

 **ANALYTICAL REPORT****PREPARED FOR**

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AECOM

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Honolulu HI 96813

Generated 4/13/2023 9:49 AM

JOB DESCRIPTION

Red Hill - AFFF Assessment Sampling

JOB NUMBER

580-125690-1

Eurofins Seattle

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization



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Definitions/Glossary

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-125690-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

CASE NARRATIVE

Client: AECOM

Project: Red Hill - AFFF Assessment Sampling
Report Number: 580-125690-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

Four samples were received on 4/6/2023 1:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.3° C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

GLYCOLS

Samples AF-RHMW225401-WGN01B-2304W1 (580-125690-1), AF-HDMW225303-WGN01LF-2304W1 (580-125690-2), AF-RHMW10-WGN01LF-2304W1 (580-125690-3) and AF-RHMW10-WGFD01LF-2304W1 (580-125690-4) were analyzed for glycols in accordance with EPA SW-846 Method 8015B - DAI. The samples were analyzed on 04/12/2023.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-125690-1

Client Sample ID: AF-RHMW225401-WGN01B-2304W1

Lab Sample ID: 580-125690-1

No Detections.

Client Sample ID: AF-HDMW225303-WGN01LF-2304W1

Lab Sample ID: 580-125690-2

No Detections.

Client Sample ID: AF-RHMW10-WGN01LF-2304W1

Lab Sample ID: 580-125690-3

No Detections.

Client Sample ID: AF-RHMW10-WGFD01LF-2304W1

Lab Sample ID: 580-125690-4

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-125690-1

Client Sample ID: AF-RHMW225401-WGN01B-2304W1

Lab Sample ID: 580-125690-1

Date Collected: 04/05/23 09:00

Matrix: Water

Date Received: 04/06/23 13:50

Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	1.1	mg/L			04/12/23 04:53	1

Client Sample ID: AF-HDMW225303-WGN01LF-2304W1

Lab Sample ID: 580-125690-2

Date Collected: 04/04/23 10:15

Matrix: Water

Date Received: 04/06/23 13:50

Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	1.1	mg/L			04/12/23 05:17	1

Client Sample ID: AF-RHMW10-WGN01LF-2304W1

Lab Sample ID: 580-125690-3

Date Collected: 04/04/23 13:00

Matrix: Water

Date Received: 04/06/23 13:50

Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	1.1	mg/L			04/12/23 05:40	1

Client Sample ID: AF-RHMW10-WGFD01LF-2304W1

Lab Sample ID: 580-125690-4

Date Collected: 04/04/23 13:00

Matrix: Water

Date Received: 04/06/23 13:50

Method: SW846 8015C GLY - Glycols- Direct Injection (GC/FID)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	1.1	mg/L			04/12/23 06:03	1

Default Detection Limits

Client: AECOM

Job ID: 580-125690-1

Project/Site: Red Hill - AFFF Assessment Sampling

Method: 8015C GLY - Glycols- Direct Injection (GC/FID)

Analyte	LOQ	DL	Units
2-(2-Butoxyethoxy)ethanol	5.0	1.1	mg/L

QC Sample Results

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-125690-1

Method: 8015C GLY - Glycols- Direct Injection (GC/FID)

Lab Sample ID: MB 680-772684/9
Matrix: Water
Analysis Batch: 772684

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	1.1	mg/L			04/11/23 16:23	1

Lab Sample ID: LCS 680-772684/5
Matrix: Water
Analysis Batch: 772684

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-(2-Butoxyethoxy)ethanol	20.0	18.0		mg/L		90	50 - 150

Lab Sample ID: LCSD 680-772684/6
Matrix: Water
Analysis Batch: 772684

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-(2-Butoxyethoxy)ethanol	20.0	17.6		mg/L		88	50 - 150	2	50

Lab Sample ID: 580-125690-3 MS
Matrix: Water
Analysis Batch: 772684

Client Sample ID: AF-RHMW10-WGN01LF-2304W1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
2-(2-Butoxyethoxy)ethanol	3.0	U M	20.0	17.1		mg/L		85	50 - 150

Lab Sample ID: 580-125690-3 MSD
Matrix: Water
Analysis Batch: 772684

Client Sample ID: AF-RHMW10-WGN01LF-2304W1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-(2-Butoxyethoxy)ethanol	3.0	U M	20.0	18.7		mg/L		93	50 - 150	9	50

QC Association Summary

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-125690-1

GC Semi VOA

Analysis Batch: 772684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-125690-1	AF-RHMW225401-WGN01B-2304W1	Total/NA	Water	8015C GLY	
580-125690-2	AF-HDMW225303-WGN01LF-2304W1	Total/NA	Water	8015C GLY	
580-125690-3	AF-RHMW10-WGN01LF-2304W1	Total/NA	Water	8015C GLY	
580-125690-4	AF-RHMW10-WGFD01LF-2304W1	Total/NA	Water	8015C GLY	
MB 680-772684/9	Method Blank	Total/NA	Water	8015C GLY	
LCS 680-772684/5	Lab Control Sample	Total/NA	Water	8015C GLY	
LCSD 680-772684/6	Lab Control Sample Dup	Total/NA	Water	8015C GLY	
580-125690-3 MS	AF-RHMW10-WGN01LF-2304W1	Total/NA	Water	8015C GLY	
580-125690-3 MSD	AF-RHMW10-WGN01LF-2304W1	Total/NA	Water	8015C GLY	

Lab Chronicle

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-125690-1

Client Sample ID: AF-RHMW225401-WGN01B-2304W1

Lab Sample ID: 580-125690-1

Date Collected: 04/05/23 09:00

Matrix: Water

Date Received: 04/06/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	772684	JCK	EET SAV	04/12/23 04:53

Client Sample ID: AF-HDMW225303-WGN01LF-2304W1

Lab Sample ID: 580-125690-2

Date Collected: 04/04/23 10:15

Matrix: Water

Date Received: 04/06/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	772684	JCK	EET SAV	04/12/23 05:17

Client Sample ID: AF-RHMW10-WGN01LF-2304W1

Lab Sample ID: 580-125690-3

Date Collected: 04/04/23 13:00

Matrix: Water

Date Received: 04/06/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	772684	JCK	EET SAV	04/12/23 05:40

Client Sample ID: AF-RHMW10-WGFD01LF-2304W1

Lab Sample ID: 580-125690-4

Date Collected: 04/04/23 13:00

Matrix: Water

Date Received: 04/06/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	772684	JCK	EET SAV	04/12/23 06:03

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: AECOM
Project/Site: Red Hill - AFFF Assessment Sampling

Job ID: 580-125690-1

Laboratory: Eurofins Savannah

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2463	09-22-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015C GLY		Water	2-(2-Butoxyethoxy)ethanol

Method Summary

Client: AECOM

Job ID: 580-125690-1

Project/Site: Red Hill - AFFF Assessment Sampling

Method	Method Description	Protocol	Laboratory
8015C GLY	Glycols- Direct Injection (GC/FID)	SW846	EET SAV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAV = Eurofins Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: AECOM

Job ID: 580-125690-1

Project/Site: Red Hill - AFFF Assessment Sampling

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
580-125690-1	AF-RHMW225401-WGN01B-2304W1	Water	04/05/23 09:00	04/06/23 13:50
580-125690-2	AF-HDMW225303-WGN01LF-2304W1	Water	04/04/23 10:15	04/06/23 13:50
580-125690-3	AF-RHMW10-WGN01LF-2304W1	Water	04/04/23 13:00	04/06/23 13:50
580-125690-4	AF-RHMW10-WGFD01LF-2304W1	Water	04/04/23 13:00	04/06/23 13:50

GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-125690-1

SDG No.: _____

Instrument ID: CVGG2 Analysis Batch Number: 771627

Lab Sample ID: IC 680-771627/4 Client Sample ID: _____

Date Analyzed: 04/05/23 20:52 Lab File ID: GD05022.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	6.02	Baseline Smoothing	SWK1	04/06/23 12:50
Ethylene glycol	6.25	Baseline Smoothing	SWK1	04/06/23 12:50

Lab Sample ID: IC 680-771627/5 Client Sample ID: _____

Date Analyzed: 04/05/23 21:16 Lab File ID: GD05023.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	6.02	Baseline Smoothing	SWK1	04/06/23 12:50
Ethylene glycol	6.24	Baseline Smoothing	SWK1	04/06/23 12:50

Lab Sample ID: IC 680-771627/6 Client Sample ID: _____

Date Analyzed: 04/05/23 21:39 Lab File ID: GD05024.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	6.02	Baseline Smoothing	SWK1	04/06/23 12:50

Lab Sample ID: ICIS 680-771627/7 Client Sample ID: _____

Date Analyzed: 04/05/23 22:02 Lab File ID: GD05025.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	6.02	Baseline Smoothing	SWK1	04/06/23 12:50
Ethylene glycol	6.24	Baseline Smoothing	SWK1	04/06/23 12:50

GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-125690-1

SDG No.: _____

Instrument ID: CVGG2 Analysis Batch Number: 771627

Lab Sample ID: IC 680-771627/8 Client Sample ID: _____

Date Analyzed: 04/05/23 22:26 Lab File ID: GD05026.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	6.02	Baseline Smoothing	SWK1	04/06/23 12:51
Ethylene glycol	6.24	Baseline Smoothing	SWK1	04/06/23 12:51

Lab Sample ID: IC 680-771627/9 Client Sample ID: _____

Date Analyzed: 04/05/23 22:49 Lab File ID: GD05027.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	6.02	Baseline Smoothing	SWK1	04/06/23 12:51
Ethylene glycol	6.25	Baseline Smoothing	SWK1	04/06/23 12:51

Lab Sample ID: IC 680-771627/10 Client Sample ID: _____

Date Analyzed: 04/05/23 23:13 Lab File ID: GD05028.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	6.02	Baseline Smoothing	SWK1	04/06/23 12:52
Ethylene glycol	6.25	Baseline Smoothing	SWK1	04/06/23 12:52

GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-125690-1

SDG No.: _____

Instrument ID: CVGG2 Analysis Batch Number: 772684Lab Sample ID: CCVIS 680-772684/4 Client Sample ID: _____Date Analyzed: 04/11/23 14:27 Lab File ID: GD11004.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol, 2-propoxy	2.50	Peak assignment corrected	SK9U	04/11/23 18:23
4-Hydroxy-4-methyl-2-pentanone	2.95	Peak assignment corrected	SK9U	04/11/23 18:23
2-Butoxyethanol	3.18	Peak assignment corrected	SK9U	04/11/23 18:23
Dipropylene Glycol Methyl Ether	4.39	Peak assignment corrected	SK9U	04/11/23 18:24
Propylene glycol	5.44	Incomplete Integration	SK9U	04/11/23 18:24
Ethylene glycol	5.66	Peak assignment corrected	SK9U	04/11/23 18:23
2-(2-Butoxyethoxy)ethanol	7.44	Peak assignment corrected	SK9U	04/11/23 18:24
2,2'-Oxybisethanol	9.21	Peak assignment corrected	SK9U	04/11/23 18:24
Tetraethylene Glycol	11.23	Peak assignment corrected	SK9U	04/11/23 18:24

Lab Sample ID: MB 680-772684/9 Client Sample ID: _____Date Analyzed: 04/11/23 16:23 Lab File ID: GD11009.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-(2-Butoxyethoxy)ethanol		Invalid Compound ID	SWK1	04/12/23 11:21

Lab Sample ID: CCV 680-772684/24 Client Sample ID: _____Date Analyzed: 04/12/23 01:01 Lab File ID: GD11024.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	5.44	Baseline Smoothing	SWK1	04/12/23 11:23
Ethylene glycol	5.67	Baseline Smoothing	SWK1	04/12/23 11:23

GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-125690-1

SDG No.: _____

Instrument ID: CVGG2 Analysis Batch Number: 772684

Lab Sample ID: 580-125690-1 Client Sample ID: AF-RHMW225401-WGN01B-2304W1

Date Analyzed: 04/12/23 04:53 Lab File ID: GD11034.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-(2-Butoxyethoxy)ethanol		Invalid Compound ID	SWK1	04/12/23 11:43

Lab Sample ID: 580-125690-2 Client Sample ID: AF-HDMW225303-WGN01LF-2304W1

Date Analyzed: 04/12/23 05:17 Lab File ID: GD11035.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-(2-Butoxyethoxy)ethanol		Invalid Compound ID	SWK1	04/12/23 11:43

Lab Sample ID: 580-125690-3 Client Sample ID: AF-RHMW10-WGN01LF-2304W1

Date Analyzed: 04/12/23 05:40 Lab File ID: GD11036.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-(2-Butoxyethoxy)ethanol		Invalid Compound ID	SWK1	04/12/23 11:43

Lab Sample ID: 580-125690-4 Client Sample ID: AF-RHMW10-WGFD01LF-2304W1

Date Analyzed: 04/12/23 06:03 Lab File ID: GD11037.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-(2-Butoxyethoxy)ethanol		Invalid Compound ID	SWK1	04/12/23 11:49

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-125690-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
SG Gly CAL 00049	10/11/23		o2si, Lot 480919			(Purchased Reagent)	2-(2-Butoxyethoxy)ethanol	2000 ug/mL
SG Gly CAL 00054	06/27/23		o2si, Lot 480919			(Purchased Reagent)	2,2'-Oxybisethanol	2000 ug/mL
							2-(2-Butoxyethoxy)ethanol	2000 ug/mL
							2-Butoxyethanol	2000 ug/mL
							4-Hydroxy-4-methyl-2-pentanone	2000 ug/mL
							Dipropylene Glycol Methyl Ether	2000 ug/mL
							Ethanol, 2-propoxy	2000 ug/mL
							Ethylene glycol	2000 ug/mL
							Propylene glycol	2000 ug/mL
SG GLY ISTD 00106	05/22/23		Agilent, Lot 0006720623			(Purchased Reagent)	n-Heptyl Alcohol	5000 ug/mL
SG GlyICV 00057	07/01/23		o2si, Lot 454407			(Purchased Reagent)	2-(2-Butoxyethoxy)ethanol	2000 ug/mL
SG GlyICV 00059	06/27/23		o2si, Lot 454407			(Purchased Reagent)	2-(2-Butoxyethoxy)ethanol	2000 ug/mL

Reagent

SG_Gly_CAL_00049



ISO/IEC 17025 Accredited
Chemical Testing Lab
Cert. No. 3031.01



ISO 17034 Accredited
Reference Material Producer
Cert. No. 3031.02

Rev 0

Certificate of Analysis

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Catalog No.	Lot No.	Storage	Solvent	Date Received	Exp. Date
G34-120070-04	480919	≤ -10 °C	P/T Methanol		2-May-2024

Description:

ISO 17034 -Custom Volatiles Mix,105-12, 2000 & 4,000 mg/L, 1 mL

Container:

1 ml Ampule, Amber Glass

Certified Values:

The certified value is based on gravimetric and volumetric preparation of this Certified Reference Material (CRM). This CRM has been confirmed by GC/MS, GC, HPLC, UPLC/HRAM-MS, UV/VIS, Enzymatic, and/or wet chemistry techniques using internally developed method(s) against independent source(s). The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2. The purity of neat materials not traceable to an ISO 17034:2016 accredited Reference Material Provider is traceable to internal analysis by GC, GC/MS, HPLC, Enzymatic, or wet chemistry techniques and compared to a National Metrological Institute such as NIST where feasible.

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration	
2-butoxyethanol	111-76-2	99.6	311.9.2P	1986 ± 100	mg/L
diethylene glycol butyl ether	112-34-5	99.8	2323.7.2P	2008 ± 100	mg/L
propyl cellosolve	2807-30-9	99.9	1570.7.2P	1980 ± 100	mg/L
dipropylene glycol monomethyl ether	34590-94-8	99.7	2333.7.2P	2014 ± 100	mg/L
ethylene glycol	107-21-1	100	307.201.1P	1968 ± 99	mg/L
di(ethylene glycol)	111-46-6	99.5	309.7.2P	1994 ± 100	mg/L
tri(ethylene glycol)	112-27-6	99.9	310.7.2.1.1P	1974 ± 110	mg/L
4-Hydroxy-4-methyl-2-pentanone	123-42-2	98	2334.286.1P	1991 ± 110	mg/L
1,2-propanediol	57-55-6	99.5	306.9.3P	1998 ± 100	mg/L
tetraethylene glycol	112-60-7	98	3754.7.1P	3959 ± 200	mg/L

Intended Uses:

This CRM is intended for use as a calibration standard or a quality control standard for chromatography equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various USEPA, NIOSH and ASTM methods.

Recommended storage container for ampuled products after opening is a 12 mm x 32 mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

Certificate of Analysis

Page 2 of 3

Catalog No. G34-120070-04

Lot No. 480919

Expiration Date 2 -May-2024

$$\% \text{ Change} = 116192x^{-2.578} + 40.383e^{-0.03y}$$

where x = boiling point of the most volatile analyte in the mix (in degrees K)

y = boiling point of the solvent (in degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

Method of Preparation:

This standard was prepared gravimetrically using balances calibrated with National Institute of Standards and Technology (NIST) traceable weights (NIST Test Numbers 822/273070-06, 822/275141-07, 822/278993-10). Only calibrated Class A volumetric glassware and/or calibrated syringes were used to prepare this standard. Raw materials may have been checked for stoichiometry and purity prior to use. This standard has been analyzed against an independent source.

Packaging and Storage:

The solution should be stored according to the following storage requirements: ≤ -10 °C

Once the product is opened, it should be transferred to a vial with minimum head space if the product was received in a sealed ampule.

Glassware Calibration:

Only Class A glassware and/or calibrated syringes are used in the manufacture and quality control of standards. All glassware is calibrated using NIST traceable weights.

Weights and Balance Calibration:

Weights used to perform daily checks on balances are calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to NIST. Balances are checked daily in accordance to procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 accredited metrology service.

Homogeneity:

Homogeneity has been established in accordance with internal procedure O2-QS-011 and has a maximum uncertainty of 0.1%. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016. The homogeneity of this CRM is valid for sample sub-sizes that the end user can quantitatively reproduce.

Hazardous Information:

Refer to MSDS.

Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty:

$u = ku_c$ u = Expanded Uncertainty, k = the coverage factor at the 95% confidence level, k = 2, u_c = the combined uncertainty

$u_c = (u_{\text{char}}^2 + u_{\text{tran}}^2 + u_{\text{homo}}^2 + u_{\text{ls}}^2)^{1/2}$ where u_i are the individual uncertainty components for manufacturing, transportation, homogeneity, and shelf life. While no significant uncertainty was detected in the replicates, a minimum contribution to

Manufactured By:




Brian Stokes

3 -May-2022

Production Chemist I

Certified By:



Tyler Sherman

14 -Jun-2022

Quality Control Chemist I

Released By:



Susan Mathews

14 -Jun-2022

Quality Control Team Lead

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Certificate of Analysis

Catalog No. G34-120070-04

Lot No. 480919

Expiration Date 2 -May-2024

uncertainty was added for homogeneity and long term stability as described in ISO Guide 35:2017.

Expiration Information:

The stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. Studies on the short term instability have determined no contribution to instability as observed on the concentration under controlled transportation conditions. This standard is guaranteed until 2-May-2024

Quality Standard Documentation:

- ISO/IEC 17025:2017 "General Requirements for the Competence of Testing and Calibration" - Chemical Testing - Accredited A2LA Certificate Number 3031.01
- ISO 17034:2016 "General Requirements for the Competence of Reference Material Producers" - Reference Material Production - Accredited A2LA Certificate Number 3031.02

Manufactured By:



Brian Stokes

3 -May-2022

Production Chemist I

Certified By:



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Released By:



Susan Mathews

14 -Jun-2022

Quality Control Team Lead

Reagent

SG_Gly_CAL_00054



ISO/IEC 17025 Accredited
Chemical Testing Lab
Cert. No. 3031.01



ISO 17034 Accredited
Reference Material Producer
Cert. No. 3031.02

Rev 0

Certificate of Analysis

Page 1 of 3

Catalog No.	Lot No.	Storage	Solvent	Date Received	Exp. Date
G34-120070-04	480919	≤ -10 °C	P/T Methanol		2-May-2024

Description:

ISO 17034 -Custom Volatiles Mix,105-12, 2000 & 4,000 mg/L, 1 mL

Container:

1 ml Ampule, Amber Glass

Certified Values:

The certified value is based on gravimetric and volumetric preparation of this Certified Reference Material (CRM). This CRM has been confirmed by GC/MS, GC, HPLC, UPLC/HRAM-MS, UV/VIS, Enzymatic, and/or wet chemistry techniques using internally developed method(s) against independent source(s). The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2. The purity of neat materials not traceable to an ISO 17034:2016 accredited Reference Material Provider is traceable to internal analysis by GC, GC/MS, HPLC, Enzymatic, or wet chemistry techniques and compared to a National Metrological Institute such as NIST where feasible.

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration	
2-butoxyethanol	111-76-2	99.6	311.9.2P	1986 ± 100	mg/L
diethylene glycol butyl ether	112-34-5	99.8	2323.7.2P	2008 ± 100	mg/L
propyl cellosolve	2807-30-9	99.9	1570.7.2P	1980 ± 100	mg/L
dipropylene glycol monomethyl ether	34590-94-8	99.7	2333.7.2P	2014 ± 100	mg/L
ethylene glycol	107-21-1	100	307.201.1P	1968 ± 99	mg/L
di(ethylene glycol)	111-46-6	99.5	309.7.2P	1994 ± 100	mg/L
tri(ethylene glycol)	112-27-6	99.9	310.7.2.1.1P	1974 ± 110	mg/L
4-Hydroxy-4-methyl-2-pentanone	123-42-2	98	2334.286.1P	1991 ± 110	mg/L
1,2-propanediol	57-55-6	99.5	306.9.3P	1998 ± 100	mg/L
tetraethylene glycol	112-60-7	98	3754.7.1P	3959 ± 200	mg/L

Intended Uses:

This CRM is intended for use as a calibration standard or a quality control standard for chromatography equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various USEPA, NIOSH and ASTM methods.

Recommended storage container for ampuled products after opening is a 12 mm x 32 mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

Certificate of Analysis

Page 2 of 3

Catalog No. G34-120070-04

Lot No. 480919

Expiration Date 2 -May-2024

$$\% \text{ Change} = 116192x^{-2.578} + 40.383e^{-0.03y}$$

where x = boiling point of the most volatile analyte in the mix (in degrees K)

y = boiling point of the solvent (in degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

Method of Preparation:

This standard was prepared gravimetrically using balances calibrated with National Institute of Standards and Technology (NIST) traceable weights (NIST Test Numbers 822/273070-06, 822/275141-07, 822/278993-10). Only calibrated Class A volumetric glassware and/or calibrated syringes were used to prepare this standard. Raw materials may have been checked for stoichiometry and purity prior to use. This standard has been analyzed against an independent source.

Packaging and Storage:

The solution should be stored according to the following storage requirements: ≤ -10 °C

Once the product is opened, it should be transferred to a vial with minimum head space if the product was received in a sealed ampule.

Glassware Calibration:

Only Class A glassware and/or calibrated syringes are used in the manufacture and quality control of standards. All glassware is calibrated using NIST traceable weights.

Weights and Balance Calibration:

Weights used to perform daily checks on balances are calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to NIST. Balances are checked daily in accordance to procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 accredited metrology service.

Homogeneity:

Homogeneity has been established in accordance with internal procedure O2-QS-011 and has a maximum uncertainty of 0.1%. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016. The homogeneity of this CRM is valid for sample sub-sizes that the end user can quantitatively reproduce.

Hazardous Information:

Refer to MSDS.

Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty:

$u = ku_c$ u = Expanded Uncertainty, k = the coverage factor at the 95% confidence level, k = 2, u_c = the combined uncertainty

$u_c = (u_{\text{char}}^2 + u_{\text{tran}}^2 + u_{\text{homo}}^2 + u_{\text{ls}}^2)^{1/2}$ where u_i are the individual uncertainty components for manufacturing, transportation, homogeneity, and shelf life. While no significant uncertainty was detected in the replicates, a minimum contribution to

Manufactured By:



Brian Stokes

3 -May-2022

Production Chemist I

Certified By:



Tyler Sherman

14 -Jun-2022

Quality Control Chemist I

Released By:



Susan Mathews

14 -Jun-2022

Quality Control Team Lead

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Phone: 866.272.0932 • Fax: 866.509.5146 www.o2si.com

Certificate of Analysis

Catalog No. G34-120070-04

Lot No. 480919

Expiration Date 2 -May-2024

uncertainty was added for homogeneity and long term stability as described in ISO Guide 35:2017.

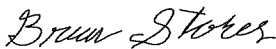
Expiration Information:

The stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. Studies on the short term instability have determined no contribution to instability as observed on the concentration under controlled transportation conditions. This standard is guaranteed until 2-May-2024

Quality Standard Documentation:

- ISO/IEC 17025:2017 "General Requirements for the Competence of Testing and Calibration" - Chemical Testing - Accredited A2LA Certificate Number 3031.01
- ISO 17034:2016 "General Requirements for the Competence of Reference Material Producers" - Reference Material Production - Accredited A2LA Certificate Number 3031.02

Manufactured By:



Brian Stokes

3 -May-2022

Production Chemist I

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Tyler Sherman

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Released By:



Susan Mathews

14 -Jun-2022

Quality Control Team Lead

Reagent

SG_GLY_ISTD_00106

Reference Material Certificate
Product Information Sheet

Product Name: Custom Standard

Lot Number: 0006720623

Product Number: CUS-6046

Lot Issue Date: 15-Dec-2022

Storage Conditions: Store at Room Temperature (15° to 30°C).

Expiration Date: 31-Jan-2025

Component Name	CERTIFIED VALUES		CAS#	Analyte Lot
	Concentration	Expanded Uncertainty		
n-heptanol	5001	± 25 µg/mL	000111-70-6	RM04540

Matrix: methanol (methyl alcohol)

Description:

This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Safety:

Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

Intended Use:

This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Expiration of Certification:

The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.



Maintenance of Certification:

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

Monica Bourgeois
QMS Representative



RM was produced in accordance with the TUV/SUD registered ISO 9001:2015 Quality Management System. Cert# 951215321

Page: 2 of 2

www.agilent.com/quality/
CSD-QA-015.1

ISO 17025

ISO 17034 Cert
No. AR-1936

Reagent

SG_GlyICV_00057



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Chemical Testing Lab
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ISO 17034 Accredited
Reference Material Producer
Cert. No. 3031.02

Rev 0

Certificate of Analysis

Page 1 of 3

Catalog No.	Lot No.	Storage	Solvent	Date Received	Exp. Date
G34-120070-04-SS	454407	≤ -10 °C	P/T Methanol		1-Jul-2023

Description:

ISO 17034 -Custom Volatiles Mix,105-12, Second Source, 2000 & 4,000 mg/L, 1 mL

Container:

1 ml Ampule, Amber Glass

Certified Values:

The certified value is based on gravimetric and volumetric preparation of this Certified Reference Material (CRM). This CRM has been confirmed by GC/MS, GC, HPLC, UPLC/HRAM-MS, UV/VIS, Enzymatic, and/or wet chemistry techniques using internally developed method(s) against independent source(s). The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2. The purity of neat materials not traceable to an ISO 17034:2016 accredited Reference Material Provider is traceable to internal analysis by GC, GC/MS, HPLC, Enzymatic, or wet chemistry techniques and compared to a National Metrological Institute such as NIST where feasible.

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration
2-butoxyethanol	111-76-2	99.5	311.7.1.1S	1994 ± 100 mg/L
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2-propoxyethanol	2807-30-9	99.5	1570.7.1S	1998 ± 110 mg/L
dipropylene glycol monomethyl ether	34590-94-8	99.7	2333.7.2.1S	1998 ± 100 mg/L
ethylene glycol	107-21-1	100	307.201.1.1S	2016 ± 100 mg/L
di(ethylene glycol)	111-46-6	99.9	309.7.1.1S	1998 ± 100 mg/L
tri(ethylene glycol)	112-27-6	99.9	310.7.3.1S	2010 ± 100 mg/L
4-Hydroxy-4-methyl-2-pentanone	123-42-2	98	2334.286.1.1S	2003 ± 110 mg/L
1,2-propanediol	57-55-6	99.6	306.370.1.1S	2004 ± 110 mg/L
tetraethylene glycol	112-60-7	98	3754.7.1.1S	4049 ± 200 mg/L

Intended Uses:

This CRM is intended for use as a calibration standard or a quality control standard for chromatography equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various USEPA, NIOSH and ASTM methods.

Recommended storage container for ampuled products after opening is a 12 mm x 32 mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

Certificate of Analysis

Catalog No. G34-120070-04-SS

Lot No. 454407

Expiration Date 1 -Jul-2023

$$\% \text{ Change} = 116192x^{-2.578} + 40.383e^{-0.03y}$$

where x = boiling point of the most volatile analyte in the mix (in degrees K)
y = boiling point of the solvent (in degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

Method of Preparation:

This standard was prepared gravimetrically using balances calibrated with National Institute of Standards and Technology (NIST) traceable weights (NIST Test Numbers 822/273070-06, 822/275141-07, 822/278993-10). Only calibrated Class A volumetric glassware and/or calibrated syringes were used to prepare this standard. Raw materials may have been checked for stoichiometry and purity prior to use. This standard has been analyzed against an independent source.

Packaging and Storage:

The solution should be stored according to the following storage requirements: ≤ -10 °C

Once the product is opened, it should be transferred to a vial with minimum head space if the product was received in a sealed ampule.

Glassware Calibration:

Only Class A glassware and/or calibrated syringes are used in the manufacture and quality control of standards. All glassware is calibrated using NIST traceable weights.

Weights and Balance Calibration:

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Homogeneity:

Homogeneity has been established in accordance with internal procedure O2-QS-011 and has a maximum uncertainty of 0.1%. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016. The homogeneity of this CRM is valid for sample sub-sizes that the end user can quantitatively reproduce.

Hazardous Information:

Refer to MSDS.

Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty:

$u = k u_c$ u = Expanded Uncertainty, k = the coverage factor at the 95% confidence level, $k = 2$, u_c = the combined uncertainty

$u_c = (u_{char}^2 + u_{tran}^2 + u_{homo}^2 + u_{lis}^2)^{1/2}$ where u_i are the individual uncertainty components for manufacturing, transportation, homogeneity, and shelf life. While no significant uncertainty was detected in the replicates, a minimum contribution to

Manufactured By:

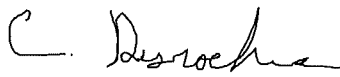


Jared Ball

1 -Jul-2021

Quality Control Chemist I

Certified By:



Claire Desrochers

7 -Jul-2021

Quality Control Chemist I

Released By:



Susan Mathews

8 -Jul-2021

Quality Control Team Lead

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Certificate of Analysis

Catalog No. G34-120070-04-SS

Lot No. 454407

Expiration Date 1 -Jul-2023

uncertainty was added for homogeneity and long term stability as described in ISO Guide 35:2017.

Expiration Information:

The stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. Studies on the short term instability have determined no contribution to instability as observed on the concentration under controlled transportation conditions. This standard is guaranteed until 1-Jul-2023

Quality Standard Documentation:

- ISO/IEC 17025:2017 “General Requirements for the Competence of Testing and Calibration” - Chemical Testing - Accredited A2LA Certificate Number 3031.01
- ISO 17034:2016 “General Requirements for the Competence of Reference Material Producers” - Reference Material Production - Accredited A2LA Certificate Number 3031.02

Manufactured By:

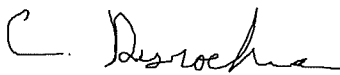


Jared Ball

1 -Jul-2021

Quality Control Chemist I

Certified By:

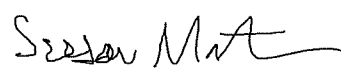


Claire Desrochers

7 -Jul-2021

Quality Control Chemist I

Released By:



Susan Mathews

8 -Jul-2021

Quality Control Team Lead

7290B Investment Drive • North Charleston, SC 29418
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Reagent

SG_GlyICV_00059



ISO/IEC 17025 Accredited
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Cert. No. 3031.01



ISO 17034 Accredited
Reference Material Producer
Cert. No. 3031.02

Rev 0

Certificate of Analysis

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Catalog No.	Lot No.	Storage	Solvent	Date Received	Exp. Date
G34-120070-04-SS	454407	≤ -10 °C	P/T Methanol		1-Jul-2023

Description:

ISO 17034 -Custom Volatiles Mix,105-12, Second Source, 2000 & 4,000 mg/L, 1 mL

Container:

1 ml Ampule, Amber Glass

Certified Values:

The certified value is based on gravimetric and volumetric preparation of this Certified Reference Material (CRM). This CRM has been confirmed by GC/MS, GC, HPLC, UPLC/HRAM-MS, UV/VIS, Enzymatic, and/or wet chemistry techniques using internally developed method(s) against independent source(s). The uncertainty value is calculated for a 95% confidence interval with a *k* value of 2. The purity of neat materials not traceable to an ISO 17034:2016 accredited Reference Material Provider is traceable to internal analysis by GC, GC/MS, HPLC, Enzymatic, or wet chemistry techniques and compared to a National Metrological Institute such as NIST where feasible.

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration
2-butoxyethanol	111-76-2	99.5	311.7.1.1S	1994 ± 100 mg/L
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2-propoxyethanol	2807-30-9	99.5	1570.7.1S	1998 ± 110 mg/L
dipropylene glycol monomethyl ether	34590-94-8	99.7	2333.7.2.1S	1998 ± 100 mg/L
ethylene glycol	107-21-1	100	307.201.1.1S	2016 ± 100 mg/L
di(ethylene glycol)	111-46-6	99.9	309.7.1.1S	1998 ± 100 mg/L
tri(ethylene glycol)	112-27-6	99.9	310.7.3.1S	2010 ± 100 mg/L
4-Hydroxy-4-methyl-2-pentanone	123-42-2	98	2334.286.1.1S	2003 ± 110 mg/L
1,2-propanediol	57-55-6	99.6	306.370.1.1S	2004 ± 110 mg/L
tetraethylene glycol	112-60-7	98	3754.7.1.1S	4049 ± 200 mg/L

Intended Uses:

This CRM is intended for use as a calibration standard or a quality control standard for chromatography equipment such as GC, GC/MS, HPLC, and HPLC/MS. It may also be used for various USEPA, NIOSH and ASTM methods.

Recommended storage container for ampuled products after opening is a 12 mm x 32 mm amber vial with screw cap Teflon lined silicon septum. The modeled % change per day can be calculated using the following:

Certificate of Analysis

Catalog No. G34-120070-04-SS

Lot No. 454407

Expiration Date 1 -Jul-2023

$$\% \text{ Change} = 116192x^{-2.578} + 40.383e^{-0.03y}$$

where x = boiling point of the most volatile analyte in the mix (in degrees K)
y = boiling point of the solvent (in degrees K)

This model assumes the container is stored at -10 °C and is unopened during storage. The user should determine what the acceptable error for their process is and calculate the maximum number of days the opened ampule should be stored.

Method of Preparation:

This standard was prepared gravimetrically using balances calibrated with National Institute of Standards and Technology (NIST) traceable weights (NIST Test Numbers 822/273070-06, 822/275141-07, 822/278993-10). Only calibrated Class A volumetric glassware and/or calibrated syringes were used to prepare this standard. Raw materials may have been checked for stoichiometry and purity prior to use. This standard has been analyzed against an independent source.

Packaging and Storage:

The solution should be stored according to the following storage requirements: ≤ -10 °C

Once the product is opened, it should be transferred to a vial with minimum head space if the product was received in a sealed ampule.

Glassware Calibration:

Only Class A glassware and/or calibrated syringes are used in the manufacture and quality control of standards. All glassware is calibrated using NIST traceable weights.

Weights and Balance Calibration:

Weights used to perform daily checks on balances are calibrated annually by the State of South Carolina Department of Agriculture Metrology Laboratory and are traceable to NIST. Balances are checked daily in accordance to procedure O2-LB-G-002. Balances are calibrated annually by an ISO/IEC 17025:2017 accredited metrology service.

Homogeneity:

Homogeneity has been established in accordance with internal procedure O2-QS-011 and has a maximum uncertainty of 0.1%. This is consistent with the intended use of this CRM. The homogeneity of this product has been confirmed by procedures consistent with ISO/IEC 17025:2017 and ISO 17034:2016. The homogeneity of this CRM is valid for sample sub-sizes that the end user can quantitatively reproduce.

Hazardous Information:

Refer to MSDS.

Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty:

$u = ku_c$ u = Expanded Uncertainty, k = the coverage factor at the 95% confidence level, k = 2, u_c = the combined uncertainty

$u_c = (u_{char}^2 + u_{tran}^2 + u_{homo}^2 + u_{lis}^2)^{1/2}$ where u_i are the individual uncertainty components for manufacturing, transportation, homogeneity, and shelf life. While no significant uncertainty was detected in the replicates, a minimum contribution to

Manufactured By:

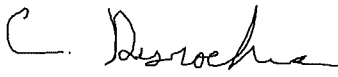


Jared Ball

1 -Jul-2021

Quality Control Chemist I

Certified By:



Claire Desrochers

7 -Jul-2021

Quality Control Chemist I

Released By:



Susan Mathews

8 -Jul-2021

Quality Control Team Lead

7290B Investment Drive • North Charleston, SC 29418
Phone: 866.272.0932 • Fax: 866.509.5146 www.o2si.com

Certificate of Analysis

Catalog No. G34-120070-04-SS

Lot No. 454407

Expiration Date 1 -Jul-2023

uncertainty was added for homogeneity and long term stability as described in ISO Guide 35:2017.

Expiration Information:

The stability of this product is based upon rigorous short term and long term testing of the solution for the certified value. These tests include the effect of temperature and packaging on the product. Studies on the short term instability have determined no contribution to instability as observed on the concentration under controlled transportation conditions. This standard is guaranteed until 1-Jul-2023

Quality Standard Documentation:

- ISO/IEC 17025:2017 “General Requirements for the Competence of Testing and Calibration” - Chemical Testing - Accredited A2LA Certificate Number 3031.01
- ISO 17034:2016 “General Requirements for the Competence of Reference Material Producers” - Reference Material Production - Accredited A2LA Certificate Number 3031.02

Manufactured By:

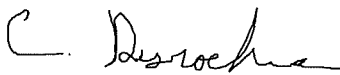


Jared Ball

1 -Jul-2021

Quality Control Chemist I

Certified By:

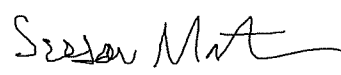


Claire Desrochers

7 -Jul-2021

Quality Control Chemist I

Released By:



Susan Mathews

8 -Jul-2021

Quality Control Team Lead

7290B Investment Drive • North Charleston, SC 29418
Phone: 866.272.0932 • Fax: 866.509.5146 www.o2si.com

Method 8015C - DAI Glycols

Glycols -Direct Injection (GC/FID) -
Method 8015C

FORM III
GC SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: GD11005.D
 Lab ID: LCS 680-772684/5 Client ID: _____

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
2-(2-Butoxyethoxy) ethanol	20.0	18.0	90	50-150	

Column to be used to flag recovery and RPD values
 FORM III 8015C GLY

FORM III
GC SEMI VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: GD11006.D
 Lab ID: LCSD 680-772684/6 Client ID: _____

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
2-(2-Butoxyethoxy) ethanol	20.0	17.6	88	2	50	50-150	

Column to be used to flag recovery and RPD values
 FORM III 8015C GLY

FORM III
GC SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: GD11038.D
 Lab ID: 580-125690-3 MS Client ID: AF-RHMW10-WGN01LF-2304W1 MS

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
2-(2-Butoxyethoxy) ethanol	20.0	3.0 U	17.1	85	50-150	

Column to be used to flag recovery and RPD values
 FORM III 8015C GLY

FORM III
GC SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: GD11039.D
 Lab ID: 580-125690-3 MSD Client ID: AF-RHMW10-WGN01LF-2304W1 MSD

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
2-(2-Butoxyethoxy) ethanol	20.0	18.7	93	9	50	50-150	

Column to be used to flag recovery and RPD values
 FORM III 8015C GLY

FORM IV
GC SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Lab Sample ID: MB 680-772684/9
 Matrix: Water Date Extracted: _____
 Lab File ID: (1) GD11009.D Lab File ID: (2) _____
 Date Analyzed: (1) 04/11/2023 16:23 Date Analyzed: (2) _____
 Instrument ID: (1) CVGG2 Instrument ID: (2) _____
 GC Column: (1) J&W DB WAX ID: 0.45 (mm) GC Column: (2) _____ ID: _____

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 680-772684/5	04/11/2023 14:50	
	LCSD 680-772684/6	04/11/2023 15:14	
AF-RHMMW225401-WGN01B-2304W1	580-125690-1	04/12/2023 04:53	
AF-HDMW225303-WGN01LF-2304W1	580-125690-2	04/12/2023 05:17	
AF-RHMMW10-WGN01LF-2304W1	580-125690-3	04/12/2023 05:40	
AF-RHMMW10-WGFD01LF-2304W1	580-125690-4	04/12/2023 06:03	
AF-RHMMW10-WGN01LF-2304W1 MS	580-125690-3 MS	04/12/2023 06:26	
AF-RHMMW10-WGN01LF-2304W1 MSD	580-125690-3 MSD	04/12/2023 06:49	

FORM VIII
GC SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Sample No.: CCVIS 680-772684/4 Date Analyzed: 04/11/2023 14:27
 Instrument ID: CVGG2 GC Column: J&W DB WAX ID: 0.45 (mm)
 Lab File ID (Standard): GD11004.D Heated Purge: (Y/N) N
 Calibration ID: 90419

		nHPA					
		AREA #	RT #	#	RT #	#	RT #
12/24 HOUR STD		6450565	3.56				
UPPER LIMIT		12901130	4.06				
LOWER LIMIT		3225283	3.06				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 680-772684/5		5939927	3.55				
LCSD 680-772684/6		6222426	3.55				
MB 680-772684/9		6640017	3.56				
CCV 680-772684/24		4303961	3.55				
580-125690-1	AF-RHMW225401-WGN01 B-2304W1	6046749	3.55				
580-125690-2	AF-HDMW225303-WGN01 LF-2304W1	6174587	3.55				
580-125690-3	AF-RHMW10-WGN01LF-2 304W1	6120960	3.54				
580-125690-4	AF-RHMW10-WGFD01LF- 2304W1	5983970	3.55				
580-125690-3 MS	AF-RHMW10-WGN01LF-2 304W1 MS	5922160	3.55				
580-125690-3 MSD	AF-RHMW10-WGN01LF-2 304W1 MSD	5172749	3.55				
CCV 680-772684/41		5146945	3.54				

nHPA = n-Heptyl Alcohol

Area Limit = 50%-200% of internal standard area
 RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11034.D
 Lims ID: 580-125690-A-1
 Client ID: AF-RHMW225401-WGN01B-2304WK1
 Sample Type: Client
 Inject. Date: 12-Apr-2023 04:53:54 ALS Bottle#: 0 Worklist Smp#: 34
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0085153-034
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 12-Apr-2023 11:49:26 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1657

First Level Reviewer: SWK1 Date: 12-Apr-2023 11:43:43

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
--------------	------------------	------------------	----------	--------------------	-------

* 4 n-Heptyl Alcohol
 3.549 3.545 0.004 6046749 50.0

QC Flag Legend

Processing Flags

Reagents:

SG_GLY_ISTD_00106 Amount Added: 10.00 Units: uL Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11034.D

Injection Date: 12-Apr-2023 04:53:54

Instrument ID: CVGG2

Operator ID:

Lims ID: 580-125690-A-1

Lab Sample ID: 680-125690-1

Worklist Smp#: 34

Client ID: AF-RHMW225401-WGN01B-2304WK1

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

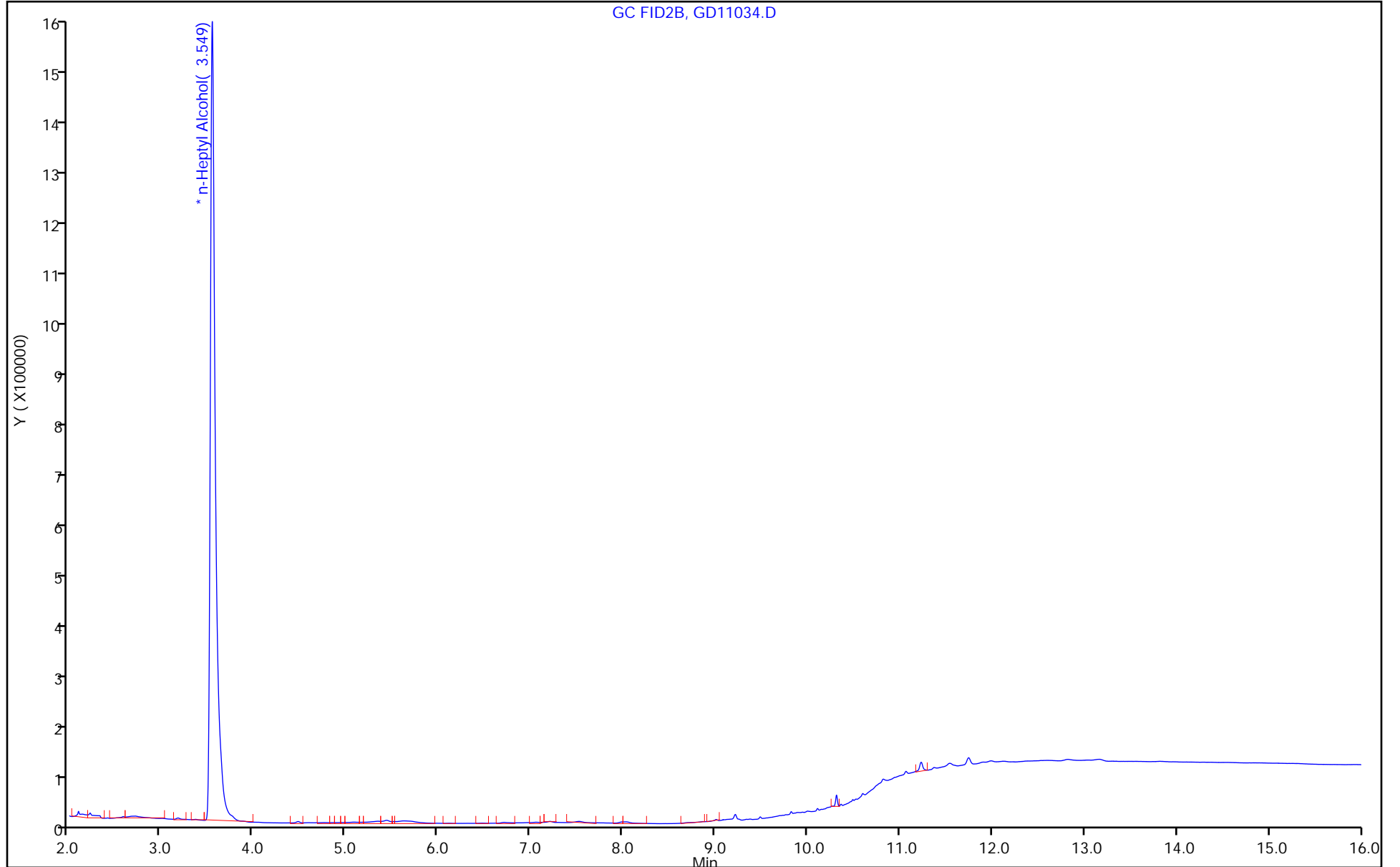
ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)

GC FID2B, GD11034.D



Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11035.D
 Lims ID: 580-125690-A-2
 Client ID: AF-HDMW22503-WGN01LF-2304WK1
 Sample Type: Client
 Inject. Date: 12-Apr-2023 05:17:00 ALS Bottle#: 0 Worklist Smp#: 35
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0085153-035
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 12-Apr-2023 11:49:26 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1657

First Level Reviewer: SWK1 Date: 12-Apr-2023 11:43:47

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
--------------	------------------	------------------	----------	--------------------	-------

* 4 n-Heptyl Alcohol
 3.545 3.545 0.000 6174587 50.0

Reagents:

SG_GLY_ISTD_00106 Amount Added: 10.00 Units: uL Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11035.D

Injection Date: 12-Apr-2023 05:17:00

Instrument ID: CVGG2

Operator ID:

Lims ID: 580-125690-A-2

Lab Sample ID: 680-125690-2

Worklist Smp#: 35

Client ID: AF-HDMW22503-WGN01LF-2304WK1

Injection Vol: 1.0 ul

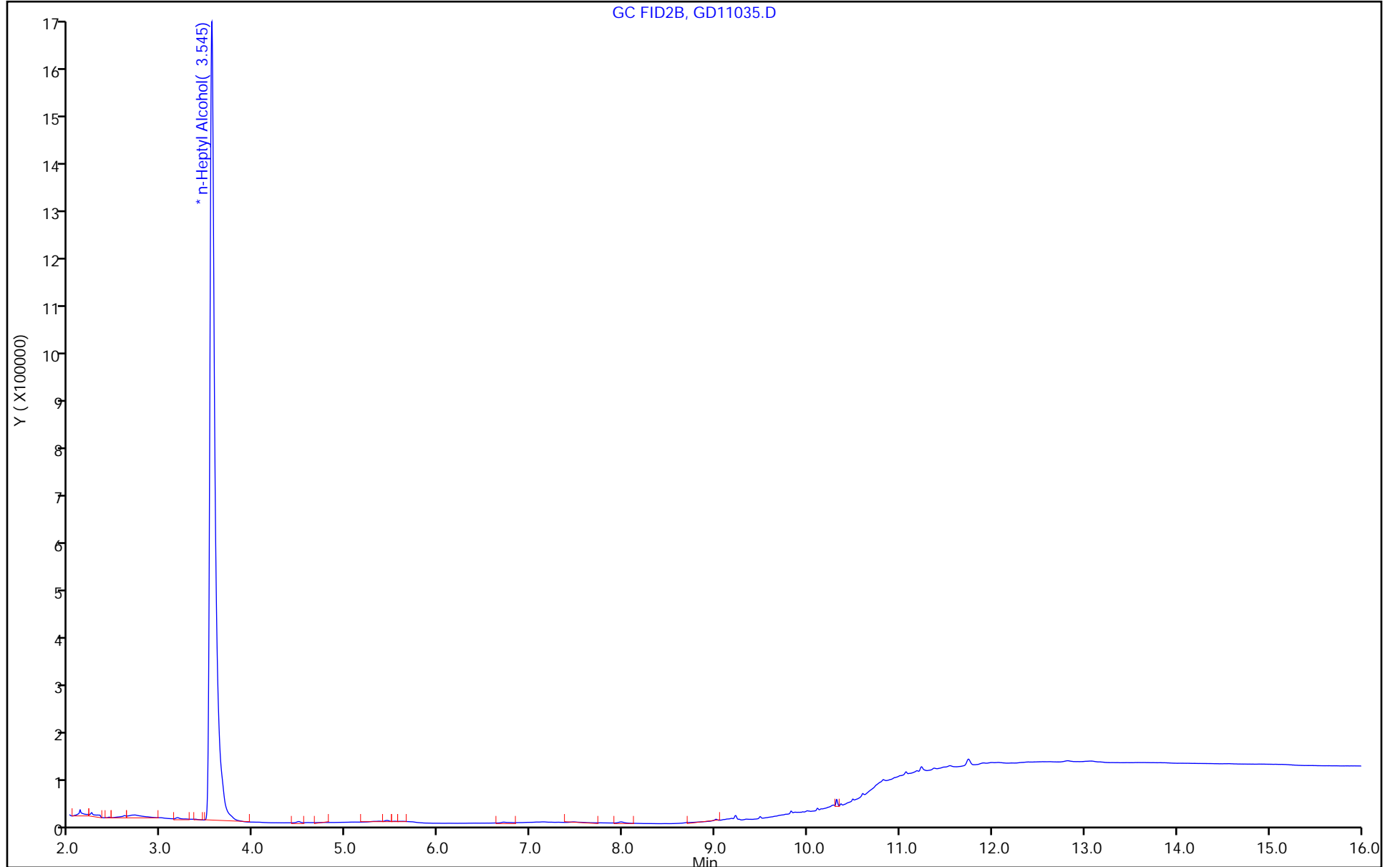
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Client Sample ID: AF-RHWW10-WGN01LF-2304W1 Lab Sample ID: 580-125690-3
 Matrix: Water Lab File ID: GD11036.D
 Analysis Method: 8015C GLY Date Collected: 04/04/2023 13:00
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 1(mL) Date Analyzed: 04/12/2023 05:40
 Con. Extract Vol.: 1(mL) Dilution Factor: 1
 Injection Volume: 1(uL) GC Column: J&W DB WAX ID: 0.45(mm)
 % Moisture: _____ % Solids: _____ GPC Cleanup: (Y/N) N
 Cleanup Factor: _____
 Analysis Batch No.: 772684 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11036.D
 Lims ID: 580-125690-A-3
 Client ID: AF-RHMW10-WGN01LF-2304WK1
 Sample Type: Client
 Inject. Date: 12-Apr-2023 05:40:06 ALS Bottle#: 0 Worklist Smp#: 36
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0085153-036
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 12-Apr-2023 11:49:26 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1657

First Level Reviewer: SWK1 Date: 12-Apr-2023 11:44:07

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
--------------	------------------	------------------	----------	--------------------	-------

3 2-Butoxyethanol 7
 3.170 3.177 -0.007 7908 0.0794 7

LOD = 0.5000

* 4 n-Heptyl Alcohol
 3.541 3.545 -0.004 6120960 50.0

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

SG_GLY_ISTD_00106 Amount Added: 10.00 Units: uL Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11036.D

Injection Date: 12-Apr-2023 05:40:06

Instrument ID: CVGG2

Operator ID:

Lims ID: 580-125690-A-3

Lab Sample ID: 680-125690-3

Worklist Smp#: 36

Client ID: AF-RHMW10-WGN01LF-2304WK1

Injection Vol: 1.0 ul

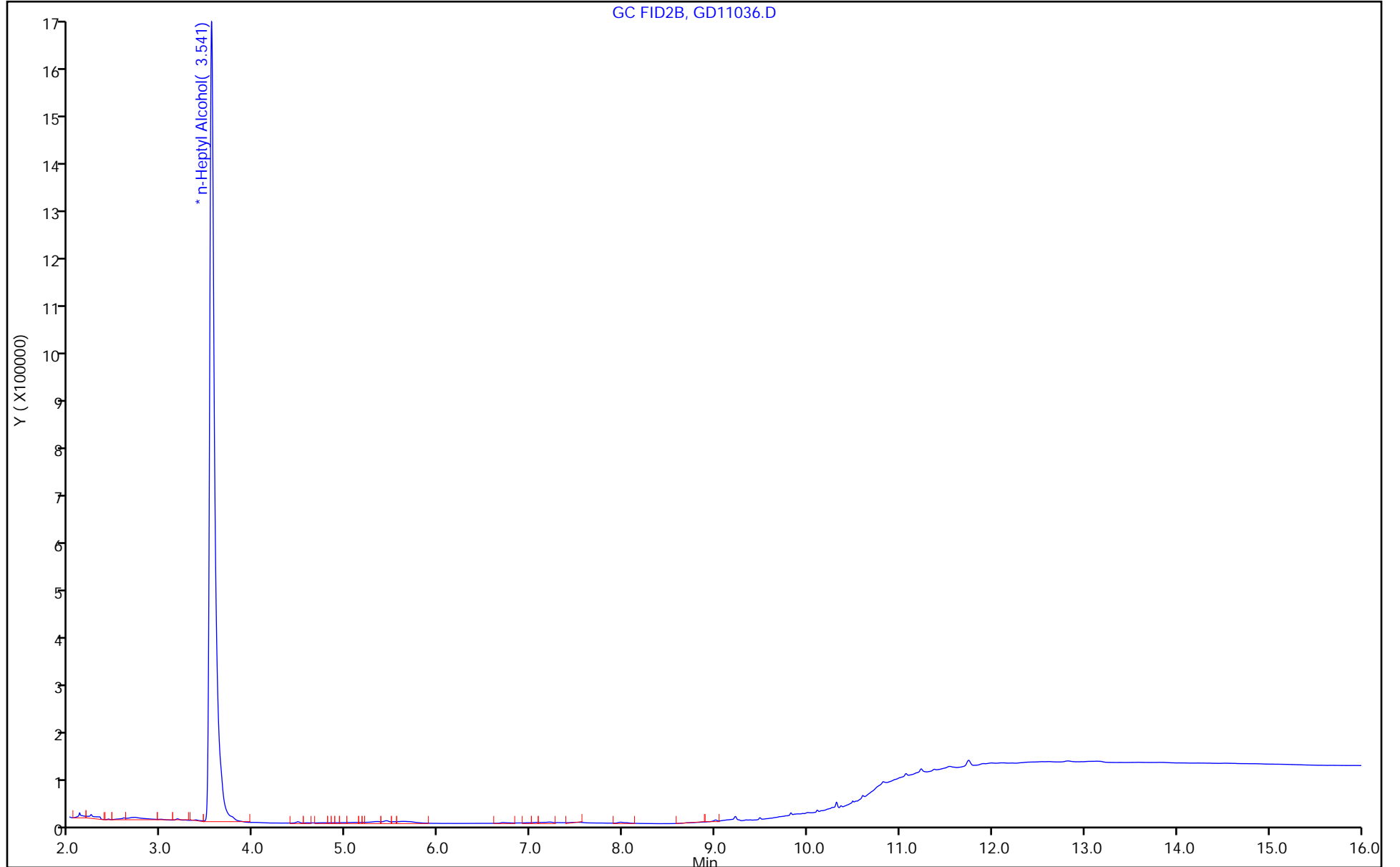
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Client Sample ID: AF-RHMW10-WGFD01LF-2304W1 Lab Sample ID: 580-125690-4
 Matrix: Water Lab File ID: GD11037.D
 Analysis Method: 8015C GLY Date Collected: 04/04/2023 13:00
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 1(mL) Date Analyzed: 04/12/2023 06:03
 Con. Extract Vol.: 1(mL) Dilution Factor: 1
 Injection Volume: 1(uL) GC Column: J&W DB WAX ID: 0.45(mm)
 % Moisture: _____ % Solids: _____ GPC Cleanup: (Y/N) N
 Cleanup Factor: _____
 Analysis Batch No.: 772684 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11037.D
 Lims ID: 580-125690-A-4
 Client ID: AF-RHMW10-WGFD01LF-2304WK1
 Sample Type: Client
 Inject. Date: 12-Apr-2023 06:03:17 ALS Bottle#: 0 Worklist Smp#: 37
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0085153-037
 Operator ID: Instrument ID: CVGG2

 Method: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 12-Apr-2023 11:49:26 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D

 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1657

First Level Reviewer: SWK1 Date: 12-Apr-2023 11:44:14

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
--------------	------------------	------------------	----------	--------------------	-------

* 4 n-Heptyl Alcohol
 3.547 3.545 0.002 5983970 50.0

Reagents:

SG_GLY_ISTD_00106 Amount Added: 10.00 Units: uL Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11037.D

Injection Date: 12-Apr-2023 06:03:17

Instrument ID: CVGG2

Operator ID:

Lims ID: 580-125690-A-4

Lab Sample ID: 680-125690-4

Worklist Smp#: 37

Client ID: AF-RHMMW10-WGFD01LF-2304WK1

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

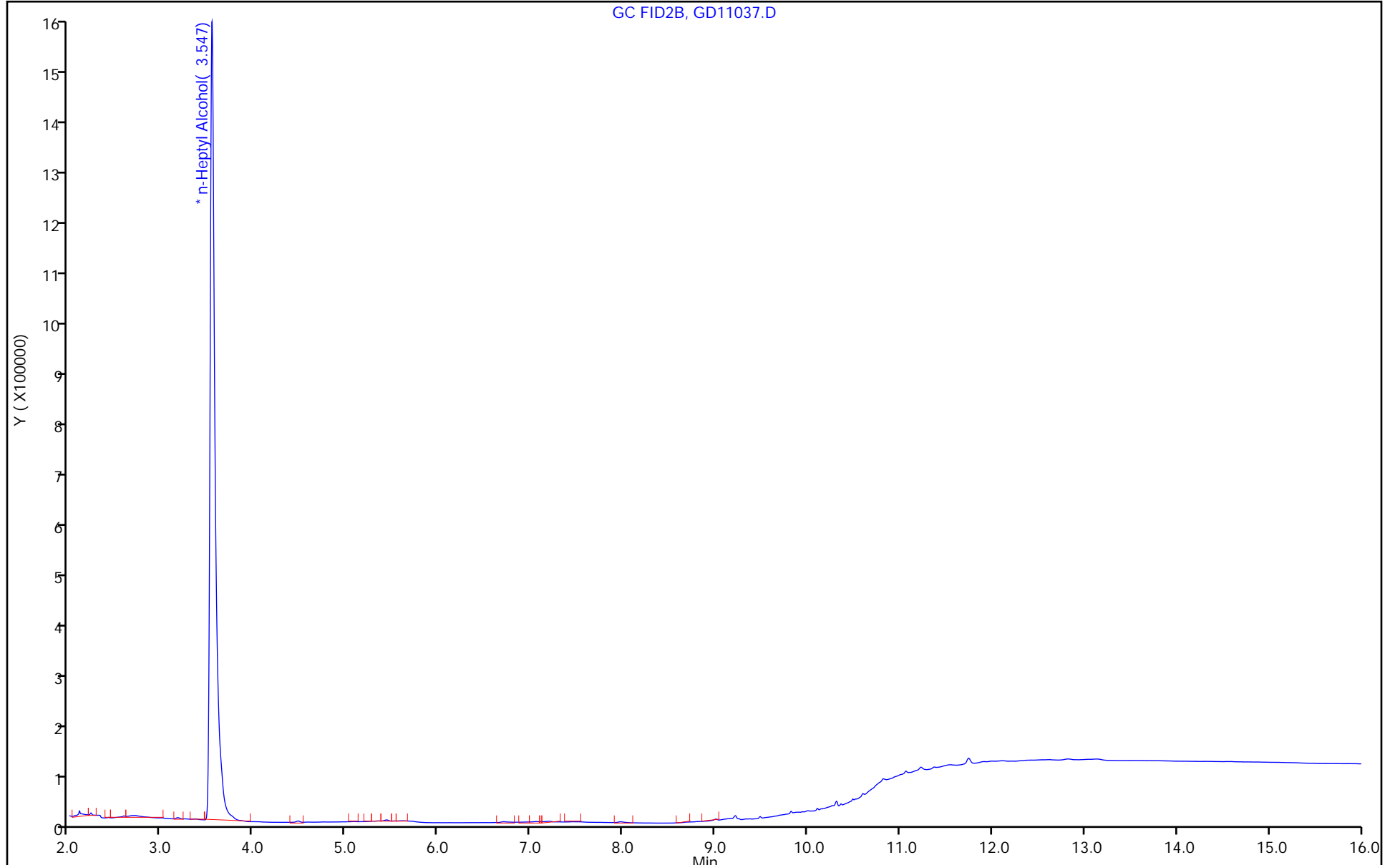
ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)

GC FID2B, GD11037.D



FORM VI
GC SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Savannah Job No.: 580-125690-1 Analy Batch No.: 771627
 SDG No.: _____
 Instrument ID: CVGG2 GC Column: J&W DB WAX ID: 0.45 (mm) Heated Purge: (Y/N) N
 Calibration Start Date: 04/05/2023 20:52 Calibration End Date: 04/05/2023 23:13 Calibration ID: 90419

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-771627/10	GD05028.D
Level 2	IC 680-771627/9	GD05027.D
Level 3	IC 680-771627/8	GD05026.D
Level 4	ICIS 680-771627/7	GD05025.D
Level 5	IC 680-771627/6	GD05024.D
Level 6	IC 680-771627/5	GD05023.D
Level 7	IC 680-771627/4	GD05022.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD /RSE	#	MAX %RSD /RSE	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethanol, 2-propoxy	++++ 0.7505	0.7962 0.8104	0.8133	0.7290	0.7020	Ave		0.766 9			6.1		20.0				
4-Hydroxy-4-methyl-2-pentanone	0.9128 0.7597	0.7405 0.8520	0.7921	0.7097	0.7131	Ave		0.782 8			9.7		20.0				
2-Butoxyethanol	++++ 0.7932	0.8563 0.8458	0.8645	0.7732	0.7467	Ave		0.813 3			6.0		20.0				
Dipropylene Glycol Methyl Ether	0.0796 0.0669	0.0611 0.0775	0.0615	0.0595	0.0642	Ave		0.067 2			12.1		20.0				
Propylene glycol	++++ 0.1839	0.1764 0.2179	0.1860	0.1708	0.1792	Ave		0.185 7			9.0		20.0				
Ethylene glycol	0.6995 0.5554	0.4914 0.6590	0.6077	0.5527	0.5511	Ave		0.588 1			12.2		20.0				
2-(2-Butoxyethoxy)ethanol	++++ 0.7058	0.6896 0.8220	0.7492	0.6487	0.6754	Ave		0.715 1			8.7		20.0				
2,2'-Oxybisethanol	++++ 0.3419	0.3553 0.3868	0.3640	0.3301	0.3158	Ave		0.349 0			7.3		20.0				
Triethylene Glycol	++++ 0.3302	0.3661 0.3558	0.3658	0.3310	0.2973	Ave		0.341 1			7.9		20.0				
Tetraethylene Glycol	++++ 0.3192	0.3866 0.3104	0.3759	0.3329	0.2768	Ave		0.333 6			12.4		20.0				

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type. RSD is calculated for Ave curve types. RSE is used for all other types.

FORM VI
GC SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Savannah Job No.: 580-125690-1 Analy Batch No.: 771627

SDG No.: _____

Instrument ID: CVGG2 GC Column: J&W DB WAX ID: 0.45 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/05/2023 20:52 Calibration End Date: 04/05/2023 23:13 Calibration ID: 90419

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-771627/10	GD05028.D
Level 2	IC 680-771627/9	GD05027.D
Level 3	IC 680-771627/8	GD05026.D
Level 4	ICIS 680-771627/7	GD05025.D
Level 5	IC 680-771627/6	GD05024.D
Level 6	IC 680-771627/5	GD05023.D
Level 7	IC 680-771627/4	GD05022.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
			LVL 6	LVL 7				LVL 6	LVL 7			
Ethanol, 2-propoxy	nHPA	Ave	++++ 5299936	389790 5902914	793738	1344734	3302327	++++ 80.0	5.00 100	10.0	20.0	50.0
4-Hydroxy-4-methyl-2-pentanone	nHPA	Ave	189890 5364319	362507 6205805	773121	1309070	3354186	2.00 80.0	5.00 100	10.0	20.0	50.0
2-Butoxyethanol	nHPA	Ave	++++ 5601286	419176 6160404	843790	1426259	3512343	++++ 80.0	5.00 100	10.0	20.0	50.0
Dipropylene Glycol Methyl Ether	nHPA	Ave	16566 472658	29901 564670	59995	109782	301775	2.00 80.0	5.00 100	10.0	20.0	50.0
Propylene glycol	nHPA	Ave	++++ 1298565	86334 1586764	181575	315055	842870	++++ 80.0	5.00 100	10.0	20.0	50.0
Ethylene glycol	nHPA	Ave	145510 3922018	240576 4800188	593094	1019502	2592155	2.00 80.0	5.00 100	10.0	20.0	50.0
2-(2-Butoxyethoxy)ethanol	nHPA	Ave	++++ 4984149	337569 5987183	731242	1196449	3176925	++++ 80.0	5.00 100	10.0	20.0	50.0
2,2'-Oxybisethanol	nHPA	Ave	++++ 2414637	173945 2817413	355227	608907	1485444	++++ 80.0	5.00 100	10.0	20.0	50.0
Triethylene Glycol	nHPA	Ave	++++ 2331992	179223 2591703	357067	610561	1398643	++++ 80.0	5.00 100	10.0	20.0	50.0
Tetraethylene Glycol	nHPA	Ave	++++ 4508338	378466 4522190	733854	1228018	2604230	++++ 160	10.0 200	20.0	40.0	100

Curve Type Legend

Ave = Average ISTD

FORM VI
GC SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins Savannah Job No.: 580-125690-1 Analy Batch No.: 771627

SDG No.: _____

Instrument ID: CVGG2 GC Column: J&W DB WAX ID: 0.45 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/05/2023 20:52 Calibration End Date: 04/05/2023 23:13 Calibration ID: 90419

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-771627/10	GD05028.D
Level 2	IC 680-771627/9	GD05027.D
Level 3	IC 680-771627/8	GD05026.D
Level 4	ICIS 680-771627/7	GD05025.D
Level 5	IC 680-771627/6	GD05024.D
Level 6	IC 680-771627/5	GD05023.D
Level 7	IC 680-771627/4	GD05022.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Ethanol, 2-propoxy	++++ 5.7	3.8	6.0	-4.9	-8.5	-2.1	20	20	20	20	20	20
4-Hydroxy-4-methyl-2-pentanone	16.6 8.8	-5.4	1.2	-9.3	-8.9	-3.0	20 20	20	20	20	20	20
2-Butoxyethanol	++++ 4.0	5.3	6.3	-4.9	-8.2	-2.5	20	20	20	20	20	20
Dipropylene Glycol Methyl Ether	18.5 15.4	-9.1	-8.5	-11.4	-4.5	-0.4	20 20	20	20	20	20	20
Propylene glycol	++++ 17.3	-5.0	0.2	-8.0	-3.5	-1.0	20	20	20	20	20	20
Ethylene glycol	18.9 12.1	-16.4	3.3	-6.0	-6.3	-5.6	20 20	20	20	20	20	20
2-(2-Butoxyethoxy)ethanol	++++ 14.9	-3.6	4.8	-9.3	-5.6	-1.3	20	20	20	20	20	20
2,2'-Oxybisethanol	++++ 10.8	1.8	4.3	-5.4	-9.5	-2.0	20	20	20	20	20	20
Triethylene Glycol	++++ 4.3	7.3	7.3	-2.9	-12.8	-3.2	20	20	20	20	20	20
Tetraethylene Glycol	++++ -7.0	15.9	12.7	-0.2	-17.0	-4.3	20	20	20	20	20	20

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05022.D
 Lims ID: ic g7
 Client ID:
 Sample Type: IC Calib Level: 7
 Inject. Date: 05-Apr-2023 20:52:48 ALS Bottle#: 0 Worklist Smp#: 4
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0084975-004
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 06-Apr-2023 12:55:53 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 06-Apr-2023 12:50:13

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
2.756	2.754	0.002	5902914	100.0	105.7	
2 4-Hydroxy-4-methyl-2-pentanone						
3.279	3.278	0.001	6205805	100.0	108.8	
3 2-Butoxyethanol						
3.543	3.541	0.002	6160404	100.0	104.0	
* 4 n-Heptyl Alcohol						
3.959	3.958	0.001	3641798	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
4.878	4.877	0.001	564670	100.0	115.4	
6 Propylene glycol						
6.023	6.018	0.005	1586764	100.0	117.3	M
7 Ethylene glycol						
6.245	6.242	0.003	4800188	100.0	112.1	M
8 2-(2-Butoxyethoxy)ethanol						
8.074	8.070	0.004	5987183	100.0	114.9	
9 2,2'-Oxybisethanol						
9.477	9.477	0.000	2817413	100.0	110.8	
10 Triethylene Glycol						
10.520	10.520	0.000	2591703	100.0	104.3	
11 Tetraethylene Glycol						
11.564	11.563	0.001	4522190	200.0	186.1	

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00054

Amount Added: 50.00

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Euofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05022.D

Injection Date: 05-Apr-2023 20:52:48

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g7

Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul

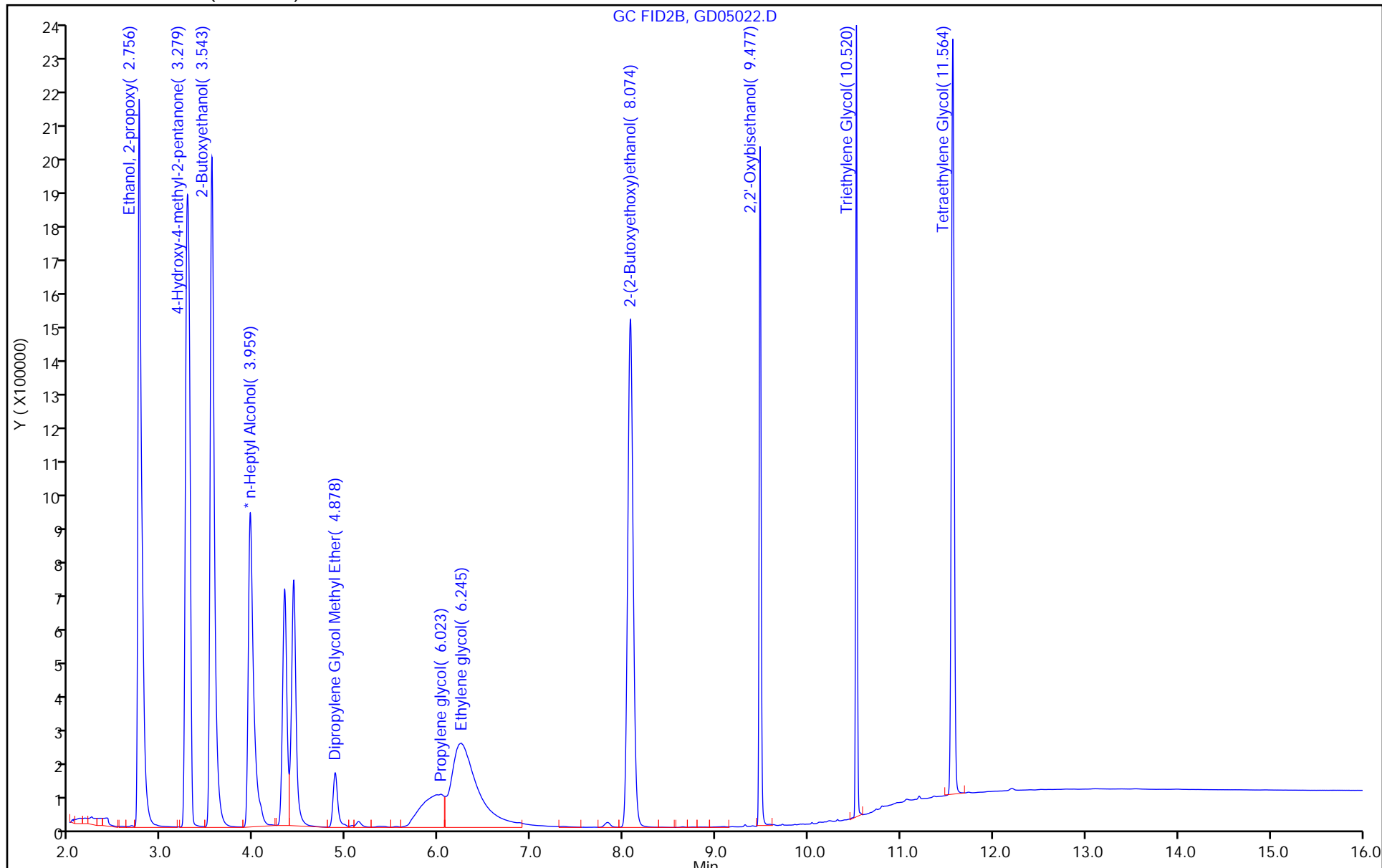
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

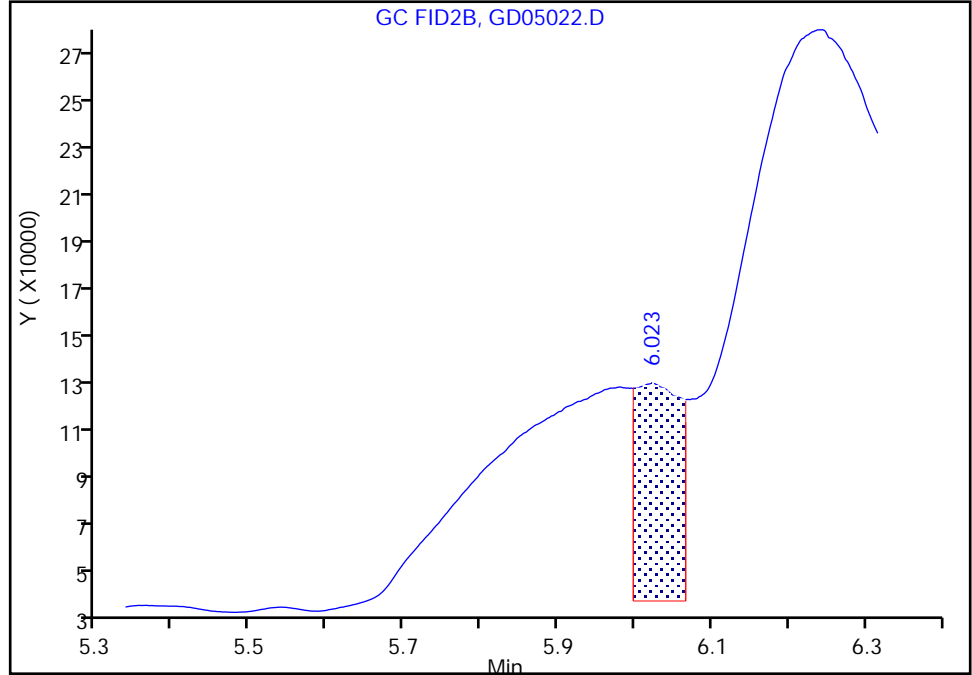
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05022.D
Injection Date: 05-Apr-2023 20:52:48 Instrument ID: CVGG2
Lims ID: ic g7
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

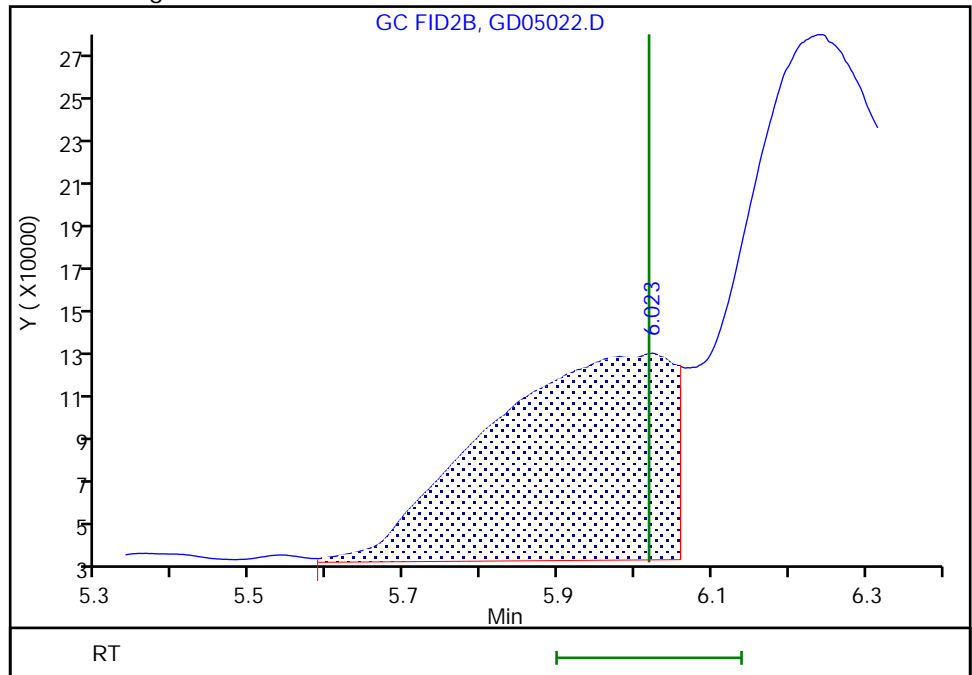
RT: 6.02
Area: 357620
Amount: 53.355198
Amount Units: ug/ml

Processing Integration Results



RT: 6.02
Area: 1586764
Amount: 117.3218
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 06-Apr-2023 12:50:03
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

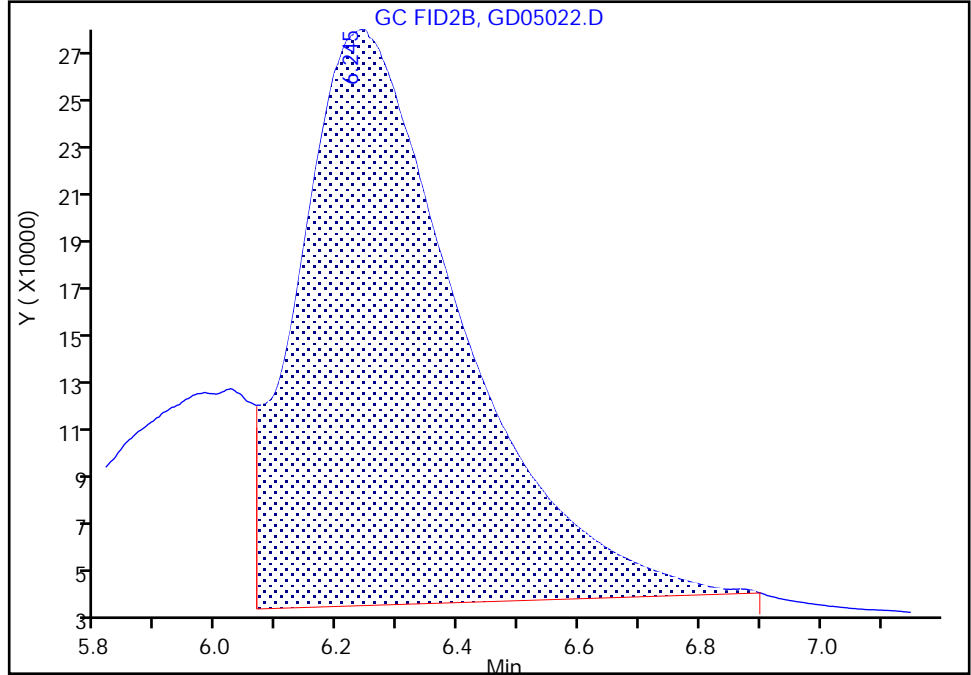
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05022.D
Injection Date: 05-Apr-2023 20:52:48 Instrument ID: CVGG2
Lims ID: ic g7
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

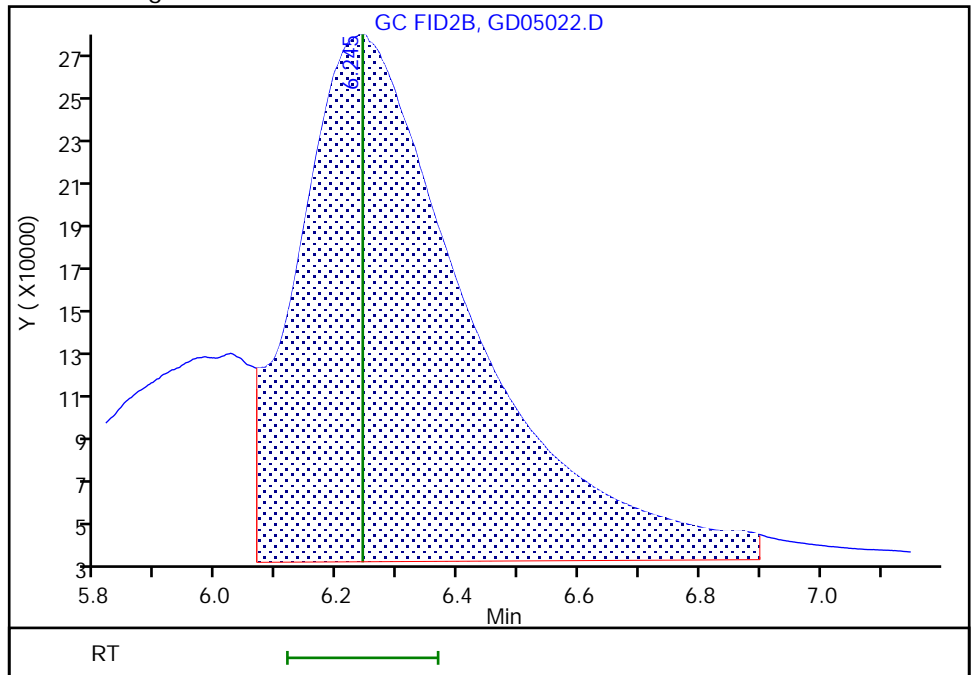
RT: 6.24
Area: 4367188
Amount: 121.1530
Amount Units: ug/ml

Processing Integration Results



RT: 6.24
Area: 4800188
Amount: 112.0598
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 06-Apr-2023 12:50:03
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05023.D
 Lims ID: ic g6
 Client ID:
 Sample Type: IC Calib Level: 6
 Inject. Date: 05-Apr-2023 21:16:08 ALS Bottle#: 0 Worklist Smp#: 5
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0084975-005
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 06-Apr-2023 12:55:54 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 06-Apr-2023 12:50:26

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
2.755	2.754	0.001	5299936	80.0	78.3	
2 4-Hydroxy-4-methyl-2-pentanone						
3.277	3.278	-0.001	5364319	80.0	77.6	
3 2-Butoxyethanol						
3.542	3.541	0.001	5601286	80.0	78.0	
* 4 n-Heptyl Alcohol						
3.959	3.958	0.001	4413439	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
4.876	4.877	-0.001	472658	80.0	79.7	
6 Propylene glycol						
6.020	6.018	0.002	1298565	80.0	79.2	M
7 Ethylene glycol						
6.238	6.242	-0.004	3922018	80.0	75.6	M
8 2-(2-Butoxyethoxy)ethanol						
8.073	8.070	0.003	4984149	80.0	79.0	
9 2,2'-Oxybisethanol						
9.477	9.477	0.000	2414637	80.0	78.4	
10 Triethylene Glycol						
10.521	10.520	0.001	2331992	80.0	77.5	
11 Tetraethylene Glycol						
11.563	11.563	0.000	4508338	160.0	153.1	

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00054

Amount Added: 40.00

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05023.D

Injection Date: 05-Apr-2023 21:16:08

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g6

Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul

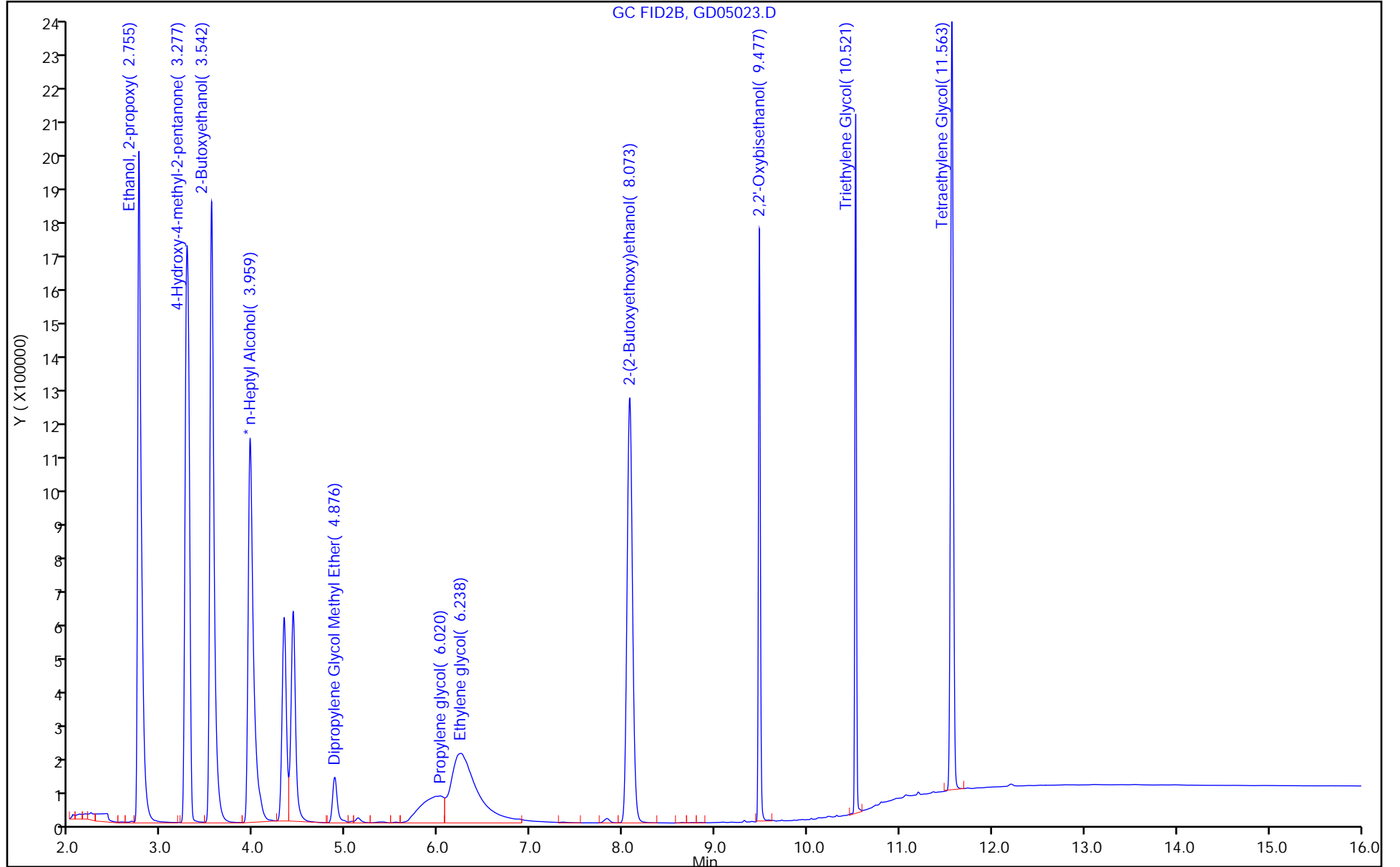
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

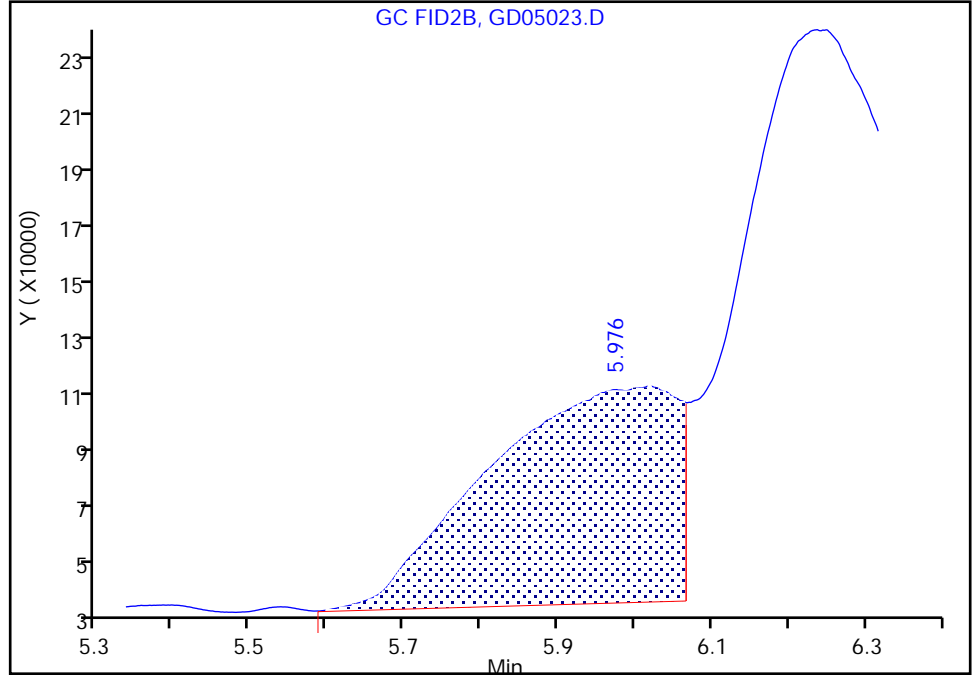
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05023.D
Injection Date: 05-Apr-2023 21:16:08 Instrument ID: CVGG2
Lims ID: ic g6
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

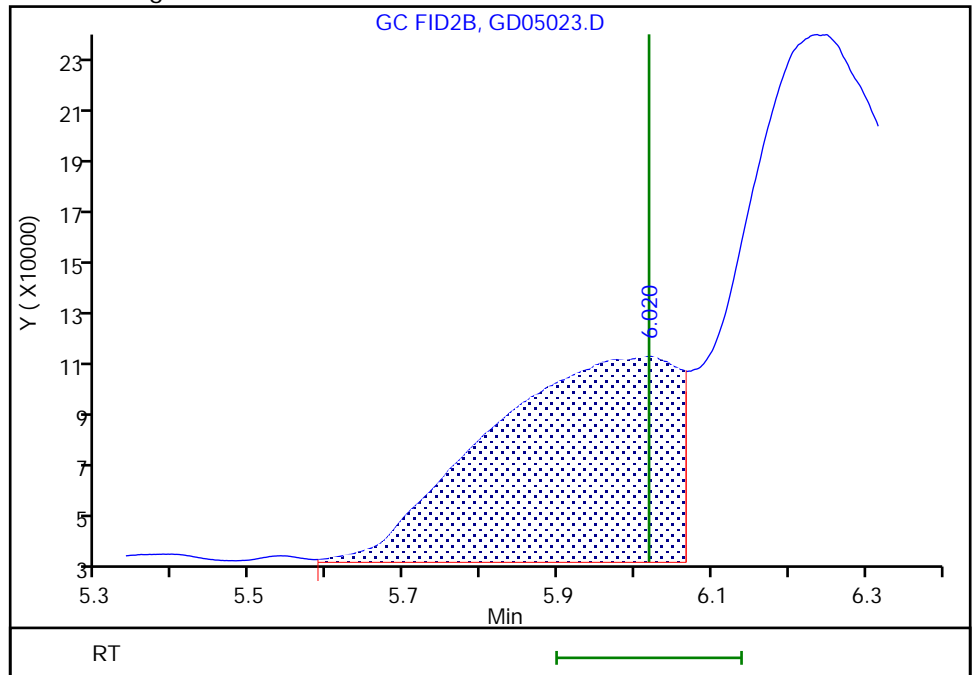
RT: 5.98
Area: 1233259
Amount: 120.3088
Amount Units: ug/ml

Processing Integration Results



RT: 6.02
Area: 1298565
Amount: 79.226186
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 06-Apr-2023 12:50:24
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

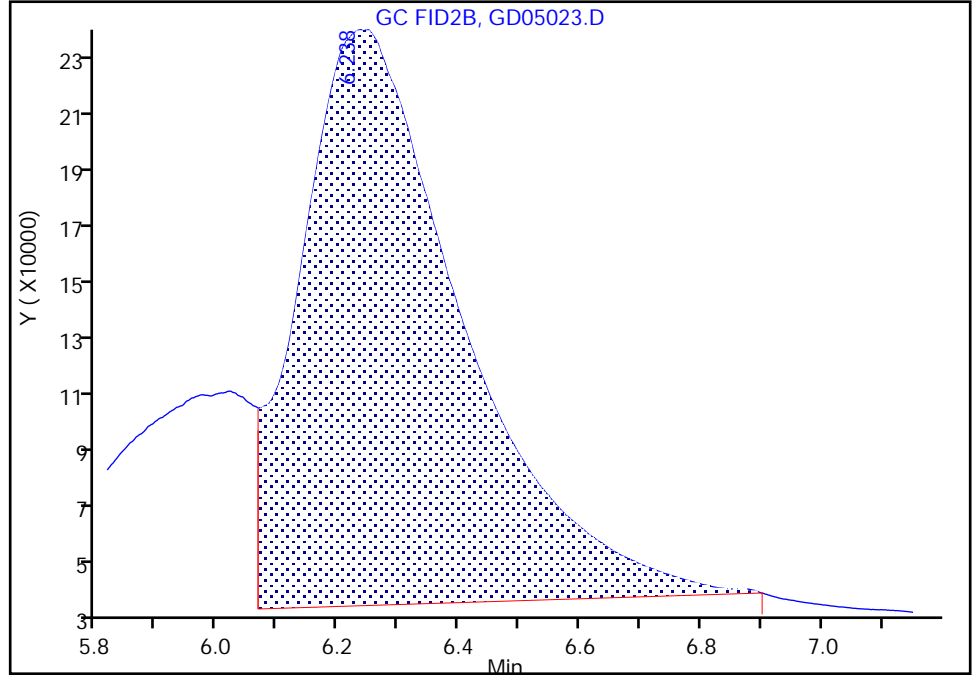
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05023.D
Injection Date: 05-Apr-2023 21:16:08 Instrument ID: CVGG2
Lims ID: ic g6
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

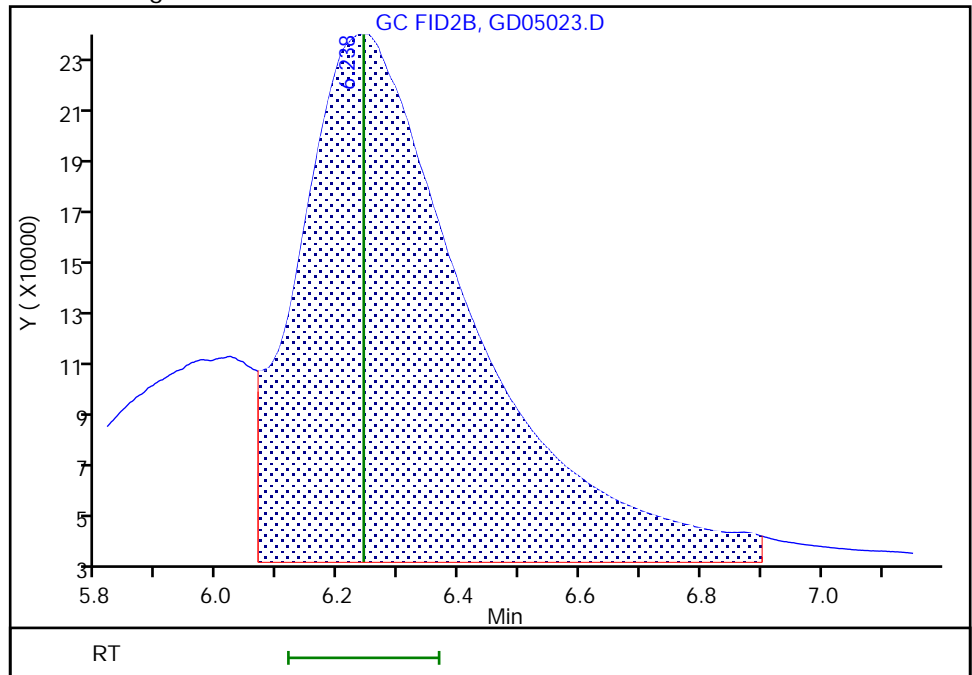
RT: 6.24
Area: 3590031
Amount: 80.794133
Amount Units: ug/ml

Processing Integration Results



RT: 6.24
Area: 3922018
Amount: 75.550931
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 06-Apr-2023 12:50:24
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05024.D
 Lims ID: ic g5
 Client ID:
 Sample Type: IC Calib Level: 5
 Inject. Date: 05-Apr-2023 21:39:29 ALS Bottle#: 0 Worklist Smp#: 6
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0084975-006
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 06-Apr-2023 12:55:55 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 06-Apr-2023 12:50:41

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
2.755	2.754	0.001	3302327	50.0	45.8	
2 4-Hydroxy-4-methyl-2-pentanone						
3.279	3.278	0.001	3354186	50.0	45.5	
3 2-Butoxyethanol						
3.541	3.541	0.000	3512343	50.0	45.9	
* 4 n-Heptyl Alcohol						
3.957	3.958	-0.001	4703887	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
4.879	4.877	0.002	301775	50.0	47.7	
6 Propylene glycol						
6.022	6.018	0.004	842870	50.0	48.2	M
7 Ethylene glycol						
6.234	6.242	-0.008	2592155	50.0	46.9	
8 2-(2-Butoxyethoxy)ethanol						
8.071	8.070	0.001	3176925	50.0	47.2	
9 2,2'-Oxybisethanol						
9.477	9.477	0.000	1485444	50.0	45.2	
10 Triethylene Glycol						
10.520	10.520	0.000	1398643	50.0	43.6	
11 Tetraethylene Glycol						
11.564	11.563	0.001	2604230	100.0	83.0	

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00054

Amount Added: 25.00

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05024.D

Injection Date: 05-Apr-2023 21:39:29

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g5

Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul

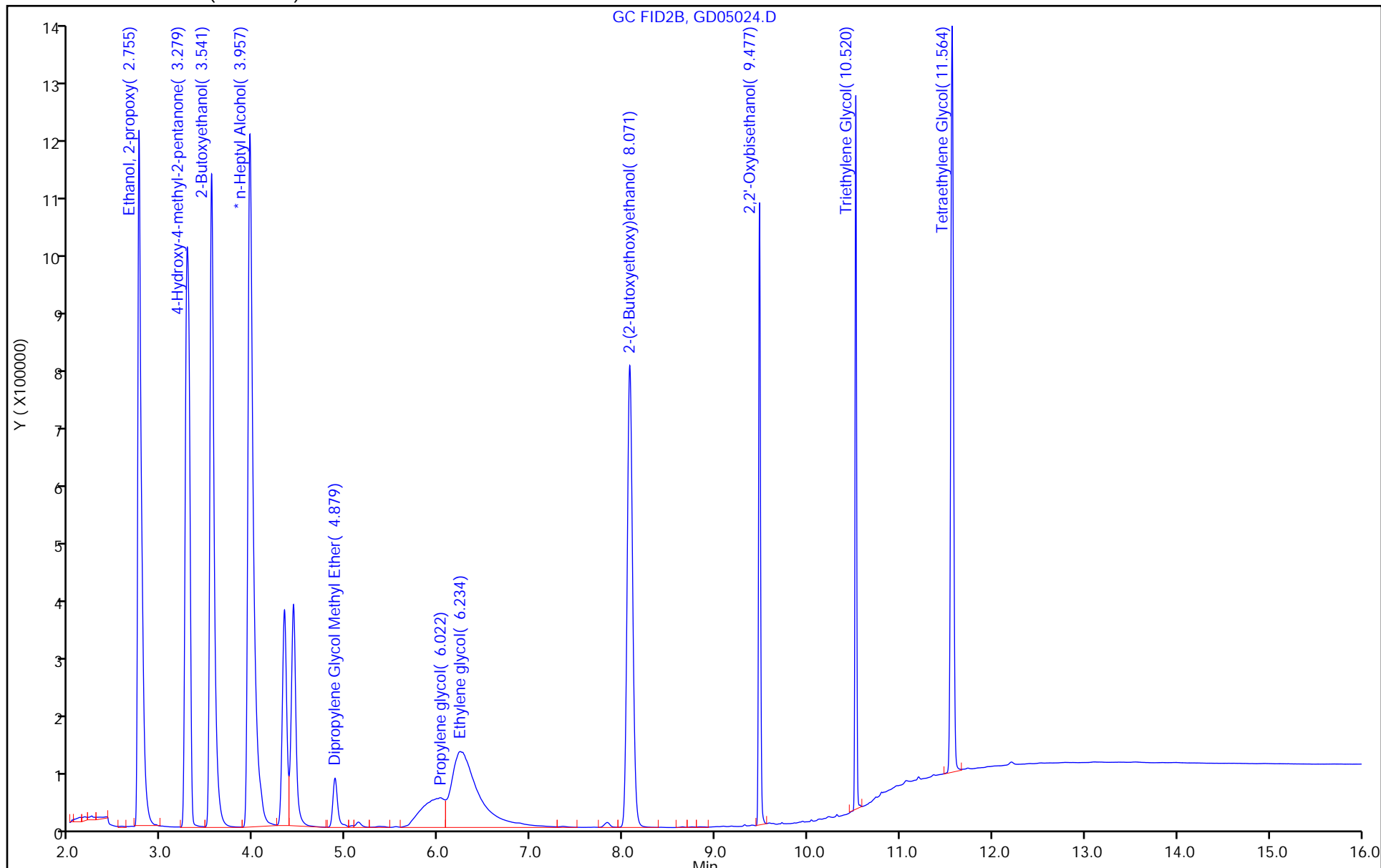
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

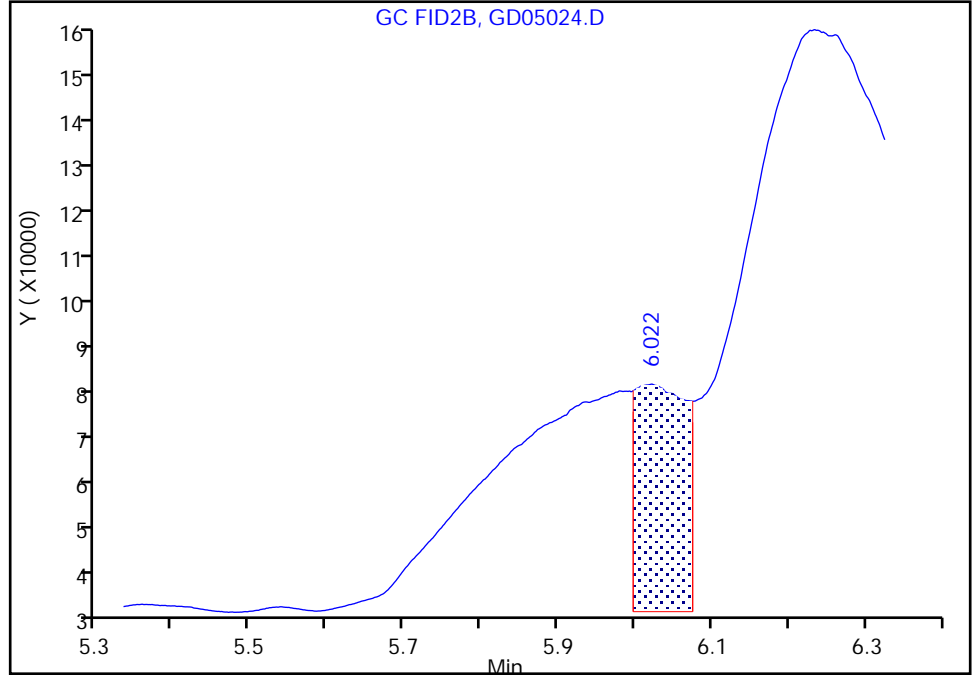
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05024.D
Injection Date: 05-Apr-2023 21:39:29 Instrument ID: CVGG2
Lims ID: ic g5
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

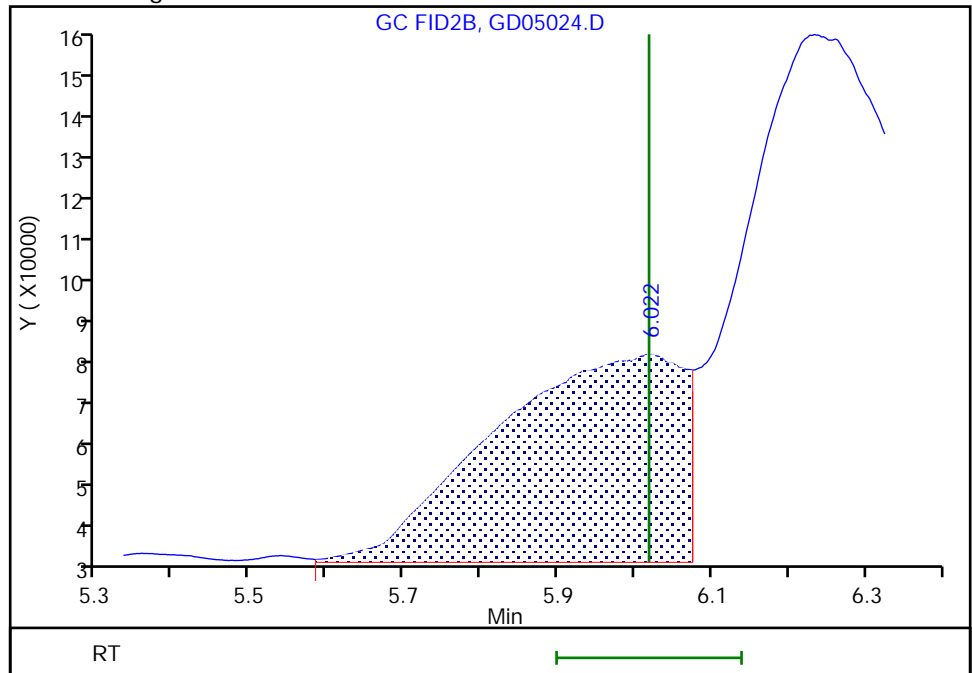
RT: 6.02
Area: 222136
Amount: 20.103390
Amount Units: ug/ml

Processing Integration Results



RT: 6.02
Area: 842870
Amount: 48.248731
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 06-Apr-2023 12:50:36
Audit Action: Manually Integrated

Audit Reason: Baseline Smoothing
Page 75 of 174

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05025.D
 Lims ID: icis g4
 Client ID:
 Sample Type: ICIS Calib Level: 4
 Inject. Date: 05-Apr-2023 22:02:55 ALS Bottle#: 0 Worklist Smp#: 7
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0084975-007
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 06-Apr-2023 12:55:56 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1607

First Level Reviewer: SWK1

Date: 06-Apr-2023 12:50:55

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
2.754	2.754	0.000	1344734	20.0	19.0	
2 4-Hydroxy-4-methyl-2-pentanone						
3.278	3.278	0.000	1309070	20.0	18.1	
3 2-Butoxyethanol						
3.541	3.541	0.000	1426259	20.0	19.0	
* 4 n-Heptyl Alcohol						
3.958	3.958	0.000	4611298	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
4.877	4.877	0.000	109782	20.0	17.7	
6 Propylene glycol						M
6.018	6.018	0.000	315055	20.0	18.4	M
7 Ethylene glycol						M
6.242	6.242	0.000	1019502	20.0	18.8	M
8 2-(2-Butoxyethoxy)ethanol						
8.070	8.070	0.000	1196449	20.0	18.1	
9 2,2'-Oxybisethanol						
9.477	9.477	0.000	608907	20.0	18.9	
10 Triethylene Glycol						
10.520	10.520	0.000	610561	20.0	19.4	
11 Tetraethylene Glycol						
11.563	11.563	0.000	1228018	40.0	39.9	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00054

Amount Added: 10.00

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05025.D

Injection Date: 05-Apr-2023 22:02:55

Instrument ID: CVGG2

Operator ID:

Lims ID: icis g4

Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul

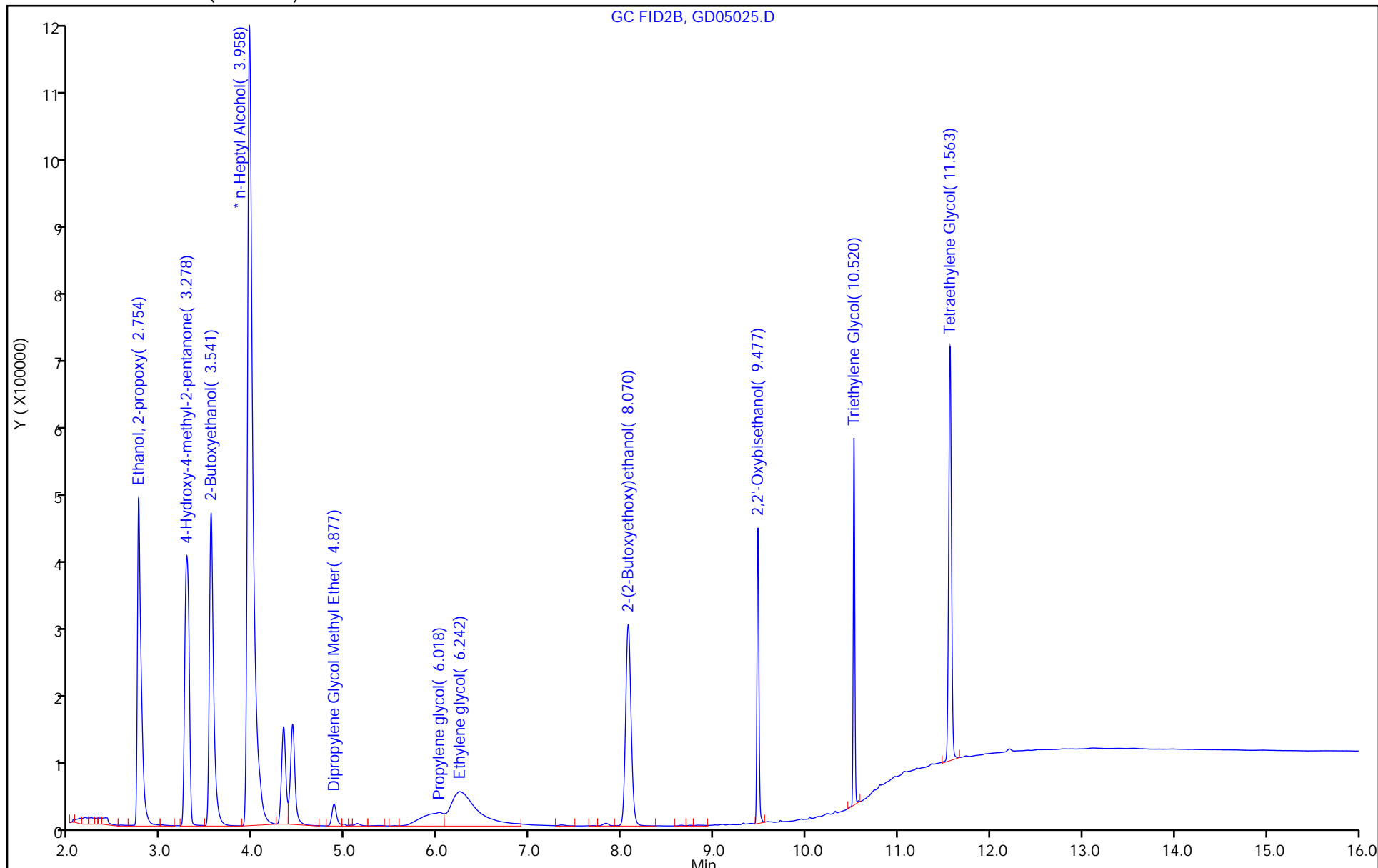
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

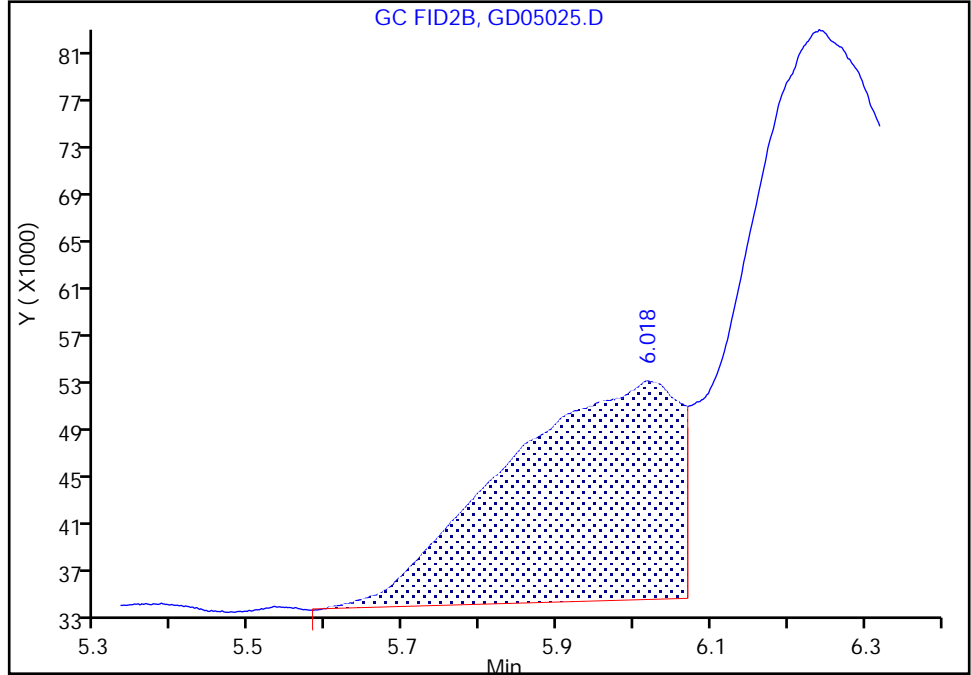
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05025.D
Injection Date: 05-Apr-2023 22:02:55 Instrument ID: CVGG2
Lims ID: icis g4
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

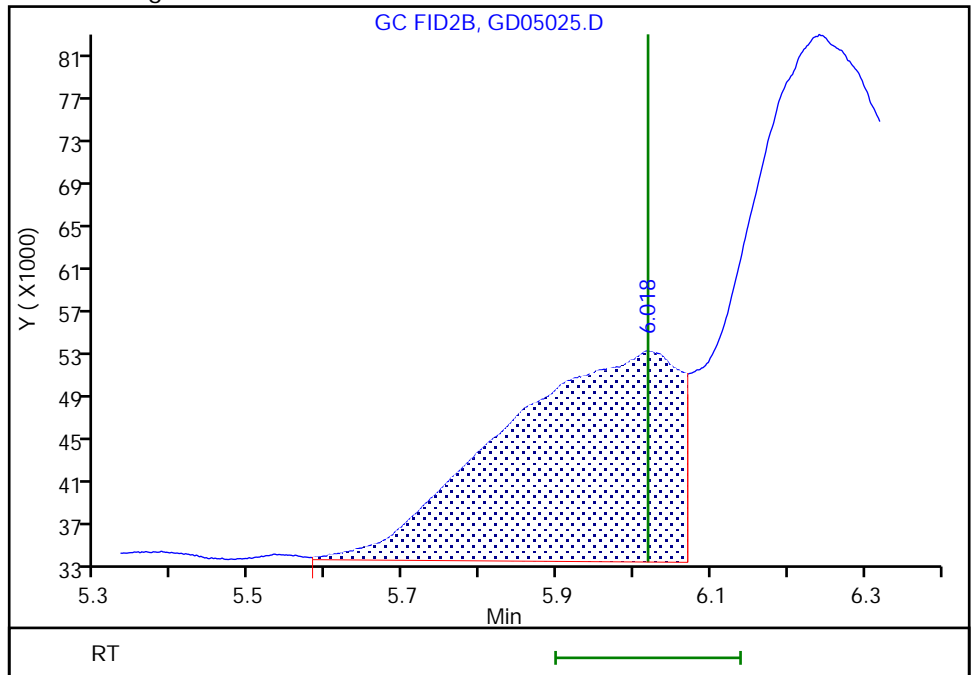
RT: 6.02
Area: 289887
Amount: 23.060348
Amount Units: ug/ml

Processing Integration Results



RT: 6.02
Area: 315055
Amount: 18.396931
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 06-Apr-2023 12:50:53
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

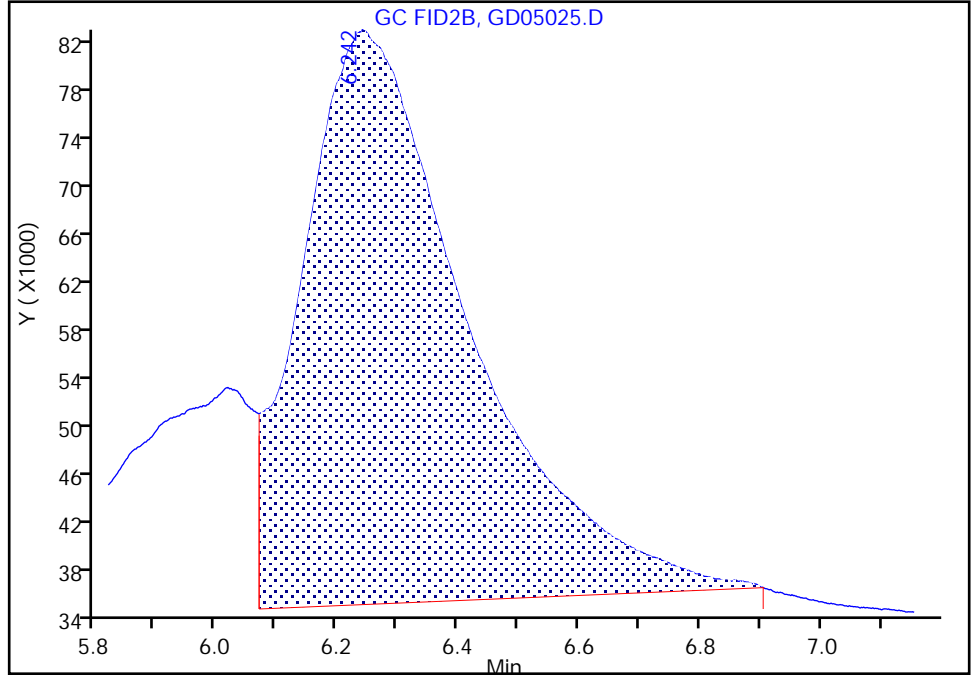
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05025.D
Injection Date: 05-Apr-2023 22:02:55 Instrument ID: CVGG2
Lims ID: icis g4
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

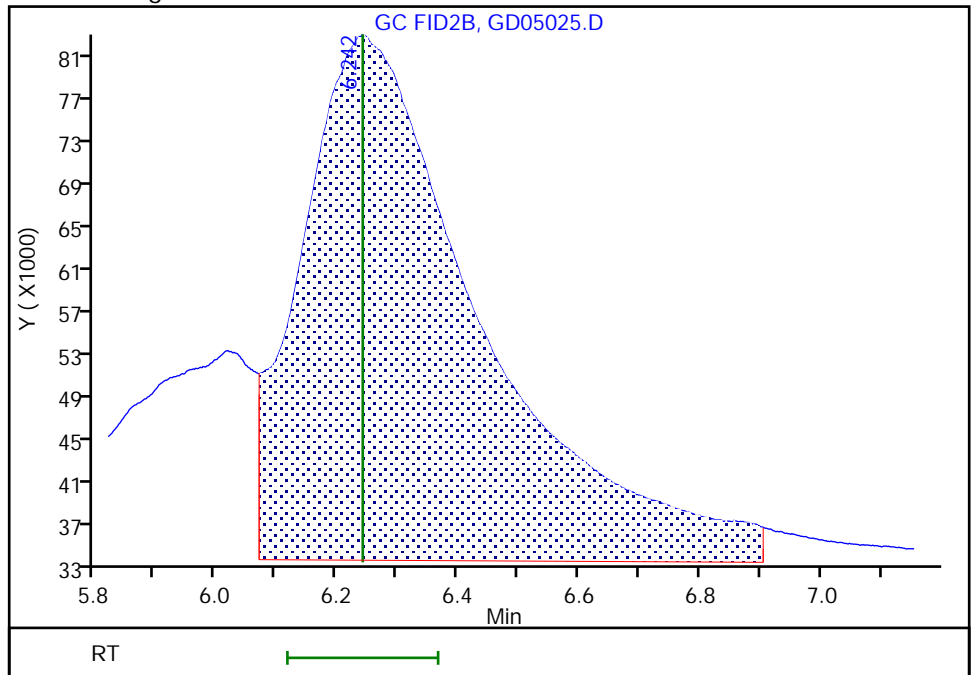
RT: 6.24
Area: 904673
Amount: 19.229644
Amount Units: ug/ml

Processing Integration Results



RT: 6.24
Area: 1019502
Amount: 18.796295
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 06-Apr-2023 12:50:53
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05026.D
 Lims ID: ic g3
 Client ID:
 Sample Type: IC Calib Level: 3
 Inject. Date: 05-Apr-2023 22:26:14 ALS Bottle#: 0 Worklist Smp#: 8
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0084975-008
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 06-Apr-2023 12:55:57 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 06-Apr-2023 12:51:40

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
2.758	2.754	0.004	793738	10.0	10.6	
2 4-Hydroxy-4-methyl-2-pentanone						
3.283	3.278	0.005	773121	10.0	10.1	
3 2-Butoxyethanol						
3.543	3.541	0.002	843790	10.0	10.6	
* 4 n-Heptyl Alcohol						
3.957	3.958	-0.001	4880009	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
4.878	4.877	0.001	59995	10.0	9.15	
6 Propylene glycol						
6.021	6.018	0.003	181575	10.0	10.0	M
7 Ethylene glycol						
6.243	6.242	0.001	593094	10.0	10.3	M
8 2-(2-Butoxyethoxy)ethanol						
8.070	8.070	0.000	731242	10.0	10.5	
9 2,2'-Oxybisethanol						
9.477	9.477	0.000	355227	10.0	10.4	
10 Triethylene Glycol						
10.520	10.520	0.000	357067	10.0	10.7	
11 Tetraethylene Glycol						
11.563	11.563	0.000	733854	20.0	22.5	

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00054

Amount Added: 5.00

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05026.D

Injection Date: 05-Apr-2023 22:26:14

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g3

Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul

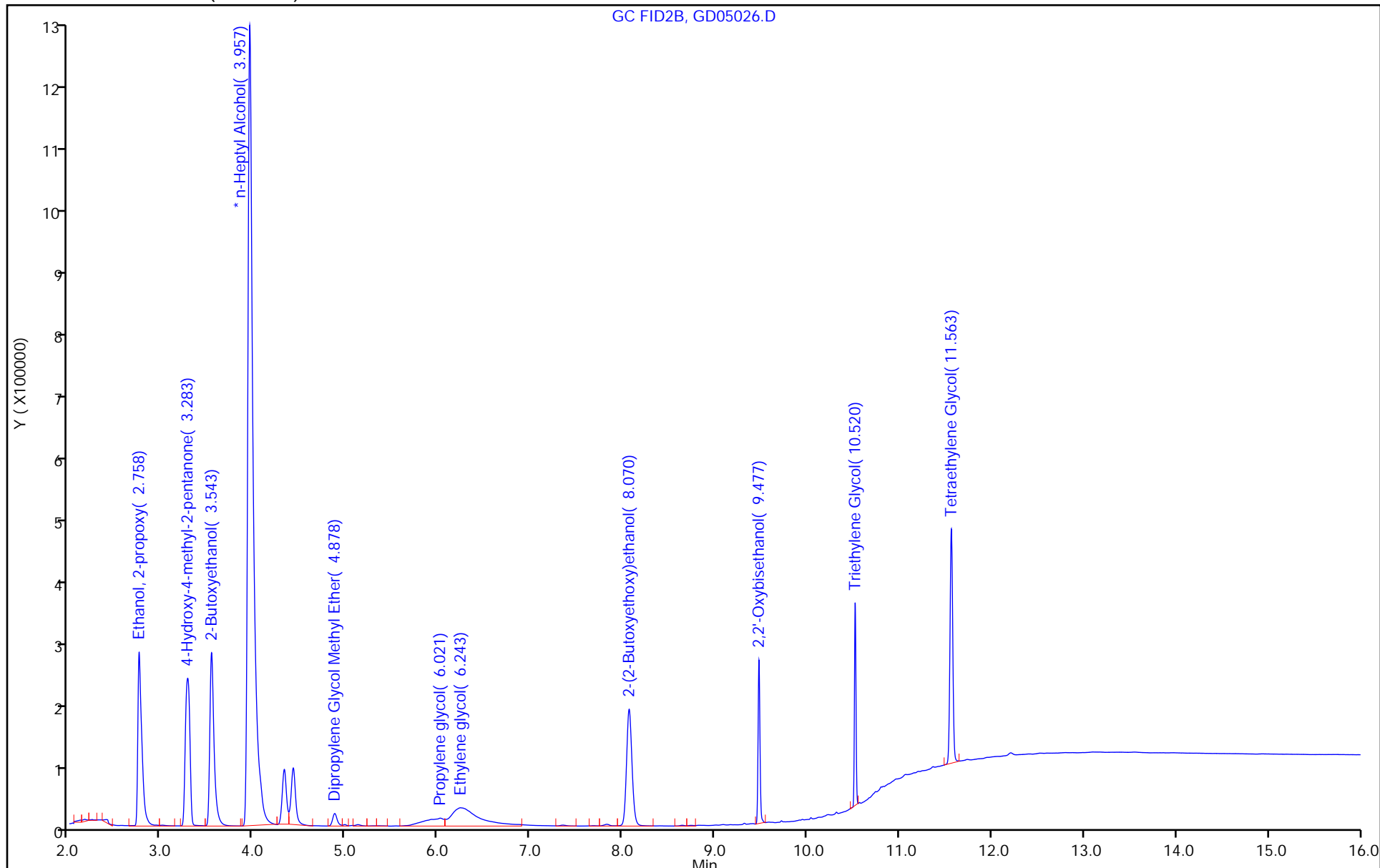
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

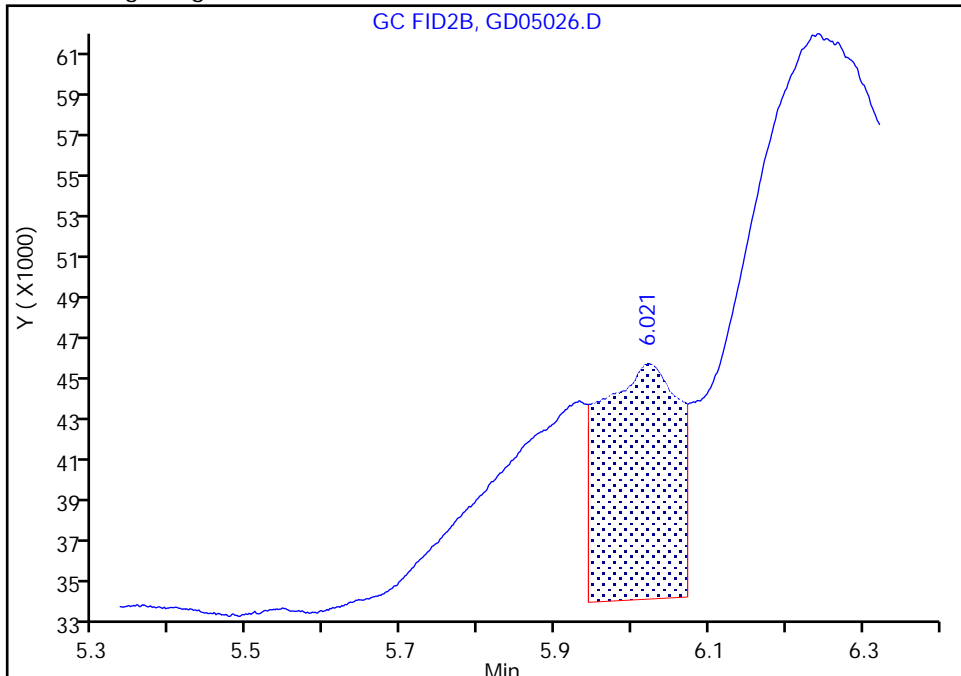
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05026.D
Injection Date: 05-Apr-2023 22:26:14 Instrument ID: CVGG2
Lims ID: ic g3
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

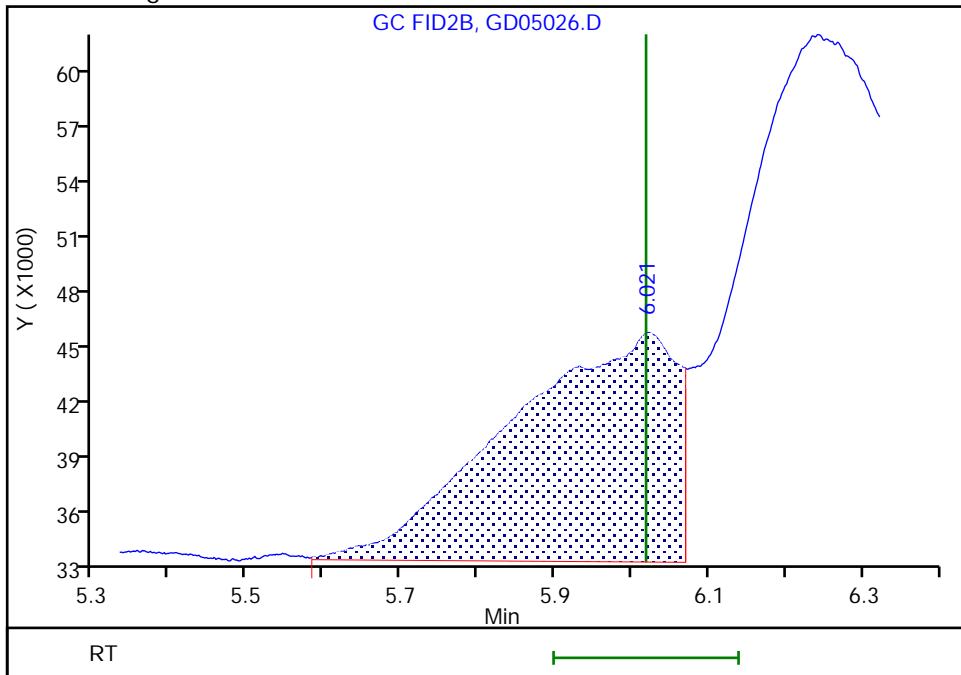
RT: 6.02
Area: 77993
Amount: 5.780010
Amount Units: ug/ml

Processing Integration Results



RT: 6.02
Area: 181575
Amount: 10.018844
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 06-Apr-2023 12:51:37
Audit Action: Manually Integrated

Audit Reason: Baseline Smoothing

Eurofins Savannah

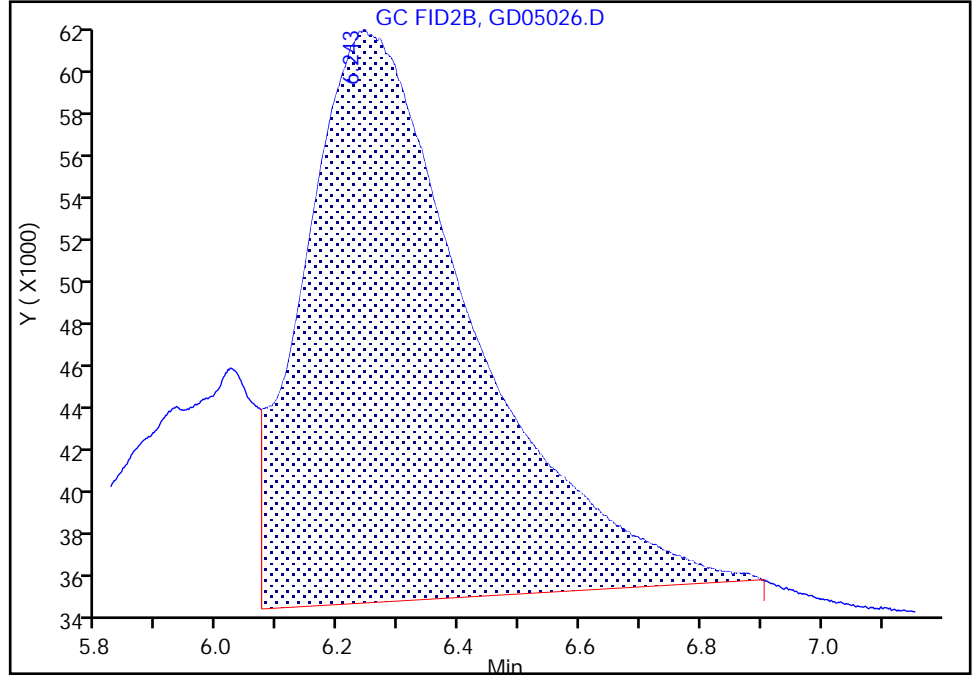
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05026.D
Injection Date: 05-Apr-2023 22:26:14 Instrument ID: CVGG2
Lims ID: ic g3
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

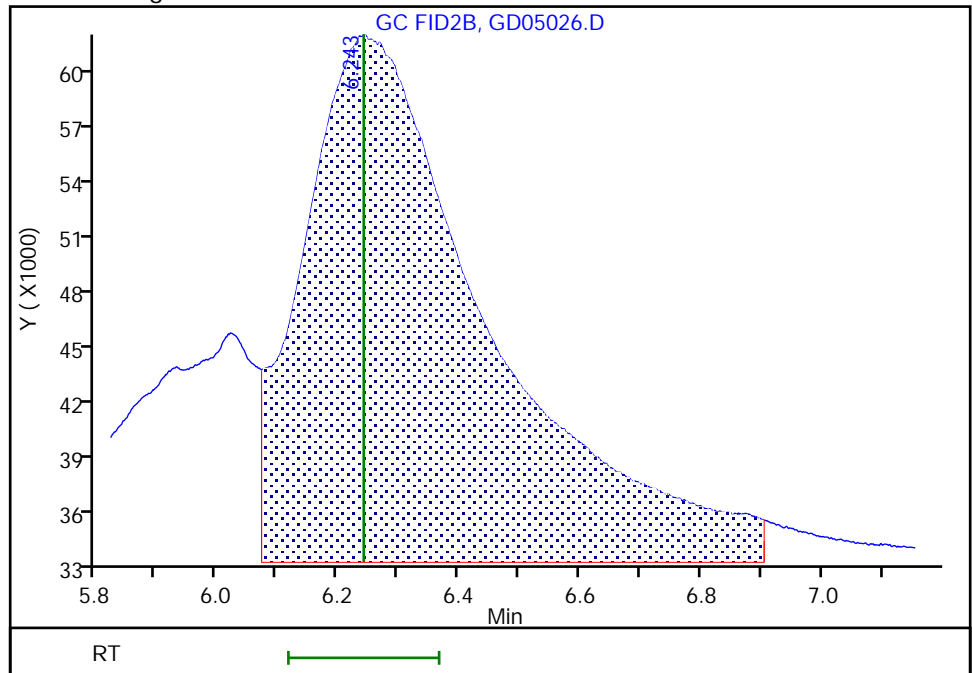
RT: 6.24
Area: 517669
Amount: 10.219461
Amount Units: ug/ml

Processing Integration Results



RT: 6.24
Area: 593094
Amount: 10.332616
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 06-Apr-2023 12:51:24
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05027.D
 Lims ID: ic g2
 Client ID:
 Sample Type: IC Calib Level: 2
 Inject. Date: 05-Apr-2023 22:49:34 ALS Bottle#: 0 Worklist Smp#: 9
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0084975-009
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 06-Apr-2023 12:55:58 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 06-Apr-2023 12:51:57

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
2.753	2.754	-0.001	389790	5.00	5.19	
2 4-Hydroxy-4-methyl-2-pentanone						
3.274	3.278	-0.004	362507	5.00	4.73	
3 2-Butoxyethanol						
3.540	3.541	-0.001	419176	5.00	5.26	
* 4 n-Heptyl Alcohol						
3.961	3.958	0.003	4895365	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
4.873	4.877	-0.004	29901	5.00	4.55	
6 Propylene glycol						
6.017	6.018	-0.001	86334	5.00	4.75	M
7 Ethylene glycol						
6.248	6.242	0.006	240576	5.00	4.18	M
8 2-(2-Butoxyethoxy)ethanol						
8.070	8.070	0.000	337569	5.00	4.82	
9 2,2'-Oxybisethanol						
9.477	9.477	0.000	173945	5.00	5.09	
10 Triethylene Glycol						
10.520	10.520	0.000	179223	5.00	5.37	
11 Tetraethylene Glycol						
11.563	11.563	0.000	378466	10.0	11.6	

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00054

Amount Added: 2.50

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05027.D

Injection Date: 05-Apr-2023 22:49:34

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g2

Worklist Smp#: 9

Client ID:

Injection Vol: 1.0 ul

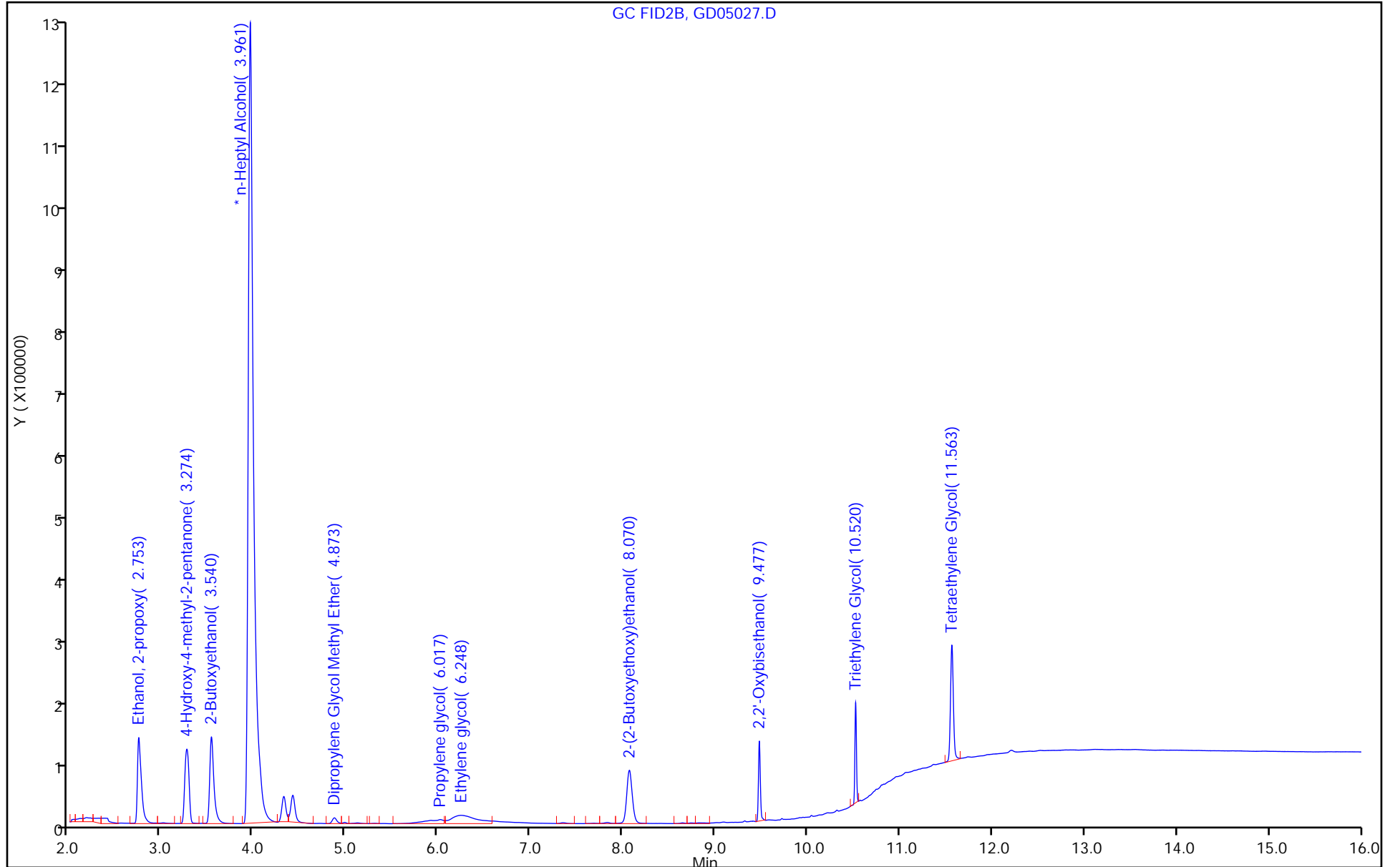
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

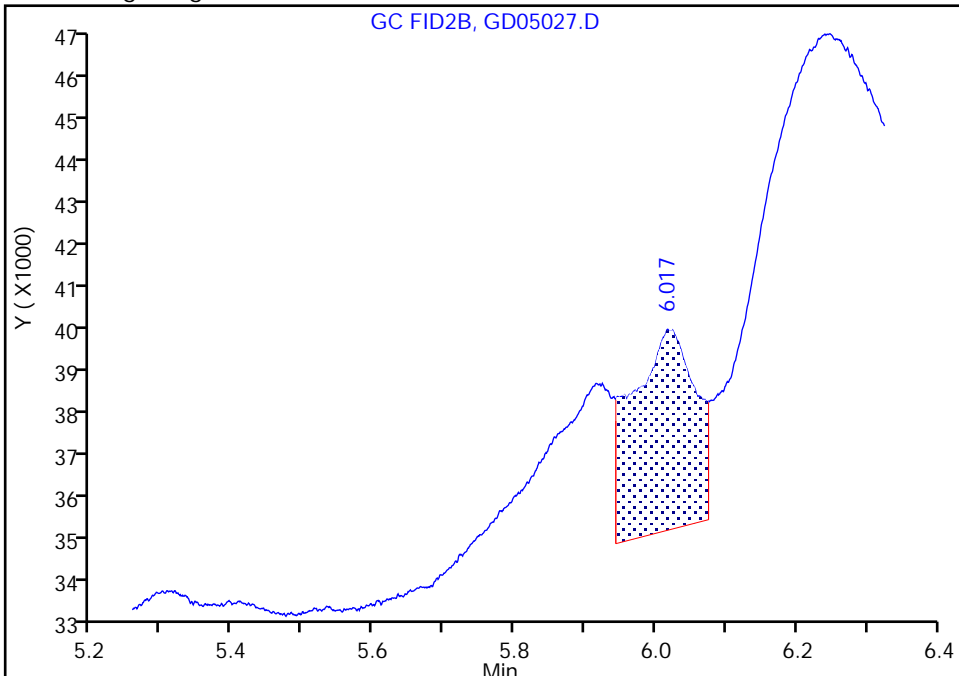
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05027.D
Injection Date: 05-Apr-2023 22:49:34 Instrument ID: CVGG2
Lims ID: ic g2
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

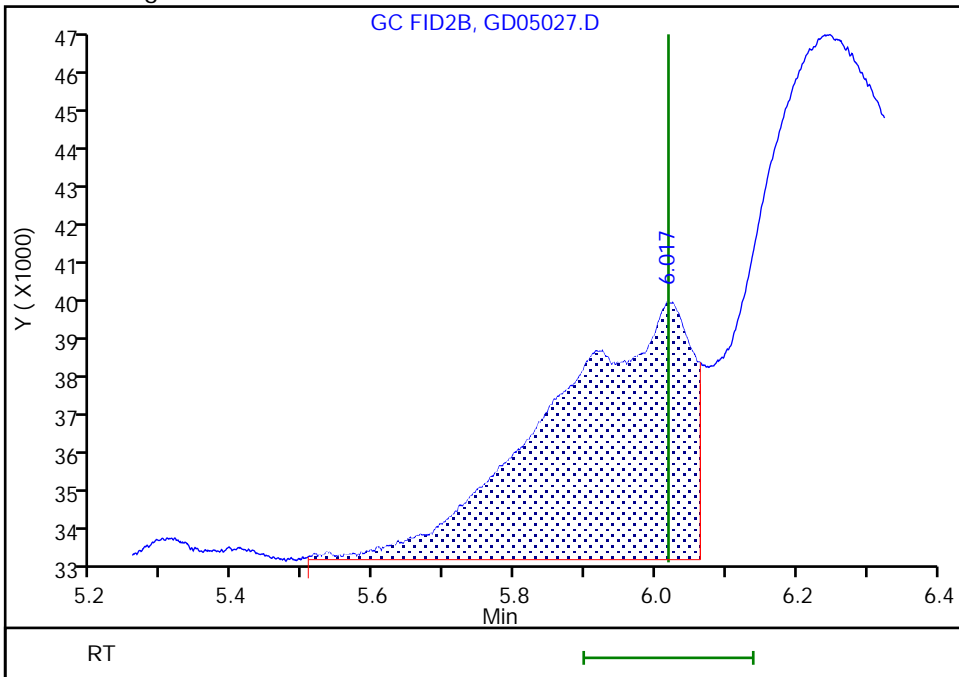
RT: 6.02
Area: 27281
Amount: 1.816259
Amount Units: ug/ml

Processing Integration Results



RT: 6.02
Area: 86334
Amount: 4.748746
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 06-Apr-2023 12:51:54
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

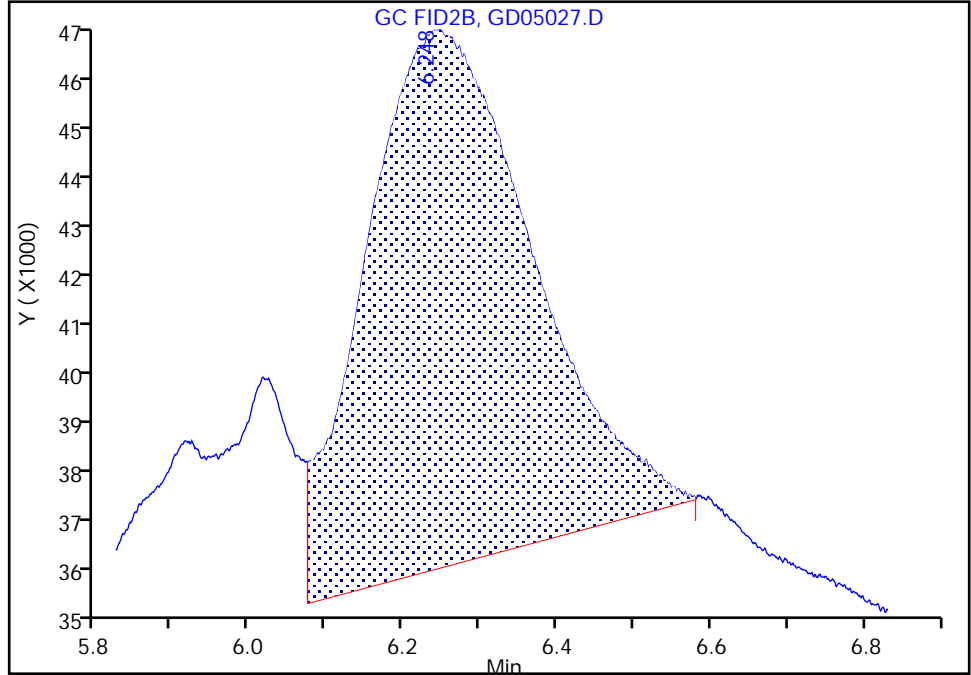
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05027.D
Injection Date: 05-Apr-2023 22:49:34 Instrument ID: CVGG2
Lims ID: ic g2
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

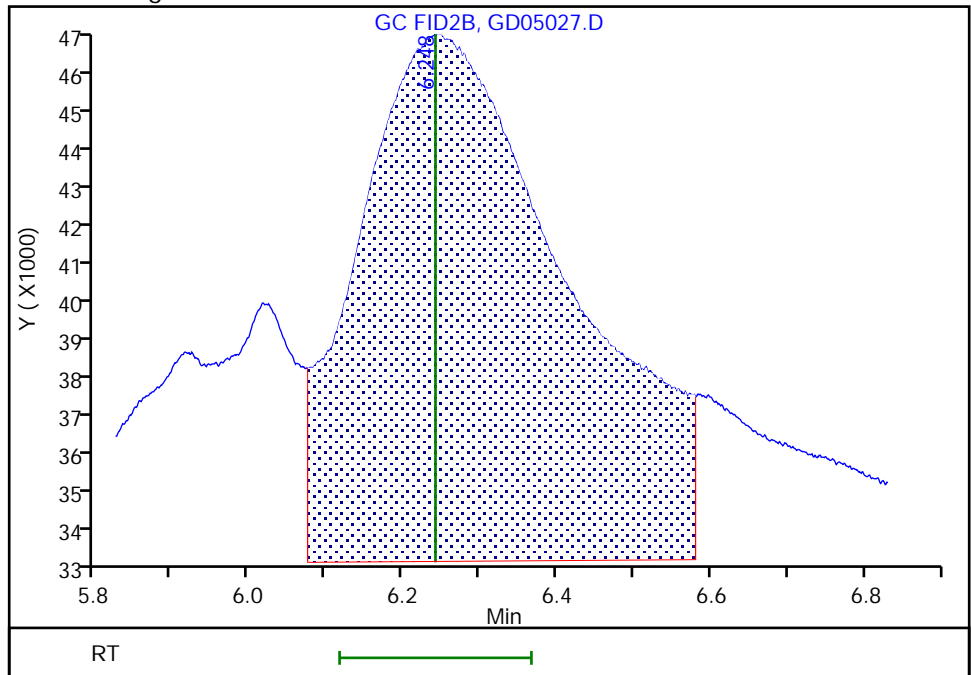
RT: 6.25
Area: 150691
Amount: 2.903739
Amount Units: ug/ml

Processing Integration Results



RT: 6.25
Area: 240576
Amount: 4.178059
Amount Units: ug/ml

Manual Integration Results



Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Lims ID: ic g1
 Client ID:
 Sample Type: IC Calib Level: 1
 Inject. Date: 05-Apr-2023 23:13:01 ALS Bottle#: 0 Worklist Smp#: 10
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0084975-010
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 06-Apr-2023 12:55:59 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 06-Apr-2023 12:52:14

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
2.756	2.754	0.002	202164	2.00	2.53	
2 4-Hydroxy-4-methyl-2-pentanone						
3.278	3.278	0.000	189890	2.00	2.33	
3 2-Butoxyethanol						
3.541	3.541	0.000	220436	2.00	2.61	
* 4 n-Heptyl Alcohol						
3.959	3.958	0.001	5200801	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
4.877	4.877	0.000	16566	2.00	2.37	
6 Propylene glycol						
6.021	6.018	0.003	56273	2.00	2.91	M
7 Ethylene glycol						
6.250	6.242	0.008	145510	2.00	2.38	M
8 2-(2-Butoxyethoxy)ethanol						
8.069	8.070	-0.001	189280	2.00	2.54	
9 2,2'-Oxybisethanol						
9.476	9.477	-0.001	108565	2.00	2.99	
10 Triethylene Glycol						
10.521	10.520	0.001	113890	2.00	3.21	
11 Tetraethylene Glycol						
11.564	11.563	0.001	245900	4.00	7.09	

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00054

Amount Added: 1.00

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D

Injection Date: 05-Apr-2023 23:13:01

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g1

Worklist Smp#: 10

Client ID:

Injection Vol: 1.0 ul

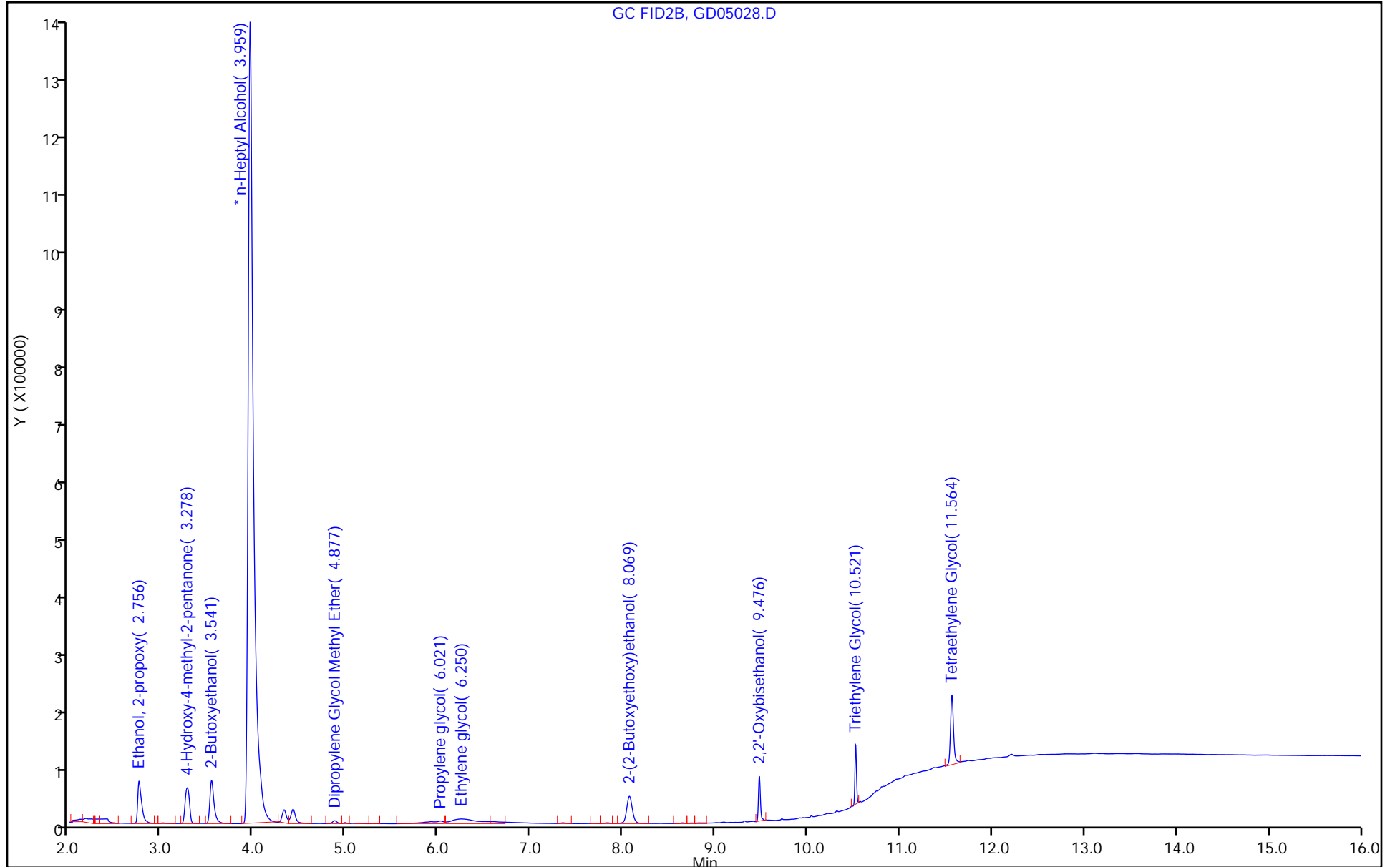
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

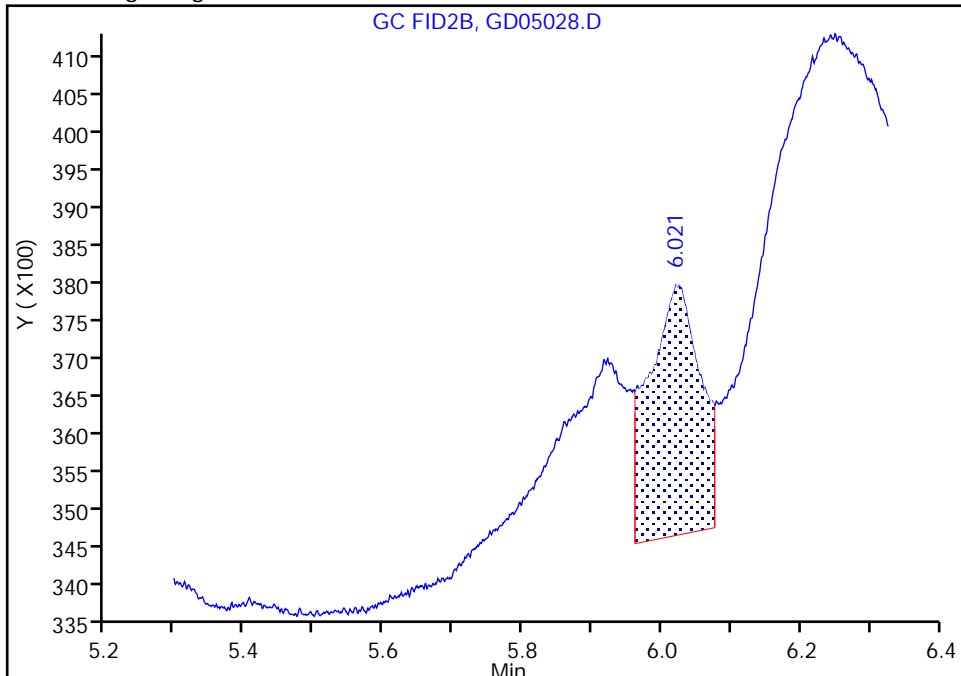
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
Injection Date: 05-Apr-2023 23:13:01 Instrument ID: CVGG2
Lims ID: ic g1
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

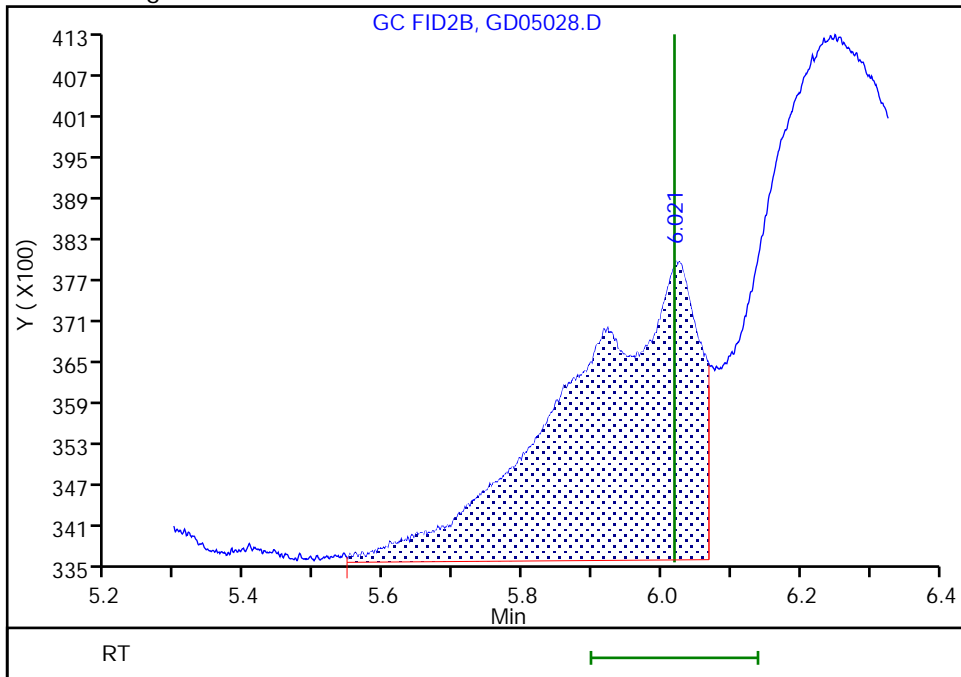
RT: 6.02
Area: 16725
Amount: 0.942248
Amount Units: ug/ml

Processing Integration Results



RT: 6.02
Area: 56273
Amount: 2.913480
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 06-Apr-2023 12:52:12
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

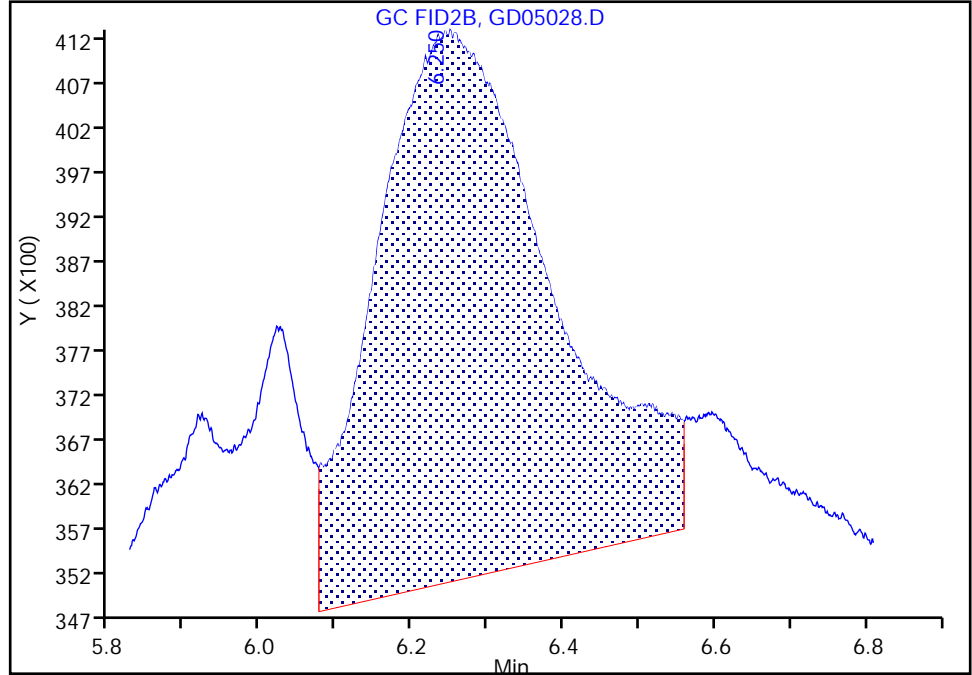
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
Injection Date: 05-Apr-2023 23:13:01 Instrument ID: CVGG2
Lims ID: ic g1
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

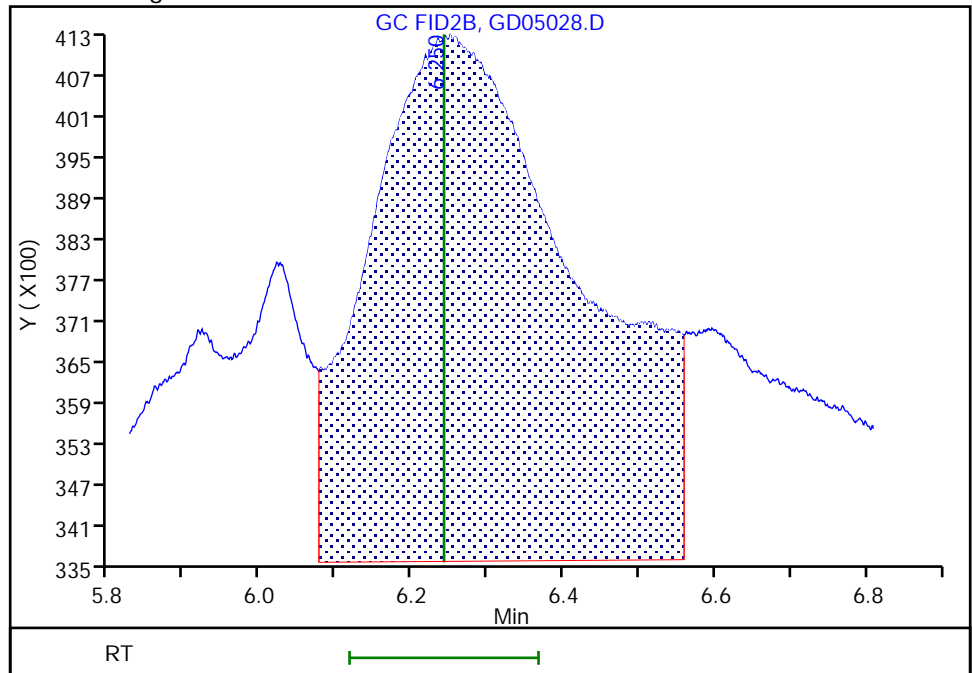
RT: 6.25
Area: 99147
Amount: 1.713514
Amount Units: ug/ml

Processing Integration Results



RT: 6.25
Area: 145510
Amount: 2.378647
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 06-Apr-2023 12:52:12
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Calibration

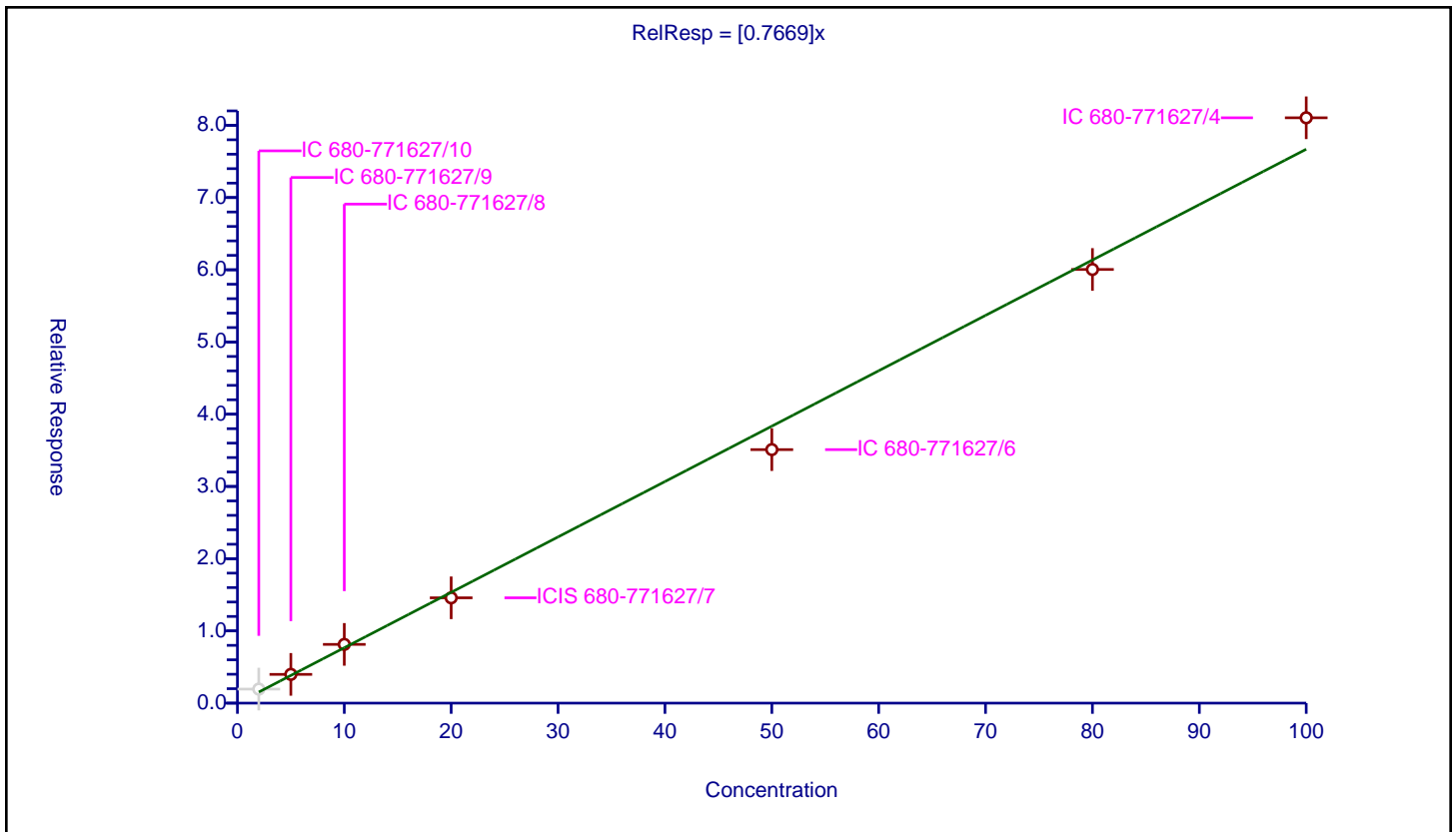
/ Ethanol, 2-propoxy

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ISTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.7669

Error Coefficients	
Standard Error:	3910000
Relative Standard Error:	6.1
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-771627/10	2.0	1.943585	50.0	5200801.0	0.971793	N
2	IC 680-771627/9	5.0	3.981215	50.0	4895365.0	0.796243	Y
3	IC 680-771627/8	10.0	8.132546	50.0	4880009.0	0.813255	Y
4	ICIS 680-771627/7	20.0	14.580862	50.0	4611298.0	0.729043	Y
5	IC 680-771627/6	50.0	35.102108	50.0	4703887.0	0.702042	Y
6	IC 680-771627/5	80.0	60.043155	50.0	4413439.0	0.750539	Y
7	IC 680-771627/4	100.0	81.043951	50.0	3641798.0	0.81044	Y



Calibration

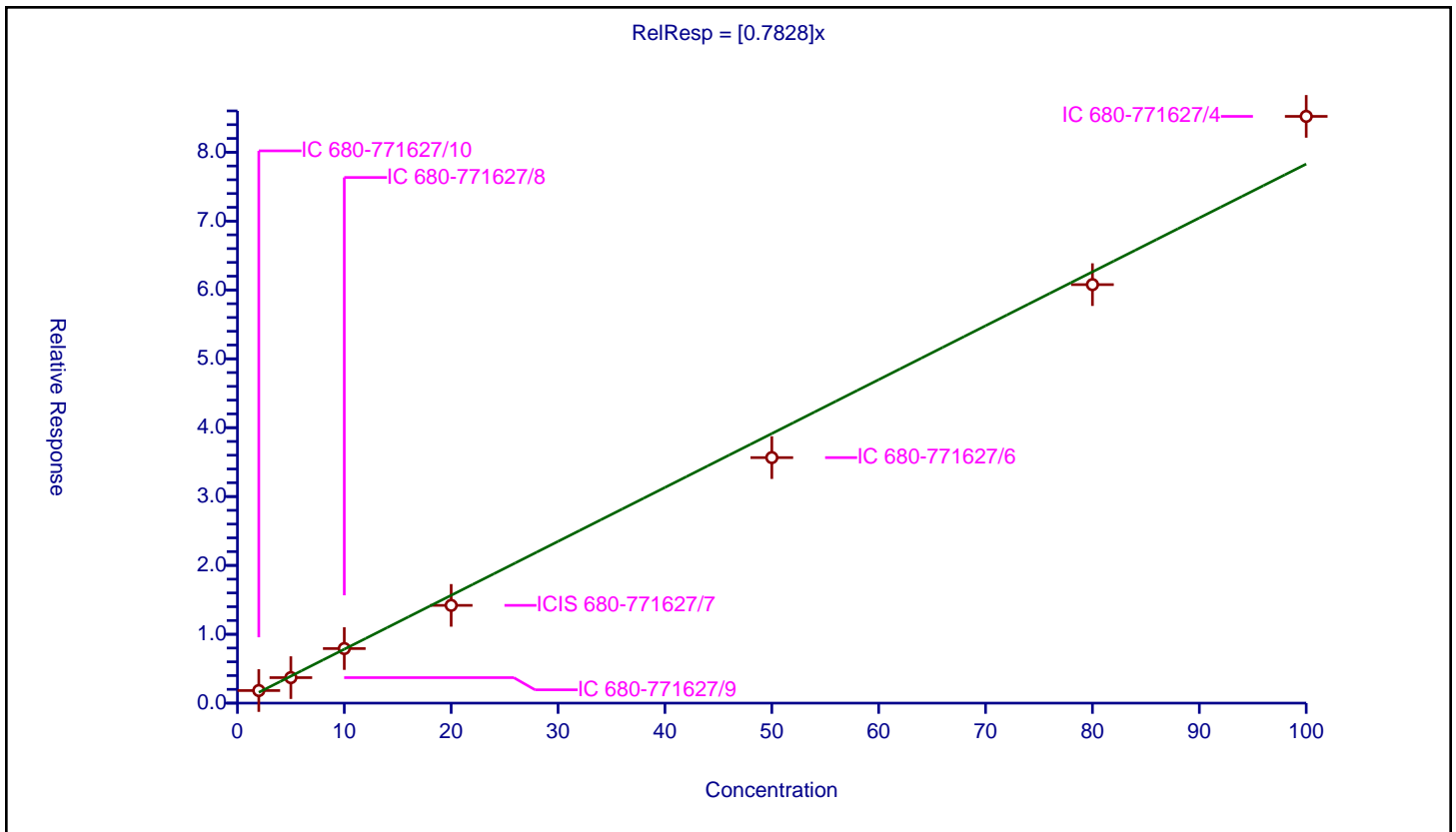
/ 4-Hydroxy-4-methyl-2-pentanone

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ISTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.7828

Error Coefficients	
Standard Error:	3670000
Relative Standard Error:	9.7
Correlation Coefficient:	0.997
Coefficient of Determination (Adjusted):	0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-771627/10	2.0	1.825584	50.0	5200801.0	0.912792	Y
2	IC 680-771627/9	5.0	3.702553	50.0	4895365.0	0.740511	Y
3	IC 680-771627/8	10.0	7.921307	50.0	4880009.0	0.792131	Y
4	ICIS 680-771627/7	20.0	14.19416	50.0	4611298.0	0.709708	Y
5	IC 680-771627/6	50.0	35.653344	50.0	4703887.0	0.713067	Y
6	IC 680-771627/5	80.0	60.772552	50.0	4413439.0	0.759657	Y
7	IC 680-771627/4	100.0	85.202488	50.0	3641798.0	0.852025	Y



Calibration

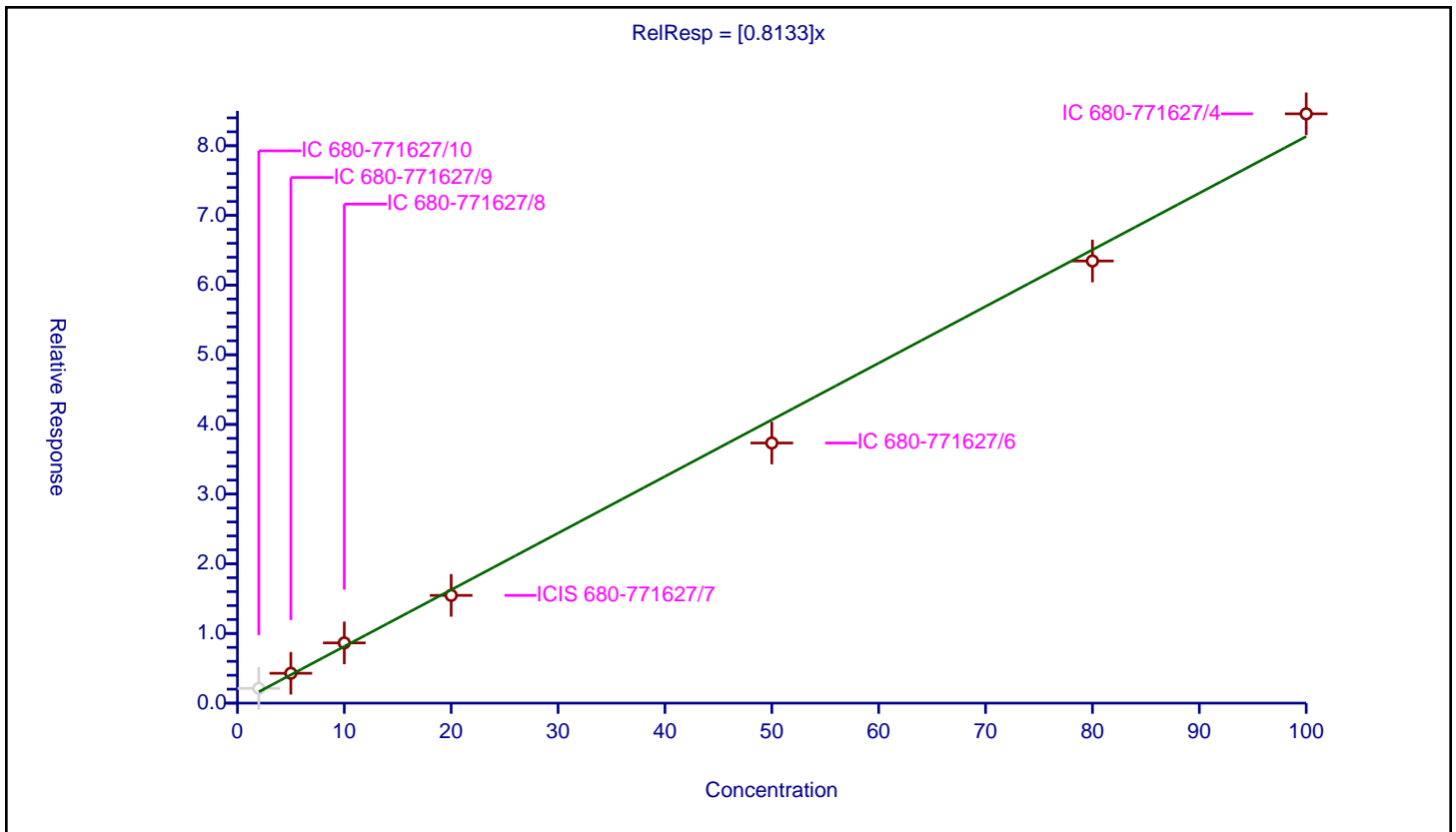
/ 2-Butoxyethanol

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ISTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.8133

Error Coefficients	
Standard Error:	4110000
Relative Standard Error:	6.0
Correlation Coefficient:	0.991
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-771627/10	2.0	2.11925	50.0	5200801.0	1.059625	N
2	IC 680-771627/9	5.0	4.281356	50.0	4895365.0	0.856271	Y
3	IC 680-771627/8	10.0	8.645373	50.0	4880009.0	0.864537	Y
4	ICIS 680-771627/7	20.0	15.464832	50.0	4611298.0	0.773242	Y
5	IC 680-771627/6	50.0	37.334475	50.0	4703887.0	0.746689	Y
6	IC 680-771627/5	80.0	63.457159	50.0	4413439.0	0.793214	Y
7	IC 680-771627/4	100.0	84.579156	50.0	3641798.0	0.845792	Y



Calibration

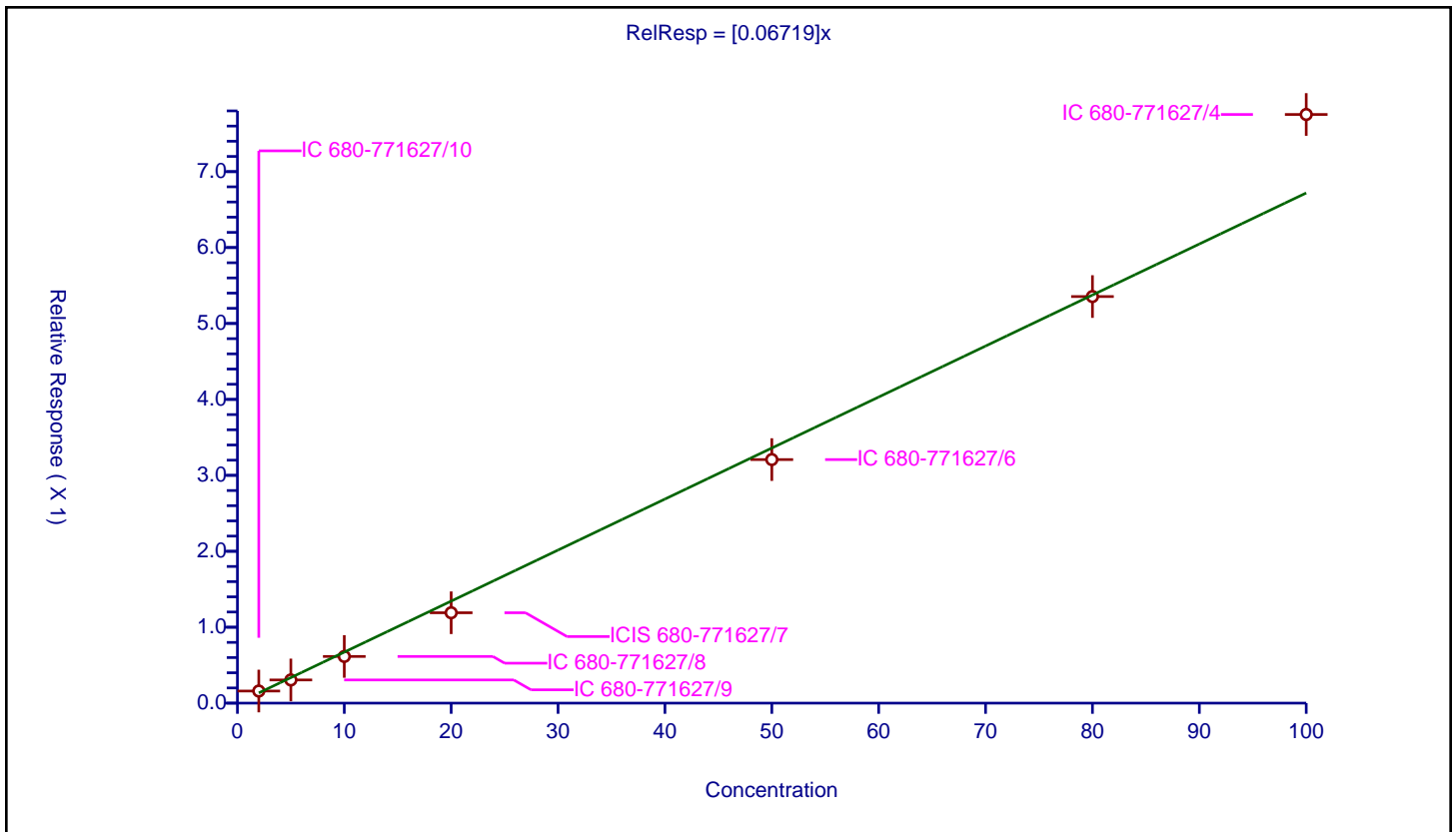
/ Dipropylene Glycol Methyl Ether

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ISTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.06719

Error Coefficients	
Standard Error:	329000
Relative Standard Error:	12.1
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.978

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-771627/10	2.0	0.159264	50.0	5200801.0	0.079632	Y
2	IC 680-771627/9	5.0	0.305401	50.0	4895365.0	0.06108	Y
3	IC 680-771627/8	10.0	0.614702	50.0	4880009.0	0.06147	Y
4	ICIS 680-771627/7	20.0	1.190359	50.0	4611298.0	0.059518	Y
5	IC 680-771627/6	50.0	3.207719	50.0	4703887.0	0.064154	Y
6	IC 680-771627/5	80.0	5.354759	50.0	4413439.0	0.066934	Y
7	IC 680-771627/4	100.0	7.752627	50.0	3641798.0	0.077526	Y



Calibration

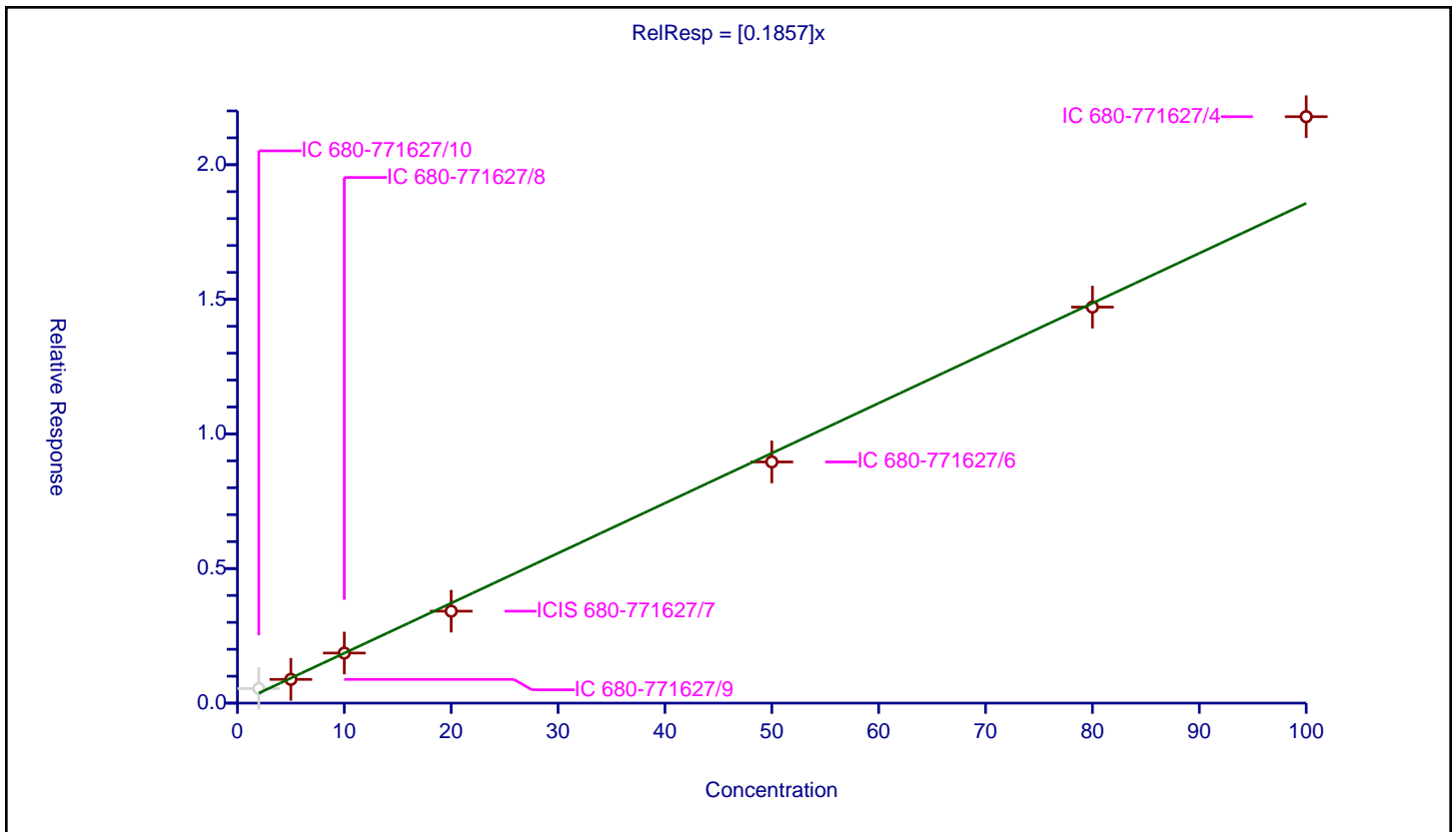
/ Propylene glycol

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ISTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.1857

Error Coefficients	
Standard Error:	1010000
Relative Standard Error:	9.0
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-771627/10	2.0	0.541003	50.0	5200801.0	0.270502	N
2	IC 680-771627/9	5.0	0.881793	50.0	4895365.0	0.176359	Y
3	IC 680-771627/8	10.0	1.860396	50.0	4880009.0	0.18604	Y
4	ICIS 680-771627/7	20.0	3.416121	50.0	4611298.0	0.170806	Y
5	IC 680-771627/6	50.0	8.959293	50.0	4703887.0	0.179186	Y
6	IC 680-771627/5	80.0	14.711487	50.0	4413439.0	0.183894	Y
7	IC 680-771627/4	100.0	21.785448	50.0	3641798.0	0.217854	Y



Calibration

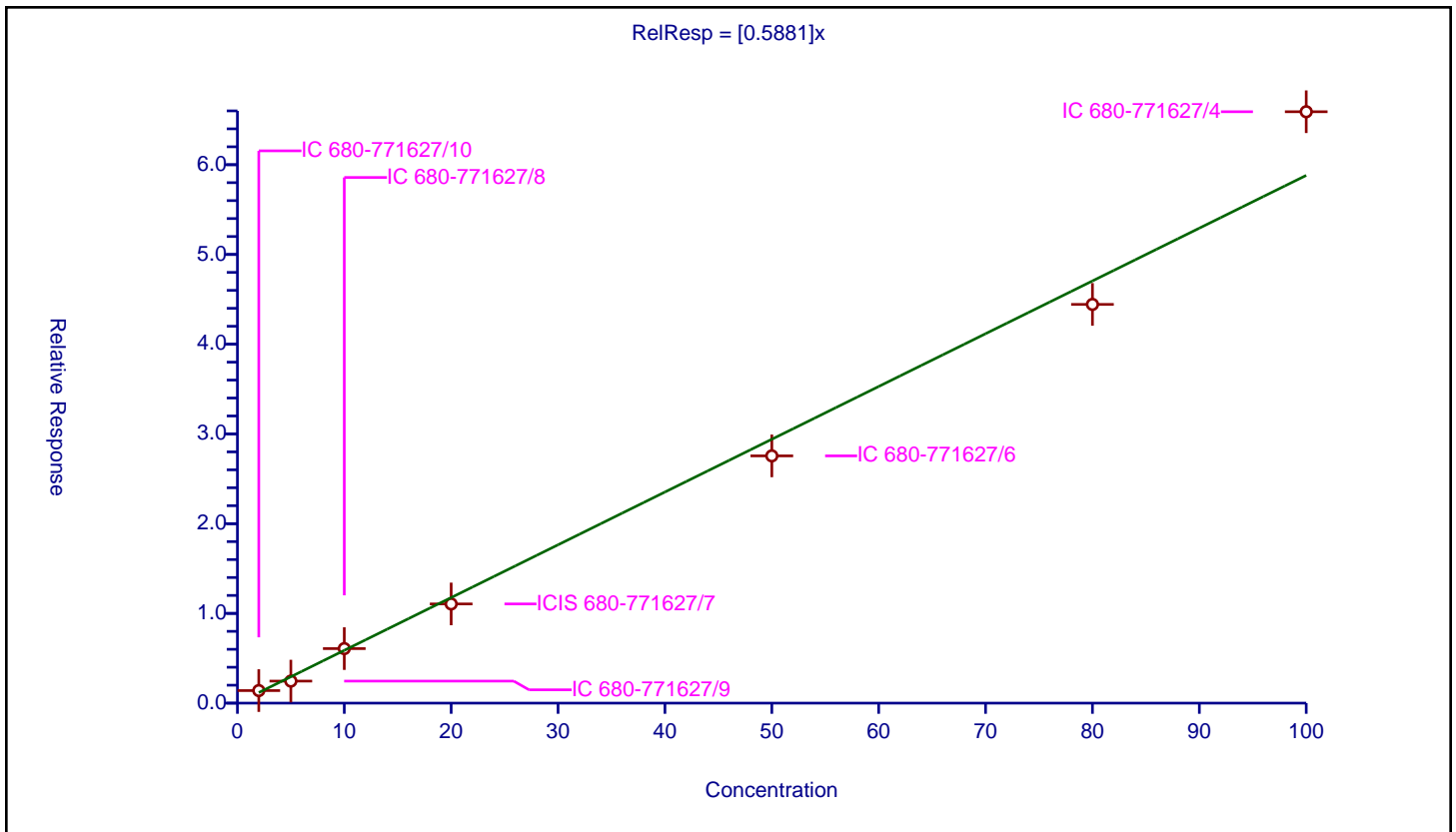
/ Ethylene glycol

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ISTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.5881

Error Coefficients	
Standard Error:	2790000
Relative Standard Error:	12.2
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.978

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-771627/10	2.0	1.398919	50.0	5200801.0	0.69946	Y
2	IC 680-771627/9	5.0	2.457181	50.0	4895365.0	0.491436	Y
3	IC 680-771627/8	10.0	6.076772	50.0	4880009.0	0.607677	Y
4	ICIS 680-771627/7	20.0	11.054393	50.0	4611298.0	0.55272	Y
5	IC 680-771627/6	50.0	27.55333	50.0	4703887.0	0.551067	Y
6	IC 680-771627/5	80.0	44.432675	50.0	4413439.0	0.555408	Y
7	IC 680-771627/4	100.0	65.904095	50.0	3641798.0	0.659041	Y



Calibration

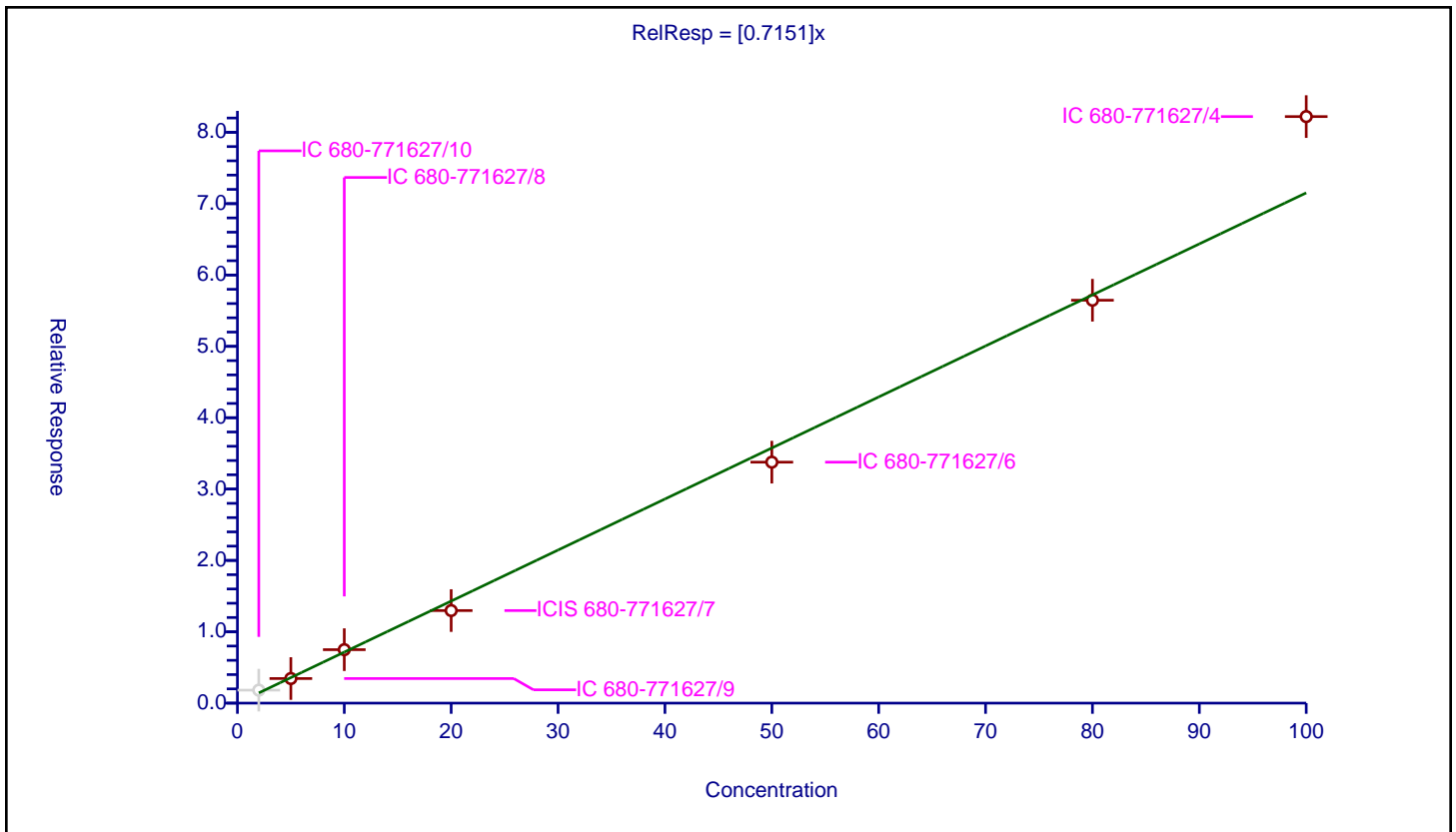
/ 2-(2-Butoxyethoxy)ethanol

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ISTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.7151

Error Coefficients	
Standard Error:	3820000
Relative Standard Error:	8.7
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-771627/10	2.0	1.81972	50.0	5200801.0	0.90986	N
2	IC 680-771627/9	5.0	3.447843	50.0	4895365.0	0.689569	Y
3	IC 680-771627/8	10.0	7.49222	50.0	4880009.0	0.749222	Y
4	ICIS 680-771627/7	20.0	12.973018	50.0	4611298.0	0.648651	Y
5	IC 680-771627/6	50.0	33.769147	50.0	4703887.0	0.675383	Y
6	IC 680-771627/5	80.0	56.465593	50.0	4413439.0	0.70582	Y
7	IC 680-771627/4	100.0	82.200921	50.0	3641798.0	0.822009	Y



Calibration

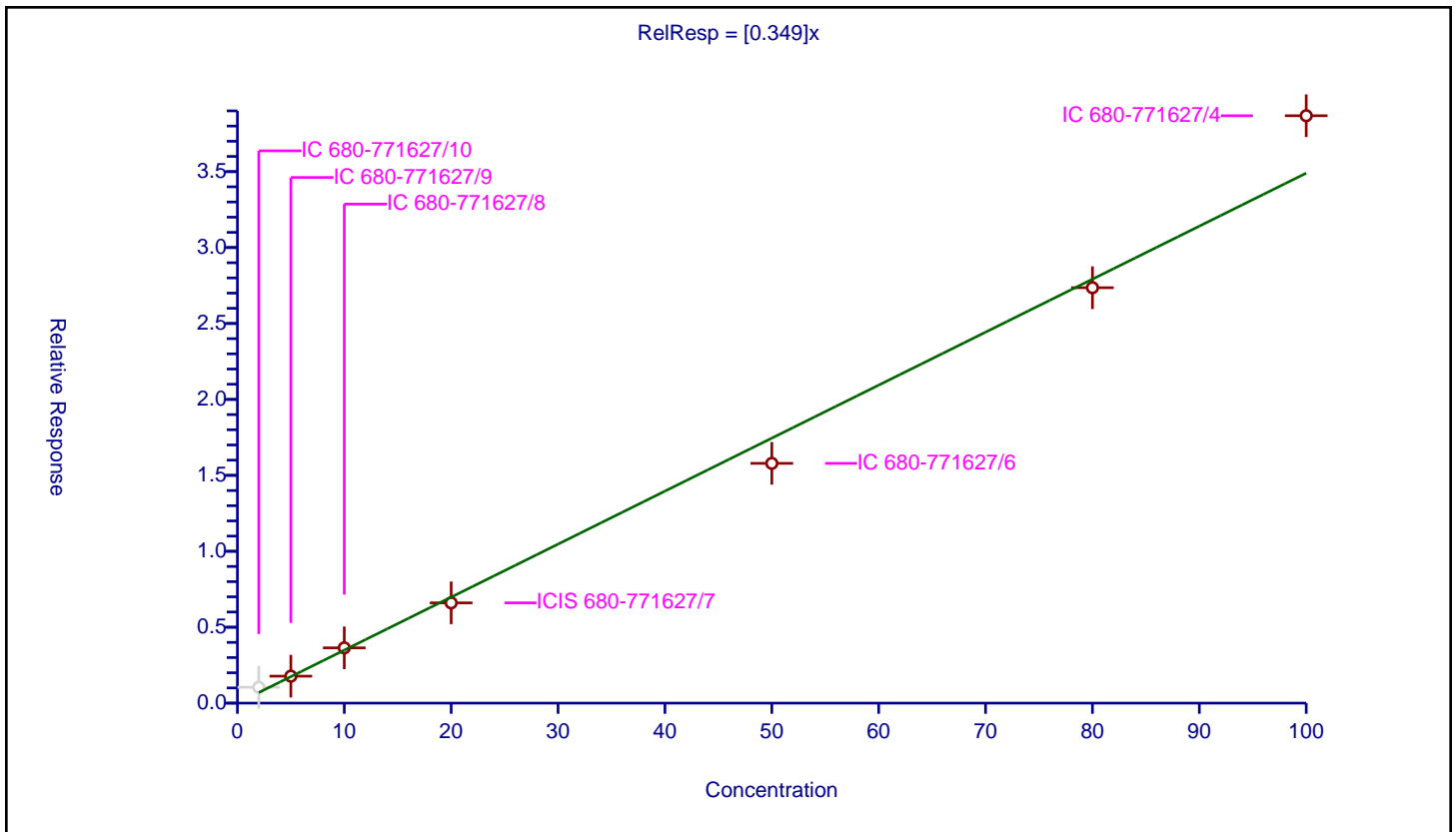
/ 2,2'-Oxybisethanol

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ISTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.349

Error Coefficients	
Standard Error:	1820000
Relative Standard Error:	7.3
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-771627/10	2.0	1.043733	50.0	5200801.0	0.521867	N
2	IC 680-771627/9	5.0	1.77663	50.0	4895365.0	0.355326	Y
3	IC 680-771627/8	10.0	3.639614	50.0	4880009.0	0.363961	Y
4	ICIS 680-771627/7	20.0	6.602338	50.0	4611298.0	0.330117	Y
5	IC 680-771627/6	50.0	15.789537	50.0	4703887.0	0.315791	Y
6	IC 680-771627/5	80.0	27.355504	50.0	4413439.0	0.341944	Y
7	IC 680-771627/4	100.0	38.681621	50.0	3641798.0	0.386816	Y



Calibration

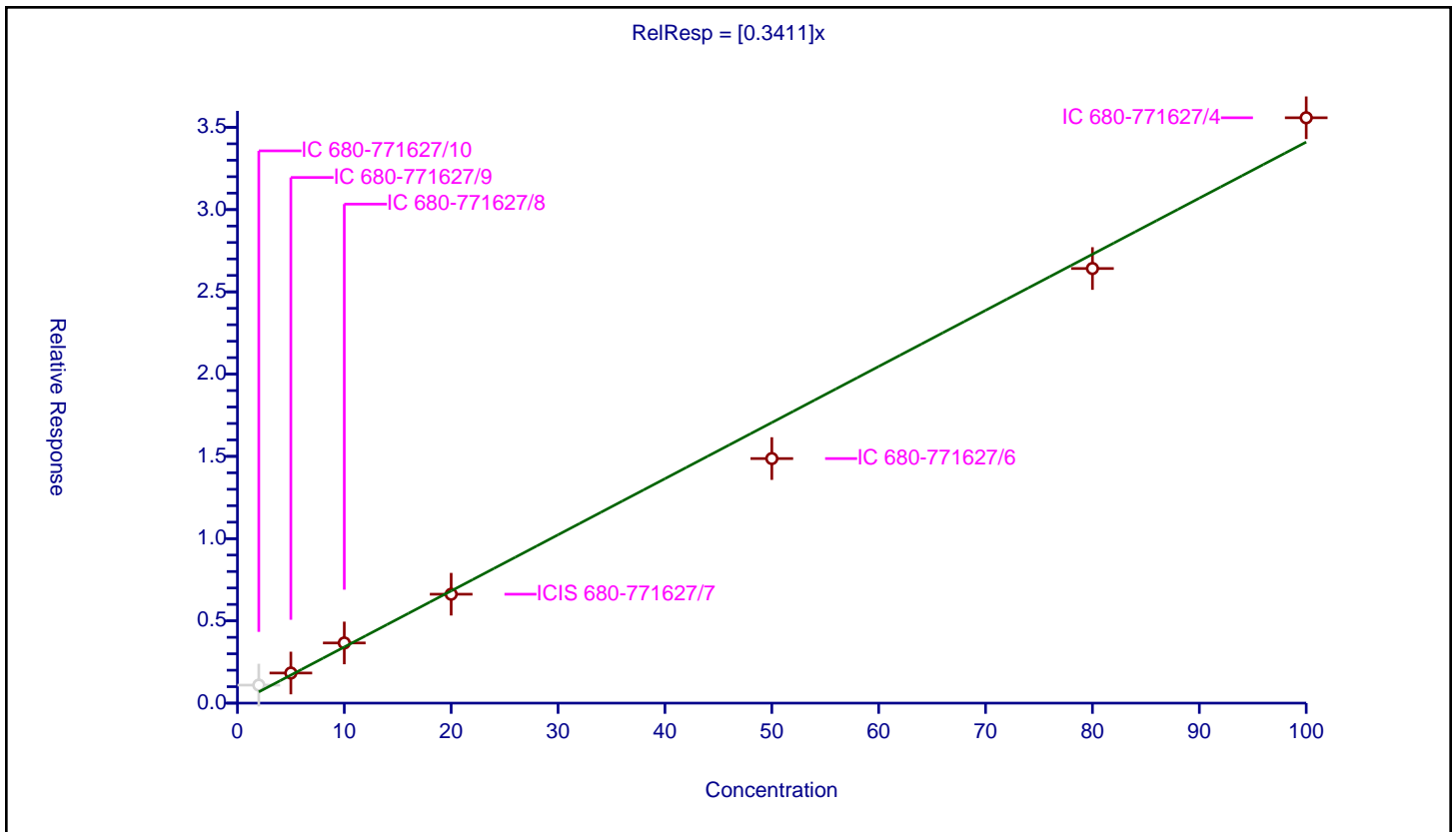
/ Triethylene Glycol

Curve Type: Average
 Weighting: Conc_Sq
 Origin: Force
 Dependency: Response
 Calib Mode: ISTD
 Response Base: AREA
 RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.3411

Error Coefficients	
Standard Error:	1710000
Relative Standard Error:	7.9
Correlation Coefficient:	0.993
Coefficient of Determination (Adjusted):	0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-771627/10	2.0	1.094927	50.0	5200801.0	0.547464	N
2	IC 680-771627/9	5.0	1.830538	50.0	4895365.0	0.366108	Y
3	IC 680-771627/8	10.0	3.658467	50.0	4880009.0	0.365847	Y
4	ICIS 680-771627/7	20.0	6.620273	50.0	4611298.0	0.331014	Y
5	IC 680-771627/6	50.0	14.866886	50.0	4703887.0	0.297338	Y
6	IC 680-771627/5	80.0	26.419216	50.0	4413439.0	0.33024	Y
7	IC 680-771627/4	100.0	35.58274	50.0	3641798.0	0.355827	Y



Calibration

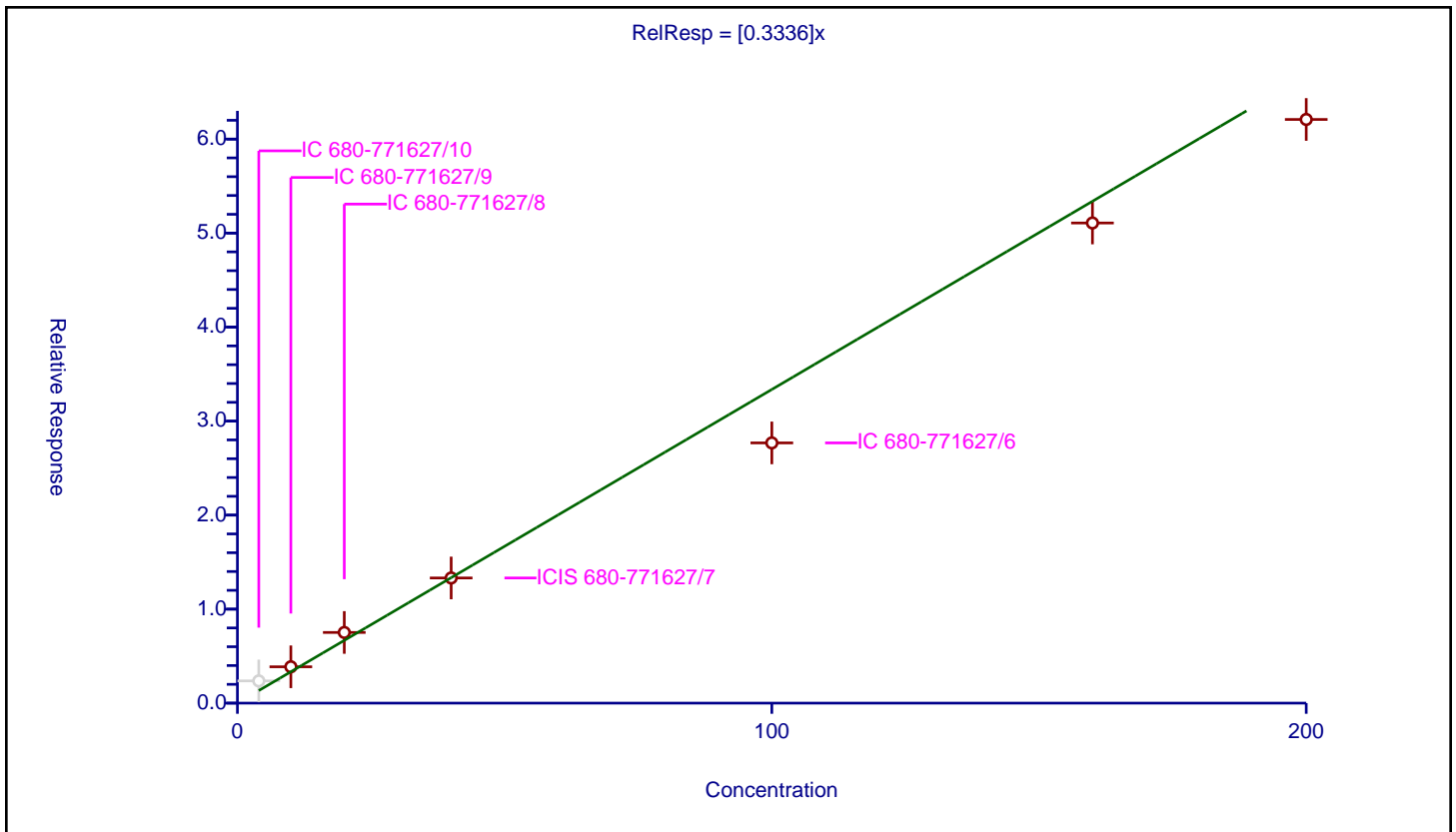
/ Tetraethylene Glycol

Curve Type: Average
Weighting: Conc_Sq
Origin: Force
Dependency: Response
Calib Mode: ISTD
Response Base: AREA
RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.3336

Error Coefficients	
Standard Error:	3150000
Relative Standard Error:	12.4
Correlation Coefficient:	0.974
Coefficient of Determination (Adjusted):	0.970

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-771627/10	4.0	2.364059	50.0	5200801.0	0.591015	N
2	IC 680-771627/9	10.0	3.865554	50.0	4895365.0	0.386555	Y
3	IC 680-771627/8	20.0	7.518982	50.0	4880009.0	0.375949	Y
4	ICIS 680-771627/7	40.0	13.315318	50.0	4611298.0	0.332883	Y
5	IC 680-771627/6	100.0	27.681681	50.0	4703887.0	0.276817	Y
6	IC 680-771627/5	160.0	51.075114	50.0	4413439.0	0.319219	Y
7	IC 680-771627/4	200.0	62.087326	50.0	3641798.0	0.310437	Y



FORM VII
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Lab Sample ID: ICV 680-771627/11 Calibration Date: 04/05/2023 23:36
 Instrument ID: CVGG2 Calib Start Date: 04/05/2023 20:52
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 04/05/2023 23:13
 Lab File ID: GD05029.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Ave	0.7669	0.7741		20.2	20.0	0.9	20.0
4-Hydroxy-4-methyl-2-pentano ne	Ave	0.7828	0.8008		20.5	20.0	2.3	20.0
2-Butoxyethanol	Ave	0.8133	0.8538		21.0	20.0	5.0	20.0
Dipropylene Glycol Methyl Ether	Ave	0.0672	0.0696		20.7	20.0	3.6	20.0
Propylene glycol	Ave	0.1857	0.1828		19.7	20.0	-1.5	20.0
Ethylene glycol	Ave	0.5881	0.6336		21.5	20.0	7.7	20.0
2-(2-Butoxyethoxy)ethanol	Ave	0.7151	0.7675		21.5	20.0	7.3	20.0
2,2'-Oxybisethanol	Ave	0.3490	0.3324		19.0	20.0	-4.8	20.0
Triethylene Glycol	Ave	0.3411	0.3230		18.9	20.0	-5.3	20.0
Tetraethylene Glycol	Ave	0.3336	0.2618		31.4	40.0	-21.5*	20.0

FORM VII
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Lab Sample ID: ICV 680-771627/11 Calibration Date: 04/05/2023 23:36
 Instrument ID: CVGG2 Calib Start Date: 04/05/2023 20:52
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 04/05/2023 23:13
 Lab File ID: GD05029.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	2.76	2.70	2.82
4-Hydroxy-4-methyl-2-pentanone	3.28	3.22	3.35
2-Butoxyethanol	3.54	3.47	3.61
Dipropylene Glycol Methyl Ether	4.88	4.78	4.98
Propylene glycol	6.02	5.91	6.15
Ethylene glycol	6.25	6.11	6.36
2-(2-Butoxyethoxy)ethanol	8.07	7.91	8.23
2,2'-Oxybisethanol	9.48	9.29	9.67
Triethylene Glycol	10.52	10.31	10.73
Tetraethylene Glycol	11.56	11.33	11.80

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05029.D
 Lims ID: icv glycol
 Client ID:
 Sample Type: CCV
 Inject. Date: 05-Apr-2023 23:36:21 ALS Bottle#: 0 Worklist Smp#: 11
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0084975-011
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 06-Apr-2023 13:04:04 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1607

First Level Reviewer: SWK1 Date: 06-Apr-2023 12:52:30

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
--------------	------------------	------------------	----------	------------------	--------------------	-------

1 Ethanol, 2-propoxy	2.759	2.759	0.000	1564823	20.0	20.2
2 4-Hydroxy-4-methyl-2-pentanone	3.283	3.283	0.000	1618687	20.0	20.5
3 2-Butoxyethanol	3.543	3.544	-0.001	1725811	20.0	21.0
* 4 n-Heptyl Alcohol	3.955	3.955	0.000	5053576	50.0	50.0
5 Dipropylene Glycol Methyl Ether	4.883	4.879	0.004	140762	20.0	20.7
6 Propylene glycol	6.023	6.026	-0.003	369551	20.0	19.7
7 Ethylene glycol	6.252	6.236	0.016	1280715	20.0	21.5
8 2-(2-Butoxyethoxy)ethanol	8.072	8.069	0.003	1551506	20.0	21.5
9 2,2'-Oxybisethanol	9.476	9.476	0.000	671913	20.0	19.0
10 Triethylene Glycol	10.520	10.520	0.000	652918	20.0	18.9
11 Tetraethylene Glycol	11.563	11.564	-0.001	1058226	40.0	31.4

QC Flag Legend

Processing Flags

Reagents:

SG_GlyICV_00059

Amount Added: 10.00

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05029.D

Injection Date: 05-Apr-2023 23:36:21

Instrument ID: CVGG2

Operator ID:

Lims ID: icv glycol

Worklist Smp#: 11

Client ID:

Injection Vol: 1.0 ul

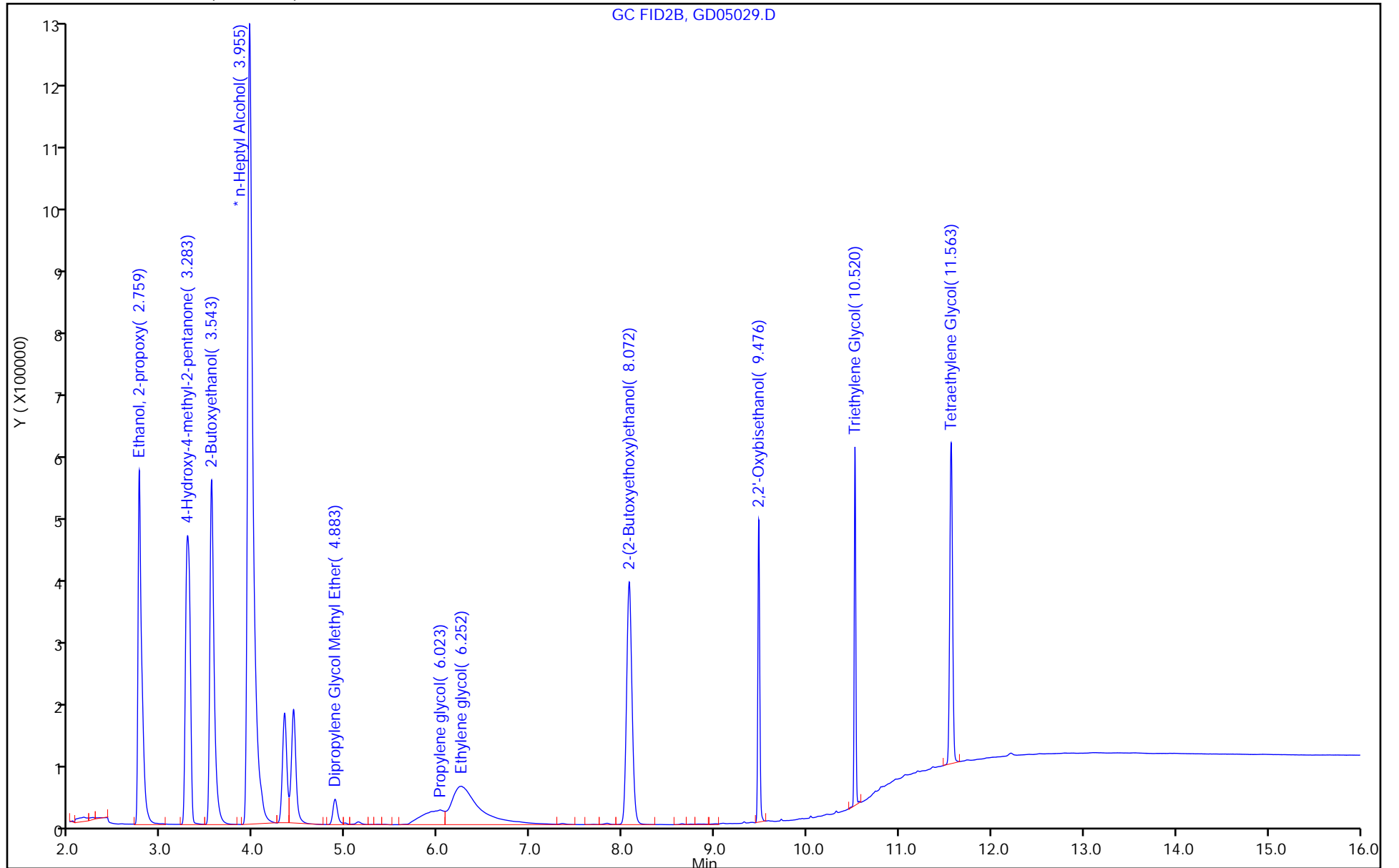
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



FORM VII
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Lab Sample ID: CCVIS 680-772684/4 Calibration Date: 04/11/2023 14:27
 Instrument ID: CVGG2 Calib Start Date: 04/05/2023 20:52
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 04/05/2023 23:13
 Lab File ID: GD11004.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Ave	0.7669	0.6882		17.9	20.0	-10.3	20.0
4-Hydroxy-4-methyl-2-pentano ne	Ave	0.7828	0.6726		17.2	20.0	-14.1	20.0
2-Butoxyethanol	Ave	0.8133	0.8164		20.1	20.0	0.4	20.0
Dipropylene Glycol Methyl Ether	Ave	0.0672	0.0579		17.2	20.0	-13.8	20.0
Propylene glycol	Ave	0.1857	0.1766		19.0	20.0	-4.9	20.0
Ethylene glycol	Ave	0.5881	0.4824		16.4	20.0	-18.0	20.0
2-(2-Butoxyethoxy)ethanol	Ave	0.7151	0.6078		17.0	20.0	-15.0	20.0
2,2'-Oxybisethanol	Ave	0.3490	0.2914		16.7	20.0	-16.5	20.0
Triethylene Glycol	Ave	0.3411	0.3161		18.5	20.0	-7.3	20.0
Tetraethylene Glycol	Ave	0.3336	0.3253		39.0	40.0	-2.5	20.0

FORM VII
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Lab Sample ID: CCVIS 680-772684/4 Calibration Date: 04/11/2023 14:27
 Instrument ID: CVGG2 Calib Start Date: 04/05/2023 20:52
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 04/05/2023 23:13
 Lab File ID: GD11004.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	2.50	2.45	2.55
4-Hydroxy-4-methyl-2-pentanone	2.95	2.89	3.01
2-Butoxyethanol	3.18	3.11	3.24
Dipropylene Glycol Methyl Ether	4.39	4.30	4.48
Propylene glycol	5.44	5.33	5.55
Ethylene glycol	5.66	5.54	5.77
2-(2-Butoxyethoxy)ethanol	7.44	7.29	7.59
2,2'-Oxybisethanol	9.21	9.03	9.40
Triethylene Glycol	10.31	10.11	10.52
Tetraethylene Glycol	11.23	11.00	11.45

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11004.D
 Lims ID: ccvis
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 11-Apr-2023 14:27:35 ALS Bottle#: 0 Worklist Smp#: 4
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0085153-004
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 12-Apr-2023 11:23:26 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1657

First Level Reviewer: SK9U Date: 11-Apr-2023 18:46:04

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						a
2.497	2.497	0.000	1775719	20.0	17.9	a
2 4-Hydroxy-4-methyl-2-pentanone						a
2.947	2.947	0.000	1735415	20.0	17.2	a
3 2-Butoxyethanol						a
3.176	3.176	0.000	2106592	20.0	20.1	a
* 4 n-Heptyl Alcohol						a
3.555	3.555	0.000	6450565	50.0	50.0	a
5 Dipropylene Glycol Methyl Ether						a
4.391	4.391	0.000	149510	20.0	17.2	a
6 Propylene glycol						Ma
5.443	5.443	0.000	455718	20.0	19.0	M
7 Ethylene glycol						a
5.657	5.657	0.000	1244615	20.0	16.4	a
8 2-(2-Butoxyethoxy)ethanol						a
7.439	7.439	0.000	1568224	20.0	17.0	a
9 2,2'-Oxybisethanol						a
9.213	9.213	0.000	751856	20.0	16.7	a
10 Triethylene Glycol						
10.312	10.312	0.000	815534	20.0	18.5	
11 Tetraethylene Glycol						a
11.227	11.227	0.000	1678694	40.0	39.0	a

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

SG_Gly_CAL_00054

Amount Added: 10.00

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11004.D

Injection Date: 11-Apr-2023 14:27:35

Instrument ID: CVGG2

Operator ID:

Lims ID: ccvis

Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul

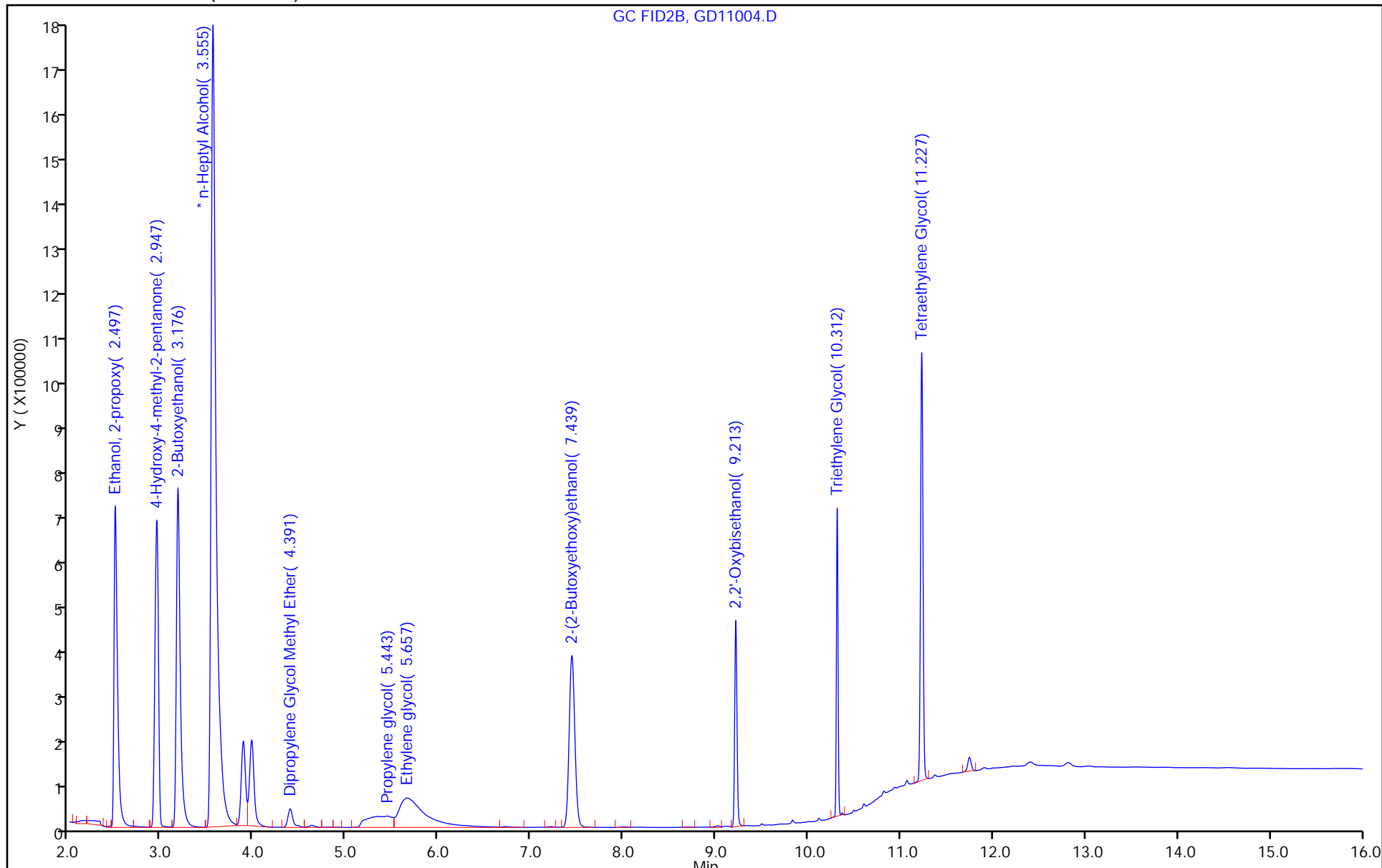
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

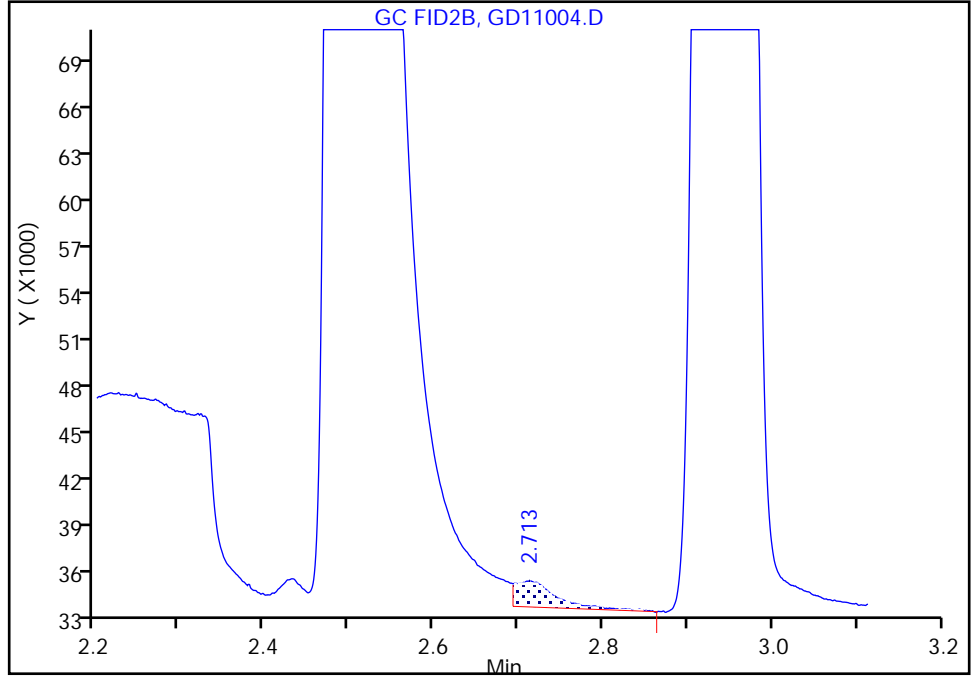
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11004.D
Injection Date: 11-Apr-2023 14:27:35 Instrument ID: CVGG2
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

1 Ethanol, 2-propoxy, CAS: 2807-30-9

Signal: 1

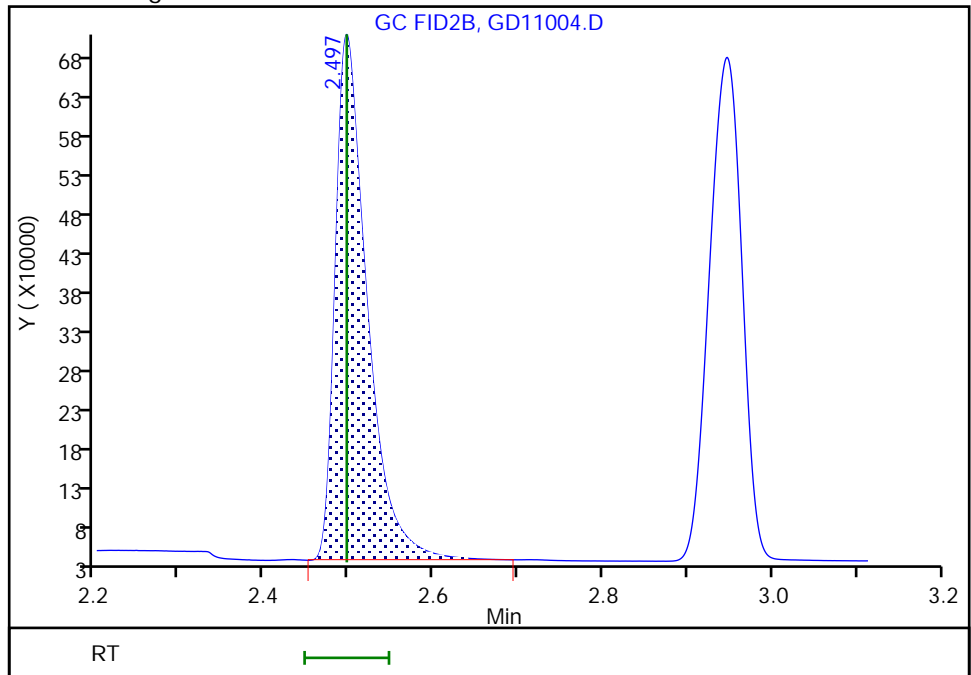
RT: 2.71
Area: 5554
Amount: 0.571056
Amount Units: ug/ml

Processing Integration Results



RT: 2.50
Area: 1775719
Amount: 17.947025
Amount Units: ug/ml

Manual Integration Results



Eurofins Savannah

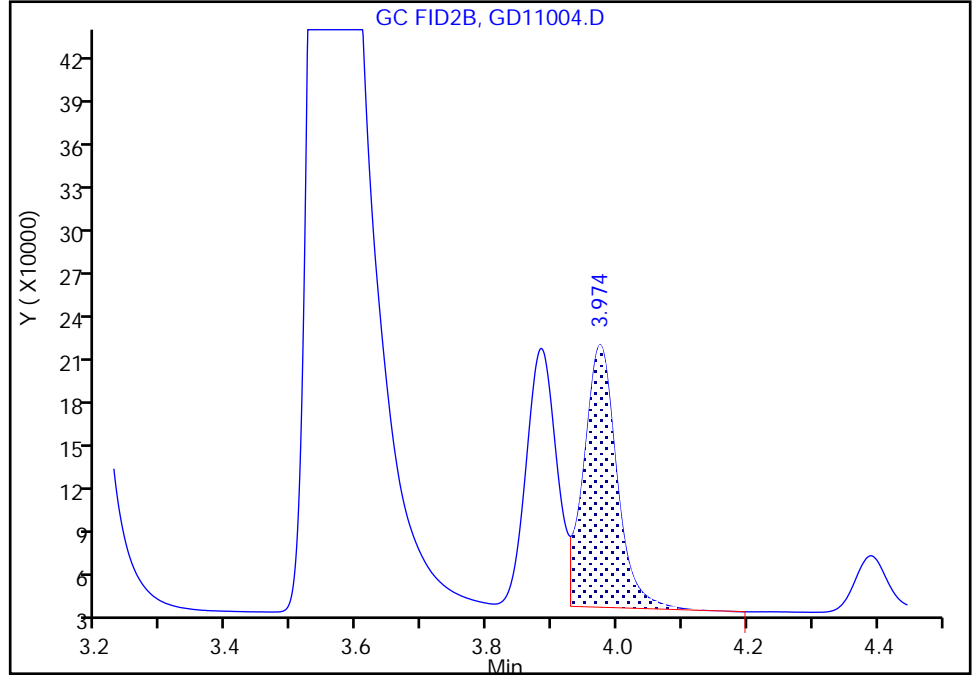
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11004.D
Injection Date: 11-Apr-2023 14:27:35 Instrument ID: CVGG2
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

* 4 n-Heptyl Alcohol, CAS: 111-70-6

Signal: 1

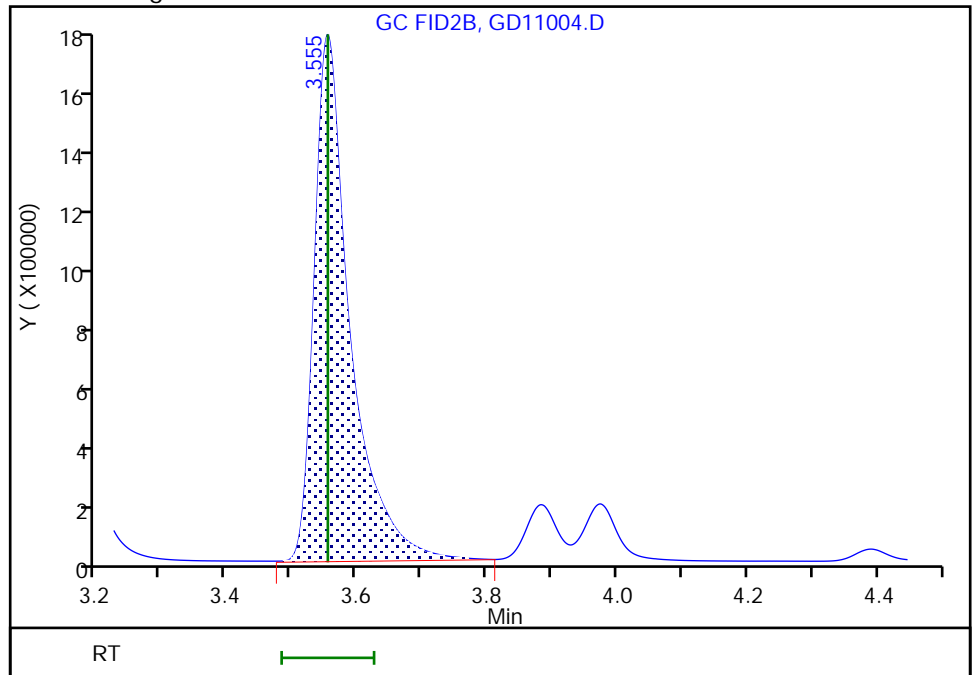
RT: 3.97
Area: 634079
Amount: 50.000000
Amount Units: ug/ml

Processing Integration Results



RT: 3.56
Area: 6450565
Amount: 50.000000
Amount Units: ug/ml

Manual Integration Results



Reviewer: SK9U, 11-Apr-2023 18:23:48
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

Eurofins Savannah

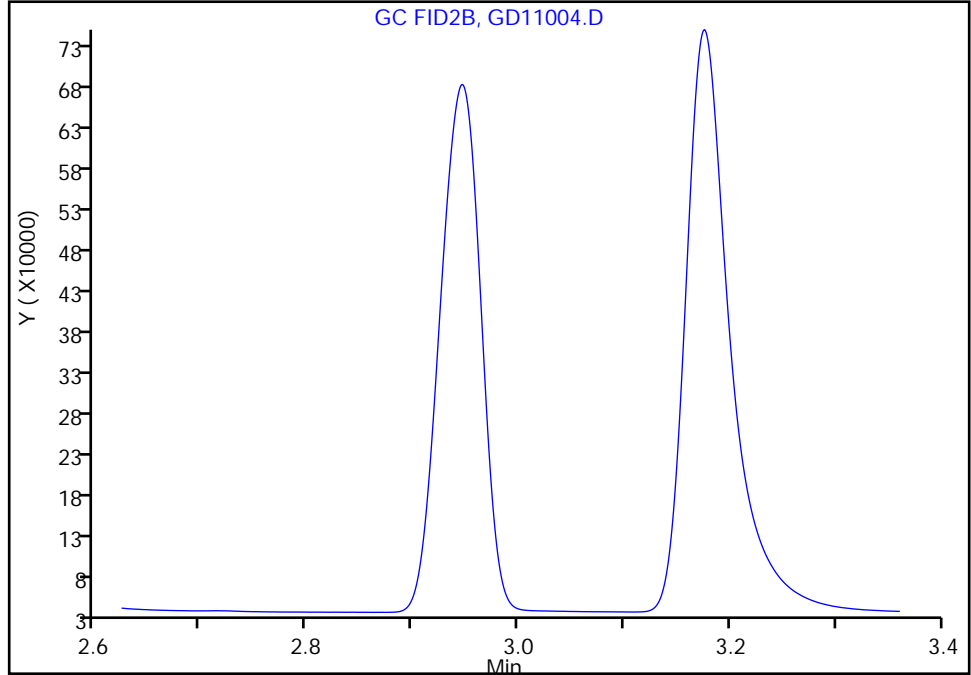
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11004.D
Injection Date: 11-Apr-2023 14:27:35 Instrument ID: CVGG2
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

2 4-Hydroxy-4-methyl-2-pentanone, CAS: 123-42-2

Signal: 1

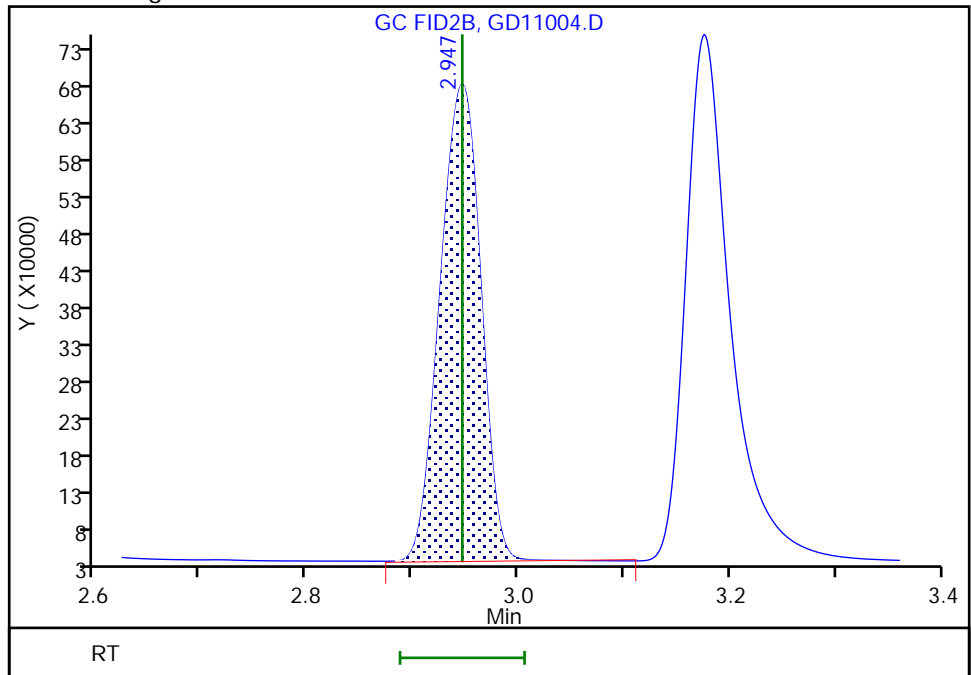
Processing Integration Results

Not Detected
Expected RT: 2.95



Manual Integration Results

RT: 2.95
Area: 1735415
Amount: 17.183111
Amount Units: ug/ml



Reviewer: SK9U, 11-Apr-2023 18:23:39
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

Eurofins Savannah

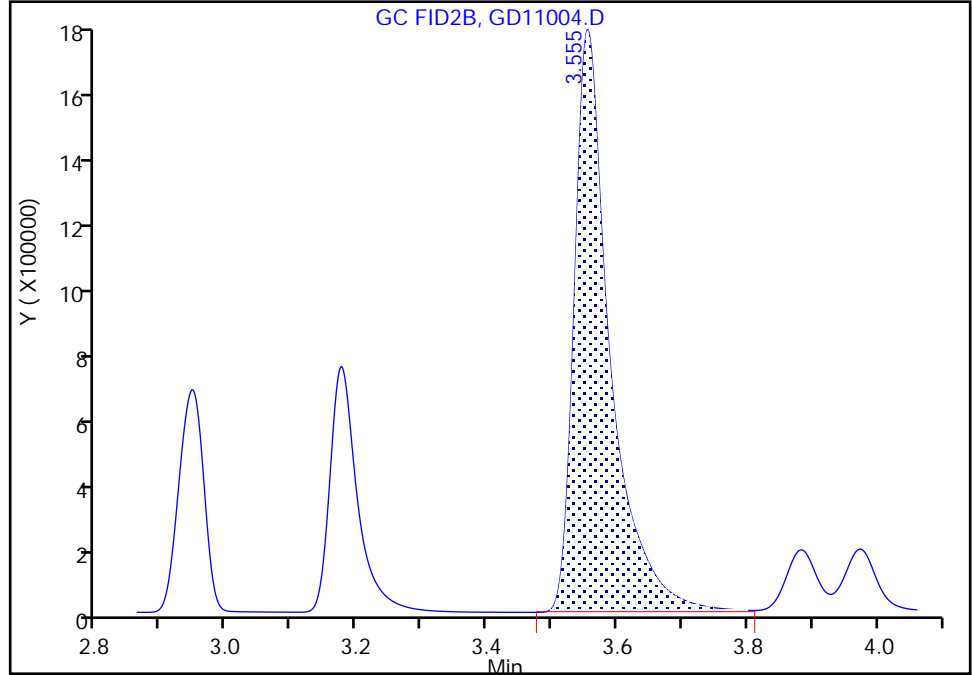
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11004.D
Injection Date: 11-Apr-2023 14:27:35 Instrument ID: CVGG2
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

3 2-Butoxyethanol, CAS: 111-76-2

Signal: 1

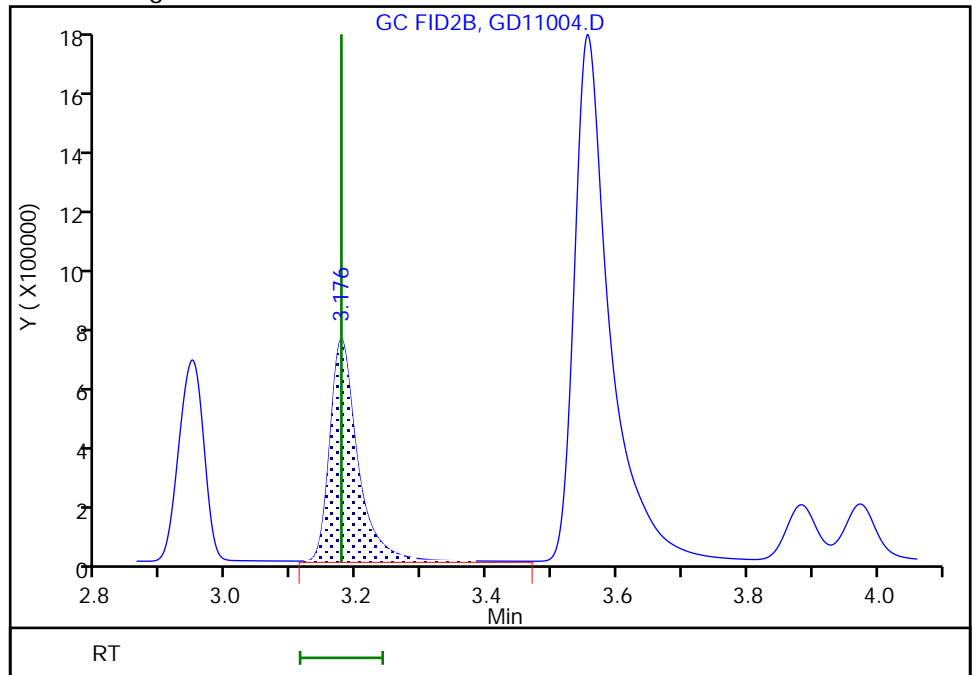
RT: 3.56
Area: 6450565
Amount: 625.4296
Amount Units: ug/ml

Processing Integration Results



RT: 3.18
Area: 2106592
Amount: 20.077366
Amount Units: ug/ml

Manual Integration Results



Reviewer: SK9U, 11-Apr-2023 18:23:44
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

Eurofins Savannah

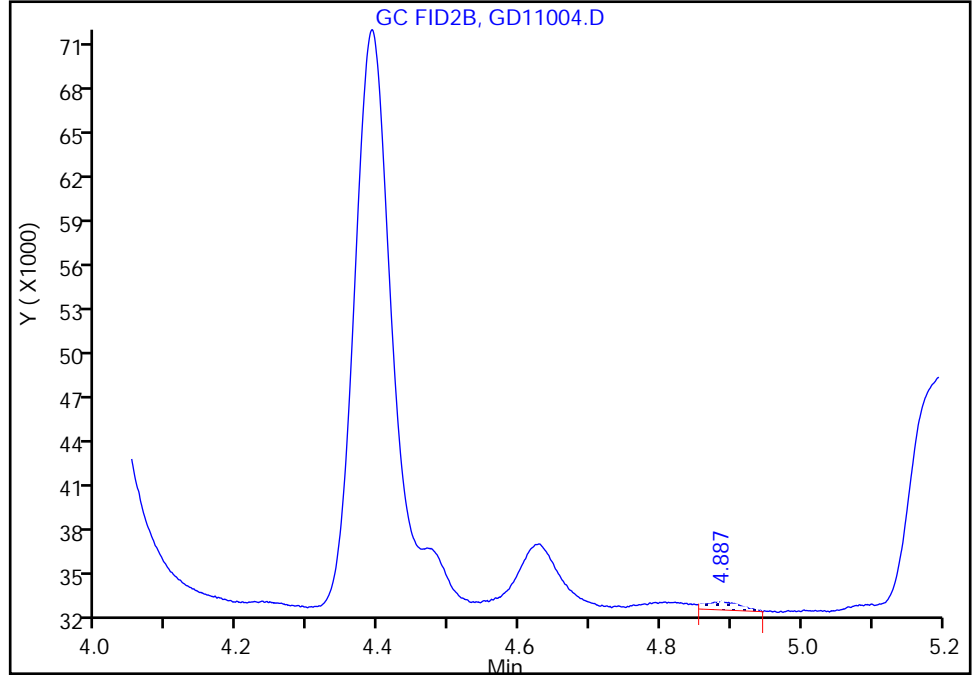
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11004.D
Injection Date: 11-Apr-2023 14:27:35 Instrument ID: CVGG2
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

5 Dipropylene Glycol Methyl Ether, CAS: 34590-94-8

Signal: 1

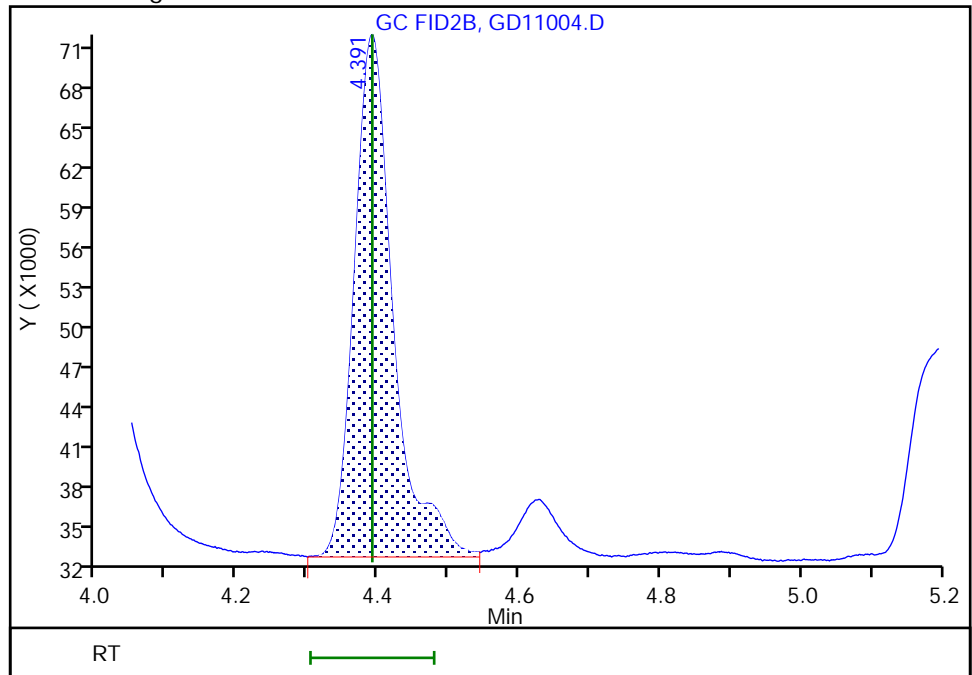
RT: 4.89
Area: 2105
Amount: 0.242847
Amount Units: ug/ml

Processing Integration Results



RT: 4.39
Area: 149510
Amount: 17.248498
Amount Units: ug/ml

Manual Integration Results



Eurofins Savannah

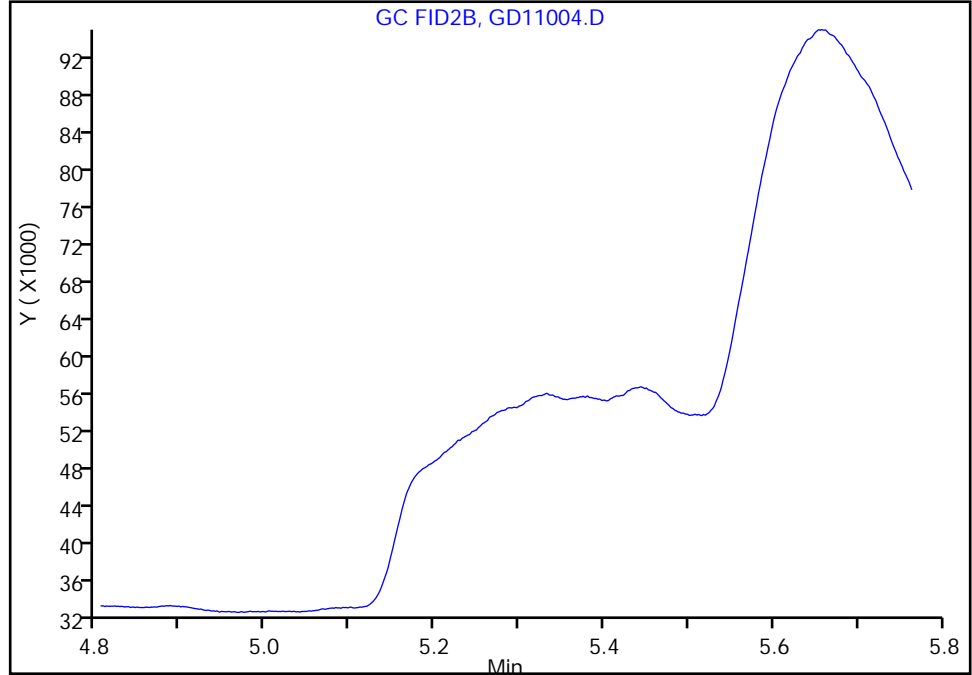
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11004.D
Injection Date: 11-Apr-2023 14:27:35 Instrument ID: CVGG2
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

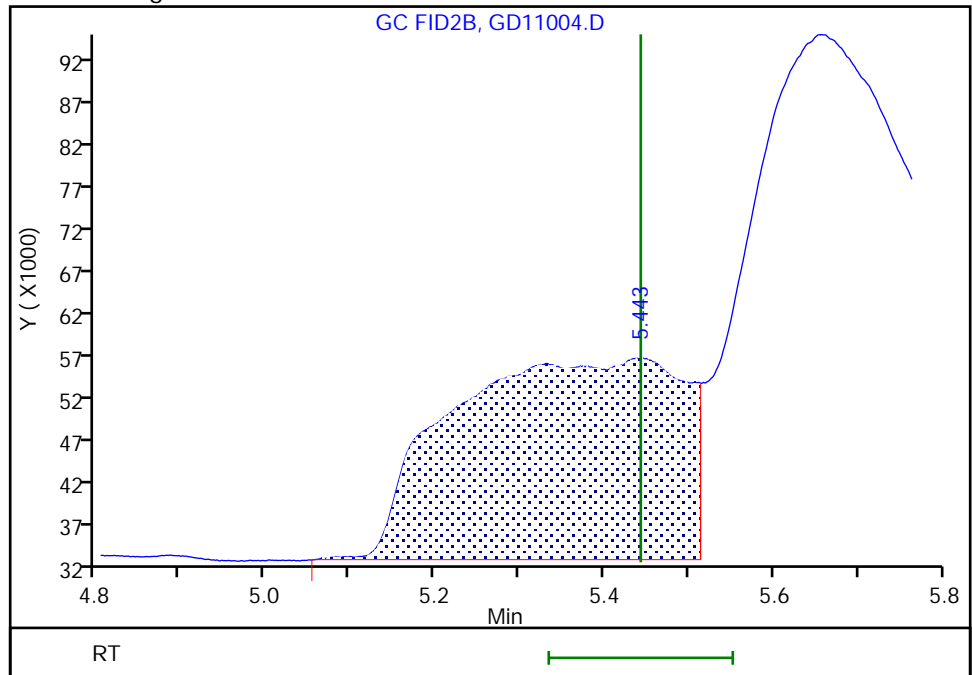
Not Detected
Expected RT: 5.44

Processing Integration Results



Manual Integration Results

RT: 5.44
Area: 455718
Amount: 19.023070
Amount Units: ug/ml



Reviewer: SK9U, 11-Apr-2023 18:24:42
Audit Action: Manually Integrated

Audit Reason: Incomplete Integration
Page 121 of 174

Eurofins Savannah

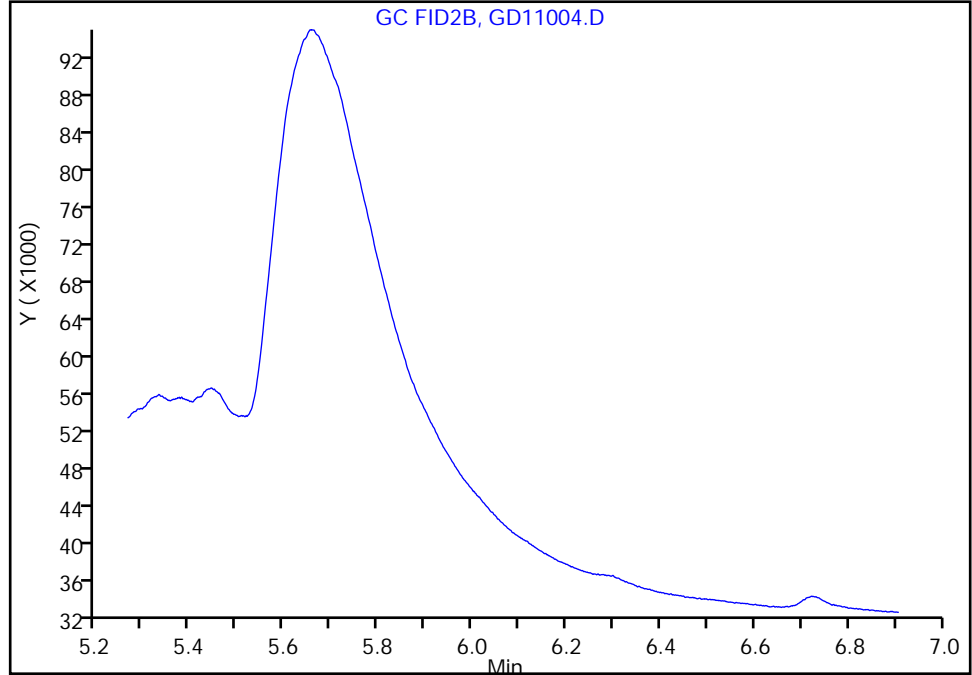
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11004.D
Injection Date: 11-Apr-2023 14:27:35 Instrument ID: CVGG2
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

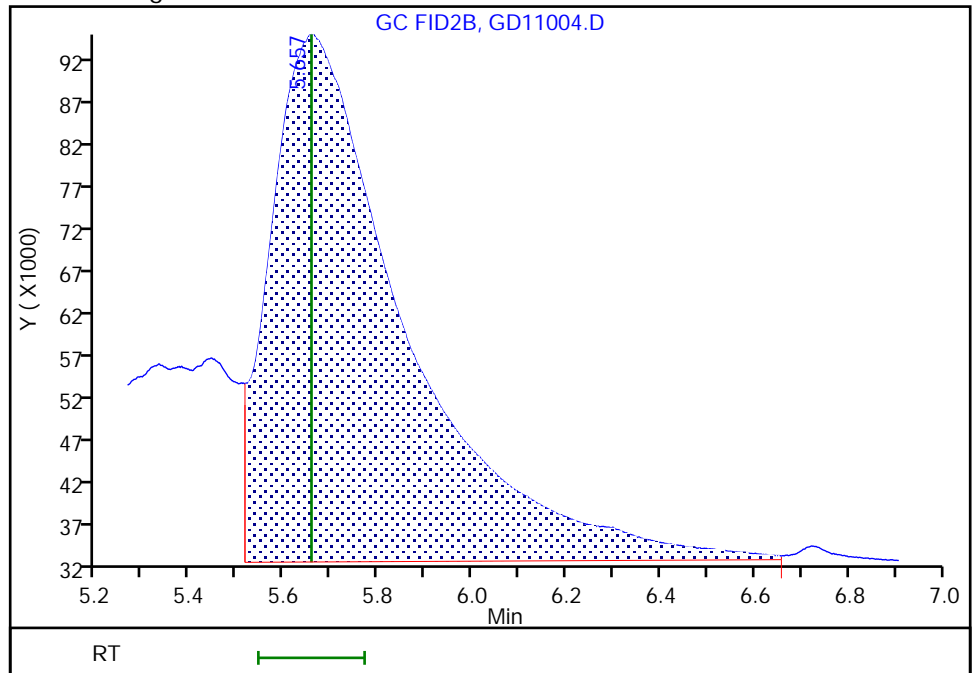
Not Detected
Expected RT: 5.66

Processing Integration Results



Manual Integration Results

RT: 5.66
Area: 1244615
Amount: 16.403807
Amount Units: ug/ml



Reviewer: SK9U, 11-Apr-2023 18:23:58
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

Eurofins Savannah

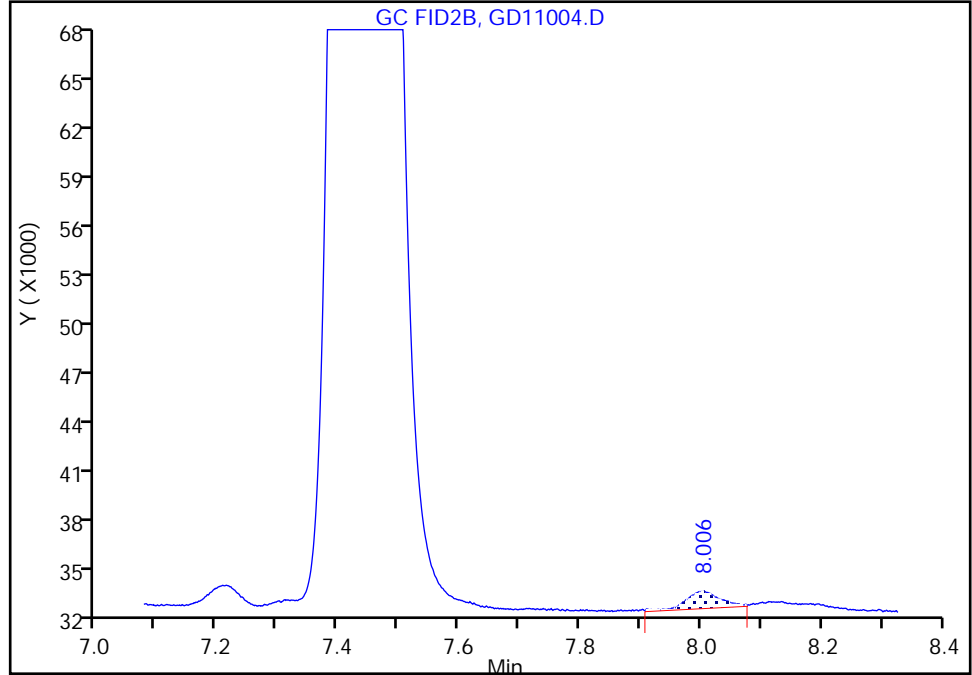
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11004.D
Injection Date: 11-Apr-2023 14:27:35 Instrument ID: CVGG2
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

8 2-(2-Butoxyethoxy)ethanol, CAS: 112-34-5

Signal: 1

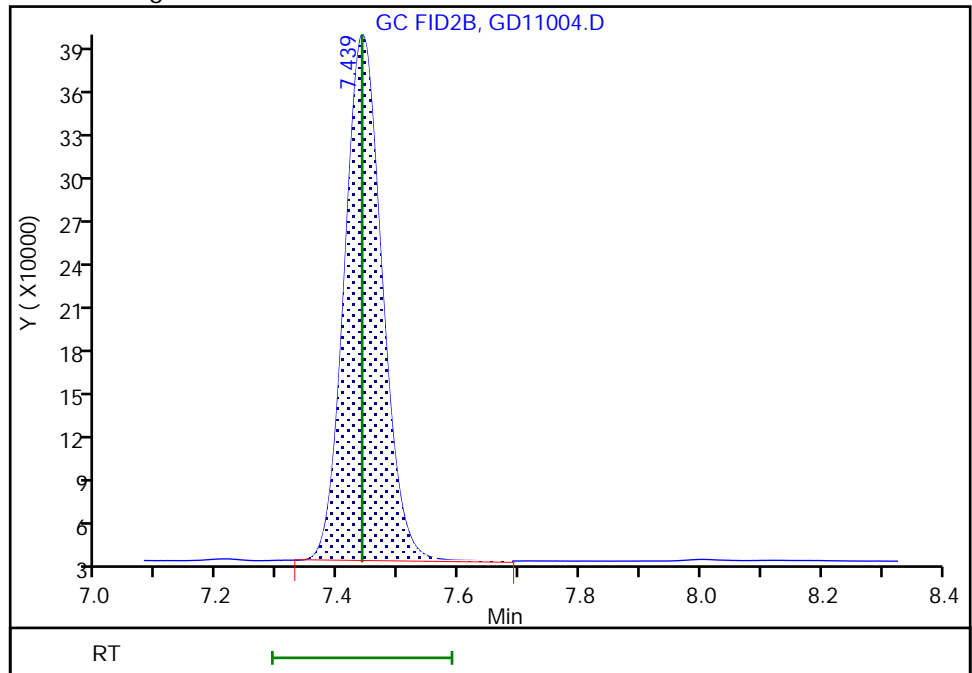
RT: 8.01
Area: 4059
Amount: 0.043997
Amount Units: ug/ml

Processing Integration Results



RT: 7.44
Area: 1568224
Amount: 16.998404
Amount Units: ug/ml

Manual Integration Results



Reviewer: SK9U, 11-Apr-2023 18:24:01
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

Eurofins Savannah

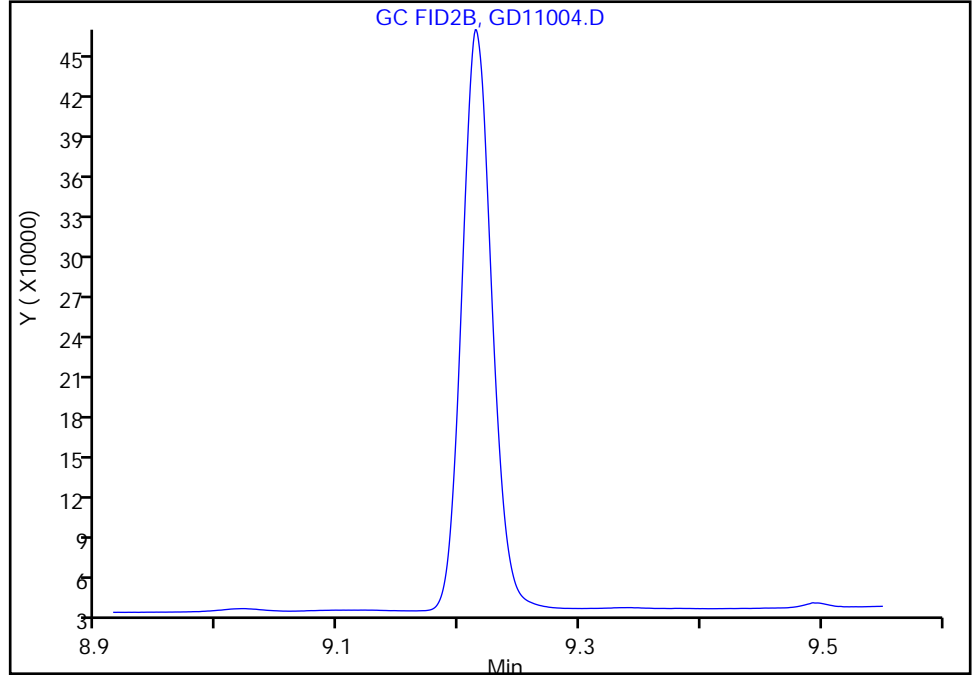
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11004.D
Injection Date: 11-Apr-2023 14:27:35 Instrument ID: CVGG2
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

9 2,2'-Oxybisethanol, CAS: 111-46-6

Signal: 1

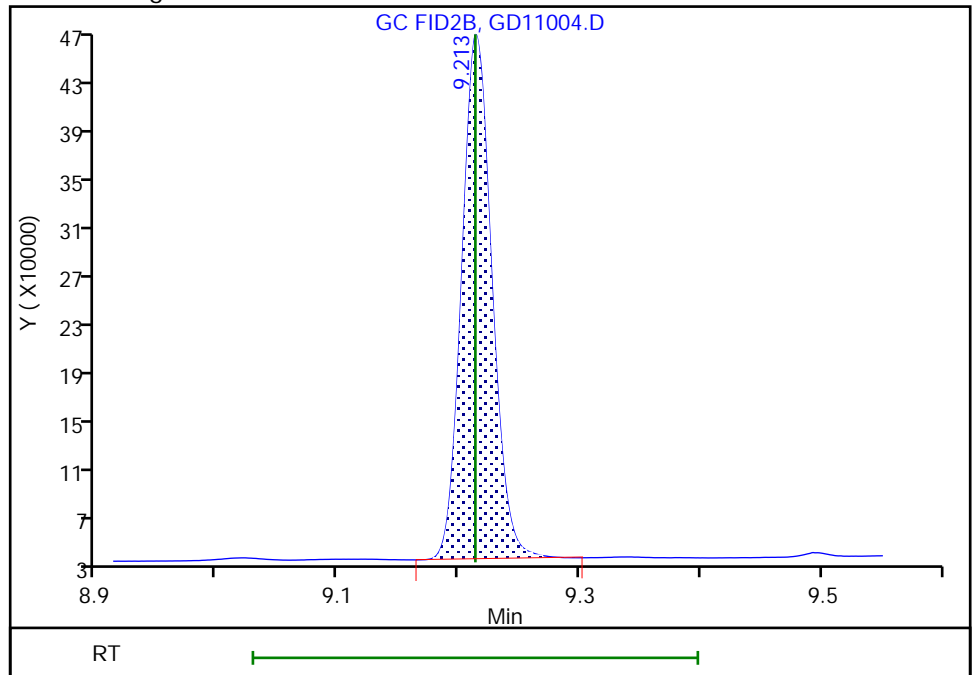
Not Detected
Expected RT: 9.21

Processing Integration Results



Manual Integration Results

RT: 9.21
Area: 751856
Amount: 16.699014
Amount Units: ug/ml



Reviewer: SK9U, 11-Apr-2023 18:24:06
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

Eurofins Savannah

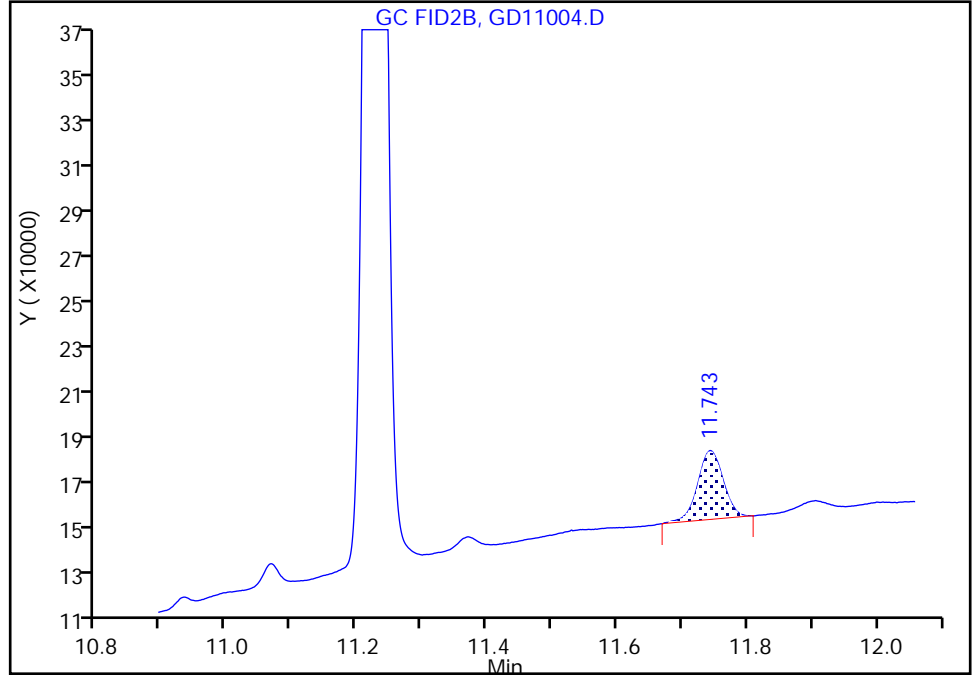
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11004.D
Injection Date: 11-Apr-2023 14:27:35 Instrument ID: CVGG2
Lims ID: ccvis
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

11 Tetraethylene Glycol, CAS: 112-60-7

Signal: 1

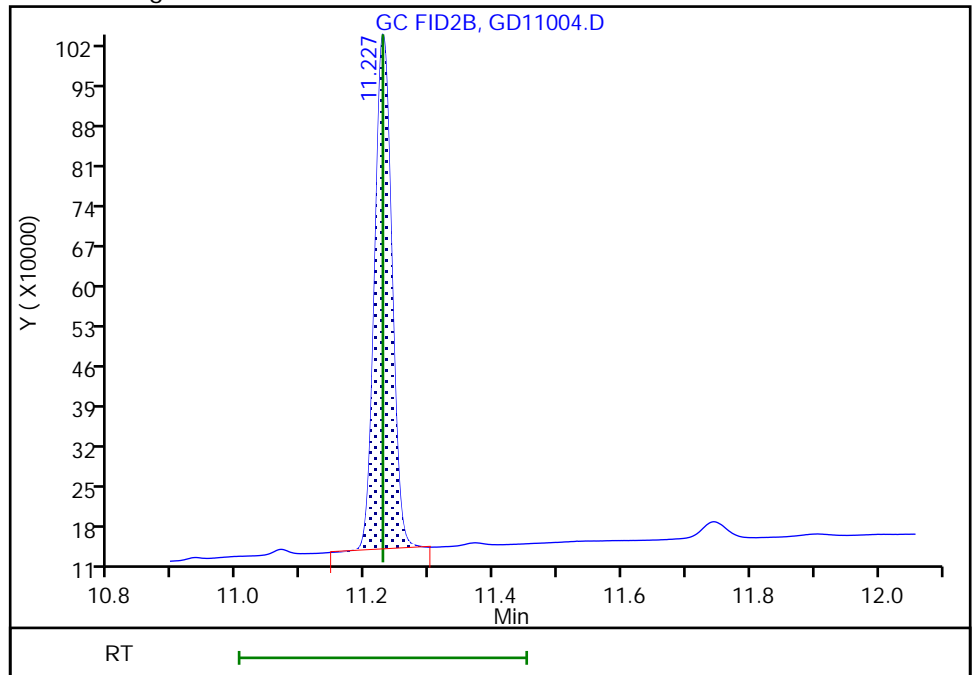
RT: 11.74
Area: 81123
Amount: 1.884663
Amount Units: ug/ml

Processing Integration Results



RT: 11.23
Area: 1678694
Amount: 38.999698
Amount Units: ug/ml

Manual Integration Results



Reviewer: SK9U, 11-Apr-2023 18:24:12
Audit Action: Assigned Compound ID

Audit Reason: Peak assignment corrected

FORM VII
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Lab Sample ID: CCV 680-772684/24 Calibration Date: 04/12/2023 01:01
 Instrument ID: CVGG2 Calib Start Date: 04/05/2023 20:52
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 04/05/2023 23:13
 Lab File ID: GD11024.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Ave	0.7669	0.7639		19.9	20.0	-0.4	20.0
4-Hydroxy-4-methyl-2-pentano ne	Ave	0.7828	0.7004		17.9	20.0	-10.5	20.0
2-Butoxyethanol	Ave	0.8133	0.8092		19.9	20.0	-0.5	20.0
Dipropylene Glycol Methyl Ether	Ave	0.0672	0.0611		18.2	20.0	-9.1	20.0
Propylene glycol	Ave	0.1857	0.1837		19.8	20.0	-1.1	20.0
Ethylene glycol	Ave	0.5881	0.4783		16.3	20.0	-18.7	20.0
2-(2-Butoxyethoxy)ethanol	Ave	0.7151	0.6063		17.0	20.0	-15.2	20.0
2,2'-Oxybisethanol	Ave	0.3490	0.2819		16.2	20.0	-19.2	20.0
Triethylene Glycol	Ave	0.3411	0.2775		16.3	20.0	-18.6	20.0
Tetraethylene Glycol	Ave	0.3336	0.1890		22.7	40.0	-43.4*	20.0

FORM VII
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Lab Sample ID: CCV 680-772684/24 Calibration Date: 04/12/2023 01:01
 Instrument ID: CVGG2 Calib Start Date: 04/05/2023 20:52
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 04/05/2023 23:13
 Lab File ID: GD11024.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	2.50	2.45	2.55
4-Hydroxy-4-methyl-2-pentanone	2.96	2.90	3.02
2-Butoxyethanol	3.18	3.11	3.24
Dipropylene Glycol Methyl Ether	4.39	4.31	4.48
Propylene glycol	5.44	5.34	5.55
Ethylene glycol	5.67	5.55	5.78
2-(2-Butoxyethoxy)ethanol	7.44	7.29	7.59
2,2'-Oxybisethanol	9.22	9.03	9.40
Triethylene Glycol	10.31	10.11	10.52
Tetraethylene Glycol	11.23	11.00	11.45

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11024.D
 Lims ID: ccv g4
 Client ID:
 Sample Type: CCV
 Inject. Date: 12-Apr-2023 01:01:45 ALS Bottle#: 0 Worklist Smp#: 24
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0085153-024
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 12-Apr-2023 11:23:30 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1657

First Level Reviewer: SWK1

Date: 12-Apr-2023 11:23:07

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
2.499	2.499	0.000	1315072	20.0	19.9	
2 4-Hydroxy-4-methyl-2-pentanone						
2.958	2.958	0.000	1205732	20.0	17.9	
3 2-Butoxyethanol						
3.177	3.177	0.000	1393045	20.0	19.9	
* 4 n-Heptyl Alcohol						
3.545	3.545	0.000	4303961	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
4.393	4.393	0.000	105175	20.0	18.2	
6 Propylene glycol						
5.444	5.444	0.000	316170	20.0	19.8	M
7 Ethylene glycol						
5.666	5.666	0.000	823393	20.0	16.3	M
8 2-(2-Butoxyethoxy)ethanol						
7.439	7.439	0.000	1043846	20.0	17.0	
9 2,2'-Oxybisethanol						
9.217	9.217	0.000	485323	20.0	16.2	
10 Triethylene Glycol						
10.312	10.312	0.000	477802	20.0	16.3	
11 Tetraethylene Glycol						
11.228	11.228	0.000	650759	40.0	22.7	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00049

Amount Added: 10.00

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11024.D

Injection Date: 12-Apr-2023 01:01:45

Instrument ID: CVGG2

Operator ID:

Lims ID: ccv g4

Worklist Smp#: 24

Client ID:

Injection Vol: 1.0 ul

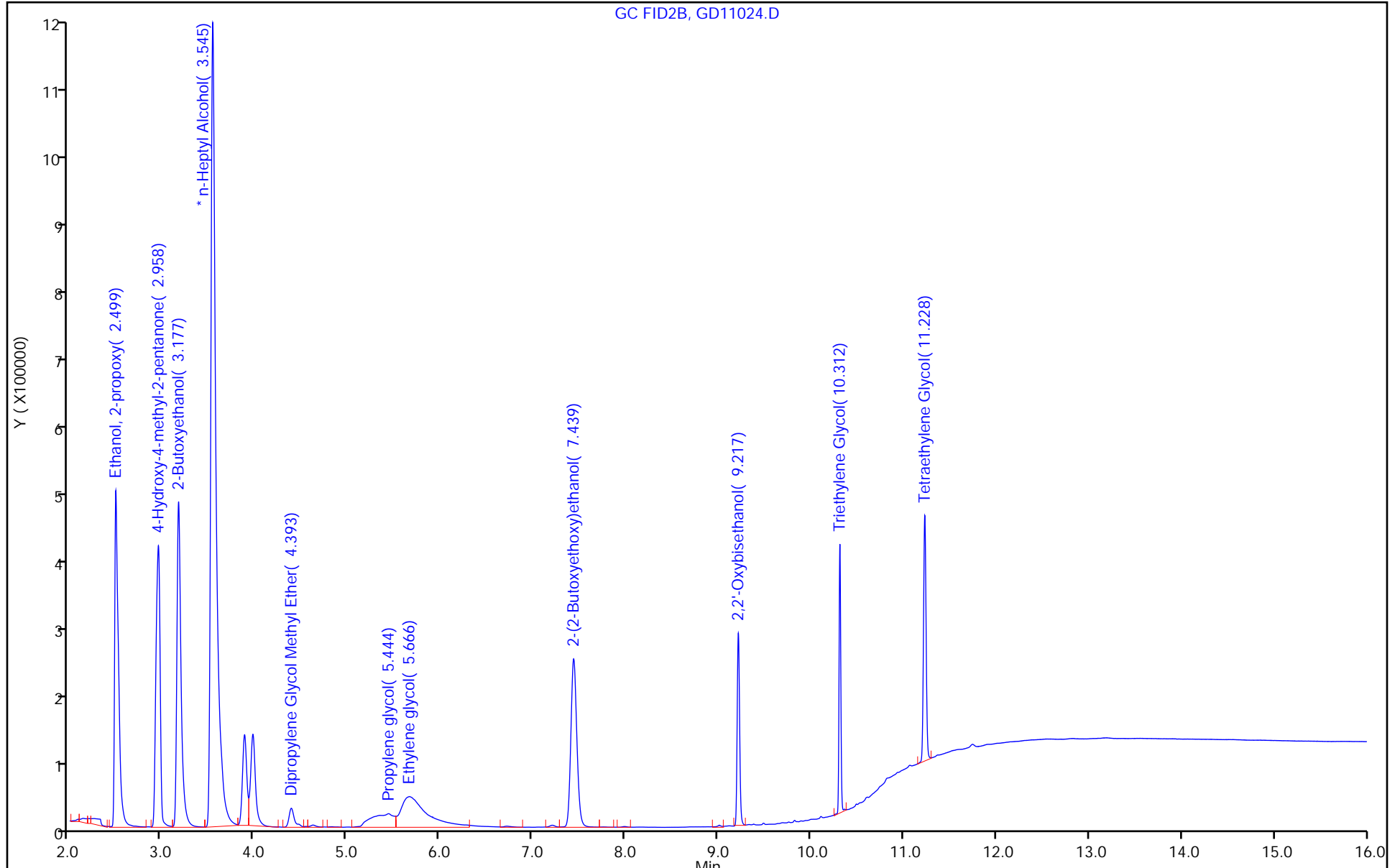
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

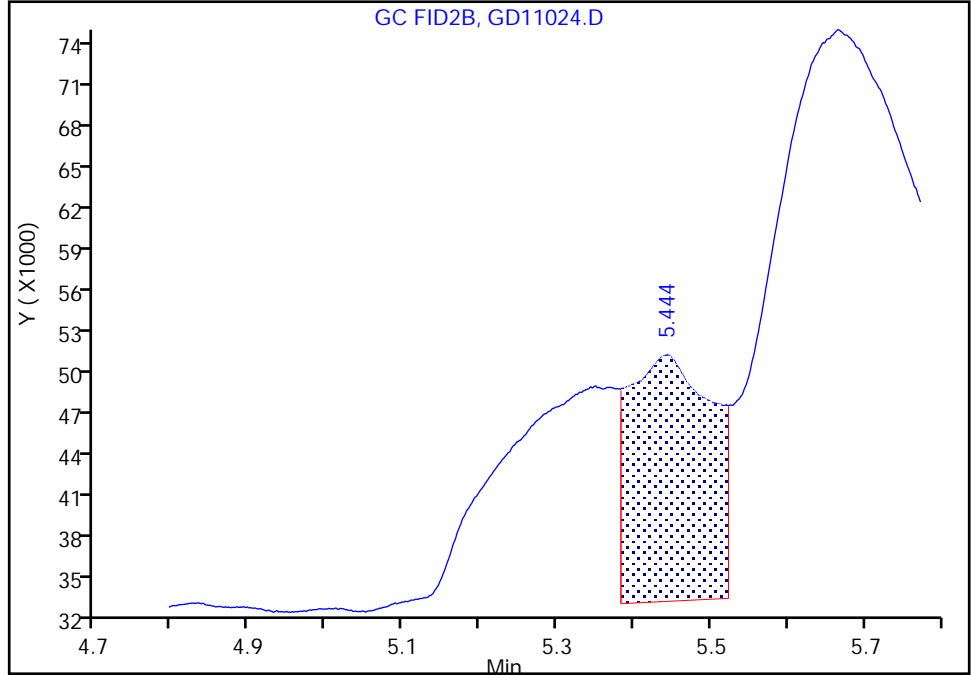
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11024.D
Injection Date: 12-Apr-2023 01:01:45 Instrument ID: CVGG2
Lims ID: ccv g4
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

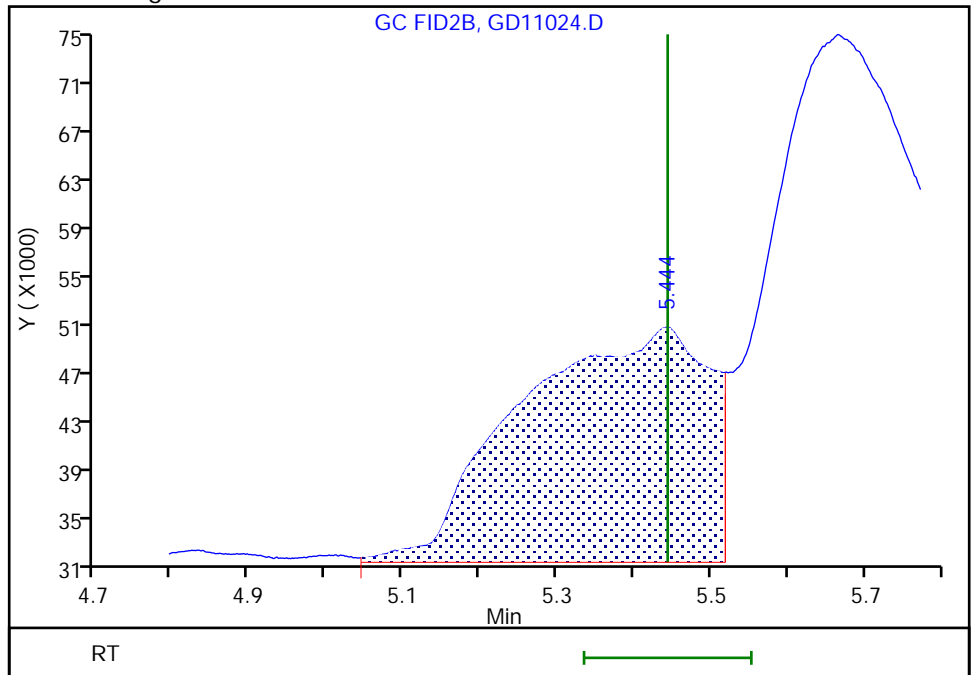
RT: 5.44
Area: 131994
Amount: 8.257870
Amount Units: ug/ml

Processing Integration Results



RT: 5.44
Area: 316170
Amount: 19.780375
Amount Units: ug/ml

Manual Integration Results



Eurofins Savannah

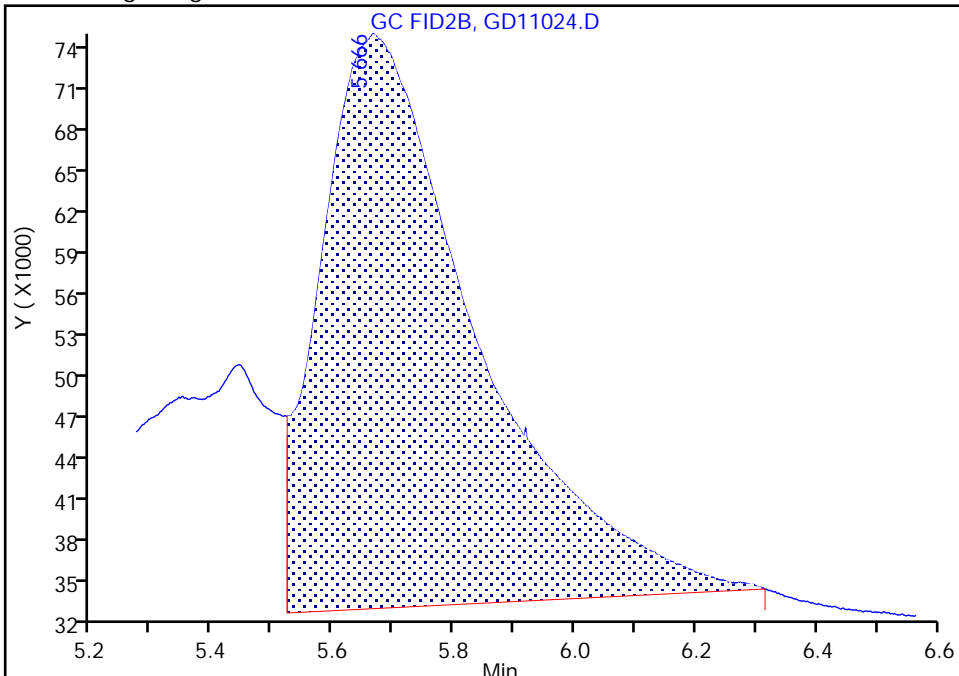
Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11024.D
Injection Date: 12-Apr-2023 01:01:45 Instrument ID: CVGG2
Lims ID: ccv g4
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

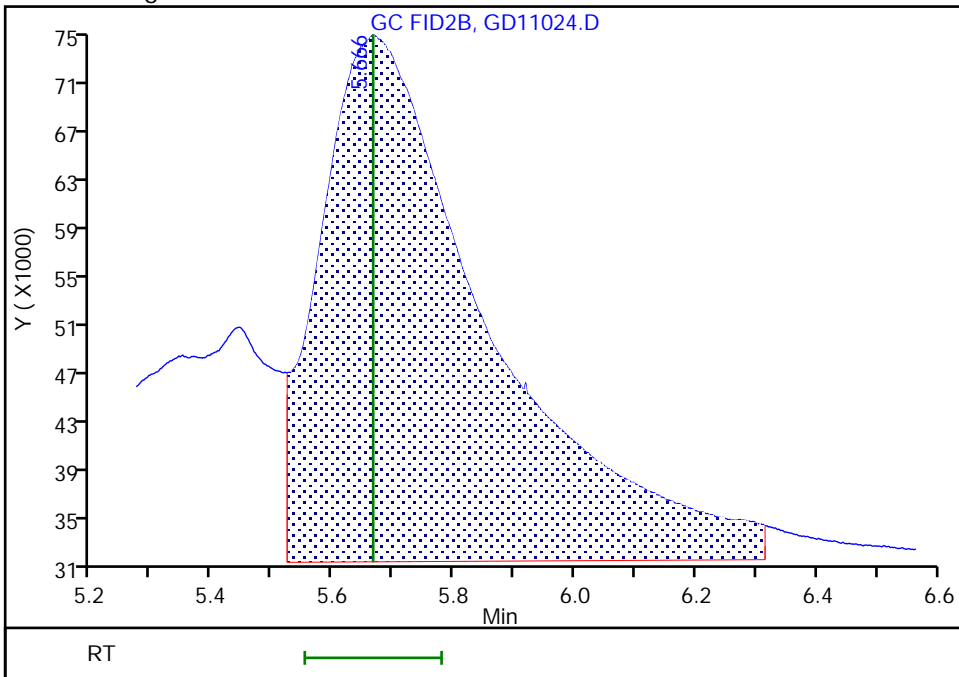
RT: 5.67
Area: 728274
Amount: 14.385794
Amount Units: ug/ml

Processing Integration Results



RT: 5.67
Area: 823393
Amount: 16.264706
Amount Units: ug/ml

Manual Integration Results



FORM VII
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Lab Sample ID: CCV 680-772684/41 Calibration Date: 04/12/2023 07:35
 Instrument ID: CVGG2 Calib Start Date: 04/05/2023 20:52
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 04/05/2023 23:13
 Lab File ID: GD11041.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Ave	0.7669	0.7709		20.1	20.0	0.5	20.0
4-Hydroxy-4-methyl-2-pentano ne	Ave	0.7828	0.7390		18.9	20.0	-5.6	20.0
2-Butoxyethanol	Ave	0.8133	0.8094		19.9	20.0	-0.5	20.0
Dipropylene Glycol Methyl Ether	Ave	0.0672	0.0689		20.5	20.0	2.5	20.0
Propylene glycol	Ave	0.1857	0.1985		21.4	20.0	6.9	20.0
Ethylene glycol	Ave	0.5881	0.5460		18.6	20.0	-7.2	20.0
2-(2-Butoxyethoxy)ethanol	Ave	0.7151	0.6893		19.3	20.0	-3.6	20.0
2,2'-Oxybisethanol	Ave	0.3490	0.3087		17.7	20.0	-11.5	20.0
Triethylene Glycol	Ave	0.3411	0.2641		15.5	20.0	-22.6*	20.0
Tetraethylene Glycol	Ave	0.3336	0.1446		17.3	40.0	-56.7*	20.0

FORM VII
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Lab Sample ID: CCV 680-772684/41 Calibration Date: 04/12/2023 07:35
 Instrument ID: CVGG2 Calib Start Date: 04/05/2023 20:52
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 04/05/2023 23:13
 Lab File ID: GD11041.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	2.51	2.46	2.56
4-Hydroxy-4-methyl-2-pentanone	2.97	2.91	3.03
2-Butoxyethanol	3.18	3.12	3.25
Dipropylene Glycol Methyl Ether	4.40	4.31	4.49
Propylene glycol	5.44	5.34	5.55
Ethylene glycol	5.67	5.55	5.78
2-(2-Butoxyethoxy)ethanol	7.44	7.29	7.59
2,2'-Oxybisethanol	9.22	9.03	9.40
Triethylene Glycol	10.32	10.11	10.52
Tetraethylene Glycol	11.23	11.01	11.46

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11041.D
 Lims ID: ccv g4
 Client ID:
 Sample Type: CCV
 Inject. Date: 12-Apr-2023 07:35:45 ALS Bottle#: 0 Worklist Smp#: 41
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0085153-041
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 12-Apr-2023 11:49:47 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1657

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
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1 Ethanol, 2-propoxy	2.509	2.509	0.000	1587121	20.0	20.1
2 4-Hydroxy-4-methyl-2-pentanone	2.968	2.968	0.000	1521445	20.0	18.9
3 2-Butoxyethanol	3.182	3.182	0.000	1666346	20.0	19.9
* 4 n-Heptyl Alcohol	3.540	3.540	0.000	5146945	50.0	50.0
5 Dipropylene Glycol Methyl Ether	4.400	4.400	0.000	141790	20.0	20.5
6 Propylene glycol	5.444	5.444	0.000	408588	20.0	21.4
7 Ethylene glycol	5.666	5.666	0.000	1124122	20.0	18.6
8 2-(2-Butoxyethoxy)ethanol	7.441	7.441	0.000	1419203	20.0	19.3
9 2,2'-Oxybisethanol	9.217	9.217	0.000	635579	20.0	17.7
10 Triethylene Glycol	10.315	10.315	0.000	543809	20.0	15.5
11 Tetraethylene Glycol	11.231	11.231	0.000	595497	40.0	17.3

Reagents:

SG_Gly_CAL_00049 Amount Added: 10.00 Units: uL
 SG_GLY_ISTD_00106 Amount Added: 10.00 Units: uL Run Reagent

Euofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11041.D

Injection Date: 12-Apr-2023 07:35:45

Instrument ID: CVGG2

Operator ID:

Lims ID: ccv g4

Worklist Smp#: 41

Client ID:

Injection Vol: 1.0 ul

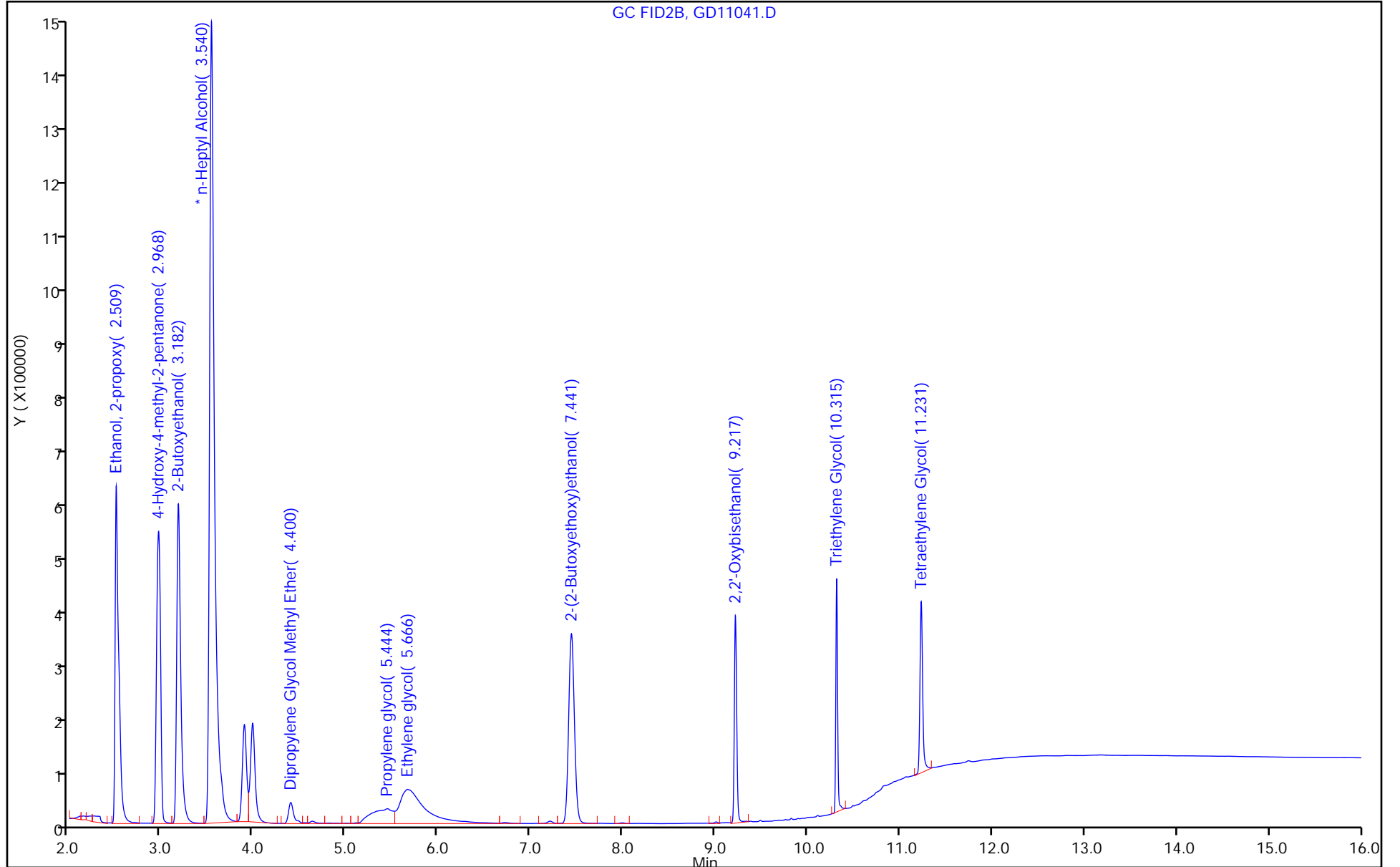
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: MB 680-772684/9
 Matrix: Water Lab File ID: GD11009.D
 Analysis Method: 8015C GLY Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 1(mL) Date Analyzed: 04/11/2023 16:23
 Con. Extract Vol.: 1(mL) Dilution Factor: 1
 Injection Volume: 1(uL) GC Column: J&W DB WAX ID: 0.45(mm)
 % Moisture: _____ % Solids: _____ GPC Cleanup: (Y/N) N
 Cleanup Factor: _____
 Analysis Batch No.: 772684 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11009.D
 Lims ID: mb
 Client ID:
 Sample Type: MB
 Inject. Date: 11-Apr-2023 16:23:49 ALS Bottle#: 0 Worklist Smp#: 9
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0085153-009
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 12-Apr-2023 11:23:29 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1657

First Level Reviewer: SWK1 Date: 12-Apr-2023 11:21:10

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
3 2-Butoxyethanol						
3.187	3.175	0.012	9149		0.0847	7
LOD = 0.5000						
* 4 n-Heptyl Alcohol						
3.557	3.550	0.007	6640017	50.0	50.0	
6 Propylene glycol						
5.445	5.452	-0.007	6164		0.2500	7
LOD = 0.5000						

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

SG_GLY_ISTD_00106 Amount Added: 10.00 Units: uL Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11009.D

Injection Date: 11-Apr-2023 16:23:49

Instrument ID: CVGG2

Operator ID:

Lims ID: mb

Worklist Smp#: 9

Client ID:

Injection Vol: 1.0 ul

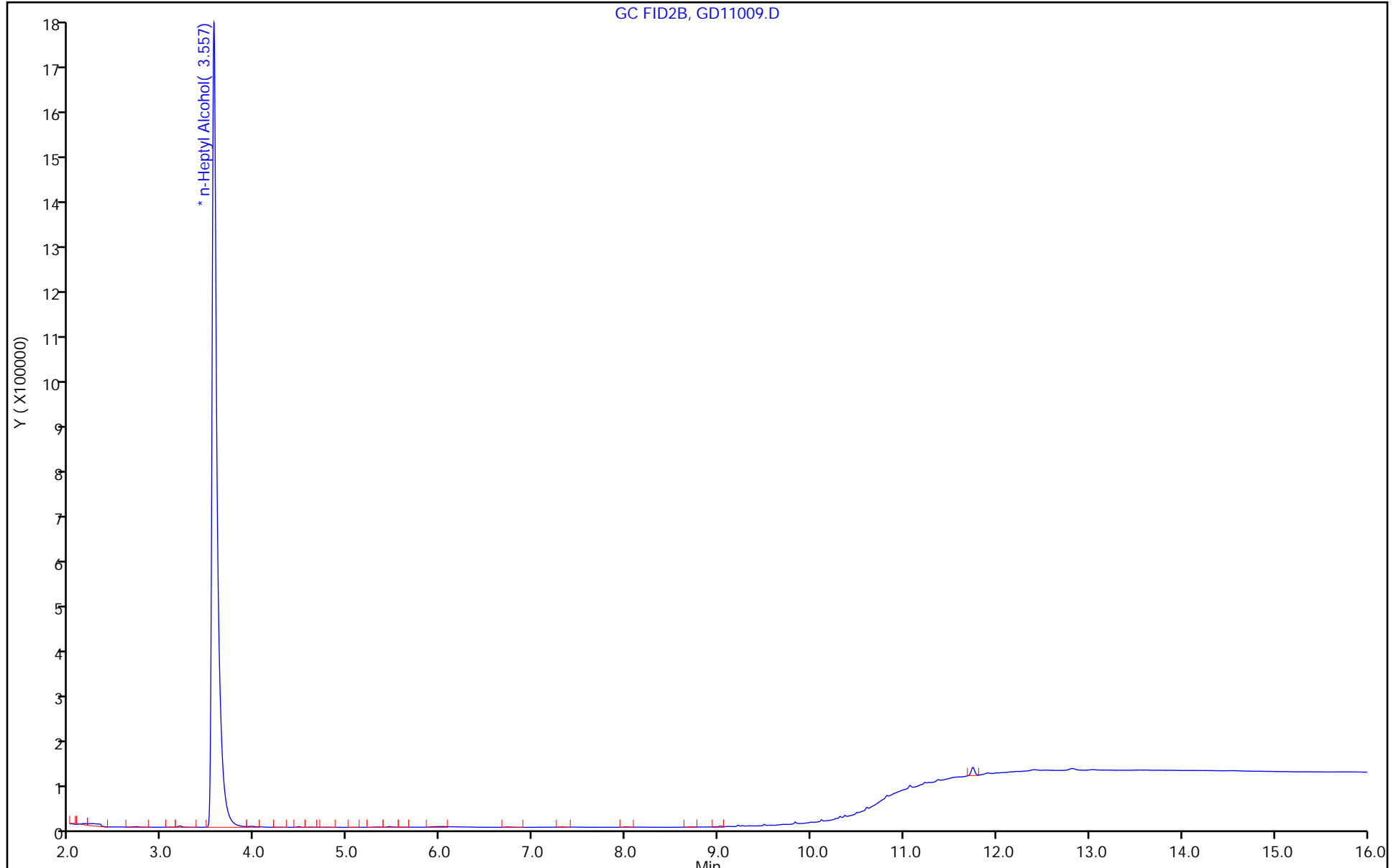
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCS 680-772684/5
 Matrix: Water Lab File ID: GD11005.D
 Analysis Method: 8015C GLY Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 1(mL) Date Analyzed: 04/11/2023 14:50
 Con. Extract Vol.: 1(mL) Dilution Factor: 1
 Injection Volume: 1(uL) GC Column: J&W DB WAX ID: 0.45(mm)
 % Moisture: _____ % Solids: _____ GPC Cleanup: (Y/N) N
 Cleanup Factor: _____
 Analysis Batch No.: 772684 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	18.0		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11005.D
 Lims ID: lcs
 Client ID:
 Sample Type: LCS
 Inject. Date: 11-Apr-2023 14:50:50 ALS Bottle#: 0 Worklist Smp#: 5
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0085153-005
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 12-Apr-2023 11:23:28 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1657

First Level Reviewer: SWK1 Date: 12-Apr-2023 11:18:57

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
2.496	2.496	0.000	1602398	20.0	17.6	
2 4-Hydroxy-4-methyl-2-pentanone						
2.948	2.948	0.000	1618258	20.0	17.4	
3 2-Butoxyethanol						
3.175	3.175	0.000	1875235	20.0	19.4	
* 4 n-Heptyl Alcohol						
3.554	3.554	0.000	5939927	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
4.391	4.391	0.000	141484	20.0	17.7	
6 Propylene glycol						
5.443	5.443	0.000	449225	20.0	20.4	M
7 Ethylene glycol						
5.657	5.657	0.000	1254759	20.0	18.0	
8 2-(2-Butoxyethoxy)ethanol						
7.440	7.440	0.000	1529750	20.0	18.0	
9 2,2'-Oxybisethanol						
9.214	9.214	0.000	739751	20.0	17.8	
10 Triethylene Glycol						
10.312	10.312	0.000	797278	20.0	19.7	
11 Tetraethylene Glycol						
11.227	11.227	0.000	1662887	40.0	42.0	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00054

Amount Added: 10.00

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11005.D

Injection Date: 11-Apr-2023 14:50:50

Instrument ID: CVGG2

Operator ID:

Lims ID: lcs

Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul

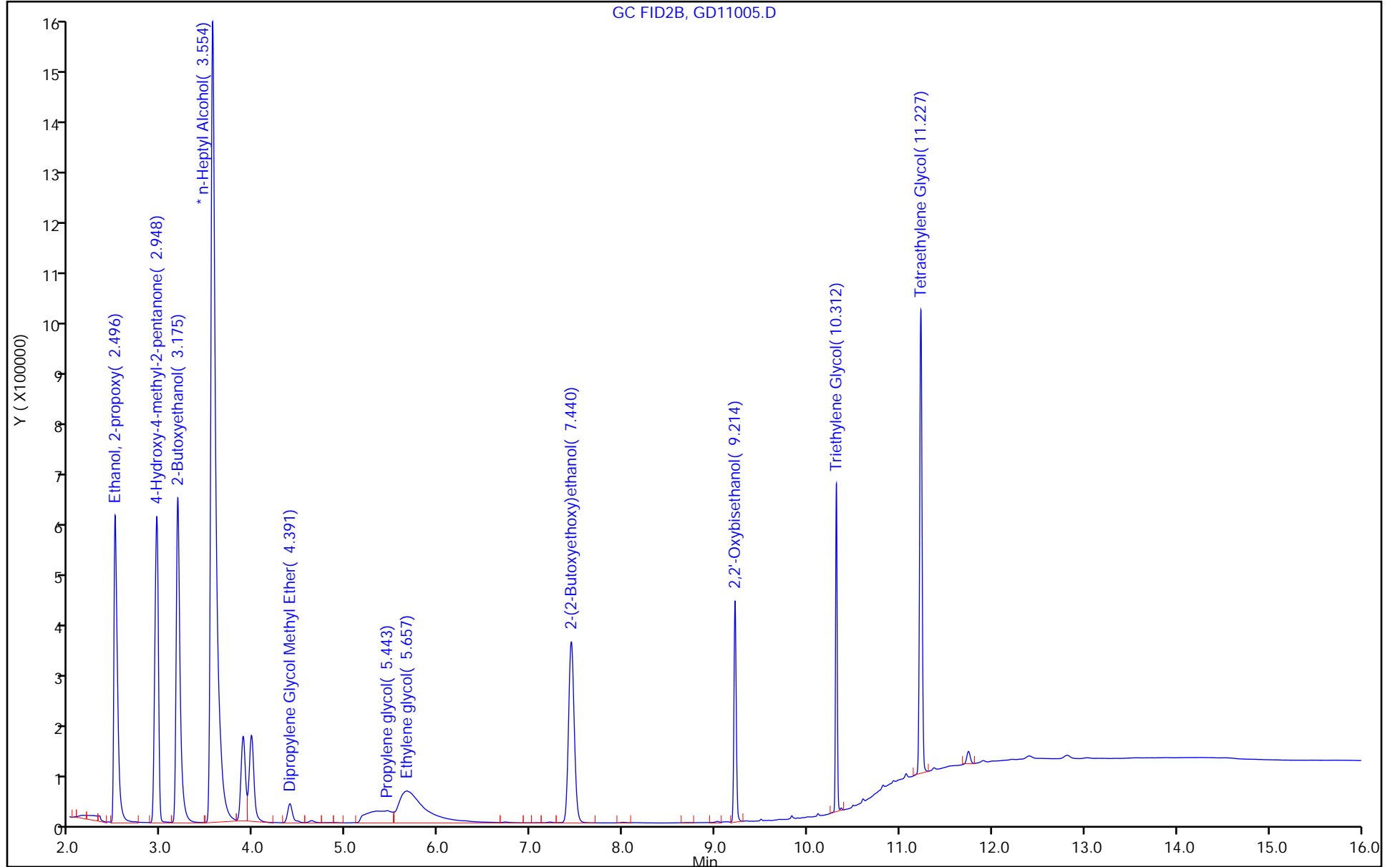
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-125690-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCSD 680-772684/6
 Matrix: Water Lab File ID: GD11006.D
 Analysis Method: 8015C GLY Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 1(mL) Date Analyzed: 04/11/2023 15:14
 Con. Extract Vol.: 1(mL) Dilution Factor: 1
 Injection Volume: 1(uL) GC Column: J&W DB WAX ID: 0.45(mm)
 % Moisture: _____ % Solids: _____ GPC Cleanup: (Y/N) N
 Cleanup Factor: _____
 Analysis Batch No.: 772684 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	17.6		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11006.D
 Lims ID: lcsd
 Client ID:
 Sample Type: LCSD
 Inject. Date: 11-Apr-2023 15:14:05 ALS Bottle#: 0 Worklist Smp#: 6
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0085153-006
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 12-Apr-2023 11:23:29 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1657

First Level Reviewer: SWK1 Date: 12-Apr-2023 11:19:14

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
2.495	2.495	0.000	1815158	20.0	19.0	
2 4-Hydroxy-4-methyl-2-pentanone						
2.952	2.952	0.000	1768033	20.0	18.1	
3 2-Butoxyethanol						
3.175	3.175	0.000	2126400	20.0	21.0	
* 4 n-Heptyl Alcohol						
3.550	3.550	0.000	6222426	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
4.393	4.393	0.000	149564	20.0	17.9	
6 Propylene glycol						
5.452	5.452	0.000	391052	20.0	16.9	M
7 Ethylene glycol						
5.655	5.655	0.000	1176623	20.0	16.1	
8 2-(2-Butoxyethoxy)ethanol						
7.438	7.438	0.000	1566463	20.0	17.6	
9 2,2'-Oxybisethanol						
9.214	9.214	0.000	677264	20.0	15.6	
10 Triethylene Glycol						
10.311	10.311	0.000	723133	20.0	17.0	
11 Tetraethylene Glycol						
11.226	11.226	0.000	1493047	40.0	36.0	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00054

Amount Added: 10.00

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Euofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11006.D

Injection Date: 11-Apr-2023 15:14:05

Instrument ID: CVGG2

Operator ID:

Lims ID: lcsd

Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul

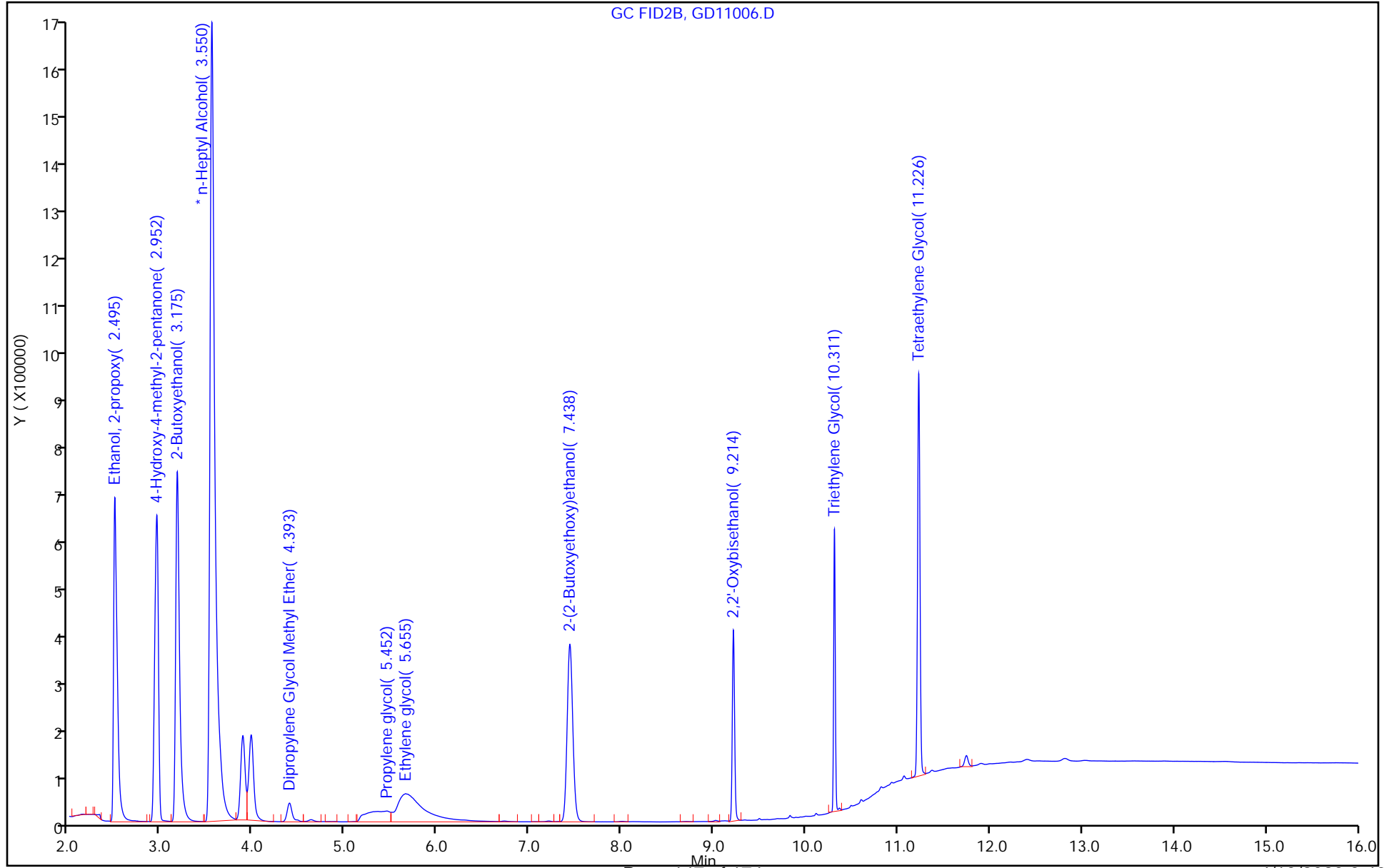
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-125690-1
SDG No.: _____
Client Sample ID: AF-RHMW10-WGN01LF-2304W1 Lab Sample ID: 580-125690-3 MS
MS
Matrix: Water Lab File ID: GD11038.D
Analysis Method: 8015C GLY Date Collected: 04/04/2023 13:00
Extraction Method: _____ Date Extracted: _____
Sample wt/vol: 1(mL) Date Analyzed: 04/12/2023 06:26
Con. Extract Vol.: 1(mL) Dilution Factor: 1
Injection Volume: 1(uL) GC Column: J&W DB WAX ID: 0.45(mm)
% Moisture: _____ % Solids: _____ GPC Cleanup: (Y/N) N
Cleanup Factor: _____
Analysis Batch No.: 772684 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	17.1		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11038.D
 Lims ID: 580-125690-A-3 MS
 Client ID:
 Sample Type: MS
 Inject. Date: 12-Apr-2023 06:26:22 ALS Bottle#: 0 Worklist Smp#: 38
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0085153-038
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 12-Apr-2023 11:49:26 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1657

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
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1 Ethanol, 2-propoxy	2.507	2.499	0.008	1628535	20.0	17.9
2 4-Hydroxy-4-methyl-2-pentanone	2.959	2.958	0.001	1522899	20.0	16.4
3 2-Butoxyethanol	3.182	3.177	0.005	1741328	20.0	18.1
* 4 n-Heptyl Alcohol	3.546	3.545	0.001	5922160	50.0	50.0
5 Dipropylene Glycol Methyl Ether	4.402	4.393	0.009	141736	20.0	17.8
6 Propylene glycol	5.441	5.444	-0.003	375869	20.0	17.1
7 Ethylene glycol	5.678	5.666	0.012	849111	20.0	12.2
8 2-(2-Butoxyethoxy)ethanol	7.447	7.439	0.008	1447753	20.0	17.1
9 2,2'-Oxybisethanol	9.219	9.217	0.002	461153	20.0	11.2
10 Triethylene Glycol	10.315	10.312	0.003	224058	20.0	5.55
11 Tetraethylene Glycol	11.232	11.228	0.004	117285	40.0	2.97 7
LOD =	4.50					

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

SG_GlyICV_00057

Amount Added: 10.00

Units: uL

SG_GLY_ISTD_00106

Amount Added: 10.00

Units: uL

Run Reagent

Euofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11038.D

Injection Date: 12-Apr-2023 06:26:22

Instrument ID: CVGG2

Operator ID:

Lims ID: 580-125690-A-3 MS

Worklist Smp#: 38

Client ID:

Injection Vol: 1.0 ul

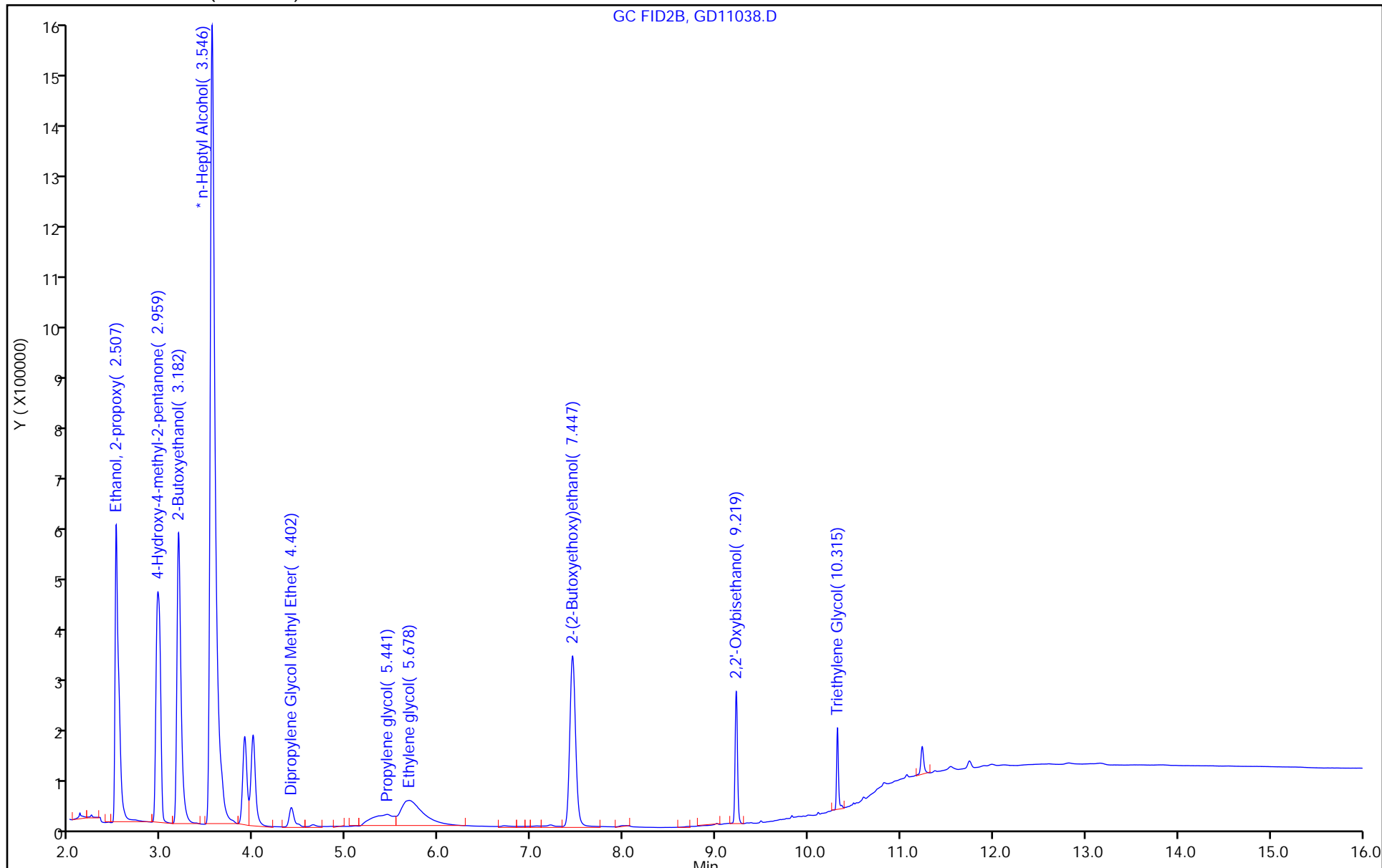
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-125690-1
SDG No.: _____
Client Sample ID: AF-RHMW10-WGN01LF-2304W1 Lab Sample ID: 580-125690-3 MSD
MSD
Matrix: Water Lab File ID: GD11039.D
Analysis Method: 8015C GLY Date Collected: 04/04/2023 13:00
Extraction Method: _____ Date Extracted: _____
Sample wt/vol: 1(mL) Date Analyzed: 04/12/2023 06:49
Con. Extract Vol.: 1(mL) Dilution Factor: 1
Injection Volume: 1(uL) GC Column: J&W DB WAX ID: 0.45(mm)
% Moisture: _____ % Solids: _____ GPC Cleanup: (Y/N) N
Cleanup Factor: _____
Analysis Batch No.: 772684 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	18.7		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11039.D
 Lims ID: 580-125690-A-3 MSD
 Client ID:
 Sample Type: MSD
 Inject. Date: 12-Apr-2023 06:49:26 ALS Bottle#: 0 Worklist Smp#: 39
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0085153-039
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 12-Apr-2023 11:49:26 Calib Date: 05-Apr-2023 23:13:01
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230405-84975.b\GD05028.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1657

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
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1 Ethanol, 2-propoxy	2.506	2.499	0.007	1615343		20.4
2 4-Hydroxy-4-methyl-2-pentanone	2.961	2.958	0.003	1490734		18.4
3 2-Butoxyethanol	3.181	3.177	0.004	1739257		20.7
* 4 n-Heptyl Alcohol	3.548	3.545	0.003	5172749	50.0	50.0
5 Dipropylene Glycol Methyl Ether	4.406	4.393	0.013	138333		19.9
6 Propylene glycol	5.447	5.444	0.003	403782		21.0
7 Ethylene glycol	5.679	5.666	0.013	1036645		17.0
8 2-(2-Butoxyethoxy)ethanol	7.446	7.439	0.007	1381786		18.7
9 2,2'-Oxybisethanol	9.218	9.217	0.001	593843		16.4
10 Triethylene Glycol	10.316	10.312	0.004	463190		13.1
11 Tetraethylene Glycol	11.233	11.228	0.005	307021		8.89

Reagents:

SG_GLY_ISTD_00106 Amount Added: 10.00 Units: uL Run Reagent

Euofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230411-85153.b\GD11039.D

Injection Date: 12-Apr-2023 06:49:26

Instrument ID: CVGG2

Operator ID:

Lims ID: 580-125690-A-3 MSD

Worklist Smp#: 39

Client ID:

Injection Vol: 1.0 ul

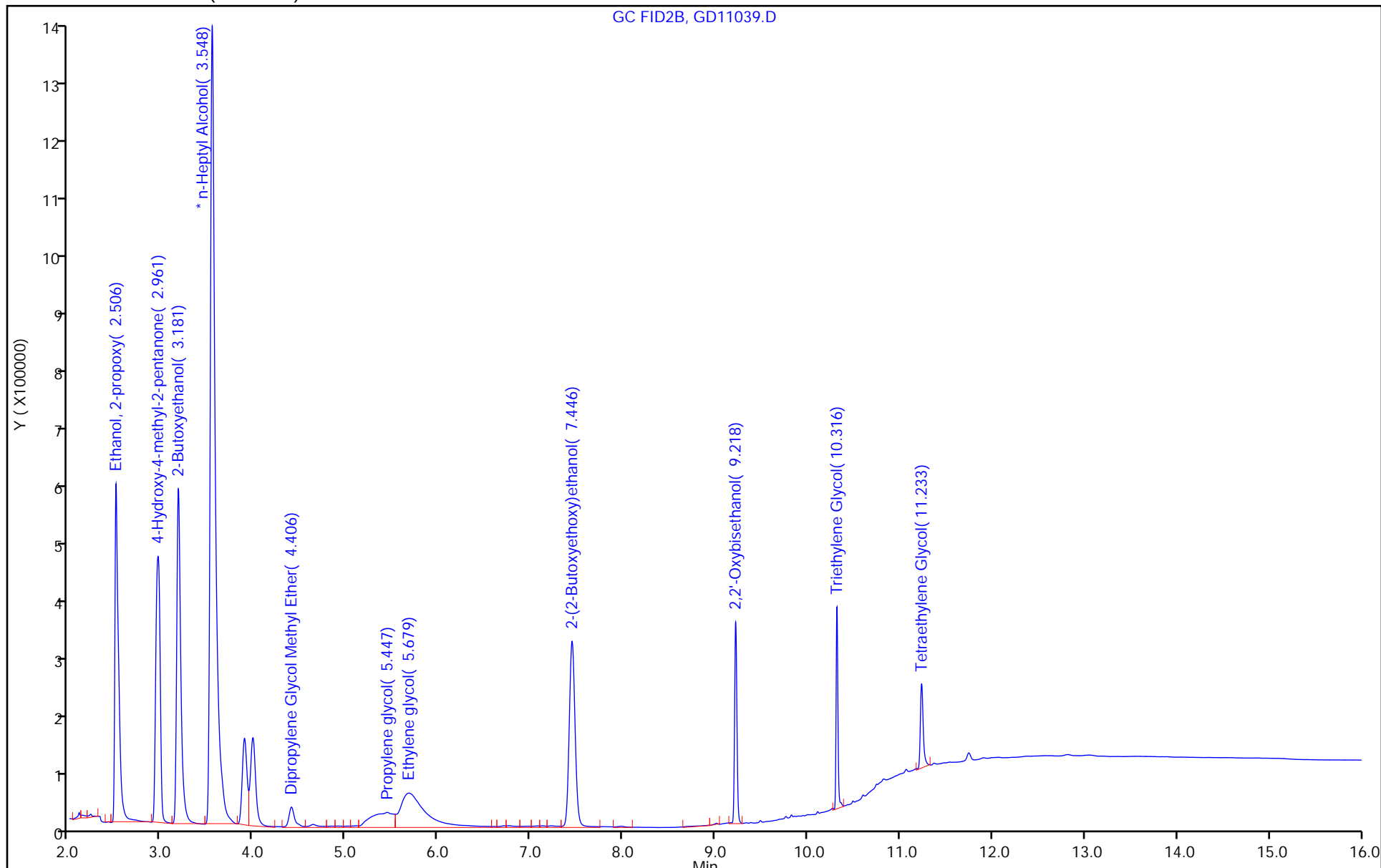
Dil. Factor: 1.0000

ALS Bottle#: 0

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



GC SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Savannah Job No.: 580-125690-1

SDG No.: _____

Instrument ID: CVGG2 Start Date: 04/05/2023 20:52

Analysis Batch Number: 771627 End Date: 04/06/2023 03:29

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 680-771627/4		04/05/2023 20:52	1	GD05022.D	J&W DB WAX 0.45 (mm)
IC 680-771627/5		04/05/2023 21:16	1	GD05023.D	J&W DB WAX 0.45 (mm)
IC 680-771627/6		04/05/2023 21:39	1	GD05024.D	J&W DB WAX 0.45 (mm)
ICIS 680-771627/7		04/05/2023 22:02	1	GD05025.D	J&W DB WAX 0.45 (mm)
IC 680-771627/8		04/05/2023 22:26	1	GD05026.D	J&W DB WAX 0.45 (mm)
IC 680-771627/9		04/05/2023 22:49	1	GD05027.D	J&W DB WAX 0.45 (mm)
IC 680-771627/10		04/05/2023 23:13	1	GD05028.D	J&W DB WAX 0.45 (mm)
ICV 680-771627/11 CCV		04/05/2023 23:36	1	GD05029.D	J&W DB WAX 0.45 (mm)
ZZZZZ		04/05/2023 23:59	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/06/2023 00:23	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/06/2023 00:46	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/06/2023 01:56	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/06/2023 02:20	20		J&W DB WAX 0.45 (mm)
ZZZZZ		04/06/2023 02:43	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/06/2023 03:29	1		J&W DB WAX 0.45 (mm)

GC SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Savannah Job No.: 580-125690-1

SDG No.: _____

Instrument ID: CVGG2 Start Date: 04/11/2023 14:27

Analysis Batch Number: 772684 End Date: 04/12/2023 07:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVIS 680-772684/4		04/11/2023 14:27	1	GD11004.D	J&W DB WAX 0.45 (mm)
LCS 680-772684/5		04/11/2023 14:50	1	GD11005.D	J&W DB WAX 0.45 (mm)
LCSD 680-772684/6		04/11/2023 15:14	1	GD11006.D	J&W DB WAX 0.45 (mm)
MB 680-772684/9		04/11/2023 16:23	1	GD11009.D	J&W DB WAX 0.45 (mm)
ZZZZZ		04/11/2023 19:59	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/11/2023 20:23	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/11/2023 20:46	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/11/2023 21:09	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/11/2023 21:32	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/11/2023 21:56	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/11/2023 22:19	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/11/2023 22:42	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/11/2023 23:05	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/11/2023 23:28	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/11/2023 23:52	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/12/2023 00:15	1		J&W DB WAX 0.45 (mm)
CCV 680-772684/24		04/12/2023 01:01	1	GD11024.D	J&W DB WAX 0.45 (mm)
ZZZZZ		04/12/2023 02:11	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/12/2023 02:34	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/12/2023 02:58	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/12/2023 03:21	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/12/2023 03:44	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/12/2023 04:07	1		J&W DB WAX 0.45 (mm)
ZZZZZ		04/12/2023 04:30	1		J&W DB WAX 0.45 (mm)
580-125690-1	AF-RHMW225401-WGN01B-2304W1	04/12/2023 04:53	1	GD11034.D	J&W DB WAX 0.45 (mm)
580-125690-2	AF-HDMW225303-WGN01LF-2304W1	04/12/2023 05:17	1	GD11035.D	J&W DB WAX 0.45 (mm)
580-125690-3	AF-RHMW10-WGN01LF-2304W1	04/12/2023 05:40	1	GD11036.D	J&W DB WAX 0.45 (mm)
580-125690-4	AF-RHMW10-WGFD01LF-2304W1	04/12/2023 06:03	1	GD11037.D	J&W DB WAX 0.45 (mm)
580-125690-3 MS	AF-RHMW10-WGN01LF-2304W1 MS	04/12/2023 06:26	1	GD11038.D	J&W DB WAX 0.45 (mm)
580-125690-3 MSD	AF-RHMW10-WGN01LF-2304W1 MSD	04/12/2023 06:49	1	GD11039.D	J&W DB WAX 0.45 (mm)
CCV 680-772684/41		04/12/2023 07:35	1	GD11041.D	J&W DB WAX 0.45 (mm)

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Savannah Job No.: 580-125690-1

SDG No.: _____

Batch Number: 771627 Batch Start Date: 04/05/23 20:52 Batch Analyst: Kellar, Joshua C

Batch Method: 8015C GLY Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	SG_Gly_CAL 00054	SG_GLY_ISTD 00106	SG_GlyICV 00059		
IC 680-771627/4		8015C GLY		1 mL	50 uL	10 uL			
IC 680-771627/5		8015C GLY		1 mL	40 uL	10 uL			
IC 680-771627/6		8015C GLY		1 mL	25 uL	10 uL			
ICIS 680-771627/7		8015C GLY		1 mL	10 uL	10 uL			
IC 680-771627/8		8015C GLY		1 mL	5 uL	10 uL			
IC 680-771627/9		8015C GLY		1 mL	2.5 uL	10 uL			
IC 680-771627/10		8015C GLY		1 mL	1 uL	10 uL			
ICV 680-771627/11 CCV		8015C GLY		1 mL		10 uL	10 uL		

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Savannah Job No.: 580-125690-1

SDG No.: _____

Batch Number: 772684 Batch Start Date: 04/11/23 14:27 Batch Analyst: Kellar, Joshua C

Batch Method: 8015C GLY Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	SG_Gly_CAL 00049	SG_Gly_CAL 00054	SG_GLY_ISTD 00106	SG_GlyICV 00057	
CCVIS 680-772684/4		8015C GLY		1 mL		10 uL	10 uL		
LCS 680-772684/5		8015C GLY		1 mL		10 uL	10 uL		
LCSD 680-772684/6		8015C GLY		1 mL		10 uL	10 uL		
MB 680-772684/9		8015C GLY		1 mL			10 uL		
CCV 680-772684/24		8015C GLY		1 mL	10 uL		10 uL		
580-125690-A-1	AF-RHMW225401-WG N01B-2304WK1	8015C GLY	T	1 mL			10 uL		
580-125690-A-2	AF-HDMW22503-WGN 01LF-2304WK1	8015C GLY	T	1 mL			10 uL		
580-125690-A-3	AF-RHMW10-WGN01L F-2304WK1	8015C GLY	T	1 mL			10 uL		
580-125690-A-4	AF-RHMW10-WGFD01 LF-2304WK1	8015C GLY	T	1 mL			10 uL		
580-125690-A-3 MS	AF-RHMW10-WGN01L F-2304W1	8015C GLY	T	1 mL			10 uL	10 uL	
580-125690-A-3 MSD	AF-RHMW10-WGN01L F-2304W1	8015C GLY	T	1 mL			10 uL	10 uL	
CCV 680-772684/41		8015C GLY		1 mL	10 uL		10 uL		

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.


Subcontract Data

Shipping and Receiving Documents

Chain of Custody Record

Client Information		Sampler: TESSA MURPHY		Lab PM: Elaine Walker		Carrier Tracking No(s): AWB FedEx 016-136854		COC No: 2304W1AFE04									
Client Contact:		Phone: 978-332-5209		E-Mail: M.Elaine.Walker@EurofinsET.com		State of Origin: Hawaii		Page: Page 1 of 1									
Company: AECOM		PWSID:		Analysis Requested													
Address: 1001 Bishop St. Suite 1600		Due Date Requested: see subcontract		<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Field Filtered Sample (Yes or No)</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Total Number of Containers</div> </div>													
City: Honolulu		TAT Requested (days): Rush - ASAP															
State, Zip: Hawaii 96813		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No															
Phone: 808-954-4512 / 770-331-0794		PO #:															
Email: Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)		WO #:															
Project Name: CTO N6274223F0104		Project #: 60697810															
Site: RHSF		SSOW#:		<div style="position: relative; height: 200px;"> TM 4/4/23 </div>													
Sample Identification		Sample Date								Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=organic, A=air)		Preservation Code:	
AF-HDMW225303-WGN01LF-2304W1		4/4/23								1015		G		W		N N X	
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)											
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months											
Deliverable Requested: I, II, III, IV, Other (specify)						Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT AECOM EQUIS EDD											
Empty Kit Relinquished by:						Special Instructions/QC Requirements: DOD QSM project											
Relinquished by: Tanji TESSA MURPHY		Date/Time: 4/4/23 1530		Company: AECOM		Received by: James Mason		Date/Time: 4/4/23 1530		Company: AECOM							
Relinquished by: James Mason		Date/Time: 4/5/23 1355		Company: AECOM		Received by: [Signature]		Date/Time: 04/06/23 13:50		Company:							
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:							
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 5-3													

Chain of Custody Record

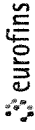
Client Information	Company: AECOM Address: 1001 Bishop St, Suite 1600 City: Honolulu State, Zip: Hawaii 96813 Phone: 808-954-4512 / 770-331-0794 Email: watson.tanji@aecom.com / Mark.Kromis@aecom.com Project Name: CTO N6274223F0104 Site: RHSF	Lab PAK: Elaine Walker E-Mail: Elaine.Walker@EurofinsET.com PWSID:	Center Tracking No(s): 42035 FedEx CIG-1368561 State of Origin: Hawaii	COC No: 2304W1AFEAO7 Page: Page 1 of 1 Job #:
Due Date Requested: see subcontract TAT Requested (days): Rush - ASAP Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No PO #: WO #: Project #: 60697810 SSOW#:		Analysis Requested 8015C_DAL_GL_DS/2-(2-butylhexyloxy)-ethanol Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> A Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> N Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> N Matrix (Newer, Solid, Overwater, BT-Isoair, A-40) W Sample Type (C=Comp, G=grab) G Sample Time: 2:00 PM Sample Date: 4/13/23		
Sample Identification AF-RHMW225401-WGN01B-2304W1  580-125690 Chain of Custody		Total Number of Containers: 3 Special Instructions/Note:		
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I II III, IV Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		
Empty Kit Relinquished by:		Special Instructions/QC Requirements: DOD QSM project		
Relinquished by: <i>Miranda Delacorno</i> Date/Time: 4/15/23 1335 Company: AECOM		Method of Shipment:		
Relinquished by: <i>Miranda Delacorno</i> Date/Time: 4/15/23 1210 Company: AECOM		Received by: <i>Miranda Delacorno</i> Date/Time: 4/15/23 1210 Company: AECOM		
Relinquished by: <i>Miranda Delacorno</i> Date/Time: 4/15/23 17:50 Company: AECOM		Received by: <i>Miranda Delacorno</i> Date/Time: 4/15/23 17:50 Company: AECOM		
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No:		Cooler Temperature(s) °C and Other Remarks: 5-7 5-7		

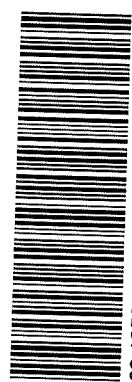
Chain of Custody Record



Client Information		Sampler: TESSA MURPHY		Lab PM: Elaine Walker		Carrier Tracking No(s): AWB 2304W1AFE04		COC No: 2304W1AFE04	
Client Contact: AECOM		Phone: 978-382-5209		E-Mail: M.Elaine.Walker@EurofinsET.com		State of Origin: Hawaii		Page 1 of 1	
Address: 1001 Bishop St, Suite 1600		City: Honolulu		State: HI		Zip: 96813		Job #:	
Phone: 808-954-4512 / 770-331-0794		Project Name: Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)		Project #: 60697810		SSOW#: CTO N6274223F0104		Site: RHSF	
Due Date Requested: see subcontract		TAT Requested (days): Rush - ASAP		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		PO #:		WO #:	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=soil, B=BIOTESTER, A=Air)	
AF-HDMW225303-WGN01LF-2304W1		4/4/23		1015		G		W	
Form MS/MSD (Yes or No)		Field Filtered Sample (Yes or No)		8015C_DAI_GL_DS/ 2-(2-butoxyethoxy)-ethanol		A		X	
Total Number of containers		3		Special Instructions/Note:					
Possible Hazard Identification		<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B		<input type="checkbox"/> Unknown <input checked="" type="checkbox"/> Radiological		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Deliverable Requested I, II, III, IV, Other (specify)		Prelim data (Level 1 or 2)=see TAT above, DoD Stage 4 report standard TAT - AECOM/EQUIS EDD		Special Instructions/QC Requirements DOD GSM project.					
Empty Kit Relinquished by		Date/Time: 4/4/23 1536		Received by: James Mason		Date/Time: 4/4/23 1536		Company: AECOM	
Relinquished by: Tessa Murphy		Date/Time: 4/5/23 1355		Received by: [Signature]		Date/Time: 4/10/23 17:50		Company: AECOM	
Relinquished by: James Mason		Date/Time:		Received by:		Date/Time:		Company:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks: 5-9		5-3		Ver: 01/16/2019	

Chain of Custody Record



Client Information	Sampler: <i>1-2 Hoagster</i>	Lab Pkt: Elaine Walker	Carrier Tracking No(s): <i>4433</i>	COC No: 2304W1AFEAW07
Client Contact:	Phone: <i>764-7-033</i>	E-Mail: <i>M.Elaine.Walker@EurofinsEI.com</i>	State of Origin: Hawaii	Page: Page 1 of 1
Company: AECOM	Job #: PWSID			
Due Date Requested: see subcontract TAT Requested (days): Rush - ASAP Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PO #: _____ WO #: _____ Project #: 60697810 SSO#: _____				
Address: 1001 Bishop St. Suite 1600 City: Honolulu State Zip: Hawaii 96813 Phone: 808-954-4512 / 770-331-0794 Email: <i>Watson Tanji (watson.tanji@aecom.com) / Mark Kromis (mark.kromis@aecom.com)</i> Project Name: GTO N6274223F0104 Site: RHSF				
 580-125690 Chain of Custody				
Sample Identification	Sample Date: <i>1-2-23</i>	Sample Time: <i>1400</i>	Sample Type (C=Comp, G=Grab): <i>G</i>	Matrix (Re-water, Spent, On-water, BT=Basin, A=Air): <i>W</i>
AF-RHMW225401-WGN01B-2304W1				
Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> A Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> X 8015C DAL_GL_DS/2-(2-butoxyethoxy)-ethanol <input checked="" type="checkbox"/> A				
Total Number of Containers: 3 Special Instructions/Note: _____				
Preservation Codes: M - Hexane A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Z - other (specify) Other: _____				
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I II III IV Other (specify) _____ Empty Kit Relinquished by _____ Relinquished by: <i>1-2-23</i> Date: <i>1-2-23</i> Time: <i>1210</i> Company: AECOM Relinquished by: <i>Miranda Delacorno</i> Date: <i>1/5/23</i> Time: <i>1355</i> Company: AECOM Relinquished by: _____ Date: _____ Time: _____ Company: _____ Cooler Temperature(s) °C and Other Remarks: <i>5-3</i> Custody Seal No. <i>5-3</i>				

Chain of Custody Record

Client Information		Company: AECOM		Lab PM: Elaine Walker		Carrier Tracking No(s): AWB		COC No: 2304W1AFE04	
Client Contact: Tessa Murphy		Phone: 978-582-5209		E-Mail: Elaine Walker		State of Origin: Hawaii		Page 1 of 1	
Address: 1001 Bishop St. Suite 1600		City: Honolulu		State: HI		Job #:		Job #:	
Phone: 808-954-4512 / 770-331-0794		Email: Watson.Tanji@aecom.com / Mark.Kromis@aecom.com		Project #: 60697810		Project Name: CTO N6274223F0104		Site: RHSF	
Due Date Requested: see subcontract		TAT Requested (days): Rush - ASAP		Compliance Project: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		FO #:		WO #:	
Sample Date: 4/4/23		Sample Time: 1015		Sample Type (C=Comp, G=grab): G		Preservation Code: W		Matrix (Water, Solid, On-water, B-Tissue, Acid)	
Sample Identification: AF-HDMW225303-WGN01LF-2304W1		Sample Date: 4/4/23		Sample Time: 1015		Sample Type: G		Preservation Code: W	
Possible Hazard Identification: <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: I II III IV Other (specify)		Empty Kit Relinquished by: Tessa Murphy		Date: 4/4/23		Time: 1530	
Relinquished by: Tessa Murphy		Date: 4/4/23		Company: AECOM		Received by: James Merson		Date/Time: 4/4/23 1530	
Relinquished by: James Merson		Date: 4/5/23		Company: AECOM		Received by: [Signature]		Date/Time: 4/10/23 17:50	
Relinquished by:		Date:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No:		Cooler Temperature(s) °C and Other Remarks: 5-9		Method of Shipment:		Company: AECOM	

5-3

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-125690-1

Login Number: 125690
List Number: 1
Creator: Presley, Kim A

List Source: Eurofins Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-125690-1

Login Number: 125690
List Number: 2
Creator: Johnson, Corey M

List Source: Eurofins Savannah
List Creation: 04/08/23 02:53 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	