

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

Attn: Terri Choy
AECOM

1001 Bishop Street
Honolulu HI 96813

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JOB DESCRIPTION

Red Hill - AFFF Assessment Sampling

JOB NUMBER

580-121385-1

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: 580-121385-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
M	Manual integrated compound.
Q	One or more quality control criteria failed.
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: 580-121385-1

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.

Following DoD QSM guidelines, manual integrations were performed only when necessary and are in compliance with the laboratory's standard operating procedure, Acceptable Manual Integration Practices, SOP No.: Q-S-002. The reason(s) for manual integration have been documented on the affected chromatogram(s), which is/are provided in the raw data package. The raw data also includes the original chromatogram(s) prior to any manual integration being performed. Manual integrations are detailed in the manual integration summary forms following this narrative.

It should be noted that samples with elevated Limits of Quantitation (LOQs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the LOQs 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

The samples were received on 12/17/2022; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.4 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-RHMW12A-WGN01B-2212W2 (580-121385-1) and AF-RHMW06-WGN01B-2212W2 (580-121385-2) were analyzed for glycols in accordance with EPA SW-846 Method 8015B - DAI. The samples were analyzed on 12/21/2022.

The continuing calibration verification (CCV) associated with batch 680-756409 recovered above the upper control limit for 2-(2-Butoxyethoxy)ethanol. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data has been reported.

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: 580-121385-1

Client Sample ID: AF-RHMW12A-WGN01B-2212W2

Lab Sample ID: 580-121385-1

No Detections.

Client Sample ID: AF-RHMW06-WGN01B-2212W2

Lab Sample ID: 580-121385-2

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: 580-121385-1

Client Sample ID: AF-RHMW12A-WGN01B-2212W2

Lab Sample ID: 580-121385-1

Date Collected: 12/14/22 12:50

Matrix: Water

Date Received: 12/17/22 11:45

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 Q	5.0	1.1	mg/L			12/21/22 22:05	1

Client Sample ID: AF-RHMW06-WGN01B-2212W2

Lab Sample ID: 580-121385-2

Date Collected: 12/14/22 17:25

Matrix: Water

Date Received: 12/17/22 11:45

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 Q	5.0	1.1	mg/L			12/21/22 22:28	1

Default Detection Limits

Client: AECOM

Job ID: 580-121385-1

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: 580-121385-1

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

Lab Sample ID: MB 680-756409/10
Matrix: Water
Analysis Batch: 756409

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	5.0	1.1	mg/L			12/21/22 19:50	1

Lab Sample ID: LCS 680-756409/6
Matrix: Water
Analysis Batch: 756409

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	26.2		mg/L		131	50 - 150

Lab Sample ID: LCSD 680-756409/7
Matrix: Water
Analysis Batch: 756409

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	24.6		mg/L		123	50 - 150	6	50

Lab Sample ID: 580-121385-2 MS
Matrix: Water
Analysis Batch: 756409

Client Sample ID: AF-RHMW06-WGN01B-2212W2
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 Q	20.0	21.3		mg/L		106	50 - 150

Lab Sample ID: 580-121385-2 MSD
Matrix: Water
Analysis Batch: 756409

Client Sample ID: AF-RHMW06-WGN01B-2212W2
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 Q	20.0	23.6		mg/L		118	50 - 150	10	50

QC Association Summary

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

Job ID: 580-121385-1

GC Semi VOA

Analysis Batch: 756409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-121385-1	AF-RHMW12A-WGN01B-2212W2	Total/NA	Water	8015C GLY	
580-121385-2	AF-RHMW06-WGN01B-2212W2	Total/NA	Water	8015C GLY	
MB 680-756409/10	Method Blank	Total/NA	Water	8015C GLY	
LCS 680-756409/6	Lab Control Sample	Total/NA	Water	8015C GLY	
LCSD 680-756409/7	Lab Control Sample Dup	Total/NA	Water	8015C GLY	
580-121385-2 MS	AF-RHMW06-WGN01B-2212W2	Total/NA	Water	8015C GLY	
580-121385-2 MSD	AF-RHMW06-WGN01B-2212W2	Total/NA	Water	8015C GLY	

Lab Chronicle

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

Job ID: 580-121385-1

Client Sample ID: AF-RHMW12A-WGN01B-2212W2

Lab Sample ID: 580-121385-1

Date Collected: 12/14/22 12:50

Matrix: Water

Date Received: 12/17/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	756409	GEM	EET SAV	12/21/22 22:05

Client Sample ID: AF-RHMW06-WGN01B-2212W2

Lab Sample ID: 580-121385-2

Date Collected: 12/14/22 17:25

Matrix: Water

Date Received: 12/17/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	756409	GEM	EET SAV	12/21/22 22:28

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: 580-121385-1

Laboratory: Eurofins Savannah

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

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>	<u>Expiration Date</u>
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.

<u>Analysis Method</u>	<u>Prep Method</u>	<u>Matrix</u>	<u>Analyte</u>
8015C GLY		Water	2-(2-Butoxyethoxy)ethanol

Method Summary

Client: AECOM

Job ID: 580-121385-1

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: 580-121385-1

Project/Site: Red Hill - AFFF Assessment Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-121385-1	AF-RHMW12A-WGN01B-2212W2	Water	12/14/22 12:50	12/17/22 11:45
580-121385-2	AF-RHMW06-WGN01B-2212W2	Water	12/14/22 17:25	12/17/22 11:45

GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121385-1

SDG No.: _____

Instrument ID: CVGG2 Analysis Batch Number: 755296Lab Sample ID: IC 680-755296/7 Client Sample ID: _____Date Analyzed: 12/15/22 13:40 Lab File ID: 22GL15007.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	7.82	Baseline Smoothing	SWK1	12/15/22 18:33
Ethylene glycol	8.22	Baseline Smoothing	SWK1	12/15/22 18:33
Triethylene Glycol	11.16	Baseline Smoothing	SWK1	12/15/22 18:27

Lab Sample ID: IC 680-755296/8 Client Sample ID: _____Date Analyzed: 12/15/22 14:03 Lab File ID: 22GL15008.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Triethylene Glycol	11.16	Baseline Smoothing	SWK1	12/15/22 18:28

Lab Sample ID: IC 680-755296/9 Client Sample ID: _____Date Analyzed: 12/15/22 14:26 Lab File ID: 22GL15009.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Triethylene Glycol	11.16	Baseline Smoothing	SWK1	12/15/22 18:28

Lab Sample ID: ICIS 680-755296/10 Client Sample ID: _____Date Analyzed: 12/15/22 14:48 Lab File ID: 22GL15010.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	7.83	Baseline Smoothing	SWK1	12/15/22 18:31
Ethylene glycol	8.22	Baseline Smoothing	SWK1	12/15/22 18:31
2-(2-Butoxyethoxy)ethanol	9.49	Baseline Smoothing	SWK1	12/15/22 18:31
Triethylene Glycol	11.16	Baseline Smoothing	SWK1	12/15/22 18:28

GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121385-1

SDG No.: _____

Instrument ID: CVGG2 Analysis Batch Number: 755296

Lab Sample ID: IC 680-755296/11 Client Sample ID: _____

Date Analyzed: 12/15/22 15:11 Lab File ID: 22GL15011.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	7.84	Baseline Smoothing	SWK1	12/15/22 18:31
Ethylene glycol	8.22	Baseline Smoothing	SWK1	12/15/22 18:31
Triethylene Glycol	11.16	Baseline Smoothing	SWK1	12/15/22 18:28

Lab Sample ID: IC 680-755296/12 Client Sample ID: _____

Date Analyzed: 12/15/22 15:34 Lab File ID: 22GL15012.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	7.82	Baseline Smoothing	SWK1	12/15/22 18:29
Ethylene glycol	8.22	Baseline Smoothing	SWK1	12/15/22 18:29
Triethylene Glycol	11.16	Baseline Smoothing	SWK1	12/15/22 18:29

Lab Sample ID: ICV 680-755296/13 CCV Client Sample ID: _____

Date Analyzed: 12/15/22 15:56 Lab File ID: 22GL15013.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Triethylene Glycol	11.16	Baseline Smoothing	SWK1	12/15/22 18:29

GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121385-1

SDG No.: _____

Instrument ID: CVGG2 Analysis Batch Number: 756409

Lab Sample ID: 580-121385-1 Client Sample ID: AF-RHMW12A-WGN01B-2212W2

Date Analyzed: 12/21/22 22:05 Lab File ID: 22GL21016.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	SK9U	12/22/22 12:54

Lab Sample ID: CCV 680-756409/21 Client Sample ID: _____

Date Analyzed: 12/21/22 23:58 Lab File ID: 22GL21021.D GC Column: J&W DB WAX ID: 0.45 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	7.81	Incomplete Integration	SK9U	12/22/22 12:56
Ethylene glycol	8.25	Incomplete Integration	SK9U	12/22/22 12:56

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121385-1

SDG No.: _____

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
SG_Gly_CAL_00047	02/07/23		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_00099	04/25/23		Agilent, Lot 0006670821			(Purchased Reagent)	n-Heptyl Alcohol	5000 ug/mL
SG_GlyICV_00056	05/04/23		o2si, Lot 454407			(Purchased Reagent)	2-(2-Butoxyethoxy)ethanol	2000 ug/mL

Reagent

SG_Gly_CAL_00047



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



ISO 17034 Accredited
Reference Material Producer
Cert. No. 3031.02

Certificate of Analysis

Rev 0

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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:

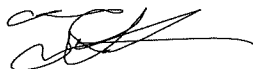


Brian Stokes

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

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

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:



Tyler Sherman

14 -Jun-2022

Quality Control Chemist I

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

Released By:



Susan Mathews

14 -Jun-2022

Quality Control Team Lead

Reagent

SG_GLY_ISTD_00099

Reference Material Certificate

Product Name: Custom Standard **Lot Number:** 0006670821
Product Number: CUS-6046 **Lot Issue Date:** 14-Mar-2022
Storage Conditions: Store at Room Temperature (15° to 30°C). **Expiration Date:** 30-Apr-2024

Component Name	CERTIFIED VALUES			CAS#	Analyte Lot
	Concentration	Expanded	Uncertainty		
n-heptanol	5024	±	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/NCSL 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.

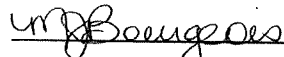
Expiration of Certification:

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



ISO 17034 Cert
No. AR-1936

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/
GSD-QA-015.1

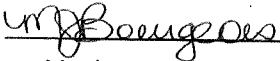


ISO 17025 Cert
No. AT-1937

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



ISO 17034 Cert
No. AR-1936

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 Cert
No. AT-1937

Reagent

SG_GlyICV_00056



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-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
diethylene glycol butyl ether	112-34-5	99.8	2323.7.2.1S	1992 ± 100 mg/L
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:

$u = k u_c$ 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

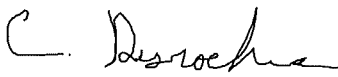
Manufactured By:



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

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:

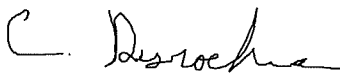


Jared Ball

1 -Jul-2021

Quality Control Chemist I

Certified By:

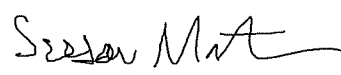


Claire Desrochers

7 -Jul-2021

Quality Control Chemist I

Released By:



Susan Mathews

8 -Jul-2021

Quality Control Team Lead

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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.: 580-121385-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: 22GL21006.D
 Lab ID: LCS 680-756409/6 Client ID: _____

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
2-(2-Butoxyethoxy) ethanol	20.0	26.2	131	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.: 580-121385-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: 22GL21007.D
 Lab ID: LCSD 680-756409/7 Client ID: _____

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
2-(2-Butoxyethoxy) ethanol	20.0	24.6	123	6	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.: 580-121385-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: 22GL21018.D
 Lab ID: 580-121385-2 MS Client ID: AF-RHMW06-WGN01B-2212W2 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	21.3	106	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.: 580-121385-1
 SDG No.: _____
 Matrix: Water Level: Low Lab File ID: 22GL21019.D
 Lab ID: 580-121385-2 MSD Client ID: AF-RHMW06-WGN01B-2212W2 MSD

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
2-(2-Butoxyethoxy) ethanol	20.0	23.6	118	10	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.: 580-121385-1
 SDG No.: _____
 Lab Sample ID: MB 680-756409/10
 Matrix: Water Date Extracted: _____
 Lab File ID: (1) 22GL21010.D Lab File ID: (2) _____
 Date Analyzed: (1) 12/21/2022 19:50 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 680-756409/6	12/21/2022 18:20	
	LCSD 680-756409/7	12/21/2022 18:43	
AF-RHMW12A-WGN01B-2212W2	580-121385-1	12/21/2022 22:05	
AF-RHMW06-WGN01B-2212W2	580-121385-2	12/21/2022 22:28	
AF-RHMW06-WGN01B-2212W2 MS	580-121385-2 MS	12/21/2022 22:50	
AF-RHMW06-WGN01B-2212W2 MSD	580-121385-2 MSD	12/21/2022 23:13	

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

Lab Name: Eurofins Savannah Job No.: 580-121385-1
 SDG No.: _____
 Sample No.: ICIS 680-755296/10 Date Analyzed: 12/15/2022 14:48
 Instrument ID: CVGG2 GC Column: J&W DB WAX ID: 0.45 (mm)
 Lab File ID (Standard): 22GL15010.D Heated Purge: (Y/N) N
 Calibration ID: 88697

	nHPA		#	RT #	#	RT #
	AREA #	RT #				
INITIAL CALIBRATION MID-POINT	6443842	5.71				
UPPER LIMIT	12887684	6.21				
LOWER LIMIT	3221921	5.21				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 680-755296/13 CCV		7820966	5.71			

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

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

Lab Name: Eurofins Savannah Job No.: 580-121385-1
 SDG No.: _____
 Sample No.: CCVIS 680-756409/5 Date Analyzed: 12/21/2022 17:58
 Instrument ID: CVGG2 GC Column: J&W DB WAX ID: 0.45 (mm)
 Lab File ID (Standard): 22GL21005.D Heated Purge: (Y/N) N
 Calibration ID: 88697

		nHPA					
		AREA #	RT #	#	RT #	#	RT #
12/24 HOUR STD		5736771	5.77				
UPPER LIMIT		11473542	6.27				
LOWER LIMIT		2868386	5.27				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 680-756409/6		8454360	5.77				
LCSD 680-756409/7		6246306	5.77				
MB 680-756409/10		6994603	5.76				
580-121385-1	AF-RHMW12A-WGN01B-221 W2	7179089	5.76				
580-121385-2	AF-RHMW06-WGN01B-2212 W2	6490945	5.76				
580-121385-2 MS	AF-RHMW06-WGN01B-2212 W2 MS	6972736	5.76				
580-121385-2 MSD	AF-RHMW06-WGN01B-2212 W2 MSD	7114012	5.76				
CCV 680-756409/21		7773045	5.75				

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

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121385-1
 SDG No.: _____
 Client Sample ID: AF-RHWW12A-WGN01B-2212W2 Lab Sample ID: 580-121385-1
 Matrix: Water Lab File ID: 22GL21016.D
 Analysis Method: 8015C GLY Date Collected: 12/14/2022 12:50
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 1(mL) Date Analyzed: 12/21/2022 22:05
 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.: 756409 Units: mg/L

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

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21016.D
 Lims ID: 580-121385-A-1
 Client ID: AF-RHMW12A-WGN01B-2212W2
 Sample Type: Client
 Inject. Date: 21-Dec-2022 22:05:47 ALS Bottle#: 16 Worklist Smp#: 16
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082902-016
 Operator ID: Instrument ID: CVGG2

 Method: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 22-Dec-2022 12:55:03 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D

 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1611

First Level Reviewer: SK9U Date: 22-Dec-2022 12:55:03

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

* 4 n-Heptyl Alcohol
 5.763 5.751 0.012 7179089 50.0

QC Flag Legend

Processing Flags

Reagents:

SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21016.D

Injection Date: 21-Dec-2022 22:05:47

Instrument ID: CVGG2

Operator ID:

Lims ID: 580-121385-A-1

Lab Sample ID: 680-121385-1

Worklist Smp#: 16

Client ID: AF-RHMW12A-WGN01B-2212W2

Injection Vol: 1.0 ul

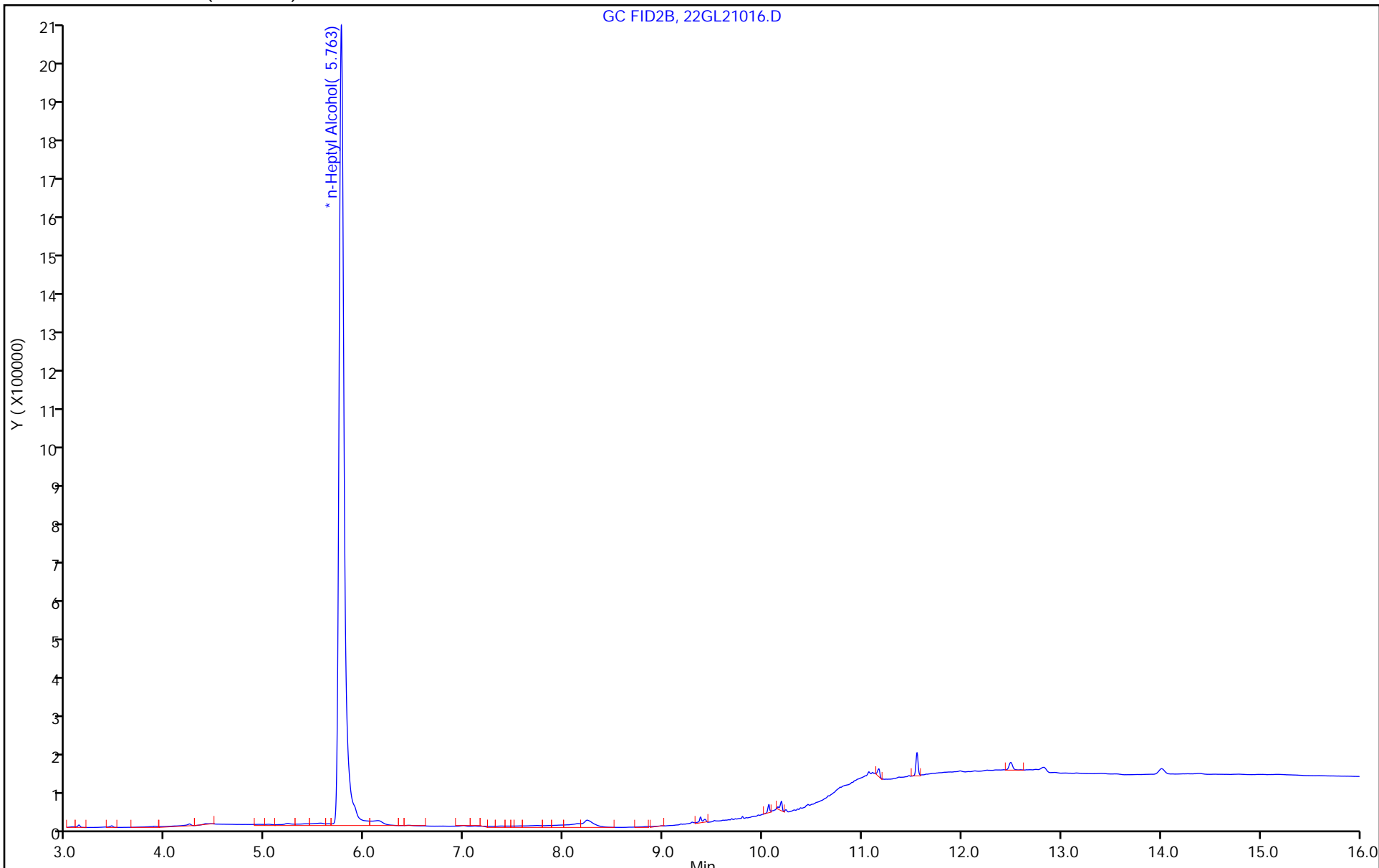
Dil. Factor: 1.0000

ALS Bottle#: 16

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.: 580-121385-1
 SDG No.: _____
 Client Sample ID: AF-RHMW06-WGN01B-2212W2 Lab Sample ID: 580-121385-2
 Matrix: Water Lab File ID: 22GL21017.D
 Analysis Method: 8015C GLY Date Collected: 12/14/2022 17:25
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 1(mL) Date Analyzed: 12/21/2022 22:28
 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.: 756409 Units: mg/L

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

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21017.D
 Lims ID: 580-121385-A-2
 Client ID: AF-RHMW06-WGN01B-2212W2
 Sample Type: Client
 Inject. Date: 21-Dec-2022 22:28:17 ALS Bottle#: 17 Worklist Smp#: 17
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082902-017
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 22-Dec-2022 12:55:53 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1611

First Level Reviewer: SK9U Date: 22-Dec-2022 12:55:53

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

3	2-Butoxyethanol				7
5.222	5.220	0.002	14137	0.1943	7
LOD = 0.5000					
*	4 n-Heptyl Alcohol				
5.762	5.751	0.011	6490945	50.0	
9	2,2'-Oxybisethanol				7
10.187	10.188	-0.001	40967	0.99	7
LOD = 1.60					
10	Triethylene Glycol				7
11.168	11.170	-0.002	49317	-0.7196	7
LOD = 1.40					

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21017.D

Injection Date: 21-Dec-2022 22:28:17

Instrument ID: CVGG2

Operator ID:

Lims ID: 580-121385-A-2

Lab Sample ID: 680-121385-2

Worklist Smp#: 17

Client ID: AF-RHMW06-WGN01B-2212W2

Injection Vol: 1.0 ul

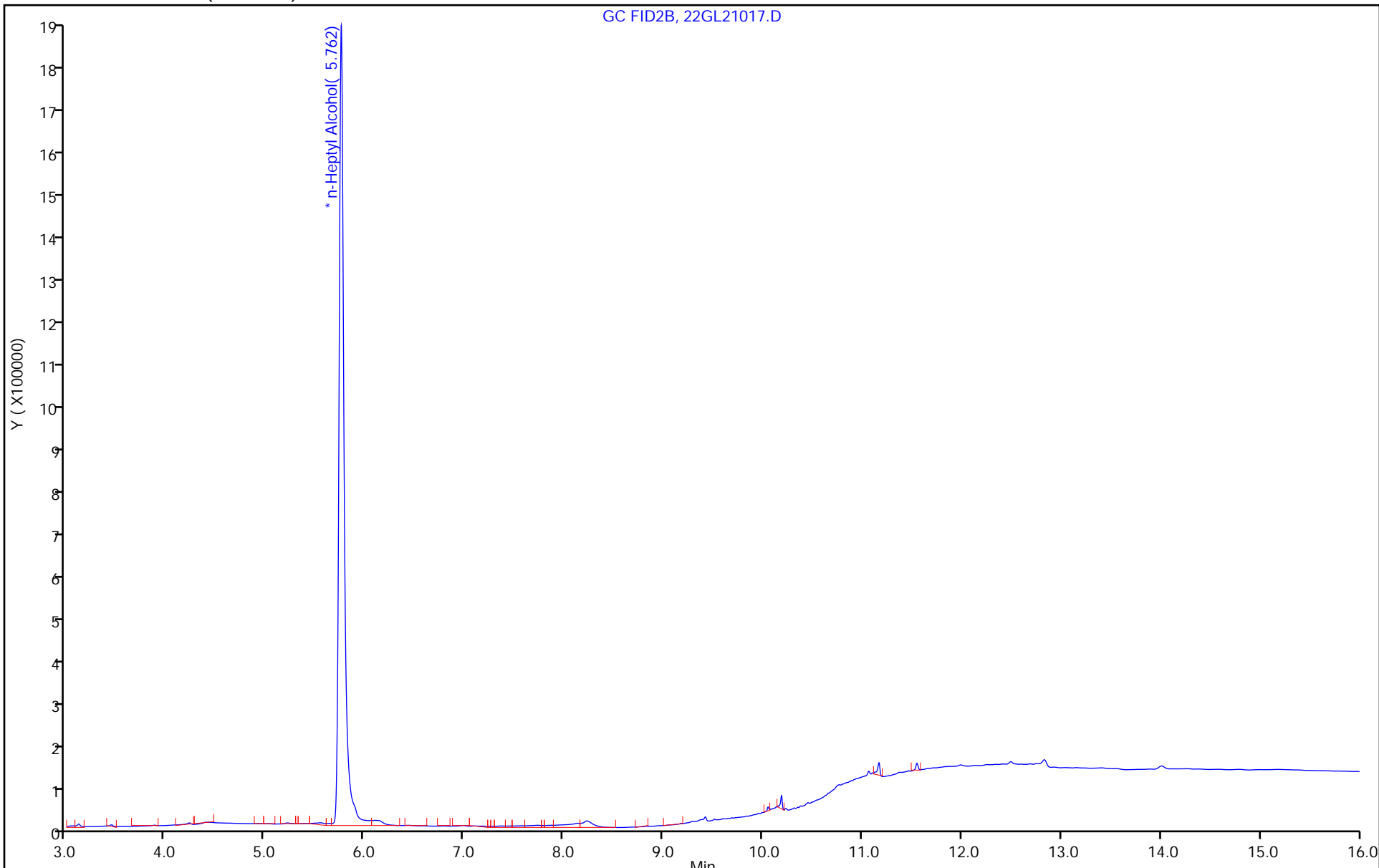
Dil. Factor: 1.0000

ALS Bottle#: 17

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



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

Lab Name: Eurofins Savannah Job No.: 580-121385-1 Analy Batch No.: 755296
 SDG No.: _____
 Instrument ID: CVGG2 GC Column: J&W DB WAX ID: 0.45 (mm) Heated Purge: (Y/N) N
 Calibration Start Date: 12/15/2022 13:40 Calibration End Date: 12/15/2022 15:34 Calibration ID: 88697

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-755296/12	22GL15012.D
Level 2	IC 680-755296/11	22GL15011.D
Level 3	ICIS 680-755296/10	22GL15010.D
Level 4	IC 680-755296/9	22GL15009.D
Level 5	IC 680-755296/8	22GL15008.D
Level 6	IC 680-755296/7	22GL15007.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 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethanol, 2-propoxy	0.5816 0.4737	0.5568	0.5171	0.4615	0.5207	Ave		0.518 6			8.9		20.0				
4-Hydroxy-4-methyl-2-pentanone	0.6069 0.4985	0.5826	0.5431	0.4794	0.5476	Ave		0.543 0			8.9		20.0				
2-Butoxyethanol	0.6374 0.5121	0.6038	0.5557	0.4918	0.5613	Ave		0.560 4			9.7		20.0				
Dipropylene Glycol Methyl Ether	0.0431 0.0367	0.0396	0.0435	0.0351	0.0416	Ave		0.039 9			8.6		20.0				
Propylene glycol	0.3771 ++++	0.3055	0.3662	0.3077	0.3466	Ave		0.340 6			9.7		20.0				
Ethylene glycol	0.3909 ++++	0.3167	0.3413	0.2928	0.3158	Ave		0.331 5			11.3		20.0				
2-(2-Butoxyethoxy)ethanol	0.5666 0.4465	0.5278	0.4873	0.4391	0.5106	Ave		0.496 3			9.9		20.0				
2,2'-Oxybisethanol	0.3586 0.2979	0.3343	0.3201	0.2784	0.3203	Ave		0.318 3			8.8		20.0				
Triethylene Glycol	0.4069 0.2998	0.3723	0.3329	0.2783	0.3204	Lin2	0.593 1	0.296 3						0.9940		0.9900	
Tetraethylene Glycol	0.3889 0.3018	0.3481	0.3168	0.2619	0.3191	Lin2	1.018 4	0.289 5						0.9920		0.9900	

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.: 580-121385-1 Analy Batch No.: 755296

SDG No.: _____

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

Calibration Start Date: 12/15/2022 13:40 Calibration End Date: 12/15/2022 15:34 Calibration ID: 88697

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-755296/12	22GL15012.D
Level 2	IC 680-755296/11	22GL15011.D
Level 3	ICIS 680-755296/10	22GL15010.D
Level 4	IC 680-755296/9	22GL15009.D
Level 5	IC 680-755296/8	22GL15008.D
Level 6	IC 680-755296/7	22GL15007.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethanol, 2-propoxy	nHPA	Ave	416727 7053688	791260	1332867	2587988	6285698	5.00 100	10.0	20.0	50.0	80.0
4-Hydroxy-4-methyl-2-pentanone	nHPA	Ave	434849 7423255	827949	1399741	2688287	6609451	5.00 100	10.0	20.0	50.0	80.0
2-Butoxyethanol	nHPA	Ave	456743 7626714	858121	1432260	2757997	6774865	5.00 100	10.0	20.0	50.0	80.0
Dipropylene Glycol Methyl Ether	nHPA	Ave	30872 546715	56303	112172	196877	502049	5.00 100	10.0	20.0	50.0	80.0
Propylene glycol	nHPA	Ave	270235 ++++	434131	943990	1725397	4183063	5.00 ++++	10.0	20.0	50.0	80.0
Ethylene glycol	nHPA	Ave	280066 ++++	450038	879839	1642095	3811895	5.00 ++++	10.0	20.0	50.0	80.0
2-(2-Butoxyethoxy)ethanol	nHPA	Ave	405977 6649122	750029	1256158	2462169	6163303	5.00 100	10.0	20.0	50.0	80.0
2,2'-Oxybisethanol	nHPA	Ave	256938 4436367	475084	824970	1561212	3866081	5.00 100	10.0	20.0	50.0	80.0
Triethylene Glycol	nHPA	Lin2	291568 4464024	529150	858022	1560681	3867921	5.00 100	10.0	20.0	50.0	80.0
Tetraethylene Glycol	nHPA	Lin2	557362 8988059	989281	1633146	2937100	7703370	10.0 200	20.0	40.0	100	160

Curve Type Legend

Ave = Average ISTD
Lin2 = Linear 1/conc^2 ISTD

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

Lab Name: Eurofins Savannah Job No.: 580-121385-1 Analy Batch No.: 755296

SDG No.: _____

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

Calibration Start Date: 12/15/2022 13:40 Calibration End Date: 12/15/2022 15:34 Calibration ID: 88697

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-755296/12	22GL15012.D
Level 2	IC 680-755296/11	22GL15011.D
Level 3	ICIS 680-755296/10	22GL15010.D
Level 4	IC 680-755296/9	22GL15009.D
Level 5	IC 680-755296/8	22GL15008.D
Level 6	IC 680-755296/7	22GL15007.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Ethanol, 2-propoxy	12.2	7.4	-0.3	-11.0	0.4	-8.7	20	20	20	20	20	20
4-Hydroxy-4-methyl-2-pentanone	11.8	7.3	0.0	-11.7	0.8	-8.2	20	20	20	20	20	20
2-Butoxyethanol	13.8	7.8	-0.8	-12.2	0.2	-8.6	20	20	20	20	20	20
Dipropylene Glycol Methyl Ether	7.9	-0.8	9.0	-12.1	4.1	-8.1	20	20	20	20	20	20
Propylene glycol	10.7	-10.3	7.5	-9.7	1.7	++++	20	20	20	20	20	
Ethylene glycol	17.9	-4.5	3.0	-11.7	-4.7	++++	20	20	20	20	20	
2-(2-Butoxyethoxy)ethanol	14.2	6.3	-1.8	-11.5	2.9	-10.0	20	20	20	20	20	20
2,2'-Oxybisethanol	12.7	5.0	0.6	-12.5	0.6	-6.4	20	20	20	20	20	20
Triethylene Glycol	-2.7	5.6	2.3	-10.1	5.6	-0.8	20	20	20	20	20	20
Tetraethylene Glycol	-0.8	2.7	0.7	-13.0	8.0	2.5	20	20	20	20	20	20

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15007.D
 Lims ID: ic g6
 Client ID:
 Sample Type: IC Calib Level: 6
 Inject. Date: 15-Dec-2022 13:40:52 ALS Bottle#: 7 Worklist Smp#: 7
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082752-007
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 15-Dec-2022 18:35:03 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1659

First Level Reviewer: SK9U Date: 15-Dec-2022 17:24:57

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
3.984	3.983	0.001	7053688	100.0	91.3	
2 4-Hydroxy-4-methyl-2-pentanone						
4.806	4.806	0.000	7423255	100.0	91.8	
3 2-Butoxyethanol						
5.175	5.175	0.000	7626714	100.0	91.4	
* 4 n-Heptyl Alcohol						
5.708	5.708	0.000	7445839	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
6.827	6.831	-0.004	546715	100.0	91.9	
6 Propylene glycol						M
7.822	7.827	-0.005	3624516	100.0	71.5	M
7 Ethylene glycol						M
8.217	8.218	-0.001	3043727	100.0	61.7	M
8 2-(2-Butoxyethoxy)ethanol						
9.493	9.491	0.002	6649122	100.0	90.0	
9 2,2'-Oxybisethanol						
10.178	10.176	0.002	4436367	100.0	93.6	
10 Triethylene Glycol						M
11.159	11.159	0.000	4464024	100.0	99.2	M
11 Tetraethylene Glycol						
12.824	12.821	0.003	8988059	200.0	205.0	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00047

Amount Added: 50.00

Units: uL

SG_GLY_ISTD_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15007.D

Injection Date: 15-Dec-2022 13:40:52

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g6

Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul

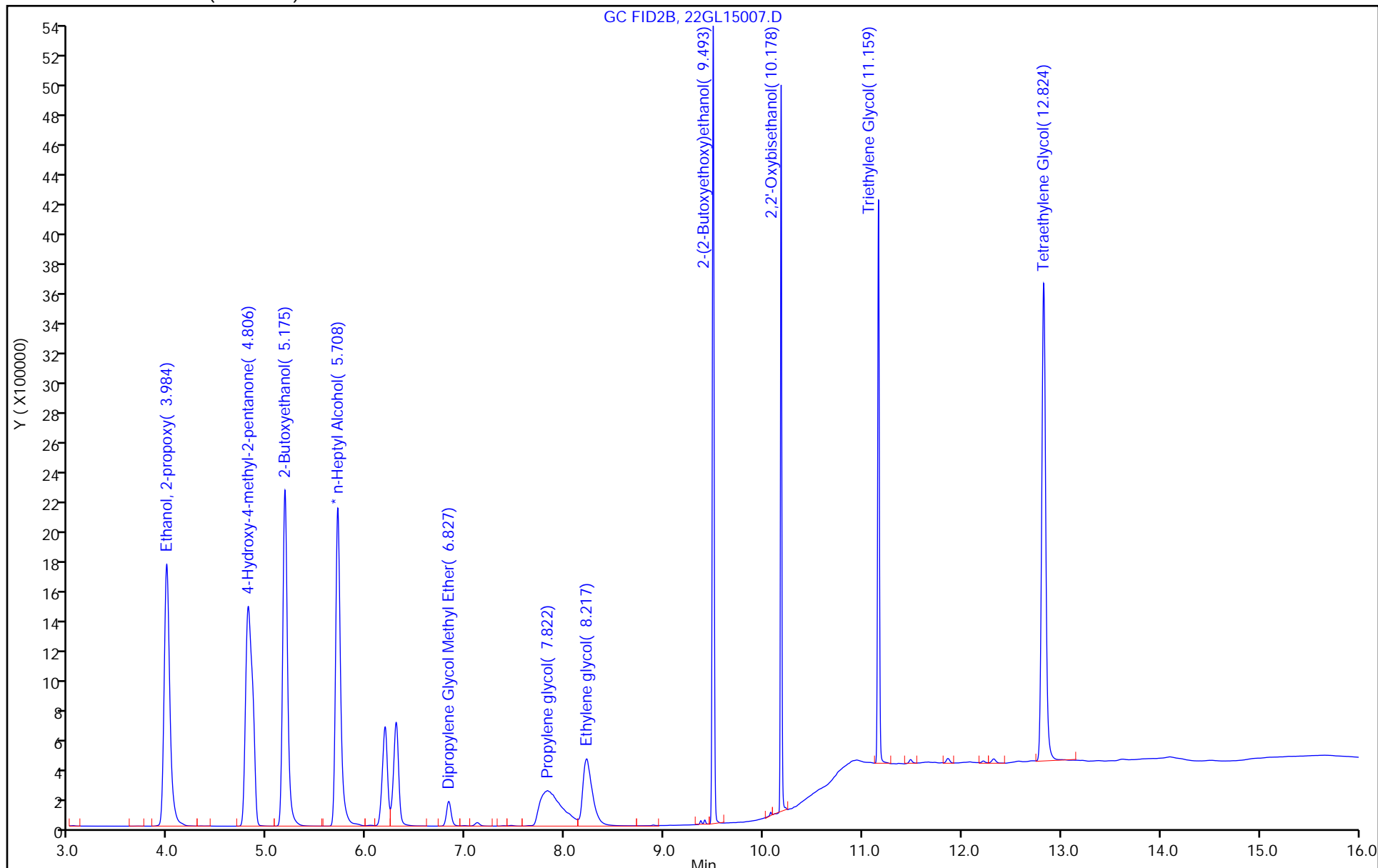
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

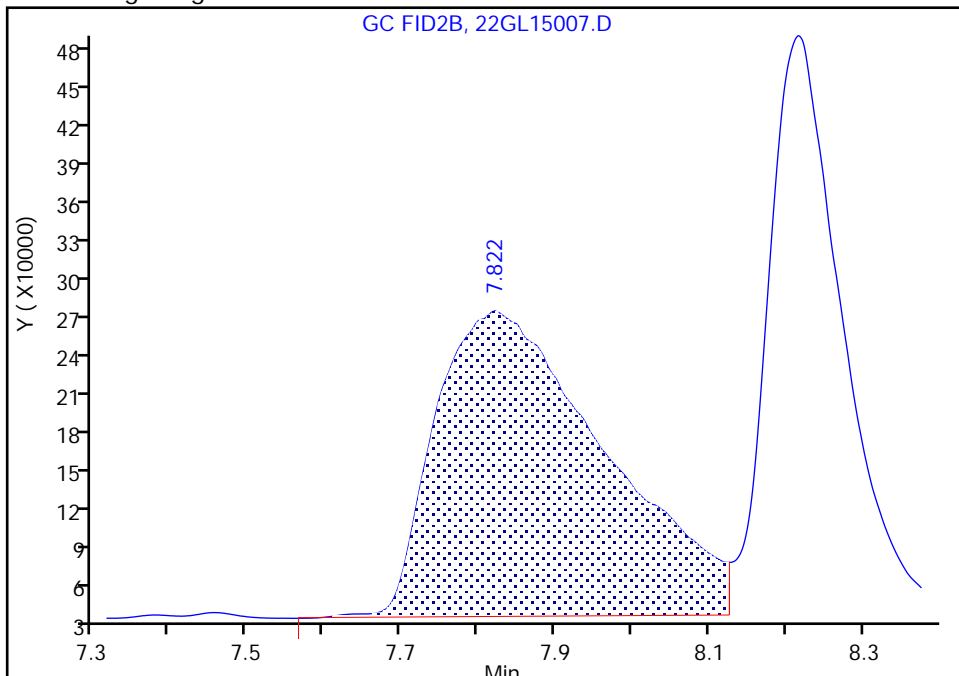
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15007.D
Injection Date: 15-Dec-2022 13:40:52 Instrument ID: CVGG2
Lims ID: ic g6
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

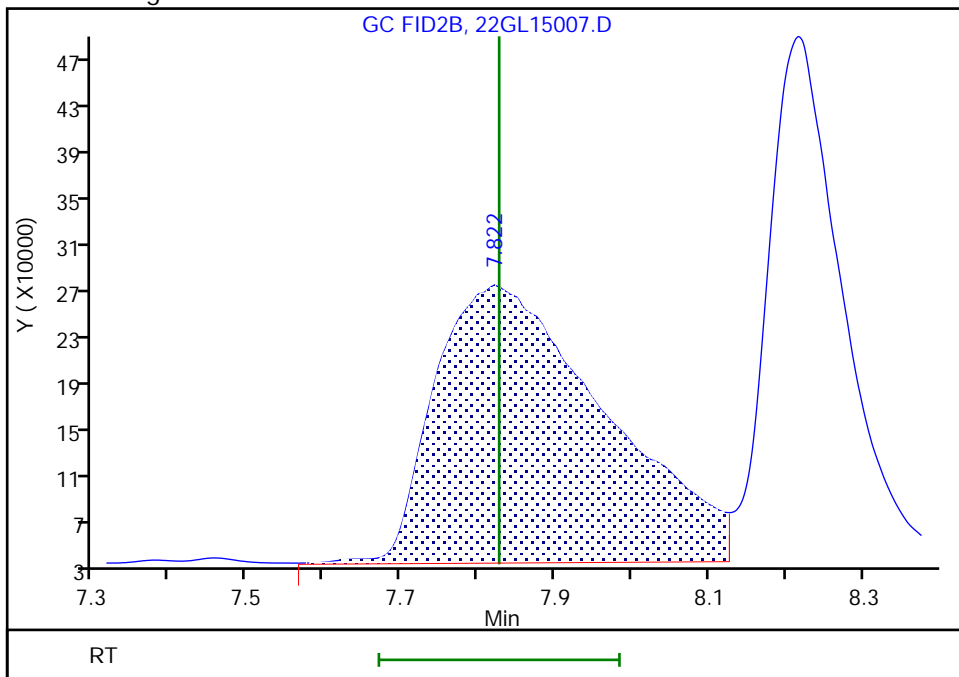
RT: 7.82
Area: 3607792
Amount: 74.721268
Amount Units: ug/ml

Processing Integration Results



RT: 7.82
Area: 3624516
Amount: 71.455054
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 15-Dec-2022 18:33:27
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

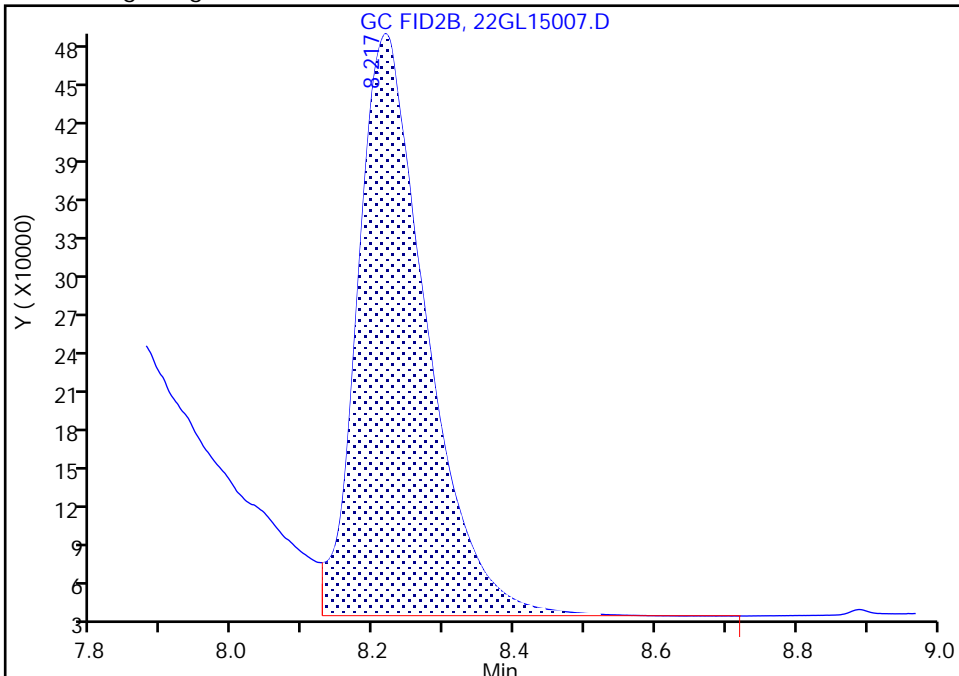
Data File:	\\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15007.D		
Injection Date:	15-Dec-2022 13:40:52	Instrument ID:	CVGG2
Lims ID:	ic g6		
Client ID:			
Operator ID:		ALS Bottle#:	7 Worklist Smp#: 7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI
Column:	J&W DB WAX (0.45 mm)	Detector:	GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

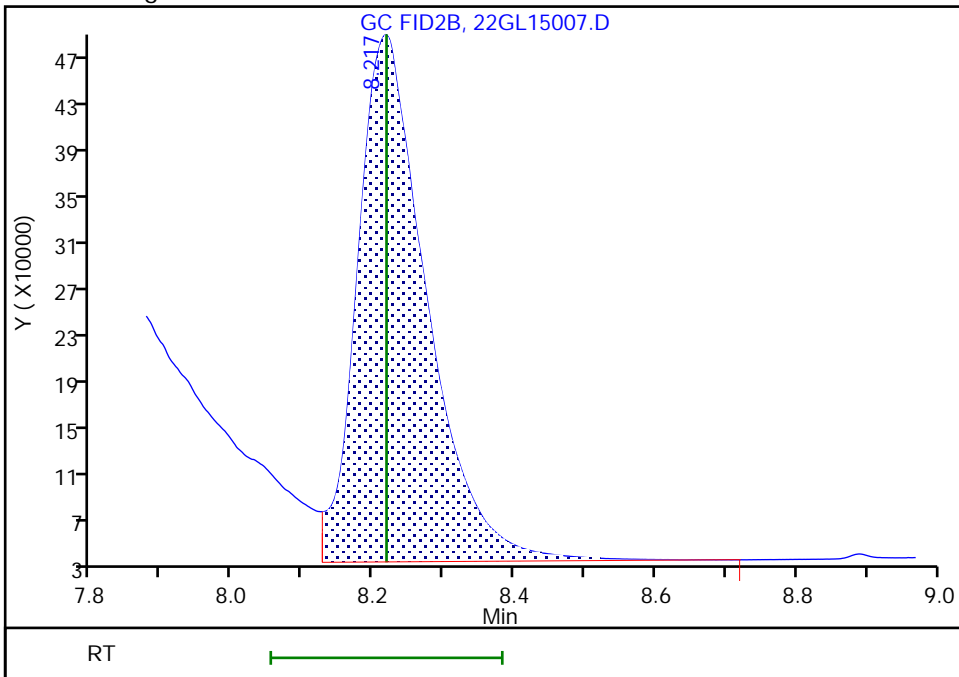
RT: 8.22
 Area: 3026716
 Amount: 65.536617
 Amount Units: ug/ml

Processing Integration Results



RT: 8.22
 Area: 3043727
 Amount: 61.655254
 Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 15-Dec-2022 18:33:27
 Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

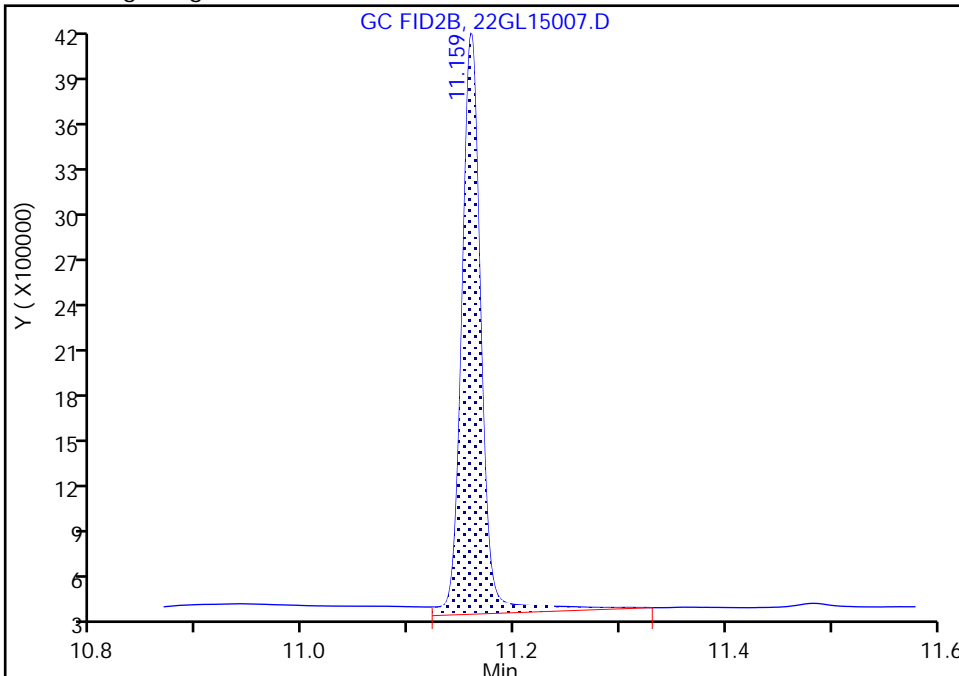
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15007.D
Injection Date: 15-Dec-2022 13:40:52 Instrument ID: CVGG2
Lims ID: ic g6
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

10 Triethylene Glycol, CAS: 112-27-6

Signal: 1

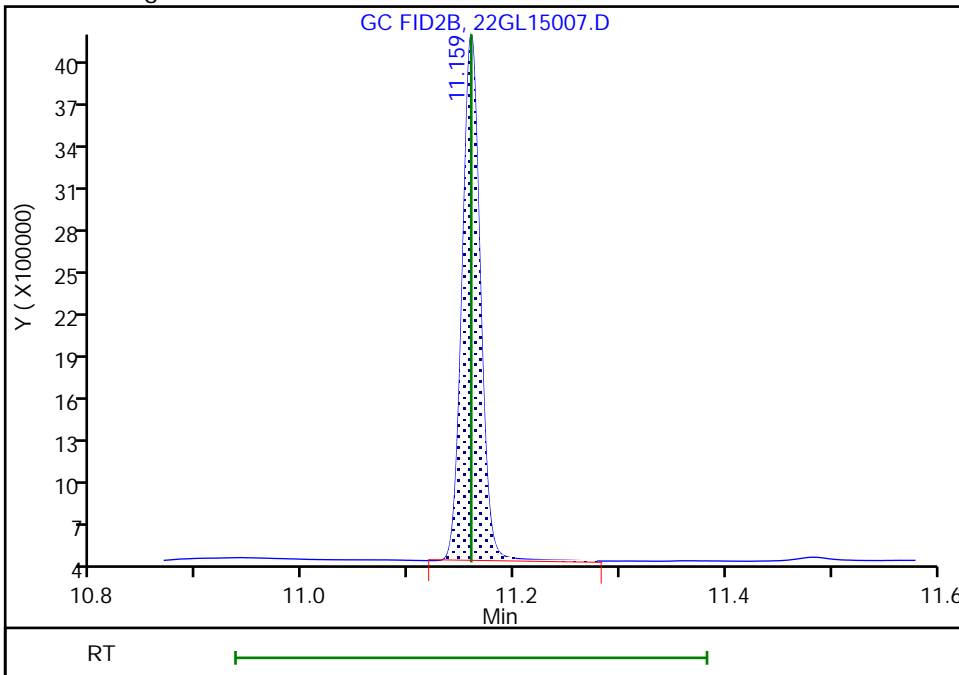
RT: 11.16
Area: 4844633
Amount: 101.9642
Amount Units: ug/ml

Processing Integration Results



RT: 11.16
Area: 4464024
Amount: 99.163918
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 15-Dec-2022 18:27:49
Audit Action: Manually Integrated

Audit Reason: Baseline Smoothing

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15008.D
 Lims ID: ic g5
 Client ID:
 Sample Type: IC Calib Level: 5
 Inject. Date: 15-Dec-2022 14:03:30 ALS Bottle#: 8 Worklist Smp#: 8
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082752-008
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 15-Dec-2022 18:35:03 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1659

First Level Reviewer: SWK1 Date: 15-Dec-2022 18:28:03

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy	3.981	3.983	-0.002	6285698	80.0	80.3
2 4-Hydroxy-4-methyl-2-pentanone	4.806	4.806	0.000	6609451	80.0	80.7
3 2-Butoxyethanol	5.176	5.175	0.001	6774865	80.0	80.1
* 4 n-Heptyl Alcohol	5.710	5.708	0.002	7544066	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.831	6.831	0.000	502049	80.0	83.3
6 Propylene glycol	7.826	7.827	-0.001	4183063	80.0	81.4
7 Ethylene glycol	8.218	8.218	0.000	3811895	80.0	76.2
8 2-(2-Butoxyethoxy)ethanol	9.493	9.491	0.002	6163303	80.0	82.3
9 2,2'-Oxybisethanol	10.178	10.176	0.002	3866081	80.0	80.5
10 Triethylene Glycol	11.159	11.159	0.000	3867921	80.0	84.5 M
11 Tetraethylene Glycol	12.822	12.821	0.001	7703370	160.0	172.9 M

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00047

Amount Added: 40.00

Units: uL

SG_GLY_ISTD_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15008.D

Injection Date: 15-Dec-2022 14:03:30

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g5

Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul

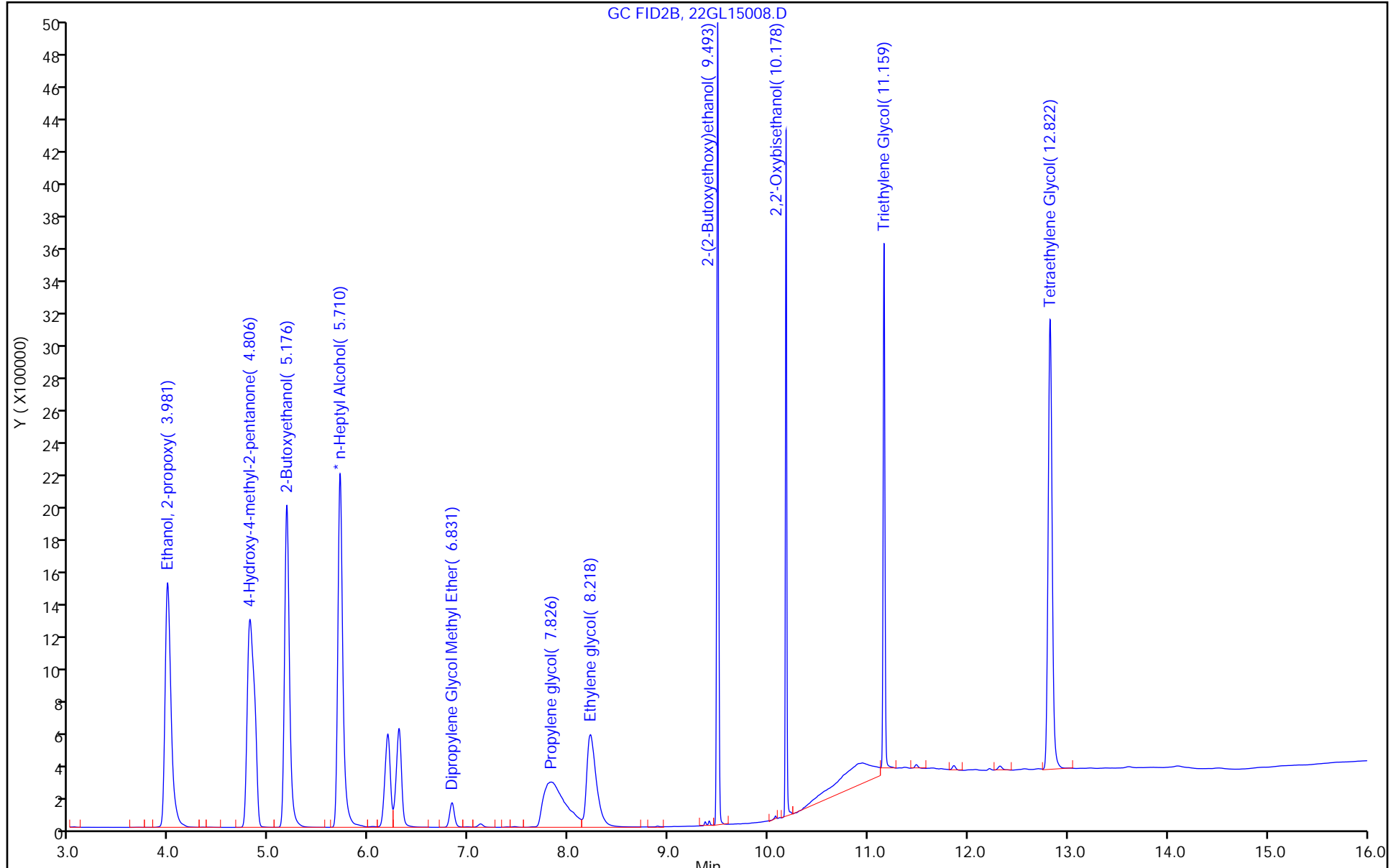
Dil. Factor: 1.0000

ALS Bottle#: 8

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

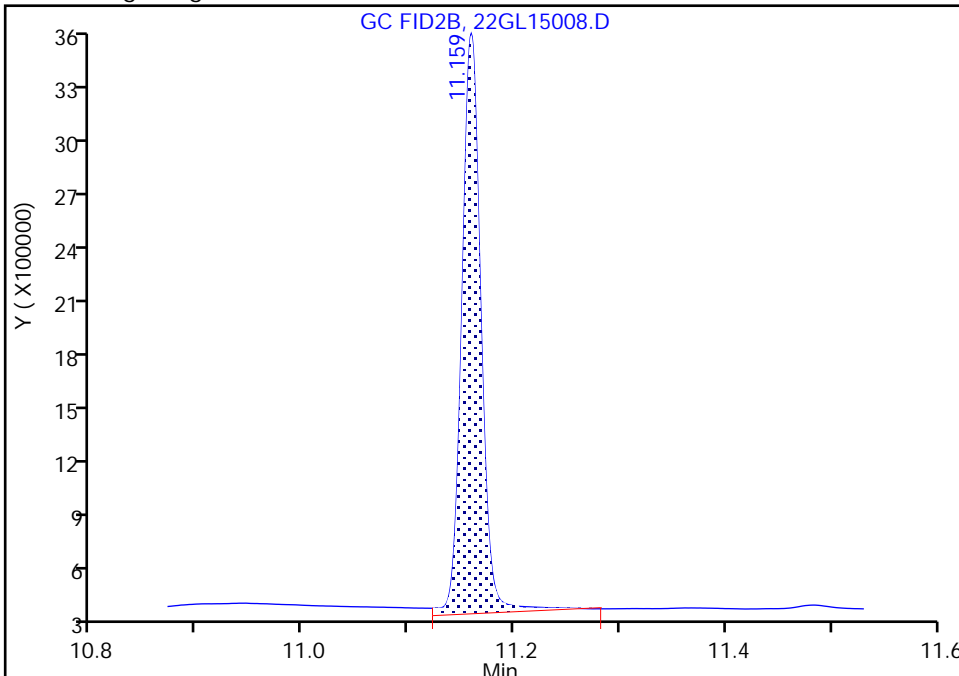
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15008.D
Injection Date: 15-Dec-2022 14:03:30 Instrument ID: CVGG2
Lims ID: ic g5
Client ID:
Operator ID: ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

10 Triethylene Glycol, CAS: 112-27-6

Signal: 1

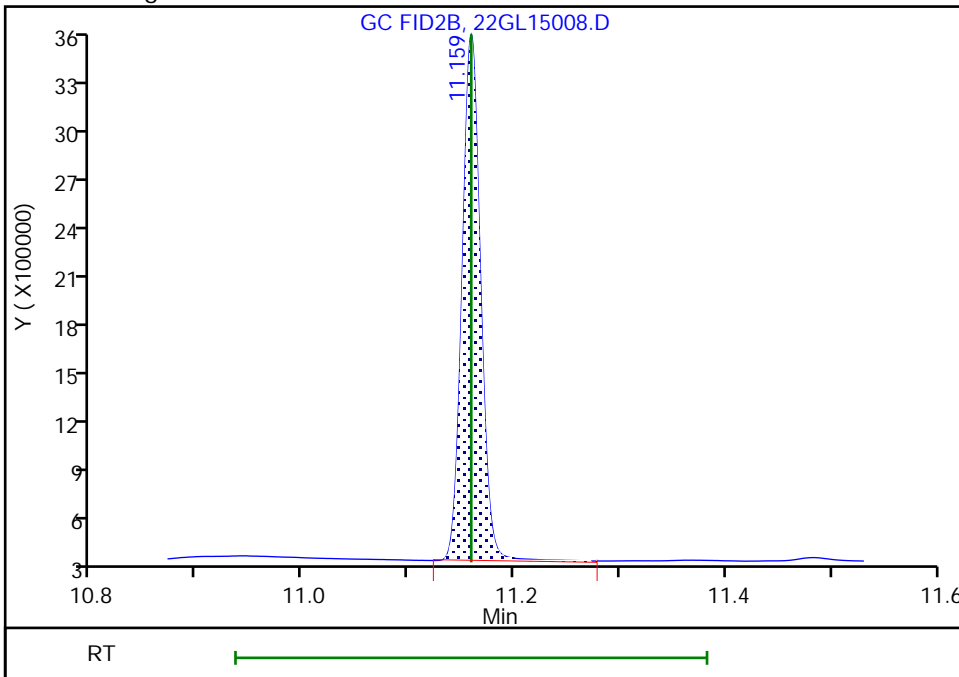
RT: 11.16
Area: 4076952
Amount: 85.617419
Amount Units: ug/ml

Processing Integration Results



RT: 11.16
Area: 3867921
Amount: 84.513452
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 15-Dec-2022 18:28:02
Audit Action: Manually Integrated

Audit Reason: Baseline Smoothing

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15009.D
 Lims ID: ic g4
 Client ID:
 Sample Type: IC Calib Level: 4
 Inject. Date: 15-Dec-2022 14:26:10 ALS Bottle#: 9 Worklist Smp#: 9
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082752-009
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 15-Dec-2022 18:35:04 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1659

First Level Reviewer: SWK1 Date: 15-Dec-2022 18:28:15

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

1 Ethanol, 2-propoxy	3.981	3.981	0.000	2587988	50.0	44.5
2 4-Hydroxy-4-methyl-2-pentanone	4.806	4.806	0.000	2688287	50.0	44.1
3 2-Butoxyethanol	5.175	5.175	0.000	2757997	50.0	43.9
* 4 n-Heptyl Alcohol	5.709	5.709	0.000	5607434	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.829	6.829	0.000	196877	50.0	44.0
6 Propylene glycol	7.829	7.829	0.000	1725397	50.0	45.2
7 Ethylene glycol	8.218	8.218	0.000	1642095	50.0	44.2
8 2-(2-Butoxyethoxy)ethanol	9.492	9.492	0.000	2462169	50.0	44.2
9 2,2'-Oxybisethanol	10.177	10.177	0.000	1561212	50.0	43.7
10 Triethylene Glycol	11.159	11.159	0.000	1560681	50.0	45.0 M
11 Tetraethylene Glycol	12.823	12.823	0.000	2937100	100.0	87.0 M

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00047

Amount Added: 25.00

Units: uL

SG_GLY_ISTD_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15009.D

Injection Date: 15-Dec-2022 14:26:10

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g4

Worklist Smp#: 9

Client ID:

Injection Vol: 1.0 ul

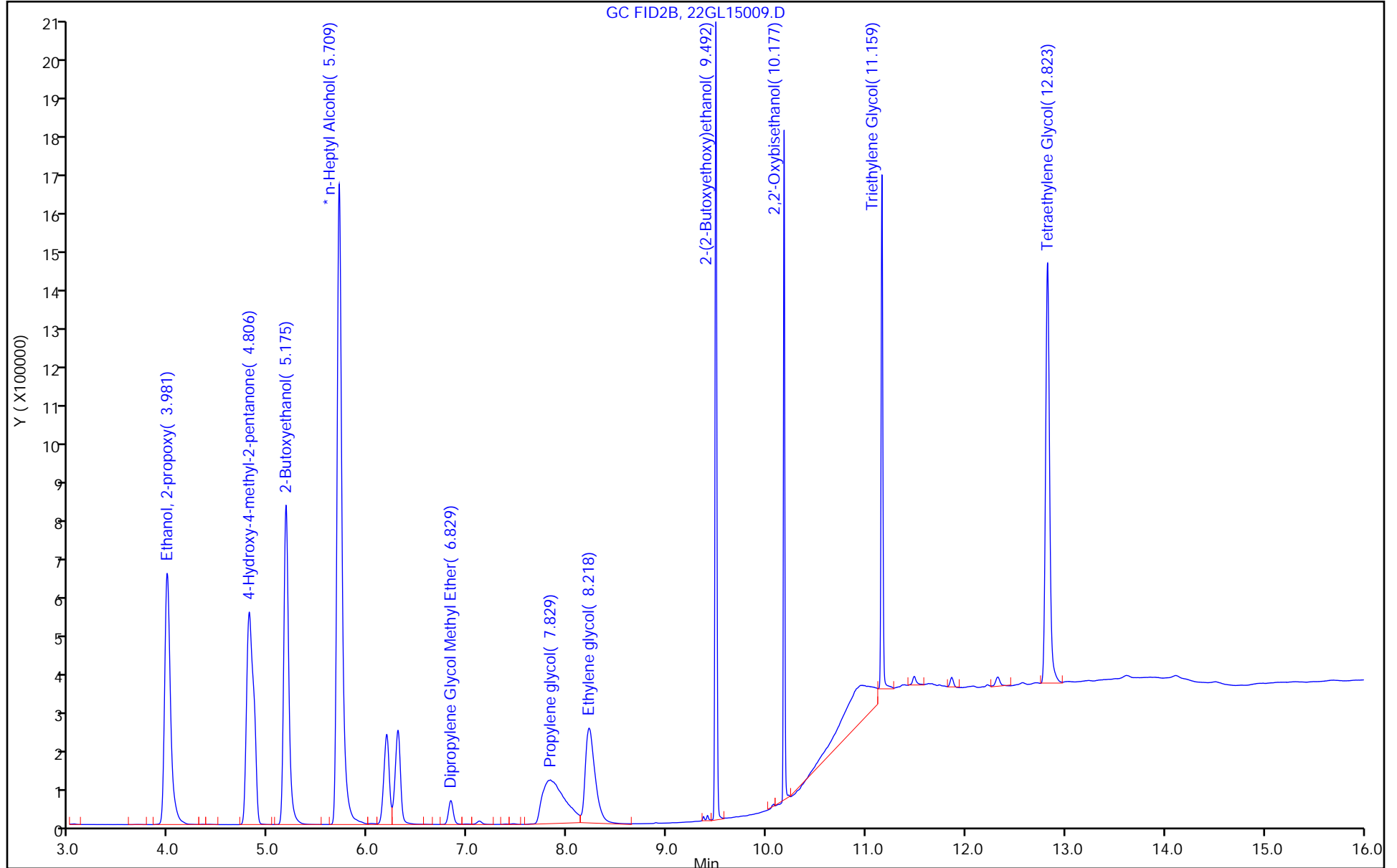
Dil. Factor: 1.0000

ALS Bottle#: 9

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

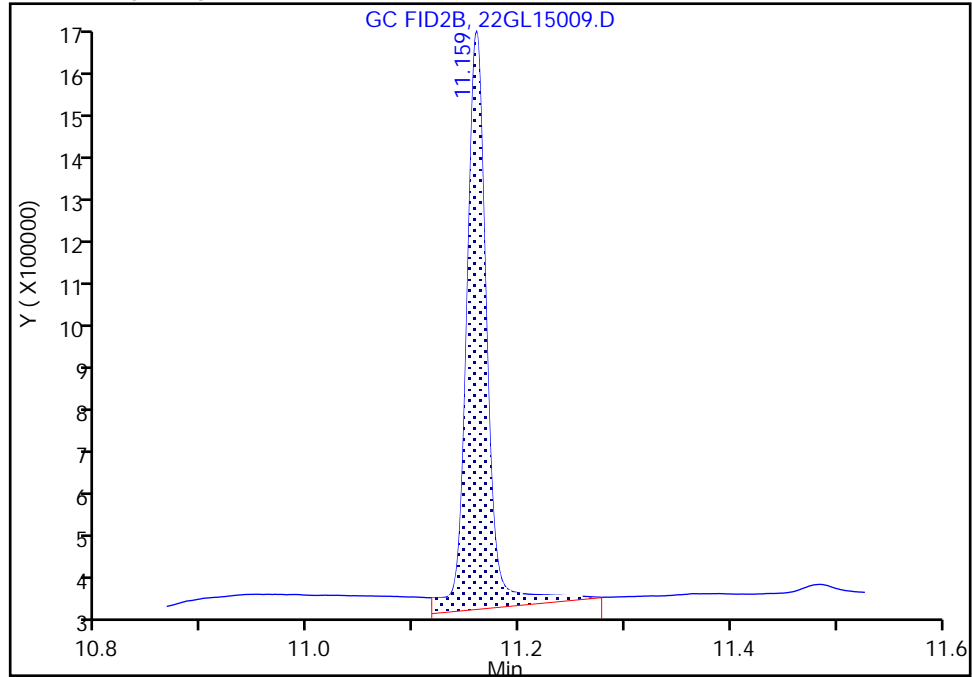
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15009.D
Injection Date: 15-Dec-2022 14:26:10 Instrument ID: CVGG2
Lims ID: ic g4
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

10 Triethylene Glycol, CAS: 112-27-6

Signal: 1

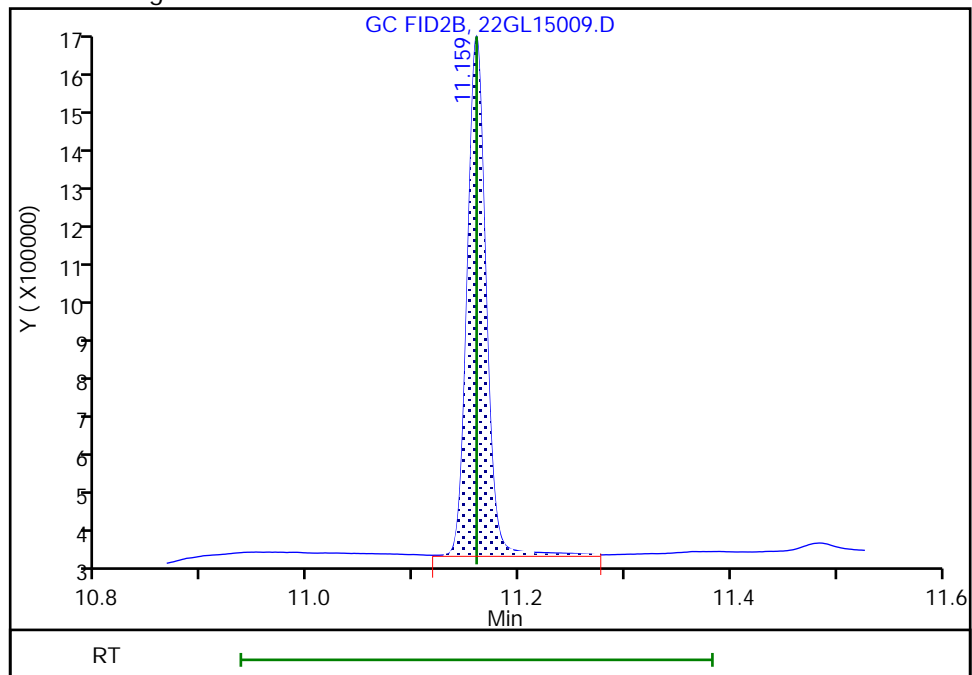
RT: 11.16
Area: 1737472
Amount: 46.932084
Amount Units: ug/ml

Processing Integration Results



RT: 11.16
Area: 1560681
Amount: 44.962836
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 15-Dec-2022 18:28:13
Audit Action: Manually Integrated

Audit Reason: Baseline Smoothing

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15010.D
 Lims ID: icis g3
 Client ID:
 Sample Type: ICIS Calib Level: 3
 Inject. Date: 15-Dec-2022 14:48:56 ALS Bottle#: 10 Worklist Smp#: 10
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082752-010
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 15-Dec-2022 18:35:05 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1659

First Level Reviewer: SWK1 Date: 15-Dec-2022 18:28:35

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
3.983	3.983	0.000	1332867	20.0	19.9	
2 4-Hydroxy-4-methyl-2-pentanone						
4.806	4.806	0.000	1399741	20.0	20.0	
3 2-Butoxyethanol						
5.175	5.175	0.000	1432260	20.0	19.8	
* 4 n-Heptyl Alcohol						
5.708	5.708	0.000	6443842	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
6.831	6.831	0.000	112172	20.0	21.8	
6 Propylene glycol						
7.827	7.827	0.000	943990	20.0	21.5	M
7 Ethylene glycol						
8.218	8.218	0.000	879839	20.0	20.6	M
8 2-(2-Butoxyethoxy)ethanol						
9.491	9.491	0.000	1256158	20.0	19.6	M
9 2,2'-Oxybisethanol						
10.176	10.176	0.000	824970	20.0	20.1	
10 Triethylene Glycol						
11.159	11.159	0.000	858022	20.0	20.5	M
11 Tetraethylene Glycol						
12.821	12.821	0.000	1633146	40.0	40.3	

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00047

Amount Added: 10.00

Units: uL

SG_GLY_ISTD_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15010.D

Injection Date: 15-Dec-2022 14:48:56

Instrument ID: CVGG2

Operator ID:

Lims ID: icis g3

Worklist Smp#: 10

Client ID:

Injection Vol: 1.0 ul

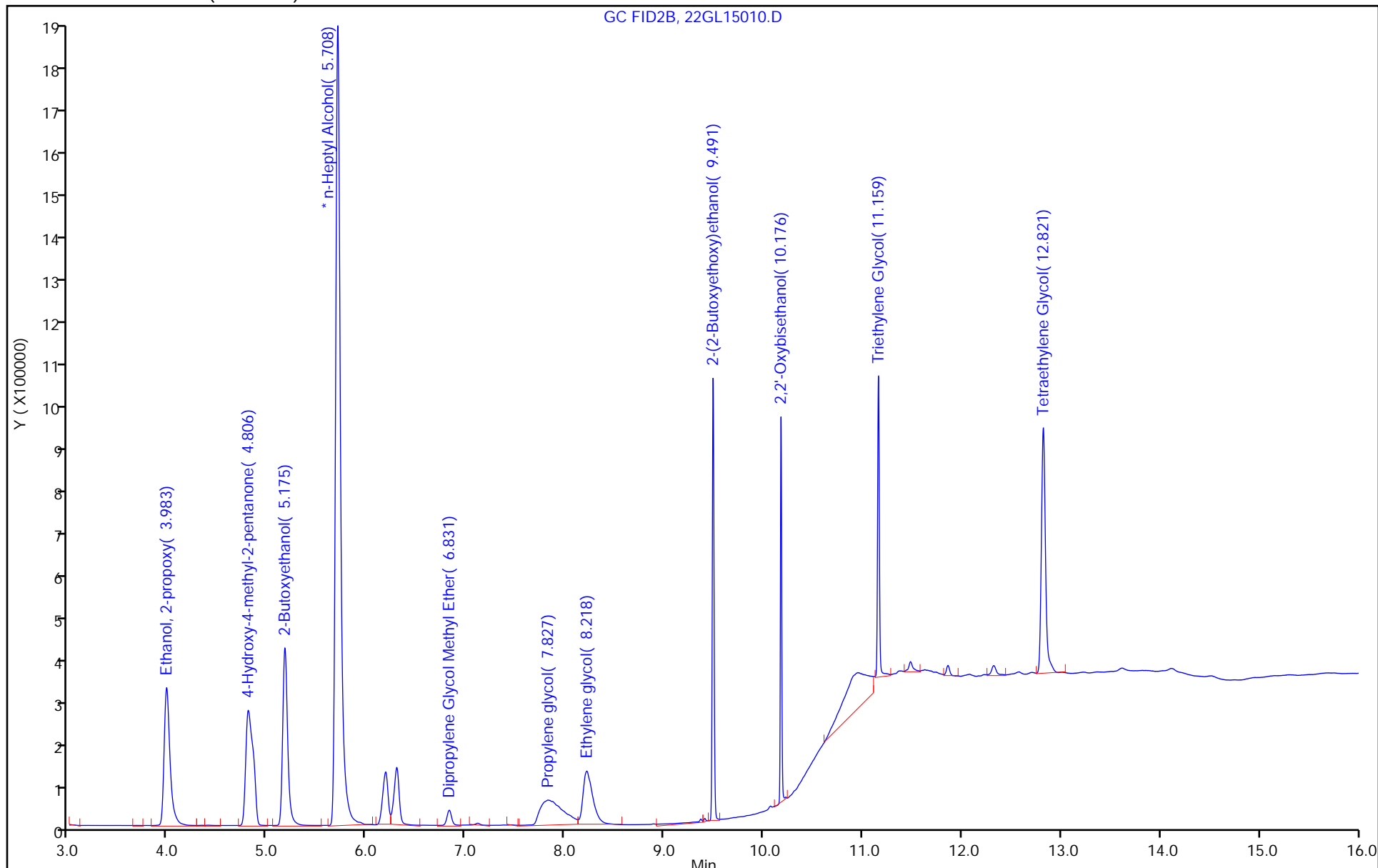
Dil. Factor: 1.0000

ALS Bottle#: 10

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

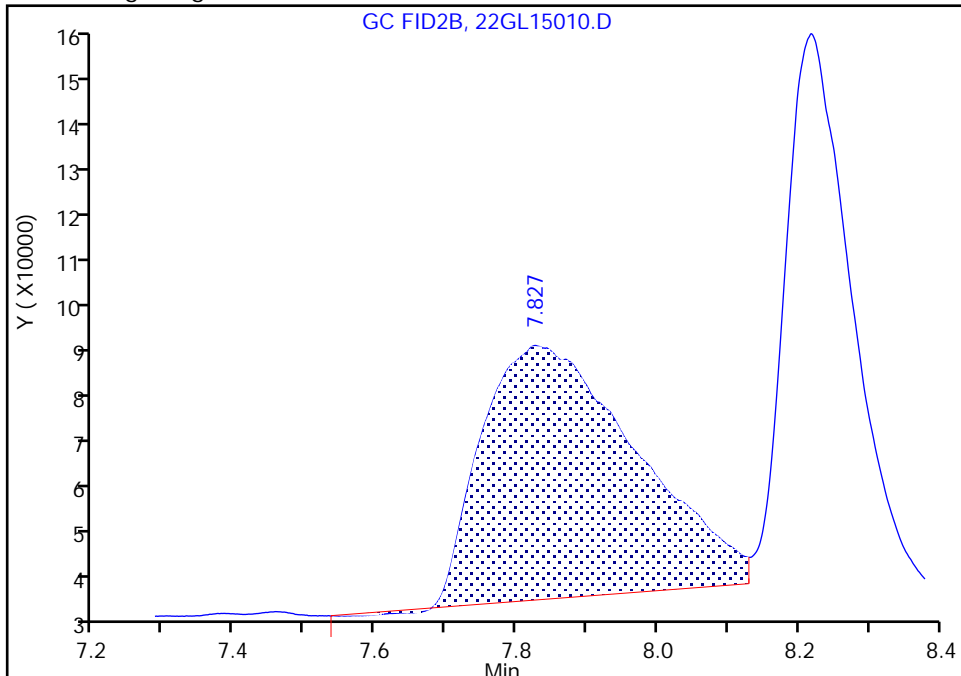
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15010.D
Injection Date: 15-Dec-2022 14:48:56 Instrument ID: CVGG2
Lims ID: icis g3
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

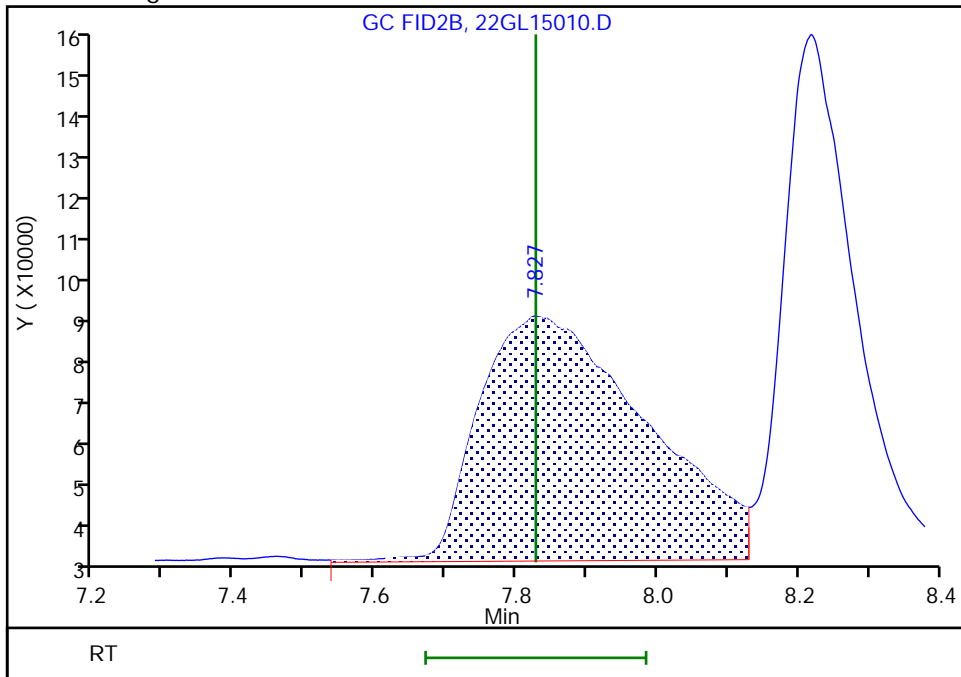
RT: 7.83
Area: 829696
Amount: 20.319088
Amount Units: ug/ml

Processing Integration Results



RT: 7.83
Area: 943990
Amount: 21.503992
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 15-Dec-2022 18:31:33
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

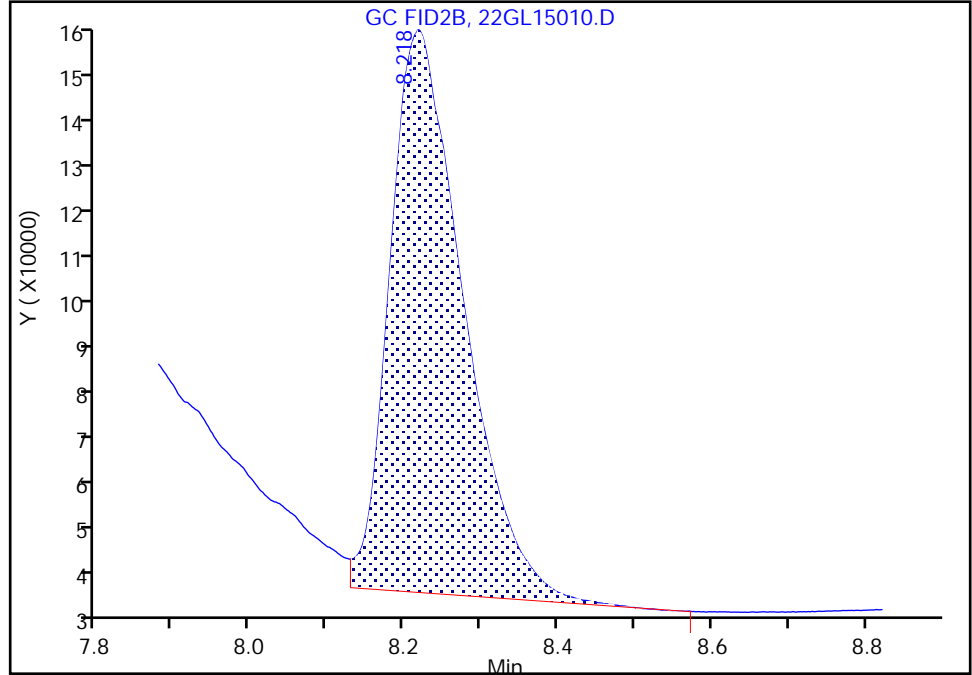
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15010.D
Injection Date: 15-Dec-2022 14:48:56 Instrument ID: CVGG2
Lims ID: icis g3
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

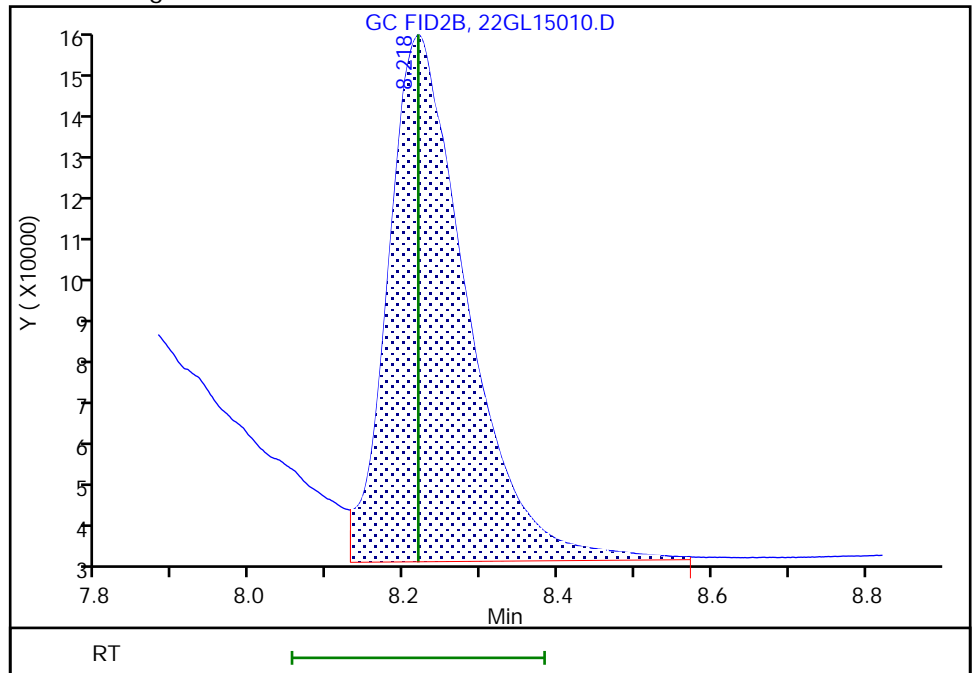
RT: 8.22
Area: 793578
Amount: 20.218674
Amount Units: ug/ml

Processing Integration Results



RT: 8.22
Area: 879839
Amount: 20.593794
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 15-Dec-2022 18:31:33
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

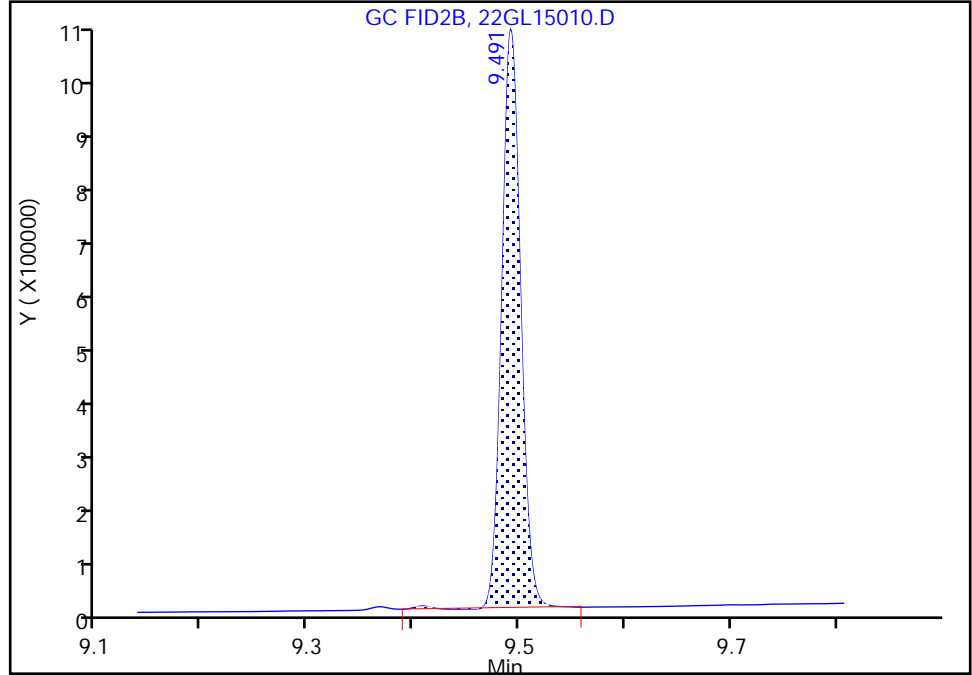
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15010.D
Injection Date: 15-Dec-2022 14:48:56 Instrument ID: CVGG2
Lims ID: icis g3
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

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

Signal: 1

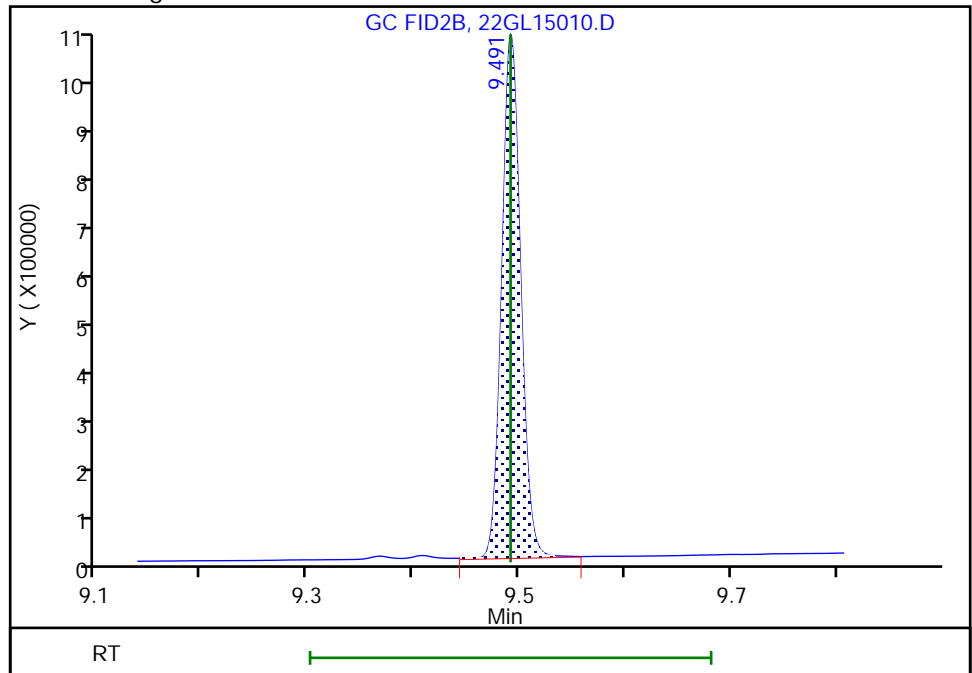
RT: 9.49
Area: 1255008
Amount: 19.623557
Amount Units: ug/ml

Processing Integration Results



RT: 9.49
Area: 1256158
Amount: 19.638596
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 15-Dec-2022 18:31:41
Audit Action: Split an Integrated Peak

Audit Reason: Baseline Smoothing

Eurofins Savannah

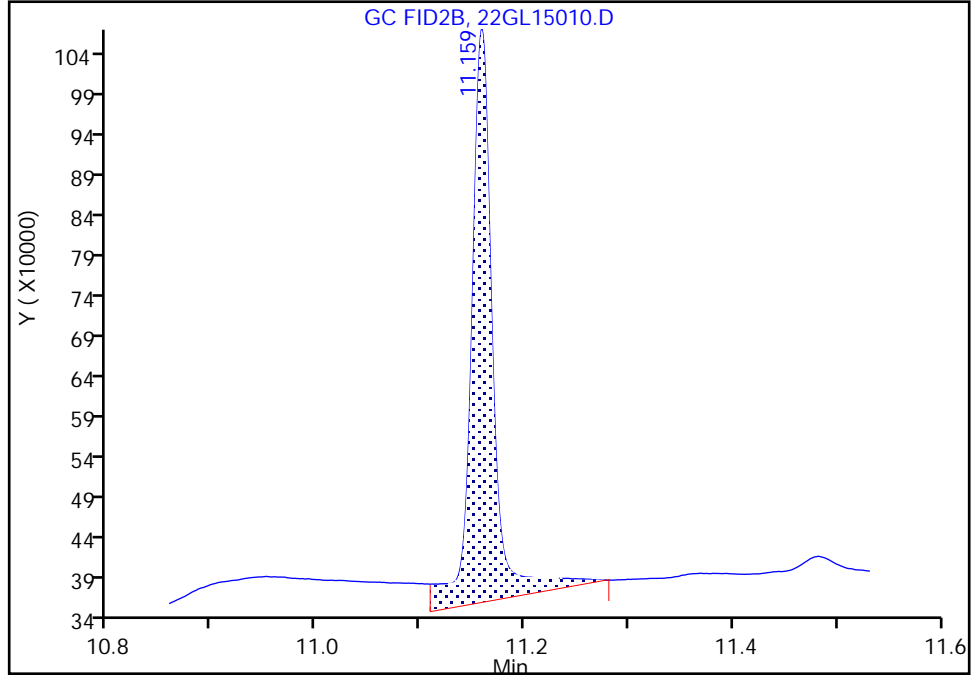
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15010.D
Injection Date: 15-Dec-2022 14:48:56 Instrument ID: CVGG2
Lims ID: icis g3
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

10 Triethylene Glycol, CAS: 112-27-6

Signal: 1

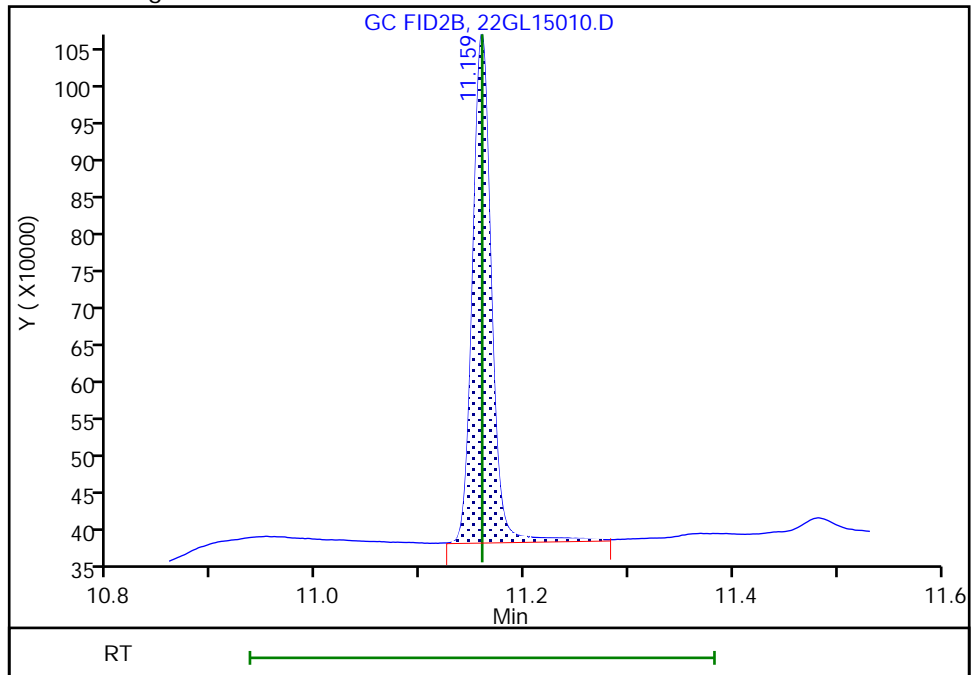
Processing Integration Results

RT: 11.16
Area: 1034865
Amount: 21.453305
Amount Units: ug/ml



Manual Integration Results

RT: 11.16
Area: 858022
Amount: 20.466776
Amount Units: ug/ml



Reviewer: SWK1, 15-Dec-2022 18:28:33
Audit Action: Manually Integrated

Audit Reason: Baseline Smoothing

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15011.D
 Lims ID: ic g2
 Client ID:
 Sample Type: IC Calib Level: 2
 Inject. Date: 15-Dec-2022 15:11:35 ALS Bottle#: 11 Worklist Smp#: 11
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082752-011
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 15-Dec-2022 18:35:05 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1659

First Level Reviewer: SWK1 Date: 15-Dec-2022 18:29:00

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
3.983	3.983	0.000	791260	10.0	10.7	
2 4-Hydroxy-4-methyl-2-pentanone						
4.806	4.806	0.000	827949	10.0	10.7	
3 2-Butoxyethanol						
5.175	5.175	0.000	858121	10.0	10.8	
* 4 n-Heptyl Alcohol						
5.708	5.708	0.000	7105611	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
6.830	6.831	-0.001	56303	10.0	9.92	
6 Propylene glycol						
7.837	7.827	0.010	434131	10.0	8.97	M
7 Ethylene glycol						
8.220	8.218	0.002	450038	10.0	9.55	M
8 2-(2-Butoxyethoxy)ethanol						
9.492	9.491	0.001	750029	10.0	10.6	
9 2,2'-Oxybisethanol						
10.177	10.176	0.001	475084	10.0	10.5	
10 Triethylene Glycol						
11.159	11.159	0.000	529150	10.0	10.6	M
11 Tetraethylene Glycol						
12.822	12.821	0.001	989281	20.0	20.5	

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00047

Amount Added: 5.00

Units: uL

SG_GLY_ISTD_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15011.D

Injection Date: 15-Dec-2022 15:11:35

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g2

Worklist Smp#: 11

Client ID:

Injection Vol: 1.0 ul

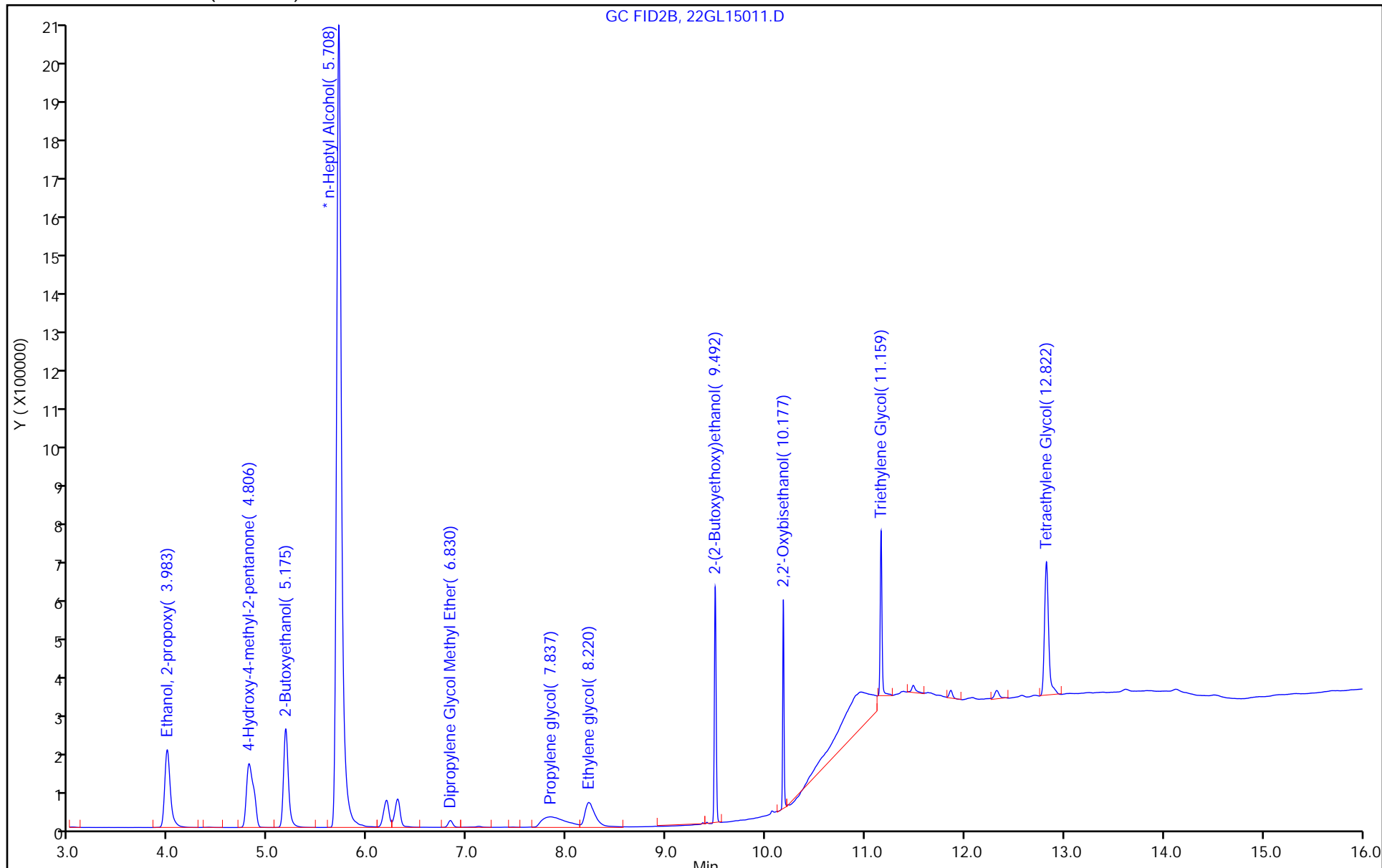
Dil. Factor: 1.0000

ALS Bottle#: 11

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

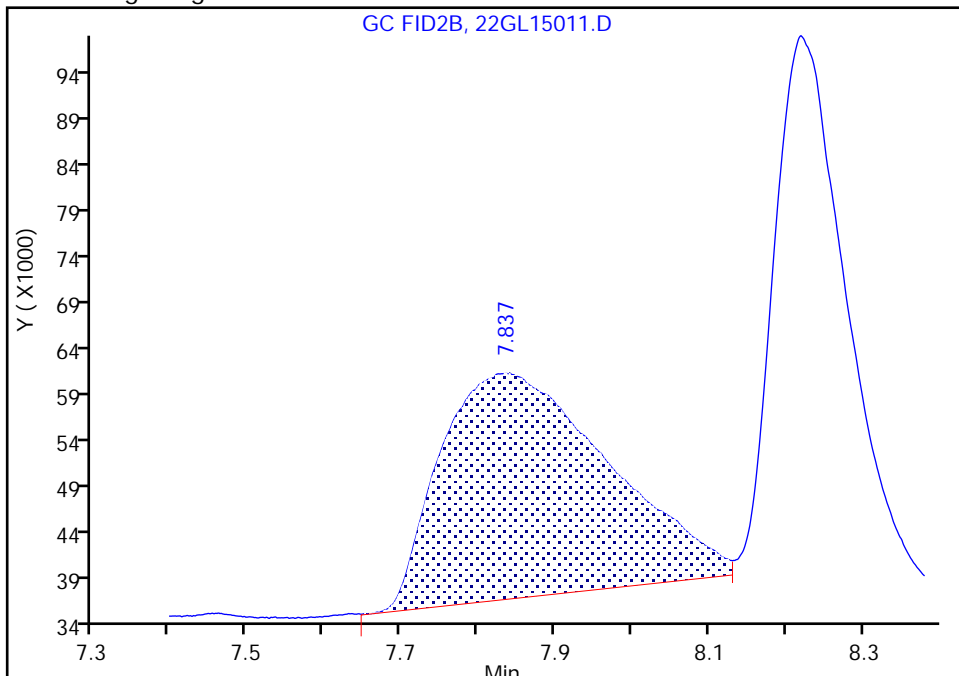
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15011.D
Injection Date: 15-Dec-2022 15:11:35 Instrument ID: CVGG2
Lims ID: ic g2
Client ID:
Operator ID: ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

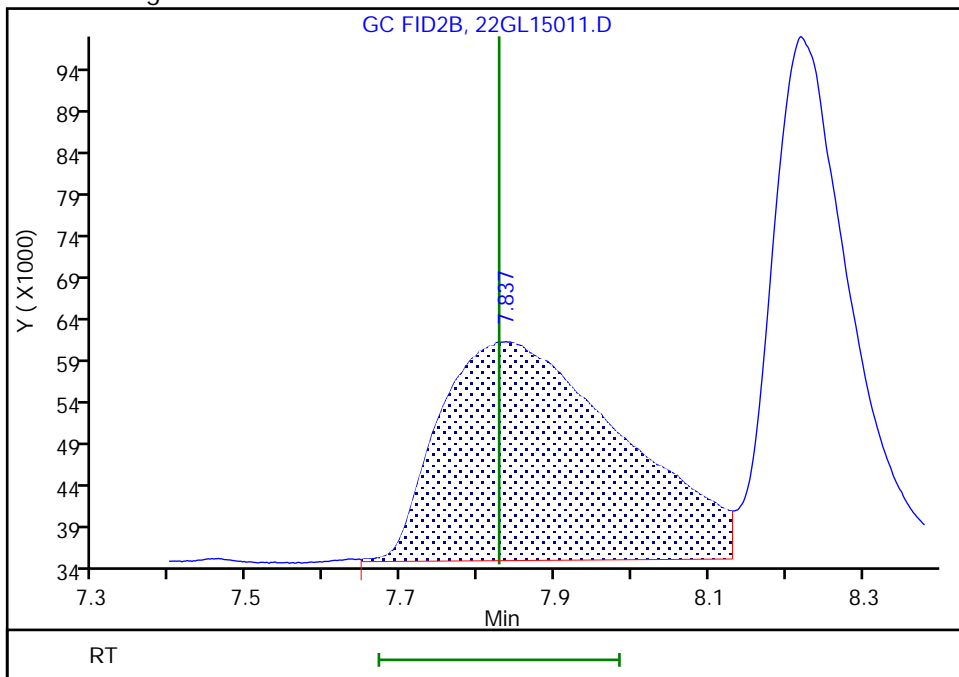
RT: 7.84
Area: 368185
Amount: 8.381609
Amount Units: ug/ml

Processing Integration Results



RT: 7.84
Area: 434131
Amount: 8.968420
Amount Units: ug/ml

Manual Integration Results



Eurofins Savannah

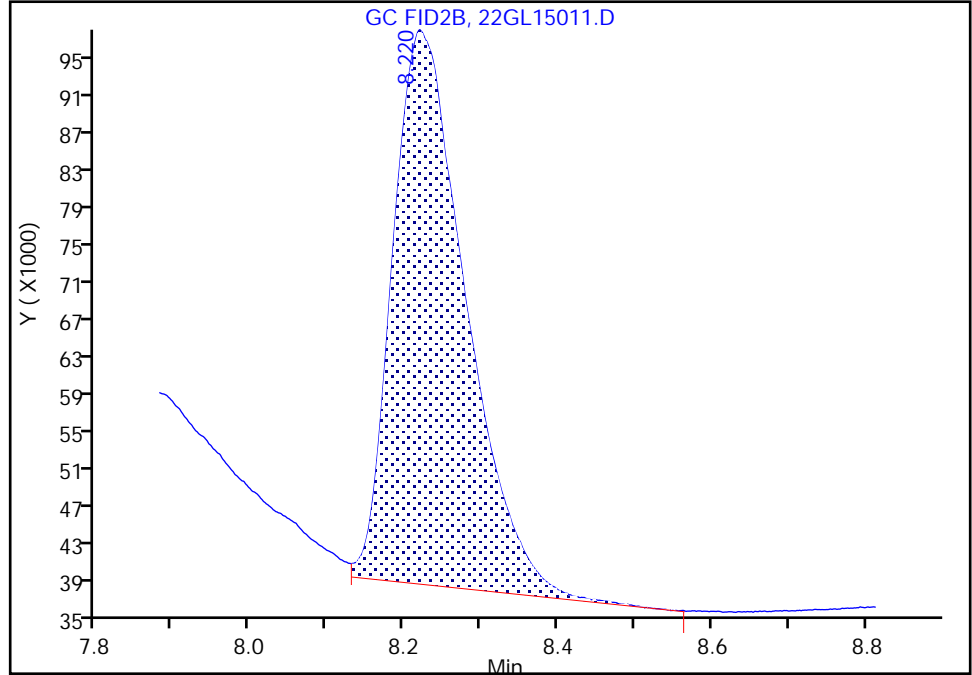
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15011.D
Injection Date: 15-Dec-2022 15:11:35 Instrument ID: CVGG2
Lims ID: ic g2
Client ID:
Operator ID: ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

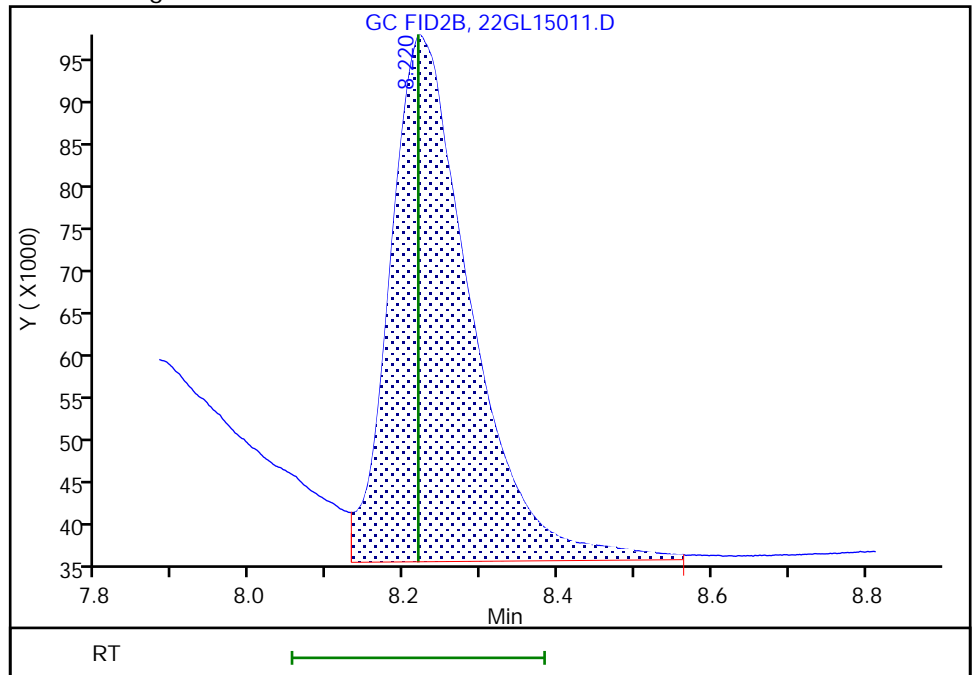
RT: 8.22
Area: 392105
Amount: 9.266320
Amount Units: ug/ml

Processing Integration Results



RT: 8.22
Area: 450038
Amount: 9.552692
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 15-Dec-2022 18:31:12
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

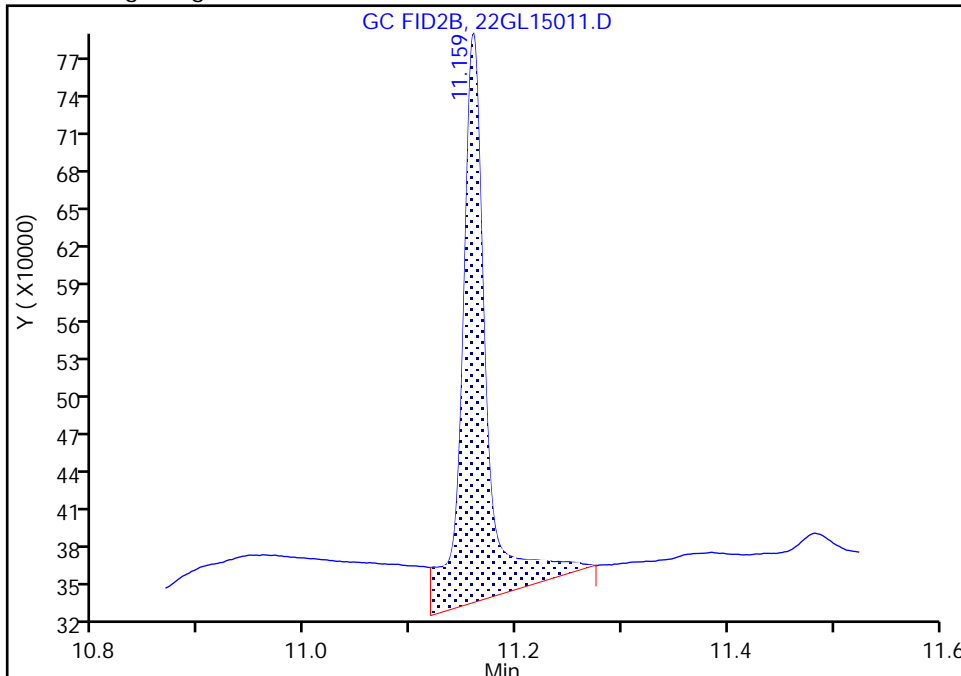
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15011.D
Injection Date: 15-Dec-2022 15:11:35 Instrument ID: CVGG2
Lims ID: ic g2
Client ID:
Operator ID: ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

10 Triethylene Glycol, CAS: 112-27-6

Signal: 1

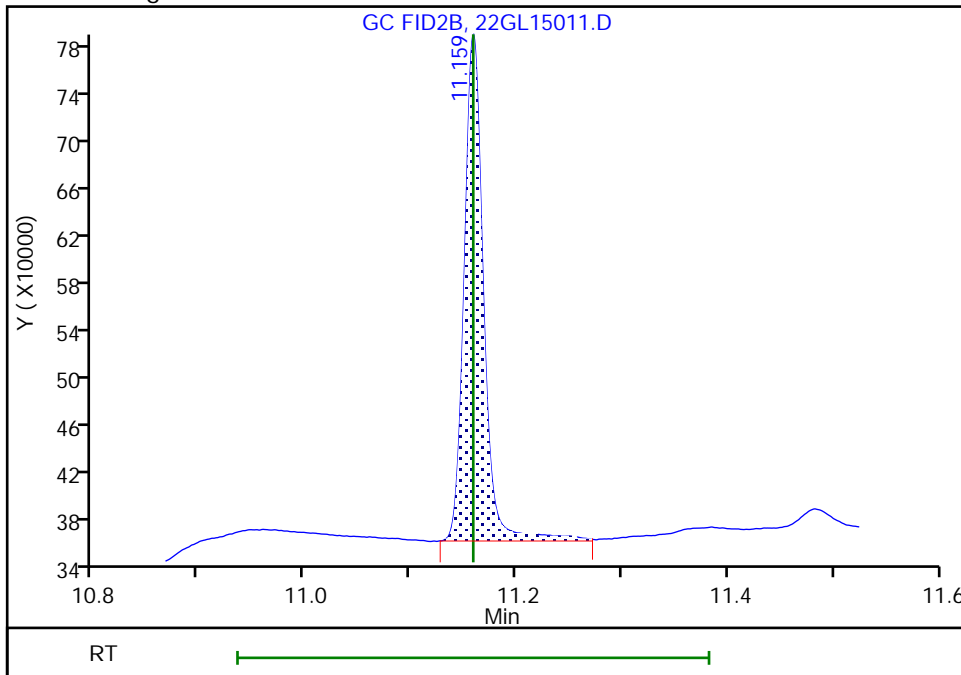
RT: 11.16
Area: 706873
Amount: 10.907512
Amount Units: ug/ml

Processing Integration Results



RT: 11.16
Area: 529150
Amount: 10.564312
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 15-Dec-2022 18:28:58
Audit Action: Manually Integrated

Audit Reason: Baseline Smoothing

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Lims ID: ic g1
 Client ID:
 Sample Type: IC Calib Level: 1
 Inject. Date: 15-Dec-2022 15:34:13 ALS Bottle#: 12 Worklist Smp#: 12
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082752-012
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 15-Dec-2022 18:35:06 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1659

First Level Reviewer: SWK1 Date: 15-Dec-2022 18:29:27

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
3.982	3.983	-0.001	416727	5.00	5.61	
2 4-Hydroxy-4-methyl-2-pentanone						
4.808	4.806	0.002	434849	5.00	5.59	
3 2-Butoxyethanol						
5.175	5.175	0.000	456743	5.00	5.69	
* 4 n-Heptyl Alcohol						
5.708	5.708	0.000	7165368	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
6.830	6.831	-0.001	30872	5.00	5.39	
6 Propylene glycol						
7.822	7.827	-0.005	270235	5.00	5.54	M
7 Ethylene glycol						
8.221	8.218	0.003	280066	5.00	5.90	M
8 2-(2-Butoxyethoxy)ethanol						
9.492	9.491	0.001	405977	5.00	5.71	
9 2,2'-Oxybisethanol						
10.177	10.176	0.001	256938	5.00	5.63	
10 Triethylene Glycol						
11.157	11.159	-0.002	291568	5.00	4.86	M
11 Tetraethylene Glycol						
12.819	12.821	-0.002	557362	10.0	9.92	

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00047

Amount Added: 2.50

Units: uL

SG_GLY_ISTD_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D

Injection Date: 15-Dec-2022 15:34:13

Instrument ID: CVGG2

Operator ID:

Lims ID: ic g1

Worklist Smp#: 12

Client ID:

Injection Vol: 1.0 ul

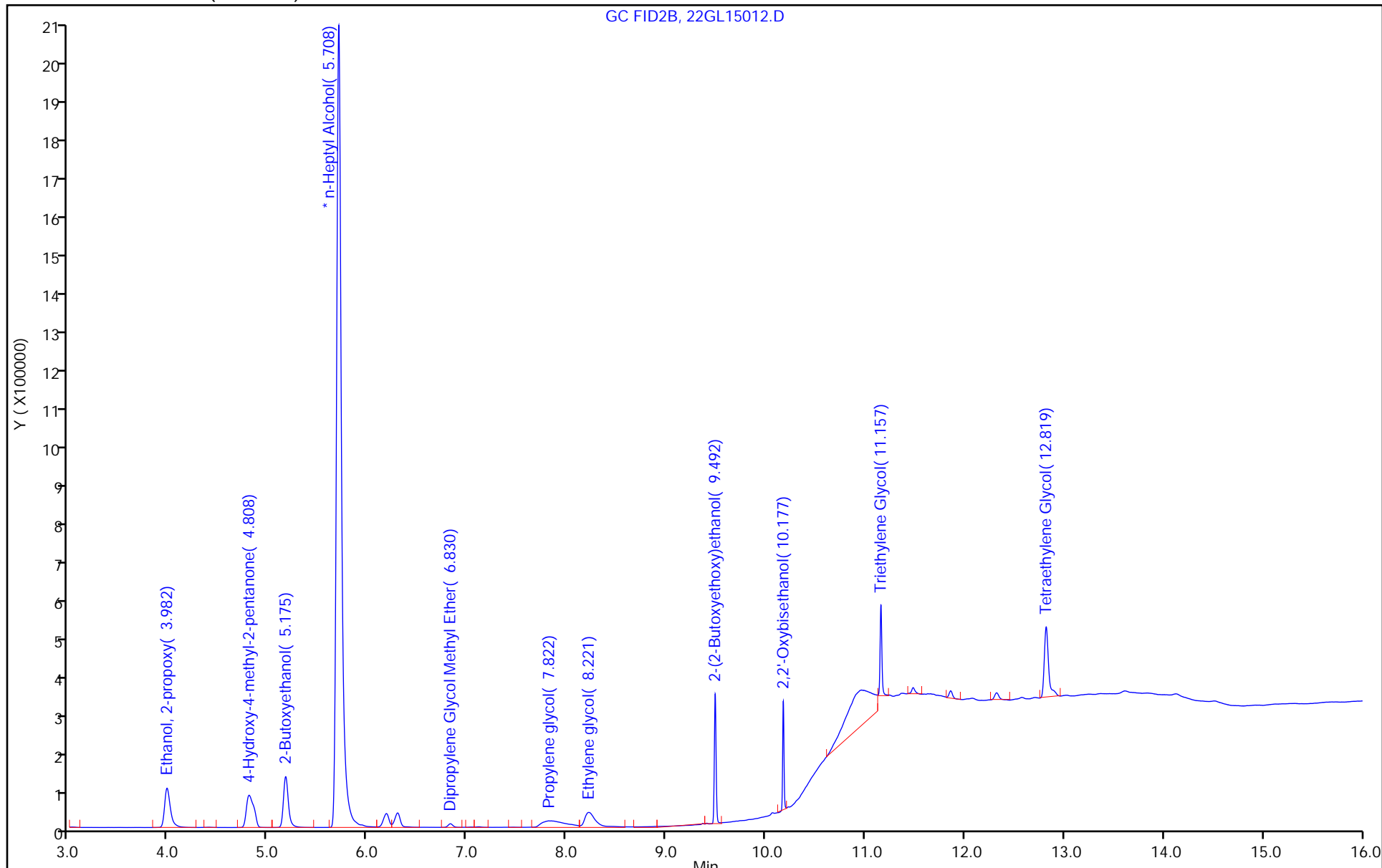
Dil. Factor: 1.0000

ALS Bottle#: 12

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

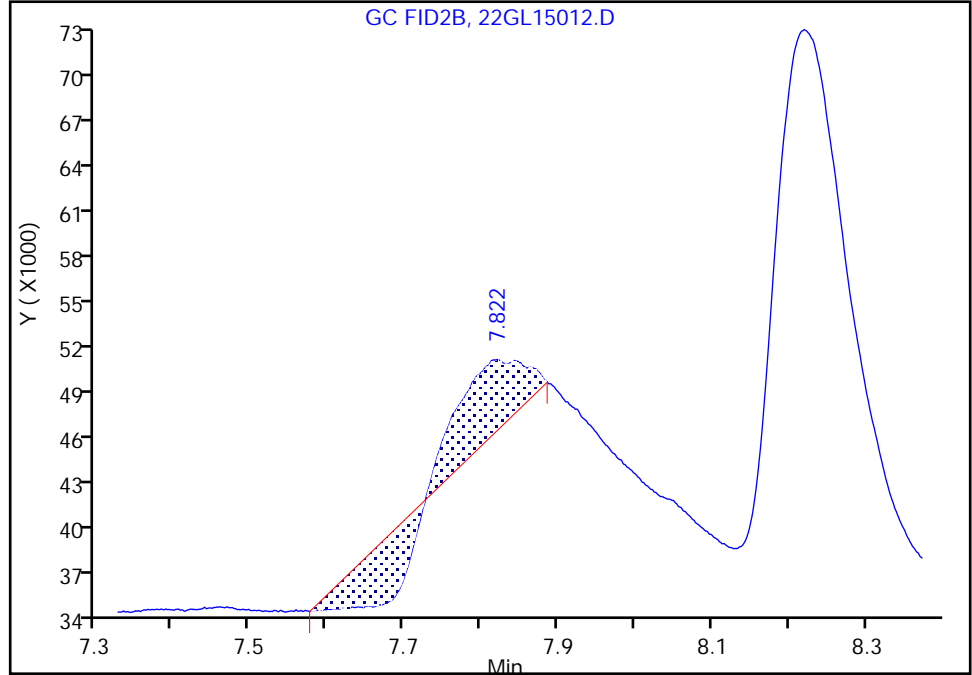
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
Injection Date: 15-Dec-2022 15:34:13 Instrument ID: CVGG2
Lims ID: ic g1
Client ID:
Operator ID: ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

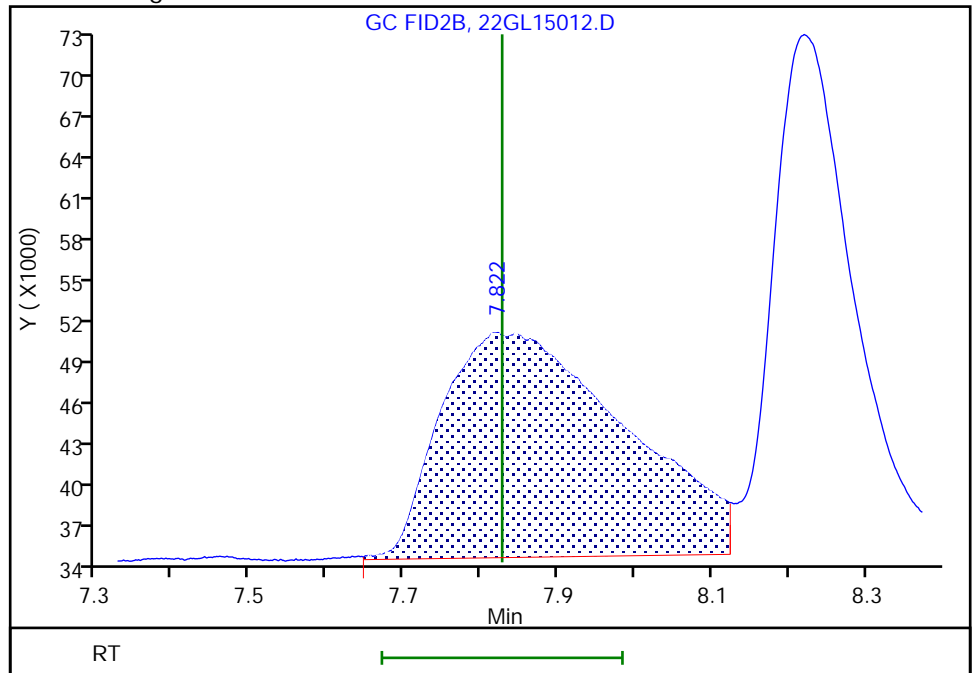
RT: 7.82
Area: 7878
Amount: 0.221591
Amount Units: ug/ml

Processing Integration Results



RT: 7.82
Area: 270235
Amount: 5.536046
Amount Units: ug/ml

Manual Integration Results



Eurofins Savannah

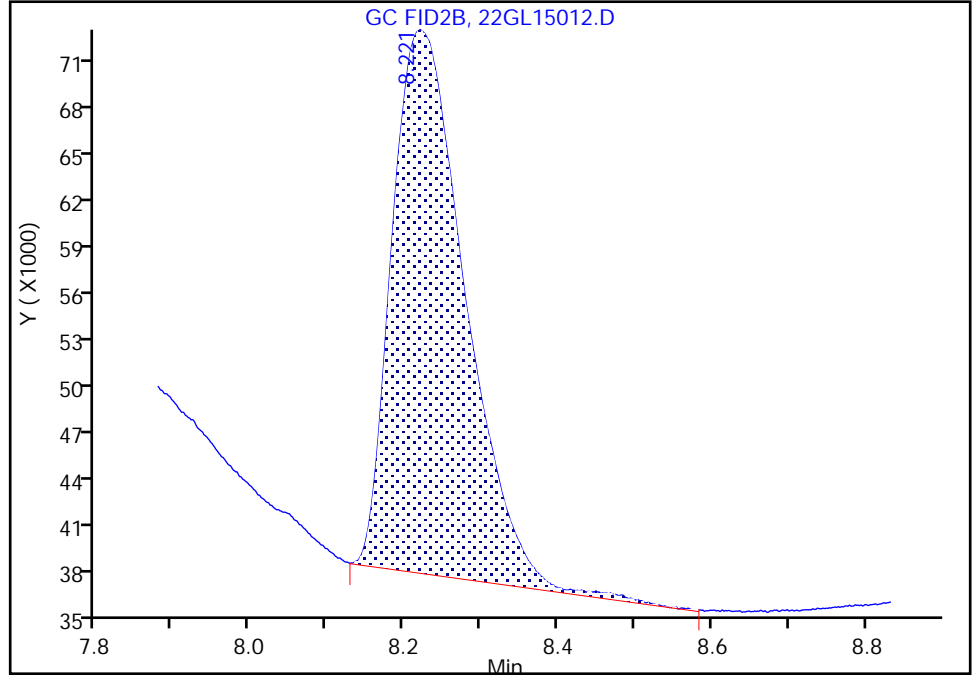
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
Injection Date: 15-Dec-2022 15:34:13 Instrument ID: CVGG2
Lims ID: ic g1
Client ID:
Operator ID: ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

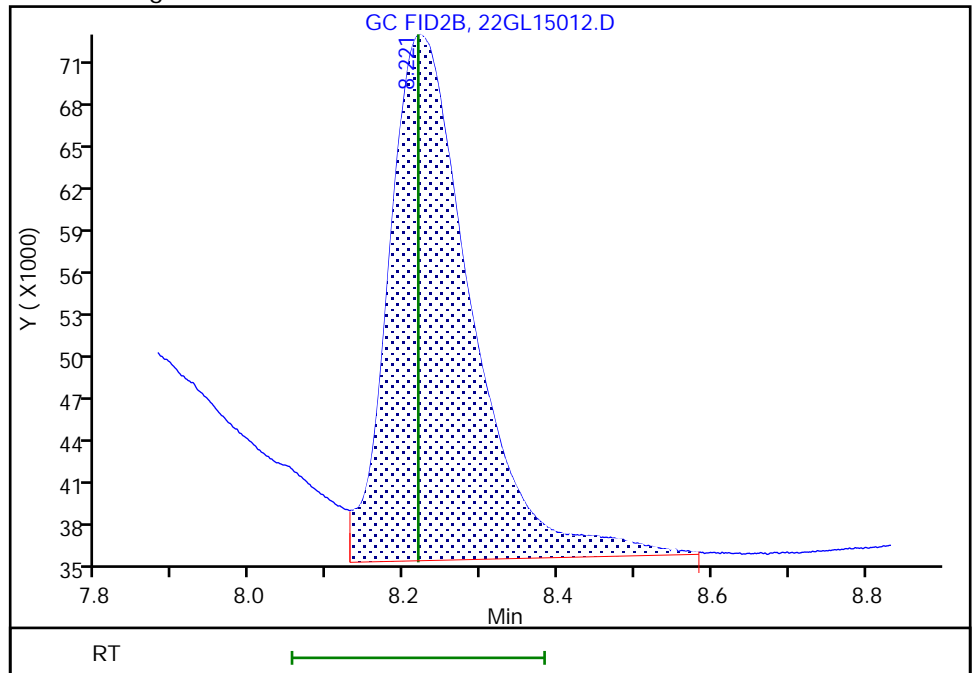
RT: 8.22
Area: 230185
Amount: 5.613141
Amount Units: ug/ml

Processing Integration Results



RT: 8.22
Area: 280066
Amount: 5.895219
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 15-Dec-2022 18:29:24
Audit Action: Assigned New Baseline

Audit Reason: Baseline Smoothing

Eurofins Savannah

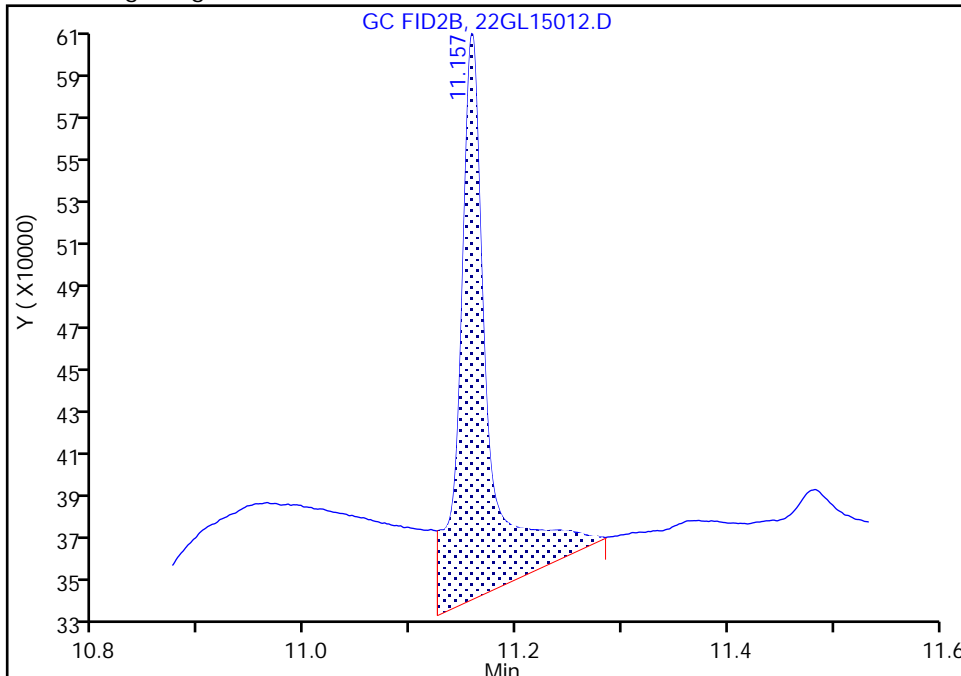
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
Injection Date: 15-Dec-2022 15:34:13 Instrument ID: CVGG2
Lims ID: ic g1
Client ID:
Operator ID: ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

10 Triethylene Glycol, CAS: 112-27-6

Signal: 1

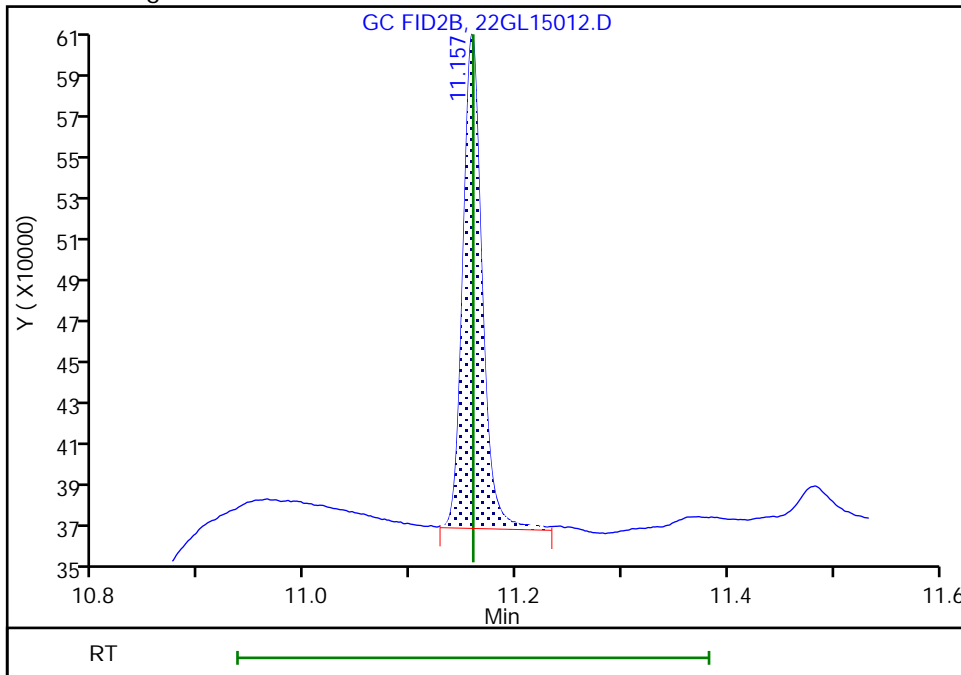
RT: 11.16
Area: 486550
Amount: 5.773755
Amount Units: ug/ml

Processing Integration Results



RT: 11.16
Area: 291568
Amount: 4.864580
Amount Units: ug/ml

Manual Integration Results



Reviewer: SWK1, 15-Dec-2022 18:29:18
Audit Action: Manually Integrated

Audit Reason: Baseline Smoothing

FORM VII
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-121385-1
 SDG No.: _____
 Lab Sample ID: ICV 680-755296/13 Calibration Date: 12/15/2022 15:56
 Instrument ID: CVGG2 Calib Start Date: 12/15/2022 13:40
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 12/15/2022 15:34
 Lab File ID: 22GL15013.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Ave	0.5186	0.5767		22.2	20.0	11.2	20.0
4-Hydroxy-4-methyl-2-pentano ne	Ave	0.5430	0.6080		22.4	20.0	12.0	20.0
2-Butoxyethanol	Ave	0.5604	0.6527		23.3	20.0	16.5	20.0
Dipropylene Glycol Methyl Ether	Ave	0.0399	0.0509		25.5	20.0	27.3*	20.0
Propylene glycol	Ave	0.3406	0.3726		21.9	20.0	9.4	20.0
Ethylene glycol	Ave	0.3315	0.3700		22.3	20.0	11.6	20.0
2-(2-Butoxyethoxy)ethanol	Ave	0.4963	0.5582		22.5	20.0	12.5	20.0
2,2'-Oxybisethanol	Ave	0.3183	0.3394		21.3	20.0	6.6	20.0
Triethylene Glycol	Lin2		0.3720		23.1	20.0	15.5	20.0
Tetraethylene Glycol	Lin2		0.3468		44.4	40.0	11.0	20.0

FORM VII
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121385-1
 SDG No.: _____
 Lab Sample ID: ICV 680-755296/13 Calibration Date: 12/15/2022 15:56
 Instrument ID: CVGG2 Calib Start Date: 12/15/2022 13:40
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 12/15/2022 15:34
 Lab File ID: 22GL15013.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	3.98	3.90	4.06
4-Hydroxy-4-methyl-2-pentanone	4.81	4.71	4.90
2-Butoxyethanol	5.18	5.07	5.28
Dipropylene Glycol Methyl Ether	6.83	6.70	6.97
Propylene glycol	7.82	7.67	7.98
Ethylene glycol	8.21	8.05	8.38
2-(2-Butoxyethoxy)ethanol	9.49	9.30	9.68
2,2'-Oxybisethanol	10.18	9.97	10.38
Triethylene Glycol	11.16	10.94	11.38
Tetraethylene Glycol	12.82	12.57	13.08

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15013.D
 Lims ID: icv gly
 Client ID:
 Sample Type: CCV
 Inject. Date: 15-Dec-2022 15:56:59 ALS Bottle#: 13 Worklist Smp#: 13
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082752-013
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 15-Dec-2022 18:45:54 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1659

First Level Reviewer: SWK1 Date: 15-Dec-2022 18:29:52

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy	3.981	3.983	-0.002	1804032	20.0	22.2
2 4-Hydroxy-4-methyl-2-pentanone	4.808	4.806	0.002	1902097	20.0	22.4
3 2-Butoxyethanol	5.175	5.175	0.000	2041849	20.0	23.3
* 4 n-Heptyl Alcohol	5.709	5.708	0.001	7820966	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.831	6.831	0.000	159083	20.0	25.5
6 Propylene glycol	7.820	7.827	-0.007	1165778	20.0	21.9
7 Ethylene glycol	8.214	8.218	-0.004	1157642	20.0	22.3
8 2-(2-Butoxyethoxy)ethanol	9.492	9.491	0.001	1746317	20.0	22.5
9 2,2'-Oxybisethanol	10.176	10.176	0.000	1061785	20.0	21.3
10 Triethylene Glycol	11.158	11.159	-0.001	1163679	20.0	23.1 M
11 Tetraethylene Glycol	12.819	12.821	-0.002	2170110	40.0	44.4 M

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_GlyICV_00056

Amount Added: 10.00

Units: uL

SG_GLY_ISTD_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15013.D

Injection Date: 15-Dec-2022 15:56:59

Instrument ID: CVGG2

Operator ID:

Lims ID: icv gly

Worklist Smp#: 13

Client ID:

Injection Vol: 1.0 ul

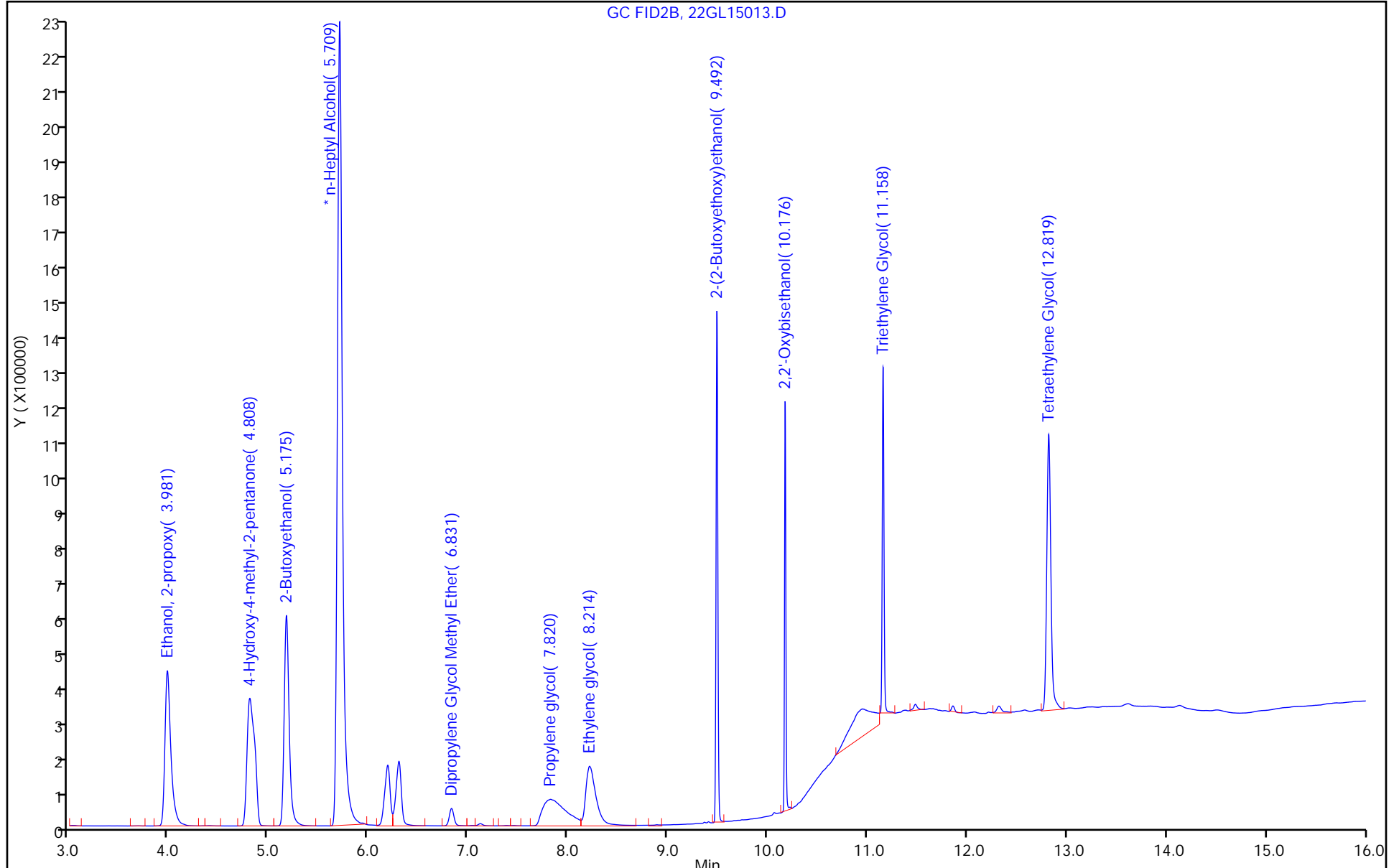
Dil. Factor: 1.0000

ALS Bottle#: 13

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

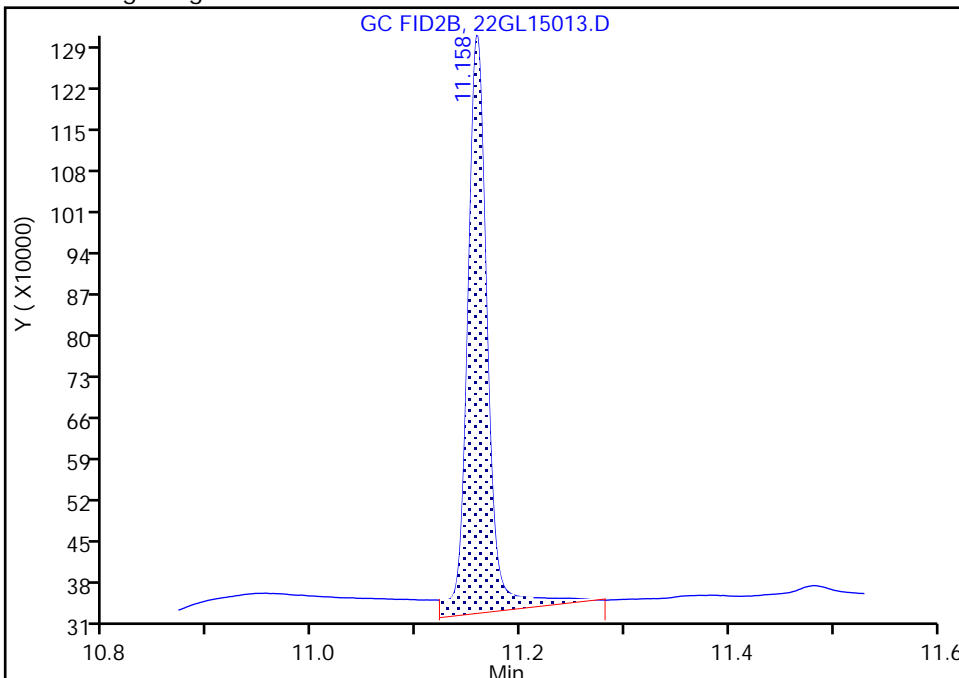
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15013.D
Injection Date: 15-Dec-2022 15:56:59 Instrument ID: CVGG2
Lims ID: icv gly
Client ID:
Operator ID: ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

10 Triethylene Glycol, CAS: 112-27-6

Signal: 1

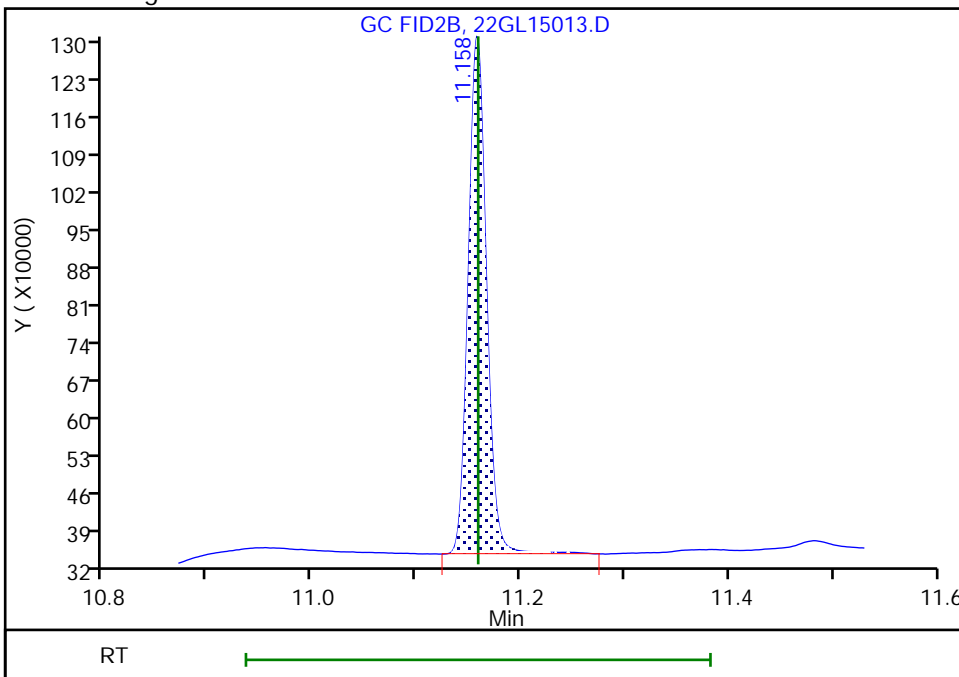
Processing Integration Results

RT: 11.16
Area: 1308485
Amount: 26.229441
Amount Units: ug/ml



Manual Integration Results

RT: 11.16
Area: 1163679
Amount: 23.105187
Amount Units: ug/ml



Reviewer: SWK1, 15-Dec-2022 18:29:42
Audit Action: Manually Integrated

Audit Reason: Baseline Smoothing

FORM VII
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-121385-1
 SDG No.: _____
 Lab Sample ID: CCVIS 680-756409/5 Calibration Date: 12/21/2022 17:58
 Instrument ID: CVGG2 Calib Start Date: 12/15/2022 13:40
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 12/15/2022 15:34
 Lab File ID: 22GL21005.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Ave	0.5186	0.6081		23.5	20.0	17.3	20.0
4-Hydroxy-4-methyl-2-pentano ne	Ave	0.5430	0.6442		23.7	20.0	18.6	20.0
2-Butoxyethanol	Ave	0.5604	0.6556		23.4	20.0	17.0	20.0
Dipropylene Glycol Methyl Ether	Ave	0.0399	0.0542		27.1	20.0	35.7*	20.0
Propylene glycol	Ave	0.3406	0.4471		26.3	20.0	31.3*	20.0
Ethylene glycol	Ave	0.3315	0.3879		23.4	20.0	17.0	20.0
2-(2-Butoxyethoxy)ethanol	Ave	0.4963	0.6019		24.3	20.0	21.3*	20.0
2,2'-Oxybisethanol	Ave	0.3183	0.3754		23.6	20.0	18.0	20.0
Triethylene Glycol	Lin2		0.3700		23.0	20.0	14.9	20.0
Tetraethylene Glycol	Lin2		0.3436		44.0	40.0	9.9	20.0

FORM VII
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121385-1
 SDG No.: _____
 Lab Sample ID: CCVIS 680-756409/5 Calibration Date: 12/21/2022 17:58
 Instrument ID: CVGG2 Calib Start Date: 12/15/2022 13:40
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 12/15/2022 15:34
 Lab File ID: 22GL21005.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	4.05	3.97	4.13
4-Hydroxy-4-methyl-2-pentanone	4.87	4.77	4.97
2-Butoxyethanol	5.24	5.13	5.34
Dipropylene Glycol Methyl Ether	6.89	6.76	7.03
Propylene glycol	7.83	7.67	7.99
Ethylene glycol	8.27	8.10	8.43
2-(2-Butoxyethoxy)ethanol	9.51	9.32	9.70
2,2'-Oxybisethanol	10.19	9.99	10.40
Triethylene Glycol	11.18	10.95	11.40
Tetraethylene Glycol	12.85	12.59	13.11

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21005.D
 Lims ID: ccvis g3
 Client ID:
 Sample Type: CCVIS
 Inject. Date: 21-Dec-2022 17:58:10 ALS Bottle#: 5 Worklist Smp#: 5
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082902-005
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 21-Dec-2022 19:12:35 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1619

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	4.046	4.046	0.000	1395465	20.0	23.5
2 4-Hydroxy-4-methyl-2-pentanone	4.869	4.869	0.000	1478365	20.0	23.7
3 2-Butoxyethanol	5.237	5.237	0.000	1504507	20.0	23.4
* 4 n-Heptyl Alcohol	5.766	5.766	0.000	5736771	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.894	6.894	0.000	124358	20.0	27.1
6 Propylene glycol	7.829	7.829	0.000	1025919	20.0	26.3
7 Ethylene glycol	8.265	8.265	0.000	890217	20.0	23.4
8 2-(2-Butoxyethoxy)ethanol	9.513	9.513	0.000	1381199	20.0	24.3
9 2,2'-Oxybisethanol	10.194	10.194	0.000	861464	20.0	23.6
10 Triethylene Glycol	11.175	11.175	0.000	849045	20.0	23.0
11 Tetraethylene Glycol	12.850	12.850	0.000	1577125	40.0	44.0

Reagents:

SG_Gly_CAL_00047 Amount Added: 10.00 Units: uL
 SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21005.D

Injection Date: 21-Dec-2022 17:58:10

Instrument ID: CVGG2

Operator ID:

Lims ID: ccvis g3

Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul

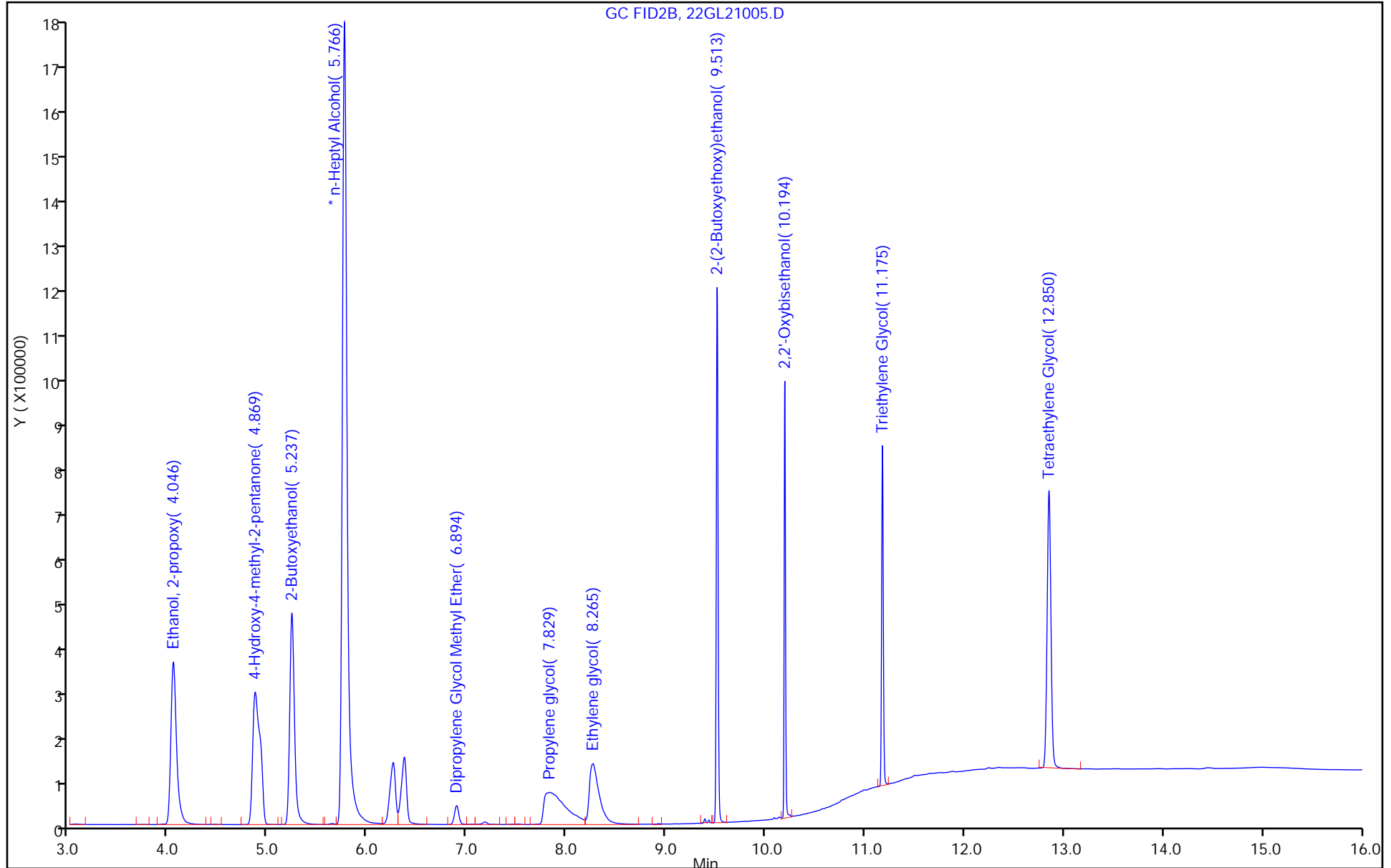
Dil. Factor: 1.0000

ALS Bottle#: 5

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.: 580-121385-1
 SDG No.: _____
 Lab Sample ID: CCV 680-756409/21 Calibration Date: 12/21/2022 23:58
 Instrument ID: CVGG2 Calib Start Date: 12/15/2022 13:40
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 12/15/2022 15:34
 Lab File ID: 22GL21021.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Ave	0.5186	0.6007		23.2	20.0	15.8	20.0
4-Hydroxy-4-methyl-2-pentano ne	Ave	0.5430	0.6301		23.2	20.0	16.0	20.0
2-Butoxyethanol	Ave	0.5604	0.6534		23.3	20.0	16.6	20.0
Dipropylene Glycol Methyl Ether	Ave	0.0399	0.0509		25.5	20.0	27.5*	20.0
Propylene glycol	Ave	0.3406	0.3521		20.7	20.0	3.4	20.0
Ethylene glycol	Ave	0.3315	0.2965		17.9	20.0	-10.6	20.0
2-(2-Butoxyethoxy)ethanol	Ave	0.4963	0.5937		23.9	20.0	19.6	20.0
2,2'-Oxybisethanol	Ave	0.3183	0.2896		18.2	20.0	-9.0	20.0
Triethylene Glycol	Lin2		0.2214		12.9	20.0	-35.3*	20.0
Tetraethylene Glycol	Lin2		0.1556		18.0	40.0	-55.0*	20.0

FORM VII
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121385-1
 SDG No.: _____
 Lab Sample ID: CCV 680-756409/21 Calibration Date: 12/21/2022 23:58
 Instrument ID: CVGG2 Calib Start Date: 12/15/2022 13:40
 GC Column: J&W DB WAX ID: 0.45 (mm) Calib End Date: 12/15/2022 15:34
 Lab File ID: 22GL21021.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	4.03	3.95	4.11
4-Hydroxy-4-methyl-2-pentanone	4.86	4.76	4.95
2-Butoxyethanol	5.22	5.12	5.33
Dipropylene Glycol Methyl Ether	6.88	6.74	7.02
Propylene glycol	7.81	7.65	7.96
Ethylene glycol	8.25	8.09	8.42
2-(2-Butoxyethoxy)ethanol	9.51	9.32	9.70
2,2'-Oxybisethanol	10.19	9.99	10.39
Triethylene Glycol	11.17	10.95	11.39
Tetraethylene Glycol	12.84	12.59	13.10

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21021.D
 Lims ID: ccv g3
 Client ID:
 Sample Type: CCV
 Inject. Date: 21-Dec-2022 23:58:12 ALS Bottle#: 21 Worklist Smp#: 21
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082902-021
 Operator ID: Instrument ID: CVGG2
 Sublist: chrom-8015_GLY_VGG*sub2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 22-Dec-2022 12:57:31 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1611

First Level Reviewer: SK9U Date: 22-Dec-2022 12:57:31

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
4.031	4.031	0.000	1867862	20.0	23.2	
2 4-Hydroxy-4-methyl-2-pentanone						
4.856	4.856	0.000	1959014	20.0	23.2	
3 2-Butoxyethanol						
5.223	5.223	0.000	2031673	20.0	23.3	
* 4 n-Heptyl Alcohol						
5.753	5.753	0.000	7773045	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
6.881	6.881	0.000	158280	20.0	25.5	
6 Propylene glycol						
7.806	7.806	0.000	1094865	20.0	20.7	M
7 Ethylene glycol						
8.252	8.252	0.000	921942	20.0	17.9	M
8 2-(2-Butoxyethoxy)ethanol						
9.508	9.508	0.000	1845821	20.0	23.9	
9 2,2'-Oxybisethanol						
10.190	10.190	0.000	900567	20.0	18.2	
10 Triethylene Glycol						
11.171	11.171	0.000	688306	20.0	12.9	
11 Tetraethylene Glycol						
12.842	12.842	0.000	967438	40.0	18.0	

QC Flag Legend
Processing Flags

Review Flags

M - Manually Integrated

Reagents:

SG_Gly_CAL_00047

Amount Added: 10.00

Units: uL

SG_GLY_ISTD_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21021.D

Injection Date: 21-Dec-2022 23:58:12

Instrument ID: CVGG2

Operator ID:

Lims ID: ccv g3

Worklist Smp#: 21

Client ID:

Injection Vol: 1.0 ul

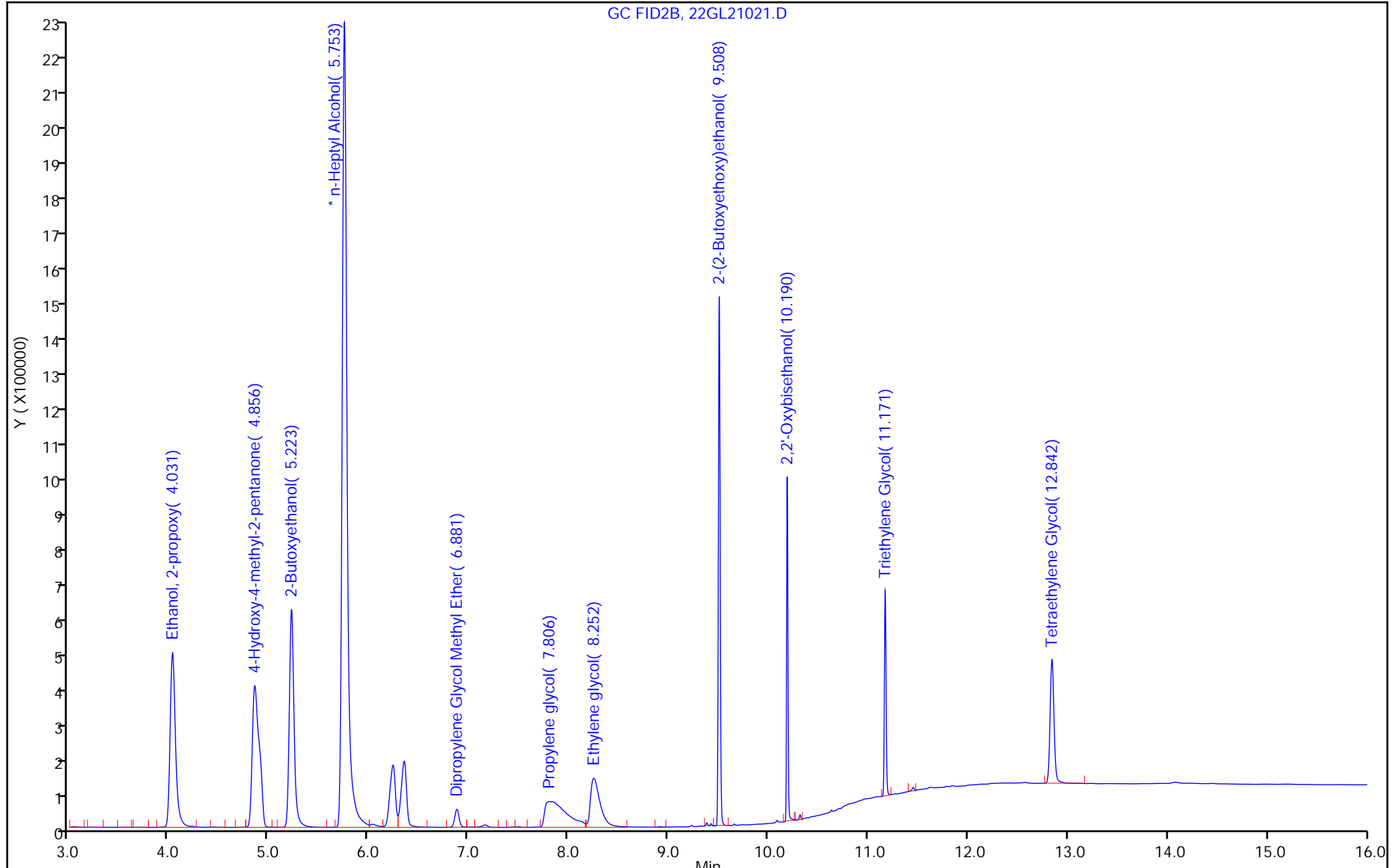
Dil. Factor: 1.0000

ALS Bottle#: 21

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah

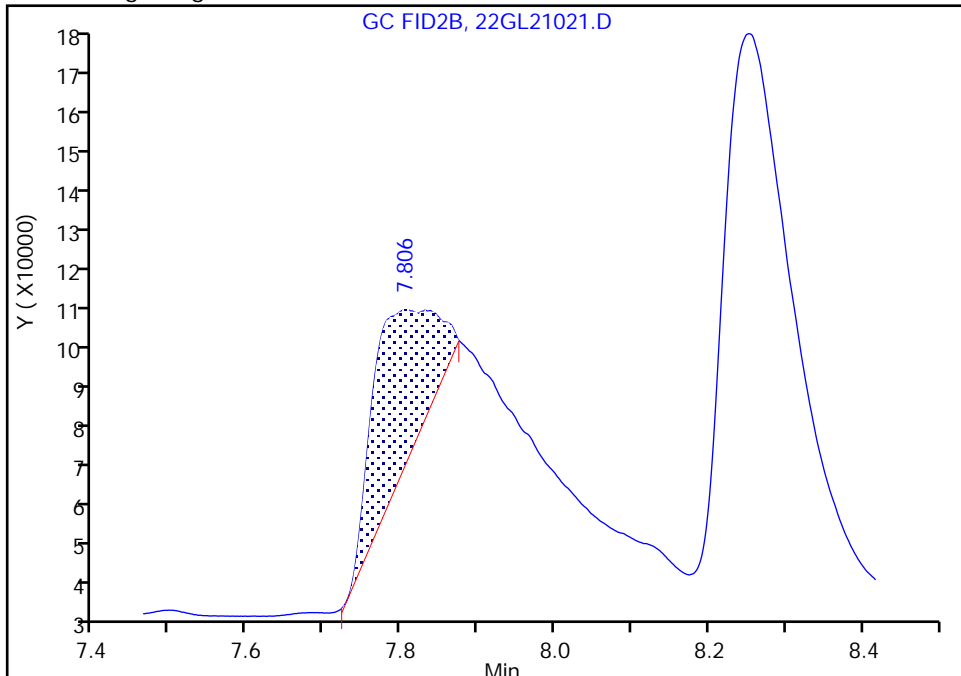
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Injection Date: 21-Dec-2022 23:58:12 Instrument ID: CVGG2
Lims ID: ccv g3
Client ID:
Operator ID: ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

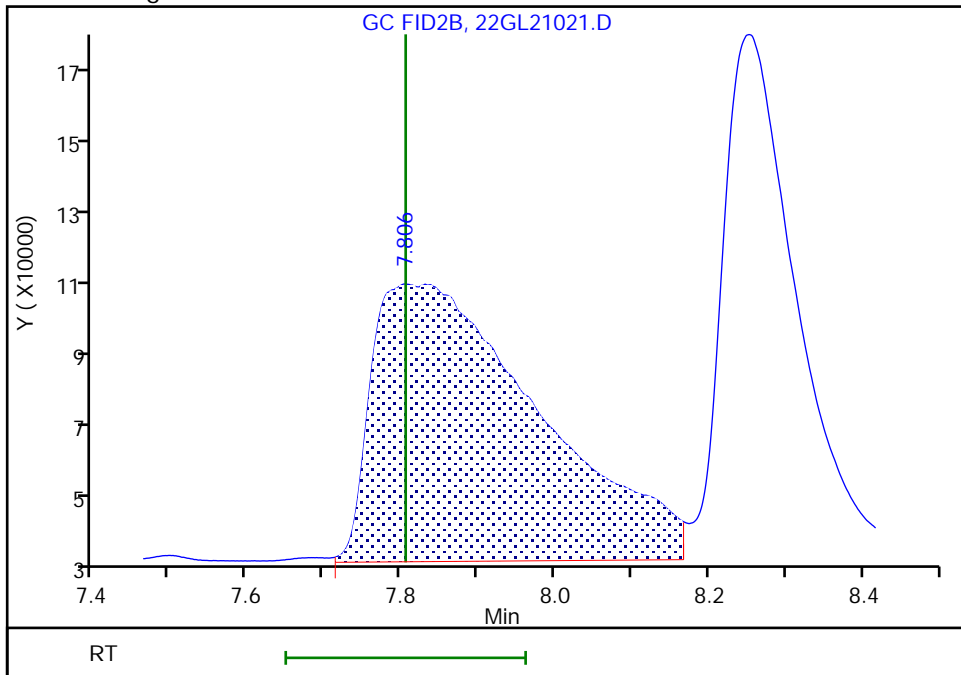
RT: 7.81
Area: 215320
Amount: 4.066210
Amount Units: ug/ml

Processing Integration Results



RT: 7.81
Area: 1094865
Amount: 20.675973
Amount Units: ug/ml

Manual Integration Results



Reviewer: SK9U, 22-Dec-2022 12:56:53
Audit Action: Assigned New Baseline

Audit Reason: Incomplete Integration

Eurofins Savannah

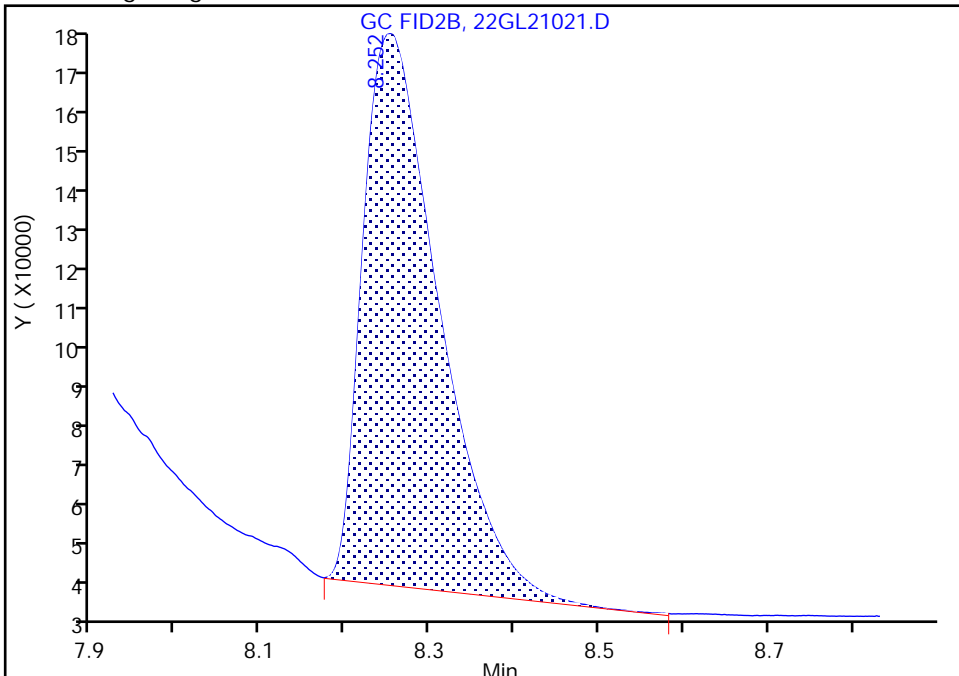
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21021.D
Injection Date: 21-Dec-2022 23:58:12 Instrument ID: CVGG2
Lims ID: ccv g3
Client ID:
Operator ID: ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector: GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

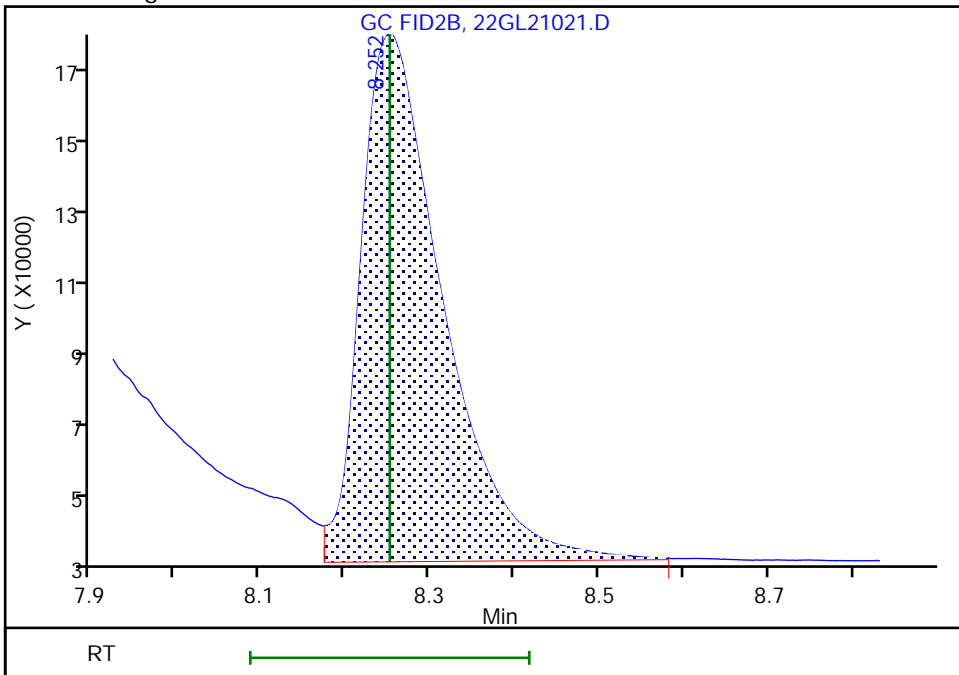
RT: 8.25
Area: 813898
Amount: 15.792716
Amount Units: ug/ml

Processing Integration Results



RT: 8.25
Area: 921942
Amount: 17.889181
Amount Units: ug/ml

Manual Integration Results



Reviewer: SK9U, 22-Dec-2022 12:56:53
Audit Action: Assigned New Baseline

Audit Reason: Incomplete Integration

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121385-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: MB 680-756409/10
 Matrix: Water Lab File ID: 22GL21010.D
 Analysis Method: 8015C GLY Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 1(mL) Date Analyzed: 12/21/2022 19:50
 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.: 756409 Units: mg/L

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

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21010.D
 Lims ID: mb
 Client ID:
 Sample Type: MB
 Inject. Date: 21-Dec-2022 19:50:42 ALS Bottle#: 10 Worklist Smp#: 10
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082902-010
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 21-Dec-2022 18:13:20 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1619

First Level Reviewer: SWK1 Date: 21-Dec-2022 20:21:03

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

3 2-Butoxyethanol						7
5.219	5.237	-0.018	8405		0.1072	7
LOD = 0.5000						
* 4 n-Heptyl Alcohol						
5.763	5.766	-0.003	6994603	50.0	50.0	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection

Reagents:

SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21010.D

Injection Date: 21-Dec-2022 19:50:42

Instrument ID: CVGG2

Operator ID:

Lims ID: mb

Worklist Smp#: 10

Client ID:

Injection Vol: 1.0 ul

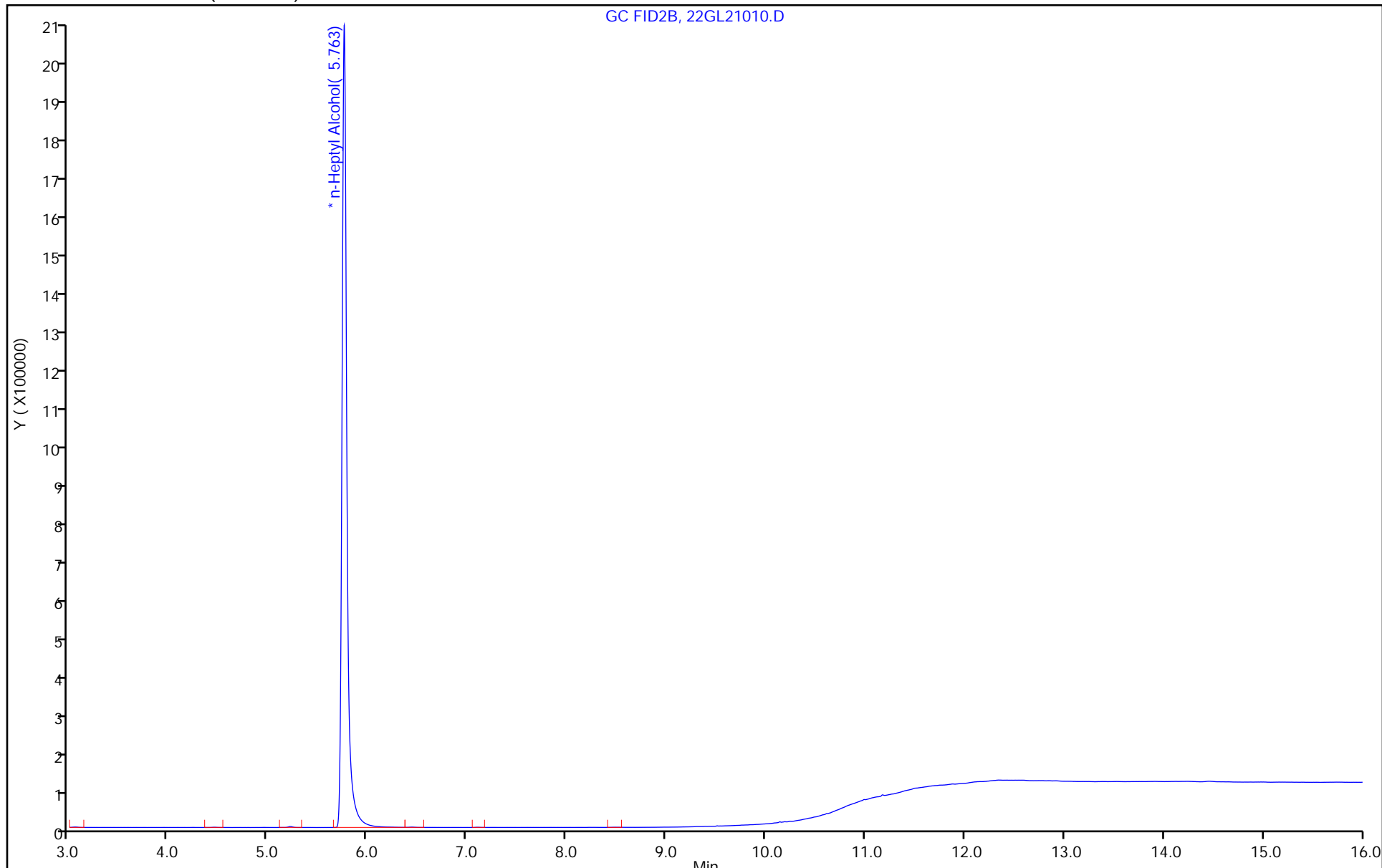
Dil. Factor: 1.0000

ALS Bottle#: 10

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.: 580-121385-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCS 680-756409/6
 Matrix: Water Lab File ID: 22GL21006.D
 Analysis Method: 8015C GLY Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 1(mL) Date Analyzed: 12/21/2022 18:20
 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.: 756409 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	26.2		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21006.D
 Lims ID: lcs
 Client ID:
 Sample Type: LCS
 Inject. Date: 21-Dec-2022 18:20:39 ALS Bottle#: 6 Worklist Smp#: 6
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082902-006
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 21-Dec-2022 19:12:35 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1619

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
4.042	4.046	-0.004	2175118	20.0	24.8	
4.869	4.869	0.000	2309284	20.0	25.2	
5.236	5.237	-0.001	2362406	20.0	24.9	
* 5.767	5.766	0.001	8454360	50.0	50.0	
6.892	6.894	-0.002	194418	20.0	28.8	
7.835	7.829	0.006	1573209	20.0	27.3	
8.264	8.265	-0.001	1335002	20.0	23.8	
9.513	9.513	0.000	2196290	20.0	26.2	
10.192	10.194	-0.002	1349796	20.0	25.1	
11.173	11.175	-0.002	1338796	20.0	24.7	
12.847	12.850	-0.003	2554477	40.0	48.7	

Reagents:

SG_Gly_CAL_00047 Amount Added: 10.00 Units: uL
 SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21006.D

Injection Date: 21-Dec-2022 18:20:39

Instrument ID: CVGG2

Operator ID:

Lims ID: lcs

Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul

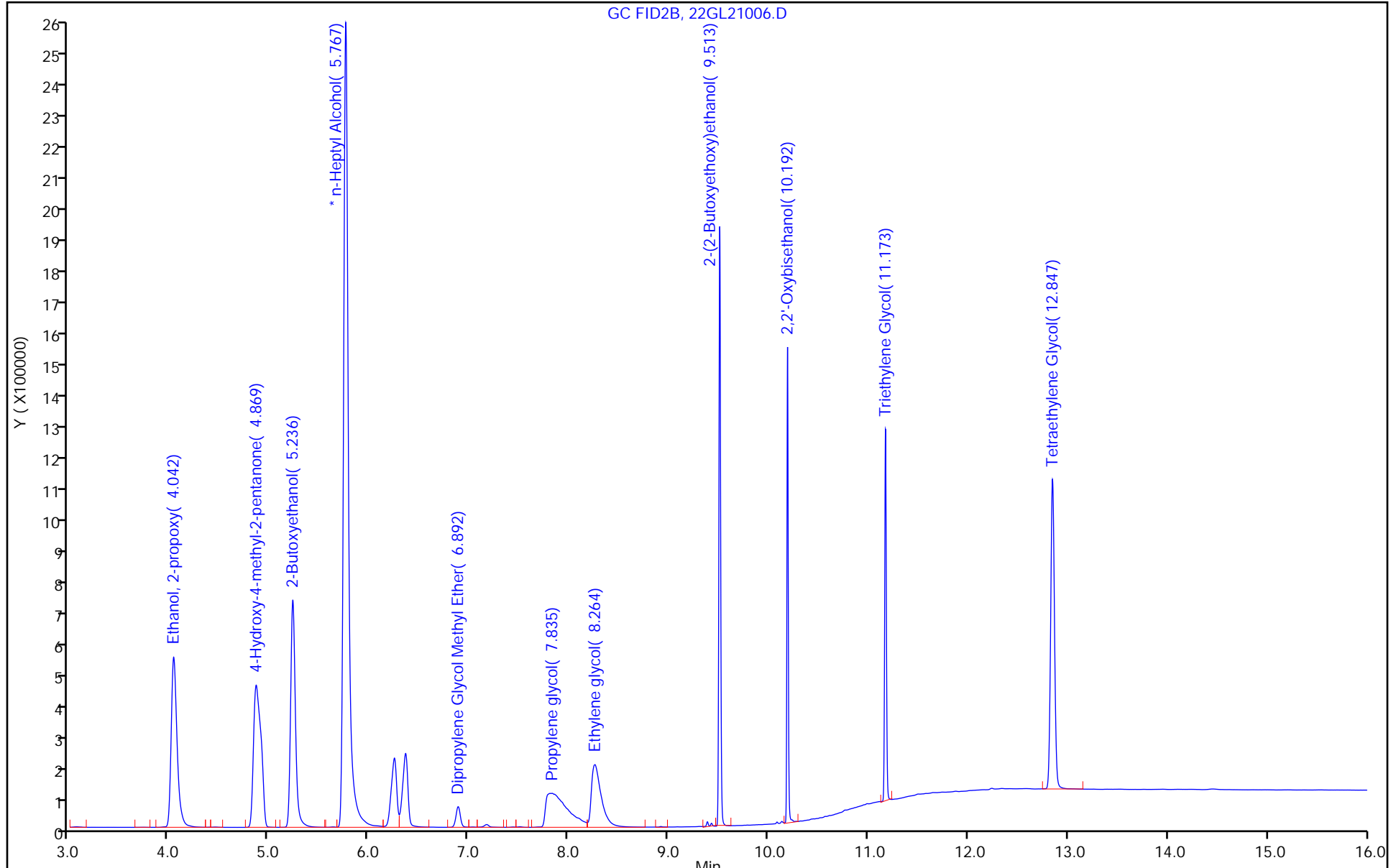
Dil. Factor: 1.0000

ALS Bottle#: 6

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.: 580-121385-1
 SDG No.: _____
 Client Sample ID: _____ Lab Sample ID: LCSD 680-756409/7
 Matrix: Water Lab File ID: 22GL21007.D
 Analysis Method: 8015C GLY Date Collected: _____
 Extraction Method: _____ Date Extracted: _____
 Sample wt/vol: 1(mL) Date Analyzed: 12/21/2022 18:43
 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.: 756409 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	24.6		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21007.D
 Lims ID: lcsd
 Client ID:
 Sample Type: LCSD
 Inject. Date: 21-Dec-2022 18:43:13 ALS Bottle#: 7 Worklist Smp#: 7
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082902-007
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 21-Dec-2022 19:12:35 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1619

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

1 Ethanol, 2-propoxy	4.048	4.046	0.002	1520264	20.0	23.5
2 4-Hydroxy-4-methyl-2-pentanone	4.870	4.869	0.001	1625912	20.0	24.0
3 2-Butoxyethanol	5.237	5.237	0.000	1638366	20.0	23.4
* 4 n-Heptyl Alcohol	5.765	5.766	-0.001	6246306	50.0	50.0
5 Dipropylene Glycol Methyl Ether	6.894	6.894	0.000	134028	20.0	26.9
6 Propylene glycol	7.835	7.829	0.006	876681	20.0	20.6
7 Ethylene glycol	8.260	8.265	-0.005	1002421	20.0	24.2
8 2-(2-Butoxyethoxy)ethanol	9.513	9.513	0.000	1526187	20.0	24.6
9 2,2'-Oxybisethanol	10.193	10.194	-0.001	1005824	20.0	25.3
10 Triethylene Glycol	11.175	11.175	0.000	958221	20.0	23.9
11 Tetraethylene Glycol	12.849	12.850	-0.001	1793701	40.0	46.1

Reagents:

SG_Gly_CAL_00047 Amount Added: 10.00 Units: uL
 SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21007.D

Injection Date: 21-Dec-2022 18:43:13

Instrument ID: CVGG2

Operator ID:

Lims ID: lcsd

Worklist Smp#: 7

Client ID:

Injection Vol: 1.0 ul

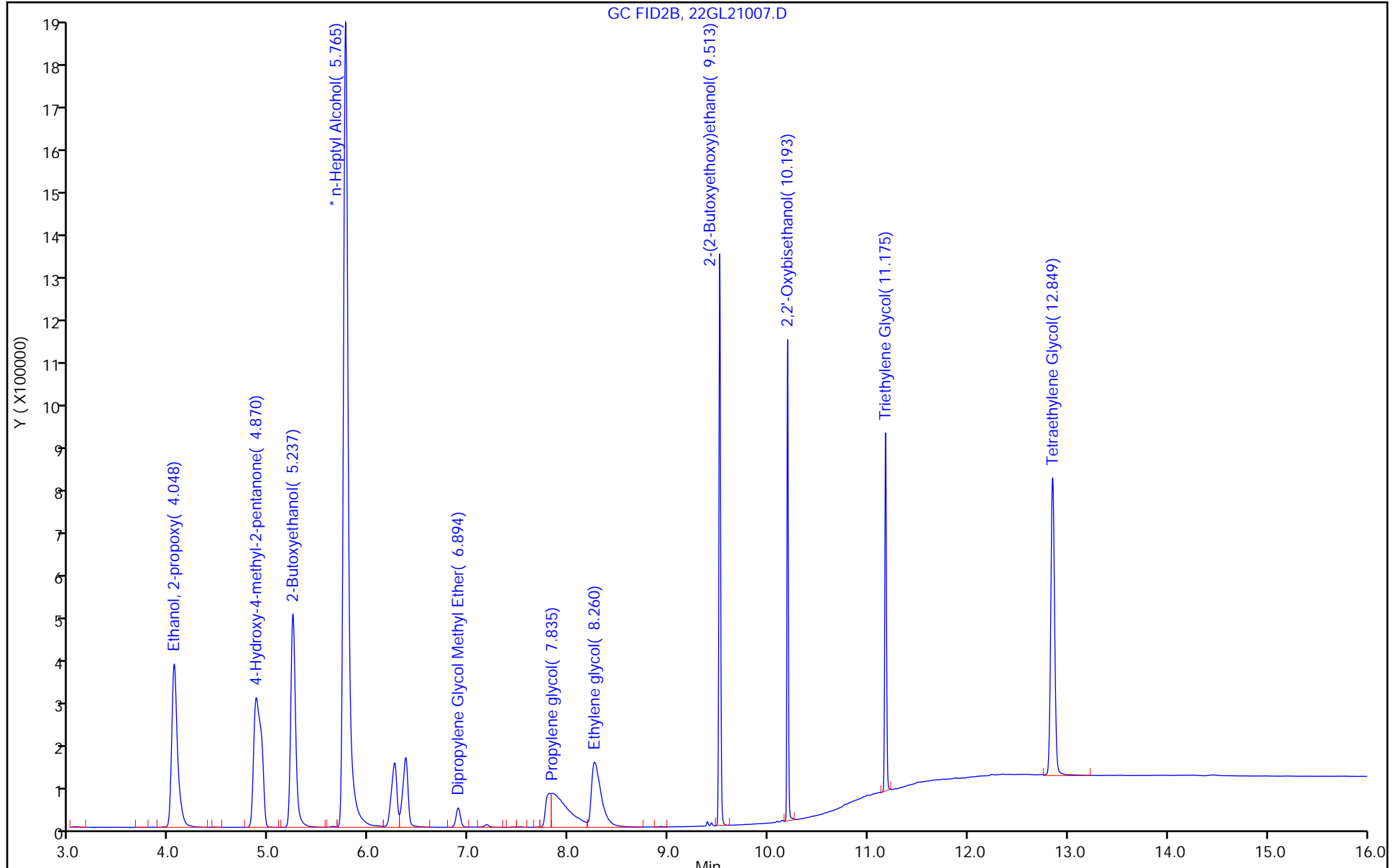
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: 8015_GLY_VGG

Limit Group: 8015C_DAI

Column: J&W DB WAX (0.45 mm)



Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21018.D
 Lims ID: 580-121385-A-2 MS
 Client ID:
 Sample Type: MS
 Inject. Date: 21-Dec-2022 22:50:46 ALS Bottle#: 18 Worklist Smp#: 18
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082902-018
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 22-Dec-2022 12:55:53 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1611

First Level Reviewer: SK9U Date: 22-Dec-2022 12:56:13

RT (min.)	Exp RT (min.)	Diff RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
4.036	4.025	0.011	1493547	20.0	20.7	
2 4-Hydroxy-4-methyl-2-pentanone						
4.858	4.848	0.010	1549897	20.0	20.5	
3 2-Butoxyethanol						
5.230	5.220	0.010	1652668	20.0	21.1	
* 4 n-Heptyl Alcohol						
5.762	5.751	0.011	6972736	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
6.886	6.875	0.011	142067	20.0	25.5	
6 Propylene glycol						
7.780	7.794	-0.014	933977	20.0	19.7	
7 Ethylene glycol						
8.250	8.248	0.002	791022	20.0	17.1	
8 2-(2-Butoxyethoxy)ethanol						
9.511	9.506	0.005	1472973	20.0	21.3	
9 2,2'-Oxybisethanol						
10.191	10.188	0.003	349881	20.0	7.88	
10 Triethylene Glycol						
11.171	11.170	0.001	195888	20.0	2.74	
11 Tetraethylene Glycol						
12.841	12.840	0.001	184452	40.0	1.05	7
LOD = 4.50						

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

SG_Gly_CAL_00047

Amount Added: 10.00

Units: uL

SG_GLY_ISTD_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21018.D

Injection Date: 21-Dec-2022 22:50:46

Instrument ID: CVGG2

Operator ID:

Lims ID: 580-121385-A-2 MS

Worklist Smp#: 18

Client ID:

Injection Vol: 1.0 ul

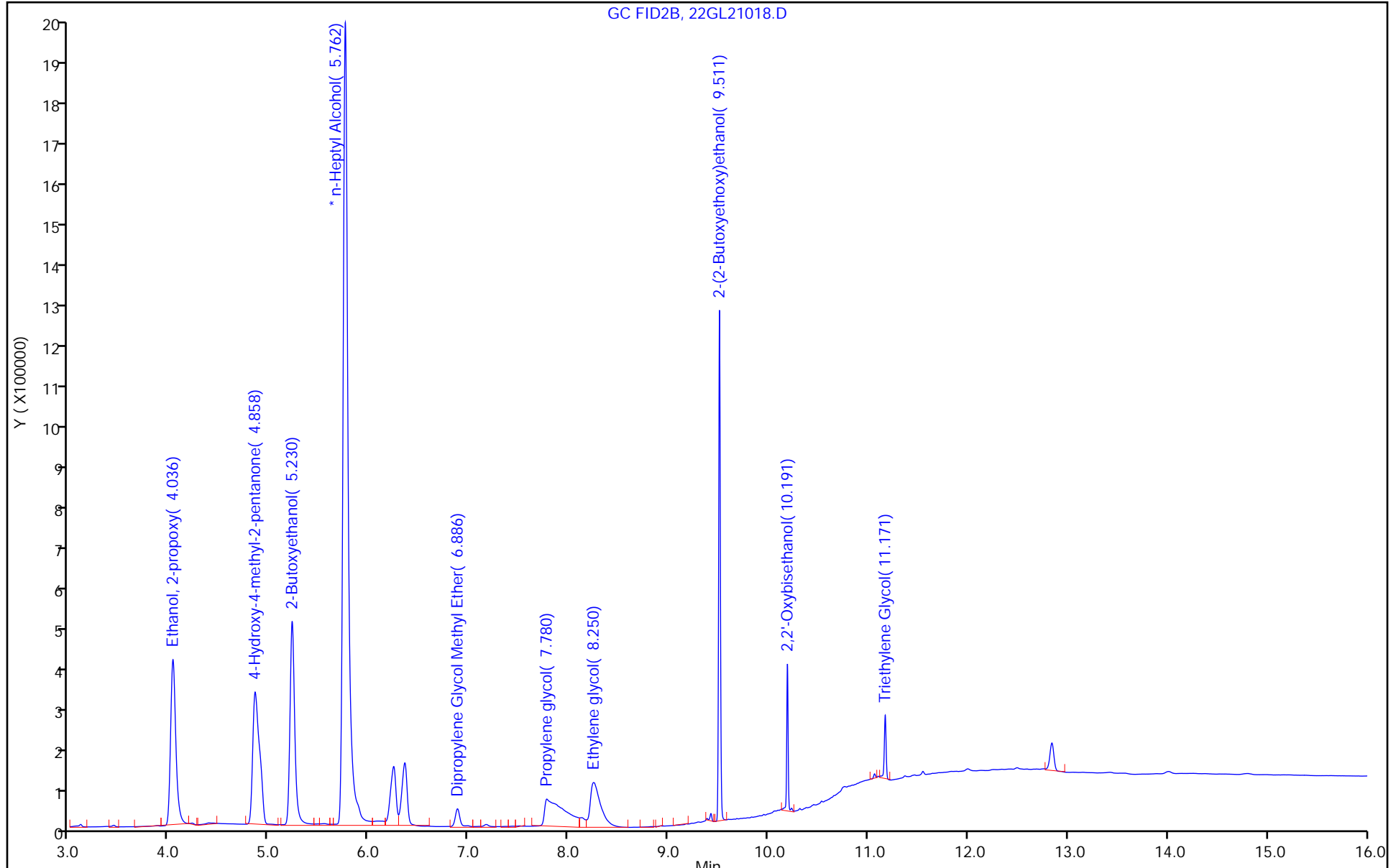
Dil. Factor: 1.0000

ALS Bottle#: 18

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.: 580-121385-1
SDG No.: _____
Client Sample ID: AF-RHMW06-WGN01B-2212W2 Lab Sample ID: 580-121385-2 MSD
MSD
Matrix: Water Lab File ID: 22GL21019.D
Analysis Method: 8015C GLY Date Collected: 12/14/2022 17:25
Extraction Method: _____ Date Extracted: _____
Sample wt/vol: 1(mL) Date Analyzed: 12/21/2022 23:13
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.: 756409 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	23.6		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21019.D
 Lims ID: 580-121385-A-2 MSD
 Client ID:
 Sample Type: MSD
 Inject. Date: 21-Dec-2022 23:13:18 ALS Bottle#: 19 Worklist Smp#: 19
 Injection Vol: 1.0 ul Dil. Factor: 1.0000
 Sample Info: 680-0082902-019
 Operator ID: Instrument ID: CVGG2
 Method: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\8015_GLY_VGG.m
 Limit Group: 8015C_DAI
 Last Update: 22-Dec-2022 12:55:53 Calib Date: 15-Dec-2022 15:34:13
 Integrator: Falcon
 Quant Method: Internal Standard Quant By: Initial Calibration
 Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221215-82752.b\22GL15012.D
 Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
 Process Host: CTX1611

First Level Reviewer: SK9U Date: 22-Dec-2022 12:56:19

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Ethanol, 2-propoxy						
4.039	4.025	0.014	1674607	20.0	22.7	
2 4-Hydroxy-4-methyl-2-pentanone						
4.862	4.848	0.014	1738409	20.0	22.5	
3 2-Butoxyethanol						
5.230	5.220	0.010	1846658	20.0	23.2	
* 4 n-Heptyl Alcohol						
5.761	5.751	0.010	7114012	50.0	50.0	
5 Dipropylene Glycol Methyl Ether						
6.886	6.875	0.011	128767	20.0	22.7	
6 Propylene glycol						
7.782	7.794	-0.012	1026930	20.0	21.2	
7 Ethylene glycol						
8.252	8.248	0.004	953789	20.0	20.2	
8 2-(2-Butoxyethoxy)ethanol						
9.510	9.506	0.004	1665627	20.0	23.6	
9 2,2'-Oxybisethanol						
10.191	10.188	0.003	501636	20.0	11.1	
10 Triethylene Glycol						
11.172	11.170	0.002	261344	20.0	4.20	
11 Tetraethylene Glycol						
12.843	12.840	0.003	271503	40.0	3.07	7
LOD = 4.50						

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Reagents:

SG_Gly_CAL_00047

Amount Added: 10.00

Units: uL

SG_GLY_ISTD_00099

Amount Added: 10.00

Units: uL

Run Reagent

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221221-82902.b\22GL21019.D

Injection Date: 21-Dec-2022 23:13:18

Instrument ID: CVGG2

Operator ID:

Lims ID: 580-121385-A-2 MSD

Worklist Smp#: 19

Client ID:

Injection Vol: 1.0 ul

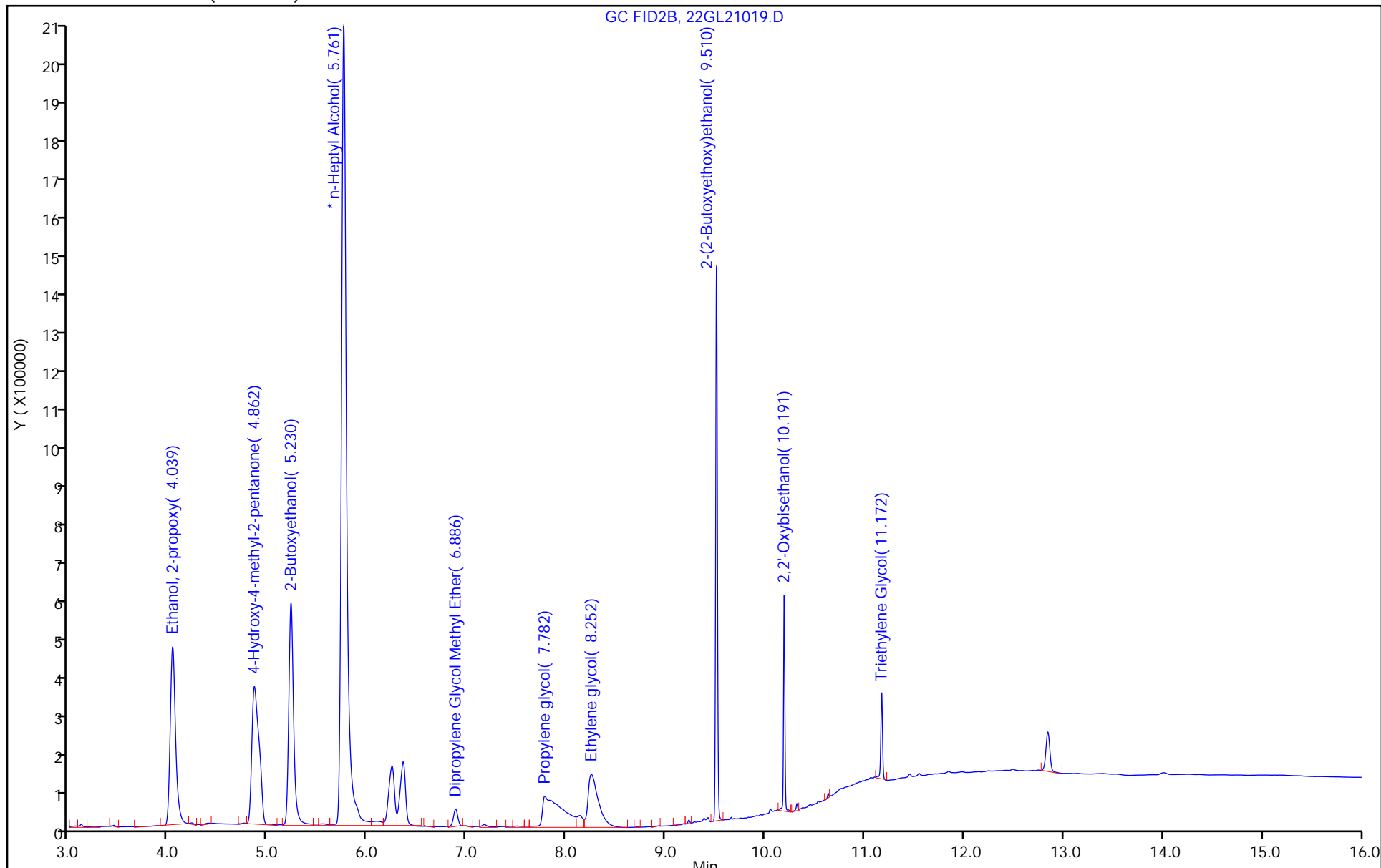
Dil. Factor: 1.0000

ALS Bottle#: 19

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.: 580-121385-1

SDG No.: _____

Instrument ID: CVGG2 Start Date: 12/15/2022 13:40

Analysis Batch Number: 755296 End Date: 12/16/2022 01:55

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 680-755296/7		12/15/2022 13:40	1	22GL15007.D	J&W DB WAX 0.45 (mm)
IC 680-755296/8		12/15/2022 14:03	1	22GL15008.D	J&W DB WAX 0.45 (mm)
IC 680-755296/9		12/15/2022 14:26	1	22GL15009.D	J&W DB WAX 0.45 (mm)
ICIS 680-755296/10		12/15/2022 14:48	1	22GL15010.D	J&W DB WAX 0.45 (mm)
IC 680-755296/11		12/15/2022 15:11	1	22GL15011.D	J&W DB WAX 0.45 (mm)
IC 680-755296/12		12/15/2022 15:34	1	22GL15012.D	J&W DB WAX 0.45 (mm)
ICV 680-755296/13 CCV		12/15/2022 15:56	1	22GL15013.D	J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 16:19	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 16:42	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 18:00	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 18:23	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 19:31	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 19:53	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 20:16	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 20:39	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 21:01	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 21:24	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 21:46	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 22:09	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 22:31	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 22:54	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 23:17	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/15/2022 23:39	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/16/2022 00:02	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/16/2022 00:25	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/16/2022 00:47	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/16/2022 01:10	1		J&W DB WAX 0.45 (mm)
CCV 680-755296/39		12/16/2022 01:55	1		J&W DB WAX 0.45 (mm)

GC SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Savannah Job No.: 580-121385-1

SDG No.: _____

Instrument ID: CVGG2 Start Date: 12/21/2022 17:58

Analysis Batch Number: 756409 End Date: 12/21/2022 23:58

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVIS 680-756409/5		12/21/2022 17:58	1	22GL21005.D	J&W DB WAX 0.45 (mm)
LCS 680-756409/6		12/21/2022 18:20	1	22GL21006.D	J&W DB WAX 0.45 (mm)
LCSD 680-756409/7		12/21/2022 18:43	1	22GL21007.D	J&W DB WAX 0.45 (mm)
MB 680-756409/10		12/21/2022 19:50	1	22GL21010.D	J&W DB WAX 0.45 (mm)
ZZZZZ		12/21/2022 20:13	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/21/2022 20:35	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/21/2022 20:58	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/21/2022 21:20	1		J&W DB WAX 0.45 (mm)
ZZZZZ		12/21/2022 21:43	1		J&W DB WAX 0.45 (mm)
580-121385-1	AF-RHMW12A-WGN01B-2212W2	12/21/2022 22:05	1	22GL21016.D	J&W DB WAX 0.45 (mm)
580-121385-2	AF-RHMW06-WGN01B-2212W2	12/21/2022 22:28	1	22GL21017.D	J&W DB WAX 0.45 (mm)
580-121385-2 MS	AF-RHMW06-WGN01B-2212W2 MS	12/21/2022 22:50	1	22GL21018.D	J&W DB WAX 0.45 (mm)
580-121385-2 MSD	AF-RHMW06-WGN01B-2212W2 MSD	12/21/2022 23:13	1	22GL21019.D	J&W DB WAX 0.45 (mm)
CCV 680-756409/21		12/21/2022 23:58	1	22GL21021.D	J&W DB WAX 0.45 (mm)

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Savannah Job No.: 580-121385-1

SDG No.: _____

Batch Number: 755296 Batch Start Date: 12/15/22 13:40 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 00047	SG_GLY_ISTD 00099	SG_GlyICV 00056		
IC 680-755296/7		8015C GLY		1 mL	50 uL	10 uL			
IC 680-755296/8		8015C GLY		1 mL	40 uL	10 uL			
IC 680-755296/9		8015C GLY		1 mL	25 uL	10 uL			
ICIS 680-755296/10		8015C GLY		1 mL	10 uL	10 uL			
IC 680-755296/11		8015C GLY		1 mL	5 uL	10 uL			
IC 680-755296/12		8015C GLY		1 mL	2.5 uL	10 uL			
ICV 680-755296/13 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.: 580-121385-1

SDG No.: _____

Batch Number: 756409 Batch Start Date: 12/21/22 17:58 Batch Analyst: Meincke, Griffin E

Batch Method: 8015C GLY Batch End Date: _____

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	SG_Gly_CAL 00047	SG_GLY_ISTD 00099			
CCVIS 680-756409/5		8015C GLY		1 mL	10 uL	10 uL			
LCS 680-756409/6		8015C GLY		1 mL	10 uL	10 uL			
LCSD 680-756409/7		8015C GLY		1 mL	10 uL	10 uL			
MB 680-756409/10		8015C GLY		1 mL		10 uL			
580-121385-A-1	AF-RHMW12A-WGN01 B-2212W2	8015C GLY	T	1 mL		10 uL			
580-121385-A-2	AF-RHMW06-WGN01B -2212W2	8015C GLY	T	1 mL		10 uL			
580-121385-A-2 MS	AF-RHMW06-WGN01B -2212W2	8015C GLY	T	1 mL	10 uL	10 uL			
580-121385-A-2 MSD	AF-RHMW06-WGN01B -2212W2	8015C GLY	T	1 mL	10 uL	10 uL			
CCV 680-756409/21		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
Page 122 of 124

Client Information
 Lab PM: Elaine Walker
 E-Mail: M.Elaine.Walker@EurofinsE.com
 State of Origin: Hawaii
 Carrier Tracking No(s): 2212W2EU-17
 FedEx
 Page: Page 1 of 1
 Job #:
 Company: AECOM
 Address: 1001 Bishop St Suite 1600
 City: Honolulu
 State, Zip: Hawaii 96813
 Phone: 808-954-4512 / 808-356-5311
 PO #:
 Email: Watson Tanji (watson.tanji@aecom.com) / Brant Landers (brantlanders@aecom.com)
 Project Name: CTO N6274223F0104
 Project #: 60697810
 SSW#:
 Site: RH5F

Due Date Requested: see subcontract
TAT Requested (days): Rush - ASAP
Compliance Project: Yes No
City: Honolulu
Address: 1001 Bishop St Suite 1600
Company: AECOM
Job #:
Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, S=solid, W=water, M=matrix)	Preservation Code:	Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Special Instructions/Note:
					Field Filtered	MS/MSD	Field Filtered	MS/MSD	
AF-RHMM12A-WGN01B-2212W2	12/14/22	1250	G		N	N	N	X	Store ALL samples until notified by client to dispose
Total Number of containers: M/D 12/14/22 8015C_DAI_GL_DS/2-(2-butylethoxy)-ethanol									

Possible Hazard Identification
 Non-Hazard
 Flammable
 Skin Irritant
 Poison B
 Unknown
 Radiological

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 QSM project.
 Return To Client
 Disposal By Lab
 Archive For _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Received by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Empty Kit Returned by:			AECOM	12/14/22	AECOM	Miranda DeJure	12/14/22	AECOM	Miranda DeJure	12/14/22	AECOM
Received by:			AECOM	12/14/22	AECOM	Miranda DeJure	12/14/22	AECOM	Miranda DeJure	12/14/22	AECOM
Received by:			AECOM	12/15/22	AECOM	Miranda DeJure	12/15/22	AECOM	Miranda DeJure	12/15/22	AECOM

Method of Shipment: _____ Date: _____
 Cooler Temperature(s) °C and Other Remarks: _____
 Custody Seal No.: _____
 Ver: 01/16/2019

4-4/4-4

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-121385-1

Login Number: 121385
List Number: 2
Creator: Padayao, Abigail

List Source: Eurofins Savannah
List Creation: 12/20/22 09:57 AM

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?	N/A	
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.	N/A	
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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	