



# Total Volatile Petroleum Hydrocarbons (Gasoline) Case Narrative

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**COGCC**

Vondy #3

Work Order Number: 1701016

1. This report consists of 1 water sample. The sample was received cool and intact by ALS on 01/04/17.

The water sample was free of headspace prior to analysis.

The sample had a pH < 2 at the time of analysis.

2. This sample was prepared and analyzed according to SW-846, 3rd Edition procedures. Specifically, the water sample was prepared by heating and purging 5ml using purge and trap procedures based on Method 5030C. The calibration curve was also prepared using the heated purge.
3. This sample was analyzed following the current revision of SOP 425 generally based on SW-846 Methods 8000C and 8015D. TVPH is a multicomponent mixture and is quantitated by summing the entire carbon range, rather than individual peaks. The carbon range integrated in this test extends from C<sub>6</sub> to C<sub>10</sub>.
4. All initial and continuing calibration criteria were met.
5. All method blank criteria were met.
6. All laboratory control sample recoveries were within the acceptance criteria.
7. Sample 1701016-1 was designated as the quality control sample for this analysis.

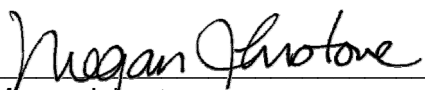
Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.



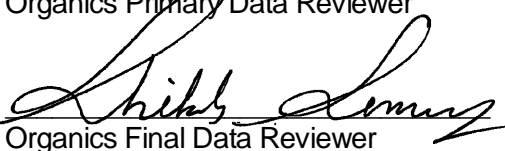
All matrix spike recoveries were within acceptance criteria.

8. The sample was extracted and analyzed within the established holding time.
9. All surrogate recoveries were within acceptance criteria.
10. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in the current revision of SOP 939.

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.

  
Megan Johnstone  
Organics Primary Data Reviewer

1/17/17  
Date

  
Organics Final Data Reviewer

1/18/17  
Date

**ALS**  
**Data Qualifier Flags**  
**Fuels**

- G:** This flag indicates that a pattern resembling gasoline was detected in this sample.
- D:** This flag indicates that a pattern resembling diesel was detected in this sample.
- M:** This flag indicates that a pattern resembling motor oil was detected in this sample.
- C:** This flag indicates that a pattern resembling crude oil was detected in this sample.
- 4:** This flag indicates that a pattern resembling JP-4 was detected in this sample.
- 5:** This flag indicates that a pattern resembling JP-5 was detected in this sample.
- H:** This flag indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
- L:** This flag indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
- Z:** This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:  
gasoline  
JP-8  
diesel  
mineral spirits  
motor oil  
Stoddard solvent  
bunker C
- Multiple flags may be used to indicate the presence of more than one product or component.

# ALS -- Fort Collins

## Sample Number(s) Cross-Reference Table

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**OrderNum:** 1701016

**Client Name:** COGCC

**Client Project Name:** Vondy #3

**Client Project Number:**

**Client PO Number:** CT 2017-0221

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Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Vondy #3	1701016-1		WATER	30-Dec-16	12:30
TB	1701016-2		WATER	30-Dec-16	



# ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524  
TF: (800) 443-1511 PH: (970) 486-1511 FX: (970) 490-4522

## Chain-of-Custody

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.  
Turnaround time for samples received Saturday will be calculated beginning from the next business day.

PROJECT NAME		Vondy #3		TURNAROUND TIME		SITE ID		SAMPLER		Robert Young		PAGE		of		ALS WORKORDER #	
PROJECT NO.												1701016					
COMPANY NAME		COGCC		PURCHASE ORDER		CT 2017-0221		BILL TO COMPANY				DISPOSAL		BY LAB		or RETURN	
SEND REPORT TO		Robert Young		INVOICE ATTN TO				ADDRESS									
ADDRESS				CITY / STATE / ZIP				PHONE									
PHONE		303-252-0126						FAX									
E-MAIL		rob.young@siate.co.us						E-MAIL									

PARAMETER/METHOD REQUEST FOR ANALYSIS											
A Alkalinity/Conductivity/Amones/pH (1L amber glass)											
B Dissolved metals/SAR (lab filtration)											
C Nitrate/Nitrite											
D 8260 - BTEX SS 11/5/17											
E RSK-175											
F 8015-GRO											
G TDS											
H 8015-DRO											
I 8270 SIM SS 11/5/17											
J TB											

LAB ID	FIELD ID	MATRIX	SAMPLE DATE	SAMPLE TIME	# OF BOTTLES	PRESERVATIVE	QC	A	B	C	D	E	F	G	H	I	J	SEE NOTES SECTION
1	Vondy #3	Aq	12/30/16	1230	1	None		X										
2					1	None			X									
3					1	Sulfuric				X								
4					3	HCL					X							
5					3	HCL						X						
6					3	HCL							X					
7					1	None								X				
8					1	None									X			
9					1	None										X		
10					2	HCL											X	

RELINQUISHED BY		SIGNATURE		PRINTED NAME		DATE		TIME	
RECEIVED BY		Robert Young		Robert Young		1-4-2017		1445	
RELINQUISHED BY		Joshua Nontia-Sua		Joshua Nontia-Sua		1-4-17		1450	
RECEIVED BY									
RELINQUISHED BY									
RECEIVED BY									

Form 2023

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

REPORT LEVEL / QC REQUIRED		SUMMARY (Standard QC)		LEVEL II (Standard QC)		LEVEL III (Std QC + forms)		LEVEL IV (Std QC + forms - raw data)	

PRESERVATION KEY 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaOH/H2O2/Asahite 6-NaHSO4 7-4°C 8-Other



ALS Environmental - Fort Collins  
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC

Workorder No: COGCC1701016

Project Manager: SS

Initials: JWS Date: 1/5/17

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	<input checked="" type="radio"/> NONE	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?	<input checked="" type="radio"/> DROP OFF	YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	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.)		<input checked="" type="radio"/> 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	<input checked="" type="radio"/> N/A	YES	NO
15. Do any water samples contain sediment? Amount of sediment: ____ dusting ____ moderate ____ heavy	N/A	YES	<input checked="" type="radio"/> NO
16. Were the samples shipped on ice?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 #4	RAD ONLY	<input checked="" type="radio"/> YES	NO
Cooler #: <u>1</u>			
Temperature (°C): <u>2.7</u>			
No. of custody seals on cooler: <u>0</u>			
External µR/hr reading: <u>-</u>			
Background µR/hr reading: <u>-</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / <input checked="" type="radio"/> NA (If no, see Form 008.)			

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

Handwriting on labels faded and hard to make out.

If applicable, was the client contacted? YES / NO / ☒ NA, Contact: [Signature] Date/Time: \_\_\_\_\_

Project Manager Signature / Date: [Signature]

# Gasoline Range Organics

Method SW8015D

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 1701016

Client Name: COGCC

ClientProject ID: Vondy #3

Lab ID: HC170109-62MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 09-Jan-17

Date Analyzed: 09-Jan-17

Prep Batch: HC170109-62

QCBatchID: HC170109-62-1

Run ID: HC170109-6AA

Cleanup: NONE

Basis: N/A

File Name: 19489.dat

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
8006-61-9	GASOLINE RANGE ORGANICS	1	0.1	0.1	0.01	U	

## Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
193533-92-	2,3,4-TRIFLUOROTOLUENE	0.0987		0.1	99	74 - 129

Data Package ID: HCG1701016-1

Date Printed: Tuesday, January 17, 2017

ALS -- Fort Collins

Page 1 of 1

LIMS Version: 6.837

# Gasoline Range Organics

Method SW8015D

## Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 1701016

Client Name: COGCC

ClientProject ID: Vondy #3

Field ID:	Vondy #3
Lab ID:	1701016-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 30-Dec-16

Date Extracted: 09-Jan-17

Date Analyzed: 09-Jan-17

Prep Method: SW5030 Rev C

Prep Batch: HC170109-62

QCBatchID: HC170109-62-1

Run ID: HC170109-6AA

Cleanup: NONE

Basis: As Received

File Name: 19490.dat

Analyst: Joel F. Nolte

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
8006-61-9	GASOLINE RANGE ORGANICS	1	0.1	0.1	0.01	U	

## Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
193533-92-	2,3,4-TRIFLUOROTOLUENE	0.101		0.1	101	74 - 129

Data Package ID: HCG1701016-1

Date Printed: Tuesday, January 17, 2017

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LIMS Version: 6.837

Page 1 of 1



# Gasoline Range Organics

Method SW8015D

## Laboratory Control Sample

Lab Name: ALS -- Fort Collins

Work Order Number: 1701016

Client Name: COGCC

ClientProject ID: Vondy #3

Lab ID: HC170109-62LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 01/09/2017

Date Analyzed: 01/09/2017

Prep Method: SW5030C

Prep Batch: HC170109-62

QCBatchID: HC170109-62-1

Run ID: HC170109-6AA

Cleanup: NONE

Basis: N/A

File Name: 19494.dat

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
8006-61-9	GASOLINE RANGE ORGANICS	0.5	0.476	0.1		95	79 - 118%

## Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
193533-92-	2,3,4-TRIFLUOROTOLUENE	0.103		0.1	103	74 - 129

Data Package ID: HCG1701016-1

Date Printed: Tuesday, January 17, 2017

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LIMS Version: 6.837

Page 1 of 1

# Gasoline Range Organics

Method SW8015D

Matrix Spike

Lab Name: ALS -- Fort Collins

Work Order Number: 1701016

Client Name: COGCC

ClientProject ID: Vondy #3

Field ID:	Vondy #3
LabID:	1701016-1MS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 30-Dec-16

Date Extracted: 09-Jan-17

Date Analyzed: 09-Jan-17

Prep Batch: HC170109-62

QCBatchID: HC170109-62-1

Run ID: HC170109-6AA

Cleanup: NONE

Basis: As Received

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

File Name: 19491.dat

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
8006-61-9	GASOLINE RANGE ORGANICS	0.1	U	0.474		0.1	0.5	95	79 - 118%

## Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
193533-92-	2,3,4-TRIFLUOROTOLUENE	0.104		0.1	104	74 - 129

Data Package ID: HCG1701016-1

Date Printed: Tuesday, January 17, 2017

ALS -- Fort Collins

LIMS Version: 6.837

Page 1 of 1

# Total Volatile Petroleum Hydrocarbons / GRO (8015) Quantitation Report

ALSLG-Fort Collins

Sample : HC170109-62MB

Filename : \\gcserver\gcdata\Projects\GC6\Data\2017\gro170109\19489.dat

Instrument : GC6

Acquisition Date : 1/9/2017 7:39:18 PM

Data Acquired By : noltej

Quantitation Date : 1/10/2017 8:16:36 AM

Data Processed By : noltej

Last Method Update : 1/10/2017 8:11:31 AM

Surr. Nom. Conc. : 0.1

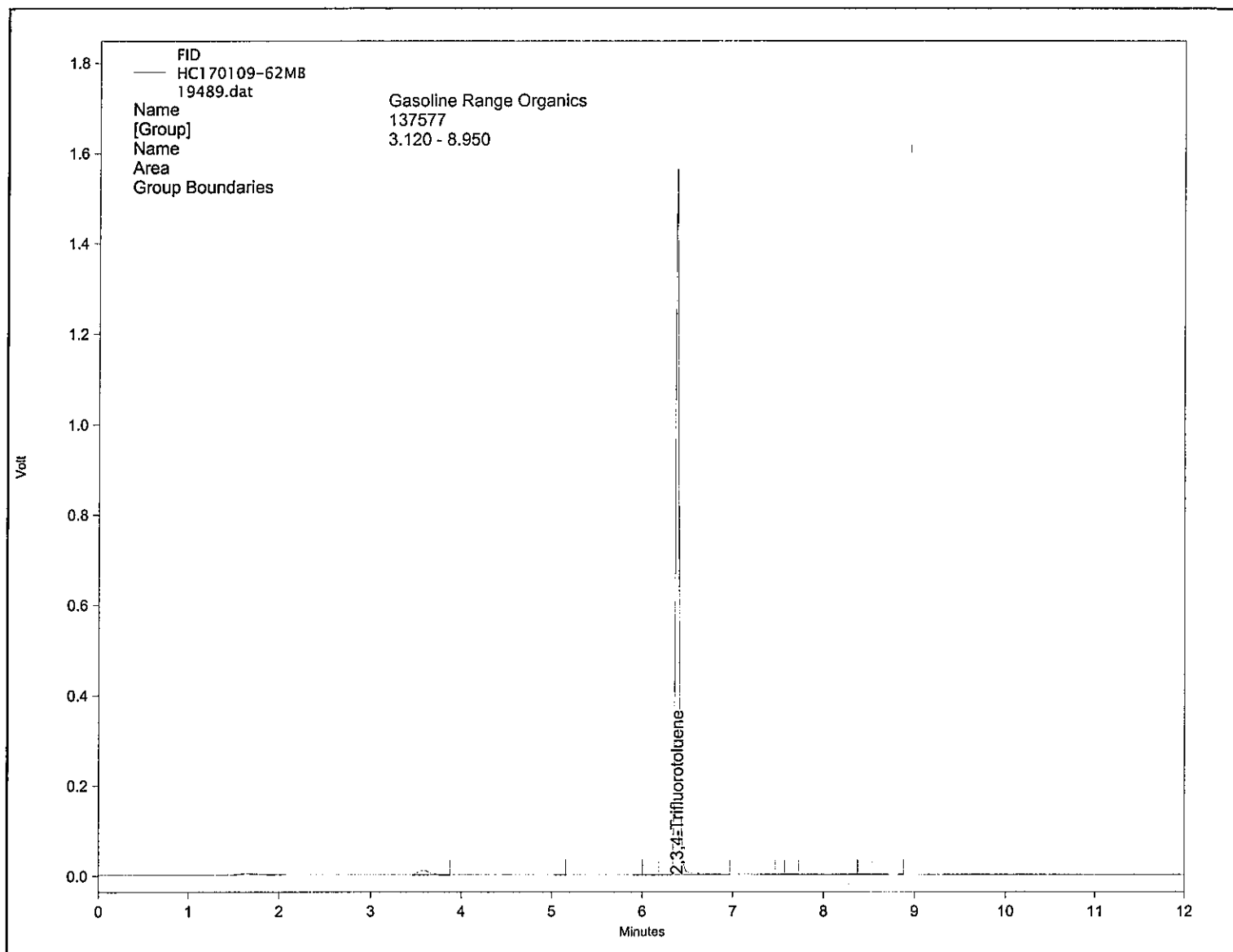
Method : \\gcserver\gcdata\Projects\GC6\method\2017\gro170103a.met

Sequence : \\gcserver\gcdata\Projects\GC6\Sequence\2017\gro170109.seq

Data Description : water

## FID Results

Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
2,3,4-Trifluorotoluene	6.383	6.383	4255643	LL	0.09868	ug/mL
Gasoline Range Organics			137577		0.00000	ug/mL



Column : DB-VRX (30M x 0.45mm x 2.55u)

# Total Volatile Petroleum Hydrocarbons / GRO (8015) Quantitation Report

ALSLG-Fort Collins

Sample : 1701016-1

Filename : \\gcserver\gcdata\Projects\GC6\Data\2017\gro170109\19490.dat

Instrument : GC6

Acquisition Date : 1/9/2017 8:00:09 PM

Data Acquired By : noltej

Quantitation Date : 1/10/2017 8:16:50 AM

Data Processed By : noltej

Last Method Update : 1/10/2017 8:11:31 AM

Surr. Nom. Conc. : 0.1

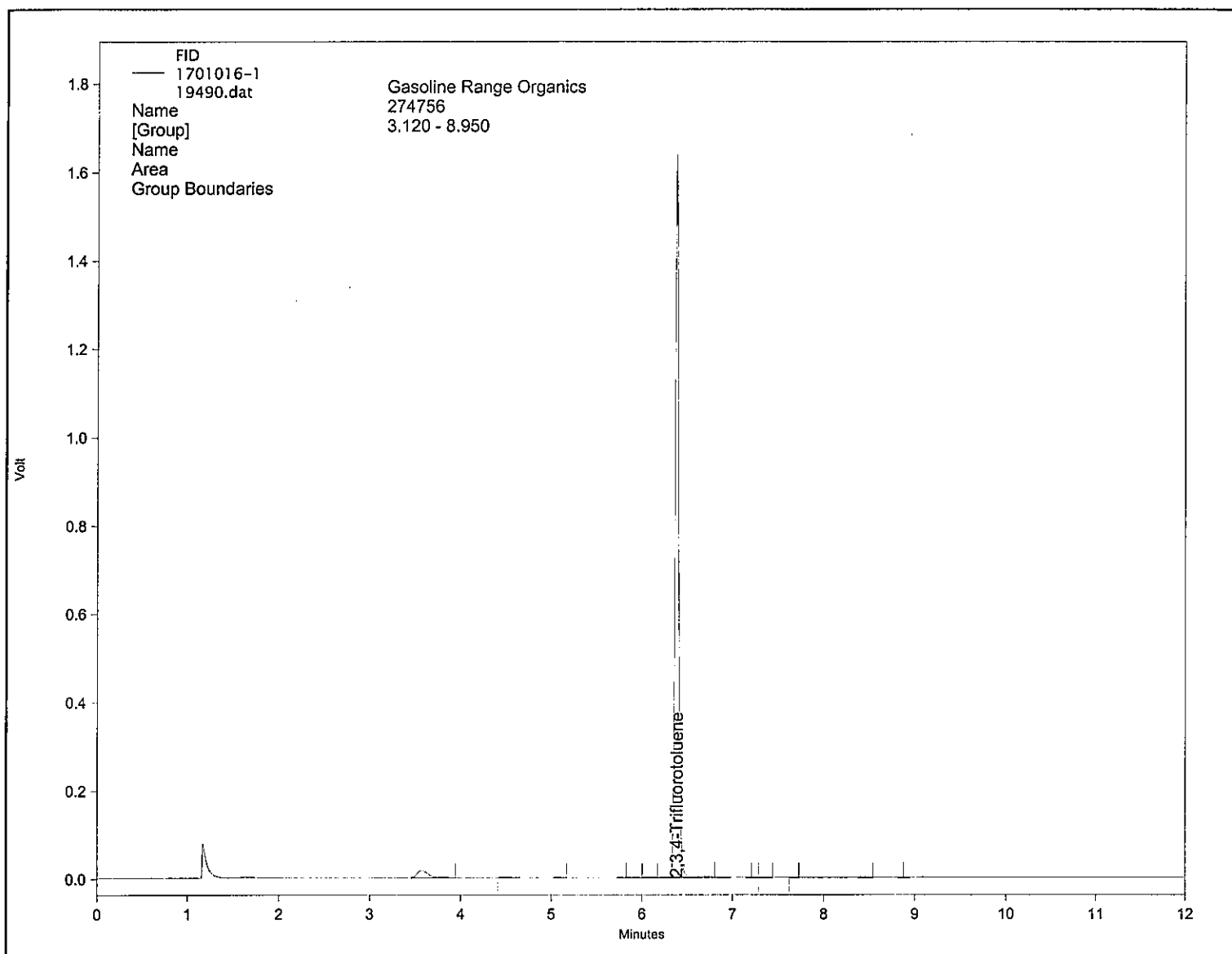
Method : \\gcserver\gcdata\Projects\GC6\method\2017\gro170103a.met

Sequence : \\gcserver\gcdata\Projects\GC6\Sequence\2017\gro170109.seq

Data Description : water

## FID Results

Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
2,3,4-Trifluorotoluene	6.383	6.383	4362067	TL	0.10115	ug/mL
Gasoline Range Organics			274756		0.00146	ug/mL



Column : DB-VRX (30M x 0.45mm x 2.55u)

# Total Volatile Petroleum Hydrocarbons / GRO (8015) Quantitation Report

ALSLG-Fort Collins

Sample : HC170109-62CCS

Filename : \\gcserver\gcdata\Projects\GC6\Data\2017\gro170109\19494.dat

Instrument : GC6

Acquisition Date : 1/9/2017 9:24:29 PM

Data Acquired By : noltej

Quantitation Date : 1/10/2017 8:17:49 AM

Data Processed By : noltej

Last Method Update : 1/10/2017 8:11:31 AM

Surr. Nom. Conc. : 0.1

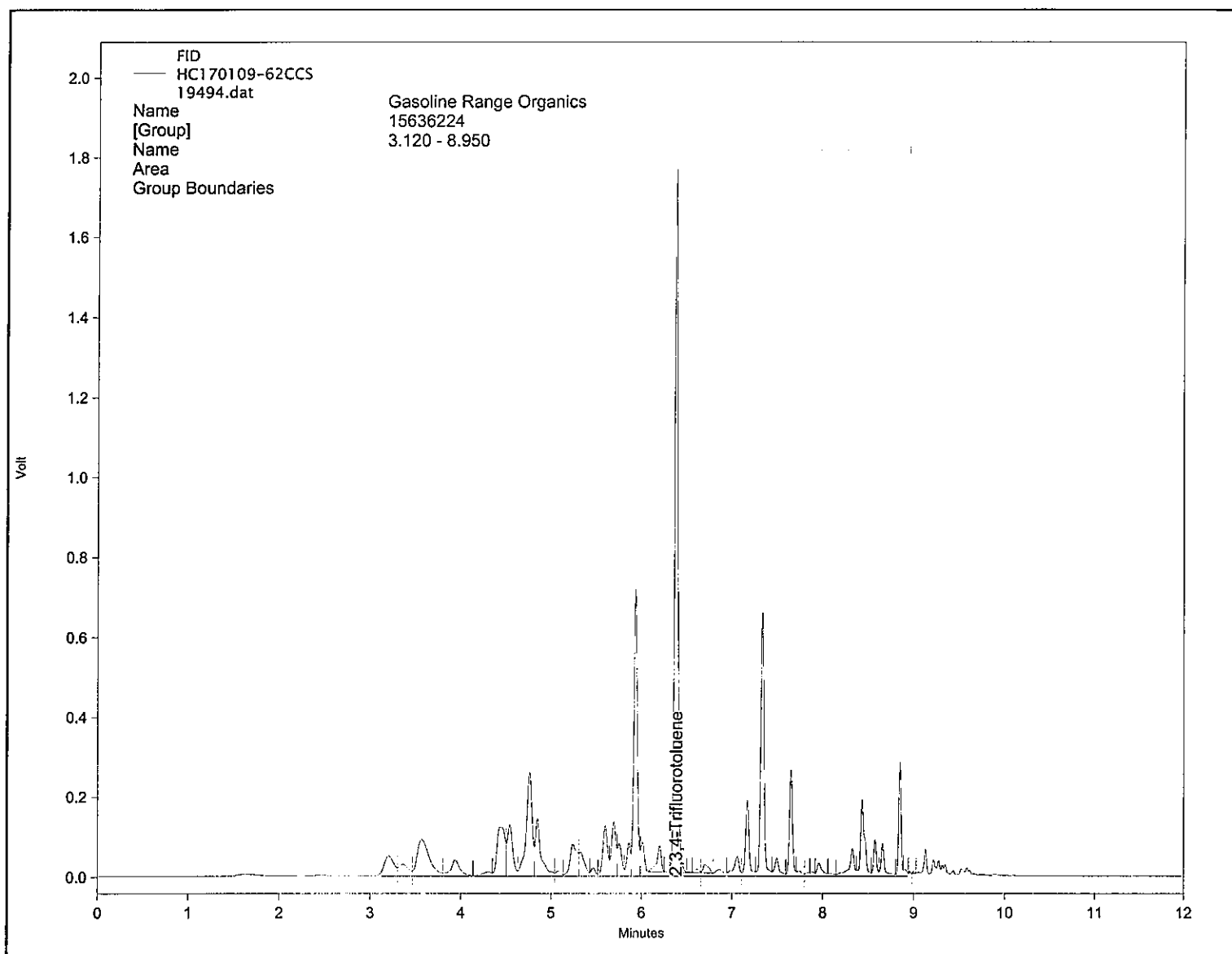
Method : \\gcserver\gcdata\Projects\GC6\method\2017\gro170103a.met

Sequence : \\gcserver\gcdata\Projects\GC6\Sequence\2017\gro170109.seq

Data Description : water, 0.5ppm

## FID Results

Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
2,3,4-Trifluorotoluene	6.380	6.383	4431674	LT	0.10277	ug/mL
Gasoline Range Organics			15636224		0.47582	ug/mL



Column : DB-VRX (30M x 0.45mm x 2.55u)

{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 : 1/10/2017 8:18:15 AM 13 of 14

# Total Volatile Petroleum Hydrocarbons / GRO (8015) Quantitation Report

ALSLG-Fort Collins

Sample : 1701016-1MS

Filename : \\gcserver\gcdata\Projects\GC6\Data\2017\gro170109\19491.dat

Instrument : GC6

Acquisition Date : 1/9/2017 8:21:23 PM

Data Acquired By : noltej

Quantitation Date : 1/10/2017 8:17:04 AM

Data Processed By : noltej

Last Method Update : 1/10/2017 8:11:31 AM

Surr. Nom. Conc. : 0.1

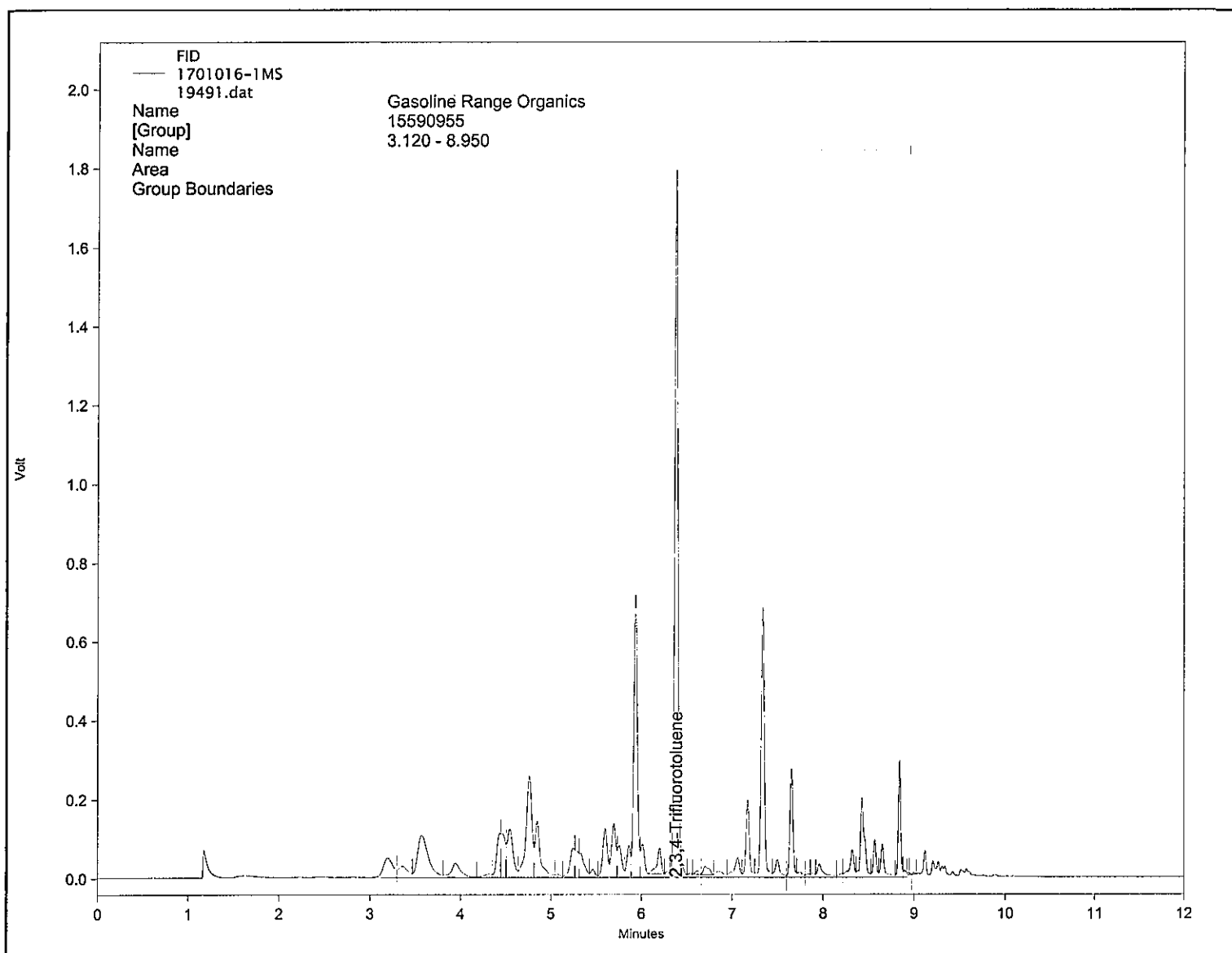
Method : \\gcserver\gcdata\Projects\GC6\method\2017\gro170103a.met

Sequence : \\gcserver\gcdata\Projects\GC6\Sequence\2017\gro170109.seq

Data Description : water

## FID Results

Name	RT	Expected RT	Peak Area	Integration Codes	Concentration	Conc. Units
2,3,4-Trifluorotoluene	6.380	6.383	4504211	LT	0.10445	ug/mL
Gasoline Range Organics			15590955		0.47442	ug/mL



Column : DB-VRX (30M x 0.45mm x 2.55u)