

Anatek Labs, Inc.

1282 Alturas Drive - Moscow, ID 83843 - (208) 883-2839 - Fax (208) 8829246 - email moscow@anateklabs.com
504 E Sprague Ste. D - Spokane, WA 99202 - (509) 838-3999 - fax (509) 838-4433 - email spokane@anateklabs.com

Client: Cardno - Hawaii
Address: 737 Bishop St., Ste. 3050
Honolulu, HI 96813
Attn: Benjamin Berridge

Work Order: WCF1156
Project: ADC Water Quality Monitoring
Reported: 8/3/2022 21:26

Case Narrative

<u>Laboratory ID</u>	<u>Sample Name</u>
WCF1156-01	DW-2
WCF1156-02	DW-3
WCF1156-03	D-2
WCF1156-04	D-3
WCF1156-05	D-4
WCF1156-06	D-5
WCF1156-07	D-6
WCF1156-08	D-7
WCF1156-09	D-8
WCF1156-10	DW-1/WW-1
WCF1156-11	WW-2
WCF1156-12	U-3/WW-4
WCF1156-13	WW-3
WCF1156-14	E-2
WCF1156-15	E-1
WCF1156-16	E-1 DUP

QA/QC Checks

<u>Parameters</u>	<u>Yes / No</u>	<u>Exceptions / Deviations</u>
Sample Holding Time Valid?	Y	NA
Surrogate Recoveries Valid?	Y	NA
QC Sample(s) Recoveries Valid?	Y	NA
Method Blank(s) Valid?	Y	NA
Comments	N	See Comments Section

1. Holding Time Requirements

No problems encountered.

2. Calibration Requirements

No problems encountered.

3. Surrogate Recovery Requirements

No problems encountered.

4. QC Sample (LCS/MS/MSD) Recovery Requirements

No problems encountered.

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5. Method Blank Requirements

The method blanks were non-detect for all analytes. No problems encountered.

6. Internal Standard(s) Response Requirements

No problems encountered

7. Comments

I certify that this data package is in compliance with the terms and conditions of the contract.

Release of the data contained in this data package has been authorized by the Laboratory Manager or his or her designee.

Kathleen A. Sattler, Lab Manager

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Analytical Results Report

Sample Location: DW-2
Lab/Sample Number: WCF1156-01 Collect Date: 06/27/22 08:55
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	12.8	mg/L	0.200	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.00122	mg/L	0.00100	7/15/22 15:39	JLG	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 14:46	JLG	EPA 245.1	
Semivolatiles							
Diesel	<0.052	mg/L	0.0800	7/8/22 12:35	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/8/22 12:35	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/8/22 12:35	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/8/22 12:35	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	96.2%		50-150	7/8/22 12:35	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: DW-3
Lab/Sample Number: WCF1156-02 Collect Date: 06/27/22 09:10
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	10.0	mg/L	0.200	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.00106	mg/L	0.00100	7/15/22 15:49	JLG	EPA 200.8	
Mercury							
Mercury	ND	ug/L	0.100	7/13/22 14:48	JLG	EPA 245.1	
Semivolatiles							
Diesel	<0.052	mg/L	0.0800	7/8/22 14:25	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/8/22 14:25	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/8/22 14:25	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/8/22 14:25	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	96.1%		50-150	7/8/22 14:25	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: D-2
Lab/Sample Number: WCF1156-03 Collect Date: 06/27/22 09:30
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	25.0	mg/L	1.00	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.0151	mg/L	0.00100	7/15/22 15:52	JLG	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 14:55	JLG	EPA 245.1	
Semivolatiles							
Diesel	<0.052	mg/L	0.0800	7/8/22 15:21	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/8/22 15:21	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/8/22 15:21	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/8/22 15:21	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	95.4%		50-150	7/8/22 15:21	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: D-3
Lab/Sample Number: WCF1156-04 Collect Date: 06/27/22 08:40
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	31.0	mg/L	1.00	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.00147	mg/L	0.00100	7/15/22 15:59	JLG	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 14:57	JLG	EPA 245.1	
Semivolatiles							
Diesel	<0.052	mg/L	0.0800	7/8/22 16:17	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/8/22 16:17	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/8/22 16:17	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/8/22 16:17	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	94.4%		50-150	7/8/22 16:17	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: D-4
Lab/Sample Number: WCF1156-05 Collect Date: 06/27/22 09:20
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	4.60	mg/L	0.200	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.00161	mg/L	0.00100	7/15/22 16:02	JLG	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 14:59	JLG	EPA 245.1	
Semivolatiles							
Diesel	<0.052	mg/L	0.0800	7/8/22 17:12	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/8/22 17:12	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/8/22 17:12	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/8/22 17:12	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	96.4%		50-150	7/8/22 17:12	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: D-5
Lab/Sample Number: WCF1156-06 Collect Date: 06/27/22 09:40
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	2.80	mg/L	0.200	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.00235	mg/L	0.00100	7/19/22 15:13	Metals	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 15:02	JLG	EPA 245.1	
Semivolatiles							
Diesel	<0.052	mg/L	0.0800	7/8/22 18:08	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/8/22 18:08	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/8/22 18:08	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/8/22 18:08	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	93.1%		50-150	7/8/22 18:08	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: D-6
Lab/Sample Number: WCF1156-07 Collect Date: 06/27/22 09:00
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	81.0	mg/L	1.00	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.0133	mg/L	0.00100	7/15/22 16:09	JLG	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 15:04	JLG	EPA 245.1	
Semivolatiles							
Diesel	<0.052	mg/L	0.0800	7/8/22 19:04	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/8/22 19:04	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/8/22 19:04	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/8/22 19:04	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	94.7%		50-150	7/8/22 19:04	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: D-7
Lab/Sample Number: WCF1156-08 Collect Date: 06/27/22 10:10
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	32.0	mg/L	1.00	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.000648	mg/L	0.00100	7/15/22 16:13	JLG	EPA 200.8	J
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 15:06	JLG	EPA 245.1	
Semivolatiles							
Diesel	<0.052	mg/L	0.0800	7/8/22 19:59	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/8/22 19:59	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/8/22 19:59	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/8/22 19:59	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	94.8%		50-150	7/8/22 19:59	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: D-8
Lab/Sample Number: WCF1156-09 Collect Date: 06/27/22 09:05
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	6.00	mg/L	1.00	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.00358	mg/L	0.00100	7/15/22 16:16	JLG	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 15:09	JLG	EPA 245.1	
Semivolatiles							
Diesel	<0.052	mg/L	0.0800	7/8/22 20:55	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/8/22 20:55	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/8/22 20:55	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/8/22 20:55	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	95.3%		50-150	7/8/22 20:55	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: DW-1/WW-1
Lab/Sample Number: WCF1156-10 Collect Date: 06/27/22 10:15
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	3.20	mg/L	0.200	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.00249	mg/L	0.00100	7/15/22 16:19	JLG	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 15:11	JLG	EPA 245.1	
Semivolatiles							
Diesel	<0.052	mg/L	0.0800	7/9/22 2:29	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/9/22 2:29	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/9/22 2:29	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/9/22 2:29	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	92.4%		50-150	7/9/22 2:29	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: WW-2
Lab/Sample Number: WCF1156-11 Collect Date: 06/27/22 10:05
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	3.80	mg/L	0.200	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.00174	mg/L	0.00100	7/15/22 16:36	JLG	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 15:13	JLG	EPA 245.1	
Semivolatiles							
Diesel	<0.052	mg/L	0.0800	7/9/22 3:25	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/9/22 3:25	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/9/22 3:25	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/9/22 3:25	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	92.0%		50-150	7/9/22 3:25	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: U-3/WW-4
Lab/Sample Number: WCF1156-12 Collect Date: 06/27/22 10:20
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	111	mg/L	1.00	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.000513	mg/L	0.00100	7/15/22 16:39	JLG	EPA 200.8	J
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 15:15	JLG	EPA 245.1	
Semivolatiles							
Diesel	<0.052	mg/L	0.0800	7/9/22 4:20	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/9/22 4:20	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/9/22 4:20	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/9/22 4:20	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	96.1%		50-150	7/9/22 4:20	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: WW-3
Lab/Sample Number: WCF1156-13 Collect Date: 06/27/22 10:30
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	7.50	mg/L	0.500	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.00194	mg/L	0.00100	7/15/22 16:43	JLG	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 15:18	JLG	EPA 245.1	
Semivolatiles							
AMPA	<5	ug/L	10.0	7/8/22 12:08	MER	EPA 547	*
Glyphosate	<2.50	ug/L	5.00	7/8/22 12:08	MER	EPA 547	*
Atrazine	<0.05	ug/L	0.100	7/15/22 16:21	MAH	EPA 625.1	*
Chlorpyrifos	<0.05	ug/L	0.100	7/15/22 16:21	MAH	EPA 625.1	*
Metolachlor	<0.05	ug/L	0.100	7/15/22 16:21	MAH	EPA 625.1	*
Surrogate: Terphenyl-d14	90.3%		25-135	7/15/22 16:21	MAH	EPA 625.1	
Diesel	<0.052	mg/L	0.0800	7/9/22 5:15	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/9/22 5:15	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/9/22 5:15	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/9/22 5:15	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	94.8%		50-150	7/9/22 5:15	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: E-2
Lab/Sample Number: WCF1156-14 Collect Date: 06/27/22 09:45
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	37.0	mg/L	1.00	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.00252	mg/L	0.00100	7/15/22 16:46	JLG	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 15:20	JLG	EPA 245.1	
Semivolatiles							
AMPA	<5	ug/L	10.0	7/8/22 12:15	MER	EPA 547	*
Glyphosate	<2.50	ug/L	5.00	7/8/22 12:15	MER	EPA 547	*
Atrazine	CR	ug/L	0.100	7/15/22 16:50	MAH	EPA 625.1	*
Chlorpyrifos	<0.05	ug/L	0.100	7/15/22 16:50	MAH	EPA 625.1	*
Metolachlor	ND	ug/L	0.100	7/15/22 16:50	MAH	EPA 625.1	*
Surrogate: Terphenyl-d14	77.8%		25-135	7/15/22 16:50	MAH	EPA 625.1	
Diesel	<0.052	mg/L	0.0800	7/9/22 6:11	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/9/22 6:11	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/9/22 6:11	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/9/22 6:11	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	93.9%		50-150	7/9/22 6:11	ARC	NWTPH-HCID	

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Analytical Results Report

(Continued)

Sample Location: E-1
Lab/Sample Number: WCF1156-15 Collect Date: 06/27/22 11:20
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	40.0	mg/L	1.00	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.00204	mg/L	0.00100	7/15/22 16:49	JLG	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 15:22	JLG	EPA 245.1	
Semivolatiles							
AMPA	<5	ug/L	10.0	7/8/22 10:47	MER	EPA 547	*
Glyphosate	<2.50	ug/L	5.00	7/8/22 10:47	MER	EPA 547	*
Atrazine	<0.05	ug/L	0.100	7/15/22 17:19	MAH	EPA 625.1	*
Chlorpyrifos	<0.05	ug/L	0.100	7/15/22 17:19	MAH	EPA 625.1	*
Metolachlor	ND	ug/L	0.100	7/15/22 17:19	MAH	EPA 625.1	*
Surrogate: Terphenyl-d14	85.9%		25-135	7/15/22 17:19	MAH	EPA 625.1	
Diesel	<0.052	mg/L	0.0800	7/8/22 5:08	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/8/22 5:08	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/8/22 5:08	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/8/22 5:08	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	89.4%		50-150	7/8/22 5:08	ARC	NWTPH-HCID	

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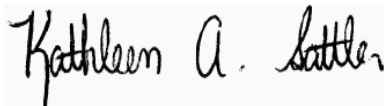
Analytical Results Report

(Continued)

Sample Location: E-1 DUP
Lab/Sample Number: WCF1156-16 Collect Date: 06/27/22 11:20
Date Received: 06/30/22 10:30 Collected By:
Matrix: Water

Analyte	Result	Units	PQL	Analyzed	Analyst	Method	Qualifier
Inorganics							
TSS	36.4	mg/L	0.200	7/1/22 13:13	ERS	EPA 160.2	
Metals by ICP-MS							
Arsenic	0.00251	mg/L	0.00100	7/15/22 16:59	JLG	EPA 200.8	
Mercury							
Mercury	<0.0850	ug/L	0.100	7/13/22 15:29	JLG	EPA 245.1	
Semivolatiles							
AMPA	<5	ug/L	10.0	7/8/22 12:22	MER	EPA 547	*
Glyphosate	<2.50	ug/L	5.00	7/8/22 12:22	MER	EPA 547	*
Atrazine	<0.05	ug/L	0.100	7/17/22 16:43	MAH	EPA 625.1	*
Chlorpyrifos	<0.05	ug/L	0.100	7/17/22 16:43	MAH	EPA 625.1	*
Metolachlor	ND	ug/L	0.100	7/17/22 16:43	MAH	EPA 625.1	*
Surrogate: Terphenyl-d14	88.2%		25-135	7/17/22 16:43	MAH	EPA 625.1	
Diesel	<0.052	mg/L	0.0800	7/9/22 7:06	ARC	NWTPH-HCID	
Gasoline	<0.16	mg/L	0.400	7/9/22 7:06	ARC	NWTPH-HCID	
Lube Oil	<0.046	mg/L	0.0800	7/9/22 7:06	ARC	NWTPH-HCID	
Mineral Oil	<0.16	mg/L	0.400	7/9/22 7:06	ARC	NWTPH-HCID	
Surrogate: n-Hexacosane	75.2%		50-150	7/9/22 7:06	ARC	NWTPH-HCID	

Authorized Signature,



Kathleen Sattler, Laboratory Manager

J	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
L3	The associated blank spike recovery was above laboratory acceptance limits.
PQL	Practical Quantitation Limit
ND	Not Detected
MCL	EPA's Maximum Contaminant Level
Dry	Sample results reported on a dry weight basis
*	Not a state-certified analyte
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was spiked or duplicated.

This report shall not be reproduced except in full, without the written approval of the laboratory
The results reported related only to the samples indicated.

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Certifications

Code	Description	Facility	Number
W WA DOE	Washington Department of Ecology	Anatek-Spokane, WA	C585
W FLDOH	Florida Department of Health (NELAC)	Anatek-Spokane, WA	E871099

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Quality Control Data

Inorganics

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG0018 - W Filtration										
Blank (BCG0018-BLK1)					Prepared & Analyzed: 7/1/2022					
TSS	ND		1.00	mg/L						
Blank (BCG0018-BLK2)					Prepared & Analyzed: 7/1/2022					
TSS	ND		1.00	mg/L						
Blank (BCG0018-BLK3)					Prepared & Analyzed: 7/1/2022					
TSS	ND		1.00	mg/L						
Blank (BCG0018-BLK4)					Prepared & Analyzed: 7/1/2022					
TSS	ND		1.00	mg/L						
Blank (BCG0018-BLK5)					Prepared & Analyzed: 7/1/2022					
TSS	ND		1.00	mg/L						
LCS (BCG0018-BS1)					Prepared & Analyzed: 7/1/2022					
TSS	99.0			mg/L	100		99.0	90-110		
LCS (BCG0018-BS2)					Prepared & Analyzed: 7/1/2022					
TSS	95.0			mg/L	100		95.0	90-110		
LCS (BCG0018-BS3)					Prepared & Analyzed: 7/1/2022					
TSS	101			mg/L	100		101	90-110		
LCS Dup (BCG0018-BSD1)					Prepared & Analyzed: 7/1/2022					
TSS	97.0			mg/L	100		97.0	90-110	2.04	10
LCS Dup (BCG0018-BSD2)					Prepared & Analyzed: 7/1/2022					
TSS	97.0			mg/L	100		97.0	90-110	2.08	10

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Quality Control Data (Continued)

Inorganics (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG0018 - W Filtration (Continued)										
LCS Dup (BCG0018-BSD3)					Prepared & Analyzed: 7/1/2022					
TSS	97.0			mg/L	100		97.0	90-110	4.04	10
Duplicate (BCG0018-DUP1)					Prepared & Analyzed: 7/1/2022					
TSS	4.00		1.00	mg/L		4.00			0.00	20
Duplicate (BCG0018-DUP2)					Prepared & Analyzed: 7/1/2022					
TSS	6.00		0.500	mg/L		5.00			18.2	20
Duplicate (BCG0018-DUP3)					Prepared & Analyzed: 7/1/2022					
TSS	7.00		1.00	mg/L		8.00			13.3	20
Matrix Spike (BCG0018-MS1)					Prepared & Analyzed: 7/1/2022					
TSS	110		2.00	mg/L	100	4.00	106	80-120		
Matrix Spike (BCG0018-MS2)					Prepared & Analyzed: 7/1/2022					
TSS	144		2.00	mg/L	100	40.0	104	80-120		
Matrix Spike (BCG0018-MS3)					Prepared & Analyzed: 7/1/2022					
TSS	104		2.00	mg/L	100	2.00	102	80-120		
Matrix Spike Dup (BCG0018-MSD1)					Prepared & Analyzed: 7/1/2022					
TSS	100		2.00	mg/L	100	4.00	96.0	80-120	9.52	20
Matrix Spike Dup (BCG0018-MSD2)					Prepared & Analyzed: 7/1/2022					
TSS	140		2.00	mg/L	100	40.0	100	80-120	2.82	20
Matrix Spike Dup (BCG0018-MSD3)					Prepared & Analyzed: 7/1/2022					
TSS	104		2.00	mg/L	100	2.00	102	80-120	0.00	20

Quality Control Data (Continued)

Metals by ICP-MS

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG0057 - W 3010 Digest										
Blank (BCG0057-BLK1)					Prepared: 7/5/2022 Analyzed: 7/15/2022					
Arsenic	0.000160	J	0.00100	mg/L						
Blank (BCG0057-BLK2)					Prepared: 7/5/2022 Analyzed: 7/7/2022					
Arsenic	ND		0.00100	mg/L						
LCS (BCG0057-BS1)					Prepared: 7/5/2022 Analyzed: 7/15/2022					
Arsenic	0.0546		0.00100	mg/L	0.0500		109	85-115		
Matrix Spike (BCG0057-MS1)					Prepared: 7/5/2022 Analyzed: 7/15/2022					
Arsenic	0.108		0.00100	mg/L	0.100	0.00122	106	70-130		
Matrix Spike (BCG0057-MS2)					Prepared: 7/5/2022 Analyzed: 7/15/2022					
Arsenic	0.105		0.00100	mg/L	0.100	0.00204	103	70-130		
Matrix Spike Dup (BCG0057-MSD1)					Prepared: 7/5/2022 Analyzed: 7/15/2022					
Arsenic	0.108		0.00100	mg/L	0.100	0.00122	107	70-130	0.758	20

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Quality Control Data (Continued)

Metals by ICP-MS (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG0057 - W 3010 Digest (Continued)										
Matrix Spike Dup (BCG0057-MSD2)		Source: WCF1156-15			Prepared: 7/5/2022 Analyzed: 7/15/2022					
Arsenic	0.104		0.00100	mg/L	0.100	0.00204	102	70-130	1.03	20

Quality Control Data (Continued)

Mercury

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG0086 - W 245.1 Digest										
Blank (BCG0086-BLK1)		Prepared: 7/6/2022 Analyzed: 7/13/2022								
Mercury	ND		0.100	ug/L						
LCS (BCG0086-BS1)		Prepared: 7/6/2022 Analyzed: 7/13/2022								
Mercury	2.07		0.100	ug/L	2.00		104	85-115		
Matrix Spike (BCG0086-MS1)		Source: WCF1156-02			Prepared: 7/6/2022 Analyzed: 7/13/2022					
Mercury	2.50		0.100	ug/L	2.00	ND	125	70-130		
Matrix Spike (BCG0086-MS2)		Source: WCF1156-15			Prepared: 7/6/2022 Analyzed: 7/13/2022					
Mercury	2.57		0.100	ug/L	2.00	<0.0850	128	70-130		
Matrix Spike Dup (BCG0086-MSD1)		Source: WCF1156-02			Prepared: 7/6/2022 Analyzed: 7/13/2022					
Mercury	2.47		0.100	ug/L	2.00	ND	124	70-130	1.01	20
Matrix Spike Dup (BCG0086-MSD2)		Source: WCF1156-15			Prepared: 7/6/2022 Analyzed: 7/13/2022					
Mercury	2.41		0.100	ug/L	2.00	<0.0850	120	70-130	6.47	20

Quality Control Data (Continued)

Semivolatiles

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG0012 - SVOC Water										
Blank (BCG0012-BLK1)		Prepared: 6/30/2022 Analyzed: 7/15/2022								
Metolachlor	ND		0.100	ug/L						
Atrazine	ND		0.100	ug/L						
Chlorpyrifos	ND		0.100	ug/L						
<i>Surrogate: Terphenyl-d14</i>			21.3	ug/L	25.8		82.6	25-135		
LCS (BCG0012-BS1)		Prepared: 6/30/2022 Analyzed: 7/15/2022								
Chlorpyrifos	4.34		0.100	ug/L	5.00		86.8	50-125		
Metolachlor	4.51		0.100	ug/L	5.00		90.2	60-125		
Atrazine	4.27		0.100	ug/L	5.00		85.4	60-125		
<i>Surrogate: Terphenyl-d14</i>			23.9	ug/L	25.8		92.9	25-135		
LCS Dup (BCG0012-BSD1)		Prepared: 6/30/2022 Analyzed: 7/15/2022								
Atrazine	4.25		0.100	ug/L	5.00		85.0	60-125	0.469	20
Chlorpyrifos	4.28		0.100	ug/L	5.00		85.6	50-125	1.39	20
Metolachlor	4.45		0.100	ug/L	5.00		89.0	60-125	1.34	20

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Quality Control Data (Continued)

Semivolatiles (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch: BCG0012 - SVOC Water (Continued)

LCS Dup (BCG0012-BSD1)

Prepared: 6/30/2022 Analyzed: 7/15/2022

Surrogate: Terphenyl-d14	23.4	ug/L	25.8	90.9	25-135
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Batch: BCG0088 - W TPH-Dx

Blank (BCG0088-BLK1)

Prepared: 7/7/2022 Analyzed: 7/8/2022

Lube Oil	ND	0.0800	mg/L							
Mineral Oil	ND	0.400	mg/L							
Gasoline	ND	0.400	mg/L							
Diesel	ND	0.0800	mg/L							
Surrogate: n-Hexacosane		48.5	mg/L	50.0	96.9	50-150				

LCS (BCG0088-BS1)

Prepared: 7/7/2022 Analyzed: 7/8/2022

Diesel	0.910	0.0800	mg/L	1.00	91.0	70-130				
Surrogate: n-Hexacosane		48.0	mg/L	50.0	96.0	50-150				

Duplicate (BCG0088-DUP1)

Source: WCF1156-01

Prepared: 7/7/2022 Analyzed: 7/8/2022

Lube Oil	ND	0.0800	mg/L	<0.046						200
Mineral Oil	ND	0.400	mg/L	<0.16						200
Gasoline	ND	0.400	mg/L	<0.16						200
Diesel	ND	0.0800	mg/L	<0.052						200
Surrogate: n-Hexacosane		48.0	mg/L	50.0	96.1	50-150				

Matrix Spike (BCG0088-MS1)

Source: WCF1156-15

Prepared: 7/7/2022 Analyzed: 7/8/2022

Diesel	0.843	0.0800	mg/L	1.00	<0.052	84.3	70-130			
Surrogate: n-Hexacosane		46.6	mg/L	50.0	93.1	50-150				

Matrix Spike Dup (BCG0088-MSD1)

Source: WCF1156-15

Prepared: 7/7/2022 Analyzed: 7/8/2022

Diesel	0.935	0.0800	mg/L	1.00	<0.052	93.5	70-130	10.3	20	
Surrogate: n-Hexacosane		48.2	mg/L	50.0	96.4	50-150				

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Quality Control Data (Continued)

Semivolatiles (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG0152 - Glyphosate										
Blank (BCG0152-BLK1)										
					Prepared: 7/7/2022 Analyzed: 7/8/2022					
Glyphosate	ND		5.00	ug/L						
AMPA	ND		10.0	ug/L						
LCS (BCG0152-BS1)										
					Prepared: 7/7/2022 Analyzed: 7/8/2022					
Glyphosate	48.4		5.00	ug/L	50.0		96.8	70-130		
AMPA	82.3		10.0	ug/L	100		82.3	70-130		
Matrix Spike (BCG0152-MS1)										
			Source: WCF1156-15		Prepared: 7/7/2022 Analyzed: 7/8/2022					
Glyphosate	47.8		5.00	ug/L	50.0	<2.50	95.6	70-130		
AMPA	144	L3	10.0	ug/L	100	<5	144	70-130		
Matrix Spike Dup (BCG0152-MSD1)										
			Source: WCF1156-15		Prepared: 7/7/2022 Analyzed: 7/8/2022					
Glyphosate	46.7		5.00	ug/L	50.0	<2.50	93.4	70-130	2.33	25
AMPA	151	L3	10.0	ug/L	100	<5	151	70-130	4.75	25

Chain of Custody Record

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WCF1156



Due: 07/15/22

Turn

Please refer to our normal turn around times at:

<http://www.anateklabs.com/services/guidelines/reporting.asp>

☒ Normal	*All rush order	☐ Phone
☐ Next Day*	requests must be	☐ Mail
☐ 2nd Day*	prior approved.	☐ Fax
☐ Other*		☒ Email

Provide Sample Description

List Analyses Requested

Note Special Instructions/Comments

****Please do not conduct TPH GRO analysis until Cardno confirms it should be run.**

[illegible]

Inspection Checklist

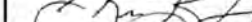
Received Intact?	Y	N
Labels & Chains Agree?	Y	N
Containers Sealed?	Y	N
VOC Head Space?	Y	N

Temperature ($^{\circ}\text{C}$):

Preservative:

Date & Time:

Inspected By:

	Printed Name	Signature	Company	Date	Time
Relinquished by	Ben Berridge		Cardno	6/28/2022	14:00
Received by	Joseph Pippin		Anatek	6/30/22	1648
Relinquished by					
Received by					
Relinquished by					
Received by					

Form COC01.00 - Eff 1 Mar 2015

Page 1 of 2

Samples submitted to Anatek Labs may be subcontracted to other accredited labs if necessary. This message serves as notice of this possibility. Sub-contracted analyses will be clearly noted on the analytical report.

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WCF1156



Due: 07/15/22

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Please refer to our previous email.

<http://www.anateklabs.com/services/guidelines/reporting.asp>

☒ Normal
☐ Next Day*
☐ 2nd Day*
☐ Other*

*All rush order requests must be prior approved.

___ Phone
 ___ Mail
 ___ Fax
 * Email

Company Name: Cardno-GS				Project Manager: Benjamin Berridge				Turn Please refer to our website for more information: http://www.anateklabs.com/services/guidelines/reporting.asp ☒ Normal ☐ Next Day* ☐ 2nd Day* ☐ Other* ☐ All rush order requests must be prior approved. ☐ Phone ☐ Mail ☐ Fax ☒ Email																					
Address: 737 Bishop St Suite 3050				Project Name & #: ADC Water Quality Monitoring																									
City: Honolulu State: HI Zip: 96813				Email Address: benjamin.berridge@cardno-gs.com																									
Phone: (808) 476-0067				Purchase Order #:																									
Fax:				Sampler Name & phone:																									
Provide Sample Description				List Analyses Requested								Note Special Instructions/Comments																	
				Preservative: <table><tr><td># of Containers</td><td>Sample Volume</td><td>TSS EPA 160.2</td><td>TPH HClID - SW 846 MOD 8015</td><td>**TPH GRO SW846M8015</td><td>Arsenic EPA 200.8</td><td>Mercury EPA 245.1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>								# of Containers	Sample Volume	TSS EPA 160.2	TPH HClID - SW 846 MOD 8015	**TPH GRO SW846M8015	Arsenic EPA 200.8	Mercury EPA 245.1								**Please do not conduct TPH GRO analysis until Cardno confirms it should be run.			
# of Containers	Sample Volume	TSS EPA 160.2	TPH HClID - SW 846 MOD 8015	**TPH GRO SW846M8015	Arsenic EPA 200.8	Mercury EPA 245.1																							
Lab ID	Sample Identification	Sampling Date/Time	Matrix	# of Containers	Sample Volume	TSS EPA 160.2	TPH HClID - SW 846 MOD 8015	**TPH GRO SW846M8015	Arsenic EPA 200.8	Mercury EPA 245.1																			
3	DW-2	06-27-2022/08:55 HST	Water	5		X	X	X	X	X																			
5	DW-3	06-27-2022/09:10 HST	Water	5		X	X	X	X	X																			
1	D-2	06-27-200/09:30 HST	Water	5		X	X	X	X	X																			
4	D-3	06-27-2022/08:40 HST	Water	5		X	X	X	X	X																			
3	D-4	06-27-2022/09:20 HST	Water	5		X	X	X	X	X																			
3	D-5	06-27-2022/09:40 HST	Water	5		X	X	X	X	X																			
3	D-6	06-27-2022/09:00 HST	Water	5		X	X	X	X	X																			
4	D-7	06-27-2022/10:10 HST	Water	5		X	X	X	X	X																			
2	D-8	06-27-2022/09:05 HST	Water	5		X	X	X	X	X																			
5	DW-1/WW-1	06-27-2022/10:15 HST	Water	5		X	X	X	X	X																			
4	WW-2	06-27-2022/10:05 HST	Water	5		X	X	X	X	X																			
4	U-3/WW-4	06-27-2022/10:20 HST	Water	5		X	X	X	X	X																			
Printed Name		Signature		Company		Date		Time																					
Relinquished by		Ben Berridge		Cardno		6/28/2022		14:00		Temperature (°C):																			
Received by		Joseph Pina		Anatek		6/30/22		1048		Preservative:																			
Relinquished by										Date & Time: <i>See Attached</i>																			
Received by										Inspected By:																			
Relinquished by																													
Received by																													



Anatek Labs, Inc.

Sample Receipt and Preservation Form

WCF1156



Due: 07/15/22

Client Name: Cardno Project: _____ (apply Anatek sample label here)TAT: Normal RUSH: _____ daysSamples Received From: FedEx UPS USPS Client Courier Other: _____Custody Seal on Cooler/Box: Yes No Custody Seals Intact: Yes No N/ANumber of Coolers/Boxes: 5 Type of Ice: Ice/Ice Packs Blue Ice Dry Ice NonePacking Material: Bubble Wrap Bags Foam/Peanuts None Other: _____Cooler Temp As Read (°C): #1 2.8 Cooler Temp Corrected (°C): _____ Thermometer Used: _____

#2 3.1
#3 2.6
#4 3.2

Samples Received Intact?	<u>Yes</u>	No	N/A
Chain of Custody Present?	<u>Yes</u>	No	N/A
Samples Received Within Hold Time?	<u>Yes</u>	No	N/A
Samples Properly Preserved?	<u>Yes</u>	No	N/A
VOC Vials Free of Headpace (<6mm)?	<u>Yes</u>	No	N/A
VOC Trip Blanks Present?	<u>Yes</u>	<u>No</u>	N/A
Labels and Chains Agree?	<u>Yes</u>	No	N/A
Total Number of Sample Bottles Received:	<u>95</u>		

Comments:

Chain of Custody Fully Completed?	<u>Yes</u>	No	N/A
Correct Containers Received?	<u>Yes</u>	No	N/A
Anatek Bottles Used?	<u>Yes</u>	No	Unknown

Record preservatives (and lot numbers, if known) for containers below:

HCL 2102437 < 2

HCL VOA 2103533

PH 2102558

Nathio 2200911

Notes, comments, etc. (also use this space if contacting the client - record names and date/time)

Received/Inspected By: [Signature] Date/Time: 10:49 6/30/22

US EPA Tune Check Report

Operator Name Metals
 Acq/Data Batch D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
 Acq. Date-Time 2022-07-15 10:26:25
 Report Comment ---
 Instrument Name 7800 JP17450949

[No Gas]

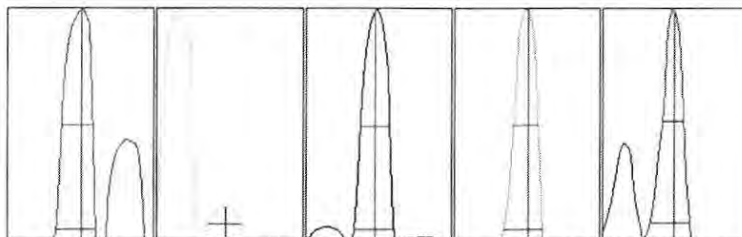
Sensitivity

Mass	Count	CPS	RSD%	RSD% (Required)	RSD% (Flag)
9	747	7468.37	0.874	5.000	
24	4500	45001.14	2.650	5.000	
59	2029	20285.74	1.741	5.000	
115	2968	29676.11	2.672	5.000	
208	1465	14649.68	3.652	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	745	738	751	746	754
24	4622	4601	4512	4427	4338
59	1973	2021	2033	2056	2061
115	2853	2939	2975	3003	3067
208	1385	1461	1479	1466	1534

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)	W-5%	W-5% (Required)	W-5% (Flag)
9	1200.02	9.05	8.90 - 9.10		0.814	0.900	
24	7188.82	23.95	23.90 - 24.10		0.789	0.900	
59	3511.37	58.95	58.90 - 59.10		0.813	0.900	
115	5706.04	115.05	114.90 - 115.10		0.789	0.900	
208	3094.21	208.00	207.90 - 208.10		0.810	0.900	

Integration Time [sec] = 0.1 Acquisition Time [sec] = 168.5 Y Axis = Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.33 L/min	Dilution Gas	0.56 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

US EPA Tune Check Report

Lens Parameters

Extract 1	0.0 V	Omega Lens	12.4 V	Deflect	15.0 V
Extract 2	-195.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-80 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	200 V		

QP Parameters

Mass Gain	167	Axis Gain	1.0041	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	0.04		

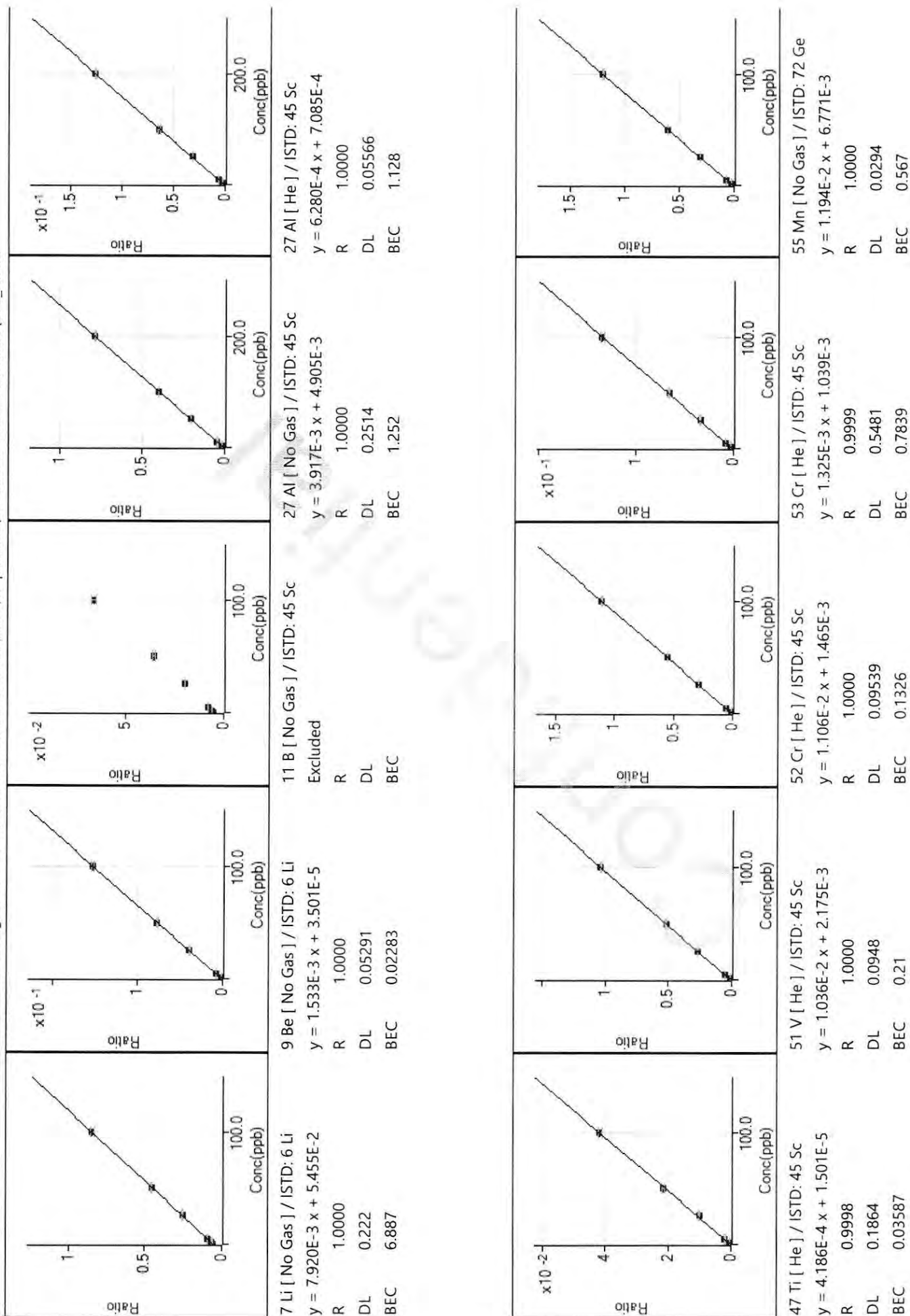
Hardware Settings

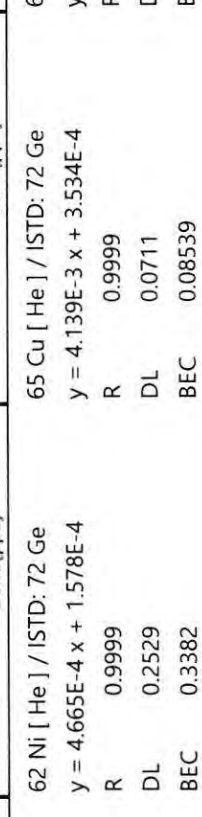
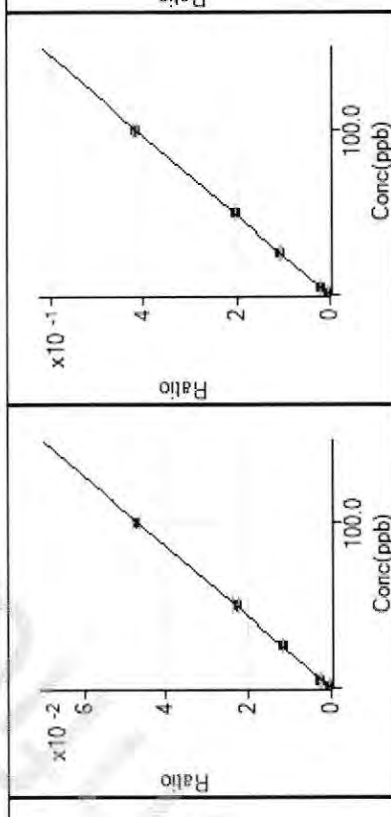
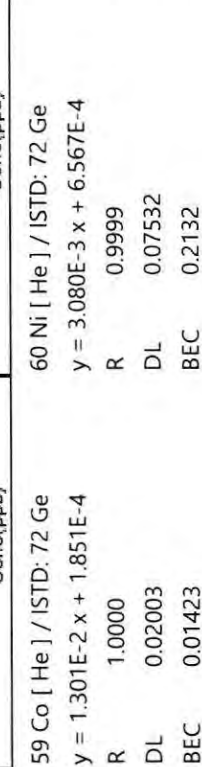
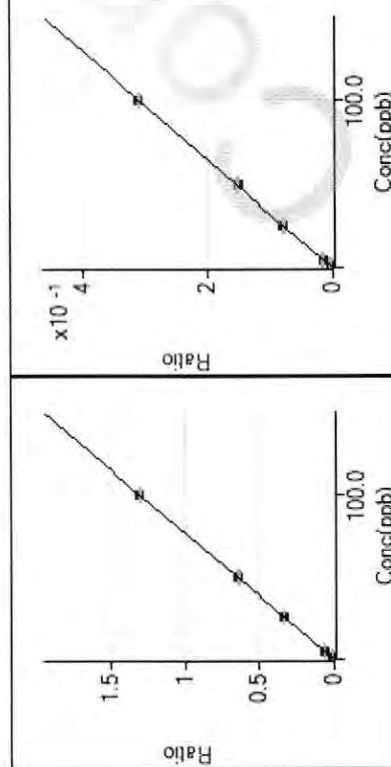
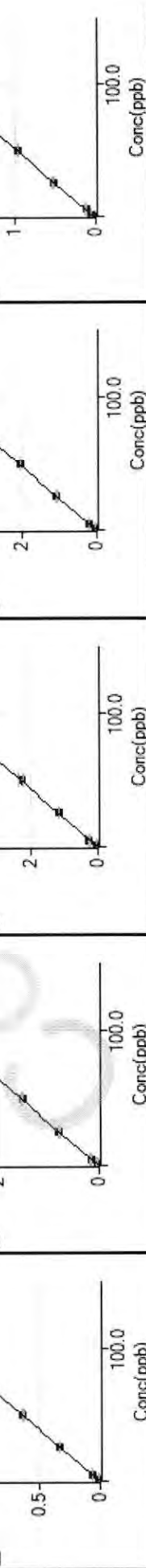
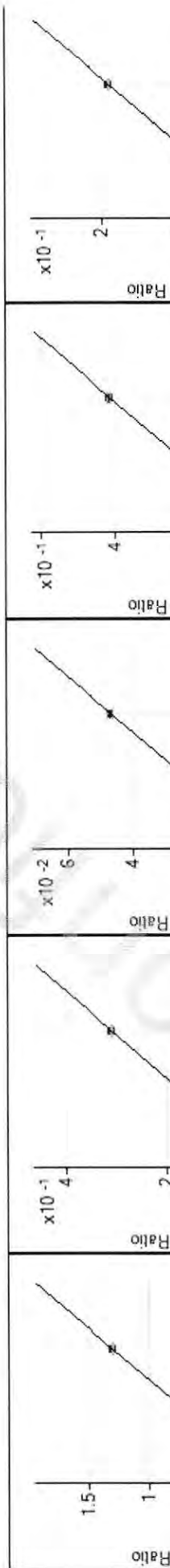
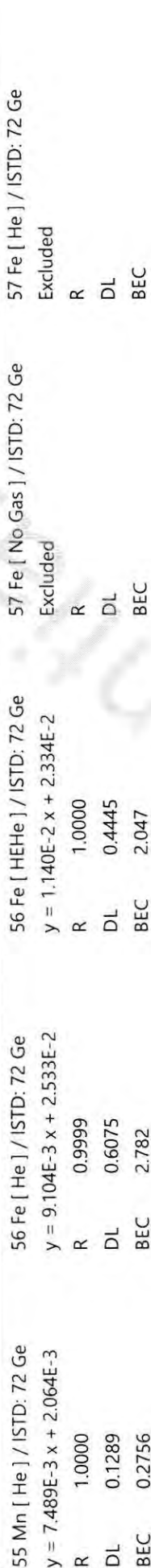
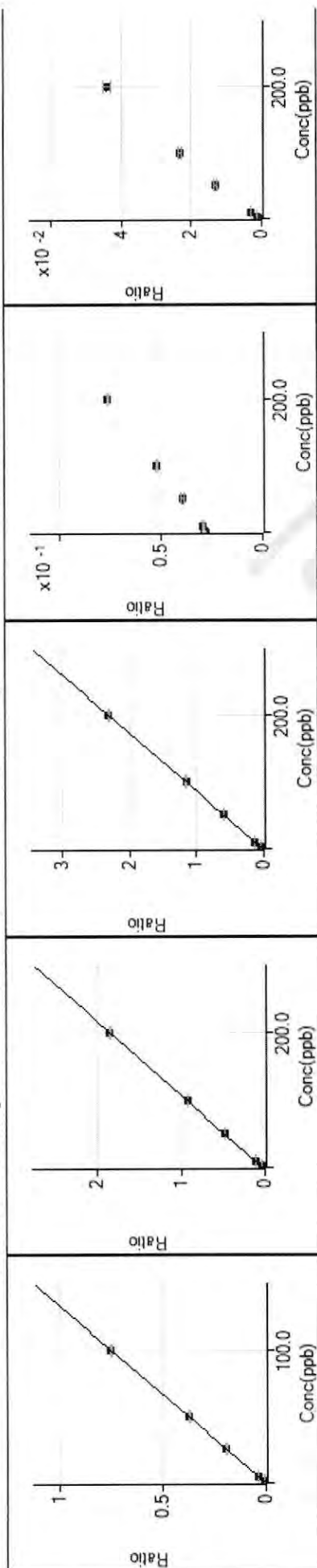
Torch

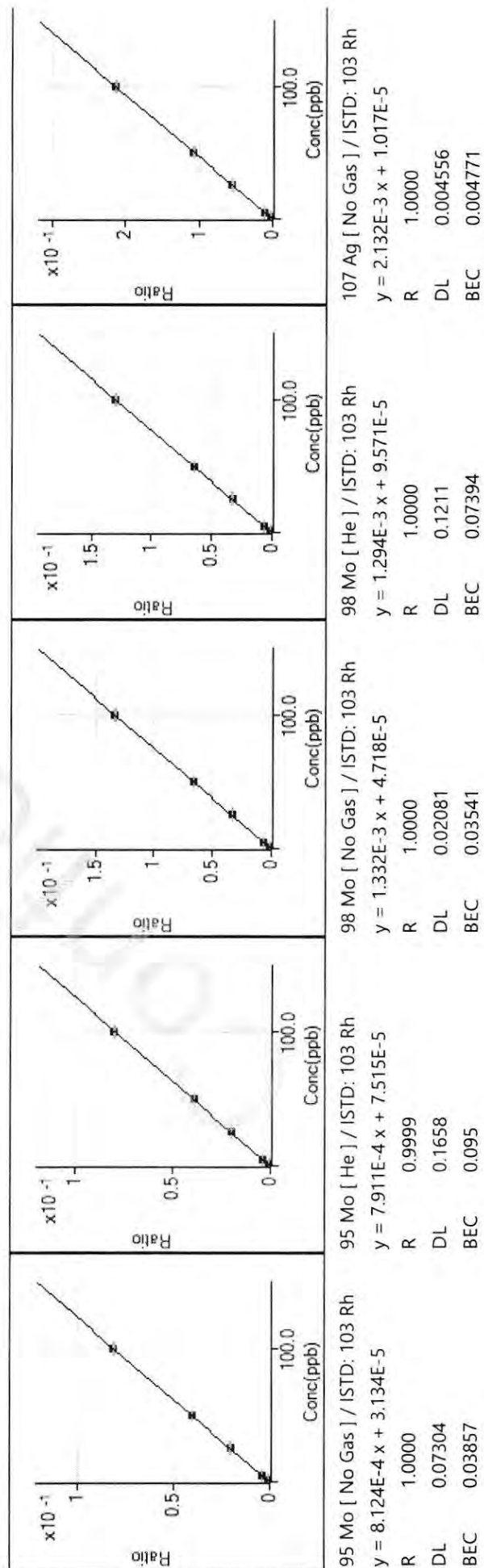
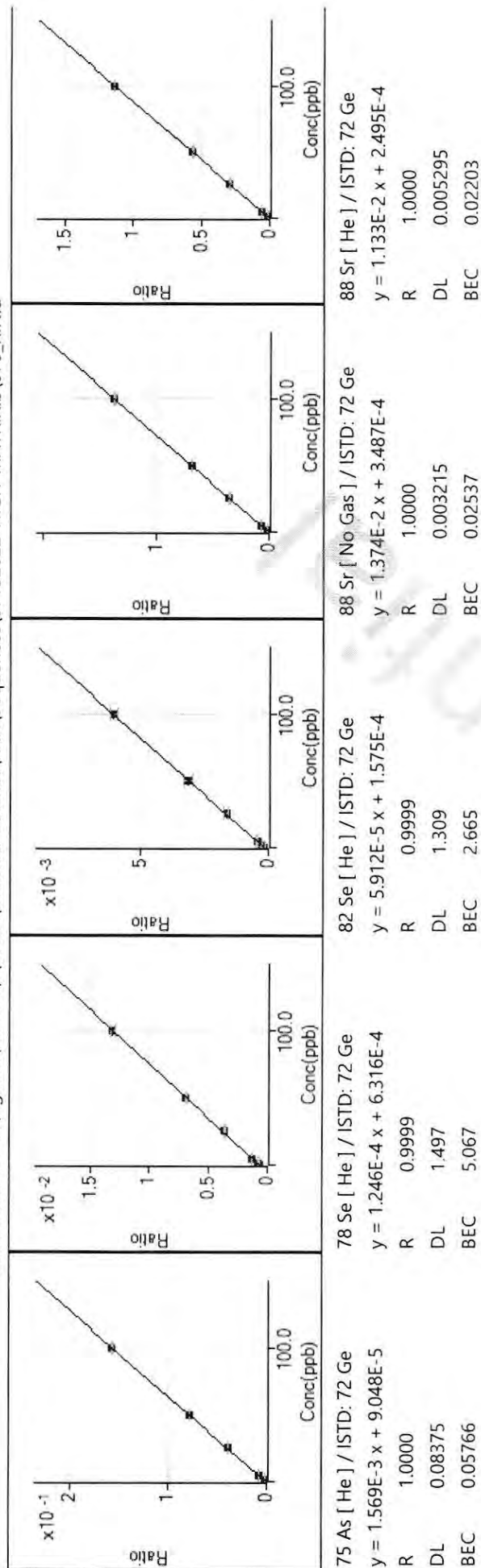
Torch H	0.2 mm	Torch V	0.0 mm
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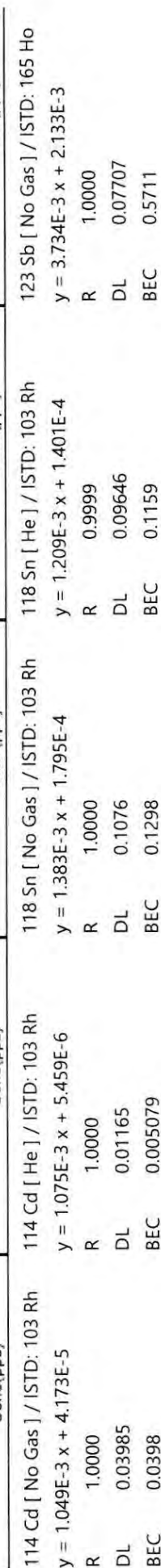
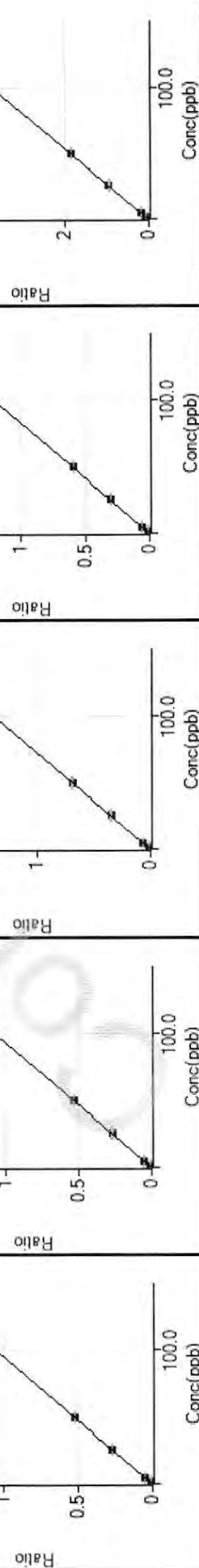
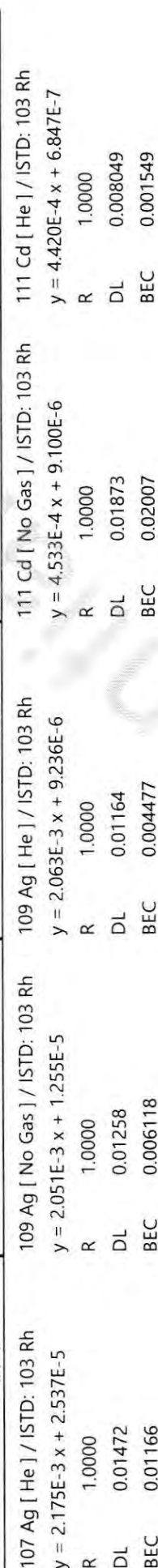
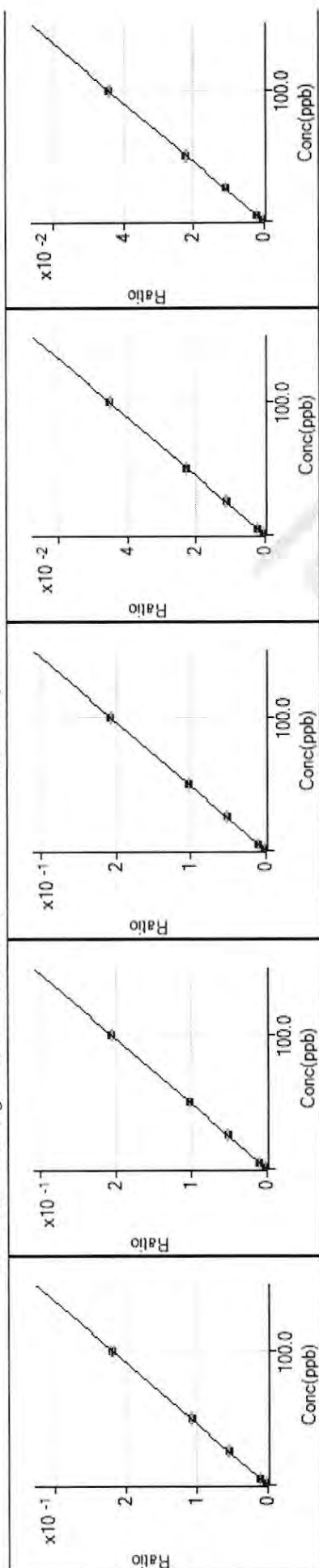
EM

Discriminator	3.7 mV	Analog HV	2140 V	Pulse HV	1276 V
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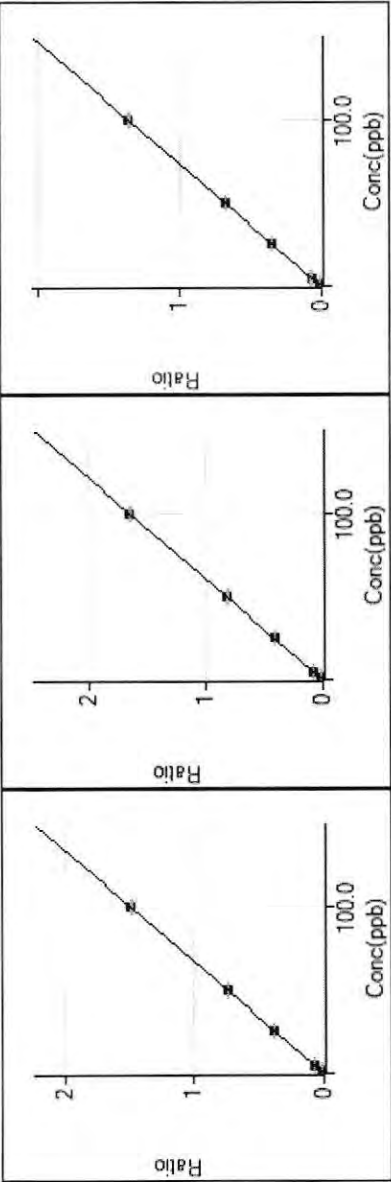








					123 Sb [He] / ISTD: 165 Ho $y = 3.035E-3 x + 2.218E-3$ R 0.9999 DL 0.363 BEC 0.7307	137 Ba [No Gas] / ISTD: 165 Ho $y = 2.006E-3 x + 3.399E-4$ R 1.0000 DL 0.05389 BEC 0.1694	137 Ba [He] / ISTD: 165 Ho $y = 1.703E-3 x + 2.770E-4$ R 1.0000 DL 0.161 BEC 0.1626	201 Hg [No Gas] / ISTD: 165 Ho $y = 8.118E-4 x + 7.854E-5$ R 0.9999 DL 0.01412 BEC 0.09674	201 Hg [He] / ISTD: 165 Ho $y = 6.754E-4 x + 1.774E-4$ R 0.9999 DL 0.05957 BEC 0.2626
					202 Hg [No Gas] / ISTD: 165 Ho $y = 1.871E-3 x + 9.761E-5$ R 1.0000 DL 0.02238 BEC 0.05216	202 Hg [He] / ISTD: 165 Ho $y = 1.522E-3 x + 2.121E-4$ R 1.0000 DL 0.01495 BEC 0.1393	205 Tl [No Gas] / ISTD: 165 Ho $y = 1.175E-2 x + 1.699E-4$ R 1.0000 DL 0.02284 BEC 0.01446	205 Tl [He] / ISTD: 165 Ho $y = 1.062E-2 x + 3.283E-4$ R 1.0000 DL 0.02576 BEC 0.03091	208 Pb [No Gas] / ISTD: 165 Ho $y = 1.629E-2 x + 1.517E-3$ R 1.0000 DL 0.01927 BEC 0.09315



208 Pb [He] / ISTD: 165 Ho
 $y = 1.486E-2 x + 1.025E-3$
R 1.0000
DL 0.0275
BEC 0.06898

238 U [No Gas] / ISTD: 165 Ho
 $y = 1.643E-2 x + 1.336E-3$
R 1.0000
DL 0.02788
BEC 0.08131

238 U [He] / ISTD: 165 Ho
 $y = 1.360E-2 x + 4.049E-3$
R 1.0000
DL 0.07314
BEC 0.2978

Sample Report

Sample Name BCG0057-BLK1
File Name 077_Blk.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 15:29:48
Sample Type Blank
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	0.362	No Gas	0.362	6	1.5	0.5	
9	Be	<0.000	No Gas	-0.006	6	70.5	0.05	
27	Al	2.074	No Gas	2.074	45	2.4	1.57	
27	Al	1.781	He	1.781	45	22.2	1.57	
47	Ti	0.098	He	0.098	45	173.2	0.23	
51	V	0.263	He	0.263	45	18.2	0.28	
52	Cr	0.015	He	0.015	45	10.6	0.04	
53	Cr	0.798	He	0.798	45	17.8	0.04	>DL*2.2
55	Mn	0.437	No Gas	0.437	72	4.6	0.05	>DL*2.2
55	Mn	0.387	He	0.387	72	19.1	0.05	>DL*2.2
56	Fe	3.168	He	3.168	72	8.0	1.59	
56	Fe	2.851	HEHe	2.851	72	6.0	1.59	
59	Co	<0.000	He	0	72	110.2	0.02	
60	Ni	<0.000	He	-0.022	72	61.4	0.08	
62	Ni	<0.000	He	-0.238	72	100.1	0.08	
65	Cu	0.367	He	0.367	72	22.3	0.03	>DL*2.2
66	Zn	<0.000	He	-0.024	72	9.1	0.3	
75	As	0.160	He	0.16	72	28.8	0.06	>DL*2.2
78	Se	0.157	He	0.157	72	5.9	0.17	
82	Se	0.915	He	0.915	72	14.2	0.17	>DL*2.2
88	Sr	0.043	No Gas	0.043	72	8.1	0.02	
88	Sr	0.038	He	0.038	72	37.1	0.02	
95	Mo	0.035	No Gas	0.035	103	22.4	0.05	
95	Mo	0.003	He	0.003	103	62.4	0.05	
98	Mo	0.031	No Gas	0.031	103	42.2	0.05	
98	Mo	0.080	He	0.08	103	20.8	0.05	
107	Ag	0.004	No Gas	0.004	103	53.9	0.03	
107	Ag	<0.000	He	-0.003	103	65.5	0.03	
109	Ag	0.005	No Gas	0.005	103	60.3	0.03	
109	Ag	0.006	He	0.006	103	43.3	0.03	
111	Cd	<0.000	No Gas	-0.003	103	109.6	0.01	
111	Cd	0.008	He	0.008	103	91.7	0.01	
114	Cd	<0.000	No Gas	-0.014	103	31.9	0.01	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.008	He	0.008	103	60.1	0.01	
118	Sn	0.082	No Gas	0.082	103	20.1	0.04	
118	Sn	0.154	He	0.154	103	18.8	0.04	>DL*2.2
123	Sb	1.182	No Gas	1.182	165	12.3	0.05	>DL*2.2
123	Sb	1.662	He	1.662	165	15.5	0.05	>DL*2.2
137	Ba	0.121	No Gas	0.121	165	10.4	0.05	>DL*2.2
137	Ba	0.147	He	0.147	165	16.0	0.05	>DL*2.2
201	Hg	0.009	No Gas	0.009	165	18.1	0.01	
201	Hg	<0.000	He	-0.028	165	5.3	0.01	
202	Hg	0.019	No Gas	0.019	165	22.0	0.01	
202	Hg	0.007	He	0.007	165	8.8	0.01	
205	Tl	0.003	No Gas	0.003	165	14.5	0.05	
205	Tl	<0.000	He	-0.015	165	19.9	0.05	
208	Pb	<0.000	No Gas	-0.04	165	9.9	0.04	
208	Pb	0.016	He	0.016	165	5.7	0.04	
238	U	<0.000	No Gas	-0.003	165	20.3	0.05	
238	U	<0.000	He	-0.058	165	22.0	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	548216.58	1.6	83.5	656421.246666667
Sc	45	No Gas	556297.88	2.6	78.4	709650.373333333
Sc	45	He	61815.28	3.4	83.9	73700.03
Ge	72	No Gas	250930.46	1.9	77.9	321933.143333333
Ge	72	He	69230.48	4.1	81.9	84567.356666667
Ge	72	HEHe	27920.45	1.8	80.8	34546.556666667
Rh	103	No Gas	801590.60	2.7	81.7	980944.063333333
Rh	103	He	411617.14	3.3	85.1	483404.58
Ho	165	No Gas	285874.40	3.7	83.2	343501.166666667
Ho	165	He	149781.20	4.1	87.1	172030.806666667



Sample Report

Sample Name BCG0057-BS1
File Name 106_LCS.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 17:06:15
Sample Type LCS
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Fail
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	49.562	No Gas	49.562	6	2.9	50	
9	Be	52.835	No Gas	52.835	6	4.5	50	
27	Al	102.118	No Gas	102.118	45	4.5	100	
27	Al	103.345	He	103.345	45	3.6	100	
47	Ti	53.348	He	53.348	45	6.3	50	
51	V	54.594	He	54.594	45	4.2	50	
52	Cr	56.252	He	56.252	45	2.8	50	
53	Cr	59.416	He	59.416	45	5.7	50	> +/- 10%
55	Mn	58.057	No Gas	58.057	72	4.9	50	> +/- 10%
55	Mn	56.100	He	56.1	72	2.3	50	
56	Fe	182.371	He	182.371	72	3.7	100	> +/- 10%
56	Fe	189.290	HEHe	189.29	72	0.5	100	> +/- 10%
59	Co	57.267	He	57.267	72	3.8	50	
60	Ni	59.081	He	59.081	72	5.7	50	> +/- 10%
62	Ni	59.200	He	59.2	72	4.5	50	> +/- 10%
65	Cu	59.386	He	59.386	72	3.1	50	> +/- 10%
66	Zn	56.653	He	56.653	72	5.5	50	
75	As	54.633	He	54.633	72	3.9	50	
78	Se	50.513	He	50.513	72	7.4	50	
82	Se	48.919	He	48.919	72	9.9	50	
88	Sr	55.617	No Gas	55.617	72	4.2	50	
88	Sr	53.534	He	53.534	72	3.9	50	
95	Mo	55.938	No Gas	55.938	103	3.1	50	
95	Mo	56.701	He	56.701	103	4.4	50	
98	Mo	55.440	No Gas	55.44	103	2.8	50	
98	Mo	56.899	He	56.899	103	4.3	50	
107	Ag	52.197	No Gas	52.197	103	3.7	50	
107	Ag	54.212	He	54.212	103	5.1	50	
109	Ag	52.333	No Gas	52.333	103	4.5	50	
109	Ag	54.275	He	54.275	103	4.8	50	
111	Cd	52.292	No Gas	52.292	103	2.8	50	
111	Cd	52.572	He	52.572	103	4.3	50	
114	Cd	52.651	No Gas	52.651	103	2.2	50	



Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.025	He	0.025	103	29.5	0.01	>DL*2.2
118	Sn	0.079	No Gas	0.079	103	16.7	0.04	
118	Sn	0.092	He	0.092	103	14.0	0.04	>DL*2.2
123	Sb	1.219	No Gas	1.219	165	2.7	0.05	>DL*2.2
123	Sb	1.192	He	1.192	165	6.9	0.05	>DL*2.2
137	Ba	0.134	No Gas	0.134	165	9.2	0.05	>DL*2.2
137	Ba	0.128	He	0.128	165	8.6	0.05	>DL*2.2
201	Hg	<0.000	No Gas	-0.031	165	11.8	0.01	
201	Hg	<0.000	He	-0.076	165	9.3	0.01	
202	Hg	<0.000	No Gas	-0.006	165	18.7	0.01	
202	Hg	<0.000	He	-0.02	165	11.7	0.01	
205	Tl	0.205	No Gas	0.205	165	10.6	0.05	>DL*2.2
205	Tl	0.233	He	0.233	165	2.2	0.05	>DL*2.2
208	Pb	<0.000	No Gas	-0.044	165	13.2	0.04	
208	Pb	0.020	He	0.02	165	17.8	0.04	
238	U	<0.000	No Gas	-0.014	165	6.7	0.05	
238	U	<0.000	He	-0.071	165	11.0	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	858584.92	0.3	130.8	656421.246666667
Sc	45	No Gas	1021084.23	0.7	143.9	709650.373333333
Sc	45	He	85985.11	4.2	116.7	73700.03
Ge	72	No Gas	416963.68	1.7	129.5	321933.143333333
Ge	72	He	91584.21	4.4	108.3	84567.356666667
Ge	72	HEHe	39730.40	0.9	115.0	34546.556666667
Rh	103	No Gas	1384042.71	4.3	141.1	980944.063333333
Rh	103	He	568259.49	4.1	117.6	483404.58
Ho	165	No Gas	475983.21	3.1	138.6	343501.166666667
Ho	165	He	197496.84	4.4	114.8	172030.806666667

Sample Report

Sample Name WCF1156-16
File Name 104SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:59:39
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Fail
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	55.402	No Gas	55.402	6	7.6	100	
9	Be	0.046	No Gas	0.046	6	22.9	200	
27	Al	133.311	No Gas	133.311	45	5.2	4000	
27	Al	133.882	He	133.882	45	0.9	4000	
47	Ti	9.169	He	9.169	45	12.5	1000	
51	V	9.666	He	9.666	45	6.3	1000	
52	Cr	1.344	He	1.344	45	10.5	1000	
53	Cr	4.512	He	4.512	45	14.0	1000	
55	Mn	121.575	No Gas	121.575	72	2.7	1000	
55	Mn	119.448	He	119.448	72	4.7	1000	
56	Fe	351.051	He	351.051	72	4.3	2000	
56	Fe	348.553	HEHe	348.553	72	0.4	4000	
59	Co	0.949	He	0.949	72	4.7	1000	
60	Ni	8.553	He	8.553	72	11.3	1000	
62	Ni	8.852	He	8.852	72	6.4	1000	
65	Cu	1.187	He	1.187	72	9.1	1000	
66	Zn	1.714	He	1.714	72	10.1	1000	
75	As	2.506	He	2.506	72	2.1	1000	
78	Se	2.328	He	2.328	72	11.1	1000	
82	Se	19.510	He	19.51	72	21.6	1000	
88	Sr	6009.780	No Gas	6009.78	72	4.1	1000	>LDR
88	Sr	6089.687	He	6089.687	72	5.8	1000	>LDR
95	Mo	6.397	No Gas	6.397	103	7.3	1000	
95	Mo	6.498	He	6.498	103	10.8	1000	
98	Mo	6.375	No Gas	6.375	103	3.3	1000	
98	Mo	6.522	He	6.522	103	5.8	1000	
107	Ag	0.048	No Gas	0.048	103	17.4	1000	
107	Ag	0.057	He	0.057	103	33.3	1000	
109	Ag	0.062	No Gas	0.062	103	2.6	1000	
109	Ag	0.068	He	0.068	103	32.9	1000	
111	Cd	1.986	No Gas	1.986	103	5.3	1000	
111	Cd	0.052	He	0.052	103	15.8	1000	
114	Cd	4.392	No Gas	4.392	103	4.4	1000	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	98.901	He	98.901	103	3.9	20	
118	Sn	54.321	No Gas	54.321	103	5.6	20	
118	Sn	52.979	He	52.979	103	4.2	20	
123	Sb	68.018	No Gas	68.018	165	6.0	20	
123	Sb	72.546	He	72.546	165	4.8	20	
137	Ba	137.155	No Gas	137.155	165	5.0	20	
137	Ba	135.286	He	135.286	165	3.3	20	
201	Hg	<0.000	No Gas	-0.022	165	13.7	20	
201	Hg	<0.000	He	-0.052	165	25.8	20	
202	Hg	<0.000	No Gas	-0.006	165	11.2	20	
202	Hg	<0.000	He	-0.012	165	9.3	20	
205	Tl	88.801	No Gas	88.801	165	5.3	20	
205	Tl	99.251	He	99.251	165	2.4	20	
208	Pb	81.460	No Gas	81.46	165	4.6	20	
208	Pb	89.255	He	89.255	165	3.2	20	
238	U	87.619	No Gas	87.619	165	5.0	20	
238	U	102.811	He	102.811	165	2.7	20	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	742911.20	2.0	113.2	656421.246666667
Sc	45	No Gas	983062.37	0.3	138.5	709650.373333333
Sc	45	He	79649.21	2.7	108.1	73700.03
Ge	72	No Gas	389996.51	2.3	121.1	321933.143333333
Ge	72	He	84827.47	4.6	100.3	84567.356666667
Ge	72	HEHe	35978.93	3.0	104.1	34546.556666667
Rh	103	No Gas	1019880.36	1.4	104.0	980944.063333333
Rh	103	He	412052.94	3.4	85.2	483404.58
Ho	165	No Gas	396512.77	2.6	115.4	343501.166666667
Ho	165	He	163721.17	2.3	95.2	172030.806666667

Sample Report

Sample Name BCG0057-MSD2
File Name 103LFMD.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:56:23
Sample Type LFMDup
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Fail
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	158.691	No Gas	158.691	6	2.3	20	
9	Be	113.507	No Gas	113.507	6	4.5	20	
27	Al	535.721	No Gas	535.721	45	5.3	20	RPD > 20%
27	Al	515.631	He	515.631	45	4.9	20	RPD > 20%
47	Ti	76.119	He	76.119	45	7.8	20	
51	V	114.762	He	114.762	45	3.7	20	
52	Cr	104.370	He	104.37	45	4.0	20	
53	Cr	106.696	He	106.696	45	5.2	20	
55	Mn	210.719	No Gas	210.719	72	3.7	20	
55	Mn	204.292	He	204.292	72	4.7	20	
56	Fe	856.130	He	856.13	72	5.0	20	RPD > 20%
56	Fe	875.303	HEHe	875.303	72	2.5	20	RPD > 20%
59	Co	100.300	He	100.3	72	4.3	20	
60	Ni	110.440	He	110.44	72	4.0	20	
62	Ni	111.730	He	111.73	72	4.0	20	
65	Cu	96.415	He	96.415	72	3.0	20	
66	Zn	91.761	He	91.761	72	6.8	20	
75	As	104.286	He	104.286	72	3.9	20	
78	Se	94.997	He	94.997	72	9.1	20	
82	Se	118.092	He	118.092	72	9.3	20	
88	Sr	6617.673	No Gas	6617.673	72	4.3	20	
88	Sr	6677.694	He	6677.694	72	4.0	20	
95	Mo	70.033	No Gas	70.033	103	4.9	20	
95	Mo	72.840	He	72.84	103	3.5	20	
98	Mo	69.910	No Gas	69.91	103	4.5	20	
98	Mo	73.272	He	73.272	103	3.7	20	
107	Ag	101.975	No Gas	101.975	103	4.2	20	
107	Ag	104.754	He	104.754	103	3.5	20	
109	Ag	101.148	No Gas	101.148	103	4.4	20	
109	Ag	105.315	He	105.315	103	3.3	20	
111	Cd	103.056	No Gas	103.056	103	4.4	20	
111	Cd	100.579	He	100.579	103	3.5	20	
114	Cd	104.946	No Gas	104.946	103	3.4	20	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	99.367	He	99.367	103	1.9	100	> +/- 25%
118	Sn	54.602	No Gas	54.602	103	3.9	100	
118	Sn	53.913	He	53.913	103	2.2	100	
123	Sb	67.765	No Gas	67.765	165	4.2	100	
123	Sb	74.364	He	74.364	165	2.1	100	
137	Ba	134.855	No Gas	134.855	165	2.8	100	> +/- 25%
137	Ba	138.258	He	138.258	165	2.3	100	> +/- 25%
201	Hg	0.001	No Gas	0.001	165	15.6	100	> +/- 25%
201	Hg	<0.000	He	-0.033	165	9.5	100	> +/- 25%
202	Hg	0.003	No Gas	0.003	165	19.4	100	> +/- 25%
202	Hg	<0.000	He	-0.015	165	9.6	100	> +/- 25%
205	Tl	89.956	No Gas	89.956	165	3.3	100	> +/- 25%
205	Tl	98.731	He	98.731	165	2.5	100	> +/- 25%
208	Pb	82.287	No Gas	82.287	165	2.5	100	> +/- 25%
208	Pb	90.194	He	90.194	165	2.6	100	> +/- 25%
238	U	88.863	No Gas	88.863	165	1.3	100	> +/- 25%
238	U	102.616	He	102.616	165	2.0	100	> +/- 25%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	767211.62	4.8	116.9	656421.246666667
Sc	45	No Gas	905452.83	2.9	127.6	709650.373333333
Sc	45	He	76331.69	2.3	103.6	73700.03
Ge	72	No Gas	357283.77	1.5	111.0	321933.143333333
Ge	72	He	79697.46	2.7	94.2	84567.356666667
Ge	72	HEHe	35943.44	2.0	104.0	34546.556666667
Rh	103	No Gas	932553.92	1.6	95.1	980944.063333333
Rh	103	He	384950.85	1.3	79.6	483404.58
Ho	165	No Gas	375937.34	0.6	109.4	343501.166666667
Ho	165	He	152719.25	1.9	88.8	172030.806666667

Sample Report

Sample Name BCG0057-MS2
File Name 102_LFM.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:53:09
Sample Type LFM
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Fail
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	162.868	No Gas	162.868	6	3.1	100	> +/- 25%
9	Be	111.476	No Gas	111.476	6	1.3	100	> +/- 25%
27	Al	393.950	No Gas	393.95	45	3.4	100	> +/- 25%
27	Al	373.064	He	373.064	45	1.0	100	> +/- 25%
47	Ti	69.692	He	69.692	45	3.0	100	> +/- 25%
51	V	113.402	He	113.402	45	2.1	100	> +/- 25%
52	Cr	102.795	He	102.795	45	1.4	100	> +/- 25%
53	Cr	108.516	He	108.516	45	1.8	100	> +/- 25%
55	Mn	210.665	No Gas	210.665	72	1.7	100	> +/- 25%
55	Mn	205.751	He	205.751	72	2.4	100	> +/- 25%
56	Fe	602.107	He	602.107	72	2.3	100	> +/- 25%
56	Fe	602.998	HEHe	602.998	72	1.6	100	> +/- 25%
59	Co	100.837	He	100.837	72	2.9	100	> +/- 25%
60	Ni	108.906	He	108.906	72	1.4	100	> +/- 25%
62	Ni	108.402	He	108.402	72	1.2	100	> +/- 25%
65	Cu	96.814	He	96.814	72	2.3	100	> +/- 25%
66	Zn	92.331	He	92.331	72	1.8	100	> +/- 25%
75	As	105.364	He	105.364	72	2.9	100	> +/- 25%
78	Se	99.416	He	99.416	72	1.6	100	> +/- 25%
82	Se	118.560	He	118.56	72	2.4	100	> +/- 25%
88	Sr	6726.919	No Gas	6726.919	72	3.1	100	> +/- 25%
88	Sr	6818.459	He	6818.459	72	3.1	100	> +/- 25%
95	Mo	70.529	No Gas	70.529	103	3.3	100	
95	Mo	72.755	He	72.755	103	4.4	100	> +/- 25%
98	Mo	70.606	No Gas	70.606	103	1.9	100	
98	Mo	71.931	He	71.931	103	3.6	100	> +/- 25%
107	Ag	103.063	No Gas	103.063	103	2.2	100	> +/- 25%
107	Ag	104.658	He	104.658	103	2.5	100	> +/- 25%
109	Ag	102.547	No Gas	102.547	103	2.3	100	> +/- 25%
109	Ag	104.786	He	104.786	103	2.9	100	> +/- 25%
111	Cd	104.160	No Gas	104.16	103	1.4	100	> +/- 25%
111	Cd	100.553	He	100.553	103	1.2	100	> +/- 25%
114	Cd	106.371	No Gas	106.371	103	1.1	100	> +/- 25%



Agilent Technologies

1 of 2

2022-07-18 10:15 AM

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.013	He	0.013	103	28.4	1000	
118	Sn	0.069	No Gas	0.069	103	3.0	1000	
118	Sn	0.104	He	0.104	103	8.5	1000	
123	Sb	9.339	No Gas	9.339	165	11.3	1000	
123	Sb	12.083	He	12.083	165	8.0	1000	
137	Ba	34.814	No Gas	34.814	165	2.0	1000	
137	Ba	36.949	He	36.949	165	3.4	1000	
201	Hg	0.012	No Gas	0.012	165	10.6	50	
201	Hg	0.089	He	0.089	165	10.2	50	
202	Hg	0.001	No Gas	0.001	165	5.3	50	
202	Hg	0.019	He	0.019	165	7.8	50	
205	Tl	0.030	No Gas	0.03	165	5.8	1000	
205	Tl	0.046	He	0.046	165	18.7	1000	
208	Pb	<0.000	No Gas	-0.031	165	25.7	1000	
208	Pb	0.033	He	0.033	165	3.8	1000	
238	U	0.267	No Gas	0.267	165	2.7	1000	
238	U	0.372	He	0.372	165	2.1	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	735966.26	1.9	112.1	656421.246666667
Sc	45	No Gas	776936.27	0.7	109.5	709650.373333333
Sc	45	He	74697.53	3.9	101.4	73700.03
Ge	72	No Gas	312761.29	0.1	97.2	321933.143333333
Ge	72	He	76489.50	2.3	90.4	84567.356666667
Ge	72	HEHe	32950.37	1.6	95.4	34546.556666667
Rh	103	No Gas	827823.94	0.8	84.4	980944.063333333
Rh	103	He	371032.02	2.3	76.8	483404.58
Ho	165	No Gas	333593.41	1.7	97.1	343501.166666667
Ho	165	He	146077.69	2.1	84.9	172030.806666667

Sample Report

Sample Name WCF1156-15
File Name 101_ARF.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:49:50
Sample Type AllRef
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	57.080	No Gas	57.08	6	2.6	100	
9	Be	<0.000	No Gas	-0.004	6	32.9	200	
27	Al	73.825	No Gas	73.825	45	2.3	4000	
27	Al	70.356	He	70.356	45	2.6	4000	
47	Ti	4.092	He	4.092	45	13.3	1000	
51	V	8.406	He	8.406	45	2.1	1000	
52	Cr	0.682	He	0.682	45	12.6	1000	
53	Cr	4.022	He	4.022	45	8.2	1000	
55	Mn	98.258	No Gas	98.258	72	2.7	1000	
55	Mn	99.421	He	99.421	72	2.6	1000	
56	Fe	204.650	He	204.65	72	3.4	2000	
56	Fe	204.582	HEHe	204.582	72	1.6	4000	
59	Co	0.708	He	0.708	72	4.4	1000	
60	Ni	8.494	He	8.494	72	2.9	1000	
62	Ni	7.691	He	7.691	72	8.1	1000	
65	Cu	1.746	He	1.746	72	10.7	1000	
66	Zn	1.554	He	1.554	72	10.9	1000	
75	As	2.037	He	2.037	72	8.2	1000	
78	Se	1.833	He	1.833	72	23.8	1000	
82	Se	18.612	He	18.612	72	14.6	1000	
88	Sr	6233.455	No Gas	6233.455	72	2.5	1000	>LDR
88	Sr	6426.938	He	6426.938	72	3.4	1000	>LDR
95	Mo	6.764	No Gas	6.764	103	6.1	1000	
95	Mo	7.034	He	7.034	103	6.5	1000	
98	Mo	6.709	No Gas	6.709	103	2.1	1000	
98	Mo	6.885	He	6.885	103	2.3	1000	
107	Ag	0.024	No Gas	0.024	103	37.1	1000	
107	Ag	0.010	He	0.01	103	21.7	1000	
109	Ag	0.021	No Gas	0.021	103	18.9	1000	
109	Ag	0.023	He	0.023	103	24.1	1000	
111	Cd	1.963	No Gas	1.963	103	6.3	1000	
111	Cd	0.027	He	0.027	103	32.7	1000	
114	Cd	4.311	No Gas	4.311	103	5.4	1000	



Agilent Technologies

1 of 2

2022-07-18 10:14 AM

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.023	He	0.023	103	21.5	1000	
118	Sn	0.064	No Gas	0.064	103	13.2	1000	
118	Sn	0.123	He	0.123	103	26.2	1000	
123	Sb	8.092	No Gas	8.092	165	22.3	1000	
123	Sb	10.824	He	10.824	165	8.9	1000	
137	Ba	33.274	No Gas	33.274	165	8.4	1000	
137	Ba	34.636	He	34.636	165	8.8	1000	
201	Hg	0.006	No Gas	0.006	165	16.3	50	
201	Hg	0.066	He	0.066	165	13.0	50	
202	Hg	0.000	No Gas	0	165	1.0	50	
202	Hg	0.038	He	0.038	165	11.3	50	
205	Tl	0.056	No Gas	0.056	165	8.6	1000	
205	Tl	0.065	He	0.065	165	9.0	1000	
208	Pb	<0.000	No Gas	-0.019	165	14.1	1000	
208	Pb	0.071	He	0.071	165	11.6	1000	
238	U	0.328	No Gas	0.328	165	3.5	1000	
238	U	0.423	He	0.423	165	6.6	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	580437.22	6.2	88.4	656421.246666667
Sc	45	No Gas	622699.52	5.7	87.7	709650.373333333
Sc	45	He	65534.70	6.7	88.9	73700.03
Ge	72	No Gas	256937.92	4.4	79.8	321933.143333333
Ge	72	He	67922.11	6.7	80.3	84567.356666667
Ge	72	HEHe	31675.14	0.8	91.7	34546.556666667
Rh	103	No Gas	703756.39	5.1	71.7	980944.063333333
Rh	103	He	329099.07	6.6	68.1	483404.58
Ho	165	No Gas	288387.11	4.5	84.0	343501.166666667
Ho	165	He	130369.87	7.8	75.8	172030.806666667

Sample Report

Sample Name WC1156-14
File Name 100SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:46:31
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Fail
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	53.699	No Gas	53.699	6	7.8	100	
9	Be	<0.000	No Gas	-0.001	6	51.0	200	
27	Al	71.145	No Gas	71.145	45	9.4	4000	
27	Al	72.099	He	72.099	45	4.5	4000	
47	Ti	3.960	He	3.96	45	7.7	1000	
51	V	8.965	He	8.965	45	8.9	1000	
52	Cr	0.704	He	0.704	45	5.8	1000	
53	Cr	3.863	He	3.863	45	12.0	1000	
55	Mn	113.872	No Gas	113.872	72	7.3	1000	
55	Mn	114.359	He	114.359	72	7.4	1000	
56	Fe	192.802	He	192.802	72	7.5	2000	
56	Fe	192.434	HEHe	192.434	72	0.6	4000	
59	Co	0.892	He	0.892	72	1.0	1000	
60	Ni	7.686	He	7.686	72	8.1	1000	
62	Ni	7.475	He	7.475	72	20.1	1000	
65	Cu	0.948	He	0.948	72	2.3	1000	
66	Zn	0.860	He	0.86	72	11.0	1000	
75	As	2.519	He	2.519	72	4.7	1000	
78	Se	1.709	He	1.709	72	5.6	1000	
82	Se	18.176	He	18.176	72	8.0	1000	
88	Sr	5983.266	No Gas	5983.266	72	7.0	1000	>LDR
88	Sr	6000.632	He	6000.632	72	8.4	1000	>LDR
95	Mo	6.189	No Gas	6.189	103	2.5	1000	
95	Mo	6.137	He	6.137	103	6.4	1000	
98	Mo	6.145	No Gas	6.145	103	5.5	1000	
98	Mo	6.255	He	6.255	103	10.1	1000	
107	Ag	0.022	No Gas	0.022	103	8.3	1000	
107	Ag	0.016	He	0.016	103	33.4	1000	
109	Ag	0.019	No Gas	0.019	103	27.1	1000	
109	Ag	0.015	He	0.015	103	25.0	1000	
111	Cd	1.994	No Gas	1.994	103	9.1	1000	
111	Cd	0.017	He	0.017	103	43.3	1000	
114	Cd	4.444	No Gas	4.444	103	8.2	1000	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.006	He	0.006	103	26.6	1000	
118	Sn	0.041	No Gas	0.041	103	14.4	1000	
118	Sn	0.134	He	0.134	103	12.8	1000	
123	Sb	1.960	No Gas	1.96	165	11.1	1000	
123	Sb	2.426	He	2.426	165	10.4	1000	
137	Ba	6.448	No Gas	6.448	165	1.7	1000	
137	Ba	6.587	He	6.587	165	10.0	1000	
201	Hg	0.017	No Gas	0.017	165	23.1	50	
201	Hg	0.034	He	0.034	165	15.3	50	
202	Hg	0.020	No Gas	0.02	165	10.4	50	
202	Hg	0.008	He	0.008	165	10.9	50	
205	Tl	0.035	No Gas	0.035	165	13.1	1000	
205	Tl	0.029	He	0.029	165	17.9	1000	
208	Pb	0.006	No Gas	0.006	165	15.4	1000	
208	Pb	0.050	He	0.05	165	2.2	1000	
238	U	0.404	No Gas	0.404	165	3.9	1000	
238	U	0.379	He	0.379	165	2.6	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	539965.11	1.7	82.3	656421.246666667
Sc	45	No Gas	541716.54	2.6	76.3	709650.373333333
Sc	45	He	61454.13	6.8	83.4	73700.03
Ge	72	No Gas	243079.78	2.0	75.5	321933.143333333
Ge	72	He	69553.55	6.2	82.2	84567.356666667
Ge	72	HEHe	29787.62	1.8	86.2	34546.556666667
Rh	103	No Gas	706068.60	2.6	72.0	980944.063333333
Rh	103	He	373433.11	6.4	77.3	483404.58
Ho	165	No Gas	278268.79	2.8	81.0	343501.166666667
Ho	165	He	147729.63	5.9	85.9	172030.806666667

Sample Report

Sample Name WCF1156-13
File Name 099SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:43:09
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	9.271	No Gas	9.271	6	3.1	100	
9	Be	0.009	No Gas	0.009	6	12.5	200	
27	Al	86.622	No Gas	86.622	45	5.4	4000	
27	Al	89.211	He	89.211	45	6.6	4000	
47	Ti	4.901	He	4.901	45	2.6	1000	
51	V	26.977	He	26.977	45	6.0	1000	
52	Cr	0.890	He	0.89	45	13.0	1000	
53	Cr	3.818	He	3.818	45	12.0	1000	
55	Mn	13.468	No Gas	13.468	72	5.4	1000	
55	Mn	13.549	He	13.549	72	7.1	1000	
56	Fe	143.450	He	143.45	72	6.4	2000	
56	Fe	142.514	HEHe	142.514	72	0.9	4000	
59	Co	0.541	He	0.541	72	9.9	1000	
60	Ni	2.075	He	2.075	72	11.4	1000	
62	Ni	1.671	He	1.671	72	26.1	1000	
65	Cu	1.437	He	1.437	72	11.1	1000	
66	Zn	0.649	He	0.649	72	5.5	1000	
75	As	1.945	He	1.945	72	18.8	1000	
78	Se	1.359	He	1.359	72	10.0	1000	
82	Se	2.673	He	2.673	72	20.8	1000	
88	Sr	1131.621	No Gas	1131.621	72	4.9	1000	>LDR
88	Sr	1107.763	He	1107.763	72	6.3	1000	>LDR
95	Mo	1.219	No Gas	1.219	103	11.2	1000	
95	Mo	1.084	He	1.084	103	4.2	1000	
98	Mo	1.202	No Gas	1.202	103	9.2	1000	
98	Mo	1.203	He	1.203	103	8.3	1000	
107	Ag	0.003	No Gas	0.003	103	68.7	1000	
107	Ag	<0.000	He	-0.005	103	34.7	1000	
109	Ag	0.005	No Gas	0.005	103	53.9	1000	
109	Ag	0.007	He	0.007	103	57.3	1000	
111	Cd	0.371	No Gas	0.371	103	24.6	1000	
111	Cd	0.006	He	0.006	103	43.3	1000	
114	Cd	0.767	No Gas	0.767	103	21.0	1000	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.010	He	0.01	103	31.2	1000	
118	Sn	0.044	No Gas	0.044	103	22.7	1000	
118	Sn	0.093	He	0.093	103	18.1	1000	
123	Sb	1.680	No Gas	1.68	165	7.0	1000	
123	Sb	1.870	He	1.87	165	7.0	1000	
137	Ba	5.776	No Gas	5.776	165	5.8	1000	
137	Ba	5.515	He	5.515	165	7.9	1000	
201	Hg	0.018	No Gas	0.018	165	10.5	50	
201	Hg	0.032	He	0.032	165	6.6	50	
202	Hg	0.020	No Gas	0.02	165	6.1	50	
202	Hg	0.005	He	0.005	165	17.3	50	
205	Tl	0.030	No Gas	0.03	165	31.6	1000	
205	Tl	0.052	He	0.052	165	24.0	1000	
208	Pb	0.011	No Gas	0.011	165	9.4	1000	
208	Pb	0.074	He	0.074	165	17.1	1000	
238	U	0.031	No Gas	0.031	165	7.2	1000	
238	U	0.046	He	0.046	165	3.6	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	582770.26	0.3	88.8	656421.246666667
Sc	45	No Gas	548874.39	2.2	77.3	709650.373333333
Sc	45	He	62105.52	3.8	84.3	73700.03
Ge	72	No Gas	254097.49	1.3	78.9	321933.143333333
Ge	72	He	72194.58	3.4	85.4	84567.356666667
Ge	72	HEHe	29803.25	1.8	86.3	34546.556666667
Rh	103	No Gas	771084.83	2.0	78.6	980944.063333333
Rh	103	He	411760.62	4.5	85.2	483404.58
Ho	165	No Gas	285160.57	2.0	83.0	343501.166666667
Ho	165	He	154162.12	3.5	89.6	172030.806666667

Sample Report

Sample Name WCF1156-12
File Name 098SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:39:48
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	1.015	No Gas	1.015	6	1.3	100	
9	Be	0.016	No Gas	0.016	6	24.3	200	
27	Al	143.587	No Gas	143.587	45	6.0	4000	
27	Al	144.387	He	144.387	45	1.8	4000	
47	Ti	5.762	He	5.762	45	14.0	1000	
51	V	3.296	He	3.296	45	4.5	1000	
52	Cr	2.025	He	2.025	45	6.0	1000	
53	Cr	3.995	He	3.995	45	9.0	1000	
55	Mn	95.163	No Gas	95.163	72	5.8	1000	
55	Mn	94.427	He	94.427	72	2.1	1000	
56	Fe	975.203	He	975.203	72	3.0	2000	
56	Fe	991.575	HEHe	991.575	72	0.4	4000	
59	Co	3.401	He	3.401	72	6.1	1000	
60	Ni	11.696	He	11.696	72	0.4	1000	
62	Ni	10.752	He	10.752	72	7.1	1000	
65	Cu	3.256	He	3.256	72	10.4	1000	
66	Zn	2.016	He	2.016	72	13.2	1000	
75	As	0.513	He	0.513	72	7.8	1000	
78	Se	<0.000	He	-0.171	72	16.4	1000	
82	Se	<0.000	He	-0.247	72	22.3	1000	
88	Sr	60.758	No Gas	60.758	72	6.0	1000	
88	Sr	59.240	He	59.24	72	3.4	1000	
95	Mo	0.059	No Gas	0.059	103	40.2	1000	
95	Mo	0.028	He	0.028	103	33.3	1000	
98	Mo	0.085	No Gas	0.085	103	20.5	1000	
98	Mo	0.061	He	0.061	103	37.6	1000	
107	Ag	0.019	No Gas	0.019	103	24.7	1000	
107	Ag	0.011	He	0.011	103	44.1	1000	
109	Ag	0.018	No Gas	0.018	103	13.5	1000	
109	Ag	0.008	He	0.008	103	124.9	1000	
111	Cd	0.109	No Gas	0.109	103	81.3	1000	
111	Cd	0.006	He	0.006	103	43.3	1000	
114	Cd	0.101	No Gas	0.101	103	36.5	1000	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.015	He	0.015	103	25.0	1000	
118	Sn	0.065	No Gas	0.065	103	18.6	1000	
118	Sn	0.154	He	0.154	103	17.8	1000	
123	Sb	2.173	No Gas	2.173	165	11.9	1000	
123	Sb	2.894	He	2.894	165	9.3	1000	
137	Ba	6.777	No Gas	6.777	165	6.4	1000	
137	Ba	7.369	He	7.369	165	4.0	1000	
201	Hg	0.023	No Gas	0.023	165	11.0	50	
201	Hg	0.062	He	0.062	165	14.5	50	
202	Hg	0.016	No Gas	0.016	165	17.8	50	
202	Hg	0.037	He	0.037	165	6.2	50	
205	Tl	0.048	No Gas	0.048	165	6.9	1000	
205	Tl	0.034	He	0.034	165	19.5	1000	
208	Pb	<0.000	No Gas	-0.034	165	16.0	1000	
208	Pb	0.036	He	0.036	165	19.2	1000	
238	U	0.227	No Gas	0.227	165	6.7	1000	
238	U	0.230	He	0.23	165	9.3	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	563798.17	3.0	85.9	656421.246666667
Sc	45	No Gas	566042.19	3.1	79.8	709650.373333333
Sc	45	He	62431.60	5.2	84.7	73700.03
Ge	72	No Gas	253166.54	2.6	78.6	321933.143333333
Ge	72	He	70788.48	5.1	83.7	84567.356666667
Ge	72	HEHe	29011.54	0.5	84.0	34546.556666667
Rh	103	No Gas	732195.34	2.7	74.6	980944.063333333
Rh	103	He	380180.71	4.9	78.6	483404.58
Ho	165	No Gas	285996.67	3.3	83.3	343501.166666667
Ho	165	He	150066.55	4.6	87.2	172030.806666667



Sample Report

Sample Name WCF1156-11
File Name 097SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:36:26
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	6.979	No Gas	6.979	6	3.7	100	
9	Be	0.010	No Gas	0.01	6	38.6	200	
27	Al	66.214	No Gas	66.214	45	6.0	4000	
27	Al	68.822	He	68.822	45	2.8	4000	
47	Ti	3.721	He	3.721	45	27.2	1000	
51	V	27.421	He	27.421	45	3.1	1000	
52	Cr	0.824	He	0.824	45	5.6	1000	
53	Cr	3.097	He	3.097	45	15.1	1000	
55	Mn	20.623	No Gas	20.623	72	4.6	1000	
55	Mn	21.359	He	21.359	72	5.2	1000	
56	Fe	139.224	He	139.224	72	4.7	2000	
56	Fe	142.332	HEHe	142.332	72	1.0	4000	
59	Co	0.319	He	0.319	72	9.4	1000	
60	Ni	1.366	He	1.366	72	8.8	1000	
62	Ni	1.215	He	1.215	72	19.9	1000	
65	Cu	0.923	He	0.923	72	8.5	1000	
66	Zn	0.302	He	0.302	72	13.5	1000	
75	As	1.741	He	1.741	72	7.9	1000	
78	Se	0.696	He	0.696	72	11.6	1000	
82	Se	2.275	He	2.275	72	19.6	1000	
88	Sr	859.140	No Gas	859.14	72	5.5	1000	
88	Sr	838.285	He	838.285	72	5.1	1000	
95	Mo	1.002	No Gas	1.002	103	10.8	1000	
95	Mo	0.825	He	0.825	103	5.5	1000	
98	Mo	0.877	No Gas	0.877	103	5.9	1000	
98	Mo	0.827	He	0.827	103	16.3	1000	
107	Ag	0.007	No Gas	0.007	103	51.0	1000	
107	Ag	0.001	He	0.001	103	33.3	1000	
109	Ag	0.007	No Gas	0.007	103	28.9	1000	
109	Ag	0.009	He	0.009	103	57.7	1000	
111	Cd	0.299	No Gas	0.299	103	10.5	1000	
111	Cd	0.006	He	0.006	103	43.3	1000	
114	Cd	0.695	No Gas	0.695	103	7.5	1000	

Sample Report

Sample Name Rinse
File Name 096_RIN.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:33:05
Sample Type RINSE
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
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QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	643352.34	2.9	98.0	656421.246666667
Sc	45	No Gas	620481.23	3.2	87.4	709650.373333333
Sc	45	He	67948.02	4.1	92.2	73700.03
Ge	72	No Gas	273289.02	3.2	84.9	321933.143333333
Ge	72	He	76382.13	2.8	90.3	84567.356666667
Ge	72	HEHe	31289.85	2.4	90.6	34546.556666667
Rh	103	No Gas	858995.58	2.9	87.6	980944.063333333
Rh	103	He	435691.63	3.5	90.1	483404.58
Ho	165	No Gas	307433.29	2.7	89.5	343501.166666667
Ho	165	He	157443.32	3.3	91.5	172030.806666667

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	50.206	He	50.206	103	4.0	50	
118	Sn	49.528	No Gas	49.528	103	4.4	50	
118	Sn	50.671	He	50.671	103	5.7	50	
123	Sb	46.981	No Gas	46.981	165	6.4	50	
123	Sb	48.562	He	48.562	165	2.6	50	
137	Ba	48.650	No Gas	48.65	165	6.3	50	
137	Ba	49.660	He	49.66	165	3.3	50	
201	Hg	2.434	No Gas	2.434	165	7.0	2.5	
201	Hg	2.498	He	2.498	165	3.2	2.5	
202	Hg	2.394	No Gas	2.394	165	5.1	2.5	
202	Hg	2.443	He	2.443	165	4.3	2.5	
205	Tl	49.404	No Gas	49.404	165	5.9	50	
205	Tl	49.282	He	49.282	165	3.9	50	
208	Pb	48.879	No Gas	48.879	165	5.5	50	
208	Pb	49.586	He	49.586	165	3.8	50	
238	U	49.046	No Gas	49.046	165	7.3	50	
238	U	49.176	He	49.176	165	4.4	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	716563.27	5.6	109.2	656421.246666667
Sc	45	No Gas	659320.96	2.0	92.9	709650.373333333
Sc	45	He	70572.91	3.7	95.8	73700.03
Ge	72	No Gas	291780.36	2.1	90.6	321933.143333333
Ge	72	He	79194.86	3.9	93.6	84567.356666667
Ge	72	HEHe	32562.80	2.5	94.3	34546.556666667
Rh	103	No Gas	901628.13	1.8	91.9	980944.063333333
Rh	103	He	447339.25	4.1	92.5	483404.58
Ho	165	No Gas	322967.89	3.6	94.0	343501.166666667
Ho	165	He	162226.11	2.8	94.3	172030.806666667

Sample Report

Sample Name CCV
File Name 094_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:26:23
Sample Type CCV
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	46.102	No Gas	46.102	6	4.1	50	
9	Be	44.291	No Gas	44.291	6	4.9	50	> +/- 10%
27	Al	102.389	No Gas	102.389	45	5.4	100	
27	Al	101.178	He	101.178	45	5.7	100	
47	Ti	49.625	He	49.625	45	6.3	50	
51	V	50.596	He	50.596	45	1.9	50	
52	Cr	50.126	He	50.126	45	3.2	50	
53	Cr	50.671	He	50.671	45	4.5	50	
55	Mn	50.352	No Gas	50.352	72	4.0	50	
55	Mn	50.383	He	50.383	72	2.5	50	
56	Fe	101.092	He	101.092	72	2.8	100	
56	Fe	101.490	HEHe	101.49	72	0.7	100	
59	Co	50.770	He	50.77	72	3.6	50	
60	Ni	49.984	He	49.984	72	6.3	50	
62	Ni	49.938	He	49.938	72	7.0	50	
65	Cu	49.949	He	49.949	72	3.9	50	
66	Zn	50.357	He	50.357	72	5.7	50	
75	As	50.394	He	50.394	72	3.7	50	
78	Se	49.119	He	49.119	72	0.4	50	
82	Se	53.942	He	53.942	72	4.4	50	
88	Sr	50.640	No Gas	50.64	72	4.0	50	
88	Sr	50.115	He	50.115	72	3.8	50	
95	Mo	49.277	No Gas	49.277	103	5.0	50	
95	Mo	48.945	He	48.945	103	4.2	50	
98	Mo	49.302	No Gas	49.302	103	5.4	50	
98	Mo	49.429	He	49.429	103	3.3	50	
107	Ag	49.308	No Gas	49.308	103	4.9	50	
107	Ag	49.317	He	49.317	103	3.9	50	
109	Ag	49.382	No Gas	49.382	103	4.3	50	
109	Ag	49.833	He	49.833	103	4.3	50	
111	Cd	49.281	No Gas	49.281	103	5.1	50	
111	Cd	49.984	He	49.984	103	5.0	50	
114	Cd	49.084	No Gas	49.084	103	5.3	50	

Sample Report

Sample Name Rinse
File Name 093_RIN.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:23:01
Sample Type RINSE
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
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QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	732369.48	4.9	111.6	656421.246666667
Sc	45	No Gas	674291.62	3.0	95.0	709650.373333333
Sc	45	He	72607.81	4.0	98.5	73700.03
Ge	72	No Gas	296323.80	2.3	92.0	321933.143333333
Ge	72	He	80864.30	4.3	95.6	84567.356666667
Ge	72	HEHe	33212.06	1.2	96.1	34546.556666667
Rh	103	No Gas	920501.07	2.4	93.8	980944.063333333
Rh	103	He	458040.81	4.5	94.8	483404.58
Ho	165	No Gas	330690.35	3.6	96.3	343501.166666667
Ho	165	He	164670.34	4.0	95.7	172030.806666667

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.011	He	0.011	103	43.3	1000	
118	Sn	0.073	No Gas	0.073	103	5.6	1000	
118	Sn	0.104	He	0.104	103	18.1	1000	
123	Sb	2.173	No Gas	2.173	165	14.2	1000	
123	Sb	2.688	He	2.688	165	4.7	1000	
137	Ba	17.439	No Gas	17.439	165	4.6	1000	
137	Ba	18.291	He	18.291	165	8.5	1000	
201	Hg	<0.000	No Gas	-0.013	165	10.4	50	
201	Hg	0.018	He	0.018	165	10.2	50	
202	Hg	0.012	No Gas	0.012	165	5.8	50	
202	Hg	<0.000	He	-0.001	165	8.1	50	
205	Tl	0.134	No Gas	0.134	165	13.6	1000	
205	Tl	0.138	He	0.138	165	14.4	1000	
208	Pb	<0.000	No Gas	-0.033	165	16.6	1000	
208	Pb	0.033	He	0.033	165	6.1	1000	
238	U	0.285	No Gas	0.285	165	5.7	1000	
238	U	0.272	He	0.272	165	4.0	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	646382.61	3.4	98.5	656421.246666667
Sc	45	No Gas	644706.37	3.1	90.8	709650.373333333
Sc	45	He	68239.35	3.9	92.6	73700.03
Ge	72	No Gas	281540.11	2.6	87.5	321933.143333333
Ge	72	He	75443.91	4.8	89.2	84567.356666667
Ge	72	HEHe	31172.91	1.2	90.2	34546.556666667
Rh	103	No Gas	803099.69	2.2	81.9	980944.063333333
Rh	103	He	396156.95	5.7	82.0	483404.58
Ho	165	No Gas	319750.62	3.5	93.1	343501.166666667
Ho	165	He	155577.07	5.4	90.4	172030.806666667



Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.014	He	0.014	103	12.4	0.01	
118	Sn	0.067	No Gas	0.067	103	19.4	0.04	
118	Sn	0.214	He	0.214	103	24.5	0.04	>DL*2.2
123	Sb	0.808	No Gas	0.808	165	13.1	0.05	>DL*2.2
123	Sb	1.298	He	1.298	165	15.3	0.05	>DL*2.2
137	Ba	0.026	No Gas	0.026	165	5.4	0.05	
137	Ba	0.030	He	0.03	165	3.7	0.05	
201	Hg	0.024	No Gas	0.024	165	21.5	0.01	>DL*2.2
201	Hg	<0.000	He	-0.005	165	8.5	0.01	
202	Hg	0.032	No Gas	0.032	165	1.0	0.01	>DL*2.2
202	Hg	<0.000	He	-0.001	165	18.2	0.01	
205	Tl	0.073	No Gas	0.073	165	7.7	0.05	
205	Tl	0.087	He	0.087	165	30.2	0.05	
208	Pb	<0.000	No Gas	-0.05	165	12.8	0.04	
208	Pb	0.003	He	0.003	165	16.6	0.04	
238	U	0.006	No Gas	0.006	165	11.4	0.05	
238	U	<0.000	He	-0.029	165	14.3	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	663112.08	3.4	101.0	656421.246666667
Sc	45	No Gas	634838.75	2.7	89.5	709650.373333333
Sc	45	He	69896.44	3.7	94.8	73700.03
Ge	72	No Gas	281763.21	2.1	87.5	321933.143333333
Ge	72	He	77071.59	3.7	91.1	84567.356666667
Ge	72	HEHe	31681.83	1.5	91.7	34546.556666667
Rh	103	No Gas	878550.73	3.0	89.6	980944.063333333
Rh	103	He	443600.82	4.2	91.8	483404.58
Ho	165	No Gas	314734.72	2.9	91.6	343501.166666667
Ho	165	He	159677.29	3.6	92.8	172030.806666667

Sample Report

Sample Name CCB
File Name 095_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:29:43
Sample Type CCB
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	0.323	No Gas	0.323	6	0.6	0.5	
9	Be	0.008	No Gas	0.008	6	16.4	0.05	
27	Al	<0.000	No Gas	-0.177	45	7.5	1.57	
27	Al	0.085	He	0.085	45	12.5	1.57	
47	Ti	0.038	He	0.038	45	86.6	0.23	
51	V	0.239	He	0.239	45	4.3	0.28	
52	Cr	<0.000	He	-0.046	45	15.0	0.04	
53	Cr	0.327	He	0.327	45	24.4	0.04	>DL*2.2
55	Mn	0.050	No Gas	0.05	72	5.8	0.05	
55	Mn	<0.000	He	-0.035	72	12.1	0.05	
56	Fe	<0.000	He	-0.068	72	11.2	1.59	
56	Fe	<0.000	HEHe	-0.114	72	11.0	1.59	
59	Co	<0.000	He	-0.004	72	66.7	0.02	
60	Ni	<0.000	He	-0.101	72	12.5	0.08	
62	Ni	<0.000	He	-0.12	72	24.7	0.08	
65	Cu	0.001	He	0.001	72	18.3	0.03	
66	Zn	<0.000	He	-0.549	72	5.9	0.3	
75	As	0.133	He	0.133	72	7.5	0.06	>DL*2.2
78	Se	0.009	He	0.009	72	4.3	0.17	
82	Se	1.444	He	1.444	72	8.2	0.17	>DL*2.2
88	Sr	0.283	No Gas	0.283	72	1.0	0.02	>DL*2.2
88	Sr	0.222	He	0.222	72	14.9	0.02	>DL*2.2
95	Mo	0.224	No Gas	0.224	103	25.9	0.05	>DL*2.2
95	Mo	0.453	He	0.453	103	8.0	0.05	>DL*2.2
98	Mo	0.220	No Gas	0.22	103	18.7	0.05	>DL*2.2
98	Mo	0.386	He	0.386	103	28.0	0.05	>DL*2.2
107	Ag	0.011	No Gas	0.011	103	29.4	0.03	
107	Ag	0.004	He	0.004	103	68.9	0.03	
109	Ag	0.010	No Gas	0.01	103	40.5	0.03	
109	Ag	0.004	He	0.004	103	89.2	0.03	
111	Cd	0.008	No Gas	0.008	103	48.3	0.01	
111	Cd	0.013	He	0.013	103	115.5	0.01	
114	Cd	<0.000	No Gas	-0.012	103	39.1	0.01	

Sample Report

Sample Name BCG0057-BLK1
File Name 105_Blk.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 17:02:56
Sample Type Blank
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Fail
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	0.159	No Gas	0.159	6	1.3	0.5	
9	Be	0.018	No Gas	0.018	6	6.3	0.05	
27	Al	2.527	No Gas	2.527	45	3.4	1.57	
27	Al	2.335	He	2.335	45	24.2	1.57	
47	Ti	0.152	He	0.152	45	50.0	0.23	
51	V	0.471	He	0.471	45	6.2	0.28	
52	Cr	0.086	He	0.086	45	10.6	0.04	
53	Cr	1.250	He	1.25	45	12.2	0.04	>DL*2.2
55	Mn	1.672	No Gas	1.672	72	2.6	0.05	>DL*2.2
55	Mn	1.208	He	1.208	72	4.4	0.05	>DL*2.2
56	Fe	71.488	He	71.488	72	4.8	1.59	>DL*2.2
56	Fe	72.196	HEHe	72.196	72	1.1	1.59	>DL*2.2
59	Co	0.023	He	0.023	72	42.7	0.02	
60	Ni	0.294	He	0.294	72	18.5	0.08	>DL*2.2
62	Ni	0.213	He	0.213	72	28.6	0.08	>DL*2.2
65	Cu	0.290	He	0.29	72	24.6	0.03	>DL*2.2
66	Zn	<0.000	He	-0.032	72	18.9	0.3	
75	As	0.216	He	0.216	72	11.5	0.06	>DL*2.2
78	Se	0.424	He	0.424	72	16.1	0.17	>DL*2.2
82	Se	1.912	He	1.912	72	35.4	0.17	>DL*2.2
88	Sr	2.387	No Gas	2.387	72	36.1	0.02	>DL*2.2
88	Sr	3.261	He	3.261	72	8.1	0.02	>DL*2.2
95	Mo	0.059	No Gas	0.059	103	13.8	0.05	
95	Mo	0.046	He	0.046	103	10.5	0.05	
98	Mo	0.055	No Gas	0.055	103	25.4	0.05	
98	Mo	0.099	He	0.099	103	28.9	0.05	
107	Ag	0.020	No Gas	0.02	103	16.2	0.03	
107	Ag	0.024	He	0.024	103	8.7	0.03	
109	Ag	0.029	No Gas	0.029	103	27.0	0.03	
109	Ag	0.032	He	0.032	103	32.9	0.03	
111	Cd	0.003	No Gas	0.003	103	206.7	0.01	
111	Cd	0.025	He	0.025	103	17.3	0.01	>DL*2.2
114	Cd	0.002	No Gas	0.002	103	108.7	0.01	



Agilent Technologies

1 of 2

2022-07-18 10:16 AM

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.037	He	0.037	103	22.7	1000	
118	Sn	0.163	No Gas	0.163	103	19.5	1000	
118	Sn	0.159	He	0.159	103	19.3	1000	
123	Sb	8.804	No Gas	8.804	165	6.6	1000	
123	Sb	10.247	He	10.247	165	6.9	1000	
137	Ba	36.657	No Gas	36.657	165	4.3	1000	
137	Ba	35.776	He	35.776	165	7.9	1000	
201	Hg	<0.000	No Gas	-0.015	165	14.3	50	
201	Hg	<0.000	He	-0.048	165	37.7	50	
202	Hg	<0.000	No Gas	-0.002	165	12.2	50	
202	Hg	<0.000	He	-0.027	165	10.1	50	
205	Tl	0.266	No Gas	0.266	165	12.0	1000	
205	Tl	0.283	He	0.283	165	7.1	1000	
208	Pb	<0.000	No Gas	-0.007	165	19.8	1000	
208	Pb	0.061	He	0.061	165	7.1	1000	
238	U	0.314	No Gas	0.314	165	2.5	1000	
238	U	0.397	He	0.397	165	6.4	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	596377.94	13.3	90.9	656421.246666667
Sc	45	No Gas	904195.29	8.2	127.4	709650.373333333
Sc	45	He	76378.74	4.5	103.6	73700.03
Ge	72	No Gas	358755.53	5.5	111.4	321933.143333333
Ge	72	He	80045.16	4.7	94.7	84567.356666667
Ge	72	HEHe	36295.42	0.5	105.1	34546.556666667
Rh	103	No Gas	939283.34	9.0	95.8	980944.063333333
Rh	103	He	407392.50	4.8	84.3	483404.58
Ho	165	No Gas	349293.22	8.9	101.7	343501.166666667
Ho	165	He	159190.17	5.7	92.5	172030.806666667

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	52.635	He	52.635	103	4.7	50	
118	Sn	53.308	No Gas	53.308	103	3.0	50	
118	Sn	52.097	He	52.097	103	4.9	50	
123	Sb	64.549	No Gas	64.549	165	2.5	50	> +/- 10%
123	Sb	67.795	He	67.795	165	3.8	50	> +/- 10%
137	Ba	52.336	No Gas	52.336	165	3.6	50	
137	Ba	52.767	He	52.767	165	3.6	50	
201	Hg	2.323	No Gas	2.323	165	2.9	2.5	
201	Hg	2.577	He	2.577	165	8.2	2.5	
202	Hg	2.366	No Gas	2.366	165	3.5	2.5	
202	Hg	2.555	He	2.555	165	2.4	2.5	
205	Tl	51.993	No Gas	51.993	165	2.9	50	
205	Tl	56.343	He	56.343	165	4.8	50	
208	Pb	49.146	No Gas	49.146	165	2.3	50	
208	Pb	52.505	He	52.505	165	3.7	50	
238	U	47.655	No Gas	47.655	165	3.1	50	
238	U	53.631	He	53.631	165	2.9	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	758996.72	1.8	115.6	656421.246666667
Sc	45	No Gas	969013.90	2.7	136.5	709650.373333333
Sc	45	He	83638.63	3.4	113.5	73700.03
Ge	72	No Gas	410560.07	1.8	127.5	321933.143333333
Ge	72	He	92011.14	3.9	108.8	84567.356666667
Ge	72	HEHe	39614.46	0.6	114.7	34546.556666667
Rh	103	No Gas	1293003.42	2.6	131.8	980944.063333333
Rh	103	He	551948.24	3.9	114.2	483404.58
Ho	165	No Gas	451612.27	1.6	131.5	343501.166666667
Ho	165	He	192381.10	5.0	111.8	172030.806666667

Sample Report

Sample Name WCF1156-10
File Name 092SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:19:43
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	8.020	No Gas	8.02	6	4.1	100	
9	Be	0.004	No Gas	0.004	6	25.0	200	
27	Al	43.570	No Gas	43.57	45	7.6	4000	
27	Al	38.806	He	38.806	45	8.2	4000	
47	Ti	1.882	He	1.882	45	19.7	1000	
51	V	13.049	He	13.049	45	5.6	1000	
52	Cr	0.460	He	0.46	45	9.9	1000	
53	Cr	3.091	He	3.091	45	12.6	1000	
55	Mn	72.585	No Gas	72.585	72	4.9	1000	
55	Mn	73.226	He	73.226	72	4.9	1000	
56	Fe	81.481	He	81.481	72	5.7	2000	
56	Fe	82.501	HEHe	82.501	72	1.3	4000	
59	Co	0.708	He	0.708	72	1.0	1000	
60	Ni	3.181	He	3.181	72	6.3	1000	
62	Ni	2.574	He	2.574	72	16.7	1000	
65	Cu	1.030	He	1.03	72	9.6	1000	
66	Zn	0.521	He	0.521	72	10.4	1000	
75	As	2.487	He	2.487	72	6.1	1000	
78	Se	0.651	He	0.651	72	17.9	1000	
82	Se	4.297	He	4.297	72	0.0	1000	
88	Sr	1960.242	No Gas	1960.242	72	3.6	1000	>LDR
88	Sr	2017.474	He	2017.474	72	3.9	1000	>LDR
95	Mo	1.010	No Gas	1.01	103	6.1	1000	
95	Mo	1.037	He	1.037	103	14.5	1000	
98	Mo	1.014	No Gas	1.014	103	5.6	1000	
98	Mo	1.040	He	1.04	103	6.0	1000	
107	Ag	0.013	No Gas	0.013	103	34.4	1000	
107	Ag	<0.000	He	-0.005	103	34.7	1000	
109	Ag	0.004	No Gas	0.004	103	34.6	1000	
109	Ag	0.001	He	0.001	103	114.6	1000	
111	Cd	0.567	No Gas	0.567	103	39.8	1000	
111	Cd	0.004	He	0.004	103	100.0	1000	
114	Cd	1.343	No Gas	1.343	103	28.0	1000	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.007	He	0.007	103	10.2	1000	
118	Sn	0.036	No Gas	0.036	103	31.7	1000	
118	Sn	0.108	He	0.108	103	11.8	1000	
123	Sb	1.536	No Gas	1.536	165	6.8	1000	
123	Sb	1.794	He	1.794	165	6.3	1000	
137	Ba	4.033	No Gas	4.033	165	6.6	1000	
137	Ba	4.101	He	4.101	165	12.4	1000	
201	Hg	<0.000	No Gas	-0.01	165	9.9	50	
201	Hg	<0.000	He	-0.003	165	11.0	50	
202	Hg	0.020	No Gas	0.02	165	3.8	50	
202	Hg	0.004	He	0.004	165	18.3	50	
205	Tl	0.148	No Gas	0.148	165	12.4	1000	
205	Tl	0.155	He	0.155	165	3.2	1000	
208	Pb	<0.000	No Gas	-0.025	165	10.4	1000	
208	Pb	0.008	He	0.008	165	13.9	1000	
238	U	0.152	No Gas	0.152	165	7.1	1000	
238	U	0.127	He	0.127	165	7.0	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	730959.85	1.6	111.4	656421.246666667
Sc	45	No Gas	680328.87	1.0	95.9	709650.373333333
Sc	45	He	70515.95	2.6	95.7	73700.03
Ge	72	No Gas	301211.58	1.0	93.6	321933.143333333
Ge	72	He	80085.16	2.3	94.7	84567.356666667
Ge	72	HEHe	33424.79	1.3	96.8	34546.556666667
Rh	103	No Gas	882251.61	1.7	89.9	980944.063333333
Rh	103	He	435986.36	3.1	90.2	483404.58
Ho	165	No Gas	331421.34	3.3	96.5	343501.166666667
Ho	165	He	162864.48	3.8	94.7	172030.806666667

Sample Report

Sample Name WCF1156-09
File Name 091SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:16:22
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	1.051	No Gas	1.051	6	3.0	100	
9	Be	0.013	No Gas	0.013	6	22.0	200	
27	Al	76.297	No Gas	76.297	45	4.5	4000	
27	Al	75.223	He	75.223	45	6.0	4000	
47	Ti	3.739	He	3.739	45	24.1	1000	
51	V	13.146	He	13.146	45	3.0	1000	
52	Cr	2.305	He	2.305	45	2.8	1000	
53	Cr	4.643	He	4.643	45	11.8	1000	
55	Mn	35.218	No Gas	35.218	72	4.1	1000	
55	Mn	35.517	He	35.517	72	3.4	1000	
56	Fe	255.941	He	255.941	72	3.0	2000	
56	Fe	256.941	HEHe	256.941	72	0.6	4000	
59	Co	0.570	He	0.57	72	5.5	1000	
60	Ni	3.472	He	3.472	72	5.4	1000	
62	Ni	3.375	He	3.375	72	14.1	1000	
65	Cu	1.356	He	1.356	72	4.9	1000	
66	Zn	0.223	He	0.223	72	6.4	1000	
75	As	3.578	He	3.578	72	6.4	1000	
78	Se	0.479	He	0.479	72	4.2	1000	
82	Se	2.125	He	2.125	72	5.1	1000	
88	Sr	307.504	No Gas	307.504	72	1.7	1000	
88	Sr	300.220	He	300.22	72	2.7	1000	
95	Mo	0.275	No Gas	0.275	103	5.2	1000	
95	Mo	0.276	He	0.276	103	7.5	1000	
98	Mo	0.235	No Gas	0.235	103	17.2	1000	
98	Mo	0.280	He	0.28	103	10.4	1000	
107	Ag	0.004	No Gas	0.004	103	40.0	1000	
107	Ag	<0.000	He	-0.001	103	33.3	1000	
109	Ag	0.007	No Gas	0.007	103	34.3	1000	
109	Ag	0.006	He	0.006	103	66.7	1000	
111	Cd	0.091	No Gas	0.091	103	41.9	1000	
111	Cd	0.011	He	0.011	103	107.9	1000	
114	Cd	0.219	No Gas	0.219	103	30.6	1000	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.008	He	0.008	103	33.3	1000	
118	Sn	0.050	No Gas	0.05	103	9.4	1000	
118	Sn	0.042	He	0.042	103	9.8	1000	
123	Sb	1.549	No Gas	1.549	165	7.9	1000	
123	Sb	1.614	He	1.614	165	5.3	1000	
137	Ba	4.156	No Gas	4.156	165	3.7	1000	
137	Ba	4.476	He	4.476	165	4.0	1000	
201	Hg	0.004	No Gas	0.004	165	9.9	50	
201	Hg	<0.000	He	-0.029	165	17.3	50	
202	Hg	0.012	No Gas	0.012	165	8.9	50	
202	Hg	<0.000	He	-0.002	165	14.7	50	
205	Tl	0.198	No Gas	0.198	165	9.2	1000	
205	Tl	0.173	He	0.173	165	4.2	1000	
208	Pb	<0.000	No Gas	-0.006	165	8.0	1000	
208	Pb	0.056	He	0.056	165	20.8	1000	
238	U	0.022	No Gas	0.022	165	4.8	1000	
238	U	0.006	He	0.006	165	6.2	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	757135.77	0.6	115.3	656421.246666667
Sc	45	No Gas	743706.77	0.4	104.8	709650.373333333
Sc	45	He	75784.34	3.3	102.8	73700.03
Ge	72	No Gas	322359.86	0.2	100.1	321933.143333333
Ge	72	He	83873.23	3.1	99.2	84567.356666667
Ge	72	HEHe	34462.91	2.5	99.8	34546.556666667
Rh	103	No Gas	936889.85	0.2	95.5	980944.063333333
Rh	103	He	446441.57	4.3	92.4	483404.58
Ho	165	No Gas	343718.05	2.2	100.1	343501.166666667
Ho	165	He	163735.91	4.3	95.2	172030.806666667

Sample Report

Sample Name WCF1156-08
File Name 090SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:13:02
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	0.810	No Gas	0.81	6	1.8	100	
9	Be	0.006	No Gas	0.006	6	36.1	200	
27	Al	128.646	No Gas	128.646	45	3.8	4000	
27	Al	132.070	He	132.07	45	7.6	4000	
47	Ti	4.640	He	4.64	45	22.4	1000	
51	V	3.104	He	3.104	45	2.4	1000	
52	Cr	1.028	He	1.028	45	2.9	1000	
53	Cr	2.774	He	2.774	45	12.0	1000	
55	Mn	27.074	No Gas	27.074	72	3.6	1000	
55	Mn	27.240	He	27.24	72	3.4	1000	
56	Fe	385.721	He	385.721	72	2.3	2000	
56	Fe	387.426	HEHe	387.426	72	1.2	4000	
59	Co	0.791	He	0.791	72	11.0	1000	
60	Ni	2.454	He	2.454	72	6.1	1000	
62	Ni	2.804	He	2.804	72	17.7	1000	
65	Cu	1.882	He	1.882	72	6.1	1000	
66	Zn	0.459	He	0.459	72	11.7	1000	
75	As	0.648	He	0.648	72	10.3	1000	
78	Se	0.061	He	0.061	72	19.6	1000	
82	Se	1.647	He	1.647	72	11.8	1000	
88	Sr	207.958	No Gas	207.958	72	2.7	1000	
88	Sr	209.172	He	209.172	72	3.6	1000	
95	Mo	0.183	No Gas	0.183	103	6.0	1000	
95	Mo	0.179	He	0.179	103	21.5	1000	
98	Mo	0.188	No Gas	0.188	103	10.7	1000	
98	Mo	0.207	He	0.207	103	34.1	1000	
107	Ag	0.015	No Gas	0.015	103	8.3	1000	
107	Ag	0.002	He	0.002	103	43.3	1000	
109	Ag	0.011	No Gas	0.011	103	30.0	1000	
109	Ag	0.006	He	0.006	103	66.7	1000	
111	Cd	0.089	No Gas	0.089	103	44.6	1000	
111	Cd	0.011	He	0.011	103	65.5	1000	
114	Cd	0.186	No Gas	0.186	103	40.0	1000	



Agilent Technologies

1 of 2

2022-07-18 10:11 AM

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.299	He	0.299	103	8.1	1000	
118	Sn	0.231	No Gas	0.231	103	13.3	1000	
118	Sn	0.273	He	0.273	103	28.0	1000	
123	Sb	6.292	No Gas	6.292	165	24.0	1000	
123	Sb	8.317	He	8.317	165	6.2	1000	
137	Ba	56.928	No Gas	56.928	165	10.9	1000	
137	Ba	59.185	He	59.185	165	3.4	1000	
201	Hg	0.029	No Gas	0.029	165	19.4	50	
201	Hg	0.035	He	0.035	165	5.4	50	
202	Hg	0.024	No Gas	0.024	165	3.3	50	
202	Hg	0.031	He	0.031	165	4.4	50	
205	Tl	0.287	No Gas	0.287	165	8.6	1000	
205	Tl	0.294	He	0.294	165	10.7	1000	
208	Pb	0.091	No Gas	0.091	165	18.7	1000	
208	Pb	0.123	He	0.123	165	7.6	1000	
238	U	5.243	No Gas	5.243	165	10.6	1000	
238	U	5.571	He	5.571	165	4.8	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	568627.25	9.2	86.6	656421.246666667
Sc	45	No Gas	607254.75	9.9	85.6	709650.373333333
Sc	45	He	69791.49	4.9	94.7	73700.03
Ge	72	No Gas	250698.74	9.4	77.9	321933.143333333
Ge	72	He	71850.65	5.2	85.0	84567.356666667
Ge	72	HEHe	30649.51	1.5	88.7	34546.556666667
Rh	103	No Gas	700277.94	8.6	71.4	980944.063333333
Rh	103	He	356584.89	3.9	73.8	483404.58
Ho	165	No Gas	280918.67	9.0	81.8	343501.166666667
Ho	165	He	139518.39	4.5	81.1	172030.806666667

Sample Report

Sample Name WCF1156-07
File Name 089SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:09:40
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	23.305	No Gas	23.305	6	10.4	100	
9	Be	0.062	No Gas	0.062	6	35.5	200	
27	Al	195.004	No Gas	195.004	45	17.1	4000	
27	Al	192.439	He	192.439	45	6.7	4000	
47	Ti	12.216	He	12.216	45	7.0	1000	
51	V	7.374	He	7.374	45	3.7	1000	
52	Cr	2.299	He	2.299	45	6.0	1000	
53	Cr	4.244	He	4.244	45	9.9	1000	
55	Mn	29.297	No Gas	29.297	72	11.1	1000	
55	Mn	29.694	He	29.694	72	4.6	1000	
56	Fe	299.497	He	299.497	72	4.5	2000	
56	Fe	298.706	HEHe	298.706	72	1.9	4000	
59	Co	2.226	He	2.226	72	2.3	1000	
60	Ni	19.693	He	19.693	72	4.1	1000	
62	Ni	19.531	He	19.531	72	4.5	1000	
65	Cu	3.150	He	3.15	72	10.1	1000	
66	Zn	2.293	He	2.293	72	7.4	1000	
75	As	13.324	He	13.324	72	4.2	1000	
78	Se	5.415	He	5.415	72	19.0	1000	
82	Se	20.116	He	20.116	72	11.4	1000	
88	Sr	11459.483	No Gas	11459.483	72	10.2	1000	>LDR
88	Sr	11376.143	He	11376.143	72	5.1	1000	>LDR
95	Mo	10.040	No Gas	10.04	103	11.3	1000	
95	Mo	10.225	He	10.225	103	5.1	1000	
98	Mo	9.982	No Gas	9.982	103	11.3	1000	
98	Mo	10.413	He	10.413	103	2.8	1000	
107	Ag	0.077	No Gas	0.077	103	8.3	1000	
107	Ag	0.063	He	0.063	103	14.5	1000	
109	Ag	0.080	No Gas	0.08	103	27.6	1000	
109	Ag	0.064	He	0.064	103	41.9	1000	
111	Cd	3.801	No Gas	3.801	103	16.4	1000	
111	Cd	0.328	He	0.328	103	6.9	1000	
114	Cd	8.118	No Gas	8.118	103	15.3	1000	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	54.900	He	54.9	103	4.0	50	
118	Sn	54.167	No Gas	54.167	103	6.2	50	
118	Sn	55.248	He	55.248	103	5.4	50	
123	Sb	64.953	No Gas	64.953	165	5.9	50	> +/- 10%
123	Sb	69.942	He	69.942	165	4.5	50	> +/- 10%
137	Ba	52.894	No Gas	52.894	165	4.3	50	
137	Ba	55.355	He	55.355	165	3.4	50	
201	Hg	2.491	No Gas	2.491	165	8.0	2.5	
201	Hg	2.613	He	2.613	165	8.5	2.5	
202	Hg	2.452	No Gas	2.452	165	6.4	2.5	
202	Hg	2.477	He	2.477	165	0.4	2.5	
205	Tl	55.124	No Gas	55.124	165	7.1	50	
205	Tl	55.749	He	55.749	165	3.5	50	
208	Pb	51.555	No Gas	51.555	165	6.2	50	
208	Pb	51.486	He	51.486	165	3.7	50	
238	U	53.227	No Gas	53.227	165	7.0	50	
238	U	53.418	He	53.418	165	3.2	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	610880.48	2.7	93.1	656421.246666667
Sc	45	No Gas	585742.81	2.6	82.5	709650.373333333
Sc	45	He	64400.23	3.3	87.4	73700.03
Ge	72	No Gas	259268.79	2.6	80.5	321933.143333333
Ge	72	He	71939.84	4.7	85.1	84567.356666667
Ge	72	HEHe	29239.83	1.4	84.6	34546.556666667
Rh	103	No Gas	812236.23	3.9	82.8	980944.063333333
Rh	103	He	414935.76	4.1	85.8	483404.58
Ho	165	No Gas	289260.62	3.9	84.2	343501.166666667
Ho	165	He	150546.31	4.2	87.5	172030.806666667



Sample Report

Sample Name WCF1156-05
File Name 087SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:02:55
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	1.645	No Gas	1.645	6	2.3	100	
9	Be	0.014	No Gas	0.014	6	29.6	200	
27	Al	69.219	No Gas	69.219	45	5.7	4000	
27	Al	68.554	He	68.554	45	5.3	4000	
47	Ti	5.378	He	5.378	45	16.9	1000	
51	V	38.979	He	38.979	45	2.4	1000	
52	Cr	2.589	He	2.589	45	5.8	1000	
53	Cr	4.258	He	4.258	45	14.2	1000	
55	Mn	21.115	No Gas	21.115	72	5.8	1000	
55	Mn	21.262	He	21.262	72	4.7	1000	
56	Fe	166.889	He	166.889	72	2.6	2000	
56	Fe	169.160	HEHe	169.16	72	1.8	4000	
59	Co	0.230	He	0.23	72	3.6	1000	
60	Ni	0.906	He	0.906	72	7.0	1000	
62	Ni	1.243	He	1.243	72	25.5	1000	
65	Cu	0.877	He	0.877	72	7.1	1000	
66	Zn	0.865	He	0.865	72	14.4	1000	
75	As	1.613	He	1.613	72	9.1	1000	
78	Se	1.719	He	1.719	72	9.8	1000	
82	Se	1.544	He	1.544	72	38.3	1000	
88	Sr	188.188	No Gas	188.188	72	4.9	1000	
88	Sr	189.858	He	189.858	72	3.1	1000	
95	Mo	0.398	No Gas	0.398	103	6.6	1000	
95	Mo	0.459	He	0.459	103	6.2	1000	
98	Mo	0.408	No Gas	0.408	103	5.4	1000	
98	Mo	0.449	He	0.449	103	2.9	1000	
107	Ag	0.022	No Gas	0.022	103	15.6	1000	
107	Ag	0.009	He	0.009	103	43.3	1000	
109	Ag	0.018	No Gas	0.018	103	21.6	1000	
109	Ag	0.012	He	0.012	103	43.3	1000	
111	Cd	0.088	No Gas	0.088	103	47.7	1000	
111	Cd	0.018	He	0.018	103	45.8	1000	
114	Cd	0.204	No Gas	0.204	103	35.5	1000	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.030	He	0.03	103	6.7	1000	
118	Sn	0.074	No Gas	0.074	103	1.7	1000	
118	Sn	0.150	He	0.15	103	13.6	1000	
123	Sb	1.103	No Gas	1.103	165	11.7	1000	
123	Sb	1.129	He	1.129	165	12.9	1000	
137	Ba	5.927	No Gas	5.927	165	6.4	1000	
137	Ba	6.446	He	6.446	165	6.6	1000	
201	Hg	<0.000	No Gas	-0.002	165	19.2	50	
201	Hg	<0.000	He	-0.015	165	22.6	50	
202	Hg	0.020	No Gas	0.02	165	7.2	50	
202	Hg	0.016	He	0.016	165	4.2	50	
205	Tl	0.325	No Gas	0.325	165	1.7	1000	
205	Tl	0.309	He	0.309	165	4.0	1000	
208	Pb	0.115	No Gas	0.115	165	5.6	1000	
208	Pb	0.157	He	0.157	165	16.3	1000	
238	U	0.077	No Gas	0.077	165	8.2	1000	
238	U	0.049	He	0.049	165	4.7	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	642932.55	1.4	97.9	656421.246666667
Sc	45	No Gas	642481.33	1.9	90.5	709650.373333333
Sc	45	He	66623.94	3.9	90.4	73700.03
Ge	72	No Gas	280498.88	1.0	87.1	321933.143333333
Ge	72	He	75685.36	4.4	89.5	84567.356666667
Ge	72	HEHe	30709.60	1.2	88.9	34546.556666667
Rh	103	No Gas	808599.71	2.2	82.4	980944.063333333
Rh	103	He	403630.96	3.4	83.5	483404.58
Ho	165	No Gas	302599.19	3.0	88.1	343501.166666667
Ho	165	He	152660.43	5.5	88.7	172030.806666667



Sample Report

Sample Name WCF1156-04
File Name 086SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 15:59:34
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	1.606	No Gas	1.606	6	1.7	100	
9	Be	0.031	No Gas	0.031	6	22.5	200	
27	Al	120.495	No Gas	120.495	45	5.3	4000	
27	Al	124.448	He	124.448	45	0.9	4000	
47	Ti	9.589	He	9.589	45	5.9	1000	
51	V	41.775	He	41.775	45	3.1	1000	
52	Cr	4.700	He	4.7	45	3.1	1000	
53	Cr	6.602	He	6.602	45	14.9	1000	
55	Mn	31.270	No Gas	31.27	72	4.6	1000	
55	Mn	31.147	He	31.147	72	4.3	1000	
56	Fe	337.591	He	337.591	72	3.8	2000	
56	Fe	338.953	HEHe	338.953	72	0.6	4000	
59	Co	0.532	He	0.532	72	7.3	1000	
60	Ni	1.589	He	1.589	72	9.2	1000	
62	Ni	1.358	He	1.358	72	48.4	1000	
65	Cu	1.236	He	1.236	72	9.8	1000	
66	Zn	2.782	He	2.782	72	13.7	1000	
75	As	1.473	He	1.473	72	3.0	1000	
78	Se	1.687	He	1.687	72	23.3	1000	
82	Se	2.083	He	2.083	72	18.9	1000	
88	Sr	163.964	No Gas	163.964	72	3.6	1000	
88	Sr	163.327	He	163.327	72	4.2	1000	
95	Mo	0.432	No Gas	0.432	103	20.5	1000	
95	Mo	0.458	He	0.458	103	14.7	1000	
98	Mo	0.450	No Gas	0.45	103	9.8	1000	
98	Mo	0.587	He	0.587	103	16.2	1000	
107	Ag	0.039	No Gas	0.039	103	21.2	1000	
107	Ag	0.022	He	0.022	103	69.4	1000	
109	Ag	0.027	No Gas	0.027	103	25.5	1000	
109	Ag	0.009	He	0.009	103	45.8	1000	
111	Cd	0.100	No Gas	0.1	103	36.8	1000	
111	Cd	0.019	He	0.019	103	68.6	1000	
114	Cd	0.174	No Gas	0.174	103	37.9	1000	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	103.538	He	103.538	103	3.2	50	> +/- 10%
118	Sn	51.798	No Gas	51.798	103	6.1	50	
118	Sn	53.806	He	53.806	103	2.6	50	
123	Sb	64.689	No Gas	64.689	165	6.9	50	> +/- 10%
123	Sb	68.821	He	68.821	165	3.4	50	> +/- 10%
137	Ba	105.243	No Gas	105.243	165	6.9	50	> +/- 10%
137	Ba	109.067	He	109.067	165	2.8	50	> +/- 10%
201	Hg	0.000	No Gas	0	165	13.8	2.5	> +/- 10%
201	Hg	<0.000	He	-0.066	165	12.2	2.5	> +/- 10%
202	Hg	0.001	No Gas	0.001	165	5.8	2.5	> +/- 10%
202	Hg	<0.000	He	-0.011	165	15.6	2.5	> +/- 10%
205	Tl	103.213	No Gas	103.213	165	9.0	50	> +/- 10%
205	Tl	108.548	He	108.548	165	2.5	50	> +/- 10%
208	Pb	96.303	No Gas	96.303	165	8.9	50	> +/- 10%
208	Pb	101.466	He	101.466	165	3.0	50	> +/- 10%
238	U	96.066	No Gas	96.066	165	8.8	50	> +/- 10%
238	U	103.576	He	103.576	165	3.0	50	> +/- 10%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	718255.59	3.1	109.4	656421.246666667
Sc	45	No Gas	687915.69	2.2	96.9	709650.373333333
Sc	45	He	72878.06	3.4	98.9	73700.03
Ge	72	No Gas	286213.44	2.2	88.9	321933.143333333
Ge	72	He	78361.18	3.0	92.7	84567.356666667
Ge	72	HEHe	30811.01	2.3	89.2	34546.556666667
Rh	103	No Gas	887858.98	3.1	90.5	980944.063333333
Rh	103	He	439654.61	4.5	90.9	483404.58
Ho	165	No Gas	305677.41	5.2	89.0	343501.166666667
Ho	165	He	154337.57	3.7	89.7	172030.806666667

Sample Report

Sample Name WCF1156-03
File Name 084SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 15:52:54
Sample Type Sample
Total Dilution 1.0000
Comment —
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Fail
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	68.594	No Gas	68.594	6	7.3	100	
9	Be	0.023	No Gas	0.023	6	5.4	200	
27	Al	9.864	No Gas	9.864	45	7.6	4000	
27	Al	11.330	He	11.33	45	21.5	4000	
47	Ti	2.879	He	2.879	45	13.8	1000	
51	V	8.575	He	8.575	45	5.2	1000	
52	Cr	0.541	He	0.541	45	10.8	1000	
53	Cr	2.957	He	2.957	45	13.8	1000	
55	Mn	231.931	No Gas	231.931	72	5.7	1000	
55	Mn	245.725	He	245.725	72	6.0	1000	
56	Fe	177.789	He	177.789	72	6.0	2000	
56	Fe	178.411	HEHe	178.411	72	2.0	4000	
59	Co	0.462	He	0.462	72	15.7	1000	
60	Ni	8.483	He	8.483	72	5.0	1000	
62	Ni	7.444	He	7.444	72	11.9	1000	
65	Cu	0.370	He	0.37	72	35.0	1000	
66	Zn	1.098	He	1.098	72	16.1	1000	
75	As	15.118	He	15.118	72	6.5	1000	
78	Se	2.916	He	2.916	72	13.4	1000	
82	Se	19.818	He	19.818	72	23.5	1000	
88	Sr	4752.164	No Gas	4752.164	72	4.5	1000	>LDR
88	Sr	4984.408	He	4984.408	72	5.4	1000	>LDR
95	Mo	5.118	No Gas	5.118	103	5.3	1000	
95	Mo	5.575	He	5.575	103	3.7	1000	
98	Mo	5.126	No Gas	5.126	103	9.4	1000	
98	Mo	5.125	He	5.125	103	4.8	1000	
107	Ag	0.137	No Gas	0.137	103	15.9	1000	
107	Ag	0.063	He	0.063	103	22.9	1000	
109	Ag	0.124	No Gas	0.124	103	6.9	1000	
109	Ag	0.050	He	0.05	103	39.0	1000	
111	Cd	1.545	No Gas	1.545	103	16.6	1000	
111	Cd	0.018	He	0.018	103	43.3	1000	
114	Cd	3.371	No Gas	3.371	103	14.6	1000	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.019	He	0.019	103	11.9	1000	
118	Sn	0.386	No Gas	0.386	103	11.6	1000	
118	Sn	0.446	He	0.446	103	6.4	1000	
123	Sb	1.053	No Gas	1.053	165	11.3	1000	
123	Sb	1.286	He	1.286	165	2.2	1000	
137	Ba	5.339	No Gas	5.339	165	7.8	1000	
137	Ba	5.884	He	5.884	165	6.1	1000	
201	Hg	0.024	No Gas	0.024	165	10.5	50	
201	Hg	<0.000	He	-0.019	165	5.2	50	
202	Hg	0.021	No Gas	0.021	165	15.5	50	
202	Hg	<0.000	He	-0.001	165	18.0	50	
205	Tl	0.346	No Gas	0.346	165	12.9	1000	
205	Tl	0.228	He	0.228	165	4.0	1000	
208	Pb	0.044	No Gas	0.044	165	13.2	1000	
208	Pb	0.077	He	0.077	165	21.2	1000	
238	U	0.096	No Gas	0.096	165	6.8	1000	
238	U	0.010	He	0.01	165	2.5	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	514395.53	2.1	78.4	656421.246666667
Sc	45	No Gas	532040.32	2.9	75.0	709650.373333333
Sc	45	He	58895.20	3.7	79.9	73700.03
Ge	72	No Gas	244660.42	2.7	76.0	321933.143333333
Ge	72	He	69759.72	3.1	82.5	84567.356666667
Ge	72	HEHe	28339.05	1.3	82.0	34546.556666667
Rh	103	No Gas	725682.17	2.8	74.0	980944.063333333
Rh	103	He	379573.10	4.2	78.5	483404.58
Ho	165	No Gas	277526.85	4.0	80.8	343501.166666667
Ho	165	He	148096.30	3.7	86.1	172030.806666667

Sample Report

Sample Name WCF1156-02
File Name 083SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX b
Acq Time 2022-07-15 15:49:31
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	1.610	No Gas	1.61	6	1.6	100	
9	Be	0.062	No Gas	0.062	6	36.1	200	
27	Al	45.338	No Gas	45.338	45	7.0	4000	
27	Al	46.382	He	46.382	45	1.9	4000	
47	Ti	3.189	He	3.189	45	32.5	1000	
51	V	36.961	He	36.961	45	4.1	1000	
52	Cr	2.633	He	2.633	45	0.7	1000	
53	Cr	4.168	He	4.168	45	9.9	1000	
55	Mn	31.560	No Gas	31.56	72	4.5	1000	
55	Mn	31.645	He	31.645	72	2.3	1000	
56	Fe	131.413	He	131.413	72	2.6	2000	
56	Fe	133.445	HEHe	133.445	72	1.0	4000	
59	Co	0.233	He	0.233	72	18.9	1000	
60	Ni	0.825	He	0.825	72	9.0	1000	
62	Ni	0.451	He	0.451	72	45.8	1000	
65	Cu	0.997	He	0.997	72	9.9	1000	
66	Zn	0.304	He	0.304	72	5.2	1000	
75	As	1.065	He	1.065	72	10.0	1000	
78	Se	2.187	He	2.187	72	23.0	1000	
82	Se	1.716	He	1.716	72	14.7	1000	
88	Sr	154.344	No Gas	154.344	72	5.7	1000	
88	Sr	154.272	He	154.272	72	3.9	1000	
95	Mo	0.483	No Gas	0.483	103	7.0	1000	
95	Mo	0.475	He	0.475	103	12.7	1000	
98	Mo	0.467	No Gas	0.467	103	13.9	1000	
98	Mo	0.630	He	0.63	103	12.6	1000	
107	Ag	0.044	No Gas	0.044	103	5.1	1000	
107	Ag	0.033	He	0.033	103	18.2	1000	
109	Ag	0.039	No Gas	0.039	103	15.0	1000	
109	Ag	0.047	He	0.047	103	50.0	1000	
111	Cd	0.099	No Gas	0.099	103	50.2	1000	
111	Cd	0.019	He	0.019	103	45.8	1000	
114	Cd	0.179	No Gas	0.179	103	14.3	1000	



Agilent Technologies

1 of 2

2022-07-18 10:08 AM

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	113.423	He	113.423	103	3.7	20	
118	Sn	57.595	No Gas	57.595	103	6.4	20	
118	Sn	59.149	He	59.149	103	4.5	20	
123	Sb	65.367	No Gas	65.367	165	5.7	20	
123	Sb	69.377	He	69.377	165	3.9	20	
137	Ba	110.726	No Gas	110.726	165	5.3	20	
137	Ba	114.544	He	114.544	165	3.1	20	
201	Hg	0.002	No Gas	0.002	165	15.2	20	RPD > 20%
201	Hg	<0.000	He	-0.002	165	9.5	20	
202	Hg	0.025	No Gas	0.025	165	13.3	20	RPD > 20%
202	Hg	0.008	He	0.008	165	11.5	20	
205	Tl	111.999	No Gas	111.999	165	7.4	20	
205	Tl	109.992	He	109.992	165	2.8	20	
208	Pb	103.897	No Gas	103.897	165	7.0	20	
208	Pb	102.023	He	102.023	165	2.7	20	
238	U	111.301	No Gas	111.301	165	7.5	20	
238	U	108.393	He	108.393	165	3.3	20	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	506730.62	2.6	77.2	656421.246666667
Sc	45	No Gas	521691.81	2.8	73.5	709650.373333333
Sc	45	He	59123.94	3.8	80.2	73700.03
Ge	72	No Gas	242706.81	2.5	75.4	321933.143333333
Ge	72	He	68914.43	4.2	81.5	84567.356666667
Ge	72	HEHe	28017.28	0.6	81.1	34546.556666667
Rh	103	No Gas	718332.63	3.3	73.2	980944.063333333
Rh	103	He	376509.01	3.8	77.9	483404.58
Ho	165	No Gas	273747.52	3.6	79.7	343501.166666667
Ho	165	He	147242.44	4.4	85.6	172030.806666667

Sample Report

Sample Name BCG0057-MSD1
File Name 082LFMD.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX b
Acq Time 2022-07-15 15:46:10
Sample Type LFMDup
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	106.214	No Gas	106.214	6	4.1	20	
9	Be	104.955	No Gas	104.955	6	4.7	20	
27	Al	343.579	No Gas	343.579	45	5.5	20	RPD > 20%
27	Al	353.122	He	353.122	45	3.5	20	RPD > 20%
47	Ti	66.588	He	66.588	45	5.5	20	
51	V	150.816	He	150.816	45	3.5	20	
52	Cr	113.886	He	113.886	45	3.3	20	
53	Cr	116.387	He	116.387	45	5.9	20	
55	Mn	135.167	No Gas	135.167	72	4.7	20	
55	Mn	138.842	He	138.842	72	4.5	20	
56	Fe	610.986	He	610.986	72	3.6	20	RPD > 20%
56	Fe	615.813	HEHe	615.813	72	1.5	20	RPD > 20%
59	Co	103.304	He	103.304	72	4.3	20	
60	Ni	107.757	He	107.757	72	4.1	20	
62	Ni	104.804	He	104.804	72	3.7	20	
65	Cu	105.647	He	105.647	72	2.9	20	
66	Zn	103.681	He	103.681	72	4.5	20	
75	As	108.388	He	108.388	72	3.4	20	
78	Se	109.105	He	109.105	72	7.8	20	
82	Se	109.105	He	109.105	72	7.6	20	
88	Sr	276.884	No Gas	276.884	72	5.3	20	
88	Sr	277.417	He	277.417	72	4.1	20	
95	Mo	60.548	No Gas	60.548	103	5.9	20	
95	Mo	62.383	He	62.383	103	2.3	20	
98	Mo	60.611	No Gas	60.611	103	4.5	20	
98	Mo	62.455	He	62.455	103	3.1	20	
107	Ag	113.428	No Gas	113.428	103	5.2	20	
107	Ag	114.596	He	114.596	103	3.6	20	
109	Ag	114.094	No Gas	114.094	103	5.3	20	
109	Ag	114.780	He	114.78	103	4.8	20	
111	Cd	113.008	No Gas	113.008	103	4.9	20	
111	Cd	113.708	He	113.708	103	3.3	20	
114	Cd	113.801	No Gas	113.801	103	5.5	20	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	111.436	He	111.436	103	4.2	100	> +/- 25%
118	Sn	57.595	No Gas	57.595	103	7.1	100	
118	Sn	57.513	He	57.513	103	4.3	100	
123	Sb	64.986	No Gas	64.986	165	5.2	100	
123	Sb	70.662	He	70.662	165	3.4	100	> +/- 25%
137	Ba	111.576	No Gas	111.576	165	5.2	100	> +/- 25%
137	Ba	115.471	He	115.471	165	2.5	100	> +/- 25%
201	Hg	0.007	No Gas	0.007	165	22.0	100	> +/- 25%
201	Hg	<0.000	He	-0.027	165	6.9	100	> +/- 25%
202	Hg	0.016	No Gas	0.016	165	6.7	100	> +/- 25%
202	Hg	<0.000	He	-0.024	165	12.7	100	> +/- 25%
205	Tl	111.469	No Gas	111.469	165	7.3	100	> +/- 25%
205	Tl	111.317	He	111.317	165	3.2	100	> +/- 25%
208	Pb	103.152	No Gas	103.152	165	6.4	100	> +/- 25%
208	Pb	101.832	He	101.832	165	3.3	100	> +/- 25%
238	U	110.315	No Gas	110.315	165	6.5	100	> +/- 25%
238	U	108.881	He	108.881	165	2.9	100	> +/- 25%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	511394.39	1.5	77.9	656421.246666667
Sc	45	No Gas	529380.56	2.1	74.6	709650.373333333
Sc	45	He	58456.68	3.9	79.3	73700.03
Ge	72	No Gas	245832.17	0.8	76.4	321933.143333333
Ge	72	He	68993.79	3.4	81.6	84567.356666667
Ge	72	HEHe	28458.18	1.5	82.4	34546.556666667
Rh	103	No Gas	733199.27	2.7	74.7	980944.063333333
Rh	103	He	380935.55	4.0	78.8	483404.58
Ho	165	No Gas	277556.04	3.0	80.8	343501.166666667
Ho	165	He	145726.20	3.3	84.7	172030.806666667

Sample Report

Sample Name BCG0057-MS1
File Name 081_LFM.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 15:42:47
Sample Type LFM
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	104.437	No Gas	104.437	6	3.9	100	> +/- 25%
9	Be	106.148	No Gas	106.148	6	3.7	100	> +/- 25%
27	Al	226.596	No Gas	226.596	45	5.9	100	> +/- 25%
27	Al	234.351	He	234.351	45	3.3	100	> +/- 25%
47	Ti	60.352	He	60.352	45	4.7	100	
51	V	150.055	He	150.055	45	3.4	100	> +/- 25%
52	Cr	113.391	He	113.391	45	3.8	100	> +/- 25%
53	Cr	116.139	He	116.139	45	5.0	100	> +/- 25%
55	Mn	127.262	No Gas	127.262	72	4.8	100	> +/- 25%
55	Mn	129.719	He	129.719	72	4.0	100	> +/- 25%
56	Fe	339.816	He	339.816	72	3.4	100	> +/- 25%
56	Fe	343.519	HEHe	343.519	72	1.0	100	> +/- 25%
59	Co	103.536	He	103.536	72	3.8	100	> +/- 25%
60	Ni	104.728	He	104.728	72	2.2	100	> +/- 25%
62	Ni	104.203	He	104.203	72	9.7	100	> +/- 25%
65	Cu	104.889	He	104.889	72	3.4	100	> +/- 25%
66	Zn	104.958	He	104.958	72	1.6	100	> +/- 25%
75	As	107.569	He	107.569	72	3.2	100	> +/- 25%
78	Se	108.093	He	108.093	72	6.0	100	> +/- 25%
82	Se	112.299	He	112.299	72	3.7	100	> +/- 25%
88	Sr	270.616	No Gas	270.616	72	4.2	100	> +/- 25%
88	Sr	271.028	He	271.028	72	3.4	100	> +/- 25%
95	Mo	59.120	No Gas	59.12	103	4.9	100	
95	Mo	60.057	He	60.057	103	4.0	100	
98	Mo	59.449	No Gas	59.449	103	4.8	100	
98	Mo	61.282	He	61.282	103	3.2	100	
107	Ag	113.666	No Gas	113.666	103	4.3	100	> +/- 25%
107	Ag	113.992	He	113.992	103	3.7	100	> +/- 25%
109	Ag	113.273	No Gas	113.273	103	4.6	100	> +/- 25%
109	Ag	114.129	He	114.129	103	3.7	100	> +/- 25%
111	Cd	111.367	No Gas	111.367	103	5.3	100	> +/- 25%
111	Cd	111.644	He	111.644	103	3.8	100	> +/- 25%
114	Cd	112.250	No Gas	112.25	103	5.5	100	> +/- 25%

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.005	He	0.005	103	35.3	1000	
118	Sn	0.058	No Gas	0.058	103	10.0	1000	
118	Sn	0.154	He	0.154	103	17.4	1000	
123	Sb	1.092	No Gas	1.092	165	10.0	1000	
123	Sb	1.288	He	1.288	165	13.7	1000	
137	Ba	4.692	No Gas	4.692	165	6.8	1000	
137	Ba	4.708	He	4.708	165	6.8	1000	
201	Hg	0.012	No Gas	0.012	165	4.2	50	
201	Hg	0.026	He	0.026	165	2.7	50	
202	Hg	0.021	No Gas	0.021	165	17.8	50	
202	Hg	0.002	He	0.002	165	15.2	50	
205	Tl	<0.000	No Gas	-0.004	165	39.0	1000	
205	Tl	<0.000	He	-0.008	165	15.7	1000	
208	Pb	0.011	No Gas	0.011	165	19.3	1000	
208	Pb	0.075	He	0.075	165	19.7	1000	
238	U	0.054	No Gas	0.054	165	8.0	1000	
238	U	0.025	He	0.025	165	9.7	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	511052.37	2.0	77.9	656421.246666667
Sc	45	No Gas	530182.47	1.6	74.7	709650.373333333
Sc	45	He	58192.11	3.2	79.0	73700.03
Ge	72	No Gas	246233.92	1.7	76.5	321933.143333333
Ge	72	He	69465.07	4.1	82.1	84567.356666667
Ge	72	HEHe	28806.69	1.4	83.4	34546.556666667
Rh	103	No Gas	738216.50	2.6	75.3	980944.063333333
Rh	103	He	380511.96	4.8	78.7	483404.58
Ho	165	No Gas	279734.16	3.4	81.4	343501.166666667
Ho	165	He	147257.78	3.5	85.6	172030.806666667

Sample Report

Sample Name WCF1156-01
File Name 080_ARF.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 15:39:26
Sample Type AllRef
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	1.291	No Gas	1.291	6	2.8	100	
9	Be	<0.000	No Gas	-0.013	6	65.5	200	
27	Al	39.582	No Gas	39.582	45	3.0	4000	
27	Al	40.144	He	40.144	45	8.8	4000	
47	Ti	3.163	He	3.163	45	12.4	1000	
51	V	35.784	He	35.784	45	1.9	1000	
52	Cr	2.902	He	2.902	45	7.0	1000	
53	Cr	4.018	He	4.018	45	0.9	1000	
55	Mn	17.544	No Gas	17.544	72	4.3	1000	
55	Mn	17.631	He	17.631	72	2.7	1000	
56	Fe	104.852	He	104.852	72	3.5	2000	
56	Fe	106.013	HEHe	106.013	72	2.3	4000	
59	Co	0.212	He	0.212	72	13.6	1000	
60	Ni	0.654	He	0.654	72	2.7	1000	
62	Ni	0.896	He	0.896	72	28.9	1000	
65	Cu	0.581	He	0.581	72	7.0	1000	
66	Zn	0.489	He	0.489	72	16.6	1000	
75	As	1.223	He	1.223	72	8.9	1000	
78	Se	1.349	He	1.349	72	13.2	1000	
82	Se	0.968	He	0.968	72	24.0	1000	
88	Sr	137.693	No Gas	137.693	72	4.4	1000	
88	Sr	136.013	He	136.013	72	3.6	1000	
95	Mo	0.258	No Gas	0.258	103	3.9	1000	
95	Mo	0.281	He	0.281	103	26.5	1000	
98	Mo	0.289	No Gas	0.289	103	12.8	1000	
98	Mo	0.318	He	0.318	103	10.5	1000	
107	Ag	0.002	No Gas	0.002	103	34.6	1000	
107	Ag	0.000	He	0	103	57.7	1000	
109	Ag	0.007	No Gas	0.007	103	16.7	1000	
109	Ag	<0.000	He	0	103	100.1	1000	
111	Cd	0.059	No Gas	0.059	103	22.6	1000	
111	Cd	0.017	He	0.017	103	57.7	1000	
114	Cd	0.117	No Gas	0.117	103	19.3	1000	

Sample Report

Sample Name BCG0057-BS1
File Name 079_LCS.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 15:36:06
Sample Type LCS
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Fail
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
------	------	-------	------	-----------	------	---------	-----	---------

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas				656421.246666667
Sc	45	No Gas				709650.373333333
Sc	45	He				73700.03
Ge	72	No Gas				321933.143333333
Ge	72	He				84567.356666667
Ge	72	HEHe				34546.556666667
Rh	103	No Gas				980944.063333333
Rh	103	He				483404.58
Ho	165	No Gas				343501.166666667
Ho	165	He				172030.806666667

Sample Report

Sample Name BCG0057-MRL1
File Name 078LICV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 15:33:12
Sample Type LLICV
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	0.939	No Gas	0.939	6	3.4	1	
9	Be	0.848	No Gas	0.848	6	6.3	1	
27	Al	2.241	No Gas	2.241	45	3.6	2	
27	Al	2.046	He	2.046	45	11.8	2	
47	Ti	0.583	He	0.583	45	69.3	1	
51	V	1.008	He	1.008	45	3.2	1	
52	Cr	0.983	He	0.983	45	5.3	1	
53	Cr	1.097	He	1.097	45	15.7	1	
55	Mn	0.991	No Gas	0.991	72	6.4	1	
55	Mn	0.996	He	0.996	72	8.3	1	
56	Fe	12.452	He	12.452	72	5.2	2	> +/- 50%
56	Fe	12.936	HEHe	12.936	72	4.7	2	> +/- 50%
59	Co	0.979	He	0.979	72	13.6	1	
60	Ni	0.901	He	0.901	72	9.6	1	
62	Ni	0.683	He	0.683	72	34.0	1	
65	Cu	0.977	He	0.977	72	10.3	1	
66	Zn	0.757	He	0.757	72	12.0	1	
75	As	0.999	He	0.999	72	10.7	1	
78	Se	1.556	He	1.556	72	3.3	1	> +/- 50%
82	Se	0.648	He	0.648	72	40.3	1	
88	Sr	0.992	No Gas	0.992	72	5.9	1	
88	Sr	1.082	He	1.082	72	7.3	1	
95	Mo	0.889	No Gas	0.889	103	9.2	1	
95	Mo	0.819	He	0.819	103	7.8	1	
98	Mo	0.862	No Gas	0.862	103	8.5	1	
98	Mo	0.993	He	0.993	103	4.4	1	
107	Ag	0.957	No Gas	0.957	103	7.2	1	
107	Ag	0.923	He	0.923	103	7.9	1	
109	Ag	0.931	No Gas	0.931	103	9.7	1	
109	Ag	0.924	He	0.924	103	10.3	1	
111	Cd	0.935	No Gas	0.935	103	6.2	1	
111	Cd	1.011	He	1.011	103	5.5	1	
114	Cd	0.941	No Gas	0.941	103	6.9	1	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.966	He	0.966	103	8.6	1	
118	Sn	0.902	No Gas	0.902	103	10.0	1	
118	Sn	0.911	He	0.911	103	11.1	1	
123	Sb	1.223	No Gas	1.223	165	4.8	1	
123	Sb	1.390	He	1.39	165	6.6	1	
137	Ba	0.964	No Gas	0.964	165	11.8	1	
137	Ba	0.904	He	0.904	165	16.4	1	
201	Hg	0.065	No Gas	0.065	165	22.7	0.05	
201	Hg	<0.000	He	-0.001	165	18.3	0.05	> +/- 50%
202	Hg	0.061	No Gas	0.061	165	9.0	0.05	
202	Hg	0.055	He	0.055	165	3.3	0.05	
205	Tl	0.880	No Gas	0.88	165	6.8	1	
205	Tl	0.923	He	0.923	165	3.7	1	
208	Pb	0.850	No Gas	0.85	165	5.4	1	
208	Pb	0.884	He	0.884	165	7.4	1	
238	U	0.878	No Gas	0.878	165	9.9	1	
238	U	0.866	He	0.866	165	4.3	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	559656.21	1.8	85.3	656421.246666667
Sc	45	No Gas	572739.77	2.6	80.7	709650.373333333
Sc	45	He	64198.31	2.4	87.1	73700.03
Ge	72	No Gas	260010.63	2.5	80.8	321933.143333333
Ge	72	He	72757.32	3.3	86.0	84567.356666667
Ge	72	HEHe	29855.61	2.5	86.4	34546.556666667
Rh	103	No Gas	825354.21	2.7	84.1	980944.063333333
Rh	103	He	423979.58	3.6	87.7	483404.58
Ho	165	No Gas	294260.68	2.7	85.7	343501.166666667
Ho	165	He	154805.16	4.0	90.0	172030.806666667

Sample Report

Sample Name BCG0057-BS1
File Name 085_LCS.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 15:56:13
Sample Type LCS
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	100.194	No Gas	100.194	6	5.3	50	> +/- 10%
9	Be	93.719	No Gas	93.719	6	4.8	50	> +/- 10%
27	Al	161.175	No Gas	161.175	45	4.9	100	> +/- 10%
27	Al	160.553	He	160.553	45	3.1	100	> +/- 10%
47	Ti	51.694	He	51.694	45	6.5	50	
51	V	102.941	He	102.941	45	2.5	50	> +/- 10%
52	Cr	104.451	He	104.451	45	3.1	50	> +/- 10%
53	Cr	106.850	He	106.85	45	2.1	50	> +/- 10%
55	Mn	109.614	No Gas	109.614	72	5.8	50	> +/- 10%
55	Mn	110.781	He	110.781	72	3.8	50	> +/- 10%
56	Fe	165.688	He	165.688	72	3.7	100	> +/- 10%
56	Fe	168.724	HEHe	168.724	72	1.7	100	> +/- 10%
59	Co	108.129	He	108.129	72	4.0	50	> +/- 10%
60	Ni	108.831	He	108.831	72	3.6	50	> +/- 10%
62	Ni	108.454	He	108.454	72	6.1	50	> +/- 10%
65	Cu	108.666	He	108.666	72	2.5	50	> +/- 10%
66	Zn	106.920	He	106.92	72	4.8	50	> +/- 10%
75	As	106.155	He	106.155	72	2.2	50	> +/- 10%
78	Se	109.943	He	109.943	72	4.7	50	> +/- 10%
82	Se	107.305	He	107.305	72	2.0	50	> +/- 10%
88	Sr	107.819	No Gas	107.819	72	5.4	50	> +/- 10%
88	Sr	107.880	He	107.88	72	2.6	50	> +/- 10%
95	Mo	55.430	No Gas	55.43	103	7.2	50	
95	Mo	55.498	He	55.498	103	3.0	50	
98	Mo	55.272	No Gas	55.272	103	5.1	50	
98	Mo	56.182	He	56.182	103	2.8	50	
107	Ag	104.967	No Gas	104.967	103	5.7	50	> +/- 10%
107	Ag	105.889	He	105.889	103	3.4	50	> +/- 10%
109	Ag	105.536	No Gas	105.536	103	6.3	50	> +/- 10%
109	Ag	106.463	He	106.463	103	3.9	50	> +/- 10%
111	Cd	104.802	No Gas	104.802	103	5.1	50	> +/- 10%
111	Cd	104.734	He	104.734	103	4.3	50	> +/- 10%
114	Cd	104.593	No Gas	104.593	103	5.5	50	> +/- 10%

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.027	He	0.027	103	24.1	1000	
118	Sn	0.196	No Gas	0.196	103	11.9	1000	
118	Sn	0.272	He	0.272	103	4.7	1000	
123	Sb	6.932	No Gas	6.932	165	16.1	1000	
123	Sb	9.310	He	9.31	165	12.3	1000	
137	Ba	40.010	No Gas	40.01	165	5.3	1000	
137	Ba	43.121	He	43.121	165	5.8	1000	
201	Hg	0.013	No Gas	0.013	165	21.9	50	
201	Hg	0.017	He	0.017	165	5.6	50	
202	Hg	0.004	No Gas	0.004	165	4.0	50	
202	Hg	<0.000	He	-0.008	165	17.1	50	
205	Tl	0.278	No Gas	0.278	165	16.4	1000	
205	Tl	0.332	He	0.332	165	13.8	1000	
208	Pb	0.244	No Gas	0.244	165	24.8	1000	
208	Pb	0.133	He	0.133	165	8.5	1000	
238	U	1.289	No Gas	1.289	165	8.3	1000	
238	U	1.369	He	1.369	165	0.3	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	501429.35	4.9	76.4	656421.246666667
Sc	45	No Gas	548540.81	4.3	77.3	709650.373333333
Sc	45	He	63710.68	5.9	86.4	73700.03
Ge	72	No Gas	229163.48	2.7	71.2	321933.143333333
Ge	72	He	65369.76	5.8	77.3	84567.356666667
Ge	72	HEHe	26928.47	2.4	77.9	34546.556666667
Rh	103	No Gas	624934.56	3.3	63.7	980944.063333333
Rh	103	He	315987.58	4.6	65.4	483404.58
Ho	165	No Gas	247985.86	3.6	72.2	343501.166666667
Ho	165	He	124463.58	4.9	72.3	172030.806666667

Sample Report

Sample Name BCG0057-BS1
File Name 088_LCS.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\RXN\Sequences\07152022 HIGH MATRIX.b
Acq Time 2022-07-15 16:06:19
Sample Type LCS
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Fail
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	51.590	No Gas	51.59	6	4.0	50	
9	Be	48.112	No Gas	48.112	6	4.7	50	
27	Al	110.371	No Gas	110.371	45	4.9	100	
27	Al	111.412	He	111.412	45	5.3	100	
47	Ti	54.742	He	54.742	45	3.1	50	
51	V	53.571	He	53.571	45	4.9	50	
52	Cr	55.026	He	55.026	45	3.2	50	
53	Cr	55.590	He	55.59	45	4.2	50	
55	Mn	54.833	No Gas	54.833	72	5.1	50	
55	Mn	55.835	He	55.835	72	3.7	50	
56	Fe	177.193	He	177.193	72	3.8	100	> +/- 10%
56	Fe	179.617	HEHe	179.617	72	1.0	100	> +/- 10%
59	Co	54.276	He	54.276	72	3.5	50	
60	Ni	55.211	He	55.211	72	2.7	50	
62	Ni	56.362	He	56.362	72	4.2	50	
65	Cu	55.788	He	55.788	72	4.2	50	
66	Zn	53.018	He	53.018	72	5.9	50	
75	As	54.344	He	54.344	72	3.0	50	
78	Se	53.127	He	53.127	72	6.7	50	
82	Se	53.432	He	53.432	72	2.9	50	
88	Sr	55.024	No Gas	55.024	72	4.7	50	
88	Sr	54.918	He	54.918	72	3.6	50	
95	Mo	56.310	No Gas	56.31	103	4.6	50	
95	Mo	56.889	He	56.889	103	4.5	50	
98	Mo	56.171	No Gas	56.171	103	5.9	50	
98	Mo	57.786	He	57.786	103	4.2	50	> +/- 10%
107	Ag	53.685	No Gas	53.685	103	4.5	50	
107	Ag	54.109	He	54.109	103	4.5	50	
109	Ag	53.484	No Gas	53.484	103	5.7	50	
109	Ag	54.214	He	54.214	103	4.5	50	
111	Cd	54.298	No Gas	54.298	103	5.4	50	
111	Cd	54.113	He	54.113	103	4.2	50	
114	Cd	54.392	No Gas	54.392	103	6.2	50	

Sample Report

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
114	Cd	0.019	He	0.019	103	17.3	1000	
118	Sn	0.055	No Gas	0.055	103	15.3	1000	
118	Sn	0.077	He	0.077	103	27.1	1000	
123	Sb	1.058	No Gas	1.058	165	6.8	1000	
123	Sb	1.162	He	1.162	165	5.8	1000	
137	Ba	5.983	No Gas	5.983	165	3.2	1000	
137	Ba	6.241	He	6.241	165	7.0	1000	
201	Hg	0.018	No Gas	0.018	165	11.5	50	
201	Hg	<0.000	He	-0.008	165	9.2	50	
202	Hg	0.017	No Gas	0.017	165	2.6	50	
202	Hg	0.014	He	0.014	165	9.4	50	
205	Tl	0.236	No Gas	0.236	165	6.0	1000	
205	Tl	0.230	He	0.23	165	8.0	1000	
208	Pb	0.000	No Gas	0	165	16.9	1000	
208	Pb	0.064	He	0.064	165	12.1	1000	
238	U	0.078	No Gas	0.078	165	4.7	1000	
238	U	0.044	He	0.044	165	1.5	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	606307.18	2.5	92.4	656421.246666667
Sc	45	No Gas	599481.02	1.6	84.5	709650.373333333
Sc	45	He	65239.70	5.2	88.5	73700.03
Ge	72	No Gas	269393.83	1.5	83.7	321933.143333333
Ge	72	He	73647.44	2.7	87.1	84567.356666667
Ge	72	HEHe	30396.73	1.0	88.0	34546.556666667
Rh	103	No Gas	782865.25	2.3	79.8	980944.063333333
Rh	103	He	392670.40	3.7	81.2	483404.58
Ho	165	No Gas	296099.41	3.6	86.2	343501.166666667
Ho	165	He	149646.68	3.5	87.0	172030.806666667

Sample Report

Sample Name WCF1156-06
File Name 101SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\Method Batches\200.8\Sequences 200.8\07192022 NO GASS.b
Acq Time 2022-07-19 15:13:47
Sample Type Sample
Total Dilution 1.0000
Comment ---
ISTD Ref FileName 003CALB.d
Sample QC Pass/Fail Pass
ISTD QC Pass/Fail Pass
Operator JLG

QC Analyte Table

Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
7	Li	0.741	No Gas	0.741	6	0.7	100	
9	Be	0.016	No Gas	0.016	6	15.9	200	
11	B	110.774	No Gas	110.774	45	1.4	1000	
27	Al	34.388	No Gas	34.388	45	0.5	4000	
47	Ti	6.201	No Gas	6.201	72	1.5	1000	
51	V	38.242	No Gas	38.242	72	0.7	1000	
52	Cr	2.692	No Gas	2.692	72	6.4	1000	
55	Mn	13.014	No Gas	13.014	72	0.9	1000	
59	Co	0.199	No Gas	0.199	72	3.8	1000	
60	Ni	0.944	No Gas	0.944	72	1.5	1000	
62	Ni	0.809	No Gas	0.809	72	6.6	1000	
63	Cu	1.779	No Gas	1.779	72	1.4	1000	
65	Cu	1.171	No Gas	1.171	72	2.9	1000	
66	Zn	1.007	No Gas	1.007	72	0.3	1000	
68	Zn	1.235	No Gas	1.235	72	1.0	1000	
75	As	2.346	No Gas	2.346	72	13.8	1000	
78	Se	2.743	No Gas	2.743	72	0.7	1000	
82	Se	2.406	No Gas	2.406	72	4.0	1000	
88	Sr	166.709	No Gas	166.709	72	0.8	1000	
95	Mo	0.575	No Gas	0.575	103	13.4	1000	
98	Mo	0.567	No Gas	0.567	103	10.5	1000	
107	Ag	0.056	No Gas	0.056	103	37.5	200	
109	Ag	0.057	No Gas	0.057	103	29.2	500	
111	Cd	0.136	No Gas	0.136	103	5.1	1000	
114	Cd	0.254	No Gas	0.254	103	2.8	1000	
118	Sn	0.231	No Gas	0.231	103	7.2	1000	
121	Sb	0.676	No Gas	0.676	165	8.9	1000	
123	Sb	0.671	No Gas	0.671	165	10.6	1000	
135	Ba	5.323	No Gas	5.323	165	1.5	1000	
137	Ba	5.390	No Gas	5.39	165	1.7	1000	
201	Hg	0.006	No Gas	0.006	165	6.5	50	
202	Hg	0.007	No Gas	0.007	165	8.7	50	
203	Tl	0.030	No Gas	0.03	165	7.8	1000	

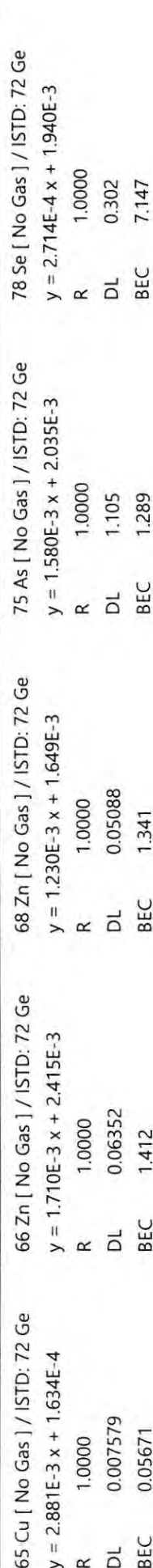
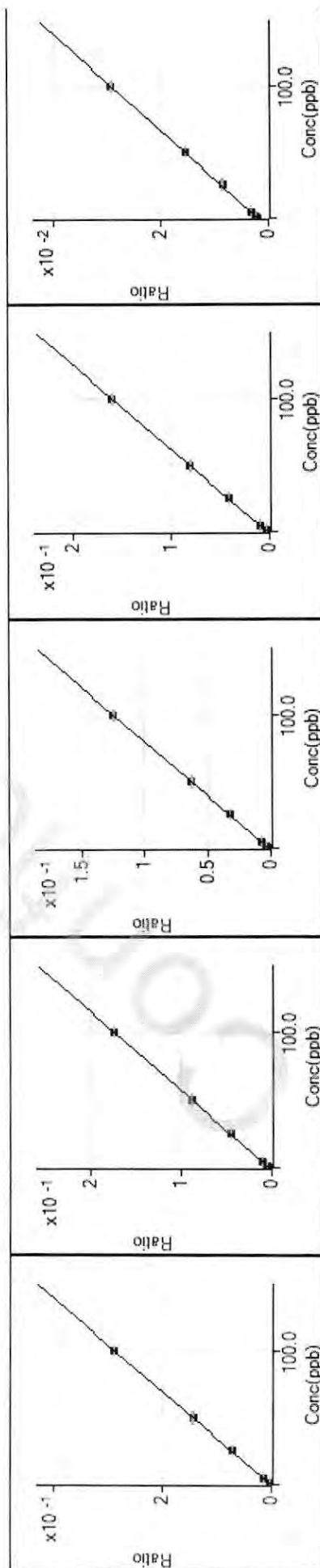
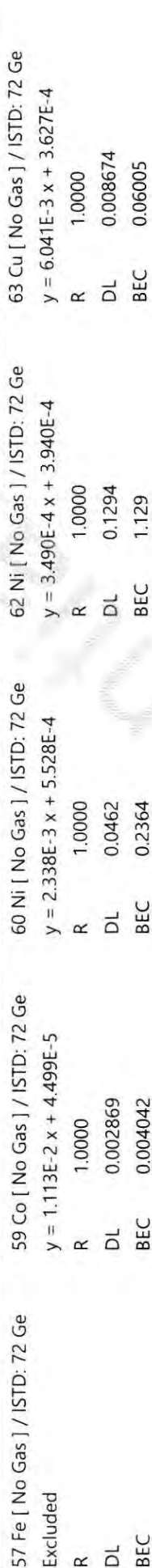
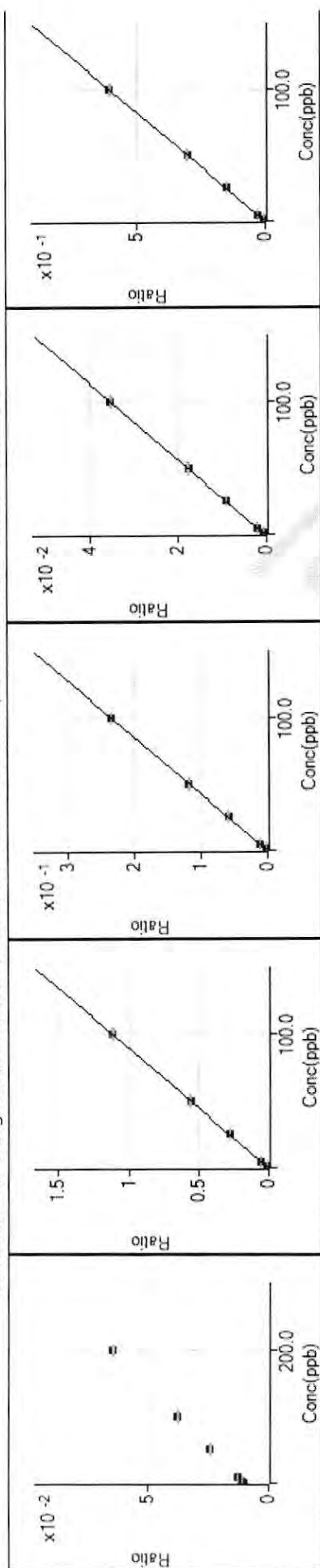
Sample Report

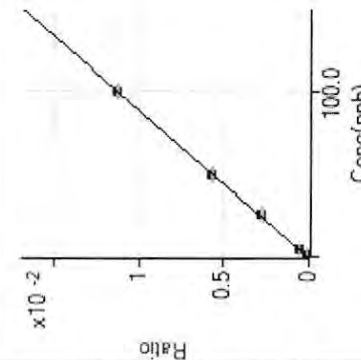
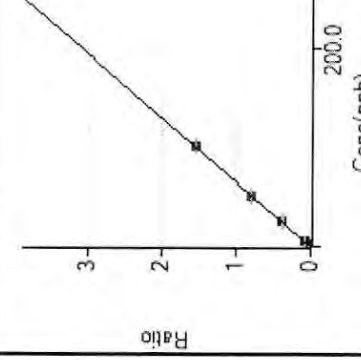
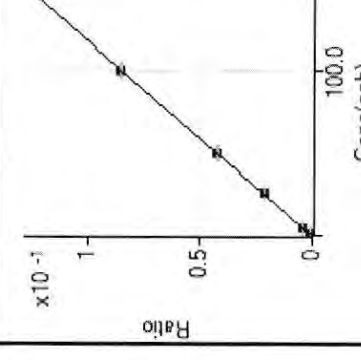
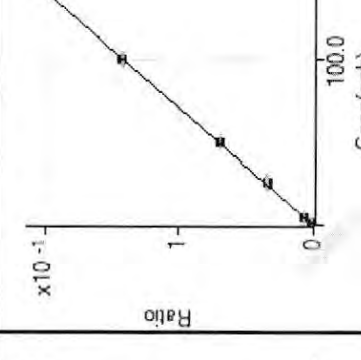
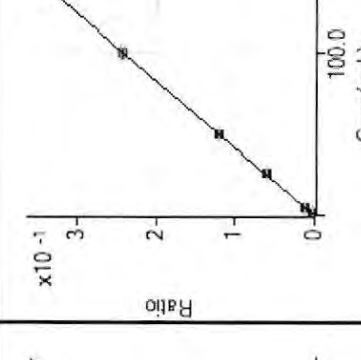
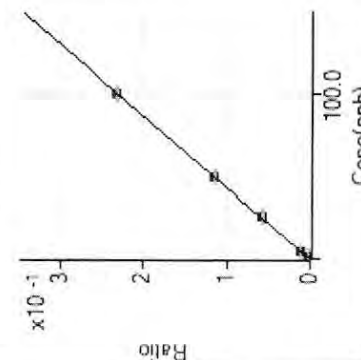
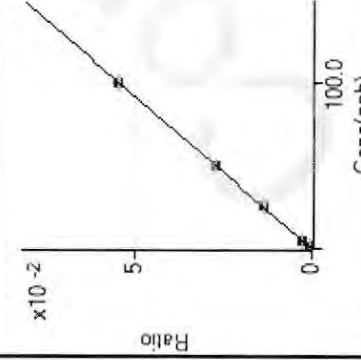
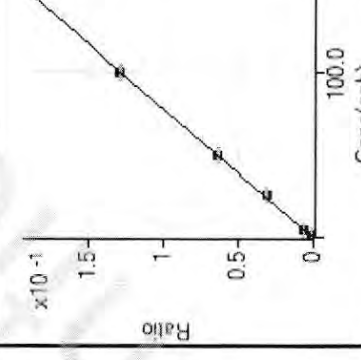
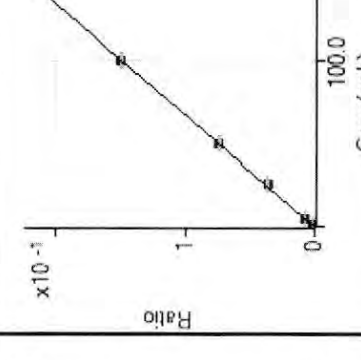
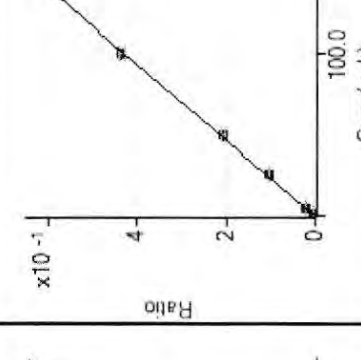
Mass	Name	Conc.	Tune	Raw Conc.	ISTD	CPS RSD	LDR	QC Flag
205	Tl	0.031	No Gas	0.031	165	5.3	1000	
208	Pb	0.070	No Gas	0.07	165	4.4	1000	
238	U	0.083	No Gas	0.083	165	1.2	1000	

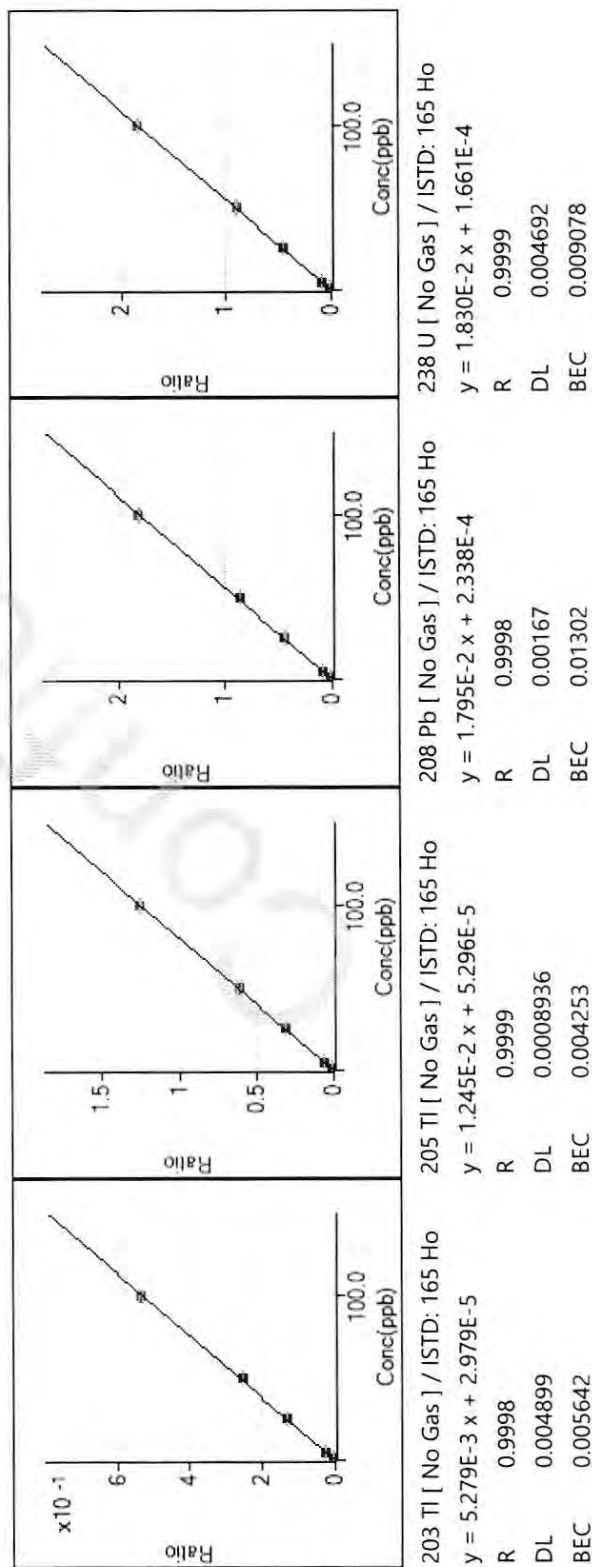
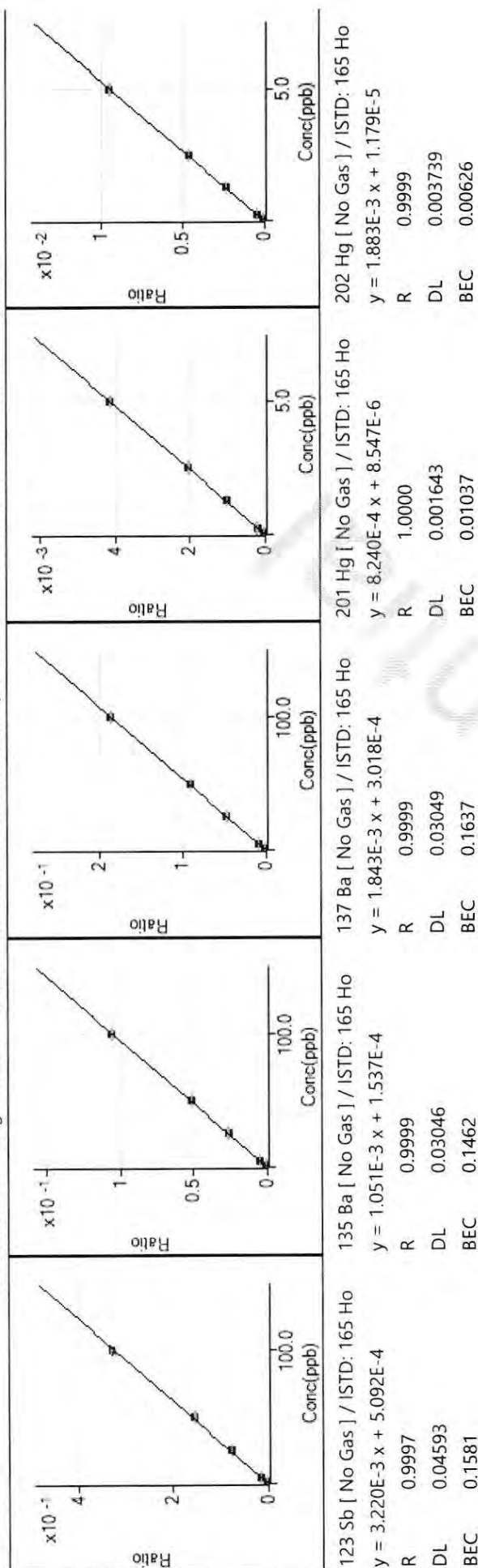
QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	ISTD Recovery %	ISTD Ref CPS
Li	6	No Gas	3040190.82	0.2	108.6	2799225.39333333
Sc	45	No Gas	3433980.33	0.4	103.8	3306867.58333333
Ge	72	No Gas	1490764.08	1.2	91.3	1632082.70666667
Rh	103	No Gas	4619230.17	1.4	80.5	5740622.83333333
Ho	165	No Gas	2119616.50	1.5	96.2	2204392

					7 Li [No Gas] / ISTD: 6 Li $y = 8.819E-3 x + 5.212E-2$ R 0.9999 DL 0.7026 BEC 5.91	9 Be [No Gas] / ISTD: 6 Li $y = 2.154E-3 x + 3.629E-6$ R 1.0000 DL 0.00461 BEC 0.001685	11 B [No Gas] / ISTD: 45 Sc $y = 1.068E-3 x + 3.603E-3$ R 0.9998 DL 0.1455 BEC 3.372	27 Al [No Gas] / ISTD: 45 Sc $y = 4.002E-3 x + 3.123E-3$ R 0.9997 DL 0.07682 BEC 0.7803	47 Ti [No Gas] / ISTD: 72 Ge $y = 7.469E-4 x + 6.879E-5$ R 1.0000 DL 0.02646 BEC 0.0921
					51 V [No Gas] / ISTD: 72 Ge $y = 1.027E-2 x + 8.902E-4$ R 0.9999 DL 0.8045 BEC 0.08668	52 Cr [No Gas] / ISTD: 72 Ge $y = 9.448E-3 x + 8.948E-3$ R 1.0000 DL 0.0702 BEC 0.9471	53 Cr [No Gas] / ISTD: 72 Ge $y = 1.342E-2 x + 2.794E-3$ R 1.0000 DL 0.0085 BEC 0.2081	55 Mn [No Gas] / ISTD: 72 Ge $y = 1.342E-2 x + 2.794E-3$ R 1.0000 DL 0.0085 BEC 0.2081	56 Fe [No Gas] / ISTD: 72 Ge Excluded R DL BEC



					82 Se [No Gas] / ISTD: 72 Ge $y = 1.124E-4 x + 4.323E-5$ R 1.0000 DL 0.113 BEC 0.3847	88 Sr [No Gas] / ISTD: 72 Ge $y = 1.550E-2 x + 2.119E-4$ R 0.9999 DL 0.002595 BEC 0.01367	95 Mo [No Gas] / ISTD: 103 Rh $y = 8.526E-4 x + 2.095E-5$ R 1.0000 DL 0.02767 BEC 0.02458	98 Mo [No Gas] / ISTD: 103 Rh $y = 1.416E-3 x + 3.576E-5$ R 0.9999 DL 0.02398 BEC 0.02526	107 Ag [No Gas] / ISTD: 103 Rh $y = 2.410E-3 x + 4.265E-6$ R 1.0000 DL 0.001172 BEC 0.00177
					109 Ag [No Gas] / ISTD: 103 Rh $y = 2.309E-3 x + 5.036E-6$ R 1.0000 DL 0.003785 BEC 0.002181	111 Cd [No Gas] / ISTD: 103 Rh $y = 5.442E-4 x + 1.015E-6$ R 1.0000 DL 0.02173 BEC 0.001865	114 Cd [No Gas] / ISTD: 103 Rh $y = 1.285E-3 x + 2.198E-5$ R 1.0000 DL 0.01502 BEC 0.01711	118 Sn [No Gas] / ISTD: 103 Rh $y = 1.487E-3 x + 1.452E-4$ R 0.9999 DL 0.02571 BEC 0.09762	121 Sb [No Gas] / ISTD: 165 Ho $y = 4.275E-3 x + 6.502E-4$ R 0.9997 DL 0.049 BEC 0.1521



Report Generated By Teledyne CETAC QuickTrace

Analyst: Mercury

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\Worksheets\07132022 245 A.wszf

Creation Date: 7/13/2022 12:53:41 PM

Comment:

Results

Sample Name	Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	Flags
Calibration Blank	STD	07/13/22 01:00:30 pm	0.0000	2121	1.47	-58.60	
Replicates		2139.0 2146.6 2120.5 2076.8					
Standard #1 (0.05 ppb)	STD	07/13/22 01:02:46 pm	0.0500	3905	1.57	-15.89	
Replicates		3934.7 3961.7 3904.4 3820.6					
Standard #2 (0.1 ppb)	STD	07/13/22 01:05:03 pm	0.1000	5463	3.46	15.06	
Replicates		5280.3 5350.9 5518.2 5704.4					
Standard #3 (0.5 ppb)	STD	07/13/22 01:07:20 pm	0.5000	14104	3.17	63.94	
Replicates		13684.5 13823.7 14229.2 14679.0					
Standard #4 (2.5 ppb)	STD	07/13/22 01:09:37 pm	2.5000	51449	0.51	4.04	
Replicates		51274.9 51189.6 51591.3 51740.9					
Standard #5 (5 ppb)	STD	07/13/22 01:11:55 pm	5.0000	99329	0.80	-8.56	
Replicates		99719.0 99928.2 99495.1 98174.4					

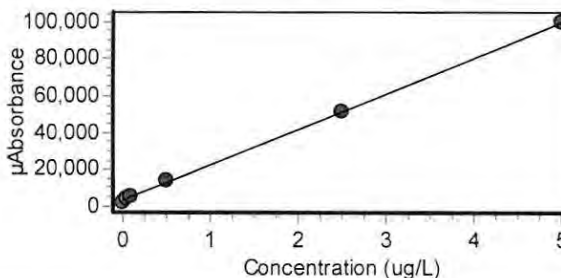
Calibration

Equation: $A = 3248.708 + 19249.044C$

R2: 0.99960

SEE: 865.7524

Flags:



TEST	UNK	07/13/22 01:51:38 pm	0.5530	13893	2.24		
Replicates		13661.8 13769.2 13930.2 14209.9					
WCF0366-4	UNK	07/13/22 02:05:16 pm	0.0248	3725	6.05		
Replicates		3711.2 3749.1 3749.1 3691.2					
WCF0366-4	UNK	07/13/22 02:07:33 pm	0.0355	3931	4.26		
Replicates		3948.8 3956.3 3929.4 3891.3					
WCF0366-05	UNK	07/13/22 02:09:50 pm	-0.1697	-17	0.59		
Replicates		9.5 -30.5 -31.9 -15.4					
WCF0366-05	UNK	07/13/22 02:12:06 pm	-0.1711	-44	0.59		
Replicates		-30.5 -40.3 -72.8 -33.6					
WCF1156-01	UNK	07/13/22 02:14:23 pm	-0.1699	-22	0.39		
Replicates		-39.9 -20.4 -9.4 -17.9					
WCF1156-02	UNK	07/13/22 02:16:40 pm	-0.1686	3	0.59		
Replicates		1.7 -7.7 30.6 -12.4					

Sample Name			Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	Flags
MS1			UNK	07/13/22 02:18:57 pm	-0.1678	19	1.44		
Replicates	81.3	28.3	-18.5	-14.0					
MSD1			UNK	07/13/22 02:21:15 pm	-0.1652	68	0.54		
Replicates	55.1	60.2	65.2	93.5					
WCF1156-03			UNK	07/13/22 02:23:32 pm	-0.0374	2529	2.41		
Replicates	2531.5	2507.7	2550.0	2527.2					
WCF1156-04			UNK	07/13/22 02:25:48 pm	-0.0384	2510	4.40		
Replicates	2544.5	2511.1	2519.2	2466.6					
WCF1156-05			UNK	07/13/22 02:28:04 pm	-0.0508	2270	4.27		
Replicates	2316.9	2290.6	2251.3	2222.4					
WCF1156-06			UNK	07/13/22 02:30:20 pm	-0.0342	2590	12.88		
Replicates	2479.2	2570.0	2647.1	2665.1					
CCB			UNK	07/13/22 02:32:37 pm	-0.0538	2214	7.35		
Replicates	2281.1	2266.8	2191.4	2116.3					
TEST			UNK	07/13/22 02:34:53 pm	0.6044	14882	0.44		
Replicates	14818.4	14866.8	14935.0	14909.0					
CK			UNK	07/13/22 02:37:11 pm	2.5000	51366	0.69		
Replicates	51425.2	51597.5	51557.6	50882.5					
WCF0366-05			UNK	07/13/22 02:39:27 pm	-0.1717	-57	0.43		
Replicates	-42.0	-73.9	-48.2	-62.6					
WCF0366-05			UNK	07/13/22 02:41:44 pm	0.0664	4528	1.18		
Replicates	4523.1	4517.0	4521.3	4550.1					
WCF0366-05			UNK	07/13/22 02:44:00 pm	0.0331	3886	24.94		
Replicates	3688.7	3835.9	3964.2	4053.7					
WCF1156-01			UNK	07/13/22 02:46:17 pm	-0.0280	2709	10.68		
Replicates	2730.2	2758.5	2721.4	2625.9					
WCF1156-02			UNK	07/13/22 02:48:34 pm	0.0450	4116	2.97		
Replicates	4091.3	4100.6	4149.4	4120.9					
MS1			UNK	07/13/22 02:50:52 pm	2.4990	51345	3.52		
Replicates	49443.2	50559.3	52080.3	53297.0					
MSD1			UNK	07/13/22 02:53:09 pm	2.4740	50878	1.55		
Replicates	49908.4	50718.0	51317.8	51566.5					
WCF1156-03			UNK	07/13/22 02:55:26 pm	-0.1080	1169	27.01		
Replicates	1882.0	1326.6	867.3	601.9					
WCF1156-04			UNK	07/13/22 02:57:42 pm	-0.1315	718	9.18		
Replicates	1000.8	774.9	648.9	445.9					
WCF1156-05			UNK	07/13/22 02:59:58 pm	-0.0729	1845	26.52		
Replicates	2212.5	2068.2	1717.0	1381.7					
WCF1156-06			UNK	07/13/22 03:02:14 pm	-0.0829	1653	34.84		
Replicates	2328.8	1841.5	1398.1	1044.8					

Sample Name			Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	Flags
WCF1156-07			UNK	07/13/22 03:04:31 pm	0.0246	3723	5.89		
Replicates	3684.8	3735.0	3750.0	3721.0					
WCF1156-08			UNK	07/13/22 03:06:47 pm	0.0089	3420	54.97		
Replicates	3517.7	3466.2	3393.5	3301.2					
WCF1156-09			UNK	07/13/22 03:09:04 pm	-0.0367	2543	2.85		
Replicates	2524.0	2559.1	2561.7	2527.4					
WCF1156-10			UNK	07/13/22 03:11:21 pm	-0.0251	2766	6.60		
Replicates	2758.0	2805.0	2772.7	2728.4					
WCF1156-11			UNK	07/13/22 03:13:38 pm	-0.0401	2477	3.70		
Replicates	2505.9	2493.9	2466.0	2442.2					
WCF1156-12			UNK	07/13/22 03:15:55 pm	-0.0461	2362	3.65		
Replicates	2380.0	2387.0	2366.9	2315.5					
WCF1156-13			UNK	07/13/22 03:18:12 pm	-0.0161	2939	10.32		
Replicates	2958.2	2963.7	2940.5	2893.4					
WCF1156-14			UNK	07/13/22 03:20:29 pm	-0.0044	3163	86.01		
Replicates	3180.4	3228.7	3185.7	3057.6					
WCF1156-15			UNK	07/13/22 03:22:47 pm	-0.0032	3187	148.09		
Replicates	3313.0	3148.8	3097.8	3187.3					
MS2			UNK	07/13/22 03:25:03 pm	2.5670	52670	1.31		
Replicates	53135.0	53085.8	52718.7	51740.7					
MSD2			UNK	07/13/22 03:27:19 pm	2.4060	49562	0.96		
Replicates	49650.8	49955.4	49715.6	48924.9					
WCF1156-16			UNK	07/13/22 03:29:35 pm	0.0362	3945	10.47		
Replicates	3920.5	4030.2	3970.7	3858.8					
BLANK			UNK	07/13/22 03:31:51 pm	-0.0646	2005	4.00		
Replicates	2047.0	2034.7	2003.9	1936.0					
LCS			UNK	07/13/22 03:34:07 pm	1.9990	41731	2.03		
Replicates	42233.5	42275.9	41810.5	40602.4					
CCB			UNK	07/13/22 03:36:24 pm	-0.0483	2319	3.41		
Replicates	2347.3	2325.7	2330.9	2273.9					
TE			UNK	07/13/22 03:38:41 pm	0.6290	15357	1.17		
Replicates	15460.9	15449.1	15362.3	15155.8					
CK			UNK	07/13/22 03:40:58 pm	3.3340	67421	0.58		
Replicates	67185.7	67175.5	67363.8	67960.3					
TE			UNK	07/13/22 03:51:42 pm	0.7431	17553	2.85		
Replicates	17846.7	17846.1	17537.3	16980.8					
CK			UNK	07/13/22 03:54:00 pm	2.7020	55253	3.20		
Replicates	57038.7	55943.7	54895.7	53133.4					

Notes

Analyst:

Lamp Current:

High Standard mirco Abs:

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10013.D Vial: 12
Acq On : 08 Jul 2022 3:18 Operator: ARC
Sample : BCG0088-BLK1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 08 08:04:42 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

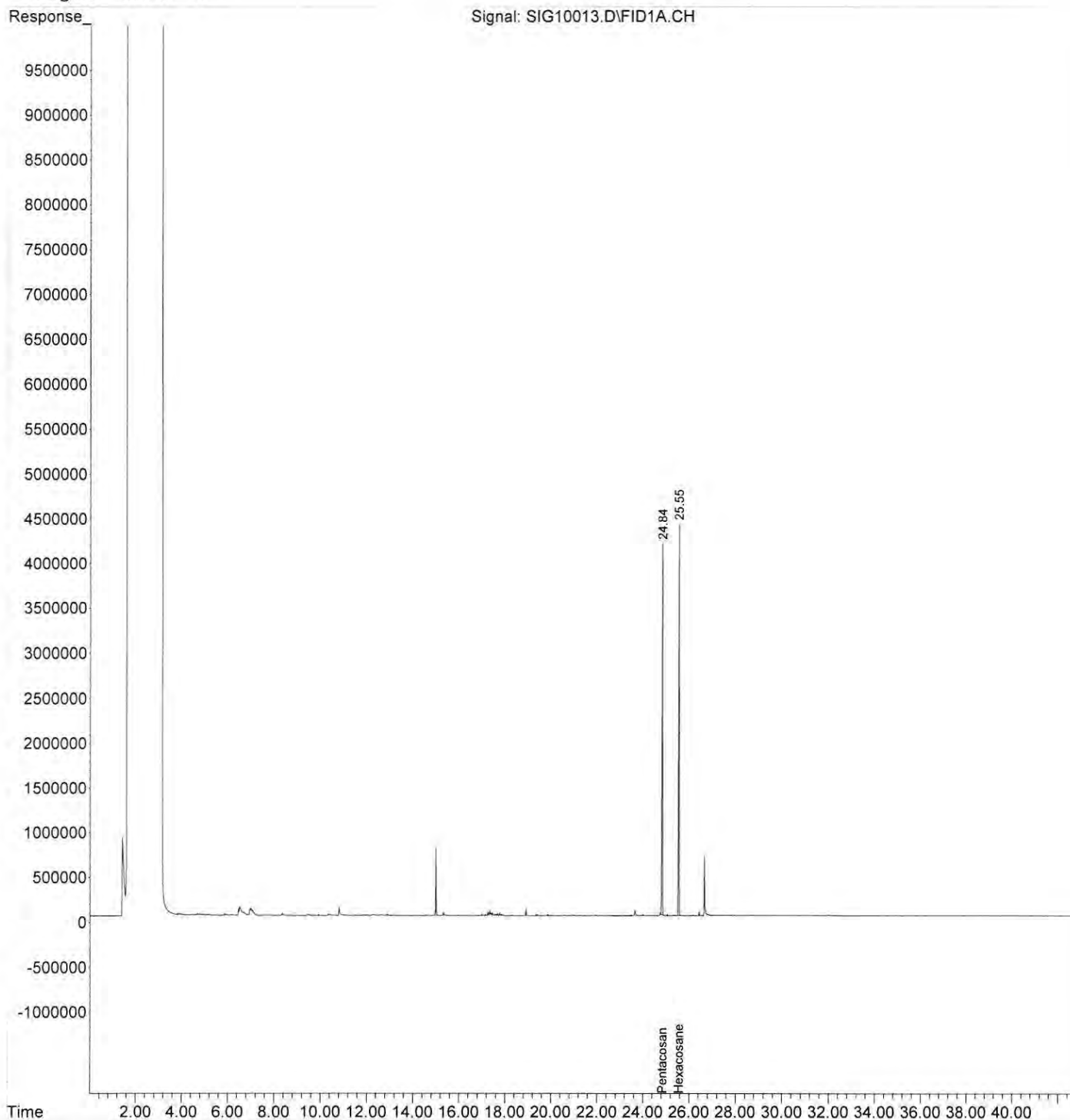
Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
Internal Standards				
1) I Pentacosane	24.84	83505820	50.000 ppm	m
System Monitoring Compounds				
2) S Hexacosane	25.55	81970013	48.460 ppm	m
Spiked Amount	50.000	Range	50 - 150	Recovery = 96.92%
Target Compounds				
3) H TPH Diesel (C12-C14)	0.00	0	N.D.	ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D.	ppm
5) H Mineral Oil	0.00	0	N.D.	ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D.	ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D.	ppm
8) h HCID Oil (>C14)	0.00	0	N.D.	ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10013.D Vial: 12
Acq On : 08 Jul 2022 3:18 Operator: ARC
Sample : BCG0088-BLK1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 8 8:08 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10014.D Vial: 13
Acq On : 08 Jul 2022 4:13 Operator: ARC
Sample : BCG0088-BS1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 08 08:04:43 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

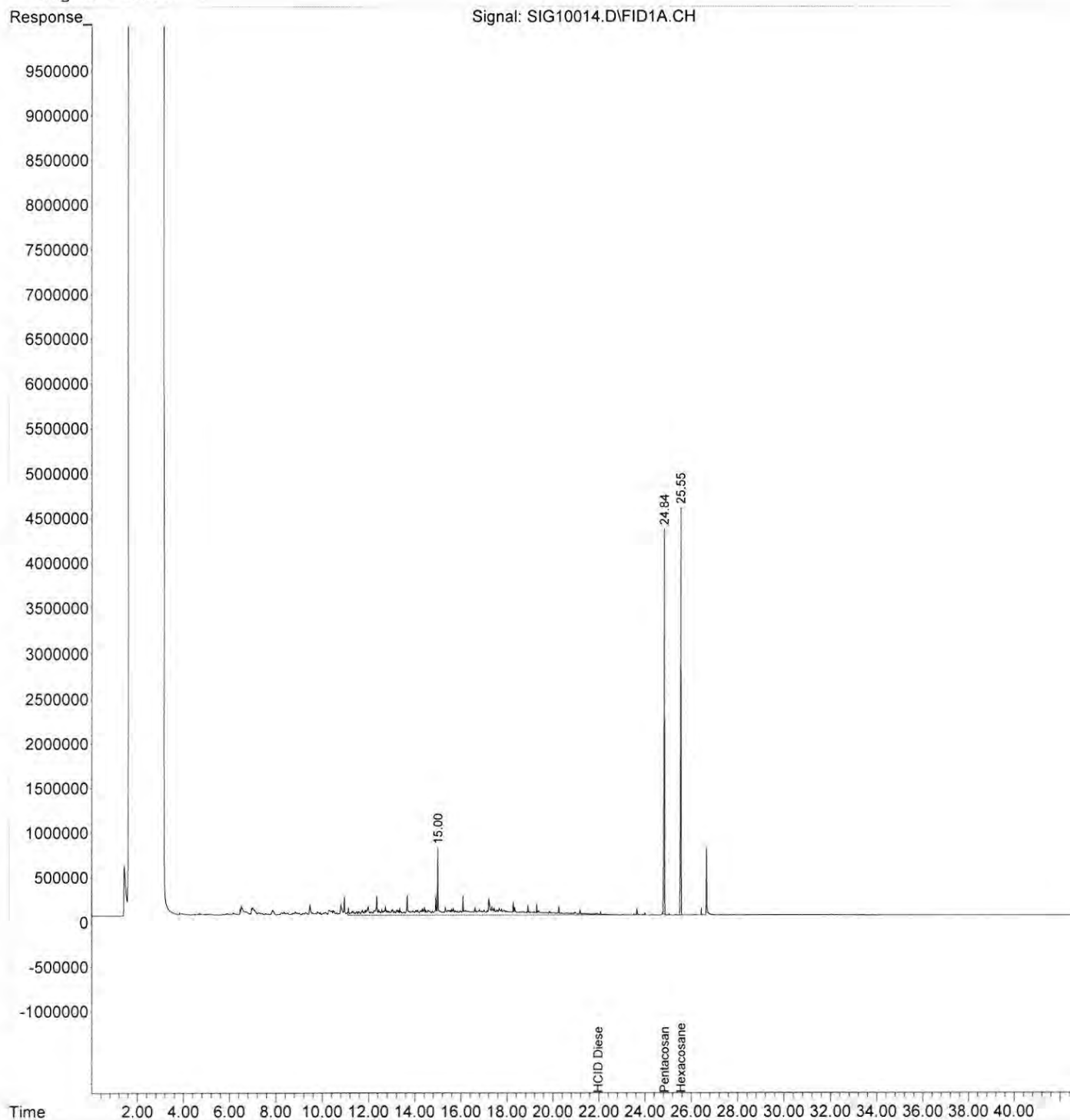
Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
Internal Standards				
1) I Pentacosane	24.84	85737455	50.000	ppm m
System Monitoring Compounds				
2) S Hexacosane	25.55	83322322	47.977	ppm m
Spiked Amount	50.000	Range	50 - 150	Recovery = 95.95%
Target Compounds				
3) H TPH Diesel (C12-C14)	0.00	0	N.D.	ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D.	ppm
5) H Mineral Oil	0.00	0	N.D.	ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D.	ppm
7) h HCID Diesel (C12-C14)	21.97	267430294	227.507	ppm
8) h HCID Oil (>C14)	0.00	0	N.D.	ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10014.D Vial: 13
Acq On : 08 Jul 2022 4:13 Operator: ARC
Sample : BCG0088-BS1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 8 8:08 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10015.D Vial: 14
Acq On : 08 Jul 2022 5:08 Operator: ARC
Sample : WCF1156-15 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 08 08:04:44 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :

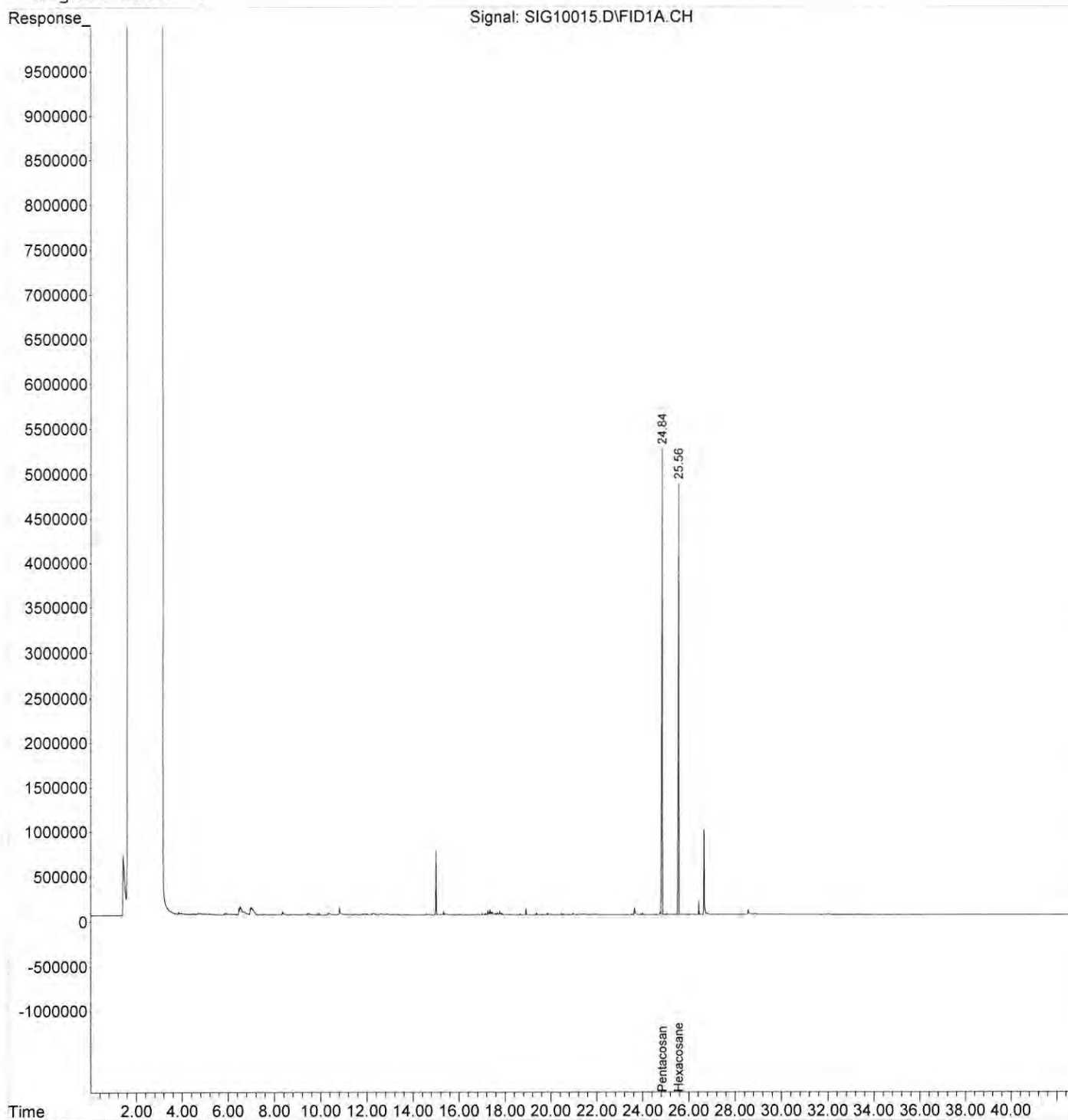
Compound	R.T.	Response	Conc Units

Internal Standards			
1) I Pentacosane	24.84	101277214	50.000 ppm m
System Monitoring Compounds			
2) S Hexacosane	25.56	91730846	44.714 ppm m
Spiked Amount	50.000	Range	50 - 150
		Recovery	= 89.43%
Target Compounds			
3) H TPH Diesel (C12-C14)	0.00	0	N.D. ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D. ppm
5) H Mineral Oil	0.00	0	N.D. ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D. ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D. ppm
8) h HCID Oil (>C14)	0.00	0	N.D. ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10015.D Vial: 14
Acq On : 08 Jul 2022 5:08 Operator: ARC
Sample : WCF1156-15 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 8 8:09 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10016.D Vial: 15
Acq On : 08 Jul 2022 6:04 Operator: ARC
Sample : BCG0088-MS1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 08 08:04:46 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

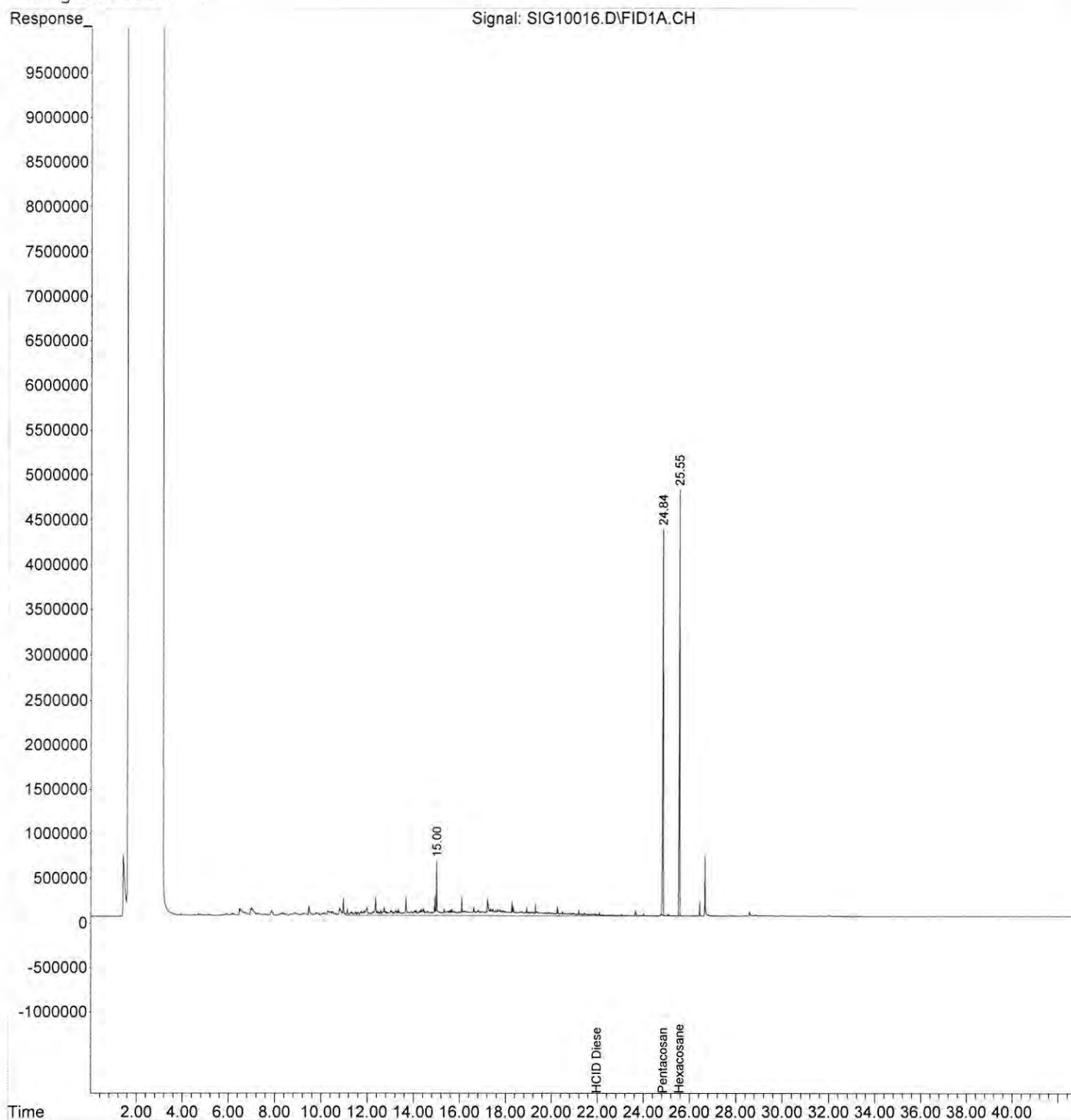
Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
Internal Standards				
1) I Pentacosane	24.84	94575542	50.000	ppm m
System Monitoring Compounds				
2) S Hexacosane	25.55	89206598	46.565	ppm m
Spiked Amount	50.000	Range	50 - 150	Recovery = 93.13%
Target Compounds				
3) H TPH Diesel (C12-C14)	0.00	0	N.D.	ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D.	ppm
5) H Mineral Oil	0.00	0	N.D.	ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D.	ppm
7) h HCID Diesel (C12-C14)	21.97	273353508	210.815	ppm
8) h HCID Oil (>C14)	0.00	0	N.D.	ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10016.D Vial: 15
Acq On : 08 Jul 2022 6:04 Operator: ARC
Sample : BCG0088-MS1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 8 8:10 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10017.D Vial: 16
 Acq On : 08 Jul 2022 7:00 Operator: ARC
 Sample : BCG0088-MSD1 Inst : HP G1530A
 Misc : Multiplr: 1.00
 IntFile : EVENTS1.E
 Quant Time: Jul 08 08:04:47 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
 Title :
 Last Update : Tue Jun 28 14:46:51 2022
 Response via : Initial Calibration
 DataAcq Meth : DXHCID5.M

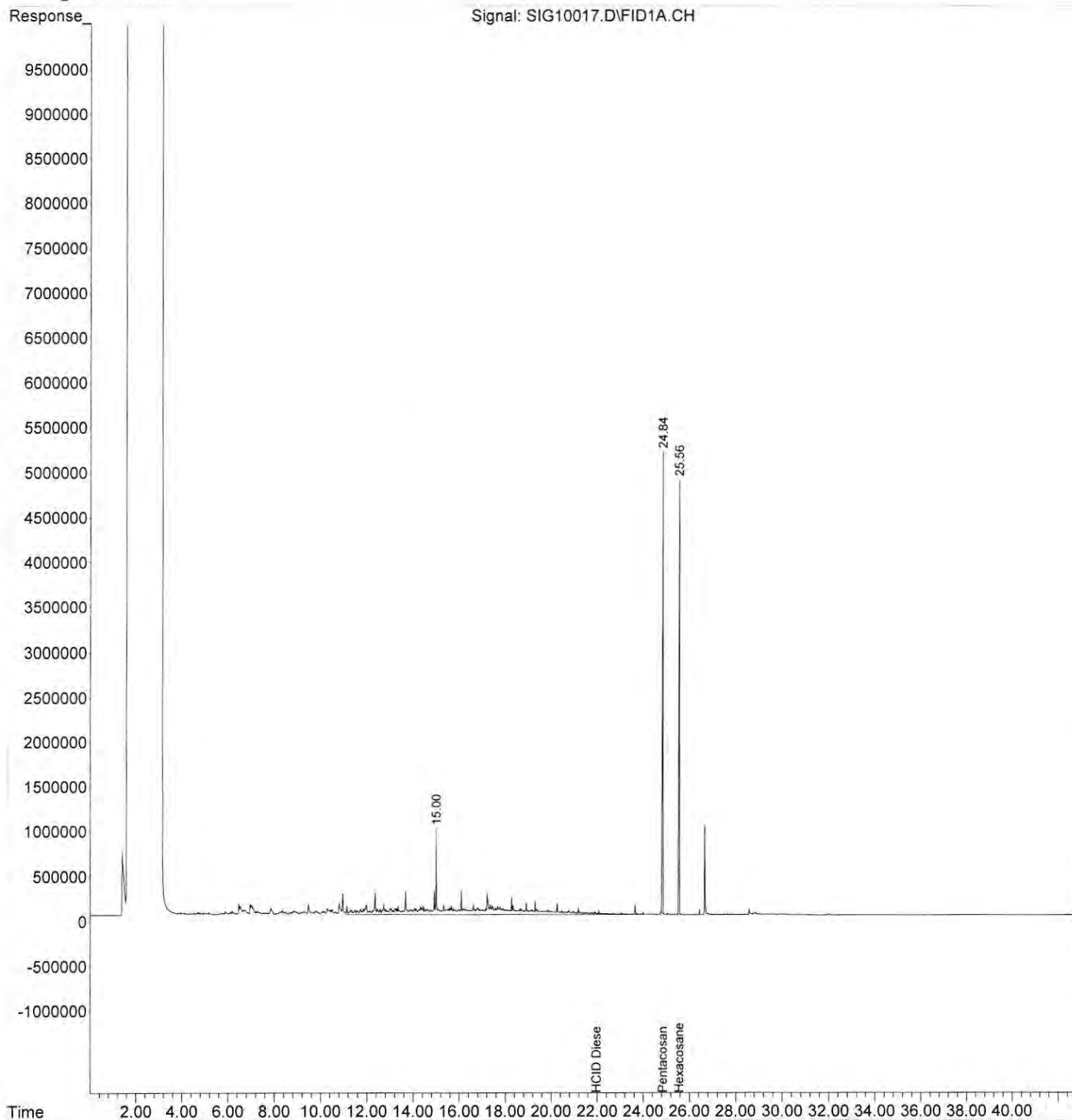
Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units
Internal Standards				
1) I Pentacosane	24.84	103438431	50.000	ppm m
System Monitoring Compounds				
2) S Hexacosane	25.56	100943301	48.177	ppm m
Spiked Amount	50.000	Range	50 - 150	Recovery = 96.35%
Target Compounds				
3) H TPH Diesel (C12-C14)	0.00	0	N.D.	ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D.	ppm
5) H Mineral Oil	0.00	0	N.D.	ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D.	ppm
7) h HCID Diesel (C12-C14)	21.97	331525801	233.771	ppm
8) h HCID Oil (>C14)	0.00	0	N.D.	ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10017.D Vial: 16
Acq On : 08 Jul 2022 7:00 Operator: ARC
Sample : BCG0088-MSD1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 8 8:10 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10023.D Vial: 17
Acq On : 08 Jul 2022 12:35 Operator: ARC
Sample : WCF1156-01 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 08 13:21:06 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :

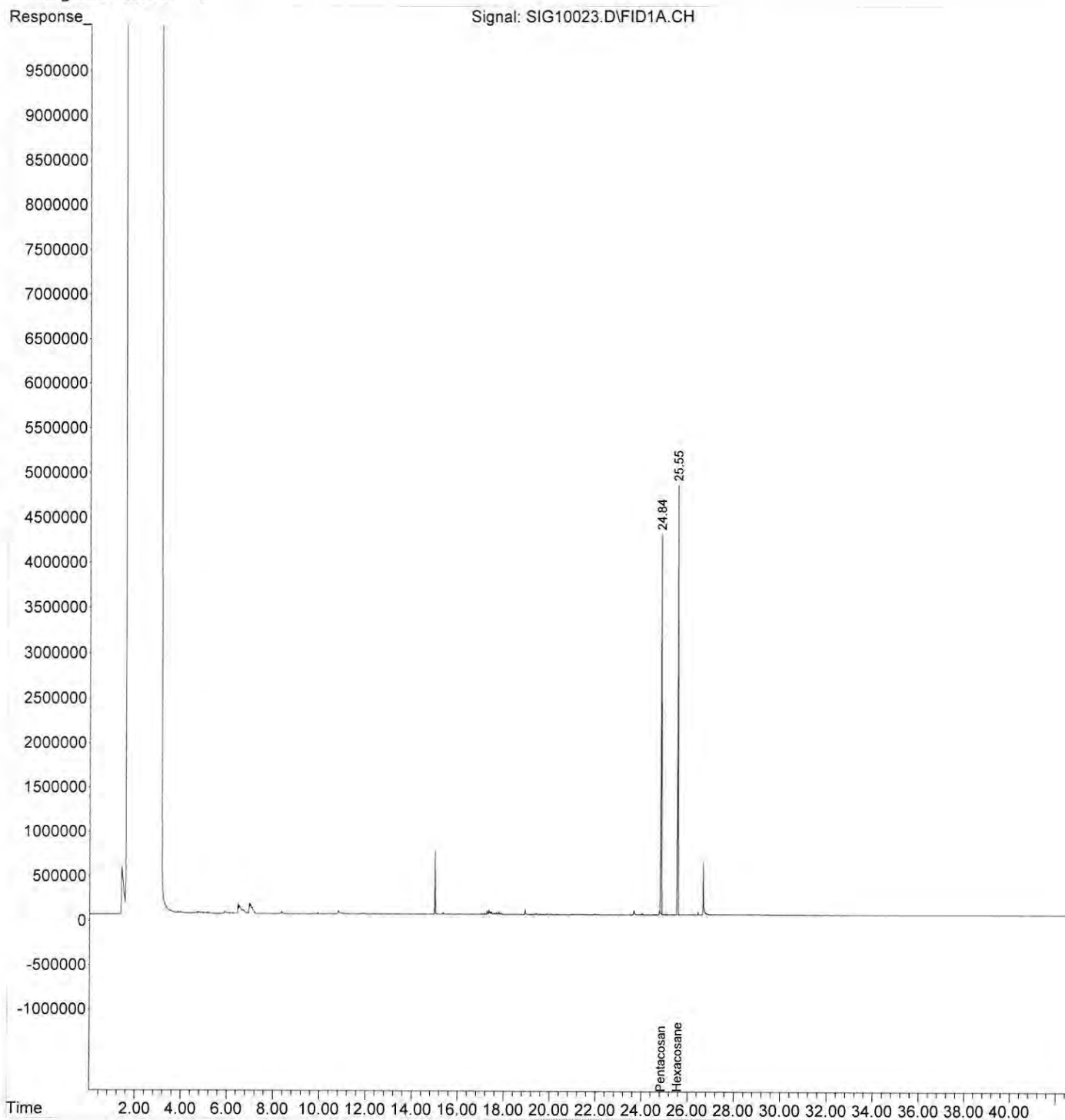
Compound	R.T.	Response	Conc	Units

Internal Standards				
1) I Pentacosane	24.84	87935628	50.000 ppm	m
System Monitoring Compounds				
2) S Hexacosane	25.55	85687790	48.106 ppm	m
Spiked Amount	50.000	Range	50 - 150	Recovery = 96.21%
Target Compounds				
3) H TPH Diesel (C12-C14)	0.00	0	N.D.	ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D.	ppm
5) H Mineral Oil	0.00	0	N.D.	ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D.	ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D.	ppm
8) h HCID Oil (>C14)	0.00	0	N.D.	ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10023.D Vial: 17
Acq On : 08 Jul 2022 12:35 Operator: ARC
Sample : WCF1156-01 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 8 13:22 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10024.D Vial: 18
Acq On : 08 Jul 2022 13:30 Operator: ARC
Sample : BCG0088-DUP1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 08 14:18:05 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :

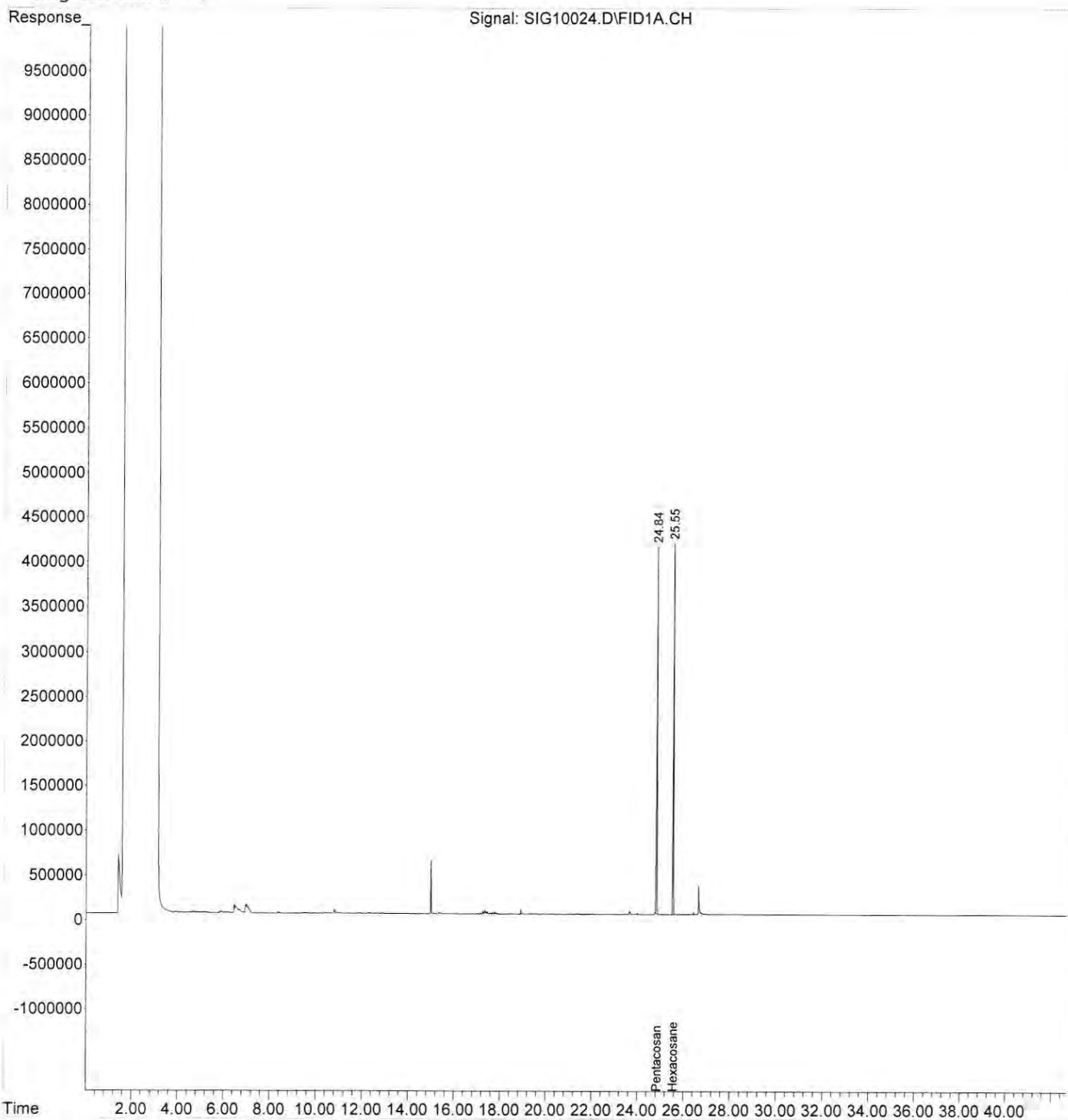
Compound	R.T.	Response	Conc Units

Internal Standards			
1) I Pentacosane	24.84	76935672	50.000 ppm m
System Monitoring Compounds			
2) S Hexacosane	25.55	74873253	48.044 ppm m
Spiked Amount	50.000	Range	50 - 150
		Recovery	= 96.09%
Target Compounds			
3) H TPH Diesel (C12-C14)	0.00	0	N.D. ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D. ppm
5) H Mineral Oil	0.00	0	N.D. ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D. ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D. ppm
8) h HCID Oil (>C14)	0.00	0	N.D. ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10024.D Vial: 18
Acq On : 08 Jul 2022 13:30 Operator: ARC
Sample : BCG0088-DUP1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 8 14:19 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10025.D Vial: 19
Acq On : 08 Jul 2022 14:25 Operator: ARC
Sample : WCF1156-02 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 08 15:22:11 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

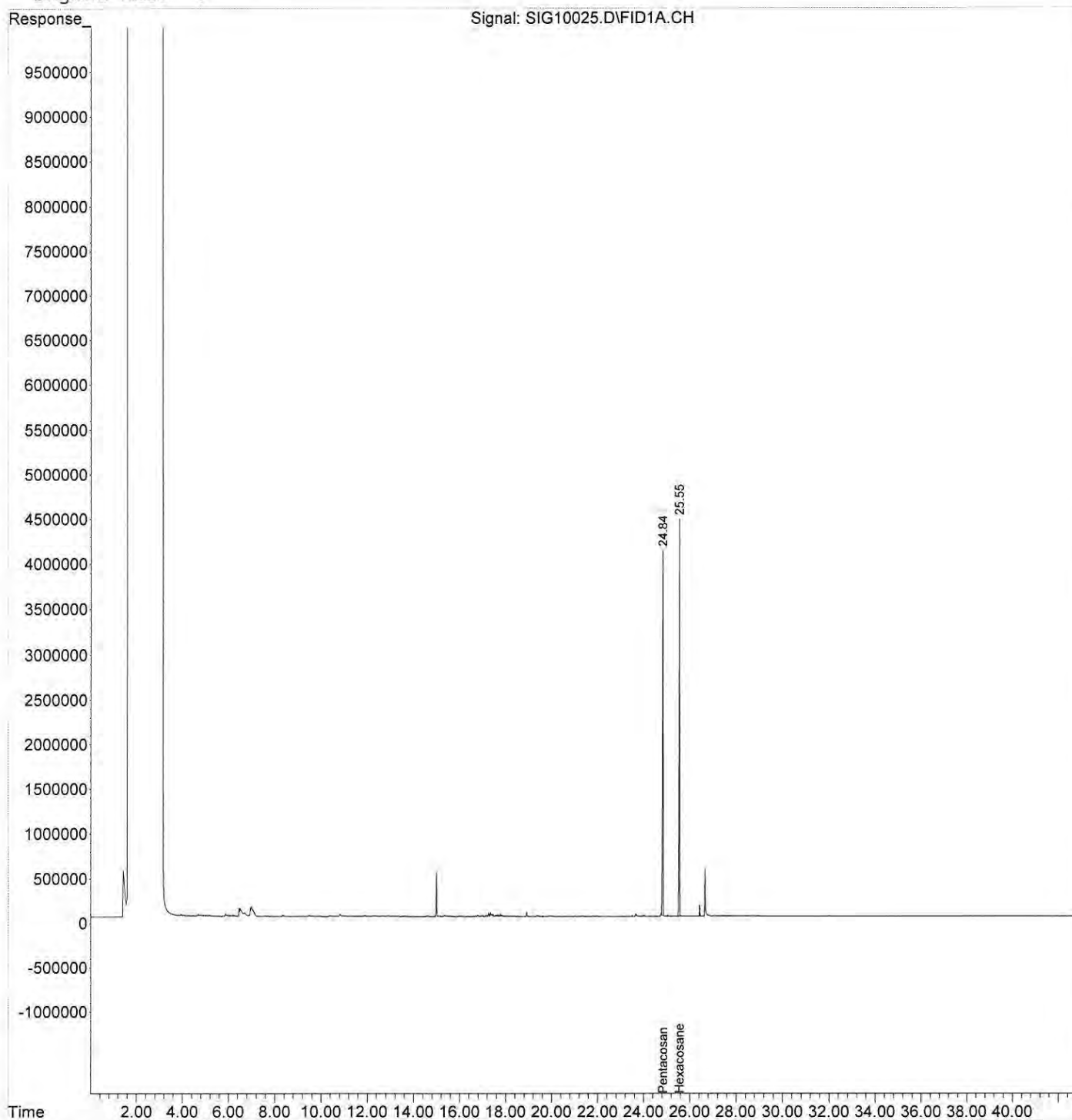
Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
Internal Standards				
1) I Pentacosane	24.84	80755493	50.000 ppm	m
System Monitoring Compounds				
2) S Hexacosane	25.55	78606406	48.054 ppm	m
Spiked Amount	50.000	Range	50 - 150	Recovery = 96.11%
Target Compounds				
3) H TPH Diesel (C12-C14)	0.00	0	N.D.	ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D.	ppm
5) H Mineral Oil	0.00	0	N.D.	ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D.	ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D.	ppm
8) h HCID Oil (>C14)	0.00	0	N.D.	ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10025.D Vial: 19
Acq On : 08 Jul 2022 14:25 Operator: ARC
Sample : WCF1156-02 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 8 15:23 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10026.D Vial: 20
Acq On : 08 Jul 2022 15:21 Operator: ARC
Sample : WCF1156-03 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 08 16:18:09 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

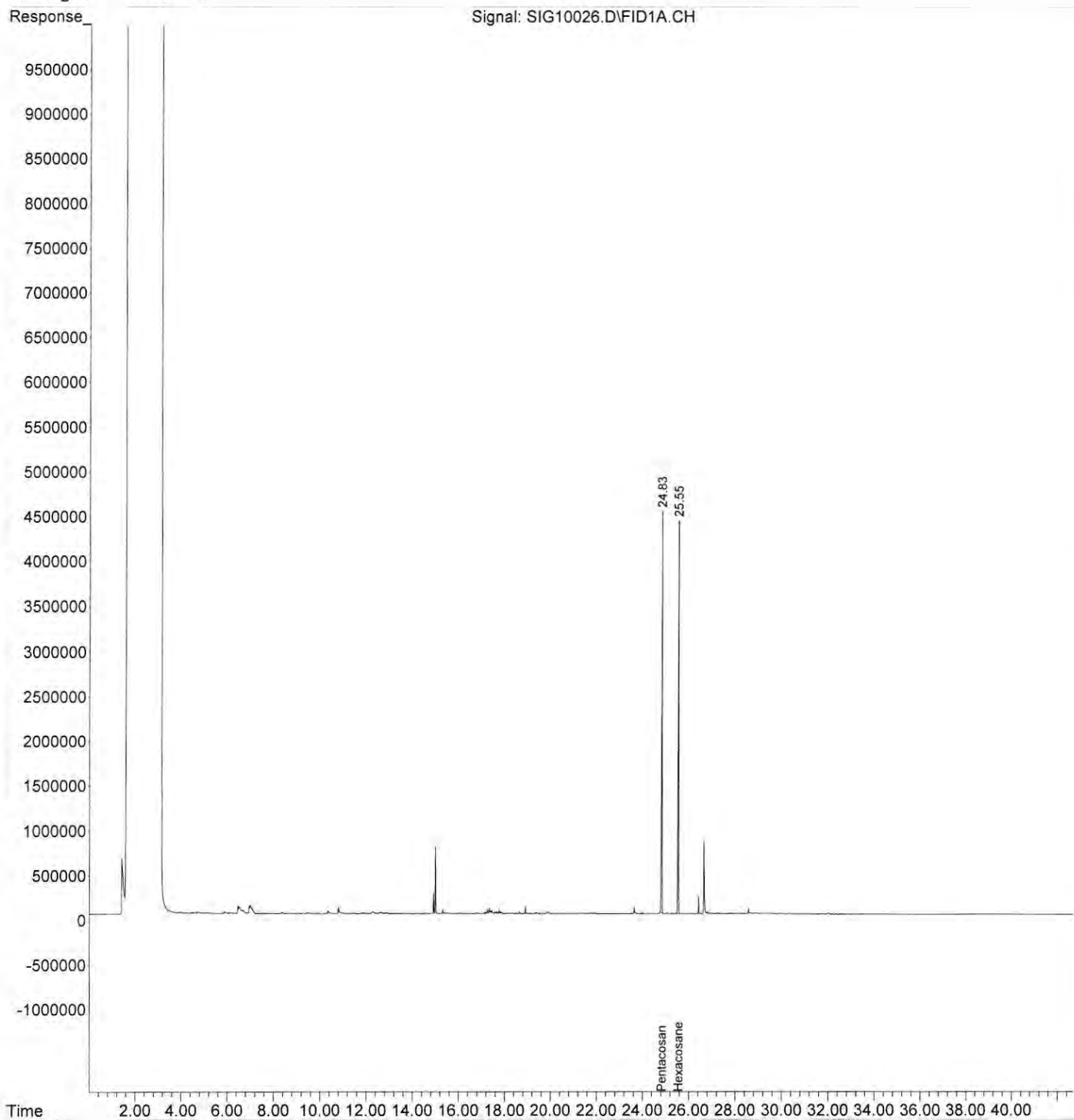
Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
Internal Standards				
1) I Pentacosane	24.83	80688792	50.000 ppm	m
System Monitoring Compounds				
2) S Hexacosane	25.55	77977205	47.709 ppm	m
Spiked Amount	50.000	Range	50 - 150	Recovery = 95.42%
Target Compounds				
3) H TPH Diesel (C12-C14)	0.00	0	N.D.	ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D.	ppm
5) H Mineral Oil	0.00	0	N.D.	ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D.	ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D.	ppm
8) h HCID Oil (>C14)	0.00	0	N.D.	ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10026.D Vial: 20
Acq On : 08 Jul 2022 15:21 Operator: ARC
Sample : WCF1156-03 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 8 16:19 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10027.D Vial: 21
Acq On : 08 Jul 2022 16:17 Operator: ARC
Sample : WCF1156-04 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 08:01:00 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :

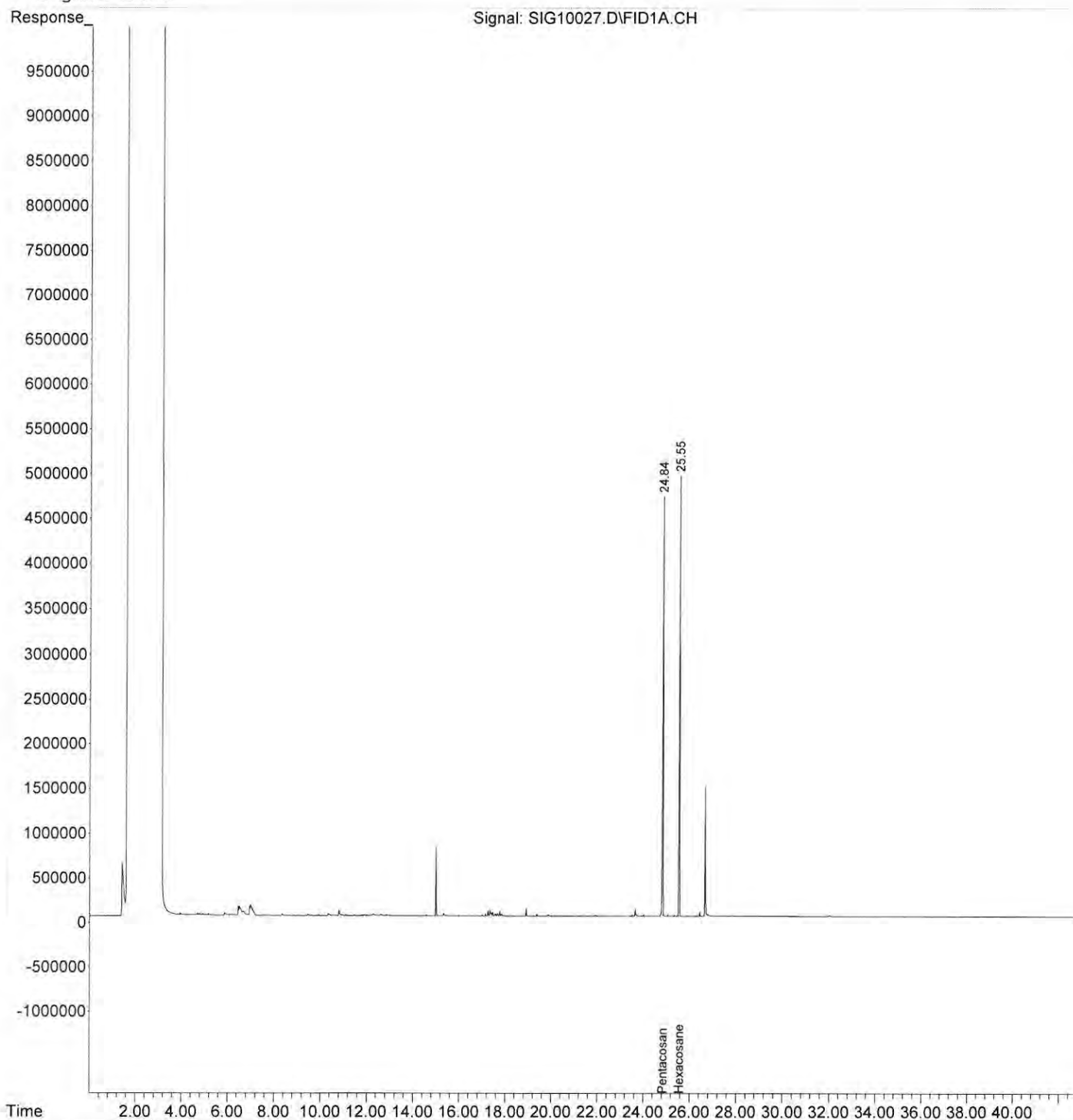
Compound	R.T.	Response	Conc Units

Internal Standards			
1) I Pentacosane	24.84	91645231	50.000 ppm m
System Monitoring Compounds			
2) S Hexacosane	25.55	87657439	47.220 ppm m
Spiked Amount 50.000	Range 50 - 150	Recovery =	94.44%
Target Compounds			
3) H TPH Diesel (C12-C14)	0.00	0	N.D. ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D. ppm
5) H Mineral Oil	0.00	0	N.D. ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D. ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D. ppm
8) h HCID Oil (>C14)	0.00	0	N.D. ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10027.D Vial: 21
Acq On : 08 Jul 2022 16:17 Operator: ARC
Sample : WCF1156-04 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 8:02 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10028.D Vial: 22
Acq On : 08 Jul 2022 17:12 Operator: ARC
Sample : WCF1156-05 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 08:01:02 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :

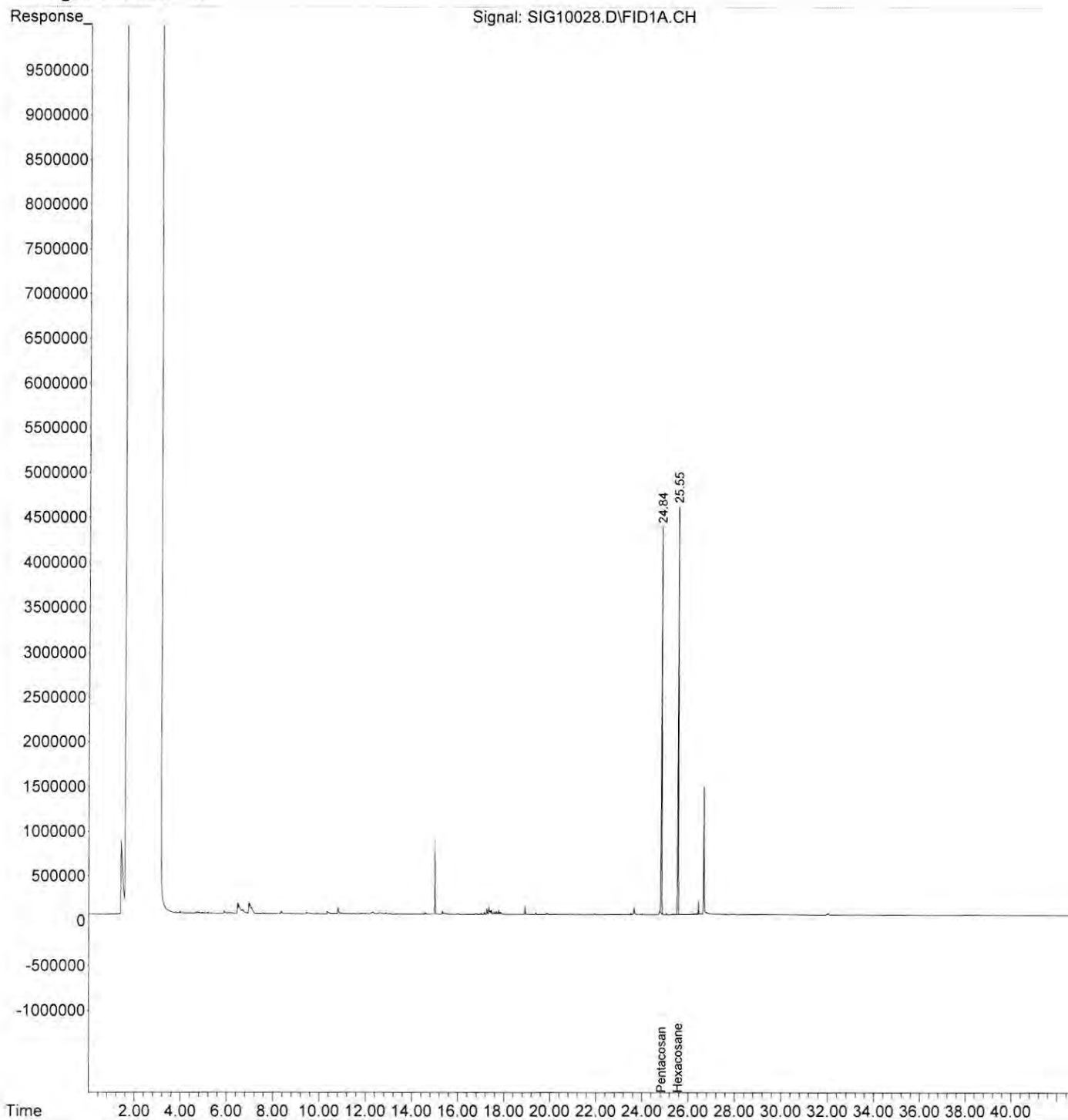
Compound	R.T.	Response	Conc Units

Internal Standards			
1) I Pentacosane	24.84	83151521	50.000 ppm m
System Monitoring Compounds			
2) S Hexacosane	25.55	81169743	48.191 ppm m
Spiked Amount 50.000	Range 50 - 150	Recovery =	96.38%
Target Compounds			
3) H TPH Diesel (C12-C14)	0.00	0	N.D. ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D. ppm
5) H Mineral Oil	0.00	0	N.D. ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D. ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D. ppm
8) h HCID Oil (>C14)	0.00	0	N.D. ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10028.D Vial: 22
Acq On : 08 Jul 2022 17:12 Operator: ARC
Sample : WCF1156-05 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 8:03 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10029.D Vial: 23
 Acq On : 08 Jul 2022 18:08 Operator: ARC
 Sample : WCF1156-06 Inst : HP G1530A
 Misc : Multiplr: 1.00
 IntFile : EVENTS1.E
 Quant Time: Jul 11 08:01:03 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
 Title :
 Last Update : Tue Jun 28 14:46:51 2022
 Response via : Initial Calibration
 DataAcq Meth : DXHCID5.M

Volume Inj. :
 Signal Phase :
 Signal Info :

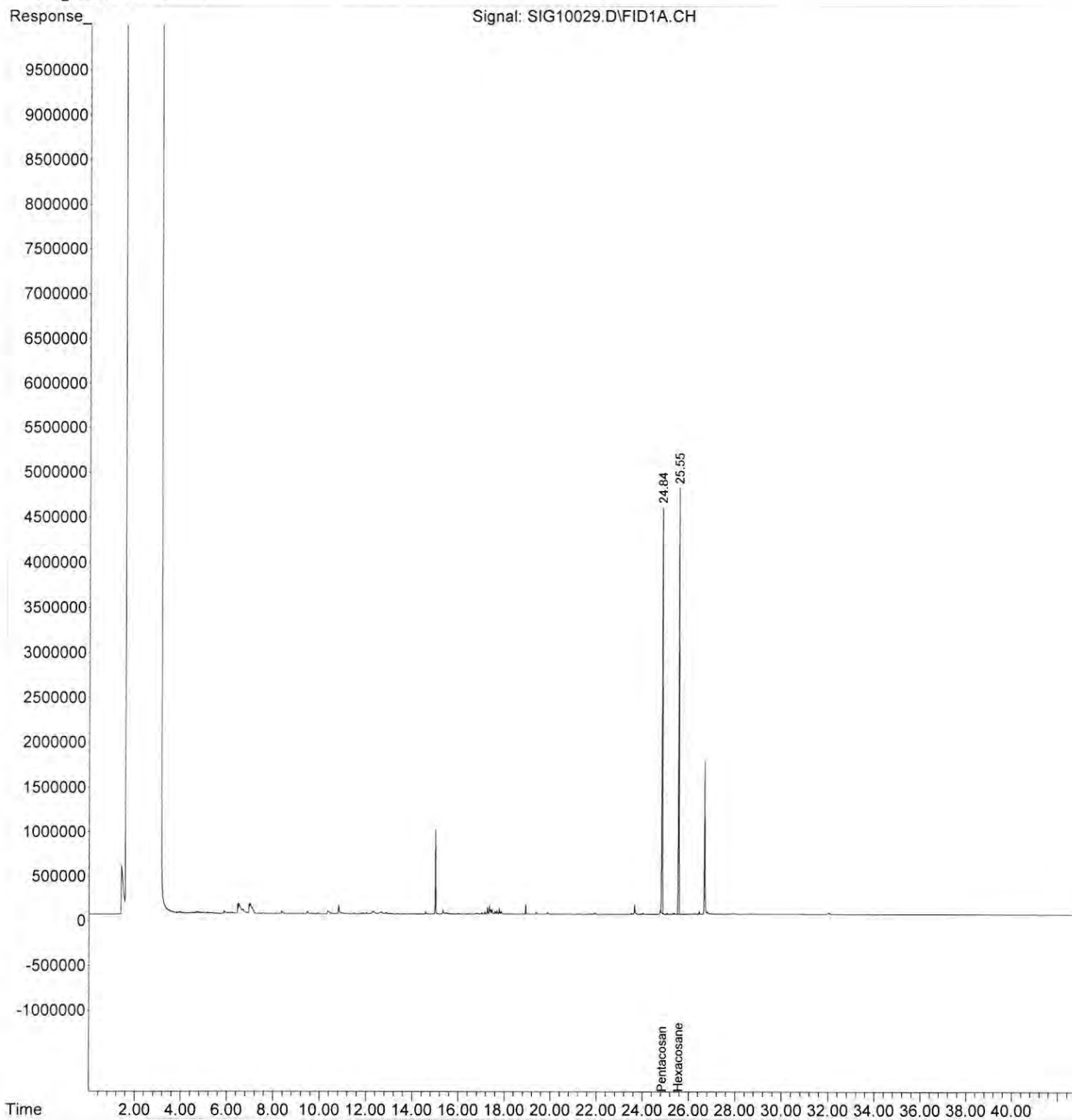
Compound	R.T.	Response	Conc	Units

Internal Standards				
1) I Pentacosane	24.84	92069564	50.000 ppm	m
System Monitoring Compounds				
2) S Hexacosane	25.55	86820184	46.553 ppm	m
Spiked Amount 50.000	Range 50 - 150	Recovery =	93.11%	
Target Compounds				
3) H TPH Diesel (C12-C14)	0.00	0	N.D.	ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D.	ppm
5) H Mineral Oil	0.00	0	N.D.	ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D.	ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D.	ppm
8) h HCID Oil (>C14)	0.00	0	N.D.	ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10029.D Vial: 23
Acq On : 08 Jul 2022 18:08 Operator: ARC
Sample : WCF1156-06 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 8:03 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10030.D Vial: 24
Acq On : 08 Jul 2022 19:04 Operator: ARC
Sample : WCF1156-07 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 08:01:04 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :

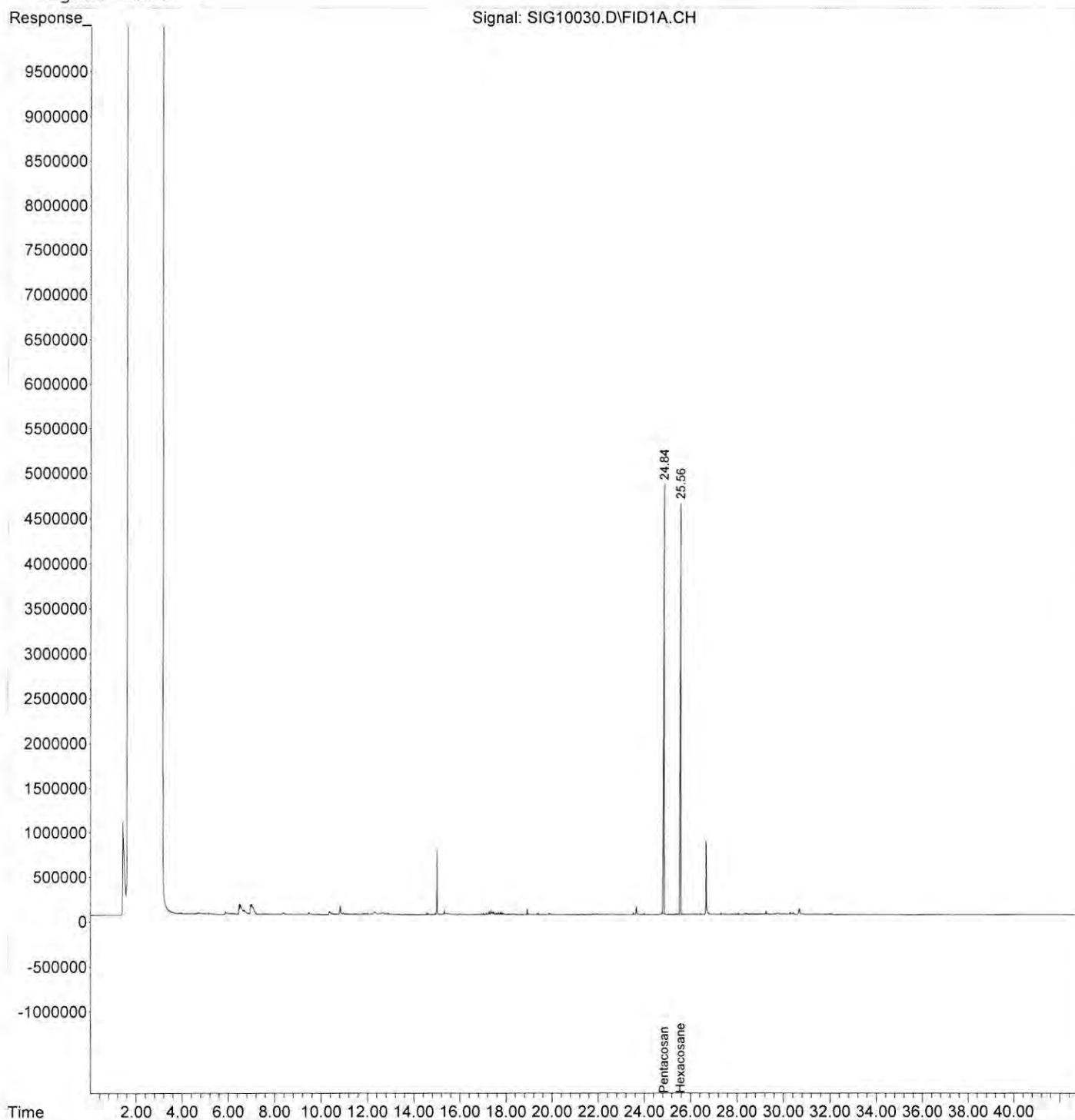
Compound	R.T.	Response	Conc Units

Internal Standards			
1) I Pentacosane	24.84	93329132	50.000 ppm m
System Monitoring Compounds			
2) S Hexacosane	25.56	89552862	47.370 ppm m
Spiked Amount 50.000	Range 50 - 150	Recovery =	94.74%
Target Compounds			
3) H TPH Diesel (C12-C14)	0.00	0	N.D. ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D. ppm
5) H Mineral Oil	0.00	0	N.D. ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D. ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D. ppm
8) h HCID Oil (>C14)	0.00	0	N.D. ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10030.D Vial: 24
Acq On : 08 Jul 2022 19:04 Operator: ARC
Sample : WCF1156-07 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 8:04 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10031.D Vial: 25
Acq On : 08 Jul 2022 19:59 Operator: ARC
Sample : WCF1156-08 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 08:01:06 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

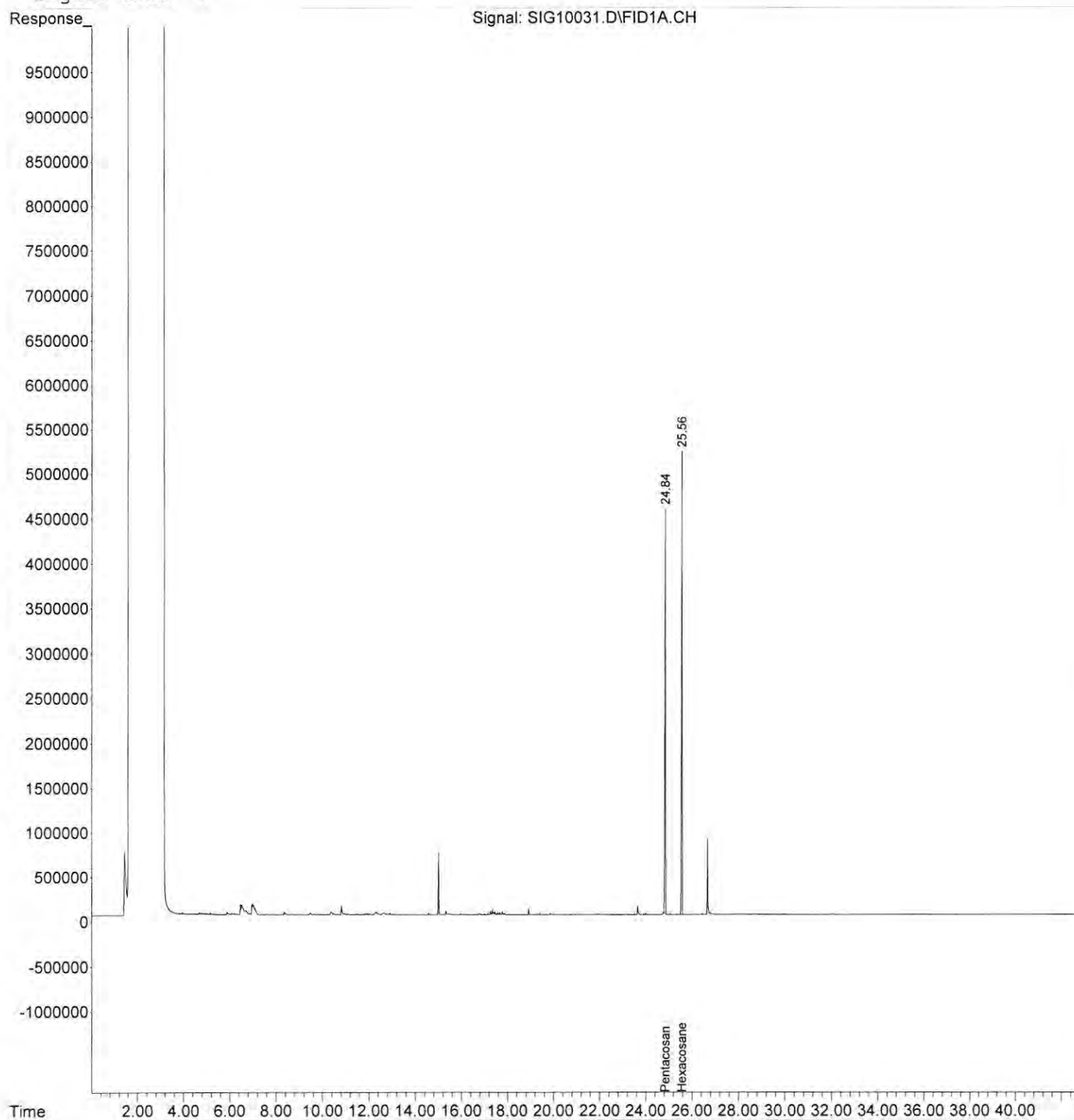
Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I Pentacosane	24.84	96893176	50.000 ppm m
System Monitoring Compounds			
2) S Hexacosane	25.56	93005846	47.387 ppm m
Spiked Amount	50.000	Range	50 - 150
		Recovery	= 94.77%
Target Compounds			
3) H TPH Diesel (C12-C14)	0.00	0	N.D. ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D. ppm
5) H Mineral Oil	0.00	0	N.D. ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D. ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D. ppm
8) h HCID Oil (>C14)	0.00	0	N.D. ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10031.D Vial: 25
Acq On : 08 Jul 2022 19:59 Operator: ARC
Sample : WCF1156-08 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 8:04 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10032.D Vial: 26
Acq On : 08 Jul 2022 20:55 Operator: ARC
Sample : WCF1156-09 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 08:01:07 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

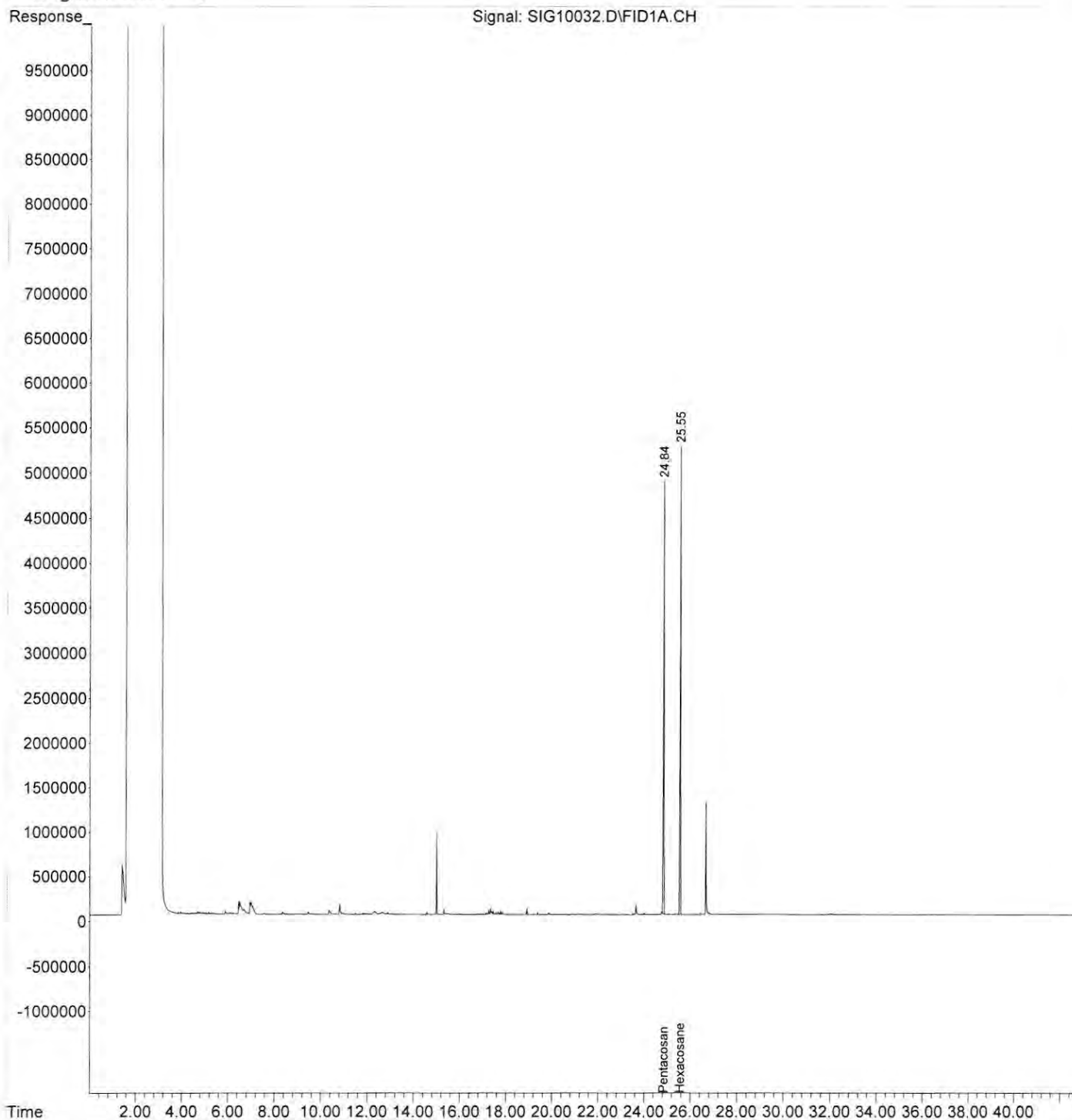
Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I Pentacosane	24.84	99665266	50.000 ppm m
System Monitoring Compounds			
2) S Hexacosane	25.55	96213595	47.658 ppm m
Spiked Amount	50.000	Range	50 - 150
		Recovery	= 95.32%
Target Compounds			
3) H TPH Diesel (C12-C14)	0.00	0	N.D. ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D. ppm
5) H Mineral Oil	0.00	0	N.D. ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D. ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D. ppm
8) h HCID Oil (>C14)	0.00	0	N.D. ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10032.D Vial: 26
Acq On : 08 Jul 2022 20:55 Operator: ARC
Sample : WCF1156-09 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 8:04 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10038.D Vial: 27
Acq On : 09 Jul 2022 2:29 Operator: ARC
Sample : WCF1156-10 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 08:01:14 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :

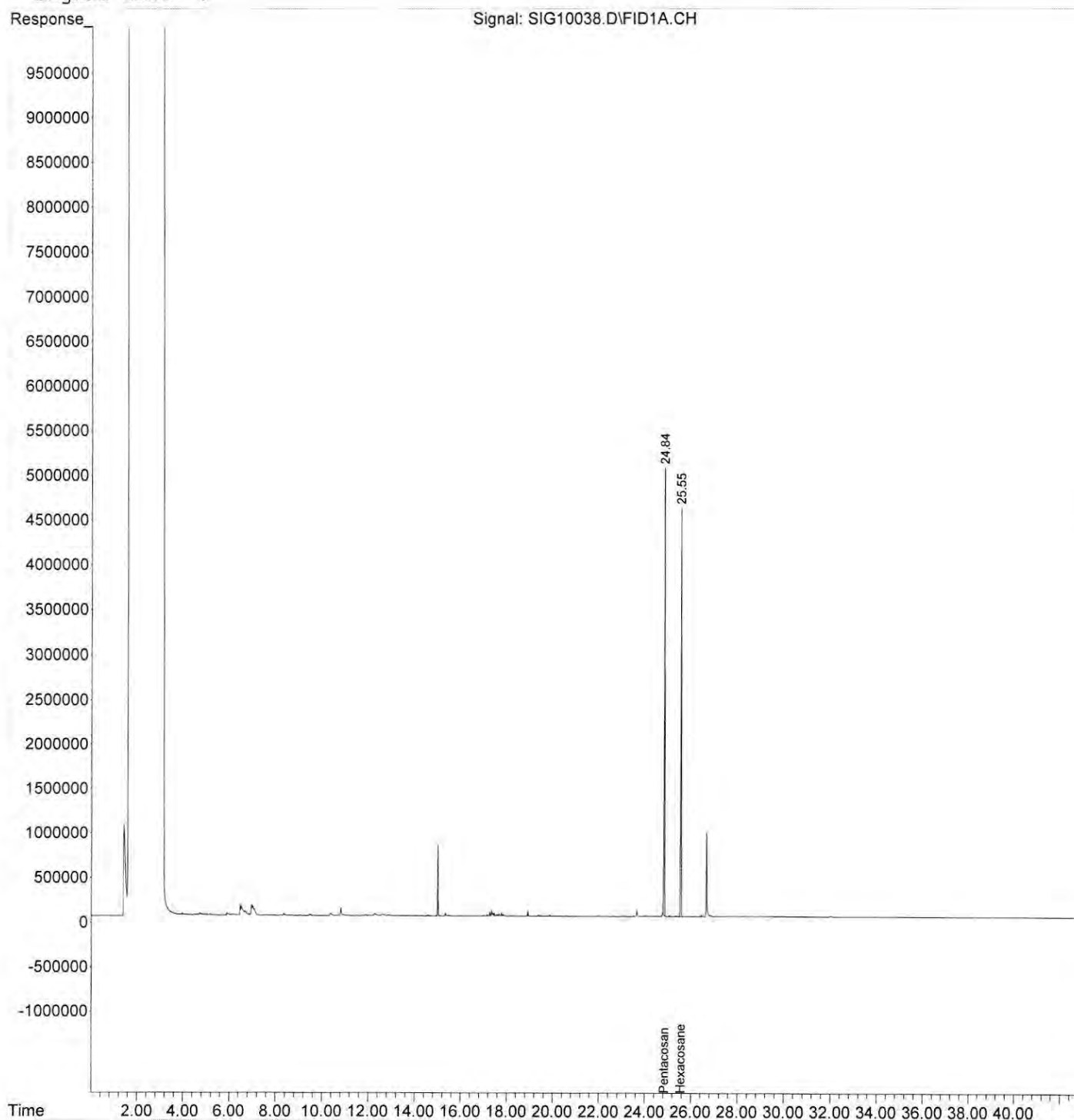
Compound	R.T.	Response	Conc Units

Internal Standards			
1) I Pentacosane	24.84	94846440	50.000 ppm m
System Monitoring Compounds			
2) S Hexacosane	25.55	88767501	46.204 ppm m
Spiked Amount 50.000	Range 50 - 150	Recovery =	92.41%
Target Compounds			
3) H TPH Diesel (C12-C14)	0.00	0	N.D. ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D. ppm
5) H Mineral Oil	0.00	0	N.D. ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D. ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D. ppm
8) h HCID Oil (>C14)	0.00	0	N.D. ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10038.D Vial: 27
Acq On : 09 Jul 2022 2:29 Operator: ARC
Sample : WCF1156-10 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 8:08 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10039.D Vial: 28
Acq On : 09 Jul 2022 3:25 Operator: ARC
Sample : WCF1156-11 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 08:01:16 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

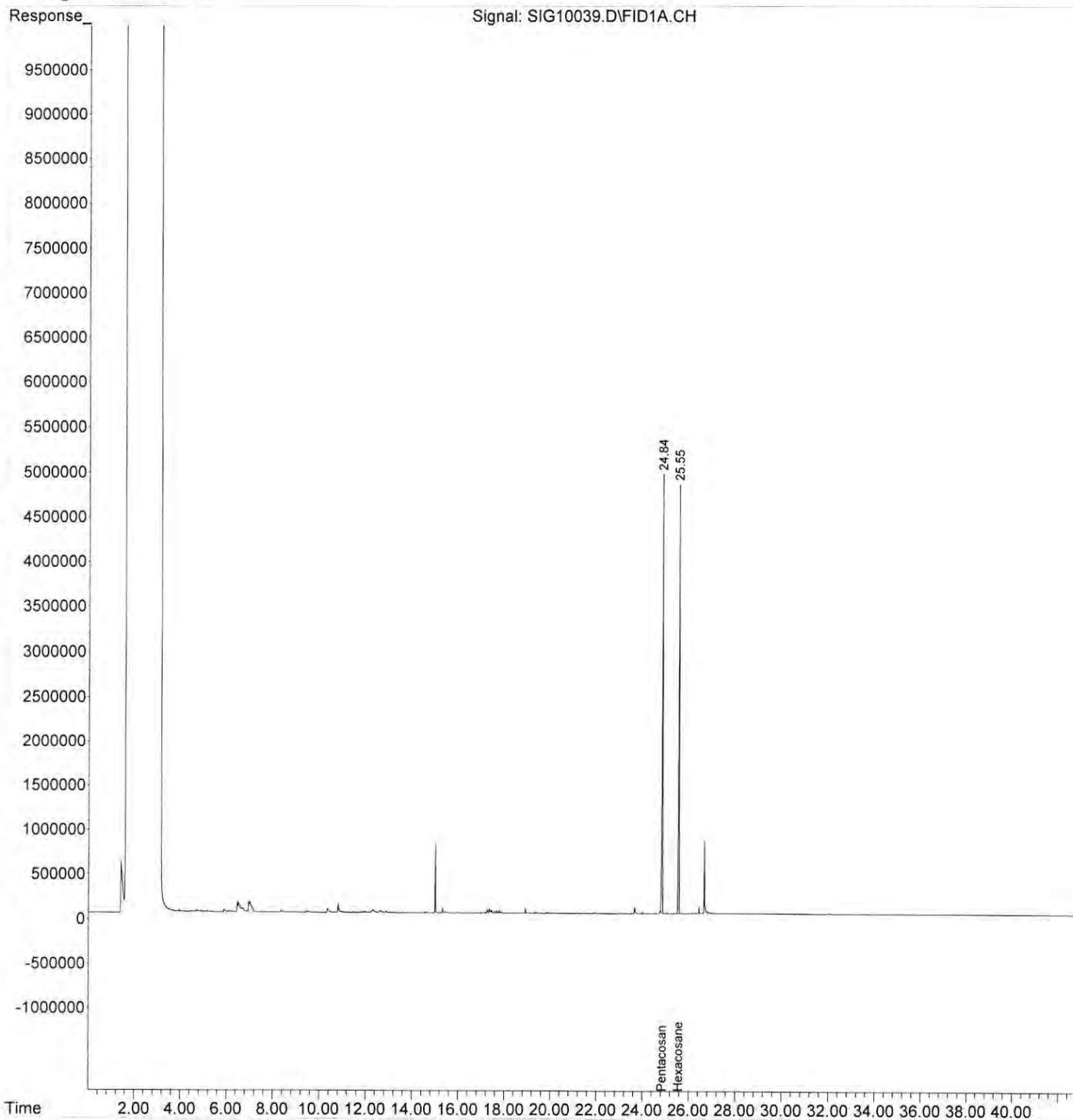
Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I Pentacosane	24.84	97154882	50.000 ppm m
System Monitoring Compounds			
2) S Hexacosane	25.55	90495151	45.984 ppm m
Spiked Amount	50.000	Range	50 - 150
		Recovery	= 91.97%
Target Compounds			
3) H TPH Diesel (C12-C14)	0.00	0	N.D. ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D. ppm
5) H Mineral Oil	0.00	0	N.D. ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D. ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D. ppm
8) h HCID Oil (>C14)	0.00	0	N.D. ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10039.D Vial: 28
Acq On : 09 Jul 2022 3:25 Operator: ARC
Sample : WCF1156-11 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 8:08 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10040.D Vial: 29
Acq On : 09 Jul 2022 4:20 Operator: ARC
Sample : WCF1156-12 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 08:01:17 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

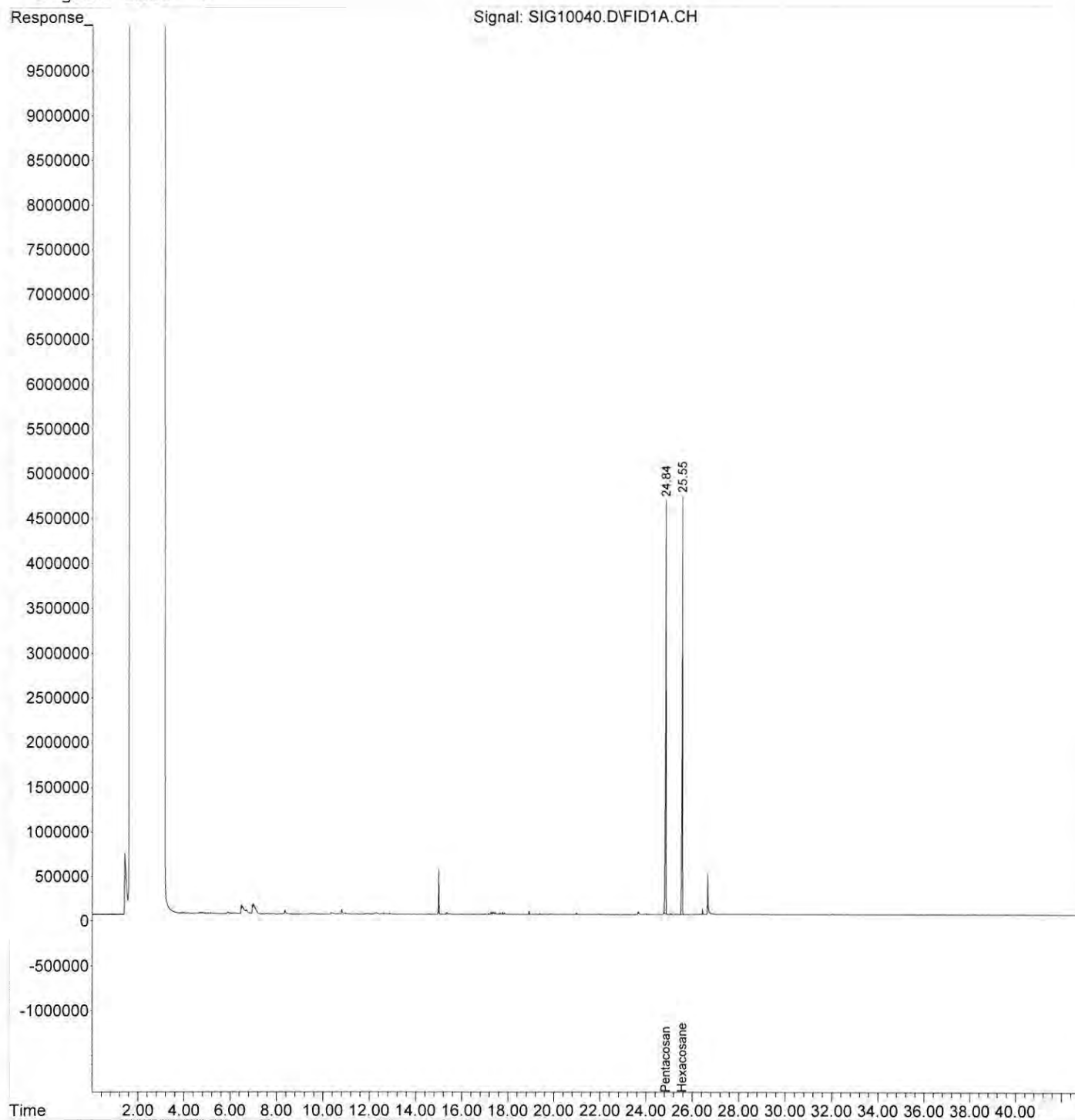
Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units
Internal Standards				
1) I Pentacosane	24.84	89273987	50.000 ppm	m
System Monitoring Compounds				
2) S Hexacosane	25.55	86894597	48.052 ppm	m
Spiked Amount	50.000	Range	50 - 150	Recovery = 96.10%
Target Compounds				
3) H TPH Diesel (C12-C14)	0.00	0	N.D.	ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D.	ppm
5) H Mineral Oil	0.00	0	N.D.	ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D.	ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D.	ppm
8) h HCID Oil (>C14)	0.00	0	N.D.	ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10040.D Vial: 29
Acq On : 09 Jul 2022 4:20 Operator: ARC
Sample : WCF1156-12 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 8:08 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10041.D Vial: 30
Acq On : 09 Jul 2022 5:15 Operator: ARC
Sample : WCF1156-13 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 08:01:18 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

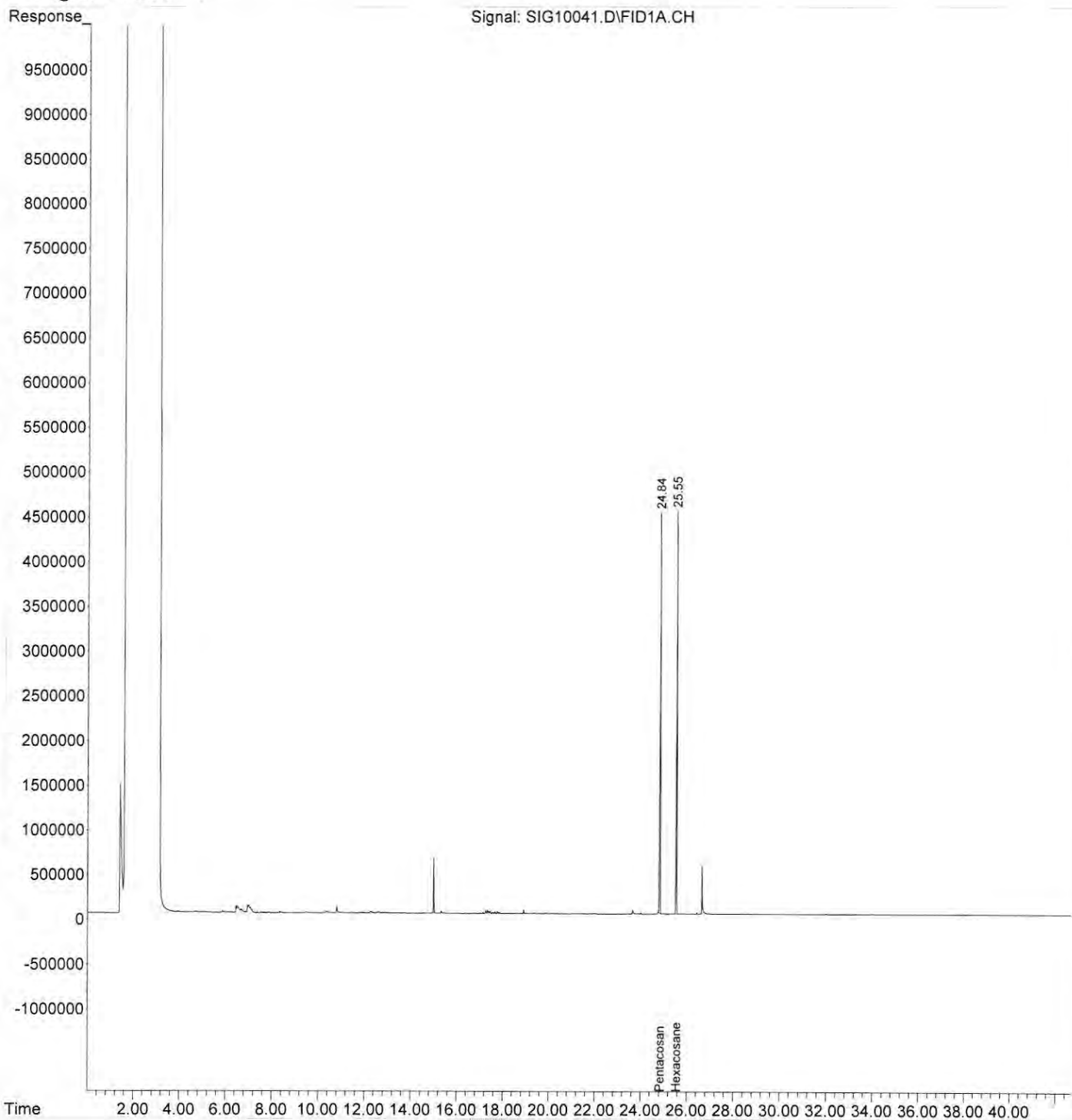
Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I Pentacosane	24.84	82167528	50.000 ppm m
System Monitoring Compounds			
2) S Hexacosane	25.55	78905743	47.408 ppm m
Spiked Amount	50.000	Range	50 - 150
		Recovery	= 94.82%
Target Compounds			
3) H TPH Diesel (C12-C14)	0.00	0	N.D. ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D. ppm
5) H Mineral Oil	0.00	0	N.D. ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D. ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D. ppm
8) h HCID Oil (>C14)	0.00	0	N.D. ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10041.D Vial: 30
Acq On : 09 Jul 2022 5:15 Operator: ARC
Sample : WCF1156-13 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 8:09 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10042.D Vial: 31
 Acq On : 09 Jul 2022 6:11 Operator: ARC
 Sample : WCF1156-14 Inst : HP G1530A
 Misc : Multiplr: 1.00
 IntFile : EVENTS1.E
 Quant Time: Jul 11 08:01:19 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
 Title :
 Last Update : Tue Jun 28 14:46:51 2022
 Response via : Initial Calibration
 DataAcq Meth : DXHCID5.M

Volume Inj. :
 Signal Phase :
 Signal Info :

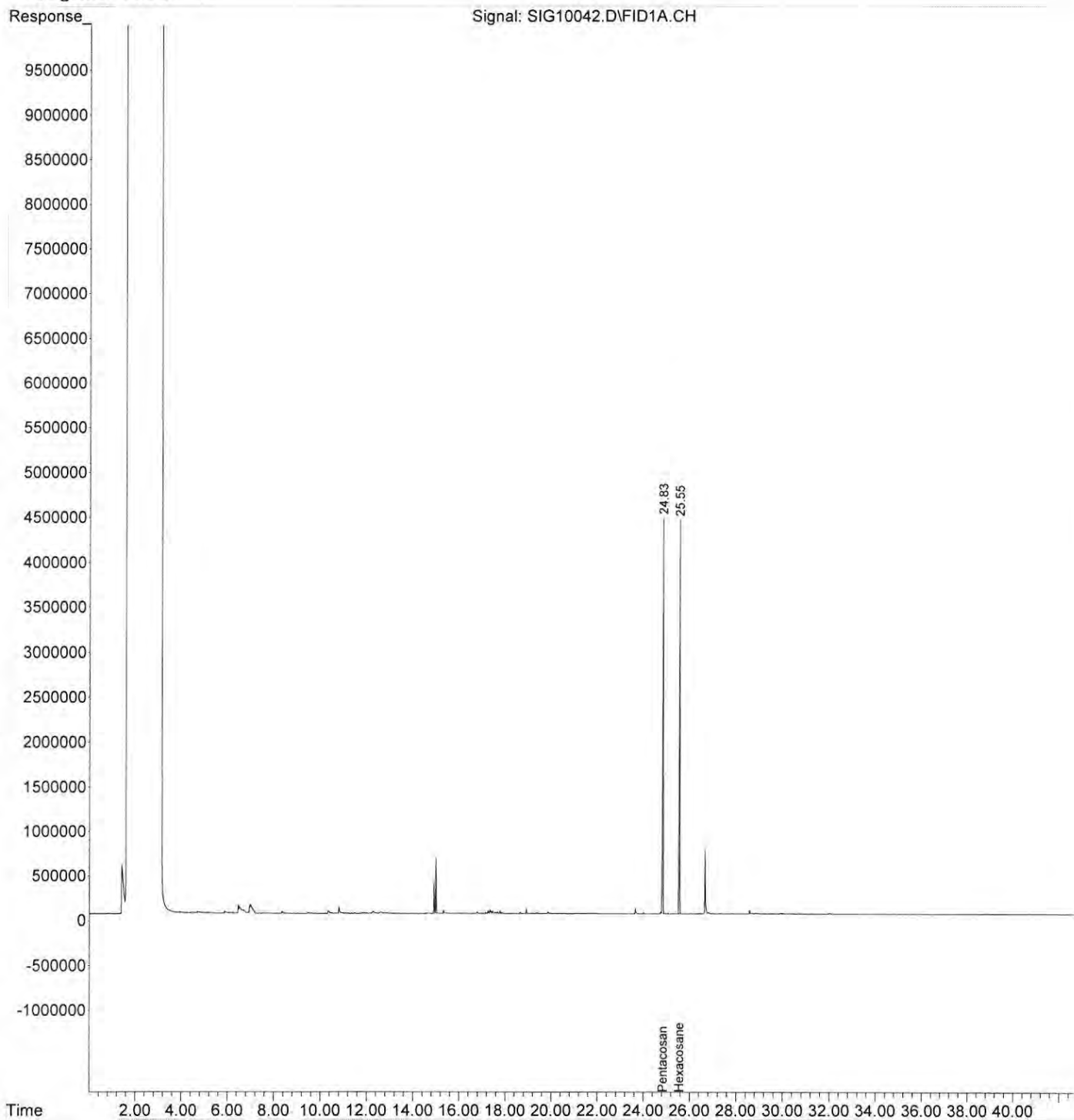
Compound	R.T.	Response	Conc Units

Internal Standards			
1) I Pentacosane	24.83	82370619	50.000 ppm m
System Monitoring Compounds			
2) S Hexacosane	25.55	78323481	46.942 ppm m
Spiked Amount 50.000	Range 50 - 150	Recovery =	93.88%
Target Compounds			
3) H TPH Diesel (C12-C14)	0.00	0	N.D. ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D. ppm
5) H Mineral Oil	0.00	0	N.D. ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D. ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D. ppm
8) h HCID Oil (>C14)	0.00	0	N.D. ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10042.D Vial: 31
Acq On : 09 Jul 2022 6:11 Operator: ARC
Sample : WCF1156-14 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 8:09 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Data File : W:\HPCHEM\1\2022DATA\070722\SIG10043.D Vial: 32
Acq On : 09 Jul 2022 7:06 Operator: ARC
Sample : WCF1156-16 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 08:01:21 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Initial Calibration
DataAcq Meth : DXHCID5.M

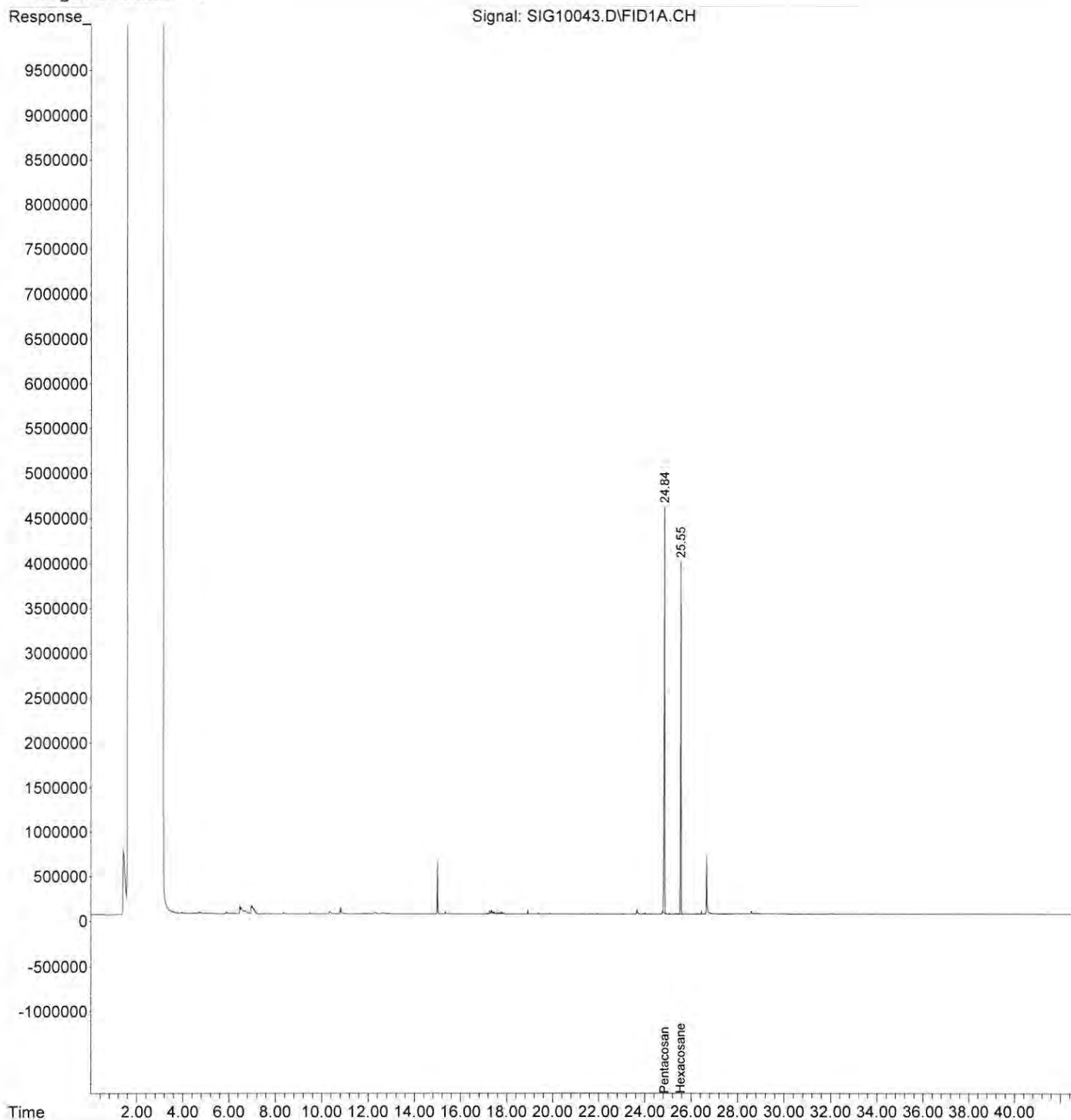
Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
Internal Standards			
1) I Pentacosane	24.84	92711857	50.000 ppm m
System Monitoring Compounds			
2) S Hexacosane	25.55	70585078	37.585 ppm m
Spiked Amount	50.000	Range	50 - 150
		Recovery	= 75.17%
Target Compounds			
3) H TPH Diesel (C12-C14)	0.00	0	N.D. ppm
4) H TPHDX-Lube Oil (>C14)	0.00	0	N.D. ppm
5) H Mineral Oil	0.00	0	N.D. ppm
6) h HCID Gas (C7-C12)	0.00	0	N.D. ppm
7) h HCID Diesel (C12-C14)	0.00	0	N.D. ppm
8) h HCID Oil (>C14)	0.00	0	N.D. ppm

Data File : W:\HPCHEM\1\2022DATA\070722\SIG10043.D Vial: 32
Acq On : 09 Jul 2022 7:06 Operator: ARC
Sample : WCF1156-16 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : EVENTS1.E
Quant Time: Jul 11 8:09 2022 Quant Results File: 220624DHTLOW.RES

Quant Method : W:\HPCHEM\1...\220624DHTLOW.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 28 14:46:51 2022
Response via : Multiple Level Calibration
DataAcq Meth : DXHCID5.M

Volume Inj. :
Signal Phase :
Signal Info :



Methods: 8270C / EPA 6850 / EPA 8321B

Instrument: LC-MS-MS

Ext. Method: EPA 3535 SPE/ Liq-Solid microextraction and derivatization

Internal Standard (IS)	Solution #	Concentration (ppm)
Glyphosate- ¹³ C ₂	2103573	10
Matrix Spiking Info (MS/MSD)	Solution #	Concentration (ppm)
Glyphosate / AMPA	2201545	25/50

Standard or Sample # (Glyphosate / AMPA)	Reaction volume	Sample	FMOC (mL)	Buffer (mL)	IS (μL)	Cal Std or Spike (μL)	Final Mult
250 ppb / 500 ppb	2 ml	1.0	0.5	0.5	10	20	
125 ppb / 250 ppb	2 ml	1.0	0.5	0.5	10	10	
50 ppb / 100 ppb	2 ml	1.0	0.5	0.5	10	4	
25 ppb / 50 ppb	2 ml	1.0	0.5	0.5	10	2	
12.5 ppb / 25 ppb	2 ml	1.0	0.5	0.5	10	1	
6.25 ppb/12.5 ppb	2 ml	1.0	0.5	0.5	10	0.5	
BCG0152-BLK1	2 ml	1.0	0.5	0.5	10	0	
BCG0152-BS1	2 ml	1.0	0.5	0.5	10	4	
BCG0152-MS1	2 ml	1.0	0.5	0.5	10	4	
BCG0152-MSD1	2 ml	1.0	0.5	0.5	10	4	
WCF1156-15	2 ml	1.0	0.5	0.5	10	0	
MCF0947-01	2 ml	1.0	0.5	0.5	10	0	
MCF0947-02	2 ml	1.0	0.5	0.5	10	0	
MCF0947-03	2 ml	1.0	0.5	0.5	10	0	
MCF0947-04	2 ml	1.0	0.5	0.5	10	0	
MCF0958-01	2 ml	1.0	0.5	0.5	10	0	
MCF0958-02	2 ml	1.0	0.5	0.5	10	0	
MCG0107-01	2 ml	1.0	0.5	0.5	10	0	
MCG0107-02	2 ml	1.0	0.5	0.5	10	0	
MCG0109-01	2 ml	1.0	0.5	0.5	10	0	
MCG0109-02	2 ml	1.0	0.5	0.5	10	0	
WCF1156-13	2 ml	1.0	0.5	0.5	10	0	
WCF1156-14	2 ml	1.0	0.5	0.5	10	0	
WCF1156-16	2 ml	1.0	0.5	0.5	10	0	

Prepped samples were heated overnight at 40°C in a water bath.

Derivatized samples were diluted into well plate for analysis as follows

(100 μL 2% phosphoric acid / 700 μL water / 200 μL derivatized extract)

Reagents

FMOC – 5 mg/mL in Acetonitrile

2% Phosphoric Acid

Buffer – 5 % Sodium Tetraborate

Mark 7/11/2022
 BCG0152

	Sample Name	Sample Type	Acquisition Date	File Name	Dilution Factor	Analyte Peak Name	Analyte Peak Area (counts)	Analyte Concentration (ng/mL)	IS Peak Area (counts)	Calculated Concentration (ng/mL)	Accuracy (%)
1	250/500 ppb gly a	Standard	7/8/2022 9:33:	070822_gly\	1.00	Glyphosate	4.60e+006	250.	1.04e+006	253.	101.
2	250/500 ppb gly a	Standard	7/8/2022 9:33:	070822_gly\	1.00	Glyphosate1	1.78e+006	250.	1.04e+006	252.	101.
3	250/500 ppb gly a	Standard	7/8/2022 9:33:	070822_gly\	1.00	AMPA	3.78e+006	500.	1.04e+006	512.	102.
4	250/500 ppb gly a	Standard	7/8/2022 9:33:	070822_gly\	1.00	AMPA1	1.47e+006	500.	1.04e+006	505.	101.
5	125/250 ppb gly a	Standard	7/8/2022 9:39:	070822_gly\	1.00	Glyphosate	2.57e+006	125.	1.08e+006	120.	95.9
6	125/250 ppb gly a	Standard	7/8/2022 9:39:	070822_gly\	1.00	Glyphosate1	1.00e+006	125.	1.08e+006	122.	97.4
7	125/250 ppb gly a	Standard	7/8/2022 9:39:	070822_gly\	1.00	AMPA	2.24e+006	250.	1.08e+006	233.	93.3
8	125/250 ppb gly a	Standard	7/8/2022 9:39:	070822_gly\	1.00	AMPA1	8.71e+005	250.	1.08e+006	242.	96.6
9	50/100 ppb gly a	Standard	7/8/2022 9:46:	070822_gly\	1.00	Glyphosate	1.18e+006	50.0	1.07e+006	51.9	104.
10	50/100 ppb gly a	Standard	7/8/2022 9:46:	070822_gly\	1.00	Glyphosate1	4.34e+005	50.0	1.07e+006	50.0	100.
11	50/100 ppb gly a	Standard	7/8/2022 9:46:	070822_gly\	1.00	AMPA	1.11e+006	100.	1.07e+006	105.	105.
12	50/100 ppb gly a	Standard	7/8/2022 9:46:	070822_gly\	1.00	AMPA1	4.03e+005	100.	1.07e+006	103.	103.
13	25/50 ppb gly am	Standard	7/8/2022 9:53:	070822_gly\	1.00	Glyphosate	6.34e+005	25.0	1.10e+006	26.1	104.
14	25/50 ppb gly am	Standard	7/8/2022 9:53:	070822_gly\	1.00	Glyphosate1	2.44e+005	25.0	1.10e+006	26.8	107.
15	25/50 ppb gly am	Standard	7/8/2022 9:53:	070822_gly\	1.00	AMPA	6.10e+005	50.0	1.10e+006	53.3	107.
16	25/50 ppb gly am	Standard	7/8/2022 9:53:	070822_gly\	1.00	AMPA1	2.17e+005	50.0	1.10e+006	51.4	103.
17	12.5/25 ppb gly a	Standard	7/8/2022 10:00	070822_gly\	1.00	Glyphosate	3.25e+005	12.5	1.11e+006	12.6	101.
18	12.5/25 ppb gly a	Standard	7/8/2022 10:00	070822_gly\	1.00	Glyphosate1	1.21e+005	12.5	1.11e+006	12.8	102.
19	12.5/25 ppb gly a	Standard	7/8/2022 10:00	070822_gly\	1.00	AMPA	3.23e+005	25.0	1.11e+006	26.2	105.
20	12.5/25 ppb gly a	Standard	7/8/2022 10:00	070822_gly\	1.00	AMPA1	1.16e+005	25.0	1.11e+006	25.9	104.
21	6.25/12.5 ppb gly/	Standard	7/8/2022 10:06	070822_gly\	1.00	Glyphosate	1.64e+005	6.25	1.10e+006	5.87	93.9
22	6.25/12.5 ppb gly/	Standard	7/8/2022 10:06	070822_gly\	1.00	Glyphosate1	5.72e+004	6.25	1.10e+006	5.80	92.8
23	6.25/12.5 ppb gly/	Standard	7/8/2022 10:06	070822_gly\	1.00	AMPA	1.54e+005	12.5	1.10e+006	11.0	88.4
24	6.25/12.5 ppb gly/	Standard	7/8/2022 10:06	070822_gly\	1.00	AMPA1	5.77e+004	12.5	1.10e+006	11.7	93.4
25	RINSE	Quality Con	7/8/2022 10:13	070822_gly\	1.00	Glyphosate	5.81e+003	0.00	1.15e+006	< 0	N/A
26	RINSE	Quality Con	7/8/2022 10:13	070822_gly\	1.00	Glyphosate1	0.00e+000	0.00	1.15e+006	No Peak	N/A
27	RINSE	Quality Con	7/8/2022 10:13	070822_gly\	1.00	AMPA	1.40e+004	0.00	1.15e+006	< 0	N/A
28	RINSE	Quality Con	7/8/2022 10:13	070822_gly\	1.00	AMPA1	5.00e+003	0.00	1.15e+006	< 0	N/A
	BCG0152-BLK1	Quality Con	7/8/2022 10:20	070822_gly\	1.00	Glyphosate	0.00e+000	0.00	1.13e+006	No Peak	N/A
	BCG0152-BLK1	Quality Con	7/8/2022 10:20	070822_gly\	1.00	Glyphosate1	0.00e+000	0.00	1.13e+006	No Peak	N/A

	Sample Name	Sample Type	Acquisition Date	File Name	Dilution Factor	Analyte Peak Name	Analyte Peak Area (counts)	Analyte Concentration (ng/mL)	IS Peak Area (counts)	Calculated Concentration (ng/mL)	Accuracy (%)
31	BCG0152-BLK1	Quality Con	7/8/2022 10:20	070822_gly\	1.00	AMPA	8.40e+003	0.00	1.13e+006	< 0	N/A
32	BCG0152-BLK1	Quality Con	7/8/2022 10:20	070822_gly\	1.00	AMPA1	2.52e+003	0.00	1.13e+006	< 0	N/A
33	BCG0152-BS1	Quality Con	7/8/2022 10:27	070822_gly\	1.00	Glyphosate	1.13e+006	50.0	1.09e+006	48.4	96.9
34	BCG0152-BS1	Quality Con	7/8/2022 10:27	070822_gly\	1.00	Glyphosate1	4.26e+005	50.0	1.09e+006	48.0	96.0
35	BCG0152-BS1	Quality Con	7/8/2022 10:27	070822_gly\	1.00	AMPA	9.03e+005	100.	1.09e+006	82.3	82.3
36	BCG0152-BS1	Quality Con	7/8/2022 10:27	070822_gly\	1.00	AMPA1	3.36e+005	100.	1.09e+006	82.6	82.6
37	BCG0152-MS1	Quality Con	7/8/2022 10:34	070822_gly\	1.00	Glyphosate	9.40e+004	50.0	9.23e+004	47.8	95.6
38	BCG0152-MS1	Quality Con	7/8/2022 10:34	070822_gly\	1.00	Glyphosate1	3.39e+004	50.0	9.23e+004	45.2	90.5
39	BCG0152-MS1	Quality Con	7/8/2022 10:34	070822_gly\	1.00	AMPA	1.27e+005	100.	9.23e+004	144.	144.
40	BCG0152-MS1	Quality Con	7/8/2022 10:34	070822_gly\	1.00	AMPA1	4.39e+004	100.	9.23e+004	133.	133.
41	BCG0152-MSD1	Quality Con	7/8/2022 10:40	070822_gly\	1.00	Glyphosate	8.82e+004	50.0	8.85e+004	46.7	93.3
42	BCG0152-MSD1	Quality Con	7/8/2022 10:40	070822_gly\	1.00	Glyphosate1	3.15e+004	50.0	8.85e+004	43.8	87.5
43	BCG0152-MSD1	Quality Con	7/8/2022 10:40	070822_gly\	1.00	AMPA	1.27e+005	100.	8.85e+004	151.	151.
44	BCG0152-MSD1	Quality Con	7/8/2022 10:40	070822_gly\	1.00	AMPA1	4.05e+004	100.	8.85e+004	128.	128.
45	WCF1156-15	Unknown	7/8/2022 10:47	070822_gly\	1.00	Glyphosate	1.48e+001	N/A	9.12e+004	< 0	N/A
46	WCF1156-15	Unknown	7/8/2022 10:47	070822_gly\	1.00	Glyphosate1	8.04e+000	N/A	9.12e+004	< 0	N/A
47	WCF1156-15	Unknown	7/8/2022 10:47	070822_gly\	1.00	AMPA	3.32e+003	N/A	9.12e+004	0.856	N/A
48	WCF1156-15	Unknown	7/8/2022 10:47	070822_gly\	1.00	AMPA1	1.08e+003	N/A	9.12e+004	0.870	N/A
49	MCF0947-01	Unknown	7/8/2022 10:54	070822_gly\	1.00	Glyphosate	0.00e+000	N/A	5.22e+005	No Peak	N/A
50	MCF0947-01	Unknown	7/8/2022 10:54	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	5.22e+005	No Peak	N/A
51	MCF0947-01	Unknown	7/8/2022 10:54	070822_gly\	1.00	AMPA	4.69e+003	N/A	5.22e+005	< 0	N/A
52	MCF0947-01	Unknown	7/8/2022 10:54	070822_gly\	1.00	AMPA1	1.46e+003	N/A	5.22e+005	< 0	N/A
53	MCF0947-02	Unknown	7/8/2022 11:01	070822_gly\	1.00	Glyphosate	0.00e+000	N/A	4.57e+005	No Peak	N/A
54	MCF0947-02	Unknown	7/8/2022 11:01	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	4.57e+005	No Peak	N/A
55	MCF0947-02	Unknown	7/8/2022 11:01	070822_gly\	1.00	AMPA	2.12e+003	N/A	4.57e+005	< 0	N/A
56	MCF0947-02	Unknown	7/8/2022 11:01	070822_gly\	1.00	AMPA1	9.89e+002	N/A	4.57e+005	< 0	N/A
57	MCF0947-03	Unknown	7/8/2022 11:07	070822_gly\	1.00	Glyphosate	0.00e+000	N/A	6.10e+005	No Peak	N/A
58	MCF0947-03	Unknown	7/8/2022 11:07	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	6.10e+005	No Peak	N/A
59	MCF0947-03	Unknown	7/8/2022 11:07	070822_gly\	1.00	AMPA	2.24e+003	N/A	6.10e+005	< 0	N/A
60	MCF0947-03	Unknown	7/8/2022 11:07	070822_gly\	1.00	AMPA1	6.91e+002	N/A	6.10e+005	< 0	N/A

	Sample Name	Sample Type	Acquisition Date	File Name	Dilution Factor	Analyte Peak Name	Analyte Peak Area (counts)	Analyte Concentration (na/mL)	IS Peak Area (counts)	Calculated Concentration (na/mL)	Accuracy (%)
61	MCF0947-04	Unknown	7/8/2022 11:14	070822_gly\	1.00	Glyphosate	0.00e+000	N/A	5.43e+005	No Peak	N/A
62	MCF0947-04	Unknown	7/8/2022 11:14	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	5.43e+005	No Peak	N/A
63	MCF0947-04	Unknown	7/8/2022 11:14	070822_gly\	1.00	AMPA	1.25e+003	N/A	5.43e+005	< 0	N/A
64	MCF0947-04	Unknown	7/8/2022 11:14	070822_gly\	1.00	AMPA1	4.93e+002	N/A	5.43e+005	< 0	N/A
65	MCF0958-01	Unknown	7/8/2022 11:21	070822_gly\	1.00	Glyphosate	0.00e+000	N/A	4.49e+005	No Peak	N/A
66	MCF0958-01	Unknown	7/8/2022 11:21	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	4.49e+005	No Peak	N/A
67	MCF0958-01	Unknown	7/8/2022 11:21	070822_gly\	1.00	AMPA	0.00e+000	N/A	4.49e+005	No Peak	N/A
68	MCF0958-01	Unknown	7/8/2022 11:21	070822_gly\	1.00	AMPA1	0.00e+000	N/A	4.49e+005	No Peak	N/A
69	MCF0958-02	Unknown	7/8/2022 11:28	070822_gly\	1.00	Glyphosate	0.00e+000	N/A	4.28e+005	No Peak	N/A
70	MCF0958-02	Unknown	7/8/2022 11:28	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	4.28e+005	No Peak	N/A
71	MCF0958-02	Unknown	7/8/2022 11:28	070822_gly\	1.00	AMPA	0.00e+000	N/A	4.28e+005	No Peak	N/A
72	MCF0958-02	Unknown	7/8/2022 11:28	070822_gly\	1.00	AMPA1	0.00e+000	N/A	4.28e+005	No Peak	N/A
73	MCG0107-01	Unknown	7/8/2022 11:35	070822_gly\	1.00	Glyphosate	0.00e+000	N/A	3.77e+005	No Peak	N/A
74	MCG0107-01	Unknown	7/8/2022 11:35	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	3.77e+005	No Peak	N/A
75	MCG0107-01	Unknown	7/8/2022 11:35	070822_gly\	1.00	AMPA	0.00e+000	N/A	3.77e+005	No Peak	N/A
76	MCG0107-01	Unknown	7/8/2022 11:35	070822_gly\	1.00	AMPA1	0.00e+000	N/A	3.77e+005	No Peak	N/A
77	MCG0107-02	Unknown	7/8/2022 11:41	070822_gly\	1.00	Glyphosate	0.00e+000	N/A	3.75e+005	No Peak	N/A
78	MCG0107-02	Unknown	7/8/2022 11:41	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	3.75e+005	No Peak	N/A
79	MCG0107-02	Unknown	7/8/2022 11:41	070822_gly\	1.00	AMPA	0.00e+000	N/A	3.75e+005	No Peak	N/A
80	MCG0107-02	Unknown	7/8/2022 11:41	070822_gly\	1.00	AMPA1	0.00e+000	N/A	3.75e+005	No Peak	N/A
81	MCG0109-01	Unknown	7/8/2022 11:48	070822_gly\	1.00	Glyphosate	0.00e+000	N/A	5.79e+005	No Peak	N/A
82	MCG0109-01	Unknown	7/8/2022 11:48	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	5.79e+005	No Peak	N/A
83	MCG0109-01	Unknown	7/8/2022 11:48	070822_gly\	1.00	AMPA	2.14e+003	N/A	5.79e+005	< 0	N/A
84	MCG0109-01	Unknown	7/8/2022 11:48	070822_gly\	1.00	AMPA1	6.55e+002	N/A	5.79e+005	< 0	N/A
85	CCV 25/50	Quality Con	7/8/2022 11:55	070822_gly\	1.00	Glyphosate	5.58e+005	25.0	1.00e+006	25.2	101.
86	CCV 25/50	Quality Con	7/8/2022 11:55	070822_gly\	1.00	Glyphosate1	2.15e+005	25.0	1.00e+006	25.9	104.
87	CCV 25/50	Quality Con	7/8/2022 11:55	070822_gly\	1.00	AMPA	3.90e+005	50.0	1.00e+006	36.3	72.5
88	CCV 25/50	Quality Con	7/8/2022 11:55	070822_gly\	1.00	AMPA1	1.40e+005	50.0	1.00e+006	35.5	71.0
89	MCG0109-02	Unknown	7/8/2022 12:02	070822_gly\	1.00	Glyphosate	0.00e+000	N/A	4.25e+005	No Peak	N/A
90	MCG0109-02	Unknown	7/8/2022 12:02	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	4.25e+005	No Peak	N/A

	Sample Name	Sample Type	Acquisition Date	File Name	Dilution Factor	Analyte Peak Name	Analyte Peak Area (counts)	Analyte Concentration (ng/mL)	IS Peak Area (counts)	Calculated Concentration (ng/mL)	Accuracy (%)
91	MCG0109-02	Unknown	7/8/2022 12:02	070822_gly\	1.00	AMPA	3.76e+003	N/A	4.25e+005	< 0	N/A
92	MCG0109-02	Unknown	7/8/2022 12:02	070822_gly\	1.00	AMPA1	1.39e+003	N/A	4.25e+005	< 0	N/A
93	WCF1156-13	Unknown	7/8/2022 12:08	070822_gly\	1.00	Glyphosate	8.06e+003	N/A	1.96e+005	0.884	N/A
94	WCF1156-13	Unknown	7/8/2022 12:08	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	1.96e+005	No Peak	N/A
95	WCF1156-13	Unknown	7/8/2022 12:08	070822_gly\	1.00	AMPA	0.00e+000	N/A	1.96e+005	No Peak	N/A
96	WCF1156-13	Unknown	7/8/2022 12:08	070822_gly\	1.00	AMPA1	0.00e+000	N/A	1.96e+005	No Peak	N/A
97	WCF1156-14	Unknown	7/8/2022 12:15	070822_gly\	1.00	Glyphosate	1.56e+001	N/A	7.92e+004	< 0	N/A
98	WCF1156-14	Unknown	7/8/2022 12:15	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	7.92e+004	No Peak	N/A
99	WCF1156-14	Unknown	7/8/2022 12:15	070822_gly\	1.00	AMPA	0.00e+000	N/A	7.92e+004	No Peak	N/A
100	WCF1156-14	Unknown	7/8/2022 12:15	070822_gly\	1.00	AMPA1	0.00e+000	N/A	7.92e+004	No Peak	N/A
101	WCF1156-16	Unknown	7/8/2022 12:22	070822_gly\	1.00	Glyphosate	9.62e+001	N/A	1.17e+005	< 0	N/A
102	WCF1156-16	Unknown	7/8/2022 12:22	070822_gly\	1.00	Glyphosate1	0.00e+000	N/A	1.17e+005	No Peak	N/A
103	WCF1156-16	Unknown	7/8/2022 12:22	070822_gly\	1.00	AMPA	0.00e+000	N/A	1.17e+005	No Peak	N/A
104	WCF1156-16	Unknown	7/8/2022 12:22	070822_gly\	1.00	AMPA1	0.00e+000	N/A	1.17e+005	No Peak	N/A
105	CCV 25/50	Quality Con	7/8/2022 12:29	070822_gly\	1.00	Glyphosate	5.30e+005	25.0	9.48e+005	25.3	101.
106	CCV 25/50	Quality Con	7/8/2022 12:29	070822_gly\	1.00	Glyphosate1	1.99e+005	25.0	9.48e+005	25.3	101.
107	CCV 25/50	Quality Con	7/8/2022 12:29	070822_gly\	1.00	AMPA	3.44e+005	50.0	9.48e+005	33.6	67.1
108	CCV 25/50	Quality Con	7/8/2022 12:29	070822_gly\	1.00	AMPA1	1.27e+005	50.0	9.48e+005	33.9	67.8

Starting sequence Fri Jul 15 11:05:06 2022

Instrument Name: MSD4

Sequence File: T:\Data1\MSD4\SEQUENCES\2022\071422PAH.s

Comment: SVOC

Operator: MAH

Data Path: T:\DATA1\MSD4\2022\JUL\15CD\

Method Path: C:\MSDCHEM\1\METHODS\

Line	Type	Vial	DataFile	Method	Sample Name
1)	Sample	41	04101001	SVOCT1	SYS
2)	Sample	1	00101002	CARDSIM	CARD 10 PPM
3)	Sample	2	00201003	CARDSIM	CARD 5 PPM
4)	Sample	3	00301004	CARDSIM	CARD 2.5 PPM
5)	Sample	4	00401005	CARDSIM	CARD 1 PPM
6)	Sample	5	00501006	CARDSIM	CARD 0.5 PPM
7)	Sample	6	00601007	CARDSIM	CARD 0.1 PPM
8)	Sample	7	00701008	CARDSIM	CARD 0.05 PPM
9)	Sample	11	01101009	CARDSIM	LFB
10)	Sample	12	01201010	CARDSIM	LFBD
11)	Sample	13	01301011	CARDSIM	BLK
12)	Sample	14	01401012	CARDSIM	WCF1156-13
13)	Sample	15	01501013	CARDSIM	WCF1156-14
14)	Sample	16	01601014	CARDSIM	WCF1156-15
1)	Sample	21	02101001	SVOCT1	SYS
2)	Sample	22	02201002	CARDSIM	CARD 5 PPM
3)	Sample	23	02301003	CARDSIM	WCF1156-16

Sun Jul 17 15:38:33 2022

Fatal sequence error detected.

T:\DATA1\MSD4\2022\JUL\15CD\2022 Jul 15 1105 Quality Log.LOG

T:\DATA1\MSD4\2022\JUL\15CD\2022 Jul 15 1105 Sequence Log .LOG



QC Checklist for EPA 8270/625.1 - SOC's

Analysis Date: 7-15-22

☒	QC Parameter	Acceptance Criteria	Frequency	Notes
☒	DFTPP Tune	See SOP/Method	Every 12 hours	
☒	Sys Check	DDT breakdown <20%	Every 12 hours	
☒	System Performance	Anthracene & phenanthrene baseline separated	Each analysis batch	
☒	System Performance	Benzo[a]anthracene & chrysene valley >75%	Each analysis batch	
☒	System Performance	Benzo(b/k)fluoranthenes - valley >50% of average of both peaks	Each analysis batch	
☒	System Performance	Peak tailing factors for benzidine & PCP <2	Each analysis batch	
☒	Initial Calibration	90% of compounds RRF RSD <20% 8270: True value within 30%		
☒	RF	See table on back of this checklist		Include CCRF report in packet
☒	Internal Standard	±30% of CCV and ±50% of ICAL average	All samples	
☒	Surrogate Recovery	Per control chart	All samples	
☒	ICV/QCS	±30%, 50% at MRL	Each ICAL	
☒	Blanks	No interferences	Each extraction batch	
☒	CCV - 8270	80-120% - 80% of analytes pass	Each analysis batch w/o an ICAL	ICAL
☒	CCV - 625	80-120% - all reported analytes must pass	Each analysis batch w/o an ICAL	↓
☒	MS/MSD or LFB/LFB Dup	Per control chart	Every 20 samples	
☒	Bench Sheet Present	Standards/reagents noted		
☒	Cal Prep Form Present	Standards/reagents noted		
☒	Dilutions Noted?			

Comments:

Analyst: [Signature]

Checklist Completed Date: 7-18-22

Reviewed By: [Signature]

Date: 7/22/22

Guidance Response Factors – EPA Method 8270E – Table 4			
2,3,4,6-Tetrachlorophenol	0.01	bis(2-Ethylhexyl)phthalate	0.01
2,4,5-Trichlorophenol	0.2	Butyl benzyl phthalate	0.01
2,4,6-Trichlorophenol	0.2	Carbazole	0.01
2,4-Dichlorophenol	0.2	Chrysene	0.7
2,4-Dimethylphenol	0.2	Dibenz[a,h]anthracene	0.4
2,4-Dinitrophenol	0.01	Dibenzofuran	0.8
2,4-Dinitrotoluene	0.2	Diethyl phthalate	0.01
2,6-Dinitrotoluene	0.2	Dimethyl phthalate	0.01
2-Chloronaphthalene	0.8	Di-n-butyl phthalate	0.01
2-Chlorophenol	0.8	Di-n-octyl phthalate	0.01
3,3'-Dichlorobenzidine	0.01	Fluoranthene	0.6
4,6-Dinitro-2-methylphenol	0.01	Fluorene	0.9
4-Bromophenyl-phenylether	0.1	Hexachlorobenzene	0.1
4-Chloro-3-methylphenol	0.2	Hexachlorobutadiene	0.01
4-Chloroaniline	0.01	Hexachlorocyclopentadiene	0.05
4-Chlorophenyl phenyl ether	0.4	Hexachloroethane	0.3
Acenaphthene	0.9	Indeno[1,2,3-cd]pyrene	0.5
Acenaphthylene	0.9	Isophorone	0.4
Aniline	0.7	Naphthalene	0.7
Benzo[a]anthracene	0.8	Nitrobenzene	0.2
Benzo[a]pyrene	0.7	n-Nitroso-di-n-propylamine	0.5
Benzo[b]fluoranthene	0.7	n-Nitrosodiphenylamine	0.01
Benzo[ghi]perylene	0.5	Pentachlorophenol	0.05
Benzo[k]fluoranthene	0.7	Phenanthrene	0.7
bis(2-Chloroethoxy)methane	0.3	Phenol	0.8
bis(2-Chloroethyl)ether	0.7	Pyrene	0.6
bis(2-chloroisopropyl)ether	0.01		

From Method 8270E, 11.3.4.2. *Table 4 contains minimum RFs that may be used as guidance in determining if the system is behaving properly and as a check to see if calibration standards are prepared correctly. Because the minimum RFs in Table 4 were determined using specific ions and instrument conditions that may vary, it is neither expected nor required that all analytes meet these minimum RFs. The information is provided as guidance only.*



Anatek Labs, Inc

1282 Alturas Drive
Moscow, ID 83843

1,4-Dioxane Cal. Standard Prep. Form

Method: EPA 625.1/8270D

IS/Surrogate Standards

Standard	Reagent ID	Expiration	Concentration (ppm)
CLP B/N Surrogate	2101009	3/23	1000
CLP Internal Standard	2201012	3/23	2000

Target Compound Standards

Standard	Reagent ID	Expiration	Concentration (ppm)
Chlorpyrifos	2003215	6/25/23	1000
Metolachlor	2003216	3/5/23	1000
Atrazine	2003218	11/21/24	1000

Calibration Dilution Template

Desired Concentration (ppm)	Stock Concentration (ppm) **	uL Standard Added	Final Volume (uL)
10	100	100	1000
5	100	50	1000
2.5	100	25	1000
1.0	100	10	1000
0.5	100	5	1000
0.1	100	1	1000
0.05	100	0.5	1000

Calibration made from target compound standards in the table. 25 uL of surrogate and 10 uL of IS stock added to each standard point. Dilutions were made in MeCl₂ (2200721).

Analyst Initials: 

Date of Preparation: 3/05/22 by MAH

Form CS06.00 – Eff 9 Mar 2015

Page 1 of 1

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 04101001.D
 Acq On : 15 Jul 2022 11:06 am
 Operator : MAH
 Sample : SYS
 Misc :
 ALS Vial : 41 Sample Multiplier: 1

Integration File: autoint1.e

Method : T:\Data1\MSD4\METHODS\2022\BNA-0712.M
 Title : EPA 8270D / EPA 625.1 - MSD4
 Last Update : Thu Jul 14 10:22:00 2022

AutoWind: Scans 1922, 1923, 1924; Background Corrected with Scan 1911
 AUTOFIND via AUTOINTEGRATE

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	31.0	114860	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.6	656	PASS
127	198	10	80	43.6	161557	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	370709	PASS
199	198	5	9	6.5	24089	PASS
275	198	10	60	34.7	128493	PASS
365	198	1	100	6.3	23362	PASS
441	443	0.01	150	75.4	98064	PASS
442	198	30	200	179.6	665879	PASS
443	442	15	24	19.5	130019	PASS

BNA-0712.M Fri Jul 15 12:59:57 2022

Method Path : ":\Data\MSD4\METHODS\2022\
 Method File : Cardno-0715.M
 Title : EPA 8270D - GC MSD4
 Last Update : Sun Jul 17 15:55:43 2022
 Response Via : Initial Calibration

Calibration Files

0.05=00701008.D 10 =00101002.D 5 =00201003.D 2.5 =00301004.D 1 =00401005.D 0.5 =00501006.D
 0.1 =00601007.D

Compound		0.05	10	5	2.5	1	0.5	0.1	Avg	%RSD

1) I	Dichlorobenzene-d5	-----ISTD-----								
2) S	2-Fluorobiphenyl	1.573	1.939	1.909	2.430	2.623	2.448	2.479	2.200	17.77

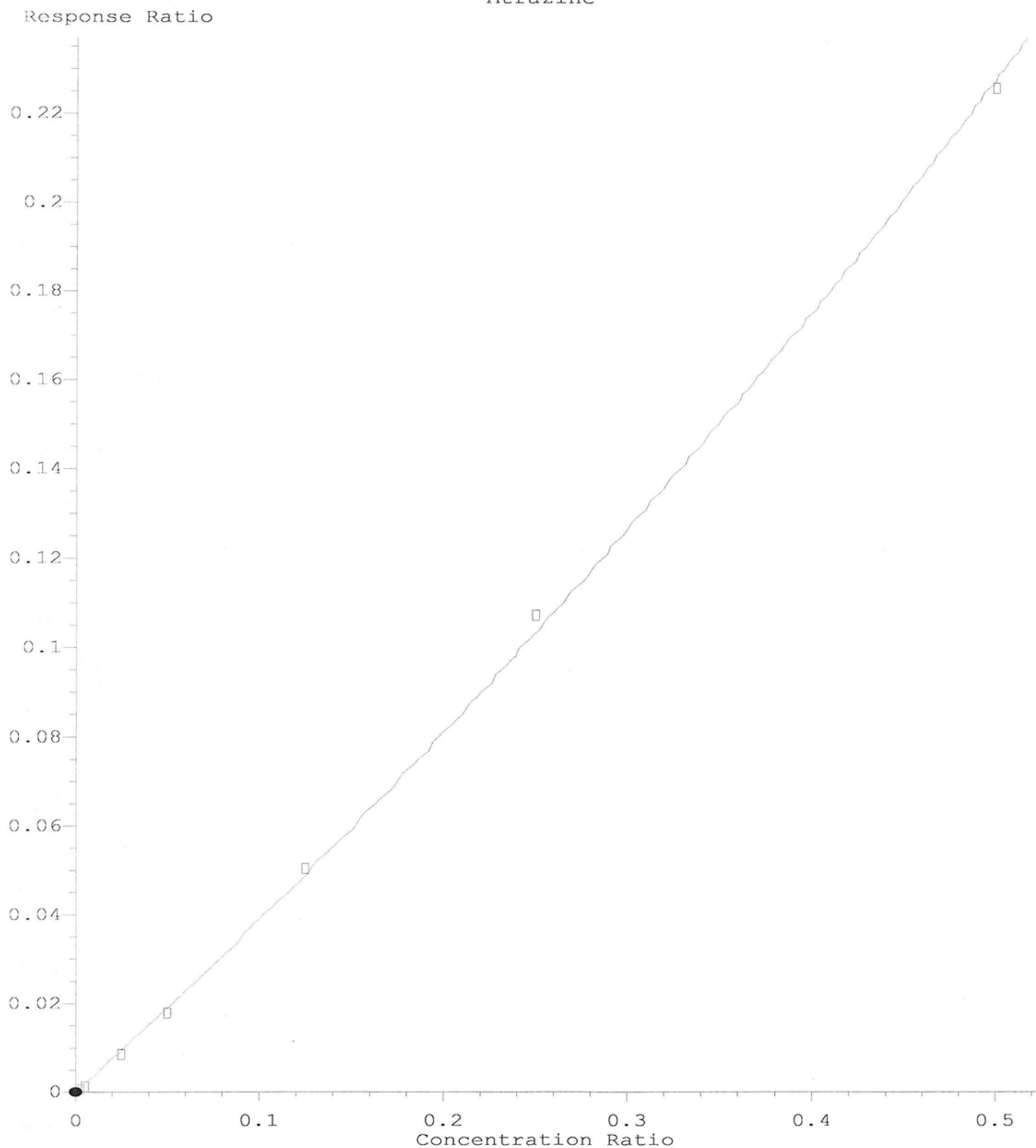
3) I	Acenaphthene-d10	-----ISTD-----								
4) A	Atrazine	0.202	0.452	0.429	0.403	0.357	0.343	0.243	0.347	27.06

5) I	Phenanthrene-d10	-----ISTD-----								
6) M	Metolachlor	0.271	0.667	0.697	0.633	0.529	0.459	0.280	0.505	35.00
7) C	Chlorpyrifos	0.080	0.139	0.160	0.149	0.135	0.125	0.080	0.124	25.67

8) I	Chrysene-d12	-----ISTD-----								
9) S	Terphenyl-d14	1.100	1.067	1.181	1.108	1.107	1.012	1.076	1.093	4.67

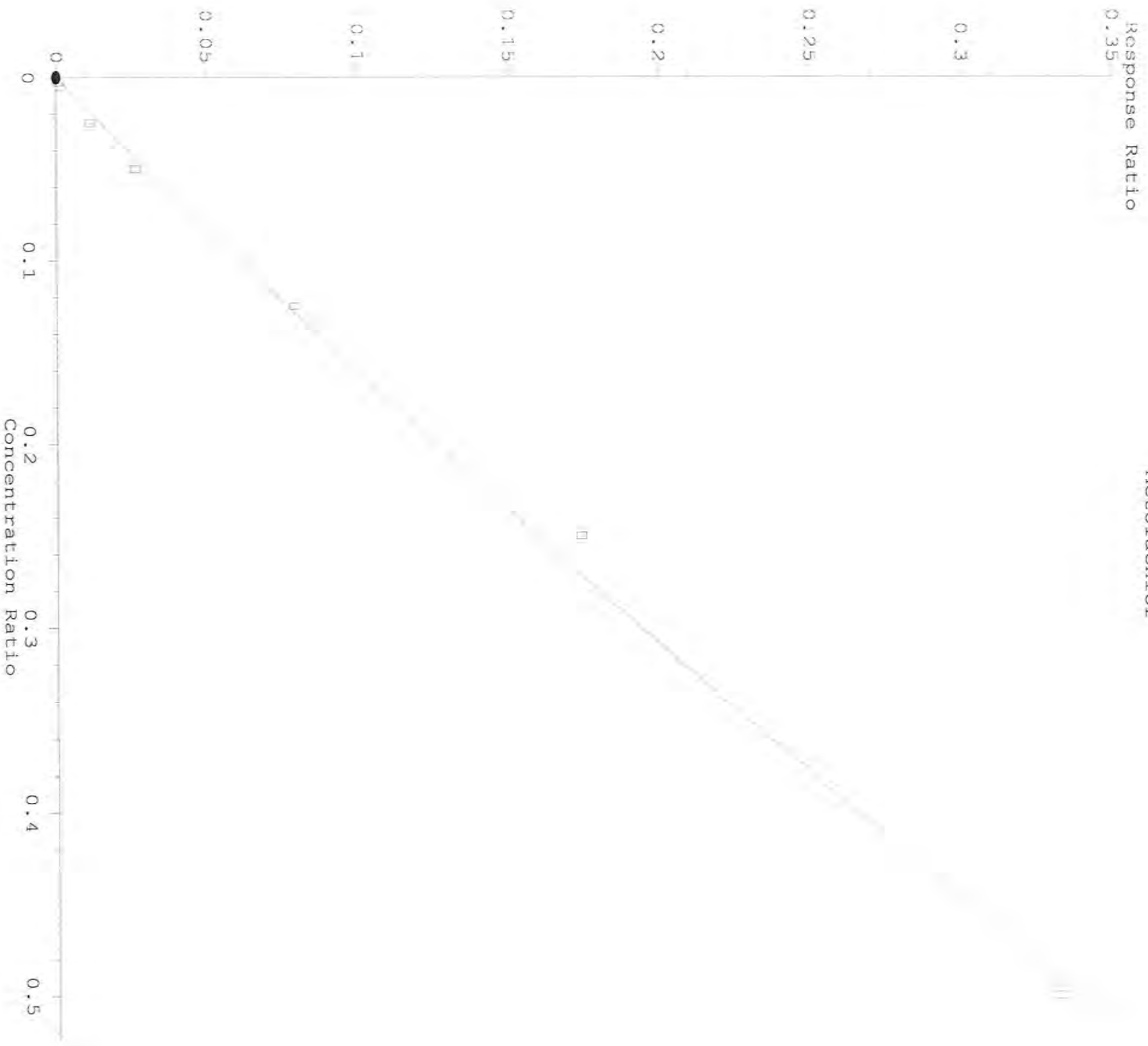
(#) = Out of Range

Atrazine



$R = 1.69e-001 A^2 + 3.71e-001 A + 0.00e+000$
 Coef of Det (r^2) = 0.999 Curve Fit: Quad w(1/a)/(0,0)
 Method Name: T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Calibration Table Last Updated: Sun Jul 17 15:55:43 2022

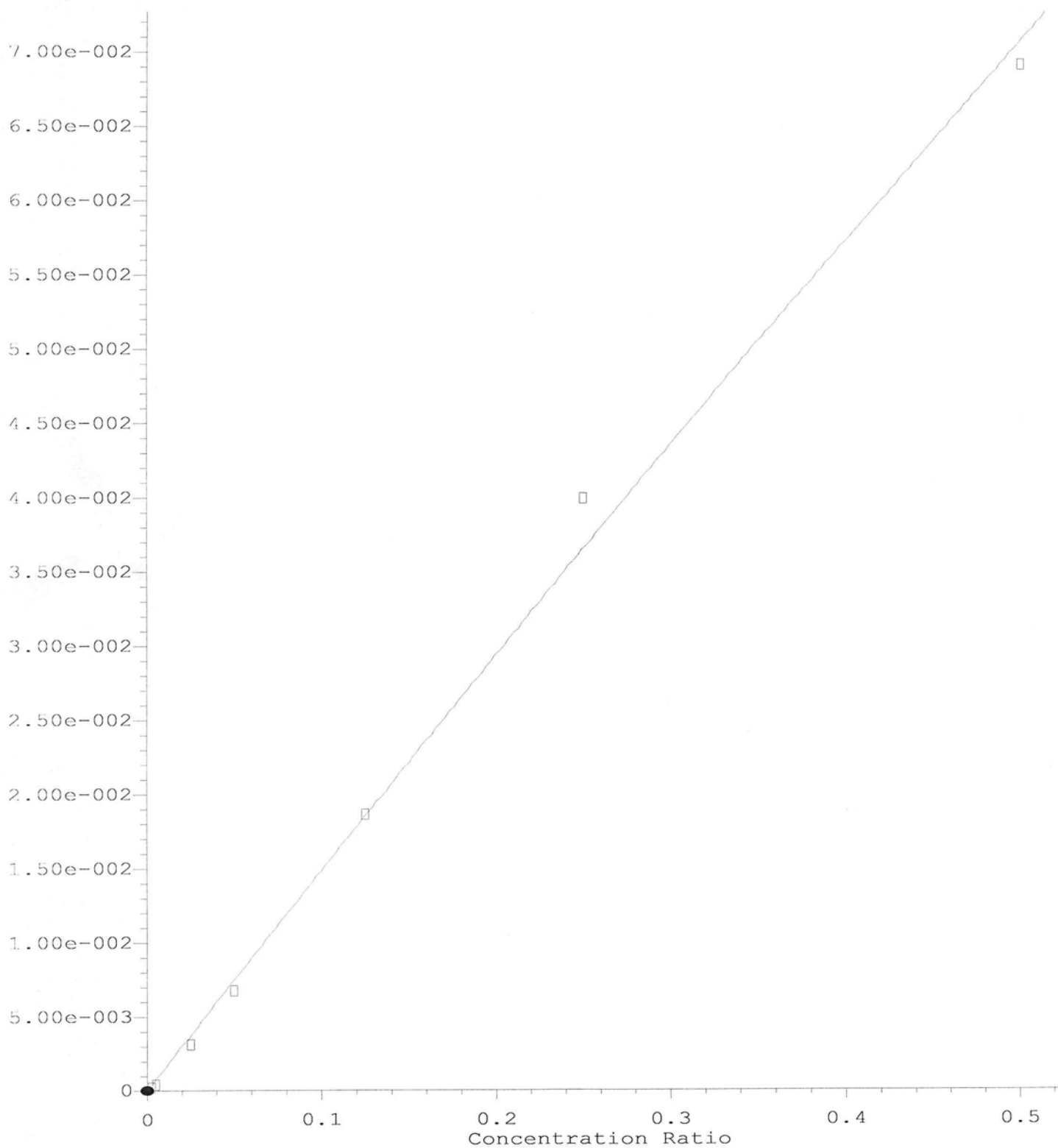
Metolachlor



$R = 1.77e-001 A^2 + 5.94e-001 A + 0.00e+000$
 Coef of Det (r^2) = 0.996 Curve Fit: Quad w(1/a)/(0,0)
 Method Name: T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Calibration Table Last Updated: Sun Jul 17 15:55:43 2022

Chlorpyrifos

Response Ratio



$R = -1.74e-002 A^2 + 1.51e-001 A + 0.00e+000$
 Coef of Det (r^2) = 0.996 Curve Fit: Quad w(1/a)/(0,0)
 Method Name: T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Calibration Table Last Updated: Sun Jul 17 15:55:43 2022

PREPARATION BENCH SHEET

Organics

BCG0012

Matrix: Water

Prepared using: SVOC - SVOC Water

Analyses

SVOC 625 MISC

Spiking Solution(s)

2201385 Cardno Spk 100

Surrogate Solution(s)

2102810 CLP Acid Surr 2000
2102811 CLP B/N 1000

Lab Number	Sample and Source ID	Date Due	Extract by	Prepared - By	Initial (mL)	Final (mL)	ul Spike	ul Surrogate	Extraction Comments
BCG0012-BLK1	Blank			6/30/22 1:59 MAH	1000	1		25	
BCG0012-BS1	LCS			6/30/22 1:59 MAH	1000	1	50	25	
BCG0012-BSD1	LCS Dup			6/30/22 1:59 MAH	1000	1	50	25	
WCF1156-13	WW-3	07/13/2022	07/04/2022	6/30/22 1:59 MAH	1000	1		25	
WCF1156-14	E-2	07/13/2022	07/04/2022	6/30/22 1:59 MAH	1000	1		25	
WCF1156-15	E-1	07/13/2022	07/04/2022	6/30/22 1:59 MAH	1000	1		25	
WCF1156-16	E-1 DUP	07/13/2022	07/04/2022	6/30/22 1:59 MAH	1000	1		25	

Reagents

Standard	Description	LotNum
2000154	Acetone - GC grade	59074
2000155	H2SO4	58115
2102881	CLP I.S. Spike 2000	032520
2200634	Dichloromethane	SHBP1472

Batch Comments:

Acidic start/stop time: 3PM- 8AM
Basic start/stop time: 8AM-3PM
Instrument: 7890/5975 GCMS
Ext. Method: 3520C liq-liq/Waste Dilution/Microextr
TurboVap: 01
Balance: 04

Analyst:

Date

Run Date:

Date

Area Percent Report

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
Data File : 04101001.D
Acq On : 15 Jul 2022 11:06 am
Operator : MAH
Sample : SYS
Misc :
ALS Vial : 41 Sample Multiplier: 1

Integration Parameters: autoint1.e
Integrator: ChemStation

Method : T:\Data1\MSD4\METHODS\2022\BNA-0712.M
Title : EPA 8270D / EPA 625.1 - MSD4

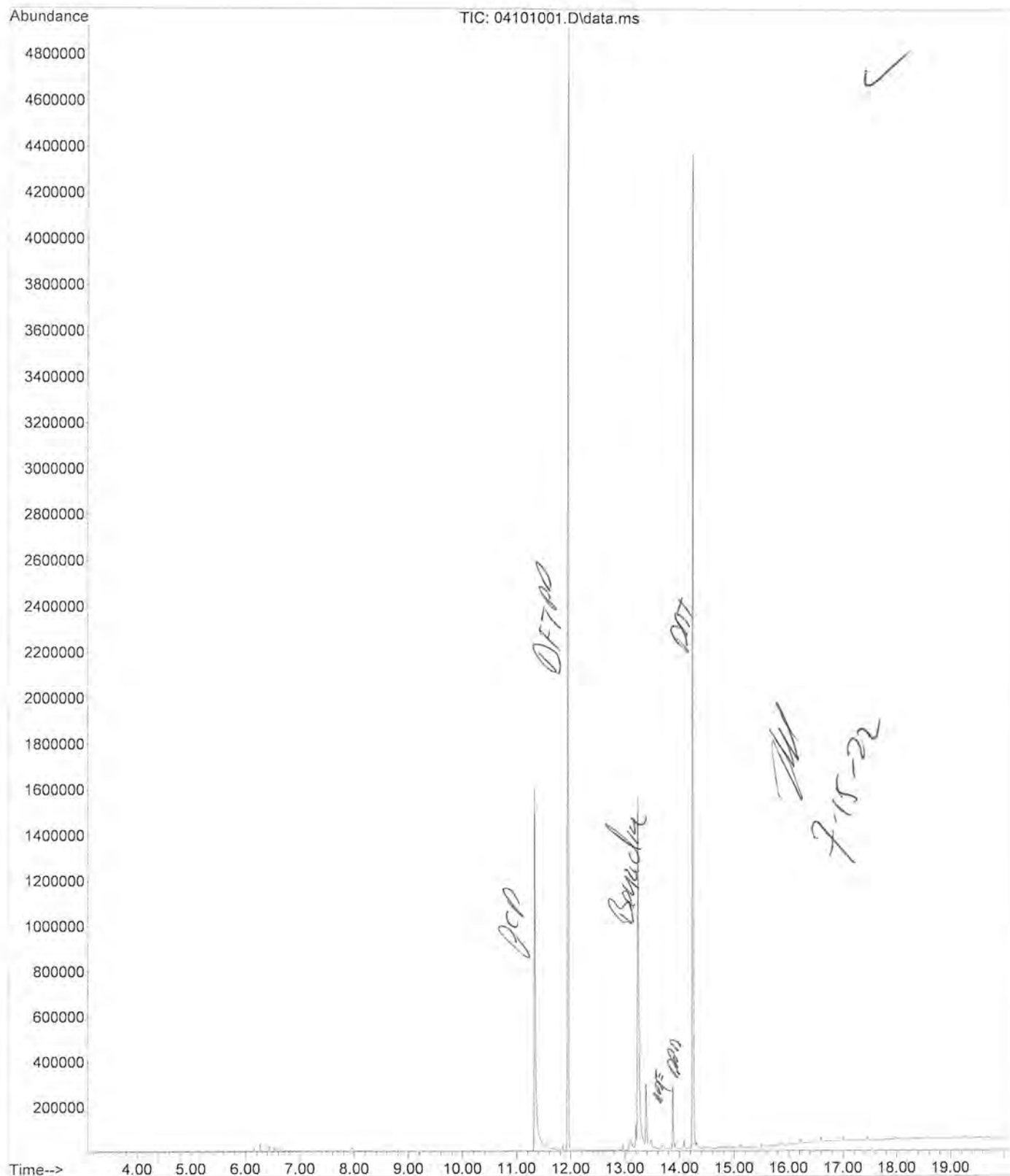
Signal : TIC: 04101001.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	13.470	2243	2251	2252	M3	25155	315925	0.63%	0.592%
2	13.880	2334	2340	2345	M	295784	2980539	5.95%	5.583%
3	14.247	2408	2419	2432	M	4464766	50091993	100.00%	93.826%

Sum of corrected areas: 53388456

BNA-0712.M Fri Jul 15 13:01:05 2022

File : T:\Data1\MSD4\2022\JUL\15CD\04101001.D
Operator : MAH
Acquired : 15 Jul 2022 11:06 am using AcqMethod SVOCT1.M
Instrument : MSD4
Sample Name: SYS
Misc Info :
Vial Number: 41



Internal Standard ICal Average Responses	Cardno 7-15-22
(method)	

	1,4 Dichlorobenzene-d4	Naphthalene-d8	Acenaphthene-d10	Phenanthrene-d10	Chrysene-d12	Perylene-d12
0.05	24833490.39		28983422.19	45154792.81	27015473.59	
10	26166862.29		37173115.11	60382954.61	40000094.68	
5	24823324.76		34932166.98	53324893.94	29567624.06	
2.5	20554265.68		37289505.29	58494337.02	35498563.85	
1	18746706.89		36529091.33	57620567.89	34198863.12	
0.5	19542840.82		35980666.47	58796777.25	39653371.22	
0.1	19916545.93		35945999.8	58190659.21	37440527.81	
Average	22083434	#DIV/0!	35261995	55994998	34767788	#DIV/0!

50%	11041717	#DIV/0!	17630998	27997499	17383894	#DIV/0!
150%	33125151	#DIV/0!	52892993	83992496	52151682	#DIV/0!

Analyst: MAH

Evaluate Continuing Calibration Report

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 00101002.D
 Acq On : 15 Jul 2022 11:33 am
 Operator : MAH
 Sample : CARD 10 PPM
 Misc :
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 18 10:09:57 2022
 Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Quant Title : EPA 8270D - GC MSD4
 QLast Update : Sun Jul 17 15:55:43 2022
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Dichlorobenzene-d5	20.000	20.000	0.0	100	0.00
2 S	2-Fluorobiphenyl	25.000	22.035	11.9	100	0.00
3 I	Acenaphthene-d10	20.000	20.000	0.0	100	0.00
4	Atrazine	10.000	9.923	0.8	100	0.00
5 I	Phenanthrene-d10	20.000	20.000	0.0	100	0.00
6	Metolachlor	10.000	9.809	1.9	100	0.00
7	Chlorpyrifos	10.000	9.758	2.4	100	0.00
8 I	Chrysene-d12	20.000	20.000	0.0	100	0.00
9 S	Terphenyl-d14	25.000	24.398	2.4	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 00201003.D
 Acq On : 15 Jul 2022 12:01 pm
 Operator : MAH
 Sample : CARD 5 PPM
 Misc :
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 18 10:11:04 2022
 Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Quant Title : EPA 8270D - GC MSD4
 QLast Update : Sun Jul 17 15:55:43 2022
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Dichlorobenzene-d5	20.000	20.000	0.0	100	0.00
2 S	2-Fluorobiphenyl	25.000	21.690	13.2	100	0.00
3 I	Acenaphthene-d10	20.000	20.000	0.0	100	0.00
4	Atrazine	5.000	5.169	-3.4	100	0.00
5 I	Phenanthrene-d10	20.000	20.000	0.0	100	0.00
6	Metolachlor	5.000	5.430	-8.6	100	0.00
7	Chlorpyrifos	5.000	5.481	-9.6	100	0.00
8 I	Chrysene-d12	20.000	20.000	0.0	100	0.00
9 S	Terphenyl-d14	25.000	27.005	-8.0	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 00301004.D
 Acq On : 15 Jul 2022 12:28 pm
 Operator : MAH
 Sample : CARD 2.5 PPM
 Misc :
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 18 10:11:48 2022
 Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Quant Title : EPA 8270D - GC MSD4
 QLast Update : Sun Jul 17 15:55:43 2022
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Dichlorobenzene-d5	6.122	150	20554266	20.00	ug/mL	0.00
3) Acenaphthene-d10	9.738	164	37289505	20.00	ug/mL	# 0.00
5) Phenanthrene-d10	11.556	188	58494337	20.00	ug/mL	# 0.00
8) Chrysene-d12	14.798	240	35498564	20.00	ug/mL	# 0.00
System Monitoring Compounds						
2) 2-Fluorobiphenyl	8.933	172	62444584	27.61	ug/mL	0.00
9) Terphenyl-d14	13.536	244	49164546	25.34	ug/mL	0.00
Spiked Amount	25.000		Recovery	=	101.36%	
Target Compounds						
						Qvalue
4) Atrazine	11.244	200	1877649	2.56	ug/mL	96
6) Metolachlor	12.428	162	4627619	2.57	ug/mL	94
7) Chlorpyrifos	12.437	197	1090075	2.51	ug/mL	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Evaluate Continuing Calibration Report

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 00401005.D
 Acq On : 15 Jul 2022 12:56 pm
 Operator : MAH
 Sample : CARD 1 PPM
 Misc :
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 18 10:12:42 2022
 Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Quant Title : EPA 8270D - GC MSD4
 QLast Update : Sun Jul 17 15:55:43 2022
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Dichlorobenzene-d5	20.000	20.000	0.0	100	0.00
2 S	2-Fluorobiphenyl	25.000	29.803	-19.2	100	0.00
3 I	Acenaphthene-d10	20.000	20.000	0.0	100	0.00
4	Atrazine	1.000	0.940	6.0	100	0.00
5 I	Phenanthrene-d10	20.000	20.000	0.0	100	0.00
6	Metolachlor	1.000	0.879	12.1	100	0.00
7	Chlorpyrifos	1.000	0.903	9.7	100	0.00
8 I	Chrysene-d12	20.000	20.000	0.0	100	0.00
9 S	Terphenyl-d14	25.000	25.315	-1.3	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 00501006.D
 Acq On : 15 Jul 2022 1:25 pm
 Operator : MAH
 Sample : CARD 0.5 PPM
 Misc :
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 18 10:13:52 2022
 Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Quant Title : EPA 8270D - GC MSD4
 Qlast Update : Sun Jul 17 15:55:43 2022
 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	Dichlorobenzene-d5	20.000	20.000	0.0	100	0.00
2 S	2-Fluorobiphenyl	25.000	27.820	-11.3	100	0.00
3 I	Acenaphthene-d10	20.000	20.000	0.0	100	0.00
4	Atrazine	0.500	0.457	8.6	100	0.00
5 I	Phenanthrene-d10	20.000	20.000	0.0	100	0.00
6	Metolachlor	0.500	0.409	18.2	106	0.00
7	Chlorpyrifos	0.500	0.418	16.4	100	0.00
8 I	Chrysene-d12	20.000	20.000	0.0	100	0.00
9 S	Terphenyl-d14	25.000	23.153	7.4	100	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 01101009.D
 Acq On : 15 Jul 2022 2:55 pm
 Operator : MAH
 Sample : LFB
 Misc :
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 17 16:02:17 2022
 Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Quant Title : EPA 8270D - GC MSD4
 QLast Update : Sun Jul 17 15:55:43 2022
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)

Internal Standards						
1) Dichlorobenzene-d5	6.124	150	22121619	20.00	ug/mL	0.00
3) Acenaphthene-d10	9.739	164	26625008	20.00	ug/mL	# 0.00
5) Phenanthrene-d10	11.557	188	41860703	20.00	ug/mL	# 0.00
8) Chrysene-d12	14.799	240	25212207	20.00	ug/mL	# 0.00
System Monitoring Compounds						
2) 2-Fluorobiphenyl	8.934	172	41038306	16.86	ug/mL	0.00
9) Terphenyl-d14	13.536	244	32968319	23.93	ug/mL	0.00
Spiked Amount	25.000		Recovery	=	95.72%	
Target Compounds						
						Qvalue
4) Atrazine	11.247	200	2316377	4.27	ug/mL	96
6) Metolachlor	12.429	162	5981331	4.51	ug/mL	93
7) Chlorpyrifos	12.439	197	1332531	4.34	ug/mL	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 01201010.D
 Acq On : 15 Jul 2022 3:24 pm
 Operator : MAH
 Sample : LFBD
 Misc :
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 18 09:12:50 2022
 Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Quant Title : EPA 8270D - GC MSD4
 QLast Update : Sun Jul 17 15:55:43 2022
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Dichlorobenzene-d5	6.123	150	21407339	20.00	ug/mL	0.00
3) Acenaphthene-d10	9.737	164	25978467	20.00	ug/mL	# 0.00
5) Phenanthrene-d10	11.556	188	40816012	20.00	ug/mL	# 0.00
8) Chrysene-d12	14.798	240	25222683	20.00	ug/mL	# 0.00
System Monitoring Compounds						
2) 2-Fluorobiphenyl	8.933	172	39799706	16.90	ug/mL	0.00
9) Terphenyl-d14	13.536	244	32262398	23.40	ug/mL	0.00
Spiked Amount	25.000		Recovery	=	93.60%	
Target Compounds						
4) Atrazine	11.245	200	2248789	4.25	ug/mL	Qvalue 97
6) Metolachlor	12.429	162	5746143	4.45	ug/mL	95
7) Chlorpyrifos	12.439	197	1283451	4.28	ug/mL	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 01301011.D
 Acq On : 15 Jul 2022 3:52 pm
 Operator : MAH
 Sample : BLK
 Misc :
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 17 19:24:29 2022
 Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Quant Title : EPA 8270D - GC MSD4
 Qlast Update : Sun Jul 17 15:55:43 2022
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Dichlorobenzene-d5	6.122	150	22932918	20.00	ug/mL	0.00
3) Acenaphthene-d10	9.738	164	28382243	20.00	ug/mL	# 0.00
5) Phenanthrene-d10	11.556	188	45999412	20.00	ug/mL	# 0.00
8) Chrysene-d12	14.798	240	31036830	20.00	ug/mL	# 0.00
System Monitoring Compounds						
2) 2-Fluorobiphenyl	8.933	172	39091156	15.49	ug/mL	0.00
9) Terphenyl-d14	13.536	244	36071337	21.26	ug/mL	0.00
Spiked Amount	25.000		Recovery	=	85.04%	

Target Compounds	Qvalue
------------------	--------

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 01401012.D
 Acq On : 15 Jul 2022 4:21 pm
 Operator : MAH
 Sample : WCF1156-13
 Misc :
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 18 09:30:03 2022
 Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Quant Title : EPA 8270D - GC MSD4
 QLast Update : Sun Jul 17 15:55:43 2022
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Dichlorobenzene-d5	6.122	150	22991260	20.00	ug/mL	0.00
3) Acenaphthene-d10	9.737	164	28072382	20.00	ug/mL	# 0.00
5) Phenanthrene-d10	11.555	188	44212677	20.00	ug/mL	# 0.00
8) Chrysene-d12	14.797	240	25824771	20.00	ug/mL	# 0.00
System Monitoring Compounds						
2) 2-Fluorobiphenyl	8.932	172	42373467	16.75	ug/mL	0.00
9) Terphenyl-d14	13.535	244	32798416	23.24	ug/mL	0.00
Spiked Amount	25.000		Recovery	=	92.96%	

Target Compounds	Qvalue
------------------	--------

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
Data File : 01501013.D
Acq On : 15 Jul 2022 4:50 pm
Operator : MAH
Sample : WCF1156-14
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 18 09:30:50 2022
Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
Quant Title : EPA 8270D - GC MSD4
QLast Update : Sun Jul 17 15:55:43 2022
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Dichlorobenzene-d5	6.123	150	24423980	20.00	ug/mL	0.00
3) Acenaphthene-d10	9.738	164	30002880	20.00	ug/mL	# 0.00
5) Phenanthrene-d10	11.557	188	49084188	20.00	ug/mL	# 0.00
8) Chrysene-d12	14.798	240	35245494	20.00	ug/mL	# 0.00
System Monitoring Compounds						
2) 2-Fluorobiphenyl	8.933	172	42160355	15.69	ug/mL	0.00
9) Terphenyl-d14	13.536	244	38578002	20.03	ug/mL	0.00
Spiked Amount	25.000		Recovery	=	80.12%	
Target Compounds						
4) Atrazine	11.273	200	128263	0.23	ug/mL	Qvalue # 48

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Does not match
Atrazine
qualifier masses.
②

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
Data File : 01601014.D
Acq On : 15 Jul 2022 5:19 pm
Operator : MAH
Sample : WCF1156-15
Misc :
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 18 09:32:37 2022
Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
Quant Title : EPA 8270D - GC MSD4
QLast Update : Sun Jul 17 15:55:43 2022
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Dichlorobenzene-d5	6.123	150	23601352	20.00	ug/mL	0.00
3) Acenaphthene-d10	9.737	164	28795540	20.00	ug/mL	# 0.00
5) Phenanthrene-d10	11.556	188	45356247	20.00	ug/mL	# 0.00
8) Chrysene-d12	14.798	240	28507843	20.00	ug/mL	# 0.00
System Monitoring Compounds						
2) 2-Fluorobiphenyl	8.933	172	40766866	15.70	ug/mL	0.00
9) Terphenyl-d14	13.536	244	34477026	22.13	ug/mL	0.00
Spiked Amount	25.000		Recovery	=	88.52%	
Target Compounds						
4) Atrazine	11.246	200	21571m	0.04	ug/mL	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*Does not
meet quality
D*

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
Data File : 02301003.D
Acq On : 17 Jul 2022 4:43 pm
Operator : MAH
Sample : WCF1156-16
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jul 18 09:33:17 2022
Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
Quant Title : EPA 8270D - GC MSD4
QLast Update : Sun Jul 17 15:55:43 2022
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Dichlorobenzene-d5	6.122	150	25075459	20.00	ug/mL	0.00
3) Acenaphthene-d10	9.735	164	29736685	20.00	ug/mL	# 0.00
5) Phenanthrene-d10	11.554	188	48318481	20.00	ug/mL	# 0.00
8) Chrysene-d12	14.799	240	28483715	20.00	ug/mL	# 0.00
System Monitoring Compounds						
2) 2-Fluorobiphenyl	8.931	172	43324540	15.70	ug/mL	0.00
9) Terphenyl-d14	13.536	244	35364040	22.72	ug/mL	0.00
Spiked Amount	25.000		Recovery	=	90.88%	
Target Compounds						
4) Atrazine	11.246	200	17875	0.03	ug/mL	# 33

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Does not
Meet Qualification
Ⓚ

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 02101001.D
 Acq On : 17 Jul 2022 3:50 pm
 Operator : MAH
 Sample : SYS
 Misc :
 ALS Vial : 21 Sample Multiplier: 1

Integration File: events.e

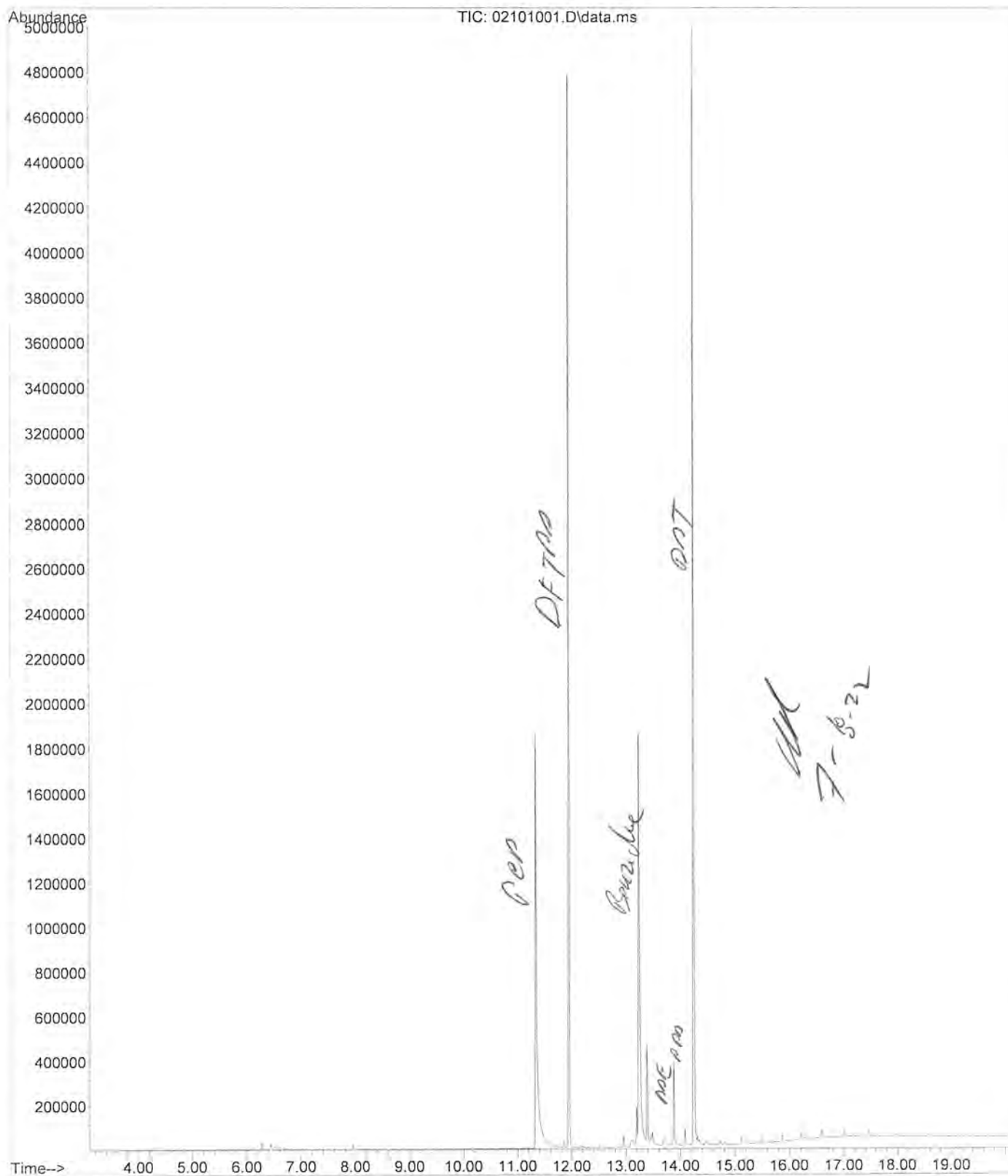
Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Title : EPA 8270D - GC MSD4
 Last Update : Mon Jul 18 10:18:14 2022

AutoFind: Scans 1922, 1923, 1924; Background Corrected with Scan 1895

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	31.8	127309	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	31.6	126403	PASS
70	69	0.00	2	0.5	628	PASS
127	198	25	75	44.4	177584	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	400235	PASS
199	198	5	9	6.6	26346	PASS
275	198	10	60	34.4	137813	PASS
365	198	0.00	100	6.3	25195	PASS
441	443	0.01	100	76.1	101152	PASS
442	198	39	200	171.9	688128	PASS
443	442	15	24	19.3	132955	PASS

Cardno-0715.M Mon Jul 18 10:19:29 2022

File : T:\Data1\MSD4\2022\JUL\15CD\02101001.D
Operator : MAH
Acquired : 17 Jul 2022 3:50 pm using AcqMethod SVOCT1.M
Instrument : MSD4
Sample Name: SYS
Misc Info :
Vial Number: 21



Area Percent Report

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 02101001.D
 Acq On : 17 Jul 2022 3:50 pm
 Operator : MAH
 Sample : SYS
 Misc :
 ALS Vial : 21 Sample Multiplier: 1

Integration Parameters: events.e
 Integrator: ChemStation

Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Title : EPA 8270D - GC MSD4

Signal : TIC: 02101001.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total	
1	13.470	2244	2251	2251	M	23833	299236	0.53%	0.490%	DDE
2	13.881	2331	2340	2346	M	380866	3979310	7.00%	6.513%	DDD
3	14.248	2408	2420	2432	M	5042263	56821751	100.00%	92.998%	DDT BREAKDOWN

Sum of corrected areas: 61100297

Cardno-0715.M Mon Jul 18 10:20:34 2022

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
 Data File : 02201002.D
 Acq On : 17 Jul 2022 4:16 pm
 Operator : MAH
 Sample : CARD 5 PPM
 Misc :
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 18 09:20:15 2022
 Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
 Quant Title : EPA 8270D - GC MSD4
 Qlast Update : Sun Jul 17 15:55:43 2022
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev (Min)
Internal Standards						
1) Dichlorobenzene-d5	6.123	150	28868894	20.00	ug/mL	0.00
3) Acenaphthene-d10	9.736	164	33758936	20.00	ug/mL	# 0.00
5) Phenanthrene-d10	11.556	188	54443880	20.00	ug/mL	# 0.00
8) Chrysene-d12	14.799	240	30565261	20.00	ug/mL	# 0.00
System Monitoring Compounds						
2) 2-Fluorobiphenyl	8.932	172	57063146	17.97	ug/mL	0.00
9) Terphenyl-d14	13.537	244	44625644	26.71	ug/mL	0.00
Spiked Amount	25.000		Recovery	=	106.84%	
Target Compounds						
4) Atrazine	11.246	200	3592188	5.13	ug/mL	Qvalue 97
6) Metolachlor	12.428	162	8880508	5.11	ug/mL	93
7) Chlorpyrifos	12.438	197	1807882	4.53	ug/mL	99

{#} = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : T:\Data1\MSD4\2022\JUL\15CD\
Data File : 02301003.D
Acq On : 17 Jul 2022 4:43 pm
Operator : MAH
Sample : WCF1156-16
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jul 17 19:11:58 2022
Quant Method : T:\Data1\MSD4\METHODS\2022\Cardno-0715.M
Quant Title : EPA 8270D - GC MSD4
QLast Update : Sun Jul 17 15:55:43 2022
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Dichlorobenzene-d5	6.122	150	25075459	20.00	ug/mL	0.00
3) Acenaphthene-d10	9.735	164	29736685	20.00	ug/mL #	0.00
5) Phenanthrene-d10	11.554	188	48318481	20.00	ug/mL #	0.00
8) Chrysene-d12	14.799	240	28483715	20.00	ug/mL #	0.00
System Monitoring Compounds						
2) 2-Fluorobiphenyl	8.931	172	43324540	15.70	ug/mL	0.00
9) Terphenyl-d14	13.536	244	35364040	22.72	ug/mL	0.00
Spiked Amount	25.000		Recovery	=	90.88%	
Target Compounds						
4) Atrazine	11.246	200	17875	0.03	ug/mL#	33

(#) = qualifier out of range (m) = manual integration (+) = signals summed

*Does not meet
qualifiers
on*

TSS (SM2540D/EPA 160.2)-TS(SM 2540B)

Anatek Labs. Inc. Spokane

Batch ID: BCG0018 Date: 7.01.22 Time: 13:13 Initials: ENG

QC REQUIREMENTS:	Blank <1ppm, LFB %Rec= 90-110%, MS/MSD %Rec= 80-120% Run a blank and lcs before and after every 20 samples, plus dup and ms/msd after 20 samples.						
TSS Reagents	Std. #	Amount Spiked	Balance ID	Oven	Temp	Filters	Thermometer
100ppm Cellulose TSS Soln.	2202241	100 ppm	BAL-06	3	105	2201444	6437020

Comments:

Sample Number	Sample ID	Dish ID	Filter Wt (g)	mLs used	Dry Weight #1	Dry Weight #2**	Dilution Factor	IResult (mg/L)	FResult (mg/L)	QC Date & Initials
BCG0018-BLK1	Blank	763	0.1124	100	0.1124	0.1124	1			7/5/22 KAS
BCG0018-BLK2	Blank	762	0.113	100	0.1131	0.113	1			7/5/22 KAS
BCG0018-BLK3	Blank	764	0.1126	100	0.1126	0.1124	1	-2.00	-2.00	7/5/22 KAS
BCG0018-BLK4	Blank	765	0.1148	100	0.1147	0.1148	1	-1.00	-1.00	7/5/22 KAS
BCG0018-BLK5	Blank	761	0.1128	100	0.1129	0.1128	1			7/5/22 KAS
BCG0018-BS1	LCS	766	0.1135	100	0.1235	0.1234	1	99.00	99.00	7/5/22 KAS
BCG0018-BS2	LCS	768	0.1122	100	0.1217	0.1217	1	95.00	95.00	7/5/22 KAS
BCG0018-BS3	LCS	767	0.1123	100	0.1224	0.1224	1	101.00	101.00	7/5/22 KAS
BCG0018-BSD1	LCS Dup	769	0.1118	100	0.1215	0.1216	1	97.00	97.00	7/5/22 KAS
BCG0018-BSD2	LCS Dup	770	0.1123	100	0.122	0.1221	1	97.00	97.00	7/5/22 KAS
BCG0018-BSD3	LCS Dup	771	0.1133	100	0.123	0.123	1	97.00	97.00	7/5/22 KAS
MCF0961-01	Ideal Effluent	388	0.1137	100	0.1157	0.1157	1	20.00	20.00	7/5/22 KAS
MCF0961-03	Settling Effluent	389	0.114	100	0.1151	0.1151	1	11.00	11.00	7/5/22 KAS
MCF0961-06	Influent	390	0.1133	25	0.1306	0.1306	4	173.00	692.00	7/5/22 KAS
MCF1066-01	Influent	289	0.114	20	0.1215	0.1216	5	75.00	375.00	7/5/22 KAS
WCF1068-01	Influent	772	0.113	50	0.1208	0.1208	2	78.00	156.00	7/5/22 KAS
BCG0018-DUP3	Duplicate WCF1068-02	775	0.1124	100	0.1138	0.1139	1	14.00	14.00	7/5/22 KAS
WCF1068-02	Effluent	341	0.1132	200	0.1148	0.1148	0.5	16.00	8.00	7/5/22 KAS
WCF1088-01	Influent	291	0.1131	50	0.1167	0.1166	2	35.00	70.00	7/5/22 KAS
BCG0018-DUP2	Duplicate WCF1088-02	773	0.1115	200	0.1127	0.1127	0.5	12.00	6.00	7/5/22 KAS
WCF1088-02	Effluent	774	0.1121	200	0.1131	0.1133	0.5	10.00	5.00	7/5/22 KAS
WCF1089-01	Burly Compliance	342	0.1134	50	0.1245	0.1245	2	111.00	222.00	7/5/22 KAS
WCF1113-01	INF	343	0.113	50	0.1174	0.1175	2	44.00	88.00	7/5/22 KAS
WCF1113-02	EFF	344	0.1128	500	0.1151	0.1151	0.2	23.00	4.60	7/5/22 KAS
WCF1119-01	2A	345	0.1131	200	0.1141	0.1141	0.5	10.00	5.00	7/5/22 KAS
WCF1119-02	2B	346	0.113	200	0.1183	0.1182	0.5	52.00	26.00	7/5/22 KAS
WCF1120-01	1A	347	0.1131	200	0.1144	0.1144	0.5	13.00	6.50	7/5/22 KAS

TSS (SM2540D/EPA 160.2)-TS(SM 2540B)

Sample Number	Sample ID	Dish ID	Filter Wt (g)	mLs used	Dry Weight #1	Dry Weight #2**	Dilution Factor	IResult (mg/L)	FResult (mg/L)	QC Date & Initials
WCF1120-02	1B	348	0.1134	200	0.1141	0.1141	0.5	7.00	3.50	7/5/22 KAS
WCF1133-01	Influent	349	0.1133	50	0.128	0.1279	2	146.00	292.00	7/5/22 KAS
WCF1137-01	INF BOD/TSS	350	0.1144	25	0.1334	0.1336	4	190.00	760.00	7/5/22 KAS
WCF1137-02	EFF TSS	351	0.1134	200	0.1138	0.1139	0.5	4.00	2.00	7/5/22 KAS
WCF1138-01	Liftstation	352	0.1135	50	0.1207	0.1206	2	71.00	142.00	7/5/22 KAS
BCG0018-DUP1	Duplicate WCF1138-02	353	0.1135	100	0.1141	0.1141	1	6.00	6.00	7/5/22 KAS
BCG0018-MS1	Matrix Spike WCF1138-02	354	0.1137	50	0.1192	0.1192	2	55.00	110.00	7/5/22 KAS
BCG0018-MSD1	Matrix Spike Dup WCF113	355	0.1137	50	0.1187	0.1187	2	50.00	100.00	7/5/22 KAS
WCF1138-02	Effluent	356	0.1134	100	0.1139	0.1138	1	4.00	4.00	7/5/22 KAS
BCG0018-MS2	Matrix Spike WCF1156-15	357	0.1138	50	0.1211	0.121	2	72.00	144.00	7/5/22 KAS
BCG0018-MSD2	Matrix Spike Dup WCF115	358	0.1155	50	0.1225	0.1225	2	70.00	140.00	7/5/22 KAS
WCF1156-15	E-1	359	0.1139	100	0.1244	0.1243	1	104.00	104.00	7/5/22 KAS
WCF1160-03	INF	360	0.1137	50	0.1152	0.1151	2	14.00	28.00	7/5/22 KAS
WCF1160-05	EFF TSS	361	0.113	500	0.12	0.12	0.2	70.00	14.00	7/5/22 KAS
WCF1161-01	Influent	362	0.114	50	0.1208	0.1207	2	67.00	134.00	7/5/22 KAS
WCF1161-02	Effluent	363	0.1137	200	0.1141	0.1142	0.5	4.00	2.00	7/5/22 KAS
WCF1162-01	Influent	364	0.1142	100	0.1182	0.1184	1	40.00	40.00	7/5/22 KAS
WCF1162-02	Effluent	365	0.1133	200	0.1143	0.1142	0.5	9.00	4.50	7/5/22 KAS
BCG0018-MS3	Matrix Spike WCF1163-01	366	0.1142	50	0.1194	0.1194	2	52.00	104.00	7/5/22 KAS
BCG0018-MSD3	Matrix Spike Dup WCF116	367	0.1142	50	0.1195	0.1194	2	52.00	104.00	7/5/22 KAS
WCF1163-01	Effluent	368	0.1128	100	0.113	0.1131	1	2.00	2.00	7/5/22 KAS
WCF1163-04	Inffluent	369	0.1144	50	0.1192	0.1191	2	47.00	94.00	7/5/22 KAS
WCF1173-01	Effluent	370	0.1142	200	0.1162	0.1163	0.5	20.00	10.00	7/5/22 KAS
WCF1173-02	Influent	371	0.1132	50	0.12	0.12	2	68.00	136.00	7/5/22 KAS
WCF1156-01	DW-2	372	0.1144	500	0.1209	0.1208	0.2	64.00	12.80	7/5/22 KAS
WCF1156-02	DW-3	373	0.1131	500	0.1182	0.1181	0.2	50.00	10.00	7/5/22 KAS
WCF1156-03	D-2	374	0.1136	100	0.1161	0.1161	1	25.00	25.00	7/5/22 KAS
WCF1156-04	D-3	375	0.1139	100	0.1171	0.117	1	31.00	31.00	7/5/22 KAS
WCF1156-05	D-4	376	0.115	500	0.1173	0.1173	0.2	23.00	4.60	7/5/22 KAS
WCF1156-06	D-5	377	0.1141	500	0.1156	0.1155	0.2	14.00	2.80	7/5/22 KAS
WCF1156-07	D-6	378	0.1134	100	0.1215	0.1215	1	81.00	81.00	7/5/22 KAS
WCF1156-08	D-7	379	0.1142	100	0.1175	0.1174	1	32.00	32.00	7/5/22 KAS
WCF1156-09	D-8	380	0.1139	100	0.1145	0.1146	1	6.00	6.00	7/5/22 KAS
WCF1156-10	DW-1/WW-1	381	0.1137	500	0.1154	0.1153	0.2	16.00	3.20	7/5/22 KAS

TSS (SM2540D/EPA 160.2)-TS(SM 2540B)

Sample Number	Sample ID	Dish ID	Filter Wt (g)	mLs used	Dry Weight #1	Dry Weight #2**	Dilution Factor	IResult (mg/L)	FResult (mg/L)	QC Date & Initials
WCF1156-11	WW-2	382	0.1131	500	0.115	0.115	0.2	19.00	3.80	7/5/22 KAS
WCF1156-12	U-3/WW-4	385	0.1141	100	0.1252	0.1252	1	111.00	111.00	7/5/22 KAS
WCF1156-13	WW-3	386	0.1138	200	0.1153	0.1154	0.5	15.00	7.50	7/5/22 KAS
WCF1156-14	E-2	384	0.1138	100	0.1176	0.1175	1	37.00	37.00	7/5/22 KAS
WCF1156-16	E-1 DUP	387	0.1137	500	0.132	0.1319	0.2	182.00	36.40	7/5/22 KAS
WCG0027-02	EFF	292	0.1147	100	0.1187	0.1188	1	40.00	40.00	7/5/22 KAS
WCG0027-01	INF	293	0.1134	100	0.1167	0.1166	1	32.00	32.00	7/5/22 KAS



AECOS, Inc.

45-939 Kamehameha Hwy, Suite 104 • Kaneohe, HI 96744

Telephone: (808) 234-7770 • Fax: (808) 234-7775 • aecos@aecos.com

CLIENT: Cardno-GS
737 Bishop Street, Suite 3050
Honolulu HI 96813
ATTENTION: Benjamin Berridge
Benjamin.Berridge@cardno-gs.com

FILE No.: 1494
REPORT DATE: 06/28/2022
PAGE: 1 of 1

AECOS REPORT OF RESULTS

SAMPLE TYPE: stormwater AECOS LOG No.: 45599
DATE SAMPLED: 06/27/22 DATE/TIME RECEIVED: 06/27/22 @1515
TEMP. CONTROL: 11.8 °C (by IR) SAMPLER: B. Berridge
DATE/TIME ANALYZED: 06/27/22 @1543-1559 MATRIX: water
ANALYST: R. Knapstein

SAMPLE ID ↓	ANALYTE (UNITS)	Enterococcus (MPN/100ml)	Dilution Factor (10 ml / 100 ml)	Number of large positive wells	Number of small positive wells
	METHOD →	ASTM D650399	---	---	---
	TIME SAMPLED ↓				
D-2	0930	680	10	33	9
D-7	1010	260	10	18	3
DW-2	0855	110	10	40	14
E-2	0945	480	10	29	4
D-3	0840	910	10	38	11
DW-3	0910	260	10	18	3
D-8	0905	600	10	33	5
U-3 / WW-4	1020	400	10	21	10
E-1	1120	20	10	2	0
DW-1 / WW-1	1015	20	10	2	0
D-4	0920	250	10	19	1
D-5	0940	10	10	1	0
WW-2	1005	30	10	2	1
WW-3	1030	130	10	10	2
D-6	0900	930	10	38	12


J. Mello, Laboratory Director



AECOS, Inc.

45-939 Kamehameha Highway Suite 104
Kaneohe, Oahu, HI 96744
Tel: (808) 234-7770 Fax: 234-7775

CHAIN OF CUSTODY FORM

PROJECT
FILE No.

LOG NUMBER

045599

CLIENT: Cardno

ADDRESS: 737 Bishop Street, Suite 3050
Honolulu, HI 96813

CONTACT: Ben Berridge

PHONE No.: 808-476-0067

Purchase Order No.:

☐ RUSH

☐ SEE REVERSE

SPECIAL INSTRUCTIONS

SAMPLED

	☒	SAMPLE ID	DATE	TIME	SAMPLE TYPE	CONTAINER(S)	REQUESTED ANALYSES	PRESERVATION
1	☒	D-2	6/27/2022	09:30	W	1 idexx	enkeccoci	
2	☒	D-7		10:10				
3	☒	DW-2		8:55				
4	☒	E-2		9:45				
5	☒	D-3		8:40				
6	☒	DW-3		9:10				
7	☒	D-8		9:05				
8	☒	U-3/WW-4		10:20				
9	☒	E-1		11:20				
10	☒	E-1 10:25 BB						

CLIENTS PROVIDING SAMPLES TO THE LABORATORY SHOULD COMPLETE AS MUCH OF THE ABOVE FORM AS POSSIBLE. NOTE: NAME AND DATED SIGNATURE OF PERSON COLLECTING THE SAMPLE MUST BE ENTERED BELOW. INFORMATION REQUESTED IN SHADED BOXES ABOVE TO BE FILLED IN BY THE LABORATORY.

SAMPLED BY: Ben Berridge DATE 6/27/2022

RELINQUISHED: [Signature] DATE 6/27/2022

SIGNATURE: [Signature] TIME 15:15

RECEIVED BY: [Signature] DATE 20

RELINQUISHED: [Signature] DATE 20

SIGNATURE/INITIALS: [Signature] TIME

RECEIVED FOR LABORATORY: [Signature] DATE 6/27/2022

RELINQUISHED: [Signature] DATE 15/15

SIGNATURE/INITIALS: [Signature] TIME

PRECAUTIONS:

DISPOSAL:

RETURN SAMPLE TO CLIENT ☐

USE (BLACK) INK

T = 11.8°C

temp taken w/ IR gun b/c no temp chrs provided



AECOS, Inc.

45-939 Kamehameha Highway Suite 104
Kaneohe, Oahu, HI 96744
Tel: (808) 234-7770 Fax: 234-7775

CHAIN OF CUSTODY FORM

PROJECT
FILE No.

LOG NUMBER [45599]

CLIENT: *Cardno*

ADDRESS: *737 Bishop Street, Suite 3000
Honolulu, HI 96813*

CONTACT: *Ben Berridge*

PHONE No.: *808-476-0067*

Purchase Order No.: []

☐ RUSH

☐ SEE REVERSE

SPECIAL INSTRUCTIONS

SAMPLED

☒	SAMPLE ID	DATE	TIME	SAMPLE TYPE	CONTAINER(S)	REQUESTED ANALYSES	PRESERVATION
1	<i>DN-1/WW-1</i>	<i>6/27/20</i>	<i>10:15</i>	<i>W</i>	<i>1 idxx</i>	<i>enterococci</i>	
2	<i>D-4</i>		<i>9:20</i>				
3	<i>D-5</i>		<i>9:40</i>				
4	<i>WW-2</i>		<i>10:05</i>				
5	<i>WW-3</i>		<i>10:30</i>				
6	<i>D-6</i>		<i>9:00</i>				
7							
8							
9							
10							

CLIENTS PROVIDING SAMPLES TO THE LABORATORY SHOULD COMPLETE AS MUCH OF THE ABOVE FORM AS POSSIBLE. NOTE: NAME AND DATED SIGNATURE OF PERSON COLLECTING THE SAMPLE MUST BE ENTERED BELOW. INFORMATION REQUESTED IN SHADED BOXES ABOVE TO BE FILLED IN BY THE LABORATORY.

SAMPLED BY:	DATE
<i>Ben Berridge</i>	<i>6/27/2022</i>
RELINQUISHED:	DATE
<i>[Signature]</i>	<i>20</i>
SIGNATURE	TIME
<i>[Signature]</i>	<i>15:30</i>

RECEIVED BY:	DATE
<i>[Signature]</i>	<i>20</i>
RELINQUISHED:	DATE
<i>[Signature]</i>	<i>20</i>
SIGNATURE/INITIALS	TIME
<i>[Signature]</i>	<i>20</i>

RECEIVED FOR LABORATORY:	DATE
<i>[Signature]</i>	<i>6/27</i>
SIGNATURE	TIME
<i>[Signature]</i>	<i>20 22</i>
RELINQUISHED:	DATE
<i>[Signature]</i>	<i>15 15</i>
SIGNATURE/INITIALS	TIME
<i>[Signature]</i>	<i>20</i>

DISPOSAL:

PRECAUTIONS:

RETURN SAMPLE TO CLIENT ☐

USE (BLACK) INK

Acute Toxicity Test Results for ADC Dry Weather Water Quality Monitoring

Monitoring Period: June 2022

Prepared for: Cardno GS, Inc.
737 Bishop St., Suite 3050
Honolulu, HI 96734

Testing Lab: Enthalpy Analytical
4340 Vandever Avenue
San Diego, CA 92120

Submitted: July 25, 2022

Data Quality Assurance:

- Enthalpy Analytical (formerly Nautilus Environmental) is accredited in accordance with NELAP by the State of Oregon Environmental Laboratory Accreditation Program (Certificate No. 4053). It is also certified by the State of California Department of Health Services Environmental Laboratory Accreditation Program (Certificate No. 1802) and the State of Washington Department of Ecology (Lab ID C552).
- All data have been reviewed and verified.
- All test results have met minimum test acceptability criteria under their respective EPA protocols, unless otherwise noted in this report.
- All results have met internal Quality Assurance Program requirements, unless otherwise noted in this report.

Data Verified by:



Barbara Orelo, Project Manager

Introduction

Three samples were collected during a dry weather event for the ADC Kekaha Water Quality Monitoring. Samples were submitted by Cardno-GS. Testing was conducted at the Enthalpy Analytical Laboratory in San Diego, California. Pacific topsmelt (*Atherinops affinis*), inland silverside (*Menidia beryllina*), and mysid shrimp (*Americamysis bahia*) 96-hour acute survival tests were used for the DW-1/WW-1 and WW-3 samples. Fathead minnow (*Pimephales promelas*), water flea (*Ceriodaphnia dubia*), and freshwater amphipod (*Hyalella azteca*) 96-hour acute survival tests were used for the WW-2 sample.

Materials and Methods

Sample Information

Client:	Cardno-GS
Project Name:	ADC Kekaha Water Quality Monitoring
Sample IDs:	1. DW-1/WW-1 2. WW-2 3. WW-3
Sample Collection Dates, Times ^a :	1. 6/27/22, 13:15 2. 6/27/22, 13:05 3. 6/27/22, 13:30
Sample Receipt Dates, Times:	6/29/22, 10:05
Sample Material:	Dry weather sample
Sampling Method:	Grab

^a Collection times adjusted to Pacific Standard Time from Hawaii Standard Time.

Water Quality Parameters Measured upon Sample Receipt

Sample ID	pH	DO (mg/L)	Temp. (°C)	Cond. (µS/cm)	Salinity (ppt)	Alkalinity (mg/L as CaCO ₃)	Hardness (mg/L as CaCO ₃)	Total Chlorine (mg/L)
DW-1/WW-1	7.73	8.5	4.2	7,120	4.0	140	Nm	0.02
WW-2	7.77	9.8	2.7	3,240	1.8	161	421	<0.02
WW-3	7.98	9.6	3.2	4,390	2.4	166	527	0.04

nm = not measured

Acute Toxicity Test Methods

Testing was conducted in accordance with methods published in US Environmental Protection Agency (USEPA) guidance (2002). Test specifications for all marine tests are summarized in Table 1, and test specifications for freshwater tests are summarized in Table 2.

Table 1. 96-hr Acute Survival Test Specifications - Marine Organisms

Pacific topsmelt test: 6/29/22, 17:35 to 7/3/22, 15:35	Species: <i>Atherinops affinis</i> . Source & Age: Aquatic Biosystems (Ft. Collins, CO), 15 days
Inland silverside test: 6/29/22, 17:45 to 7/3/22, 15:45	Species: <i>Menidia beryllina</i> . Source & Age: Aquatic Indicators (St. Augustine, FL), 12 days
Mysid shrimp test: 6/29/22, 18:00 to 7/3/22, 16:10	Species: <i>Americamysis bahia</i> . Source & Age: Aquatic Biosystems (Ft. Collins, CO), 3 days
Protocol Used:	Acute Manual (EPA/821/R-02/012), EPA 2002
Test Acceptability Criteria:	Control mean survival $\geq 90\%$
Test Concentration:	100% sample (DW-1/WW-1 and WW-3)
Sample Manipulation:	Artificial salts (Instant Ocean®) were added to bring the salinity of the sample to 30 ± 1 parts per thousand (ppt)
Lab Control Water:	20- μm filtered seawater (Source: Scripps Institution of Oceanography [SIO] Intake); diluted to 30 ppt with deionized water
Salt Control:	Salt Control – 30 ppt artificial saltwater (Instant Ocean®)

Table 2. 96-hr Acute Survival Test Specifications – Freshwater Organisms

Fathead minnow test: 6/29/22, 17:15 to 7/3/22, 15:15	Species: <i>Pimephales promelas</i> . Source & Age: Aquatic Biosystems (Ft. Collins, CO), 5 days
Water flea test: 6/29/22, 15:25 to 7/3/22, 15:30	Species: <i>Ceriodaphnia dubia</i> . Source & Age: Internal culture, < 24 hours
Freshwater amphipod test: 6/29/22, 16:20 to 7/3/22, 15:35	Species: <i>Hyalella azteca</i> . Source & Age: Aquatic Research Organisms (Hampton, NH), 13 days
Protocol Used:	Acute Manual (EPA/821/R-02/012), EPA 2002
Test Acceptability Criteria:	Control mean survival $\geq 90\%$
Test Concentration:	100% sample (WW-2)
Lab Control Water:	Diluted mineral water (per EPA protocol) for <i>P. promelas</i> and <i>C. dubia</i> ; Carbon-filtered municipal water (Coast) for <i>H. azteca</i>

Statistical Analyses

Statistical analyses were conducted using EPA flowchart specifications as outlined in the test guidance manual (USEPA 2002). Organism performance in the sample was compared to that observed in the concurrent lab or salt control. Results were used to calculate whether a statistically significant effect was observed between the control and sample result. Comprehensive Environmental Toxicity Information System™ (CETIS) software by Tidepool Scientific Software, version 1.8.7.20.

Results

No statistically significant effects were observed to any of the marine species exposed the DW-1/WW-1 and WW-3 samples compared to the respective artificial salt controls. The artificial salt control for the mysid resulted in 85 percent mean survival, below the test acceptability criterion (TAC) of 90 percent (see QA section for further details). The lab control for this species resulted in 100 percent mean survival, which meets TAC. Both samples also resulted in no statistically significant effect compared to the lab control. A summary of results for the marine species tests is presented in Table 3.

The freshwater lab controls all met TAC. None of the freshwater species tested resulted in statistically significant mortality in the WW-2 sample test. A summary of results for the freshwater tests is presented in Table 4.

Raw datasheets and complete statistical summaries for all tests are provided in Appendix A. Sample receipt information is provided in Appendix B, and a copy of the chain of custody form is presented in Appendix C.

Table 3. Summary of Marine 96-hr Acute Survival Results

Sample ID	Species	Salt Control Result	100% Sample Result	Statistically Significant Effect? (Yes/No)	Percent Effect
DW-1/WW-1	Pacific topsmelt	100	100	No	0.0
	Inland silverside	100	100	No	0.0
	Mysid shrimp	85.0 ^a	90.0	No	-5.9
WW-3	Pacific topsmelt	100	100	No	0.0
	Inland silverside	100	95.0	No	5.0
	Mysid shrimp	85.0 ^a	100	No	-18

^a The control did not meet minimum test acceptability criterion; see QA section.

Percent effect from control is calculated as: ((mean response in salt control - mean response in undiluted sample)/mean response in salt control) *100. A negative value results when organism performance in the sample is greater than that in the salt control.

Table 4. Summary of Freshwater 96-hr Acute Survival Results

Sample ID	Species	Lab Control Result	100% Sample Result	Statistically Significant Effect? (Yes/No)	Percent Effect
WW-2	Fathead minnow	100	100	No	0.0
	Water flea	100	90.0	No	10
	Freshwater amphipod	100	97.5	No	2.5

Percent effect from control is calculated as: ((mean response in lab control - mean response in undiluted sample)/mean response in lab control) *100. A negative value results when organism performance in the sample is greater than that in the lab control.

Quality Assurance

The samples were received via overnight delivery service two days after collection and within the range of 0-6 degrees Celsius (°C). All tests were initiated within the maximum allowable holding time of 72 hours.

Mean control responses met minimum acceptability criteria for all tests, except for the mysid shrimp test. The mysid shrimp test had a mean survival of 85 percent in the artificial salt control, which is below the TAC of 90 percent. However, the lab control had 100 percent survival, indicating that the organisms were adequate for testing. There was no effect in the 100 percent samples when compared to either the salt or the lab control.

Freshwater organisms were used for the WW-2 sample, despite a salinity of 1.8 parts per thousand (ppt) at sample receipt. A preliminary salinity check was measured at 0.85 ppt, and, therefore, only freshwater organisms were obtained for the sample. However, since no significant effects were detected in the sample, the higher salinity did not appear to affect test organisms.

Minor QA issues that were unlikely to have any bearing on the final test data, such as slight temperature deviations, are noted on the datasheets and a list of laboratory qualifier codes can be found in Appendix D.

Reference Toxicant Testing

Results for reference toxicant testing used to monitor laboratory performance and test organism sensitivity are summarized in Table 5. The reference toxicant tests for all species tested met all acceptability criteria. Additionally, the median effect concentration value for these tests was within two standard deviations of the historical mean for all species tested except the fathead minnow and mysid shrimp. The fathead minnow and mysid shrimp survival values were above 2 standard deviations of the historical means, indicating the organisms may have been less sensitive to copper as typically observed in the laboratory. The control charts for the previous 20 reference toxicant tests are presented in Appendix E.

Table 5. Summary of 96-hr Acute Survival Reference Toxicant Test Results

Species	NOEC (µg/L copper)	LC ₅₀ (µg/L copper)	Historical LC ₅₀ ± 2 SD (µg/L copper)	CV (%)
Pacific Topsmelt	75	184	164 ± 64.7	19.7
Inland Silverside	75	175	188 ± 87.4	23.3
Mysid Shrimp	200	339	214 ± 72.4	16.9
Fathead Minnow	30	212	105 ± 71.5	34.2
Water Flea	20	28.6	18.2 ± 12.4	34.1
Freshwater Amphipod	200	431	470 ± 216	22.9

NOEC = the highest concentration tested that results in no observed effect

LC₅₀ = concentration expected to cause a lethal effect to 50 percent of the test organisms

Historical LC₅₀ ± 2 SD = the mean LC₅₀ from the previous 20 tests performed by Enthalpy, plus or minus two standard deviations

CV = Coefficient of Variation

References

Tidepool Scientific Software. 2000-2013. CETIS Comprehensive Environmental Toxicity Information System Software, Version 1.8.7.20.

USEPA. 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition (EPA/821/R-02/012). US EPA Office of Water, Washington, DC.

Appendix A

Raw Data and Statistical Summaries

Marine Species

CETIS Summary Report

Report Date: 13 Jul-22 12:20 (p 1 of 1)
Test Code: 2206-S195 | 03-2781-2661

Pacific Topsmelt 96-h Acute Survival Test							Nautilus Environmental (CA)				
Batch ID:	10-7764-2158	Test Type:	Survival (96h)	Analyst:							
Start Date:	29 Jun-22 17:35	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Not Applicable						
Ending Date:	03 Jul-22 15:35	Species:	Atherinops affinis	Brine:	Not Applicable						
Duration:	94h	Source:	Aquatic Biosystems, CO	Age:	15d						
Sample ID:	03-8420-4034	Code:	22-0845	Client:	Cardno Hawaii						
Sample Date:	27 Jun-22 13:15 <i>PDt</i>	Material:	Stormwater <i>(A) Dry weather</i>	Project:	ADC Kekaha WQ Monitoring						
Receive Date:	29 Jun-22 10:05 <i>qdt</i>	Source:	Cardno Hawaii								
Sample Age:	52h (4.2 °C)	Station:	DW-1/WW-1								
Comparison Summary											
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method				
13-9228-1144	96h Survival Rate	100	>100	NA	NA	1	Wilcoxon Rank Sum Two-Sample Test				
Test Acceptability											
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision					
13-9228-1144	96h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria					
96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	0	0	0.0%	0.0%
0	Salt Control	4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
96h Survival Rate Detail											
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Control	1	1	1	1						
0	Salt Control	1	1	1	1						
100		1	1	1	1						

Q18 JU 7/13/22

CETIS Analytical Report

Report Date: 13 Jul-22 12:20 (p 1 of 1)
 Test Code: 2206-S195 | 03-2781-2661

Pacific Topsmelt 96-h Acute Survival Test Nautilus Environmental (CA)

Analysis ID: 13-9228-1144 Endpoint: 96h Survival Rate CETIS Version: CETISv1.8.7
 Analyzed: 13 Jul-22 12:20 Analysis: Nonparametric-Two Sample Official Results: Yes

Data Transform	Zeta	Alt Hyp	Trials	Seed	Test Result
Angular (Corrected)	NA	C > T	NA	NA	Passes 96h survival rate

Wilcoxon Rank Sum Two-Sample Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Salt Control		100	18	NA	1	6	1.0000	Exact	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	65540	<0.0001	Significant Effect
Error	0	0	6			
Total	0		7			

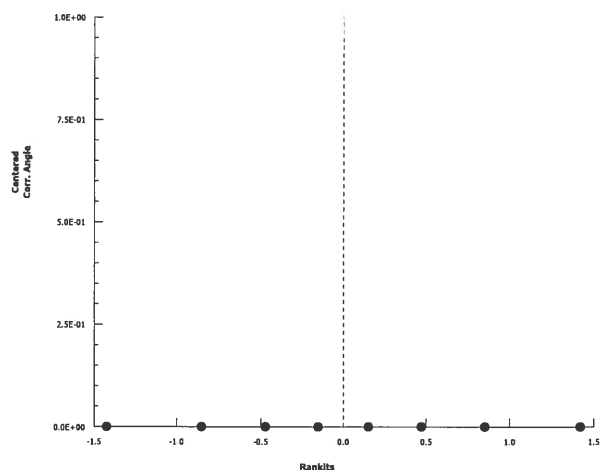
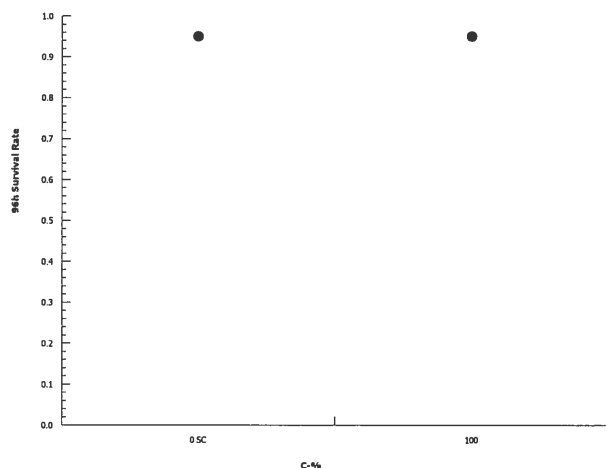
96h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Salt Control	4	1	1	1	1	1	1	0	0.0%	0.0%
100		4	1	1	1	1	1	1	0	0.0%	0.0%

Angular (Corrected) Transformed Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Salt Control	4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
100		4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%

Graphics



CETIS Summary Report

Report Date: 13 Jul-22 12:22 (p 1 of 1)
 Test Code: 2206-S201 | 18-6939-5225

Pacific Topsmelt 96-h Acute Survival Test							Nautilus Environmental (CA)				
Batch ID:	11-4874-7644	Test Type:	Survival (96h)	Analyst:							
Start Date:	29 Jun-22 17:35	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Not Applicable						
Ending Date:	03 Jul-22 15:35	Species:	Atherinops affinis	Brine:	Not Applicable						
Duration:	94h	Source:	Aquatic Biosystems, CO	Age:	15d						
Sample ID:	11-1329-3023	Code:	22-0847	Client:	Cardno Hawaii						
Sample Date:	27 Jun-22 13:30 ^{PDT}	Material:	Stormwater (A) Dry weather	Project:	ADC Kekaha WQ Monitoring						
Receive Date:	29 Jun-22 10:05 ^{PDT}	Source:	Cardno Hawaii								
Sample Age:	52h (3.2 °C)	Station:	WW-3								
Comparison Summary											
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method				
04-7468-0053	96h Survival Rate	100	>100	NA	NA	1	Wilcoxon Rank Sum Two-Sample Test				
Test Acceptability											
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision					
04-7468-0053	96h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria					
96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	0	0	0.0%	0.0%
0	Salt Control	4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
96h Survival Rate Detail											
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Control	1	1	1	1						
0	Salt Control	1	1	1	1						
100		1	1	1	1						

(A) Q18 JU 7/13/22

CETIS Analytical Report

Report Date: 13 Jul-22 12:22 (p 1 of 1)
 Test Code: 2206-S201 | 18-6939-5225

Pacific Topsmelt 96-h Acute Survival Test Nautilus Environmental (CA)

Analysis ID: 04-7468-0053 Endpoint: 96h Survival Rate CETIS Version: CETISv1.8.7
 Analyzed: 13 Jul-22 12:22 Analysis: Nonparametric-Two Sample Official Results: Yes

Data Transform	Zeta	Alt Hyp	Trials	Seed	Test Result
Angular (Corrected)	NA	C > T	NA	NA	Passes 96h survival rate

Wilcoxon Rank Sum Two-Sample Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Salt Control		100	18	NA	1	6	1.0000	Exact	Non-Significant Effect

ANOVA Table

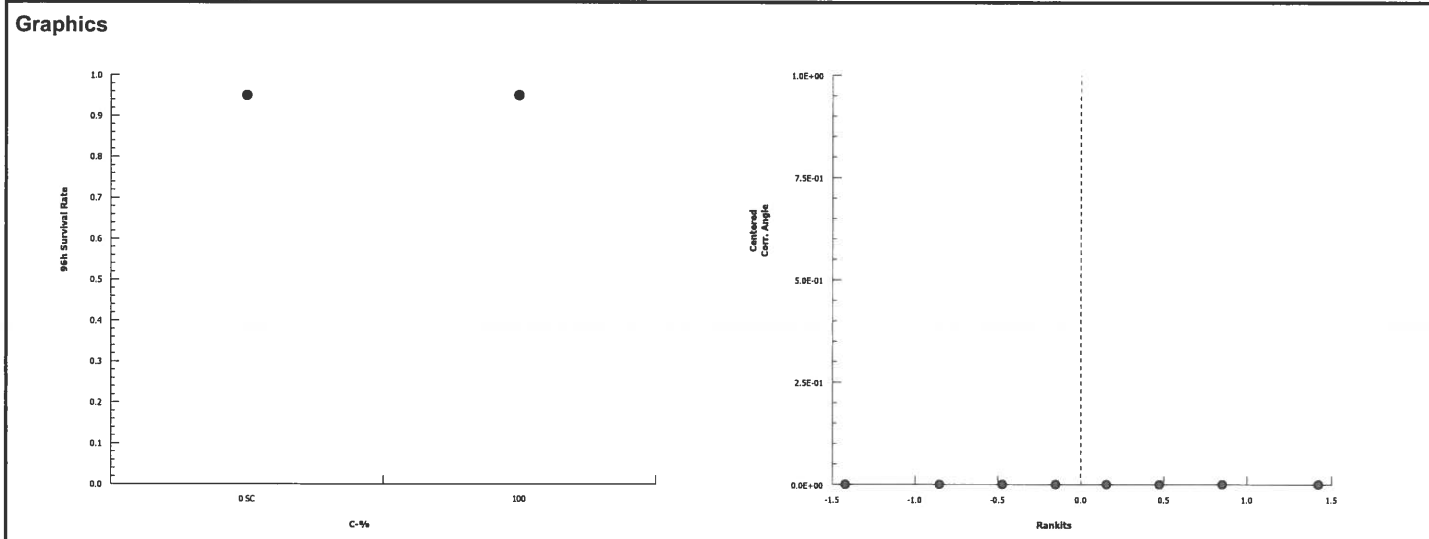
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	65540	<0.0001	Significant Effect
Error	0	0	6			
Total	0		7			

96h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Salt Control	4	1	1	1	1	1	1	0	0.0%	0.0%
100		4	1	1	1	1	1	1	0	0.0%	0.0%

Angular (Corrected) Transformed Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Salt Control	4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
100		4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%



Client: Cardno GS

Test Species: *A. affinis*

Sample ID: DW-1/WW-1, WW-2, WW-3

Start Date/Time: 6/29/22 1735

Sample Log-in No.: 22-0845, 22-0847

End Date/Time: 7/3/22 1535

Test No.: 2206-S195, 3201

Tech Initials

0 24 48 72 96

Counts:

Readings:

Dilutions made by:

Concentration (%)	Rep	Number of Live Organisms					Salinity (ppt)					Temperature (°C)					Dissolved Oxygen (mg/L)					pH (units)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Lab Control	A	5	5	5	5	5	29.4	29.5	29.8	29.8	29.5	20.4	19.9	20.4	19.7	20.5	7.6	7.0	7.5	7.1	6.6	8.04	7.83	8.05	7.78	7.73
	B	5	5	5	5	5		29.5					20.2					6.2					7.6			
	C	5	5	5	5	5							20.1													
	D	5	5	5	5	5																				
Salt Control	A	5	5	5	5	5	29.4	29.4	29.9	30.0	30.1	20.1	19.9	20.2	19.8	20.3	7.5	6.9	7.4	6.9	6.4	8.18	8.02	8.17	8.00	7.94
	B	5	5	5	5	5		29.5					20.0					6.3					7.8			
	C	5	5	5	5	5																				
	D	5	5	5	5	5																				
DW-1/WW-1	A	5	5	5	5	5	29.5	29.5	29.8	30.0	30.2	21.0	19.8	20.2	19.7	20.5	7.2	6.9	7.9	6.8	6.3	7.94	8.05	7.94	8.12	8.15
	B	5	5	5	5	5		29.6					20.0					6.1					8.0			
	C	5	5	5	5	5																				
	D	5	5	5	5	5																				
WW-2	A	5																								
	B	5																								
	C	5																								
	D	5																								
WW-3	A	5	5	5	5	5	29.5	29.5	29.6	29.7	29.6	20.9	19.8	20.1	19.8	20.7	7.2	6.8	8.6	6.9	6.2	7.91	8.07	7.97	8.17	8.20
	B	5	5	5	5	5		29.5					20.0					6.5					8.16			
	C	5	5	5	5	5																				
	D	5	5	5	5	5																				
	A																									
	B																									
	C																									
	D																									
	A																									
	B																									
	C																									
	D																									

Initial Counts QC'd by: HM

Initiated by: RK

Environmental Chamber: C

Animal Source/Date Received: ABS/6/28/22

Age at Initiation: 15 days

Animal Acclimation Qualifiers (circle all that apply):

Q22 / Q23 / Q24 / none

Comments:

i = initial reading in fresh test solution, f = final reading in test chamber prior to renewal

Organisms fed prior to initiation, circle one (y) n) A 2.8 gm 6/29/22

QC Check:

su 7/12/22

Feeding Times				
0	24	48	72	96
	6.24	0845	0855	0945
1807				

CETIS Summary Report

Report Date: 13 Jul-22 12:28 (p 1 of 1)
Test Code: 2206-S196 | 18-5267-7105

Inland Silverside 96-h Acute Survival Test						Nautilus Environmental (CA)					
Batch ID:	12-1856-6312	Test Type:	Survival (96h)	Analyst:	Not Applicable						
Start Date:	29 Jun-22 17:45	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	(S) Diluted Natural Seawater						
Ending Date:	03 Jul-22 15:45	Species:	Menidia beryllina	Brine:	(S) Not Applicable Instant Ocean						
Duration:	94h	Source:	(A) Aquatic Biosystems, CO - FL	Age:	12 d						
Sample ID:	13-1331-2913	Code:	22-0845	Client:	Cardno Hawaii						
Sample Date:	27 Jun-22 13:15 ^{PDT}	Material:	Dry Weather Sample	Project:	ADC Kekaha WQ Monitoring						
Receive Date:	11 Jan-75 10:05 ^{PDT}	Source:	Cardno Hawaii								
Sample Age:	52h (4.2 °C)	Station:	DW-1/WW-1								
Comparison Summary											
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method				
07-8395-3049	96h Survival Rate	100	>100	NA	NA	1	Wilcoxon Rank Sum Two-Sample Test				
Test Acceptability											
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision					
07-8395-3049	96h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria					
96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	0	0	0.0%	0.0%
0	Salt Control	4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
96h Survival Rate Detail											
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Control	1	1	1	1						
0	Salt Control	1	1	1	1						
100		1	1	1	1						

(A) Q18 JU 7/13/22

(S) Q16 PL 7/20/22

CETIS Analytical Report

Report Date: 13 Jul-22 12:28 (p 1 of 1)
Test Code: 2206-S196 | 18-5267-7105

Inland SilverSide 96-h Acute Survival Test	Nautilus Environmental (CA)
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Analysis ID: 07-8395-3049	Endpoint: 96h Survival Rate	CETIS Version: CETISv1.8.7
Analyzed: 13 Jul-22 12:28	Analysis: Nonparametric-Two Sample	Official Results: Yes

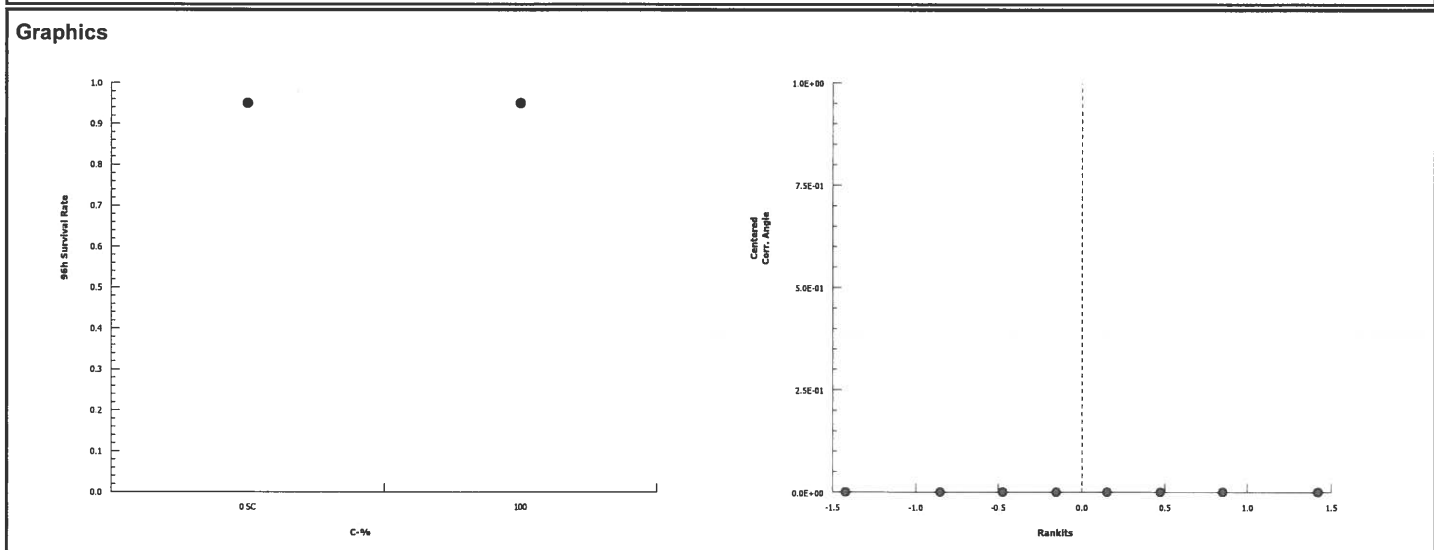
Data Transform	Zeta	Alt Hyp	Trials	Seed	Test Result
Angular (Corrected)	NA	C > T	NA	NA	Passes 96h survival rate

Wilcoxon Rank Sum Two-Sample Test									
Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Salt Control		100	18	NA	1	6	1.0000	Exact	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	65540	<0.0001	Significant Effect
Error	0	0	6			
Total	0		7			

96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Salt Control	4	1	1	1	1	1	1	0	0.0%	0.0%
100		4	1	1	1	1	1	1	0	0.0%	0.0%

Angular (Corrected) Transformed Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Salt Control	4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
100		4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%



CETIS Summary Report

Report Date: 13 Jul-22 12:32 (p 1 of 1)
Test Code: 2206-S202 | 15-1634-5185

Inland Silverside 96-h Acute Survival Test						Nautilus Environmental (CA)					
Batch ID:	19-4492-4379	Test Type:	Survival (96h)	Analyst:	Not Applicable						
Start Date:	29 Jun-22 17:45	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	ⓐ Diluted Natural Seawater						
Ending Date:	03 Jul-22 15:45	Species:	Menidia beryllina	Brine:	ⓑ Not Applicable Instant Ocean						
Duration:	94h	Source:	Aquatic Indicators, FL	Age:	12d						
Sample ID:	18-4824-8097	Code:	22-0847	Client:	Cardno Hawaii						
Sample Date:	27 Jun-22 13:30 ^{3DT}	Material:	Dry Weather Sample	Project:	ADC Kekaha WQ Monitoring						
Receive Date:	29 Jun-22 10:05 ^{1DT}	Source:	Cardno Hawaii								
Sample Age:	52h (3.2 °C)	Station:	WW-3								
Comparison Summary											
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method				
00-5936-5132	96h Survival Rate	100	>100	NA	11.2%	1	Wilcoxon Rank Sum Two-Sample Test				
Test Acceptability											
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision					
00-5936-5132	96h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria					
96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	0	0	0.0%	0.0%
0	Salt Control	4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	0.95	0.7909	1	0.8	1	0.05	0.1	10.53%	5.0%
96h Survival Rate Detail											
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Control	1	1	1	1						
0	Salt Control	1	1	1	1						
100		1	1	1	0.8						

ⓐ Q&S ACS 7/20/22

CETIS Analytical Report

Report Date: 13 Jul-22 12:32 (p 1 of 1)
Test Code: 2206-S202 | 15-1634-5185

Inland Silverside 96-h Acute Survival Test							Nautilus Environmental (CA)				
Analysis ID: 00-5936-5132		Endpoint: 96h Survival Rate			CETIS Version: CETISv1.8.7						
Analyzed: 13 Jul-22 12:32		Analysis: Nonparametric-Two Sample			Official Results: Yes						
Data Transform		Zeta	Alt Hyp	Trials	Seed		PMSD	Test Result			
Angular (Corrected)		NA	C > T	NA	NA		11.2%	Passes 96h survival rate			
Wilcoxon Rank Sum Two-Sample Test											
Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)		
Salt Control		100	16	NA	1	6	0.5000	Exact	Non-Significant Effect		
ANOVA Table											
Source	Sum Squares		Mean Square		DF	F Stat	P-Value	Decision(α:5%)			
Between	0.007088488		0.007088488		1	1	0.3559	Non-Significant Effect			
Error	0.04253092		0.007088488		6						
Total	0.04961941				7						
Distributional Tests											
Attribute	Test		Test Stat	Critical	P-Value	Decision(α:1%)					
Variances	Mod Levene Equality of Variance		1	13.75	0.3559	Equal Variances					
Variances	Levene Equality of Variance		9	13.75	0.0240	Equal Variances					
Distribution	Shapiro-Wilk W Normality		0.7065	0.6451	0.0027	Non-normal Distribution					
96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Salt Control	4	1	1	1	1	1	1	0	0.0%	0.0%
100		4	0.95	0.7909	1	1	0.8	1	0.05	10.53%	5.0%
Angular (Corrected) Transformed Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Salt Control	4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
100		4	1.286	1.096	1.475	1.345	1.107	1.345	0.05953	9.26%	4.43%
Graphics											

Client: Cardno GS

Test Species: *M. beryllina*

Sample ID: DW-1/WW-1, WW-2, WW-3

Start Date/Time: 6/29/22 1745

Sample Log-in No.: 22-0845, 22-0847

End Date/Time: 7/3/22 154

Test No.: 7206-S1a6, S2

Tech Initials					
0	24	48	72	96	
KL	HN	KM	KR	DR	Counts:
RT	KD	YL	HN	DR	Readings:
HN	GM				Dilutions made by:

Concentration (%)	Rep	Number of Live Organisms					Salinity (ppt)					Temperature (°C)					Dissolved Oxygen (mg/L)					pH (units)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Lab Control	A	5	5	5	5	5	30.1	30.2	30.2	30.6	30.6	24.9	25.5	25.9	25.1	25.1	6.4	5.7	6.4	5.0	5.5	7.99	7.84	8.04	8.0	7.80
	B	5	5	5	5	5			30.5					25.2				5.4						7.80		
	C	5	5	5	5	5																				
	D	5	5	5	5	5																				
Salt Control	A	5	5	5	5	5	29.5	29.7	30.2	30.9	30.4	25.2	25.5	25.8	25.4	25.4	6.6	5.6	6.4	5.5	5.3	8.13	7.99	8.18	8.01	7.98
	B	5	5	5	5	5			29.9					25.4				5.3						7.98		
	C	5	5	5	5	5																				
	D	5	5	5	5	5																				
DW-1/WW-1	A	5	5	5	5	5	29.5	29.7	29.9	30.2	30.5	25.0	25.4	24.6	25.2	25.2	6.7	5.6	7.3	5.5	5.4	7.90	8.08	7.88	8.15	8.11
	B	5	5	5	5	5			29.9					25.5				5.3						8.15		
	C	5	5	5	5	5																				
	D	5	5	5	5	5																				
WW-2	A	5																								
	B	5																								
	C	5																								
	D	5																								
WW-3	A	5	5	5	5	5	29.5	29.9	29.8	30.2	30.9	24.7	25.1	24.0	24.9	25.0	6.7	5.8	7.5	5.6	5.6	7.90	8.07	7.89	8.19	8.24
	B	5	5	5	5	5			30.5					25.2				5.5						8.24		
	C	5	5	5	5	5																				
	D	5	5	5	4	4																				
	A																									
	B																									
	C																									
	D																									
	A																									
	B																									
	C																									
	D																									

Initial Counts QC'd by: HN
Initiated by: VN

Environmental Chamber

Animal Source/Date Received: Aquatic Indicators 6/24/22 Age at Initiation:

Animal Acclimation Qualifiers (circle all that apply):

Q22 / Q23

Comments: i = initial reading in fresh test solution, f = final reading in test chamber prior to renewal

Organisms fed prior to initiation, circle one (y) n) DRB GM 6/29/22

QC Check: GM 7/12/22

Feeding Times					
0	24	48	72	96	

CETIS Summary Report

Report Date: 20 Jul-22 14:22 (p 1 of 1)

Test Code: 2206-S197 | 07-9313-6515

Mysid 96-h Acute Survival Test				Nautilus Environmental (CA)							
Batch ID: 10-7709-8291	Test Type: Survival (96h)	Analyst: <i>Not Applicable</i>									
Start Date: 29 Jun-22 18:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: <i>(A) Diluted Natural Seawater</i>									
Ending Date: 03 Jul-22 16:10	Species: Americamysis bahia	Brine: <i>(F) Not Applicable Instant Ocean</i>									
Duration: 94h	Source: Aquatic Biosystems, CO	Age: 3d									
Sample ID: 16-5000-0867	Code: 22-0845	Client: Cardno Hawaii									
Sample Date: 27 Jun-22 13:15 <i>ROT</i>	Material: Dry Weather Sample	Project: ADC Kekaha WQ Monitoring									
Receive Date: 29 Jun-22 10:05 <i>ROT</i>	Source: Cardno Hawaii										
Sample Age: 53h (4.2 °C)	Station: DW-1/WW-1										
Comparison Summary											
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method				
13-5879-4462	96h Survival Rate	100	>100	NA	26.1%	1	Equal Variance t Two-Sample Test				
18-9379-8513	96h Survival Rate	100	>100	NA	14.8%	1	Unequal Variance t Two-Sample Test				
Test Acceptability											
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision					
13-5879-4462	96h Survival Rate	Control Resp	0.85	0.9 - NL	Yes	Below Acceptability Criteria <i>Q15</i>					
18-9379-8513	96h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria					
96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	0	0	0.0%	0.0%
0	Salt Control	4	0.85	0.5453	1	0.6	1	0.09574	0.1915	22.53%	15.0%
100		4	0.9	0.7163	1	0.8	1	0.05774	0.1155	12.83%	10.0%
96h Survival Rate Detail											
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Control	1	1	1	1						
0	Salt Control	0.8	1	0.6	1						
100		1	1	0.8	0.8						

(A) Q15 ACS 7/20/22

Q15: salt control did not meet test acceptability criteria of 90% survival. Lab control did meet test acceptability ACS 7/20/22

CETIS Analytical Report

Report Date: 13 Jul-22 12:39 (p 1 of 1)
Test Code: 2206-S197 | 07-9313-6515

Mysid 96-h Acute Survival Test						Nautilus Environmental (CA)
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Analysis ID: 13-5879-4462	Endpoint: 96h Survival Rate	CETIS Version: CETISv1.8.7
Analyzed: 13 Jul-22 12:39	Analysis: Parametric-Two Sample	Official Results: Yes

Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	26.1%	Passes 96h survival rate

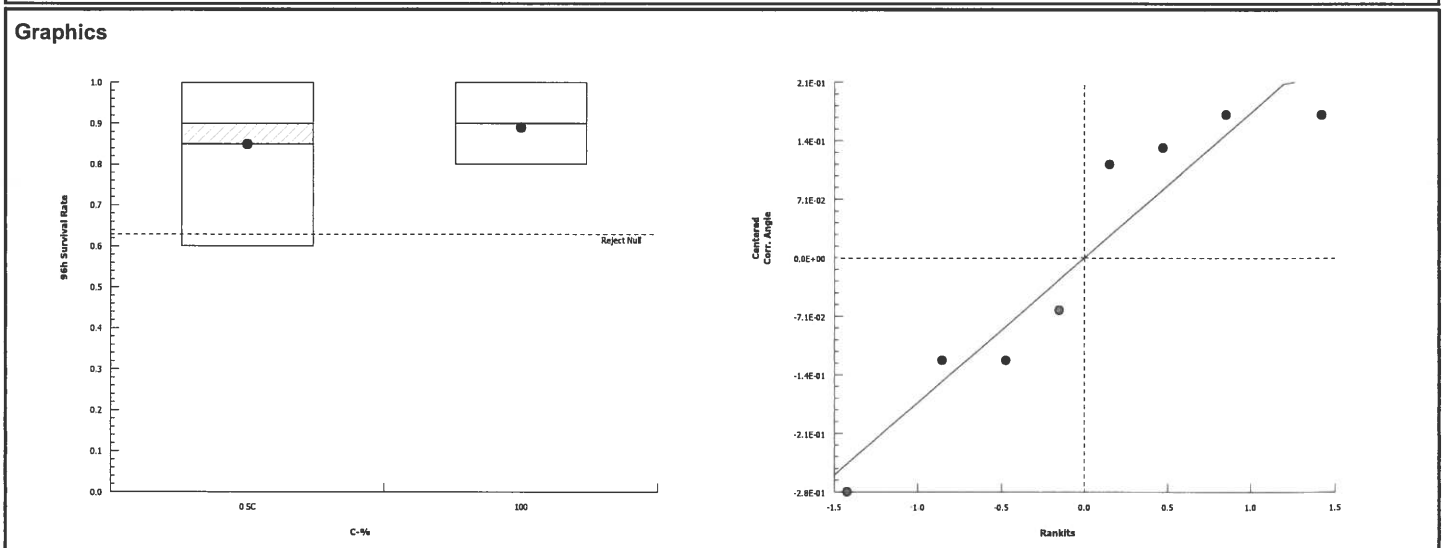
Equal Variance t Two-Sample Test									
Control	vs	C-%	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Salt Control		100	-0.4579	1.943	0.256	6	0.6684	CDF	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.007261093	0.007261093	1	0.2097	0.6631	Non-Significant Effect
Error	0.2077628	0.03462713	6			
Total	0.2150239		7			

Distributional Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variances	Variance Ratio F	2.364	47.47	0.4982	Equal Variances	
Distribution	Shapiro-Wilk W Normality	0.8795	0.6451	0.1863	Normal Distribution	

96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Salt Control	4	0.85	0.5453	1	0.9	0.6	1	0.09574	22.53%	0.0%
100		4	0.9	0.7163	1	0.9	0.8	1	0.05774	12.83%	-5.88%

Angular (Corrected) Transformed Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Salt Control	4	1.171	0.8199	1.522	1.226	0.8861	1.345	0.1103	18.84%	0.0%
100		4	1.231	1.003	1.46	1.226	1.107	1.365	0.07174	11.65%	-5.15%



CETIS Analytical Report

Report Date: 20 Jul-22 14:22 (p 1 of 1)

Test Code: 2206-S197 | 07-9313-6515

Mysid 96-h Acute Survival Test						Nautilus Environmental (CA)
Analysis ID:	18-9379-8513	Endpoint:	96h Survival Rate	CETIS Version:	CETISv1.8.7	
Analyzed:	20 Jul-22 14:21	Analysis:	Parametric-Two Sample	Official Results:	Yes	
Data Transform	Zeta	Alt Hyp	Trials	Seed	PMSD	Test Result
Angular (Corrected)	NA	C > T	NA	NA	14.8%	Passes 96h survival rate

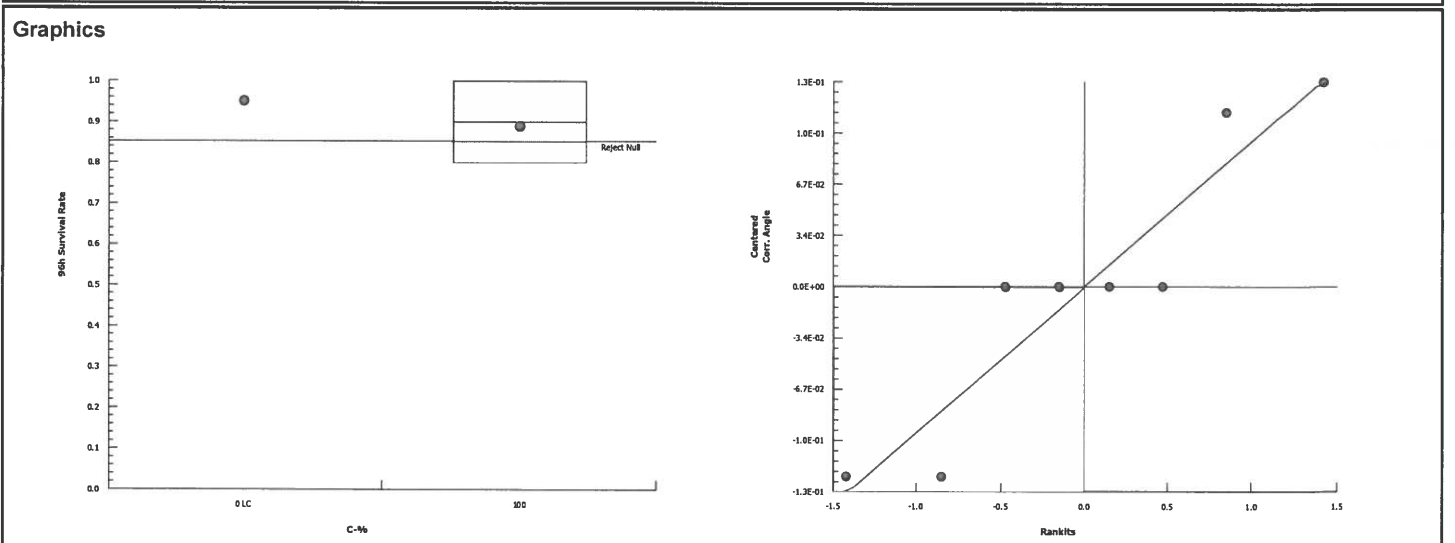
Unequal Variance t Two-Sample Test									
Control	vs	C-%	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Lab Control		100	1.59	2.353	0.169	3	0.1050	CDF	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.02602894	0.02602894	1	2.529	0.1629	Non-Significant Effect
Error	0.0617557	0.01029262	6			
Total	0.08778464		7			

Distributional Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variances	Mod Levene Equality of Variance	619	13.75	<0.0001	Unequal Variances	
Variances	Levene Equality of Variance	928.5	13.75	<0.0001	Unequal Variances	
Distribution	Shapiro-Wilk W Normality	0.8676	0.6451	0.1429	Normal Distribution	

96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	1	0	0.0%	0.0%
100		4	0.9	0.7163	1	0.9	0.8	1	0.05774	12.83%	10.0%

Angular (Corrected) Transformed Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
100		4	1.231	1.003	1.46	1.226	1.107	1.365	0.07174	11.65%	8.48%



CETIS Summary Report

Report Date: 20 Jul-22 14:22 (p 1 of 1)
Test Code: 2206-S203 | 14-7235-7515

Mysid 96-h Acute Survival Test						Nautilus Environmental (CA)						
Batch ID:	00-8043-0403	Test Type:	Survival (96h)	Analyst:	Not Applicable	Diluent:	ⓐ Diluted Natural Seawater	Brine:	ⓐ Not Applicable	Instant Ocean	Age:	3d
Start Date:	29 Jun-22 18:00	Protocol:	EPA/821/R-02-012 (2002)	Client:	Cardno Hawaii	Project:	ADC Kekaha WQ Monitoring					
Ending Date:	03 Jul-22 16:10	Species:	Americamysis bahia									
Duration:	94h	Source:	Aquatic Biosystems, CO									
Sample ID:	10-8190-6020	Code:	22-0847									
Sample Date:	27 Jun-22 13:30 ^{PDT}	Material:	Dry Weather Sample									
Receive Date:	13 Jul-22 10:05 ^{PDT}	Source:	Cardno Hawaii									
Sample Age:	52h (3.2 °C)	Station:	WW-3									
Comparison Summary												
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method					
04-0674-0538	96h Survival Rate	100	>100	NA	21.4%	1	Equal Variance t Two-Sample Test					
15-6878-2388	96h Survival Rate	100	>100	NA	NA	1	Wilcoxon Rank Sum Two-Sample Test					
Test Acceptability												
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision						
04-0674-0538	96h Survival Rate	Control Resp	0.85	0.9 - NL	Yes	Below Acceptability Criteria & S						
15-6878-2388	96h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria						
96h Survival Rate Summary												
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect	
0	Lab Control	4	1	1	1	1	1	0	0	0.0%	0.0%	
0	Salt Control	4	0.85	0.5453	1	0.6	1	0.09574	0.1915	22.53%	15.0%	
100		4	1	1	1	1	1	0	0	0.0%	0.0%	
96h Survival Rate Detail												
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4							
0	Lab Control	1	1	1	1							
0	Salt Control	0.8	1	0.6	1							
100		1	1	1	1							

ⓐ Q1 & A15 7/20/22

Q15: Salt control did not meet test acceptability criteria (TAC). Lab control did meet TAC A15 7/20/22

CETIS Analytical Report

Report Date: 13 Jul-22 12:42 (p 1 of 1)
Test Code: 2206-S203 | 14-7235-7515

Mysid 96-h Acute Survival Test							Nautilus Environmental (CA)				
Analysis ID: 04-0674-0538		Endpoint: 96h Survival Rate			CETIS Version: CETISv1.8.7						
Analyzed: 13 Jul-22 12:42		Analysis: Parametric-Two Sample			Official Results: Yes						
Data Transform		Zeta	Alt Hyp	Trials	Seed		PMSD	Test Result			
Angular (Corrected)		NA	C > T	NA	NA		21.4%	Passes 96h survival rate			
Equal Variance t Two-Sample Test											
Control	vs	C-%	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)		
Salt Control		100	-1.58	1.943	0.214	6	0.9175	CDF	Non-Significant Effect		
ANOVA Table											
Source	Sum Squares		Mean Square		DF		F Stat	P-Value	Decision(α:5%)		
Between	0.06078538		0.06078538		1		2.498	0.1651	Non-Significant Effect		
Error	0.1460071		0.02433452		6						
Total	0.2067925				7						
Distributional Tests											
Attribute	Test		Test Stat	Critical	P-Value		Decision(α:1%)				
Variances	Mod Levene Equality of Variance		9.95	13.75	0.0197		Equal Variances				
Variances	Levene Equality of Variance		14.93	13.75	0.0083		Unequal Variances				
Distribution	Shapiro-Wilk W Normality		0.8543	0.6451	0.1052		Normal Distribution				
96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Salt Control	4	0.85	0.5453	1	0.9	0.6	1	0.09574	22.53%	0.0%
100		4	1	1	1	1	1	1	0	0.0%	-17.65%
Angular (Corrected) Transformed Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Salt Control	4	1.171	0.8199	1.522	1.226	0.8861	1.345	0.1103	18.84%	0.0%
100		4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	-14.89%
Graphics											

CETIS Analytical Report

Report Date: 20 Jul-22 14:23 (p 1 of 1)
Test Code: 2206-S203 | 14-7235-7515

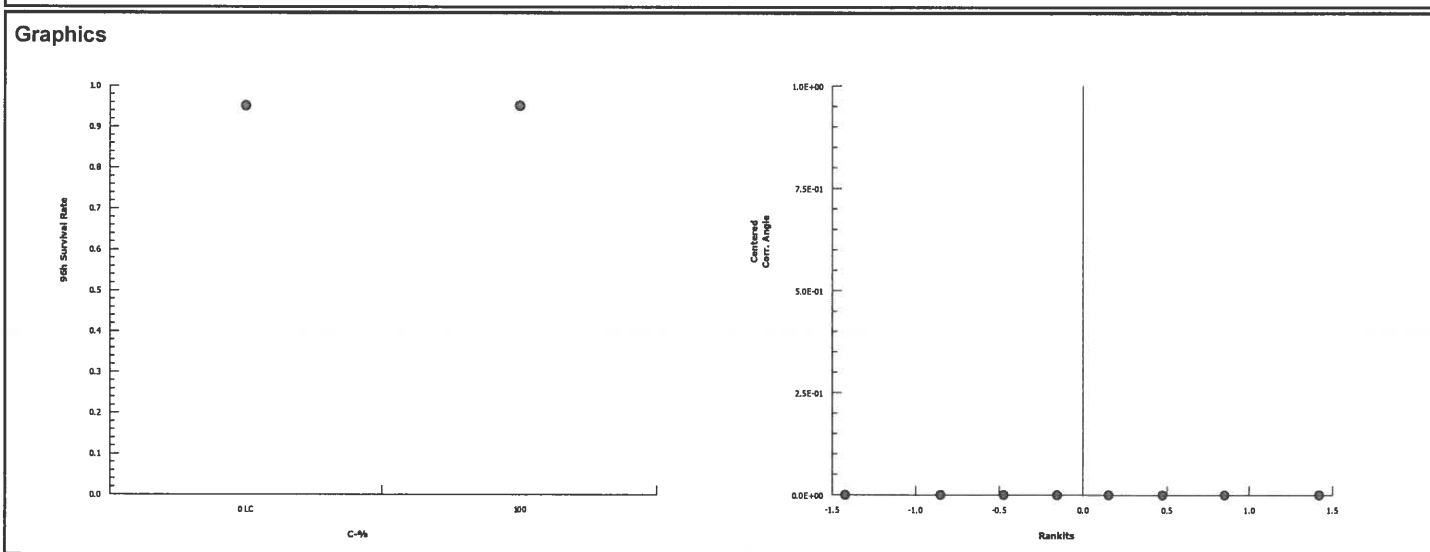
Mysid 96-h Acute Survival Test					Nautilus Environmental (CA)
Analysis ID: 15-6878-2388	Endpoint: 96h Survival Rate		CETIS Version: CETISv1.8.7		
Analyzed: 20 Jul-22 14:22	Analysis: Nonparametric-Two Sample		Official Results: Yes		
Data Transform	Zeta	Alt Hyp	Trials	Seed	Test Result
Angular (Corrected)	NA	C > T	NA	NA	Passes 96h survival rate

Wilcoxon Rank Sum Two-Sample Test									
Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Lab Control		100	18	NA	1	6	1.0000	Exact	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	65540	<0.0001	Significant Effect
Error	0	0	6			
Total	0		7			

96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	1	0	0.0%	0.0%
100		4	1	1	1	1	1	1	0	0.0%	0.0%

Angular (Corrected) Transformed Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
100		4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%



Client: Cardno HI

Test Species: A. bahia

Sample ID: DW-1/WW-1, WW-2, WW-3

Start Date/Time: 6/29/22 1800

Sample Log-in No.: 22-0845, 22-0847

End Date/Time: 7/3/22 1010

Test No.: 2206-S197, S203

Tech Initials

0 24 48 72 96

Counts: RT HM GM KR HM

Readings: RT KR KL HM DR

Dilutions made by: HM GM

Concentration (%)	Rep	Number of Live Organisms					Salinity (ppt)					Temperature (°C)					Dissolved Oxygen (mg/L)					pH (units)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Lab Control	A	5	5	5	5	5	30.1	30.3	30.7	30.7	30.8	25.0	25.2	24.9	24.9	25.1	6.5	6.0	6.4	5.8	5.7	8.00	7.89	8.04	7.94	7.95
	B	5	5	5	5	5			30.6					25.1				5.3						7.79		
	C	5	5	5	5	5																				
	D	5	5	5	5	5																				
Salt Control	A	5	5	4	4	4	29.6	29.7	30.2	30.5	30.8	25.2	25.4	25.9	25.1	25.4	6.5	5.9	6.4	5.6	5.2	8.11	8.02	8.18	8.04	7.94
	B	5	5	5	5	5			29.9					25.4				5.0						7.96		
	C	5	5	4	3	3																				
	D	5	5	5	5	5																				
DW-1/WW-1	A	5	5	5	5	5	29.5	29.8	29.6	29.9	29.9	25.1	25.5	24.7	25.4	25.5	6.6	5.7	6.4	5.0	4.9	7.89	8.03	7.96	8.10	8.11
	B	5	5	5	6	6			29.9					25.5				4.6						8.11		
	C	5	5	4	4	4																				
	D	5	5	4	4	4																				
WW-2	A	5																								
	B	5																								
	C	5																								
	D	5																								
WW-3	A	5	5	5	5	5	29.5	29.9	29.9	30.5	30.4	24.7	25.2	24.5	25.2	25.3	6.8	5.9	7.4	5.7	4.9	7.90	8.10	7.89	8.13	8.18
	B	5	5	5	5	5			30.4					25.0				5.3						8.19		
	C	5	5	5	5	5																				
	D	5	5	5	5	5																				

Initial Counts QC'd by: RT

Initiated by: RT

Environmental Chamber: A

Animal Source/Date Received: ABS/6/28/22

Age at Initiation: 3 days

Animal Acclimation Qualifiers (circle all that apply):

Q22 / Q23 / Q24 / none

Comments:

i = initial reading in fresh test solution, f = final reading in test chamber prior to renewal

Organisms fed prior to initiation, circle one (y/n) (y) n Q24 GM 6/29/22

QC Check:

ju 7/12/22

Q24 GM 7/12/22

Q24 GM 7/13/22

Final Review:

ACS 7/20/22

Feeding Times					
0	24	48	72	96	
AM:	0834	0845	0853	0845	
PM:	1807	1810	1815	1818	

Freshwater Species

CETIS Summary Report

Report Date: 13 Jul-22 12:48 (p 1 of 1)
Test Code: 2206-S198 | 14-1062-8499

Fathead Minnow 96-h Acute Survival Test						Nautilus Environmental (CA)					
Batch ID:	11-0152-6713	Test Type:	Survival (96h)	Analyst:	Not Applicable						
Start Date:	29 Jun-22 17:15	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Diluted Mineral Water (8:2)						
Ending Date:	03 Jul-22 15:15	Species:	Pimephales promelas	Brine:	Not Applicable						
Duration:	94h	Source:	Aquatic Biosystems, CO	Age:	5d						
Sample ID:	01-5576-7954	Code:	22-0846	Client:	Cardno Hawaii						
Sample Date:	27 Jun-22 13:05 ^{PT}	Material:	Dry Weather Sample	Project:	ADC Kekaha WQ Monitoring						
Receive Date:	29 Jun-22 10:05 ^{PT}	Source:	Cardno Hawaii								
Sample Age:	52h (2.7 °C)	Station:	WW-2								
Comparison Summary											
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method				
07-9678-4755	96h Survival Rate	100	>100	NA	NA	1	Wilcoxon Rank Sum Two-Sample Test				
Test Acceptability											
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision					
07-9678-4755	96h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria					
96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	1	1	1	1	1	0	0	0.0%	0.0%
96h Survival Rate Detail											
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Control	1	1	1	1						
100		1	1	1	1						

ⓐ G.8 ACS 7/20/22

CETIS Analytical Report

Report Date: 13 Jul-22 12:48 (p 1 of 1)
Test Code: 2206-S198 | 14-1062-8499

Fathead Minnow 96-h Acute Survival Test Nautilus Environmental (CA)

Analysis ID: 07-9678-4755	Endpoint: 96h Survival Rate	CETIS Version: CETISv1.8.7
Analyzed: 13 Jul-22 12:48	Analysis: Nonparametric-Two Sample	Official Results: Yes

Data Transform	Zeta	Alt Hyp	Trials	Seed	Test Result
Angular (Corrected)	NA	C > T	NA	NA	Passes 96h survival rate

Wilcoxon Rank Sum Two-Sample Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Lab Control		100	18	NA	1	6	1.0000	Exact	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	1	65540	<0.0001	Significant Effect
Error	0	0	6			
Total	0		7			

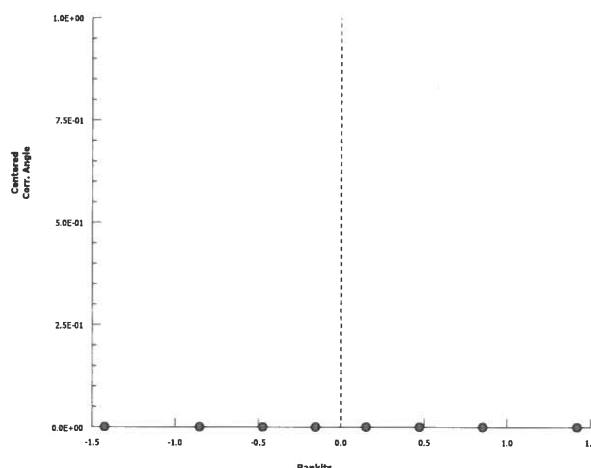
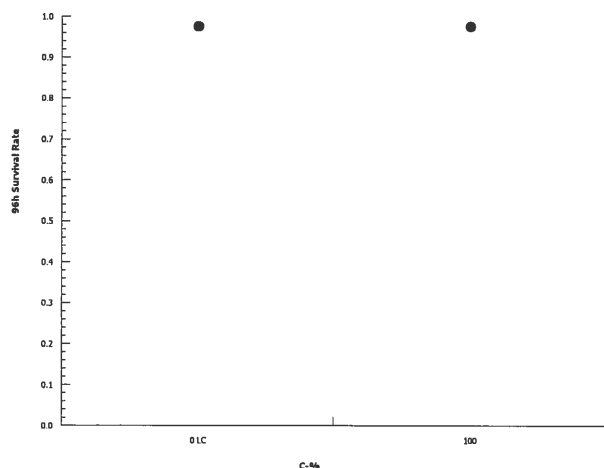
96h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	1	0	0.0%	0.0%
100		4	1	1	1	1	1	1	0	0.0%	0.0%

Angular (Corrected) Transformed Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.0%	0.0%
100		4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.0%	0.0%

Graphics



DF-006

& Test Organism Survival

Test Species: *P. promelas*

Start Date/Time: 6/29/22 1715

End Date/Time: 7/3/22 1515

Test No's.: 2206-5198

End Date/Time: 7/3/22 1515

Counts: RT PL 3m 1 JWR

Readings: HM YK YK HM HM

Dilutions made by: GM GM

Tech Initials				
0	24	48	72	96
RT	PL	Gm	HM	DR
HM	KL	KL	HM	HM
Gm		Gm		

Sample ID (100%)	Rep	Number of Live Organisms					Conductivity (µmhos/cm)					Temperature (°C)					Dissolved Oxygen (mg/L)					pH (units)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Lab Control (S:2)	A	10	10	10	10	10	190	194	198	197	190	19.7	19.8	19.8	19.5	20.0	8.0	8.0	8.0	8.5	8.2	8.5	7.8	8.0	8.0	8.0
	B	10	10	10	10	10			190					19.8	19.8				8.1					7.9		
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
WW-2 100%	A	10	10	10	10	10	3270	3120	3150	3210	2990	19.4	19.9	19.8	19.7	20.0	9.1	9.0	9.9	8.0	8.0	7.7	7.9	7.8	8.2	8.2
	B	10	10	10	10	10			3020					19.9					8.1					8.0		
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
																					</					

Initial Counts QC'd by: HH
Initiated by: RT

Environmental Chamber: C.

Animal Source/Date Received:

Age at Initiation: 5 days

Animal Acclimation Qualifiers (circle all that apply):

Q22 Q23 / Q24 / none

Comments:

i = initial reading in fresh test solution, f = final reading in test chamber prior to renewal

Organisms fed prior to initiation, circle one (y) n) A OK 7/1/22

QC Check:

Phi 7/12/22

Final Review: A/S 7/20/22

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Feeding Times				
0	24	48	72	96
--	--	0.845	--	--
--	--	--	--	--

CETIS Summary Report

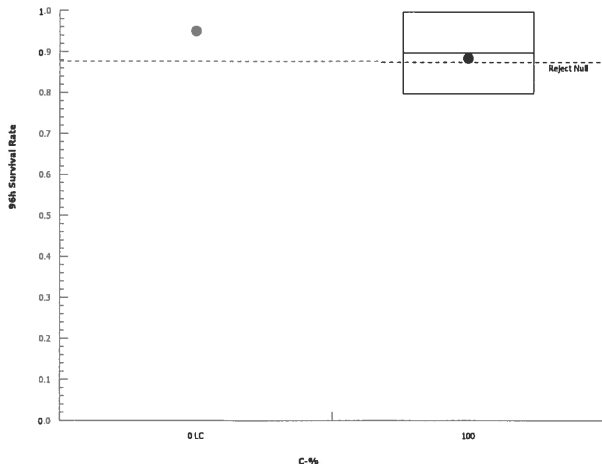
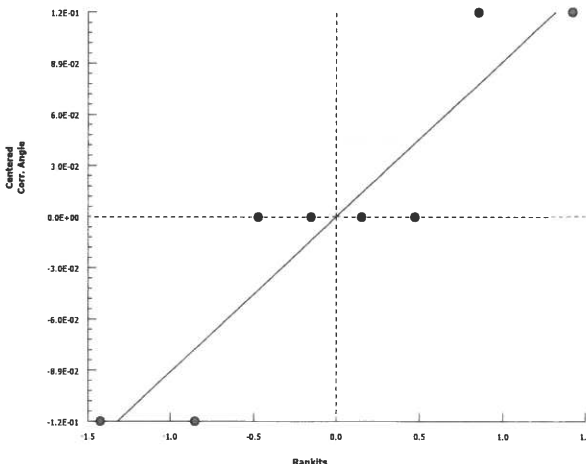
Report Date: 13 Jul-22 12:55 (p 1 of 1)
 Test Code: 2206-S199 | 12-5427-9205

Ceriodaphnia 96-h Acute Survival Test						Nautilus Environmental (CA)					
Batch ID:	19-9788-3129	Test Type:	Survival (96h)	Analyst:	Not Applicable						
Start Date:	29 Jun-22 15:25	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	(A) Diluted Mineral Water (8:2)						
Ending Date:	03 Jul-22 15:30	Species:	Ceriodaphnia dubia	Brine:	Not Applicable						
Duration:	4d 0h	Source:	In-House Culture	Age:	<24h						
Sample ID:	06-1341-1433	Code:	22-0846	Client:	Cardno Hawaii						
Sample Date:	27 Jun-22 13:05 PDT	Material:	(A) Stormwater Dry Weather Sample	Project:	ADC Kekaha WQ Monitoring						
Receive Date:	29 Jun-22 10:05 PDT	Source:	Cardno Hawaii								
Sample Age:	50h (2.7 °C)	Station:	WW-2								
Comparison Summary											
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method				
05-5853-8501	96h Survival Rate	100	>100	NA	12.4%	1	Equal Variance t Two-Sample Test				
Test Acceptability											
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision					
05-5853-8501	96h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria					
96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	0.9	0.7163	1	0.8	1	0.05774	0.1155	12.83%	10.0%
96h Survival Rate Detail											
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Control	1	1	1	1						
100		0.8	1	1	0.8						

(A) 6/18 ACS 7/20/22

CETIS Analytical Report

Report Date: 13 Jul-22 12:54 (p 1 of 1)
Test Code: 2206-S199 | 12-5427-9205

Ceriodaphnia 96-h Acute Survival Test										Nautilus Environmental (CA)	
Analysis ID: 05-5853-8501		Endpoint: 96h Survival Rate					CETIS Version: CETISv1.8.7				
Analyzed: 13 Jul-22 12:54		Analysis: Parametric-Two Sample					Official Results: Yes				
Data Transform		Zeta	Alt Hyp	Trials	Seed		PMSD	Test Result			
Angular (Corrected)		NA	C > T	NA	NA		12.4%	Passes 96h survival rate			
Equal Variance t Two-Sample Test											
Control	vs	C-%	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)		
Lab Control		100	1.732	1.943	0.134	6	0.0670	CDF	Non-Significant Effect		
ANOVA Table											
Source	Sum Squares		Mean Square		DF		F Stat	P-Value	Decision(α:5%)		
Between	0.02835395		0.02835395		1		3	0.1340	Non-Significant Effect		
Error	0.0567079		0.009451317		6						
Total	0.08506185				7						
Distributional Tests											
Attribute	Test			Test Stat	Critical	P-Value	Decision(α:1%)				
Distribution	Shapiro-Wilk W Normality			0.8489	0.6451	0.0929	Normal Distribution				
96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	1	0	0.0%	0.0%
100		4	0.9	0.7163	1	0.9	0.8	1	0.05774	12.83%	10.0%
Angular (Corrected) Transformed Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
100		4	1.226	1.007	1.445	1.226	1.107	1.345	0.06874	11.21%	8.85%
Graphics											
											

DF-006

Water Quality Measurements & Test Organism Survival

Tech Initials

0	24	48	72	96
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Counts: HH PLGM HM HW

Readings: HH KL KL HM KD

Dilutions made by: HM GM

Sample ID (100%)	Rep	Number of Live Organisms					Conductivity (µmhos/cm)					Temperature (°C)					Dissolved Oxygen (mg/L)					pH (units)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Lab Control	A	10 ⁵	5	5	5	5	190	190	189	191	211	21.0	20.1	20.0	20.0	20.3	8.0	8.6	8.7	9.0	8.3	8.10	8.08	7.97	8.05	8.34
	B	10 ⁵	5	5	5	5			213					20.8					8.7					8.15		
	C	10 ⁵	5	5	5	5																				
	D	10 ⁵	5	5	5	5																				
WW-2	A	10 ⁵	5	5	5	4	350	320	315	320	330	19.5	20.0	19.8	19.8	20.3	9.2	8.8	9.7	9.0	8.9	8.5	8.28	8.91	8.27	8.55
100%	B	10 ⁵	5	5	5	5			300					20.8					8.7					8.36		
	C	10 ⁵	5	5	5	5																				
	D	10 ⁵	5	5	5	4																				
	(A)																									
																						</				

Environmental Chamber: C

Age at Initiation: 224 hrs

AM:	-	-	1210	-	-
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Organisms fed prior to initiation, circle one (y) n (A)Q18 HN 6/29/22

PM:	08:00	10:00	12:00	02:00	04:00
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Enthalpy Analytical. 4340 Vandever Avenue. San Diego, CA 92120.

Final Review: A/S 7/20/22

CETIS Summary Report

Report Date: 13 Jul-22 12:59 (p 1 of 1)
 Test Code: 2206-S200 | 18-2154-4677

Acute Amphipod Survival Test				Nautilus Environmental (CA)							
Batch ID:	03-3207-9676	Test Type:	Survival (96h)	Analyst:	Not Applicable						
Start Date:	29 Jun-22 16:20	Protocol:	EPA/600/R-99/064 (2000)	Diluent:	Coast Filtered Water						
Ending Date:	03 Jul-22 15:35	Species:	Hyalella azteca	Brine:	Not Applicable						
Duration:	95h	Source:	Aquatic Research Organisms, NH	Age:	13 d						
Sample ID:	06-0040-5437	Code:	22-0846	Client:	Cardno Hawaii						
Sample Date:	27 Jun-22 13:05 ^{PDT}	Material:	Dry Weather Sample	Project:	ADC Kekaha WQ Monitoring						
Receive Date:	29 Jun-22 10:05 ^{PDT}	Source:	Cardno Hawaii								
Sample Age:	51h (2.7 °C)	Station:	WW-2								
Comparison Summary											
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method				
20-4799-9966	96h Survival Rate	100	>100	NA	5.56%	1	Wilcoxon Rank Sum Two-Sample Test				
Test Acceptability											
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision					
20-4799-9966	96h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria					
96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	0	0	0.0%	0.0%
100		4	0.975	0.8954	1	0.9	1	0.025	0.05	5.13%	2.5%
96h Survival Rate Detail											
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Lab Control	1	1	1	1						
100		1	0.9	1	1						

QA: ALC 7/20/22

CETIS Analytical Report

Report Date: 13 Jul-22 12:59 (p 1 of 1)
Test Code: 2206-S200 | 18-2154-4677

Acute Amphipod Survival Test										Nautilus Environmental (CA)	
Analysis ID: 20-4799-9966		Endpoint: 96h Survival Rate					CETIS Version: CETISv1.8.7				
Analyzed: 13 Jul-22 12:59		Analysis: Nonparametric-Two Sample					Official Results: Yes				
Data Transform		Zeta	Alt Hyp	Trials	Seed		PMSD	Test Result			
Angular (Corrected)		NA	C > T	NA	NA		5.56%	Passes 96h survival rate			
Wilcoxon Rank Sum Two-Sample Test											
Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)		
Lab Control		100	16	NA	1	6	0.5000	Exact	Non-Significant Effect		
ANOVA Table											
Source	Sum Squares		Mean Square		DF	F Stat	P-Value	Decision(α:5%)			
Between	0.003319917		0.003319917		1	1	0.3559	Non-Significant Effect			
Error	0.0199195		0.003319917		6						
Total	0.02323942				7						
Distributional Tests											
Attribute	Test		Test Stat	Critical	P-Value	Decision(α:1%)					
Variances	Mod Levene Equality of Variance		1	13.75	0.3559	Equal Variances					
Variances	Levene Equality of Variance		9	13.75	0.0240	Equal Variances					
Distribution	Shapiro-Wilk W Normality		0.7065	0.6451	0.0027	Non-normal Distribution					
96h Survival Rate Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1	1	1	1	1	1	0	0.0%	0.0%
100		4	0.975	0.8954	1	1	0.9	1	0.025	5.13%	2.5%
Angular (Corrected) Transformed Summary											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Control	4	1.412	1.412	1.412	1.412	1.412	1.412	0	0.0%	0.0%
100		4	1.371	1.242	1.501	1.412	1.249	1.412	0.04074	5.94%	2.89%
Graphics											

DF-006

Client: Cardno HI

Test Species: *H. azteca*

Sample ID: WW-2

Start Date/Time: 6/29/22 1620

Sample Log-in No's.: 22-0846

End Date/Time: 1/3/22 1535

Test No's.: 2206-S200

Counts:

Readings:

Dilutions made by:

Tech Initials				
0	24	48	72	96
KL	KL	KL	HM	HM
HM	KL	KL	HM	HM
GM		GM		

Sample ID (100%)	Rep	Number of Live Organisms					Conductivity ($\mu\text{mhos/cm}$)					Temperature ($^{\circ}\text{C}$)					Dissolved Oxygen (mg/L)					pH (units)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96
Lab Control	A	10	10	10	10	10	95	946	922	951	981	19.7	19.9	19.7	19.9	21.0	9.0	8.6	8.9	8.4	8.4	8.39	8.0	8.31	8.22	8.30
(cont.)	B	10	10	10	10	10			923					20.0					8.2					8.23		
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
WW-2	A	10	10	10	10	10	3270	3210	3120	3220	3010	19.8	19.9	19.3	19.8	20.9	9.0	8.4	9.0	8.5	8.3	7.70	8.08	7.8	8.18	8.35
100%	B	10	10	10	10	9			3120					19.9					8.3					8.24		
	C	10	10	10	10	10																				
	D	10	10	10	10	10																				
						10																				
									f					f					f					f		
									i					i					i					i		
									f					f					f					f		
									i					i					i					i		
									f					f					f					f		
									i					i					i					i		
									f					f					f					f		

Initial Counts QC'd by: BO
Initiated by: VJ

Environmental Chamber: C

Animal Source/Date Received: ARO 6/29/22 Age at Initiation: 13 days

Animal Acclimation Qualifiers (circle all that apply): Q22 / Q23 / Q24 / none

Comments: i = initial reading in fresh test solution, f = final reading in test chamber prior to renewal

Organisms fed prior to initiation, circle one (y) n) AA8 HW 7/2/22

QC Check: *OK* 7/12/22

Final Review: *ALS 7/20/22*

Feeding Times				
0	24	48	72	96
---	---	0.825	---	---
---	---	---	---	---

Enthalpy Analytical. 4340 Vandever Avenue. San Diego, CA 92120.

Appendix B

Sample Check-In Information

Client: Cardano H1

Tests Performed: Acute topsmelt, inland
SILVERSIDE, mysid

Project: Dry weather - Marine

Test ID No.(s): 2206-5195 to 5197, 5201 to 5203

Sample ID:	1) DWI/WWI	2) WW-3	3)	4)	5)	6)
Log-in No. (22-xxxx):	0845	0847				
Sample Collection Date & Time:	6/27/22 13:15	6/27/22 13:30				
Sample Receipt Date & Time:	6/29/22 10:05	6/29/22 10:05				
Number of Containers & Container Type:	2x4L cubi	2x4L cubi				
Approx. Total Volume Received (L):	~8L	~8L				
Check-in Temp (°C)	4.2	3.2				
Temperature OK? ¹	☒ Y ☐ N	☒ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
DO (mg/L)	8.45	9.6				
pH (units)	7.73	7.98				
Conductivity (µS/cm)	7120	4390				
Salinity (ppt)	4.0	2.4				
Alkalinity (mg/L) ²	140	166				
Hardness (mg/L) ^{2,3}	—	527				
Total Chlorine (mg/L)	0.02	0.04				
Technician Initials	DR	DR				

Freshwater Tests:

Control/Dilution Water Source: 8:2 Coast Other: _____ Alkalinity: _____ Hardness: _____

Additional Control? ☐ Y ☐ N = _____ Alkalinity: _____ Hardness: _____

Marine Tests:

Control/Dilution Water Source: LAB SW ART SW Other: _____ Alkalinity: 111 Salinity: 30ppt

Additional Control? ☒ Y ☐ N = Cabsw Alkalinity: 151 Salinity: 30ppt

Sample Salted w/ artificial salt? ☒ Y ☐ N If yes, target ppt and source? Instant ocean 30ppt

Sample salted w/brine? ☐ Y ☒ N If yes, target ppt? _____

Notes ¹ Temperature for sample must be 0-6°C if received >24 hours past collection time.

² mg/L as CaCO₃, ³ Measured for freshwater samples only, NA = Not Applicable

Additional Comments: Q14 H1S 7/20/22

QC Check: on 7/12/22

Sample Descriptions:

- 1) light yellow, clear, no odor, light debris
- 2) light yellow, clear, no odor, no debris

3)
4)
5)
6)

COC Complete? ☒ Y ☐ N

Filtration? ☐ Y ☒ N

Pore Size: _____

Organisms or Debris

pH Adjustment? ☐ Y ☒ N

	1	2	3	4	5	6
Initial pH:						
Amount of HCl added:						
Final pH:						

Cl₂ Adjustment? ☐ Y ☒ N

	1	2	3	4	5	6
Initial Free Cl ₂ :						
STS added:						
Final Free Cl ₂ :						

Sample Aeration? ☐ Y ☒ N

	1	2	3	4	5	6
Initial D.O.						
Duration & Rate						
Final D.O.						

Measure NH₃ via test strip (circle one)? ☐ Y ☒ N

NH₃ Strip Result* A: _____ B: _____ C: _____

*(If 6 or more, notify PM)

Subsamples for Additional Chemistry Required? ☐ Y ☒ N

NH₃ Other: _____

Tech Initials: _____

Final Review: ACJ 7/20/22

Enthalpy Analytical
4340 Vandever Avenue
San Diego, CA 92120

Sample Check-In Information

DC-006

Client: Cardno H1

Tests Performed:

Aute C. dubia,
P. promelas, H. azteca

Project: Dryweather - Freshwater

Test ID No.(s): 2206-S198 to S200

Sample ID:	1) <u>WW-2</u>	2)	3)	4)	5)	6)
Log-In No. (22-xxxx):	<u>0846</u>					
Sample Collection Date & Time:	<u>6/27/12 10:05</u>					
Sample Receipt Date & Time:	<u>6/29/12 10:05</u>					
Number of Containers & Container Type:	<u>2 x 4L Jars</u>					
Approx. Total Volume Received (L):	<u>~ 8L</u>					
Check-in Temp (°C)	<u>2.7</u>					
Temperature OK? ¹	<u>N</u>	Y N	Y N	Y N	Y N	Y N
DO (mg/L)	<u>9.8</u>					
pH (units)	<u>7.72</u>					
Conductivity (µS/cm)	<u>3240</u>					
Salinity (ppt)	<u>1.8</u>					
Alkalinity (mg/L) ²	<u>161</u>					
Hardness (mg/L) ^{2,3}	<u>421</u>					
Total Chlorine (mg/L)	<u><0.02</u>					
Technician Initials	<u>JE</u>					

Freshwater Tests:

Control/Dilution Water Source: 8:2 Coast Other: _____

Alkalinity: 94 Hardness: 89

Additional Control? Y N = _____

Alkalinity: _____ Hardness: _____

Marine Tests:

Control/Dilution Water Source: LAB SW ART SW Other: _____

Alkalinity: _____ Salinity: _____

Additional Control? Y N = _____

Alkalinity: _____ Salinity: _____

Sample Salted w/ artificial salt? Y N If yes, target ppt and source? _____

Sample salted w/brine? Y N If yes, target ppt? _____

Notes ¹ Temperature for sample must be 0-6°C if received >24 hours past collection time.

² mg/L as CaCO₃, ³ Measured for freshwater samples only, NA = Not Applicable

Additional Comments: QA JE 06/29/12

QC Check: JE 7/12/12

Sample Descriptions:

1) light yellow, clear, no odor, light debris

2)	
3)	
4)	
5)	
6)	

COC Complete? N

Filtration? N

Pore Size: _____

Organisms or Debris

pH Adjustment? N

1 2 3 4 5 6

Initial pH: _____

Amount of HCl added: _____

Final pH: _____

Cl₂ Adjustment? N

1 2 3 4 5 6

Initial Free Cl₂: _____

STS added: _____

Final Free Cl₂: _____

Sample Aeration? N

1 2 3 4 5 6

Initial D.O.: _____

Duration & Rate: _____

Final D.O.: _____

Measure NH₃ via test strip (circle one)? Y N

NH₃ Strip Result* A: _____ B: _____ C: _____

*(if 6 or more, notify PM)

Subsamples for Additional Chemistry Required? Y N

NH₃ Other: _____

Tech Initials: _____

Final Review: MS 7/20/12

Appendix C

Chain-of-Custody Form

Enthalpy Analytical - Environmental Toxicology

4340 Vandever Avenue
San Diego, CA 92120
Phone 858.587.7333
infoSD@enthalpy.com

Chain of Custody

Date 6/28/2022 Page 1 of 1

Sample Collection By:							ANALYSES REQUIRED							Receipt Temperature (°C)
Report to:				Invoice To:			Enthalpy Matrix Codes:							
Company				Company			G = Grab							
Address				Address			C = Composite							
City/State/Zip				City/State/Zip			FW = Freshwater							
Contact				Contact			SW = Seawater							
Phone				Phone			Sed = Sediment							
Email				Email			STRM = Stormwater							
							GW = Groundwater							
							WW = Wastewater							
							O = Other (specify)							
SAMPLE ID	SAMPLE			MATRIX CODE	Container		COMMENTS	<i>P. promelas</i> 96-hr Acute Survival	<i>C. dubia</i> 96-hr Acute Survival	<i>H. azteca</i> 96-hr Acute Survival	<i>A. affinis</i> 96-hr Acute Survival	<i>M. beryllina</i> 96-hr Acute Survival	<i>A. bahia</i> 96-hr Acute Survival	
	Date	Time	Type (G or C)	(FW, SW, Sed, STRM, GW, WW, O)	Type	Qty								
1 DW-1/WW-1	06/27/2022	10:15 HST	G	STRM	2.5 Gal Plastic	2	Marine Species				X	X	X	
2 WW-2	06/27/2022	10:05 HST	G	STRM	2.5 Gal Plastic	2	Freshwater Species	X	X	X				
3 WW-3	06/27/2022	10:30 HST	G	STRM	2.5 Gal Plastic	2	Marine Species				X	X	X	
4														
5														
6														
7														
8														
9														
10														
PROJECT INFORMATION		SAMPLE RECEIPT				1) RELINQUISHED BY (CLIENT)			2) RECEIVED BY (COURIER)					
Project Name:	ADC Water Quality Monitoring		Total No. of Containers		6		(Signature)	(Time)	(Signature)	(Time)				
PO No.:			Received Good Condition?		Y		(Printed Name)	(Date)	(Printed Name)	(Date)				
Shipped Via:	Fed Ex		Matches Test Schedule?		Y		(Company)		(Company)					
SPECIAL INSTRUCTIONS/COMMENTS:							3) RELINQUISHED BY (COURIER)			4) RECEIVED BY (LABORATORY)				
							(Signature)	(Time)	(Signature)	(Time)				
							(Printed Name)	(Date)	(Printed Name)	(Date)				
							(Company)		(Company)					

Additional costs may be required for sample disposal or storage. Payment net 30 unless otherwise contracted.
Shaded areas are for lab use only
Report turn-around-time varies depending on length of test; please inquire with your project manager.

<http://enthalpy.com/environmental-toxicology-2/>

Appendix D

Qualifier Code Glossary

Glossary of Qualifier Codes

- Q1 - Temperature out of recommended range; corrective action taken and recorded in Test Temperature Correction Log
- Q2 - Temperature out of recommended range; no action taken, test terminated same day
- Q3 - Sample pH adjusted to within range of 6-9 with reagent grade NaOH or HCl, as needed
- Q4 - Test aerated; D.O. levels dropped below 4.0 mg/L
- Q5 - Test initiated with continuous aeration due to an anticipated drop in D.O.
- Q6 - Airline obstructed or fell out of replicate and replaced; drop in D.O. occurred
- Q7 - Salinity out of recommended range
- Q8 - Spilled test chamber/ Unable to recover test organism(s)
- Q9 - Inadequate sample volume remaining, partial renewal performed
- Q10 - Inadequate sample volume remaining, no renewal performed
- Q11 - Sample out of holding time; refer to QA section of report
- Q12 - Replicate(s) not initiated; excluded from data analysis
- Q13 - Survival counts not recorded due to poor visibility or heavy debris
- Q14 - D.O. percent saturation was checked and was $\leq 110\%$
- Q15 - Did not meet minimum test acceptability criteria. Refer to QA section of report.
- Q16 - Percent minimum significant difference (PMSD) was below the lower bound limit for acceptability. This indicates that statistics may be over-sensitive in detecting a difference from the control due to low variability in the data set. Test results were reviewed and reported in accordance with guidance found in EPA-833-R-00-003, 2000 unless otherwise specified.
- Q17 - Percent minimum significant difference (PMSD) was above the upper bound limit for acceptability. This indicates that statistics may be under-sensitive in detecting a difference from the control due to high variability in the data set. Test results were reviewed and reported in accordance with EPA-833-R-00-003, 2000 guidance unless otherwise specified.
- Q18 - Incorrect or illegible Entry
- Q19 - Miscalculation
- Q20 - PMSD criteria do not apply to the test of significant toxicity (TST) analysis
- Q21 - Other (provide reason in comments section)
- Q22 - Greater than 10% batch mortality observed upon receipt and/or in holding prior to test initiation. Organisms acclimated to test conditions at Enthalpy and ultimately deemed fit to use for testing.
- Q23 - Test organisms experienced a temperature shift greater than 3°C within 1 day or were received at a temperature greater than 3°C outside the recommended test temperature range and had minimal time to acclimate prior to test initiation. However, due to age-specific protocol requirements and/or sample holding time constraints, the organisms were used to initiate test(s). Organisms were ultimately deemed fit to use for testing.
- Q24 - Test organisms experienced a salinity shift greater than 3 ppt within 1 day or were received at a salinity greater than 3 ppt outside the recommended test salinity range and had minimal time to acclimate prior to test initiation. However, due to age-specific protocol requirements and/or sample holding time constraints, the organisms were used to initiate test(s). Organisms were ultimately deemed fit to use for testing.

Appendix E

Reference Toxicant Test Control Charts

CETIS QC Plot

Report Date: 28 Jun-22 15:35 (1 of 1)

Pacific Topsmelt 7-d Survival and Growth Test

Nautilus Environmental (CA)

Test Type: Growth-Survival (7d)

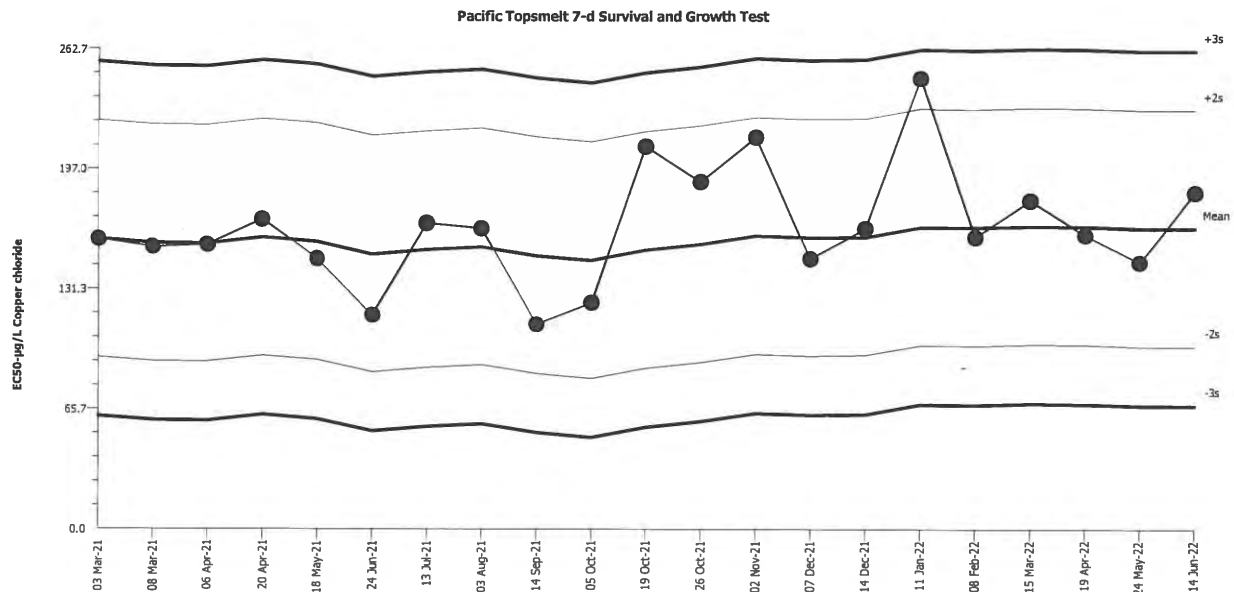
Organism: Atherinops affinis (Topsmelt)

Material: Copper chloride

Protocol: EPA/600/R-95/136 (1995)

Endpoint: 96h Survival Rate

Source: Reference Toxicant-REF



Mean: 164.4

Count: 20

-2s Warning Limit: 99.79

-3s Action Limit: 67.46

Sigma: 32.33

CV: 19.70%

+2s Warning Limit: 229.1

+3s Action Limit: 261.4

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2021	Mar	3	15:10	158.7	-5.688	-0.1759			07-1439-6747	02-6461-7984
2			8	15:55	154.4	-10.01	-0.3096			20-0198-1423	17-7114-1414
3		Apr	6	15:45	155.6	-8.79	-0.2719			02-5413-8270	11-2512-1842
4			20	16:10	169.5	5.072	0.1569			07-9128-2333	02-8884-2014
5		May	18	15:10	147.9	-16.47	-0.5093			07-2455-3905	21-3422-2813
6		Jun	24	15:00	117.1	-47.29	-1.463			15-3137-8253	02-5159-6426
7		Jul	13	17:35	167.4	2.959	0.09153			00-9969-6944	07-4032-4656
8		Aug	3	15:10	164.4	0.0462	0.001429			10-6362-4073	00-5865-4101
9		Sep	14	16:00	112.1	-52.29	-1.617			12-0954-0965	04-6075-5357
10		Oct	5	16:30	123.9	-40.48	-1.252			02-2013-9343	15-6015-7223
11			19	17:40	209.2	44.8	1.386			09-9027-4085	20-3476-8373
12			26	17:35	189.9	25.46	0.7876			04-7946-2060	06-2444-2430
13		Nov	2	14:15	214.1	49.73	1.538			07-9921-1561	21-2756-8051
14		Dec	7	14:55	147.9	-16.47	-0.5093			01-2992-2249	20-4143-0307
15			14	13:50	164.4	0.0462	0.001429			02-9573-3350	08-1811-6540
16	2022	Jan	11	18:00	246.4	82.03	2.537	(+)		09-9591-8406	10-2877-4737
17		Feb	8	17:35	159.6	-4.762	-0.1473			04-7966-7917	10-8389-1858
18		Mar	15	15:02	179.6	15.22	0.4708			16-5143-7729	13-2350-3565
19		Apr	19	18:52	160.8	-3.634	-0.1124			11-7024-1142	07-9738-3786
20		May	24	17:15	145.9	-18.54	-0.5734			18-6765-3113	19-0528-8678
21		Jun	14	16:08	183.9	19.47	0.6023			12-5114-4032	13-8510-0759

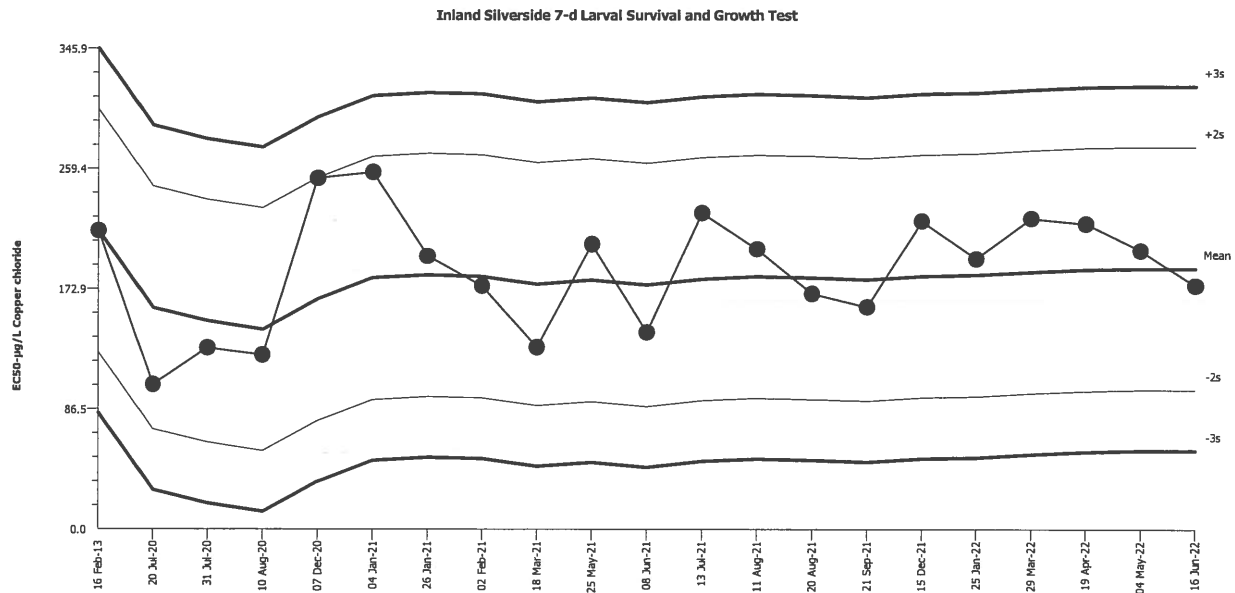
Inland Silverside 7-d Larval Survival and Growth Test

Nautilus Environmental (CA)

Test Type: Growth-Survival (7d)
Protocol: EPA/821/R-02-014 (2002)

Organism: Menidia beryllina (Inland Silverside)
Endpoint: 96h Survival Rate

Material: Copper chloride
Source: Reference Toxicant-REF



Mean: 187.5
Sigma: 43.69

Count: 20
CV: 23.30%

-2s Warning Limit: 100.1
+2s Warning Limit: 274.8

-3s Action Limit: 56.4
+3s Action Limit: 318.5

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2013	Feb	16	15:30	214.8	27.3	0.6248			10-7467-8346	19-2613-4558
2	2020	Jul	20	16:01	104	-83.46	-1.91			06-5000-1154	19-5674-0315
3			31	15:10	130.5	-57.03	-1.305			09-6339-3407	11-9363-0132
4		Aug	10	16:30	125.3	-62.19	-1.424			11-1776-7754	07-8258-0713
5		Dec	7	16:40	252.3	64.77	1.482			11-0642-8981	04-6494-0496
6	2021	Jan	4	15:15	256.7	69.18	1.583			13-9634-4096	02-3056-8867
7			26	17:05	196.4	8.883	0.2033			09-7143-7663	05-2810-1502
8		Feb	2	16:15	174.9	-12.61	-0.2885			05-5386-3620	11-3654-8662
9		Mar	18	16:00	130.8	-56.75	-1.299			18-1469-0764	06-5399-9888
10		May	25	14:45	204.9	17.41	0.3984			12-3585-6267	11-0373-9198
11		Jun	8	16:00	141.6	-45.9	-1.051			17-8894-2784	00-2323-0879
12		Jul	13	16:50	227.4	39.86	0.9123			11-2839-2723	13-1933-5125
13		Aug	11	15:40	201.4	13.89	0.3178			08-1274-6222	07-1090-6394
14			20	14:30	169.3	-18.16	-0.4155			00-0894-9193	00-5667-2795
15		Sep	21	17:45	159.6	-27.87	-0.638			06-4501-2571	19-0126-4428
16		Dec	15	18:55	221.5	34.02	0.7788			09-4241-1802	15-9899-1843
17	2022	Jan	25	14:27	194.5	7.026	0.1608			08-0181-1402	01-7995-4640
18		Mar	29	15:28	223.5	35.95	0.8229			19-8770-3119	07-5518-7065
19		Apr	19	17:30	219.6	32.11	0.735			12-1753-5366	06-5355-2549
20		May	4	16:35	200.4	12.95	0.2964			08-7307-3057	12-6337-1234
21		Jun	16	18:42	175.3	-12.18	-0.2789			06-7480-2644	04-7745-7788

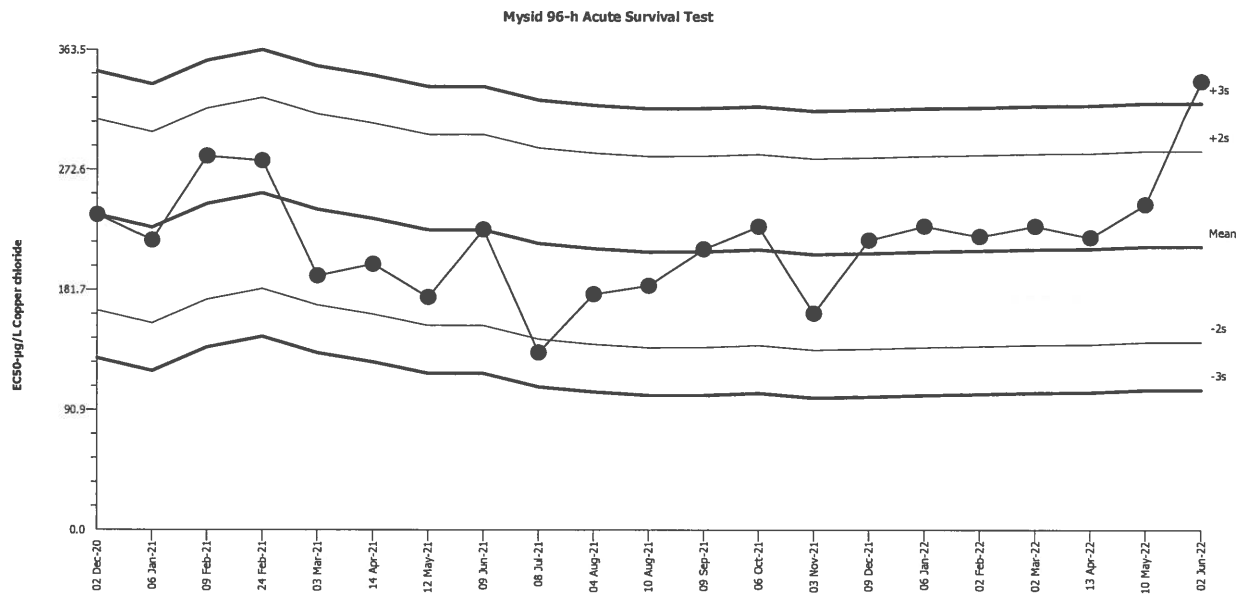
Mysid 96-h Acute Survival Test

Nautilus Environmental (CA)

Test Type: Survival (96h)
Protocol: EPA/821/R-02-012 (2002)

Organism: Americamysis bahia (Opossum Shri
Endpoint: 96h Survival Rate

Material: Copper chloride
Source: Reference Toxicant-REF



Mean: 214.3 Count: 20 -2s Warning Limit: 142 -3s Action Limit: 105.8
Sigma: 36.18 CV: 16.90% +2s Warning Limit: 286.7 +3s Action Limit: 322.9

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2020	Dec	2	16:15	238.4	24.15	0.6674			05-6239-9486	13-2389-5949
2	2021	Jan	6	15:40	219.1	4.798	0.1326			03-0517-8333	01-7272-9774
3		Feb	9	16:35	282.8	68.54	1.894			18-0066-8687	07-5637-1896
4			24	17:00	279.3	65.03	1.797			12-7982-0378	10-2127-5639
5		Mar	3	16:20	192.2	-22.06	-0.6099			19-5823-8705	16-3495-3098
6		Apr	14	16:15	201	-13.27	-0.3668			12-9280-6414	13-7392-7597
7		May	12	17:30	176	-38.27	-1.058			12-7732-0164	05-0673-2773
8		Jun	9	16:00	227.2	12.94	0.3576			17-2171-6769	11-3085-8431
9		Jul	8	16:10	134.1	-80.22	-2.217	(-)		11-1635-1099	02-4153-3890
10		Aug	4	17:20	178.2	-36.12	-0.9983			12-8033-5320	14-9454-0803
11			10	17:15	184.6	-29.67	-0.8201			01-4163-2041	16-5453-9162
12		Sep	9	16:50	212.2	-2.067	-0.05713			19-9503-3728	00-7298-1641
13		Oct	6	17:00	229.4	15.1	0.4172			21-3339-5883	18-5433-4447
14		Nov	3	17:40	163.6	-50.66	-1.4			03-0676-2868	02-4632-6423
15		Dec	9	16:55	219.1	4.798	0.1326			14-6810-7407	12-0239-6176
16	2022	Jan	6	18:35	229.7	15.44	0.4267			08-4763-9809	17-4517-5950
17		Feb	2	15:43	221.9	7.614	0.2104			02-9039-0198	04-3775-7572
18		Mar	2	17:00	229.7	15.44	0.4267			19-5561-3648	03-3054-6534
19		Apr	13	14:15	221.2	6.883	0.1903			18-2705-2426	19-3047-8671
20		May	10	16:15	246.2	31.93	0.8825			14-0311-5896	14-7347-1987
21		Jun	2	15:42	339.4	125.1	3.459	(+)	(+)	02-6130-3312	02-8523-9304

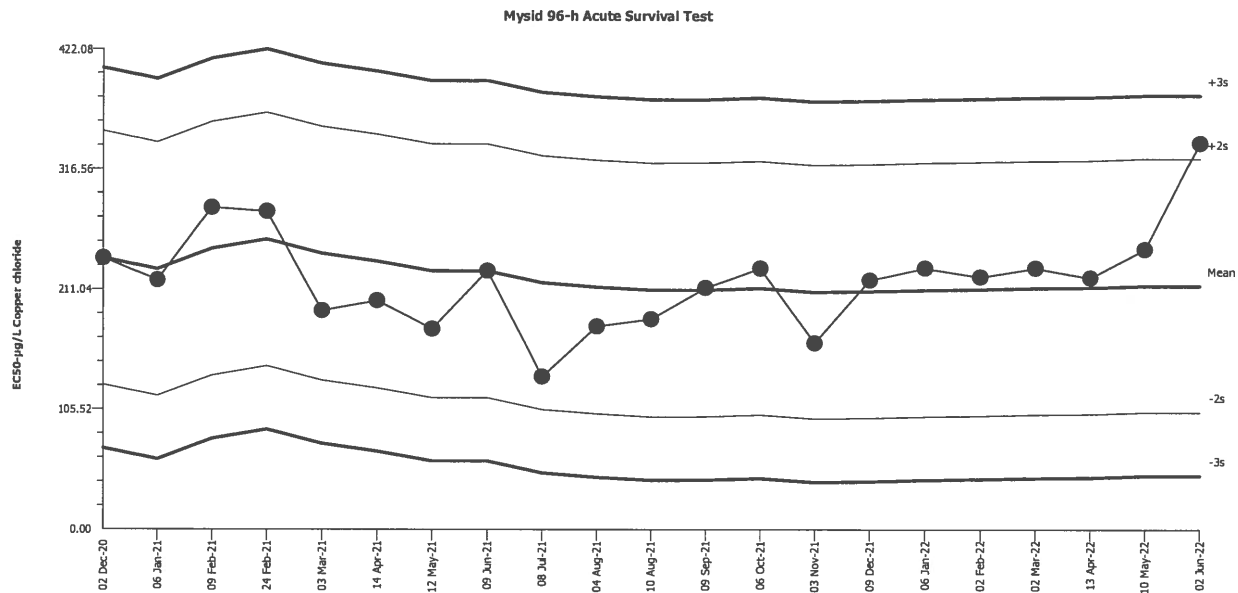
Mysid 96-h Acute Survival Test

Nautilus Environmental (CA)

Test Type: Survival (96h)
Protocol: EPA/821/R-02-012 (2002)

Organism: Americamysis bahia (Opossum Shri
Endpoint: 96h Survival Rate

Material: Copper chloride
Source: Reference Toxicant-REF



Mean: 214.3 Count: 20 -2s Warning Limit: 102.9 -3s Action Limit: 47.16
Sigma: 55.72 CV: 26.00% +2s Warning Limit: 325.8 +3s Action Limit: 381.5

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2020	Dec	2	16:15	238.4	24.15	0.4334			05-6239-9486	13-2389-5949
2	2021	Jan	6	15:40	219.1	4.798	0.08612			03-0517-8333	01-7272-9774
3		Feb	9	16:35	282.8	68.54	1.23			18-0066-8687	07-5637-1896
4			24	17:00	279.3	65.03	1.167			12-7982-0378	10-2127-5639
5		Mar	3	16:20	192.2	-22.06	-0.396			19-5823-8705	16-3495-3098
6		Apr	14	16:15	201	-13.27	-0.2382			12-9280-6414	13-7392-7597
7		May	12	17:30	176	-38.27	-0.6869			12-7732-0164	05-0673-2773
8		Jun	9	16:00	227.2	12.94	0.2322			17-2171-6769	11-3085-8431
9		Jul	8	16:10	134.1	-80.22	-1.44			11-1635-1099	02-4153-3890
10		Aug	4	17:20	178.2	-36.12	-0.6483			12-8033-5320	14-9454-0803
11			10	17:15	184.6	-29.67	-0.5326			01-4163-2041	16-5453-9162
12		Sep	9	16:50	212.2	-2.067	-0.0371			19-9503-3728	00-7298-1641
13		Oct	6	17:00	229.4	15.1	0.2709			21-3339-5883	18-5433-4447
14		Nov	3	17:40	163.6	-50.66	-0.9092			03-0676-2868	02-4632-6423
15		Dec	9	16:55	219.1	4.798	0.08612			14-6810-7407	12-0239-6176
16	2022	Jan	6	18:35	229.7	15.44	0.2771			08-4763-9809	17-4517-5950
17		Feb	2	15:43	221.9	7.614	0.1367			02-9039-0198	04-3775-7572
18		Mar	2	17:00	229.7	15.44	0.2771			19-5561-3648	03-3054-6534
19		Apr	13	14:15	221.2	6.883	0.1235			18-2705-2426	19-3047-8671
20		May	10	16:15	246.2	31.93	0.573			14-0311-5896	14-7347-1987
21		Jun	2	15:42	339.4	125.1	2.246	(+)		02-6130-3312	02-8523-9304

* Reference toxicant warning & control chart limits recalculated based on 75th percentile interlaboratory coefficient of variation, as defined in EPA-833-R-00-003, for comparison purposes only.

Fathead Minnow 7-d Larval Survival and Growth Test

Nautilus Environmental (CA)

Test Type: Growth-Survival (7d)

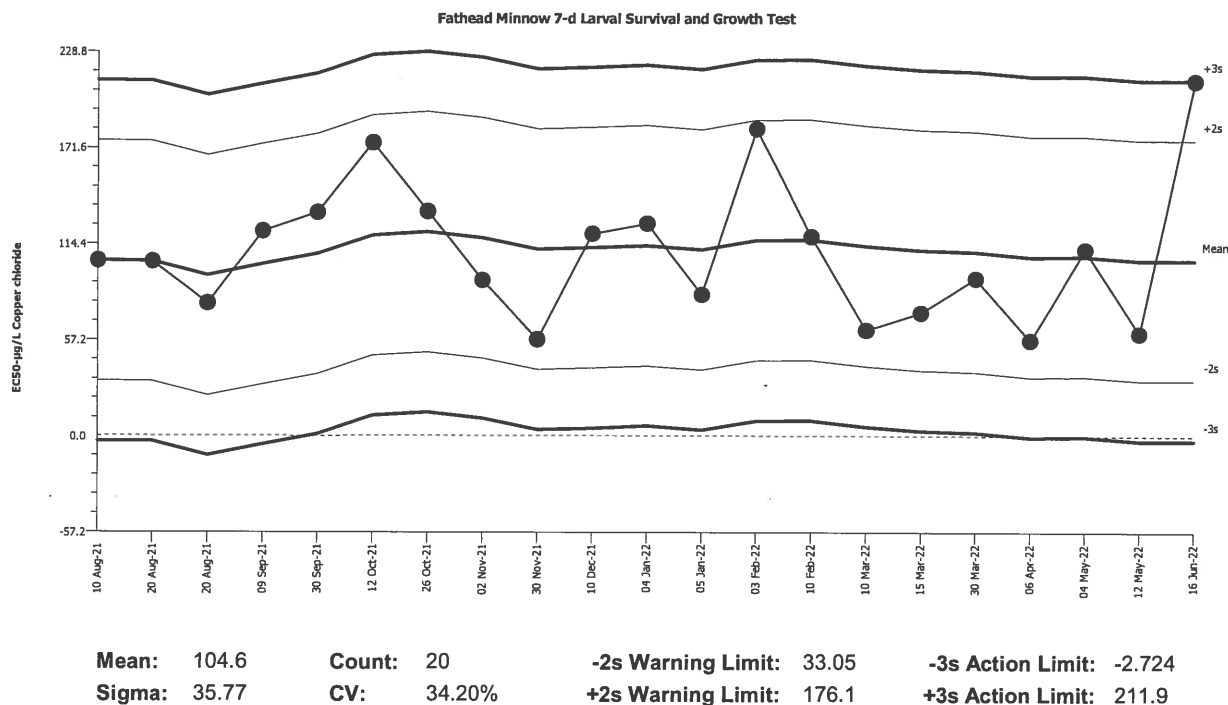
Organism: Pimephales promelas (Fathead Minn)

Material: Copper chloride

Protocol: EPA/821/R-02-013 (2002)

Endpoint: 96h Survival Rate

Source: Reference Toxicant-REF



Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2021	Aug	10	17:00	104.5	-0.1339	-0.003743			06-5106-4473	16-8349-8488
2			20	15:00	104	-0.6444	-0.01802			07-2479-1594	07-6700-6136
3			20	17:00	79.02	-25.58	-0.715			18-6718-0557	09-4698-0743
4		Sep	9	18:55	121.9	17.31	0.4838			05-4343-4208	11-0592-7154
5			30	14:50	132.9	28.28	0.7905			01-8347-7391	14-8035-6997
6		Oct	12	17:55	174.5	69.88	1.954			00-0933-3989	12-6591-3569
7			26	18:15	133.5	28.95	0.8093			10-8019-6575	15-0731-4737
8		Nov	2	16:40	92.7	-11.9	-0.3327			16-5811-7060	18-9458-0416
9			30	15:55	57.46	-47.14	-1.318			00-1667-8083	15-0122-7754
10		Dec	10	16:40	120.2	15.61	0.4365			17-1786-4406	08-6766-0492
11	2022	Jan	4	16:34	126.4	21.83	0.6103			07-8330-8160	17-2533-9645
12			5	18:00	84.1	-20.5	-0.573			14-1934-2453	06-3680-4099
13		Feb	3	10:00	182.8	78.19	2.186	(+)		01-7629-3278	09-7234-1140
14			10	18:26	118.5	13.91	0.3889			11-1860-8284	00-8523-1695
15		Mar	10	18:15	63.02	-41.58	-1.162			00-1692-2019	14-6224-1763
16			15	15:30	73.44	-31.16	-0.871			09-2345-4687	19-5991-1492
17			30	16:40	93.82	-10.78	-0.3012			01-7400-2609	06-4899-9532
18		Apr	6	17:25	56.88	-47.72	-1.334			02-1850-9101	03-7870-1967
19		May	4	16:53	111	6.398	0.1789			07-6502-0172	20-2254-9249
20			12	17:40	61.1	-43.5	-1.216			17-0085-7876	08-8466-0525
21		Jun	16	17:45	211.6	107	2.991	(+)		19-0065-9688	18-5684-8592

Ceriodaphnia 96-h Acute Survival Test

Nautilus Environmental (CA)

Test Type: Survival (96h)

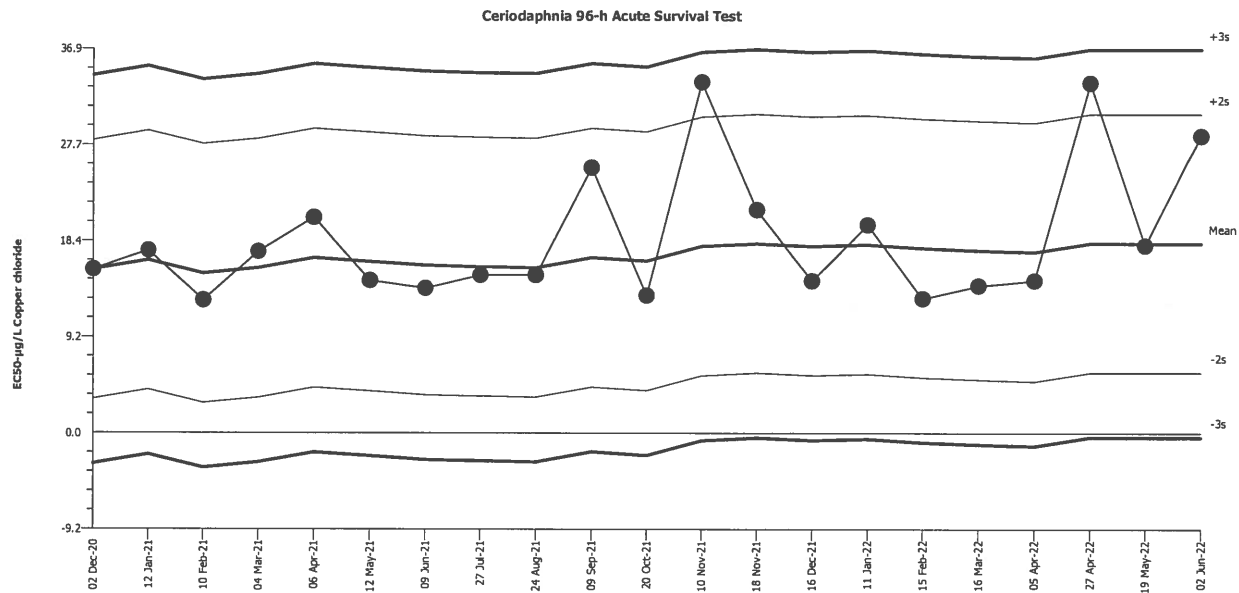
Organism: Ceriodaphnia dubia (Water Flea)

Material: Copper chloride

Protocol: EPA/821/R-02-012 (2002)

Endpoint: 96h Survival Rate

Source: Reference Toxicant-REF



Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2020	Dec	2	15:10	15.69	-2.538	-0.4084			05-6044-5446	17-1353-5910
2	2021	Jan	12	15:20	17.51	-0.7181	-0.1155			04-7387-5530	19-1299-4588
3		Feb	10	13:55	12.75	-5.484	-0.8823			08-3148-4658	06-6989-2045
4		Mar	4	16:25	17.41	-0.819	-0.1318			15-8568-0690	17-8564-8570
5		Apr	6	15:50	20.71	2.475	0.3982			08-3369-8973	05-2050-6997
6		May	12	15:10	14.64	-3.589	-0.5774			10-4472-6774	07-9301-5016
7		Jun	9	14:45	13.89	-4.343	-0.6988			11-5497-5585	09-4665-0689
8		Jul	27	15:25	15.16	-3.073	-0.4943			11-0452-3526	16-6097-3734
9		Aug	24	14:30	15.16	-3.073	-0.4943			16-7751-9851	12-8178-8398
10		Sep	9	16:10	25.49	7.261	1.168			20-4067-7008	08-9042-7975
11		Oct	20	15:35	13.2	-5.035	-0.81			05-1097-3999	04-4068-7551
12		Nov	10	16:15	33.71	15.48	2.49	(+)		13-9846-9861	13-7049-3150
13			18	14:30	21.44	3.205	0.5157			17-9444-3715	09-3342-3577
14		Dec	16	17:20	14.6	-3.627	-0.5834			14-6159-9603	07-8985-1975
15	2022	Jan	11	15:00	20	1.77	0.2847			16-5501-6237	05-0045-3257
16		Feb	15	15:20	12.91	-5.324	-0.8565			19-8470-5266	12-1776-6242
17		Mar	16	15:00	14.14	-4.088	-0.6576			08-4939-9657	04-1675-6253
18		Apr	5	16:55	14.64	-3.589	-0.5774			15-6426-3206	15-2718-9221
19			27	15:15	33.64	15.41	2.478	(+)		08-4806-4027	01-7719-2285
20		May	19	15:15	18.03	-0.205	-0.03298			15-0414-1498	06-5943-7571
21		Jun	2	15:40	28.57	10.34	1.663			13-6497-5171	08-6278-4122

Acute Amphipod Survival Test

Nautilus Environmental (CA)

Test Type: Survival (96h)

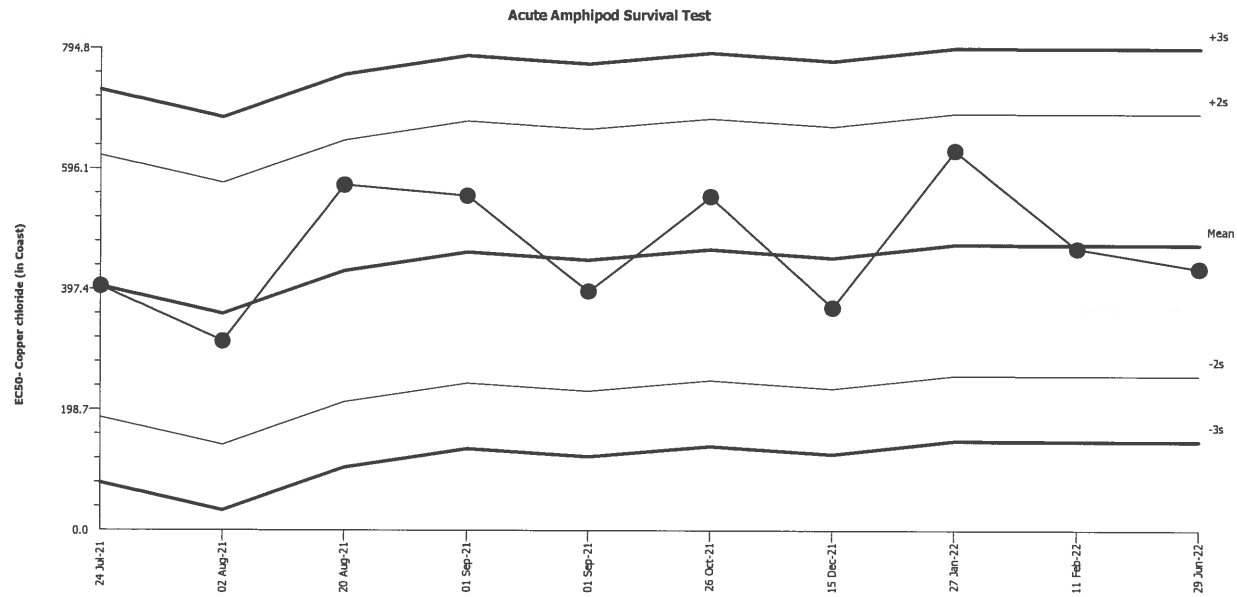
Organism: *Hyalella azteca* (Freshwater Amphip)

Material: Copper chloride (in Coast)

Protocol: EPA/821/R-02-012 (2002)

Endpoint: 96h Survival Rate

Source: Reference Toxicant-REF



Mean: 470.3

Count: 9

-2s Warning Limit: 254.5

-3s Action Limit: 146.6

Sigma: 107.9

CV: 22.90%

+2s Warning Limit: 686.1

+3s Action Limit: 794

Quality Control Data

Point	Year	Month	Day	Time	QC Data	Delta	Sigma	Warning	Action	Test ID	Analysis ID
1	2021	Jul	24	10:35	402.1	-68.24	-0.6324			01-9158-2894	04-9657-5582
2		Aug	2	18:10	311.1	-159.2	-1.475			12-1293-8948	18-5258-0274
3			20	16:45	568.8	98.46	0.9125			13-6419-6120	05-7250-0573
4		Sep	1	14:40	551	80.73	0.7482			16-9611-9317	12-1127-8026
5			1	16:00	393.8	-76.51	-0.7091			05-5529-3044	09-1102-6160
6		Oct	26	19:00	549.6	79.28	0.7348			18-1063-1366	05-2379-1035
7		Dec	15	18:25	366.8	-103.5	-0.9592			20-2781-7958	18-9516-9975
8	2022	Jan	27	17:30	625.4	155.1	1.437			18-9392-5843	01-5172-6206
9		Feb	11	17:35	463.8	-6.457	-0.05984			14-7873-5968	19-5575-1394
10		Jun	29	17:00	431	-39.25	-0.3638			03-3409-7356	15-5020-6688