eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Terri Choy
AECOM
1001 Bishop Street
Honolulu HI 96813

Generated 12/30/2022 7:07 PM Revision 1

JOB DESCRIPTION

Red Hill - AFFF Assessment Sampling

JOB NUMBER

580-121547-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

See page two for job notes and contact information.

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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Authorized for release by
Marie E Walker, Senior Project Manager
M.Elaine.Walker@et.eurofinsus.com
253 248-4972

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Qualifiers

GC Semi VOA

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: 580-121547-1

REVISION 1: DECEMBER 30, 2022
Report revised to add the fully relinquished COC to the report.

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
Four samples were received on 12/27/2022 12:30 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.6º 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 - 2-(2-BUTOXYETHOXY)ETHANOL
Samples AF-RHMW17D-WGN01LF-2212W3 (580-121547-1), AF-RHMW17-WGN01LF-2212W3 (580-121547-2), AF-RHMW06-WGN01LF-2212W3 (580-121547-3) and AF-RHMW04-WGN01LF-2212W3 (580-121547-4) were analyzed for glycols in accordance with EPA SW-846 Method 8015B - DAI. The samples were analyzed on 12/28/2022.

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

Detection Summary

Client: AECOM
Job ID: 580-121547-1
Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-RHMW17D-WGN01LF-2212W3 — Lab Sample ID: 580-121547-1

No Detections.

Client Sample ID: AF-RHMW17-WGN01LF-2212W3 — Lab Sample ID: 580-121547-2

No Detections.

Client Sample ID: AF-RHMW06-WGN01LF-2212W3 — Lab Sample ID: 580-121547-3

No Detections.

Client Sample ID: AF-RHMW04-WGN01LF-2212W3 — Lab Sample ID: 580-121547-4

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: AF-RHMW17D-WGN01LF-2212W3
Lab Sample ID: 580-121547-1
Date Collected: 12/22/22 17:40
Matrix: Water
Date Received: 12/27/22 10:44

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	1.1	mg/L			12/28/22 17:53	1

Client Sample ID: AF-RHMW17-WGN01LF-2212W3
Lab Sample ID: 580-121547-2
Date Collected: 12/22/22 16:10
Matrix: Water
Date Received: 12/27/22 10:44

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-(2-Butoxyethoxy)ethanol	3.0	U M	5.0	1.1	mg/L			12/28/22 18:15	1

Client Sample ID: AF-RHMW06-WGN01LF-2212W3
Lab Sample ID: 580-121547-3
Date Collected: 12/22/22 11:40
Matrix: Water
Date Received: 12/27/22 10:44

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	5.0	1.1	mg/L			12/28/22 18:38	1

Client Sample ID: AF-RHMW04-WGN01LF-2212W3
Lab Sample ID: 580-121547-4
Date Collected: 12/22/22 14:05
Matrix: Water
Date Received: 12/27/22 10:44

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	5.0	1.1	mg/L			12/28/22 19:00	1

Default Detection Limits

Client: AECOM
Job ID: 580-121547-1
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

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

Lab Sample ID: MB 680-757067/16
Matrix: Water
Analysis Batch: 757067

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			12/28/22 17:08	1

Lab Sample ID: LCS 680-757067/12
Matrix: Water
Analysis Batch: 757067

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	20.5		mg/L		102	50 - 150		

Lab Sample ID: LCSD 680-757067/13
Matrix: Water
Analysis Batch: 757067

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	20.8		mg/L		104	50 - 150	2	50

Lab Sample ID: 580-121547-4 MS
Matrix: Water
Analysis Batch: 757067

Client Sample ID: AF-RHMW04-WGN01LF-2212W3
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	20.0	16.9		mg/L		84	50 - 150		

Lab Sample ID: 580-121547-4 MSD
Matrix: Water
Analysis Batch: 757067

Client Sample ID: AF-RHMW04-WGN01LF-2212W3
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	20.0	20.3		mg/L		101	50 - 150	18	50

QC Association Summary

Client: AECOM
Job ID: 580-121547-1
Project/Site: Red Hill - AFFF Assessment Sampling

GC Semi VOA

Analysis Batch: 757067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-121547-1	AF-RHMW17D-WGN01LF-2212W3	Total/NA	Water	8015C GLY	
580-121547-2	AF-RHMW17-WGN01LF-2212W3	Total/NA	Water	8015C GLY	
580-121547-3	AF-RHMW06-WGN01LF-2212W3	Total/NA	Water	8015C GLY	
580-121547-4	AF-RHMW04-WGN01LF-2212W3	Total/NA	Water	8015C GLY	
MB 680-757067/16	Method Blank	Total/NA	Water	8015C GLY	
LCS 680-757067/12	Lab Control Sample	Total/NA	Water	8015C GLY	
LCSD 680-757067/13	Lab Control Sample Dup	Total/NA	Water	8015C GLY	
580-121547-4 MS	AF-RHMW04-WGN01LF-2212W3	Total/NA	Water	8015C GLY	
580-121547-4 MSD	AF-RHMW04-WGN01LF-2212W3	Total/NA	Water	8015C GLY	

Lab Chronicle

Client: AECOM
Job ID: 580-121547-1
Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-RHMW17D-WGN01LF-2212W3
Lab Sample ID: 580-121547-1

Date Collected: 12/22/22 17:40
Matrix: Water
Date Received: 12/27/22 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	757067	GEM	EET SAV	12/28/22 17:53

Client Sample ID: AF-RHMW17-WGN01LF-2212W3
Lab Sample ID: 580-121547-2

Date Collected: 12/22/22 16:10
Matrix: Water
Date Received: 12/27/22 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	757067	GEM	EET SAV	12/28/22 18:15

Client Sample ID: AF-RHMW06-WGN01LF-2212W3
Lab Sample ID: 580-121547-3

Date Collected: 12/22/22 11:40
Matrix: Water
Date Received: 12/27/22 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	757067	GEM	EET SAV	12/28/22 18:38

Client Sample ID: AF-RHMW04-WGN01LF-2212W3
Lab Sample ID: 580-121547-4

Date Collected: 12/22/22 14:05
Matrix: Water
Date Received: 12/27/22 10:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	757067	GEM	EET SAV	12/28/22 19:00

Laboratory References:

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

Accreditation/Certification Summary

Client: AECOM
Job ID: 580-121547-1
Project/Site: Red Hill - AFFF Assessment Sampling

Laboratory: Eurofins Savannah

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

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

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

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

Method Summary

Client: AECOM
Job ID: 580-121547-1
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: 580-121547-1
Project/Site: Red Hill - AFFF Assessment Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-121547-1	AF-RHMW17D-WGN01LF-2212W3	Water	12/22/22 17:40	12/27/22 10:44
580-121547-2	AF-RHMW17-WGN01LF-2212W3	Water	12/22/22 16:10	12/27/22 10:44
580-121547-3	AF-RHMW06-WGN01LF-2212W3	Water	12/22/22 11:40	12/27/22 10:44
580-121547-4	AF-RHMW04-WGN01LF-2212W3	Water	12/22/22 14:05	12/27/22 10:44

GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Instrument ID: CVGG2 Analysis Batch Number: 757067

Lab Sample ID: IC 680-757067/5 Client Sample ID:

Date Analyzed: 12/28/22 12:59 Lab File ID: 22GL28005.D GC Column: J&W DB WAX ID: 0.45(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
4-Hydroxy-4-methyl-2-pentanone	4.90	Incomplete Integration	SK9U	12/28/22 15:01

Lab Sample ID: ICIS 680-757067/7 Client Sample ID:

Date Analyzed: 12/28/22 13:44 Lab File ID: 22GL28007.D GC Column: J&W DB WAX ID: 0.45(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propylene glycol	7.83	Incomplete Integration	SK9U	12/28/22 15:01
Ethylene glycol	8.29	Incomplete Integration	SK9U	12/28/22 15:01

Lab Sample ID: IC 680-757067/9 Client Sample ID:

Date Analyzed: 12/28/22 14:29 Lab File ID: 22GL28009.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	SK9U	12/28/22 15:02
Ethylene glycol	8.28	Baseline Smoothing	SK9U	12/28/22 15:02

Lab Sample ID: IC 680-757067/10 Client Sample ID:

Date Analyzed: 12/28/22 14:52 Lab File ID: 22GL28010.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	SK9U	12/28/22 16:13
Ethylene glycol	8.28	Baseline Smoothing	SK9U	12/28/22 16:13

GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Instrument ID: CVGG2 Analysis Batch Number: 757067

Lab Sample ID: 580-121547-1 Client Sample ID: AF-RHMW17D-WGN01LF-2212W3

Date Analyzed: 12/28/22 17:53 Lab File ID: 22GL28018.D GC Column: J&W DB WAX ID: 0.45(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-(2-Butoxyethoxy)ethanol		Invalid Compound ID	SWK1	12/29/22 09:25

Lab Sample ID: 580-121547-2 Client Sample ID: AF-RHMW17-WGN01LF-2212W3

Date Analyzed: 12/28/22 18:15 Lab File ID: 22GL28019.D GC Column: J&W DB WAX ID: 0.45(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-(2-Butoxyethoxy)ethanol		Invalid Compound ID	SWK1	12/29/22 09:25

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121547-1

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
							Tetraethylene Glycol	4000 ug/mL
							Triethylene 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

o2si smart solutions®

ISO 17034 Accredited
Reference Material Producer
Cert. No. 3031.02

Rev 0

Certificate of Analysis

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:

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
$u_c = (u_{char}^2 + u_{tran}^2 + u_{homo}^2 + u_{lts}^2)^{1/2}$ 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:	**Certified By:**	**Released By:**
Brian Stokes	Tyler Sherman	Susan Mathews
3 -May-2022	14 -Jun-2022	14 -Jun-2022
Production Chemist I	**Quality Control Chemist I**	**Quality Control Team Lead**

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

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:	**Certified By:**	**Released By:**
Brian Stokes	Tyler Sherman	Susan Mathews
3 -May-2022	14 -Jun-2022	14 -Jun-2022
Production Chemist I	**Quality Control Chemist I**	**Quality Control Team Lead**

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

Reagent

SG_GLY_ISTD_00099

ISO 17034

Agilent
Trusted Answers

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

	CERTIFIED VALUES			
Component Name	Concentration	Expanded Uncertainty	CAS#	Analyte Lot
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

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

Reagent

SG_GlyICV_00056

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

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smart solutions®

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Cert. No. 3031.02

Rev 0

Certificate of Analysis

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:

Catalog No. G34-120070-04-SS **Lot No.** 454407 **Expiration Date** 1 -Jul-2023

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

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

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

Method of Preparation:

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

Packaging and Storage:

The solution should be stored according to the following storage requirements: ≤ -10 °C
Once the product is opened, it should be transferred to a vial with minimum head space if the product was received in a sealed ampule.

Glassware Calibration:

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

Weights and Balance Calibration:

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

Homogeneity:

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

Hazardous Information:

Refer to MSDS.

Calculation of Uncertainty:

The following equations are used to calculate the value of the expanded uncertainty:
$u = ku_c$ u = Expanded Uncertainty, k = the coverage factor at the 95% confidence level, k = 2, u_c = the combined uncertainty
$u_c = (u_{char}^2 + u_{tran}^2 + u_{homo}^2 + u_{lts}^2)^{1/2}$ 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:	**Certified By:**	**Released By:**
Jared Ball	Claire Desrochers	Susan Mathews
1 -Jul-2021	7 -Jul-2021	8 -Jul-2021
Quality Control Chemist I	**Quality Control Chemist I**	**Quality Control Team Lead**

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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:	**Certified By:**	**Released By:**
Jared Ball	Claire Desrochers	Susan Mathews
1 -Jul-2021	7 -Jul-2021	8 -Jul-2021
Quality Control Chemist I	**Quality Control Chemist I**	**Quality Control Team Lead**

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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.: 580-121547-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 22GL28012.D

Lab ID: LCS 680-757067/12 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
2-(2-Butoxyethoxy)ethanol	20.0	20.5	102	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.: 580-121547-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 22GL28013.D

Lab ID: LCSD 680-757067/13 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2-(2-Butoxyethoxy)ethanol	20.0	20.8	104	2	50	50-150	

Column to be used to flag recovery and RPD values

FORM III 8015C GLY

FORM III
GC SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 22GL28023.D

Lab ID: 580-121547-4 MS Client ID: AF-RHMW04-WGN01LF-2212W3 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	16.9	84	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.: 580-121547-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 22GL28024.D

Lab ID: 580-121547-4 MSD Client ID: AF-RHMW04-WGN01LF-2212W3 MSD

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2-(2-Butoxyethoxy)ethanol	20.0	20.3	101	18	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.: 580-121547-1

SDG No.:

Lab Sample ID: MB 680-757067/16

Matrix: Water Date Extracted:

Lab File ID:(1) 22GL28016.D Lab File ID:(2)

Date Analyzed:(1) 12/28/2022 17:08 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 680-757067/12	12/28/2022 15:37	
	LCSD 680-757067/13	12/28/2022 16:00	
AF-RHMW17D-WGN01LF-2212W3	580-121547-1	12/28/2022 17:53	
AF-RHMW17-WGN01LF-2212W3	580-121547-2	12/28/2022 18:15	
AF-RHMW06-WGN01LF-2212W3	580-121547-3	12/28/2022 18:38	
AF-RHMW04-WGN01LF-2212W3	580-121547-4	12/28/2022 19:00	
AF-RHMW04-WGN01LF-2212W3 MS	580-121547-4 MS	12/28/2022 19:45	
AF-RHMW04-WGN01LF-2212W3 MSD	580-121547-4 MSD	12/28/2022 20:08	

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

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Sample No.: ICIS 680-757067/7 Date Analyzed: 12/28/2022 13:44

Instrument ID: CVGG2 GC Column: J&W DB WAX ID: 0.45(mm)

Lab File ID (Standard): 22GL28007.D Heated Purge: (Y/N) N

Calibration ID: 88756

		nHPA					
		AREA #	RT #	#	RT #	#	RT #
INITIAL CALIBRATION MID-POINT		7896964	5.79				
UPPER LIMIT		15793928	6.29				
LOWER LIMIT		3948482	5.29				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 680-757067/11 CCV		7473586	5.79				
LCS 680-757067/12		5518071	5.79				
LCSD 680-757067/13		6868573	5.79				
MB 680-757067/16		7987398	5.79				
580-121547-1	AF-RHMW17D-WGN01LF-2212W3	6489923	5.79				
580-121547-2	AF-RHMW17-WGN01LF-2212W3	7190806	5.79				
580-121547-3	AF-RHMW06-WGN01LF-2212W3	4903756	5.79				
580-121547-4	AF-RHMW04-WGN01LF-2212W3	7595939	5.79				
580-121547-4 MS	AF-RHMW04-WGN01LF-2212W3 MS	7514832	5.80				
580-121547-4 MSD	AF-RHMW04-WGN01LF-2212W3 MSD	7905830	5.80				
CCV 680-757067/26		8232161	5.80				

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 8015C GLY

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Client Sample ID: AF-RHMW17D-WGN01LF-2212W3 Lab Sample ID: 580-121547-1

Matrix: Water Lab File ID: 22GL28018.D

Analysis Method: 8015C GLY Date Collected: 12/22/2022 17:40

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 12/28/2022 17:53

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.: 757067 Units: mg/L

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

Eurofins Savannah
Target Compound Quantitation Report

Data File:	\\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28018.D				
Lims ID:	580-121547-A-1				
Client ID:	AF-RHMW17D-WGN01LF-2212W3				
Sample Type:	Client				
Inject. Date:	28-Dec-2022 17:53:07	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-0082994-018				
Operator ID:		Instrument ID:	CVGG2		
Method:	\\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m				
Limit Group:	8015C_DAI				
Last Update:	29-Dec-2022 09:25:35	Calib Date:	28-Dec-2022 14:52:34		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D				
Column 1 :	J&W DB WAX (0.45 mm)		Det: GC FID2B		
Process Host:	CTX1609				

First Level Reviewer: SWK1 Date: 29-Dec-2022 09:25:17

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
* 4 n-Heptyl Alcohol					
5.791	5.795	-0.004	6489923	50.0	

QC Flag Legend

Processing Flags

Reagents:

SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

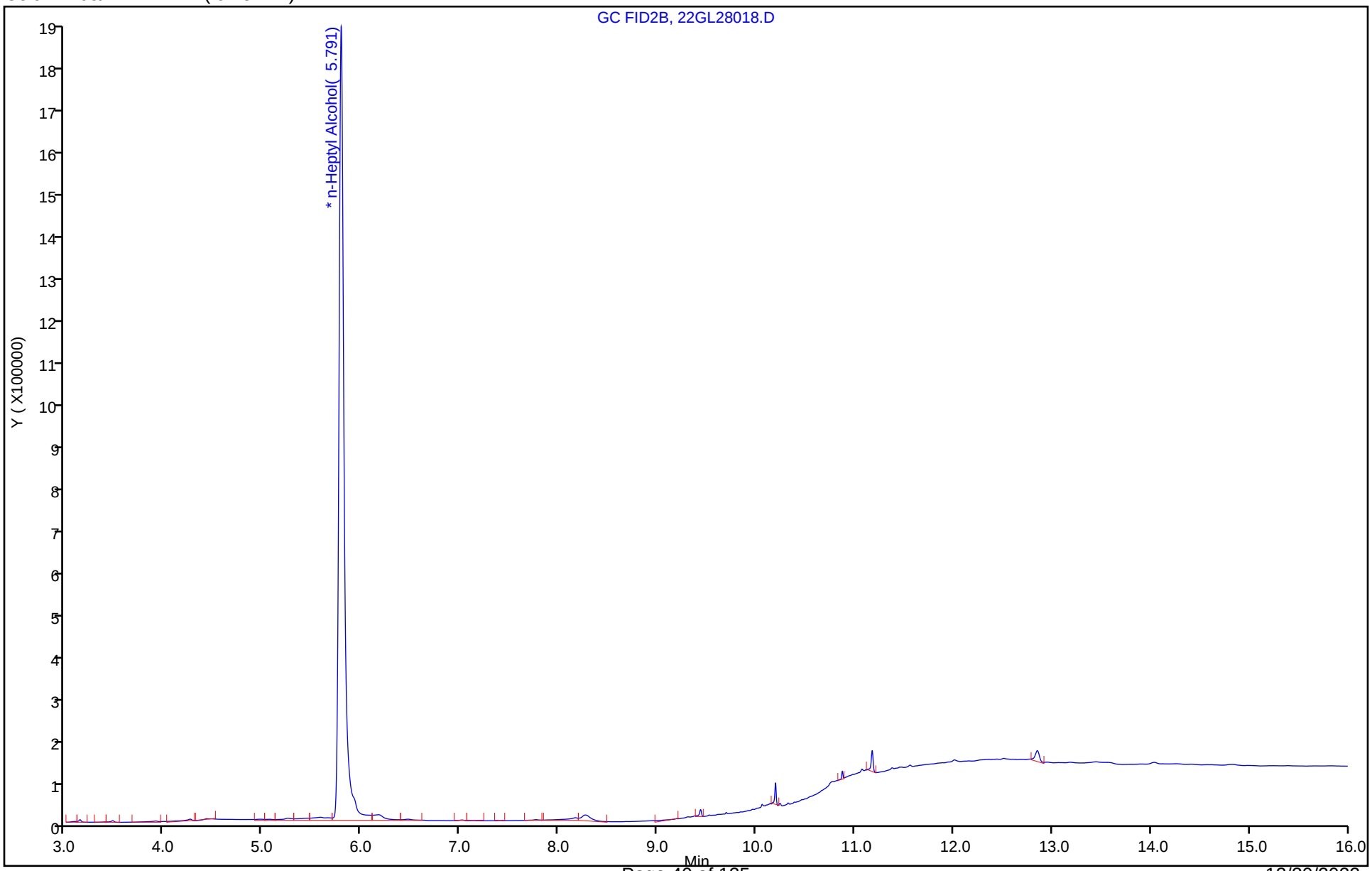
Report Date: 29-Dec-2022 09:26:01 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28018.D

Injection Date:	28-Dec-2022 17:53:07	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	580-121547-A-1	Lab Sample ID:	680-121547-1	Worklist Smp#:	18
Client ID:	AF-RHMW17D-WGN01LF-2212W3				
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)



12/30/2022
7:07 PM

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Client Sample ID: AF-RHMW17-WGN01LF-2212W3 Lab Sample ID: 580-121547-2

Matrix: Water Lab File ID: 22GL28019.D

Analysis Method: 8015C GLY Date Collected: 12/22/2022 16:10

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 12/28/2022 18:15

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.: 757067 Units: mg/L

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

Eurofins Savannah
Target Compound Quantitation Report

Data File:	\\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28019.D				
Lims ID:	580-121547-A-2				
Client ID:	AF-RHMW17-WGN01LF-2212W3				
Sample Type:	Client				
Inject. Date:	28-Dec-2022 18:15:45	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-0082994-019				
Operator ID:		Instrument ID:	CVGG2		
Method:	\\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m				
Limit Group:	8015C_DAI				
Last Update:	29-Dec-2022 09:25:35	Calib Date:	28-Dec-2022 14:52:34		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D				
Column 1 :	J&W DB WAX (0.45 mm)		Det: GC FID2B		
Process Host:	CTX1609				

First Level Reviewer: SWK1 Date: 29-Dec-2022 09:25:21

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
* 4 n-Heptyl Alcohol					
5.792	5.795	-0.003	7190806	50.0	

QC Flag Legend

Processing Flags

Reagents:

SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

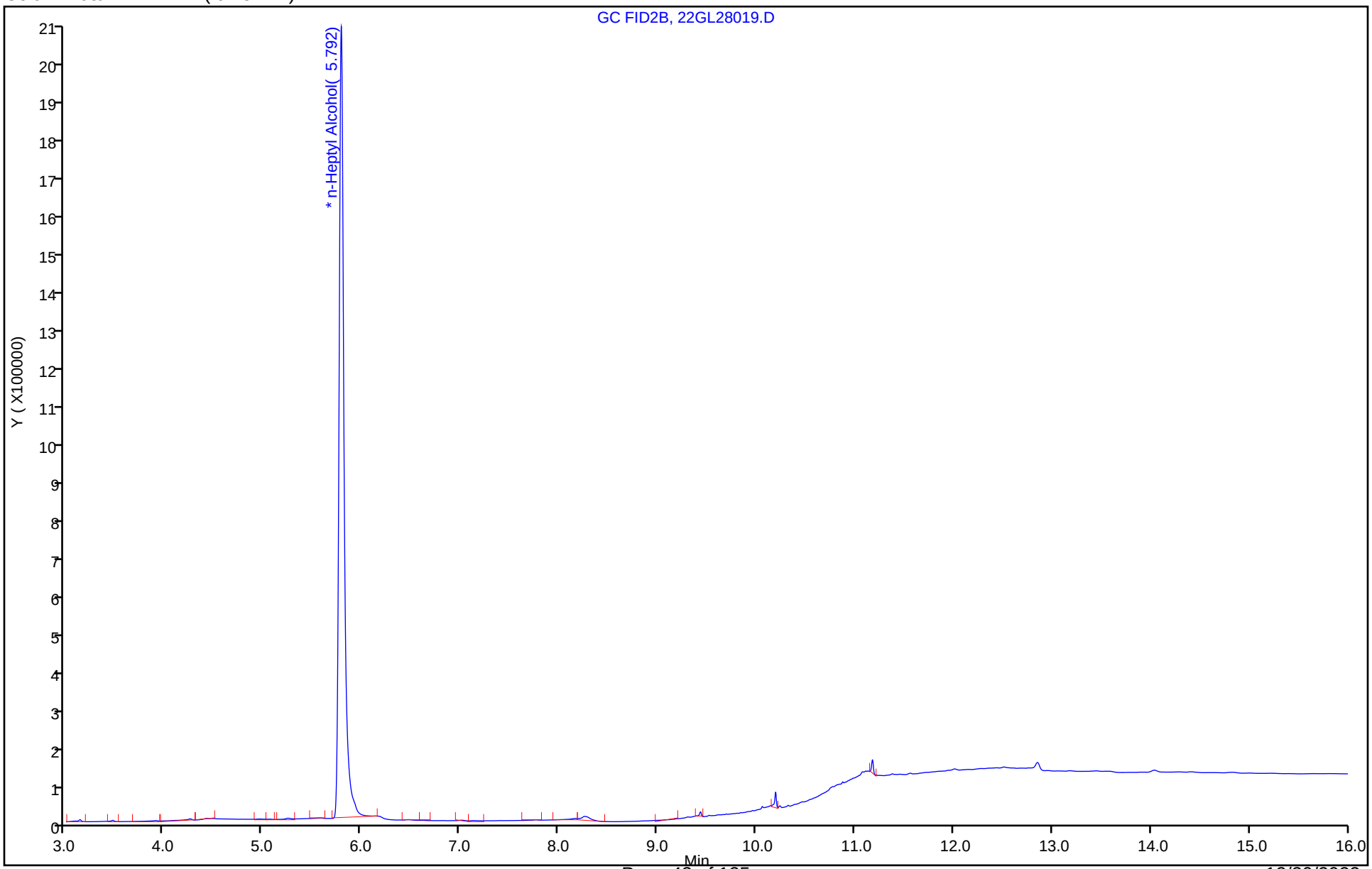
Report Date: 29-Dec-2022 09:26:02 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28019.D

Injection Date:	28-Dec-2022 18:15:45	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	580-121547-A-2	Lab Sample ID:	680-121547-2	Worklist Smp#:	19
Client ID:	AF-RHMW17-WGN01LF-2212W3				
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)



12/30/2022
7:07 PM

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Client Sample ID: AF-RHMW06-WGN01LF-2212W3 Lab Sample ID: 580-121547-3

Matrix: Water Lab File ID: 22GL28020.D

Analysis Method: 8015C GLY Date Collected: 12/22/2022 11:40

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 12/28/2022 18:38

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.: 757067 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\20221228-82994.b\22GL28020.D				
Lims ID:	580-121547-A-3				
Client ID:	AF-RHMW06-WGN01LF-2212W3				
Sample Type:	Client				
Inject. Date:	28-Dec-2022 18:38:17	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-0082994-020				
Operator ID:		Instrument ID:	CVGG2		
Method:	\\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m				
Limit Group:	8015C_DAI				
Last Update:	29-Dec-2022 09:25:35	Calib Date:	28-Dec-2022 14:52:34		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D				
Column 1 :	J&W DB WAX (0.45 mm)		Det: GC FID2B		
Process Host:	CTX1609				

First Level Reviewer: SWK1 Date: 29-Dec-2022 09:25:23

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
* 4 n-Heptyl Alcohol					
5.791	5.795	-0.004	4903756	50.0	

QC Flag Legend

Processing Flags

Reagents:

SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

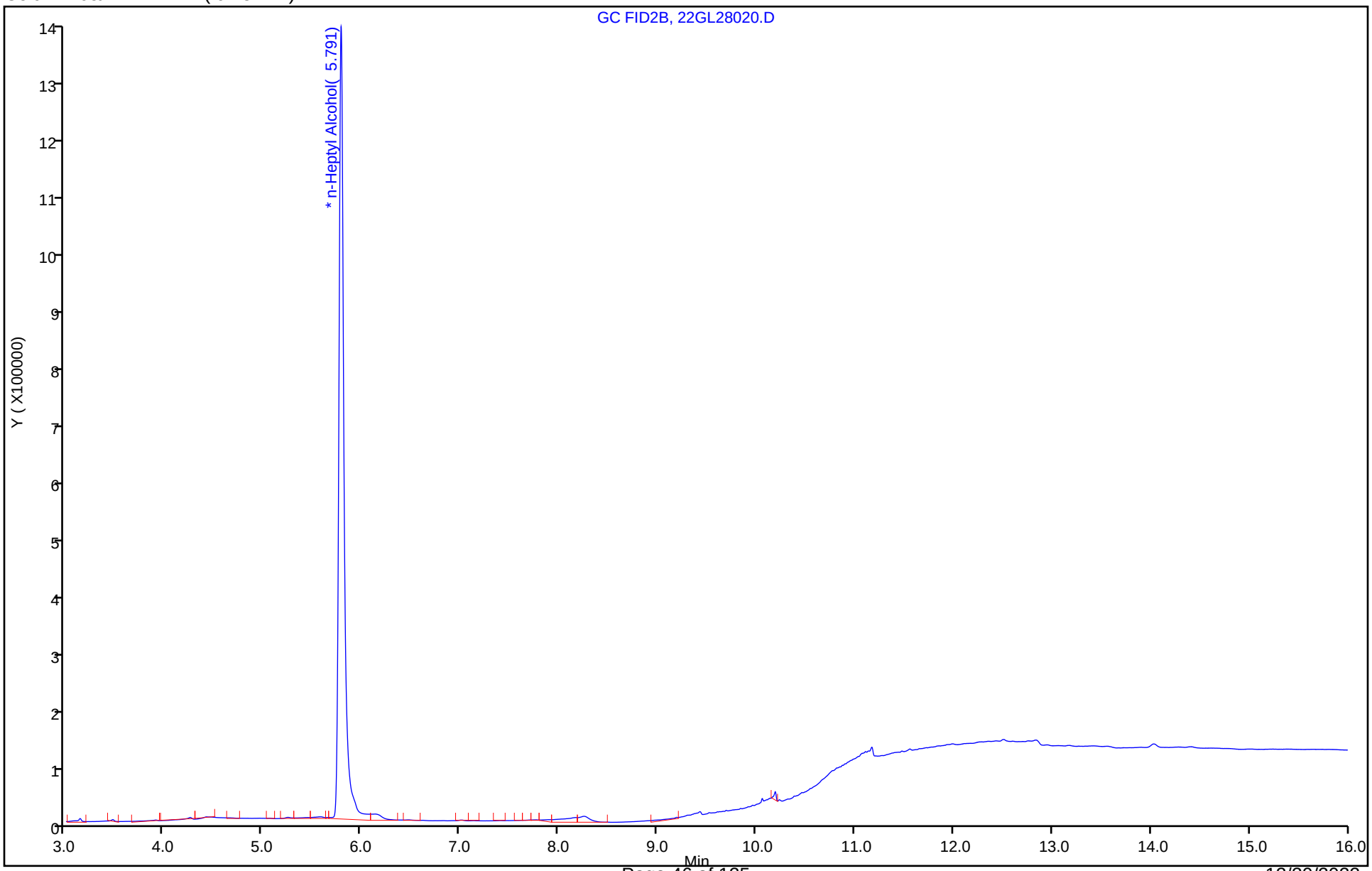
Report Date: 29-Dec-2022 09:26:02 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28020.D

Injection Date:	28-Dec-2022 18:38:17	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	580-121547-A-3	Lab Sample ID:	680-121547-3	Worklist Smp#:	20
Client ID:	AF-RHMW06-WGN01LF-2212W3				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



12/30/2022
7:07 PM

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Client Sample ID: AF-RHMW04-WGN01LF-2212W3 Lab Sample ID: 580-121547-4

Matrix: Water Lab File ID: 22GL28021.D

Analysis Method: 8015C GLY Date Collected: 12/22/2022 14:05

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 12/28/2022 19:00

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.: 757067 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\20221228-82994.b\22GL28021.D
Lims ID: 580-121547-A-4
Client ID: AF-RHMW04-WGN01LF-2212W3
Sample Type: Client
Inject. Date: 28-Dec-2022 19:00:48 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-021
Operator ID: Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 29-Dec-2022 09:25:35 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1609

First Level Reviewer: SWK1 Date: 29-Dec-2022 09:25:35

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
3	2-Butoxyethanol					7
	5.253	5.266	-0.013	8720	-1.57	7
	LOD =	0.5000				
* 4	n-Heptyl Alcohol					
	5.792	5.795	-0.003	7595939	50.0	
7	Ethylene glycol					7
	8.266	8.286	-0.020	89881	-0.1044	7
	LOD =	0.6600				
9	2,2'-Oxybisethanol					7
	10.197	10.201	-0.004	44912	-1.40	7
	LOD =	1.60				
10	Triethylene Glycol					7
	11.178	11.181	-0.003	55683	-0.99	7
	LOD =	1.40				
11	Tetraethylene Glycol					7
	12.852	12.861	-0.009	49203	-1.94	7
	LOD =	4.50				

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection

Reagents:

SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

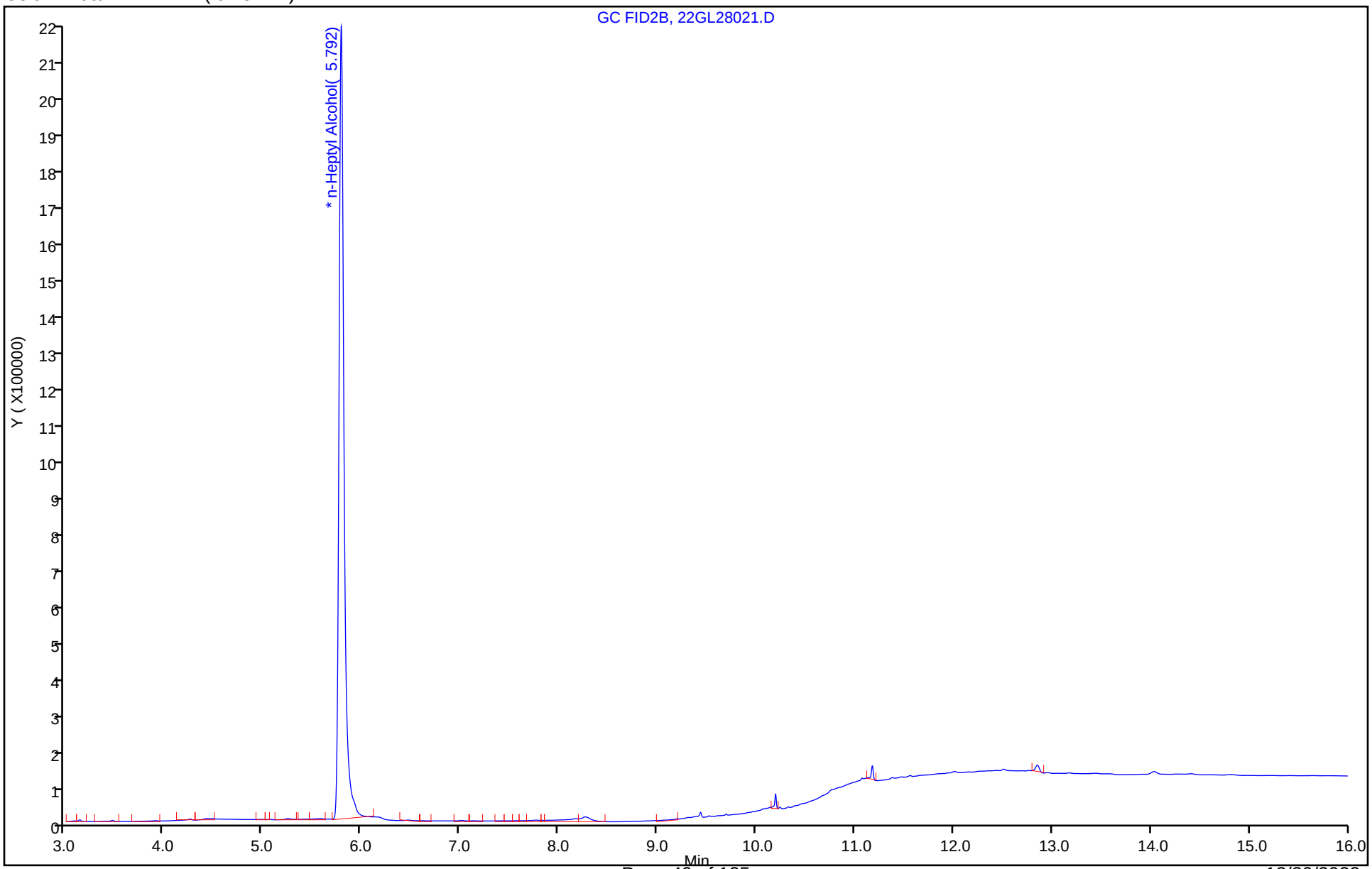
Report Date: 29-Dec-2022 09:26:02 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28021.D

Injection Date:	28-Dec-2022 19:00:48	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	580-121547-A-4	Lab Sample ID:	680-121547-4	Worklist Smp#:	21
Client ID:	AF-RHMW04-WGN01LF-2212W3				
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)



12/30/2022
7:07 PM

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

Lab Name: Eurofins Savannah Job No.: 580-121547-1 Analy Batch No.: 757067

SDG No.:

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

Calibration Start Date: 12/28/2022 12:59 Calibration End Date: 12/28/2022 14:52 Calibration ID: 88756

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-757067/5	22GL28005.D
Level 2	IC 680-757067/6	22GL28006.D
Level 3	ICIS 680-757067/7	22GL28007.D
Level 4	IC 680-757067/8	22GL28008.D
Level 5	IC 680-757067/9	22GL28009.D
Level 6	IC 680-757067/10	22GL28010.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	0.7023 0.5891	0.6203	0.5383	0.5366	0.5137	Lin2	0.8541	0.5275							0.9950		0.9900
4-Hydroxy-4-methyl-2-pentanone	0.7572 0.6306	0.6697	0.5827	0.5708	0.5495	Lin2	0.9509	0.5645							0.9950		0.9900
2-Butoxyethanol	0.7622 0.6367	0.6671	0.5784	0.5764	0.5526	Lin2	0.9471	0.5670							0.9940		0.9900
Dipropylene Glycol Methyl Ether	0.0645 0.0543	0.0567	0.0477	0.0484	0.0469	Lin2	0.0809	0.0478							0.9920		0.9900
Propylene glycol	0.5482 0.4528	0.4865	0.4126	0.4127	0.3993	Lin2	0.7014	0.4061							0.9950		0.9900
Ethylene glycol	0.4675 0.3748	0.4157	0.3548	0.3529	0.3361	Lin2	0.6274	0.3426							0.9960		0.9900
2-(2-Butoxyethoxy)ethanol	0.7402 0.5956	0.6254	0.5286	0.5316	0.5138	Lin2	1.0465	0.5207							0.9920		0.9900
2,2'-Oxybisethanol	0.4898 0.3726	0.4036	0.3487	0.3422	0.3290	Lin2	0.7604	0.3312							0.9950		0.9900
Triethylene Glycol	0.4701 0.3665	0.3634	0.3331	0.3265	0.3177	Lin2	0.6825	0.3183							0.9910		0.9900
Tetraethylene Glycol	0.4725 0.3613	0.3639	0.3188	0.3132	0.3131	Lin1	0.9571	0.3258							0.9900		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.: 580-121547-1 Analy Batch No.: 757067

SDG No.:

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

Calibration Start Date: 12/28/2022 12:59 Calibration End Date: 12/28/2022 14:52 Calibration ID: 88756

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-757067/5	22GL28005.D
Level 2	IC 680-757067/6	22GL28006.D
Level 3	ICIS 680-757067/7	22GL28007.D
Level 4	IC 680-757067/8	22GL28008.D
Level 5	IC 680-757067/9	22GL28009.D
Level 6	IC 680-757067/10	22GL28010.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	Lin2	475506 8435958	779918	1700251	3587750	5954336	5.00 100	10.0	20.0	50.0	80.0
4-Hydroxy-4-methyl-2-pentanone	nHPA	Lin2	512668 9031131	842091	1840594	3816878	6369012	5.00 100	10.0	20.0	50.0	80.0
2-Butoxyethanol	nHPA	Lin2	516070 9118479	838827	1827057	3854091	6405487	5.00 100	10.0	20.0	50.0	80.0
Dipropylene Glycol Methyl Ether	nHPA	Lin2	43680 777900	71323	150630	323400	543106	5.00 100	10.0	20.0	50.0	80.0
Propylene glycol	nHPA	Lin2	371184 6484980	611714	1303224	2759835	4628229	5.00 100	10.0	20.0	50.0	80.0
Ethylene glycol	nHPA	Lin2	316571 5367464	522652	1120872	2360006	3896125	5.00 100	10.0	20.0	50.0	80.0
2-(2-Butoxyethoxy)ethanol	nHPA	Lin2	501195 8529204	786332	1669648	3554683	5956132	5.00 100	10.0	20.0	50.0	80.0
2,2'-Oxybisethanol	nHPA	Lin2	331612 5336159	507444	1101381	2287951	3813604	5.00 100	10.0	20.0	50.0	80.0
Triethylene Glycol	nHPA	Lin2	318324 5248662	456985	1052326	2183035	3682443	5.00 100	10.0	20.0	50.0	80.0
Tetraethylene Glycol	nHPA	Lin1	639832 10347057	915062	2013966	4188469	7258799	10.0 200	20.0	40.0	100	160

Curve Type Legend

Lin1 = Linear 1/conc 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.: 580-121547-1 Analy Batch No.: 757067

SDG No.:

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

Calibration Start Date: 12/28/2022 12:59 Calibration End Date: 12/28/2022 14:52 Calibration ID: 88756

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-757067/5	22GL28005.D
Level 2	IC 680-757067/6	22GL28006.D
Level 3	ICIS 680-757067/7	22GL28007.D
Level 4	IC 680-757067/8	22GL28008.D
Level 5	IC 680-757067/9	22GL28009.D
Level 6	IC 680-757067/10	22GL28010.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	0.8	1.4	-6.1	-1.5	-4.6	10.1	20	20	20	20	20	20
4-Hydroxy-4-methyl-2-pentanone	0.4	1.8	-5.2	-2.3	-4.8	10.0	20	20	20	20	20	20
2-Butoxyethanol	1.0	1.0	-6.3	-1.7	-4.6	10.6	20	20	20	20	20	20
Dipropylene Glycol Methyl Ether	1.2	1.8	-8.7	-2.2	-4.1	12.0	20	20	20	20	20	20
Propylene glycol	0.4	2.5	-7.1	-1.8	-3.8	9.8	20	20	20	20	20	20
Ethylene glycol	-0.2	3.0	-5.6	-0.6	-4.2	7.6	20	20	20	20	20	20
2-(2-Butoxyethoxy)ethanol	2.0	0.0	-8.5	-1.9	-3.8	12.4	20	20	20	20	20	20
2,2'-Oxybisethanol	2.0	-1.1	-6.2	-1.3	-3.5	10.2	20	20	20	20	20	20
Triethylene Glycol	4.8	-7.2	-6.0	-1.7	-2.9	13.0	20	20	20	20	20	20
Tetraethylene Glycol	15.6	-3.0	-9.5	-6.8	-5.7	9.4	20	20	20	20	20	20

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28005.D
Lims ID: ic g1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 28-Dec-2022 12:59:34 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-005
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 28-Dec-2022 16:16:41 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1625

First Level Reviewer: SK9U Date: 28-Dec-2022 15:01:11

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	4.081	4.082	-0.001	475506	5.00	5.04	
	2 4-Hydroxy-4-methyl-2-pentanone						M
	4.904	4.910	-0.006	512668	5.00	5.02	M
	3 2-Butoxyethanol						
	5.272	5.270	0.002	516070	5.00	5.05	
*	4 n-Heptyl Alcohol						
	5.798	5.794	0.004	6770882	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	6.925	6.921	0.004	43680	5.00	5.06	
	6 Propylene glycol						
	7.865	7.833	0.032	371184	5.00	5.02	
	7 Ethylene glycol						
	8.296	8.288	0.008	316571	5.00	4.99	
	8 2-(2-Butoxyethoxy)ethanol						
	9.524	9.523	0.001	501195	5.00	5.10	
	9 2,2'-Oxybisethanol						
	10.201	10.200	0.001	331612	5.00	5.10	
	10 Triethylene Glycol						
	11.182	11.181	0.001	318324	5.00	5.24	
	11 Tetraethylene Glycol						
	12.864	12.863	0.001	639832	10.0	11.6	

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

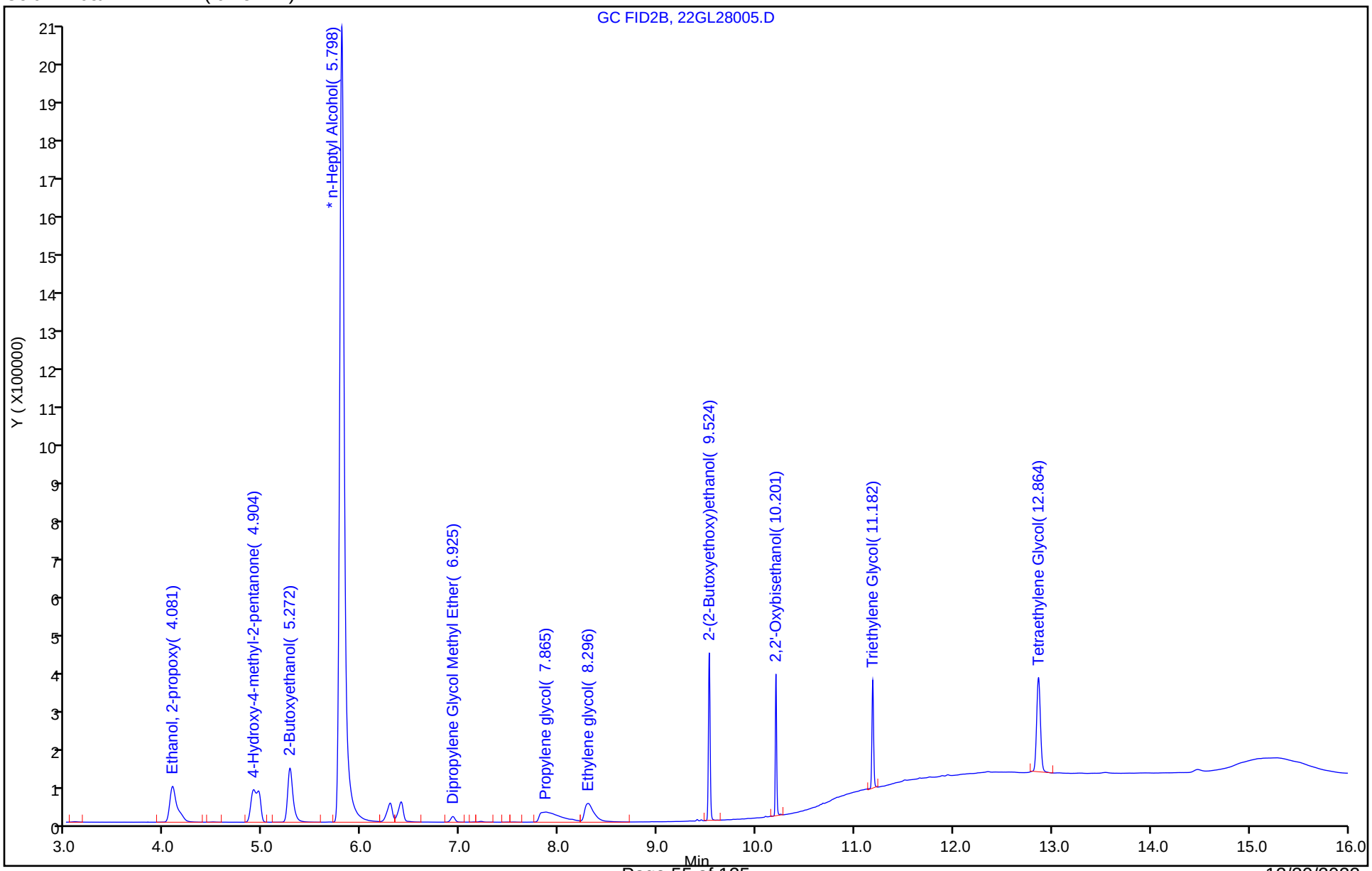
Report Date: 28-Dec-2022 16:16:41 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28005.D

Injection Date:	28-Dec-2022 12:59:34	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ic g1			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)



Manual Integration/User Assign Peak Report

Eurofins Savannah

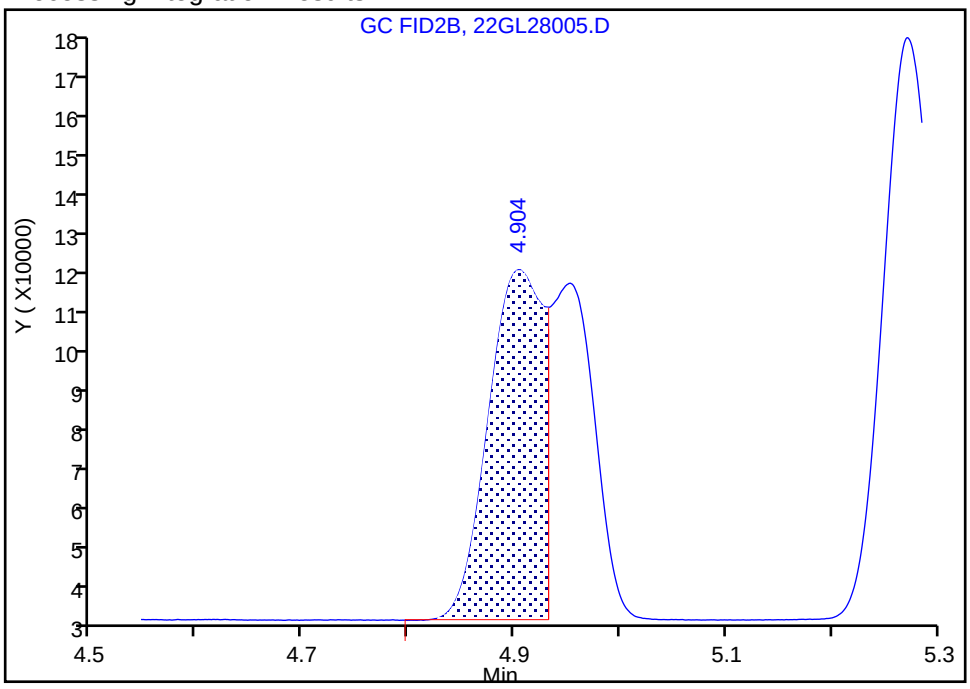
Data File:	\\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28005.D				
Injection Date:	28-Dec-2022 12:59:34	Instrument ID:	CVGG2		
Lims ID:	ic g1				
Client ID:					
Operator ID:		ALS Bottle#:	5	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		
Column:	J&W DB WAX (0.45 mm)	Detector	GC FID2B		

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

Signal: 1

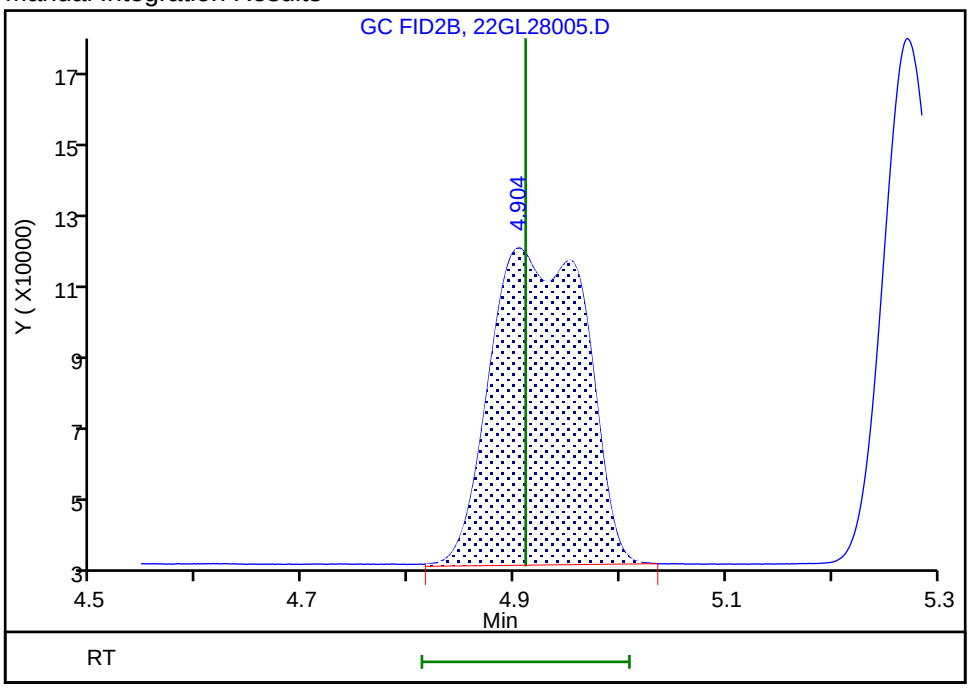
Processing Integration Results

RT: 4.90
Area: 290595
Amount: 3.829443
Amount Units: ug/ml



Manual Integration Results

RT: 4.90
Area: 512668
Amount: 5.021635
Amount Units: ug/ml



Reviewer: SK9U, 28-Dec-2022 15:01:05
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28006.D
Lims ID: ic g2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 28-Dec-2022 13:22:05 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-006
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 28-Dec-2022 16:16:42 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1625

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	4.082	4.082	0.000	779918	10.0	10.1	
	2 4-Hydroxy-4-methyl-2-pentanone						
	4.904	4.910	-0.006	842091	10.0	10.2	
	3 2-Butoxyethanol						
	5.270	5.270	0.000	838827	10.0	10.1	
*	4 n-Heptyl Alcohol						
	5.795	5.794	0.001	6287011	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	6.923	6.921	0.002	71323	10.0	10.2	
	6 Propylene glycol						
	7.865	7.833	0.032	611714	10.0	10.3	
	7 Ethylene glycol						
	8.290	8.288	0.002	522652	10.0	10.3	
	8 2-(2-Butoxyethoxy)ethanol						
	9.524	9.523	0.001	786332	10.0	10.0	
	9 2,2'-Oxybisethanol						
	10.199	10.200	-0.001	507444	10.0	9.89	
	10 Triethylene Glycol						
	11.182	11.181	0.001	456985	10.0	9.28	
	11 Tetraethylene Glycol						
	12.864	12.863	0.001	915062	20.0	19.4	

Reagents:

SG_Gly_CAL_00047 Amount Added: 5.00 Units: uL
SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

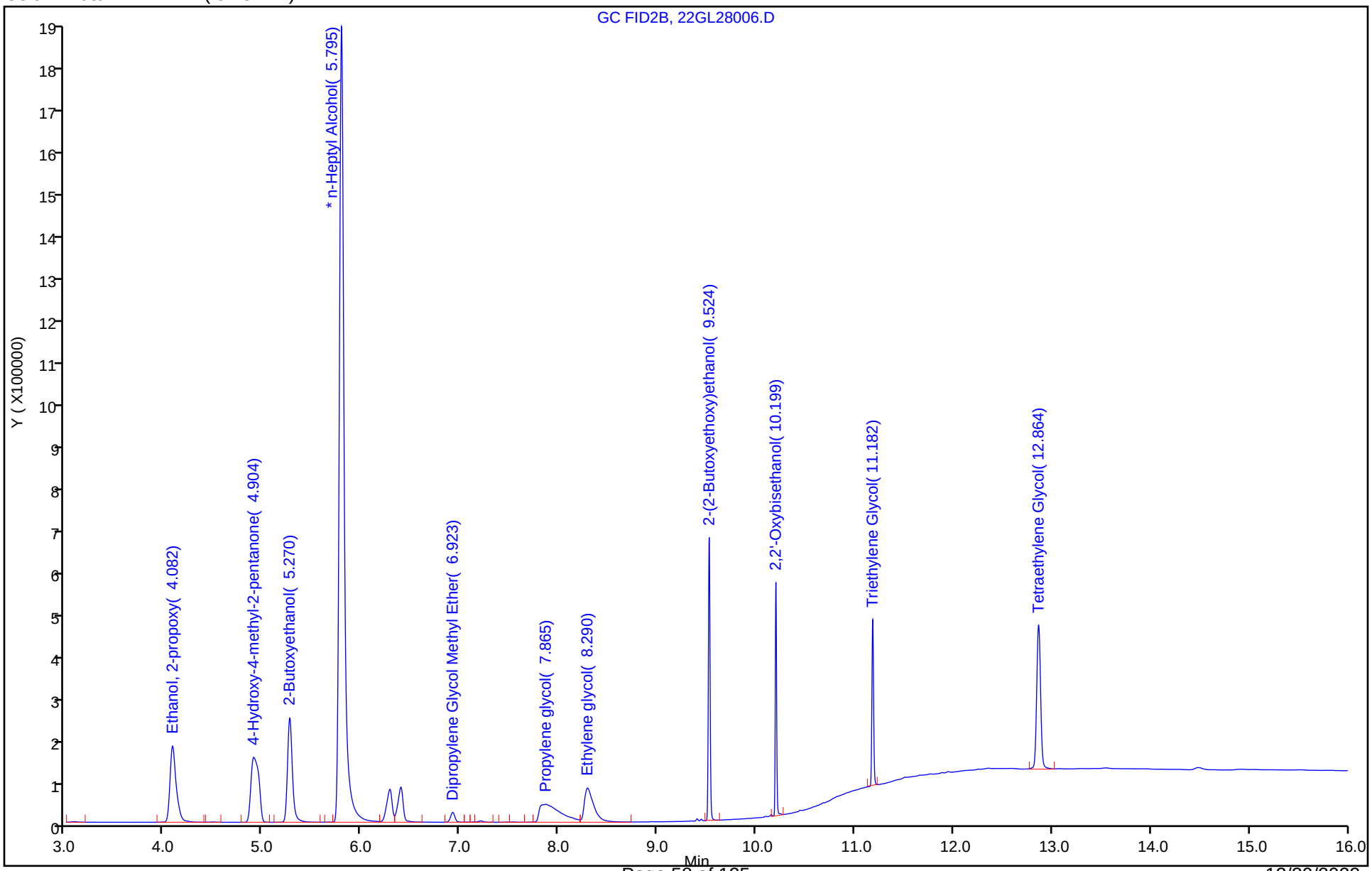
Report Date: 28-Dec-2022 16:16:42 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28006.D

Injection Date:	28-Dec-2022 13:22:05	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ic g2			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)



12/30/2022
7:07 PM

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28007.D
Lims ID: icis g3
Client ID:
Sample Type: ICIS Calib Level: 3
Inject. Date: 28-Dec-2022 13:44:44 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-007
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 28-Dec-2022 16:16:43 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1625

First Level Reviewer: SK9U Date: 28-Dec-2022 15:01:42

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	4.082	4.082	0.000	1700251	20.0	18.8	
	2 4-Hydroxy-4-methyl-2-pentanone						
	4.910	4.910	0.000	1840594	20.0	19.0	
	3 2-Butoxyethanol						
	5.270	5.270	0.000	1827057	20.0	18.7	
*	4 n-Heptyl Alcohol						
	5.794	5.794	0.000	7896964	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	6.921	6.921	0.000	150630	20.0	18.3	
	6 Propylene glycol						M
	7.833	7.833	0.000	1303224	20.0	18.6	M
	7 Ethylene glycol						M
	8.288	8.288	0.000	1120872	20.0	18.9	M
	8 2-(2-Butoxyethoxy)ethanol						
	9.523	9.523	0.000	1669648	20.0	18.3	
	9 2,2'-Oxybisethanol						
	10.200	10.200	0.000	1101381	20.0	18.8	
	10 Triethylene Glycol						
	11.181	11.181	0.000	1052326	20.0	18.8	
	11 Tetraethylene Glycol						
	12.863	12.863	0.000	2013966	40.0	36.2	

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

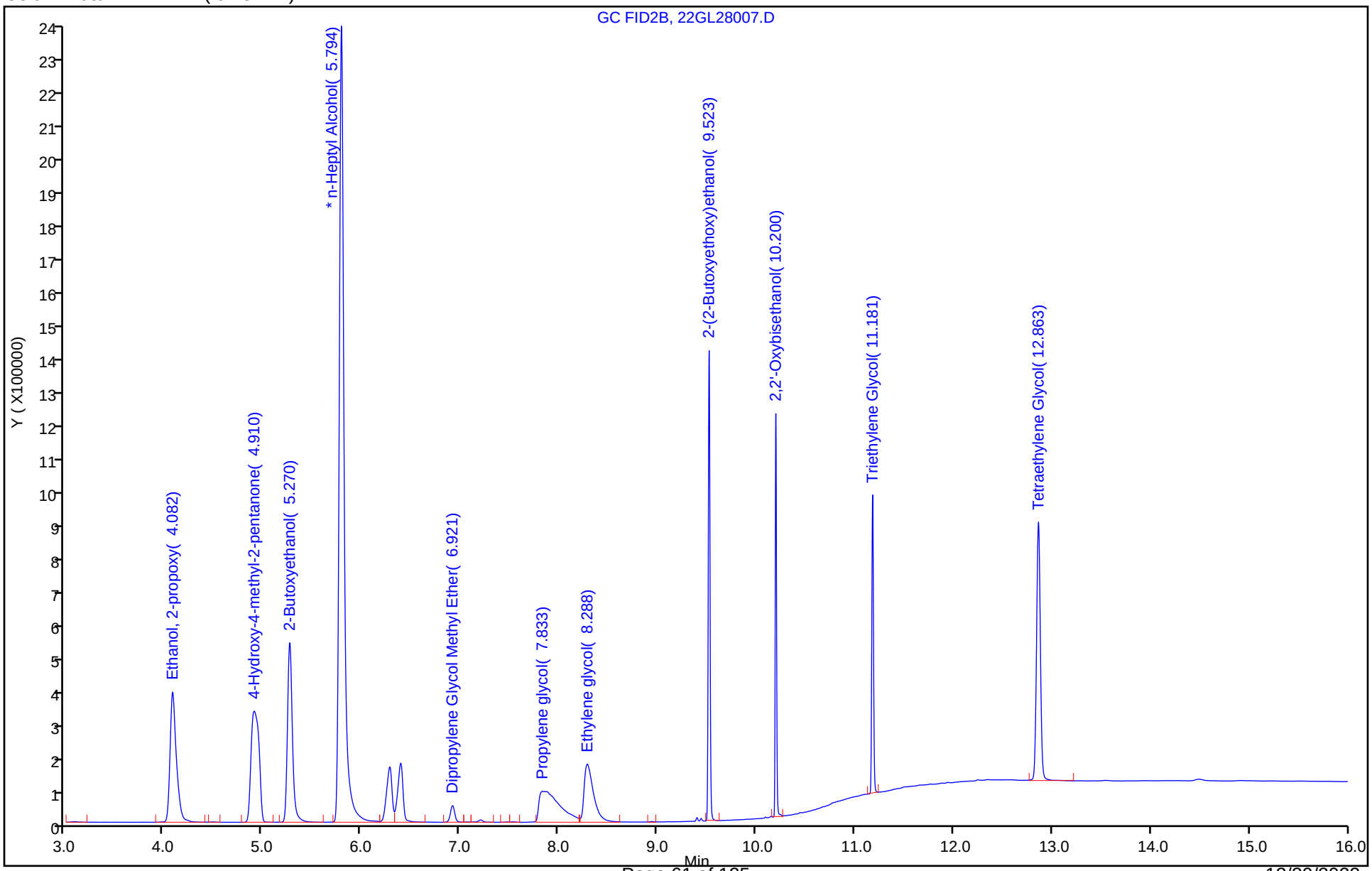
Report Date: 28-Dec-2022 16:16:43 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28007.D

Injection Date:	28-Dec-2022 13:44:44	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	icis g3			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)



12/30/2022
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Manual Integration/User Assign Peak Report

Eurofins Savannah

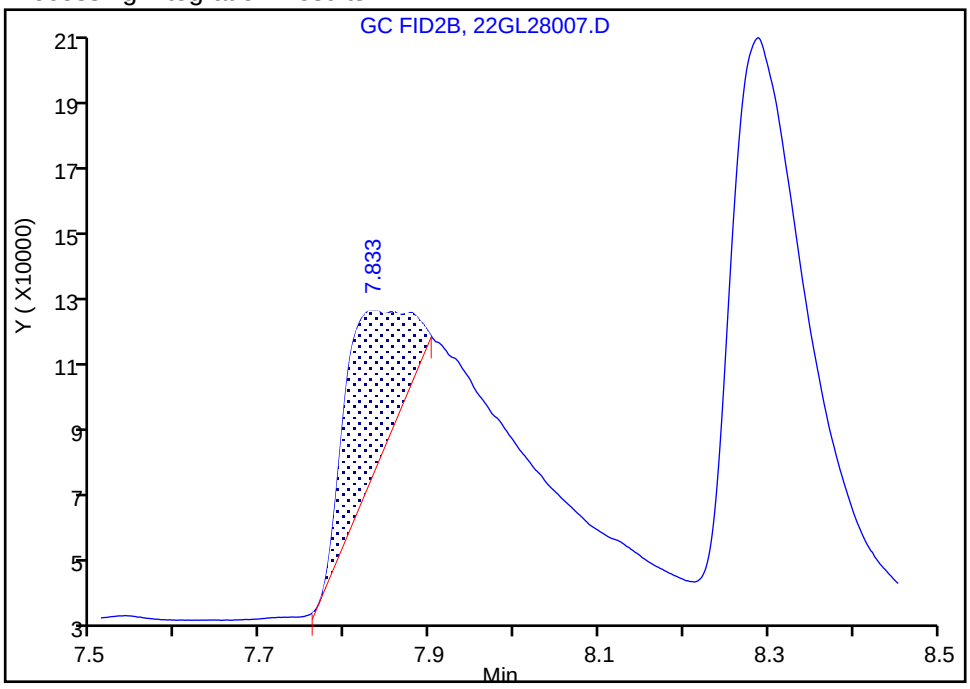
Data File:	\\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28007.D				
Injection Date:	28-Dec-2022 13:44:44	Instrument ID:	CVGG2		
Lims ID:	icis g3				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		
Column:	J&W DB WAX (0.45 mm)	Detector	GC FID2B		

6 Propylene glycol, CAS: 57-55-6

Signal: 1

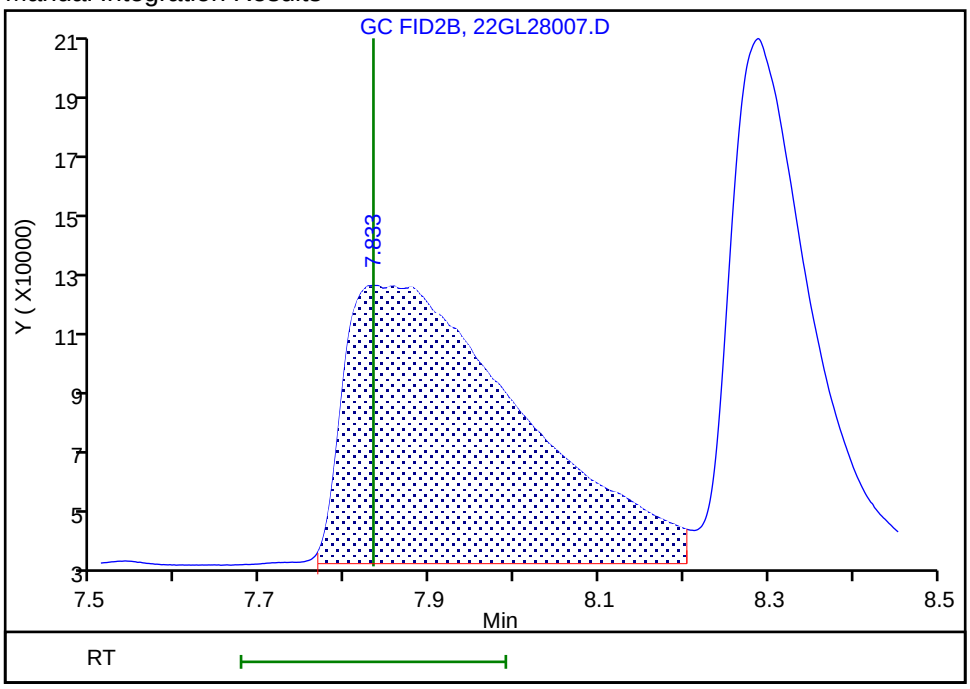
Processing Integration Results

RT: 7.83
Area: 236271
Amount: 3.982779
Amount Units: ug/ml



Manual Integration Results

RT: 7.83
Area: 1303224
Amount: 18.589721
Amount Units: ug/ml



Reviewer: SK9U, 28-Dec-2022 15:01:39
Audit Action: Assigned New Baseline Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Savannah

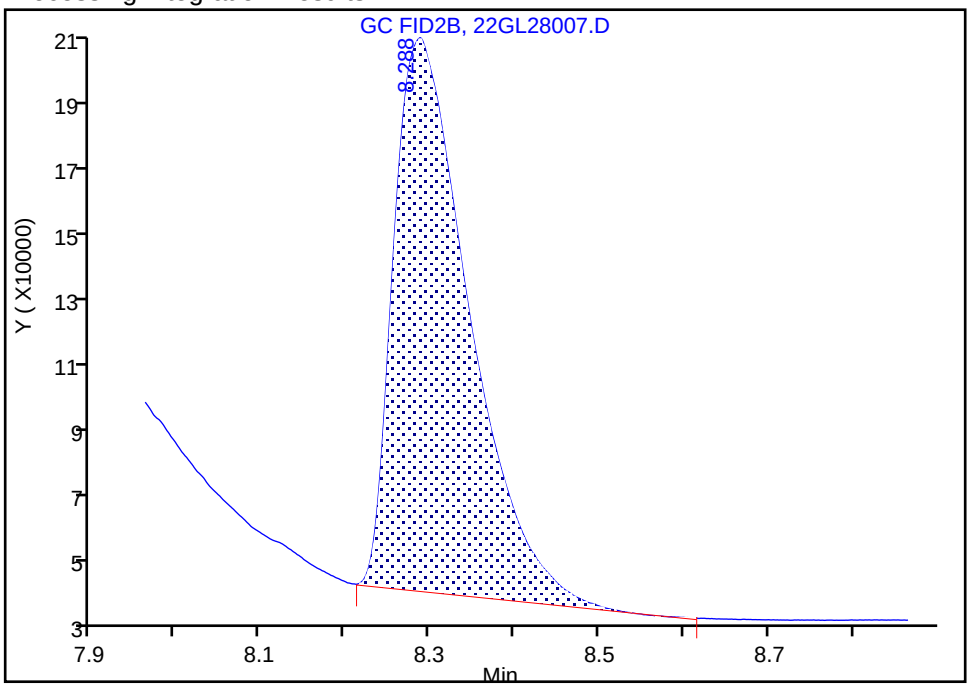
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28007.D
Injection Date: 28-Dec-2022 13:44:44 Instrument ID: CVGG2
Lims ID: icis g3
Client ID:
Operator ID: ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

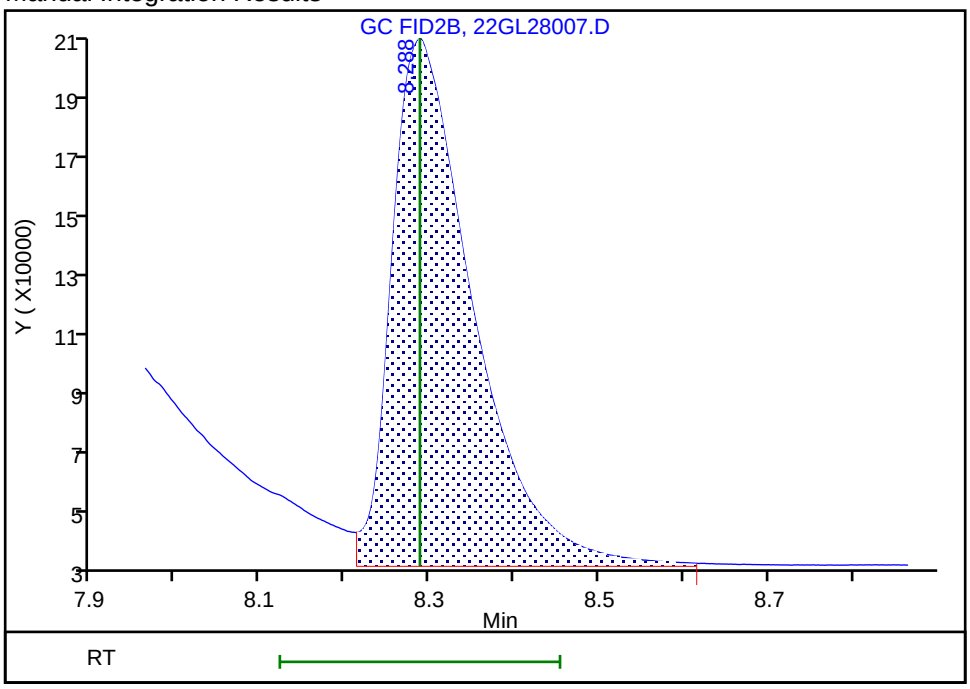
Processing Integration Results

RT: 8.29
Area: 996645
Amount: 17.018923
Amount Units: ug/ml



Manual Integration Results

RT: 8.29
Area: 1120872
Amount: 18.882739
Amount Units: ug/ml



Reviewer: SK9U, 28-Dec-2022 15:01:39
Audit Action: Assigned New Baseline Audit Reason: Incomplete Integration

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28008.D
Lims ID: ic g4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 28-Dec-2022 14:07:18 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-008
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 28-Dec-2022 16:16:44 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1625

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	4.069	4.069	0.000	3587750	50.0	49.2	
	2 4-Hydroxy-4-methyl-2-pentanone						
	4.893	4.893	0.000	3816878	50.0	48.9	
	3 2-Butoxyethanol						
	5.262	5.262	0.000	3854091	50.0	49.2	
*	4 n-Heptyl Alcohol						
	5.792	5.792	0.000	6686553	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	6.913	6.913	0.000	323400	50.0	48.9	
	6 Propylene glycol						
	7.842	7.842	0.000	2759835	50.0	49.1	
	7 Ethylene glycol						
	8.277	8.277	0.000	2360006	50.0	49.7	
	8 2-(2-Butoxyethoxy)ethanol						
	9.522	9.522	0.000	3554683	50.0	49.0	
	9 2,2'-Oxybisethanol						
	10.199	10.199	0.000	2287951	50.0	49.4	
	10 Triethylene Glycol						
	11.181	11.181	0.000	2183035	50.0	49.1	
	11 Tetraethylene Glycol						
	12.862	12.862	0.000	4188469	100.0	93.2	

Reagents:

SG_Gly_CAL_00047 Amount Added: 25.00 Units: uL
SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

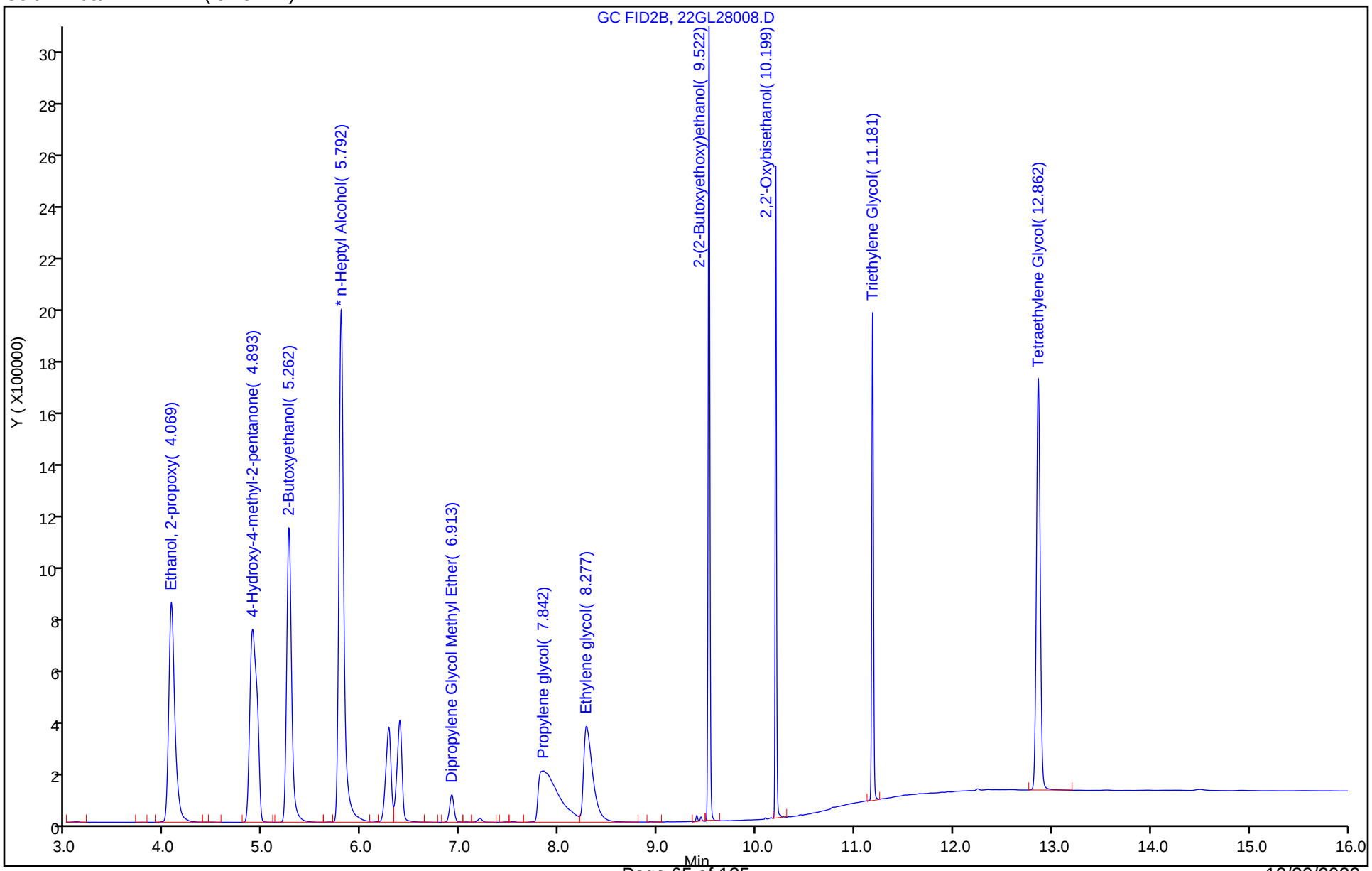
Report Date: 28-Dec-2022 16:16:45 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28008.D

Injection Date:	28-Dec-2022 14:07:18	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ic g4			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)



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Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28009.D
Lims ID: ic g5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 28-Dec-2022 14:29:53 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-009
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 28-Dec-2022 16:16:46 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1625

First Level Reviewer: SK9U Date: 28-Dec-2022 15:04:28

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	4.067	4.069	-0.002	5954336	80.0	76.3	
	2 4-Hydroxy-4-methyl-2-pentanone						
	4.892	4.893	-0.001	6369012	80.0	76.2	
	3 2-Butoxyethanol						
	5.260	5.262	-0.002	6405487	80.0	76.3	
*	4 n-Heptyl Alcohol						
	5.789	5.792	-0.003	7244681	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	6.914	6.913	0.001	543106	80.0	76.7	
	6 Propylene glycol						M
	7.844	7.842	0.002	4628229	80.0	76.9	M
	7 Ethylene glycol						M
	8.282	8.277	0.005	3896125	80.0	76.7	M
	8 2-(2-Butoxyethoxy)ethanol						
	9.522	9.522	0.000	5956132	80.0	76.9	
	9 2,2'-Oxybisethanol						
	10.200	10.199	0.001	3813604	80.0	77.2	
	10 Triethylene Glycol						
	11.181	11.181	0.000	3682443	80.0	77.7	
	11 Tetraethylene Glycol						
	12.864	12.862	0.002	7258799	160.0	150.8	

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

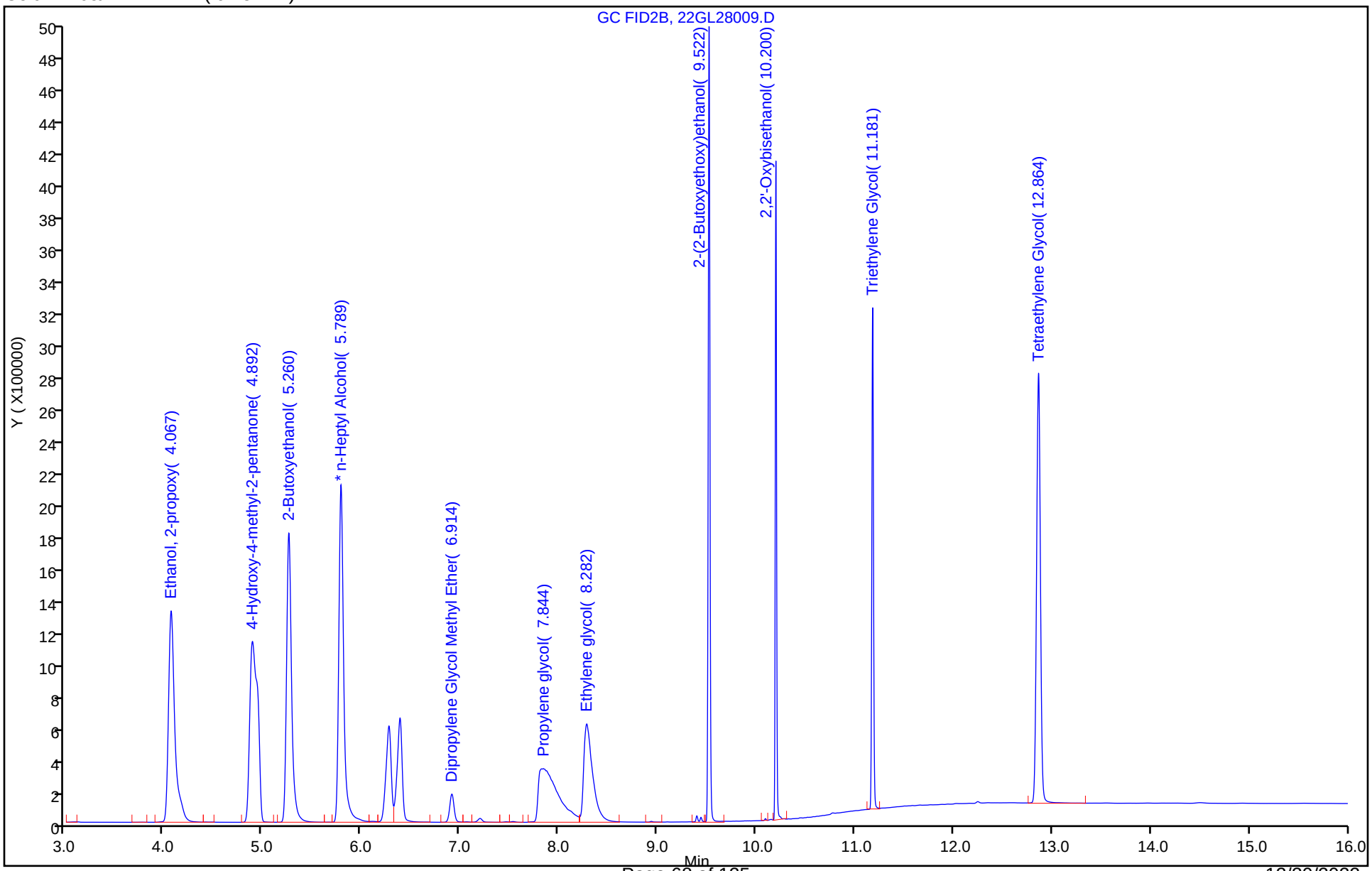
Report Date: 28-Dec-2022 16:16:46 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28009.D

Injection Date:	28-Dec-2022 14:29:53	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ic g5			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)



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Manual Integration/User Assign Peak Report

Eurofins Savannah

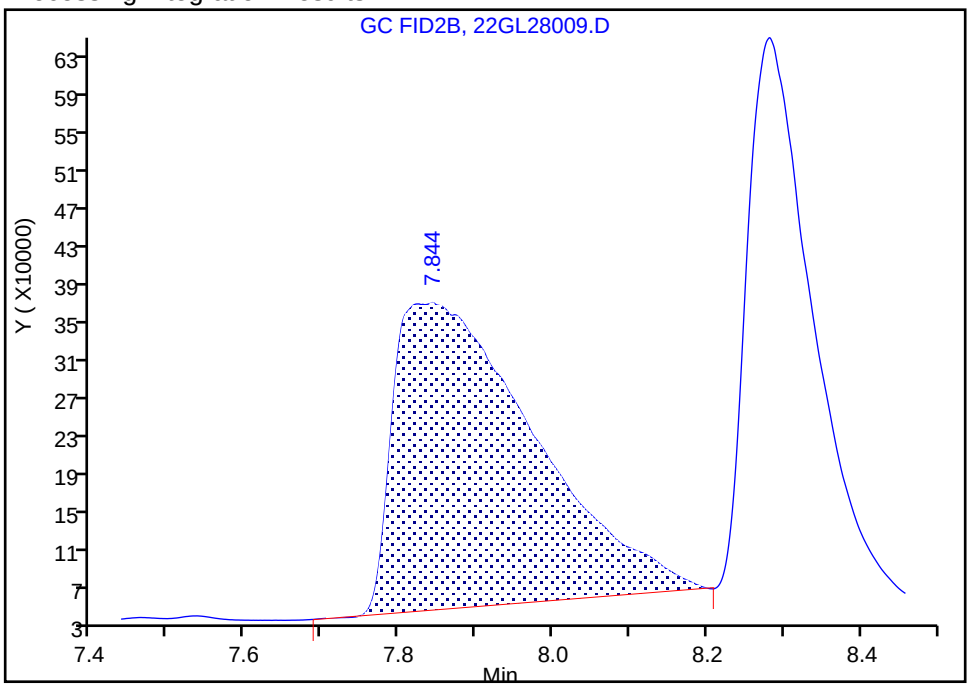
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28009.D
Injection Date: 28-Dec-2022 14:29:53 Instrument ID: CVGG2
Lims ID: ic g5
Client ID:
Operator ID: ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

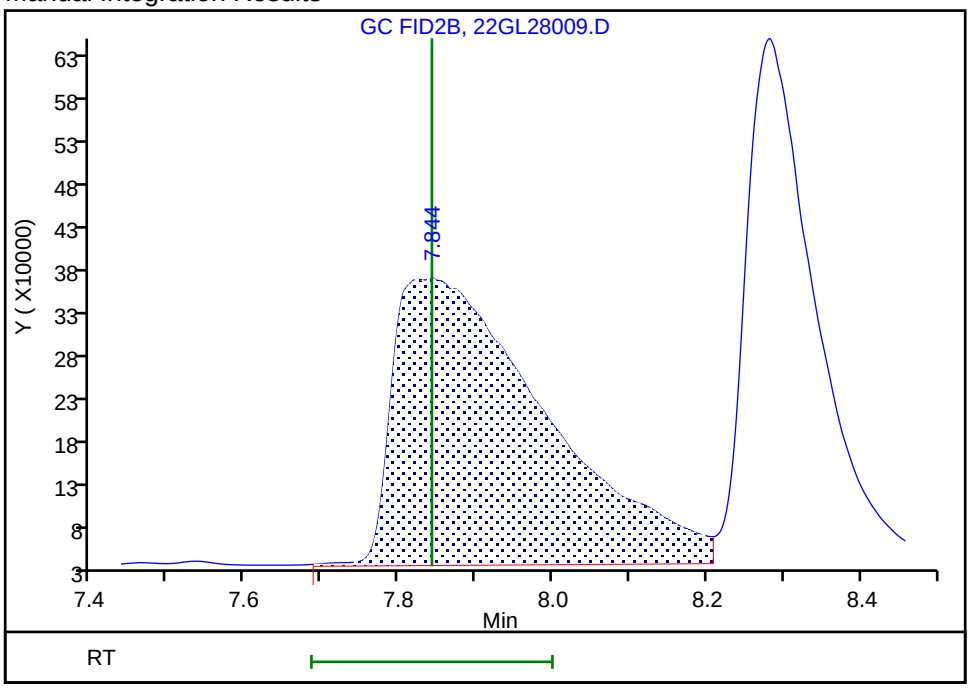
Processing Integration Results

RT: 7.84
Area: 4124229
Amount: 64.228979
Amount Units: ug/ml



Manual Integration Results

RT: 7.84
Area: 4628229
Amount: 76.921335
Amount Units: ug/ml



Reviewer: SK9U, 28-Dec-2022 15:02:10
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Savannah

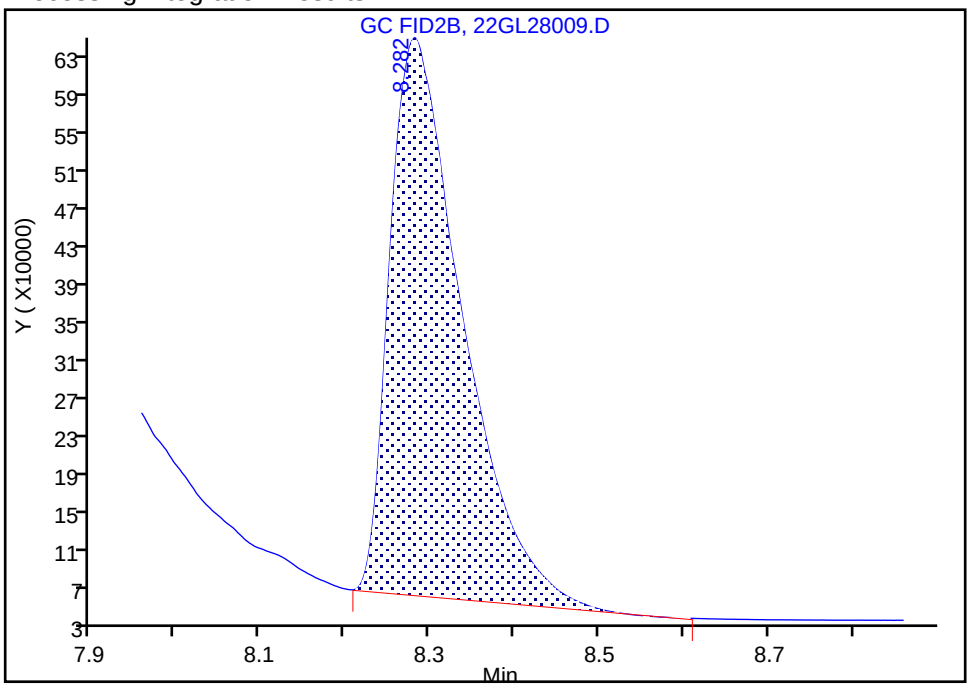
Data File:	\\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28009.D				
Injection Date:	28-Dec-2022 14:29:53	Instrument ID:	CVGG2		
Lims ID:	ic g5				
Client ID:					
Operator ID:		ALS Bottle#:	9	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		
Column:	J&W DB WAX (0.45 mm)	Detector	GC FID2B		

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

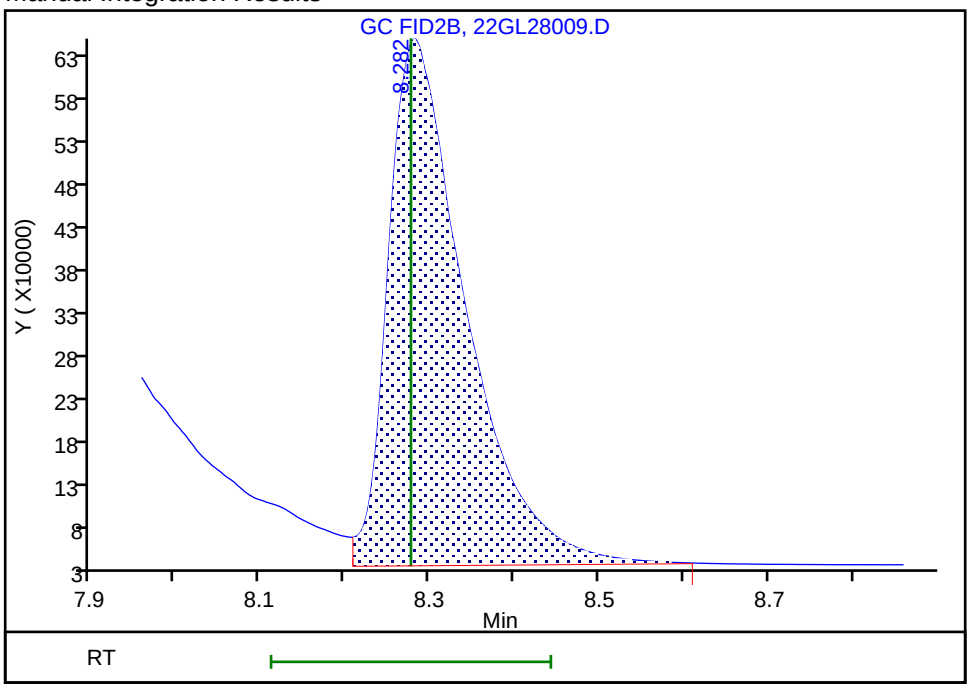
Processing Integration Results

RT: 8.28
Area: 3503380
Amount: 63.856229
Amount Units: ug/ml



Manual Integration Results

RT: 8.28
Area: 3896125
Amount: 76.652966
Amount Units: ug/ml



Reviewer: SK9U, 28-Dec-2022 15:02:10
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D
Lims ID: ic g6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 28-Dec-2022 14:52:34 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-010
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 28-Dec-2022 16:16:47 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1625

First Level Reviewer: SK9U Date: 28-Dec-2022 16:13:19

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	4.071	4.069	0.002	8435958	100.0	110.1	
	2 4-Hydroxy-4-methyl-2-pentanone						
	4.892	4.893	-0.001	9031131	100.0	110.0	
	3 2-Butoxyethanol						
	5.263	5.262	0.001	9118479	100.0	110.6	
*	4 n-Heptyl Alcohol						
	5.791	5.792	-0.001	7160236	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	6.912	6.913	-0.001	777900	100.0	112.0	
	6 Propylene glycol						M
	7.825	7.842	-0.017	6484980	100.0	109.8	M
	7 Ethylene glycol						M
	8.279	8.277	0.002	5367464	100.0	107.6	M
	8 2-(2-Butoxyethoxy)ethanol						
	9.521	9.522	-0.001	8529204	100.0	112.4	
	9 2,2'-Oxybisethanol						
	10.200	10.199	0.001	5336159	100.0	110.2	
	10 Triethylene Glycol						
	11.180	11.181	-0.001	5248662	100.0	113.0	
	11 Tetraethylene Glycol						
	12.862	12.862	0.000	10347057	200.0	218.8	

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

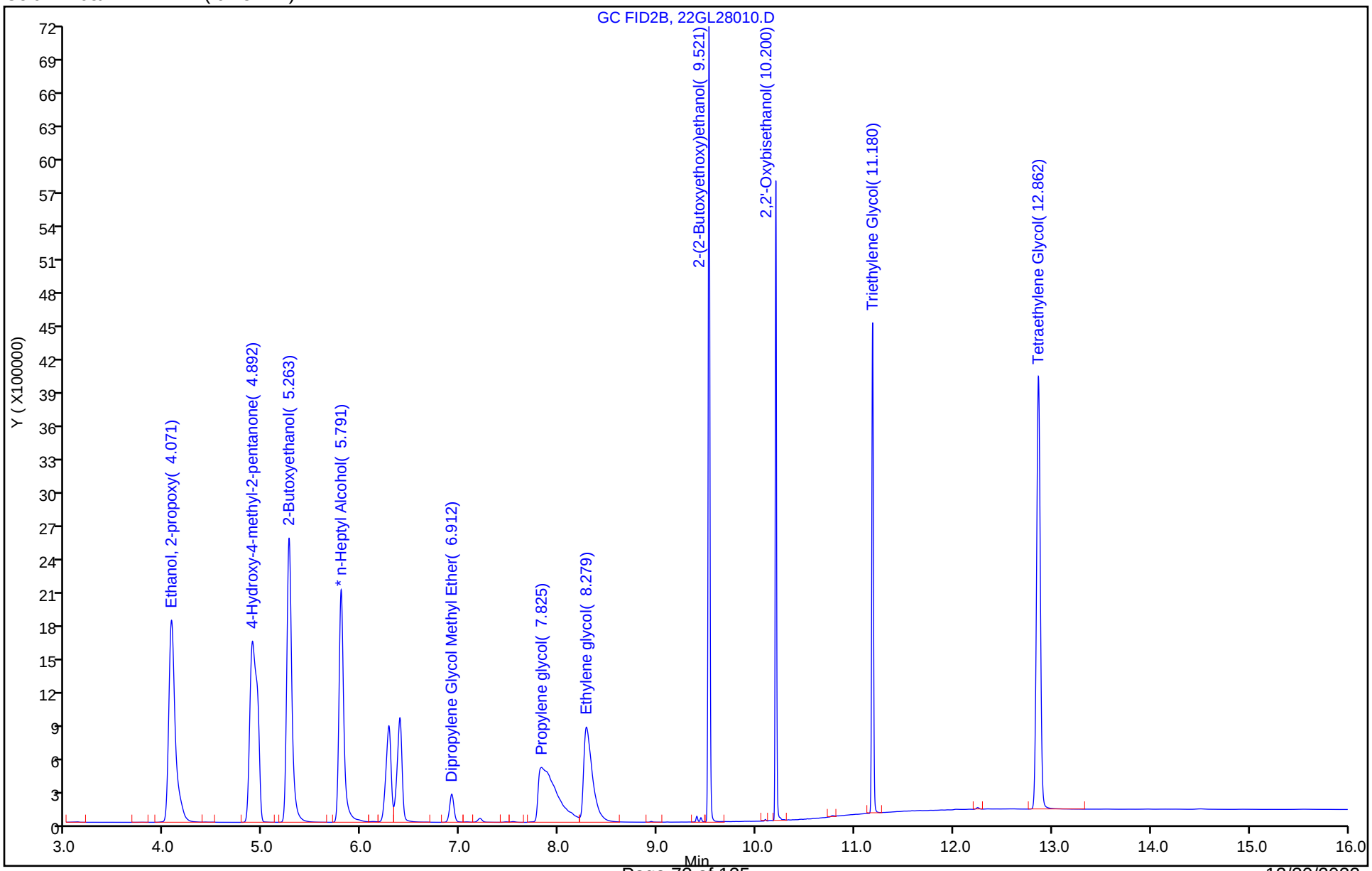
Report Date: 28-Dec-2022 16:16:47 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Injection Date:	28-Dec-2022 14:52:34	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ic g6			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)



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Manual Integration/User Assign Peak Report

Eurofins Savannah

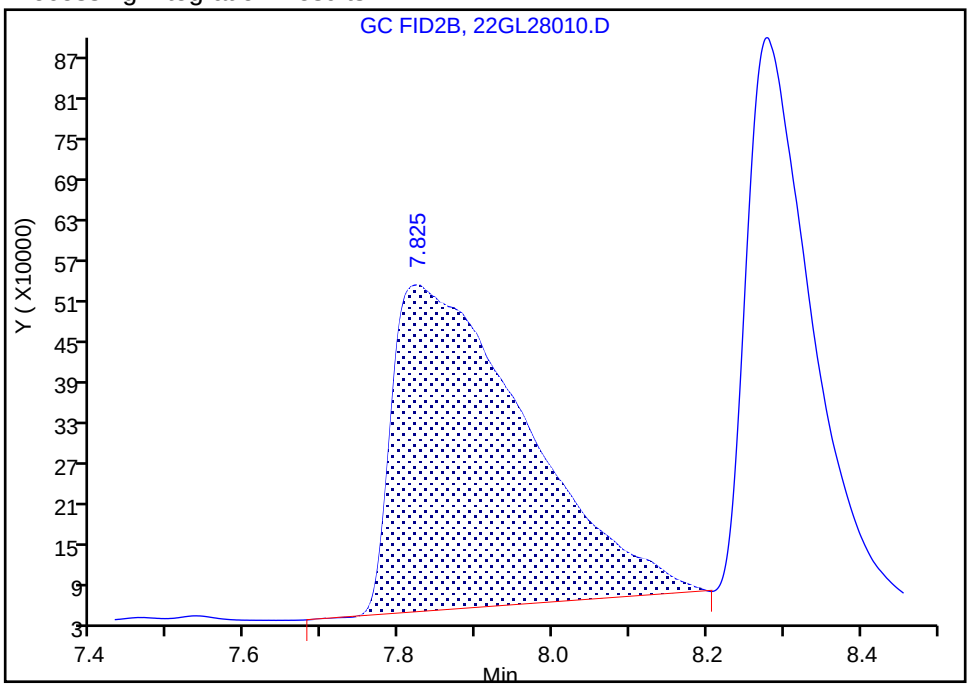
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D
Injection Date: 28-Dec-2022 14:52:34 Instrument ID: CVGG2
Lims ID: ic g6
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector GC FID2B

6 Propylene glycol, CAS: 57-55-6

Signal: 1

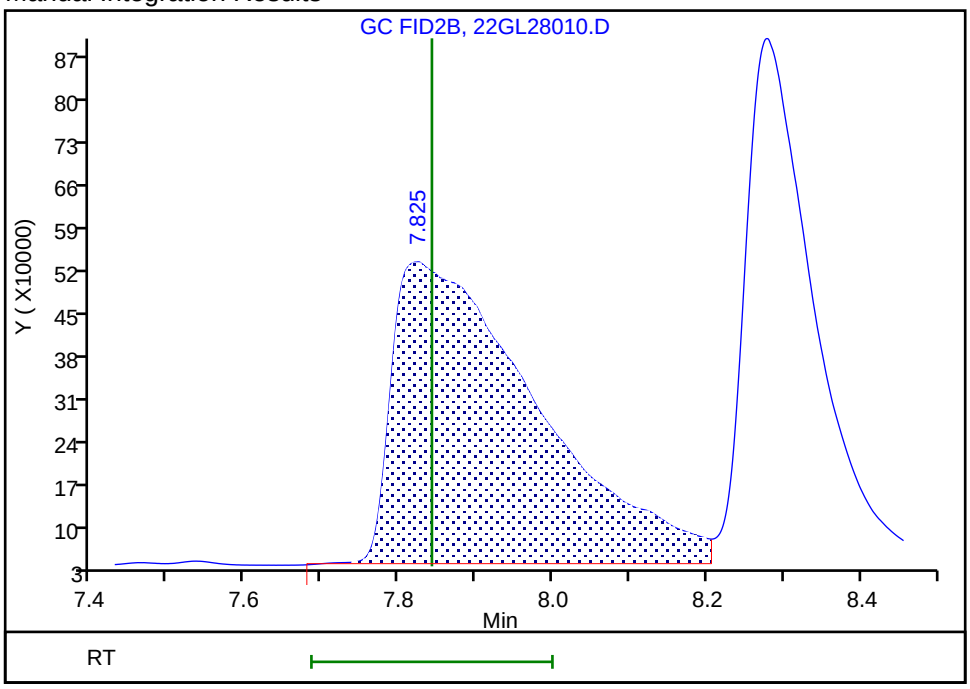
Processing Integration Results

RT: 7.82
Area: 5835473
Amount: 91.681669
Amount Units: ug/ml



Manual Integration Results

RT: 7.82
Area: 6484980
Amount: 109.7731
Amount Units: ug/ml



Reviewer: SK9U, 28-Dec-2022 16:13:14
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Savannah

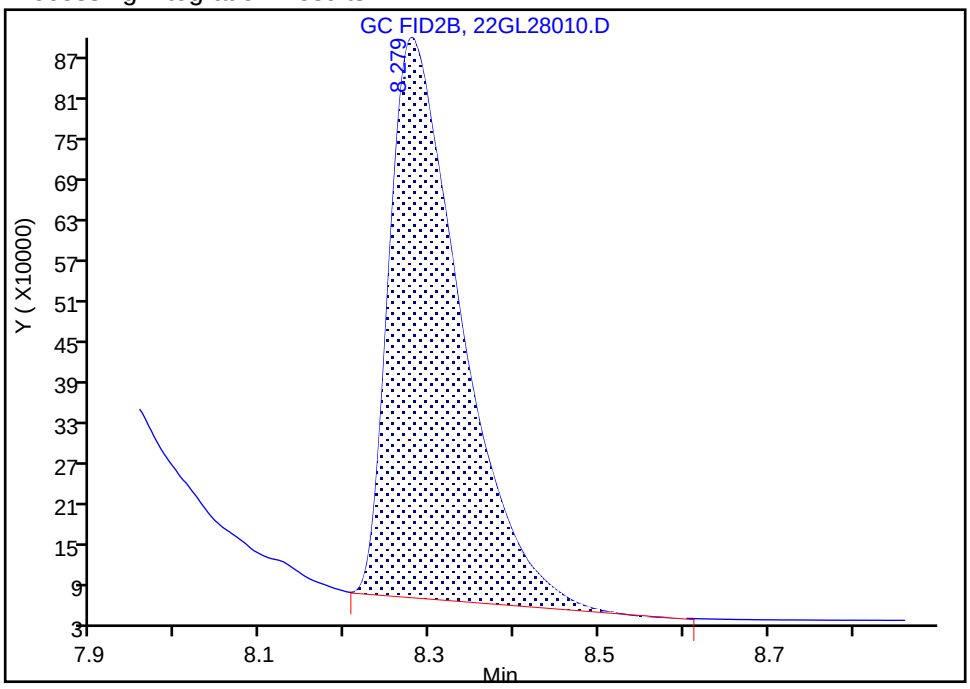
Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D
Injection Date: 28-Dec-2022 14:52:34 Instrument ID: CVGG2
Lims ID: ic g6
Client ID:
Operator ID: ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: 8015_GLY_VGG Limit Group: 8015C_DAI
Column: J&W DB WAX (0.45 mm) Detector GC FID2B

7 Ethylene glycol, CAS: 107-21-1

Signal: 1

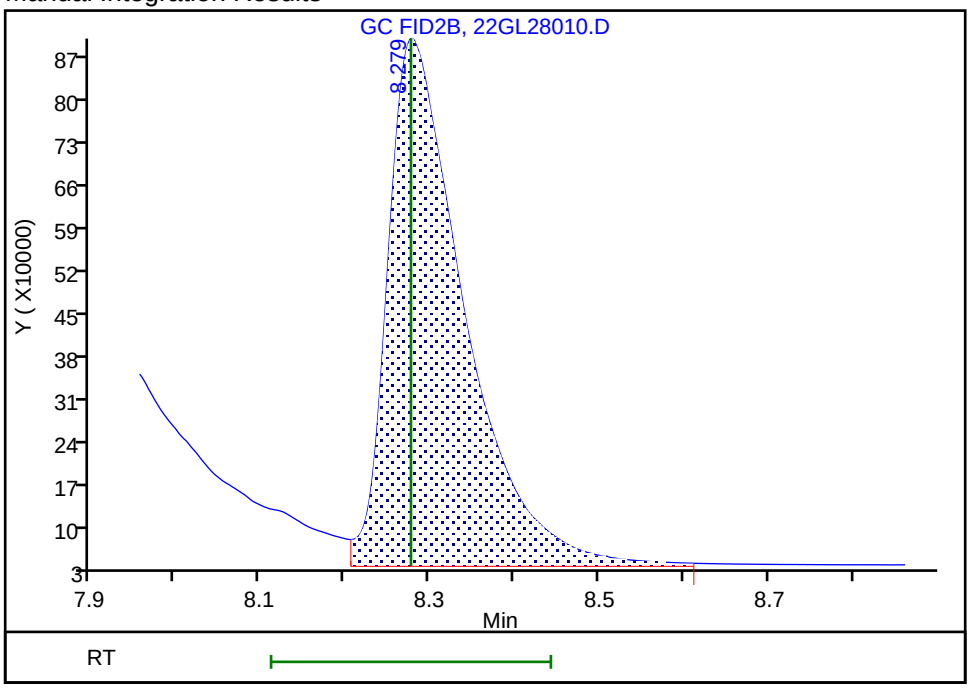
Processing Integration Results

RT: 8.28
Area: 4857441
Amount: 89.801056
Amount Units: ug/ml



Manual Integration Results

RT: 8.28
Area: 5367464
Amount: 107.5671
Amount Units: ug/ml



Reviewer: SK9U, 28-Dec-2022 16:13:14
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Calibration / Ethanol, 2-propoxy

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

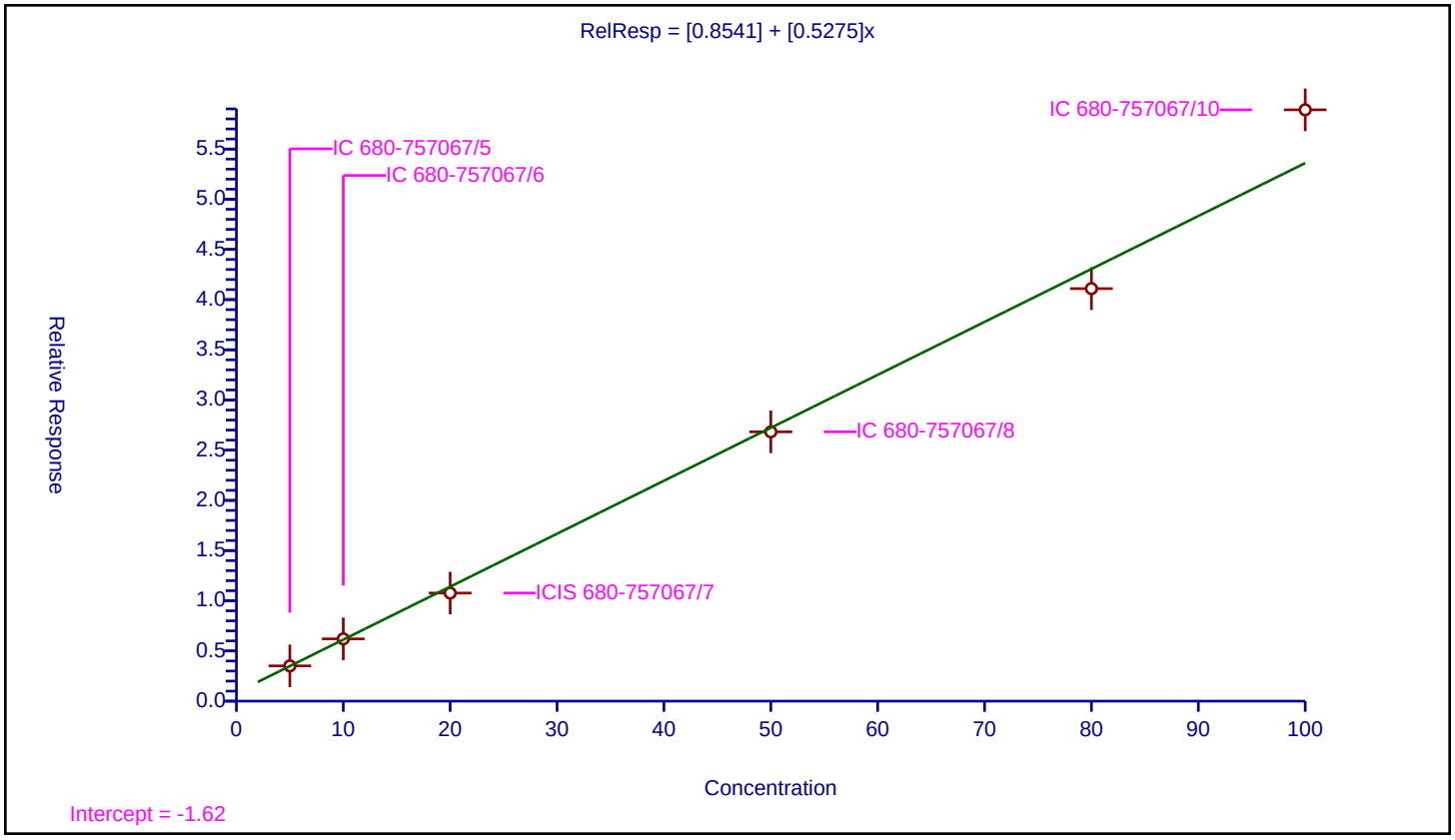
Curve Coefficients

Intercept:	0.8541
Slope:	0.5275

Error Coefficients

Standard Error:	5550000
Relative Standard Error:	6.4
Correlation Coefficient:	0.989
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757067/5	5.0	3.511404	50.0	6770882.0	0.702281	Y
2	IC 680-757067/6	10.0	6.202614	50.0	6287011.0	0.620261	Y
3	ICIS 680-757067/7	20.0	10.765219	50.0	7896964.0	0.538261	Y
4	IC 680-757067/8	50.0	26.828098	50.0	6686553.0	0.536562	Y
5	IC 680-757067/9	80.0	41.094535	50.0	7244681.0	0.513682	Y
6	IC 680-757067/10	100.0	58.90838	50.0	7160236.0	0.589084	Y



12/30/2022
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Calibration / 4-Hydroxy-4-methyl-2-pentanone

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

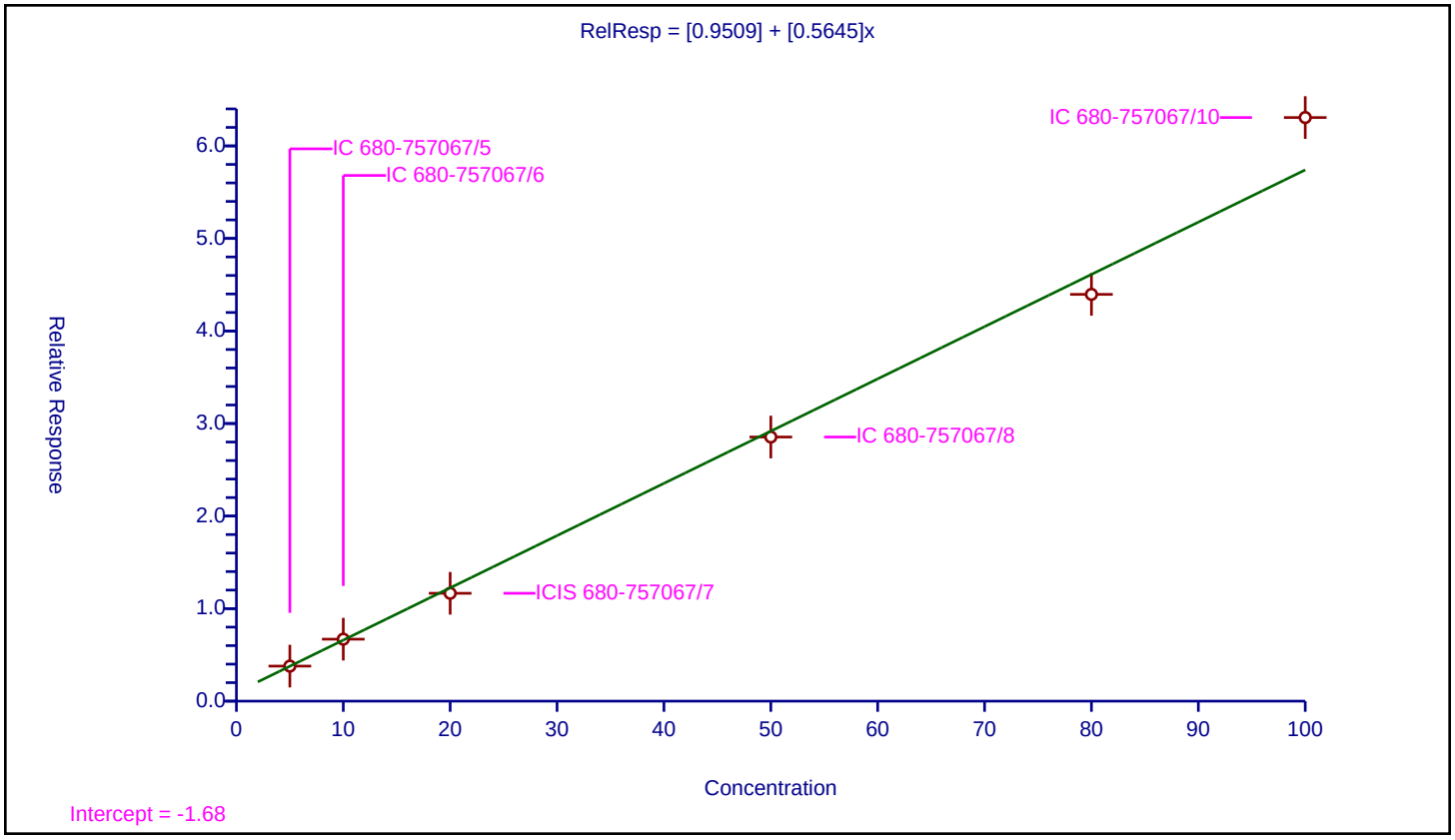
Curve Coefficients

Intercept:	0.9509
Slope:	0.5645

Error Coefficients

Standard Error:	5940000
Relative Standard Error:	6.3
Correlation Coefficient:	0.988
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757067/5	5.0	3.785829	50.0	6770882.0	0.757166	Y
2	IC 680-757067/6	10.0	6.69707	50.0	6287011.0	0.669707	Y
3	ICIS 680-757067/7	20.0	11.653808	50.0	7896964.0	0.58269	Y
4	IC 680-757067/8	50.0	28.541447	50.0	6686553.0	0.570829	Y
5	IC 680-757067/9	80.0	43.95647	50.0	7244681.0	0.549456	Y
6	IC 680-757067/10	100.0	63.064479	50.0	7160236.0	0.630645	Y



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Calibration / 2-Butoxyethanol

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

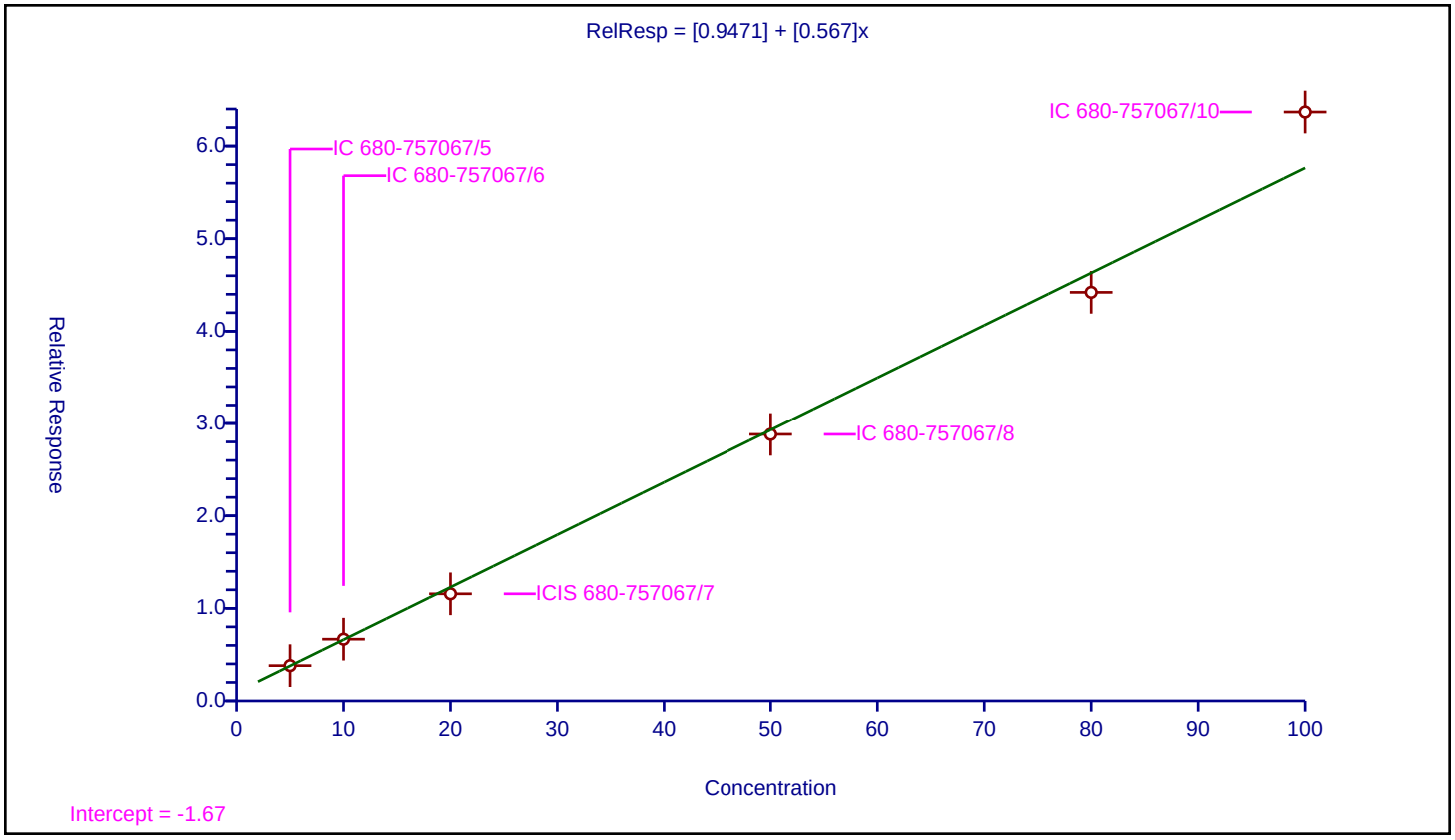
Curve Coefficients

Intercept:	0.9471
Slope:	0.567

Error Coefficients

Standard Error:	5990000
Relative Standard Error:	6.7
Correlation Coefficient:	0.988
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757067/5	5.0	3.810951	50.0	6770882.0	0.76219	Y
2	IC 680-757067/6	10.0	6.671111	50.0	6287011.0	0.667111	Y
3	ICIS 680-757067/7	20.0	11.568098	50.0	7896964.0	0.578405	Y
4	IC 680-757067/8	50.0	28.819715	50.0	6686553.0	0.576394	Y
5	IC 680-757067/9	80.0	44.208206	50.0	7244681.0	0.552603	Y
6	IC 680-757067/10	100.0	63.674431	50.0	7160236.0	0.636744	Y



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Calibration / Dipropylene Glycol Methyl Ether

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

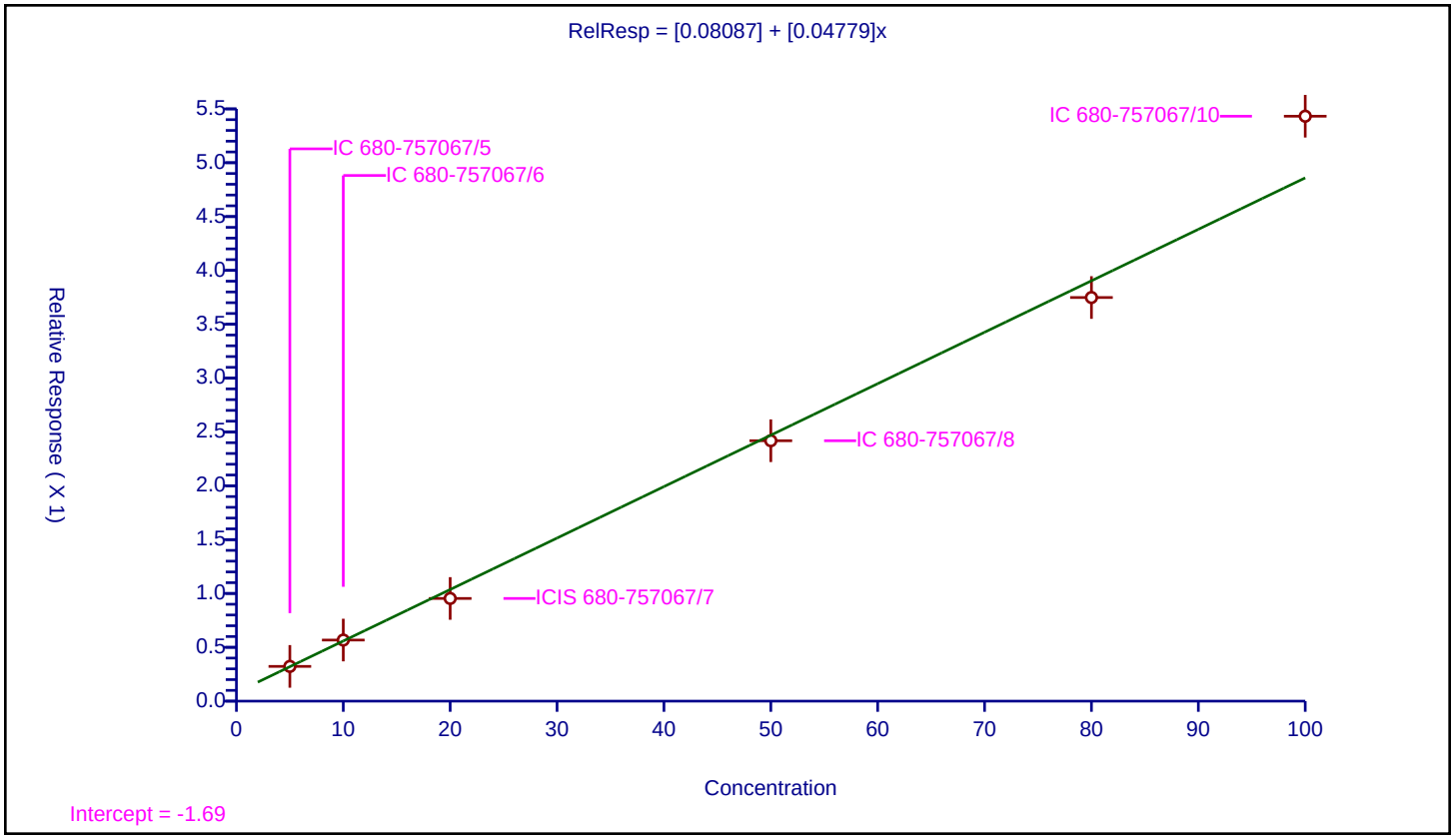
Curve Coefficients

Intercept:	0.08087
Slope:	0.04779

Error Coefficients

Standard Error:	509000
Relative Standard Error:	7.8
Correlation Coefficient:	0.987
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757067/5	5.0	0.322558	50.0	6770882.0	0.064512	Y
2	IC 680-757067/6	10.0	0.567225	50.0	6287011.0	0.056723	Y
3	ICIS 680-757067/7	20.0	0.953721	50.0	7896964.0	0.047686	Y
4	IC 680-757067/8	50.0	2.418286	50.0	6686553.0	0.048366	Y
5	IC 680-757067/9	80.0	3.748309	50.0	7244681.0	0.046854	Y
6	IC 680-757067/10	100.0	5.432084	50.0	7160236.0	0.054321	Y



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Calibration / Propylene glycol

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

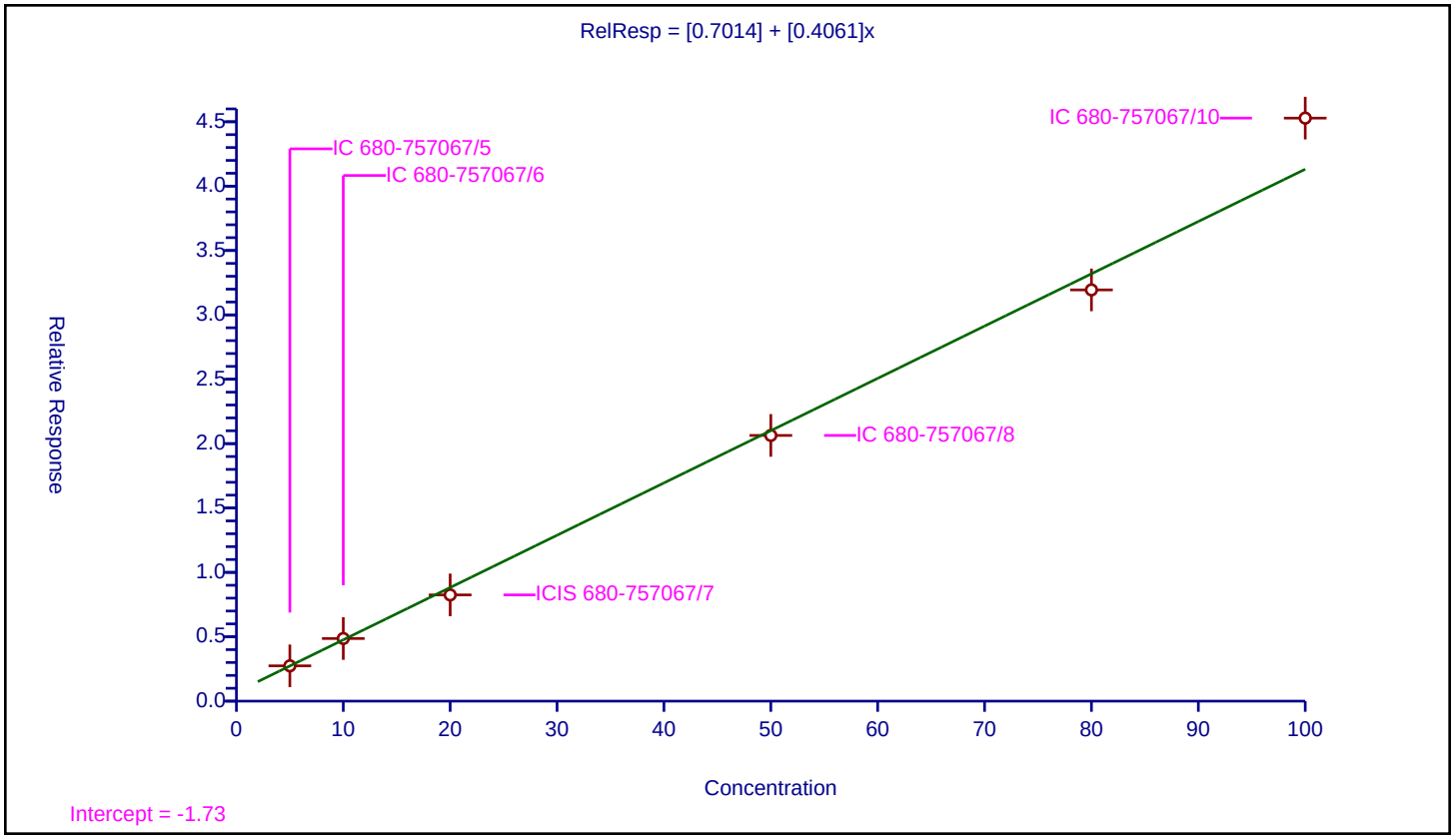
Curve Coefficients

Intercept:	0.7014
Slope:	0.4061

Error Coefficients

Standard Error:	4280000
Relative Standard Error:	6.5
Correlation Coefficient:	0.990
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757067/5	5.0	2.741031	50.0	6770882.0	0.548206	Y
2	IC 680-757067/6	10.0	4.864903	50.0	6287011.0	0.48649	Y
3	ICIS 680-757067/7	20.0	8.251424	50.0	7896964.0	0.412571	Y
4	IC 680-757067/8	50.0	20.637203	50.0	6686553.0	0.412744	Y
5	IC 680-757067/9	80.0	31.942255	50.0	7244681.0	0.399278	Y
6	IC 680-757067/10	100.0	45.284681	50.0	7160236.0	0.452847	Y



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Calibration / Ethylene glycol

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

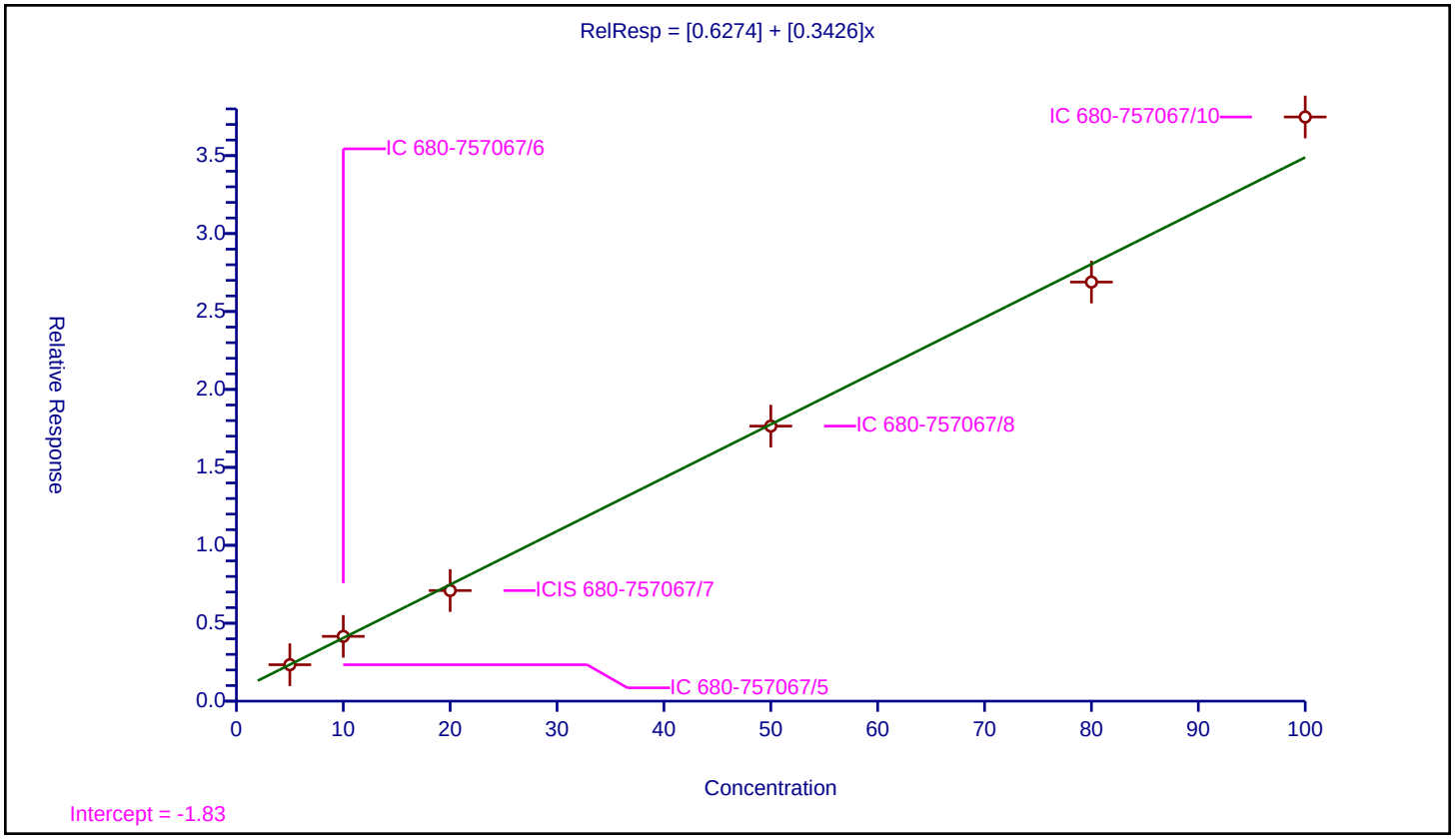
Curve Coefficients

Intercept:	0.6274
Slope:	0.3426

Error Coefficients

Standard Error:	3580000
Relative Standard Error:	5.4
Correlation Coefficient:	0.992
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757067/5	5.0	2.337738	50.0	6770882.0	0.467548	Y
2	IC 680-757067/6	10.0	4.156602	50.0	6287011.0	0.41566	Y
3	ICIS 680-757067/7	20.0	7.096854	50.0	7896964.0	0.354843	Y
4	IC 680-757067/8	50.0	17.647404	50.0	6686553.0	0.352948	Y
5	IC 680-757067/9	80.0	26.889555	50.0	7244681.0	0.336119	Y
6	IC 680-757067/10	100.0	37.481055	50.0	7160236.0	0.374811	Y



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Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

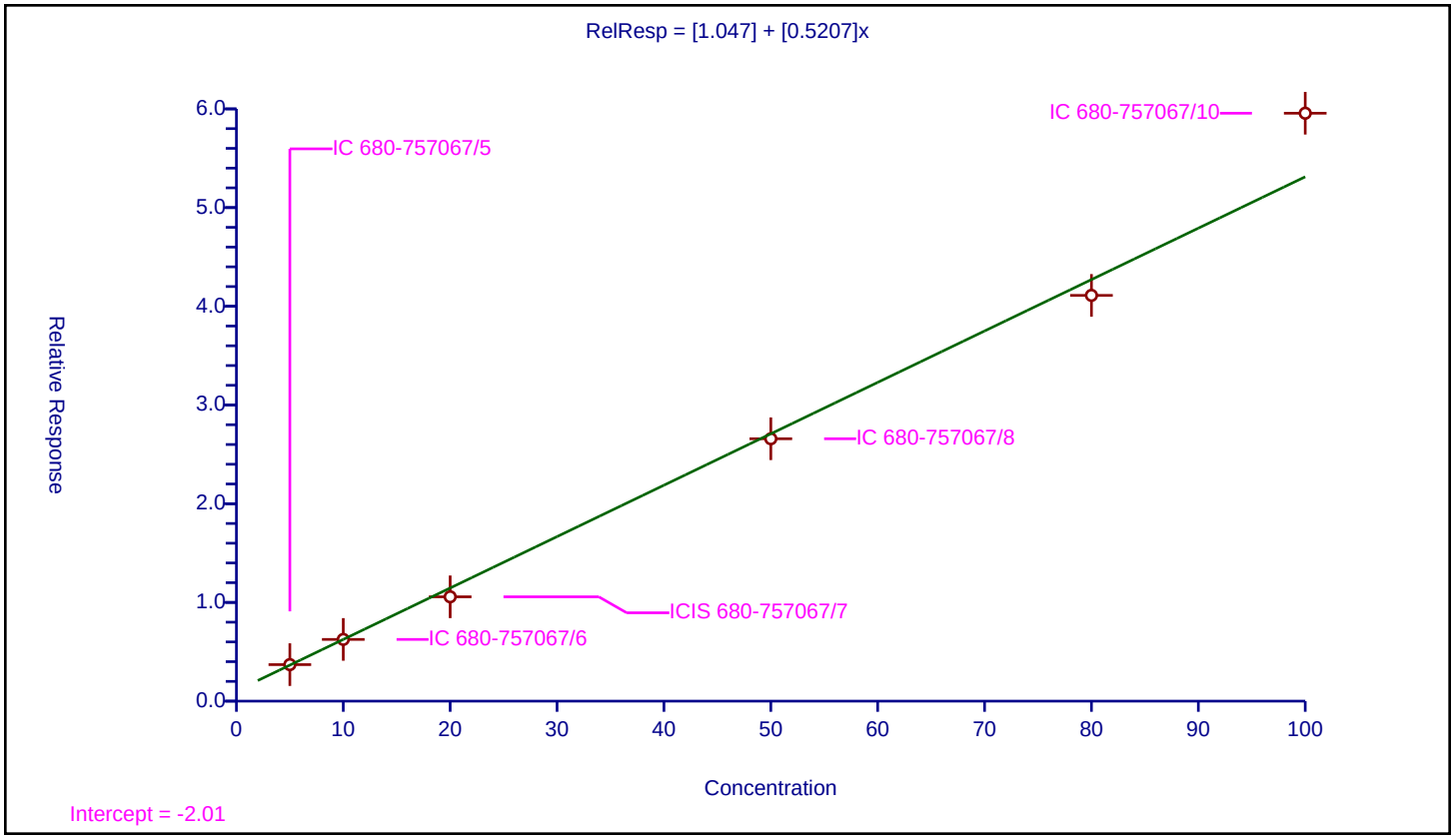
Curve Coefficients

Intercept:	1.047
Slope:	0.5207

Error Coefficients

Standard Error:	5580000
Relative Standard Error:	7.9
Correlation Coefficient:	0.987
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757067/5	5.0	3.701106	50.0	6770882.0	0.740221	Y
2	IC 680-757067/6	10.0	6.253624	50.0	6287011.0	0.625362	Y
3	ICIS 680-757067/7	20.0	10.571455	50.0	7896964.0	0.528573	Y
4	IC 680-757067/8	50.0	26.580833	50.0	6686553.0	0.531617	Y
5	IC 680-757067/9	80.0	41.106931	50.0	7244681.0	0.513837	Y
6	IC 680-757067/10	100.0	59.559517	50.0	7160236.0	0.595595	Y



Calibration / 2,2'-Oxybisethanol

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

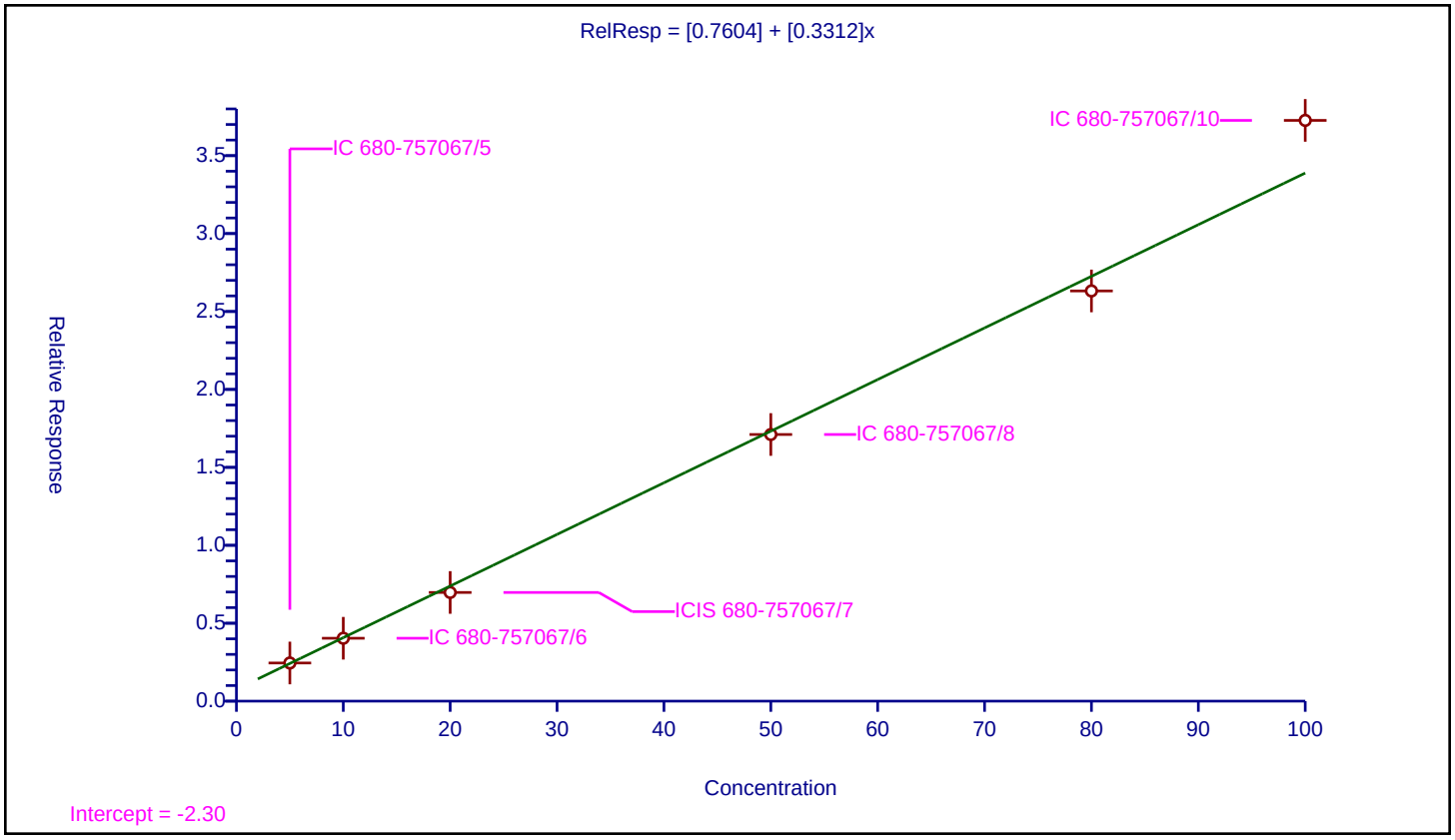
Curve Coefficients

Intercept:	0.7604
Slope:	0.3312

Error Coefficients

Standard Error:	3530000
Relative Standard Error:	6.4
Correlation Coefficient:	0.990
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757067/5	5.0	2.448809	50.0	6770882.0	0.489762	Y
2	IC 680-757067/6	10.0	4.035654	50.0	6287011.0	0.403565	Y
3	ICIS 680-757067/7	20.0	6.973446	50.0	7896964.0	0.348672	Y
4	IC 680-757067/8	50.0	17.108598	50.0	6686553.0	0.342172	Y
5	IC 680-757067/9	80.0	26.320027	50.0	7244681.0	0.329	Y
6	IC 680-757067/10	100.0	37.262452	50.0	7160236.0	0.372625	Y



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Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

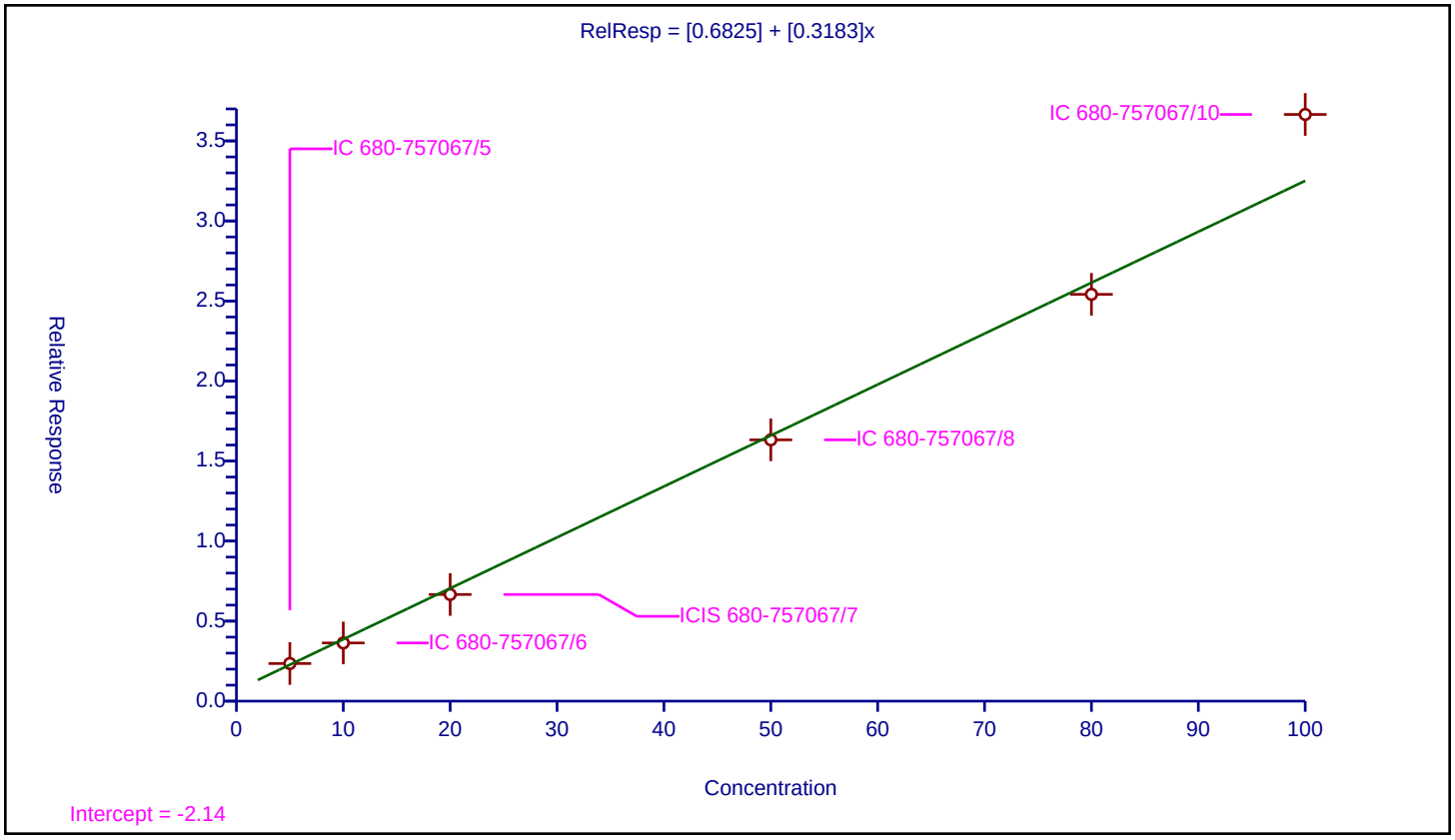
Curve Coefficients

Intercept:	0.6825
Slope:	0.3183

Error Coefficients

Standard Error:	3440000
Relative Standard Error:	8.6
Correlation Coefficient:	0.987
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757067/5	5.0	2.350683	50.0	6770882.0	0.470137	Y
2	IC 680-757067/6	10.0	3.634358	50.0	6287011.0	0.363436	Y
3	ICIS 680-757067/7	20.0	6.662852	50.0	7896964.0	0.333143	Y
4	IC 680-757067/8	50.0	16.324069	50.0	6686553.0	0.326481	Y
5	IC 680-757067/9	80.0	25.414804	50.0	7244681.0	0.317685	Y
6	IC 680-757067/10	100.0	36.65146	50.0	7160236.0	0.366515	Y



Calibration / Tetraethylene Glycol

Curve Type:	Linear
Weighting:	Conc
Origin:	None
Dependency:	Response
Calib Mode:	ISTD
Response Base:	AREA
RF Rounding:	0

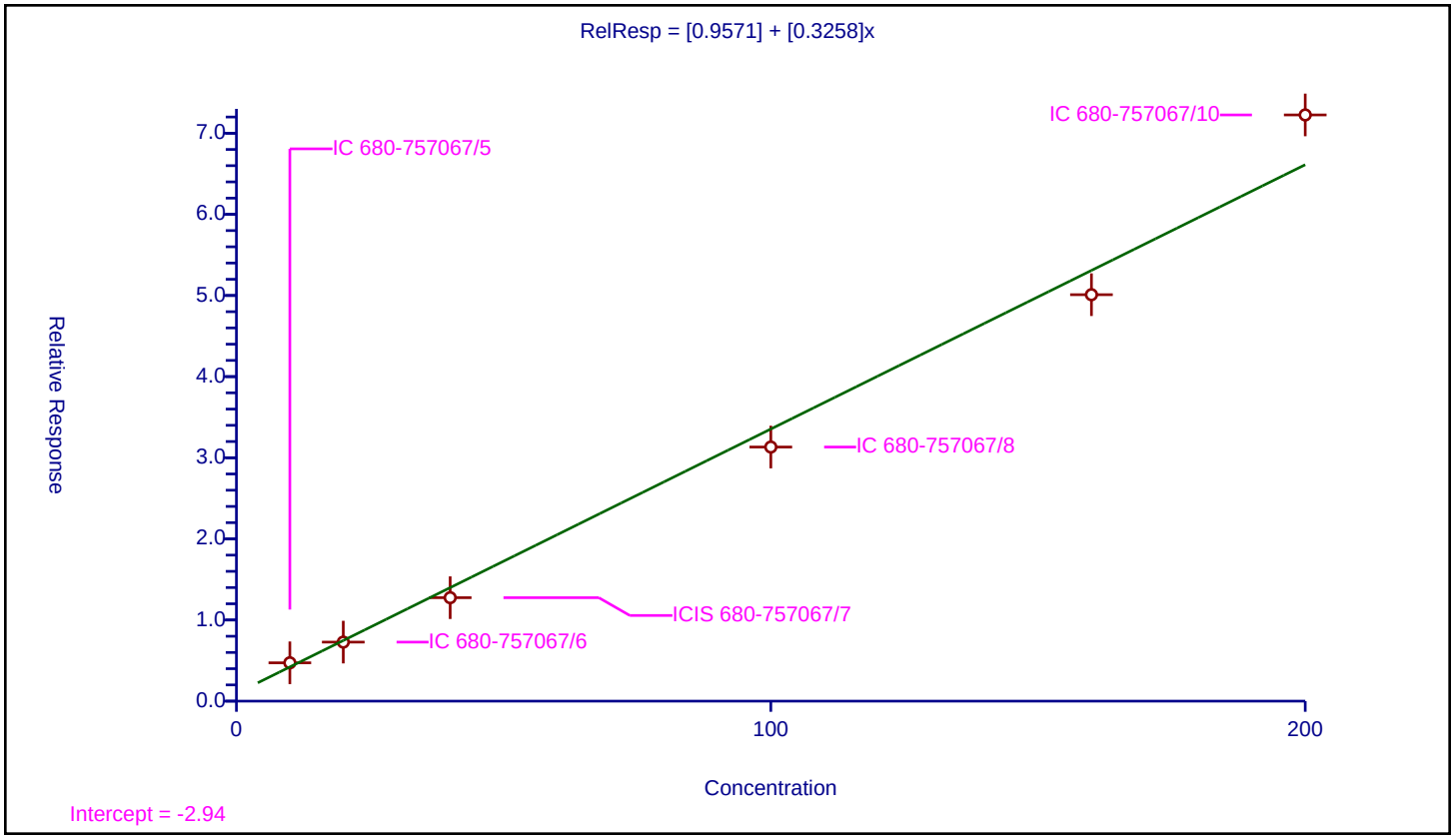
Curve Coefficients

Intercept:	0.9571
Slope:	0.3258

Error Coefficients

Standard Error:	6760000
Relative Standard Error:	11.3
Correlation Coefficient:	0.985
Coefficient of Determination (Adjusted):	0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-757067/5	10.0	4.724879	50.0	6770882.0	0.472488	Y
2	IC 680-757067/6	20.0	7.277401	50.0	6287011.0	0.36387	Y
3	ICIS 680-757067/7	40.0	12.751521	50.0	7896964.0	0.318788	Y
4	IC 680-757067/8	100.0	31.320091	50.0	6686553.0	0.313201	Y
5	IC 680-757067/9	160.0	50.097437	50.0	7244681.0	0.313109	Y
6	IC 680-757067/10	200.0	72.253603	50.0	7160236.0	0.361268	Y



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FORM VII
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Lab Sample ID: ICV 680-757067/11 Calibration Date: 12/28/2022 15:15

Instrument ID: CVGG2 Calib Start Date: 12/28/2022 12:59

GC Column: J&W DB WAX ID: 0.45(mm) Calib End Date: 12/28/2022 14:52

Lab File ID: 22GL28011.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Lin2		0.5827		20.5	20.0	2.4	20.0
4-Hydroxy-4-methyl-2-pentanone	Lin2		0.6182		20.2	20.0	1.1	20.0
2-Butoxyethanol	Lin2		0.6547		21.4	20.0	7.1	20.0
Dipropylene Glycol Methyl Ether	Lin2		0.0518		20.0	20.0	-0.0	20.0
Propylene glycol	Lin2		0.4041		18.2	20.0	-9.1	20.0
Ethylene glycol	Lin2		0.3717		19.9	20.0	-0.7	20.0
2-(2-Butoxyethoxy)ethanol	Lin2		0.5706		19.9	20.0	-0.5	20.0
2,2'-Oxybisethanol	Lin2		0.3480		18.7	20.0	-6.4	20.0
Triethylene Glycol	Lin2		0.3508		19.9	20.0	-0.5	20.0
Tetraethylene Glycol	Lin1		0.3418		39.0	40.0	-2.4	20.0

FORM VII
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Lab Sample ID: ICV 680-757067/11 Calibration Date: 12/28/2022 15:15

Instrument ID: CVGG2 Calib Start Date: 12/28/2022 12:59

GC Column: J&W DB WAX ID: 0.45(mm) Calib End Date: 12/28/2022 14:52

Lab File ID: 22GL28011.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	4.07	3.99	4.15
4-Hydroxy-4-methyl-2-pentanone	4.89	4.80	4.99
2-Butoxyethanol	5.26	5.16	5.37
Dipropylene Glycol Methyl Ether	6.92	6.78	7.06
Propylene glycol	7.85	7.69	8.00
Ethylene glycol	8.28	8.12	8.45
2-(2-Butoxyethoxy)ethanol	9.52	9.33	9.71
2,2'-Oxybisethanol	10.20	10.00	10.41
Triethylene Glycol	11.18	10.96	11.41
Tetraethylene Glycol	12.86	12.60	13.12

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28011.D
Lims ID: icv gly
Client ID:
Sample Type: CCV
Inject. Date: 28-Dec-2022 15:15:08 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-011
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 29-Dec-2022 09:26:04 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1609

First Level Reviewer: SK9U Date: 28-Dec-2022 16:16:40

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	4.070	4.068	0.002	1741863	20.0	20.5	
	2 4-Hydroxy-4-methyl-2-pentanone						
	4.892	4.896	-0.004	1848069	20.0	20.2	
	3 2-Butoxyethanol						
	5.260	5.266	-0.006	1957072	20.0	21.4	
*	4 n-Heptyl Alcohol						
	5.789	5.795	-0.006	7473586	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	6.915	6.917	-0.002	154885	20.0	20.0	
	6 Propylene glycol						
	7.848	7.843	0.005	1208039	20.0	18.2	
	7 Ethylene glycol						
	8.280	8.286	-0.006	1111143	20.0	19.9	
	8 2-(2-Butoxyethoxy)ethanol						
	9.521	9.522	-0.001	1705839	20.0	19.9	
	9 2,2'-Oxybisethanol						
	10.199	10.201	-0.002	1040413	20.0	18.7	
	10 Triethylene Glycol						
	11.179	11.181	-0.002	1048721	20.0	19.9	
	11 Tetraethylene Glycol						
	12.859	12.861	-0.002	2043714	40.0	39.0	

QC Flag Legend
Processing Flags

Reagents:

SG_GlyICV_00056	Amount Added:	10.00	Units: uL	
SG_GLY_ISTD_00099	Amount Added:	10.00	Units: uL	Run Reagent

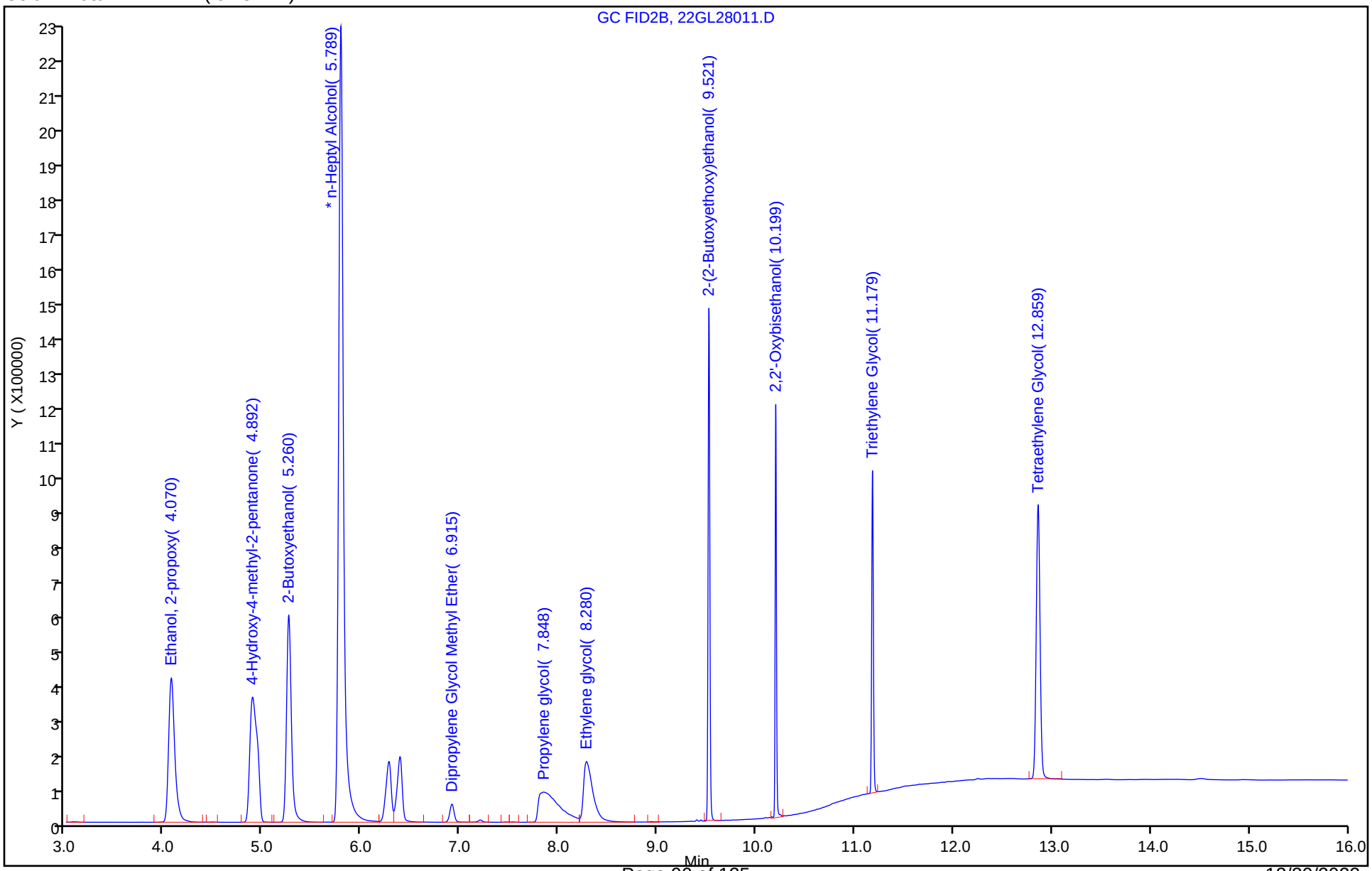
Report Date: 29-Dec-2022 09:26:04 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28011.D

Injection Date:	28-Dec-2022 15:15:08	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	icv gly			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)



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FORM VII
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Lab Sample ID: CCV 680-757067/26 Calibration Date: 12/28/2022 20:53

Instrument ID: CVGG2 Calib Start Date: 12/28/2022 12:59

GC Column: J&W DB WAX ID: 0.45(mm) Calib End Date: 12/28/2022 14:52

Lab File ID: 22GL28026.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Lin2		0.5756		20.2	20.0	1.0	20.0
4-Hydroxy-4-methyl-2-pentanone	Lin2		0.5058		16.2	20.0	-18.8	20.0
2-Butoxyethanol	Lin2		0.6497		21.2	20.0	6.2	20.0
Dipropylene Glycol Methyl Ether	Lin2		0.0517		19.9	20.0	-0.3	20.0
Propylene glycol	Lin2		0.3711		16.5	20.0	-17.3	20.0
Ethylene glycol	Lin2		0.3475		18.5	20.0	-7.7	20.0
2-(2-Butoxyethoxy)ethanol	Lin2		0.5525		19.2	20.0	-4.0	20.0
2,2'-Oxybisethanol	Lin2		0.3145		16.7	20.0	-16.5	20.0
Triethylene Glycol	Lin2		0.3038		16.9	20.0	-15.3	20.0
Tetraethylene Glycol	Lin1		0.2576		28.7	40.0	-28.3*	20.0

FORM VII
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Lab Sample ID: CCV 680-757067/26 Calibration Date: 12/28/2022 20:53

Instrument ID: CVGG2 Calib Start Date: 12/28/2022 12:59

GC Column: J&W DB WAX ID: 0.45(mm) Calib End Date: 12/28/2022 14:52

Lab File ID: 22GL28026.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	4.08	4.00	4.16
4-Hydroxy-4-methyl-2-pentanone	4.90	4.80	5.00
2-Butoxyethanol	5.27	5.16	5.37
Dipropylene Glycol Methyl Ether	6.92	6.78	7.06
Propylene glycol	7.86	7.71	8.02
Ethylene glycol	8.29	8.12	8.45
2-(2-Butoxyethoxy)ethanol	9.52	9.33	9.71
2,2'-Oxybisethanol	10.20	10.00	10.40
Triethylene Glycol	11.18	10.96	11.41
Tetraethylene Glycol	12.86	12.61	13.12

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28026.D
Lims ID: ccv g3
Client ID:
Sample Type: CCV
Inject. Date: 28-Dec-2022 20:53:27 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-026
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 29-Dec-2022 09:26:05 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1609

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	4.079	4.079	0.000	1895498	20.0	20.2	
	2 4-Hydroxy-4-methyl-2-pentanone						
	4.901	4.901	0.000	1665651	20.0	16.2	
	3 2-Butoxyethanol						
	5.269	5.269	0.000	2139504	20.0	21.2	
*	4 n-Heptyl Alcohol						
	5.796	5.796	0.000	8232161	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	6.921	6.921	0.000	170150	20.0	19.9	
	6 Propylene glycol						
	7.864	7.864	0.000	1222096	20.0	16.5	
	7 Ethylene glycol						
	8.288	8.288	0.000	1144138	20.0	18.5	
	8 2-(2-Butoxyethoxy)ethanol						
	9.523	9.523	0.000	1819185	20.0	19.2	
	9 2,2'-Oxybisethanol						
	10.199	10.199	0.000	1035608	20.0	16.7	
	10 Triethylene Glycol						
	11.181	11.181	0.000	1000488	20.0	16.9	
	11 Tetraethylene Glycol						
	12.862	12.862	0.000	1696721	40.0	28.7	

Reagents:

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

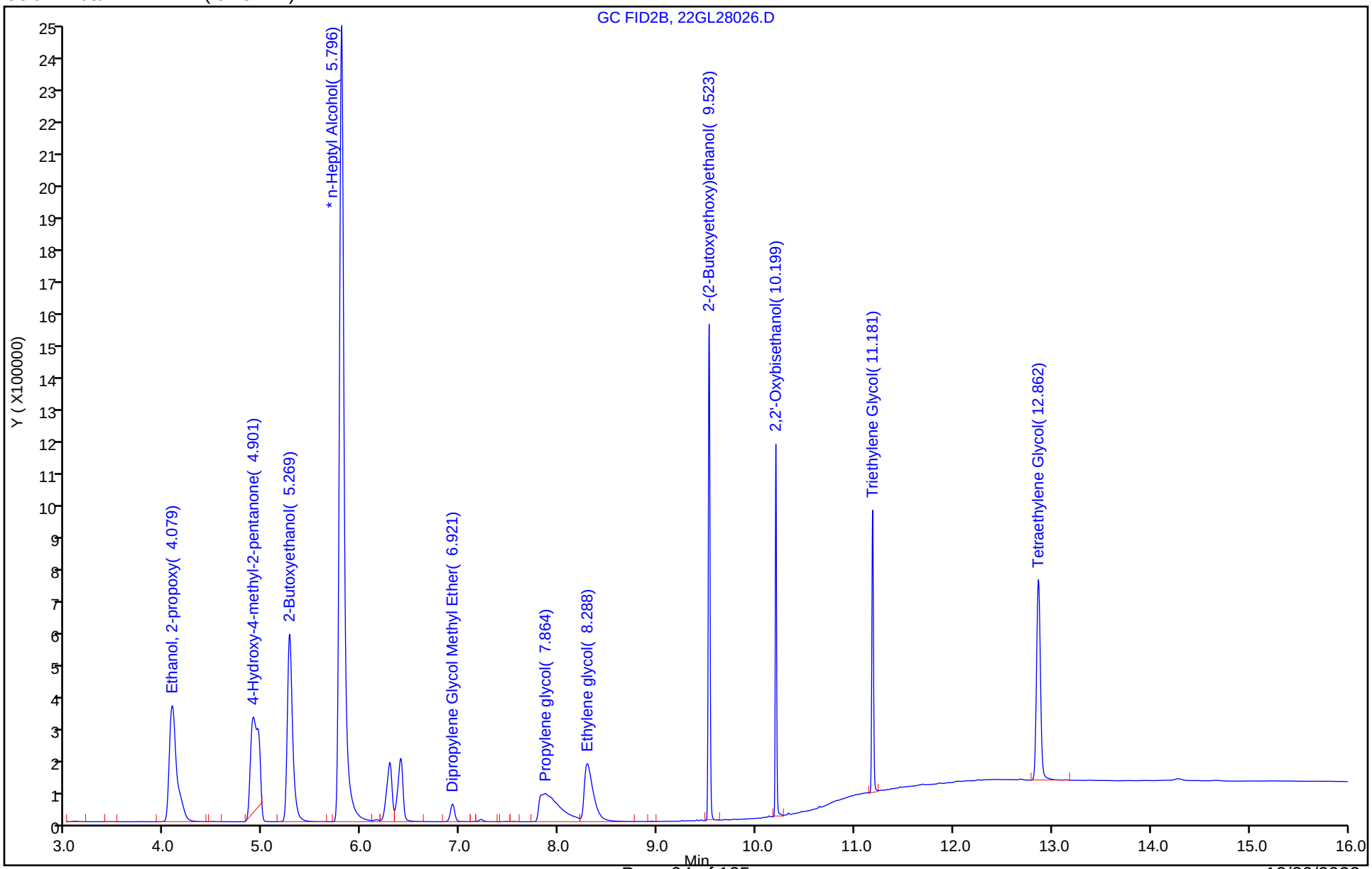
Report Date: 29-Dec-2022 09:26:06 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28026.D

Injection Date:	28-Dec-2022 20:53:27	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ccv g3			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	26
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



12/30/2022
7:07 PM

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 680-757067/16

Matrix: Water Lab File ID: 22GL28016.D

Analysis Method: 8015C GLY Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 12/28/2022 17:08

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.: 757067 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\20221228-82994.b\22GL28016.D
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 28-Dec-2022 17:08:04 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-016
Operator ID: Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 29-Dec-2022 09:25:35 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1609

First Level Reviewer: SWK1 Date: 29-Dec-2022 09:24:46

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 4 n-Heptyl Alcohol						
5.791	5.795	-0.004	7987398	50.0	50.0	

Reagents:

SG_GLY_ISTD_00099 Amount Added: 10.00 Units: uL Run Reagent

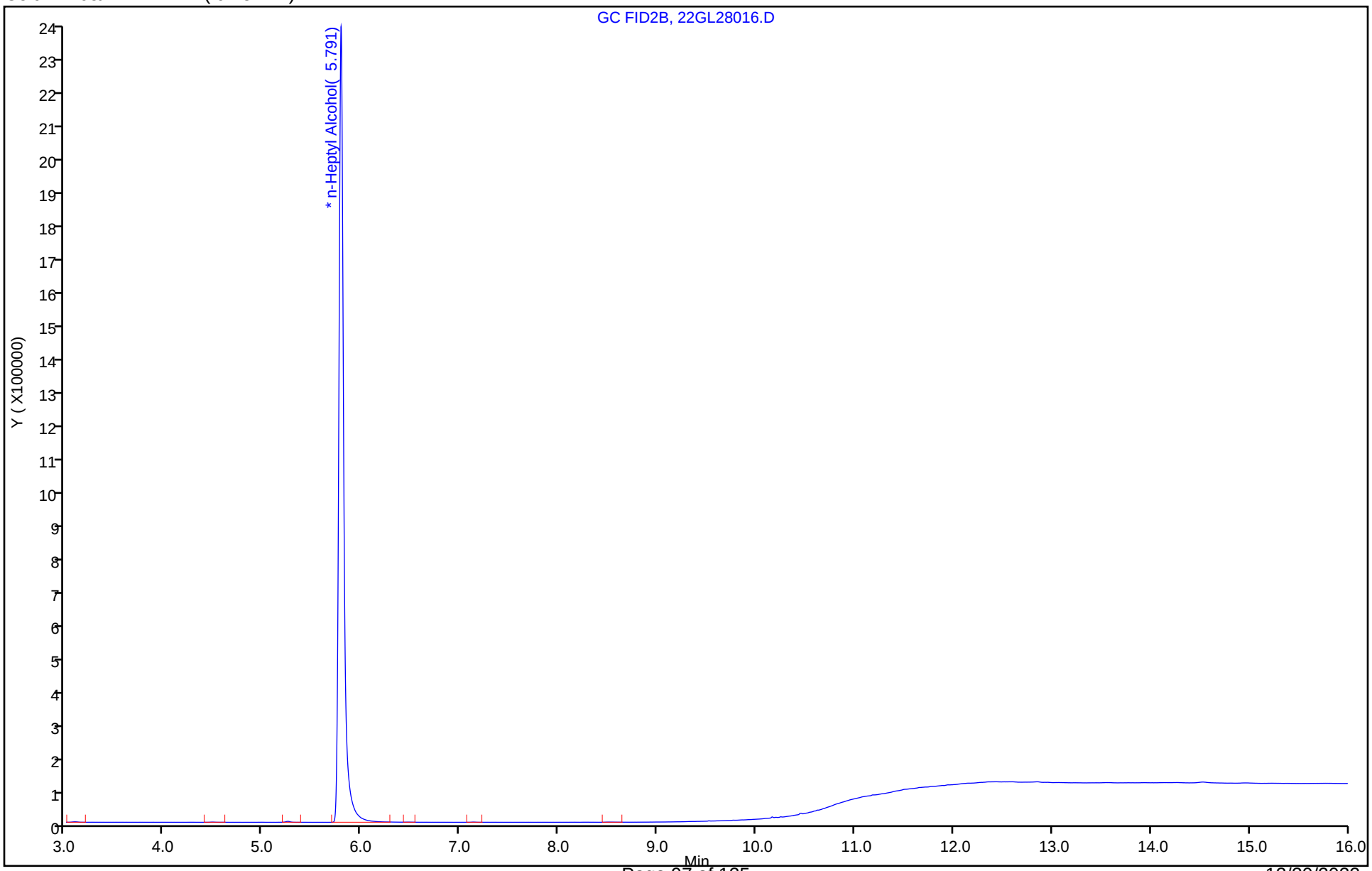
Report Date: 29-Dec-2022 09:26:00 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28016.D

Injection Date:	28-Dec-2022 17:08:04	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	mb			Worklist Smp#:	16
Client ID:					
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)



12/30/2022
7:07 PM

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 680-757067/12

Matrix: Water Lab File ID: 22GL28012.D

Analysis Method: 8015C GLY Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 12/28/2022 15:37

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.: 757067 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	20.5		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28012.D
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 28-Dec-2022 15:37:40 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-012
Operator ID: Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 29-Dec-2022 09:26:04 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1609

First Level Reviewer: SWK1 Date: 29-Dec-2022 09:24:26

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	4.067	4.068	-0.001	1402976	20.0	22.5	
	2 4-Hydroxy-4-methyl-2-pentanone						
	4.890	4.896	-0.006	1482559	20.0	22.1	
	3 2-Butoxyethanol						
	5.261	5.266	-0.005	1550556	20.0	23.1	
*	4 n-Heptyl Alcohol						
	5.789	5.795	-0.006	5518071	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	6.911	6.917	-0.006	118832	20.0	20.8	
	6 Propylene glycol						M
	7.851	7.843	0.008	1019363	20.0	21.0	M
	7 Ethylene glycol						
	8.276	8.286	-0.010	979368	20.0	24.1	
	8 2-(2-Butoxyethoxy)ethanol						
	9.521	9.522	-0.001	1292206	20.0	20.5	
	9 2,2'-Oxybisethanol						
	10.198	10.201	-0.003	851752	20.0	21.0	
	10 Triethylene Glycol						
	11.179	11.181	-0.002	784085	20.0	20.2	
	11 Tetraethylene Glycol						
	12.859	12.861	-0.002	1550459	40.0	40.2	

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

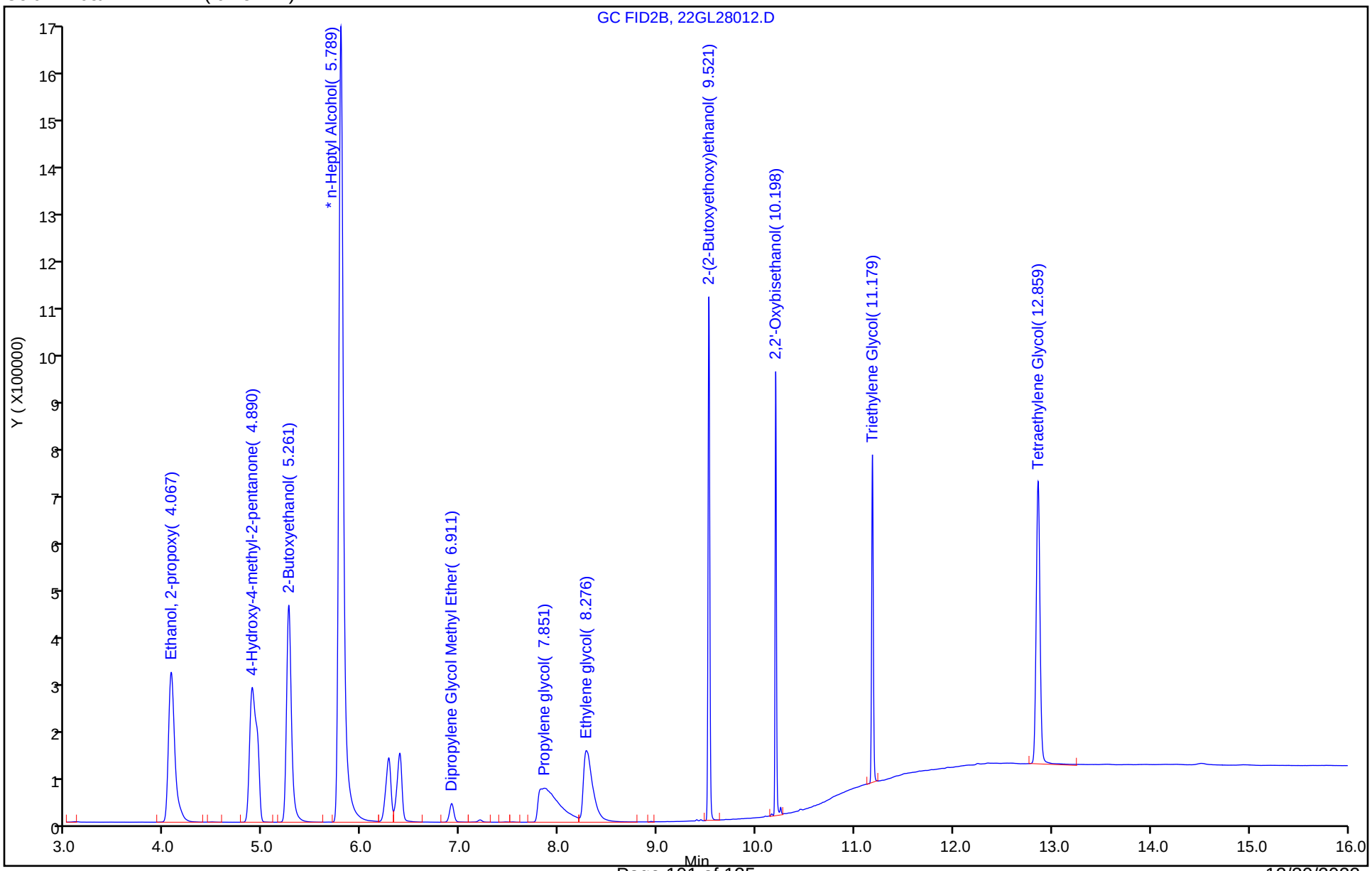
Report Date: 29-Dec-2022 09:26:04 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28012.D

Injection Date:	28-Dec-2022 15:37:40	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	lcs			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)



12/30/2022
7:07 PM

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 680-757067/13

Matrix: Water Lab File ID: 22GL28013.D

Analysis Method: 8015C GLY Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 12/28/2022 16:00

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.: 757067 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	20.8		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28013.D
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 28-Dec-2022 16:00:19 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-013
Operator ID: Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 29-Dec-2022 09:26:04 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1609

First Level Reviewer: SWK1 Date: 29-Dec-2022 09:24:40

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	4.072	4.068	0.004	1675050	20.0	21.5	
	2 4-Hydroxy-4-methyl-2-pentanone						
	4.894	4.896	-0.002	1798643	20.0	21.5	
	3 2-Butoxyethanol						
	5.263	5.266	-0.003	1875403	20.0	22.4	
*	4 n-Heptyl Alcohol						
	5.791	5.795	-0.004	6868573	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	6.912	6.917	-0.005	149847	20.0	21.1	
	6 Propylene glycol						M
	7.854	7.843	0.011	1172174	20.0	19.3	M
	7 Ethylene glycol						M
	8.279	8.286	-0.007	1092206	20.0	21.4	M
	8 2-(2-Butoxyethoxy)ethanol						
	9.521	9.522	-0.001	1632870	20.0	20.8	
	9 2,2'-Oxybisethanol						
	10.198	10.201	-0.003	991887	20.0	19.5	
	10 Triethylene Glycol						
	11.180	11.181	-0.001	965439	20.0	19.9	
	11 Tetraethylene Glycol						
	12.860	12.861	-0.001	1953117	40.0	40.7	

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

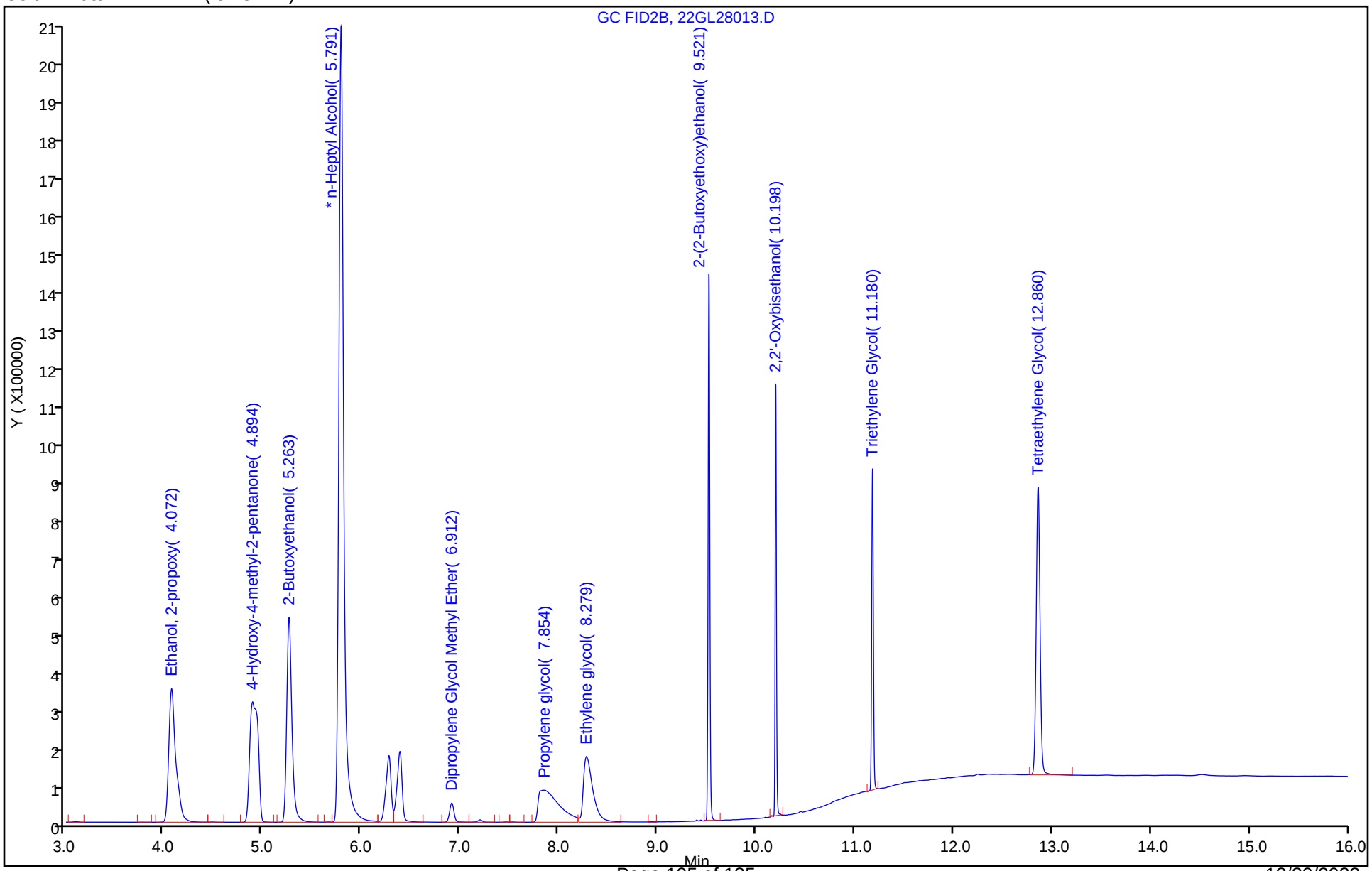
Report Date: 29-Dec-2022 09:26:05 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28013.D

Injection Date:	28-Dec-2022 16:00:19	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	lcsd			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)



12/30/2022
7:07 PM

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah | Job No.: 580-121547-1

SDG No.:

Client Sample ID: AF-RHMW04-WGN01LF-2212W3 MS | Lab Sample ID: 580-121547-4 MS

Matrix: Water | Lab File ID: 22GL28023.D

Analysis Method: 8015C GLY | Date Collected: 12/22/2022 14:05

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 12/28/2022 19:45

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.: 757067 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	16.9		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28023.D
Lims ID: 580-121547-A-4 MS
Client ID:
Sample Type: MS
Inject. Date: 28-Dec-2022 19:45:59 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-023
Operator ID: Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 29-Dec-2022 09:25:35 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1609

First Level Reviewer: SWK1 Date: 29-Dec-2022 09:25:44

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	4.076	4.068	0.008	1507532	20.0	17.4	
	2 4-Hydroxy-4-methyl-2-pentanone						
	4.898	4.896	0.002	1521332	20.0	16.2	
	3 2-Butoxyethanol						
	5.267	5.266	0.001	1699650	20.0	18.3	
*	4 n-Heptyl Alcohol						
	5.795	5.795	0.000	7514832	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	6.920	6.917	0.003	133388	20.0	16.9	
	6 Propylene glycol						
	7.813	7.843	-0.030	951471	20.0	13.9	
	7 Ethylene glycol						
	8.281	8.286	-0.005	772811	20.0	13.2	
	8 2-(2-Butoxyethoxy)ethanol						
	9.523	9.522	0.001	1478590	20.0	16.9	
	9 2,2'-Oxybisethanol						
	10.200	10.201	-0.001	328912	20.0	4.31	
	10 Triethylene Glycol						
	11.182	11.181	0.001	178585	20.0	1.59	
	11 Tetraethylene Glycol						7
	12.863	12.861	0.002	190705	40.0	0.9569	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

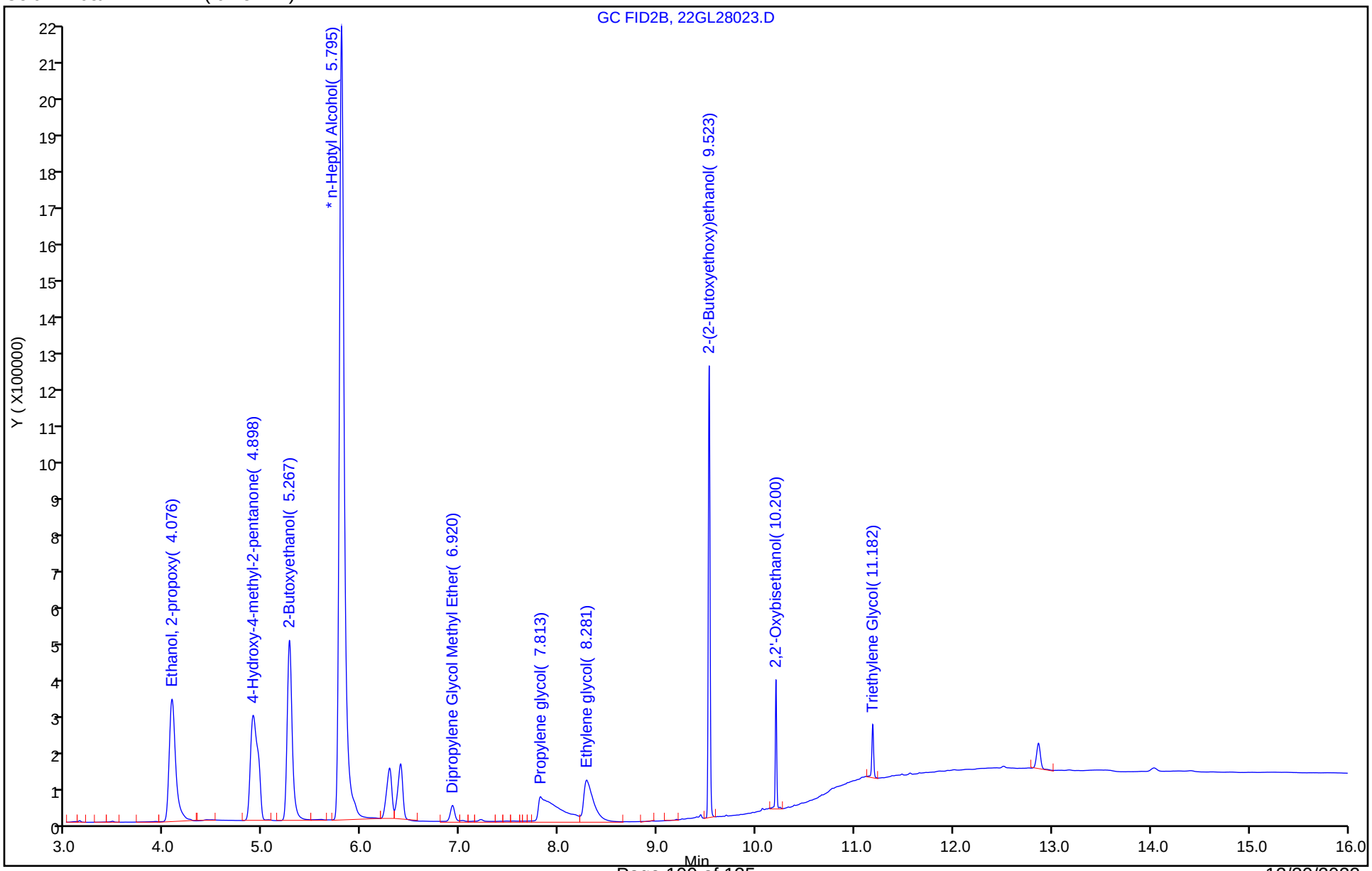
Report Date: 29-Dec-2022 09:26:03 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28023.D

Injection Date:	28-Dec-2022 19:45:59	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	580-121547-A-4 MS			Worklist Smp#:	23
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



12/30/2022
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FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah | Job No.: 580-121547-1

SDG No.:

Client Sample ID: AF-RHMW04-WGN01LF-2212W3 MSD | Lab Sample ID: 580-121547-4 MSD

Matrix: Water | Lab File ID: 22GL28024.D

Analysis Method: 8015C GLY | Date Collected: 12/22/2022 14:05

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 12/28/2022 20:08

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.: 757067 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	20.3		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28024.D
Lims ID: 580-121547-A-4 MSD
Client ID:
Sample Type: MSD
Inject. Date: 28-Dec-2022 20:08:31 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0082994-024
Operator ID: Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 29-Dec-2022 09:25:35 Calib Date: 28-Dec-2022 14:52:34
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1609

First Level Reviewer: SWK1 Date: 29-Dec-2022 09:25:48

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	4.072	4.068	0.004	1877716	20.0	20.9	
	2 4-Hydroxy-4-methyl-2-pentanone						
	4.896	4.896	0.000	1891346	20.0	19.5	
	3 2-Butoxyethanol						
	5.264	5.266	-0.002	2122298	20.0	22.0	
*	4 n-Heptyl Alcohol						
	5.795	5.795	0.000	7905830	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	6.920	6.917	0.003	160708	20.0	19.6	
	6 Propylene glycol						
	7.813	7.843	-0.030	1183154	20.0	16.7	
	7 Ethylene glycol						
	8.281	8.286	-0.005	1071460	20.0	17.9	
	8 2-(2-Butoxyethoxy)ethanol						
	9.523	9.522	0.001	1833791	20.0	20.3	
	9 2,2'-Oxybisethanol						
	10.201	10.201	0.000	591983	20.0	9.01	
	10 Triethylene Glycol						
	11.184	11.181	0.003	396222	20.0	5.73	
	11 Tetraethylene Glycol						
	12.866	12.861	0.005	450649	40.0	5.81	

QC Flag Legend
Processing Flags

Reagents:

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

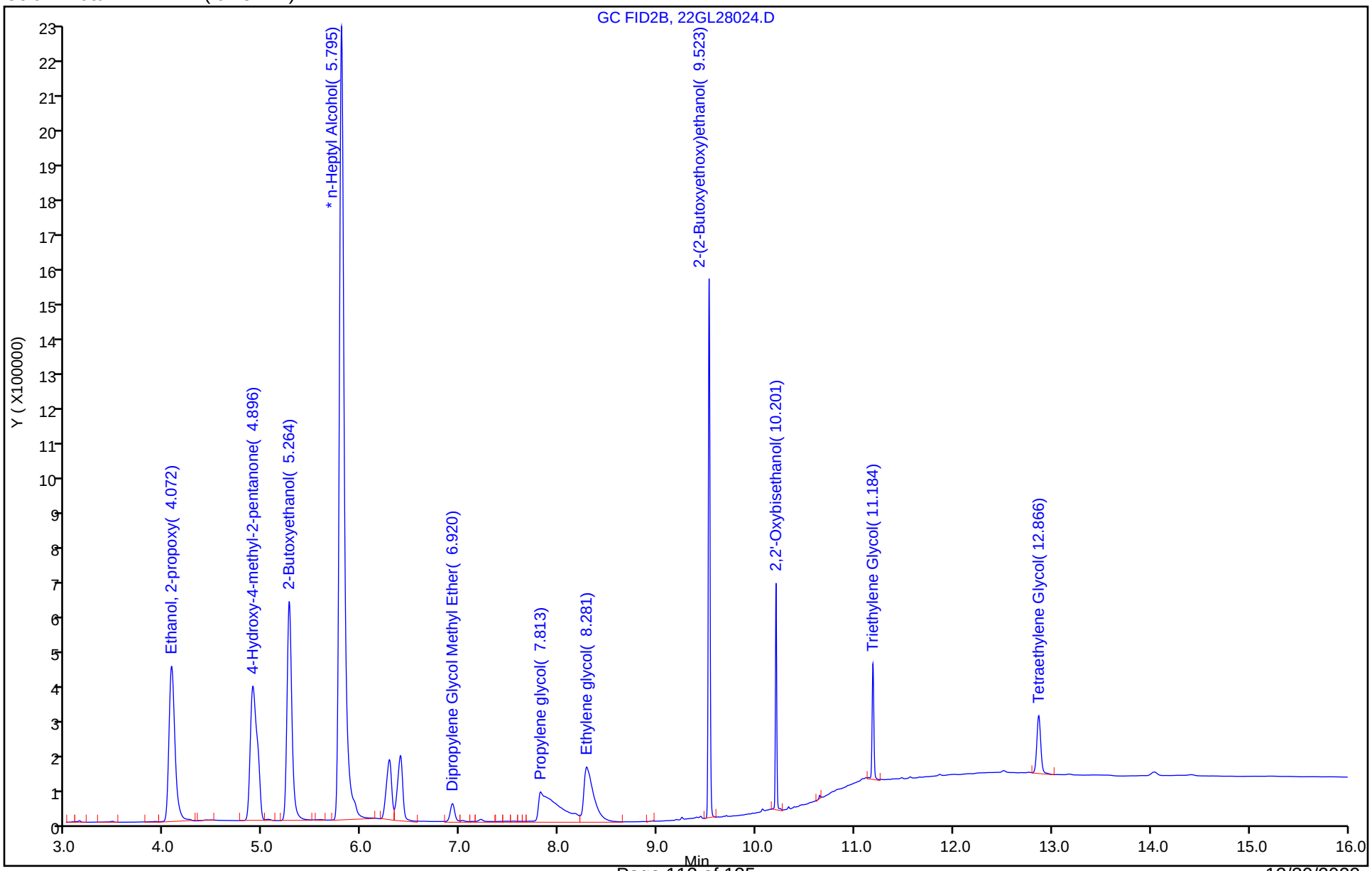
Report Date: 29-Dec-2022 09:26:04 Chrom Revision: 2.3 20-Dec-2022 14:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20221228-82994.b\22GL28024.D

Injection Date:	28-Dec-2022 20:08:31	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	580-121547-A-4 MSD			Worklist Smp#:	24
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



12/30/2022
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GC SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Instrument ID: CVGG2 Start Date: 12/28/2022 12:59

Analysis Batch Number: 757067 End Date: 12/28/2022 20:53

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 680-757067/5		12/28/2022 12:59	1	22GL28005.D	J&W DB WAX 0.45(mm)
IC 680-757067/6		12/28/2022 13:22	1	22GL28006.D	J&W DB WAX 0.45(mm)
ICIS 680-757067/7		12/28/2022 13:44	1	22GL28007.D	J&W DB WAX 0.45(mm)
IC 680-757067/8		12/28/2022 14:07	1	22GL28008.D	J&W DB WAX 0.45(mm)
IC 680-757067/9		12/28/2022 14:29	1	22GL28009.D	J&W DB WAX 0.45(mm)
IC 680-757067/10		12/28/2022 14:52	1	22GL28010.D	J&W DB WAX 0.45(mm)
ICV 680-757067/11 CCV		12/28/2022 15:15	1	22GL28011.D	J&W DB WAX 0.45(mm)
LCS 680-757067/12		12/28/2022 15:37	1	22GL28012.D	J&W DB WAX 0.45(mm)
LCSD 680-757067/13		12/28/2022 16:00	1	22GL28013.D	J&W DB WAX 0.45(mm)
MB 680-757067/16		12/28/2022 17:08	1	22GL28016.D	J&W DB WAX 0.45(mm)
ZZZZZ		12/28/2022 17:30	1		J&W DB WAX 0.45(mm)
580-121547-1	AF-RHMW17D-WGN01LF-2212W3	12/28/2022 17:53	1	22GL28018.D	J&W DB WAX 0.45(mm)
580-121547-2	AF-RHMW17-WGN01LF-2212W3	12/28/2022 18:15	1	22GL28019.D	J&W DB WAX 0.45(mm)
580-121547-3	AF-RHMW06-WGN01LF-2212W3	12/28/2022 18:38	1	22GL28020.D	J&W DB WAX 0.45(mm)
580-121547-4	AF-RHMW04-WGN01LF-2212W3	12/28/2022 19:00	1	22GL28021.D	J&W DB WAX 0.45(mm)
580-121547-4 MS	AF-RHMW04-WGN01LF-2212W3 MS	12/28/2022 19:45	1	22GL28023.D	J&W DB WAX 0.45(mm)
580-121547-4 MSD	AF-RHMW04-WGN01LF-2212W3 MSD	12/28/2022 20:08	1	22GL28024.D	J&W DB WAX 0.45(mm)
CCV 680-757067/26		12/28/2022 20:53	1	22GL28026.D	J&W DB WAX 0.45(mm)

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Savannah Job No.: 580-121547-1

SDG No.:

Batch Number: 757067 Batch Start Date: 12/28/22 12:59 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	SG_GlyICV 00056		
IC 680-757067/5		8015C GLY		1 mL	2.5 uL	10 uL			
IC 680-757067/6		8015C GLY		1 mL	5 uL	10 uL			
ICIS 680-757067/7		8015C GLY		1 mL	10 uL	10 uL			
IC 680-757067/8		8015C GLY		1 mL	25 uL	10 uL			
IC 680-757067/9		8015C GLY		1 mL	40 uL	10 uL			
IC 680-757067/10		8015C GLY		1 mL	50 uL	10 uL			
ICV 680-757067/11 CCV		8015C GLY		1 mL		10 uL	10 uL		
LCS 680-757067/12		8015C GLY		1 mL		10 uL	10 uL		
LCSD 680-757067/13		8015C GLY		1 mL		10 uL	10 uL		
MB 680-757067/16		8015C GLY		1 mL		10 uL			
580-121547-A-1	AF-RHMW17D-WGN01LF-2212W3	8015C GLY	T	1 mL		10 uL			
580-121547-A-2	AF-RHMW17-WGN01LF-2212W3	8015C GLY	T	1 mL		10 uL			
580-121547-A-3	AF-RHMW06-WGN01LF-2212W3	8015C GLY	T	1 mL		10 uL			
580-121547-A-4	AF-RHMW04-WGN01LF-2212W3	8015C GLY	T	1 mL		10 uL			
580-121547-A-4 MS	AF-RHMW04-WGN01LF-2212W3	8015C GLY	T	1 mL	10 uL	10 uL			
580-121547-A-4 MSD	AF-RHMW04-WGN01LF-2212W3	8015C GLY	T	1 mL	10 uL	10 uL			
CCV 680-757067/26		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

Eurofins FGS, Seattle
5755 8th Street East
Tacoma, WA 98424

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Aaron Olver	Lab PM: Elaine Walker	Carrier Tracking No(s): UPS FedEx 016-831882 80	COC No: 04-221222-23F0104-EUSav
Client Contact:	Phone: 314-595-7610	E-Mail: M.Elaine.Walker@EurofinsET.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: AECOM	PWSID:	Analysis Requested		Job #:
Address: 1001 Bishop St. Suite 1600	Due Date Requested: see subcontract			Preservation Codes: A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4 5, Z other (specify)
City: Honolulu	TAT Requested (days): Rush - ASAP			
State, Zip: Hawaii 96813	Compliance Project: Δ Yes Δ No			
Phone: 808-954-4512 / 808-356-5311	PO #:			Other:
Email: Watson Tanji (watson.tanji@aecom.com); Brant Landers (brant.landers@aecom.com)	WO #:			
Project Name: CTO N6274223F0104	Project #: 60697810			
Site: RHSF	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, Oil, Tissue, Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015C DAI GL DS/ 2-(2-butoxyethoxy)-ethanol	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
AF-RHMW17D-WGN01LF-2212W3	12/22/22	1740	G	W	N	N	X	3	

12/22/22

12/22/22

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ■ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQuIS EDD.

Special Instructions/QC Requirements: DOD QSM project

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Aaron Olver	12/22/22 1510	AECOM		12/22/22 1510	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

12/30/2022
7:07 PM

Eurofins FGS, Seattle
5755 8th Street East
Tacoma, WA 98424

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Aaron Oliver	Lab PM: Elaine Walker	Carrier Tracking No(s): United ~~FedEx~~ 016-83188281	COC No: 03-221222-23F0104-EUSav
Client Contact:	Phone: 314-585-7610	E-Mail: M.Elaine.Walker@EurofinsET.com	State of Origin: Hawaii	Page: Page 1 of 1

Company: AECOM	PWSID:	Job #:
Address: 1001 Bishop St. Suite 1600	Due Date Requested: see subcontract	
City: Honolulu	TAT Requested (days): Rush - ASAP	
State, Zip: Hawaii 96813	Compliance Project: Δ Yes Δ No	
Phone: 808-954-4512 / 808-356-5311	PO #:	
Email: Watson Tanji (watson.tanji@aecom.com)/ Brant Landers (brant.landers@aecom.com)	WO #:	
Project Name: CTO N6274223F0104	Project #: 60697810	
Site: RHSF	SSOW#:	

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015C_DAI_GL_D5/ 2-(2-butoxyethoxy)-ethanol	Total Number of containers	Special Instructions/Note:
				Preservation Code:			A		
AF-RHMW17-WGN01LF-2212W3	12/22/22	1610	G	W	N	N	X	3	

12/22/22

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ______ Months

Deliverable Requested: I, II, III, IV, Other (specify) Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQuIS EDD.

Special Instructions/QC Requirements: DOD QSM project.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by: (signature) Aaron Oliver	12/22/22 1510	AECOM	Received by: (signature)	12/22/22 1510	AECOM
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

12/30/2022 7:07 PM

Eurofins FGS, Seattle
5755 8th Street East
Tacoma, WA 98424

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Tianzhen Nie	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx United 016-83188280	COC No: 02-221222-23F0104-EUSav
Client Contact:	Phone: 808-382-8654	E-Mail: M.Elaine.Walker@EurofinsET.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: AECOM	PWSID:			Job #:

Client Information		Analysis Requested
Address: 1001 Bishop St. Suite 1600	Due Date Requested: see subcontract	
City: Honolulu	TAT Requested (days): Rush - ASAP	
State, Zip: Hawaii 96813	Compliance Project: Δ Yes Δ No	
Phone: 808-954-4512 / 808-356-5311	PO #:	
Email: Watson Tang (watson.tang@aecom.com) / Brant Landers (brant.landers@aecom.com)	WO #:	
Project Name: CTO N6274223F0104	Project #: 60697810	
Site: RHSF	SSOW#:	

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015C_DAI_GL_D5/ 2-(2-butoxyethoxy)-ethanol	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
AF-RHMW06-WGN01LF-2212W3	12/22/22	1140	G	W	N	N	X	3	

Tn 12/22/22
MD 12/22/22

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ■ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify) Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQuIS EDD

Special Instructions/QC Requirements: DOD QSM project.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Tianzhen Nie	12/22/22 1510	AECOM	Miranda Debarmo	12/22/22 1510	AECOM
Miranda Debarmo	12/23/22 1[illegible]	AECOM			

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins FGS, Seattle
5755 8th Street East
Tacoma, WA 98424

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Tianzhen Nie	Lab PM: Elaine Walker	Carrier Tracking No(s): ~~EDEX~~ 016 823 882 80	COC No: 01-221222-23F0104-EUSav
Client Contact:	Phone: 808-392-8654	E-Mail: M.Elaine.Walker@EurofinsET.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: AECOM	PWSID:	Analysis Requested		Job #:
Address: 1001 Bishop St. Suite 1600	Due Date Requested: see subcontract			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
City: Honolulu	TAT Requested (days): Rush - ASAP			
State, Zip: Hawaii 96813	Compliance Project: Δ Yes Δ No			
Phone: 808-954-4512 / 808-356-5311	PO #:			
Email: Watsoq Tanji (watson.tanji@aecom.com)/ Brant Landers (brant.landers@aecom.com)	WO #:			
Project Name: CTO N6274223F0104	Project #: 60697810			
Site: RHSF	SSOW#:			Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Oil/waste, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015C DAI GL DS/ 2-(2-butoxyethoxy)-ethanol	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
AF-RHMW04-WGN01LF-2212W3	12/22/22	1405	G	W	N	N	X	3	

MD 12/22/22

fr 12/22/22

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
■ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ■ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQuIS EDD.
Special Instructions/QC Requirements: DOD QSM project.	
Empty Kit Relinquished by:	Date: Time: Method of Shipment:

Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Tianzhen Nie	12/22/22 1510	AECOM	Miranda DeGarmo	12/22/22 1510	AECOM
Relinquished by: Miranda DeGarmo	Date/Time: 12/22/22 1710	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins FGS, Seattle
5755 8th Street East
Tacoma, WA 98424

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Aaron Oliver	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: 04-221222-23F0104-EUSav
Client Contact:	Phone: 314-585-7613	E-Mail: M.Elaine.Walker@EurofinsET.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: AECOM	PWSID:			Job #:
Address: 1001 Bishop St. Suite 1600	Due Date Requested: see subcontract			
City: Honolulu	TAT Requested (days): Rush - ASAP			
State, Zip: Hawaii 96813	Compliance Project: Δ Yes Δ No			
Phone: 808-954-4512 / 808-356-5311	PO #:			
Email: Watson Tanji (watson.tanji@aecom.com)/ Brant Landers (brant.landers@aecom.com)	WO #:			
Project Name: CTO N6274223F0104	Project #: 60697810			
Site: RHSF	SSOW#:			

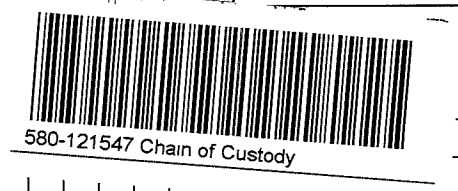
Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015C_DAI_GL_D5/2-(2-butoxyethoxy)-ethanol	Total Number of containers	Special Instructions/Note:
			Preservation Code				A		
RF-RHMW17D-WGN01LF-2212W3	12/22/22	1740	G	W	N	N	X	3	

12/22/22

12/22/22



Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
■ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ■ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I II III IV Other (specify)

Prelim data (Level 1or2)=see TAT above DoD Stage 4 report standard TAT. AECOM EQuIS EDD.

Special Instructions/QC Requirements: DOD QSM project.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Aaron Oliver	12/22/22 1510	AECOM		12/22/22 1537	AECOM
2		12/22/22 1740			12/22/22 1230	
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks	
		5.6	5.6

Ver: 01/16/2019

12/30/2022 7:07 PM

Eurofins FGS, Seattle
5755 8th Street East
Tacoma, WA 98424

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Aaron Oliver	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: 03-221222-23F0104-EUSav
Client Contact:	Phone: 314-585-7610	E-Mail: M.Elaine.Walker@EurofinsET.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: AECOM	PWSID:	Analysis Requested		Job #:
Address: 1001 Bishop St. Suite 1600	Due Date Requested: see subcontract			Preservation Codes: A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify), Other:
City: Honolulu	TAT Requested (days): Rush - ASAP			
State, Zip: Hawaii 96813	Compliance Project: Δ Yes Δ No			
Phone: 808-954-4512 / 808-356-5311	PO #:			
Email: Watson Tanji (watson.tanji@aecom.com)/ Brant Landers (brant.landers@aecom.com)	WO #:			
Project Name: CTO N6274223F0104	Project #: 60697810			
Site: RHSF	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015C_DAI_GL_D5/ 2-(2-butoxyethoxy)-ethanol	Total Number of containers	Special Instructions/Note:
			Preservation Code				A		
AAF-RHMW17-WGN01LF-2212W3	12/22/22	1610	G	W	N	N	X	3	

12/22/22

12/22/22

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II III IV Other (specify)

Prelim data (Level 1or2)=see TAT above DoD Stage 4 report standard TAT. AECOM EQuIS EDD

Special Instructions/QC Requirements. DOD QSM project.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Aaron Oliver	12/22/22 1510	AECOM		12/22/22	AECOM
2		12/22/22 1610			12/22/22 1230	
3						

Custody Seals Intact: Δ Yes Δ No | Custody Seal No

Cooler Temperature(s) °C and Other Remarks: 5.6/5.6

Ver: 01/16/2019

Eurofins FGS, Seattle
5755 8th Street East
Tacoma, WA 98424

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Tianzhen Nie	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: 01-221222-23F0104-EUSav
Client Contact:	Phone: 808-392-8654	E-Mail: M Elaine Walker@EurofinsET com	State of Origin: Hawaii	Page: Page 1 of 1
Company: AECOM	PWSID			Job #:

Address: 1001 Bishop St. Suite 1600	Due Date Requested: see subcontract
City: Honolulu	TAT Requested (days): Rush - ASAP
State, Zip: Hawaii 96813	Compliance Project: Δ Yes Δ No
Phone: 808-954-4512 / 808-356-5311	PO #:
Email: Watson Tanji (watson.tanji@aecom.com)/ Brant Landers (brant.landers@aecom.com)	WO #:
Project Name: CTO N6274223F0104	Project #: 60697810
Site: RHSF	SSOW#:

Analysis Requested

Preservation Codes.

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S H2SO4
H Ascorbic Acid	T TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015C_DAI_GL_DS/ 2-(2-butoxyethoxy)-ethanol	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
AF-RHMW04-WGN01LF-2212W3	12/22/22	1405	G	W	N	N	X	3	

MD 12/22/22

JH 12/22/22

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ■ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II, III, IV, Other (specify)

Prelim data (Level 1or2)=see TAT above DoD Stage 4 report standard TAT. AECOM EQuIS EDD.

Special Instructions/QC Requirements. DOD QSM project.

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Tianzhen Nie	12/22/22 1510	AECOM	Miranda DeGarmo	12/22/22 1510	AECOM
Relinquished by: Miranda DeGarmo	Date/Time: 12/26/22 1400	Company	Received by:	Date/Time: 12/27/22 1230	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks:
		5.6/5.6

Ver: 01/16/2019

12/30/2022 7:07 PM

Eurofins FGS, Seattle
5755 8th Street East
Tacoma WA 98424

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Tianzhen Nie	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: 02-221222-23F0104-EUSav
Client Contact:	Phone: 808-382-8654	E-Mail: M Elaine Walker@EurofinsET com	State of Origin: Hawaii	Page: Page 1 of 1
Company: AECOM	PWSID	Analysis Requested		Job #:
Address: 1001 Bishop St. Suite 1600	Due Date Requested: see subcontract			Preservation Codes: A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify); Other:
City: Honolulu	TAT Requested (days): Rush - ASAP			
State, Zip: Hawaii 96813	Compliance Project: Δ Yes Δ No			
Phone: 808-954-4512 / 808-356-5311	PO #:			
Email: Watson Tanji (watson.tanji@aecom.com)/ Brant Landers (brant.landers@aecom.com)	WO #:			
Project Name: CTO N6274223F0104	Project #: 60697810			
Site: RHSF	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015C_DAI_GL_DS/ 2-(2-butoxyethoxy)-ethanol	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
AF-RHMW06-WGN01LF-2212W3	12/22/22	1140	G	W	N	N	X	3	

MD 12/22/22

JM 12/22/22

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
■ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ■ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II III IV, Other (specify): Prelim data (Level 1or2)=see TAT above DoD Stage 4 report standard TAT. AECOM EQuIS EDD.

Special Instructions/QC Requirements DOD QSM project.

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Tianzhen Nie	12/22/22 1510	AECOM	Miranda Debarmo	12/22/22 1570	AECOM
Miranda Debarmo	12/22/22			12/27/22 1230	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No:

Cooler Temperature(s) °C and Other Remarks: 5.6/5.6

Ver: 01/16/2019

12/30/2022 7:07 PM