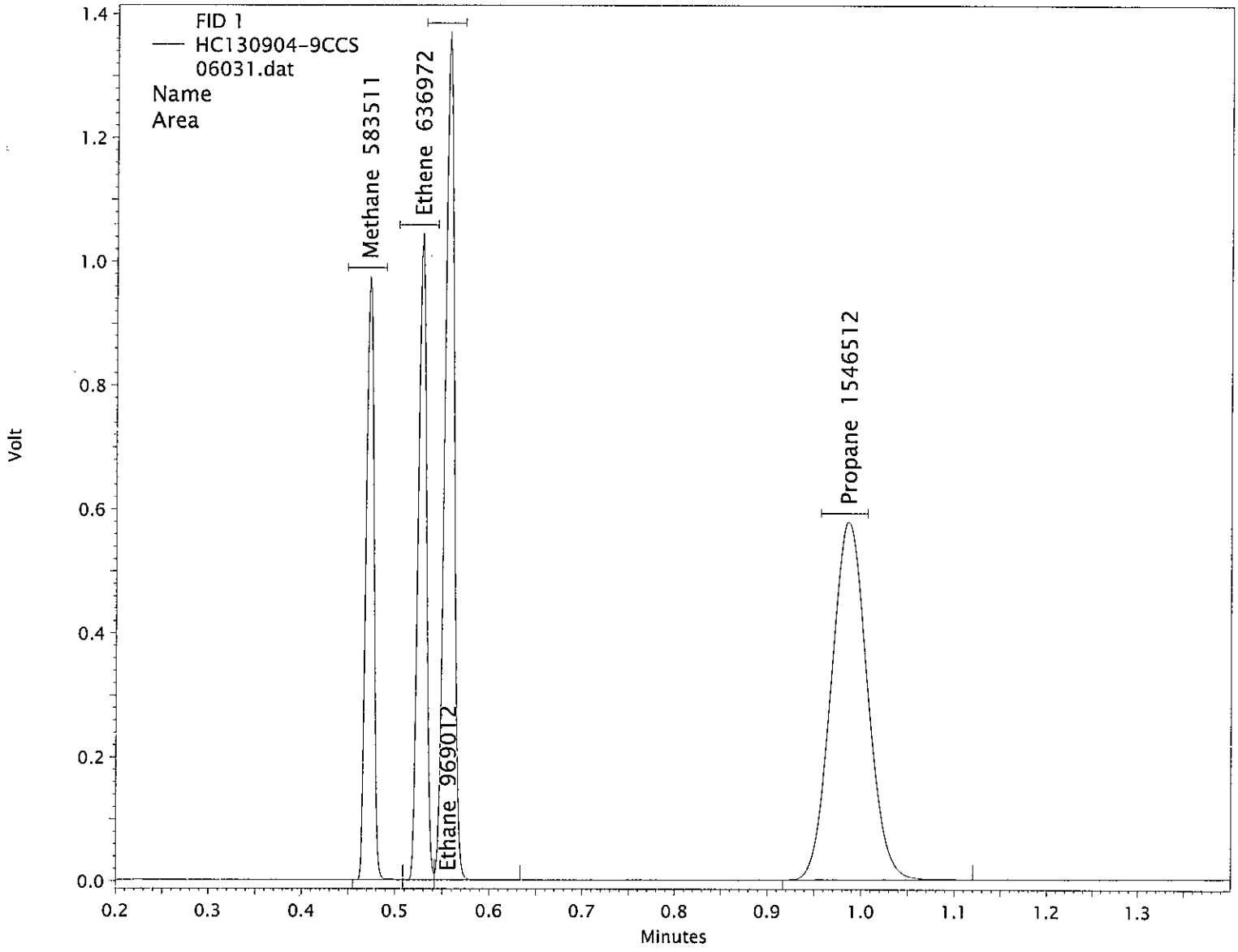
Dissolved Gases Quantitation Report

ALSLG-Fort Collins

Sample : HC130904-9CCS
Filename : \\gcserver\gcdata\Projects\GC9\Data\2013\Meep130903\06031.dat
Acquisition Date : 9/4/2013 3:04:52 PM — Instrument : GC9
Quantitation Date : 9/6/2013 4:41:59 PM — Data Acquired By : sheneman
Last Method Update : 9/4/2013 4:22:25 PM — Data Processed By : sheneman
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928f.met — Inj. Vol. (uL) : 300
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2013\Meep130904.seq
Data Description : {Data Description}

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Unit
Methane	0.472	0.468	583511	BV	157.76	ug/L
Ethene	0.528	0.523	636972	VV	278.91	ug/L
Ethane	0.557	0.552	969012	VB	293.45	ug/L
Propane	0.987	0.982	1546512	IB	415.98	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

A DS 9-7-13

Dissolved Gases Quantitation Report

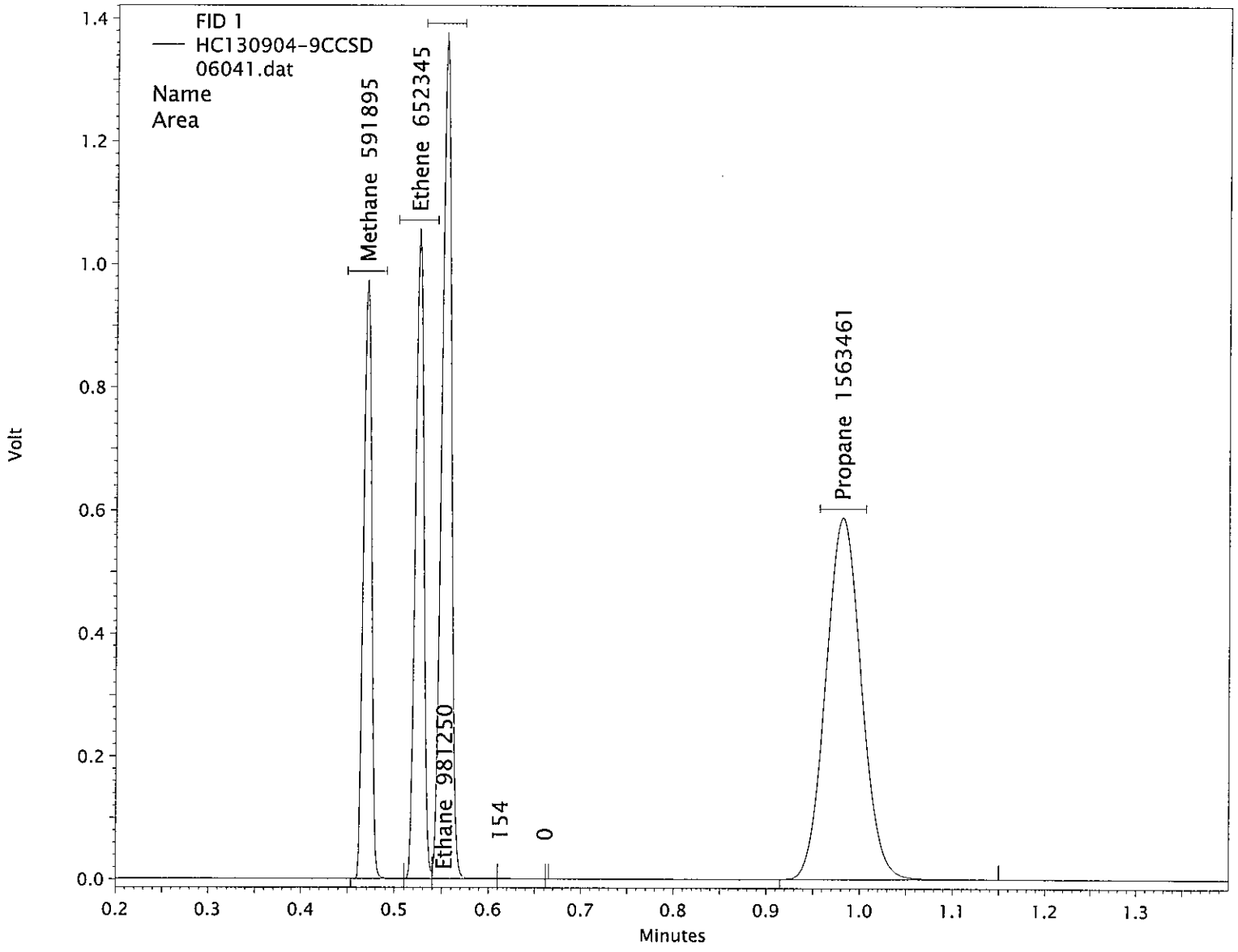
ALSLG-Fort Collins

Sample : HC130904-9CCSD
Filename : \\gcserver\gcdata\Projects\GC9\Data\2013\Meep130903\06041.dat
Acquisition Date : 9/4/2013 4:03:30 PM
Quantitation Date : 9/6/2013 4:42:35 PM
Last Method Update : 9/4/2013 4:22:25 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928f.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2013\Meep130904.seq
Data Description : {Data Description}

Instrument : GC9
Data Acquired By : sheneman
Data Processed By : sheneman
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Unit
Methane	0.470	0.468	591895	BV	160.04	ug/L
Ethene	0.525	0.523	652345	VV	285.64	ug/L
Ethane	0.553	0.552	981250	VV	297.16	ug/L
Propane	0.982	0.982	1563461	II	420.58	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

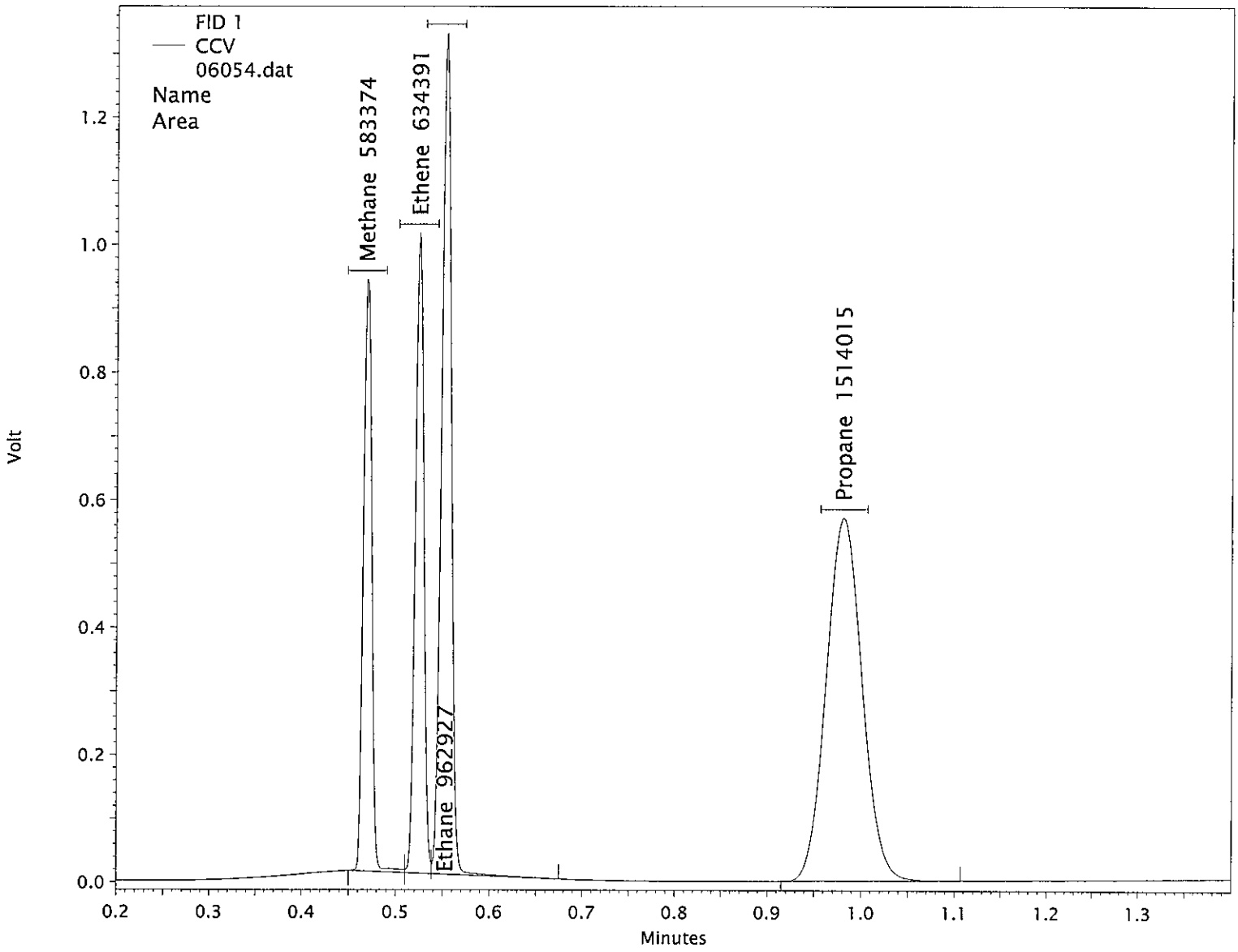
Dissolved Gases Quantitation Report

ALSLG-Fort Collins

Sample : CCV
Filename : \\gcserver\gcdata\Projects\GC9\Data\2013\Meep130903\06054.dat
Acquisition Date : 9/4/2013 4:48:06 PM — Instrument : GC9
Quantitation Date : 9/6/2013 4:58:08 PM — Data Acquired By : sheneman
Last Method Update : 9/4/2013 4:22:25 PM — Data Processed By : sheneman
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928f.met — Inj. Vol. (uL) : 300
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2013\Meep130904.seq
Data Description : {Data Description}

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Unit
Methane	0.468	0.468	583374	BV	157.72	ug/L
Ethene	0.525	0.523	634391	VV	277.78	ug/L
Ethane	0.553	0.552	962927	VI	291.61	ug/L
Propane	0.982	0.982	1514015	IB	407.15	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

Sample Raw Data

Dissolved Gases Quantitation Report

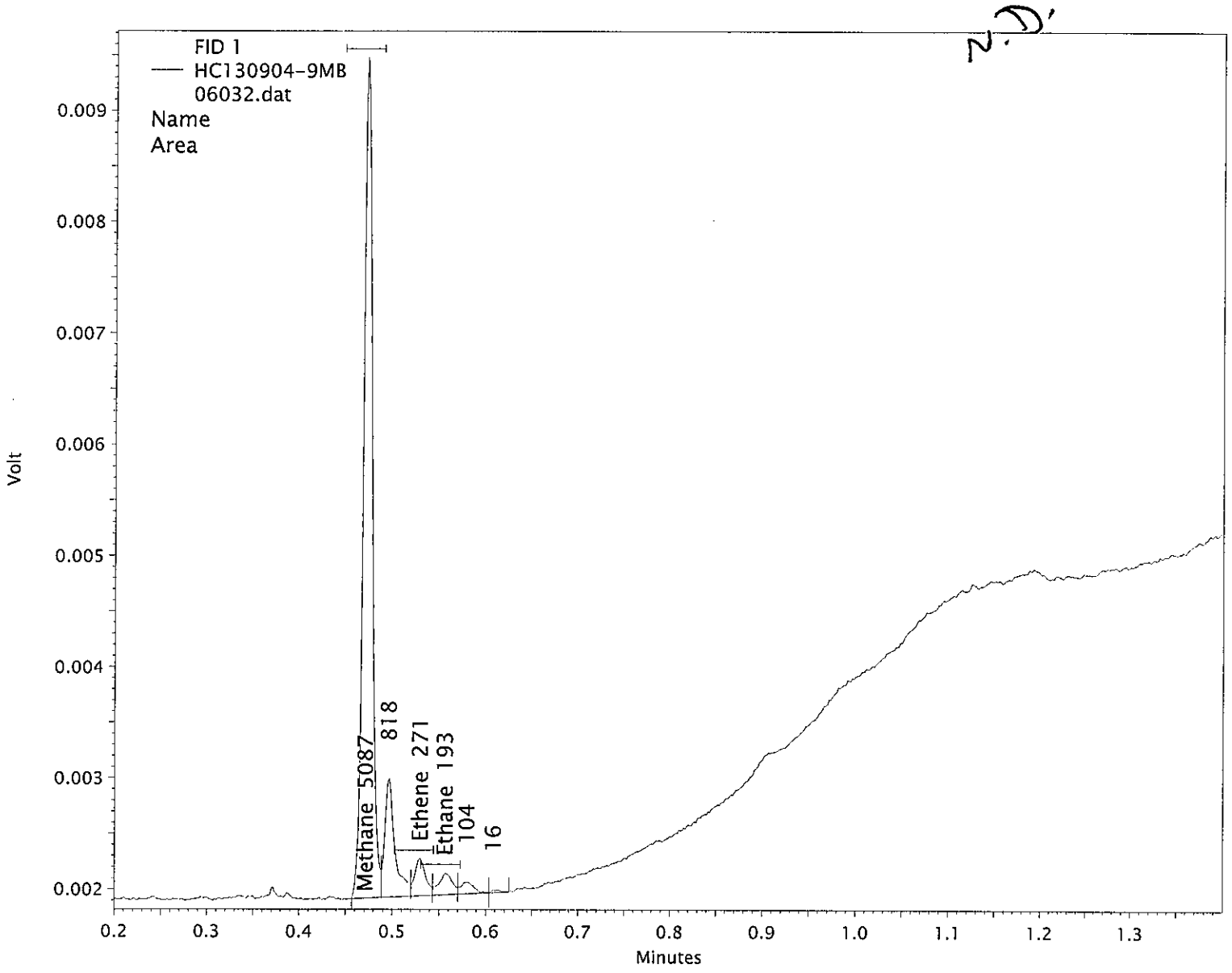
ALSLG-Fort Collins

Sample : HC130904-9MB
Filename : \\gcserver\gcdata\Projects\GC9\Data\2013\Meep130903\06032.dat
Acquisition Date : 9/4/2013 3:08:53 PM
Quantitation Date : 9/6/2013 4:42:03 PM
Last Method Update : 9/4/2013 4:22:25 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928f.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2013\Meep130904.seq
Data Description : {Data Description}

Instrument : GC9
Data Acquired By : sheneman
Data Processed By : sheneman
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Unit
Methane	0.472	0.468	5087	BV	0.74 <RL	ug/L
Ethene	0.530	0.523	271	VV	0.10	ug/L
Ethane	0.557	0.552	193	VV	0.00	ug/L
Propane		0.982			0.00 BDL	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

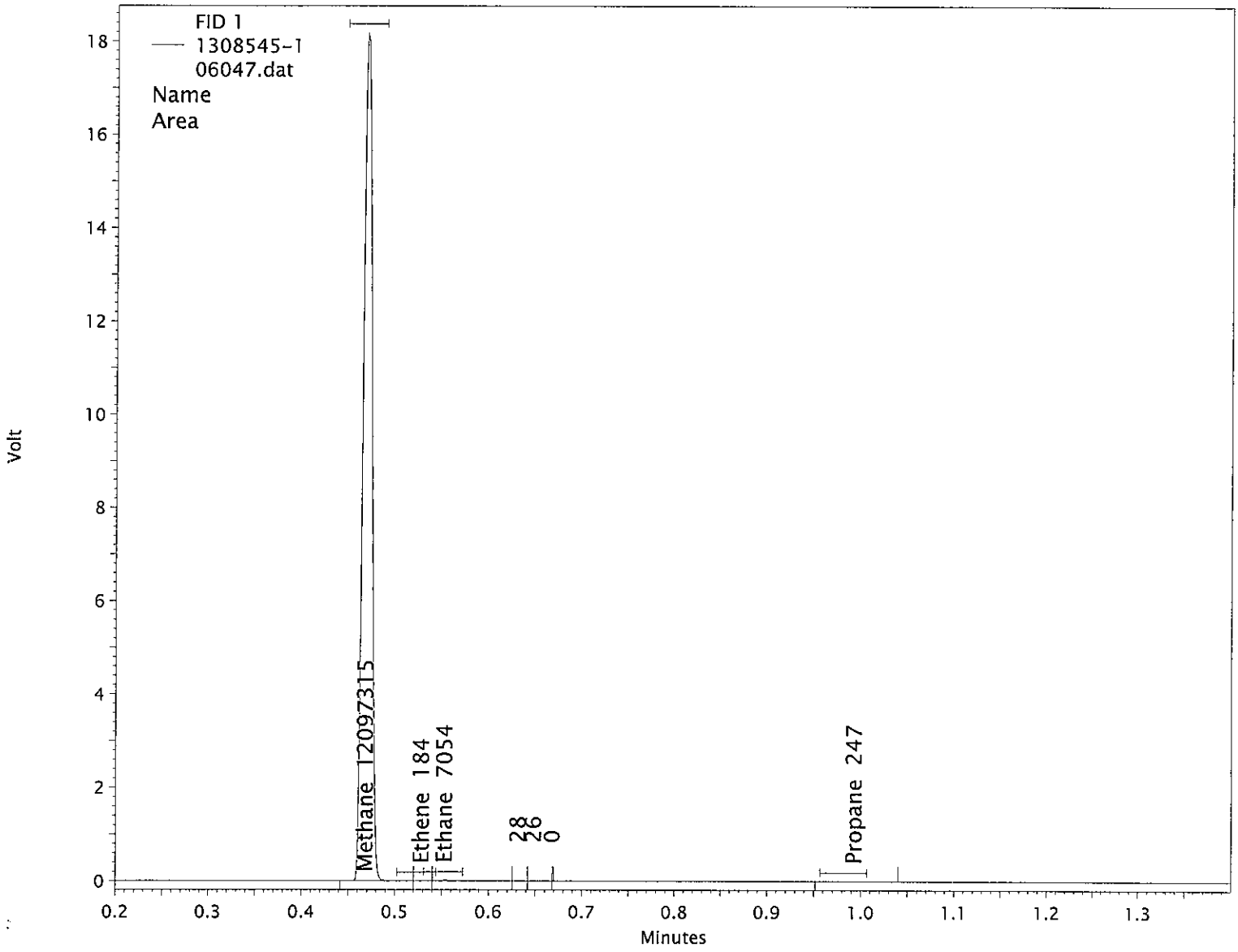
Dissolved Gases Quantitation Report

Sample : 1308545-1
Filename : \\gcserver\gcdata\Projects\GC9\Data\2013\Meep130903\06047.dat
Acquisition Date : 9/4/2013 4:23:34 PM
Quantitation Date : 9/6/2013 4:57:44 PM
Last Method Update : 9/4/2013 4:22:25 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928f.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2013\Meep130904.seq
Data Description : {Data Description}

Instrument : GC9
Data Acquired By : sheneman
Data Processed By : sheneman
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Unit
Methane	0.468	0.468	12097315	IV	3283.36	ug/L
Ethene	0.528	0.523	184	VV	0.06	ug/L
Ethane	0.553	0.552	7054	VV	2.07	ug/L
Propane	0.993	0.982	247	BB	0.00	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

Dissolved Gases Quantitation Report

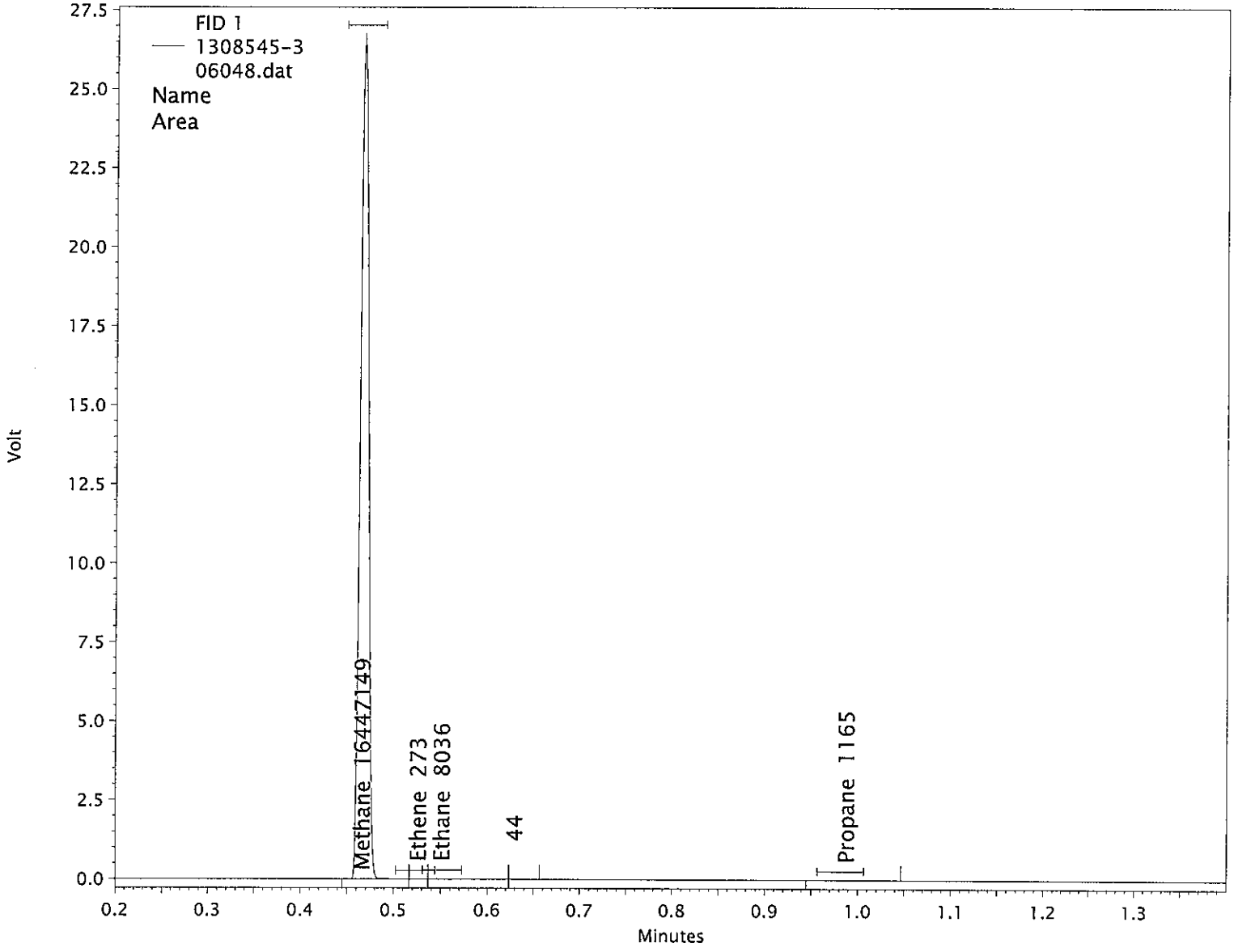
ALSLG-Fort Collins

Sample : 1308545-3
Filename : \\gcserver\gcdata\Projects\GC9\Data\2013\Meep130903\06048.dat
Acquisition Date : 9/4/2013 4:26:34 PM
Quantitation Date : 9/6/2013 4:57:48 PM
Last Method Update : 9/4/2013 4:22:25 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928f.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2013\Meep130904.seq
Data Description : {Data Description}

Instrument : GC9
Data Acquired By : sheneman
Data Processed By : sheneman
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Unit
Methane	0.467	0.468	16447149	BV	4464.19	ug/L
Ethene	0.527	0.523	273	VV	0.10	ug/L
Ethane	0.552	0.552	8036	VV	2.37	ug/L
Propane	0.988	0.982	1165	BB	0.00	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

Raw Data Quality Control Samples

35a713

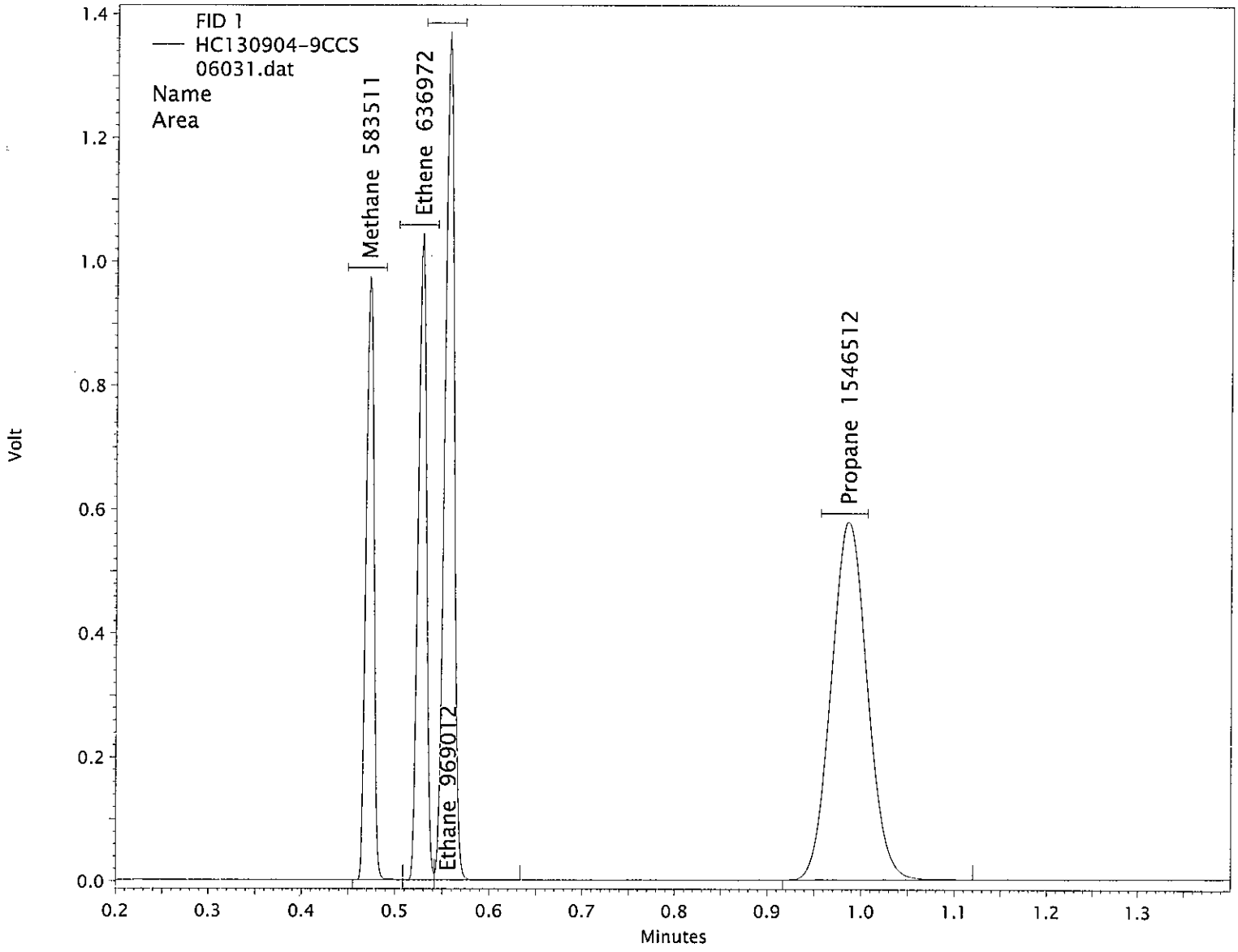
Dissolved Gases Quantitation Report

ALSLG-Fort Collins

Sample : HC130904-9CCS
Filename : \\gcserver\gcdata\Projects\GC9\Data\2013\Meep130903\06031.dat
Acquisition Date : 9/4/2013 3:04:52 PM
Instrument : GC9
Quantitation Date : 9/6/2013 4:41:59 PM
Data Acquired By : sheneman
Last Method Update : 9/4/2013 4:22:25 PM
Data Processed By : sheneman
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928f.met
Inj. Vol. (uL) : 300
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2013\Meep130904.seq
Data Description : {Data Description}

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Unit
Methane	0.472	0.468	583511	BV	157.76	ug/L
Ethene	0.528	0.523	636972	VV	278.91	ug/L
Ethane	0.557	0.552	969012	VB	293.45	ug/L
Propane	0.987	0.982	1546512	IB	415.98	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.

A DS 9-7-13

Dissolved Gases Quantitation Report

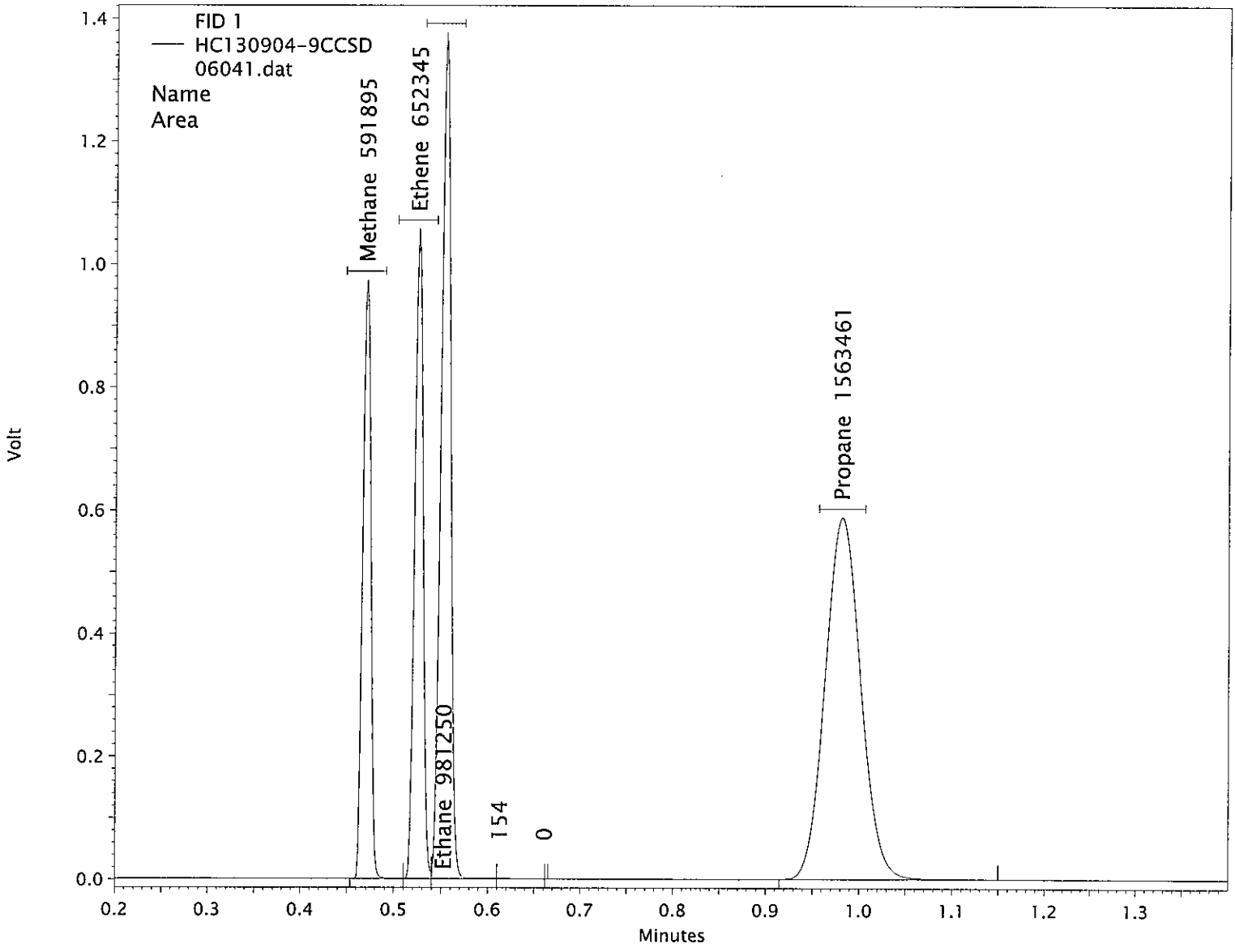
ALSLG-Fort Collins

Sample : HC130904-9CCSD
Filename : \\gcserver\gcdata\Projects\GC9\Data\2013\Meep130903\06041.dat
Acquisition Date : 9/4/2013 4:03:30 PM
Quantitation Date : 9/6/2013 4:42:35 PM
Last Method Update : 9/4/2013 4:22:25 PM
Method : \\gcserver\gcdata\Projects\GC9\Method\2012\meep120928f.met
Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2013\Meep130904.seq
Data Description : {Data Description}

Instrument : GC9
Data Acquired By : sheneman
Data Processed By : sheneman
Inj. Vol. (uL) : 300

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Unit
Methane	0.470	0.468	591895	BV	160.04	ug/L
Ethene	0.525	0.523	652345	VV	285.64	ug/L
Ethane	0.553	0.552	981250	VV	297.16	ug/L
Propane	0.982	0.982	1563461	II	420.58	ug/L



Column : CarbonPLOT

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, I=ended by int. off event, N=begin negative peak, P=end negative peak, H=forward horiz, h=backward horiz, M=manual baseline or peak, m=move baseline start/stop, S=shoulder, T=tangent skim, V=valley, v=forced valley point, x=split peak, E=end of chromatogram encountered, R=reset baseline, L=lowest point horiz.