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ANALYTICAL REPORT

PREPARED FOR

Attn: Terri Choy
AECOM
1001 Bishop Street
Honolulu HI 96813

Generated 8/24/2023 9:31 AM

JOB DESCRIPTION

Red Hill - AFFF Assessment Sampling

JOB NUMBER

580-130608-1

Eurofins Seattle
5755 8th Street East
Tacoma WA 98424

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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
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Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
Q	One or more quality control criteria failed.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: 580-130608-1

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

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

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

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

RECEIPT

The samples were received on 08/16/2023; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.4 C.

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

GLYCOLS

Sample AF-HDMW225303-WGN01LF-2308 (580-130608-1) was analyzed for glycols in accordance with EPA SW-846 Method 8015B - DAI. The samples were analyzed on 08/23/2023.

Internal standard (ISTD) response for the following matrix spike sample was outside of acceptance limits: AF-HDMW225303-WGN01LF-2308MS (580-130608-1MS) in batch 680-794740. The parent sample and the matrix spike duplicate sample were within ISTD acceptance limits. The matrix spike ISTD was low biased causing the target analyte to recover high. The MSD was within recovery limits for the target analyte and the parent sample was non-detect; therefore, the data has been reported.

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

Detection Summary

Client: AECOM
Job ID: 580-130608-1
Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-HDMW225303-WGN01LF-2308 **Lab Sample ID: 580-130608-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: AF-HDMW225303-WGN01LF-2308
Lab Sample ID: 580-130608-1

Date Collected: 08/11/23 10:35
Matrix: Water
Date Received: 08/16/23 10:30

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 J1	5.0	1.1	mg/L			08/23/23 16:34	1

Default Detection Limits

Client: AECOM
Job ID: 580-130608-1
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 680-794740/11
Matrix: Water
Analysis Batch: 794740

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			08/23/23 16:11	1

Lab Sample ID: LCS 680-794740/1007
Matrix: Water
Analysis Batch: 794740

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	17.6		mg/L		88	50 - 150		

Lab Sample ID: LCSD 680-794740/8
Matrix: Water
Analysis Batch: 794740

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	16.6		mg/L		83	50 - 150	6	50

Lab Sample ID: 580-130608-1 MS
Matrix: Water
Analysis Batch: 794740

Client Sample ID: AF-HDMW225303-WGN01LF-2308
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 J1	20.0	34.6	J1 Q	mg/L		173	50 - 150		

Lab Sample ID: 580-130608-1 MSD
Matrix: Water
Analysis Batch: 794740

Client Sample ID: AF-HDMW225303-WGN01LF-2308
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 J1	20.0	26.8		mg/L		134	50 - 150	25	50

QC Association Summary

Client: AECOM
Job ID: 580-130608-1
Project/Site: Red Hill - AFFF Assessment Sampling

GC Semi VOA

Analysis Batch: 794740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-130608-1	AF-HDMW225303-WGN01LF-2308	Total/NA	Water	8015C GLY	
MB 680-794740/11	Method Blank	Total/NA	Water	8015C GLY	
LCS 680-794740/1007	Lab Control Sample	Total/NA	Water	8015C GLY	
LCSD 680-794740/8	Lab Control Sample Dup	Total/NA	Water	8015C GLY	
580-130608-1 MS	AF-HDMW225303-WGN01LF-2308	Total/NA	Water	8015C GLY	
580-130608-1 MSD	AF-HDMW225303-WGN01LF-2308	Total/NA	Water	8015C GLY	

Lab Chronicle

Client: AECOM
Job ID: 580-130608-1
Project/Site: Red Hill - AFFF Assessment Sampling

Client Sample ID: AF-HDMW225303-WGN01LF-2308
Lab Sample ID: 580-130608-1

Date Collected: 08/11/23 10:35
Matrix: Water
Date Received: 08/16/23 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015C GLY		1	794740	DBM	EET SAV	08/23/23 16:34

Laboratory References:

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

Accreditation/Certification Summary

Client: AECOM
Job ID: 580-130608-1
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: 580-130608-1
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: 580-130608-1
Project/Site: Red Hill - AFFF Assessment Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-130608-1	AF-HDMW225303-WGN01LF-2308	Water	08/11/23 10:35	08/16/23 10:30

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
SG_Gly_CAL_00053	12/27/23	o2si, Lot 480919			(Purchased Reagent)		2,2'-Oxybisethanol	2000 ug/mL
							2-(2-Butoxyethoxy)ethanol	2000 ug/mL
							2-Butoxyethanol	2000 ug/mL
							4-Hydroxy-4-methyl-2-pentanone	2000 ug/mL
							Dipropylene Glycol Methyl Ether	2000 ug/mL
							Ethanol, 2-propoxy	2000 ug/mL
							Ethylene glycol	2000 ug/mL
							Propylene glycol	2000 ug/mL
							Tetraethylene Glycol	4000 ug/mL
							Triethylene Glycol	2000 ug/mL
SG_Gly_CAL_00056	01/17/24	o2si, Lot 500821			(Purchased Reagent)		2-(2-Butoxyethoxy)ethanol	2000 ug/mL
SG_GLY_ISTD_00126	02/22/24	Agilent, Lot 0006738806			(Purchased Reagent)		n-Heptyl Alcohol	5000 ug/mL
SG_GLY_ISTD_00128	05/31/25	Agilent, Lot 0006738806			(Purchased Reagent)		n-Heptyl Alcohol	5000 ug/mL
SG_GlyICV_00062	05/02/24	o2si, Lot 454407			(Purchased Reagent)		2-(2-Butoxyethoxy)ethanol	2000 ug/mL

Reagent

SG_Gly_CAL_00053

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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	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:

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

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**

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

Reagent

SG_Gly_CAL_00056

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Chemical Testing Lab
Cert. No. 3031.01

o2si
smart solutions®

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ISO 17034 Accredited
Reference Material Producer
Cert. No. 3031.02

Certificate of Analysis

Catalog No.	Lot No.	Storage	Solvent	Date Received	Exp. Date
G34-120070-04-SS	507036	≤ -10 °C	P/T Methanol		31-Jul-2025

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	2006 ± 25	mg/L
diethylene glycol butyl ether	112-34-5	99.8	2323.7.2.1S	2000 ± 25	mg/L
propyl cellosolve	2807-30-9	99.9	1570.7.2.1S	1994 ± 25	mg/L
dipropylene glycol monomethyl ether	34590-94-8	99.7	2333.7.2.1S	2018 ± 25	mg/L
ethylene glycol	107-21-1	99.9	307.1.5.1S	2002 ± 24	mg/L
di(ethylene glycol)	111-46-6	99.5	309.7.2.1S	2006 ± 25	mg/L
tri(ethylene glycol)	112-27-6	100	310.7.4.1S	2004 ± 25	mg/L
4-Hydroxy-4-methyl-2-pentanone	123-42-2	98	2334.286.1.1S	2003 ± 47	mg/L
1,2-propanediol	57-55-6	99.9	306.9.4.1S	2010 ± 25	mg/L
tetraethylene glycol	112-60-7	98	3754.7.1.1S	3998 ± 47	mg/L

Intended Uses:

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

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

Certificate of Analysis

Catalog No. G34-120070-04-SS **Lot No.** 507036 **Expiration Date** 31 -Jul-2025

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

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 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:

Andrea Schaible
1 -Aug-2023
Production Chemist I

Certified By:

Jared Ball
14 -Aug-2023
Quality Control Chemist II

Released By:

Susan Mathews
14 -Aug-2023
Quality Control Team Lead

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

Certificate of Analysis

Catalog No. G34-120070-04-SS **Lot No.** 507036 **Expiration Date** 31 -Jul-2025

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 31-Jul-2025

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:

Andrea Schaible

1 -Aug-2023

Production Chemist I

Certified By:

Jared Ball

14 -Aug-2023

Quality Control Chemist II

Released By:

Susan Mathews

14 -Aug-2023

Quality Control Team Lead

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Reagent

SG_GLY_ISTD_00126

Agilent

Trusted Answers

ISO 17034

Reference Material Certificate

Product Information Sheet

Product Name: Custom Standard

Product Number: CUS-6046

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

Lot Number: 0006738806

Lot Issue Date: 05-Apr-2023

Expiration Date: 31-May-2025

Component Name	Concentration		Uncertainty	CAS#	Analyte Lot
n-heptanol	5008	±	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 (RM) 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. Purity values are taken from approved vendor raw material certificates.

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 (RM) 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 (RM) 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 (RM) 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.

Agilent

Trusted Answers

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

ANAB
ANSI National Accreditation Board
ACCREDITED
ISO 17034
REFERENCE MATERIAL PRODUCER

ISO 17034 Cert
No. AR-1936

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

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

ISO 17025

Reagent

SG_GLY_ISTD_00128

Agilent

Trusted Answers

ISO 17034

Reference Material Certificate

Product Information Sheet

Product Name: Custom Standard

Product Number: CUS-6046

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

Lot Number: 0006738806

Lot Issue Date: 05-Apr-2023

Expiration Date: 31-May-2025

Component Name	Concentration		Uncertainty	CAS#	Analyte Lot
n-heptanol	5008	±	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 (RM) 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. Purity values are taken from approved vendor raw material certificates.

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 (RM) 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 (RM) 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 (RM) 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.

Agilent

Trusted Answers

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

ANAB
ANSI National Accreditation Board
ACCREDITED
ISO 17034
REFERENCE MATERIAL PRODUCER

ISO 17034 Cert
No. AR-1936

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

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

ISO 17025

Reagent

SG_GlyICV_00062

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 ± 100	mg/L
di(ethylene glycol)	111-46-6	99.5	309.7.2P	1994 ± 100	mg/L
tri(ethylene glycol)	112-27-6	99.9	310.7.2.1.1P	1974 ± 110	mg/L
4-Hydroxy-4-methyl-2-pentanone	123-42-2	98	2334.286.1P	1991 ± 110	mg/L
1,2-propanediol	57-55-6	99.5	306.9.3P	1998 ± 100	mg/L
tetraethylene glycol	112-60-7	98	3754.7.1P	3959 ± 200	mg/L

Intended Uses:

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

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

Certificate of Analysis

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 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

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.: 580-130608-1

SDG No.:

Matrix: Water Level: Low Lab File ID: -1GH23007-LCS.d

Lab ID: LCS 680-794740/1007 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
2-(2-Butoxyethoxy)ethanol	20.0	17.6	88	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.: 580-130608-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 1GH23008.D

Lab ID: LCSD 680-794740/8 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	16.6	83	6	50	50-150	

Column to be used to flag recovery and RPD values

FORM III 8015C GLY

FORM III
GC SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 1GH23013.D

Lab ID: 580-130608-1 MS Client ID: AF-HDMW225303-WGN01LF-2308 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	34.6	173	50-150	J1 Q

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.: 580-130608-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 1GH23014.D

Lab ID: 580-130608-1 MSD Client ID: AF-HDMW225303-WGN01LF-2308 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	26.8	134	25	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.: 580-130608-1

SDG No.:

Lab Sample ID: MB 680-794740/11

Matrix: Water Date Extracted:

Lab File ID:(1) 1GH23011.D Lab File ID:(2)

Date Analyzed:(1) 08/23/2023 16:11 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 680-794740/1007	08/23/2023 14:39	
	LCSD 680-794740/8	08/23/2023 15:02	
AF-HDMW225303-WGN01LF-2308	580-130608-1	08/23/2023 16:34	
AF-HDMW225303-WGN01LF-2308 MS	580-130608-1 MS	08/23/2023 16:57	
AF-HDMW225303-WGN01LF-2308 MSD	580-130608-1 MSD	08/23/2023 17:20	

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

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Sample No.: ICIS 680-793960/7 Date Analyzed: 08/17/2023 19:03

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

Lab File ID (Standard): 1GH16007.D Heated Purge: (Y/N) N

Calibration ID: 91736

		nHPA					
		AREA #	RT #	#	RT #	#	RT #
INITIAL CALIBRATION MID-POINT		4176366	2.39				
UPPER LIMIT		8352732	2.89				
LOWER LIMIT		2088183	1.89				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 680-793960/11 CCV		3743334	2.38				

nHPA = n-Heptyl Alcohol

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

Column used to flag values outside QC limits

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

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Sample No.: CCVIS 680-794740/7 Date Analyzed: 08/23/2023 14:39

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

Lab File ID (Standard): 1GH23007.D Heated Purge: (Y/N) N

Calibration ID: 91736

		nHPA					
		AREA #	RT #	#	RT #	#	RT #
12/24 HOUR STD		4228118	2.38				
UPPER LIMIT		8456236	2.88				
LOWER LIMIT		2114059	1.88				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 680-794740/1007		4228118	2.38				
LCSD 680-794740/8		4363085	2.38				
MB 680-794740/11		4524171	2.38				
580-130608-1	AF-HDMW225303-WGN01 LF-2308	3799053	2.38				
580-130608-1 MS	AF-HDMW225303-WGN01 LF-2308 MS	2003719Q	2.37				
580-130608-1 MSD	AF-HDMW225303-WGN01 LF-2308 MSD	2723316	2.38				

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

Q=One or more quality control criteria failed.

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah | Job No.: 580-130608-1

SDG No.:

Client Sample ID: AF-HDMW225303-WGN01LF-2308 | Lab Sample ID: 580-130608-1

Matrix: Water | Lab File ID: 1GH23012.D

Analysis Method: 8015C GLY | Date Collected: 08/11/2023 10:35

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 08/23/2023 16:34

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.: 794740 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	3.0	U J1	5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File:	\\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23012.D				
Lims ID:	580-130608-C-1				
Client ID:	AF-HDMW225303-WGN01LF-2308				
Sample Type:	Client				
Inject. Date:	23-Aug-2023 16:34:46	ALS Bottle#:	0	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	680-0088533-012				
Operator ID:		Instrument ID:	CVGG2		
Method:	\\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\8015_GLY_VGG.m				
Limit Group:	8015C_DAI				
Last Update:	24-Aug-2023 09:38:41	Calib Date:	17-Aug-2023 20:12:31		
Integrator:	Falcon				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D				
Column 1 :	J&W DB WAX (0.45 mm)		Det: GC FID2B		
Process Host:	CTX1635				

First Level Reviewer: AR8P Date: 24-Aug-2023 09:37:49

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
*	4 n-Heptyl Alcohol					
	2.378	2.381	-0.003	3799053	50.0	
	7 Ethylene glycol					
	3.798	3.776	0.022	63808	1.23	
	9 2,2'-Oxybisethanol					
	7.270	7.215	0.055	103272	2.81	

QC Flag Legend

Processing Flags

Reagents:

SG_GLY_ISTD_00126 Amount Added: 10.00 Units: uL Run Reagent

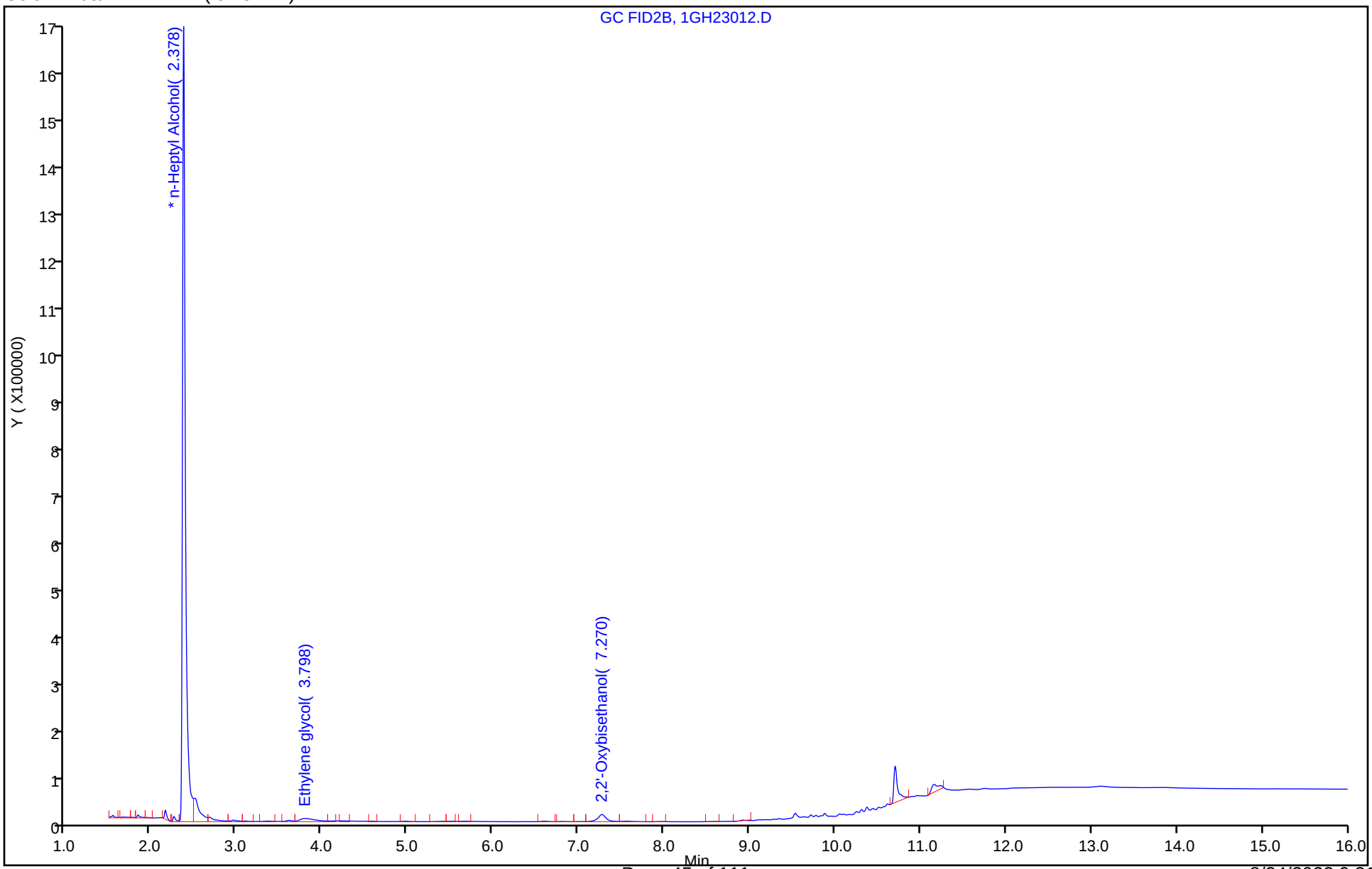
Report Date: 24-Aug-2023 09:38:43 Chrom Revision: 2.3 21-Aug-2023 17:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23012.D

Injection Date:	23-Aug-2023 16:34:46	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	580-130608-C-1	Lab Sample ID:	680-130608-1	Worklist Smp#:	12
Client ID:	AF-HDMW225303-WGN01LF-2308				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



8/24/2023 9:31 AM

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

Lab Name: Eurofins Savannah Job No.: 580-130608-1 Analy Batch No.: 793960

SDG No.:

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

Calibration Start Date: 08/17/2023 17:54 Calibration End Date: 08/17/2023 20:12 Calibration ID: 91736

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-793960/10	1GH16010.D
Level 2	IC 680-793960/9	1GH16009.D
Level 3	IC 680-793960/8	1GH16008.D
Level 4	ICIS 680-793960/7	1GH16007.D
Level 5	IC 680-793960/6	1GH16006.D
Level 6	IC 680-793960/5	1GH16005.D
Level 7	IC 680-793960/4	1GH16004.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 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethanol, 2-propoxy	1.3607 0.8349	1.0418 0.8391	1.0563	0.7647	+++++	Lin1	1.1271	0.8190							0.9970		0.9900
4-Hydroxy-4-methyl-2-pentanone	1.4215 0.7846	1.0456 0.7619	1.0050	0.6813	+++++	Lin1	1.3869	0.7483							0.9950		0.9900
2-Butoxyethanol	1.2838 0.8594	0.9847 0.8698	1.0613	0.8002	+++++	Lin2	0.8664	0.8506							0.9900		0.9900
Dipropylene Glycol Methyl Ether	0.1031 0.0646	0.0811 0.0619	0.0774	0.0534	+++++	Lin1	0.0845	0.0613							0.9940		0.9900
Propylene glycol	0.3401 0.2563	0.3246 0.2454	0.3106	0.1915	+++++	Qua	0.2037	0.2338	0.0001379						0.9960		0.9900
Ethylene glycol	0.5812 0.5016	0.5504 0.4520	0.5399	0.4012	+++++	Lin1	0.2657	0.4658							0.9930		0.9900
2-(2-Butoxyethoxy)ethanol	1.2438 0.7521	0.9911 0.7151	0.9455	0.6260	+++++	Lin1	1.1596	0.7103							0.9930		0.9900
2,2'-Oxybisethanol	0.6396 0.3066	0.4238 0.2733	0.3859	0.2413	+++++	Lin	0.5764	0.2787							0.9920		0.9900
Triethylene Glycol	0.7080 0.3490	0.4788 0.3201	0.4207	0.2751	+++++	Lin	0.5125	0.3243							0.9940		0.9900
Tetraethylene Glycol	0.6073 0.3512	0.4632 0.3216	0.4267	0.2917	+++++	Lin1	1.1853	0.3241							0.9930		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.: 580-130608-1 Analy Batch No.: 793960

SDG No.:

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

Calibration Start Date: 08/17/2023 17:54 Calibration End Date: 08/17/2023 20:12 Calibration ID: 91736

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-793960/10	1GH16010.D
Level 2	IC 680-793960/9	1GH16009.D
Level 3	IC 680-793960/8	1GH16008.D
Level 4	ICIS 680-793960/7	1GH16007.D
Level 5	IC 680-793960/6	1GH16006.D
Level 6	IC 680-793960/5	1GH16005.D
Level 7	IC 680-793960/4	1GH16004.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Ethanol, 2-propoxy	nHPA	Lin1	164492 4214411	406268 4760407	630195	1277392	+++++	2.00 80.0	5.00 100	10.0	20.0	+++++
4-Hydroxy-4-methyl-2-pentanone	nHPA	Lin1	171838 3960533	407754 4322432	599595	1138210	+++++	2.00 80.0	5.00 100	10.0	20.0	+++++
2-Butoxyethanol	nHPA	Lin2	155189 4338553	384032 4934444	633168	1336751	+++++	2.00 80.0	5.00 100	10.0	20.0	+++++
Dipropylene Glycol Methyl Ether	nHPA	Lin1	12461 326153	31634 350911	46171	89272	+++++	2.00 80.0	5.00 100	10.0	20.0	+++++
Propylene glycol	nHPA	Qua	41111 1293946	126587 1391962	185307	319960	+++++	2.00 80.0	5.00 100	10.0	20.0	+++++
Ethylene glycol	nHPA	Lin1	70253 2531995	214661 2564083	322108	670304	+++++	2.00 80.0	5.00 100	10.0	20.0	+++++
2-(2-Butoxyethoxy)ethanol	nHPA	Lin1	150360 3796793	386524 4056896	564103	1045753	+++++	2.00 80.0	5.00 100	10.0	20.0	+++++
2,2'-Oxybisethanol	nHPA	Lin	77313 1547981	165278 1550549	230197	403113	+++++	2.00 80.0	5.00 100	10.0	20.0	+++++
Triethylene Glycol	nHPA	Lin	85583 1761702	186713 1815683	251013	459617	+++++	2.00 80.0	5.00 100	10.0	20.0	+++++
Tetraethylene Glycol	nHPA	Lin1	146819 3545601	361250 3648748	509176	974683	+++++	4.00 160	10.0 200	20.0	40.0	+++++

Curve Type Legend

Lin = Linear ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD
Qua = Quadratic ISTD

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

Lab Name: Eurofins Savannah Job No.: 580-130608-1 Analy Batch No.: 793960

SDG No.:

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

Calibration Start Date: 08/17/2023 17:54 Calibration End Date: 08/17/2023 20:12 Calibration ID: 91736

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 680-793960/10	1GH16010.D
Level 2	IC 680-793960/9	1GH16009.D
Level 3	IC 680-793960/8	1GH16008.D
Level 4	ICIS 680-793960/7	1GH16007.D
Level 5	IC 680-793960/6	1GH16006.D
Level 6	IC 680-793960/5	1GH16005.D
Level 7	IC 680-793960/4	1GH16004.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Ethanol, 2-propoxy	-2.7 1.1	-0.3	15.2	-13.5	+++++	0.2	20 20	20	20	20		20
4-Hydroxy-4-methyl-2-pentanone	-2.7 0.0	2.7	15.8	-18.2	+++++	2.5	20 20	20	20	20		20
2-Butoxyethanol	0.0 1.2	-4.6	14.6	-11.0	+++++	-0.2	20 20	20	20	20		20
Dipropylene Glycol Methyl Ether	-0.7 -0.5	4.8	12.5	-19.7	+++++	3.7	20 20	20	20	20		20
Ethylene glycol	-3.7 -3.5	6.8	10.2	-16.7	+++++	7.0	20 20	20	20	20		20
2-(2-Butoxyethoxy)ethanol	-6.5 -1.0	6.9	16.8	-20.0	+++++	3.8	20 20	20	20	20		20
Tetraethylene Glycol	-4.1 -2.6	6.3	13.4	-19.1	+++++	6.1	20 20	20	20	20		20

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16004.D
Lims ID: ic g7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 17-Aug-2023 17:54:22 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088372-004
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 18-Aug-2023 15:05:28 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1627

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	1.745	1.745	0.000	4760407	100.0	101.1	
	2 4-Hydroxy-4-methyl-2-pentanone						
	2.117	2.117	0.000	4322432	100.0	100.0	
	3 2-Butoxyethanol						
	2.218	2.218	0.000	4934444	100.0	101.2	
*	4 n-Heptyl Alcohol						
	2.396	2.396	0.000	2836541	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	2.905	2.905	0.000	350911	100.0	99.5	
	6 Propylene glycol						
	3.489	3.489	0.000	1391962	100.0	98.4	
	7 Ethylene glycol						
	3.765	3.765	0.000	2564083	100.0	96.5	
	8 2-(2-Butoxyethoxy)ethanol						
	5.174	5.174	0.000	4056896	100.0	99.0	
	9 2,2'-Oxybisethanol						
	7.220	7.220	0.000	1550549	100.0	96.0	
	10 Triethylene Glycol						
	9.537	9.537	0.000	1815683	100.0	97.1	
	11 Tetraethylene Glycol						
	10.377	10.377	0.000	3648748	200.0	194.8	

Reagents:

SG_Gly_CAL_00053 Amount Added: 50.00 Units: uL
SG_GLY_ISTD_00128 Amount Added: 10.00 Units: uL Run Reagent

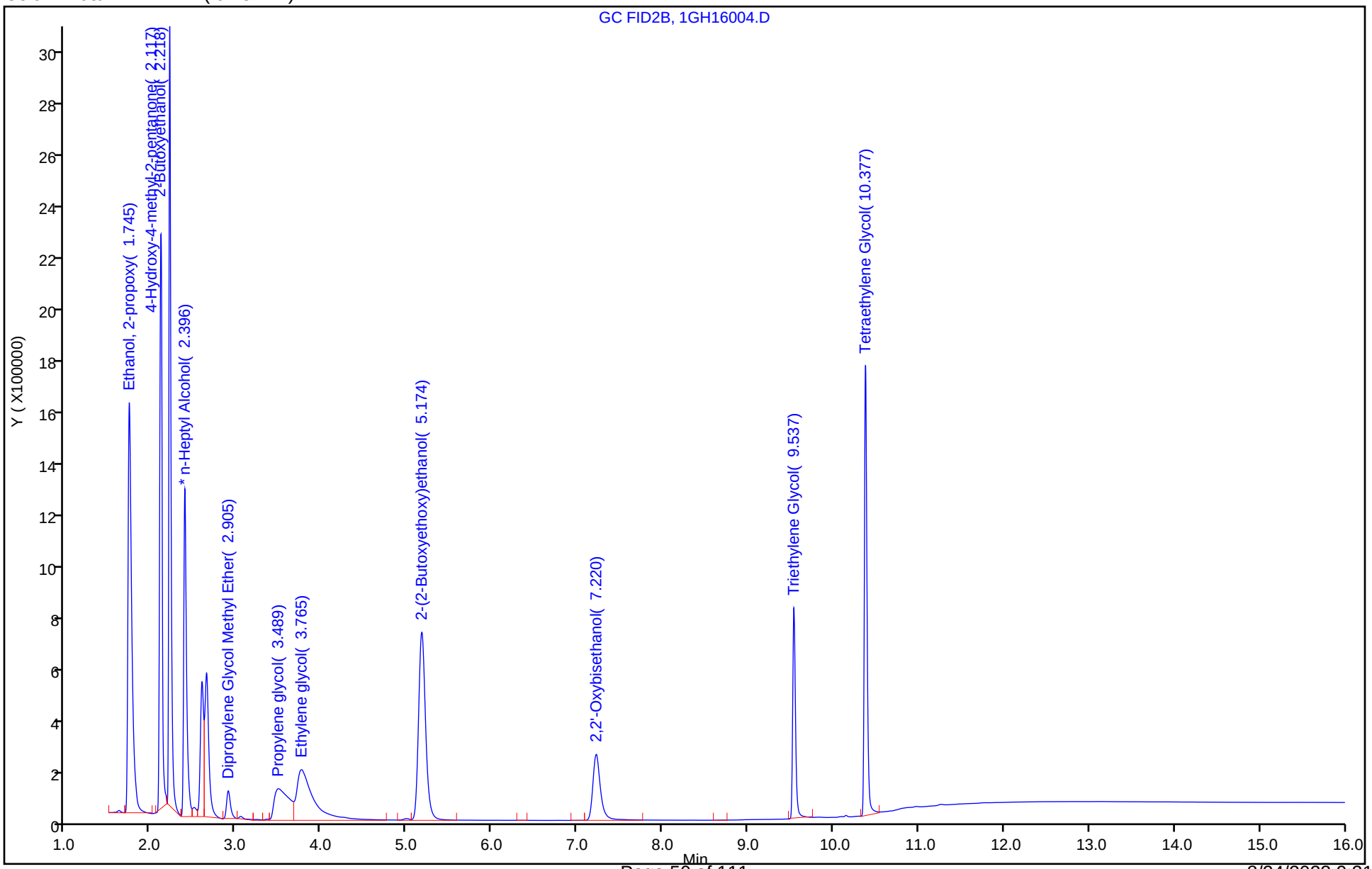
Report Date: 18-Aug-2023 15:05:28 Chrom Revision: 2.3 16-Aug-2023 16:34:04

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16004.D

Injection Date:	17-Aug-2023 17:54:22	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ic g7			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



8/24/2023 9:31 AM

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16005.D
Lims ID: ic g6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 17-Aug-2023 18:17:24 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088372-005
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 18-Aug-2023 15:05:29 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1627

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	1.741	1.745	-0.004	4214411	80.0	80.2	
	2 4-Hydroxy-4-methyl-2-pentanone						
	2.117	2.117	0.000	3960533	80.0	82.0	
	3 2-Butoxyethanol						
	2.217	2.218	-0.001	4338553	80.0	79.8	
*	4 n-Heptyl Alcohol						
	2.392	2.396	-0.004	3155048	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	2.906	2.905	0.001	326153	80.0	82.9	
	6 Propylene glycol						
	3.490	3.489	0.001	1293946	80.0	82.8	
	7 Ethylene glycol						
	3.764	3.765	-0.001	2531995	80.0	85.6	
	8 2-(2-Butoxyethoxy)ethanol						
	5.173	5.174	-0.001	3796793	80.0	83.1	
	9 2,2'-Oxybisethanol						
	7.218	7.220	-0.002	1547981	80.0	85.9	
	10 Triethylene Glycol						
	9.538	9.537	0.001	1761702	80.0	84.5	
	11 Tetraethylene Glycol						
	10.376	10.377	-0.001	3545601	160.0	169.7	

Reagents:

SG_Gly_CAL_00053 Amount Added: 40.00 Units: uL
SG_GLY_ISTD_00128 Amount Added: 10.00 Units: uL Run Reagent

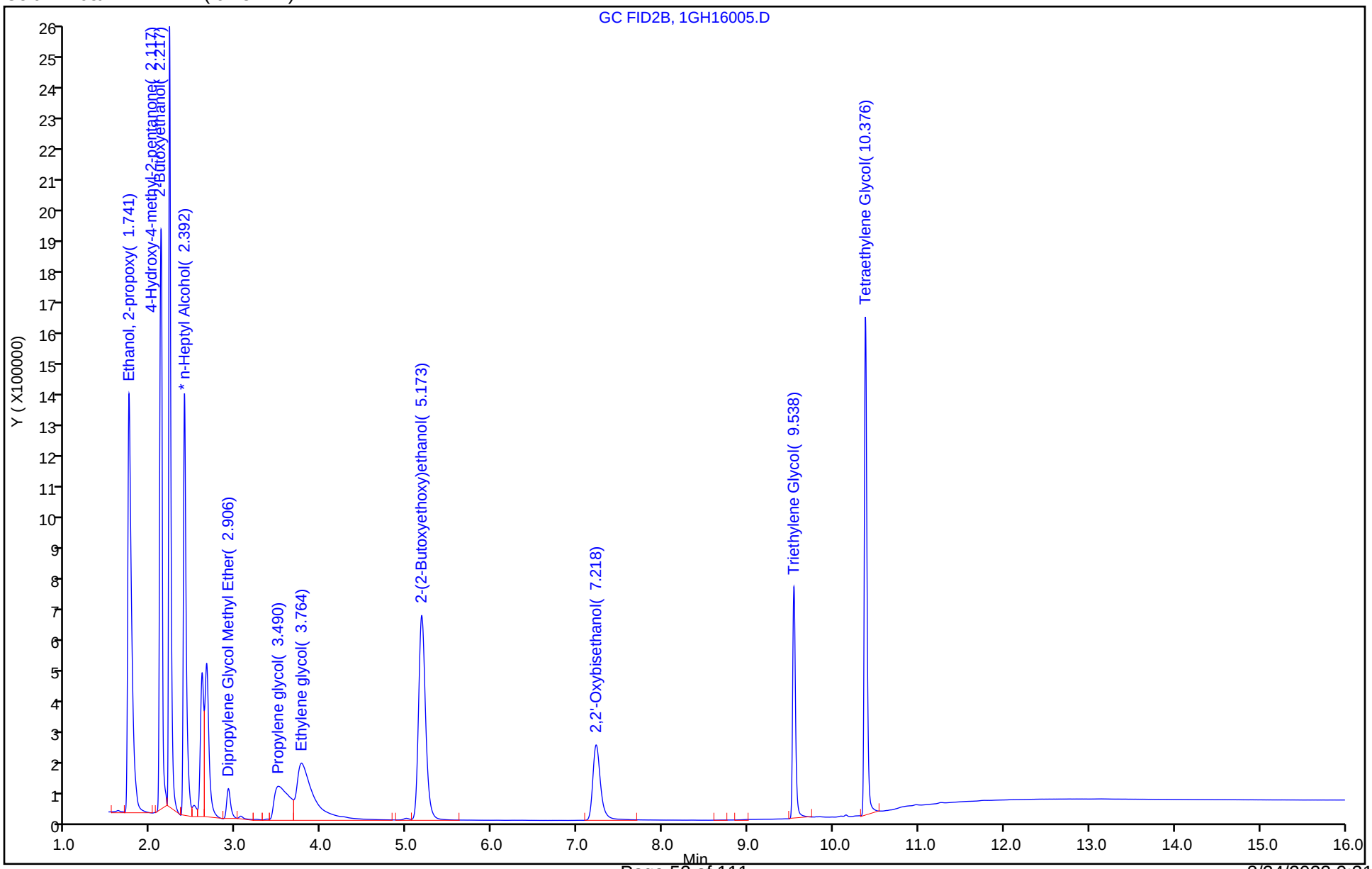
Report Date: 18-Aug-2023 15:05:29 Chrom Revision: 2.3 16-Aug-2023 16:34:04

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16005.D

Injection Date:	17-Aug-2023 18:17:24	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ic g6			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



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Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16006.D
Lims ID: ic g5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 17-Aug-2023 18:40:22 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088372-006
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 18-Aug-2023 15:05:30 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1627

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	1.742	1.745	-0.003	2508696	50.0	71.0	
	2 4-Hydroxy-4-methyl-2-pentanone						
	2.116	2.117	-0.001	2238602	50.0	68.9	
	3 2-Butoxyethanol						
	2.216	2.218	-0.002	2636194	50.0	72.3	
*	4 n-Heptyl Alcohol						
	2.392	2.396	-0.004	2114766	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	2.905	2.905	0.000	176054	50.0	66.5	
	6 Propylene glycol						
	3.506	3.489	0.017	580308	50.0	56.0	
	7 Ethylene glycol						
	3.765	3.765	0.000	1203573	50.0	60.5	
	8 2-(2-Butoxyethoxy)ethanol						
	5.173	5.174	-0.001	2037844	50.0	66.2	
	9 2,2'-Oxybisethanol						
	7.219	7.220	-0.001	702679	50.0	57.5	
	10 Triethylene Glycol						
	9.537	9.537	0.000	764596	50.0	54.2	
	11 Tetraethylene Glycol						
	10.377	10.377	0.000	1553229	100.0	109.7	

Reagents:

SG_Gly_CAL_00053 Amount Added: 25.00 Units: uL
SG_GLY_ISTD_00128 Amount Added: 10.00 Units: uL Run Reagent

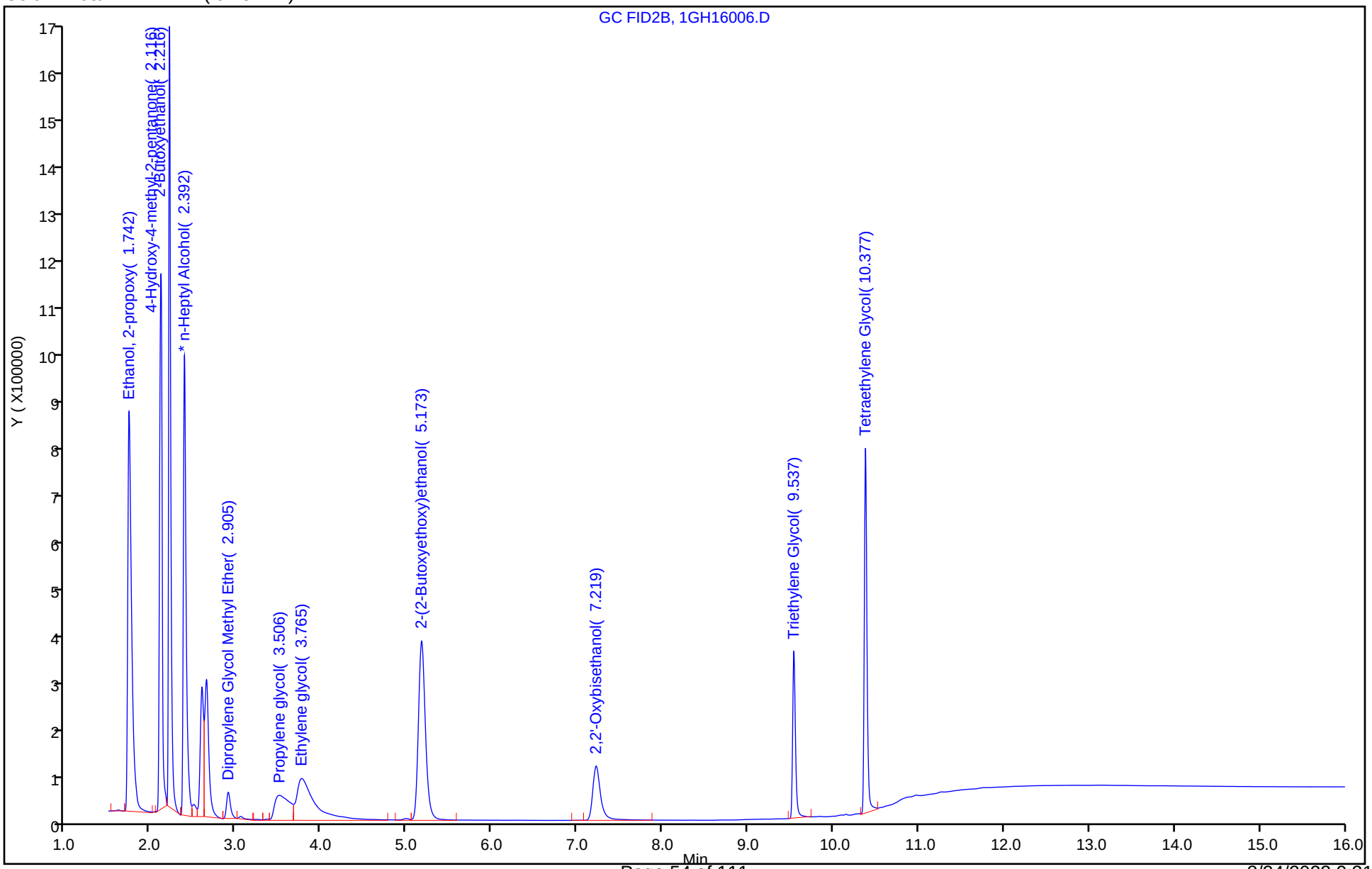
Report Date: 18-Aug-2023 15:05:30 Chrom Revision: 2.3 16-Aug-2023 16:34:04

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16006.D

Injection Date:	17-Aug-2023 18:40:22	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ic g5			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



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Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16007.D
Lims ID: icis g4
Client ID:
Sample Type: ICIS Calib Level: 4
Inject. Date: 17-Aug-2023 19:03:27 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088372-007
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 18-Aug-2023 15:05:31 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1627

First Level Reviewer: AR8P Date: 18-Aug-2023 15:03:25

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	1.741	1.741	0.000	1277392	20.0	17.3	
	2 4-Hydroxy-4-methyl-2-pentanone						
	2.119	2.119	0.000	1138210	20.0	16.4	
	3 2-Butoxyethanol						
	2.216	2.216	0.000	1336751	20.0	17.8	
*	4 n-Heptyl Alcohol						
	2.390	2.390	0.000	4176366	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	2.906	2.906	0.000	89272	20.0	16.1	
	6 Propylene glycol						
	3.505	3.505	0.000	319960	20.0	15.4	
	7 Ethylene glycol						
	3.771	3.771	0.000	670304	20.0	16.7	
	8 2-(2-Butoxyethoxy)ethanol						
	5.172	5.172	0.000	1045753	20.0	16.0	
	9 2,2'-Oxybisethanol						
	7.220	7.220	0.000	403113	20.0	15.2	
	10 Triethylene Glycol						
	9.537	9.537	0.000	459617	20.0	15.4	
	11 Tetraethylene Glycol						
	10.376	10.376	0.000	974683	40.0	32.3	

QC Flag Legend
Processing Flags

Reagents:

SG_Gly_CAL_00053	Amount Added:	10.00	Units: uL	
SG_GLY_ISTD_00128	Amount Added:	10.00	Units: uL	Run Reagent

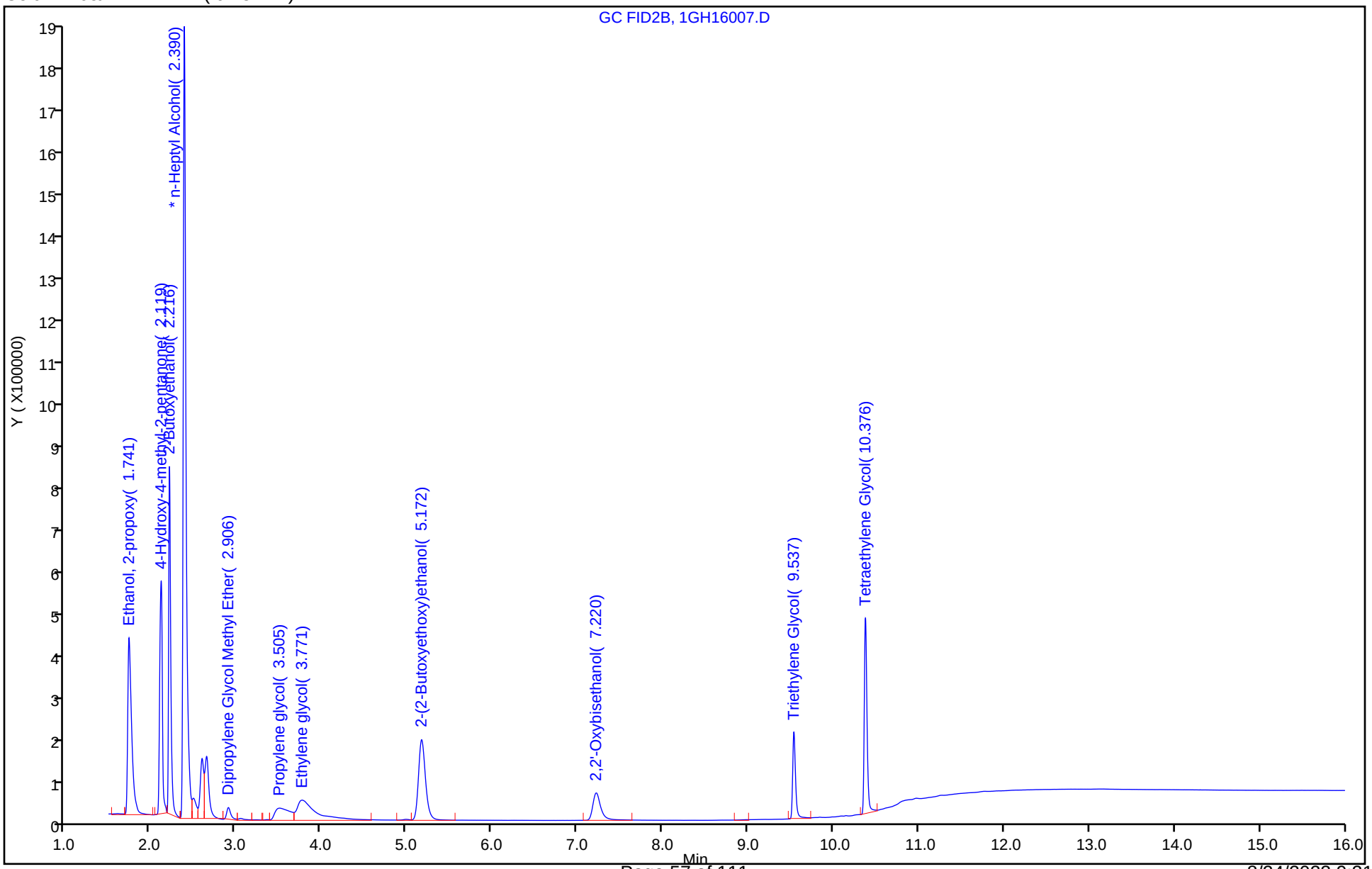
Report Date: 18-Aug-2023 15:05:31 Chrom Revision: 2.3 16-Aug-2023 16:34:04

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16007.D

Injection Date:	17-Aug-2023 19:03:27	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	icis g4			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



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Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16008.D
Lims ID: ic g3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 17-Aug-2023 19:26:25 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088372-008
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 18-Aug-2023 15:05:32 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1627

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	1.744	1.741	0.003	630195	10.0	11.5	
	2 4-Hydroxy-4-methyl-2-pentanone						
	2.123	2.119	0.004	599595	10.0	11.6	
	3 2-Butoxyethanol						
	2.216	2.216	0.000	633168	10.0	11.5	
*	4 n-Heptyl Alcohol						
	2.384	2.390	-0.006	2982943	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	2.913	2.906	0.007	46171	10.0	11.2	
	6 Propylene glycol						
	3.508	3.505	0.003	185307	10.0	12.3	
	7 Ethylene glycol						
	3.773	3.771	0.002	322108	10.0	11.0	
	8 2-(2-Butoxyethoxy)ethanol						
	5.175	5.172	0.003	564103	10.0	11.7	
	9 2,2'-Oxybisethanol						
	7.218	7.220	-0.002	230197	10.0	11.8	
	10 Triethylene Glycol						
	9.538	9.537	0.001	251013	10.0	11.4	
	11 Tetraethylene Glycol						
	10.377	10.376	0.001	509176	20.0	22.7	

Reagents:

SG_Gly_CAL_00053 Amount Added: 5.00 Units: uL
SG_GLY_ISTD_00128 Amount Added: 10.00 Units: uL Run Reagent

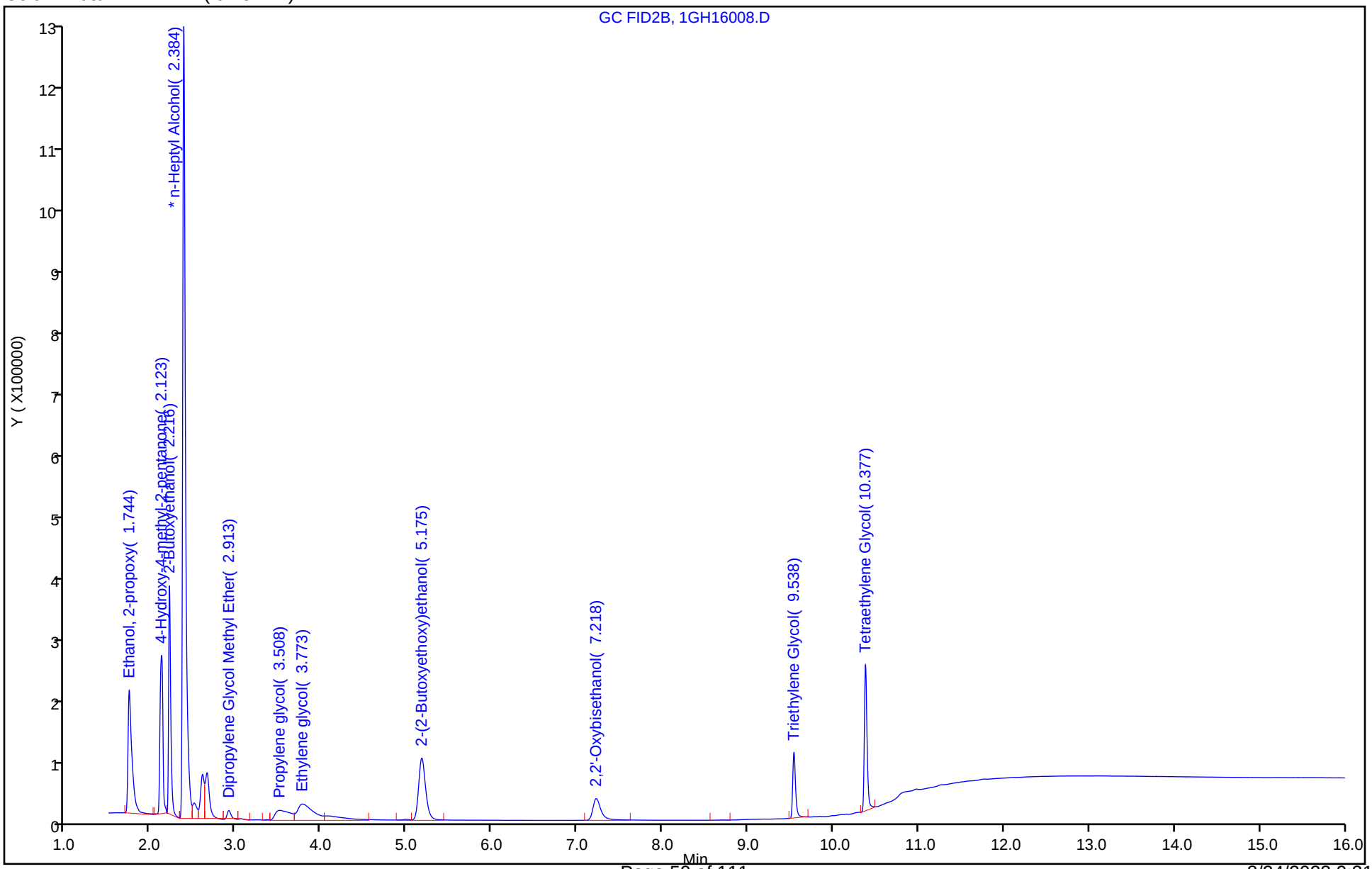
Report Date: 18-Aug-2023 15:05:32 Chrom Revision: 2.3 16-Aug-2023 16:34:04

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16008.D

Injection Date:	17-Aug-2023 19:26:25	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ic g3			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



8/24/2023 9:31 AM

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16009.D
Lims ID: ic g2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 17-Aug-2023 19:49:24 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088372-009
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 18-Aug-2023 15:05:33 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1627

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Ethanol, 2-propoxy						
	1.741	1.741	0.000	406268	5.00	4.98	
2	4-Hydroxy-4-methyl-2-pentanone						
	2.121	2.119	0.002	407754	5.00	5.13	
3	2-Butoxyethanol						
	2.214	2.216	-0.002	384032	5.00	4.77	
*	4 n-Heptyl Alcohol						
	2.384	2.390	-0.006	3899831	50.0	50.0	
5	Dipropylene Glycol Methyl Ether						
	2.910	2.906	0.004	31634	5.00	5.24	
6	Propylene glycol						
	3.509	3.505	0.004	126587	5.00	6.05	
7	Ethylene glycol						
	3.779	3.771	0.008	214661	5.00	5.34	
8	2-(2-Butoxyethoxy)ethanol						
	5.174	5.172	0.002	386524	5.00	5.34	
9	2,2'-Oxybisethanol						
	7.220	7.220	0.000	165278	5.00	5.53	
10	Triethylene Glycol						
	9.537	9.537	0.000	186713	5.00	5.80	
11	Tetraethylene Glycol						
	10.377	10.376	0.001	361250	10.0	10.6	

Reagents:

SG_Gly_CAL_00053 Amount Added: 2.50 Units: uL
SG_GLY_ISTD_00128 Amount Added: 10.00 Units: uL Run Reagent

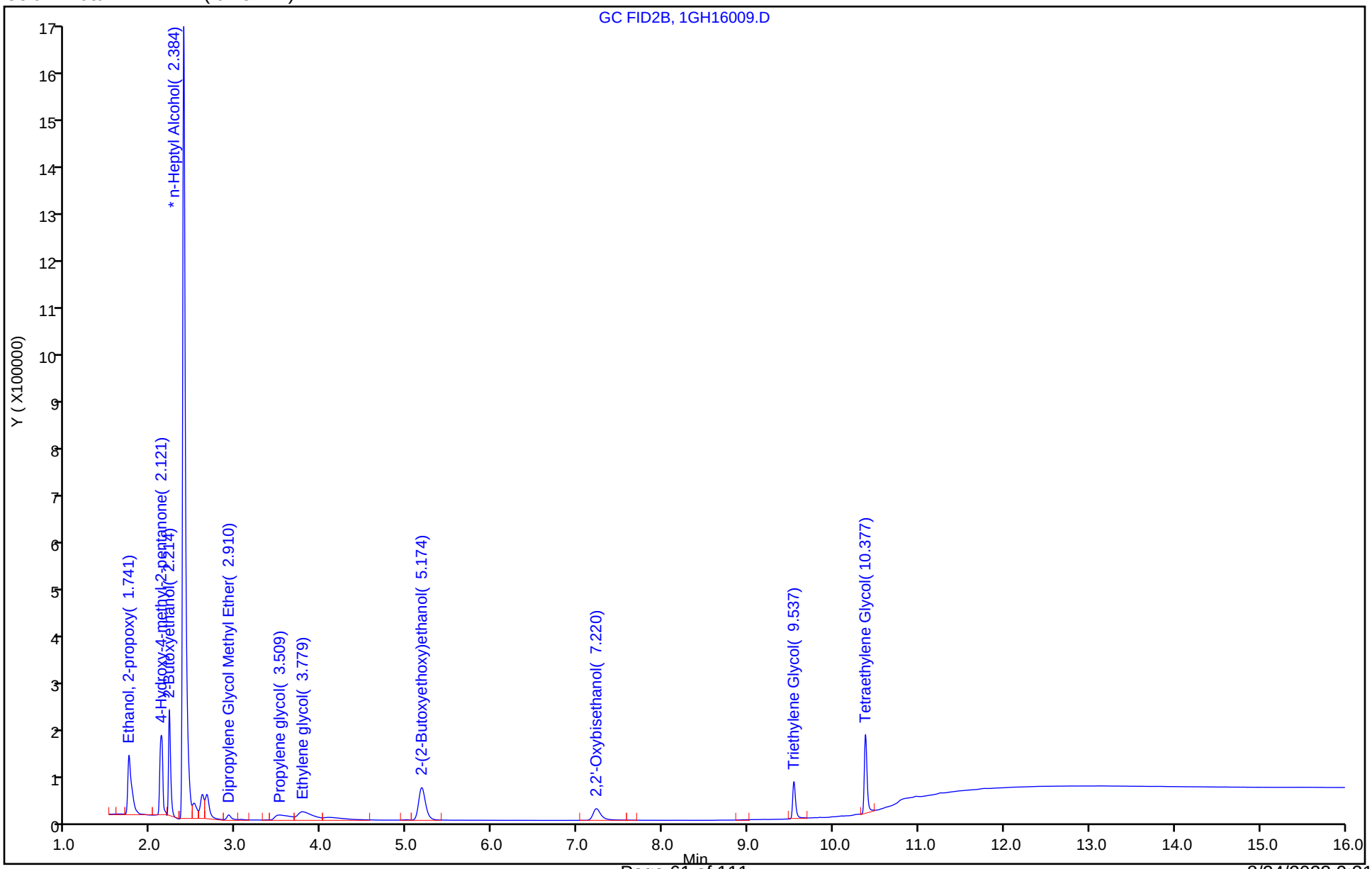
Report Date: 18-Aug-2023 15:05:33 Chrom Revision: 2.3 16-Aug-2023 16:34:04

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16009.D

Injection Date:	17-Aug-2023 19:49:24	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ic g2			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



8/24/2023 9:31 AM

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D
Lims ID: ic g1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 17-Aug-2023 20:12:31 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088372-010
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 18-Aug-2023 15:05:34 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1627

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Ethanol, 2-propoxy						
	1.740	1.741	-0.001	164492	2.00	1.95	
2	4-Hydroxy-4-methyl-2-pentanone						
	2.120	2.119	0.001	171838	2.00	1.95	
3	2-Butoxyethanol						
	2.214	2.216	-0.002	155189	2.00	2.00	
*	4 n-Heptyl Alcohol						
	2.384	2.390	-0.006	3022113	50.0	50.0	
5	Dipropylene Glycol Methyl Ether						
	2.908	2.906	0.002	12461	2.00	1.99	
6	Propylene glycol						
	3.494	3.505	-0.011	41111	2.00	2.04	
7	Ethylene glycol						
	3.778	3.771	0.007	70253	2.00	1.93	
8	2-(2-Butoxyethoxy)ethanol						
	5.174	5.172	0.002	150360	2.00	1.87	
9	2,2'-Oxybisethanol						
	7.219	7.220	-0.001	77313	2.00	2.52	
10	Triethylene Glycol						
	9.539	9.537	0.002	85583	2.00	2.79	
11	Tetraethylene Glycol						
	10.378	10.376	0.002	146819	4.00	3.84	

Reagents:

SG_Gly_CAL_00053 Amount Added: 1.00 Units: uL
SG_GLY_ISTD_00128 Amount Added: 10.00 Units: uL Run Reagent

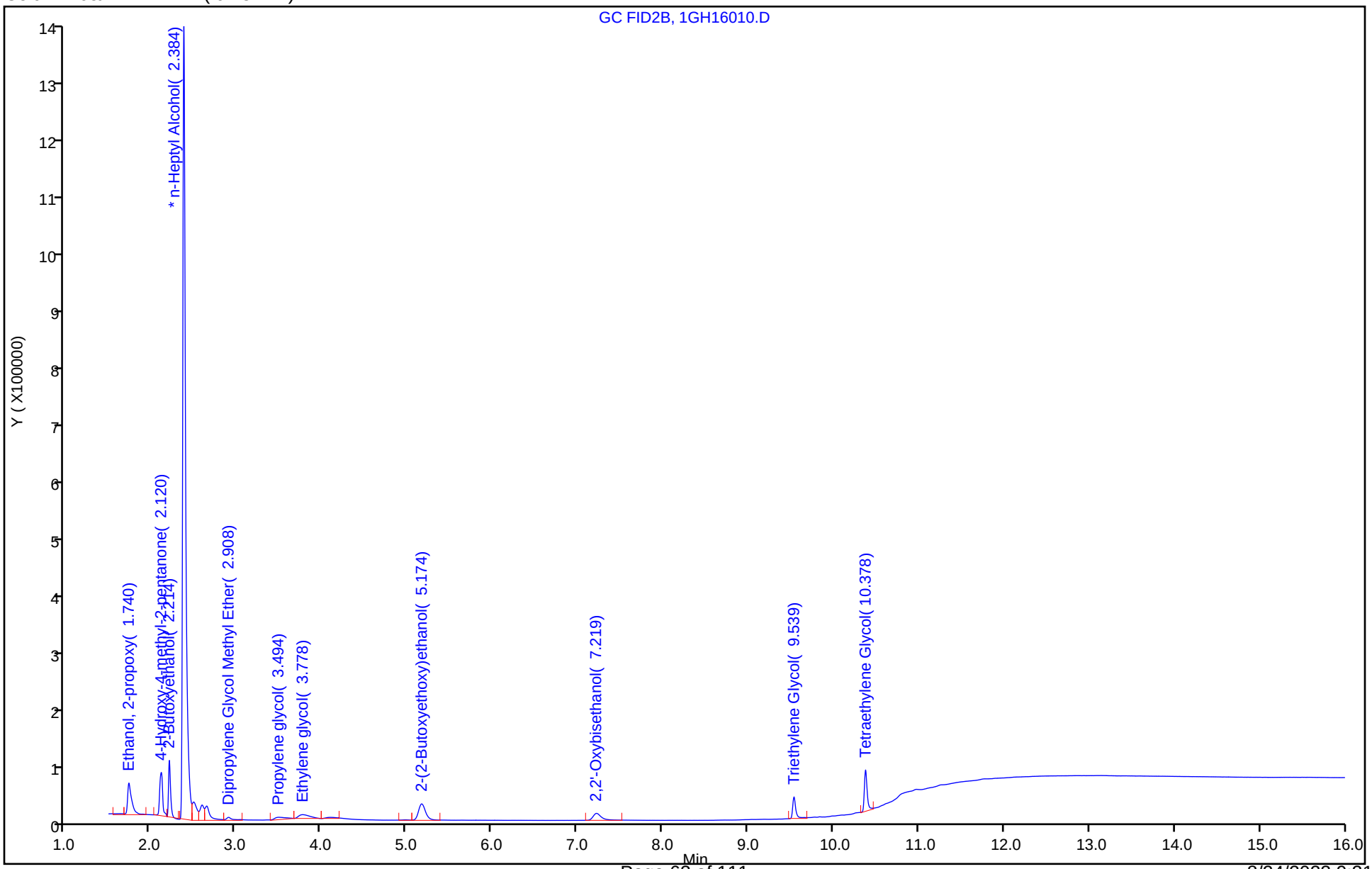
Report Date: 18-Aug-2023 15:05:34 Chrom Revision: 2.3 16-Aug-2023 16:34:04

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Injection Date:	17-Aug-2023 20:12:31	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ic g1			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



8/24/2023 9:31 AM

Calibration / Ethanol, 2-propoxy

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

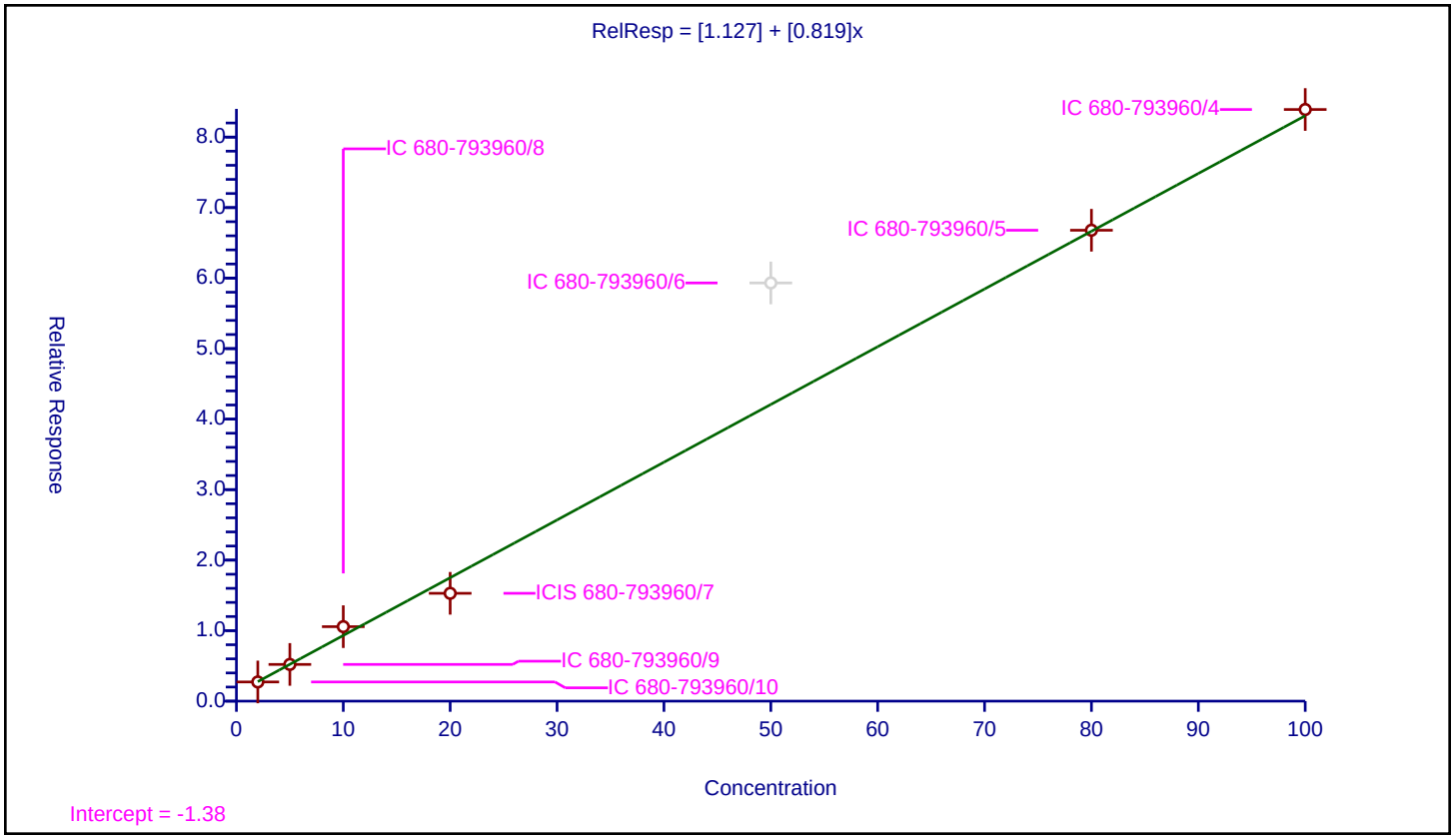
Curve Coefficients

Intercept:	1.127
Slope:	0.819

Error Coefficients

Standard Error:	3270000
Relative Standard Error:	10.3
Correlation Coefficient:	0.994
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-793960/10	2.0	2.721473	50.0	3022113.0	1.360737	Y
2	IC 680-793960/9	5.0	5.20879	50.0	3899831.0	1.041758	Y
3	IC 680-793960/8	10.0	10.563309	50.0	2982943.0	1.056331	Y
4	ICIS 680-793960/7	20.0	15.293104	50.0	4176366.0	0.764655	Y
5	IC 680-793960/6	50.0	59.313796	50.0	2114766.0	1.186276	N
6	IC 680-793960/5	80.0	66.788382	50.0	3155048.0	0.834855	Y
7	IC 680-793960/4	100.0	83.912184	50.0	2836541.0	0.839122	Y



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

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

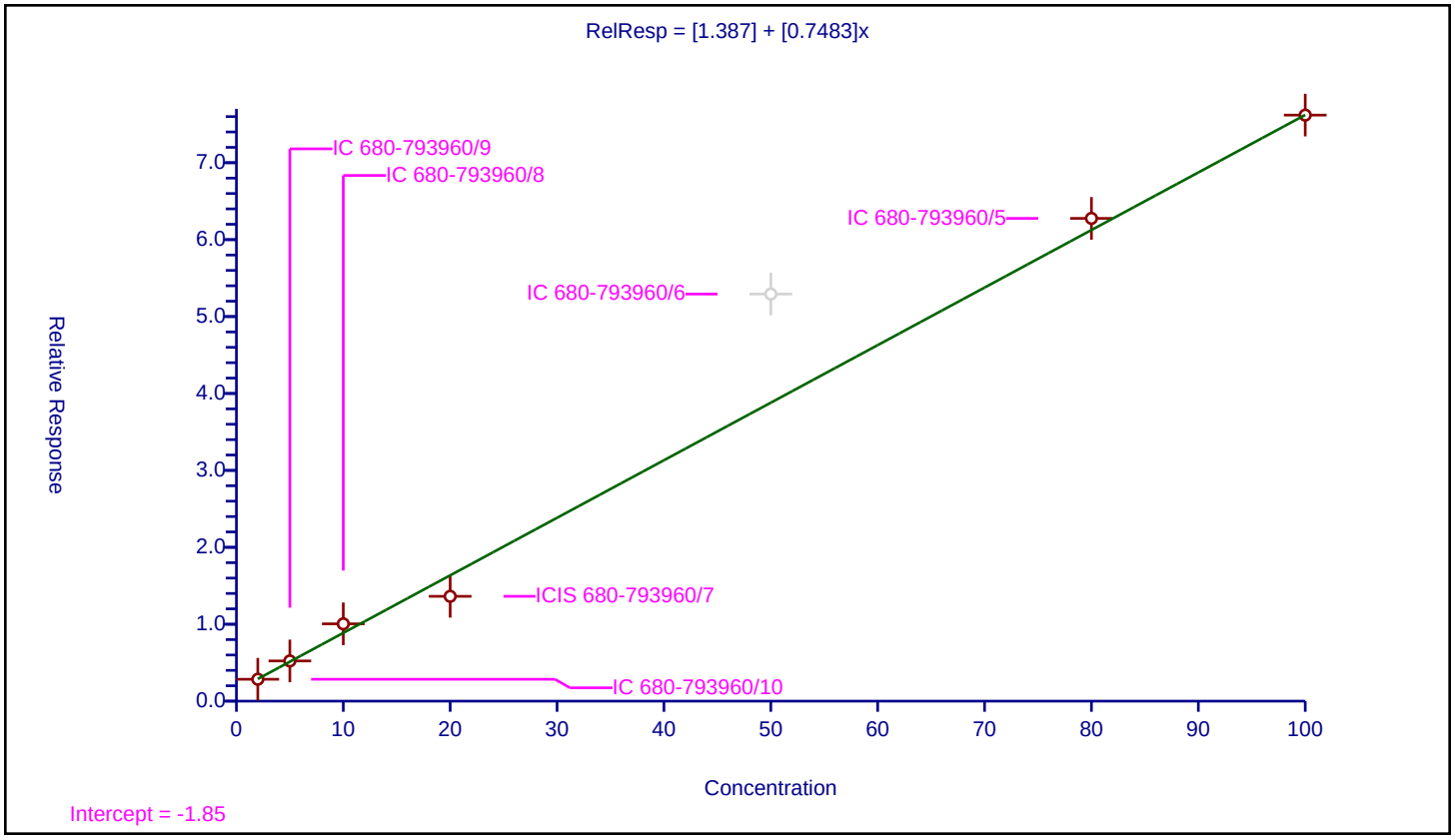
Curve Coefficients

Intercept:	1.387
Slope:	0.7483

Error Coefficients

Standard Error:	3010000
Relative Standard Error:	12.3
Correlation Coefficient:	0.991
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-793960/10	2.0	2.843011	50.0	3022113.0	1.421505	Y
2	IC 680-793960/9	5.0	5.227842	50.0	3899831.0	1.045568	Y
3	IC 680-793960/8	10.0	10.050393	50.0	2982943.0	1.005039	Y
4	ICIS 680-793960/7	20.0	13.626799	50.0	4176366.0	0.68134	Y
5	IC 680-793960/6	50.0	52.927889	50.0	2114766.0	1.058558	N
6	IC 680-793960/5	80.0	62.76502	50.0	3155048.0	0.784563	Y
7	IC 680-793960/4	100.0	76.191954	50.0	2836541.0	0.76192	Y



Calibration / 2-Butoxyethanol

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

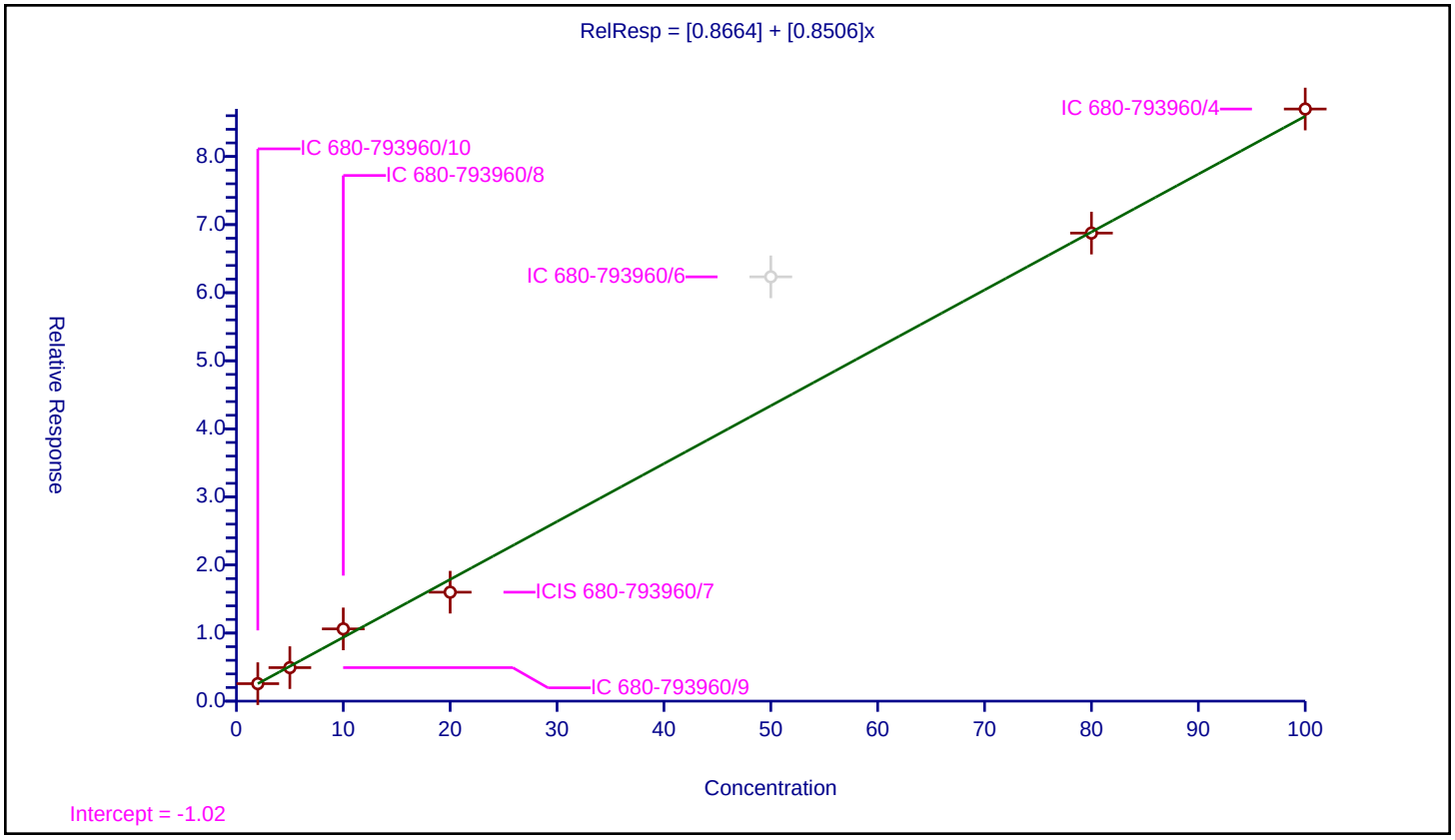
Curve Coefficients

Intercept:	0.8664
Slope:	0.8506

Error Coefficients

Standard Error:	3370000
Relative Standard Error:	9.4
Correlation Coefficient:	0.994
Coefficient of Determination (Adjusted):	0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-793960/10	2.0	2.567558	50.0	3022113.0	1.283779	Y
2	IC 680-793960/9	5.0	4.923701	50.0	3899831.0	0.98474	Y
3	IC 680-793960/8	10.0	10.613143	50.0	2982943.0	1.061314	Y
4	ICIS 680-793960/7	20.0	16.003758	50.0	4176366.0	0.800188	Y
5	IC 680-793960/6	50.0	62.328267	50.0	2114766.0	1.246565	N
6	IC 680-793960/5	80.0	68.755737	50.0	3155048.0	0.859447	Y
7	IC 680-793960/4	100.0	86.979952	50.0	2836541.0	0.8698	Y



Calibration / Dipropylene Glycol Methyl Ether

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

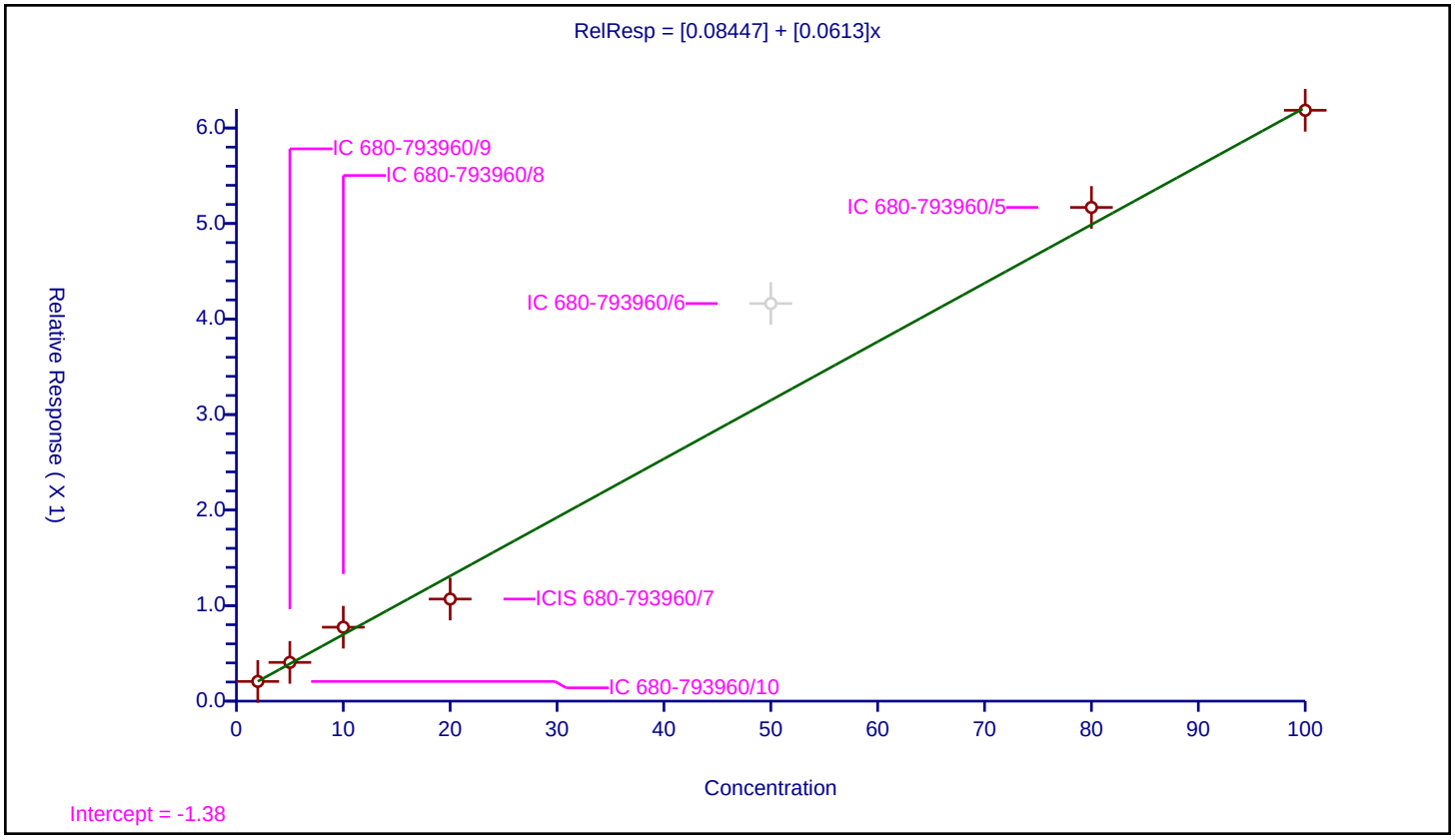
Curve Coefficients

Intercept:	0.08447
Slope:	0.0613

Error Coefficients

Standard Error:	245000
Relative Standard Error:	12.1
Correlation Coefficient:	0.990
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-793960/10	2.0	0.206164	50.0	3022113.0	0.103082	Y
2	IC 680-793960/9	5.0	0.405582	50.0	3899831.0	0.081116	Y
3	IC 680-793960/8	10.0	0.773917	50.0	2982943.0	0.077392	Y
4	ICIS 680-793960/7	20.0	1.068776	50.0	4176366.0	0.053439	Y
5	IC 680-793960/6	50.0	4.162494	50.0	2114766.0	0.08325	N
6	IC 680-793960/5	80.0	5.168749	50.0	3155048.0	0.064609	Y
7	IC 680-793960/4	100.0	6.185544	50.0	2836541.0	0.061855	Y



Calibration / Propylene glycol

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

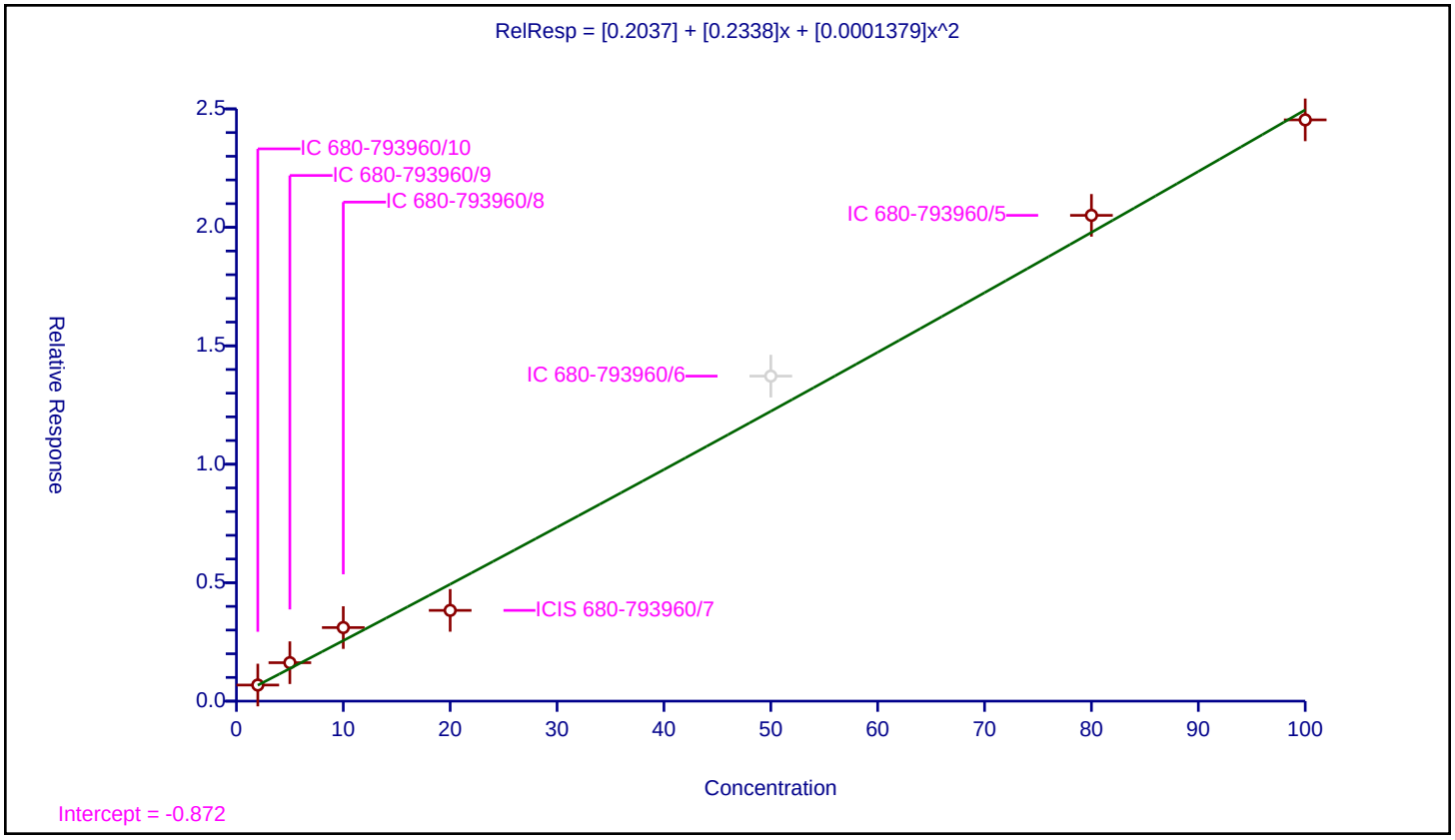
Curve Coefficients

Intercept:	0.2037
Slope:	0.2338
Second Order:	0.0001379

Error Coefficients

Standard Error:	1120000
Relative Standard Error:	22.6
Correlation Coefficient:	0.988
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-793960/10	2.0	0.68017	50.0	3022113.0	0.340085	Y
2	IC 680-793960/9	5.0	1.622981	50.0	3899831.0	0.324596	Y
3	IC 680-793960/8	10.0	3.10611	50.0	2982943.0	0.310611	Y
4	ICIS 680-793960/7	20.0	3.830603	50.0	4176366.0	0.19153	Y
5	IC 680-793960/6	50.0	13.720383	50.0	2114766.0	0.274408	N
6	IC 680-793960/5	80.0	20.505964	50.0	3155048.0	0.256325	Y
7	IC 680-793960/4	100.0	24.536257	50.0	2836541.0	0.245363	Y



Calibration / Ethylene glycol

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

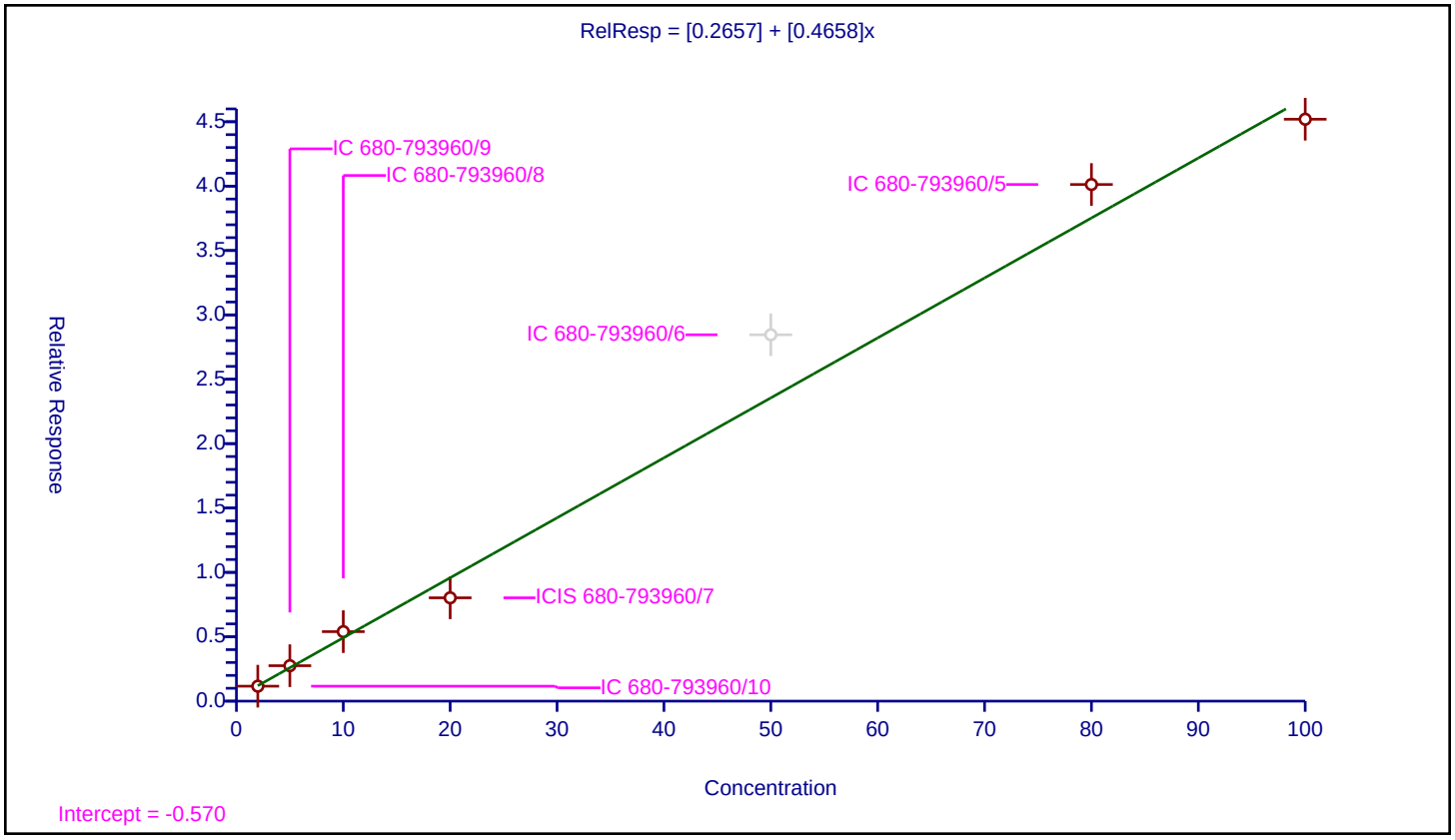
Curve Coefficients

Intercept:	0.2657
Slope:	0.4658

Error Coefficients

Standard Error:	1840000
Relative Standard Error:	11.2
Correlation Coefficient:	0.980
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-793960/10	2.0	1.162316	50.0	3022113.0	0.581158	Y
2	IC 680-793960/9	5.0	2.752183	50.0	3899831.0	0.550437	Y
3	IC 680-793960/8	10.0	5.399165	50.0	2982943.0	0.539916	Y
4	ICIS 680-793960/7	20.0	8.024967	50.0	4176366.0	0.401248	Y
5	IC 680-793960/6	50.0	28.456411	50.0	2114766.0	0.569128	N
6	IC 680-793960/5	80.0	40.126093	50.0	3155048.0	0.501576	Y
7	IC 680-793960/4	100.0	45.197355	50.0	2836541.0	0.451974	Y



Calibration / 2-(2-Butoxyethoxy)ethanol

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

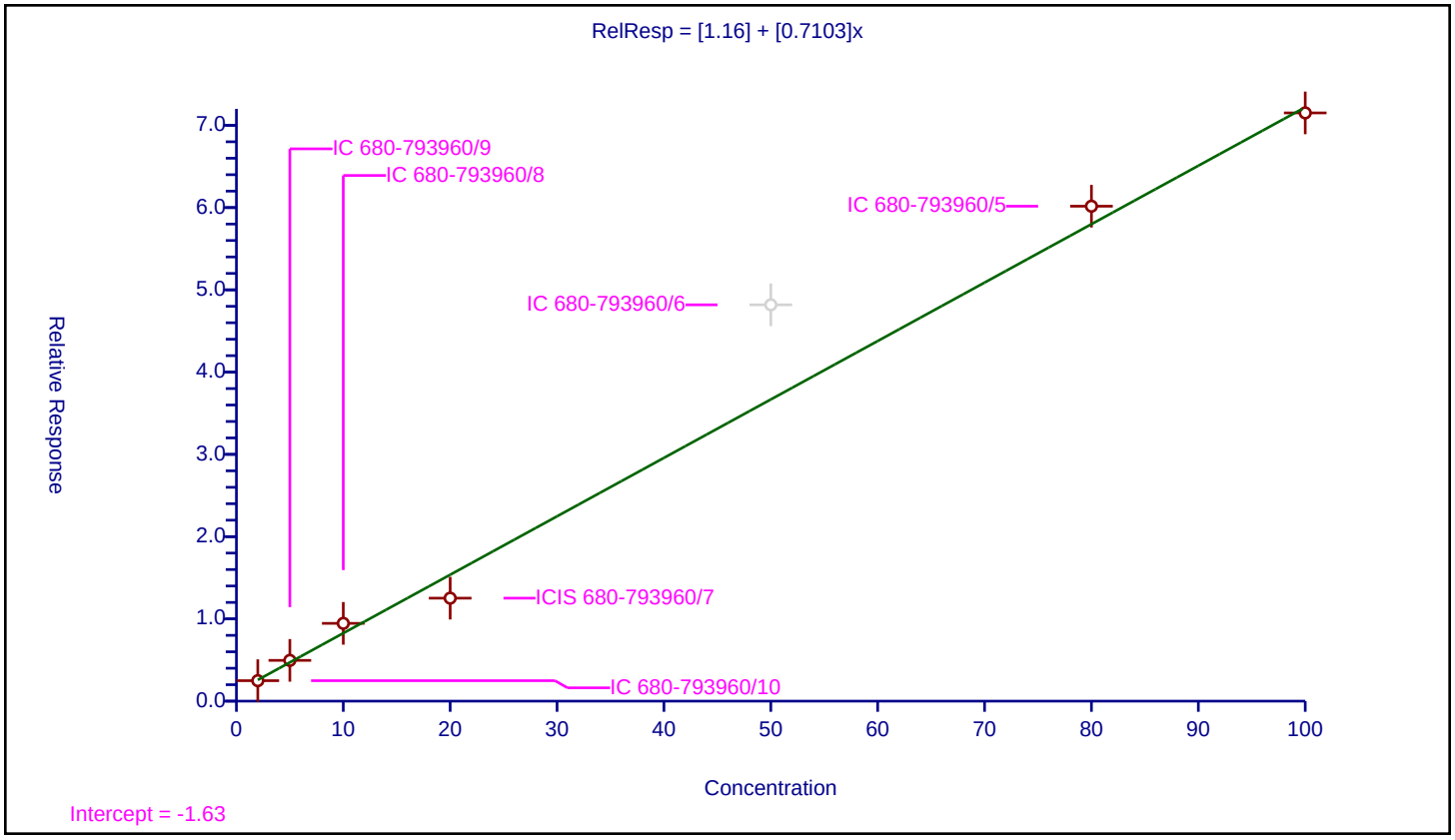
Curve Coefficients

Intercept:	1.16
Slope:	0.7103

Error Coefficients

Standard Error:	2850000
Relative Standard Error:	14.0
Correlation Coefficient:	0.989
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-793960/10	2.0	2.487663	50.0	3022113.0	1.243832	Y
2	IC 680-793960/9	5.0	4.955651	50.0	3899831.0	0.99113	Y
3	IC 680-793960/8	10.0	9.455477	50.0	2982943.0	0.945548	Y
4	ICIS 680-793960/7	20.0	12.519892	50.0	4176366.0	0.625995	Y
5	IC 680-793960/6	50.0	48.181312	50.0	2114766.0	0.963626	N
6	IC 680-793960/5	80.0	60.170131	50.0	3155048.0	0.752127	Y
7	IC 680-793960/4	100.0	71.511323	50.0	2836541.0	0.715113	Y



Calibration / 2,2'-Oxybisethanol

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

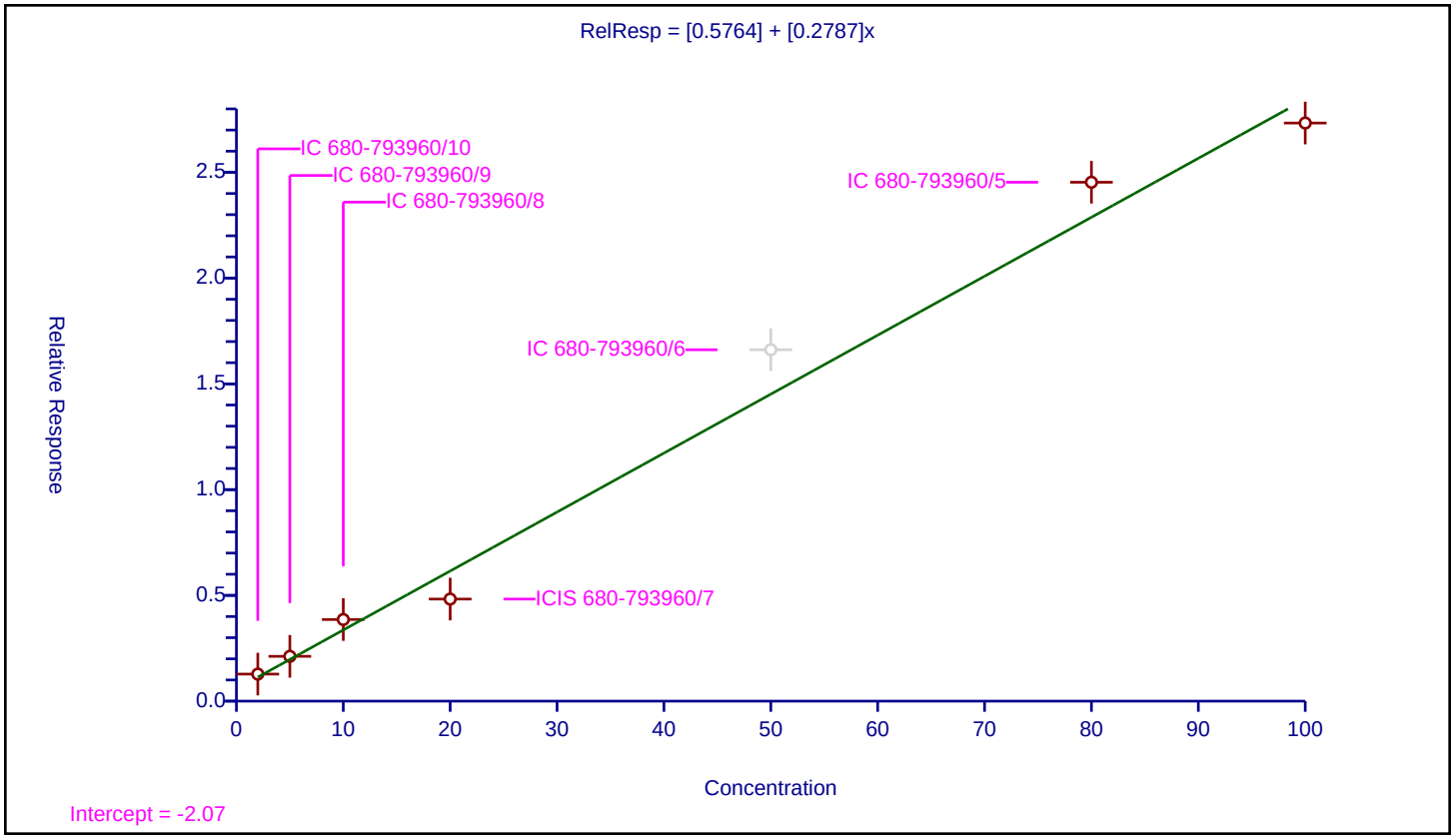
Curve Coefficients

Intercept:	0.5764
Slope:	0.2787

Error Coefficients

Standard Error:	1120000
Relative Standard Error:	20.9
Correlation Coefficient:	0.989
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-793960/10	2.0	1.279122	50.0	3022113.0	0.639561	Y
2	IC 680-793960/9	5.0	2.119041	50.0	3899831.0	0.423808	Y
3	IC 680-793960/8	10.0	3.858555	50.0	2982943.0	0.385856	Y
4	ICIS 680-793960/7	20.0	4.826122	50.0	4176366.0	0.241306	Y
5	IC 680-793960/6	50.0	16.613635	50.0	2114766.0	0.332273	N
6	IC 680-793960/5	80.0	24.531814	50.0	3155048.0	0.306648	Y
7	IC 680-793960/4	100.0	27.331687	50.0	2836541.0	0.273317	Y



Calibration / Triethylene Glycol

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

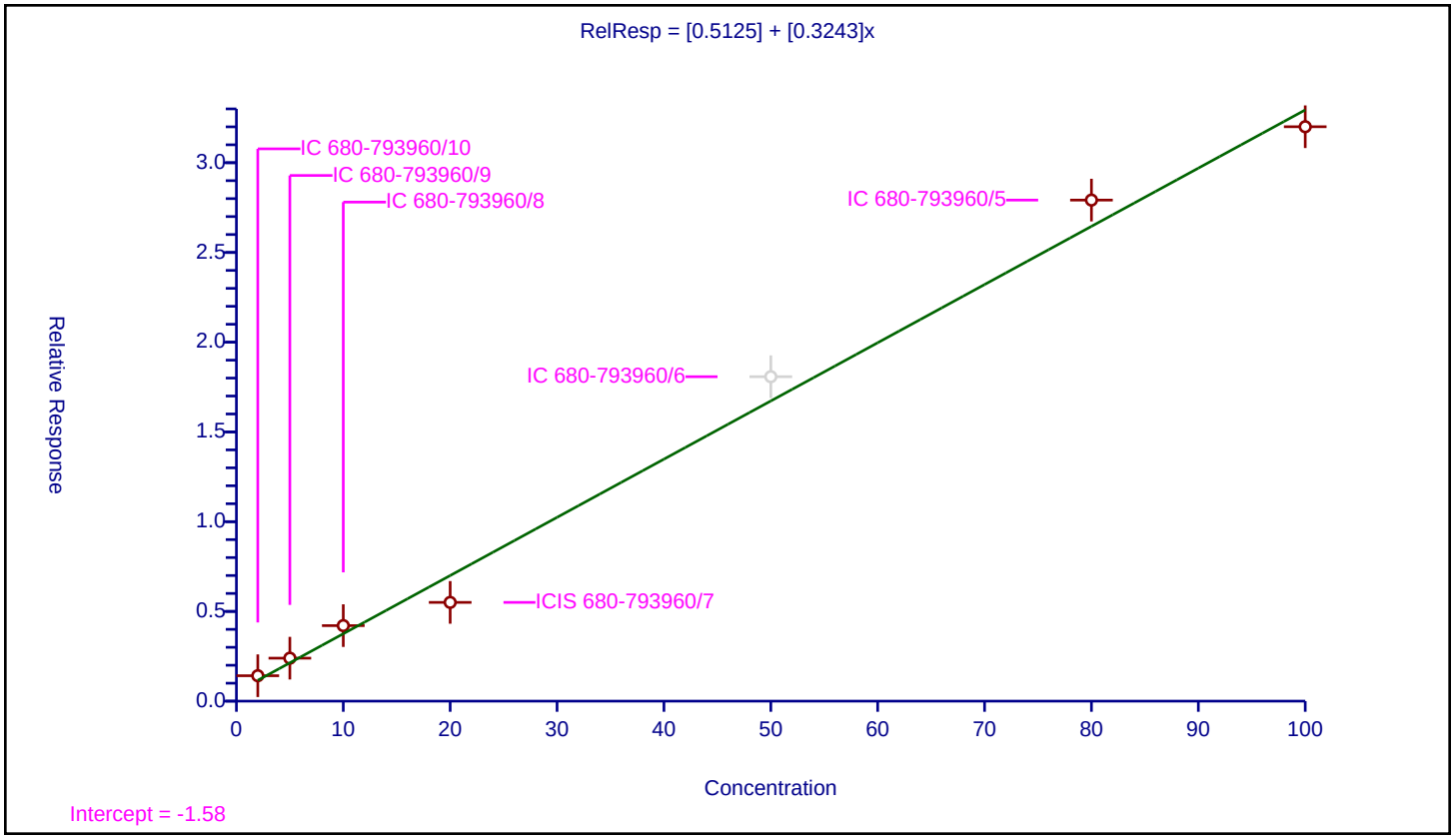
Curve Coefficients

Intercept:	0.5125
Slope:	0.3243

Error Coefficients

Standard Error:	1300000
Relative Standard Error:	25.3
Correlation Coefficient:	0.992
Coefficient of Determination (Adjusted):	0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-793960/10	2.0	1.415946	50.0	3022113.0	0.707973	Y
2	IC 680-793960/9	5.0	2.39386	50.0	3899831.0	0.478772	Y
3	IC 680-793960/8	10.0	4.207472	50.0	2982943.0	0.420747	Y
4	ICIS 680-793960/7	20.0	5.502595	50.0	4176366.0	0.27513	Y
5	IC 680-793960/6	50.0	18.077556	50.0	2114766.0	0.361551	N
6	IC 680-793960/5	80.0	27.918783	50.0	3155048.0	0.348985	Y
7	IC 680-793960/4	100.0	32.005231	50.0	2836541.0	0.320052	Y



Calibration / Tetraethylene Glycol

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

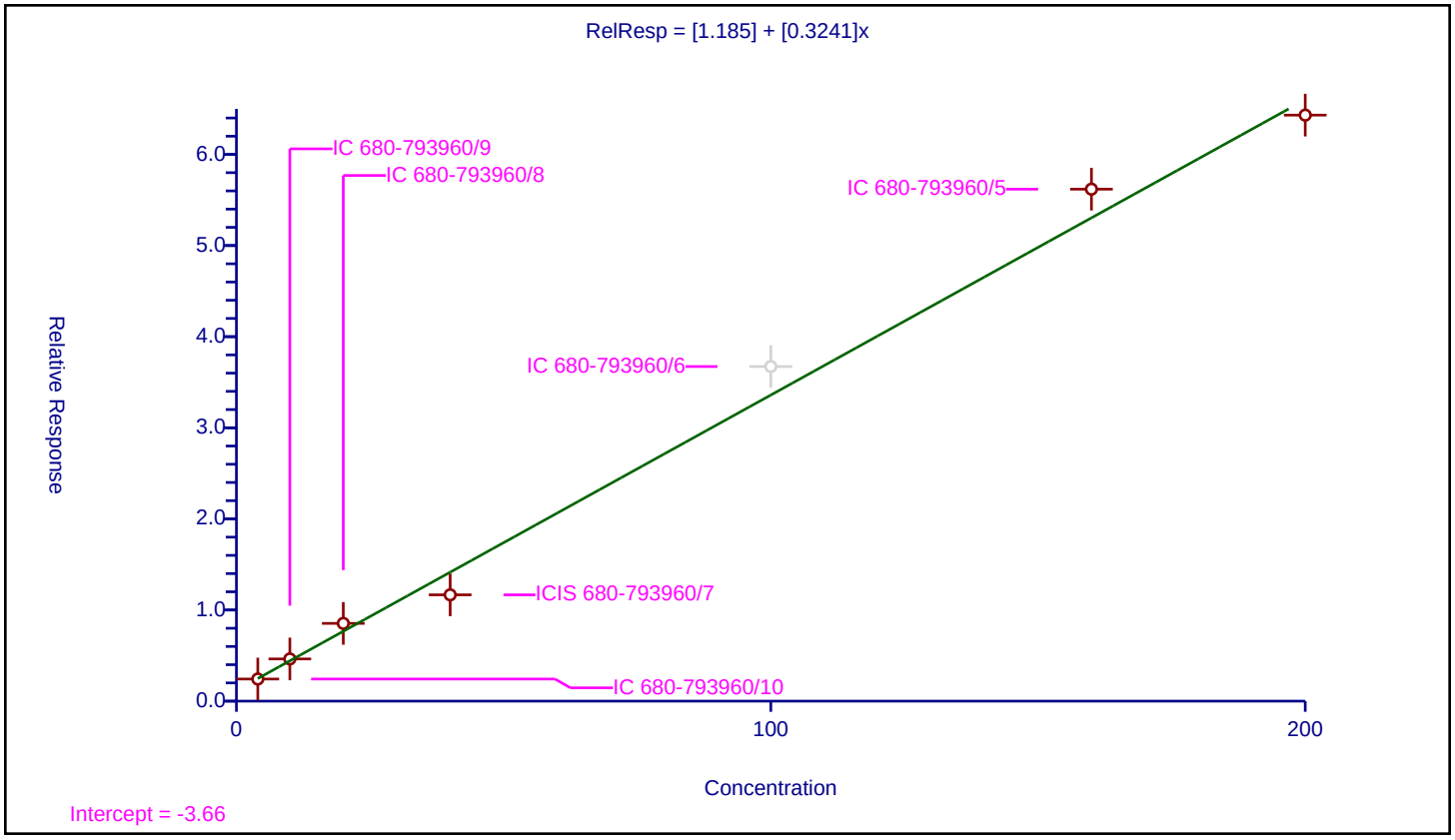
Curve Coefficients

Intercept:	1.185
Slope:	0.3241

Error Coefficients

Standard Error:	2610000
Relative Standard Error:	12.7
Correlation Coefficient:	0.983
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 680-793960/10	4.0	2.429079	50.0	3022113.0	0.60727	Y
2	IC 680-793960/9	10.0	4.631611	50.0	3899831.0	0.463161	Y
3	IC 680-793960/8	20.0	8.534793	50.0	2982943.0	0.42674	Y
4	ICIS 680-793960/7	40.0	11.669032	50.0	4176366.0	0.291726	Y
5	IC 680-793960/6	100.0	36.723425	50.0	2114766.0	0.367234	N
6	IC 680-793960/5	160.0	56.189335	50.0	3155048.0	0.351183	Y
7	IC 680-793960/4	200.0	64.316856	50.0	2836541.0	0.321584	Y



FORM VII
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Lab Sample ID: ICV 680-793960/11 Calibration Date: 08/17/2023 20:35

Instrument ID: CVGG2 Calib Start Date: 08/17/2023 17:54

GC Column: J&W DB WAX ID: 0.45(mm) Calib End Date: 08/17/2023 20:12

Lab File ID: 1GH16011.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Lin1		0.9230		21.2	20.0	5.8	20.0
4-Hydroxy-4-methyl-2-pentanone	Lin1		0.9049		22.3	20.0	11.7	20.0
2-Butoxyethanol	Lin2		0.9098		20.4	20.0	1.9	20.0
Dipropylene Glycol Methyl Ether	Lin1		0.0820		25.4	20.0	26.9*	20.0
Propylene glycol	Qua		0.2579		20.9	20.0	4.7	20.0
Ethylene glycol	Lin1		0.4938		20.6	20.0	3.2	20.0
2-(2-Butoxyethoxy)ethanol	Lin1		0.8944		23.5	20.0	17.7	20.0
2,2'-Oxybisethanol	Lin		0.3177		20.7	20.0	3.6	20.0
Triethylene Glycol	Lin		0.3588		20.5	20.0	2.7	20.0
Tetraethylene Glycol	Lin1		0.3684		41.8	40.0	4.5	20.0

FORM VII
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Lab Sample ID: ICV 680-793960/11 Calibration Date: 08/17/2023 20:35

Instrument ID: CVGG2 Calib Start Date: 08/17/2023 17:54

GC Column: J&W DB WAX ID: 0.45(mm) Calib End Date: 08/17/2023 20:12

Lab File ID: 1GH16011.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	1.74	1.71	1.78
4-Hydroxy-4-methyl-2-pentanone	2.12	2.08	2.16
2-Butoxyethanol	2.21	2.17	2.26
Dipropylene Glycol Methyl Ether	2.91	2.85	2.97
Propylene glycol	3.51	3.44	3.58
Ethylene glycol	3.78	3.70	3.85
2-(2-Butoxyethoxy)ethanol	5.17	5.07	5.28
2,2'-Oxybisethanol	7.22	7.08	7.36
Triethylene Glycol	9.54	9.35	9.73
Tetraethylene Glycol	10.38	10.17	10.58

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16011.D
Lims ID: icv gly
Client ID:
Sample Type: CCV
Inject. Date: 17-Aug-2023 20:35:31 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088372-011
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 24-Aug-2023 10:56:44 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1635

First Level Reviewer: AR8P Date: 18-Aug-2023 15:03:49

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	1.740	1.741	-0.001	1382104	20.0	21.2	
	2 4-Hydroxy-4-methyl-2-pentanone						
	2.121	2.119	0.002	1355004	20.0	22.3	
	3 2-Butoxyethanol						
	2.214	2.216	-0.002	1362287	20.0	20.4	
*	4 n-Heptyl Alcohol						
	2.382	2.390	-0.008	3743334	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	2.911	2.906	0.005	122843	20.0	25.4	
	6 Propylene glycol						
	3.507	3.505	0.002	386140	20.0	20.9	
	7 Ethylene glycol						
	3.775	3.771	0.004	739450	20.0	20.6	
	8 2-(2-Butoxyethoxy)ethanol						
	5.172	5.172	0.000	1339178	20.0	23.5	
	9 2,2'-Oxybisethanol						
	7.218	7.220	-0.002	475680	20.0	20.7	
	10 Triethylene Glycol						
	9.538	9.537	0.001	537248	20.0	20.5	
	11 Tetraethylene Glycol						
	10.378	10.376	0.002	1103135	40.0	41.8	

QC Flag Legend
Processing Flags

Reagents:

SG_GlyICV_00062	Amount Added:	10.00	Units: uL	
SG_GLY_ISTD_00128	Amount Added:	10.00	Units: uL	Run Reagent

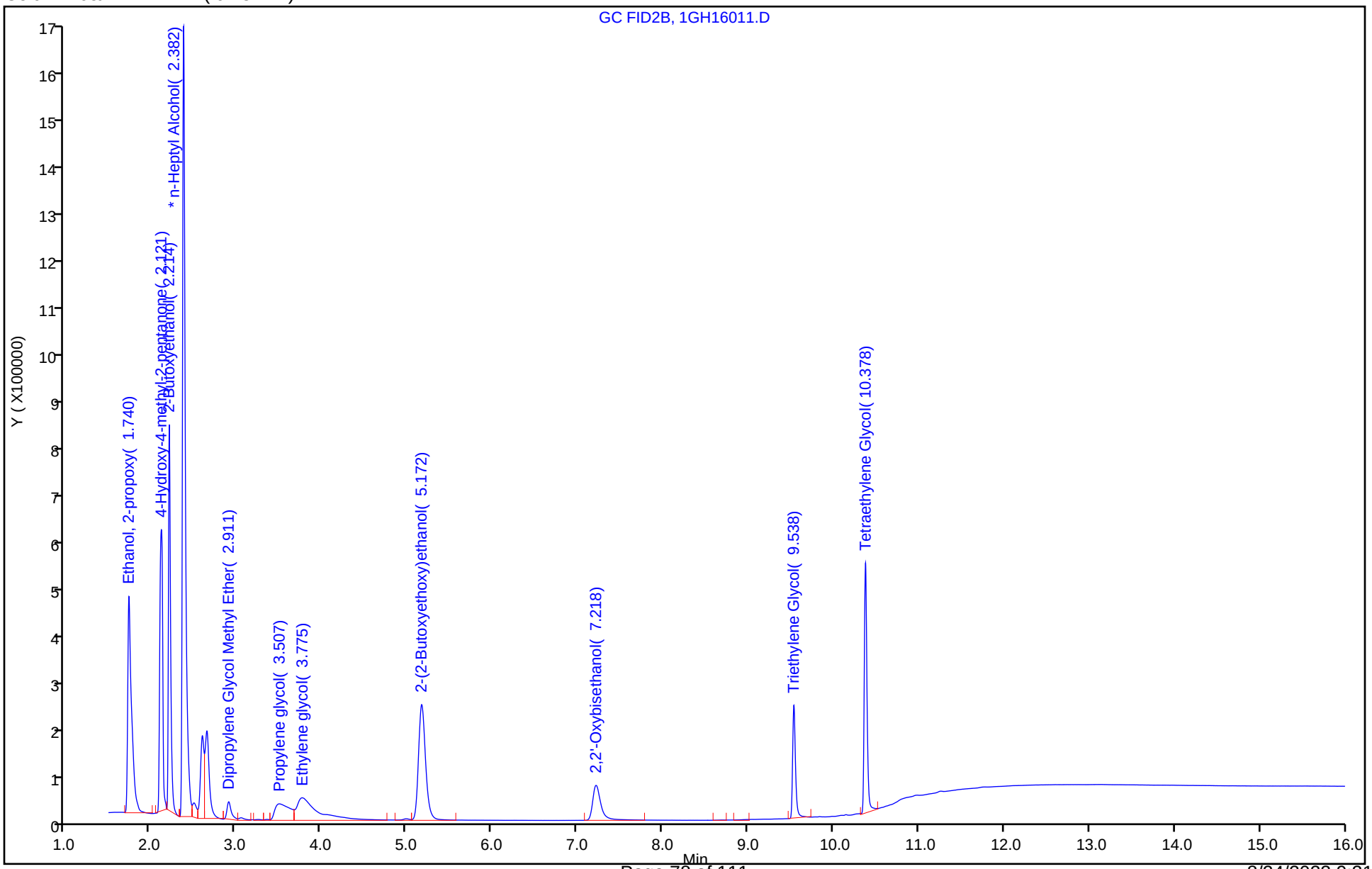
Report Date: 24-Aug-2023 10:56:44 Chrom Revision: 2.3 21-Aug-2023 17:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16011.D

Injection Date:	17-Aug-2023 20:35:31	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#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



8/24/2023 9:31 AM

FORM VII
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Lab Sample ID: CCVIS 680-794740/7 Calibration Date: 08/23/2023 14:39

Instrument ID: CVGG2 Calib Start Date: 08/17/2023 17:54

GC Column: J&W DB WAX ID: 0.45(mm) Calib End Date: 08/17/2023 20:12

Lab File ID: 1GH23007.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Lin1		0.7462		16.8	20.0	-15.8	20.0
4-Hydroxy-4-methyl-2-pentanone	Lin1		0.7078		17.1	20.0	-14.7	20.0
2-Butoxyethanol	Lin2		0.7513		16.6	20.0	-16.8	20.0
Dipropylene Glycol Methyl Ether	Lin1		0.0535		16.1	20.0	-19.7	20.0
Propylene glycol	Qua		0.1819		14.6	20.0	-27.2*	20.0
Ethylene glycol	Lin1		0.3042		12.5	20.0	-37.5*	20.0
2-(2-Butoxyethoxy)ethanol	Lin1		0.6828		17.6	20.0	-12.0	20.0
2,2'-Oxybisethanol	Lin		0.2232		13.9	20.0	-30.3*	20.0
Triethylene Glycol	Lin		0.2665		14.9	20.0	-25.7*	20.0
Tetraethylene Glycol	Lin1		0.2616		28.6	40.0	-28.4*	20.0

FORM VII
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Lab Sample ID: CCVIS 680-794740/7 Calibration Date: 08/23/2023 14:39

Instrument ID: CVGG2 Calib Start Date: 08/17/2023 17:54

GC Column: J&W DB WAX ID: 0.45(mm) Calib End Date: 08/17/2023 20:12

Lab File ID: 1GH23007.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	1.74	1.70	1.77
4-Hydroxy-4-methyl-2-pentanone	2.12	2.08	2.16
2-Butoxyethanol	2.21	2.17	2.26
Dipropylene Glycol Methyl Ether	2.91	2.85	2.96
Propylene glycol	3.51	3.44	3.58
Ethylene glycol	3.78	3.70	3.85
2-(2-Butoxyethoxy)ethanol	5.17	5.06	5.27
2,2'-Oxybisethanol	7.22	7.07	7.36
Triethylene Glycol	9.53	9.34	9.73
Tetraethylene Glycol	10.37	10.17	10.58

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23007.D
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 23-Aug-2023 14:39:41 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088533-007
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 24-Aug-2023 09:38:41 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1635

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	1.738	1.738	0.000	1261999	20.0	16.8	
	2 4-Hydroxy-4-methyl-2-pentanone						
	2.118	2.118	0.000	1197059	20.0	17.1	
	3 2-Butoxyethanol						
	2.212	2.212	0.000	1270590	20.0	16.6	
*	4 n-Heptyl Alcohol						
	2.381	2.381	0.000	4228118	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	2.906	2.906	0.000	90427	20.0	16.1	
	6 Propylene glycol						
	3.505	3.505	0.000	307647	20.0	14.6	
	7 Ethylene glycol						
	3.776	3.776	0.000	514541	20.0	12.5	
	8 2-(2-Butoxyethoxy)ethanol						
	5.165	5.165	0.000	1154816	20.0	17.6	
	9 2,2'-Oxybisethanol						
	7.215	7.215	0.000	377537	20.0	13.9	
	10 Triethylene Glycol						
	9.534	9.534	0.000	450801	20.0	14.9	
	11 Tetraethylene Glycol						
	10.373	10.373	0.000	884819	40.0	28.6	

Reagents:

SG_Gly_CAL_00056 Amount Added: 10.00 Units: uL
SG_GLY_ISTD_00126 Amount Added: 10.00 Units: uL Run Reagent

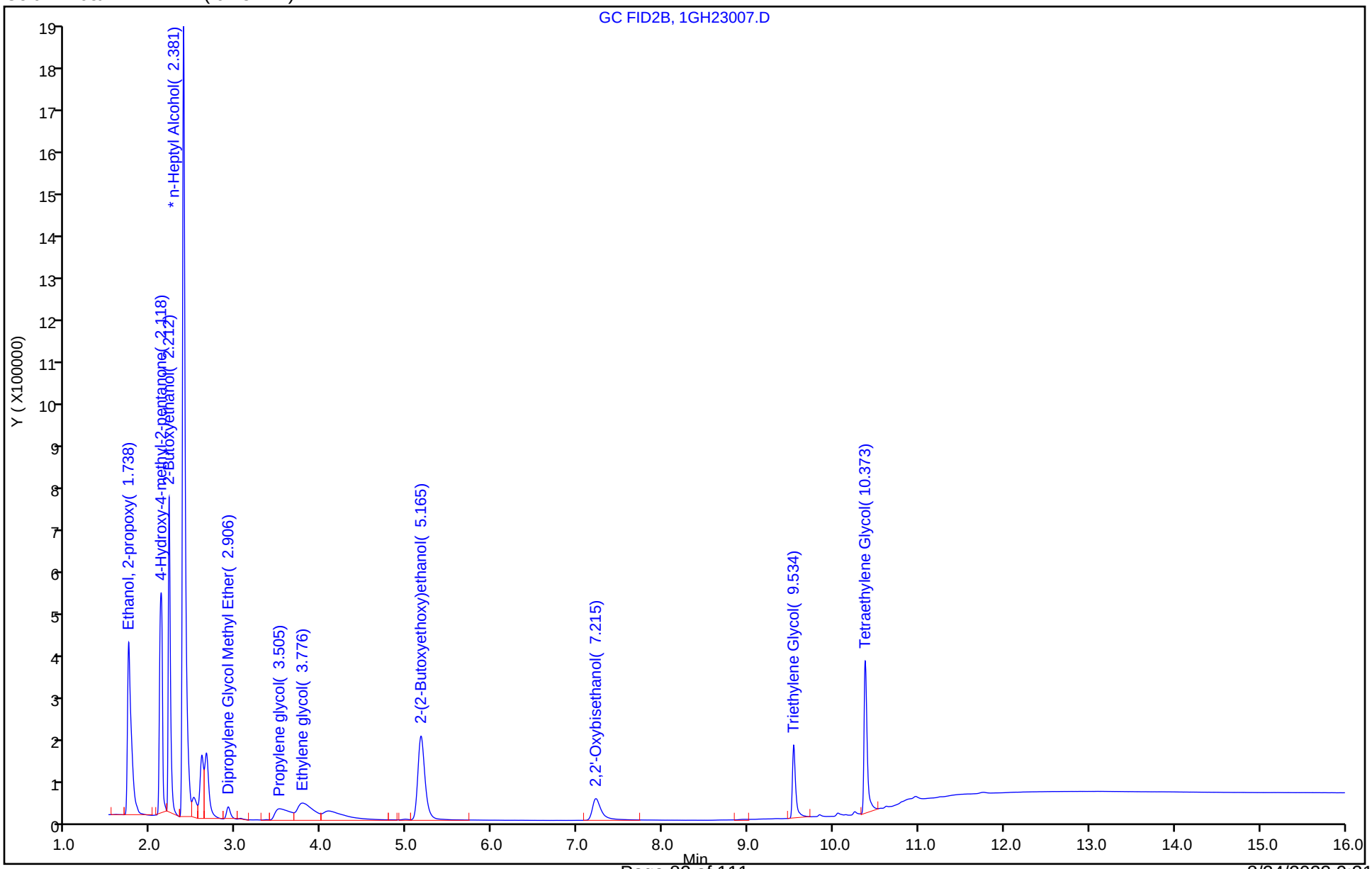
Report Date: 24-Aug-2023 09:38:41 Chrom Revision: 2.3 21-Aug-2023 17:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23007.D

Injection Date:	23-Aug-2023 14:39:41	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ccvis			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



FORM VII
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Lab Sample ID: CCVIS 680-794740/16 Calibration Date: 08/23/2023 18:06

Instrument ID: CVGG2 Calib Start Date: 08/17/2023 17:54

GC Column: J&W DB WAX ID: 0.45(mm) Calib End Date: 08/17/2023 20:12

Lab File ID: 1GH23016.D Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol, 2-propoxy	Lin1		1.024		23.6	20.0	18.2	20.0
4-Hydroxy-4-methyl-2-pentanone	Lin1		0.9086		22.4	20.0	12.1	20.0
2-Butoxyethanol	Lin2		1.041		23.5	20.0	17.3	20.0
Dipropylene Glycol Methyl Ether	Lin1		0.0652		19.9	20.0	-0.5	20.0
Propylene glycol	Qua		0.2109		17.0	20.0	-15.0	20.0
Ethylene glycol	Lin1		0.3087		12.7	20.0	-36.6*	20.0
2-(2-Butoxyethoxy)ethanol	Lin1		0.8383		22.0	20.0	9.9	20.0
2,2'-Oxybisethanol	Lin		0.2613		16.7	20.0	-16.6	20.0
Triethylene Glycol	Lin		0.2950		16.6	20.0	-16.9	20.0
Tetraethylene Glycol	Lin1		0.1891		19.7	40.0	-50.8*	20.0

FORM VII
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Lab Sample ID: CCVIS 680-794740/16 Calibration Date: 08/23/2023 18:06

Instrument ID: CVGG2 Calib Start Date: 08/17/2023 17:54

GC Column: J&W DB WAX ID: 0.45(mm) Calib End Date: 08/17/2023 20:12

Lab File ID: 1GH23016.D

Analyte	RT	RT WINDOW	
		FROM	TO
Ethanol, 2-propoxy	1.73	1.70	1.77
4-Hydroxy-4-methyl-2-pentanone	2.12	2.07	2.16
2-Butoxyethanol	2.21	2.17	2.26
Dipropylene Glycol Methyl Ether	2.90	2.84	2.96
Propylene glycol	3.55	3.47	3.62
Ethylene glycol	3.78	3.71	3.86
2-(2-Butoxyethoxy)ethanol	5.16	5.06	5.27
2,2'-Oxybisethanol	7.23	7.08	7.37
Triethylene Glycol	9.54	9.35	9.73
Tetraethylene Glycol	10.38	10.17	10.59

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23016.D
Lims ID: ccvis G4
Client ID:
Sample Type: CCVIS
Inject. Date: 23-Aug-2023 18:06:55 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088533-016
Operator ID: Instrument ID: CVGG2
Sublist: chrom-8015_GLY_VGG*sub2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 24-Aug-2023 09:36:48 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1635

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	1.733	1.733	0.000	1236136	20.0	23.6	
	2 4-Hydroxy-4-methyl-2-pentanone						
	2.115	2.115	0.000	1096372	20.0	22.4	
	3 2-Butoxyethanol						
	2.210	2.210	0.000	1256366	20.0	23.5	
*	4 n-Heptyl Alcohol						
	2.381	2.381	0.000	3016772	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	2.901	2.901	0.000	78660	20.0	19.9	
	6 Propylene glycol						
	3.545	3.545	0.000	254539	20.0	17.0	
	7 Ethylene glycol						
	3.784	3.784	0.000	372512	20.0	12.7	
	8 2-(2-Butoxyethoxy)ethanol						
	5.162	5.162	0.000	1011564	20.0	22.0	
	9 2,2'-Oxybisethanol						
	7.225	7.225	0.000	315312	20.0	16.7	
	10 Triethylene Glycol						
	9.537	9.537	0.000	355921	20.0	16.6	
	11 Tetraethylene Glycol						
	10.377	10.377	0.000	456408	40.0	19.7	

Reagents:

SG_GlyICV_00062 Amount Added: 10.00 Units: uL
SG_GLY_ISTD_00126 Amount Added: 10.00 Units: uL Run Reagent

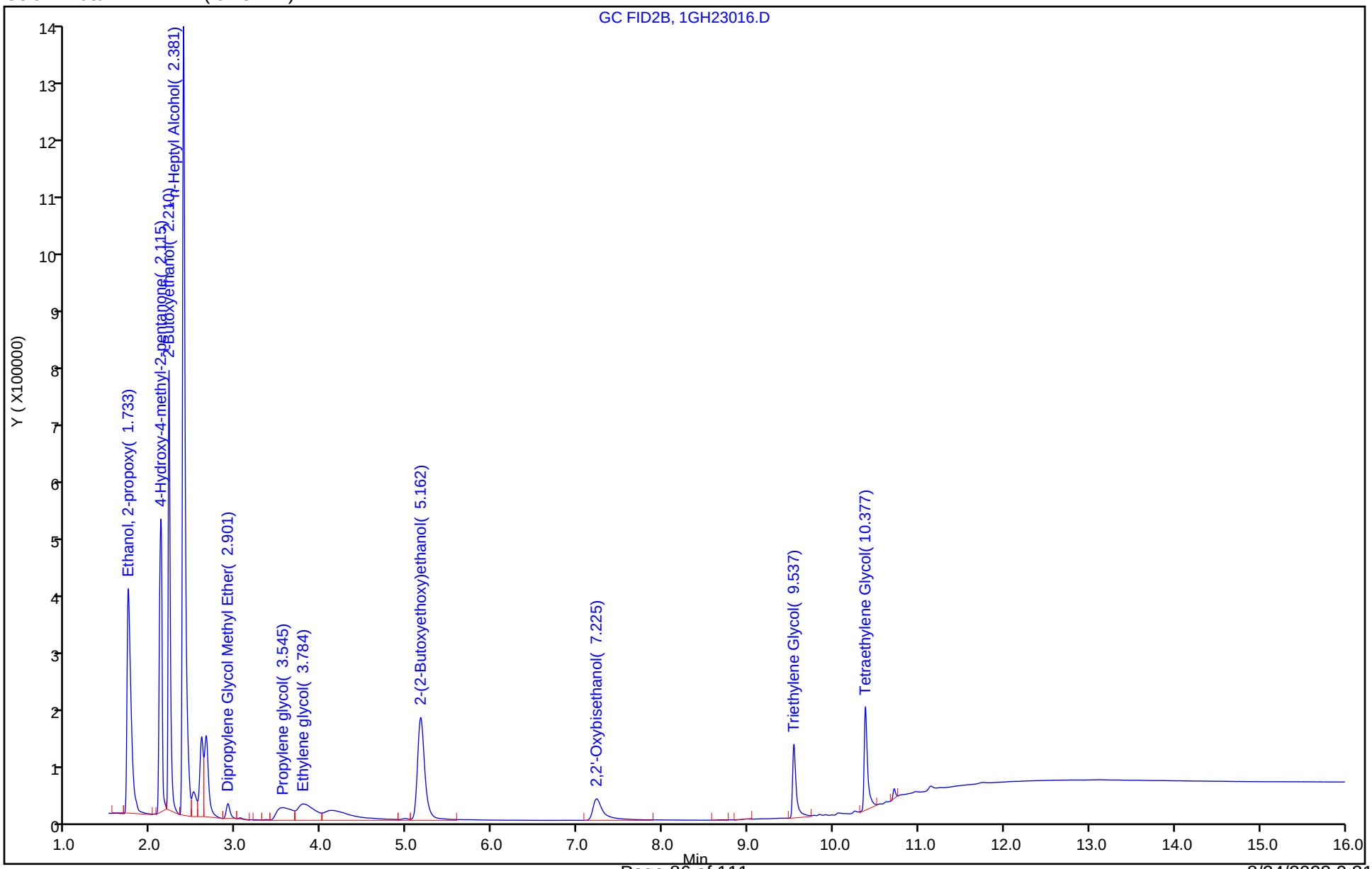
Report Date: 24-Aug-2023 09:36:49 Chrom Revision: 2.3 21-Aug-2023 17:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23016.D

Injection Date:	23-Aug-2023 18:06:55	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	ccvis G4			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 680-794740/11

Matrix: Water Lab File ID: 1GH23011.D

Analysis Method: 8015C GLY Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/23/2023 16:11

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.: 794740 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\20230823-88533.b\1GH23011.D
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 23-Aug-2023 16:11:45 ALS Bottle#: 0 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088533-011
Operator ID: Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 24-Aug-2023 09:38:41 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1635

First Level Reviewer: AR8P Date: 24-Aug-2023 09:37:41

RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 4 n-Heptyl Alcohol						
2.380	2.381	-0.001	4524171	50.0	50.0	

QC Flag Legend

Processing Flags

Reagents:

SG_GLY_ISTD_00126 Amount Added: 10.00 Units: uL Run Reagent

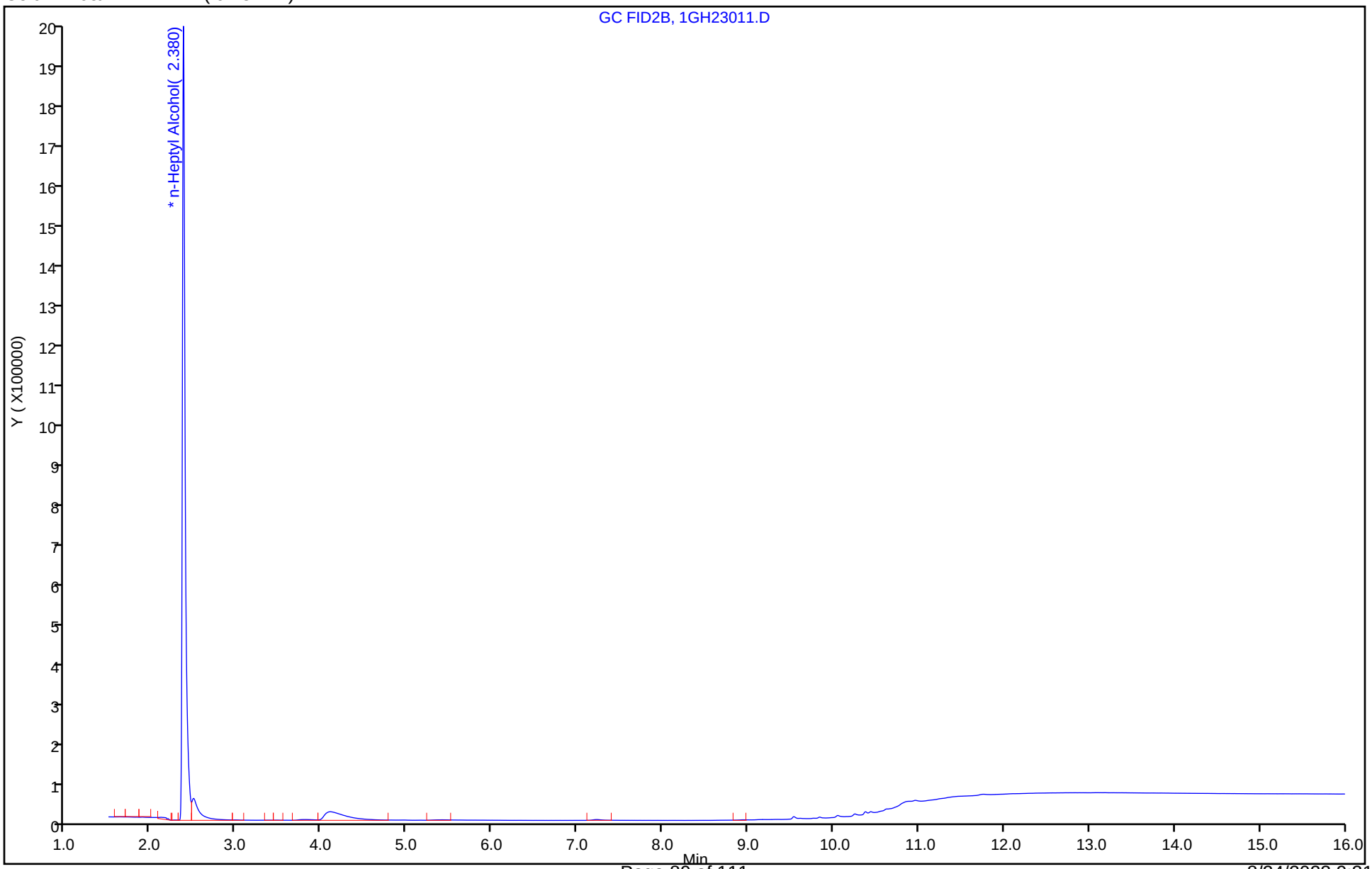
Report Date: 24-Aug-2023 09:38:44 Chrom Revision: 2.3 21-Aug-2023 17:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23011.D

Injection Date:	23-Aug-2023 16:11:45	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	mb			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah | Job No.: 580-130608-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 680-794740/1007

Matrix: Water | Lab File ID: -1GH23007-LCS.d

Analysis Method: 8015C GLY | Date Collected:

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 08/23/2023 14:39

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.: 794740 | Units: mg/L

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

Eurofins Environment Testing America
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\-1GH23007-LCS.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 23-Aug-2023 14:39:41 ALS Bottle#: 0 Worklist Smp#: 1007
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088533-007
Operator ID: Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 24-Aug-2023 09:38:41 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1635

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	1.738	1.738	0.000	1261999	20.0	16.8	
	2 4-Hydroxy-4-methyl-2-pentanone						
	2.118	2.118	0.000	1197059	20.0	17.1	
	3 2-Butoxyethanol						
	2.212	2.212	0.000	1270590	20.0	16.6	
*	4 n-Heptyl Alcohol						
	2.381	2.381	0.000	4228118	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	2.906	2.906	0.000	90427	20.0	16.1	
	6 Propylene glycol						
	3.505	3.505	0.000	307647	20.0	14.6	
	7 Ethylene glycol						
	3.776	3.776	0.000	514541	20.0	12.5	
	8 2-(2-Butoxyethoxy)ethanol						
	5.165	5.165	0.000	1154816	20.0	17.6	
	9 2,2'-Oxybisethanol						
	7.215	7.215	0.000	377537	20.0	13.9	
	10 Triethylene Glycol						
	9.534	9.534	0.000	450801	20.0	14.9	
	11 Tetraethylene Glycol						
	10.373	10.373	0.000	884819	40.0	28.6	

Reagents:

SG_Gly_CAL_00056 Amount Added: 10.00 Units: uL
SG_GLY_ISTD_00126 Amount Added: 10.00 Units: uL Run Reagent

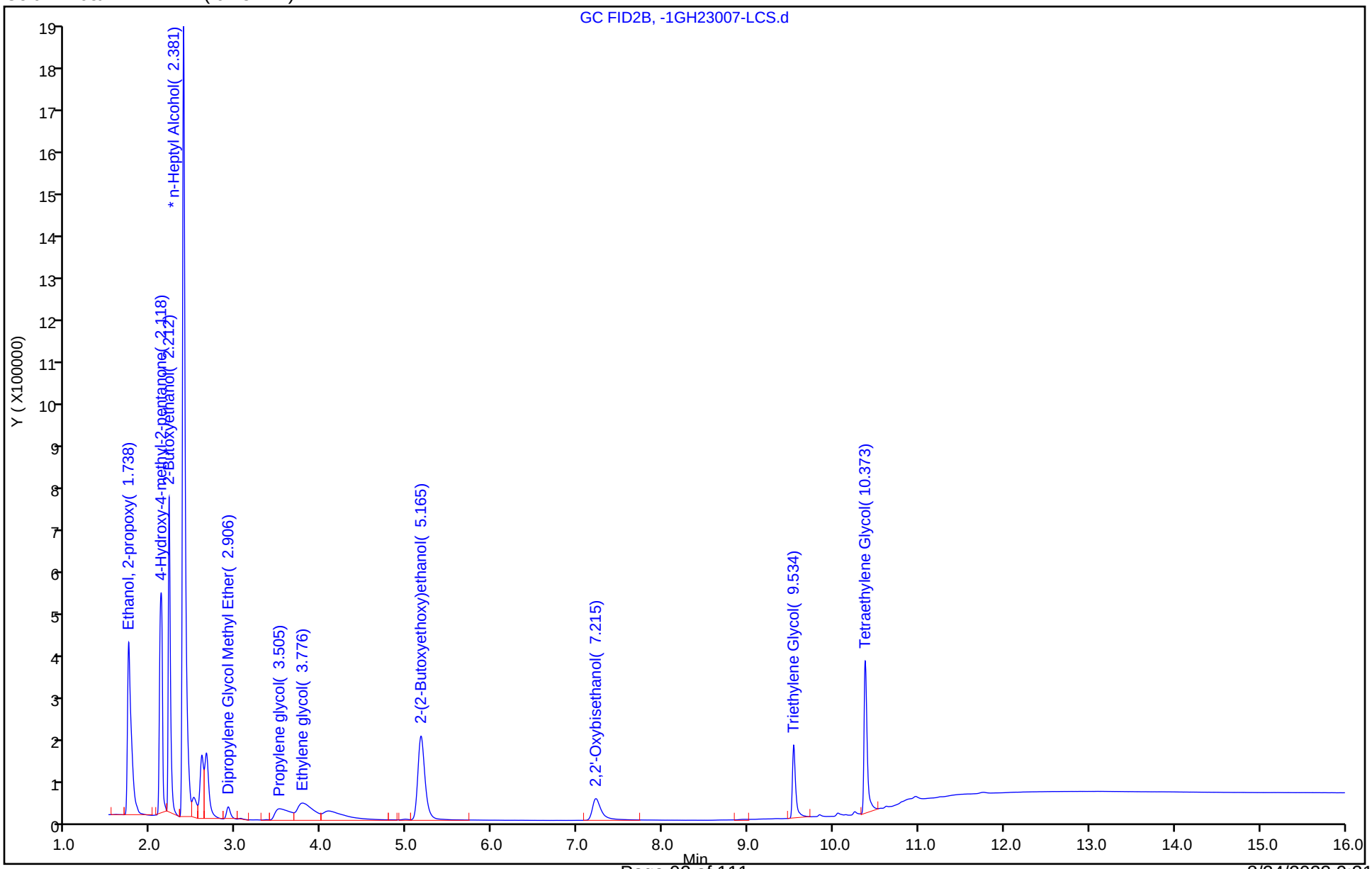
Report Date: 24-Aug-2023 09:38:42 Chrom Revision: 2.3 21-Aug-2023 17:14:06

Eurofins Environment Testing America

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\-1GH23007-LCS.d

Injection Date:	23-Aug-2023 14:39:41	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	1007
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 680-794740/8

Matrix: Water Lab File ID: 1GH23008.D

Analysis Method: 8015C GLY Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/23/2023 15:02

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.: 794740 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	16.6		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23008.D
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 23-Aug-2023 15:02:40 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088533-008
Operator ID: Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 24-Aug-2023 09:38:30 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1635

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	1.737	1.733	0.004	1300309	20.0	16.8	
	2 4-Hydroxy-4-methyl-2-pentanone						
	2.119	2.115	0.004	1194762	20.0	16.4	
	3 2-Butoxyethanol						
	2.211	2.210	0.001	1320107	20.0	16.8	
*	4 n-Heptyl Alcohol						
	2.381	2.381	0.000	4363085	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	2.905	2.901	0.004	89803	20.0	15.4	
	6 Propylene glycol						
	3.509	3.545	-0.036	305596	20.0	14.0	
	7 Ethylene glycol						
	3.774	3.784	-0.010	506392	20.0	11.9	
	8 2-(2-Butoxyethoxy)ethanol						
	5.164	5.162	0.002	1127675	20.0	16.6	
	9 2,2'-Oxybisethanol						
	7.215	7.225	-0.010	388932	20.0	13.9	
	10 Triethylene Glycol						
	9.534	9.537	-0.003	443144	20.0	14.1	
	11 Tetraethylene Glycol						
	10.374	10.377	-0.003	855404	40.0	26.6	

Reagents:

SG_Gly_CAL_00056 Amount Added: 10.00 Units: uL
SG_GLY_ISTD_00126 Amount Added: 10.00 Units: uL Run Reagent

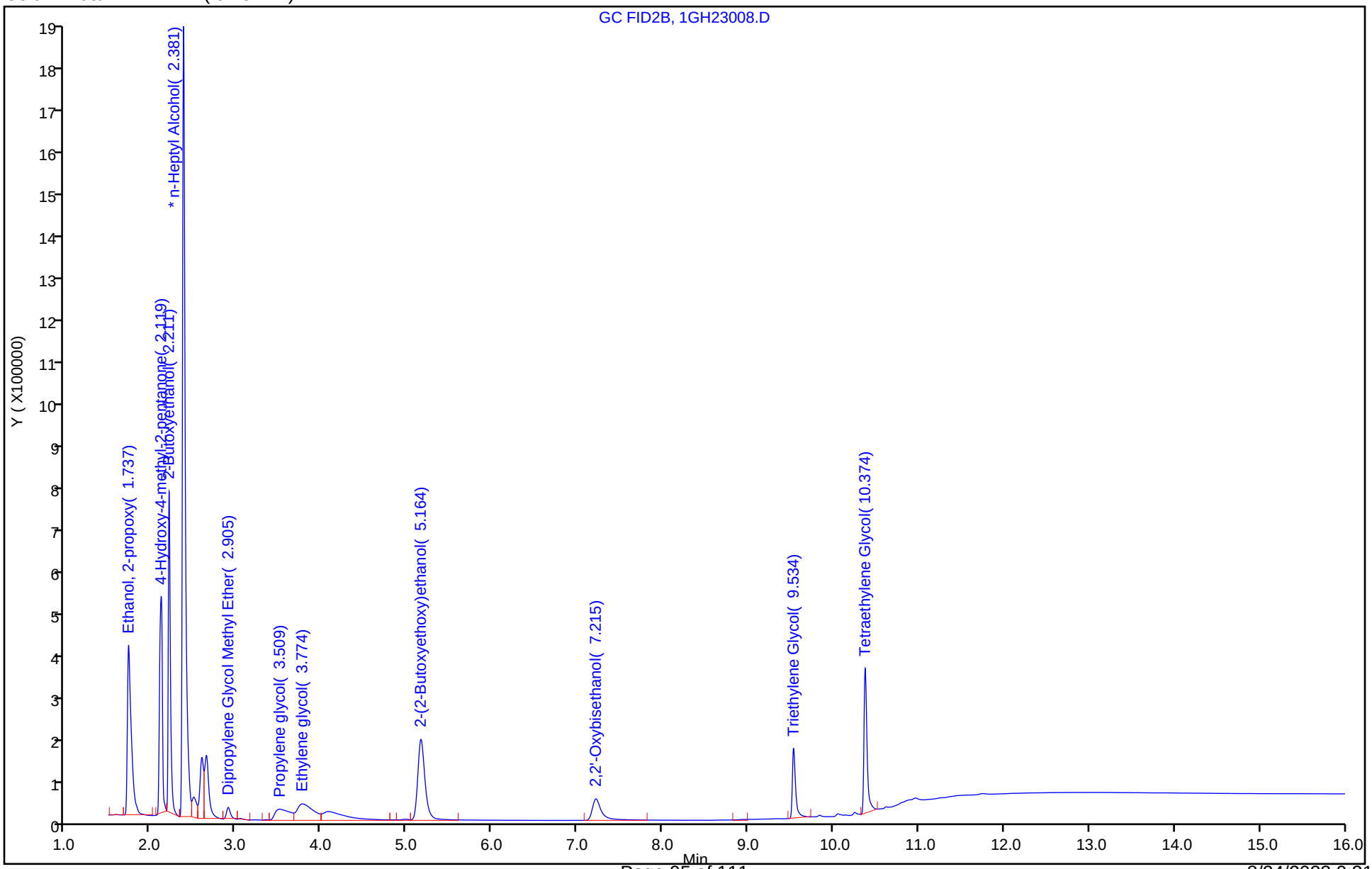
Report Date: 24-Aug-2023 09:38:41 Chrom Revision: 2.3 21-Aug-2023 17:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23008.D

Injection Date:	23-Aug-2023 15:02:40	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	lcsd			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



8/24/2023 9:31 AM

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah | Job No.: 580-130608-1

SDG No.:

Client Sample ID: AF-HDMW225303-WGN01LF-2308 MS | Lab Sample ID: 580-130608-1 MS

Matrix: Water | Lab File ID: 1GH23013.D

Analysis Method: 8015C GLY | Date Collected: 08/11/2023 10:35

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 08/23/2023 16:57

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.: 794740 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	34.6	J1 Q	5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23013.D
Lims ID: 580-130608-C-1 MS
Client ID:
Sample Type: MS
Inject. Date: 23-Aug-2023 16:57:52 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088533-013
Operator ID: Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 24-Aug-2023 09:38:41 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1635

First Level Reviewer: AR8P Date: 24-Aug-2023 09:38:08

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	1.734	1.738	-0.004	1213277	20.0	35.6	
	2 4-Hydroxy-4-methyl-2-pentanone						
	2.123	2.118	0.005	1187336	20.0	37.7	
	3 2-Butoxyethanol						
	2.209	2.212	-0.003	1182802	20.0	33.7	
*	4 n-Heptyl Alcohol						s
	2.374	2.381	-0.007	2003719	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	2.906	2.906	0.000	74827	20.0	29.1	
	6 Propylene glycol						a
	3.603	3.505	0.098	268564	20.0	27.4	a
	7 Ethylene glycol						
	3.800	3.776	0.024	757918	20.0	40.0	
	8 2-(2-Butoxyethoxy)ethanol						
	5.166	5.165	0.001	1030946	20.0	34.6	
	9 2,2'-Oxybisethanol						
	7.248	7.215	0.033	317690	20.0	26.4	
	10 Triethylene Glycol						
	9.546	9.534	0.012	192129	20.0	13.2	
	11 Tetraethylene Glycol						7
	10.389	10.373	0.016	81988	40.0	2.66	7
	LOD =	4.50					

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

s - Failed ISTD Recovery Test

Review Flags

a - User Assigned ID

Reagents:

SG_Gly_CAL_00056	Amount Added:	10.00	Units: uL	
SG_GLY_ISTD_00126	Amount Added:	10.00	Units: uL	Run Reagent

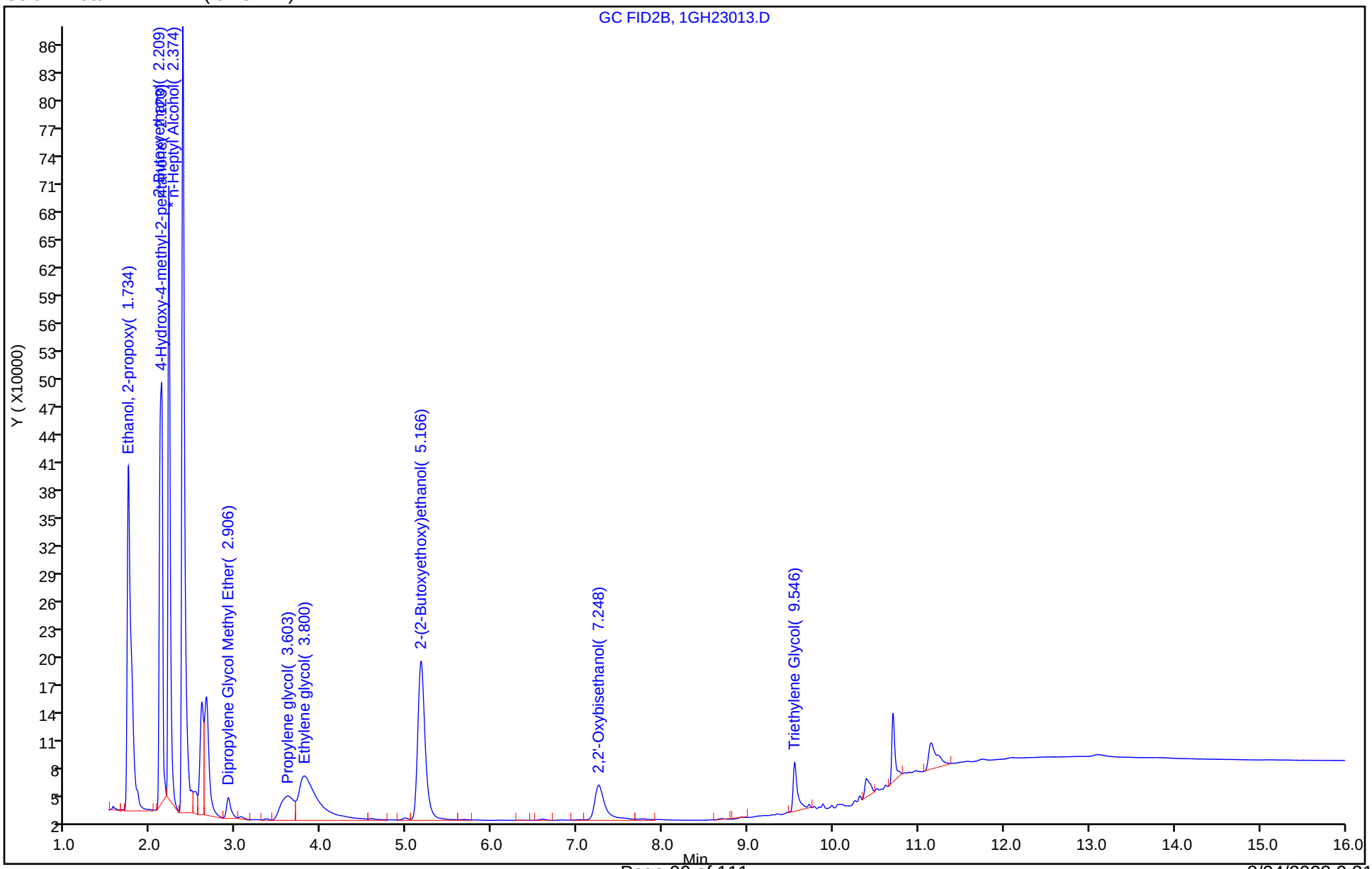
Report Date: 24-Aug-2023 09:38:43 Chrom Revision: 2.3 21-Aug-2023 17:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23013.D

Injection Date:	23-Aug-2023 16:57:52	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	580-130608-C-1 MS			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



8/24/2023 9:31 AM

FORM I
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Savannah | Job No.: 580-130608-1

SDG No.:

Client Sample ID: AF-HDMW225303-WGN01LF-2308 MSD | Lab Sample ID: 580-130608-1 MSD

Matrix: Water | Lab File ID: 1GH23014.D

Analysis Method: 8015C GLY | Date Collected: 08/11/2023 10:35

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 08/23/2023 17:20

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: J&W DB WAX ID: 0.45(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 794740 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
112-34-5	2-(2-Butoxyethoxy)ethanol	26.8		5.0	3.0	1.1

Eurofins Savannah
Target Compound Quantitation Report

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23014.D
Lims ID: 580-130608-C-1 MSD
Client ID:
Sample Type: MSD
Inject. Date: 23-Aug-2023 17:20:50 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 680-0088533-014
Operator ID: Instrument ID: CVGG2

Method: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\8015_GLY_VGG.m
Limit Group: 8015C_DAI
Last Update: 24-Aug-2023 09:38:41 Calib Date: 17-Aug-2023 20:12:31
Integrator: Falcon
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Savannah\ChromData\CVGG2\20230817-88372.b\1GH16010.D

Column 1 : J&W DB WAX (0.45 mm) Det: GC FID2B
Process Host: CTX1635

First Level Reviewer: AR8P Date: 24-Aug-2023 09:38:30

	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Ethanol, 2-propoxy						
	1.734	1.738	-0.004	1288177	20.0	27.5	
	2 4-Hydroxy-4-methyl-2-pentanone						
	2.122	2.118	0.004	1263662	20.0	29.2	
	3 2-Butoxyethanol						
	2.210	2.212	-0.002	1251799	20.0	26.0	
*	4 n-Heptyl Alcohol						
	2.376	2.381	-0.005	2723316	50.0	50.0	
	5 Dipropylene Glycol Methyl Ether						
	2.905	2.906	-0.001	82078	20.0	23.2	
	6 Propylene glycol						a
	3.606	3.505	0.101	279445	20.0	20.8	a
	7 Ethylene glycol						
	3.796	3.776	0.020	801440	20.0	31.0	
	8 2-(2-Butoxyethoxy)ethanol						
	5.163	5.165	-0.002	1101807	20.0	26.8	
	9 2,2'-Oxybisethanol						
	7.244	7.215	0.029	436484	20.0	26.7	
	10 Triethylene Glycol						
	9.546	9.534	0.012	304496	20.0	15.7	
	11 Tetraethylene Glycol						
	10.392	10.373	0.019	169108	40.0	5.92	

QC Flag Legend
Processing Flags

Review Flags
a - User Assigned ID

Reagents:

SG_Gly_CAL_00056	Amount Added:	10.00	Units: uL	
SG_GLY_ISTD_00126	Amount Added:	10.00	Units: uL	Run Reagent

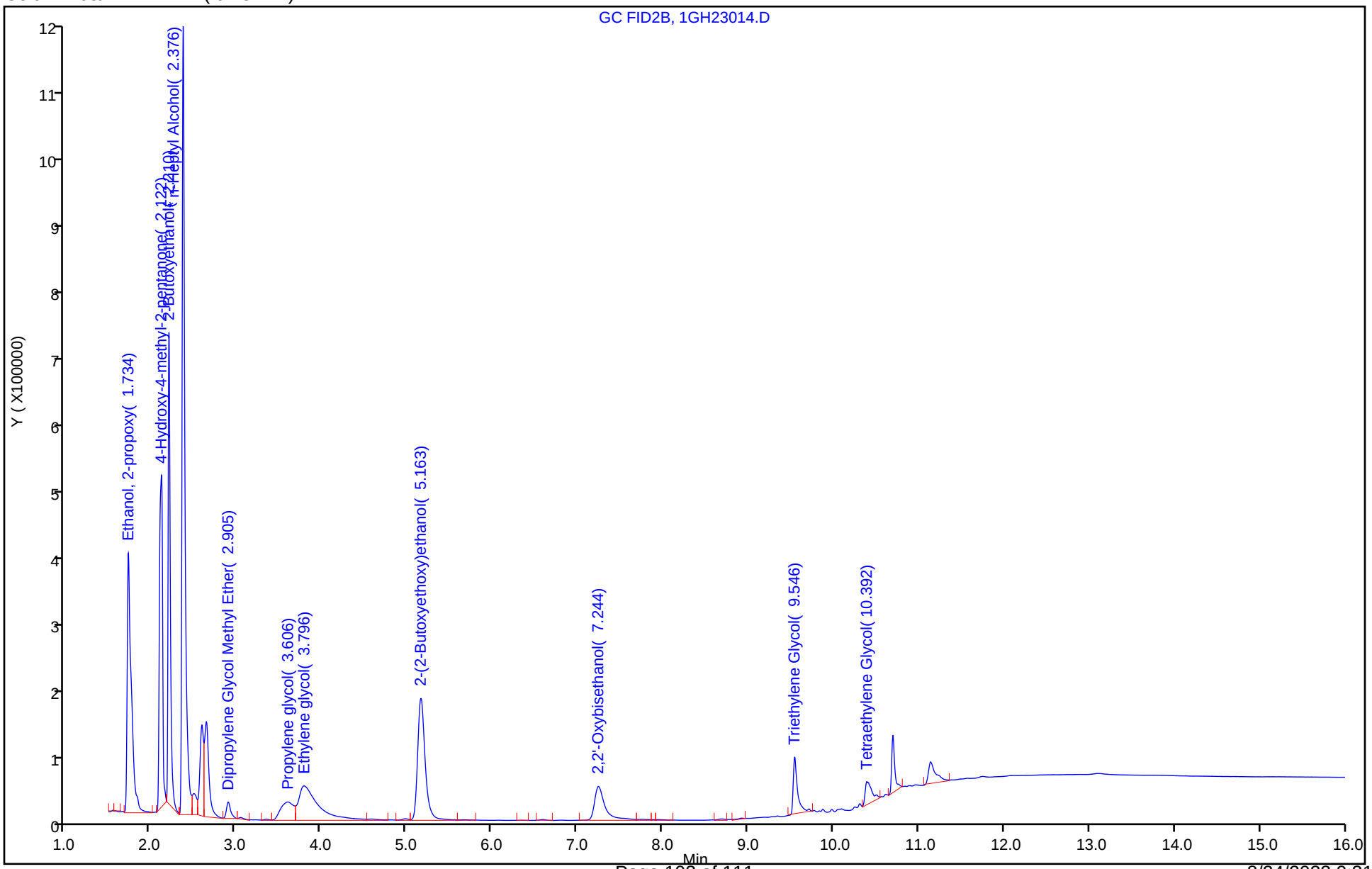
Report Date: 24-Aug-2023 09:38:42 Chrom Revision: 2.3 21-Aug-2023 17:14:06

Eurofins Savannah

Data File: \\chromfs\Savannah\ChromData\CVGG2\20230823-88533.b\1GH23014.D

Injection Date:	23-Aug-2023 17:20:50	Instrument ID:	CVGG2	Operator ID:	
Lims ID:	580-130608-C-1 MSD			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	8015_GLY_VGG	Limit Group:	8015C_DAI		

Column: J&W DB WAX (0.45 mm)



8/24/2023 9:31 AM

GC SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Instrument ID: CVGG2 Start Date: 08/17/2023 17:54

Analysis Batch Number: 793960 End Date: 08/17/2023 20:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 680-793960/4		08/17/2023 17:54	1	1GH16004.D	J&W DB WAX 0.45(mm)
IC 680-793960/5		08/17/2023 18:17	1	1GH16005.D	J&W DB WAX 0.45(mm)
IC 680-793960/6		08/17/2023 18:40	1	1GH16006.D	J&W DB WAX 0.45(mm)
ICIS 680-793960/7		08/17/2023 19:03	1	1GH16007.D	J&W DB WAX 0.45(mm)
IC 680-793960/8		08/17/2023 19:26	1	1GH16008.D	J&W DB WAX 0.45(mm)
IC 680-793960/9		08/17/2023 19:49	1	1GH16009.D	J&W DB WAX 0.45(mm)
IC 680-793960/10		08/17/2023 20:12	1	1GH16010.D	J&W DB WAX 0.45(mm)
ICV 680-793960/11 CCV		08/17/2023 20:35	1	1GH16011.D	J&W DB WAX 0.45(mm)

GC SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Instrument ID: CVGG2 Start Date: 08/23/2023 14:39

Analysis Batch Number: 794740 End Date: 08/23/2023 23:51

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVIS 680-794740/7		08/23/2023 14:39	1	1GH23007.D	J&W DB WAX 0.45(mm)
LCS 680-794740/1007		08/23/2023 14:39	1	-1GH23007-LCS.d	J&W DB WAX 0.45(mm)
LCSD 680-794740/8		08/23/2023 15:02	1	1GH23008.D	J&W DB WAX 0.45(mm)
MB 680-794740/11		08/23/2023 16:11	1	1GH23011.D	J&W DB WAX 0.45(mm)
580-130608-1	AF-HDMW225303-WGN01LF-2308	08/23/2023 16:34	1	1GH23012.D	J&W DB WAX 0.45(mm)
580-130608-1 MS	AF-HDMW225303-WGN01LF-2308 MS	08/23/2023 16:57	1	1GH23013.D	J&W DB WAX 0.45(mm)
580-130608-1 MSD	AF-HDMW225303-WGN01LF-2308 MSD	08/23/2023 17:20	1	1GH23014.D	J&W DB WAX 0.45(mm)
CCVIS 680-794740/16		08/23/2023 18:06	1	1GH23016.D	J&W DB WAX 0.45(mm)
ZZZZZ		08/23/2023 18:06	1		J&W DB WAX 0.45(mm)
ZZZZZ		08/23/2023 19:15	1		J&W DB WAX 0.45(mm)
ZZZZZ		08/23/2023 19:38	1		J&W DB WAX 0.45(mm)
ZZZZZ		08/23/2023 20:01	1		J&W DB WAX 0.45(mm)
ZZZZZ		08/23/2023 20:24	1		J&W DB WAX 0.45(mm)
ZZZZZ		08/23/2023 21:10	1		J&W DB WAX 0.45(mm)
ZZZZZ		08/23/2023 21:56	1		J&W DB WAX 0.45(mm)
ZZZZZ		08/23/2023 22:42	1		J&W DB WAX 0.45(mm)
ZZZZZ		08/23/2023 23:05	10		J&W DB WAX 0.45(mm)
ZZZZZ		08/23/2023 23:51	10		J&W DB WAX 0.45(mm)

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Batch Number: 793960 Batch Start Date: 08/17/23 17:54 Batch Analyst: Mullis, David B

Batch Method: 8015C GLY Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	SG_Gly_CAL 00053	SG_GLY_ISTD 00128	SG_GlyICV 00062		
IC 680-793960/4		8015C GLY		1 mL	50 uL	10 uL			
IC 680-793960/5		8015C GLY		1 mL	40 uL	10 uL			
IC 680-793960/6		8015C GLY		1 mL	25 uL	10 uL			
ICIS 680-793960/7		8015C GLY		1 mL	10 uL	10 uL			
IC 680-793960/8		8015C GLY		1 mL	5 uL	10 uL			
IC 680-793960/9		8015C GLY		1 mL	2.5 uL	10 uL			
IC 680-793960/10		8015C GLY		1 mL	1 uL	10 uL			
ICV 680-793960/11 CCV		8015C GLY		1 mL		10 uL	10 uL		

Batch Notes	

Basis	Basis Description

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

GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Savannah Job No.: 580-130608-1

SDG No.:

Batch Number: 794740 Batch Start Date: 08/23/23 14:39 Batch Analyst: Mullis, David B

Batch Method: 8015C GLY Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	SG_Gly_CAL 00056	SG_GLY_ISTD 00126	SG_GlyICV 00062		
CCVIS 680-794740/7		8015C GLY		1 mL	10 uL	10 uL			
LCSD 680-794740/8		8015C GLY		1 mL	10 uL	10 uL			
MB 680-794740/11		8015C GLY		1 mL		10 uL			
580-130608-C-1	AF-HDMW225303-WG N01LF-2308	8015C GLY	T	1 mL		10 uL			
580-130608-C-1 MS	AF-HDMW225303-WG N01LF-2308	8015C GLY	T	1 mL	10 uL	10 uL			
580-130608-C-1 MSD	AF-HDMW225303-WG N01LF-2308	8015C GLY	T	1 mL	10 uL	10 uL			
CCVIS 680-794740/16		8015C GLY		1 mL		10 uL	10 uL		
LCS 680-794740/1007		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: Miranda DeHarmo	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: 2308AFEA04
Client Contact:	Phone: 330-205-9662	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 - 5 Day			
State, Zip: Hawaii 96813	Compliance Project: Δ Yes Δ No			
Phone: 808-954-4512 / 770-331-0794	PO #:			
Email: Watson Tanji (watson.tanji@aecom.com)/ Mark Kromis (mark.kromis@aecom.com)	WO #:			
Project Name: CTO N6274223F0104	Project #: 60697810			
Site: RHSF	SSOW#:			

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_DS/ 2-(2-butoxyethoxy)-ethanol	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
AF-HDMW225303-WGN01LF-2308	8/11/23	1035	G	W	N	N	X	3	

MD 8/11/23

MD 8/11/23

580-130608 Chain of Custody

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:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: Miranda DeHarmo	8/11/23 1210	AECOM	Alex Edmonds	8/11/23 1210	AECOM
Relinquished by: Alex Edmonds	8/14/23 1235	AECOM	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 8/16/23 1030	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 2.3/2.4

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-130608-1

Login Number: 130608
List Number: 1
Creator: Johnson, Corey M

List Source: Eurofins Seattle

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