



ALS Paragon



Dissolved Gasses Case Narrative

Cordilleran Compliance Services, Inc.

Rulison Area Well Monitoring

Work Order Number: 0812200

1. This report consists of 12 water samples. The samples were received cool and intact by ALS Paragon on 12/19/08. The vials for samples 0812200-3 and -12 contained headspace prior to analysis because they were not received headspace free. The samples had a pH > 2 at the time of analysis. Only the aqueous phase of the samples was analyzed.
2. These samples were prepared and analyzed according to method RSK-175 procedures and SOP449R0.
3. The preparation batch included a method blank, laboratory control sample, laboratory control sample duplicate. 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.
4. All preparation QC results were within the acceptance criteria.
5. All samples are associated with one or more of the following analytical QC: initial calibrations, initial calibration verifications (ICV), and continuing calibration verifications (CCV).
6. All analytical QC were within the acceptance criteria.
7. Sample dilutions were not required for the requested analysis.
8. The samples were prepared and analyzed within the established holding times.
9. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in SOP 939 Revision 3. 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 Paragon certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Emily Knodel
Emily Knodel
Organics Primary Data Reviewer

12-31-08
Date

Tyler Wankel
Tyler Wankel
Organics Final Data Reviewer

12-31-08
Date

***Paragon Analytics
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 retention time data indicate the presence of a compound that meets the GC 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 equal to or outside the control criteria used.
- +**: This flag indicates that the relative percent difference (RPD) equals or exceeds the control criteria.

ALS Paragon

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0812200

Client Name: Cordilleran Compliance Services, Inc.

Client Project Name: Rulison Area Well Monitoring

Client Project Number:

Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
7-22B	0812200-1		WATER	17-Dec-08	8:38
7-22D	0812200-2		WATER	17-Dec-08	9:07
10-22B	0812200-3		WATER	17-Dec-08	10:01
6-22B	0812200-4		WATER	17-Dec-08	10:18
6-22D	0812200-5		WATER	17-Dec-08	11:08
16-22D	0812200-6		WATER	17-Dec-08	12:13
9-22D	0812200-7		WATER	17-Dec-08	12:39
16-22B	0812200-8		WATER	17-Dec-08	12:54
9-22B	0812200-9		WATER	17-Dec-08	13:10
10-22D	0812200-10		WATER	17-Dec-08	13:43
15-22B	0812200-11		WATER	17-Dec-08	13:58
15-22D	0812200-12		WATER	17-Dec-08	14:35



Paragon Analyticals

A Division of DataChem Laboratories, Inc.

225 Commerce Drive Fort Collins, CO 80524
800-443-1511 or (970) 490-1511 (970) 490-1522 Fax

0812200

Accession Number (LAB ID)

Chain-of-Custody Date 12/18/08 Page 1 of 2

Originator: Retain pink copy!

Project Name/No.: Paragon Area Well Monitoring Sampler(s): J Hix Turnaround (circle one) Standard or Rush (Due _____) Dispose: Date _____ or Return to Client _____

Report To: JAMES HIX
Phone: 302.237.2072
Fax: 302.237.2659

E-mail: james@acconsulting.com

Company: CORDILLERA a division of Olson Associates
Address: 4640 Table Mountain Dr. # 200
GORDEN, CO 80403

Circle method (right); provide additional information as needed (comments).

Sample ID	Date	Time *	Lab ID	Matrix	Preservative (Indicate type... HCl, etc.)	No. of Containers	Method	Results
7-22B	12/17/08	0838	1	W	Y	13	VOCS	X
7-22D		0907	2	W		13	BTEX (only)	X
10-22B		1001	3	W		13	Explosives	X
6-22B		1018	4	W		13	Herbicides	X
6-22D		1108	5	W		13	PCBs	X
16-22D		1213	6	W		13	OC Pesticides	X
9-22D		1239	7	W		13	SVOCs	X
16-22B		125A	8	W		13	TCLP Metals SW1311 Hg	X
9-22B		1310	9	W		13	TCLP Organics SW1311	X
10-22D		1343	10	W		13	Disolved Metals by ICP Hg	X

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

Comments:

Relinquished By: _____ (1)
Signature: _____
Printed Name: T. DEBEANSKY
Date: 12/18/08 Time: 1600
Company: CORDILLERA

Relinquished By: _____ (2)
Signature: _____
Printed Name: _____
Date: _____ Time: _____
Company: _____

Received By: _____ (1)
Signature: JAMES HIX
Printed Name: JAMES HIX
Date: 12/19/08 Time: 1200
Company: ALS Paragon

Received By: _____ (2)
Signature: _____
Printed Name: _____
Date: _____ Time: _____
Company: _____

CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: Cordilleran

Workorder No: 0812200

Project Manager: LRS

Initials: LJO Date: 12/19/08

1. Does this project require any special handling in addition to standard Paragon procedures?	YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	NONE	<input checked="" type="radio"/> YES NO
3. Are Custody seals on sample containers intact?	<input checked="" type="radio"/> NONE	YES NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?	<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible?	<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)	<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	YES <input checked="" type="radio"/> NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	<input checked="" type="radio"/> YES NO
10. Is there sufficient sample for the requested analyses?	<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?	<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?	<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)	YES	<input checked="" type="radio"/> NO <i>see pg 2 of 2</i>
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: <u>x</u> < green pea <u>K</u> > green pea	N/A	YES <input checked="" type="radio"/> NO <i>see pg 2 of 2</i>
15. Do perchlorate LCMS-MS samples have headspace? (at least 1/3 of container required)	<input checked="" type="radio"/> N/A	YES NO
16. Were samples checked for and free from the presence of residual chlorine? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES NO
17. Were the samples shipped on ice?	<input checked="" type="radio"/> YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: <input checked="" type="radio"/> #2 #4 RAD ONLY	<input checked="" type="radio"/> YES	NO
Cooler #:	<u>1</u> <u>2</u> <u>3</u>	
Temperature (°C):	<u>2.8</u> <u>3.4</u> <u>3.4</u>	
No. of custody seals on cooler:	<u>1</u> <u>1</u> <u>1</u>	
External µR/hr reading:	<u>11</u> <u>12</u> <u>15</u>	
Background µR/hr reading:	<u>11</u>	
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> 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.

All 250 ml polys received at pH 7. 2.5ml H₂SO₄ (Lot #47194) was added at 1435 by JJO on 12/19/08 to Each bottle. Samples # 1, 5, 7, 8, 9, and 10 have a final pH < 2. Samples # 2, 3, 4, 6, 11, and 12 have a final pH of 2.5.
All 500ml Metals polys received at pH 7. 4ml HNO₃ (Lot #G04026) was added at 1420 by JJO on 12/19/08 to bottles 1-3, 5-8, 10, and 11. 5 ml HNO₃ was added at 1445.

If applicable, was the client contacted? YES / NO / NA Contact: M J. Hix Date/Time: 12/22
 Project Manager Signature / Date: [Signature] 12/22/08

*IR Gun #2: Oakton. SN 29922500201-0066

*IR Gun #4: Oakton. SN 2372220101-0002

CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: Cordillerah

Workorder No: 0812100

Project Manager: LRS

Initials: LTO Date: 12/19/08

Additional Information:

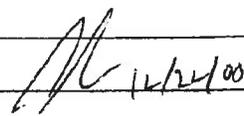
*~~PH~~ excursion continued:
by ~~top~~ on 12/19/08 to bottles 4, 9, and 12. All bottles have a final pH < 2. See
COC For cross reference IDs.

* Sample # 11 (15-22B) 3 of 9 40ml vials were received smashed. PM notified.

+ Headspace Excursions:

Sample #1 (7-22B) 1 of 9	40ml vials contained	headspace	> pea
↓ ↓ 1 of 9			< pea
#2 (7-22D) 5 of 9			> pea.
↓ ↓ 2 of 9			< pea.
#3 (10-22B) 9 of 9			> pea.
#4 (6-22B) 7 of 9			> pea.
#5 (6-22D) 1 of 9			> pea.
↓ ↓ 1 of 9			< pea.
#6 (16-22B) 7 of 9			> pea.
↓ ↓ 2 of 9			< pea.
#7 (9-22D) 7 of 9			> pea.
↓ ↓ 1 of 9			< pea.
#8 (16-22B) 8 of 9			> pea.
#9 (9-22B) 8 of 9			> pea.
#10 (10-22D) 6 of 9			> pea.
#11 (15-22B) 4 of 9 ⁶			> pea.
↓ ↓ 1 of 6			< pea.
#12 (15-22D) 8 of 9			> pea.

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

Project Manager Signature / Date:  12/24/08

ORIGIN ID: GJTA (9/0) 2/0-2986
TIM DOBRANSKY
CORDILLERAN COMPLIANCE SERVICES, IN
826 21 1/2 ROAD

SHIP Date: 18DEC08
Ct Wgt: 40.0 LB MAN
System#: 990082/CAFE2358
Account: S 235727234

GRAND JUNCTION, CO 81505
UNITED STATES US

(800) 443-1511

FedEx
Express

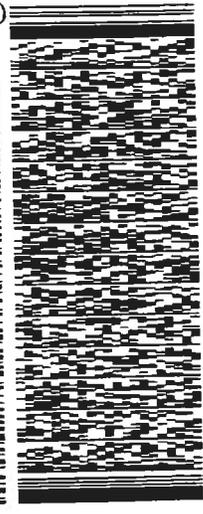


151

PARAGON ANALYTICS
225 COMMERCE DRIVE
FORT COLLINS, CO 80524

Ref: 008-2362

0812200



Delivery Address
Barcode

BILL SENDER

3.4

FRI
Deliver By
19DEC08

PRIORITY OVERNIGHT

Form
TRK# 9660 0451 2571 0201

DEN AA

80524 -CO-US 72 FTCA



ORIGIN ID: GJTA (970) 270-2986
TIM DOBRANSKY
CORDILLERAN COMPLIANCE SERVICES, IN
826 21 1/2 ROAD
GRAND JUNCTION, CO 81505
UNITED STATES US

SHIP DATE: 19DEC08
ACT WGT: 40.0 LB MAN
SYSTEM#: 390082/CAFE2358
ACCOUNT: S 235727234

TO
PARAGON ANALYTICS
225 COMMERCE DRIVE
FORT COLLINS, CO 80524

Ref: 008-2362

12-19
611A
2560
FRI
Delivery Address Barcode

0812200
BILL SENDER

PRIORITY OVERNIGHT
Form 0201
TRK# 9660 0451 2560

80524 -CO-US

72 FTCA
DEN AA

19DEC08
FRI
Deliver By



ORIGIN ID: GJTA (970) 270-2986
TIM DOBRANSKY
CORDILLERAN COMPLIANCE SERVICES, IN
826 21 1/2 ROAD
GRAND JUNCTION, CO 81505
UNITED STATES US

SHIP DATE: 19DEC08
ACT WGT: 40.0 LB MAN
SYSTEM#: 390082/CAFE2358
ACCOUNT: S 235727234

TO
PARAGON ANALYTICS
225 COMMERCE DRIVE
FORT COLLINS, CO 80524

Ref: 008-2362

12-19
611A
2550
FRI
Delivery Address Barcode

0812200
BILL SENDER

PRIORITY OVERNIGHT
Form 0201
TRK# 9660 0451 2550

80524 -CO-US

72 FTCA
DEN AA

19DEC08
FRI
Deliver By



Analytical Results

Dissolved Gasses

Method RSK175

Method Blank

Lab Name: ALS Paragon

Work Order Number: 0812200

Client Name: Cordilleran Compliance Services, Inc.

ClientProject ID: Rulison Area Well Monitoring

Lab ID: HC081230-9MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 30-Dec-08

Date Analyzed: 30-Dec-08

Prep Method: METHOD

Prep Batch: HC081230-9

QCBatchID: HC081230-9-2

Run ID: HC081230-9A

Cleanup: NONE

Basis: N/A

File Name: 00852.dat

Sample Aliquot: 38.5ml

Final Volume: 38.5ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
74-82-8	METHANE	1	1	1	U	

Data Package ID: HC0812200-1

Date Printed: Wednesday, December 31, 2008

ALS Paragon

LIMS Version: 6.222A

Page 1 of 1

METHANE
Method RSK175
Sample Results

Lab Name: ALS Paragon
Client Name: Cordilleran Compliance Services, Inc.
Client Project ID: Rulison Area Well Monitoring
Work Order Number: 0812200 **Final Volume:** 38.5 ml
Reporting Basis: As Received **Matrix:** WATER
Prep Method: METHOD **Result Units:** UG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
7-22B	0812200-1	12/17/2008	12/30/2008	12/30/2008	N/A	1	3500	1		38.5 ml
7-22D	0812200-2	12/17/2008	12/30/2008	12/30/2008	N/A	1	1700	1		38.5 ml
10-22B	0812200-3	12/17/2008	12/30/2008	12/30/2008	N/A	1	2100	1		38.5 ml
6-22B	0812200-4	12/17/2008	12/30/2008	12/30/2008	N/A	1	3500	1		38.5 ml
6-22D	0812200-5	12/17/2008	12/30/2008	12/30/2008	N/A	1	3700	1		38.5 ml
16-22D	0812200-6	12/17/2008	12/30/2008	12/30/2008	N/A	1	3700	1		38.5 ml
9-22D	0812200-7	12/17/2008	12/30/2008	12/30/2008	N/A	1	3600	1		38.5 ml
16-22B	0812200-8	12/17/2008	12/30/2008	12/30/2008	N/A	1	2400	1		38.5 ml
9-22B	0812200-9	12/17/2008	12/30/2008	12/30/2008	N/A	1	4100	1		38.5 ml
10-22D	0812200-10	12/17/2008	12/30/2008	12/30/2008	N/A	1	3500	1		38.5 ml
15-22B	0812200-11	12/17/2008	12/30/2008	12/30/2008	N/A	1	4100	1		38.5 ml
15-22D	0812200-12	12/17/2008	12/30/2008	12/30/2008	N/A	1	2400	1		38.5 ml

Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: HC0812200-1

Supporting QA/QC Data

Dissolved Gasses

Method RSK175

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Paragon

Work Order Number: 0812200

Client Name: Cordilleran Compliance Services, Inc.

ClientProject ID: Rulison Area Well Monitoring

Lab ID: HC081230-9LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 12/30/2008
Date Analyzed: 12/30/2008
Prep Method: METHOD

Prep Batch: HC081230-9
QCBatchID: HC081230-9-2
Run ID: HC081230-9A
Cleanup: NONE
Basis: N/A
File Name: 00851.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	140	133	1		95	80 - 120%

Lab ID: HC081230-9LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 12/30/2008
Date Analyzed: 12/30/2008
Prep Method: METHOD

Prep Batch: HC081230-9
QCBatchID: HC081230-9-2
Run ID: HC081230-9A
Cleanup: NONE
Basis: N/A
File Name: 00862.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	140	145	1		104	25	9

Data Package ID: HC0812200-1

Prep Batch ID: HC081230-9

Start Date: 12/30/08	End Date: 12/30/08	Concentration Method: NONE	Batch Created By: jfn
Start Time: 8:00	End Time: 10:00	Extract Method: METHOD	Date Created: 12/30/08
Prep Analyst: Tyler Knaebel		Initial Volume Units: ml	Time Created: 17:10
Comments:		Final Volume Units: ml	Validated By: twk
			Date Validated: 12/31/08
			Time Validated: 12:25

QC Batch ID: HC081230-9-2

Lab ID	QC Type	Field ID	Matrix	Date Collected	Initial Wt/Vol	Final Wt/Vol	Cleanup Method	Cleanup DF	Order Number
HC081230-9	MB	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	0812194
HC081230-9	LCS	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	0812194
HC081230-9	LCSD	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	0812194
0812194-1	MS	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	0812194
0812194-1	SMP	XXXXXX	WATER	XXXXXX	38.5	38.5	NONE	1	0812194
0812200-1	SMP	7-22B	WATER	12/17/2008	38.5	38.5	NONE	1	0812200
0812200-10	SMP	10-22D	WATER	12/17/2008	38.5	38.5	NONE	1	0812200
0812200-11	SMP	15-22B	WATER	12/17/2008	38.5	38.5	NONE	1	0812200
0812200-12	SMP	15-22D	WATER	12/17/2008	38.5	38.5	NONE	1	0812200
0812200-2	SMP	7-22D	WATER	12/17/2008	38.5	38.5	NONE	1	0812200
0812200-3	SMP	10-22B	WATER	12/17/2008	38.5	38.5	NONE	1	0812200
0812200-4	SMP	6-22B	WATER	12/17/2008	38.5	38.5	NONE	1	0812200
0812200-5	SMP	6-22D	WATER	12/17/2008	38.5	38.5	NONE	1	0812200
0812200-6	SMP	16-22D	WATER	12/17/2008	38.5	38.5	NONE	1	0812200
0812200-7	SMP	9-22D	WATER	12/17/2008	38.5	38.5	NONE	1	0812200
0812200-8	SMP	16-22B	WATER	12/17/2008	38.5	38.5	NONE	1	0812200
0812200-9	SMP	9-22B	WATER	12/17/2008	38.5	38.5	NONE	1	0812200

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
SMP	Field Sample	SYS	Sample Yield Spike

Calibration Report

Sequence : \\gcserver\gdata\Projects\GC9\Sequence\2008\mee041508A.seq
 User : sheneman
 Printed : 4/21/2008 9:45:05 AM

Instrument : GC9 (Offline)
 Method Name : \\gcserver\gdata\Projects\GC9\Method\2008\mee041508.met
 Method Created : 4/15/2008 10:48:35 AM

Methane (FID 1)

Average RF: 2157.12 RF StDev: 827.791 RF %RSD: 38.3748
 Scaling: None LSQ Weighting: 1/Amount Force Through Zero: Off
 Replicate Mode: Replace
 Fit Type: Quadratic
 $y = -0.0236158x^2 + 2040.31x + 479.565$
 Goodness of fit (r^2): 0.999996 ✓

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Amount	0.5598	3.4989	13.9955	139.955	1259.6	12596
Area	2143	6088	23923	264184	2563261	21950488
RF	3828.15291175	1739.97542084	1709.33514343	1887.63126512	2034.98338358	1742.65821317
	42	655	896	537	746	595
Last Area						
Residual	-0.255495	0.749992	2.50381	10.5138	-15.2921	1.92666
Rep StDev						
Rep %RSD						
Rep 1 Area	2143	6088	23923	264184	2563261	21950488

Ethene (FID 1)

Average RF: 1251.52 RF StDev: 262.774 RF %RSD: 20.9964
 Scaling: None LSQ Weighting: 1/Amount Force Through Zero: Off
 Replicate Mode: Replace
 Fit Type: Quadratic
 $y = -0.00939698x^2 + 1350.77x - 296.915$
 Goodness of fit (r^2): 0.999996 ✓

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Amount	0.9797	6.123	24.4922	244.922	2204.3	22043
Area	1681	5883	26811	305821	2966292	25205505
RF	1715.83137695	960.803527682	1094.67503940	1248.64803731	1345.68739665	1143.47240274
	213	509	03	152	063	101
Last Area						
Residual	-0.484604	1.54774	4.42088	17.9382	-26.5502	3.41702
Rep StDev						
Rep %RSD						
Rep 1 Area	1681	5883	26811	305821	2966292	25205505

Ethane (FID 1)
 Average RF: 1778.13 RF StDev: 375.166 RF %RSD: 21.0989

DS
 4-21-08

Calibration Report

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\msee041508A.seq
 User : sheneman
 Printed : 4/21/2008 9:45:05 AM

Scaling: None LSQ Weighting: 1/Amount Force Through Zero: Off
 Replicate Mode: Replace
 Fit Type: Quadratic
 $y = -0.0122508x^2 + 1943.13x - 582.244$
 Goodness of fit (r^2): 0.999997 ✓

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Amount	1.0497	6.5604	26.2416	262.416	2361.74	23617.4
Area	2519	8464	41533	474270	4570623	39053286
RF	2399.73325712	1290.16523382	1582.71599292	1807.32051120	1935.27780365	1653.57828790
Last Area	108	721	726	339	324	927
Residual	-0.546319	1.90477	4.56474	17.6638	-26.7199	3.40456
Rep StDev						
Rep %RSD						
Rep 1 Area	2519	8464	41533	474270	4570623	39053286

DS
4-21-08

METHANE

Method RSK175

Calibration Verifications

Lab Name: ALS Paragon

Work Order Number: 0812200

Client Name: Cordilleran Compliance Services, Inc.

ClientProject ID: Rulison Area Well Monitoring

Run ID: HC081230-9A

Result Units: UG/L

Lab ID	Verification Type	Date Analyzed	Time Analyzed	Spike Added	Result	Reporting Limit	Result Qualifier	% Rec.	Control Limits
ICV	Initial Calibration	4/15/2008	15:08	140	144	1	N/A	103	80 - 120
CCV1	Continuing Calibration	12/30/2008	6:52	140	133	1	N/A	95	80 - 120
CCV2	Continuing Calibration	12/30/2008	7:43	140	145	1	N/A	104	80 - 120
CCV3	Continuing Calibration	12/30/2008	9:23	140	118	1	N/A	84	80 - 120
CCV4	Continuing Calibration	12/30/2008	9:35	140	123	1	N/A	88	80 - 120

Data Package ID: HC0812200-1

Date Printed: Wednesday, December 31, 2008

ALS Paragon
LIMS Version: 6.222A

Page 1 of 1

Supporting Raw Data

Dissolved Gases Sequence Log

Logbook No. / Page 3652 / 04

ICV file #: DATA.SYSTEM

Analytical Method : RSK-175 SOP : 449 Rev. 0

000101 DS
4248

Instrument : GC9
 Analyst : sheneman
 (1st file) Acq. Date : 4/15/2008 2:38:07 PM
 (1st file) Data P... \\gcserver\gcdata\Projects\GC9\Data\2008\mee041508\000095.dat
 Sequence File : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee041508A.seq
 Method Path : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508.met

QC-Name	Standard ID #	Spike Volume Added (uL)	Temperature =
CCV	ST080415-1	1000	22.0 c
ICS/D	ST080415-1	1000	Atmospheric Pressure = 836 mbar
MS	ST080415-1	1000	Final Sample Volume = 38.5 mL
ICV	ST080314-3	1000	Headspace Volume = 4.0 mL

Data File	Method	Sample	RR?	Comments
000095.dat	mee041508.met	MEE 4UL 1% ST080415-1	Y/N	4ul to 4.0 mL OK
000096.dat	mee041508.met	MEE 25uL 1% ST080415-1	Y/N	25uL
000097.dat	mee041508.met	MEE 100uL 1% ST080415-1	Y/N	100uL
000098.dat	mee041508.met	MEE 1000uL 1% ST080415-1	Y/N	1000uL
000099.dat	mee041508.met	MEE 300uL 1% ST080415-2 30%	Y/N	300uL
000100.dat	mee041508.met	MEE 3000uL 1% ST080415-2 30%	Y/N	3000uL to 4.0uL
000101.dat	mee041508.met	MEE ICS 1000uL 1% ST080314-3	Y/N	15:08 GFI B command timed out PASS
000104.dat	mee041508.met	HC080415-1MB	Y/N	Data file 000102 and 000103 not acquired by EZ CHROM
000105.dat	mee041508.met	HC080415-LCSD	Y/N	
000106.dat	mee041508.met	0804118-1	Y/N	
000107.dat	mee041508.met	0804118-1DUP	Y/N	
000108.dat	mee041508.met	0804118-1MS	Y/N	Data file 000110, 000111 & 000114 not acquired by EZ CHROM
000109.dat	mee041508.met	0804118-2	Y/N	
000112.dat	mee041508.met	0804118-3 Do not use*	Y/N	GFI B command timed out
000113.dat	mee041508.met	0804118-4*	Y/N	Bad injection/vial inject 2X, DND
000115.dat	mee041508.met	*MEE CCV 1000uL 1% ST080415-1	Y/N	Carry-over/water present Re-inject
000116.dat	mee041508.met	0804118-3 interference present	Y/N	DS 4-24-08
000117.dat	mee041508.met	0804118-3	Y/N	
000118.dat	mee041508.met	MEE CCV 1000uL 1% ST080415-1	Y/N	17:42 OK PASS

(0804118-3) (CCV)
 * file 000112 & 000115 compromised by taking more than one aliquot from vial.
 will add to SOP DS 4-24-08
 Every time an aliquot is taken the headspace concentration is compromised.
 A software does not acquire injection unless sequence has been saved.
 * 10A vial contained a large sediment phase.
 - 20-30% of vial
 DS 4-24-08

Dissolved Gases (RSK175) Sequence Log

Logbook No. / Page : 3652 / 38

ICV file # : 101

Analytical Method : RSK-175 SOP : 449r0

Instrument : GC9

Analyst : knaebelt

(1st file) Acq. Date : 12/30/2008 6:27:02 AM

(1st file) Data Path : \\gcserver\gcddata\Projects\GC9\Data\2008\mee123008\00846.dat

Sequence File : \\gcserver\gcddata\Projects\GC9\Sequence\2008\mee123008.seq

Acq. Method Path : \\gcserver\gcddata\Projects\GC9\Method\2008\mee041508E.met

QC Name	Std ID #	Spike Vol. Added (UL)	Final Std Vol. (UL)
CCV (LCS)	ST080314-3	1000	38500
MS	ST080314-3	100	38500
ICV	ST080314-3	1000	38500

Temp. = 21.0 C
 Atm. Pressure = 841.0 mbar
 Final Sample Vol. = 38.5 mL
 Headspace Vol. = 4.0 mL

Data File	Acq. Method	Sample	Head Space?	pH <= 2?	RR?	Comments
00846.dat	mee041508E.met	Air	Y/N	Y/N	Y/N	
00847.dat	mee041508E.met	Prime	Y/N	Y/N	Y/N	
00848.dat	mee041508E.met	Prime	Y/N	Y/N	Y/N	
00849.dat	mee041508E.met	Air	Y/N	Y/N	Y/N	
00850.dat	mee041508E.met	Instrument Blank	Y/N	Y/N	Y/N	< RL
00851.dat	mee041508E.met	CCS	Y/N	Y/N	Y/N	PASS - All targets
00852.dat	mee041508E.met	MEE081230-1MB	Y/N	Y/N	Y/N	< RL All targets
00853.dat	mee041508E.met	09/12 Ref. Blank	Y/N	Y/N	Y/N	↓ ↓
00854.dat	mee041508E.met	0812076-1 5X	Y/N	Y/N	Y/N	Cont. Runs (60 µL to 300 µL F.V.)
00855.dat	mee041508E.met	0812076-1DUP 5X	Y/N	Y/N	Y/N	↓ ↓
00856.dat	mee041508E.met	Blank Check	Y/N	Y/N	Y/N	ALL < RL
00857.dat	mee041508E.met	0812194-1	Y/N	Y/N	Y/N	pH ~ 5
00858.dat	mee041508E.met	0812194-1MS	Y/N	Y/N	Y/N	↓
00859.dat	mee041508E.met	0812195-1	Y/N	Y/N	Y/N	pH ~ 5
00860.dat	mee041508E.met	0812196-1	Y/N	Y/N	Y/N	pH ~ 5
00861.dat	mee041508E.met	0812196-2	Y/N	Y/N	Y/N	pH ~ 5
00862.dat	mee041508E.met	CCS	Y/N	Y/N	Y/N	All PASS
00863.dat	mee041508E.met	0812200-1	Y/N	Y/N	Y/N	pH ~ 4
00864.dat	mee041508E.met	0812200-2	Y/N	Y/N	Y/N	pH ~ 6
00865.dat	mee041508E.met	0812200-3	Y/N	Y/N	Y/N	HEADSPACE > REA pH ~ 5
00866.dat	mee041508E.met	0812200-4	Y/N	Y/N	Y/N	pH ~ 6
00867.dat	mee041508E.met	0812200-5	Y/N	Y/N	Y/N	pH ~ 5
00868.dat	mee041508E.met	0812200-6	Y/N	Y/N	Y/N	pH ~ 4
00869.dat	mee041508E.met	0812200-7	Y/N	Y/N	Y/N	pH ~ 5
00870.dat	mee041508E.met	0812200-8	Y/N	Y/N	Y/N	pH ~ 5
00871.dat	mee041508E.met	0812200-9	Y/N	Y/N	Y/N	pH ~ 6
00872.dat	mee041508E.met	0812200-10	Y/N	Y/N	Y/N	pH ~ 6
00873.dat	mee041508E.met	CCSD	Y/N	Y/N	Y/N	METHANE PASSES (0812200 IS NOT methane ONLY)
00874.dat	mee041508E.met	0812200-11	Y/N	Y/N	Y/N	pH ~ 6
00875.dat	mee041508E.met	0812200-12	Y/N	Y/N	Y/N	pH ~ 5
00876.dat	mee041508E.met	CCSD	Y/N	Y/N	Y/N	All PASS
00877.dat	mee041508E.met	TEST	Y/N	Y/N	Y/N	
00878.dat	mee041508E.met	Air Blank	Y/N	Y/N	Y/N	

7/12/30/08

Calibration Raw Data

MEE Quantitation Report

Paragon Analytics

Sample : MEE 4uL 1% ST080415-1

Filename : \\gcserver\gdata\Projects\GC9\Data\2008\mee041508\000095.dat

Acquisition Date : 4/15/2008 2:38:07 PM

Quantitation Date : 4/16/2008 2:22:50 PM

Last Method Update : 4/16/2008 2:22:33 PM

Method : \\gcserver\gdata\Projects\GC9\Method\2008\mee041508.met

Sequence : \\gcserver\gdata\Projects\GC9\Sequence\2008\mee041508A.seq

Data Description : {Data Description}

Instrument : GC9 (Offline)

Data Acquired By : sheneman

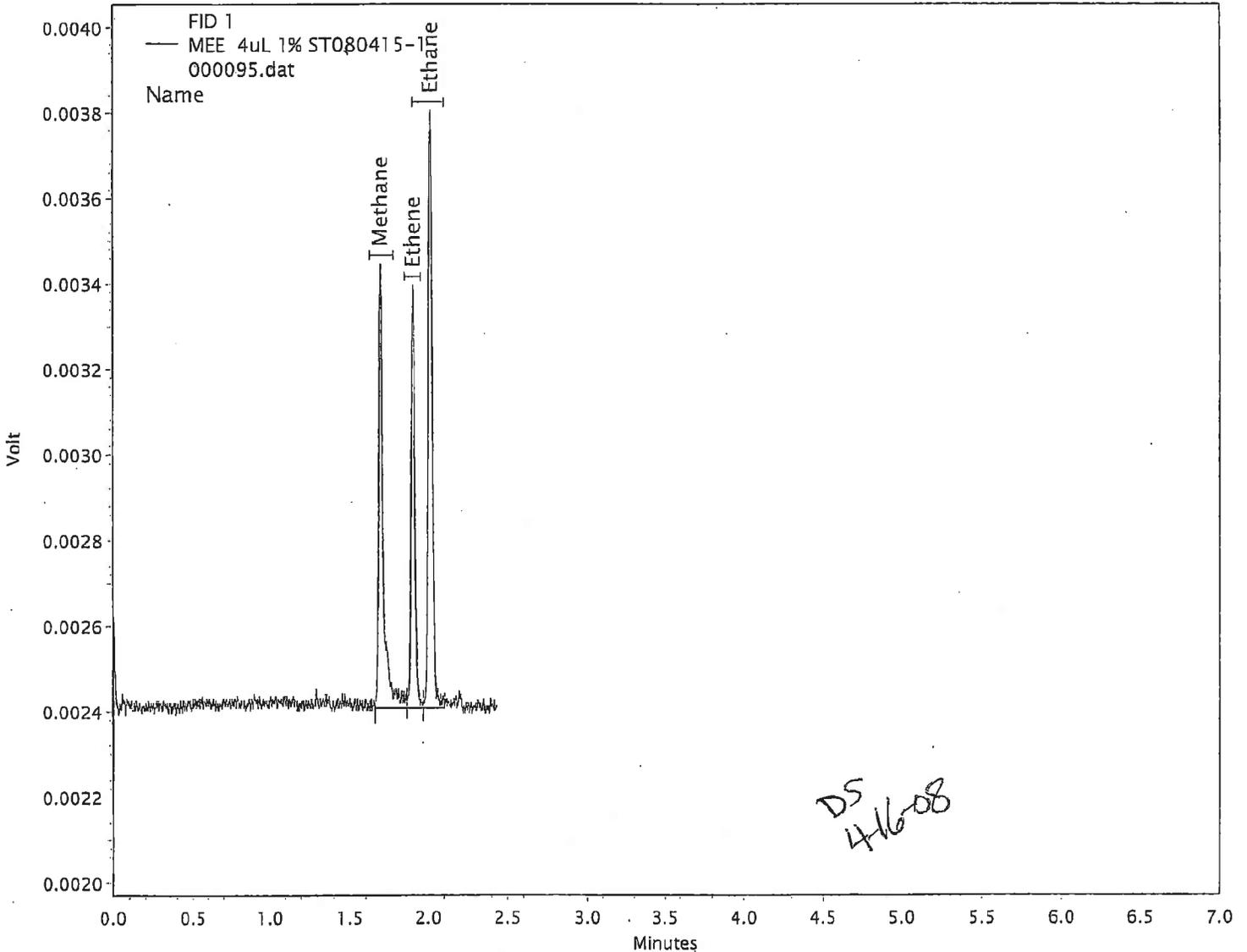
Data Processed By : sheneman

Inj. Vol. (uL) : 0

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Conc.	Conc. Units
Methane	1.70	1.70	2143	BV	0.82	ug/L
Ethene	1.90	1.90	1681	VV	1.46	ug/L
Ethane	2.02	2.00	2519	VB	1.60	ug/L



MEE Quantitation Report

Paragon Analytics

Sample : MEE 25uL 1% ST080415-1

Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee041508\000096.dat

Acquisition Date : 4/15/2008 2:42:12 PM

Quantitation Date : 4/16/2008 2:13:09 PM

Last Method Update : 4/16/2008 2:10:04 PM

Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508.met

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee041508A.seq

Data Description : {Data Description}

Instrument : GC9 (Offline)

Data Acquired By : sheneman

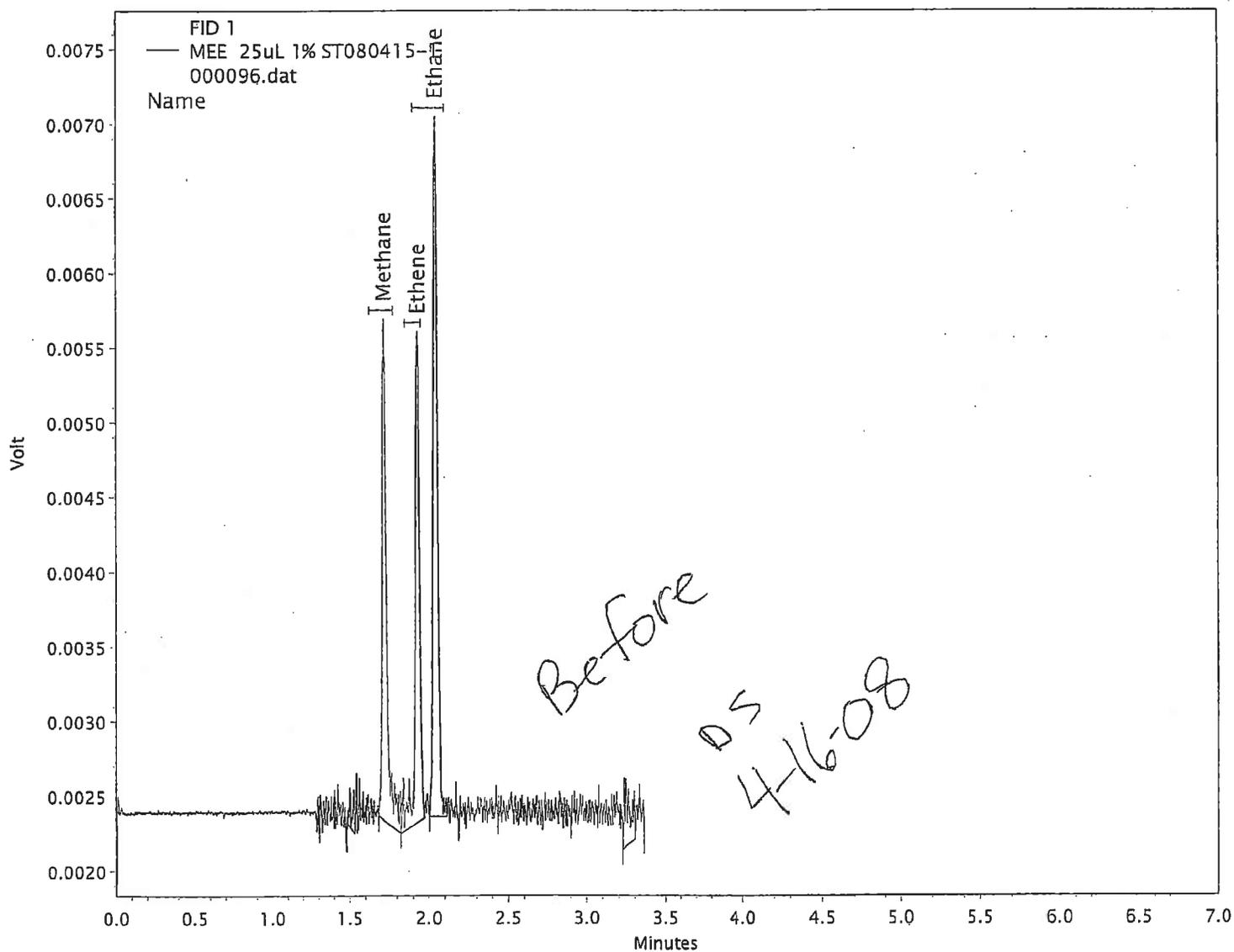
Data Processed By : sheneman

Inj. Vol. (uL) : 0

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Conc.	Conc. Units
Methane	1.72	1.70	6588	BB	2.96	ug/L
Ethene	1.93	1.90	6358	BB	4.88	ug/L
Ethane	2.04	2.00	8464	BB	4.66	ug/L



MEE Quantitation Report

Paragon Analytics

Sample : MEE 25uL 1% ST080415-1

Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee041508\000096.dat

Acquisition Date : 4/15/2008 2:42:12 PM

Quantitation Date : 4/16/2008 2:23:23 PM

Last Method Update : 4/16/2008 2:22:33 PM

Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508.met

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee041508A.seq

Data Description : {Data Description}

Instrument : GC9 (Offline)

Data Acquired By : sheneman

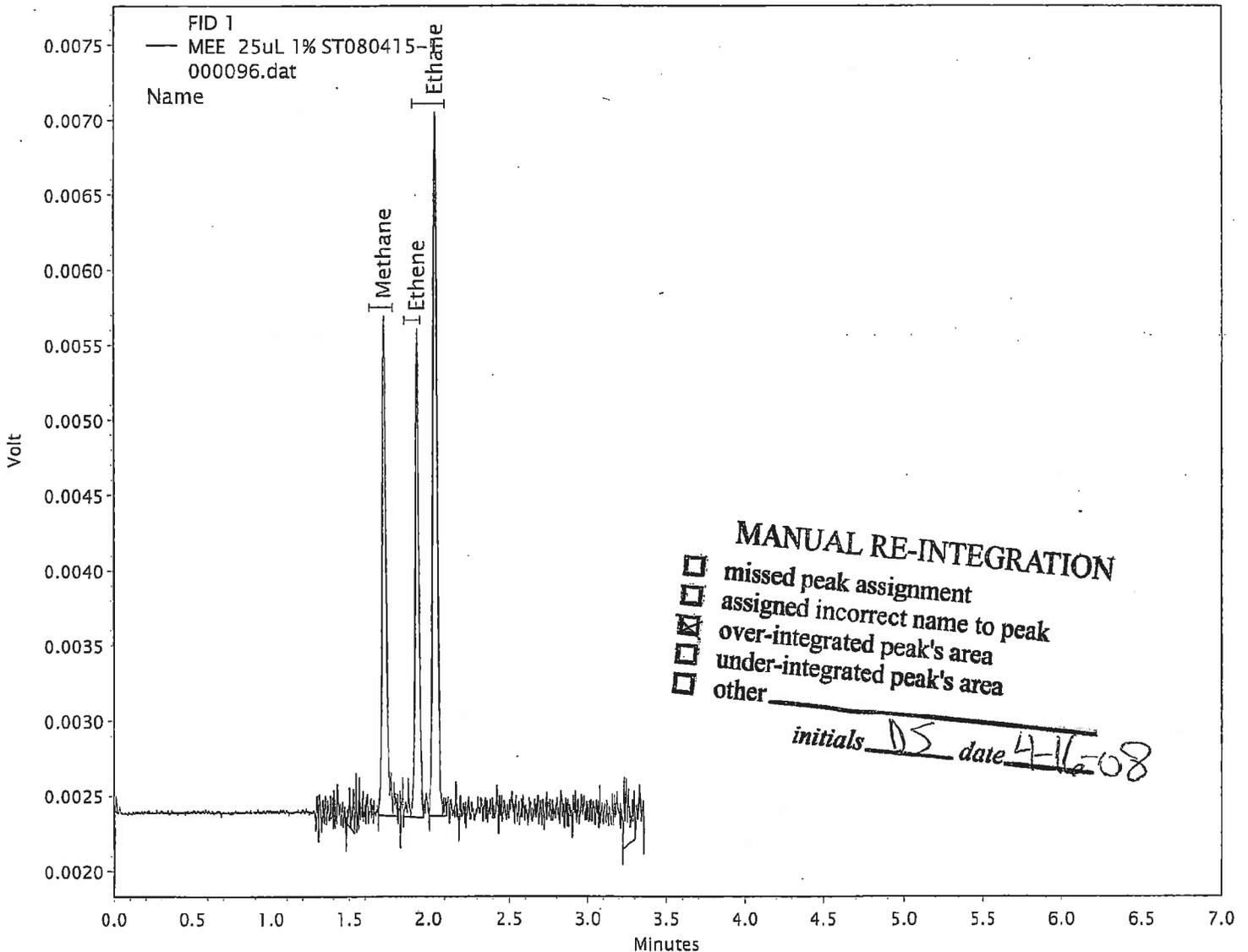
Data Processed By : sheneman

Inj. Vol. (uL) : 0

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Conc.	Conc. Units
Methane	1.72	1.70	6088	mm ✓	2.75	ug/L
Ethene	1.93	1.90	5883	mm ✓	4.58	ug/L
Ethane	2.04	2.00	8464	BB	4.66	ug/L



MEE Quantitation Report

Paragon Analytics

Sample : MEE 100uL 1% ST080415-1

Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee041508\000097.dat

Acquisition Date : 4/15/2008 2:48:26 PM

Quantitation Date : 4/16/2008 2:23:36 PM

Last Method Update : 4/16/2008 2:22:33 PM

Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508.met

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee041508A.seq

Data Description : {Data Description}

Instrument : GC9 (Offline)

Data Acquired By : sheneman

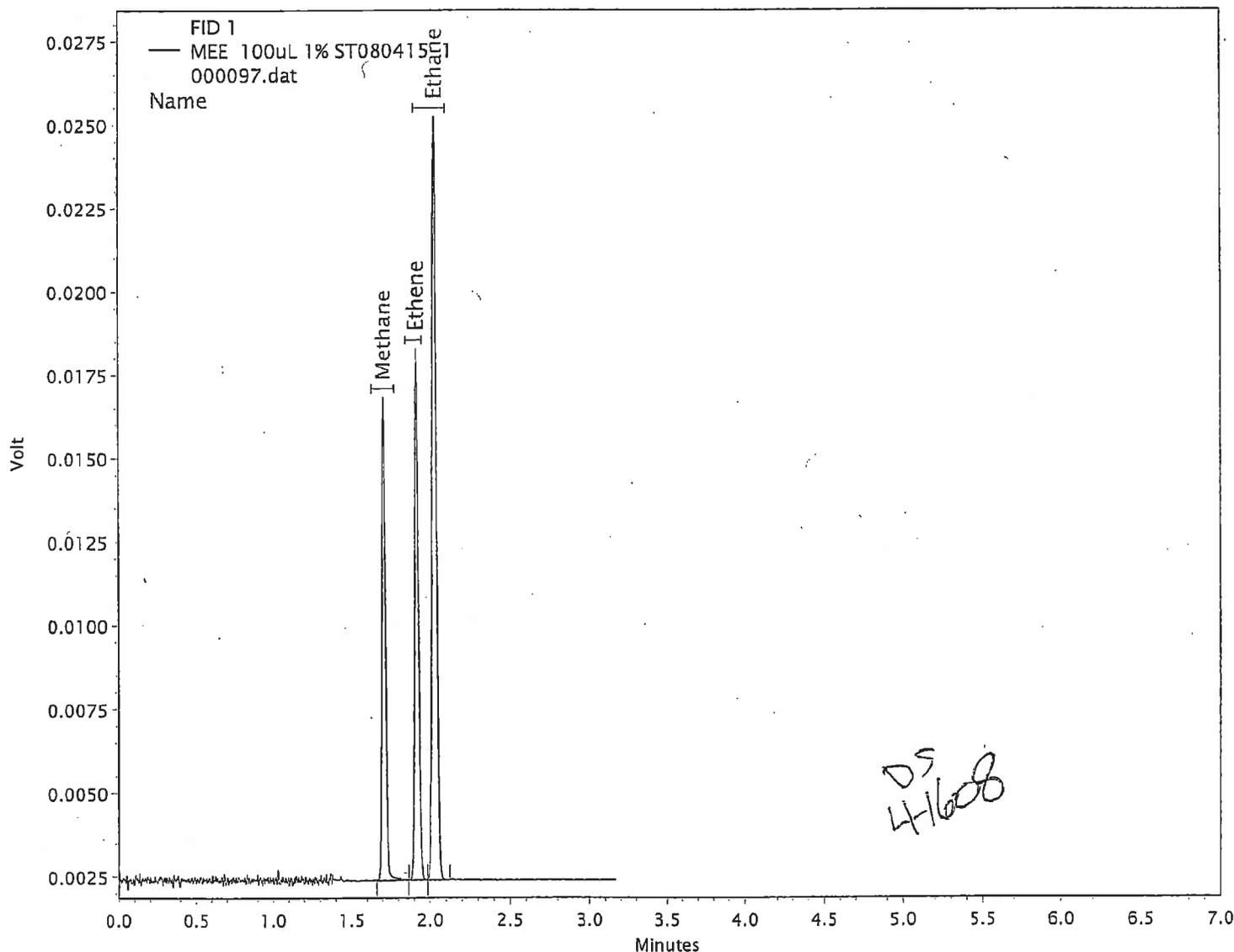
Data Processed By : sheneman

Inj. Vol. (uL) : 0

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Conc.	Conc. Units
Methane	1.71	1.70	23923	BB	11.49	ug/L
Ethene	1.92	1.90	26811	BV	20.07	ug/L
Ethane	2.03	2.00	41533	VB	21.68	ug/L



MEE Quantitation Report

Paragon Analytics

Sample : MEE 1000uL 1% ST080415-1

Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee041508\000098.dat

Acquisition Date : 4/15/2008 2:53:06 PM

Quantitation Date : 4/16/2008 2:23:48 PM

Last Method Update : 4/16/2008 2:22:33 PM

Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508.met

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee041508A.seq

Data Description : {Data Description}

Instrument : GC9 (Offline)

Data Acquired By : sheneman

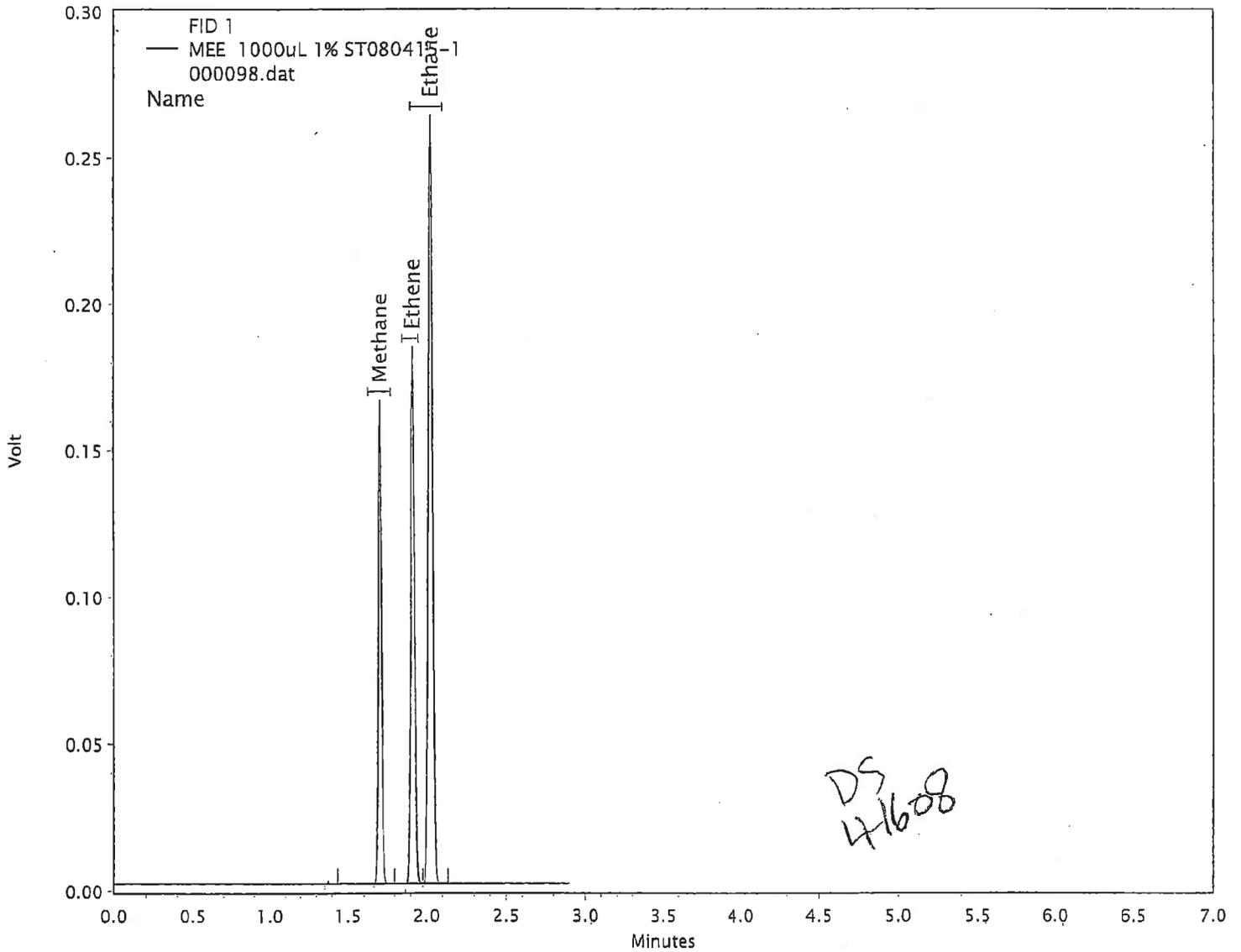
Data Processed By : sheneman

Inj. Vol. (uL) : 0

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Conc.	Conc. Units
Methane	1.71	1.70	264184	BB	129.44	ug/L
Ethene	1.92	1.90	305821	BB	226.98	ug/L
Ethane	2.03	2.00	474270	BR	244.75	ug/L



30% 4-3008

MEE Quantitation Report

Paragon Analytics

Sample : MEE 300uL 1% ST080415-2

Filename : \\gcserver\gdata\Projects\GC9\Data\2008\mee041508\000099.dat

Acquisition Date : 4/15/2008 2:57:26 PM

Quantitation Date : 4/16/2008 2:24:07 PM

Last Method Update : 4/16/2008 2:22:33 PM

Method : \\gcserver\gdata\Projects\GC9\Method\2008\mee041508.met

Sequence : \\gcserver\gdata\Projects\GC9\Sequence\2008\mee041508A.seq

Data Description : {Data Description}

Instrument : GC9 (Offline)

Data Acquired By : sheneman

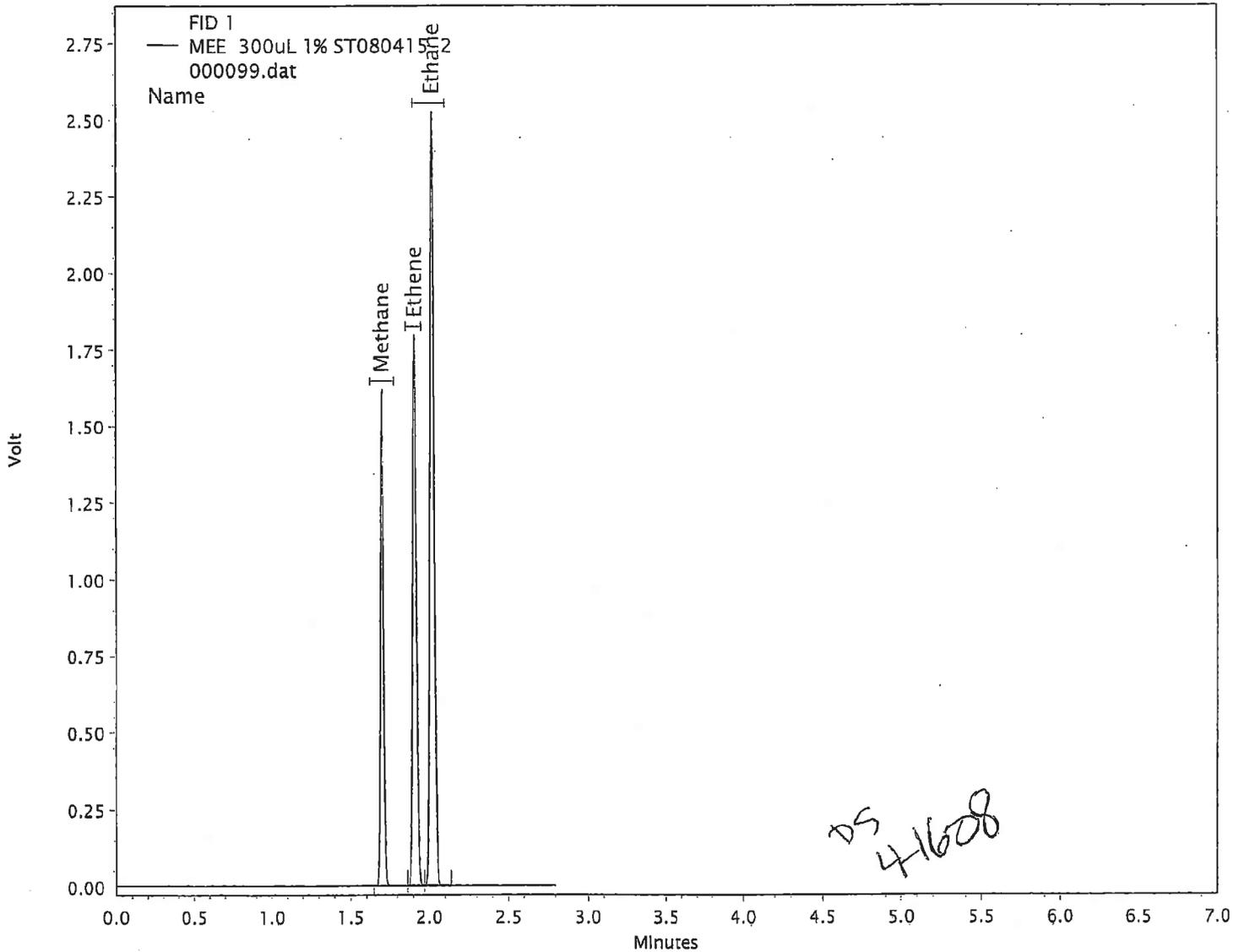
Data Processed By : sheneman

Inj. Vol. (uL) : 0

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Conc.	Conc. Units
Methane	1.70	1.70	2563261	BB	1274.89	ug/L
Ethene	1.91	1.90	2966292	BV	2230.85	ug/L
Ethane	2.02	2.00	4570623	VR	2388.46	ug/L



MEE Quantitation Report

Paragon Analytics

30% 4-30-08
Sample : MEE 3000uL 1% ST080415-2

Filename : \\gcserver\gdata\Projects\GC9\Data\2008\mee041508\000100.dat

Acquisition Date : 4/15/2008 3:01:52 PM

Quantitation Date : 4/16/2008 2:24:25 PM

Last Method Update : 4/16/2008 2:22:33 PM

Method : \\gcserver\gdata\Projects\GC9\Method\2008\mee041508.met

Sequence : \\gcserver\gdata\Projects\GC9\Sequence\2008\mee041508A.seq

Data Description : {Data Description}

Instrument : GC9 (Offline)

Data Acquired By : sheneman

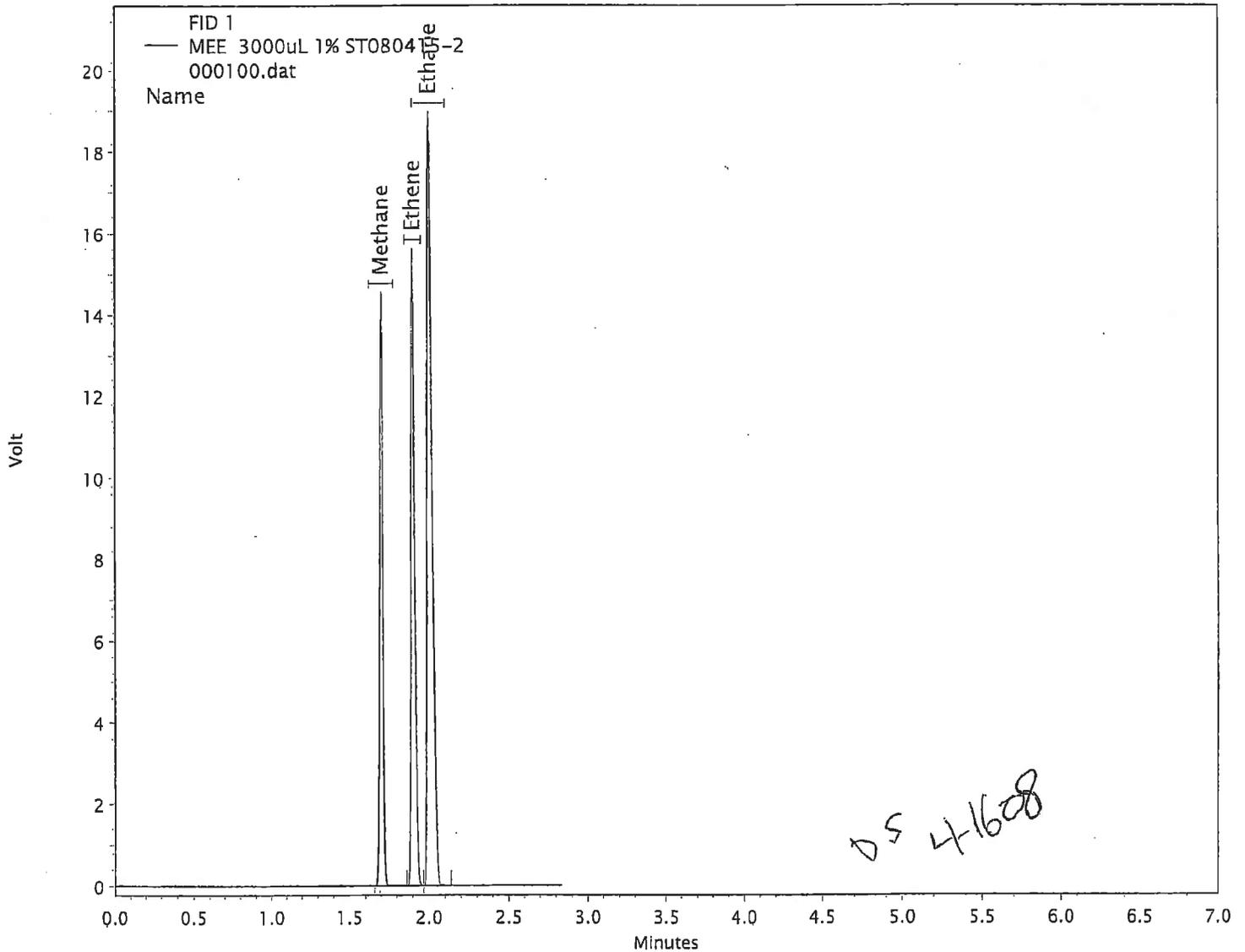
Data Processed By : sheneman

Inj. Vol. (uL) : 0

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Conc.	Conc. Units
Methane	1.70	1.70	21950488	BB	12594.05	ug/L
Ethene	1.90	1.90	25205505	BV	22039.53	ug/L
Ethane	2.00	2.00	39053286	VR	23614.04	ug/L



MEE Quantitation Report

Paragon Analytics

Sample : MEE ICS 1000uL 1% ST080314-3

Filename : \\gcserver\gdata\Projects\GC9\Data\2008\mee041508\000101.dat

Acquisition Date : 4/15/2008 3:08:30 PM

Quantitation Date : 4/16/2008 2:41:07 PM

Last Method Update : 4/16/2008 2:22:33 PM

Method : \\gcserver\gdata\Projects\GC9\Method\2008\mee041508.met

Sequence : \\gcserver\gdata\Projects\GC9\Sequence\2008\mee041508A.seq

Data Description : {Data Description}

Instrument : GC9 (Offline)

Data Acquired By : sheneman

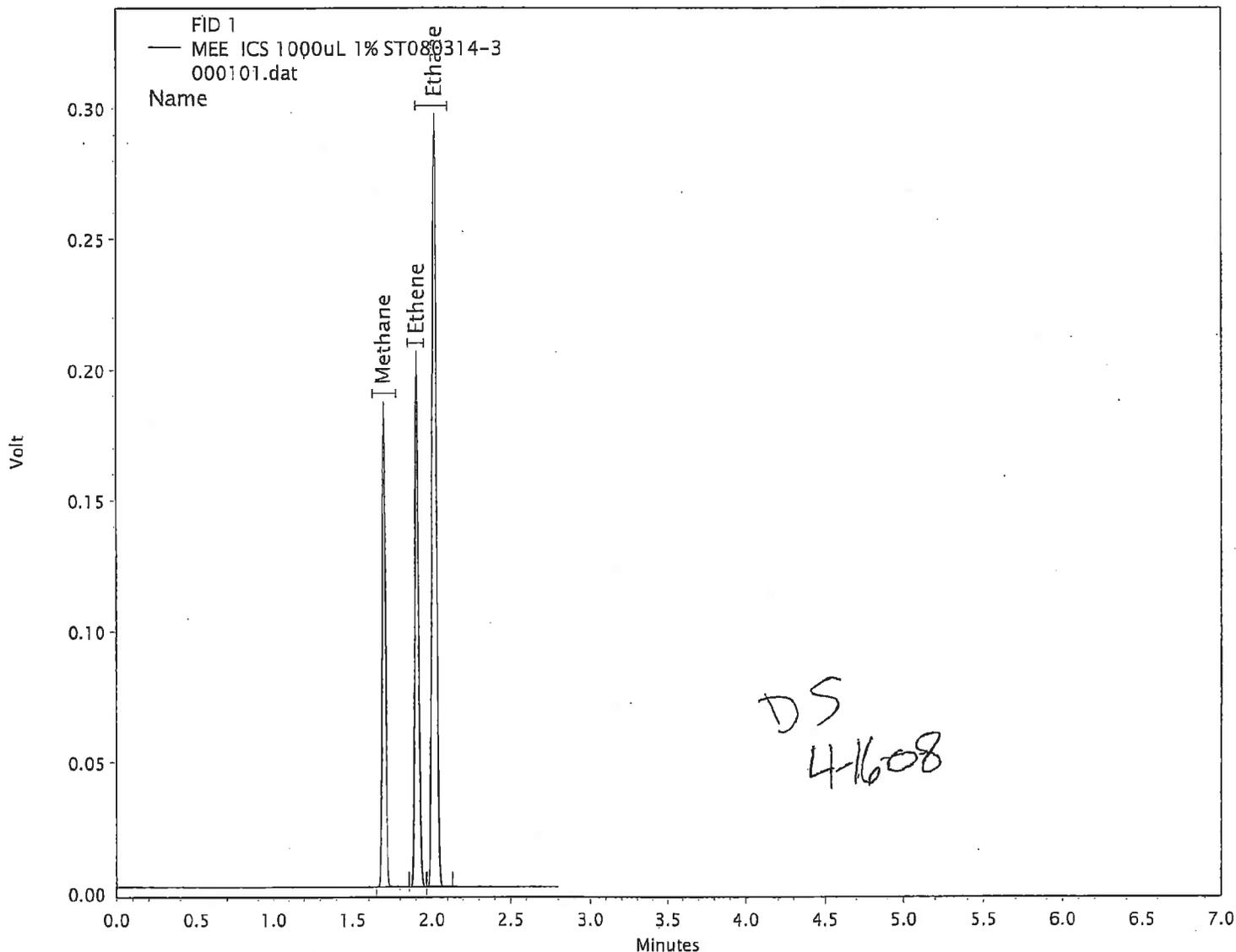
Data Processed By : sheneman

Inj. Vol. (uL) : 0

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Conc.	Conc. Units
Methane	1.70	1.70	293898	BB	103% 144.05/139.955	ug/L
Ethene	1.91	1.90	339299	BV	103% 251.85/244.922	ug/L
Ethane	2.02	2.00	529639	VR	104% 273.34/262.416	ug/L



Dissolved Gases (RSK175) Quantitation Report

ALS/Paragon

Sample: CCS

Filename: \\gcserver\gdata\Projects\GC9\Data\2008\mee123008\00851.dat

Acquisition Date: 12/30/2008 6:52:20 AM

Quantitation Date: 12/30/2008 4:38:43 PM

Last Method Update: 12/20/2008 6:04:08 PM

Method: \\gcserver\gdata\Projects\GC9\Method\2008\mee041508E.met

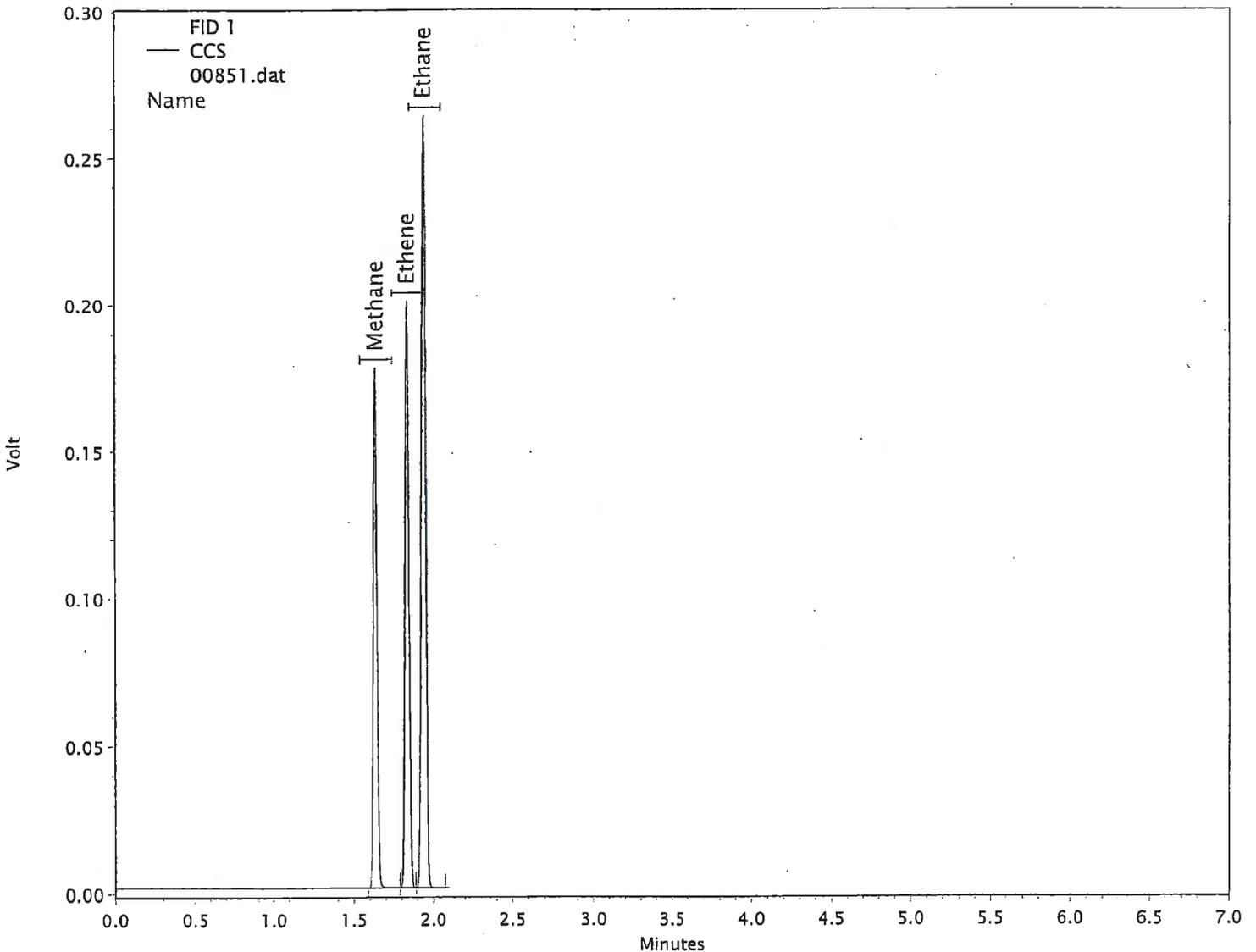
Sequence: \\gcserver\gdata\Projects\GC9\Sequence\2008\mee123008.seq

Data Description: {Data Description}

Instrument: GC9
Data Acquired By: knaebelt
Data Processed By: noltej
Inj. Vol. (uL): 300
Vial: N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.635	1.640	270596	BV	132.59	ug/L
Ethene	1.832	1.838	316318	VV	234.78	ug/L
Ethane	1.938	1.945	451389	VE	232.94	ug/L



Column: GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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 (RSK175) Quantitation Report

ALS/Paragon

Sample : CCS

Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00862.dat

Acquisition Date : 12/30/2008 7:43:47 AM

Quantitation Date : 12/30/2008 4:39:10 PM

Last Method Update : 12/20/2008 6:04:08 PM

Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq

Data Description : {Data Description}

Instrument : GC9

Data Acquired By : knaebelt

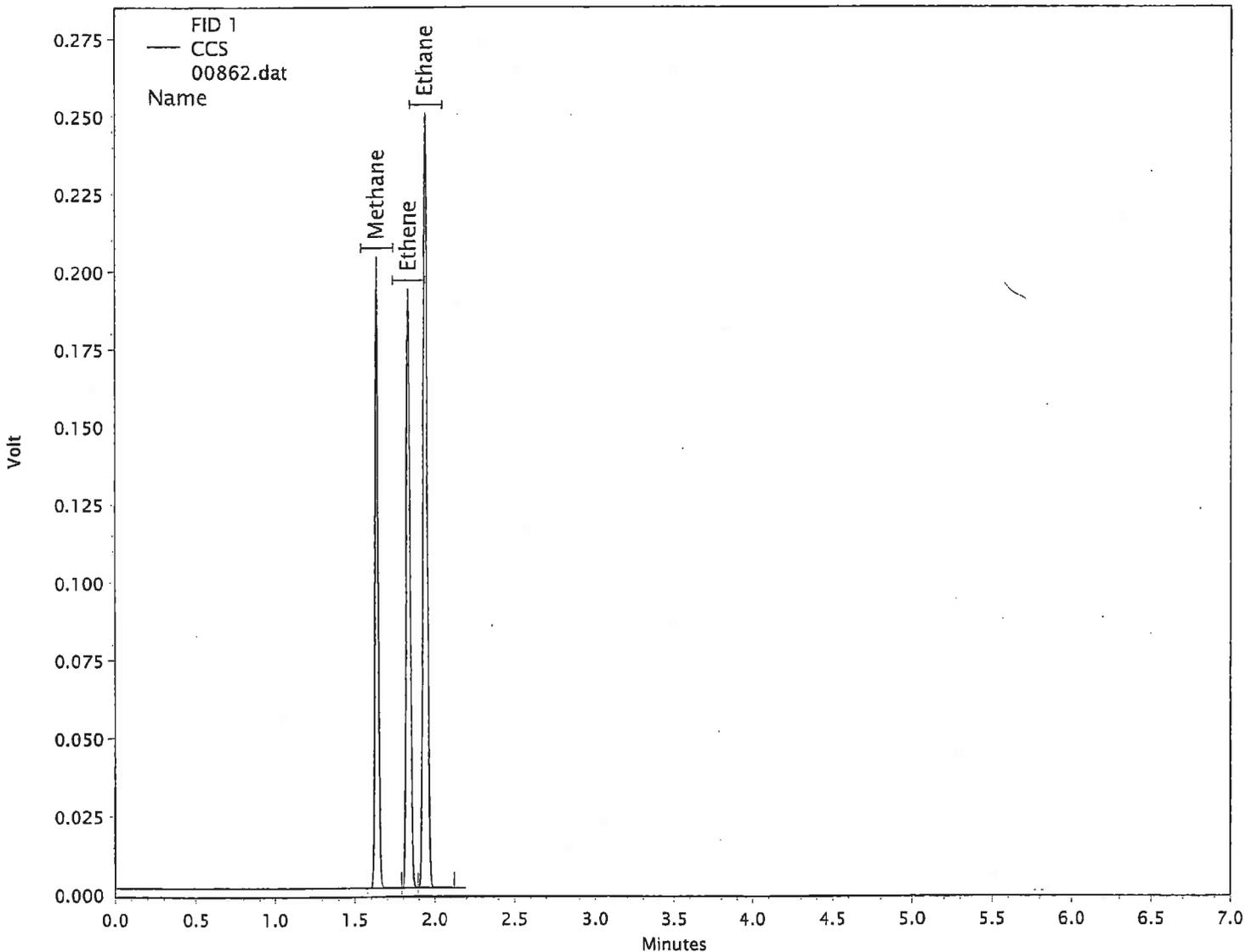
Data Processed By : noltej

Inj. Vol. (uL) : 300

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.635	1.640	296375	BV	145.27	ug/L
Ethene	1.833	1.838	294959	VV	218.92	ug/L
Ethane	1.938	1.945	416565	VR	214.97	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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 (RSK175) Quantitation Report

ALS/Paragon

Sample : CCSD

Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00873.dat

Acquisition Date : 12/30/2008 9:23:42 AM

Quantitation Date : 12/30/2008 4:39:37 PM

Last Method Update : 12/20/2008 6:04:08 PM

Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq

Data Description : {Data Description}

Instrument : GC9

Data Acquired By : knaebelt

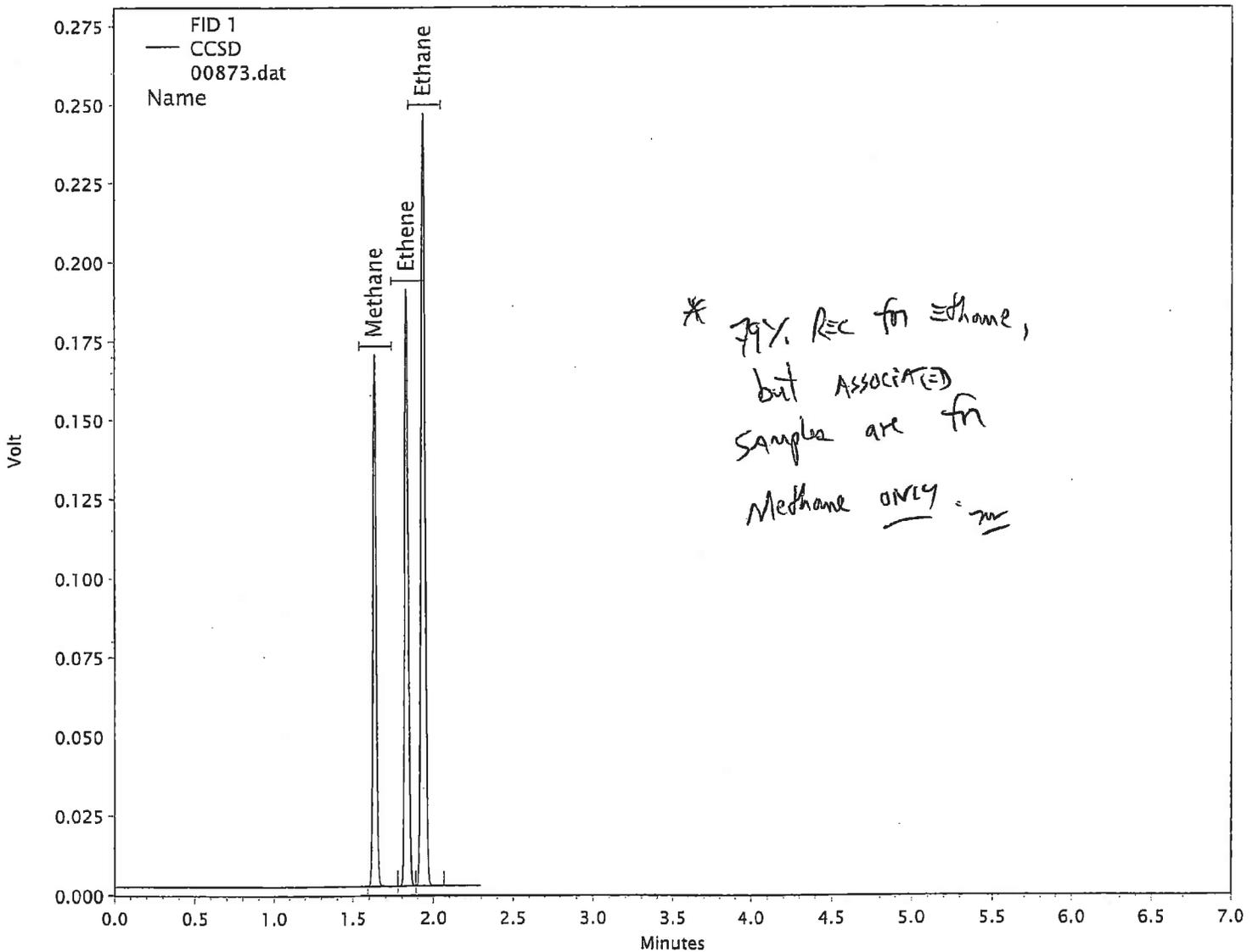
Data Processed By : noltej

Inj. Vol. (uL) : 300

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.635	1.640	240361	BV	117.73	ug/L
Ethene	1.832	1.838	284672	VV	211.28	ug/L
Ethane	1.935	1.945	402573	VB	207.75 *	ug/L



Column : GS-Carbon Plot

{1st int. code is for peak start, 2nd int code is for peak stop} B=baseline, f=force start or stop, l=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.

Printed On : 12/30/2008 4:39:39 PM

Dissolved Gases (RSK175) Quantitation Report

ALS/Paragon

Sample : CCSD

Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00876.dat

Acquisition Date : 12/30/2008 9:35:38 AM

Quantitation Date : 12/30/2008 4:39:45 PM

Last Method Update : 12/20/2008 6:04:08 PM

Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq

Data Description : {Data Description}

Instrument : GC9

Data Acquired By : knaebelt

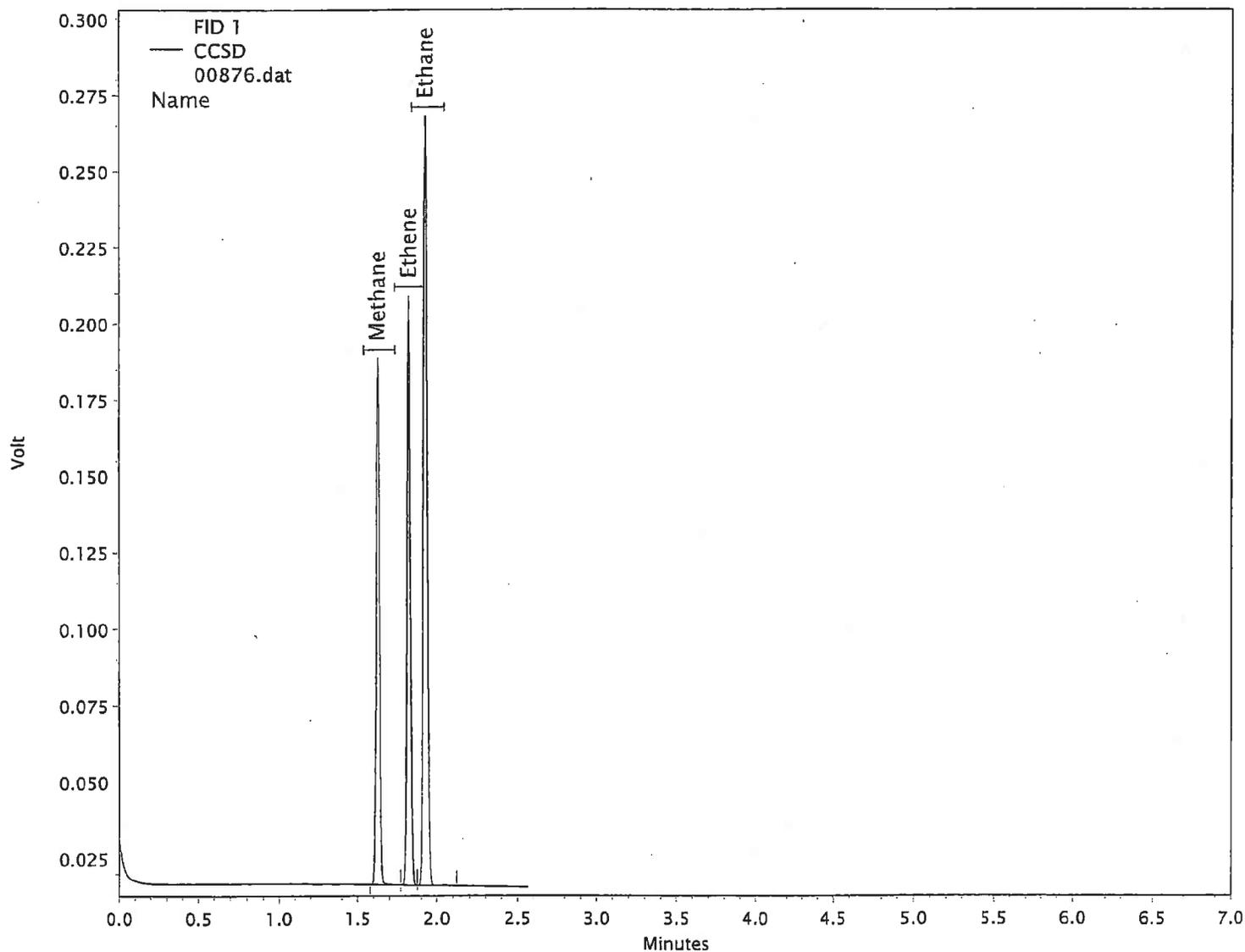
Data Processed By : noltej

Inj. Vol. (uL) : 300

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.628	1.640	250900	BV	122.91	ug/L
Ethene	1.825	1.838	294351	VV	218.47	ug/L
Ethane	1.928	1.945	419023	VR	216.24	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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.

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Sample Raw Data

CX 12-30-08

Dissolved Gases (RSK175) Quantitation Report

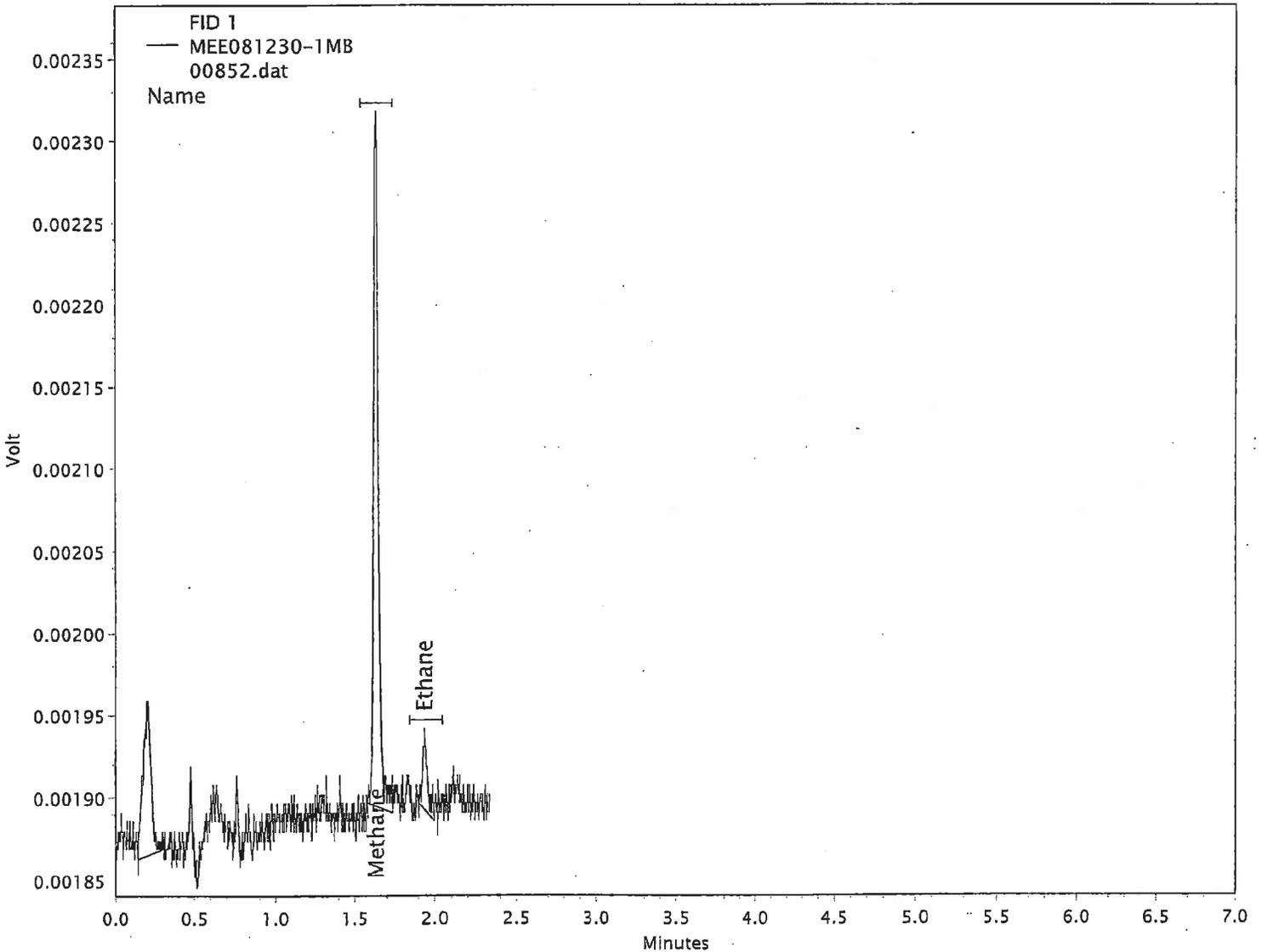
ALS/Paragon

Sample : MEE081230-1MB
 Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00852.dat
 Acquisition Date : 12/30/2008 6:55:24 AM
 Quantitation Date : 12/30/2008 4:38:45 PM
 Last Method Update : 12/20/2008 6:04:08 PM
 Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met
 Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq
 Data Description : {Data Description}

Instrument : GC9
 Data Acquired By : knaebelt
 Data Processed By : noltej
 Inj. Vol. (uL) : 300
 Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.635	1.640	928	BB	0.22 <RL	ug/L
Ethene		1.838			0.00 BDL	ug/L
Ethane	1.937	1.945	97	BB	0.35	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=ended by int. off evenl, 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.

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Dissolved Gases (RSK175) Quantitation Report

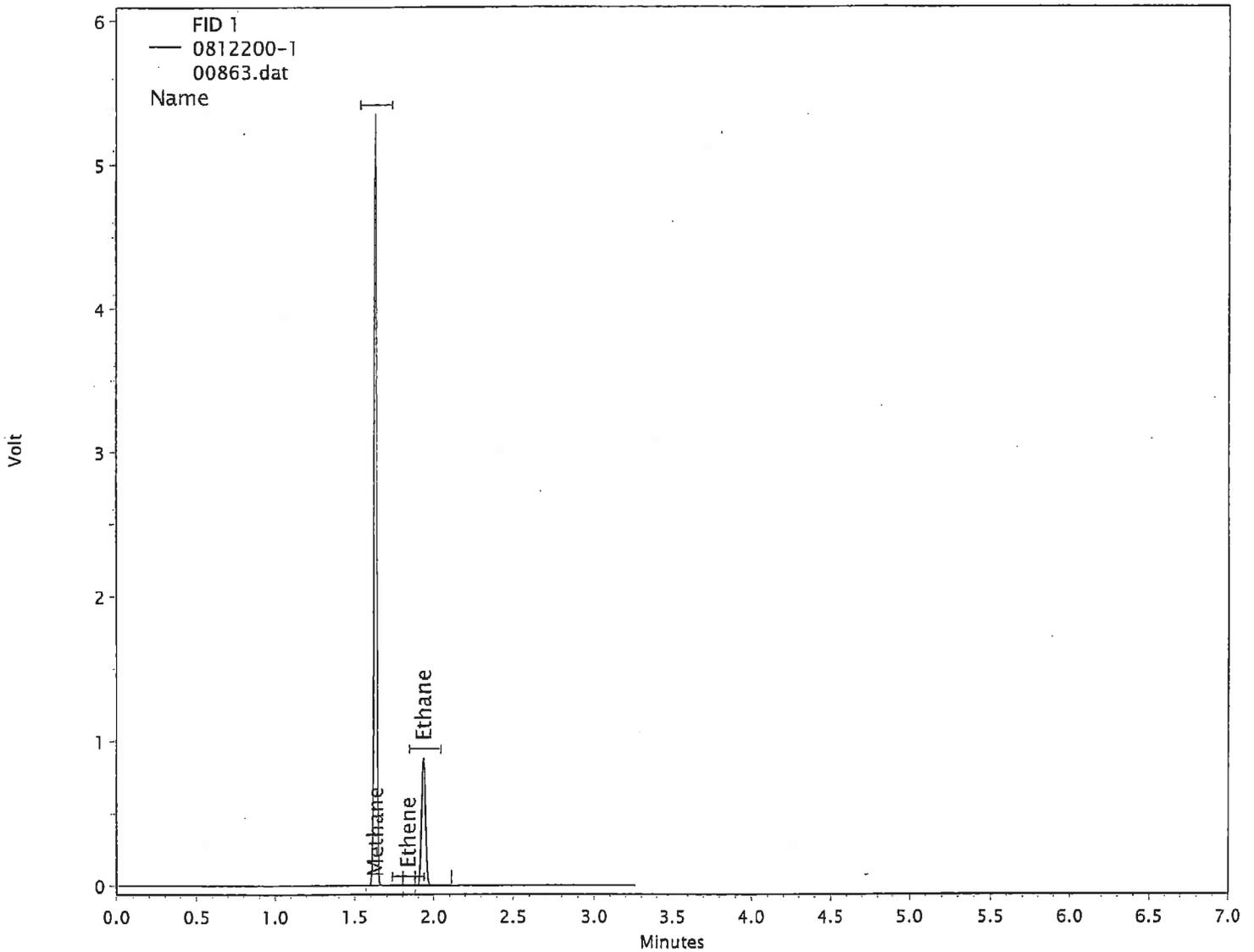
ALS/Paragon

Sample : 0812200-1
 Filename : \\gcserver\gdata\Projects\GC9\Data\2008\mee123008\00863.dat
 Acquisition Date : 12/30/2008 8:18:48 AM
 Quantitation Date : 12/30/2008 4:39:13 PM
 Last Method Update : 12/20/2008 6:04:08 PM
 Method : \\gcserver\gdata\Projects\GC9\Method\2008\mee041508E.met
 Sequence : \\gcserver\gdata\Projects\GC9\Sequence\2008\mee123008.seq
 Data Description : HS>pea

Instrument : GC9
 Data Acquired By : knaebelt
 Data Processed By : noltej
 Inj. Vol. (uL) : 300
 Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.630	1.640	6792220	BV	3467.99	ug/L
Ethene	1.837	1.838	302	VB	0.44 <RL	ug/L
Ethane	1.935	1.945	1489520	BR	770.60	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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 (RSK175) Quantitation Report

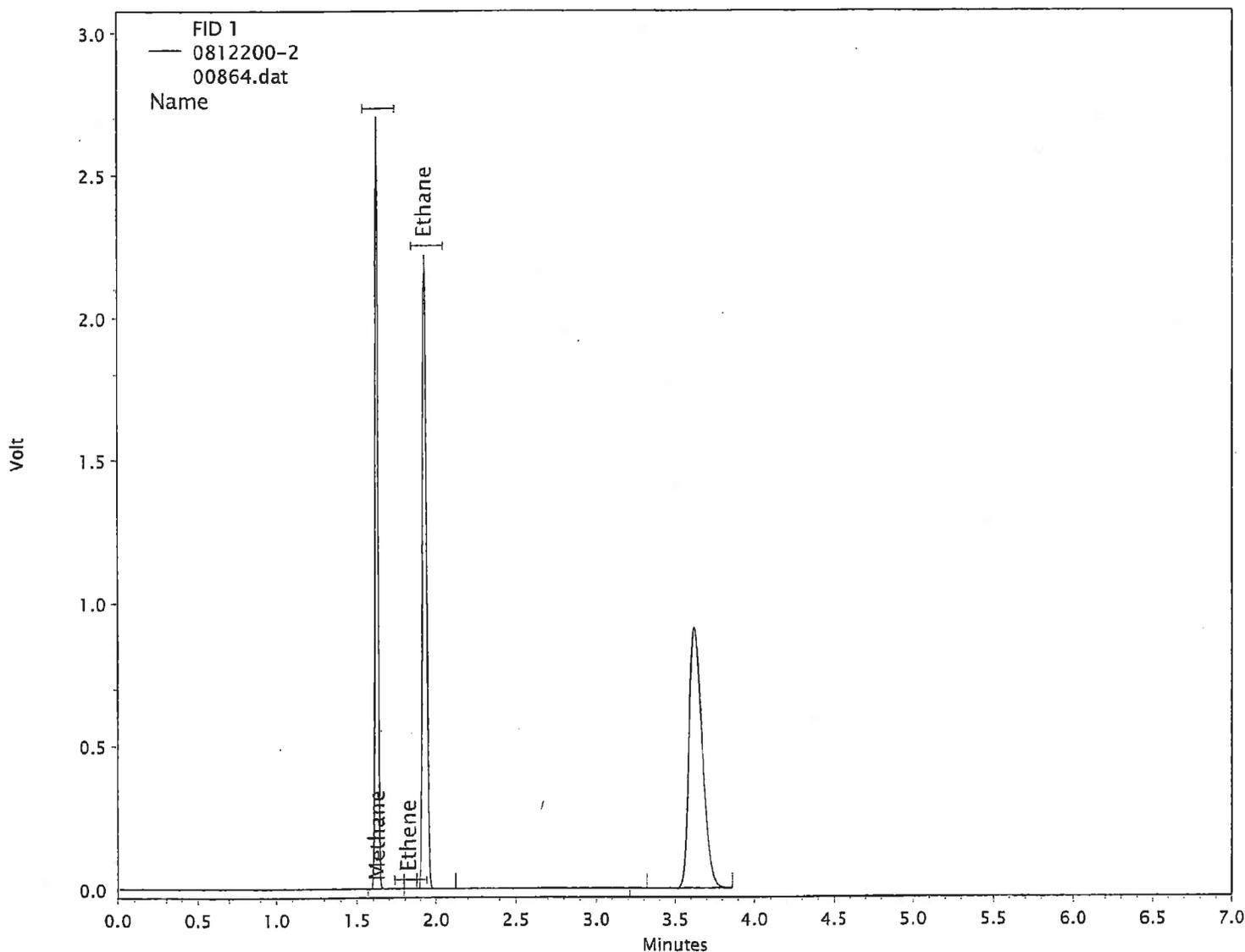
ALS/Paragon

Sample : 0812200-2
 Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00864.dat
 Acquisition Date : 12/30/2008 8:23:37 AM
 Quantitation Date : 12/30/2008 4:39:16 PM
 Last Method Update : 12/20/2008 6:04:08 PM
 Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met
 Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq
 Data Description : {Data Description}

Instrument : GC9
 Data Acquired By : knaebelt
 Data Processed By : noltej
 Inj. Vol. (uL) : 300
 Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.625	1.640	3414508	BV	1707.02	ug/L
Ethene	1.823	1.838	235	VB	0.39	ug/L
Ethane	1.927	1.945	3737258	BR	1947.53	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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 (RSK175) Quantitation Report

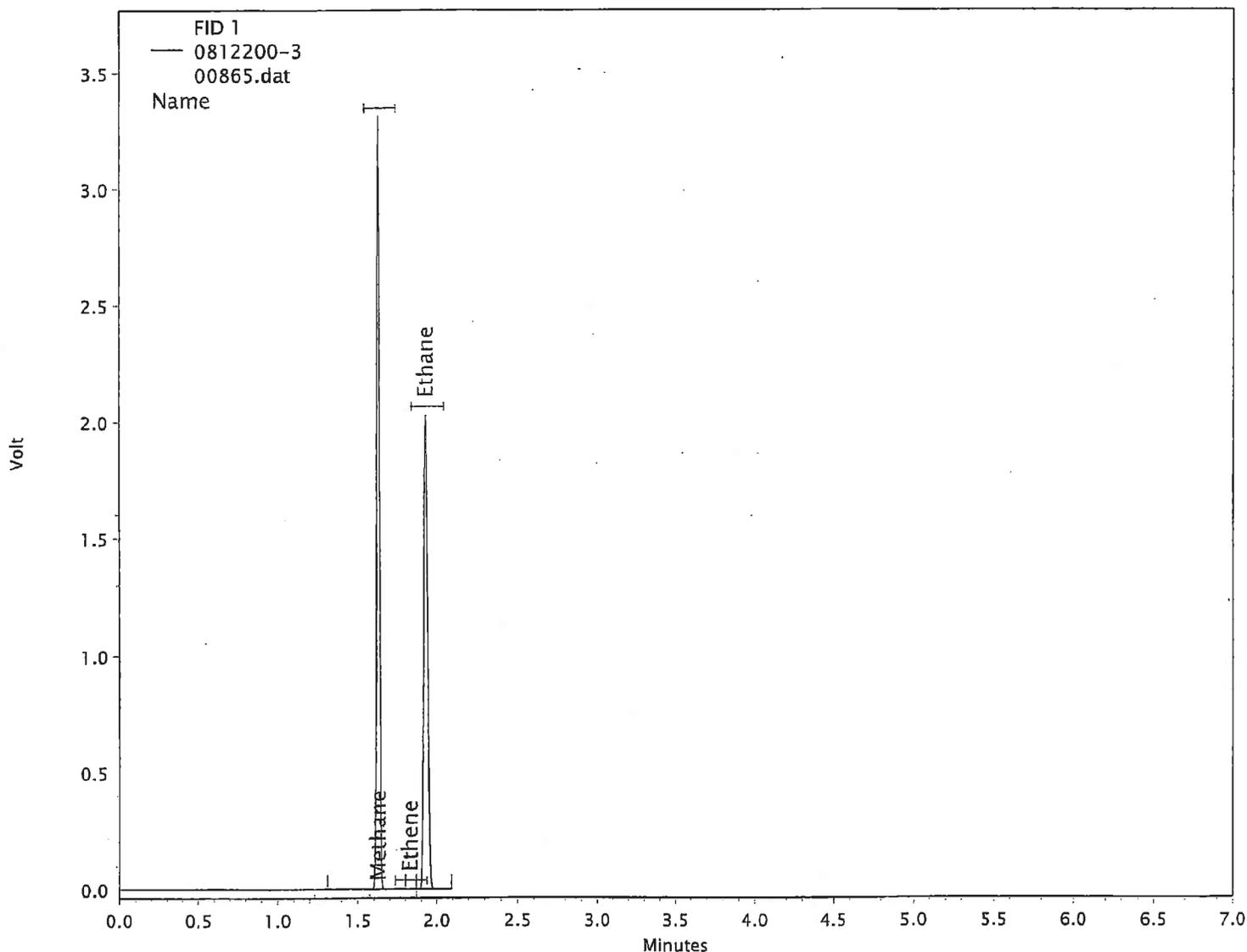
ALS/Paragon

Sample : 0812200-3
 Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00865.dat
 Acquisition Date : 12/30/2008 8:34:49 AM
 Quantitation Date : 12/30/2008 4:39:18 PM
 Last Method Update : 12/20/2008 6:04:08 PM
 Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met
 Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq
 Data Description : {Data Description}

Instrument : GC9
 Data Acquired By : knaebelt
 Data Processed By : noltej
 Inj. Vol. (uL) : 300
 Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.628	1.640	4155717	BV	2086.99	ug/L
Ethene	1.832	1.838	253	VB	0.41 <i>NCC</i>	ug/L
Ethane	1.932	1.945	3407184	BE	1773.58 ↓	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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.

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Dissolved Gases (RSK175) Quantitation Report

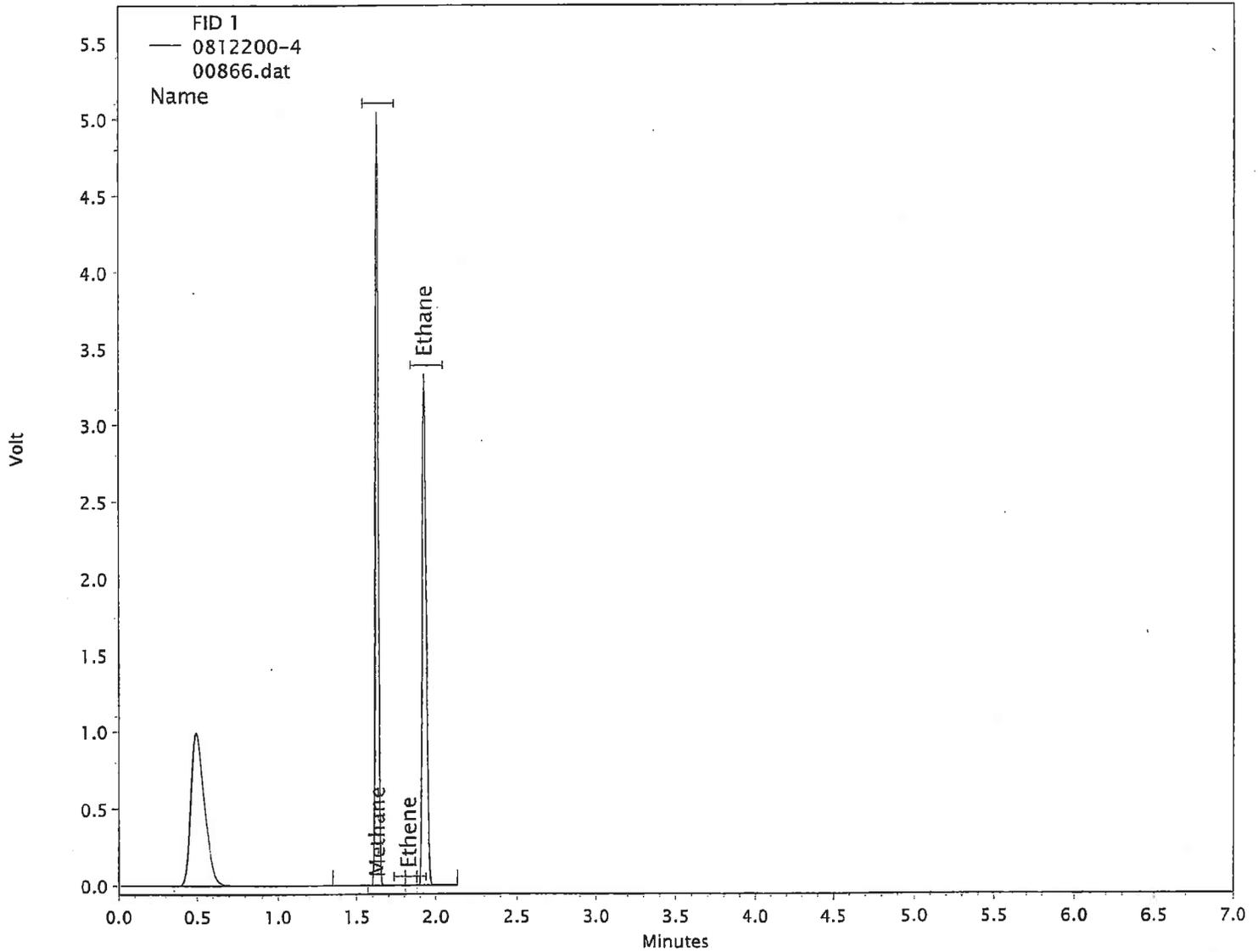
ALS/Paragon

Sample : 0812200-4
 Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00866.dat
 Acquisition Date : 12/30/2008 8:37:56 AM
 Quantitation Date : 12/30/2008 4:39:20 PM
 Last Method Update : 12/20/2008 6:04:08 PM
 Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met
 Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq
 Data Description : {Data Description}

Instrument : GC9
 Data Acquired By : knaebelt
 Data Processed By : noltej
 Inj. Vol. (uL) : 300
 Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.630	1.640	6767906	BV	3455.04	ug/L
Ethene	1.830	1.838	135	VB	0.32	ug/L
Ethane	1.930	1.945	5581246	BE	2926.59	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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 (RSK175) Quantitation Report

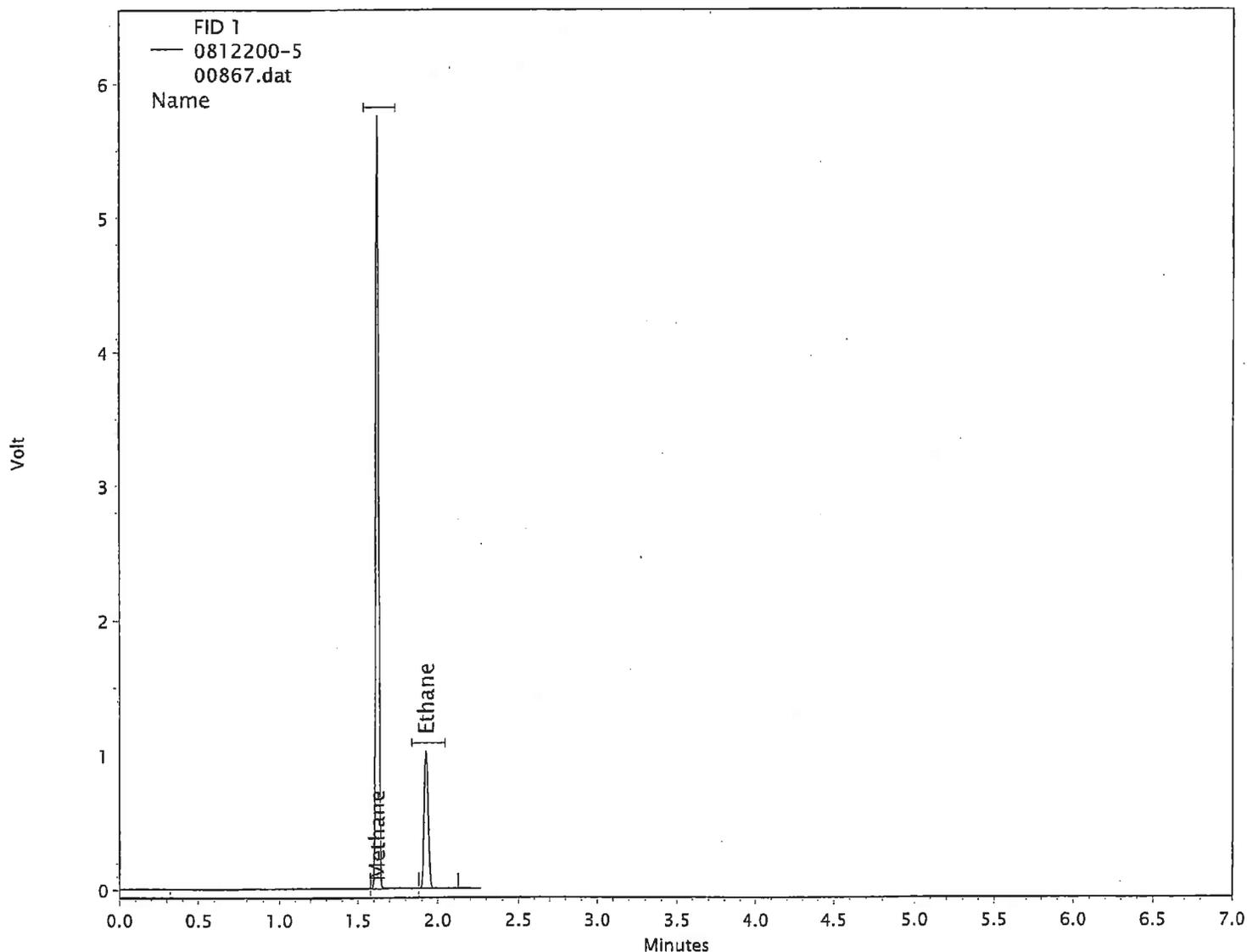
ALS/Paragon

Sample : 0812200-5
 Filename : \\gcserver\gdata\Projects\GC9\Data\2008\mee123008\00867.dat
 Acquisition Date : 12/30/2008 8:55:12 AM
 Quantitation Date : 12/30/2008 4:39:23 PM
 Last Method Update : 12/20/2008 6:04:08 PM
 Method : \\gcserver\gdata\Projects\GC9\Method\2008\mee041508E.met
 Sequence : \\gcserver\gdata\Projects\GC9\Sequence\2008\mee123008.seq
 Data Description : {Data Description}

Instrument : GC9
 Data Acquired By : knaebelt
 Data Processed By : noltej
 Inj. Vol. (uL) : 300
 Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.623	1.640	7170685	VV	3670.19	ug/L
Ethene		1.838			0.00 BDL	ug/L
Ethane	1.930	1.945	1725870	VR	893.52	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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 (RSK175) Quantitation Report

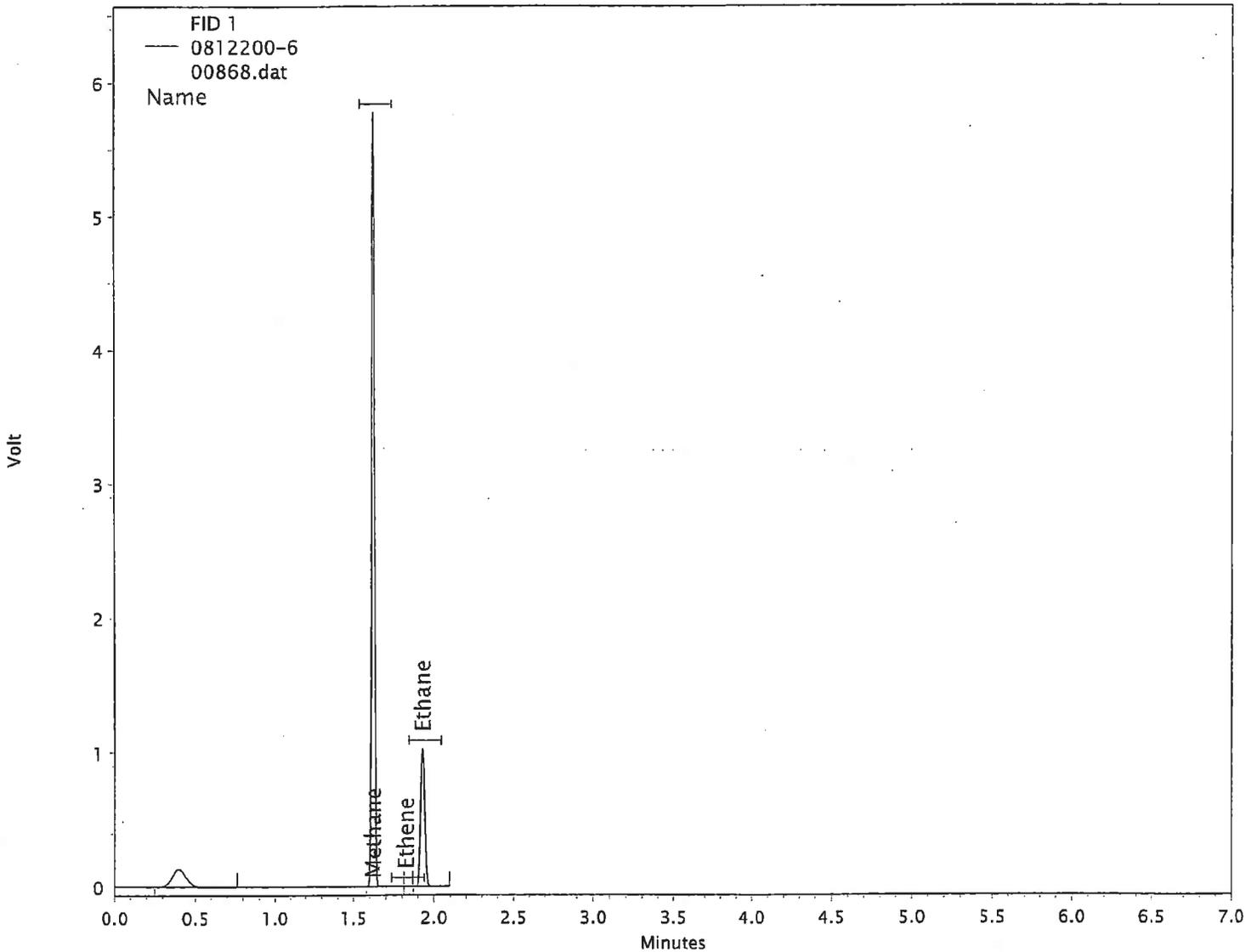
ALS/Paragon

Sample : 0812200-6
 Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00868.dat
 Acquisition Date : 12/30/2008 8:58:26 AM
 Quantitation Date : 12/30/2008 4:39:25 PM
 Last Method Update : 12/20/2008 6:04:08 PM
 Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met
 Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq
 Data Description : {Data Description}

Instrument : GC9
 Data Acquired By : knaebelt
 Data Processed By : noltej
 Inj. Vol. (uL) : 300
 Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.625	1.640	7199198	BV	3685.47	ug/L
Ethene	1.827	1.838	191	VB	0.36 <i>NTC</i>	ug/L
Ethane	1.930	1.945	1729257	BE	895.29 ↓	ug/L



Column : GS-Carbon Plot

{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 (RSK175) Quantitation Report

ALS/Paragon

Sample : 0812200-7

Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00869.dat

Acquisition Date : 12/30/2008 9:01:47 AM

Quantitation Date : 12/30/2008 4:39:27 PM

Last Method Update : 12/20/2008 6:04:08 PM

Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq

Data Description : {Data Description}

Instrument : GC9

Data Acquired By : knaebelt

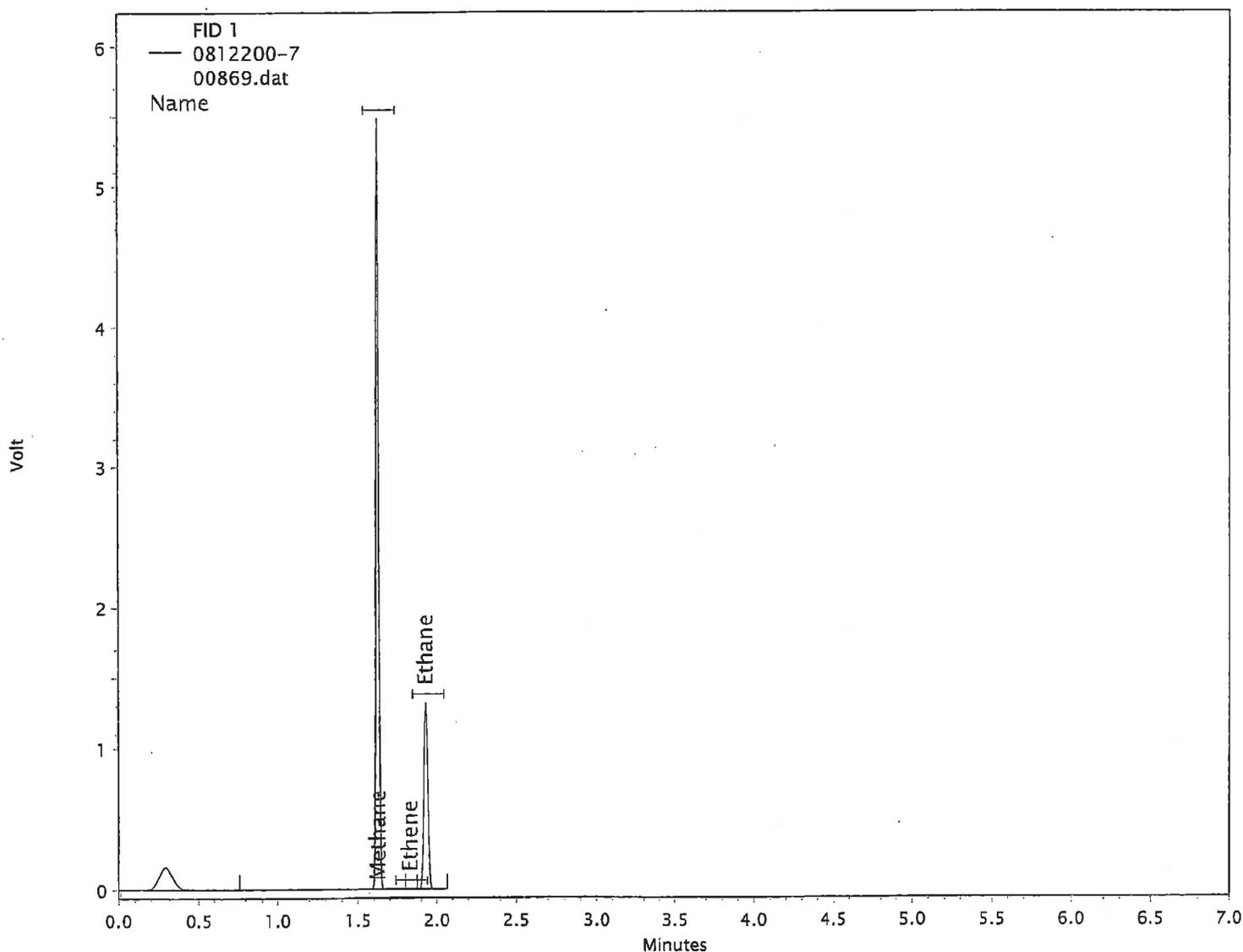
Data Processed By : noltej

Inj. Vol. (uL) : 300

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.625	1.640	6982815	BV	3569.69	ug/L
Ethene	1.827	1.838	225	VB	0.39	ug/L
Ethane	1.928	1.945	2214585	BE	1148.31	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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.

Printed On : 12/30/2008 4:39:28 PM

Dissolved Gases (RSK175) Quantitation Report

ALS/Paragon

Sample : 0812200-8

Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00870.dat

Acquisition Date : 12/30/2008 9:04:51 AM

Quantitation Date : 12/30/2008 4:39:29 PM

Last Method Update : 12/20/2008 6:04:08 PM

Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq

Data Description : {Data Description}

Instrument : GC9

Data Acquired By : knaebelt

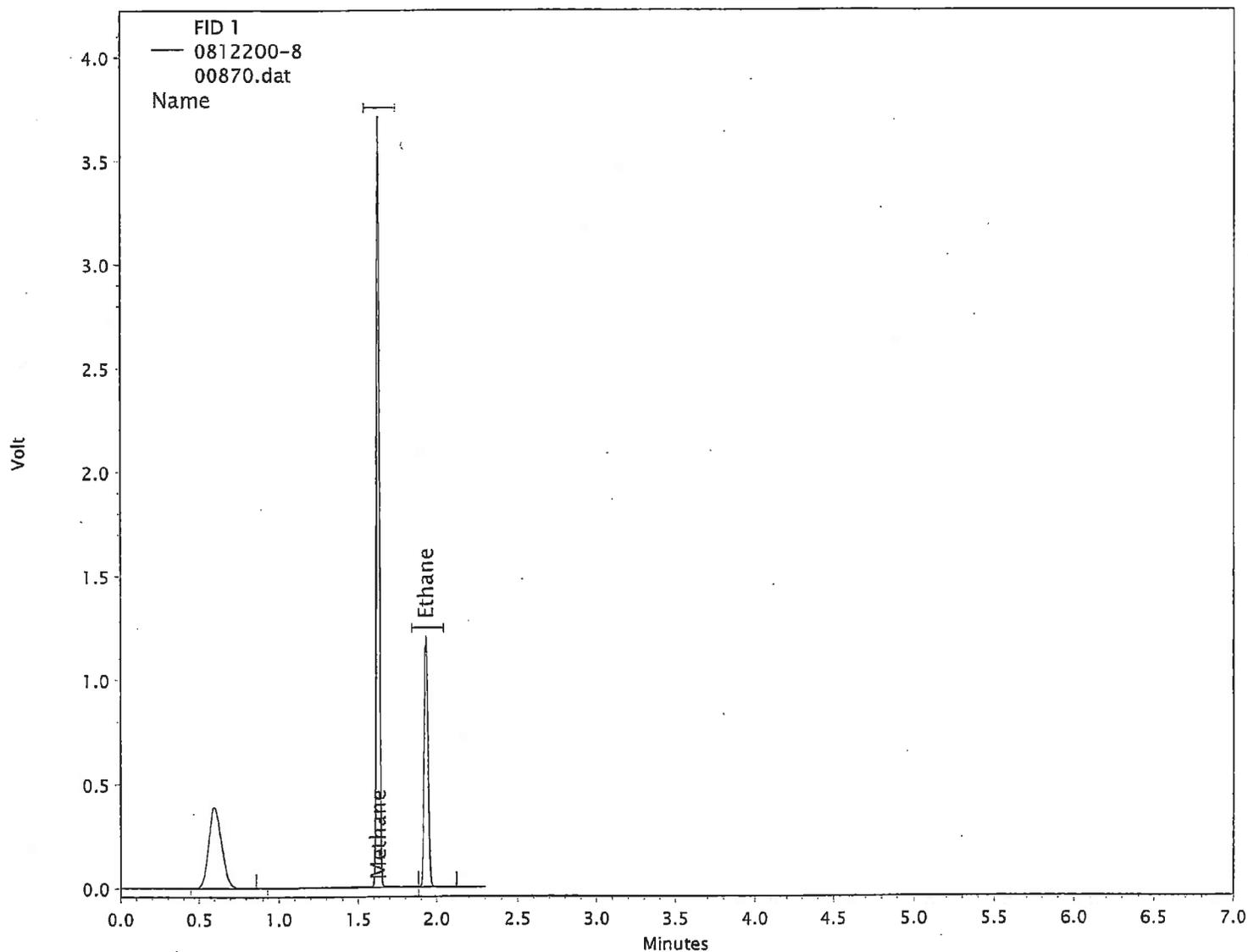
Data Processed By : noltej

Inj. Vol. (uL) : 300

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.630	1.640	4850602	BV	2446.43	ug/L
Ethene		1.838			0.00 BDL	ug/L
Ethane	1.933	1.945	2037008	VR	1055.64	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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.

Printed On : 12/30/2008 4:39:30 PM

Dissolved Gases (RSK175) Quantitation Report

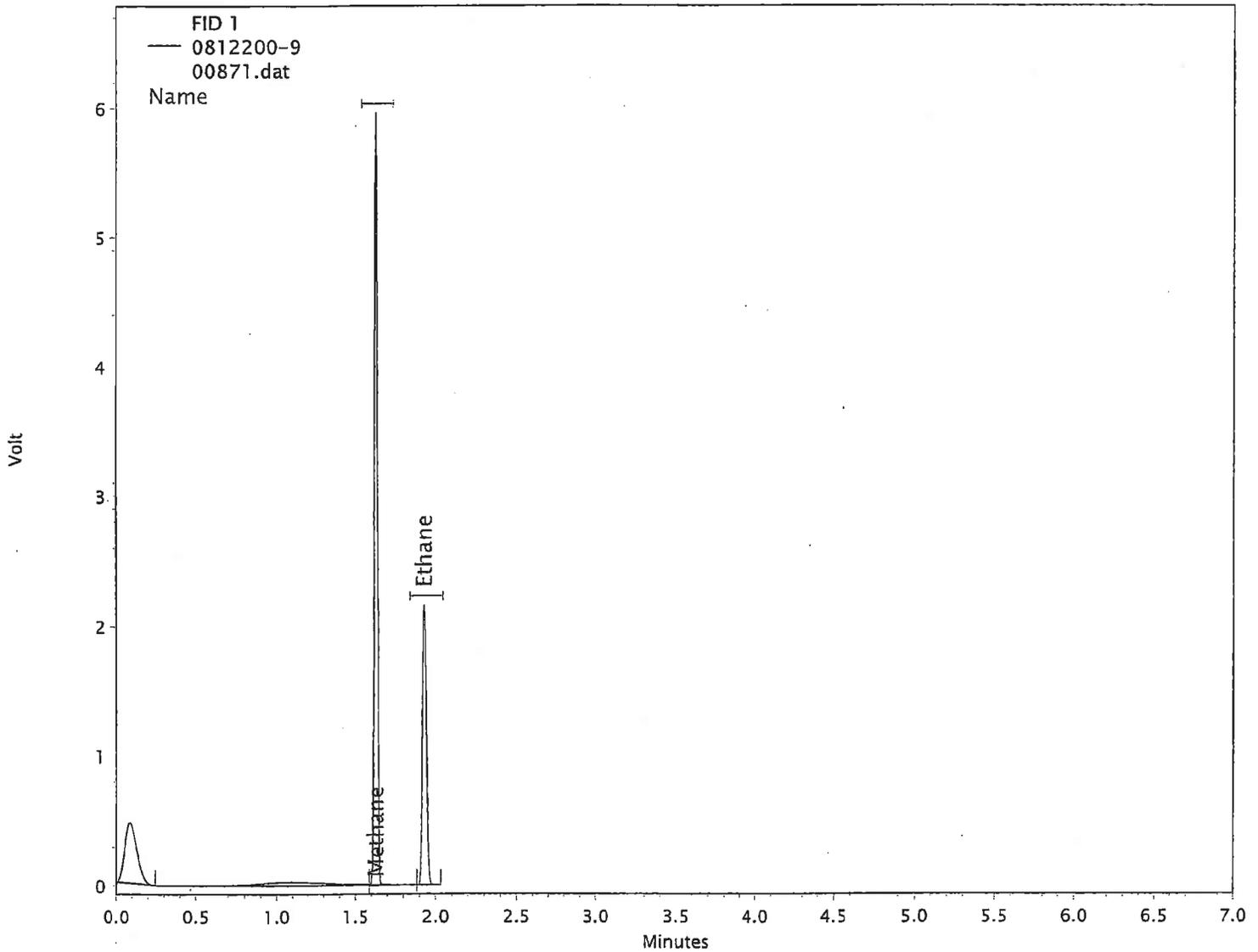
ALS/Paragon

Sample : 0812200-9
 Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00871.dat
 Acquisition Date : 12/30/2008 9:08:22 AM
 Quantitation Date : 12/30/2008 4:39:32 PM
 Last Method Update : 12/20/2008 6:04:08 PM
 Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met
 Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq
 Data Description : {Data Description}

Instrument : GC9
 Data Acquired By : knaebelt
 Data Processed By : noltej
 Inj. Vol. (uL) : 300
 Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.630	1.640	7922027	VV	4074.71	ug/L
Ethene		1.838			0.00 BDL	ug/L
Ethane	1.932	1.945	3612766	VE	1881.88	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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 (RSK175) Quantitation Report

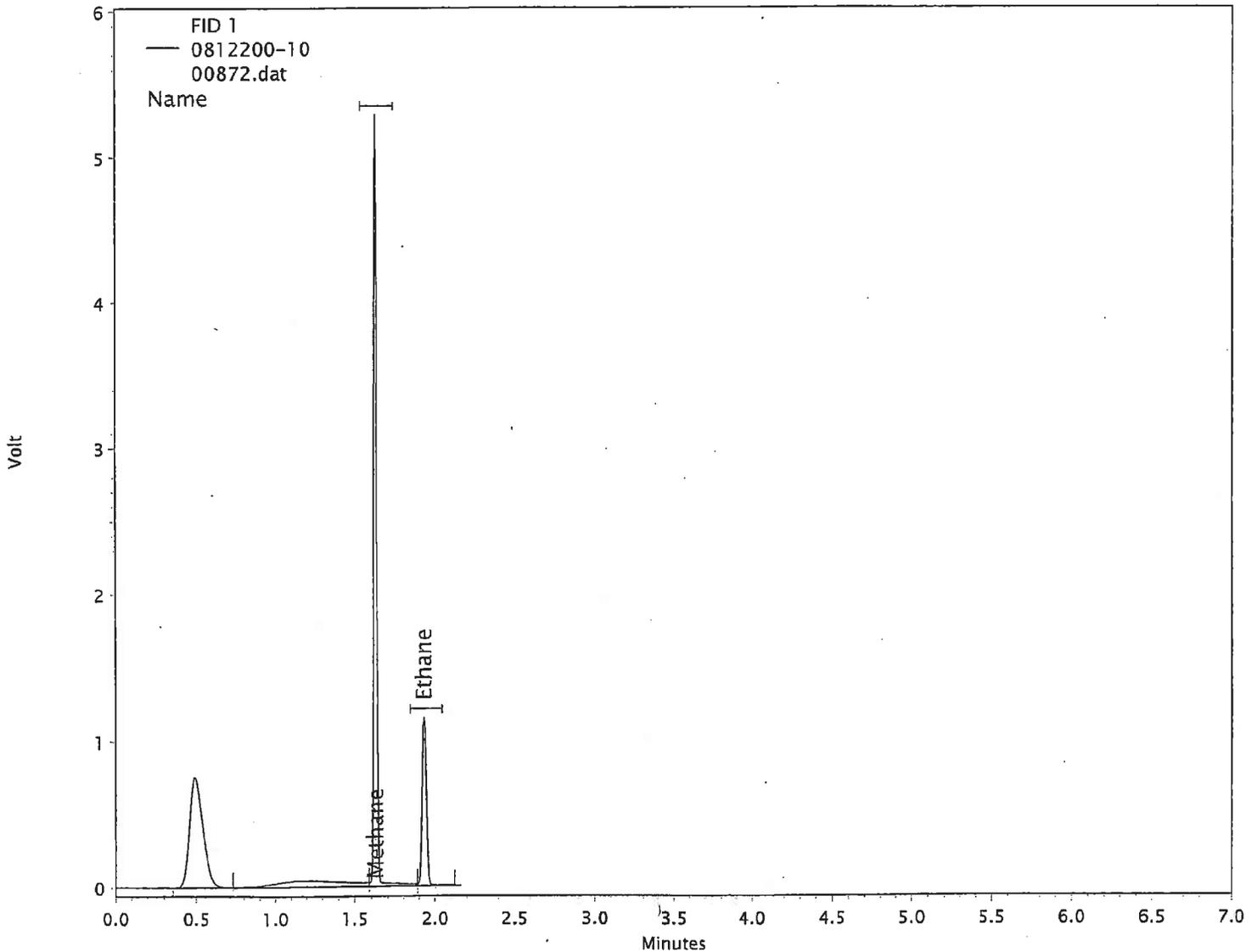
ALS/Paragon

Sample : 0812200-10
 Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00872.dat
 Acquisition Date : 12/30/2008 9:11:30 AM
 Quantitation Date : 12/30/2008 4:39:34 PM
 Last Method Update : 12/20/2008 6:04:08 PM
 Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met
 Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq
 Data Description : {Data Description}

Instrument : GC9
 Data Acquired By : knaebelt
 Data Processed By : noltej
 Inj. Vol. (uL) : 300
 Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.628	1.640	6840825	VV	3493.90	ug/L
Ethene		1.838			0.00 BDL MTC	ug/L
Ethane	1.932	1.945	1997998	VR	1035.29 ↓	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int. code is for peak stop) B=baseline, f=force start or stop, l=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 (RSK175) Quantitation Report

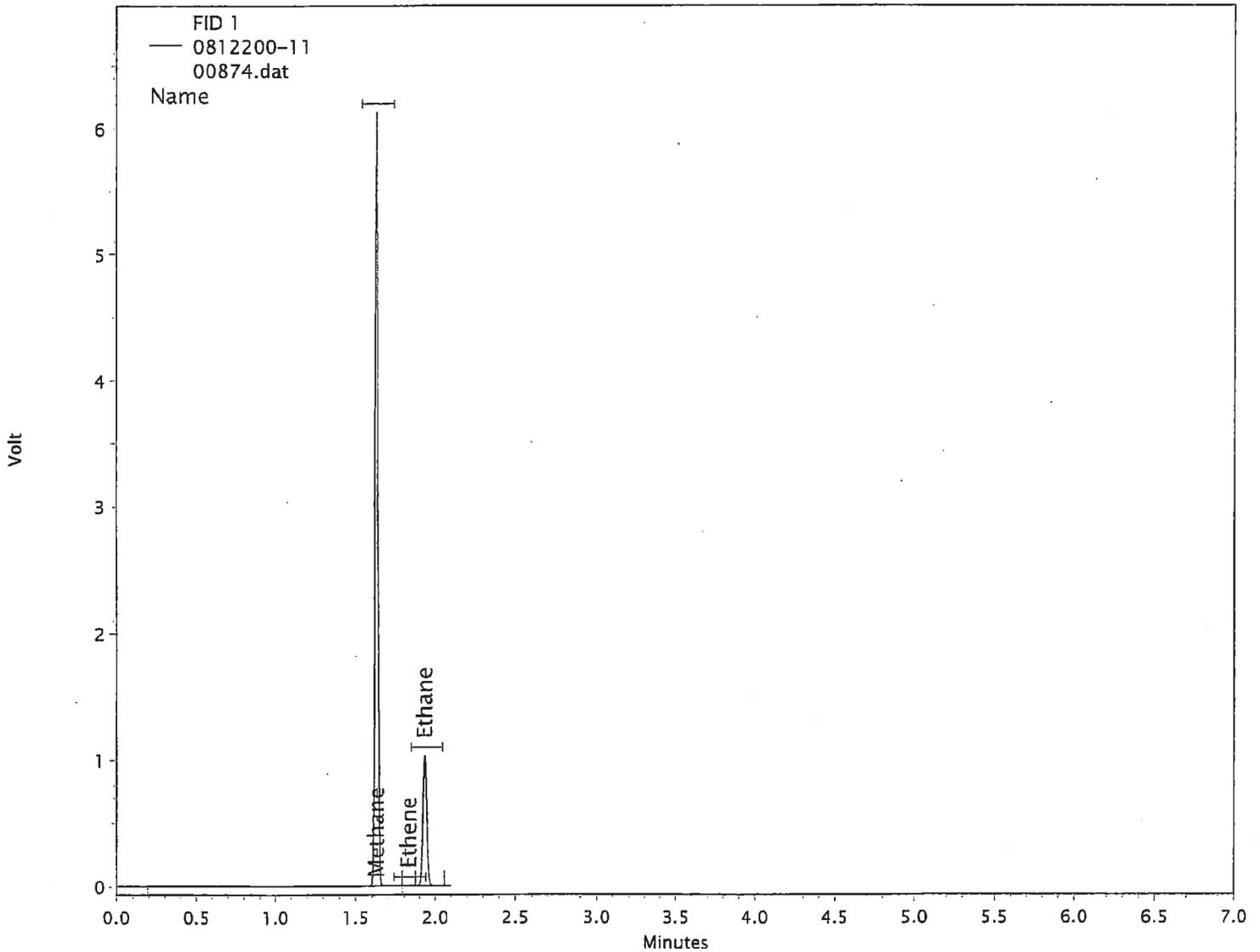
ALS/Paragon

Sample : 0812200-11
 Filename : \\gcserver\gdata\Projects\GC9\Data\2008\mee123008\00874.dat
 Acquisition Date : 12/30/2008 9:28:40 AM
 Quantitation Date : 12/30/2008 4:39:40 PM
 Last Method Update : 12/20/2008 6:04:08 PM
 Method : \\gcserver\gdata\Projects\GC9\Method\2008\mee041508E.met
 Sequence : \\gcserver\gdata\Projects\GC9\Sequence\2008\mee123008.seq
 Data Description : {Data Description}

Instrument : GC9
 Data Acquired By : knaebelt
 Data Processed By : noltej
 Inj. Vol. (uL) : 300
 Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.628	1.640	7893453	BV	4059.25	ug/L
Ethene	1.830	1.838	1972	VV	1.68 <i>N/C</i>	ug/L
Ethane	1.932	1.945	1705022	VB	882.67 ↓	ug/L



Column : GS-Carbon Plot

{1st int. code is for peak start, 2nd int code is for peak stop} B=baseline, f=force start or stop, l=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 (RSK175) Quantitation Report

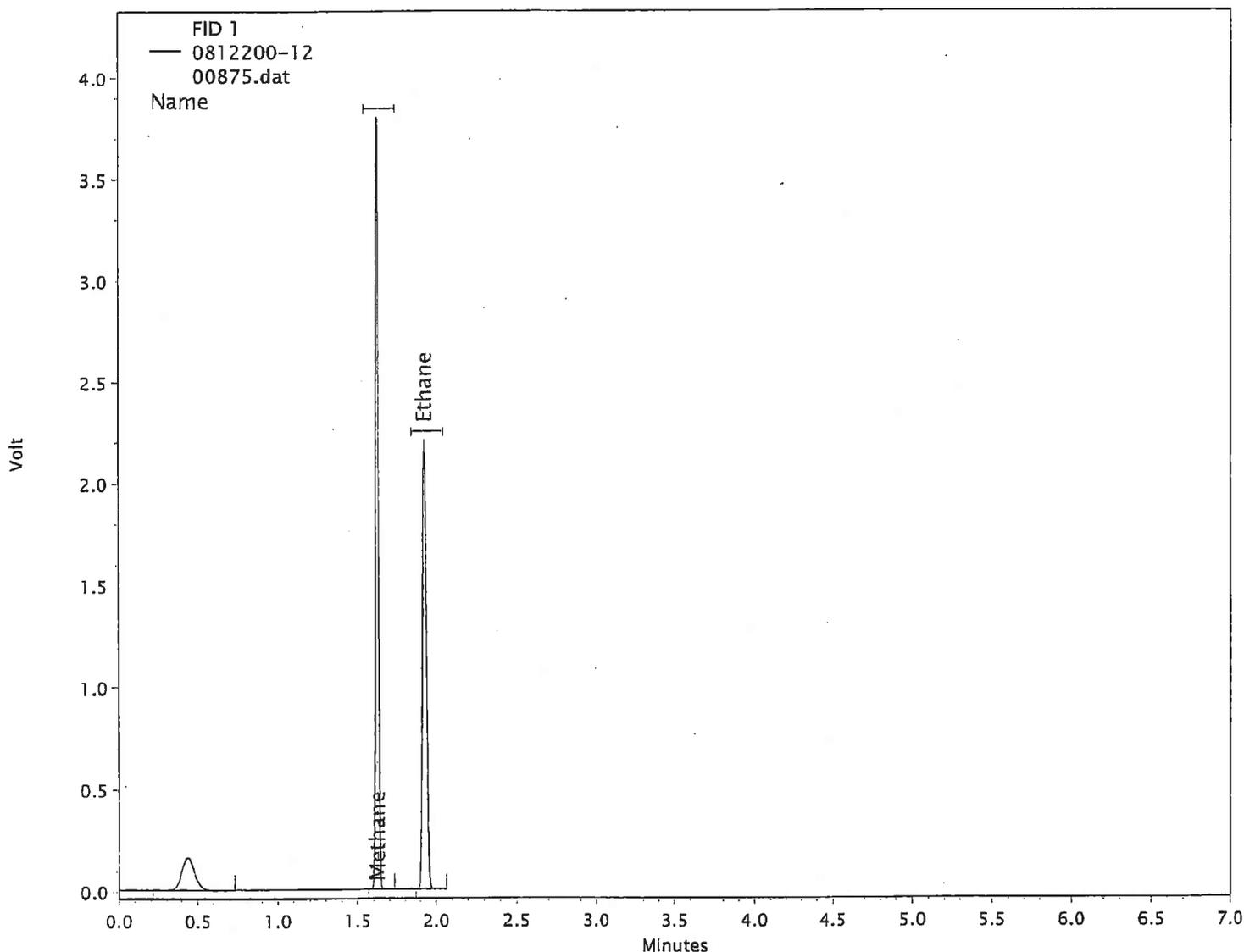
ALS/Paragon

Sample : 0812200-12
 Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00875.dat
 Acquisition Date : 12/30/2008 9:31:53 AM
 Quantitation Date : 12/30/2008 4:39:43 PM
 Last Method Update : 12/20/2008 6:04:08 PM
 Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met
 Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq
 Data Description : {Data Description}

Instrument : GC9
 Data Acquired By : knaebelt
 Data Processed By : noltej
 Inj. Vol. (uL) : 300
 Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.625	1.640	4725686	BB	2381.58	ug/L
Ethene		1.838			0.00 BDL MTC	ug/L
Ethane	1.927	1.945	3668621	BE	1911.33	ug/L



Column : GS-Carbon Plot

[1st int. code is for peak start, 2nd int code is for peak stop] B=baseline, f=force start or stop, l=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

Dissolved Gases (RSK175) Quantitation Report

ALS/Paragon

Sample: CCS

Filename: \\gcserver\gdata\Projects\GC9\Data\2008\mee123008\00851.dat

Acquisition Date: 12/30/2008 6:52:20 AM

Quantitation Date: 12/30/2008 4:38:43 PM

Last Method Update: 12/20/2008 6:04:08 PM

Method: \\gcserver\gdata\Projects\GC9\Method\2008\mee041508E.met

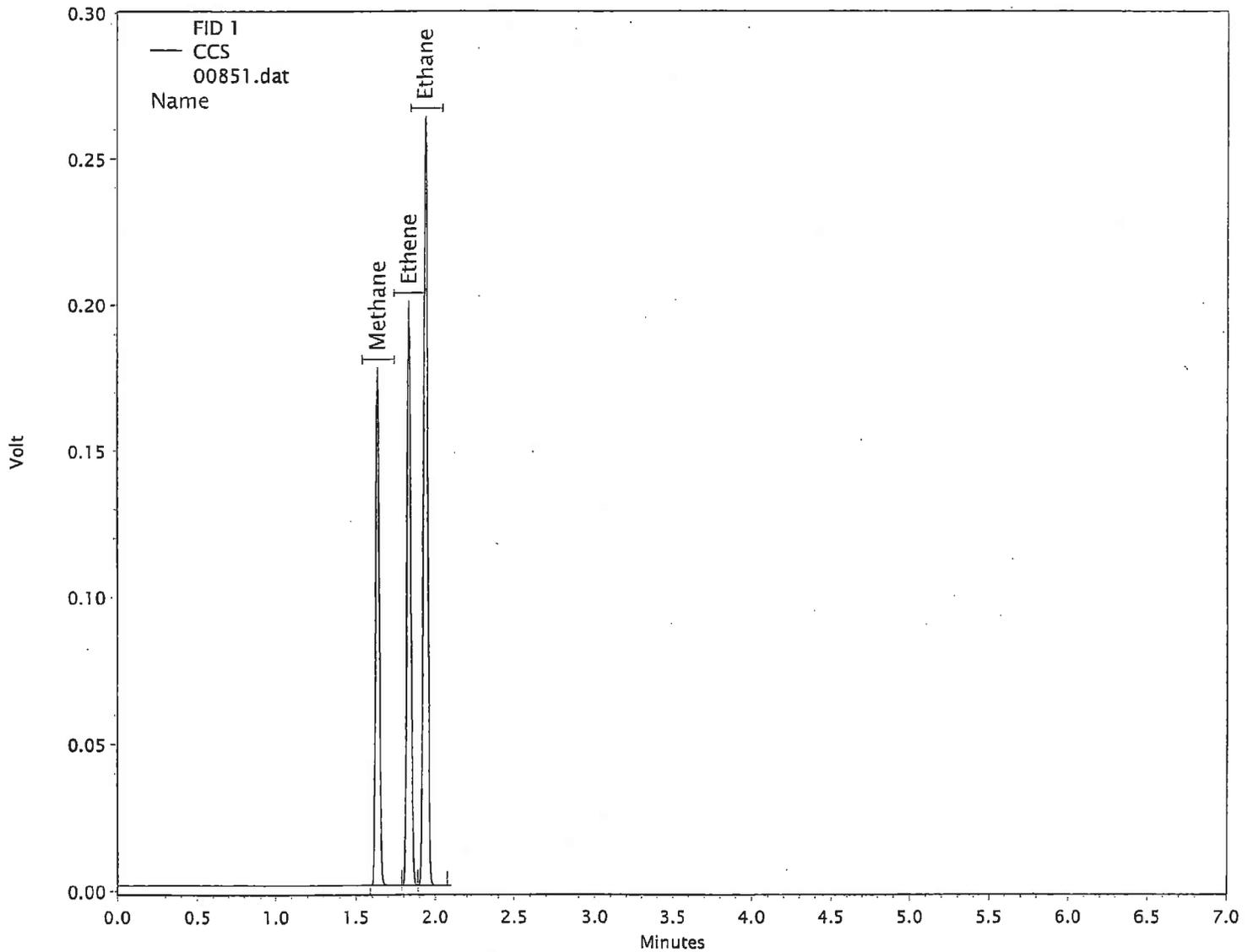
Sequence: \\gcserver\gdata\Projects\GC9\Sequence\2008\mee123008.seq

Data Description: {Data Description}

Instrument: GC9
Data Acquired By: knaebelt
Data Processed By: noltej
Inj. Vol. (uL): 300
Vial: N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.635	1.640	270596	BV	132.59	ug/L
Ethene	1.832	1.838	316318	VV	234.78	ug/L
Ethane	1.938	1.945	451389	VE	232.94	ug/L



Column: GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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 (RSK175) Quantitation Report

ALS/Paragon

Sample : CCS

Filename : \\gcserver\gcdata\Projects\GC9\Data\2008\mee123008\00862.dat

Acquisition Date : 12/30/2008 7:43:47 AM

Quantitation Date : 12/30/2008 4:39:10 PM

Last Method Update : 12/20/2008 6:04:08 PM

Method : \\gcserver\gcdata\Projects\GC9\Method\2008\mee041508E.met

Sequence : \\gcserver\gcdata\Projects\GC9\Sequence\2008\mee123008.seq

Data Description : {Data Description}

Instrument : GC9

Data Acquired By : knaebelt

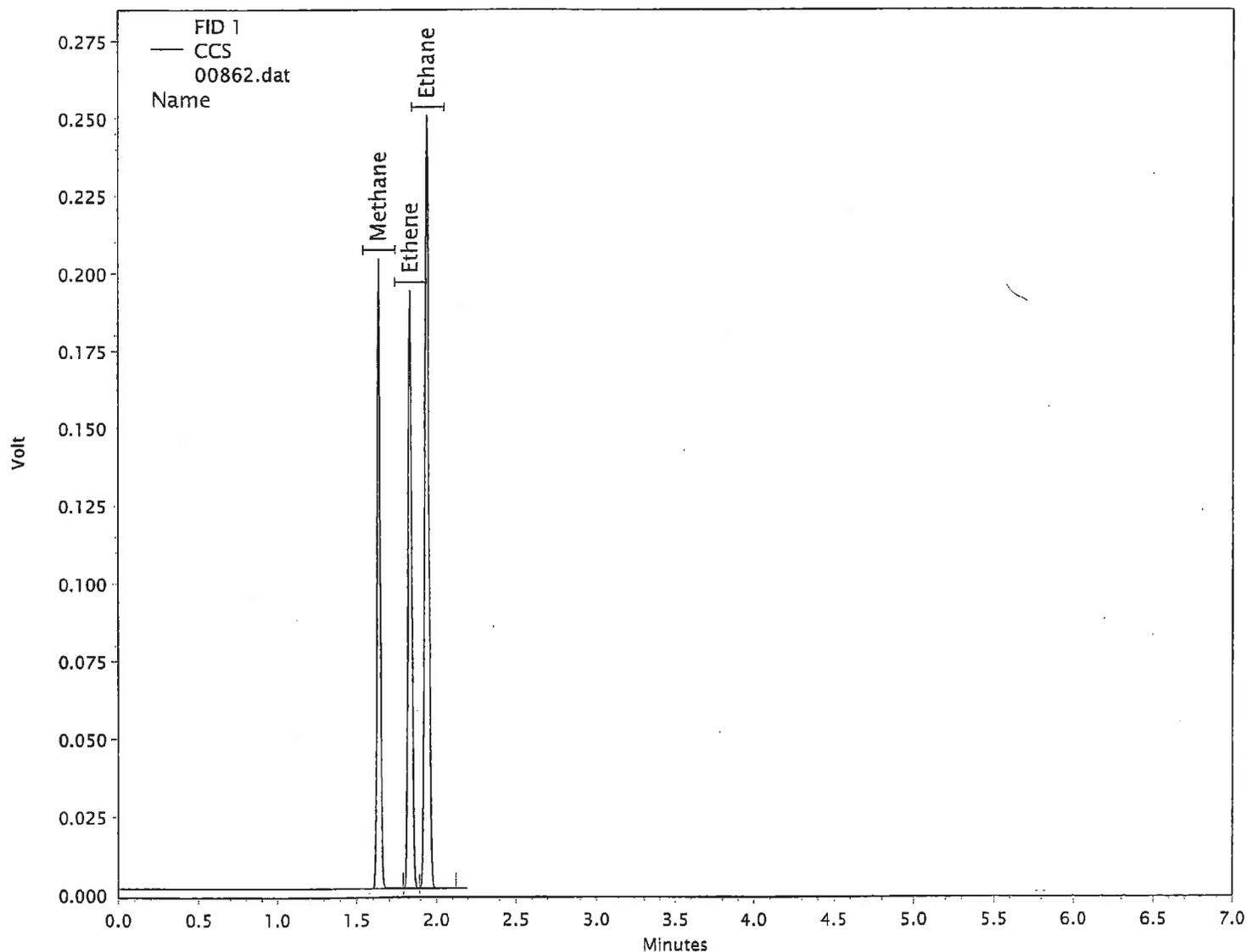
Data Processed By : noltej

Inj. Vol. (uL) : 300

Vial : N/A

FID 1 Results

Compound Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
Methane	1.635	1.640	296375	BV	145.27	ug/L
Ethene	1.833	1.838	294959	VV	218.92	ug/L
Ethane	1.938	1.945	416565	VR	214.97	ug/L



Column : GS-Carbon Plot

(1st int. code is for peak start, 2nd int code is for peak stop) B=baseline, f=force start or stop, l=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.

Printed On : 12/30/2008 4:39:12 PM