Armstrong, Kathy

From: Russell, Chris
Sent: Thursday, August 22, 2019 3:43 PM
To: Swanson, Courtney; tricia.kilgore@bjwsa.org
Cc: Tanner, Terry
Subject: FW: Surface Water Samples
Attachments: Waste Pile Run off sample summary.pdf

Hello Tricia and Courtney:

Please find attached the sample SCDHEC took on August 2, 2019 in regards to run-off from the waste pile.

Courtney: I'm not sure if this meets the needs that you and Earl discussed, unfortunately I do not have his email address, so please ensure he receives it.

Please do not hesitate to contact me should you have any comments, questions, or concerns, pertaining to this email.

Respectfully,

Chris Russell
Federal On Scene Coordinator
US EPA Region 4: Florida Outpost
Cell: (850) 274-1575

From: Schrag, Jeffrey <SCHRAGJM@dhec.sc.gov>
Sent: Thursday, August 22, 2019 3:20 PM
To: Russell, Chris <Russell.Chris@epa.gov>
Cc: Porter, Henry <porterhj@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>
Subject: Re: Surface Water Samples

Chris,

Please find attached the lab report summary for the waste pile run-off sample collected on 8/2/2019.

Jeffrey Schrag
Waste Assessment Section Manager
Bureau of Land and Waste Management
S.C. Dept. of Health & Environmental Control
Office: (803) 898-4326
Mobile: (803) 429-4102

Fax: (803) 898-1415

Connect: www.scdhec.gov Facebook Twitter

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From: Schrag, Jeffrey <SCHRAGJM@dhec.sc.gov>
Sent: Thursday, August 22, 2019 3:15:26 PM
To: Porter, Henry <porterhj@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>
Subject: Re: Surface Water Samples

Henry,

Are you referring to the run-off from the waste pile sample?

Jeffrey Schrag
Waste Assessment Section Manager
Bureau of Land and Waste Management
S.C. Dept. of Health & Environmental Control
Office: (803) 898-4326
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From: Porter, Henry <porterhj@dhec.sc.gov>
Sent: Thursday, August 22, 2019 3:05:29 PM
To: Stewart, R. Gary <stewarrg@dhec.sc.gov>; Schrag, Jeffrey <SCHRAGJM@dhec.sc.gov>
Subject: Surface Water Samples

Can y'all send the surface water sample results to Chris Russell with EPA?

Russell.Chris@epa.gov.

Sent from my iPhone

SHEALY ENVIRONMENTAL SERVICES, INC.

Detection Summary
SC DHEC
Lot Number: UH02081

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
[redacted]		[redacted]	Carbon disulfide	8260B	[redacted]	J	ug/L	7
[redacted]		[redacted]	[redacted]	8260B	0.41	J	ug/L	7
001	inside wall	Aqueous	Caprolactam	8270D	[redacted]		ug/L	9
[redacted]		[redacted]	Di-n-butyl phthalate	8270D	[redacted]	BJ	ug/L	10
[redacted]		Aqueous	Barium	6010D	[redacted]	J	mg/L	11
[redacted]		[redacted]	Calcium	6010D	[redacted]		mg/L	11
[redacted]		Aqueous	Magnesium	6010D	[redacted]		mg/L	11
[redacted]		Aqueous	Manganese	6010D	[redacted]		mg/L	11
[redacted]		Aqueous	Potassium	6010D	[redacted]	J	mg/L	11
[redacted]		[redacted]	Sodium	6010D	[redacted]		mg/L	11
[redacted]		[redacted]	[redacted]	6010D	[redacted]		mg/L	11
002	outside wall runoff	Aqueous	Acetone	8260B	98		ug/L	12
002	outside wall runoff	Aqueous	Benzene	8260B	28		ug/L	12
002	outside wall runoff	Aqueous	2-Butanone (MEK)	8260B	24		ug/L	12
002	outside wall runoff	Aqueous	Carbon disulfide	8260B	4.0	J	ug/L	12
002	outside wall runoff	Aqueous	Chloromethane (Methyl	8260B	1.1	J	ug/L	12
002	outside wall runoff	Aqueous	1,2-Dichloroethane	8260B	0.50	J	ug/L	12
002	outside wall runoff	Aqueous	1,2-Dichloropropane	8260B	0.45	J	ug/L	12
002	outside wall runoff	Aqueous	Ethylbenzene	8260B	5.6		ug/L	12
002	outside wall runoff	Aqueous	Isopropylbenzene	8260B	0.66	J	ug/L	12
002	outside wall runoff	Aqueous	4-Methyl-2-pentanone	8260B	3.7	J	ug/L	12
002	outside wall runoff	Aqueous	Styrene	8260B	1.2	J	ug/L	12
002	outside wall runoff	Aqueous	Toluene	8260B	14		ug/L	12
002	outside wall runoff	Aqueous	Xylenes (total)	8260B	3.6	J	ug/L	13
002	outside wall runoff	Aqueous	2,4-Dimethylphenol	8270D	44		ug/L	14
002	outside wall runoff	Aqueous	2-Methylphenol	8270D	50		ug/L	14
002	outside wall runoff	Aqueous	3+4-Methylphenol	8270D	25		ug/L	14
002	outside wall runoff	Aqueous	Acetophenone	8270D	11		ug/L	14
002	outside wall runoff	Aqueous	bis(2-Ethylhexyl)phthalate	8270D	1.0	J	ug/L	14
002	outside wall runoff	Aqueous	Caprolactam	8270D	2300	B	ug/L	14
002	outside wall runoff	Aqueous	Di-n-butyl phthalate	8270D	1.1	BJ	ug/L	15
002	outside wall runoff	Aqueous	Naphthalene	8270D	1.1		ug/L	15
002	outside wall runoff	Aqueous	Phenol	8270D	65		ug/L	15
002	outside wall runoff	Aqueous	Aluminum	6010D	0.30	J	mg/L	16
002	outside wall runoff	Aqueous	Antimony	6010D	0.15		mg/L	16
002	outside wall runoff	Aqueous	Arsenic	6010D	0.33		mg/L	16
002	outside wall runoff	Aqueous	Barium	6010D	0.12		mg/L	16
002	outside wall runoff	Aqueous	Calcium	6010D	710		mg/L	16
002	outside wall runoff	Aqueous	Chromium	6010D	0.092		mg/L	16
002	outside wall runoff	Aqueous	Cobalt	6010D	0.0071	J	mg/L	16
002	outside wall runoff	Aqueous	Copper	6010D	0.19		mg/L	16
002	outside wall runoff	Aqueous	Iron	6010D	5.1		mg/L	16
002	outside wall runoff	Aqueous	Lead	6010D	0.015		mg/L	16
002	outside wall runoff	Aqueous	Magnesium	6010D	57		mg/L	16
002	outside wall runoff	Aqueous	Manganese	6010D	0.73		mg/L	16

Detection Summary (Continued)

Lot Number: UH02081

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
002	outside wall runoff	Aqueous	Nickel	6010D	0.037	J	mg/L	16
002	outside wall runoff	Aqueous	Potassium	6010D	83		mg/L	16
002	outside wall runoff	Aqueous	Sodium	6010D	240		mg/L	16
002	outside wall runoff	Aqueous	Vanadium	6010D	0.027	J	mg/L	16
002	outside wall runoff	Aqueous	Zinc	6010D	0.81	B	mg/L	16
~~003~~	~~mobile 394~~	~~Aqueous~~	~~Caprolactam~~	~~8270D~~	~~2.2~~	~~BJ~~	~~ug/L~~	~~19~~
~~003~~	~~mobile 394~~	Aqueous	Arsenic	6010D	0.0034	J	mg/L	21
~~003~~	~~mobile 394~~	Aqueous	Barium	6010D	0.0054	J	mg/L	21
~~003~~	~~mobile 394~~	Aqueous	Calcium	6010D	29		mg/L	21
~~003~~	~~mobile 394~~	Aqueous	Copper	6010D	0.0020	J	mg/L	21
~~003~~	~~mobile 394~~	Aqueous	Magnesium	6010D	1.7		mg/L	21
~~003~~	~~mobile 394~~	Aqueous	Manganese	6010D	0.033		mg/L	21
~~003~~	~~mobile 394~~	Aqueous	Potassium	6010D	2.7	J	mg/L	21
~~003~~	~~mobile 394~~	Aqueous	Sodium	6010D	9.0		mg/L	21
~~003~~	~~mobile 394~~	Aqueous	Zinc	6010D	0.015	BJ	mg/L	21
~~004~~	~~mobile 394 DUP~~	Aqueous	Caprolactam	8270D	2.6	BJ	ug/L	24
004	mobile 394 DUP	Aqueous	Di-n-butyl phthalate	8270D	1.5	BJ	ug/L	25
~~004~~	~~mobile 394 DUP~~	Aqueous	Arsenic	6010D	0.0038	J	mg/L	26
~~004~~	~~mobile 394 DUP~~	Aqueous	Barium	6010D	0.0057	J	mg/L	26
~~004~~	~~mobile 394 DUP~~	Aqueous	Calcium	6010D	30		mg/L	26
~~004~~	~~mobile 394 DUP~~	Aqueous	Copper	6010D	0.0022	J	mg/L	26
~~004~~	~~mobile 394 DUP~~	Aqueous	Magnesium	6010D	9.9		mg/L	26
~~004~~	~~mobile 394 DUP~~	Aqueous	Manganese	6010D	0.032		mg/L	26
~~004~~	~~mobile 394 DUP~~	Aqueous	Potassium	6010D	2.7	J	mg/L	26
~~004~~	~~mobile 394 DUP~~	Aqueous	Sodium	6010D	1.5		mg/L	26
~~004~~	~~mobile 394 DUP~~	Aqueous	Zinc	6010D	0.015	BJ	mg/L	26
~~005~~	~~mobile 130~~	Aqueous	Caprolactam	8270D	2.0	BJ	ug/L	29
~~005~~	~~mobile 130~~	Aqueous	Arsenic	6010D	0.0026	J	mg/L	31
~~005~~	~~mobile 130~~	Aqueous	Barium	6010D	0.0053	J	mg/L	31
~~005~~	~~mobile 130~~	Aqueous	Calcium	6010D	29		mg/L	31
~~005~~	~~mobile 130~~	Aqueous	Magnesium	6010D	1.5		mg/L	31
~~005~~	~~mobile 130~~	Aqueous	Manganese	6010D	0.013		mg/L	31
~~005~~	~~mobile 130~~	Aqueous	Potassium	6010D	2.6	J	mg/L	31
~~005~~	~~mobile 130~~	Aqueous	Sodium	6010D	9.2		mg/L	31
~~005~~	~~mobile 130~~	Aqueous	Zinc	6010D	0.011	BJ	mg/L	31
~~006~~	~~mobile 130 DUP~~	Aqueous	Caprolactam	8270D	2.5	BJ	ug/L	34
~~006~~	~~mobile 130 DUP~~	Aqueous	Di-n-butyl phthalate	8270D	1.0	BJ	ug/L	35
~~006~~	~~mobile 130 DUP~~	Aqueous	Barium	6010D	0.0052	J	mg/L	36
~~006~~	~~mobile 130 DUP~~	Aqueous	Calcium	6010D	27		mg/L	36
~~006~~	~~mobile 130 DUP~~	Aqueous	Magnesium	6010D	8.1		mg/L	36
~~006~~	~~mobile 130 DUP~~	Aqueous	Manganese	6010D	0.012		mg/L	36
~~006~~	~~mobile 130 DUP~~	Aqueous	Potassium	6010D	1.5	J	mg/L	36
~~006~~	~~mobile 130 DUP~~	Aqueous	Sodium	6010D	4.8		mg/L	36
~~006~~	~~mobile 130 DUP~~	Aqueous	Zinc	6010D	0.010	BJ	mg/L	36
~~007~~	~~House 352~~	Aqueous	Acetone	8260B	7.3	J	ug/L	37
~~007~~	~~House 352~~	Aqueous	Caprolactam	8270D	2.1	BJ	ug/L	39
~~007~~	~~House 352~~	Aqueous	Barium	6010D	0.0052	J	mg/L	41
007	House 352	Aqueous	Calcium	6010D	33		mg/L	41

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[redacted]

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From: Tanner, Terry <Tanner.Terry@epa.gov> on behalf of Tanner, Terry
Sent on: Wednesday, September 4, 2019 6:59:19 PM
To: Rivera, Fernando <Rivera.Fernando@epa.gov>; Cobb, Wilda <Cobb.Wilda@epa.gov>; Armstrong, Gregory <Armstrong.Greg@epa.gov>
CC: Snow, Jim <Snow.James@epa.gov>; Tanner, Terry <Tanner.Terry@epa.gov>
Subject: RE: Able Contracting Fire

Here's my perspective on the future removal actions:

1. Mitigate the existing fire
2. Manage the remaining fire debri in a manner that reduces the risk of reignition
3. Prevent drainage water from the waste pile from entering surface water bodies.

The fire is producing hazardous substances (gases). Removing the waste would eliminate the fuel for the fire. I don't have the authority to direct someone to remove waste unless it is hazardous by definition. The waste pile may be violating State or County laws but that's a different issue. I'm not trying to be a wise guy, just calling it as I see it.

From: Rivera, Fernando <Rivera.Fernando@epa.gov>
Sent: Wednesday, September 4, 2019 12:30 PM
To: Tanner, Terry <Tanner.Terry@epa.gov>; Cobb, Wilda <Cobb.Wilda@epa.gov>; Armstrong, Gregory <Armstrong.Greg@epa.gov>
Cc: Snow, Jim <Snow.James@epa.gov>
Subject: RE: Able Contracting Fire

Terry,

I understand. Depending on how soon the letter is sent, we may or nor have further RA need. This may soon just become a cost recovery case. Let's continue with the letter and see what develops.

Greg,

I suppose you want us to continue approach of send GN letter with opportunity to perform language?

Tks.

Fernando Rivera
Enforcement Project Manager
Enforcement Section
404-562-8875

From: Tanner, Terry <Tanner.Terry@epa.gov>
Sent: Wednesday, September 4, 2019 11:00 AM
To: Rivera, Fernando <Rivera.Fernando@epa.gov>; Cobb, Wilda <Cobb.Wilda@epa.gov>
Subject: RE: Able Contracting Fire

Thanks for the update. I'll fill in the work to be performed section. The problematic issue for me is the objectives. The fire which produced H2S and HCN was the driver for our response action. Fire mitigation became our primary

Armstrong, Kathy

From: Tanner, Terry
Sent: Wednesday, September 04, 2019 2:59 PM
To: Rivera, Fernando; Cobb, Wilda; Armstrong, Gregory
Cc: Snow, Jim; Tanner, Terry
Subject: RE: Able Contracting Fire

Here's my perspective on the future removal actions:

1. Mitigate the existing fire
2. Manage the remaining fire debri in a manner that reduces the risk of reignition
3. Prevent drainage water from the waste pile from entering surface water bodies.

The fire is producing hazardous substances (gases). Removing the waste would eliminate the fuel for the fire. I don't have the authority to direct someone to remove waste unless it is hazardous by definition. The waste pile may be violating State or County laws but that's a different issue. I'm not trying to be a wise guy, just calling it as I see it.

From: Rivera, Fernando <Rivera.Fernando@epa.gov>
Sent: Wednesday, September 4, 2019 12:30 PM
To: Tanner, Terry <Tanner.Terry@epa.gov>; Cobb, Wilda <Cobb.Wilda@epa.gov>; Armstrong, Gregory <Armstrong.Greg@epa.gov>
Cc: Snow, Jim <Snow.James@epa.gov>
Subject: RE: Able Contracting Fire

Terry,

I understand. Depending on how soon the letter is sent, we may or nor have further RA need. This may soon just become a cost recovery case. Let's continue with the letter and see what develops.

Greg,

I suppose you want us to continue approach of send GN letter with opportunity to perform language?

Tks.

Fernando Rivera
Enforcement Project Manager
Enforcement Section
404-562-8875

From: Tanner, Terry <Tanner.Terry@epa.gov>
Sent: Wednesday, September 4, 2019 11:00 AM
To: Rivera, Fernando <Rivera.Fernando@epa.gov>; Cobb, Wilda <Cobb.Wilda@epa.gov>
Subject: RE: Able Contracting Fire

Thanks for the update. I'll fill in the work to be performed section. The problematic issue for me is the objectives. The fire which produced H2S and HCN was the driver for our response action. Fire mitigation became our primary objective. Waste removal was necessary to mitigate the fire. Once the fire is extinguished the risk from H2S and HCN would be mitigated.

From: Rivera, Fernando <Rivera.Fernando@epa.gov>
Sent: Tuesday, September 3, 2019 4:57 PM
To: Cobb, Wilda <Cobb.Wilda@epa.gov>
Cc: Tanner, Terry <Tanner.Terry@epa.gov>; Snow, Jim <Snow.James@epa.gov>
Subject: RE: Able Contracting Fire

Ok. He operates as Able Contracting, Inc. The Site property is titled under Earlbee, LLC. Also his company. We will be sending GN to both.

I will try to send you a draft tomorrow. Next week, I will only be at the office Tuesday and working from home Wednesday. If possible, I'd like to route letters by the end of this week.

Terry, the GN letter has a section about work to be perform. Please fill it out best you can. I understand that things may change. Greg prefers that we include "opportunity to perform or finance work" section to the notice letter.

Again, I hope to send you drafts tomorrow.

Thanks.

Fernando Rivera
Enforcement Project Manager
Enforcement Section
404-562-8875

From: Cobb, Wilda <Cobb.Wilda@epa.gov>
Sent: Tuesday, September 3, 2019 4:49 PM
To: Rivera, Fernando <Rivera.Fernando@epa.gov>
Cc: Tanner, Terry <Tanner.Terry@epa.gov>; Snow, Jim <Snow.James@epa.gov>
Subject: RE: Able Contracting Fire

Okay. I have already gotten a copy of the company's insurance policy. There is a "pollution exclusion" but there is some language allowing damages for a "hostile fire". It allows for property damages and bodily injury don't think our costs fall into those categories but it may be worth a try.

Thanks,
Wilda

From: Rivera, Fernando
Sent: Tuesday, September 03, 2019 4:33 PM
To: Cobb, Wilda <Cobb.Wilda@epa.gov>
Cc: Tanner, Terry <Tanner.Terry@epa.gov>; Snow, Jim <Snow.James@epa.gov>
Subject: Able Contracting Fire

Hi Wilda,

I understand you will be the attorney for this site. I hope to send you a draft GN offering the PRP an opportunity to perform or finance work and also an 104e tomorrow. Management wants us to address this site asap.

Thank you.

Fernando Rivera

Enforcement Project Manager
Enforcement Section
404-562-8875

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From: Tricia H. Kilgore, P.E. <Tricia.Kilgore@bjwsa.org>
Sent on: Thursday, August 22, 2019 8:09:17 PM
To: Russell, Chris <Russell.Chris@epa.gov>; Swanson, Courtney <Swanson.Courtney@epa.gov>
CC: Tanner, Terry <Tanner.Terry@epa.gov>
Subject: RE: Surface Water Samples
Attachments: ATT00001.txt (51 Bytes)

Chris,

I will share this with Earl. His email is earl.sheppard@bjwsa.org . We will review the data.

Thanks,
Tricia

Tricia H. Kilgore, P.E.
Director of Treatment Operations
Tricia.Kilgore@bjwsa.org

BJWSA
6 Snake Road
Okatie, SC 29909
Phone: 843-987-8048
http://www.bjwsa.org

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From: Russell, Chris <Russell.Chris@epa.gov>
Sent: Thursday, August 22, 2019 3:43 PM
To: Swanson, Courtney <Swanson.Courtney@epa.gov>; Tricia H. Kilgore, P.E. <Tricia.Kilgore@bjwsa.org>
Cc: Tanner, Terry <Tanner.Terry@epa.gov>
Subject: FW: Surface Water Samples

This message originated from an External Source. Please use proper judgment and caution when opening attachments, clicking links, or responding to this email.

Hello Tricia and Courtney:

Please find attached the sample SCDHEC took on August 2, 2019 in regards to run-off from the waste pile.

Armstrong, Kathy

From: Tricia H. Kilgore, P.E. <Tricia.Kilgore@bjwsa.org>
Sent: Thursday, August 22, 2019 4:09 PM
To: Russell, Chris; Swanson, Courtney
Cc: Tanner, Terry
Subject: RE: Surface Water Samples
Attachments: ATT00001.txt

Chris,

I will share this with Earl. His email is earl.sheppard@bjwsa.org . We will review the data.

Thanks,
Tricia

Tricia H. Kilgore, P.E.
Director of Treatment Operations
Tricia.Kilgore@bjwsa.org

BJWSA
6 Snake Road
Okatie, SC 29909
Phone: 843-987-8048
http://www.bjwsa.org

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From: Russell, Chris <Russell.Chris@epa.gov>
Sent: Thursday, August 22, 2019 3:43 PM
To: Swanson, Courtney <Swanson.Courtney@epa.gov>; Tricia H. Kilgore, P.E. <Tricia.Kilgore@bjwsa.org>
Cc: Tanner, Terry <Tanner.Terry@epa.gov>
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Hello Tricia and Courtney:

Please find attached the sample SCDHEC took on August 2, 2019 in regards to run-off from the waste pile.

Courtney: I'm not sure if this meets the needs that you and Earl discussed, unfortunately I do not have his email address, so please ensure he receives it.

Please do not hesitate to contact me should you have any comments, questions, or concerns, pertaining to this email.

Respectfully,

Chris Russell
Federal On Scene Coordinator
US EPA Region 4: Florida Outpost
Cell: (850) 274-1575

From: Schrag, Jeffrey <SCHRAGJM@dhec.sc.gov>
Sent: Thursday, August 22, 2019 3:20 PM
To: Russell, Chris <Russell.Chris@epa.gov>
Cc: Porter, Henry <porterhj@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>
Subject: Re: Surface Water Samples

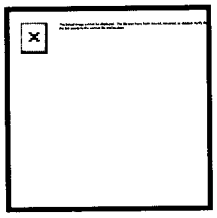
Chris,

Please find attached the lab report summary for the waste pile run-off sample collected on 8/2/2019.

Jeffrey Schrag
Waste Assessment Section Manager
Bureau of Land and Waste Management
S.C. Dept. of Health & Environmental Control
Office: (803) 898-4326
Mobile: (803) 429-4102

Fax: (803) 898-1415

Connect: www.scdhec.gov Facebook Twitter



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From: Schrag, Jeffrey <SCHRAGJM@dhec.sc.gov>
Sent: Thursday, August 22, 2019 3:15:26 PM
To: Porter, Henry <porterhj@dhec.sc.gov>; Stewart, R. Gary <stewarrg@dhec.sc.gov>
Subject: Re: Surface Water Samples

Henry,

Are you referring to the run-off from the waste pile sample?

Jeffrey Schrag
Waste Assessment Section Manager
Bureau of Land and Waste Management
S.C. Dept. of Health & Environmental Control
Office: (803) 898-4326
Mobile: (803) 429-4102

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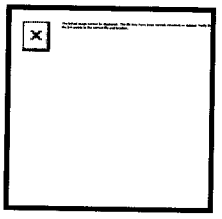

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From: Porter, Henry <porterhj@dhec.sc.gov>
Sent: Thursday, August 22, 2019 3:05:29 PM
To: Stewart, R. Gary <stewarrg@dhec.sc.gov>; Schrag, Jeffrey <SCHRAGJM@dhec.sc.gov>
Subject: Surface Water Samples

Can y'all send the surface water sample results to Chris Russell with EPA?

Russell.Chris@epa.gov.

Sent from my iPhone

From: Webster, James <Webster.James@epa.gov> on behalf of Webster, James
Sent on: Tuesday, September 3, 2019 4:46:55 PM
To: Tanner, Terry <Tanner.Terry@epa.gov>
CC: Spurlin, Steve <Spurlin.Steve@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: RE: Three questions on Able

Thanks much,

From: Tanner, Terry <Tanner.Terry@epa.gov>
Sent: Tuesday, September 3, 2019 12:38 PM
To: Webster, James <Webster.James@epa.gov>
Cc: Spurlin, Steve <Spurlin.Steve@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Re: Three questions on Able

The RM says we have 1.5 million remaining in the ceiling.

Sent from my iPhone

On Sep 3, 2019, at 12:17 PM, Webster, James <Webster.James@epa.gov> wrote:

> Sorry, have another question.
>
> Do we know what we had left (more or less) in Task Order ceiling when we demobilized?
>
> jim
>
> **From:** Spurlin, Steve <Spurlin.Steve@epa.gov>
> **Sent:** Tuesday, September 3, 2019 12:01 PM
> **To:** Webster, James <Webster.James@epa.gov>
> **Cc:** Tanner, Terry <Tanner.Terry@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
> **Subject:** Re: Three questions on Able
>
> Yes. Removing 20-25% of 65000 tons leaves you with 45kish.
>
> Sent from my iPhone
>
> On Sep 3, 2019, at 10:58 AM, Webster, James <Webster.James@epa.gov> wrote:
>
>> Thanks Steve,
>>
>> 45K tons remaining after we are finished? I thought that the initial estimate that (prior to fire) there was around 130K cubic yards? Based on fluff factor of debris, would that mean around 65K tons was original amount in pile?
>>
>> jim
>>
>> **From:** Spurlin, Steve <Spurlin.Steve@epa.gov>

Share Copy link Download Delete Copy to Version history Previous 27 of 28

From: Crooks, Carol <Crookscl@DHEC.SC.GOV>
Sent on: Thursday, August 22, 2019 5:53:52 PM
To: Stewart, R. Gary <stewarrg@dhec.sc.gov>; Tanner, Terry <Tanner.Terry@epa.gov>
CC: Lock, Carol <lockcj@dhec.sc.gov>
Subject: Surface Water/Sediment Sampling Summary
Attachments: Surface Water-Sediment Sampling Summary Report.doc (29 KB), Final Sample Map.jpg (1.09 MB)

Attached are a Summary and Map from our sampling activities at the Able site on August 21, 2019.

Carol

PS - Carol please add to the File #23319

Carol L. Crooks
Project Manager
State Remediation Section
Bureau of Land and Waste Management
S.C. Dept. of Health & Environmental Control
Office: (803) 898-0810
Connect: www.scdhec.gov Facebook Twitter

Armstrong, Kathy

From: Crooks, Carol <Crookscl@DHEC.SC.GOV>
Sent: Thursday, August 22, 2019 1:54 PM
To: Stewart, R. Gary; Tanner, Terry
Cc: Lock, Carol
Subject: Surface Water/Sediment Sampling Summary
Attachments: Surface Water-Sediment Sampling Summary Report.doc; Final Sample Map.jpg

Attached are a Summary and Map from our sampling activities at the Able site on August 21, 2019.

Carol

PS - Carol please add to the File #23319

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Surface Water and Sediment Sample Collection Report for Able Contracting Site 472 Schinger Ave. –Ridgeland, South Carolina

August 22, 2019

On August 21, 2019 the South Carolina Department of Health and Environmental Control (SCDHEC) collected seven (7) surface water samples and two (2) sediment samples (Figure 1) from areas near the Able Contracting Site (Site). These locations were chosen based on the potential for impact to surface water from waste pile run-off. The surface water samples were labeled AC-01 through AC-07. Additionally, sediment samples were collected from locations AC-02 and AC-03. All samples are being analyzed for Target Compound List (TCL) volatiles, semi-volatiles (including pesticides and PCBs) and Target Analyte List metals and cyanide. Laboratory reporting will include tentatively identified compounds. One set of volatile samples from location AC-07 needed to be re-collected on August 22, 2019 and will be delivered to the laboratory the same day.

Samples were collected by SCDHEC personnel working in the Federal and State Site Assessment Section (Site Assessment). The samples are being analyzed by Shealy Environmental Services Laboratory. Expedited turn around on the analysis was requested.

Property owners that will need to be notified of results include:

AC-01: SE Building, LLC (Ashley Eastman and Jarod Stromer) – eastmanmarineoffice@gmail.com

AC-05 and AC-06: Jay Stever – (843) 298-1394 can email to: jstever107@aol.com
Mr. Stever wants an interpretation of the data with his notification.

AC-07: JS Construction Services, Inc. John Lopat (843) 384-0940 (cell), (843) 645-3900 (work) Can email to jsconstruction@hargray.com Mr. Lopat is very concerned about ecological risk to the surface waters of the area.

Courtney Swanson, USEPA has asked to receive a copy of our surface water data. Swanson.courtney@epa.gov

Carol Crooks, Project Manager
State Remediation, SCDHEC
803-898-0810
crookscl@dhec.sc.gov

File#23319

Surface Water Locations-Sediment at AC-02 and AC-03

Write a description for your map.

Scope of Work
USCG Gulf Strike Team Support
Able Contracting Fire
Ridgeland, Jasper County, SC

Site
Able Contracting Fire
472 Schinger Ave
Ridgeland, SC 29936
Site ID: C4A9

Date of Deployment
Aug 14, 2109

Level of Effort and Duration
Three (3) GST personnel is to mobilize to the site. Personnel are anticipated to be on site for 30 days.

Site Description
Able Contracting (the Site) is a construction and demolition debris recycling facility located at 472 Schinger Ave in Ridgeland, Jasper County, South Carolina. The facility reportedly receives construction and demolition debris from residential properties. The Site is estimated at 8.25 acres in size and contains approximately four acres of stockpiled material that has been accumulated over time. The pile is approximately 35 feet high. There are various other buildings onsite including a maintenance shop and office building. The Site is located in a mixed-use area consisting of commercial and residential properties to the south and east of the site.

The stockpiled material has ignited multiple times over the past several years. The current fire began in early July 2019. Since then, local responders, as well as personnel from Able Contracting, have been attempting to extinguish the fire until July 23 when the large water supply pump was damaged by a lightning strike. Smoke from the smoldering fire continued to increase over the next several days when firefighting efforts were ceased. The EPA was requested by South Carolina Department Health and Environmental Conservation (SCDHEC) to conduct air monitoring and sampling to determine if any hazardous substances were being discharged from the smoldering fire.

Scope of Work
- Assist with the air monitoring efforts for the response and removal activities.
- Assist with the documentation and reporting of site conditions and downwind impacts of the plume.
- Assist the OSC with health and safety concerns during on site activities.

Tetra Tech, Inc.

3746 Mt. Diablo Blvd. Suite 300
Lafayette, CA 94549

Able Contracting

Richland, SC

Analytical Report
(0719-205)

EPA Method TO-11A

Formaldehyde

OSHA Method 61 (2-fraction)

Phosgene

EPA Method TO-15

TO-15 Compound List

EPA Method 8270D

SV Target Compound List

ENTHALPY
ANALYTICAL

Enthalpy Analytical, LLC

Phone: (919) 850 - 4392 / Fax: (919) 850 - 9012 / www.enthalpy.com
800-1 Capitola Drive Durham, NC 27713-4385

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF) and contains 251 pages.

Michael Steven Schapira

QA Review Performed by: Michael Steven Schapira

Report Issued: 8/1/19

ENTHALPY ANALYTICAL

Summary of Results

ENTHALPY
ANALYTICAL

Enthalpy Analytical

Company: Tetra Tech, Inc.

Job No.: 0719-205 EPA Method TO-11A Analysis -

Site: Able Contracting - Richland, SC

Summary Table - Formaldehyde

Sample ID	Concentration (ug/m3)
ACF-AS-RES-AM-072719 DNPH Tube 7969802213	1.70
ACF-AS-Smoke-AM-072719 DNPH Tube 7969802214	2.50
ACF-AS-RES-PM-072719 DNPH Tube 7969802217	3.04
ACF-AS-Smoke-PM-072719 DNPH Tube 7969802216	6.09
ACF-AS-BKGD-072819 DNPH Tube 7969802215	4.88

Sample ID	Catch Weight (ug)
ACF-Blank-DNPH Tube 7969802212	0.0726 J

Enthalpy Analytical

Job No.: 0719-205 OSHA Method 61 (two-fraction) Analysis

Tetra Tech, Inc. Able Contracting: Richland, SC

Analyst: Daniel Clayton

Summary Table - Phosgene

Sample ID	Concentration (ug/m^3)
ACF-AS-RES-AM-7/28/19 ***HMP Tubes 8123100531 and 8123100530***	3.95 J
ACF-AS-Smoke-AM-7/28/19 ***HMP Tubes 8123100523 and 8123100529***	3.17 J
ACF-AS-RES-PM-7/28/19 ***HMP Tubes 8123100526 and 8123100532***	3.94 J
ACF-AS-Smoke-PM-7/28/19 ***HMP Tubes 8123100528 and 8123100524***	4.27 J
ACF-AS-BKGD-7/28/19 ***HMP Tubes 8123100527 and 8123100525***	4.31 J

Sample ID	Catch Weight (ug)
ACF-Blank ***HMP Tubes 8123100608 and 8123100615***	1.61 J

Results

ENTHALPY

Enthalpy Analytical

Company: Tetra Tech, Inc.

Job No.: 0719-205 EPA Method TO-11A Analysis -

Site: Able Contracting - Richland, SC

Formaldehyde

Sample ID	Filename	Analysis Method	MDL (ug/mL)	Curve Min (ug/mL)	Curve Max (ug/mL)	Ret Time (min)	Conc. (ug/mL)	DF	Liquid Vol. (mL)	Catch Weight (ug)	Gas Vol. (L)	Conc (ug/m3)	Flag
ACF-AS-RES-AM-072719 DNPH Tube 7969802213	036	Groucho768.m	0.0112	0.112	15.0	2.67	0.140	1	5.00	0.700	410.6	1.70	
LD / ACF-AS-RES-AM-072719 DNPH Tube 7969802213	037	Groucho768.m	0.0112	0.112	15.0	2.69	0.140	1	5.00	0.702	410.6	1.71	
											Difference:	0.3%	
ACF-AS-Smoke-AM-072719 DNPH Tube 7969802214	038	Groucho768.m	0.0112	0.112	15.0	2.69	0.206	1	5.00	1.03	411.8	2.50	
ACF-AS-RES-PM-072719 DNPH Tube 7969802217	039	Groucho768.m	0.0112	0.112	15.0	2.69	0.329	1	5.00	1.65	541.5	3.04	
ACF-AS-Smoke-PM-072719 DNPH Tube 7969802216	040	Groucho768.m	0.0112	0.112	15.0	2.69	0.669	1	5.00	3.35	549.5	6.09	
ACF-AS-BKGD-072819 DNPH Tube 7969802215	041	Groucho768.m	0.0112	0.112	15.0	2.69	0.504	1	5.00	2.52	516.2	4.88	
ACF-Blank-DNPH Tube 7969802212	042	Groucho768.m	0.0112	0.112	15.0	2.69	0.0145	1	5.00	0.0726			J
HPLCPrep3581.MB	043	Groucho768.m	0.0112	0.112	15.0	2.69	0.0140	1	5.00	0.0701			J

Enthalpy Analytical

Job No.: 0719-205 OSHA Method 61 (two-fraction) Analysis

Tetra Tech, Inc. Able Contracting: Richland, SC

Analyst: Daniel Clayton

Sample ID	Filename	MDL	Curve Min	Curve Max	Ret Time (min)	Conc. (ug/mL)	DF	Liquid Vol (mL)	Catch Weight (ug)	Gas Vol (L)	Conc. (ug/m3)	Flag
Phosgene												
ACF-AS-RES-AM-072819-FH-HMP-Tube 8123100531 FH	040B0801.D	0.0999	0.999	9.99	5.34	0.697	1	1.00	0.697	473.9	1.47	J
ACF-AS-RES-AM-072819-FH-HMP-Tube 8123100531 BH	041B0901.D	0.0999	0.999	9.99	5.34	0.265	1	1.00	0.265	473.9	0.558	J
ACF-AS-RES-AM-072819-BH-HMP-Tube 8123100530 FH	042B1001.D	0.0999	0.999	9.99	5.34	0.596	1	1.00	0.596	473.9	1.26	J
ACF-AS-RES-AM-072819-BH-HMP-Tube 8123100530 BH	043B1101.D	0.0999	0.999	9.99	5.34	0.316	1	1.00	0.316	473.9	0.667	J
											3.95	J
ACF-AS-Smoke-AM-072819-FH-HMP-Tube 8123100523 FH	044B1301.D	0.0999	0.999	9.99	5.34	0.747	1	1.00	0.747	603.9	1.24	J
ACF-AS-Smoke-AM-072819-FH-HMP-Tube 8123100523 BH	045B1401.D	0.0999	0.999	9.99	5.34	0.299	1	1.00	0.299	603.9	0.495	J
ACF-AS-Smoke-AM-072819-BH-HMP-Tube 8123100529 FH	046B1501.D	0.0999	0.999	9.99	5.34	0.575	1	1.00	0.575	603.9	0.95	J
ACF-AS-Smoke-AM-072819-BH-HMP-Tube 8123100529 BH	047B1601.D	0.0999	0.999	9.99	5.34	0.296	1	1.00	0.296	603.9	0.490	J
											3.17	J
ACF-AS-RES-PM-072819-FH-HMP-Tube 8123100526 FH	048B1701.D	0.0999	0.999	9.99	5.36	0.799	1	1.00	0.799	522.5	1.53	J
ACF-AS-RES-PM-072819-FH-HMP-Tube 8123100526 BH	049B1801.D	0.0999	0.999	9.99	5.36	0.339	1	1.00	0.339	522.5	0.649	J
ACF-AS-RES-PM-072819-BH-HMP-Tube 8123100532 FH	050B1901.D	0.0999	0.999	9.99	5.36	0.623	1	1.00	0.623	522.5	1.19	J
ACF-AS-RES-PM-072819-BH-HMP-Tube 8123100532 BH	051B2001.D	0.0999	0.999	9.99	5.36	0.299	1	1.00	0.299	522.5	0.571	J
											3.94	J
ACF-AS-Smoke-PM-072819-FH-HMP-Tube 8123100528 FH	056B2201.D	0.0999	0.999	9.99	5.36	0.819	1	1.00	0.819	515.2	1.59	J
ACF-AS-Smoke-PM-072819-FH-HMP-Tube 8123100528 BH	057B2301.D	0.0999	0.999	9.99	5.36	0.376	1	1.00	0.376	515.2	0.729	J
ACF-AS-Smoke-PM-072819-BH-HMP-Tube 8123100524 FH	058B2401.D	0.0999	0.999	9.99	5.36	0.664	1	1.00	0.664	515.2	1.29	J
ACF-AS-Smoke-PM-072819-BH-HMP-Tube 8123100524 BH	059B2501.D	0.0999	0.999	9.99	5.36	0.341	1	1.00	0.341	515.2	0.661	J
											4.27	J

Enthalpy Analytical

Job No.: 0719-205 OSHA Method 61 (two-fraction) Analysis

Tetra Tech, Inc. Able Contracting: Richland, SC

Analyst: Daniel Clayton

Sample ID	Filename	MDL	Curve Min	Curve Max	Ret Time (min)	Conc. (ug/mL)	DF	Liquid Vol (mL)	Catch Weight (ug)	Gas Vol (L)	Conc. (ug/m3)	Flag
Phosgene												
ACF-AS-BKGD-072819-FH-HMP-Tube 8123100527 FH	035B0301.D	0.0999	0.999	9.99	5.34	0.878	1	1.00	0.878	537.1	1.63	J
ACF-AS-BKGD-072819-FH-HMP-Tube 8123100527 BH	037B0501.D	0.0999	0.999	9.99	5.34	0.371	1	1.00	0.371	537.1	0.691	J
ACF-AS-BKGD-072819-BH-HMP-Tube 8123100525 FH	038B0601.D	0.0999	0.999	9.99	5.34	0.731	1	1.00	0.731	537.1	1.36	J
ACF-AS-BKGD-072819-BH-HMP-Tube 8123100525 BH	039B0701.D	0.0999	0.999	9.99	5.33	0.336	1	1.00	0.336	537.1	0.625	J
											4.31	J
ACF-Blank-FH-HMP-Tube 8123100608 FH	052B2601.D	0.0999	0.999	9.99	5.36	0.516	1	1.00	0.516			J
ACF-Blank-FH-HMP-Tube 8123100608 BH	053B2701.D	0.0999	0.999	9.99	5.36	0.276	1	1.00	0.276			J
ACF-Blank-BH-HMP-Tube 8123100615 FH	054B2801.D	0.0999	0.999	9.99	5.36	0.513	1	1.00	0.513			J
ACF-Blank-BH-HMP-Tube 8123100615 BH	055B2901.D	0.0999	0.999	9.99	5.36	0.309	1	1.00	0.309			J
									1.61			J
gcprep2953 #MB XAD FH	060B3001.D	0.0999	0.999	9.99	5.36	0.489	1	1.00	0.489			J
gcprep2953 #MB XAD BH	061B3101.D	0.0999	0.999	9.99	5.36	0.276	1	1.00	0.276			J
									0.765			J
gcprep2953 #RB	034B0201.D	0.0999	0.999	9.99	NA	0.0999	1	1.00	0.0999			ND
LD / ACF-AS-BKGD-072819-FH-HMP-Tube 8123100527 FH	036B0401.D	0.0999	0.999	9.99	5.34	0.889	1	1.00	0.889	537.1	1.66	J
										Difference:	1.8%	

Sample Name : ACF-AS-RES-AM-072719
Sample Info : 0719-205; Can #0802; 500mL load
Data File : X1902708.D
Dilution : 1
Pressurization Factor : 1.795
Acquisition Date : 2019-07-30 04:33:30
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	4.58	0.0689	0.0628	7.88	0.119	0.108	
Freon 12 (CCl2F2)	0.485	0.0701	0.0628	2.40	0.347	0.311	
Freon 114 (C2Cl2F4)	ND	0.0719	0.0628	ND	0.502	0.439	
Chloromethane	2.31	0.0700	0.0628	4.76	0.145	0.130	
Chloroethene (Vinyl chloride)	ND	0.0722	0.0628	ND	0.185	0.161	
1,3-Butadiene	0.480	0.0701	0.0628	1.06	0.155	0.139	
Bromomethane	ND	0.0710	0.0628	ND	0.276	0.244	
Chloroethane	ND	0.0724	0.0628	ND	0.191	0.166	
Bromoethene (Vinyl bromide)	ND	0.0716	0.0628	ND	0.313	0.275	
Freon 11 (CCl3F)	0.246	0.0745	0.0628	1.38	0.419	0.353	
Ethanol	2.27	0.180	0.180	4.28	0.338	0.338	
Acrolein	0.214	0.0713	0.0628	0.490	0.163	0.144	
Freon 113 (C2Cl3F3)	0.0862	0.0714	0.0628	0.660	0.547	0.481	
1,1-Dichloroethene	ND	0.0719	0.0628	ND	0.285	0.249	
Acetone	3.64	0.0722	0.0628	8.66	0.171	0.149	
Carbon disulfide	0.165	0.0721	0.0628	0.514	0.224	0.196	
Isopropyl alcohol	0.190	0.0721	0.0628	0.468	0.177	0.154	
Allyl chloride (3-chloropropene)	ND	0.0722	0.0628	ND	0.226	0.197	
Acetonitrile	1.29	0.0722	0.0628	2.17	0.121	0.105	
Methylene chloride	0.251	0.0727	0.0628	0.871	0.253	0.218	
trans-1,2-Dichloroethene	ND	0.0732	0.0628	ND	0.290	0.249	
Methyl tert-butyl ether	ND	0.0735	0.0628	ND	0.265	0.226	
Acrylonitrile	ND	0.0734	0.0628	ND	0.159	0.136	
Hexane	0.439	0.0726	0.0628	1.55	0.256	0.221	
1,1-Dichloroethane	ND	0.0707	0.0628	ND	0.286	0.254	
Vinyl acetate	ND	0.0730	0.0628	ND	0.257	0.221	
cis-1,2-Dichloroethene	ND	0.0723	0.0628	ND	0.287	0.249	
Methyl ethyl ketone (2-Butanone)	0.287	0.0729	0.0628	0.847	0.215	0.185	
Ethyl acetate	ND	0.0723	0.0628	ND	0.261	0.226	
Chloroform	ND	0.0726	0.0628	ND	0.354	0.307	
Tetrahydrofuran	0.160	0.0724	0.0628	0.472	0.214	0.185	
1,1,1-Trichloroethane	ND	0.0714	0.0628	ND	0.390	0.343	
Cyclohexane	0.0760	0.0730	0.0628	0.262	0.251	0.216	
Carbon tetrachloride	0.0766	0.0727	0.0628	0.482	0.457	0.395	
Benzene	2.02	0.0717	0.0628	6.46	0.229	0.201	
2,2,4-trimethylpentane	0.147	0.0736	0.0628	0.684	0.344	0.294	
1,2-Dichloroethane	ND	0.0734	0.0628	ND	0.297	0.254	
Heptane	0.188	0.0722	0.0628	0.769	0.296	0.257	
Trichloroethene	ND	0.0721	0.0628	ND	0.387	0.338	
1,2-Dichloropropane	ND	0.0734	0.0628	ND	0.339	0.290	
Methyl methacrylate	ND	0.0745	0.0628	ND	0.305	0.257	
1,4-Dioxane	0.0815	0.0726	0.0628	0.294	0.262	0.226	
Bromodichloromethane	ND	0.0713	0.0628	ND	0.478	0.421	
cis-1,3-Dichloropropene	ND	0.0706	0.0628	ND	0.320	0.285	
Methyl isobutyl ketone	0.0911	0.0740	0.0628	0.373	0.303	0.257	
Toluene	1.72	0.0729	0.0628	6.48	0.275	0.237	
trans-1,3-Dichloropropene	ND	0.0729	0.0628	ND	0.331	0.285	
1,1,2-Trichloroethane	ND	0.0719	0.0628	ND	0.393	0.343	
Tetrachloroethene	ND	0.0724	0.0628	ND	0.491	0.426	
2-Hexanone (Methyl butyl ketone)	ND	0.0729	0.0628	ND	0.299	0.257	
Dibromochloromethane	ND	0.0709	0.0628	ND	0.604	0.535	
1,2-Dibromoethane	ND	0.0727	0.0628	ND	0.559	0.483	
Chlorobenzene	ND	0.0739	0.0628	ND	0.340	0.289	
Ethylbenzene	0.773	0.0707	0.0628	3.36	0.307	0.273	
1,1,1,2-Tetrachloroethane	ND	0.0718	0.0628	ND	0.493	0.431	
m-/p-Xylenes	0.547	0.0727	0.0628	2.37	0.316	0.273	

Sample Name	: ACF-AS-RES-AM-072719
Sample Info	: 0719-205; Can #0802; 500mL load
Data File	: X1902708.D
Dilution	: 1
Pressurization Factor	: 1.795
Acquisition Date	: 2019-07-30 04:33:30
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	0.219	0.0717	0.0628	0.950	0.311	0.273	
Styrene	0.402	0.0699	0.0628	1.71	0.298	0.268	
Bromoform	ND	0.0721	0.0628	ND	0.745	0.649	
1,1,2,2-Tetrachloroethane	ND	0.0718	0.0628	ND	0.493	0.431	
4-Ethyltoluene	ND	0.0723	0.0628	ND	0.355	0.309	
2-Chlorotoluene	ND	0.0723	0.0628	ND	0.374	0.325	
1,3,5-Trimethylbenzene	ND	0.0720	0.0628	ND	0.354	0.309	
1,2,4-Trimethylbenzene	0.160	0.0714	0.0628	0.784	0.351	0.309	m
1,3-Dichlorobenzene	ND	0.0724	0.0628	ND	0.436	0.378	
1,4-Dichlorobenzene	ND	0.0720	0.0628	ND	0.433	0.378	
Benzyl chloride	ND	0.0717	0.0628	ND	0.371	0.325	
1,2-Dichlorobenzene	ND	0.0732	0.0628	ND	0.440	0.378	
1,2,4-Trichlorobenzene	ND	0.0729	0.0628	ND	0.541	0.466	
Hexachlorobutadiene	ND	0.0719	0.0628	ND	0.767	0.670	
Naphthalene	ND	0.0743	0.0628	ND	0.390	0.329	
1-Bromopropane	ND	0.0709	0.0628	ND	0.357	0.316	
1-Octene	ND	0.0702	0.0628	ND	0.322	0.288	
n-Octane	0.0755	0.0719	0.0628	0.353	0.336	0.294	m
Isopropylbenzene	0.170	0.0729	0.0628	0.838	0.358	0.309	
n-Propylbenzene	ND	0.0730	0.0628	ND	0.359	0.309	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	958,197	11.94	5.00	PASS
1,4-Difluorobenzene (IS)	3,467,327	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,785,036	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-AS-Smoke-AM-072719
Sample Info : 0719-205; Can #0799; 500mL load
Data File : X1902707.D
Dilution : 1
Pressurization Factor : 1.786
Acquisition Date : 2019-07-30 03:37:21
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	2.32	0.0685	0.0625	3.99	0.118	0.108	
Freon 12 (CCl2F2)	0.481	0.0697	0.0625	2.38	0.345	0.309	
Freon 114 (C2Cl2F4)	ND	0.0715	0.0625	ND	0.500	0.437	
Chloromethane	1.43	0.0697	0.0625	2.95	0.144	0.129	
Chloroethene (Vinyl chloride)	ND	0.0719	0.0625	ND	0.184	0.160	
1,3-Butadiene	0.311	0.0698	0.0625	0.689	0.154	0.138	
Bromomethane	ND	0.0707	0.0625	ND	0.274	0.243	
Chloroethane	ND	0.0720	0.0625	ND	0.190	0.165	
Bromoethene (Vinyl bromide)	ND	0.0712	0.0625	ND	0.312	0.273	
Freon 11 (CCl3F)	0.236	0.0742	0.0625	1.33	0.417	0.351	
Ethanol	1.24	0.179	0.179	2.33	0.337	0.337	
Acrolein	0.217	0.0709	0.0625	0.498	0.163	0.143	m
Freon 113 (C2Cl3F3)	0.0714	0.0711	0.0625	0.547	0.545	0.479	
1,1-Dichloroethene	ND	0.0715	0.0625	ND	0.284	0.248	
Acetone	3.16	0.0718	0.0625	7.51	0.171	0.148	
Carbon disulfide	0.0896	0.0717	0.0625	0.279	0.223	0.195	
Isopropyl alcohol	0.177	0.0717	0.0625	0.434	0.176	0.154	
Allyl chloride (3-chloropropene)	ND	0.0719	0.0625	ND	0.225	0.196	
Acetonitrile	0.531	0.0718	0.0625	0.892	0.121	0.105	
Methylene chloride	0.194	0.0723	0.0625	0.674	0.251	0.217	
trans-1,2-Dichloroethene	ND	0.0728	0.0625	ND	0.289	0.248	
Methyl tert-butyl ether	ND	0.0732	0.0625	ND	0.264	0.225	
Acrylonitrile	ND	0.0730	0.0625	ND	0.158	0.136	
Hexane	0.184	0.0722	0.0625	0.647	0.255	0.220	m
1,1-Dichloroethane	ND	0.0704	0.0625	ND	0.285	0.253	
Vinyl acetate	ND	0.0727	0.0625	ND	0.256	0.220	
cis-1,2-Dichloroethene	ND	0.0719	0.0625	ND	0.285	0.248	
Methyl ethyl ketone (2-Butanone)	0.273	0.0726	0.0625	0.805	0.214	0.184	
Ethyl acetate	ND	0.0719	0.0625	ND	0.259	0.225	
Chloroform	ND	0.0722	0.0625	ND	0.353	0.305	
Tetrahydrofuran	0.126	0.0721	0.0625	0.373	0.213	0.184	
1,1,1-Trichloroethane	ND	0.0711	0.0625	ND	0.388	0.341	
Cyclohexane	ND	0.0727	0.0625	ND	0.250	0.215	
Carbon tetrachloride	0.0760	0.0723	0.0625	0.478	0.455	0.393	
Benzene	1.06	0.0713	0.0625	3.40	0.228	0.200	
2,2,4-trimethylpentane	ND	0.0732	0.0625	ND	0.342	0.292	
1,2-Dichloroethane	ND	0.0730	0.0625	ND	0.296	0.253	
Heptane	0.0890	0.0718	0.0625	0.365	0.294	0.256	
Trichloroethene	ND	0.0717	0.0625	ND	0.385	0.336	
1,2-Dichloropropane	ND	0.0730	0.0625	ND	0.337	0.289	
Methyl methacrylate	ND	0.0741	0.0625	ND	0.303	0.256	
1,4-Dioxane	ND	0.0722	0.0625	ND	0.260	0.225	
Bromodichloromethane	ND	0.0709	0.0625	ND	0.475	0.419	
cis-1,3-Dichloropropene	ND	0.0702	0.0625	ND	0.319	0.284	
Methyl isobutyl ketone	ND	0.0737	0.0625	ND	0.302	0.256	
Toluene	0.697	0.0726	0.0625	2.62	0.274	0.236	
trans-1,3-Dichloropropene	ND	0.0726	0.0625	ND	0.329	0.284	
1,1,2-Trichloroethane	ND	0.0716	0.0625	ND	0.391	0.341	
Tetrachloroethene	ND	0.0721	0.0625	ND	0.489	0.424	
2-Hexanone (Methyl butyl ketone)	ND	0.0726	0.0625	ND	0.297	0.256	
Dibromochloromethane	ND	0.0705	0.0625	ND	0.601	0.532	
1,2-Dibromoethane	ND	0.0724	0.0625	ND	0.556	0.480	
Chlorobenzene	ND	0.0735	0.0625	ND	0.338	0.288	
Ethylbenzene	0.257	0.0703	0.0625	1.12	0.305	0.271	
1,1,1,2-Tetrachloroethane	ND	0.0714	0.0625	ND	0.490	0.429	
m-/p-Xylenes	0.217	0.0724	0.0625	0.941	0.314	0.271	

Sample Name	: ACF-AS-Smoke-AM-072719
Sample Info	: 0719-205; Can #0799; 500mL load
Data File	: X1902707.D
Dilution	: 1
Pressurization Factor	: 1.786
Acquisition Date	: 2019-07-30 03:37:21
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	0.0833	0.0714	0.0625	0.362	0.310	0.271	
Styrene	0.500	0.0696	0.0625	2.13	0.296	0.266	
Bromoform	ND	0.0717	0.0625	ND	0.741	0.646	
1,1,2,2-Tetrachloroethane	ND	0.0714	0.0625	ND	0.490	0.429	
4-Ethyltoluene	ND	0.0719	0.0625	ND	0.354	0.307	
2-Chlorotoluene	ND	0.0719	0.0625	ND	0.372	0.324	
1,3,5-Trimethylbenzene	ND	0.0717	0.0625	ND	0.352	0.307	
1,2,4-Trimethylbenzene	0.0648	0.0710	0.0625	0.318	0.349	0.307	J
1,3-Dichlorobenzene	ND	0.0721	0.0625	ND	0.433	0.376	
1,4-Dichlorobenzene	ND	0.0717	0.0625	ND	0.431	0.376	
Benzyl chloride	ND	0.0713	0.0625	ND	0.369	0.324	
1,2-Dichlorobenzene	ND	0.0728	0.0625	ND	0.438	0.376	
1,2,4-Trichlorobenzene	ND	0.0725	0.0625	ND	0.538	0.464	
Hexachlorobutadiene	ND	0.0716	0.0625	ND	0.763	0.667	
Naphthalene	ND	0.0739	0.0625	ND	0.388	0.328	
1-Bromopropane	ND	0.0706	0.0625	ND	0.355	0.314	
1-Octene	ND	0.0699	0.0625	ND	0.321	0.287	
n-Octane	ND	0.0716	0.0625	ND	0.334	0.292	
Isopropylbenzene	0.0855	0.0725	0.0625	0.421	0.356	0.307	
n-Propylbenzene	ND	0.0727	0.0625	ND	0.357	0.307	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	956,550	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,472,838	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,804,458	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-AS-RES-PM-072719
Sample Info : 0719-205; Can #0809; 500mL load
Data File : X1902710.D
Dilution : 1
Pressurization Factor : 1.834
Acquisition Date : 2019-07-30 06:25:54
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	1.72	0.0704	0.0642	2.96	0.121	0.110	
Freon 12 (CCl2F2)	0.488	0.0716	0.0642	2.41	0.354	0.317	
Freon 114 (C2Cl2F4)	ND	0.0734	0.0642	ND	0.513	0.449	
Chloromethane	0.596	0.0715	0.0642	1.23	0.148	0.133	
Chloroethene (Vinyl chloride)	ND	0.0738	0.0642	ND	0.189	0.164	
1,3-Butadiene	0.348	0.0717	0.0642	0.769	0.159	0.142	
Bromomethane	ND	0.0726	0.0642	ND	0.282	0.249	
Chloroethane	ND	0.0739	0.0642	ND	0.195	0.169	
Bromoethene (Vinyl bromide)	ND	0.0731	0.0642	ND	0.320	0.281	
Freon 11 (CCl3F)	0.249	0.0761	0.0642	1.40	0.428	0.361	
Ethanol	4.91	0.183	0.183	9.26	0.346	0.346	
Acrolein	0.124	0.0728	0.0642	0.283	0.167	0.147	m
Freon 113 (C2Cl3F3)	0.0790	0.0730	0.0642	0.605	0.559	0.492	
1,1-Dichloroethene	ND	0.0734	0.0642	ND	0.291	0.255	
Acetone	4.44	0.0737	0.0642	10.5	0.175	0.152	
Carbon disulfide	0.143	0.0737	0.0642	0.444	0.229	0.200	
Isopropyl alcohol	0.386	0.0737	0.0642	0.949	0.181	0.158	
Allyl chloride (3-chloropropene)	ND	0.0738	0.0642	ND	0.231	0.201	
Acetonitrile	0.590	0.0737	0.0642	0.990	0.124	0.108	
Methylene chloride	0.288	0.0743	0.0642	0.999	0.258	0.223	
trans-1,2-Dichloroethene	ND	0.0748	0.0642	ND	0.296	0.255	
Methyl tert-butyl ether	0.0865	0.0751	0.0642	0.312	0.271	0.231	
Acrylonitrile	ND	0.0750	0.0642	ND	0.163	0.139	
Hexane	0.673	0.0742	0.0642	2.37	0.261	0.226	
1,1-Dichloroethane	ND	0.0723	0.0642	ND	0.292	0.260	
Vinyl acetate	ND	0.0746	0.0642	ND	0.263	0.226	
cis-1,2-Dichloroethene	ND	0.0739	0.0642	ND	0.293	0.255	
Methyl ethyl ketone (2-Butanone)	0.207	0.0745	0.0642	0.612	0.220	0.189	
Ethyl acetate	ND	0.0739	0.0642	ND	0.266	0.231	
Chloroform	ND	0.0742	0.0642	ND	0.362	0.313	
Tetrahydrofuran	ND	0.0740	0.0642	ND	0.218	0.189	
1,1,1-Trichloroethane	ND	0.0730	0.0642	ND	0.398	0.350	
Cyclohexane	0.233	0.0746	0.0642	0.803	0.257	0.221	m
Carbon tetrachloride	0.0789	0.0742	0.0642	0.496	0.467	0.404	
Benzene	0.784	0.0732	0.0642	2.50	0.234	0.205	
2,2,4-trimethylpentane	0.104	0.0752	0.0642	0.487	0.351	0.300	
1,2-Dichloroethane	ND	0.0750	0.0642	ND	0.303	0.260	
Heptane	0.217	0.0737	0.0642	0.891	0.302	0.263	
Trichloroethene	ND	0.0737	0.0642	ND	0.396	0.345	
1,2-Dichloropropane	ND	0.0750	0.0642	ND	0.346	0.297	
Methyl methacrylate	ND	0.0761	0.0642	ND	0.312	0.263	
1,4-Dioxane	ND	0.0742	0.0642	ND	0.267	0.231	
Bromodichloromethane	ND	0.0728	0.0642	ND	0.488	0.430	
cis-1,3-Dichloropropene	ND	0.0721	0.0642	ND	0.327	0.291	
Methyl isobutyl ketone	ND	0.0756	0.0642	ND	0.310	0.263	
Toluene	1.35	0.0745	0.0642	5.08	0.281	0.242	
trans-1,3-Dichloropropene	ND	0.0745	0.0642	ND	0.338	0.291	
1,1,2-Trichloroethane	ND	0.0735	0.0642	ND	0.401	0.350	
Tetrachloroethene	0.109	0.0740	0.0642	0.736	0.502	0.435	
2-Hexanone (Methyl butyl ketone)	ND	0.0745	0.0642	ND	0.305	0.263	
Dibromochloromethane	ND	0.0724	0.0642	ND	0.617	0.547	
1,2-Dibromoethane	ND	0.0743	0.0642	ND	0.571	0.493	
Chlorobenzene	ND	0.0755	0.0642	ND	0.348	0.296	
Ethylbenzene	0.177	0.0722	0.0642	0.768	0.313	0.279	
1,1,1,2-Tetrachloroethane	ND	0.0734	0.0642	ND	0.504	0.441	
m-/p-Xylenes	0.577	0.0743	0.0642	2.51	0.323	0.279	

Sample Name	: ACF-AS-RES-PM-072719
Sample Info	: 0719-205; Can #0809; 500mL load
Data File	: X1902710.D
Dilution	: 1
Pressurization Factor	: 1.834
Acquisition Date	: 2019-07-30 06:25:54
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	0.211	0.0733	0.0642	0.916	0.318	0.279	
Styrene	0.105	0.0715	0.0642	0.446	0.304	0.273	
Bromoform	ND	0.0737	0.0642	ND	0.761	0.664	
1,1,2,2-Tetrachloroethane	ND	0.0734	0.0642	ND	0.504	0.441	
4-Ethyltoluene	ND	0.0739	0.0642	ND	0.363	0.316	
2-Chlorotoluene	ND	0.0739	0.0642	ND	0.382	0.332	
1,3,5-Trimethylbenzene	ND	0.0736	0.0642	ND	0.362	0.316	
1,2,4-Trimethylbenzene	0.166	0.0729	0.0642	0.817	0.358	0.316	m
1,3-Dichlorobenzene	ND	0.0740	0.0642	ND	0.445	0.386	
1,4-Dichlorobenzene	ND	0.0736	0.0642	ND	0.442	0.386	
Benzyl chloride	ND	0.0732	0.0642	ND	0.379	0.332	
1,2-Dichlorobenzene	ND	0.0748	0.0642	ND	0.449	0.386	
1,2,4-Trichlorobenzene	ND	0.0745	0.0642	ND	0.553	0.476	
Hexachlorobutadiene	ND	0.0735	0.0642	ND	0.784	0.685	
Naphthalene	ND	0.0759	0.0642	ND	0.398	0.336	
1-Bromopropane	ND	0.0725	0.0642	ND	0.365	0.323	
1-Octene	ND	0.0717	0.0642	ND	0.329	0.295	
n-Octane	ND	0.0735	0.0642	ND	0.343	0.300	
Isopropylbenzene	ND	0.0745	0.0642	ND	0.366	0.316	
n-Propylbenzene	ND	0.0746	0.0642	ND	0.367	0.316	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	977,610	11.94	5.00	PASS
1,4-Difluorobenzene (IS)	3,507,464	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,824,077	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-AS-Smoke-PM-072719
Sample Info : 0719-205; Can #0797; 500mL load
Data File : X1902709.D
Dilution : 1
Pressurization Factor : 1.805
Acquisition Date : 2019-07-30 05:29:45
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	8.26	0.0692	0.0632	14.2	0.119	0.109	
Freon 12 (CCl2F2)	0.477	0.0705	0.0632	2.36	0.348	0.312	
Freon 114 (C2Cl2F4)	ND	0.0723	0.0632	ND	0.505	0.442	
Chloromethane	5.60	0.0704	0.0632	11.6	0.145	0.130	
Chloroethene (Vinyl chloride)	ND	0.0726	0.0632	ND	0.186	0.161	
1,3-Butadiene	1.00	0.0705	0.0632	2.21	0.156	0.140	
Bromomethane	ND	0.0714	0.0632	ND	0.277	0.245	
Chloroethane	0.105	0.0728	0.0632	0.276	0.192	0.167	m
Bromoethene (Vinyl bromide)	ND	0.0720	0.0632	ND	0.315	0.276	
Freon 11 (CCl3F)	0.227	0.0749	0.0632	1.28	0.421	0.355	
Ethanol	1.36	0.181	0.181	2.56	0.340	0.340	
Acrolein	0.516	0.0717	0.0632	1.18	0.164	0.145	m
Freon 113 (C2Cl3F3)	0.0753	0.0718	0.0632	0.577	0.551	0.484	
1,1-Dichloroethene	ND	0.0723	0.0632	ND	0.287	0.250	
Acetone	6.78	0.0726	0.0632	16.1	0.172	0.150	
Carbon disulfide	0.130	0.0725	0.0632	0.405	0.226	0.197	
Isopropyl alcohol	0.194	0.0725	0.0632	0.478	0.178	0.155	
Allyl chloride (3-chloropropene)	ND	0.0726	0.0632	ND	0.227	0.198	
Acetonitrile	0.969	0.0726	0.0632	1.63	0.122	0.106	
Methylene chloride	0.187	0.0731	0.0632	0.651	0.254	0.219	
trans-1,2-Dichloroethene	ND	0.0736	0.0632	ND	0.292	0.250	
Methyl tert-butyl ether	ND	0.0739	0.0632	ND	0.267	0.228	
Acrylonitrile	0.0932	0.0738	0.0632	0.202	0.160	0.137	
Hexane	0.407	0.0730	0.0632	1.43	0.257	0.223	
1,1-Dichloroethane	ND	0.0711	0.0632	ND	0.288	0.256	
Vinyl acetate	ND	0.0734	0.0632	ND	0.259	0.222	
cis-1,2-Dichloroethene	ND	0.0727	0.0632	ND	0.288	0.250	
Methyl ethyl ketone (2-Butanone)	0.533	0.0734	0.0632	1.57	0.216	0.186	
Ethyl acetate	ND	0.0727	0.0632	ND	0.262	0.228	
Chloroform	ND	0.0730	0.0632	ND	0.356	0.308	
Tetrahydrofuran	0.270	0.0728	0.0632	0.796	0.215	0.186	
1,1,1-Trichloroethane	ND	0.0718	0.0632	ND	0.392	0.345	
Cyclohexane	ND	0.0734	0.0632	ND	0.253	0.217	
Carbon tetrachloride	0.0741	0.0731	0.0632	0.466	0.460	0.397	
Benzene	4.73	0.0721	0.0632	15.1	0.230	0.202	
2,2,4-trimethylpentane	ND	0.0740	0.0632	ND	0.346	0.295	
1,2-Dichloroethane	ND	0.0738	0.0632	ND	0.299	0.256	
Heptane	0.245	0.0726	0.0632	1.00	0.297	0.259	
Trichloroethene	ND	0.0725	0.0632	ND	0.390	0.339	
1,2-Dichloropropane	ND	0.0738	0.0632	ND	0.341	0.292	
Methyl methacrylate	0.209	0.0749	0.0632	0.857	0.307	0.259	
1,4-Dioxane	0.104	0.0730	0.0632	0.374	0.263	0.228	
Bromodichloromethane	ND	0.0717	0.0632	ND	0.480	0.423	
cis-1,3-Dichloropropene	ND	0.0710	0.0632	ND	0.322	0.287	
Methyl isobutyl ketone	ND	0.0744	0.0632	ND	0.305	0.259	
Toluene	2.02	0.0734	0.0632	7.60	0.276	0.238	
trans-1,3-Dichloropropene	ND	0.0734	0.0632	ND	0.333	0.287	
1,1,2-Trichloroethane	ND	0.0723	0.0632	ND	0.395	0.345	
Tetrachloroethene	ND	0.0728	0.0632	ND	0.494	0.428	
2-Hexanone (Methyl butyl ketone)	ND	0.0734	0.0632	ND	0.300	0.259	
Dibromochloromethane	ND	0.0713	0.0632	ND	0.607	0.538	
1,2-Dibromoethane	ND	0.0731	0.0632	ND	0.562	0.485	
Chlorobenzene	ND	0.0743	0.0632	ND	0.342	0.291	
Ethylbenzene	1.35	0.0710	0.0632	5.86	0.308	0.274	
1,1,1,2-Tetrachloroethane	ND	0.0722	0.0632	ND	0.496	0.434	
m-/p-Xylenes	0.383	0.0731	0.0632	1.66	0.318	0.274	

Sample Name	: ACF-AS-Smoke-PM-072719
Sample Info	: 0719-205; Can #0797; 500mL load
Data File	: X1902709.D
Dilution	: 1
Pressurization Factor	: 1.805
Acquisition Date	: 2019-07-30 05:29:45
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	0.175	0.0721	0.0632	0.759	0.313	0.274	
Styrene	2.03	0.0703	0.0632	8.66	0.300	0.269	
Bromoform	ND	0.0725	0.0632	ND	0.749	0.653	
1,1,2,2-Tetrachloroethane	ND	0.0722	0.0632	ND	0.496	0.434	
4-Ethyltoluene	ND	0.0727	0.0632	ND	0.357	0.311	
2-Chlorotoluene	ND	0.0727	0.0632	ND	0.376	0.327	
1,3,5-Trimethylbenzene	ND	0.0724	0.0632	ND	0.356	0.311	
1,2,4-Trimethylbenzene	0.0841	0.0718	0.0632	0.414	0.353	0.311	m
1,3-Dichlorobenzene	ND	0.0728	0.0632	ND	0.438	0.380	
1,4-Dichlorobenzene	ND	0.0724	0.0632	ND	0.435	0.380	
Benzyl chloride	ND	0.0721	0.0632	ND	0.373	0.327	
1,2-Dichlorobenzene	ND	0.0736	0.0632	ND	0.442	0.380	
1,2,4-Trichlorobenzene	ND	0.0733	0.0632	ND	0.544	0.469	
Hexachlorobutadiene	ND	0.0723	0.0632	ND	0.772	0.674	
Naphthalene	0.102	0.0747	0.0632	0.537	0.392	0.331	
1-Bromopropane	ND	0.0713	0.0632	ND	0.359	0.318	
1-Octene	ND	0.0706	0.0632	ND	0.324	0.290	
n-Octane	0.120	0.0723	0.0632	0.562	0.338	0.295	m
Isopropylbenzene	0.217	0.0733	0.0632	1.06	0.360	0.311	
n-Propylbenzene	ND	0.0734	0.0632	ND	0.361	0.311	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	976,965	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,519,818	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,850,934	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-AS-Bkgd-072819
Sample Info : 0719-205; Can #0808; 500mL load
Data File : X1902706.D
Dilution : 1
Pressurization Factor : 1.787
Acquisition Date : 2019-07-30 02:41:12
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	1.69	0.0685	0.0625	2.91	0.118	0.108	
Freon 12 (CCl2F2)	0.470	0.0698	0.0625	2.33	0.345	0.309	
Freon 114 (C2Cl2F4)	ND	0.0716	0.0625	ND	0.500	0.437	
Chloromethane	0.596	0.0697	0.0625	1.23	0.144	0.129	
Chloroethene (Vinyl chloride)	ND	0.0719	0.0625	ND	0.184	0.160	
1,3-Butadiene	0.339	0.0698	0.0625	0.749	0.154	0.138	
Bromomethane	ND	0.0707	0.0625	ND	0.275	0.243	
Chloroethane	ND	0.0721	0.0625	ND	0.190	0.165	
Bromoethene (Vinyl bromide)	ND	0.0713	0.0625	ND	0.312	0.274	
Freon 11 (CCl3F)	0.211	0.0742	0.0625	1.18	0.417	0.351	
Ethanol	8.84	0.179	0.179	16.7	0.337	0.337	
Acrolein	0.109	0.0710	0.0625	0.250	0.163	0.143	m
Freon 113 (C2Cl3F3)	0.0723	0.0711	0.0625	0.554	0.545	0.479	
1,1-Dichloroethene	ND	0.0716	0.0625	ND	0.284	0.248	
Acetone	5.05	0.0718	0.0625	12.0	0.171	0.149	
Carbon disulfide	0.0687	0.0718	0.0625	0.214	0.223	0.195	m J
Isopropyl alcohol	0.164	0.0718	0.0625	0.404	0.176	0.154	
Allyl chloride (3-chloropropene)	ND	0.0719	0.0625	ND	0.225	0.196	
Acetonitrile	1.10	0.0718	0.0625	1.85	0.121	0.105	
Methylene chloride	0.199	0.0724	0.0625	0.691	0.251	0.217	
trans-1,2-Dichloroethene	ND	0.0728	0.0625	ND	0.289	0.248	
Methyl tert-butyl ether	ND	0.0732	0.0625	ND	0.264	0.225	
Acrylonitrile	ND	0.0731	0.0625	ND	0.159	0.136	
Hexane	1.15	0.0723	0.0625	4.05	0.255	0.220	
1,1-Dichloroethane	ND	0.0704	0.0625	ND	0.285	0.253	
Vinyl acetate	ND	0.0727	0.0625	ND	0.256	0.220	
cis-1,2-Dichloroethene	ND	0.0720	0.0625	ND	0.285	0.248	
Methyl ethyl ketone (2-Butanone)	0.345	0.0726	0.0625	1.02	0.214	0.184	m
Ethyl acetate	ND	0.0720	0.0625	ND	0.259	0.225	
Chloroform	ND	0.0723	0.0625	ND	0.353	0.305	
Tetrahydrofuran	ND	0.0721	0.0625	ND	0.213	0.184	
1,1,1-Trichloroethane	ND	0.0711	0.0625	ND	0.388	0.341	
Cyclohexane	0.290	0.0727	0.0625	0.999	0.250	0.215	m
Carbon tetrachloride	0.0765	0.0723	0.0625	0.481	0.455	0.393	
Benzene	0.789	0.0713	0.0625	2.52	0.228	0.200	
2,2,4-trimethylpentane	0.454	0.0733	0.0625	2.12	0.342	0.292	
1,2-Dichloroethane	ND	0.0731	0.0625	ND	0.296	0.253	
Heptane	0.551	0.0718	0.0625	2.26	0.294	0.256	
Trichloroethene	ND	0.0718	0.0625	ND	0.386	0.336	
1,2-Dichloropropane	ND	0.0731	0.0625	ND	0.338	0.289	
Methyl methacrylate	ND	0.0741	0.0625	ND	0.304	0.256	
1,4-Dioxane	0.0890	0.0723	0.0625	0.321	0.260	0.225	
Bromodichloromethane	ND	0.0710	0.0625	ND	0.476	0.419	
cis-1,3-Dichloropropene	ND	0.0703	0.0625	ND	0.319	0.284	
Methyl isobutyl ketone	ND	0.0737	0.0625	ND	0.302	0.256	
Toluene	2.61	0.0726	0.0625	9.82	0.274	0.236	
trans-1,3-Dichloropropene	ND	0.0726	0.0625	ND	0.330	0.284	
1,1,2-Trichloroethane	ND	0.0716	0.0625	ND	0.391	0.341	
Tetrachloroethene	ND	0.0721	0.0625	ND	0.489	0.424	
2-Hexanone (Methyl butyl ketone)	ND	0.0726	0.0625	ND	0.298	0.256	
Dibromochloromethane	ND	0.0706	0.0625	ND	0.601	0.533	
1,2-Dibromoethane	ND	0.0724	0.0625	ND	0.556	0.481	
Chlorobenzene	ND	0.0736	0.0625	ND	0.339	0.288	
Ethylbenzene	0.478	0.0703	0.0625	2.07	0.305	0.272	
1,1,1,2-Tetrachloroethane	ND	0.0715	0.0625	ND	0.491	0.429	
m-/p-Xylenes	1.58	0.0724	0.0625	6.86	0.314	0.272	

Sample Name	: ACF-AS-Bkgd-072819
Sample Info	: 0719-205; Can #0808; 500mL load
Data File	: X1902706.D
Dilution	: 1
Pressurization Factor	: 1.787
Acquisition Date	: 2019-07-30 02:41:12
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	0.634	0.0714	0.0625	2.75	0.310	0.272	
Styrene	0.0818	0.0696	0.0625	0.348	0.297	0.266	
Bromoform	ND	0.0718	0.0625	ND	0.742	0.647	
1,1,2,2-Tetrachloroethane	ND	0.0715	0.0625	ND	0.491	0.429	
4-Ethyltoluene	0.186	0.0720	0.0625	0.913	0.354	0.307	m
2-Chlorotoluene	ND	0.0720	0.0625	ND	0.373	0.324	
1,3,5-Trimethylbenzene	0.183	0.0717	0.0625	0.898	0.352	0.307	
1,2,4-Trimethylbenzene	0.657	0.0711	0.0625	3.23	0.349	0.307	m
1,3-Dichlorobenzene	ND	0.0721	0.0625	ND	0.434	0.376	
1,4-Dichlorobenzene	ND	0.0717	0.0625	ND	0.431	0.376	
Benzyl chloride	ND	0.0713	0.0625	ND	0.369	0.324	
1,2-Dichlorobenzene	ND	0.0728	0.0625	ND	0.438	0.376	
1,2,4-Trichlorobenzene	ND	0.0726	0.0625	ND	0.538	0.464	
Hexachlorobutadiene	ND	0.0716	0.0625	ND	0.764	0.667	
Naphthalene	0.0642	0.0740	0.0625	0.336	0.388	0.328	J
1-Bromopropane	ND	0.0706	0.0625	ND	0.355	0.315	
1-Octene	ND	0.0699	0.0625	ND	0.321	0.287	
n-Octane	0.212	0.0716	0.0625	0.990	0.335	0.292	m
Isopropylbenzene	ND	0.0726	0.0625	ND	0.357	0.307	
n-Propylbenzene	0.128	0.0727	0.0625	0.629	0.357	0.307	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	953,670	11.94	5.00	PASS
1,4-Difluorobenzene (IS)	3,452,164	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,804,962	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-Blank
Sample Info : 0719-205; Can #0821; 500mL load
Data File : X1902705.D
Dilution : 1
Pressurization Factor : 1.000
Acquisition Date : 2019-07-30 01:44:58
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	ND	0.0384	0.0350	ND	0.0660	0.0602	
Freon 12 (CCl2F2)	ND	0.0390	0.0350	ND	0.193	0.173	
Freon 114 (C2Cl2F4)	ND	0.0400	0.0350	ND	0.280	0.245	
Chloromethane	ND	0.0390	0.0350	ND	0.0805	0.0723	
Chloroethene (Vinyl chloride)	ND	0.0402	0.0350	ND	0.103	0.0895	
1,3-Butadiene	ND	0.0391	0.0350	ND	0.0865	0.0774	
Bromomethane	ND	0.0396	0.0350	ND	0.154	0.136	
Chloroethane	ND	0.0403	0.0350	ND	0.106	0.0924	
Bromoethene (Vinyl bromide)	ND	0.0399	0.0350	ND	0.174	0.153	
Freon 11 (CCl3F)	ND	0.0415	0.0350	ND	0.233	0.197	
Ethanol	ND	0.100	0.100	ND	0.188	0.188	
Acrolein	ND	0.0397	0.0350	ND	0.0911	0.0803	
Freon 113 (C2Cl3F3)	ND	0.0398	0.0350	ND	0.305	0.268	
1,1-Dichloroethene	ND	0.0400	0.0350	ND	0.159	0.139	
Acetone	ND	0.0402	0.0350	ND	0.0955	0.0831	
Carbon disulfide	ND	0.0402	0.0350	ND	0.125	0.109	
Isopropyl alcohol	ND	0.0402	0.0350	ND	0.0987	0.0860	
Allyl chloride (3-chloropropene)	ND	0.0402	0.0350	ND	0.126	0.110	
Acetonitrile	ND	0.0402	0.0350	ND	0.0675	0.0588	
Methylene chloride	0.0461	0.0405	0.0350	0.160	0.141	0.122	
trans-1,2-Dichloroethene	ND	0.0408	0.0350	ND	0.162	0.139	
Methyl tert-butyl ether	ND	0.0410	0.0350	ND	0.148	0.126	
Acrylonitrile	ND	0.0409	0.0350	ND	0.0887	0.0760	
Hexane	ND	0.0404	0.0350	ND	0.143	0.123	
1,1-Dichloroethane	ND	0.0394	0.0350	ND	0.159	0.142	
Vinyl acetate	ND	0.0407	0.0350	ND	0.143	0.123	
cis-1,2-Dichloroethene	ND	0.0403	0.0350	ND	0.160	0.139	
Methyl ethyl ketone (2-Butanone)	ND	0.0406	0.0350	ND	0.120	0.103	
Ethyl acetate	ND	0.0403	0.0350	ND	0.145	0.126	
Chloroform	ND	0.0404	0.0350	ND	0.197	0.171	
Tetrahydrofuran	ND	0.0404	0.0350	ND	0.119	0.103	
1,1,1-Trichloroethane	ND	0.0398	0.0350	ND	0.217	0.191	
Cyclohexane	ND	0.0407	0.0350	ND	0.140	0.120	
Carbon tetrachloride	ND	0.0405	0.0350	ND	0.255	0.220	
Benzene	ND	0.0399	0.0350	ND	0.128	0.112	
2,2,4-trimethylpentane	ND	0.0410	0.0350	ND	0.192	0.164	
1,2-Dichloroethane	ND	0.0409	0.0350	ND	0.165	0.142	
Heptane	ND	0.0402	0.0350	ND	0.165	0.143	
Trichloroethene	ND	0.0402	0.0350	ND	0.216	0.188	
1,2-Dichloropropane	ND	0.0409	0.0350	ND	0.189	0.162	
Methyl methacrylate	ND	0.0415	0.0350	ND	0.170	0.143	
1,4-Dioxane	ND	0.0404	0.0350	ND	0.146	0.126	
Bromodichloromethane	ND	0.0397	0.0350	ND	0.266	0.235	
cis-1,3-Dichloropropene	ND	0.0393	0.0350	ND	0.178	0.159	
Methyl isobutyl ketone	ND	0.0412	0.0350	ND	0.169	0.143	
Toluene	ND	0.0406	0.0350	ND	0.153	0.132	
trans-1,3-Dichloropropene	ND	0.0406	0.0350	ND	0.184	0.159	
1,1,2-Trichloroethane	ND	0.0401	0.0350	ND	0.219	0.191	
Tetrachloroethene	ND	0.0404	0.0350	ND	0.274	0.237	
2-Hexanone (Methyl butyl ketone)	ND	0.0406	0.0350	ND	0.166	0.143	
Dibromochloromethane	ND	0.0395	0.0350	ND	0.336	0.298	
1,2-Dibromoethane	ND	0.0405	0.0350	ND	0.311	0.269	
Chlorobenzene	ND	0.0412	0.0350	ND	0.189	0.161	
Ethylbenzene	ND	0.0394	0.0350	ND	0.171	0.152	
1,1,1,2-Tetrachloroethane	ND	0.0400	0.0350	ND	0.275	0.240	
m-/p-Xylenes	ND	0.0405	0.0350	ND	0.176	0.152	

Sample Name	: ACF-Blank
Sample Info	: 0719-205; Can #0821; 500mL load
Data File	: X1902705.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-07-30 01:44:58
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	ND	0.0400	0.0350	ND	0.174	0.152	
Styrene	ND	0.0390	0.0350	ND	0.166	0.149	
Bromoform	ND	0.0402	0.0350	ND	0.415	0.362	
1,1,2,2-Tetrachloroethane	ND	0.0400	0.0350	ND	0.275	0.240	
4-Ethyltoluene	ND	0.0403	0.0350	ND	0.198	0.172	
2-Chlorotoluene	ND	0.0403	0.0350	ND	0.209	0.181	
1,3,5-Trimethylbenzene	ND	0.0401	0.0350	ND	0.197	0.172	
1,2,4-Trimethylbenzene	ND	0.0398	0.0350	ND	0.195	0.172	
1,3-Dichlorobenzene	ND	0.0404	0.0350	ND	0.243	0.210	
1,4-Dichlorobenzene	ND	0.0401	0.0350	ND	0.241	0.210	
Benzyl chloride	ND	0.0399	0.0350	ND	0.207	0.181	
1,2-Dichlorobenzene	ND	0.0408	0.0350	ND	0.245	0.210	
1,2,4-Trichlorobenzene	ND	0.0406	0.0350	ND	0.301	0.260	
Hexachlorobutadiene	ND	0.0401	0.0350	ND	0.427	0.373	
Naphthalene	ND	0.0414	0.0350	ND	0.217	0.183	
1-Bromopropane	ND	0.0395	0.0350	ND	0.199	0.176	
1-Octene	ND	0.0391	0.0350	ND	0.180	0.161	
n-Octane	ND	0.0401	0.0350	ND	0.187	0.164	
Isopropylbenzene	ND	0.0406	0.0350	ND	0.200	0.172	
n-Propylbenzene	ND	0.0407	0.0350	ND	0.200	0.172	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	952,374	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,413,584	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,676,004	17.87	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-AS-RES-AM-072719
Sample Info : 0719-205
Data File : W1900511.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 18:56:48
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 486.2

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Flag *
N-Nitrosodimethylamine	0.772	ND	3.86	ND	7.94	ND	
Pyridine	1.50	ND	7.50	ND	15.4	ND	
Phenol (CCC)	0.649	ND	3.25	ND	6.67	ND	
Aniline	0.694	ND	3.47	ND	7.14	ND	
bis(2-Chloroethyl)ether	0.788	ND	3.94	ND	8.10	ND	
2-Chlorophenol	0.624	ND	3.12	ND	6.42	ND	
1,3-Dichlorobenzene	0.558	ND	2.79	ND	5.74	ND	
1,4-Dichlorobenzene (CCC)	0.528	ND	2.64	ND	5.43	ND	
Benzyl alcohol	0.700	ND	3.50	ND	7.20	ND	
1,2-Dichlorobenzene	0.558	ND	2.79	ND	5.74	ND	
2-Methylphenol	0.677	ND	3.39	ND	6.96	ND	
bis(2-Chloroisopropyl) ether	0.982	ND	4.91	ND	10.1	ND	
3/4-Methylphenol	0.591	ND	2.96	ND	6.08	ND	
N-Nitroso-di-n-propylamine (SPCC)	0.832	ND	4.16	ND	8.56	ND	
o-Toluidine	5.00	ND	25.0	ND	51.4	ND	
Hexachloroethane	0.632	ND	3.16	ND	6.50	ND	
Nitrobenzene	0.816	ND	4.08	ND	8.39	ND	
Isophorone	0.748	ND	3.74	ND	7.69	ND	
2,4-Dimethylphenol	0.729	ND	3.65	ND	7.50	ND	
2-Nitrophenol (CCC)	0.669	ND	3.35	ND	6.88	ND	
Benzoic acid	5.00	ND	25.0	ND	51.4	ND	
bis(2-Chloroethoxy)methane	0.732	ND	3.66	ND	7.53	ND	
2,4-Dichlorophenol (CCC)	0.652	ND	3.26	ND	6.71	ND	
a,a-Dimethylphenethylamine	5.00	ND	25.0	ND	51.4	ND	
1,2,4-Trichlorobenzene	0.617	ND	3.09	ND	6.35	ND	
Naphthalene	0.665	ND	3.33	ND	6.84	ND	
4-Chloroaniline	0.849	ND	4.25	ND	8.73	ND	
Hexachlorobutadiene (CCC)	0.609	ND	3.05	ND	6.26	ND	
Quinoline	1.00	ND	5.00	ND	10.3	ND	
1,4-Phenylenediamine	5.00	ND	25.0	ND	51.4	ND	
4-Chloro-3 methylphenol (CCC)	0.661	ND	3.31	ND	6.80	ND	
2-Methylnaphthalene	0.618	ND	3.09	ND	6.36	ND	
1-Methylnaphthalene	0.613	ND	3.07	ND	6.30	ND	
Hexachlorocyclopentadiene (SPCC)	8.12	ND	40.6	ND	83.5	ND	
2,4,6-Trichlorophenol (CCC)	0.738	ND	3.69	ND	7.59	ND	
2,4,5-Trichlorophenol	0.541	ND	2.71	ND	5.56	ND	
Biphenyl	5.00	ND	25.0	ND	51.4	ND	
2-Chloronaphthalene	0.652	ND	3.26	ND	6.71	ND	
2-Nitroaniline	0.966	ND	4.83	ND	9.93	ND	
1,4-Dinitrobenzene	0.672	ND	3.36	ND	6.91	ND	
Dimethylphthalate	0.809	ND	4.05	ND	8.32	ND	
1,3-Dinitrobenzene	0.819	ND	4.10	ND	8.42	ND	
2,6-Dinitrotoluene	0.775	ND	3.88	ND	7.97	ND	
1,2-Dinitrobenzene	0.777	ND	3.89	ND	7.99	ND	
Acenaphthylene	0.675	ND	3.38	ND	6.94	ND	
3-Nitroaniline	0.816	ND	4.08	ND	8.39	ND	
Acenaphthene (CCC)	0.934	ND	4.67	ND	9.61	ND	
2,4-Dinitrophenol (SPCC)	5.00	ND	25.0	ND	51.4	ND	
4-Nitrophenol (SPCC)	5.00	ND	25.0	ND	51.4	ND	
2,4-Dinitrotoluene	0.804	ND	4.02	ND	8.27	ND	

Sample Name : ACF-AS-RES-AM-072719
Sample Info : 0719-205
Data File : W1900511.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 18:56:48
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 486.2

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Flag *
Dibenzofuran	0.688	ND	3.44	ND	7.08	ND	
2,3,5,6-Tetrachlorophenol	0.761	ND	3.81	ND	7.83	ND	
2,3,4,6-Tetrachlorophenol	0.701	ND	3.51	ND	7.21	ND	
Diethlyphthalate	1.02	ND	5.10	ND	10.5	ND	
4-Chlorophenyl-phenylether	0.754	ND	3.77	ND	7.75	ND	
Fluorene	0.783	ND	3.92	ND	8.05	ND	
4-Nitroaniline	0.694	ND	3.47	ND	7.14	ND	
4,6-Dinitro2-methylphenol	5.00	ND	25.0	ND	51.4	ND	
N-Nitrosodiphenylamine (CCC)	0.716	ND	3.58	ND	7.36	ND	
Azobenzene	0.991	ND	4.96	ND	10.2	ND	
4-Bromophenyl-phenylether	0.671	ND	3.36	ND	6.90	ND	
Hexachlorobenzene	0.546	ND	2.73	ND	5.61	ND	
Pentachlorophenol (CCC)	5.00	ND	25.0	ND	51.4	ND	
Phenanthrene	0.771	ND	3.86	ND	7.93	ND	
Anthracene	0.760	ND	3.80	ND	7.82	ND	
Carbazole	0.705	ND	3.53	ND	7.25	ND	
Di-n-butylphthalate	1.04	ND	5.20	ND	10.7	ND	
Fluoranthene (CCC)	0.919	ND	4.60	ND	9.45	ND	
Benzidine	22.8	ND	114	ND	234	ND	
Pyrene	0.937	ND	4.69	ND	9.64	ND	
4-Dimethylaminoazobenzene	5.00	ND	25.0	ND	51.4	ND	
Butylbenzylphthalate	0.810	ND	4.05	ND	8.33	ND	
3,3-Dimethylbenzidine	10.8	ND	54.0	ND	111	ND	
bis(2-Ethylhexyl)adipate	0.874	ND	4.37	ND	8.99	ND	
3,3-Dimethoxybenzidine	5.00	ND	25.0	ND	51.4	ND	
bis(2-Ethylhexyl)phthalate	1.74	ND	8.70	ND	17.9	ND	
3,3'-Dichlorobenzidine	5.00	ND	25.0	ND	51.4	ND	
Benzo(a)anthracene	0.550	ND	2.75	ND	5.66	ND	
Chrysene	0.556	ND	2.78	ND	5.72	ND	
Di-n-octylphthalate (CCC)	0.644	ND	3.22	ND	6.62	ND	
7,12-Dimethylbenz(a)anthracene	5.00	ND	25.0	ND	51.4	ND	
Benzo(b)fluoranthene	0.300	ND	1.50	ND	3.09	ND	
Benzo(k)fluoranthene	0.356	ND	1.78	ND	3.66	ND	
Benzo(e)pyrene	0.340	ND	1.70	ND	3.50	ND	
Benzo(a)pyrene (CCC)	0.340	ND	1.70	ND	3.50	ND	
Perylene	0.340	ND	1.70	ND	3.50	ND	
3-Methylcholanthrene	5.00	ND	25.0	ND	51.4	ND	
Indeno(1,2,3-cd)pyrene	0.300	ND	1.50	ND	3.09	ND	
Dibenz(a,h)anthracene	0.425	ND	2.13	ND	4.37	ND	
Benzo(g,h,i)perylene	0.352	ND	1.76	ND	3.62	ND	
Dibenzo(a,e)pyrene	5.00	ND	25.0	ND	51.4	ND	

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**

Sample Name	: ACF-AS-RES-AM-072719
Sample Info	: 0719-205
Data File	: W1900511.I
Dilution	: 1
Extract Volume	: 5.00
Acquisition Date	: 2019-07-31 18:56:48
Instrument Method	: RXI-M8270.M
Matrix	: LIQUID

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	% Deviation	Flag *
1,4-Dichlorobenzene-d4 (I)	392,705	4.24	40.00	10.7	PASS
Naphthalene-d8 (I)	1,431,493	5.32	40.00	11.2	PASS
Acenaphthene-d10 (I)	845,573	6.88	40.00	10.5	PASS
Phenanthrene-d10 (I)	1,455,461	8.23	40.00	9.7	PASS
Chrysene-d12 (I)	1,579,379	12.23	40.00	6.5	PASS
Perylene-d12 (I)	1,468,035	16.35	40.00	7.4	PASS

*** (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-AS-SMOKE-AM-072719
Sample Info : 0719-205
Data File : W1900512.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 19:28:28
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 562.5

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Flag *
N-Nitrosodimethylamine	0.772	ND	3.86	ND	6.86	ND	
Pyridine	1.50	ND	7.50	ND	13.3	ND	
Phenol (CCC)	0.649	ND	3.25	ND	5.77	ND	
Aniline	0.694	ND	3.47	ND	6.17	ND	
bis(2-Chloroethyl)ether	0.788	ND	3.94	ND	7.00	ND	
2-Chlorophenol	0.624	ND	3.12	ND	5.55	ND	
1,3-Dichlorobenzene	0.558	ND	2.79	ND	4.96	ND	
1,4-Dichlorobenzene (CCC)	0.528	ND	2.64	ND	4.69	ND	
Benzyl alcohol	0.700	ND	3.50	ND	6.22	ND	
1,2-Dichlorobenzene	0.558	ND	2.79	ND	4.96	ND	
2-Methylphenol	0.677	ND	3.39	ND	6.02	ND	
bis(2-Chloroisopropyl) ether	0.982	ND	4.91	ND	8.73	ND	
3/4-Methylphenol	0.591	ND	2.96	ND	5.25	ND	
N-Nitroso-di-n-propylamine (SPCC)	0.832	ND	4.16	ND	7.40	ND	
o-Toluidine	5.00	ND	25.0	ND	44.4	ND	
Hexachloroethane	0.632	ND	3.16	ND	5.62	ND	
Nitrobenzene	0.816	ND	4.08	ND	7.25	ND	
Isophorone	0.748	ND	3.74	ND	6.65	ND	
2,4-Dimethylphenol	0.729	ND	3.65	ND	6.48	ND	
2-Nitrophenol (CCC)	0.669	ND	3.35	ND	5.95	ND	
Benzoic acid	5.00	ND	25.0	ND	44.4	ND	
bis(2-Chloroethoxy)methane	0.732	ND	3.66	ND	6.51	ND	
2,4-Dichlorophenol (CCC)	0.652	ND	3.26	ND	5.80	ND	
a,a-Dimethylphenethylamine	5.00	ND	25.0	ND	44.4	ND	
1,2,4-Trichlorobenzene	0.617	ND	3.09	ND	5.48	ND	
Naphthalene	0.665	ND	3.33	ND	5.91	ND	
4-Chloroaniline	0.849	ND	4.25	ND	7.55	ND	
Hexachlorobutadiene (CCC)	0.609	ND	3.05	ND	5.41	ND	
Quinoline	1.00	ND	5.00	ND	8.89	ND	
1,4-Phenylenediamine	5.00	ND	25.0	ND	44.4	ND	
4-Chloro-3 methylphenol (CCC)	0.661	ND	3.31	ND	5.88	ND	
2-Methylnaphthalene	0.618	ND	3.09	ND	5.49	ND	
1-Methylnaphthalene	0.613	ND	3.07	ND	5.45	ND	
Hexachlorocyclopentadiene (SPCC)	8.12	ND	40.6	ND	72.2	ND	
2,4,6-Trichlorophenol (CCC)	0.738	ND	3.69	ND	6.56	ND	
2,4,5-Trichlorophenol	0.541	ND	2.71	ND	4.81	ND	
Biphenyl	5.00	ND	25.0	ND	44.4	ND	
2-Chloronaphthalene	0.652	ND	3.26	ND	5.80	ND	
2-Nitroaniline	0.966	ND	4.83	ND	8.59	ND	
1,4-Dinitrobenzene	0.672	ND	3.36	ND	5.97	ND	
Dimethylphthalate	0.809	ND	4.05	ND	7.19	ND	
1,3-Dinitrobenzene	0.819	ND	4.10	ND	7.28	ND	
2,6-Dinitrotoluene	0.775	ND	3.88	ND	6.89	ND	
1,2-Dinitrobenzene	0.777	ND	3.89	ND	6.91	ND	
Acenaphthylene	0.675	ND	3.38	ND	6.00	ND	
3-Nitroaniline	0.816	ND	4.08	ND	7.25	ND	
Acenaphthene (CCC)	0.934	ND	4.67	ND	8.30	ND	
2,4-Dinitrophenol (SPCC)	5.00	ND	25.0	ND	44.4	ND	
4-Nitrophenol (SPCC)	5.00	ND	25.0	ND	44.4	ND	
2,4-Dinitrotoluene	0.804	ND	4.02	ND	7.15	ND	

Sample Name : ACF-AS-SMOKE-AM-072719
Sample Info : 0719-205
Data File : W1900512.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 19:28:28
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 562.5

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Flag *
Dibenzofuran	0.688	ND	3.44	ND	6.12	ND	
2,3,5,6-Tetrachlorophenol	0.761	ND	3.81	ND	6.76	ND	
2,3,4,6-Tetrachlorophenol	0.701	ND	3.51	ND	6.23	ND	
Diethlyphthalate	1.02	ND	5.10	ND	9.07	ND	
4-Chlorophenyl-phenylether	0.754	ND	3.77	ND	6.70	ND	
Fluorene	0.783	ND	3.92	ND	6.96	ND	
4-Nitroaniline	0.694	ND	3.47	ND	6.17	ND	
4,6-Dinitro2-methylphenol	5.00	ND	25.0	ND	44.4	ND	
N-Nitrosodiphenylamine (CCC)	0.716	ND	3.58	ND	6.36	ND	
Azobenzene	0.991	ND	4.96	ND	8.81	ND	
4-Bromophenyl-phenylether	0.671	ND	3.36	ND	5.96	ND	
Hexachlorobenzene	0.546	ND	2.73	ND	4.85	ND	
Pentachlorophenol (CCC)	5.00	ND	25.0	ND	44.4	ND	
Phenanthrene	0.771	ND	3.86	ND	6.85	ND	
Anthracene	0.760	ND	3.80	ND	6.76	ND	
Carbazole	0.705	ND	3.53	ND	6.27	ND	
Di-n-butylphthalate	1.04	ND	5.20	ND	9.24	ND	
Fluoranthene (CCC)	0.919	ND	4.60	ND	8.17	ND	
Benzidine	22.8	ND	114	ND	203	ND	
Pyrene	0.937	ND	4.69	ND	8.33	ND	
4-Dimethylaminoazobenzene	5.00	ND	25.0	ND	44.4	ND	
Butylbenzylphthalate	0.810	ND	4.05	ND	7.20	ND	
3,3-Dimethylbenzidine	10.8	ND	54.0	ND	96.0	ND	
bis(2-Ethylhexyl)adipate	0.874	ND	4.37	ND	7.77	ND	
3,3-Dimethoxybenzidine	5.00	ND	25.0	ND	44.4	ND	
bis(2-Ethylhexyl)phthalate	1.74	ND	8.70	ND	15.5	ND	
3,3'-Dichlorobenzidine	5.00	ND	25.0	ND	44.4	ND	
Benzo(a)anthracene	0.550	ND	2.75	ND	4.89	ND	
Chrysene	0.556	ND	2.78	ND	4.94	ND	
Di-n-octylphthalate (CCC)	0.644	ND	3.22	ND	5.72	ND	
7,12-Dimethylbenz(a)anthracene	5.00	ND	25.0	ND	44.4	ND	
Benzo(b)fluoranthene	0.300	ND	1.50	ND	2.67	ND	
Benzo(k)fluoranthene	0.356	ND	1.78	ND	3.16	ND	
Benzo(e)pyrene	0.340	ND	1.70	ND	3.02	ND	
Benzo(a)pyrene (CCC)	0.340	ND	1.70	ND	3.02	ND	
Perylene	0.340	ND	1.70	ND	3.02	ND	
3-Methylcholanthrene	5.00	ND	25.0	ND	44.4	ND	
Indeno(1,2,3-cd)pyrene	0.300	ND	1.50	ND	2.67	ND	
Dibenz(a,h)anthracene	0.425	ND	2.13	ND	3.78	ND	
Benzo(g,h,i)perylene	0.352	ND	1.76	ND	3.13	ND	
Dibenzo(a,e)pyrene	5.00	ND	25.0	ND	44.4	ND	

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**

Sample Name	: ACF-AS-SMOKE-AM-072719
Sample Info	: 0719-205
Data File	: W1900512.D
Dilution	: 1
Extract Volume	: 5.00
Acquisition Date	: 2019-07-31 19:28:28
Instrument Method	: RXI-M8270.M
Matrix	: LIQUID

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	% Deviation	Flag *
1,4-Dichlorobenzene-d4 (I)	393,105	4.24	40.00	10.8	PASS
Naphthalene-d8 (I)	1,418,557	5.32	40.00	10.2	PASS
Acenaphthene-d10 (I)	861,297	6.88	40.00	12.6	PASS
Phenanthrene-d10 (I)	1,483,798	8.23	40.00	11.8	PASS
Chrysene-d12 (I)	1,627,615	12.22	40.00	9.8	PASS
Perylene-d12 (I)	1,511,658	16.34	40.00	10.6	PASS

*** (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-AS-RES-PM-072719
Sample Info : 0719-205
Data File : W1900513.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 20:00:00
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 421.4

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Flag *
N-Nitrosodimethylamine	0.772	ND	3.86	ND	9.16	ND	
Pyridine	1.50	ND	7.50	ND	17.8	ND	
Phenol (CCC)	0.649	ND	3.25	ND	7.70	ND	
Aniline	0.694	ND	3.47	ND	8.23	ND	
bis(2-Chloroethyl)ether	0.788	ND	3.94	ND	9.35	ND	
2-Chlorophenol	0.624	ND	3.12	ND	7.40	ND	
1,3-Dichlorobenzene	0.558	ND	2.79	ND	6.62	ND	
1,4-Dichlorobenzene (CCC)	0.528	ND	2.64	ND	6.26	ND	
Benzyl alcohol	0.700	ND	3.50	ND	8.31	ND	
1,2-Dichlorobenzene	0.558	ND	2.79	ND	6.62	ND	
2-Methylphenol	0.677	ND	3.39	ND	8.03	ND	
bis(2-Chloroisopropyl) ether	0.982	ND	4.91	ND	11.7	ND	
3/4-Methylphenol	0.591	ND	2.96	ND	7.01	ND	
N-Nitroso-di-n-propylamine (SPCC)	0.832	ND	4.16	ND	9.87	ND	
o-Toluidine	5.00	ND	25.0	ND	59.3	ND	
Hexachloroethane	0.632	ND	3.16	ND	7.50	ND	
Nitrobenzene	0.816	ND	4.08	ND	9.68	ND	
Isophorone	0.748	ND	3.74	ND	8.88	ND	
2,4-Dimethylphenol	0.729	ND	3.65	ND	8.65	ND	
2-Nitrophenol (CCC)	0.669	ND	3.35	ND	7.94	ND	
Benzoic acid	5.00	ND	25.0	ND	59.3	ND	
bis(2-Chloroethoxy)methane	0.732	ND	3.66	ND	8.69	ND	
2,4-Dichlorophenol (CCC)	0.652	ND	3.26	ND	7.74	ND	
a,a-Dimethylphenethylamine	5.00	ND	25.0	ND	59.3	ND	
1,2,4-Trichlorobenzene	0.617	ND	3.09	ND	7.32	ND	
Naphthalene	0.665	ND	3.33	ND	7.89	ND	
4-Chloroaniline	0.849	ND	4.25	ND	10.1	ND	
Hexachlorobutadiene (CCC)	0.609	ND	3.05	ND	7.23	ND	
Quinoline	1.00	ND	5.00	ND	11.9	ND	
1,4-Phenylenediamine	5.00	ND	25.0	ND	59.3	ND	
4-Chloro-3 methylphenol (CCC)	0.661	ND	3.31	ND	7.84	ND	
2-Methylnaphthalene	0.618	ND	3.09	ND	7.33	ND	
1-Methylnaphthalene	0.613	ND	3.07	ND	7.27	ND	
Hexachlorocyclopentadiene (SPCC)	8.12	ND	40.6	ND	96.3	ND	
2,4,6-Trichlorophenol (CCC)	0.738	ND	3.69	ND	8.76	ND	
2,4,5-Trichlorophenol	0.541	ND	2.71	ND	6.42	ND	
Biphenyl	5.00	ND	25.0	ND	59.3	ND	
2-Chloronaphthalene	0.652	ND	3.26	ND	7.74	ND	
2-Nitroaniline	0.966	ND	4.83	ND	11.5	ND	
1,4-Dinitrobenzene	0.672	ND	3.36	ND	7.97	ND	
Dimethylphthalate	0.809	ND	4.05	ND	9.60	ND	
1,3-Dinitrobenzene	0.819	ND	4.10	ND	9.72	ND	
2,6-Dinitrotoluene	0.775	ND	3.88	ND	9.20	ND	
1,2-Dinitrobenzene	0.777	ND	3.89	ND	9.22	ND	
Acenaphthylene	0.675	ND	3.38	ND	8.01	ND	
3-Nitroaniline	0.816	ND	4.08	ND	9.68	ND	
Acenaphthene (CCC)	0.934	ND	4.67	ND	11.1	ND	
2,4-Dinitrophenol (SPCC)	5.00	ND	25.0	ND	59.3	ND	
4-Nitrophenol (SPCC)	5.00	ND	25.0	ND	59.3	ND	
2,4-Dinitrotoluene	0.804	ND	4.02	ND	9.54	ND	

Sample Name : ACF-AS-RES-PM-072719
Sample Info : 0719-205
Data File : W1900513.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 20:00:00
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 421.4

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Flag *
Dibenzofuran	0.688	ND	3.44	ND	8.16	ND	
2,3,5,6-Tetrachlorophenol	0.761	ND	3.81	ND	9.03	ND	
2,3,4,6-Tetrachlorophenol	0.701	ND	3.51	ND	8.32	ND	
Diethlyphthalate	1.02	ND	5.10	ND	12.1	ND	
4-Chlorophenyl-phenylether	0.754	ND	3.77	ND	8.95	ND	
Fluorene	0.783	ND	3.92	ND	9.29	ND	
4-Nitroaniline	0.694	ND	3.47	ND	8.24	ND	
4,6-Dinitro2-methylphenol	5.00	ND	25.0	ND	59.3	ND	
N-Nitrosodiphenylamine (CCC)	0.716	ND	3.58	ND	8.50	ND	
Azobenzene	0.991	ND	4.96	ND	11.8	ND	
4-Bromophenyl-phenylether	0.671	ND	3.36	ND	7.96	ND	
Hexachlorobenzene	0.546	ND	2.73	ND	6.48	ND	
Pentachlorophenol (CCC)	5.00	ND	25.0	ND	59.3	ND	
Phenanthrene	0.771	ND	3.86	ND	9.15	ND	
Anthracene	0.760	ND	3.80	ND	9.02	ND	
Carbazole	0.705	ND	3.53	ND	8.36	ND	
Di-n-butylphthalate	1.04	ND	5.20	ND	12.3	ND	
Fluoranthene (CCC)	0.919	ND	4.60	ND	10.9	ND	
Benzidine	22.8	ND	114	ND	271	ND	
Pyrene	0.937	ND	4.69	ND	11.1	ND	
4-Dimethylaminoazobenzene	5.00	ND	25.0	ND	59.3	ND	
Butylbenzylphthalate	0.810	ND	4.05	ND	9.61	ND	
3,3-Dimethylbenzidine	10.8	ND	54.0	ND	128	ND	
bis(2-Ethylhexyl)adipate	0.874	ND	4.37	ND	10.4	ND	
3,3-Dimethoxybenzidine	5.00	ND	25.0	ND	59.3	ND	
bis(2-Ethylhexyl)phthalate	1.74	ND	8.70	ND	20.6	ND	
3,3'-Dichlorobenzidine	5.00	ND	25.0	ND	59.3	ND	
Benzo(a)anthracene	0.550	ND	2.75	ND	6.53	ND	
Chrysene	0.556	ND	2.78	ND	6.60	ND	
Di-n-octylphthalate (CCC)	0.644	ND	3.22	ND	7.64	ND	
7,12-Dimethylbenz(a)anthracene	5.00	ND	25.0	ND	59.3	ND	
Benzo(b)fluoranthene	0.300	ND	1.50	ND	3.56	ND	
Benzo(k)fluoranthene	0.356	ND	1.78	ND	4.22	ND	
Benzo(e)pyrene	0.340	ND	1.70	ND	4.03	ND	
Benzo(a)pyrene (CCC)	0.340	ND	1.70	ND	4.03	ND	
Perylene	0.340	ND	1.70	ND	4.03	ND	
3-Methylcholanthrene	5.00	ND	25.0	ND	59.3	ND	
Indeno(1,2,3-cd)pyrene	0.300	ND	1.50	ND	3.56	ND	
Dibenz(a,h)anthracene	0.425	ND	2.13	ND	5.04	ND	
Benzo(g,h,i)perylene	0.352	ND	1.76	ND	4.18	ND	
Dibenzo(a,e)pyrene	5.00	ND	25.0	ND	59.3	ND	

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**

Sample Name	: ACF-AS-RES-PM-072719
Sample Info	: 0719-205
Data File	: W1900513.D
Dilution	: 1
Extract Volume	: 5.00
Acquisition Date	: 2019-07-31 20:00:00
Instrument Method	: RXI-M8270.M
Matrix	: LIQUID

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	% Deviation	Flag *
1,4-Dichlorobenzene-d4 (I)	383,015	4.24	40.00	8.0	PASS
Naphthalene-d8 (I)	1,394,824	5.32	40.00	8.4	PASS
Acenaphthene-d10 (I)	838,233	6.88	40.00	9.6	PASS
Phenanthrene-d10 (I)	1,437,543	8.23	40.00	8.4	PASS
Chrysene-d12 (I)	1,553,980	12.22	40.00	4.8	PASS
Perylene-d12 (I)	1,452,555	16.35	40.00	6.3	PASS

*** (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-AS-SMOKE-PM-072719
Sample Info : 0719-205
Data File : W1900514.D
Air Sampling Volume (L): 438.3
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 20:31:41
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Flag *
N-Nitrosodimethylamine	0.772	ND	3.86	ND	8.81	ND	
Pyridine	1.50	ND	7.50	ND	17.1	ND	
Phenol (CCC)	0.649	ND	3.25	ND	7.40	ND	
Aniline	0.694	ND	3.47	ND	7.92	ND	
bis(2-Chloroethyl)ether	0.788	ND	3.94	ND	8.99	ND	
2-Chlorophenol	0.624	ND	3.12	ND	7.12	ND	
1,3-Dichlorobenzene	0.558	ND	2.79	ND	6.37	ND	
1,4-Dichlorobenzene (CCC)	0.528	ND	2.64	ND	6.02	ND	
Benzyl alcohol	0.700	ND	3.50	ND	7.99	ND	
1,2-Dichlorobenzene	0.558	ND	2.79	ND	6.37	ND	
2-Methylphenol	0.677	ND	3.39	ND	7.72	ND	
bis(2-Chloroisopropyl) ether	0.982	ND	4.91	ND	11.2	ND	
3/4-Methylphenol	0.591	ND	2.96	ND	6.74	ND	
N-Nitroso-di-n-propylamine (SPCC)	0.832	ND	4.16	ND	9.49	ND	
o-Toluidine	5.00	ND	25.0	ND	57.0	ND	
Hexachloroethane	0.632	ND	3.16	ND	7.21	ND	
Nitrobenzene	0.816	ND	4.08	ND	9.31	ND	
Isophorone	0.748	ND	3.74	ND	8.53	ND	
2,4-Dimethylphenol	0.729	ND	3.65	ND	8.32	ND	
2-Nitrophenol (CCC)	0.669	ND	3.35	ND	7.63	ND	
Benzoic acid	5.00	ND	25.0	ND	57.0	ND	
bis(2-Chloroethoxy)methane	0.732	ND	3.66	ND	8.35	ND	
2,4-Dichlorophenol (CCC)	0.652	ND	3.26	ND	7.44	ND	
a,a-Dimethylphenethylamine	5.00	ND	25.0	ND	57.0	ND	
1,2,4-Trichlorobenzene	0.617	ND	3.09	ND	7.04	ND	
Naphthalene	0.665	ND	3.33	ND	7.59	ND	
4-Chloroaniline	0.849	ND	4.25	ND	9.69	ND	
Hexachlorobutadiene (CCC)	0.609	ND	3.05	ND	6.95	ND	
Quinoline	1.00	ND	5.00	ND	11.4	ND	
1,4-Phenylenediamine	5.00	ND	25.0	ND	57.0	ND	
4-Chloro-3 methylphenol (CCC)	0.661	ND	3.31	ND	7.54	ND	
2-Methylnaphthalene	0.618	ND	3.09	ND	7.05	ND	
1-Methylnaphthalene	0.613	ND	3.07	ND	6.99	ND	
Hexachlorocyclopentadiene (SPCC)	8.12	ND	40.6	ND	92.6	ND	
2,4,6-Trichlorophenol (CCC)	0.738	ND	3.69	ND	8.42	ND	
2,4,5-Trichlorophenol	0.541	ND	2.71	ND	6.17	ND	
Biphenyl	5.00	ND	25.0	ND	57.0	ND	
2-Chloronaphthalene	0.652	ND	3.26	ND	7.44	ND	
2-Nitroaniline	0.966	ND	4.83	ND	11.0	ND	
1,4-Dinitrobenzene	0.672	ND	3.36	ND	7.67	ND	
Dimethylphthalate	0.809	ND	4.05	ND	9.23	ND	
1,3-Dinitrobenzene	0.819	ND	4.10	ND	9.34	ND	
2,6-Dinitrotoluene	0.775	ND	3.88	ND	8.84	ND	
1,2-Dinitrobenzene	0.777	ND	3.89	ND	8.86	ND	
Acenaphthylene	0.675	ND	3.38	ND	7.70	ND	
3-Nitroaniline	0.816	ND	4.08	ND	9.31	ND	
Acenaphthene (CCC)	0.934	ND	4.67	ND	10.7	ND	
2,4-Dinitrophenol (SPCC)	5.00	ND	25.0	ND	57.0	ND	
4-Nitrophenol (SPCC)	5.00	ND	25.0	ND	57.0	ND	
2,4-Dinitrotoluene	0.804	ND	4.02	ND	9.17	ND	

Sample Name : ACF-AS-SMOKE-PM-072719
Sample Info : 0719-205
Data File : W1900514.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 20:31:41
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 438.3

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Flag *
Dibenzofuran	0.688	ND	3.44	ND	7.85	ND	
2,3,5,6-Tetrachlorophenol	0.761	ND	3.81	ND	8.68	ND	
2,3,4,6-Tetrachlorophenol	0.701	ND	3.51	ND	8.00	ND	
Diethlyphthalate	1.02	ND	5.10	ND	11.6	ND	
4-Chlorophenyl-phenylether	0.754	ND	3.77	ND	8.60	ND	
Fluorene	0.783	ND	3.92	ND	8.93	ND	
4-Nitroaniline	0.694	ND	3.47	ND	7.92	ND	
4,6-Dinitro2-methylphenol	5.00	ND	25.0	ND	57.0	ND	
N-Nitrosodiphenylamine (CCC)	0.716	ND	3.58	ND	8.17	ND	
Azobenzene	0.991	ND	4.96	ND	11.3	ND	
4-Bromophenyl-phenylether	0.671	ND	3.36	ND	7.65	ND	
Hexachlorobenzene	0.546	ND	2.73	ND	6.23	ND	
Pentachlorophenol (CCC)	5.00	ND	25.0	ND	57.0	ND	
Phenanthrene	0.771	ND	3.86	ND	8.80	ND	
Anthracene	0.760	ND	3.80	ND	8.67	ND	
Carbazole	0.705	ND	3.53	ND	8.04	ND	
Di-n-butylphthalate	1.04	ND	5.20	ND	11.9	ND	
Fluoranthene (CCC)	0.919	ND	4.60	ND	10.5	ND	
Benzidine	22.8	ND	114	ND	260	ND	
Pyrene	0.937	ND	4.69	ND	10.7	ND	
4-Dimethylaminoazobenzene	5.00	ND	25.0	ND	57.0	ND	
Butylbenzylphthalate	0.810	ND	4.05	ND	9.24	ND	
3,3-Dimethylbenzidine	10.8	ND	54.0	ND	123	ND	
bis(2-Ethylhexyl)adipate	0.874	ND	4.37	ND	9.97	ND	
3,3-Dimethoxybenzidine	5.00	ND	25.0	ND	57.0	ND	
bis(2-Ethylhexyl)phthalate	1.74	ND	8.70	ND	19.8	ND	
3,3'-Dichlorobenzidine	5.00	ND	25.0	ND	57.0	ND	
Benzo(a)anthracene	0.550	ND	2.75	ND	6.27	ND	
Chrysene	0.556	ND	2.78	ND	6.34	ND	
Di-n-octylphthalate (CCC)	0.644	ND	3.22	ND	7.35	ND	
7,12-Dimethylbenz(a)anthracene	5.00	ND	25.0	ND	57.0	ND	
Benzo(b)fluoranthene	0.300	ND	1.50	ND	3.42	ND	
Benzo(k)fluoranthene	0.356	ND	1.78	ND	4.06	ND	
Benzo(e)pyrene	0.340	ND	1.70	ND	3.88	ND	
Benzo(a)pyrene (CCC)	0.340	ND	1.70	ND	3.88	ND	
Perylene	0.340	ND	1.70	ND	3.88	ND	
3-Methylcholanthrene	5.00	ND	25.0	ND	57.0	ND	
Indeno(1,2,3-cd)pyrene	0.300	ND	1.50	ND	3.42	ND	
Dibenz(a,h)anthracene	0.425	ND	2.13	ND	4.85	ND	
Benzo(g,h,i)perylene	0.352	ND	1.76	ND	4.02	ND	
Dibenzo(a,e)pyrene	5.00	ND	25.0	ND	57.0	ND	

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**

Sample Name	: ACF-AS-SMOKE-PM-072719
Sample Info	: 0719-205
Data File	: W1900514.D
Dilution	: 1
Extract Volume	: 5.00
Acquisition Date	: 2019-07-31 20:31:41
Instrument Method	: RXI-M8270.M
Matrix	: LIQUID

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	% Deviation	Flag *
1,4-Dichlorobenzene-d4 (I)	382,230	4.24	40.00	7.7	PASS
Naphthalene-d8 (I)	1,401,092	5.32	40.00	8.9	PASS
Acenaphthene-d10 (I)	884,341	6.88	40.00	15.6	PASS
Phenanthrene-d10 (I)	1,524,916	8.23	40.00	14.9	PASS
Chrysene-d12 (I)	1,672,645	12.23	40.00	12.8	PASS
Perylene-d12 (I)	1,545,251	16.35	40.00	13.1	PASS

*** (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-AS-BKGD-072819
Sample Info : 0719-205
Data File : W1900510.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 18:25:14
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 439.4

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Flag *
N-Nitrosodimethylamine	0.772	ND	3.86	ND	8.78	ND	
Pyridine	1.50	ND	7.50	ND	17.1	ND	
Phenol (CCC)	0.649	ND	3.25	ND	7.39	ND	
Aniline	0.694	ND	3.47	ND	7.90	ND	
bis(2-Chloroethyl)ether	0.788	ND	3.94	ND	8.97	ND	
2-Chlorophenol	0.624	ND	3.12	ND	7.10	ND	
1,3-Dichlorobenzene	0.558	ND	2.79	ND	6.35	ND	
1,4-Dichlorobenzene (CCC)	0.528	ND	2.64	ND	6.01	ND	
Benzyl alcohol	0.700	ND	3.50	ND	7.97	ND	
1,2-Dichlorobenzene	0.558	ND	2.79	ND	6.35	ND	
2-Methylphenol	0.677	ND	3.39	ND	7.70	ND	
bis(2-Chloroisopropyl) ether	0.982	ND	4.91	ND	11.2	ND	
3/4-Methylphenol	0.591	ND	2.96	ND	6.73	ND	
N-Nitroso-di-n-propylamine (SPCC)	0.832	ND	4.16	ND	9.47	ND	
o-Toluidine	5.00	ND	25.0	ND	56.9	ND	
Hexachloroethane	0.632	ND	3.16	ND	7.19	ND	
Nitrobenzene	0.816	ND	4.08	ND	9.29	ND	
Isophorone	0.748	ND	3.74	ND	8.51	ND	
2,4-Dimethylphenol	0.729	ND	3.65	ND	8.30	ND	
2-Nitrophenol (CCC)	0.669	ND	3.35	ND	7.61	ND	
Benzoic acid	5.00	ND	25.0	ND	56.9	ND	
bis(2-Chloroethoxy)methane	0.732	ND	3.66	ND	8.33	ND	
2,4-Dichlorophenol (CCC)	0.652	ND	3.26	ND	7.42	ND	
a,a-Dimethylphenethylamine	5.00	ND	25.0	ND	56.9	ND	
1,2,4-Trichlorobenzene	0.617	ND	3.09	ND	7.02	ND	
Naphthalene	0.665	ND	3.33	ND	7.57	ND	
4-Chloroaniline	0.849	ND	4.25	ND	9.66	ND	
Hexachlorobutadiene (CCC)	0.609	ND	3.05	ND	6.93	ND	
Quinoline	1.00	ND	5.00	ND	11.4	ND	
1,4-Phenylenediamine	5.00	ND	25.0	ND	56.9	ND	
4-Chloro-3 methylphenol (CCC)	0.661	ND	3.31	ND	7.52	ND	
2-Methylnaphthalene	0.618	ND	3.09	ND	7.03	ND	
1-Methylnaphthalene	0.613	ND	3.07	ND	6.98	ND	
Hexachlorocyclopentadiene (SPCC)	8.12	ND	40.6	ND	92.4	ND	
2,4,6-Trichlorophenol (CCC)	0.738	ND	3.69	ND	8.40	ND	
2,4,5-Trichlorophenol	0.541	ND	2.71	ND	6.16	ND	
Biphenyl	5.00	ND	25.0	ND	56.9	ND	
2-Chloronaphthalene	0.652	ND	3.26	ND	7.42	ND	
2-Nitroaniline	0.966	ND	4.83	ND	11.0	ND	
1,4-Dinitrobenzene	0.672	ND	3.36	ND	7.65	ND	
Dimethylphthalate	0.809	ND	4.05	ND	9.21	ND	
1,3-Dinitrobenzene	0.819	ND	4.10	ND	9.32	ND	
2,6-Dinitrotoluene	0.775	ND	3.88	ND	8.82	ND	
1,2-Dinitrobenzene	0.777	ND	3.89	ND	8.84	ND	
Acenaphthylene	0.675	ND	3.38	ND	7.68	ND	
3-Nitroaniline	0.816	ND	4.08	ND	9.29	ND	
Acenaphthene (CCC)	0.934	ND	4.67	ND	10.6	ND	
2,4-Dinitrophenol (SPCC)	5.00	ND	25.0	ND	56.9	ND	
4-Nitrophenol (SPCC)	5.00	ND	25.0	ND	56.9	ND	
2,4-Dinitrotoluene	0.804	ND	4.02	ND	9.15	ND	

Sample Name : ACF-AS-BKGD-072819
Sample Info : 0719-205
Data File : W1900510.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 18:25:14
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 439.4

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Flag *
Dibenzofuran	0.688	ND	3.44	ND	7.83	ND	
2,3,5,6-Tetrachlorophenol	0.761	ND	3.81	ND	8.66	ND	
2,3,4,6-Tetrachlorophenol	0.701	ND	3.51	ND	7.98	ND	
Diethlyphthalate	1.02	ND	5.10	ND	11.6	ND	
4-Chlorophenyl-phenylether	0.754	ND	3.77	ND	8.58	ND	
Fluorene	0.783	ND	3.92	ND	8.91	ND	
4-Nitroaniline	0.694	ND	3.47	ND	7.90	ND	
4,6-Dinitro2-methylphenol	5.00	ND	25.0	ND	56.9	ND	
N-Nitrosodiphenylamine (CCC)	0.716	ND	3.58	ND	8.15	ND	
Azobenzene	0.991	ND	4.96	ND	11.3	ND	
4-Bromophenyl-phenylether	0.671	ND	3.36	ND	7.64	ND	
Hexachlorobenzene	0.546	ND	2.73	ND	6.21	ND	
Pentachlorophenol (CCC)	5.00	ND	25.0	ND	56.9	ND	
Phenanthrene	0.771	ND	3.86	ND	8.77	ND	
Anthracene	0.760	ND	3.80	ND	8.65	ND	
Carbazole	0.705	ND	3.53	ND	8.02	ND	
Di-n-butylphthalate	1.04	ND	5.20	ND	11.8	ND	
Fluoranthene (CCC)	0.919	ND	4.60	ND	10.5	ND	
Benzidine	22.8	ND	114	ND	259	ND	
Pyrene	0.937	ND	4.69	ND	10.7	ND	
4-Dimethylaminoazobenzene	5.00	ND	25.0	ND	56.9	ND	
Butylbenzylphthalate	0.810	ND	4.05	ND	9.22	ND	
3,3-Dimethylbenzidine	10.8	ND	54.0	ND	123	ND	
bis(2-Ethylhexyl)adipate	0.874	ND	4.37	ND	9.95	ND	
3,3-Dimethoxybenzidine	5.00	ND	25.0	ND	56.9	ND	
bis(2-Ethylhexyl)phthalate	1.74	ND	8.70	ND	19.8	ND	
3,3'-Dichlorobenzidine	5.00	ND	25.0	ND	56.9	ND	
Benzo(a)anthracene	0.550	ND	2.75	ND	6.26	ND	
Chrysene	0.556	ND	2.78	ND	6.33	ND	
Di-n-octylphthalate (CCC)	0.644	ND	3.22	ND	7.33	ND	
7,12-Dimethylbenz(a)anthracene	5.00	ND	25.0	ND	56.9	ND	
Benzo(b)fluoranthene	0.300	ND	1.50	ND	3.41	ND	
Benzo(k)fluoranthene	0.356	ND	1.78	ND	4.05	ND	
Benzo(e)pyrene	0.340	ND	1.70	ND	3.87	ND	
Benzo(a)pyrene (CCC)	0.340	ND	1.70	ND	3.87	ND	
Perylene	0.340	ND	1.70	ND	3.87	ND	
3-Methylcholanthrene	5.00	ND	25.0	ND	56.9	ND	
Indeno(1,2,3-cd)pyrene	0.300	ND	1.50	ND	3.41	ND	
Dibenz(a,h)anthracene	0.425	ND	2.13	ND	4.84	ND	
Benzo(g,h,i)perylene	0.352	ND	1.76	ND	4.01	ND	
Dibenzo(a,e)pyrene	5.00	ND	25.0	ND	56.9	ND	

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**

Sample Name	: ACF-AS-BKGD-072819
Sample Info	: 0719-205
Data File	: W1900510.D
Dilution	: 1
Extract Volume	: 5.00
Acquisition Date	: 2019-07-31 18:25:14
Instrument Method	: RXI-M8270.M
Matrix	: LIQUID

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	% Deviation	Flag *
1,4-Dichlorobenzene-d4 (I)	399,406	4.24	40.00	12.6	PASS
Naphthalene-d8 (I)	1,439,960	5.32	40.00	11.9	PASS
Acenaphthene-d10 (I)	883,047	6.88	40.00	15.4	PASS
Phenanthrene-d10 (I)	1,474,593	8.23	40.00	11.2	PASS
Chrysene-d12 (I)	1,580,684	12.22	40.00	6.6	PASS
Perylene-d12 (I)	1,466,669	16.35	40.00	7.3	PASS

*** (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-BLANK-TUBE
Sample Info : 0719-205
Data File : W1900509.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 17:53:29
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 439.4

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Flag *
N-Nitrosodimethylamine	0.772	ND	3.86	ND	8.78	ND	
Pyridine	1.50	ND	7.50	ND	17.1	ND	
Phenol (CCC)	0.649	ND	3.25	ND	7.39	ND	
Aniline	0.694	ND	3.47	ND	7.90	ND	
bis(2-Chloroethyl)ether	0.788	ND	3.94	ND	8.97	ND	
2-Chlorophenol	0.624	ND	3.12	ND	7.10	ND	
1,3-Dichlorobenzene	0.558	ND	2.79	ND	6.35	ND	
1,4-Dichlorobenzene (CCC)	0.528	ND	2.64	ND	6.01	ND	
Benzyl alcohol	0.700	ND	3.50	ND	7.97	ND	
1,2-Dichlorobenzene	0.558	ND	2.79	ND	6.35	ND	
2-Methylphenol	0.677	ND	3.39	ND	7.70	ND	
bis(2-Chloroisopropyl) ether	0.982	ND	4.91	ND	11.2	ND	
3/4-Methylphenol	0.591	ND	2.96	ND	6.73	ND	
N-Nitroso-di-n-propylamine (SPCC)	0.832	ND	4.16	ND	9.47	ND	
o-Toluidine	5.00	ND	25.0	ND	56.9	ND	
Hexachloroethane	0.632	ND	3.16	ND	7.19	ND	
Nitrobenzene	0.816	ND	4.08	ND	9.29	ND	
Isophorone	0.748	ND	3.74	ND	8.51	ND	
2,4-Dimethylphenol	0.729	ND	3.65	ND	8.30	ND	
2-Nitrophenol (CCC)	0.669	ND	3.35	ND	7.61	ND	
Benzoic acid	5.00	ND	25.0	ND	56.9	ND	
bis(2-Chloroethoxy)methane	0.732	ND	3.66	ND	8.33	ND	
2,4-Dichlorophenol (CCC)	0.652	ND	3.26	ND	7.42	ND	
a,a-Dimethylphenethylamine	5.00	ND	25.0	ND	56.9	ND	
1,2,4-Trichlorobenzene	0.617	ND	3.09	ND	7.02	ND	
Naphthalene	0.665	ND	3.33	ND	7.57	ND	
4-Chloroaniline	0.849	ND	4.25	ND	9.66	ND	
Hexachlorobutadiene (CCC)	0.609	ND	3.05	ND	6.93	ND	
Quinoline	1.00	ND	5.00	ND	11.4	ND	
1,4-Phenylenediamine	5.00	ND	25.0	ND	56.9	ND	
4-Chloro-3 methylphenol (CCC)	0.661	ND	3.31	ND	7.52	ND	
2-Methylnaphthalene	0.618	ND	3.09	ND	7.03	ND	
1-Methylnaphthalene	0.613	ND	3.07	ND	6.98	ND	
Hexachlorocyclopentadiene (SPCC)	8.12	ND	40.6	ND	92.4	ND	
2,4,6-Trichlorophenol (CCC)	0.738	ND	3.69	ND	8.40	ND	
2,4,5-Trichlorophenol	0.541	ND	2.71	ND	6.16	ND	
Biphenyl	5.00	ND	25.0	ND	56.9	ND	
2-Chloronaphthalene	0.652	ND	3.26	ND	7.42	ND	
2-Nitroaniline	0.966	ND	4.83	ND	11.0	ND	
1,4-Dinitrobenzene	0.672	ND	3.36	ND	7.65	ND	
Dimethylphthalate	0.809	ND	4.05	ND	9.21	ND	
1,3-Dinitrobenzene	0.819	ND	4.10	ND	9.32	ND	
2,6-Dinitrotoluene	0.775	ND	3.88	ND	8.82	ND	
1,2-Dinitrobenzene	0.777	ND	3.89	ND	8.84	ND	
Acenaphthylene	0.675	ND	3.38	ND	7.68	ND	
3-Nitroaniline	0.816	ND	4.08	ND	9.29	ND	
Acenaphthene (CCC)	0.934	ND	4.67	ND	10.6	ND	
2,4-Dinitrophenol (SPCC)	5.00	ND	25.0	ND	56.9	ND	
4-Nitrophenol (SPCC)	5.00	ND	25.0	ND	56.9	ND	
2,4-Dinitrotoluene	0.804	ND	4.02	ND	9.15	ND	

Sample Name : ACF-BLANK-TUBE
Sample Info : 0719-205
Data File : W1900509.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 17:53:29
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 439.4

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Flag *
Dibenzofuran	0.688	ND	3.44	ND	7.83	ND	
2,3,5,6-Tetrachlorophenol	0.761	ND	3.81	ND	8.66	ND	
2,3,4,6-Tetrachlorophenol	0.701	ND	3.51	ND	7.98	ND	
Diethlyphthalate	1.02	ND	5.10	ND	11.6	ND	
4-Chlorophenyl-phenylether	0.754	ND	3.77	ND	8.58	ND	
Fluorene	0.783	ND	3.92	ND	8.91	ND	
4-Nitroaniline	0.694	ND	3.47	ND	7.90	ND	
4,6-Dinitro2-methylphenol	5.00	ND	25.0	ND	56.9	ND	
N-Nitrosodiphenylamine (CCC)	0.716	ND	3.58	ND	8.15	ND	
Azobenzene	0.991	ND	4.96	ND	11.3	ND	
4-Bromophenyl-phenylether	0.671	ND	3.36	ND	7.64	ND	
Hexachlorobenzene	0.546	ND	2.73	ND	6.21	ND	
Pentachlorophenol (CCC)	5.00	ND	25.0	ND	56.9	ND	
Phenanthrene	0.771	ND	3.86	ND	8.77	ND	
Anthracene	0.760	ND	3.80	ND	8.65	ND	
Carbazole	0.705	ND	3.53	ND	8.02	ND	
Di-n-butylphthalate	1.04	ND	5.20	ND	11.8	ND	
Fluoranthene (CCC)	0.919	ND	4.60	ND	10.5	ND	
Benzidine	22.8	ND	114	ND	259	ND	
Pyrene	0.937	ND	4.69	ND	10.7	ND	
4-Dimethylaminoazobenzene	5.00	ND	25.0	ND	56.9	ND	
Butylbenzylphthalate	0.810	ND	4.05	ND	9.22	ND	
3,3-Dimethylbenzidine	10.8	ND	54.0	ND	123	ND	
bis(2-Ethylhexyl)adipate	0.874	ND	4.37	ND	9.95	ND	
3,3-Dimethoxybenzidine	5.00	ND	25.0	ND	56.9	ND	
bis(2-Ethylhexyl)phthalate	1.74	ND	8.70	ND	19.8	ND	
3,3'-Dichlorobenzidine	5.00	ND	25.0	ND	56.9	ND	
Benzo(a)anthracene	0.550	ND	2.75	ND	6.26	ND	
Chrysene	0.556	ND	2.78	ND	6.33	ND	
Di-n-octylphthalate (CCC)	0.644	ND	3.22	ND	7.33	ND	
7,12-Dimethylbenz(a)anthracene	5.00	ND	25.0	ND	56.9	ND	
Benzo(b)fluoranthene	0.300	ND	1.50	ND	3.41	ND	
Benzo(k)fluoranthene	0.356	ND	1.78	ND	4.05	ND	
Benzo(e)pyrene	0.340	ND	1.70	ND	3.87	ND	
Benzo(a)pyrene (CCC)	0.340	ND	1.70	ND	3.87	ND	
Perylene	0.340	ND	1.70	ND	3.87	ND	
3-Methylcholanthrene	5.00	ND	25.0	ND	56.9	ND	
Indeno(1,2,3-cd)pyrene	0.300	ND	1.50	ND	3.41	ND	
Dibenz(a,h)anthracene	0.425	ND	2.13	ND	4.84	ND	
Benzo(g,h,i)perylene	0.352	ND	1.76	ND	4.01	ND	
Dibenzo(a,e)pyrene	5.00	ND	25.0	ND	56.9	ND	

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**

Sample Name	: ACF-BLANK-TUBE
Sample Info	: 0719-205
Data File	: W1900509.D
Dilution	: 1
Extract Volume	: 5.00
Acquisition Date	: 2019-07-31 17:53:29
Instrument Method	: RXI-M8270.M
Matrix	: LIQUID

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	% Deviation	Flag *
1,4-Dichlorobenzene-d4 (I)	352,170	4.24	40.00	-0.7	PASS
Naphthalene-d8 (I)	1,291,972	5.32	40.00	0.4	PASS
Acenaphthene-d10 (I)	799,028	6.88	40.00	4.4	PASS
Phenanthrene-d10 (I)	1,361,689	8.23	40.00	2.6	PASS
Chrysene-d12 (I)	1,452,857	12.22	40.00	-2.0	PASS
Perylene-d12 (I)	1,344,660	16.34	40.00	-1.6	PASS

*** (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Lab QC

ENTHALPY

Sample Name	: Humid Blank #0702
Sample Info	: 500mL load
Data File	: X1902691.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-07-29 12:52:34
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	ND	0.0384	0.0350	ND	0.0660	0.0602	
Freon 12 (CCl2F2)	ND	0.0390	0.0350	ND	0.193	0.173	
Freon 114 (C2Cl2F4)	ND	0.0400	0.0350	ND	0.280	0.245	
Chloromethane	ND	0.0390	0.0350	ND	0.0805	0.0723	
Chloroethene (Vinyl chloride)	ND	0.0402	0.0350	ND	0.103	0.0895	
1,3-Butadiene	ND	0.0391	0.0350	ND	0.0865	0.0774	
Bromomethane	ND	0.0396	0.0350	ND	0.154	0.136	
Chloroethane	ND	0.0403	0.0350	ND	0.106	0.0924	
Bromoethene (Vinyl bromide)	ND	0.0399	0.0350	ND	0.174	0.153	
Freon 11 (CCl3F)	ND	0.0415	0.0350	ND	0.233	0.197	
Ethanol	ND	0.100	0.100	ND	0.188	0.188	
Acrolein	ND	0.0397	0.0350	ND	0.0911	0.0803	
Freon 113 (C2Cl3F3)	ND	0.0398	0.0350	ND	0.305	0.268	
1,1-Dichloroethene	ND	0.0400	0.0350	ND	0.159	0.139	
Acetone	0.0480	0.0402	0.0350	0.114	0.0955	0.0831	m
Carbon disulfide	0.0441	0.0402	0.0350	0.137	0.125	0.109	
Isopropyl alcohol	ND	0.0402	0.0350	ND	0.0987	0.0860	
Allyl chloride (3-chloropropene)	ND	0.0402	0.0350	ND	0.126	0.110	
Acetonitrile	ND	0.0402	0.0350	ND	0.0675	0.0588	
Methylene chloride	0.0477	0.0405	0.0350	0.166	0.141	0.122	
trans-1,2-Dichloroethene	ND	0.0408	0.0350	ND	0.162	0.139	
Methyl tert-butyl ether	ND	0.0410	0.0350	ND	0.148	0.126	
Acrylonitrile	ND	0.0409	0.0350	ND	0.0887	0.0760	
Hexane	ND	0.0404	0.0350	ND	0.143	0.123	
1,1-Dichloroethane	ND	0.0394	0.0350	ND	0.159	0.142	
Vinyl acetate	ND	0.0407	0.0350	ND	0.143	0.123	
cis-1,2-Dichloroethene	ND	0.0403	0.0350	ND	0.160	0.139	
Methyl ethyl ketone (2-Butanone)	ND	0.0406	0.0350	ND	0.120	0.103	
Ethyl acetate	ND	0.0403	0.0350	ND	0.145	0.126	
Chloroform	ND	0.0404	0.0350	ND	0.197	0.171	
Tetrahydrofuran	ND	0.0404	0.0350	ND	0.119	0.103	
1,1,1-Trichloroethane	ND	0.0398	0.0350	ND	0.217	0.191	
Cyclohexane	ND	0.0407	0.0350	ND	0.140	0.120	
Carbon tetrachloride	ND	0.0405	0.0350	ND	0.255	0.220	
Benzene	ND	0.0399	0.0350	ND	0.128	0.112	
2,2,4-trimethylpentane	ND	0.0410	0.0350	ND	0.192	0.164	
1,2-Dichloroethane	ND	0.0409	0.0350	ND	0.165	0.142	
Heptane	ND	0.0402	0.0350	ND	0.165	0.143	
Trichloroethene	ND	0.0402	0.0350	ND	0.216	0.188	
1,2-Dichloropropane	ND	0.0409	0.0350	ND	0.189	0.162	
Methyl methacrylate	ND	0.0415	0.0350	ND	0.170	0.143	
1,4-Dioxane	ND	0.0404	0.0350	ND	0.146	0.126	
Bromodichloromethane	ND	0.0397	0.0350	ND	0.266	0.235	
cis-1,3-Dichloropropene	ND	0.0393	0.0350	ND	0.178	0.159	
Methyl isobutyl ketone	ND	0.0412	0.0350	ND	0.169	0.143	
Toluene	ND	0.0406	0.0350	ND	0.153	0.132	
trans-1,3-Dichloropropene	ND	0.0406	0.0350	ND	0.184	0.159	
1,1,2-Trichloroethane	ND	0.0401	0.0350	ND	0.219	0.191	
Tetrachloroethene	ND	0.0404	0.0350	ND	0.274	0.237	
2-Hexanone (Methyl butyl ketone)	ND	0.0406	0.0350	ND	0.166	0.143	
Dibromochloromethane	ND	0.0395	0.0350	ND	0.336	0.298	
1,2-Dibromoethane	ND	0.0405	0.0350	ND	0.311	0.269	
Chlorobenzene	ND	0.0412	0.0350	ND	0.189	0.161	
Ethylbenzene	ND	0.0394	0.0350	ND	0.171	0.152	
1,1,1,2-Tetrachloroethane	ND	0.0400	0.0350	ND	0.275	0.240	
m-/p-Xylenes	ND	0.0405	0.0350	ND	0.176	0.152	

Sample Name	: Humid Blank #0702
Sample Info	: 500mL load
Data File	: X1902691.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-07-29 12:52:34
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	ND	0.0400	0.0350	ND	0.174	0.152	
Styrene	ND	0.0390	0.0350	ND	0.166	0.149	
Bromoform	ND	0.0402	0.0350	ND	0.415	0.362	
1,1,2,2-Tetrachloroethane	ND	0.0400	0.0350	ND	0.275	0.240	
4-Ethyltoluene	ND	0.0403	0.0350	ND	0.198	0.172	
2-Chlorotoluene	ND	0.0403	0.0350	ND	0.209	0.181	
1,3,5-Trimethylbenzene	ND	0.0401	0.0350	ND	0.197	0.172	
1,2,4-Trimethylbenzene	ND	0.0398	0.0350	ND	0.195	0.172	
1,3-Dichlorobenzene	ND	0.0404	0.0350	ND	0.243	0.210	
1,4-Dichlorobenzene	ND	0.0401	0.0350	ND	0.241	0.210	
Benzyl chloride	ND	0.0399	0.0350	ND	0.207	0.181	
1,2-Dichlorobenzene	ND	0.0408	0.0350	ND	0.245	0.210	
1,2,4-Trichlorobenzene	ND	0.0406	0.0350	ND	0.301	0.260	
Hexachlorobutadiene	ND	0.0401	0.0350	ND	0.427	0.373	
Naphthalene	ND	0.0414	0.0350	ND	0.217	0.183	
1-Bromopropane	ND	0.0395	0.0350	ND	0.199	0.176	
1-Octene	ND	0.0391	0.0350	ND	0.180	0.161	
n-Octane	ND	0.0401	0.0350	ND	0.187	0.164	
Isopropylbenzene	ND	0.0406	0.0350	ND	0.200	0.172	
n-Propylbenzene	ND	0.0407	0.0350	ND	0.200	0.172	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	960,105	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,512,279	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,888,804	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name	: 5ppbv TO15 LCS
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902687.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-07-29 09:16:20
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Response	Concentration (PPBV)	Tag Value (PPBV)	% Recovery	Flag
Propylene	597,626	5.04	4.80	105.0	PASS
Freon 12 (CCl2F2)	1,784,943	4.47	4.88	91.7	PASS
Freon 114 (C2Cl2F4)	2,091,649	4.64	5.01	92.7	PASS
Chloromethane	712,358	4.77	4.88	97.8	PASS
Chloroethene (Vinyl chloride)	774,507	4.71	5.03	93.7	PASS
1,3-Butadiene	569,697	5.21	4.89	106.7	PASS
Bromomethane	778,361	4.78	4.95	96.6	PASS
Chloroethane	417,718	4.54	5.04	90.0	PASS
Bromoethene (Vinyl bromide)	908,981	5.10	4.99	102.2	PASS
Freon 11 (CCl3F)	1,998,442	4.84	5.19	93.3	PASS
Ethanol	321,962	4.74	5.00	94.7	PASS
Acrolein	303,513	4.47	4.97	90.1	PASS
1,1-Dichloroethene	1,180,147	4.42	5.01	88.3	PASS
Freon 113 (C2Cl3F3)	1,436,791	5.16	4.98	103.8	PASS
Acetone	1,082,913	4.60	5.03	91.4	PASS
Isopropyl alcohol	1,346,052	5.04	5.02	100.4	PASS
Carbon disulfide	2,513,961	4.56	5.02	90.8	PASS
Acetonitrile	696,920	5.27	5.03	105.0	PASS
Allyl chloride (3-chloropropene)	373,011	4.60	5.03	91.5	PASS
Methylene chloride	1,005,889	4.27	5.07	84.4	PASS
Acrylonitrile	619,709	4.79	5.11	93.7	PASS
Methyl tert-butyl ether	2,003,964	4.59	5.12	89.6	PASS
trans-1,2-Dichloroethene	1,084,493	4.42	5.10	86.8	PASS
Hexane	1,166,756	4.36	5.06	86.2	PASS
Vinyl acetate	1,964,164	5.56	5.09	109.3	PASS
1,1-Dichloroethane	1,357,809	4.33	4.93	87.8	PASS
Methyl ethyl ketone (2-Butanone)	400,280	4.65	5.08	91.5	PASS
cis-1,2-Dichloroethene	1,271,514	4.42	5.04	87.8	PASS
Ethyl acetate	267,569	4.94	5.04	98.1	PASS
1-Bromopropane	1,369,243	5.16	4.94	104.5	PASS
Tetrahydrofuran	374,658	4.66	5.05	92.4	PASS
Chloroform	1,622,389	4.60	5.06	91.0	PASS
1,1,1-Trichloroethane	1,511,852	4.34	4.98	87.2	PASS
Cyclohexane	1,213,294	4.50	5.09	88.4	PASS
Carbon tetrachloride	1,615,084	4.64	5.06	91.8	PASS
Benzene	2,378,630	4.73	4.99	94.8	PASS
1,2-Dichloroethane	905,045	4.29	5.11	83.9	PASS
2,2,4-trimethylpentane	3,729,373	4.58	5.13	89.3	PASS
Heptane	735,588	4.36	5.03	86.7	PASS
Trichloroethene	1,131,488	5.14	5.02	102.4	PASS
1,2-Dichloropropane	914,918	4.50	4.98	90.4	PASS
Methyl methacrylate	905,723	5.19	5.19	100.2	PASS

Sample Name	: 5ppbv TO15 LCS
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902687.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-07-29 09:16:20
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Response	Concentration (PPBV)	Tag Value (PPBV)	% Recovery	Flag
1,4-Dioxane	563,304	4.78	5.06	94.6	PASS
Bromodichloromethane	1,690,599	4.76	4.97	95.9	PASS
cis-1,3-Dichloropropene	1,329,351	4.56	4.92	92.7	PASS
Methyl isobutyl ketone	1,912,576	5.57	5.16	108.1	PASS
Toluene	2,797,483	4.38	5.08	86.3	PASS
1-Octene	680,085	4.34	4.89	88.8	PASS
n-Octane	874,309	4.24	5.01	84.6	PASS
trans-1,3-Dichloropropene	1,291,249	4.50	5.08	88.7	PASS
1,1,2-Trichloroethane	1,024,906	4.52	5.01	90.3	PASS
Tetrachloroethene	1,521,386	5.09	5.05	100.9	PASS
2-Hexanone (Methyl butyl ketone)	1,747,741	5.37	5.08	105.8	PASS
Dibromochloromethane	1,961,671	4.87	4.94	98.7	PASS
1,2-Dibromoethane	1,716,769	4.96	5.07	98.0	PASS
Chlorobenzene	2,273,462	4.84	5.15	94.0	PASS
Ethylbenzene	3,242,827	4.14	4.92	84.1	PASS
1,1,1,2-Tetrachloroethane	1,274,381	4.62	5.00	92.4	PASS
m-/p-Xylenes	2,739,864	4.26	5.07	84.1	PASS
o-Xylene	2,700,810	4.17	5.00	83.5	PASS
Styrene	2,191,947	4.52	4.87	92.9	PASS
Bromoform	1,949,911	5.80	5.02	115.5	PASS
Isopropylbenzene	3,928,801	4.36	5.08	85.9	PASS
1,1,2,2-Tetrachloroethane	2,266,461	4.41	5.00	88.2	PASS
n-Propylbenzene	4,470,977	4.48	5.09	88.1	PASS
4-Ethyltoluene	3,686,854	4.40	5.04	87.5	PASS
2-Chlorotoluene	3,108,905	4.22	5.04	83.8	PASS
1,3,5-Trimethylbenzene	3,178,910	4.09	5.02	81.5	PASS
1,2,4-Trimethylbenzene	3,142,263	4.09	4.97	82.3	PASS
1,3-Dichlorobenzene	2,068,617	5.63	5.05	111.6	PASS
1,4-Dichlorobenzene	1,937,502	6.08	5.02	121.1	PASS
Benzyl chloride	2,342,723	5.65	4.99	113.3	PASS
1,2-Dichlorobenzene	2,150,824	5.31	5.10	104.2	PASS
1,2,4-Trichlorobenzene	779,417	5.95	5.08	117.3	PASS
Hexachlorobutadiene	1,554,246	3.80	5.01	75.9	PASS
Naphthalene	2,714,002	5.29	5.18	102.2	PASS

Sample Name	: 5ppbv TO15 LCS
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902687.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-07-29 09:16:20
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	5.04	0.0384	0.0350	8.67	0.0660	0.0602	
Freon 12 (CCl2F2)	4.47	0.0390	0.0350	22.1	0.193	0.173	
Freon 114 (C2Cl2F4)	4.64	0.0400	0.0350	32.4	0.280	0.245	
Chloromethane	4.77	0.0390	0.0350	9.84	0.0805	0.0723	
Chloroethene (Vinyl chloride)	4.71	0.0402	0.0350	12.0	0.103	0.0895	
1,3-Butadiene	5.21	0.0391	0.0350	11.5	0.0865	0.0774	
Bromomethane	4.78	0.0396	0.0350	18.6	0.154	0.136	
Chloroethane	4.54	0.0403	0.0350	12.0	0.106	0.0924	
Bromoethene (Vinyl bromide)	5.10	0.0399	0.0350	22.3	0.174	0.153	
Freon 11 (CCl3F)	4.84	0.0415	0.0350	27.2	0.233	0.197	
Ethanol	4.74	0.100	0.100	8.92	0.188	0.188	
Acrolein	4.47	0.0397	0.0350	10.3	0.0911	0.0803	
Freon 113 (C2Cl3F3)	5.16	0.0398	0.0350	39.6	0.305	0.268	
1,1-Dichloroethene	4.42	0.0400	0.0350	17.5	0.159	0.139	
Acetone	4.60	0.0402	0.0350	10.9	0.0955	0.0831	
Carbon disulfide	4.56	0.0402	0.0350	14.2	0.125	0.109	
Isopropyl alcohol	5.04	0.0402	0.0350	12.4	0.0987	0.0860	
Allyl chloride (3-chloropropene)	4.60	0.0402	0.0350	14.4	0.126	0.110	
Acetonitrile	5.27	0.0402	0.0350	8.86	0.0675	0.0588	
Methylene chloride	4.27	0.0405	0.0350	14.8	0.141	0.122	
trans-1,2-Dichloroethene	4.42	0.0408	0.0350	17.5	0.162	0.139	
Methyl tert-butyl ether	4.59	0.0410	0.0350	16.5	0.148	0.126	
Acrylonitrile	4.79	0.0409	0.0350	10.4	0.0887	0.0760	
Hexane	4.36	0.0404	0.0350	15.4	0.143	0.123	
1,1-Dichloroethane	4.33	0.0394	0.0350	17.5	0.159	0.142	
Vinyl acetate	5.56	0.0407	0.0350	19.6	0.143	0.123	
cis-1,2-Dichloroethene	4.42	0.0403	0.0350	17.5	0.160	0.139	
Methyl ethyl ketone (2-Butanone)	4.65	0.0406	0.0350	13.7	0.120	0.103	
Ethyl acetate	4.94	0.0403	0.0350	17.8	0.145	0.126	m
Chloroform	4.60	0.0404	0.0350	22.5	0.197	0.171	
Tetrahydrofuran	4.66	0.0404	0.0350	13.7	0.119	0.103	
1,1,1-Trichloroethane	4.34	0.0398	0.0350	23.7	0.217	0.191	
Cyclohexane	4.50	0.0407	0.0350	15.5	0.140	0.120	
Carbon tetrachloride	4.64	0.0405	0.0350	29.2	0.255	0.220	
Benzene	4.73	0.0399	0.0350	15.1	0.128	0.112	
2,2,4-trimethylpentane	4.58	0.0410	0.0350	21.4	0.192	0.164	
1,2-Dichloroethane	4.29	0.0409	0.0350	17.4	0.165	0.142	
Heptane	4.36	0.0402	0.0350	17.9	0.165	0.143	
Trichloroethene	5.14	0.0402	0.0350	27.6	0.216	0.188	
1,2-Dichloropropane	4.50	0.0409	0.0350	20.8	0.189	0.162	
Methyl methacrylate	5.19	0.0415	0.0350	21.3	0.170	0.143	
1,4-Dioxane	4.78	0.0404	0.0350	17.2	0.146	0.126	
Bromodichloromethane	4.76	0.0397	0.0350	31.9	0.266	0.235	
cis-1,3-Dichloropropene	4.56	0.0393	0.0350	20.7	0.178	0.159	
Methyl isobutyl ketone	5.57	0.0412	0.0350	22.8	0.169	0.143	
Toluene	4.38	0.0406	0.0350	16.5	0.153	0.132	
trans-1,3-Dichloropropene	4.50	0.0406	0.0350	20.4	0.184	0.159	
1,1,2-Trichloroethane	4.52	0.0401	0.0350	24.7	0.219	0.191	
Tetrachloroethene	5.09	0.0404	0.0350	34.5	0.274	0.237	
2-Hexanone (Methyl butyl ketone)	5.37	0.0406	0.0350	22.0	0.166	0.143	
Dibromochloromethane	4.87	0.0395	0.0350	41.5	0.336	0.298	
1,2-Dibromoethane	4.96	0.0405	0.0350	38.1	0.311	0.269	
Chlorobenzene	4.84	0.0412	0.0350	22.3	0.189	0.161	
Ethylbenzene	4.14	0.0394	0.0350	18.0	0.171	0.152	
1,1,1,2-Tetrachloroethane	4.62	0.0400	0.0350	31.7	0.275	0.240	
m-/p-Xylenes	4.26	0.0405	0.0350	18.5	0.176	0.152	

Sample Name	: 5ppbv TO15 LCS
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902687.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-07-29 09:16:20
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	4.17	0.0400	0.0350	18.1	0.174	0.152	
Styrene	4.52	0.0390	0.0350	19.3	0.166	0.149	
Bromoform	5.80	0.0402	0.0350	59.9	0.415	0.362	
1,1,2,2-Tetrachloroethane	4.41	0.0400	0.0350	30.3	0.275	0.240	
4-Ethyltoluene	4.40	0.0403	0.0350	21.6	0.198	0.172	
2-Chlorotoluene	4.22	0.0403	0.0350	21.9	0.209	0.181	
1,3,5-Trimethylbenzene	4.09	0.0401	0.0350	20.1	0.197	0.172	
1,2,4-Trimethylbenzene	4.09	0.0398	0.0350	20.1	0.195	0.172	
1,3-Dichlorobenzene	5.63	0.0404	0.0350	33.9	0.243	0.210	
1,4-Dichlorobenzene	6.08	0.0401	0.0350	36.5	0.241	0.210	
Benzyl chloride	5.65	0.0399	0.0350	29.3	0.207	0.181	
1,2-Dichlorobenzene	5.31	0.0408	0.0350	31.9	0.245	0.210	
1,2,4-Trichlorobenzene	5.95	0.0406	0.0350	44.2	0.301	0.260	
Hexachlorobutadiene	3.80	0.0401	0.0350	40.5	0.427	0.373	
Naphthalene	5.29	0.0414	0.0350	27.7	0.217	0.183	
1-Bromopropane	5.16	0.0395	0.0350	26.0	0.199	0.176	m
1-Octene	4.34	0.0391	0.0350	19.9	0.180	0.161	
n-Octane	4.24	0.0401	0.0350	19.8	0.187	0.164	
Isopropylbenzene	4.36	0.0406	0.0350	21.4	0.200	0.172	
n-Propylbenzene	4.48	0.0407	0.0350	22.0	0.200	0.172	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	904,667	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,441,622	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,966,600	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name	: 5ppbv TO15 LCS LD
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902688.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-07-29 10:05:52
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Response	Concentration (PPBV)	Tag Value (PPBV)	% Recovery	Flag
Propylene	601,734	4.96	4.80	103.4	PASS
Freon 12 (CCl2F2)	1,787,273	4.38	4.88	89.7	PASS
Freon 114 (C2Cl2F4)	2,088,671	4.53	5.01	90.5	PASS
Chloromethane	719,177	4.70	4.88	96.5	PASS
Chloroethene (Vinyl chloride)	777,338	4.62	5.03	91.9	PASS
1,3-Butadiene	568,294	5.08	4.89	104.1	PASS
Bromomethane	777,566	4.67	4.95	94.4	PASS
Chloroethane	414,625	4.40	5.04	87.3	PASS
Bromoethene (Vinyl bromide)	912,539	5.00	4.99	100.3	PASS
Freon 11 (CCl3F)	1,999,079	4.73	5.19	91.2	PASS
Ethanol	329,624	4.74	5.00	94.8	PASS
Acrolein	302,920	4.36	4.97	87.9	PASS
1,1-Dichloroethene	1,183,377	4.33	5.01	86.6	PASS
Freon 113 (C2Cl3F3)	1,451,001	5.10	4.98	102.5	PASS
Acetone	1,078,950	4.48	5.03	89.0	PASS
Isopropyl alcohol	1,378,766	5.05	5.02	100.5	PASS
Carbon disulfide	2,520,805	4.47	5.02	89.0	PASS
Acetonitrile	700,667	5.18	5.03	103.2	PASS
Allyl chloride (3-chloropropene)	378,758	4.57	5.03	90.9	PASS
Methylene chloride	1,002,726	4.17	5.07	82.2	PASS
Acrylonitrile	618,161	4.67	5.11	91.4	PASS
Methyl tert-butyl ether	2,033,600	4.55	5.12	88.8	PASS
trans-1,2-Dichloroethene	1,095,539	4.37	5.10	85.7	PASS
Hexane	1,172,630	4.28	5.06	84.7	PASS
Vinyl acetate	1,950,930	5.39	5.09	106.1	PASS
1,1-Dichloroethane	1,362,978	4.24	4.93	86.2	PASS
Methyl ethyl ketone (2-Butanone)	409,748	4.65	5.08	91.5	PASS
cis-1,2-Dichloroethene	1,273,214	4.33	5.04	86.0	PASS
Ethyl acetate	268,006	4.84	5.04	96.0	PASS
1-Bromopropane	1,357,946	5.01	4.94	101.4	PASS
Tetrahydrofuran	381,090	4.63	5.05	91.8	PASS
Chloroform	1,640,310	4.55	5.06	90.0	PASS
1,1,1-Trichloroethane	1,524,057	4.28	4.98	86.0	PASS
Cyclohexane	1,210,245	4.38	5.09	86.2	PASS
Carbon tetrachloride	1,636,404	4.60	5.06	90.9	PASS
Benzene	2,381,545	4.69	4.99	93.9	PASS
1,2-Dichloroethane	921,912	4.32	5.11	84.6	PASS
2,2,4-trimethylpentane	3,747,270	4.55	5.13	88.7	PASS
Heptane	749,884	4.39	5.03	87.4	PASS
Trichloroethene	1,157,679	5.20	5.02	103.6	PASS
1,2-Dichloropropane	920,984	4.48	4.98	90.0	PASS
Methyl methacrylate	888,528	5.04	5.19	97.2	PASS

Sample Name	: 5ppbv TO15 LCS LD
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902688.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-07-29 10:05:52
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Response	Concentration (PPBV)	Tag Value (PPBV)	% Recovery	Flag
1,4-Dioxane	572,076	4.80	5.06	95.0	PASS
Bromodichloromethane	1,698,020	4.73	4.97	95.2	PASS
cis-1,3-Dichloropropene	1,361,214	4.61	4.92	93.9	PASS
Methyl isobutyl ketone	1,928,930	5.56	5.16	107.8	PASS
Toluene	2,811,425	4.40	5.08	86.7	PASS
1-Octene	679,555	4.34	4.89	88.7	PASS
n-Octane	889,570	4.31	5.01	86.0	PASS
trans-1,3-Dichloropropene	1,323,639	4.62	5.08	90.9	PASS
1,1,2-Trichloroethane	1,031,990	4.55	5.01	90.9	PASS
Tetrachloroethene	1,528,464	5.11	5.05	101.4	PASS
2-Hexanone (Methyl butyl ketone)	1,734,936	5.33	5.08	105.0	PASS
Dibromochloromethane	1,993,624	4.95	4.94	100.3	PASS
1,2-Dibromoethane	1,771,248	5.12	5.07	101.1	PASS
Chlorobenzene	2,321,656	4.94	5.15	96.0	PASS
Ethylbenzene	3,304,993	4.21	4.92	85.7	PASS
1,1,1,2-Tetrachloroethane	1,294,386	4.69	5.00	93.8	PASS
m-/p-Xylenes	2,789,192	4.33	5.07	85.6	PASS
o-Xylene	2,716,538	4.20	5.00	84.0	PASS
Styrene	2,226,065	4.59	4.87	94.3	PASS
Bromoform	1,996,551	5.94	5.02	118.2	PASS
Isopropylbenzene	3,941,137	4.37	5.08	86.1	PASS
1,1,2,2-Tetrachloroethane	2,285,645	4.45	5.00	88.9	PASS
n-Propylbenzene	4,528,501	4.53	5.09	89.2	PASS
4-Ethyltoluene	3,749,941	4.48	5.04	88.9	PASS
2-Chlorotoluene	3,170,914	4.30	5.04	85.5	PASS
1,3,5-Trimethylbenzene	3,223,664	4.14	5.02	82.6	PASS
1,2,4-Trimethylbenzene	3,184,427	4.14	4.97	83.4	PASS
1,3-Dichlorobenzene	2,126,942	5.79	5.05	114.7	PASS
1,4-Dichlorobenzene	1,990,973	6.24	5.02	124.5	PASS
Benzyl chloride	2,375,348	5.73	4.99	114.8	PASS
1,2-Dichlorobenzene	2,222,902	5.48	5.10	107.7	PASS
1,2,4-Trichlorobenzene	835,881	6.38	5.08	125.8	PASS
Hexachlorobutadiene	1,614,781	3.95	5.01	78.8	PASS
Naphthalene	2,813,082	5.48	5.18	105.9	PASS

Sample Name	: 5ppbv TO15 LCS LD
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902688.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-07-29 10:05:52
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	% Diff	Flag *
Propylene	4.96	0.0384	0.0350	8.53	0.0660	0.0602	1.6	
Freon 12 (CCl2F2)	4.38	0.0390	0.0350	21.7	0.193	0.173	2.1	
Freon 114 (C2Cl2F4)	4.53	0.0400	0.0350	31.7	0.280	0.245	2.4	
Chloromethane	4.70	0.0390	0.0350	9.71	0.0805	0.0723	1.3	
Chloroethene (Vinyl chloride)	4.62	0.0402	0.0350	11.8	0.103	0.0895	1.9	
1,3-Butadiene	5.08	0.0391	0.0350	11.2	0.0865	0.0774	2.5	
Bromomethane	4.67	0.0396	0.0350	18.1	0.154	0.136	2.4	
Chloroethane	4.40	0.0403	0.0350	11.6	0.106	0.0924	3.0	
Bromoethene (Vinyl bromide)	5.00	0.0399	0.0350	21.9	0.174	0.153	1.9	
Freon 11 (CCl3F)	4.73	0.0415	0.0350	26.6	0.233	0.197	2.2	
Ethanol	4.74	0.100	0.100	8.93	0.188	0.188	0.1	
Acrolein	4.36	0.0397	0.0350	10.0	0.0911	0.0803	2.5	
Freon 113 (C2Cl3F3)	5.10	0.0398	0.0350	39.1	0.305	0.268	1.3	
1,1-Dichloroethene	4.33	0.0400	0.0350	17.2	0.159	0.139	2.0	
Acetone	4.48	0.0402	0.0350	10.6	0.0955	0.0831	2.6	
Carbon disulfide	4.47	0.0402	0.0350	13.9	0.125	0.109	2.0	
Isopropyl alcohol	5.05	0.0402	0.0350	12.4	0.0987	0.0860	0.1	
Allyl chloride (3-chloropropene)	4.57	0.0402	0.0350	14.3	0.126	0.110	0.7	
Acetonitrile	5.18	0.0402	0.0350	8.70	0.0675	0.0588	1.7	
Methylene chloride	4.17	0.0405	0.0350	14.5	0.141	0.122	2.6	
trans-1,2-Dichloroethene	4.37	0.0408	0.0350	17.3	0.162	0.139	1.3	
Methyl tert-butyl ether	4.55	0.0410	0.0350	16.4	0.148	0.126	0.8	
Acrylonitrile	4.67	0.0409	0.0350	10.1	0.0887	0.0760	2.5	
Hexane	4.28	0.0404	0.0350	15.1	0.143	0.123	1.8	
1,1-Dichloroethane	4.24	0.0394	0.0350	17.2	0.159	0.142	1.9	
Vinyl acetate	5.39	0.0407	0.0350	19.0	0.143	0.123	2.9	
cis-1,2-Dichloroethene	4.33	0.0403	0.0350	17.2	0.160	0.139	2.1	
Methyl ethyl ketone (2-Butanone)	4.65	0.0406	0.0350	13.7	0.120	0.103	0.1	
Ethyl acetate	4.84	0.0403	0.0350	17.4	0.145	0.126	2.1	
Chloroform	4.55	0.0404	0.0350	22.2	0.197	0.171	1.2	
Tetrahydrofuran	4.63	0.0404	0.0350	13.7	0.119	0.103	0.6	
1,1,1-Trichloroethane	4.28	0.0398	0.0350	23.3	0.217	0.191	1.5	
Cyclohexane	4.38	0.0407	0.0350	15.1	0.140	0.120	2.5	
Carbon tetrachloride	4.60	0.0405	0.0350	28.9	0.255	0.220	1.0	
Benzene	4.69	0.0399	0.0350	15.0	0.128	0.112	1.0	
2,2,4-trimethylpentane	4.55	0.0410	0.0350	21.2	0.192	0.164	0.6	
1,2-Dichloroethane	4.32	0.0409	0.0350	17.5	0.165	0.142	0.7	
Heptane	4.39	0.0402	0.0350	18.0	0.165	0.143	0.8	
Trichloroethene	5.20	0.0402	0.0350	28.0	0.216	0.188	1.2	
1,2-Dichloropropane	4.48	0.0409	0.0350	20.7	0.189	0.162	0.4	
Methyl methacrylate	5.04	0.0415	0.0350	20.6	0.170	0.143	3.0	
1,4-Dioxane	4.80	0.0404	0.0350	17.3	0.146	0.126	0.4	
Bromodichloromethane	4.73	0.0397	0.0350	31.7	0.266	0.235	0.7	
cis-1,3-Dichloropropene	4.61	0.0393	0.0350	20.9	0.178	0.159	1.3	
Methyl isobutyl ketone	5.56	0.0412	0.0350	22.8	0.169	0.143	0.3	
Toluene	4.40	0.0406	0.0350	16.6	0.153	0.132	0.5	
trans-1,3-Dichloropropene	4.62	0.0406	0.0350	20.9	0.184	0.159	2.5	
1,1,2-Trichloroethane	4.55	0.0401	0.0350	24.8	0.219	0.191	0.7	
Tetrachloroethene	5.11	0.0404	0.0350	34.7	0.274	0.237	0.4	
2-Hexanone (Methyl butyl ketone)	5.33	0.0406	0.0350	21.8	0.166	0.143	0.8	
Dibromochloromethane	4.95	0.0395	0.0350	42.2	0.336	0.298	1.6	
1,2-Dibromoethane	5.12	0.0405	0.0350	39.3	0.311	0.269	3.1	
Chlorobenzene	4.94	0.0412	0.0350	22.7	0.189	0.161	2.1	
Ethylbenzene	4.21	0.0394	0.0350	18.3	0.171	0.152	1.9	
1,1,1,2-Tetrachloroethane	4.69	0.0400	0.0350	32.2	0.275	0.240	1.5	
m-/p-Xylenes	4.33	0.0405	0.0350	18.8	0.176	0.152	1.8	
o-Xylene	4.20	0.0400	0.0350	18.2	0.174	0.152	0.6	
Styrene	4.59	0.0390	0.0350	19.6	0.166	0.149	1.5	
Bromoform	5.94	0.0402	0.0350	61.4	0.415	0.362	2.3	
1,1,2,2-Tetrachloroethane	4.45	0.0400	0.0350	30.5	0.275	0.240	0.8	
4-Ethyltoluene	4.48	0.0403	0.0350	22.0	0.198	0.172	1.7	
2-Chlorotoluene	4.30	0.0403	0.0350	22.3	0.209	0.181	2.0	

Sample Name	: 5ppbv TO15 LCS LD
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902688.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-07-29 10:05:52
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	% Diff	Flag *
1,3,5-Trimethylbenzene	4.14	0.0401	0.0350	20.4	0.197	0.172	1.4	
1,2,4-Trimethylbenzene	4.14	0.0398	0.0350	20.4	0.195	0.172	1.3	
1,3-Dichlorobenzene	5.79	0.0404	0.0350	34.8	0.243	0.210	2.8	
1,4-Dichlorobenzene	6.24	0.0401	0.0350	37.5	0.241	0.210	2.7	
Benzyl chloride	5.73	0.0399	0.0350	29.7	0.207	0.181	1.4	
1,2-Dichlorobenzene	5.48	0.0408	0.0350	33.0	0.245	0.210	3.3	
1,2,4-Trichlorobenzene	6.38	0.0406	0.0350	47.4	0.301	0.260	7.0	
Hexachlorobutadiene	3.95	0.0401	0.0350	42.1	0.427	0.373	3.8	
Naphthalene	5.48	0.0414	0.0350	28.7	0.217	0.183	3.6	
1-Bromopropane	5.01	0.0395	0.0350	25.2	0.199	0.176	3.1	m
1-Octene	4.34	0.0391	0.0350	19.9	0.180	0.161	0.1	
n-Octane	4.31	0.0401	0.0350	20.1	0.187	0.164	1.7	
Isopropylbenzene	4.37	0.0406	0.0350	21.5	0.200	0.172	0.3	
n-Propylbenzene	4.53	0.0407	0.0350	22.3	0.200	0.172	1.3	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	925,425	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,479,905	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,967,102	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Canister and Controller Data Sheet

Enthalpy Analytical, LLC

Client Name: Tetra Tech, Inc.
Client #: Abel Contracting: Richland, SC
Enthalpy Job #: 0719-205

Canister Data

Canister ID	Sample ID	Canister Pressure Pre-Sample (mmHg)	Canister Pressure Post-Sample (mmHg)	Canister Pressure Final (mmHg)	Canister Pressurization Factor
0808	X1902079	-769	-172	293	1.787
0809	X1902078	-769	-119	418	1.834
0802	X1902101	-769	-126	380	1.795
0797	X1902082	-769	-139	363	1.805
0799	X1902074	-769	-167	301	1.786

Date Prepared: 7/26/19
Date Received:

Prepared By: WRC
Received By:

Sample Name : ACF-AS-SMOKE-PM-072719 LD
Sample Info : 0719-205
Data File : W1900515.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 21:03:08
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 438.3

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m^3)	Catch Weight (ug/m^3)	Diff	Flag *
N-Nitrosodimethylamine	0.772	ND	3.86	ND	8.81	ND	NA	
Pyridine	1.50	ND	7.50	ND	17.1	ND	NA	
Phenol (CCC)	0.649	ND	3.25	ND	7.40	ND	NA	
Aniline	0.694	ND	3.47	ND	7.92	ND	NA	
bis(2-Chloroethyl)ether	0.788	ND	3.94	ND	8.99	ND	NA	
2-Chlorophenol	0.624	ND	3.12	ND	7.12	ND	NA	
1,3-Dichlorobenzene	0.558	ND	2.79	ND	6.37	ND	NA	
1,4-Dichlorobenzene (CCC)	0.528	ND	2.64	ND	6.02	ND	NA	
Benzyl alcohol	0.700	ND	3.50	ND	7.99	ND	NA	
1,2-Dichlorobenzene	0.558	ND	2.79	ND	6.37	ND	NA	
2-Methylphenol	0.677	ND	3.39	ND	7.72	ND	NA	
bis(2-Chloroisopropyl) ether	0.982	ND	4.91	ND	11.2	ND	NA	
3/4-Methylphenol	0.591	ND	2.96	ND	6.74	ND	NA	
N-Nitroso-di-n-propylamine (SPCC)	0.832	ND	4.16	ND	9.49	ND	NA	
o-Toluidine	5.00	ND	25.0	ND	57.0	ND	NA	
Hexachloroethane	0.632	ND	3.16	ND	7.21	ND	NA	
Nitrobenzene	0.816	ND	4.08	ND	9.31	ND	NA	
Isophorone	0.748	ND	3.74	ND	8.53	ND	NA	
2,4-Dimethylphenol	0.729	ND	3.65	ND	8.32	ND	NA	
2-Nitrophenol (CCC)	0.669	ND	3.35	ND	7.63	ND	NA	
Benzoic acid	5.00	ND	25.0	ND	57.0	ND	NA	
bis(2-Chloroethoxy)methane	0.732	ND	3.66	ND	8.35	ND	NA	
2,4-Dichlorophenol (CCC)	0.652	ND	3.26	ND	7.44	ND	NA	
a,a-Dimethylphenethylamine	5.00	ND	25.0	ND	57.0	ND	NA	
1,2,4-Trichlorobenzene	0.617	ND	3.09	ND	7.04	ND	NA	
Naphthalene	0.665	ND	3.33	ND	7.59	ND	NA	
4-Chloroaniline	0.849	ND	4.25	ND	9.69	ND	NA	
Hexachlorobutadiene (CCC)	0.609	ND	3.05	ND	6.95	ND	NA	
Quinoline	1.00	ND	5.00	ND	11.4	ND	NA	
1,4-Phenylenediamine	5.00	ND	25.0	ND	57.0	ND	NA	
4-Chloro-3 methylphenol (CCC)	0.661	ND	3.31	ND	7.54	ND	NA	
2-Methylnaphthalene	0.618	ND	3.09	ND	7.05	ND	NA	
1-Methylnaphthalene	0.613	ND	3.07	ND	6.99	ND	NA	
Hexachlorocyclopentadiene (SPCC)	8.12	ND	40.6	ND	92.6	ND	NA	
2,4,6-Trichlorophenol (CCC)	0.738	ND	3.69	ND	8.42	ND	NA	
2,4,5-Trichlorophenol	0.541	ND	2.71	ND	6.17	ND	NA	
Biphenyl	5.00	ND	25.0	ND	57.0	ND	NA	
2-Chloronaphthalene	0.652	ND	3.26	ND	7.44	ND	NA	
2-Nitroaniline	0.966	ND	4.83	ND	11.0	ND	NA	
1,4-Dinitrobenzene	0.672	ND	3.36	ND	7.67	ND	NA	
Dimethylphthalate	0.809	ND	4.05	ND	9.23	ND	NA	
1,3-Dinitrobenzene	0.819	ND	4.10	ND	9.34	ND	NA	
2,6-Dinitrotoluene	0.775	ND	3.88	ND	8.84	ND	NA	
1,2-Dinitrobenzene	0.777	ND	3.89	ND	8.86	ND	NA	
Acenaphthylene	0.675	ND	3.38	ND	7.70	ND	NA	
3-Nitroaniline	0.816	ND	4.08	ND	9.31	ND	NA	
Acenaphthene (CCC)	0.934	ND	4.67	ND	10.7	ND	NA	
2,4-Dinitrophenol (SPCC)	5.00	ND	25.0	ND	57.0	ND	NA	
4-Nitrophenol (SPCC)	5.00	ND	25.0	ND	57.0	ND	NA	
2,4-Dinitrotoluene	0.804	ND	4.02	ND	9.17	ND	NA	
Dibenzofuran	0.688	ND	3.44	ND	7.85	ND	NA	
2,3,5,6-Tetrachlorophenol	0.761	ND	3.81	ND	8.68	ND	NA	
2,3,4,6-Tetrachlorophenol	0.701	ND	3.51	ND	8.00	ND	NA	
Diethlyphthalate	1.02	ND	5.10	ND	11.6	ND	NA	
4-Chlorophenyl-phenylether	0.754	ND	3.77	ND	8.60	ND	NA	
Fluorene	0.783	ND	3.92	ND	8.93	ND	NA	
4-Nitroaniline	0.694	ND	3.47	ND	7.92	ND	NA	
4,6-Dinitro2-methylphenol	5.00	ND	25.0	ND	57.0	ND	NA	

Sample Name : ACF-AS-SMOKE-PM-072719 LD
Sample Info : 0719-205
Data File : W1900515.D
Dilution : 1
Extract Volume : 5.00
Acquisition Date : 2019-07-31 21:03:08
Instrument Method : RXI-M8270.M
Matrix : LIQUID

Air Sampling Volume (L): 438.3

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	MDL (ug/m³)	Catch Weight (ug/m³)	Diff	Flag *
N-Nitrosodiphenylamine (CCC)	0.716	ND	3.58	ND	8.17	ND	NA	
Azobenzene	0.991	ND	4.96	ND	11.3	ND	NA	
4-Bromophenyl-phenylether	0.671	ND	3.36	ND	7.65	ND	NA	
Hexachlorobenzene	0.546	ND	2.73	ND	6.23	ND	NA	
Pentachlorophenol (CCC)	5.00	ND	25.0	ND	57.0	ND	NA	
Phenanthrene	0.771	ND	3.86	ND	8.80	ND	NA	
Anthracene	0.760	ND	3.80	ND	8.67	ND	NA	
Carbazole	0.705	ND	3.53	ND	8.04	ND	NA	
Di-n-butylphthalate	1.04	ND	5.20	ND	11.9	ND	NA	
Fluoranthene (CCC)	0.919	ND	4.60	ND	10.5	ND	NA	
Benzidine	22.8	ND	114	ND	260	ND	NA	
Pyrene	0.937	ND	4.69	ND	10.7	ND	NA	
4-Dimethylaminoazobenzene	5.00	ND	25.0	ND	57.0	ND	NA	
Butylbenzylphthalate	0.810	ND	4.05	ND	9.24	ND	NA	
3,3-Dimethylbenzidine	10.8	ND	54.0	ND	123	ND	NA	
bis(2-Ethylhexyl)adipate	0.874	ND	4.37	ND	9.97	ND	NA	
3,3-Dimethoxybenzidine	5.00	ND	25.0	ND	57.0	ND	NA	
bis(2-Ethylhexyl)phthalate	1.74	ND	8.70	ND	19.8	ND	NA	
3,3'-Dichlorobenzidine	5.00	ND	25.0	ND	57.0	ND	NA	
Benzo(a)anthracene	0.550	ND	2.75	ND	6.27	ND	NA	
Chrysene	0.556	ND	2.78	ND	6.34	ND	NA	
Di-n-octylphthalate (CCC)	0.644	ND	3.22	ND	7.35	ND	NA	
7,12-Dimethylbenz(a)anthracene	5.00	ND	25.0	ND	57.0	ND	NA	
Benzo(b)fluoranthene	0.300	ND	1.50	ND	3.42	ND	NA	
Benzo(k)fluoranthene	0.356	ND	1.78	ND	4.06	ND	NA	
Benzo(e)pyrene	0.340	ND	1.70	ND	3.88	ND	NA	
Benzo(a)pyrene (CCC)	0.340	ND	1.70	ND	3.88	ND	NA	
Perylene	0.340	ND	1.70	ND	3.88	ND	NA	
3-Methylcholanthrene	5.00	ND	25.0	ND	57.0	ND	NA	
Indeno(1,2,3-cd)pyrene	0.300	ND	1.50	ND	3.42	ND	NA	
Dibenz(a,h)anthracene	0.425	ND	2.13	ND	4.85	ND	NA	
Benzo(g,h,i)perylene	0.352	ND	1.76	ND	4.02	ND	NA	
Dibenzo(a,e)pyrene	5.00	ND	25.0	ND	57.0	ND	NA	

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**

Sample Name	: ACF-AS-SMOKE-PM-072719 LD
Sample Info	: 0719-205
Data File	: W1900515.D
Dilution	: 1
Extract Volume	: 5.00
Acquisition Date	: 2019-07-31 21:03:08
Instrument Method	: RXI-M8270.M
Matrix	: LIQUID

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	% Deviation	Flag *
1,4-Dichlorobenzene-d4 (I)	421,700	4.24	40.00	18.9	PASS
Naphthalene-d8 (I)	1,567,570	5.32	40.00	21.8	PASS
Acenaphthene-d10 (I)	969,164	6.88	40.00	26.7	PASS
Phenanthrene-d10 (I)	1,650,461	8.23	40.00	24.4	PASS
Chrysene-d12 (I)	1,791,527	12.23	40.00	20.9	PASS
Perylene-d12 (I)	1,663,905	16.34	40.00	21.7	PASS

*** (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name	: DCM System Blank
Sample Info	:
Data File	: W1900508.D
Dilution	: 1
Extract Volume	: 1.00
Acquisition Date	: 2019-07-31 17:21:22
Instrument Method	: RXI-M8270.M
Matrix	: LIQUID

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	Flag *
N-Nitrosodimethylamine	0.772	ND	0.772	ND	
Pyridine	1.50	ND	1.50	ND	
Phenol (CCC)	0.649	ND	0.649	ND	
Aniline	0.694	ND	0.694	ND	
bis(2-Chloroethyl)ether	0.788	ND	0.788	ND	
2-Chlorophenol	0.624	ND	0.624	ND	
1,3-Dichlorobenzene	0.558	ND	0.558	ND	
1,4-Dichlorobenzene (CCC)	0.528	ND	0.528	ND	
Benzyl alcohol	0.700	ND	0.700	ND	
1,2-Dichlorobenzene	0.558	ND	0.558	ND	
2-Methylphenol	0.677	ND	0.677	ND	
bis(2-Chloroisopropyl) ether	0.982	ND	0.982	ND	
3/4-Methylphenol	0.591	ND	0.591	ND	
N-Nitroso-di-n-propylamine (SPCC)	0.832	ND	0.832	ND	
o-Toluidine	5.00	ND	5.00	ND	
Hexachloroethane	0.632	ND	0.632	ND	
Nitrobenzene	0.816	ND	0.816	ND	
Isophorone	0.748	ND	0.748	ND	
2,4-Dimethylphenol	0.729	ND	0.729	ND	
2-Nitrophenol (CCC)	0.669	ND	0.669	ND	
Benzoic acid	5.00	ND	5.00	ND	
bis(2-Chloroethoxy)methane	0.732	ND	0.732	ND	
2,4-Dichlorophenol (CCC)	0.652	ND	0.652	ND	
a,a-Dimethylphenethylamine	5.00	ND	5.00	ND	
1,2,4-Trichlorobenzene	0.617	ND	0.617	ND	
Naphthalene	0.665	ND	0.665	ND	
4-Chloroaniline	0.849	ND	0.849	ND	
Hexachlorobutadiene (CCC)	0.609	ND	0.609	ND	
Quinoline	1.00	ND	1.00	ND	
1,4-Phenylenediamine	5.00	ND	5.00	ND	
4-Chloro-3 methylphenol (CCC)	0.661	ND	0.661	ND	
2-Methylnaphthalene	0.618	ND	0.618	ND	
1-Methylnaphthalene	0.613	ND	0.613	ND	
Hexachlorocyclopentadiene (SPCC)	8.12	ND	8.12	ND	
2,4,6-Trichlorophenol (CCC)	0.738	ND	0.738	ND	
2,4,5-Trichlorophenol	0.541	ND	0.541	ND	
Biphenyl	5.00	ND	5.00	ND	
2-Chloronaphthalene	0.652	ND	0.652	ND	
2-Nitroaniline	0.966	ND	0.966	ND	
1,4-Dinitrobenzene	0.672	ND	0.672	ND	
Dimethylphthalate	0.809	ND	0.809	ND	
1,3-Dinitrobenzene	0.819	ND	0.819	ND	

Sample Name	: DCM System Blank
Sample Info	:
Data File	: W1900508.D
Dilution	: 1
Extract Volume	: 1.00
Acquisition Date	: 2019-07-31 17:21:22
Instrument Method	: RXI-M8270.M
Matrix	: LIQUID

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	Flag *
2,6-Dinitrotoluene	0.775	ND	0.775	ND	
1,2-Dinitrobenzene	0.777	ND	0.777	ND	
Acenaphthylene	0.675	ND	0.675	ND	
3-Nitroaniline	0.816	ND	0.816	ND	
Acenaphthene (CCC)	0.934	ND	0.934	ND	
2,4-Dinitrophenol (SPCC)	5.00	ND	5.00	ND	
4-Nitrophenol (SPCC)	5.00	ND	5.00	ND	
2,4-Dinitrotoluene	0.804	ND	0.804	ND	
Dibenzofuran	0.688	ND	0.688	ND	
2,3,5,6-Tetrachlorophenol	0.761	ND	0.761	ND	
2,3,4,6-Tetrachlorophenol	0.701	ND	0.701	ND	
Diethlyphthalate	1.02	ND	1.02	ND	
4-Chlorophenyl-phenylether	0.754	ND	0.754	ND	
Fluorene	0.783	ND	0.783	ND	
4-Nitroaniline	0.694	ND	0.694	ND	
4,6-Dinitro2-methylphenol	5.00	ND	5.00	ND	
N-Nitrosodiphenylamine (CCC)	0.716	ND	0.716	ND	
Azobenzene	0.991	ND	0.991	ND	
4-Bromophenyl-phenylether	0.671	ND	0.671	ND	
Hexachlorobenzene	0.546	ND	0.546	ND	
Pentachlorophenol (CCC)	5.00	ND	5.00	ND	
Phenanthrene	0.771	ND	0.771	ND	
Anthracene	0.760	ND	0.760	ND	
Carbazole	0.705	ND	0.705	ND	
Di-n-butylphthalate	1.04	ND	1.04	ND	
Fluoranthene (CCC)	0.919	ND	0.919	ND	
Benzidine	22.8	ND	22.8	ND	
Pyrene	0.937	ND	0.937	ND	
4-Dimethylaminoazobenzene	5.00	ND	5.00	ND	
Butylbenzylphthalate	0.810	ND	0.810	ND	
3,3-Dimethylbenzidine	10.8	ND	10.8	ND	
bis(2-Ethylhexyl)adipate	0.874	ND	0.874	ND	
3,3-Dimethoxybenzidine	5.00	ND	5.00	ND	
bis(2-Ethylhexyl)phthalate	1.74	ND	1.74	ND	
3,3'-Dichlorobenzidine	5.00	ND	5.00	ND	
Benzo(a)anthracene	0.550	ND	0.550	ND	
Chrysene	0.556	ND	0.556	ND	
Di-n-octylphthalate (CCC)	0.644	ND	0.644	ND	
7,12-Dimethylbenz(a)anthracene	5.00	ND	5.00	ND	
Benzo(b)fluoranthene	0.300	ND	0.300	ND	
Benzo(k)fluoranthene	0.356	ND	0.356	ND	
Benzo(e)pyrene	0.340	ND	0.340	ND	

Sample Name	: DCM System Blank
Sample Info	:
Data File	: W1900508.D
Dilution	: 1
Extract Volume	: 1.00
Acquisition Date	: 2019-07-31 17:21:22
Instrument Method	: RXI-M8270.M
Matrix	: LIQUID

Target Compound	MDL (ug/mL)	Concentration (ug/mL)	MDL (ug)	Catch Weight (ug)	Flag *
Benzo(a)pyrene (CCC)	0.340	ND	0.340	ND	
Perylene	0.340	ND	0.340	ND	
3-Methylcholanthrene	5.00	ND	5.00	ND	
Indeno(1,2,3-cd)pyrene	0.300	ND	0.300	ND	
Dibenz(a,h)anthracene	0.425	ND	0.425	ND	
Benzo(g,h,i)perylene	0.352	ND	0.352	ND	
Dibenzo(a,e)pyrene	5.00	ND	5.00	ND	

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**

Sample Name	: DCM System Blank
Sample Info	:
Data File	: W1900508.D
Dilution	: 1
Extract Volume	: 1.00
Acquisition Date	: 2019-07-31 17:21:22
Instrument Method	: RXI-M8270.M
Matrix	: LIQUID

Internal Standards	Response	Retention Time (min)	Concentration (ug/mL)	% Deviation	Flag *
1,4-Dichlorobenzene-d4 (I)	386,545	4.24	40.00	9.0	PASS
Naphthalene-d8 (I)	1,414,266	5.32	40.00	9.9	PASS
Acenaphthene-d10 (I)	829,207	6.89	40.00	8.4	PASS
Phenanthrene-d10 (I)	1,418,301	8.23	40.00	6.9	PASS
Chrysene-d12 (I)	1,562,781	12.23	40.00	5.4	PASS
Perylene-d12 (I)	1,438,168	16.35	40.00	5.2	PASS

*** (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Narrative Summary

ENTHALPY

Enthalpy Analytical Narrative Summary

Company	Tetra Tech, Inc.
Analyst	AMP
Parameters	EPA Method TO-11A

Client #	Ablw Contracting - Richland, SC
Job #	0719-205
# Samples	5, 1 Blank

Custody

David Myers received the samples on 7/29/19 after being relinquished by Tetra Tech, Inc. The samples were received at 5.6 °C and in good condition.

Prior to, during, and after analysis, the sample was kept under lock with access only to authorized personnel by Enthalpy Analytical, LLC.

Analysis

The sample was analyzed for formaldehyde using the analytical procedures in EPA Method TO-11A.

The SKC DNPH-coated silica gel (Cat# 226-119) tube was desorbed whole using 5 mL of acetonitrile on 7/30/19.

The HPLC "Groucho" was used for this analysis.

Calibration

The calibration curve is included in the Raw Data section of this report and referenced in the Analysis Method column on the Detailed Results page.

For each calibration curve used, the first page of the curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.

Chromatographic Conditions

A copy of the acquisition method Grouch_AgilentZprbaxSBC CARBS is included near the end of this PDF report.

QC Notes

Formaldehyde was not identified at concentrations greater than the LOQ in the analyses of the client blank or the laboratory reagent blank.

A second source sample was analyzed with the sample and yielded a recovery value of 98.2%.

Reporting Notes

The four samples and the background sample have results reported on a concentration basis (ug/m^3) per client request, using air sampling volumes the client provided in an Excel workbook. The client's tube blank had no sampling volume and so is reported as a catch weight.

The results presented in this report are representative of the samples as provided to the laboratory.

ENTHALPY

Enthalpy Analytical Narrative Summary

Company	Tetra Tech, Inc.
Analyst	DDC
Parameters	OSHA Method 61

Client #	Able Contracting - Richland, SC
Job #	0719-205
# Samples	5, 1 Blank

Custody

David Myers received the samples on 7/29/19 after being relinquished by Tetra Tech, Inc. The samples were received at 5.6 °C and in good condition.

Prior to, during, and after analysis, the sample was kept under lock with access only to authorized personnel by Enthalpy Analytical, LLC.

Analysis

The sample was analyzed for phosgene using the analytical procedures in OSHA Method 61.

Each sample was collected on two SKC XAD-2 (Cat# 226-117) tubes. Each tube was desorbed in two fractions: front half (FH) and back half (BH), so the runs had 4 fractions. All fractions were desorbed using 1 mL of OSHA M61 Phosgene reagent solution and shaken at 450 rev/min for 60 minutes. The tubes were desorbed on 7/30/19.

The GC "Lolita" was used for this analysis.

Calibration

The calibration curve is included in the Raw Data section of this report and referenced in the Analysis Method column on the Detailed Results page.

For each calibration curve used, the first page of the curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.

Chromatographic Conditions

A copy of the acquisition method LOLITA0273_PHOSGENE.M is included near the end of this PDF report.

QC Notes

Phosgene was not identified at concentrations greater than the LOQ in the analyses of the client blank or laboratory method and reagent blanks.

A second source sample was analyzed with the sample and yielded a recovery value of 98.2%.

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Enthalpy Analytical Narrative Summary
(continued)

QC Notes (continued)	The four samples and the background sample have results reported on a concentration basis (ug/m^3) per client request, using air sampling volumes the client provided in an Excel workbook. The client's tube blank had no sampling volume and so is reported as a catch weight.
Reporting Notes	The results presented in this report are representative of the samples as provided to the laboratory.

Enthalpy Analytical Narrative Summary

Company	Tetra Tech, Inc.
Analyst	TDD
Parameters	EPA Method TO-15

Client #	Able Contracting
Job #	0719-205
# Samples	6 Canisters

Custody

David Myers received the samples on 7/29/19 after being relinquished by Tetra Tech, Inc. The samples were received at ambient temperature and in good condition.

Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, LLC.

Analysis

The samples were analyzed for the TO-15 target compound list using the analytical procedures in EPA Method TO-15, *Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS).*

Upon receipt, the canister pressures were measured and recorded. The canisters were then pressurized with UHP nitrogen and a dilution ratio was calculated for each canister. Sample ***ACF-Blank*** has been assigned a dilution factor of 1. Refer to the Canister and Controller Data Sheet in the Lab QC section of this PDF report for sample pressurization factors.

The Agilent Technologies Model 7890A, Gas Chromatograph "Tobias" (S/N US81839501 / CN10823053) was equipped with a 5975C Inert XL MSD with Triple Axis and a Restek Rxi-624 Sil MS, 60 m x 0.25 mm x 1.4 µm (S/N 1348592) capillary column for this analysis. All samples and standards were introduced directly to the analyzer using an Entech 7100A Preconcentrator.

Calibration

The BFB tune analyses associated with the initial and continuing calibrations met method acceptance criteria. The initial calibration ***(X051419A-TO15)*** met the 30% RSD criteria. The initial calibration verification met the 70-130% recovery criteria. The continuing calibration met the 30% difference criteria. Calibration data has not been provided in this level 2 report, however is available upon request.

Chromatographic Conditions

A copy of the acquisition method (***TO15-SCN2.M***) has not been included in this report but is available upon request.

ENTHALPY

Enthalpy Analytical Narrative Summary
(continued)

QC Notes

All internal standard area responses and retention time criteria were met for these analyses.

The laboratory humid blank associated with the analysis of these samples did not contain any of the target analytes at a concentration greater than 3-times the MDL value.

The Laboratory Control Sample (LCS) met the 70-130% recovery criteria for all analytes of interest.

The Laboratory Duplicate (LD) analyzed with this sample set met 25% difference acceptance criteria.

The samples were analyzed within the 30-day holding time required by the method.

Reporting Notes

These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.

The results presented in this report are representative of the samples as provided to the laboratory.

Enthalpy Analytical Narrative Summary

Company	Tetra Tech, Inc.
Analyst	TDD
Parameters	EPA Method 8270D

Client #	Able Contracting
Job #	0719-205
# Samples	5 Samples, 1 Blank

Custody

David Myers received the samples on 7/29/19 after being relinquished by Tetra Tech, Inc. The samples were received in good condition at 5.6 °C.

Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, LLC.

Analysis

The samples were analyzed for the Method 8270D Target Compound List using the analytical procedures in EPA SW-846 Method 8270D, *Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry.*

Each sample consisted of a XAD-2 tube. Each tube was desorbed in 5 mLs of methylene chloride and placed on a 2-dimensional shake for for 30 minutes at 450 rmp. A 100-uL aliquot of each prepared proportional aliquot sample was transferred to an autosampler vial and spiked with 40 ug of SV internal standard solution prior to analysis.

The Agilent Technologies Model 6890N, Gas Chromatograph "Wiley" (S/N CN10244010) was equipped with a 5973N Mass Selective Detector and a Restek Rxi-5Sil MS, 30 m x 0.25 mm x 0.5 µm capillary column (S/N 1479765) for these analyses.

Chromatographic Conditions

The acquisition method ***RXI5-M8270.m*** has not been included in this Level 2 report but is available upon request.

Calibration

Calibration data is not included in this Level 2 report but is available upon request.

The initial calibration (*W012119A-M8270*) met 20% RSD or greater than 0.99 coefficient of determination (R^2) acceptance criteria. Minimum RF criteria were met for all compounds. The initial calibration verification met the 30% recovery criteria.

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Enthalpy Analytical Narrative Summary
(continued)

Calibration (continued)

The continuing calibration did not meet the less than 20% difference criteria for all compounds using % RSD or 80% to 120% recovery criteria for all compounds using linear regression. The failing compounds in the opening CCV include bis(2-Chloroisopropyl)ether, benzoic acid, hexachlorobutadiene, 1,4-phenylenediamine, 2,4,6-trichlorophenol, 2,4,5-trichlorophenol, 2,4-dinitrophenol, 2,3,5,6-tetrachlorophenol, 2,3,4,6-tetrachlorophenol, 4,6-dinitro-2-methyl-phenol, hexachlorobenzene, pentachlorophenol, 4-dimethylamino-azobenzene, butylbenzylphthalate, and bis(2-ethylhexyl)adipate.

QC Notes

The DFTPP tune analysis associated with this sample data met acceptance criteria.

All internal standard criteria were met for this analysis.

The Laboratory Duplicate (LD) associated with this sample data set met the less than 20% difference criteria.

No target analytes were detected in the analysis of the laboratory system blank at concentrations greater than the limit of quantitation (LOQ) for the SVOA scan analysis

The samples were analyzed within the 40-day holding time required by the method.

Reporting Notes

The four samples and background sample have results reported on a concentration basis (ug/m^3) per client request, using air sampling volumes the client provided in an Excel workbook. The sampling volume for sample ***ACF-AS-BKGD-072819*** was used for the sample ***ACF-BLANK-TUBE***.

The results presented in this report are representative of the samples as provided to the laboratory.

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General Reporting Notes

The following are general reporting notes that are applicable to all Enthalpy Analytical, LLC data reports, unless specifically noted otherwise.

- Any analysis which refers to the method as ***"Type"*** represents a planned deviation from the reference method. For instance a Hydrogen Sulfide assay from a Tedlar bag would be labeled as "EPA Method 16-Type" because Tedlar bags are not mentioned as one of the collection options in EPA Method 16.

- The acronym ***MDL*** represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.

- The acronym ***LOQ*** represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.

- The acronym ***ND*** following a value indicates a non-detect or analytical result below the MDL.

- The letter ***J*** in the Qualifier or Flag column in the results indicates that the value is between the MDL and the LOQ. The laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.

- The letter ***E*** in the Qualifier or Flag column indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.

- Sample results are presented 'as measured' for single injection methodologies, or an average value if multiple injections are made. If all injections are below the MDL, the sample is considered non-detect and the ND value is presented. If one, but not all, are below the MDL, the MDL value is used for any injections that are below the MDL. For example, if the MDL is 0.500 and LOQ is 1.00, and the instrument measures 0.355, 0.620, and 0.442 - the result reported is the average of 0.500, 0.620, and 0.500 - - - i.e. 0.540 with a J flag.

- When a spike recovery (Bag Spike, Collocated Spike Train, or liquid matrix spike) is being calculated, the native (unspiked) sample result is used in the calculations, as long as the value is above the MDL. If a sample is ND, then 0 is used as the native amount (not the MDL value).

- The acronym ***DF*** represents Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to determine the final undiluted sample results.

- The addition of ***MS*** to the Sample ID represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. The MS analysis indicates what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix interferes with the analysis of the analyte(s).

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General Reporting Notes
(continued)

- The addition of ***MSD*** to the Sample ID represents a Matrix Spike Duplicate. Prepared in the same manner as a MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times.

- The addition of ***LD*** to the Sample ID represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results of the duplicate analysis are compared to the initial result. The result should have a difference value of within 10% of the initial result (if the results of the original analysis are greater than the LOQ).

- The addition of ***AD*** to the Sample ID represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.

- The Sample ID ***LCS*** represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our client projects, two spikes are retained as LCSs. The LCSs are labeled with the associated project number and kept in-house at the appropriate temperature conditions. When the project samples are received for analysis, the LCSs are analyzed to confirm that the analyte could be recovered from the media, separate from the samples which were used on the project and which may have been affected by source matrix, sample collection, and/or sample transport.

- **Significant Figures**: Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits. In the case of small numbers, generally 3 significant figures are presented, but still only 2 should be used with confidence. Many neat materials are only certified to 3 digits, and as the mathematically correct final result is always 1 digit less than all its pre-cursors - 2 significant figures are what are most defensible.

- **Manual Integration**: The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations on sample chromatograms, if provided in the report. The peak was ***not integrated*** by the software **"NI"**, the peak was ***integrated incorrectly*** by the software **"II"** or the ***wrong peak*** was integrated by the software **"WP"**. These codes will accompany the analyst's manual integration stamp placed next to the compound name on the chromatogram.

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Sample Custody

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Chain of Custody Record

Special Handling:
- ☐ Standard Turn Around Time
- ☑ Rush Turn Around Time -- Date Needed ASAP
- All TATs Subject to Approval by Enthalpy Analytical
- All Bag/Can Samples Disposed of 1 Month from Receipt.
- All Other Samples Disposed of 4 Months from Receipt.

Sample(s) Collected by: John Snyder
Client Name: Tetra Tech
Project Manager:

Project Number:
Site Name: Able Contracting
Location: SC

PO#:
Telephone#:
Email: jessica.vickers@tetratech.com

For spiked or duplicate samples: please provide sample volumes for recovery calculations. For Particulates: please provide tare weights and/or condensed water volumes.

Special Instructions:

A=Air 1=H2SO4 2=NaOH W=Water O=Other X=XAD C=Charcoal SG=Silica Gel
G=Grab C=Composite Q=Quality Control O=Other

Sample ID	Date	Time	Sample Volume	Type	Matrix	# of VOA Vials	# of Glass	# of Plastic	# of Bags	# of Canisters	# of Tubes	# Other	TO-15	TAL Metals	Formald.	SVOC	TEM				Notes:
ACF-AS-RES-AM-072719	7/27	00:18	672.6	G	37mm							1		/							
↓	↓	↓	410.6	G	SG						1				/						7969802213
			486.2	G	X						1					/					8262001732
			-24"→-3"	G	A					1		1	/								Summa 0802
		00:40	767.0	G	0.45+ 5.0							1					/				BA319492
ACF-AS-SMOKE-AM-072719	7/27	01:00	-30/-7	G	A					1		1	1								Summa 0799
		↓	657.5	G	37mm							1		/							-
			411.8	G	SG						1				/						7969802214
		04:45	562.5	G	X						1					/					8262001729
		01:00	898.6	G	0.45+ 5.0							1					/				BA319047

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Condition Upon Receipt:
[signature]	7/29	[signature]	7-29-19	1:35 PM	☐ Iced ☐ Ambient ☐ °C
					☐ Iced ☐ Ambient ☐ °C
					☐ Iced ☐ Ambient ☐ °C

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5.6°C Rawtek5 Good Condition Cans received Ambient DSM 07-29-19

ENTHALPY ANALYTICAL

Chain of Custody Record

Special Handling:
- ☐ Standard Turn Around Time
- ☐ Rush Turn Around Time -- Date Needed_____
- All TATs Subject to Approval by Enthalpy Analytical
- All Bag/Can Samples Disposed of 1 Month from Receipt.
- All Other Samples Disposed of 4 Months from Receipt.

Sample(s) Collected by: _____
Client Name: _____
Project Manager: _____

Project Number: _____
Site Name: _____
Location: _____

PO#: _____
Telephone#: _____
Email: _____

For spiked or duplicate samples: please provide sample volumes for recovery calculations. For Particulates: please provide tare weights and/or condensed water volumes.

Special Instructions:

A=Air, 1=H2SO4, 2=NaOH, W=Water, O=Other
X=XAD, C=Charcoal, SO=Silica Gel

G=Grab C=Composite Q=Quality Control O=Other

Sample ID	Date	Time	Sample Volume	Type		# of VOA Vials	# of Glass	# of Plastic	# of Bags	# of Canisters	# of Tubes	# Other	TO-15	TAL Metals	Formald	SVOC	TEM				Notes:
ACF-AS-RES PM-072719	7/27	1210	-30/-5	G	A					1		~~1~~	✓								Summa 0809
↓	↓	↓	744.8	↓	37mm							1		✓							~~7969802217~~
			541.5		SG						1				✓						~~8262001736~~ 7969802217
			421.4		X						1					✓					8262001736
			965.3		0.45 + 5.0							1					✓				BA318944
ACF-AS-SMOKE-PM-072719	7/27	1215	-32/-6	G	A					1		~~1~~	✓								Summa 0797
↓	↓	↓	784.6	↓	37mm							1		✓							
			549.5		SG						1				✓						7969802216
			438.3		X						1					✓					8262001738
			913.3		0.45 + 5.0							1					✓				BA318947

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Condition Upon Receipt:
[signature]	7/29	[signature]	7-29-19	1:35 PM	☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____

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[illegible] Good Condition Cans received Ambient RM 07-29-19

ENTHALPY ANALYTICAL

Chain of Custody Record

Special Handling:
- ☐ Standard Turn Around Time
- ☐ Rush Turn Around Time -- Date Needed_____
- All TATs Subject to Approval by Enthalpy Analytical
- All Bag/Can Samples Disposed of 1 Month from Receipt.
- All Other Samples Disposed of 4 Months from Receipt.

Sample(s) Collected by: _____
Client Name: _____
Project Manager: _____

Project Number: _____
Site Name: _____
Location: _____

PO#: _____
Telephone#: _____
Email: _____

For spiked or duplicate samples: please provide sample volumes for recovery calculations. For Particulates: please provide tare weights and/or condensed water volumes.

Special Instructions:

A=Air 1=H2SO4 2=NaOH W=Water O=Other X=XAD C=Charcoal SG=Silica Gel

G=Grab C=Composite Q=Quality Control O=Other

Sample ID	Date	Time	Sample Volume	Type	Matrix	# of VOA Vials	# of Glass	# of Plastic	# of Bags	# of Canisters	# of Tubes	# Other	Phosgene	VOC	TAC Metals	Formald	SVOC	Asbestos			Notes:
ACF-AS-RES-AM-072819	7/28	0:02	473.9	G	X						2		✓								8123100531 " 530
ACF-AS SMOKE-AM-072819	7/28	0:05	603.9	G	X						2		✓								8123100523 " 529
ACF-AS-RES-PM-072819	7/28	11:00	522.5	G	X						2		✓								" 526 " 532
ACF-AS-SMOKE-PM-072819	7/28	11:02	515.2	G	Y						2		✓								" 528 " 524
ACF-AS-BKGD-072819	7/28	1130	-32/-7	G	A					1		4		✓							Summa 0805
↓	↓	↓	776.6	G	37mm							1			✓						
			516.2	G	SG						1					✓					7969802215
			439.4	G	X						1						✓				8262001735
			537.1	G	X						2		✓								8123100527 " 525
			946.3	G	0.45+5.0							1						✓			BA318940

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Condition Upon Receipt:
[signature]	7/29	[signature]	7-29-19	1:35 PM	☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____

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5.6°C Raytek Good Condition Cans received Ambient DSM 07-29-19

ENTHALPY ANALYTICAL

Chain of Custody Record

Special Handling:
- ☐ Standard Turn Around Time
- ☐ Rush Turn Around Time -- Date Needed_____
- All TATs Subject to Approval by Enthalpy Analytical
- All Bag/Can Samples Disposed of 1 Month from Receipt.
- All Other Samples Disposed of 4 Months from Receipt.

Sample(s) Collected by: _____
Client Name: _____
Project Manager: _____

Project Number: _____
Site Name: _____
Location: _____

PO#: _____
Telephone#: _____
Email: _____

For spiked or duplicate samples: please provide sample volumes for recovery calculations. For Particulates: please provide tare weights and/or condensed water volumes.

Special Instructions:

G=Grab C=Composite Q=Quality Control O=Other

Sample ID	Date	Time	Sample Volume	Type		# of VOA Vials	# of Glass	# of Plastic	# of Bags	# of Canisters	# of Tubes	# Other	TO-15	TALnehy	Formaldehyde	SUCL	Phosgene				Notes:
ACF-BLANK	-	-	-	Q	A					1			/								Summer 0821
					37mm							1		/							
					SG						1				/						7969802212
					X						1					/					8262001737
					X						2										8123100608 615

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Condition Upon Receipt
[signature]	7/27	[signature]	7-29-19	1:35 PM	☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____

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Est. Canister Condition Cans received ambient 0821 07-29-19

Raw Data

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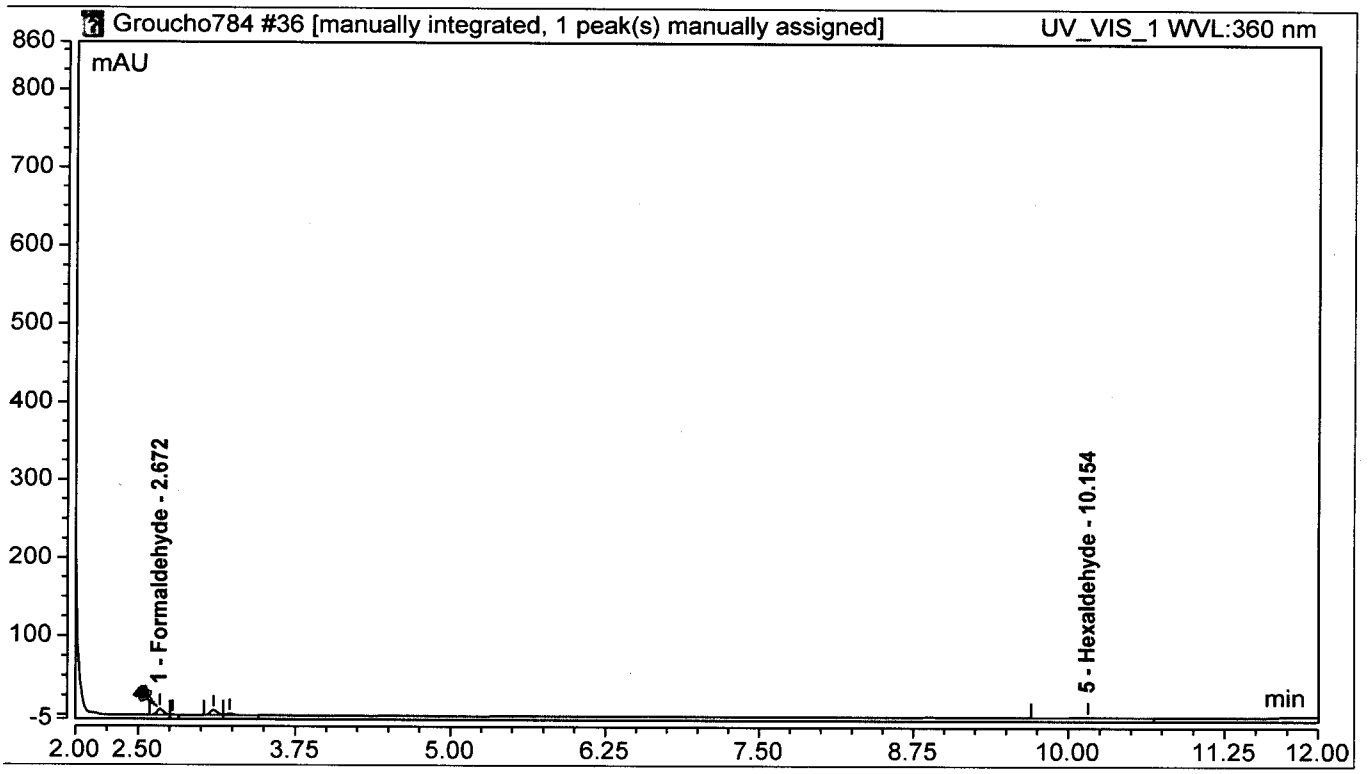
Peak Analysis Report

Sample Name:	**0719-205.R-AM.TO11**	*Injection Volume:*	**5.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 12:27**	*Run Time:*	**14.00**

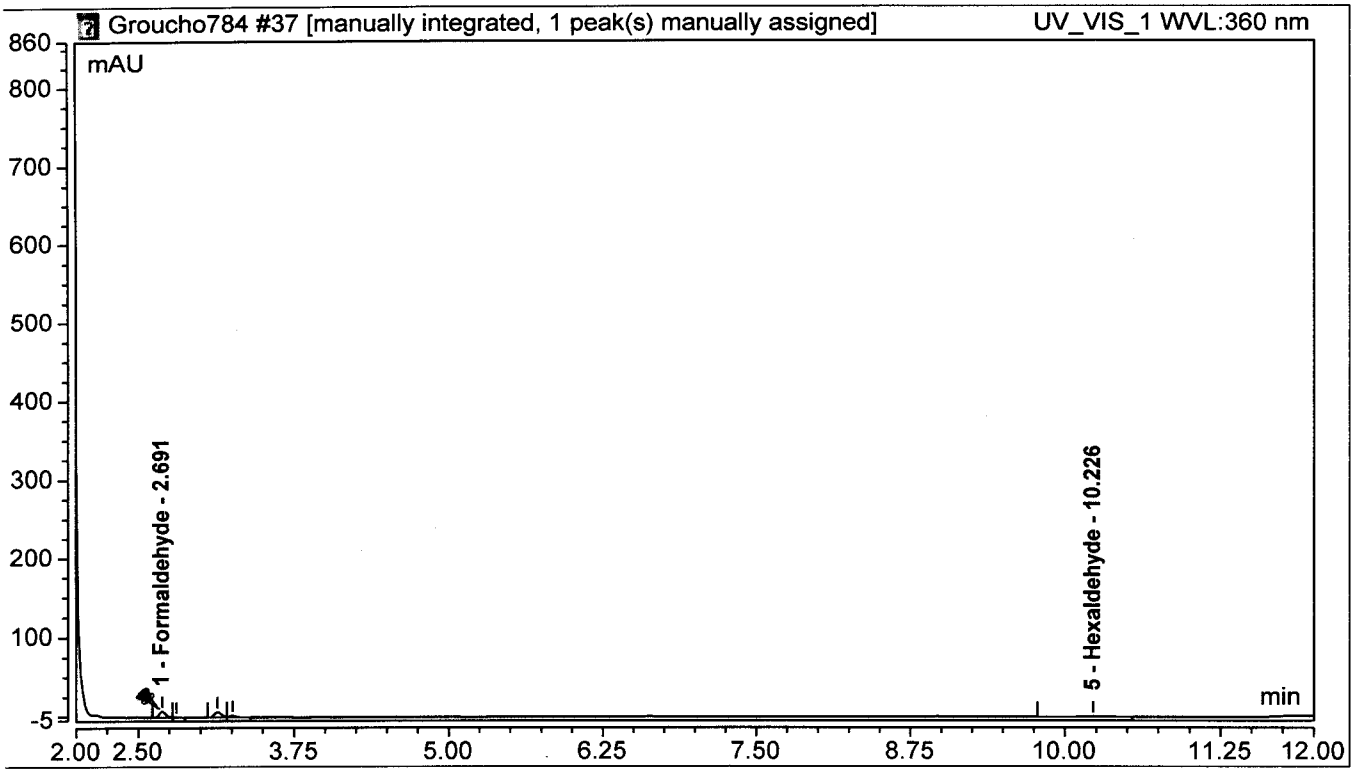


Analyst Comment: II AMP 7/30/19

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.67	Formaldehyde	0.453	7.999	0.140
5	10.15	Hexaldehyde	0.158	0.617	0.098

Peak Analysis Report

Sample Name:	**0719-205.R-AM.TO11**	*Injection Volume:*	**5.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 12:43**	*Run Time:*	**14.00**

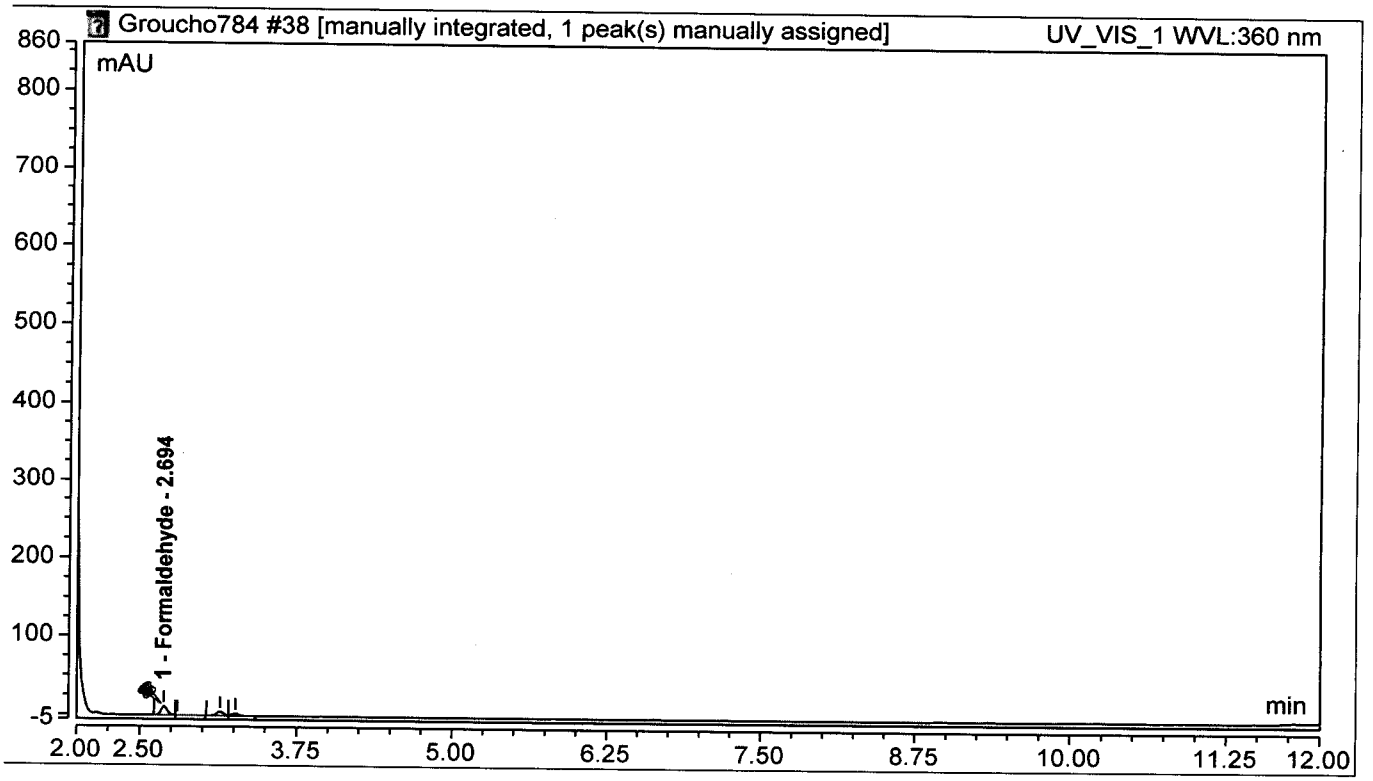


Analyst Comment: II AMP 7/30/19

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.69	Formaldehyde	0.454	8.070	0.140
5	10.23	Hexaldehyde	0.109	0.578	0.052

Peak Analysis Report

Sample Name:	**0719-205.S-AM.TO11**	*Injection Volume:*	**5.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 12:58**	*Run Time:*	**14.00**

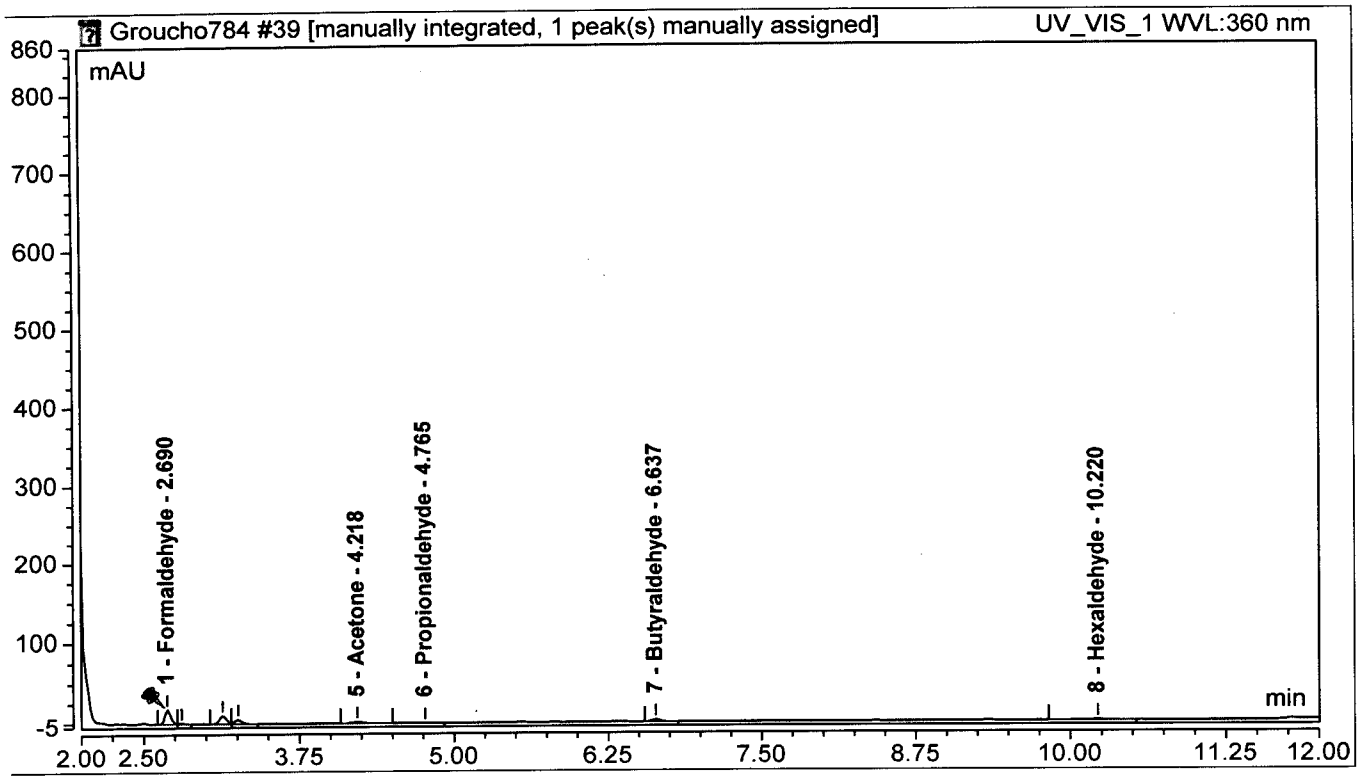


Analyst Comment: II AMP 7/30/19

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.69	Formaldehyde	0.655	11.627	0.206

Peak Analysis Report

Sample Name:	**0719-205.R-PM.TO11**	*Injection Volume:*	**5.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 13:14**	*Run Time:*	**14.00**

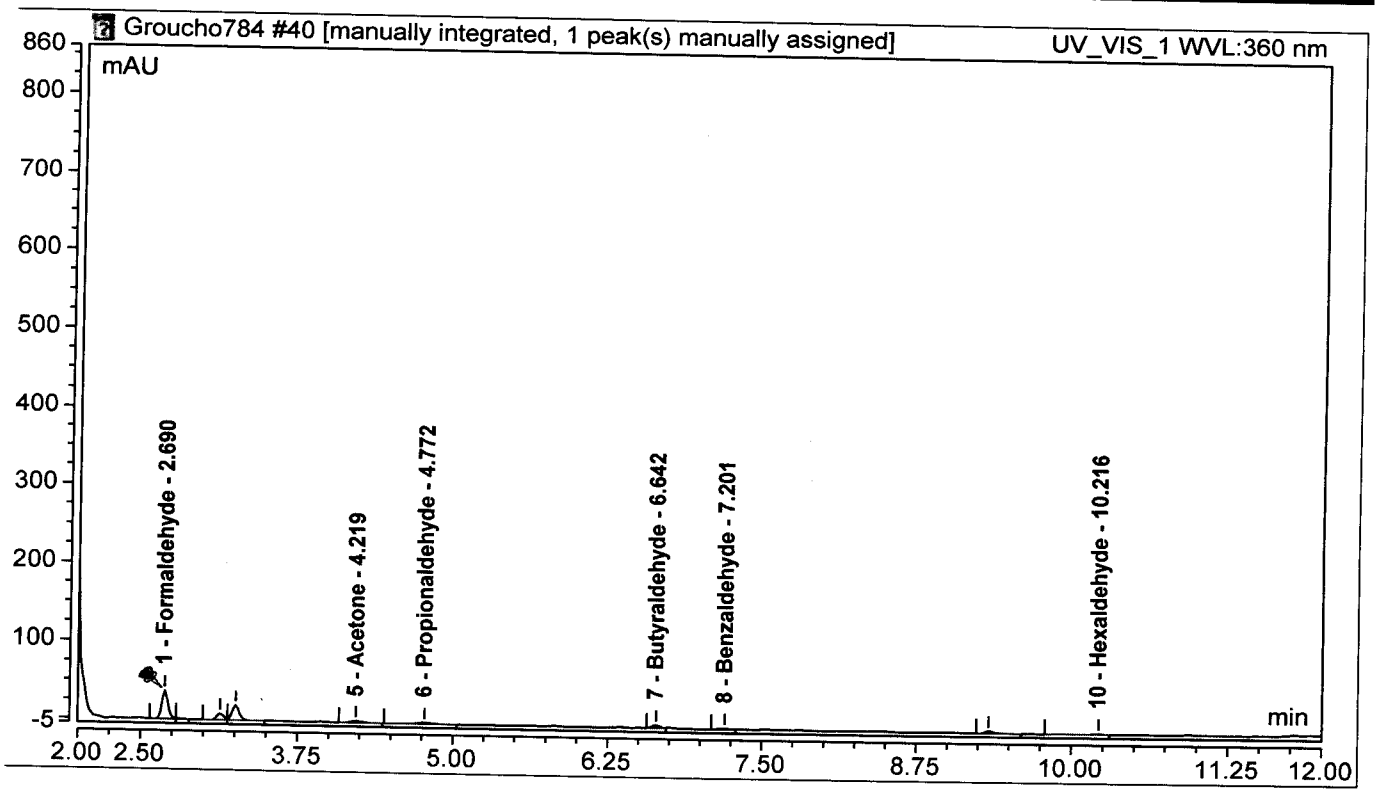


Analyst Comment: II AMP 7/30/19

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.69	Formaldehyde	1.035	18.479	0.329
5	4.22	Acetone	0.221	2.052	0.118
6	4.76	Propionaldehyde	0.051	0.307	0.019
7	6.64	Butyraldehyde	0.224	2.886	0.148
8	10.22	Hexaldehyde	0.116	0.812	0.059

Peak Analysis Report

Sample Name:	**0719-205.S-PM.TO11**	*Injection Volume:*	**5.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 13:30**	*Run Time:*	**14.00**

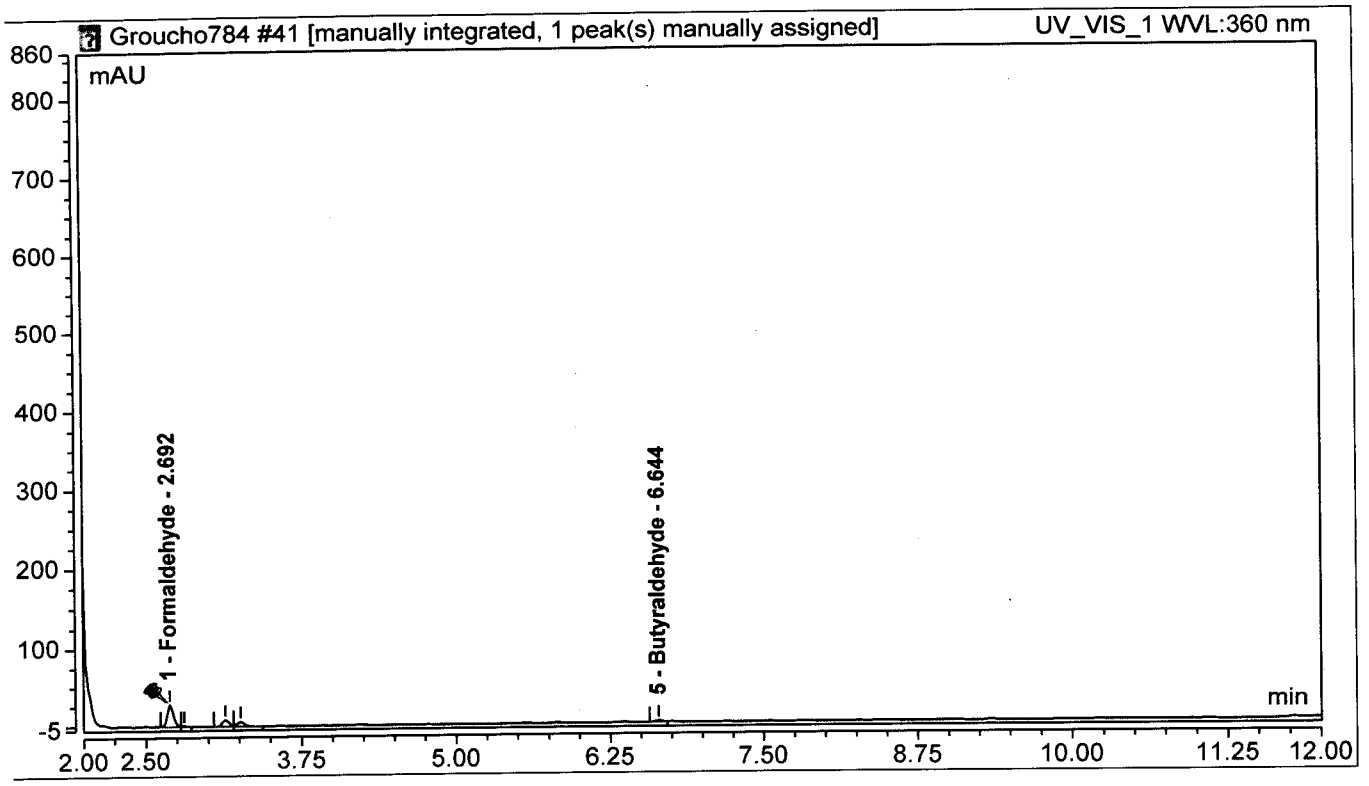


Analyst Comment: II AMP 7/30/19

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.69	Formaldehyde	2.079	36.770	0.669
5	4.22	Acetone	0.269	2.534	0.146
6	4.77	Propionaldehyde	0.283	1.818	0.157
7	6.64	Butyraldehyde	0.220	3.214	0.145
8	7.20	Benzaldehyde	0.102	1.187	0.089
10	10.22	Hexaldehyde	0.117	0.861	0.059

Peak Analysis Report

Sample Name:	**0719-205.BKGD.TO11**	*Injection Volume:*	**5.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 13:46**	*Run Time:*	**14.00**

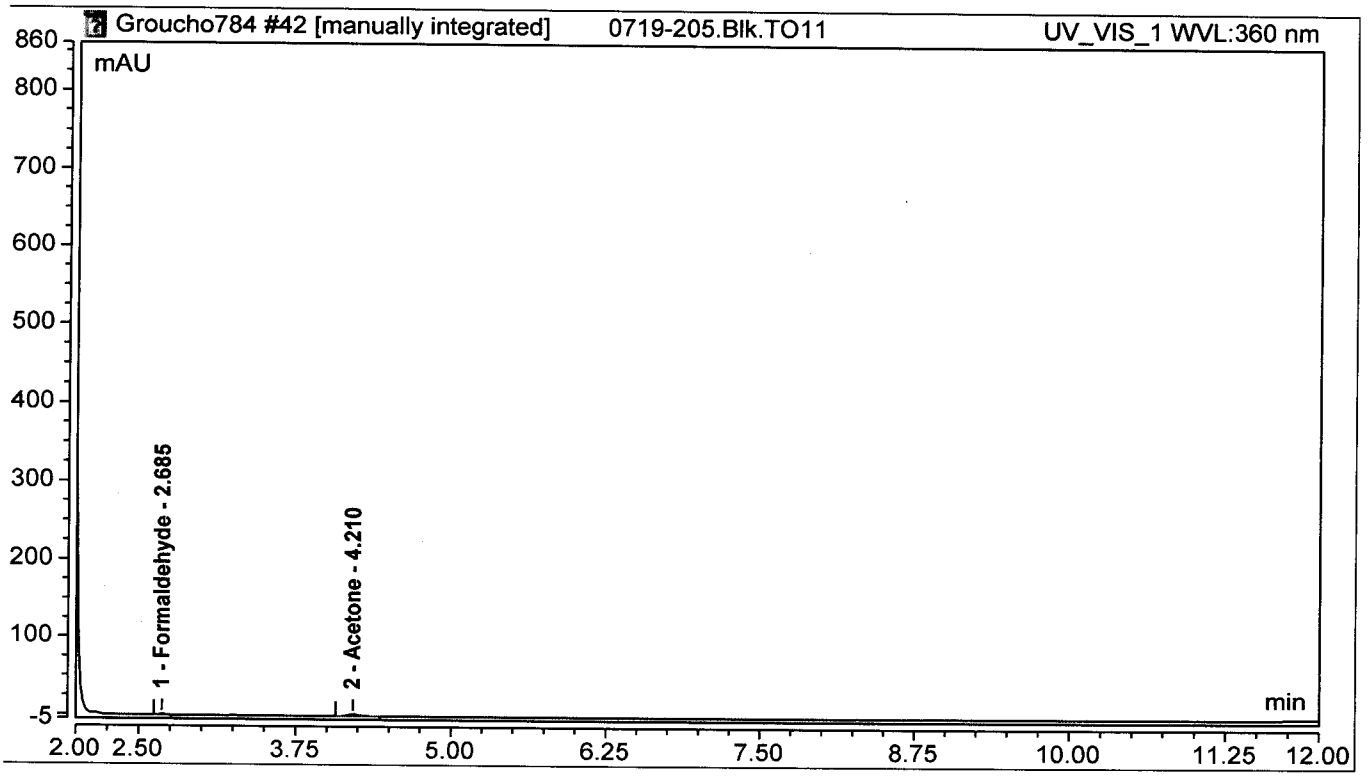


Analyst Comment: II AMP 7/30/19

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.69	Formaldehyde	1.572	28.181	0.504
5	6.64	Butyraldehyde	0.109	1.662	0.068

Peak Analysis Report

Sample Name:	**0719-205.Blk.TO11**	*Injection Volume:*	**5.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 14:01**	*Run Time:*	**14.00**

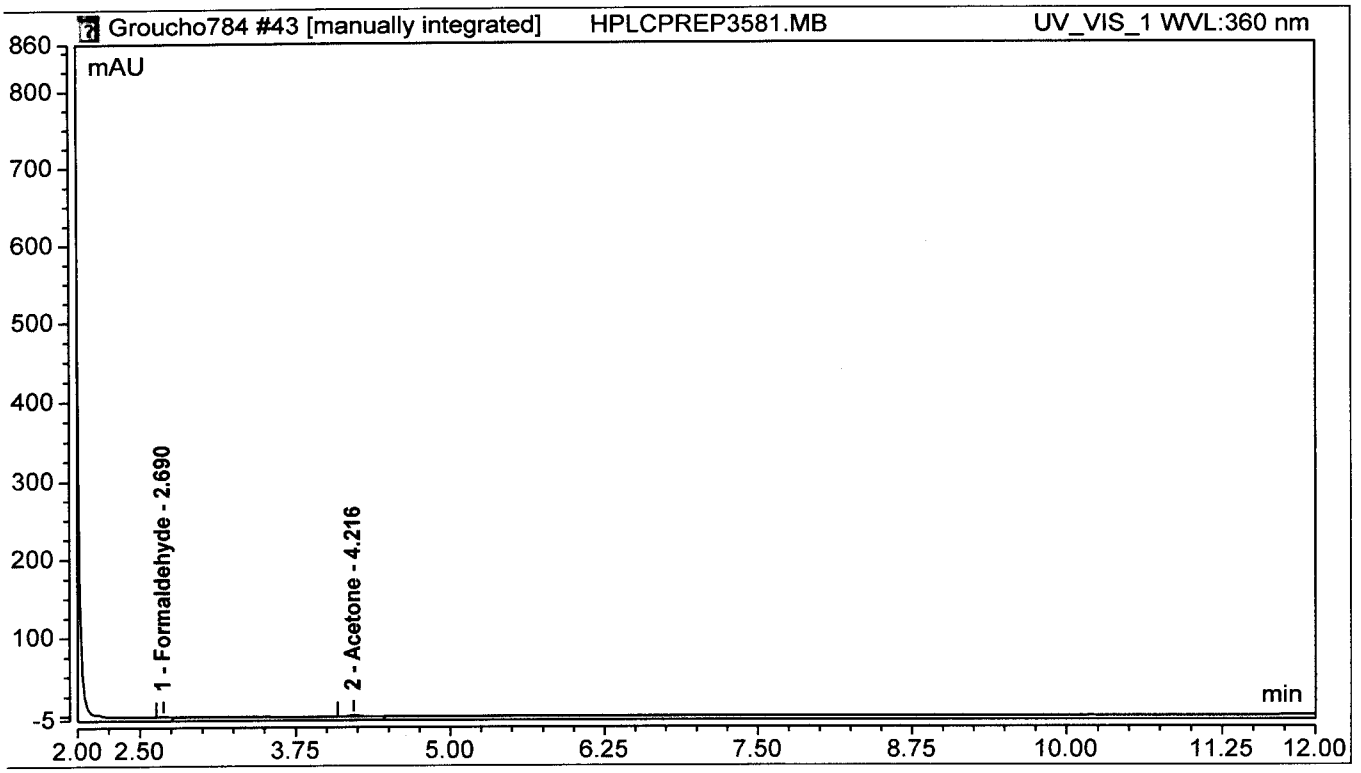


Analyst Comment: NI AMP 7/30/19

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.69	Formaldehyde	0.068	1.198	0.015
2	4.21	Acetone	0.239	2.237	0.128

Peak Analysis Report

Sample Name:	**HPLCPREP3581.MB**	*Injection Volume:*	**5.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 14:17**	*Run Time:*	**14.00**



Analyst Comment: NI AMP 7/30/19

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.69	Formaldehyde	0.066	1.177	0.014
2	4.22	Acetone	0.178	1.658	0.093

No.	Injection Name	Inject Time	Pos.	Level	Ref.Amount	Calibration Point Status	Ref.Amount	Calibration Point Status	Ref.Amount	Calibration Point Status
					UV_VIS_1 Formaldehyde	UV_VIS_1 Formaldehyde	UV_VIS_1 Acetaldehyde	UV_VIS_1 Acetaldehyde	UV_VIS_1 Acrolein	UV_VIS_1 Acrolein
4	HPLCSTDS805 #1	01/Jul/2019 15:40	1	1	0.1117	Ok	0.1117	Ok	0.1117	Ok
5	HPLCSTDS805 #1	01/Jul/2019 15:55	1	1	0.1117	Ok	0.1117	Ok	0.1117	Ok
6	HPLCSTDS805 #1	01/Jul/2019 16:11	1	1	0.1117	Ok	0.1117	Ok	0.1117	Ok
7	HPLCSTDS805 #2	01/Jul/2019 16:27	2	2	0.5769	Ok	0.5769	Ok	0.5769	Ok
8	HPLCSTDS805 #2	01/Jul/2019 16:42	2	2	0.5769	Ok	0.5769	Ok	0.5769	Ok
9	HPLCSTDS805 #2	01/Jul/2019 16:58	2	2	0.5769	Ok	0.5769	Ok	0.5769	Ok
10	HPLCSTDS805 #3	01/Jul/2019 17:14	3	3	1.6667	Ok	1.6667	Ok	1.6667	Ok
11	HPLCSTDS805 #3	01/Jul/2019 17:30	3	3	1.6667	Ok	1.6667	Ok	1.6667	Ok
12	HPLCSTDS805 #3	01/Jul/2019 17:45	3	3	1.6667	Ok	1.6667	Ok	1.6667	Ok
13	HPLCSTDS805 #4	01/Jul/2019 18:01	4	4	4.2857	Ok	4.2857	Ok	4.2857	Ok
14	HPLCSTDS805 #4	01/Jul/2019 18:17	4	4	4.2857	Ok	4.2857	Ok	4.2857	Ok
15	HPLCSTDS805 #4	01/Jul/2019 18:32	4	4	4.2857	Ok	4.2857	Ok	4.2857	Ok
16	HPLCSTDS805 #5	01/Jul/2019 18:48	5	5	7.5000	Ok	7.5000	Ok	7.5000	Ok
17	HPLCSTDS805 #5	01/Jul/2019 19:04	5	5	7.5000	Ok	7.5000	Ok	7.5000	Ok
18	HPLCSTDS805 #5	01/Jul/2019 19:20	5	5	7.5000	Ok	7.5000	Ok	7.5000	Ok
19	HPLCSTDS805 #6	01/Jul/2019 19:35	6	6	9.7059	Ok	9.7059	Ok	9.7059	Ok
20	HPLCSTDS805 #6	01/Jul/2019 19:51	6	6	9.7059	Ok	9.7059	Ok	9.7059	Ok
21	HPLCSTDS805 #6	01/Jul/2019 20:07	6	6	9.7059	Ok	9.7059	Ok	9.7059	Ok
22	HPLCSTDS805 #7	01/Jul/2019 20:22	7	7	15.0000	Ok	15.0000	Ok	15.0000	Ok
23	HPLCSTDS805 #7	01/Jul/2019 20:38	7	7	15.0000	Ok	15.0000	Ok	15.0000	Ok
24	HPLCSTDS805 #7	01/Jul/2019 20:54	7	7	15.0000	Ok	15.0000	Ok	15.0000	Ok

Detection Parameters

Ret. Time min	Param. Name	Param. Value	Inj. Type	Channel
<Initial>	Consider Void Peak	Off	Any	All Channels
<Initial>	Smoothing Width	Auto	Any	All Channels
<Initial>	Baseline Noise Range	Auto	Any	All Channels
0.000	Tailing Sensitivity Factor	Off	Any	All Channels
0.000	Fronting Sensitivity Factor	Off	Any	All Channels
0.000	Minimum Area	0.1000 [Signal*min]	Any	All Channels
0.000	Inhibit Integration	On	Any	All Channels
2.533	Inhibit Integration	Off	Any	All Channels
11.800	Inhibit Integration	On	Any	All Channels
13.999	Inhibit Integration	On	Any	All Channels

Ref.Amount	Calibration Point Status	Ref.Amount	Calibration Point Status	Ref.Amount	Calibration Point Status	Ref.Amount	Calibration Point Status	Ref.Amount
UV_VIS_1 Acetone	UV_VIS_1 Acetone	UV_VIS_1 Propionaldehyde	UV_VIS_1 Propionaldehyde	UV_VIS_1 Crotonaldehyde	UV_VIS_1 Crotonaldehyde	UV_VIS_1 2-Butanone	UV_VIS_1 2-Butanone	UV_VIS_1 Butyraldehyde
0.1117	Ok	0.1124	Ok	0.1117	Ok	n.a.	n.a.	0.1117
0.1117	Ok	0.1124	Ok	0.1117	Ok	n.a.	n.a.	0.1117
0.1117	Ok	0.1124	Ok	0.1117	Ok	n.a.	n.a.	0.1117
0.5769	Ok	0.5808	Ok	0.5769	Ok	n.a.	n.a.	0.5769
0.5769	Ok	0.5808	Ok	0.5769	Ok	n.a.	n.a.	0.5769
0.5769	Ok	0.5808	Ok	0.5769	Ok	n.a.	n.a.	0.5769
1.6667	Ok	1.6778	Ok	1.6667	Ok	n.a.	n.a.	1.6667
1.6667	Ok	1.6778	Ok	1.6667	Ok	n.a.	n.a.	1.6667
1.6667	Ok	1.6778	Ok	1.6667	Ok	n.a.	n.a.	1.6667
4.2857	Ok	4.3143	Ok	4.2857	Ok	n.a.	n.a.	4.2857
4.2857	Ok	4.3143	Ok	4.2857	Ok	n.a.	n.a.	4.2857
4.2857	Ok	4.3143	Ok	4.2857	Ok	n.a.	n.a.	4.2857
7.5000	Ok	7.5500	Ok	7.5000	Ok	n.a.	n.a.	7.5000
7.5000	Ok	7.5500	Ok	7.5000	Ok	n.a.	n.a.	7.5000
7.5000	Ok	7.5500	Ok	7.5000	Ok	n.a.	n.a.	7.5000
9.7059	Ok	9.7706	Ok	9.7059	Ok	n.a.	n.a.	9.7059
9.7059	Ok	9.7706	Ok	9.7059	Ok	n.a.	n.a.	9.7059
9.7059	Ok	9.7706	Ok	9.7059	Ok	n.a.	n.a.	9.7059
15.0000	Ok	15.1000	Ok	15.0000	Ok	n.a.	n.a.	15.0000
15.0000	Ok	15.1000	Ok	15.0000	Ok	n.a.	n.a.	15.0000
15.0000	Ok	15.1000	Ok	15.0000	Ok	n.a.	n.a.	15.0000

Calibration Point Status	Ref.Amount	Calibration Point Status	Ref.Amount	Calibration Point Status	Ref.Amount	Calibration Point Status	Ref.Amount	Calibration Point Status
UV_VIS_1 Butyraldehyde	UV_VIS_1 Benzaldehyde	UV_VIS_1 Benzaldehyde	UV_VIS_1 Isovaleraldehyde	UV_VIS_1 Isovaleraldehyde	UV_VIS_1 Valeraldehyde	UV_VIS_1 Valeraldehyde	UV_VIS_1 o-Tolualdehyde	UV_VIS_1 o-Tolualdehyde
Ok	0.1117	Ok	0.1117	Ok	0.1117	Ok	0.1117	Ok
Ok	0.1117	Ok	0.1117	Ok	0.1117	Ok	0.1117	Ok
Ok	0.1117	Ok	0.1117	Ok	0.1117	Ok	0.1117	Ok
Ok	0.5769	Ok	0.5769	Ok	0.5769	Ok	0.5769	Ok
Ok	0.5769	Ok	0.5769	Ok	0.5769	Ok	0.5769	Ok
Ok	0.5769	Ok	0.5769	Ok	0.5769	Ok	0.5769	Ok
Ok	1.6667	Ok	1.6667	Ok	1.6667	Ok	1.6667	Ok
Ok	1.6667	Ok	1.6667	Ok	1.6667	Ok	1.6667	Ok
Ok	1.6667	Ok	1.6667	Ok	1.6667	Ok	1.6667	Ok
Ok	4.2857	Ok	4.2857	Ok	4.2857	Ok	4.2857	Ok
Ok	4.2857	Ok	4.2857	Ok	4.2857	Ok	4.2857	Ok
Ok	4.2857	Ok	4.2857	Ok	4.2857	Ok	4.2857	Ok
Ok	7.5000	Ok	7.5000	Ok	7.5000	Ok	7.5000	Ok
Ok	7.5000	Ok	7.5000	Ok	7.5000	Ok	7.5000	Ok
Ok	7.5000	Ok	7.5000	Ok	7.5000	Ok	7.5000	Ok
Ok	9.7059	Ok	9.7059	Ok	9.7059	Ok	9.7059	Ok
Ok	9.7059	Ok	9.7059	Ok	9.7059	Ok	9.7059	Ok
Ok	9.7059	Ok	9.7059	Ok	9.7059	Ok	9.7059	Ok
Ok	15.0000	Ok	15.0000	Ok	15.0000	Ok	15.0000	Ok
Ok	15.0000	Ok	15.0000	Ok	15.0000	Ok	15.0000	Ok
Ok	15.0000	Ok	15.0000	Ok	15.0000	Ok	15.0000	Ok

Ref.Amount	Calibration Point Status	Ref.Amount	Calibration Point Status	Ref.Amount	Calibration Point Status	Volume	Dil.Factor
UV_VIS_1 m&p-Tolualdehyde	UV_VIS_1 m&p-Tolualdehyde	UV_VIS_1 Hexaldehyde	UV_VIS_1 Hexaldehyde	UV_VIS_1 2,5-Dimethylbenzaldehyde	UV_VIS_1 2,5-Dimethylbenzaldehyde		
0.2234	Ok	0.1117	Disabled	0.1124	Ok	5.00	1.0000
0.2234	Ok	0.1117	Disabled	0.1124	Ok	5.00	1.0000
0.2234	Ok	0.1117	Disabled	0.1124	Ok	5.00	1.0000
1.1538	Ok	0.5769	Ok	0.5808	Ok	5.00	1.0000
1.1538	Ok	0.5769	Ok	0.5808	Ok	5.00	1.0000
1.1538	Ok	0.5769	Ok	0.5808	Ok	5.00	1.0000
3.3334	Ok	1.6667	Ok	1.6778	Ok	5.00	1.0000
3.3334	Ok	1.6667	Ok	1.6778	Ok	5.00	1.0000
3.3334	Ok	1.6667	Ok	1.6778	Ok	5.00	1.0000
8.5714	Ok	4.2857	Ok	4.3143	Ok	5.00	1.0000
8.5714	Ok	4.2857	Ok	4.3143	Ok	5.00	1.0000
8.5714	Ok	4.2857	Ok	4.3143	Ok	5.00	1.0000
15.0000	Ok	7.5000	Ok	7.5500	Ok	5.00	1.0000
15.0000	Ok	7.5000	Ok	7.5500	Ok	5.00	1.0000
15.0000	Ok	7.5000	Ok	7.5500	Ok	5.00	1.0000
19.4118	Ok	9.7059	Ok	9.7706	Ok	5.00	1.0000
19.4118	Ok	9.7059	Ok	9.7706	Ok	5.00	1.0000
19.4118	Ok	9.7059	Ok	9.7706	Ok	5.00	1.0000
30.0000	Ok	15.0000	Ok	15.1000	Ok	5.00	1.0000
30.0000	Ok	15.0000	Ok	15.1000	Ok	5.00	1.0000
30.0000	Ok	15.0000	Ok	15.1000	Ok	5.00	1.0000

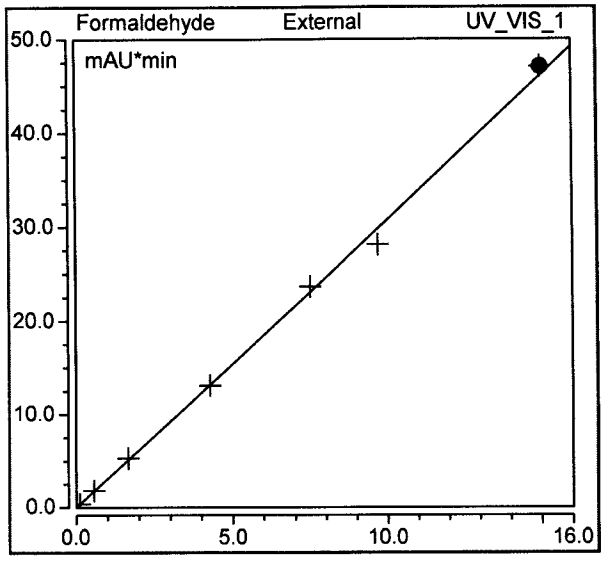
Calibration Batch Report

Sequence:	**Groucho768**	*Injection Vo.*	**5.00**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 20:54**	*Run Time:*	**13.99944**

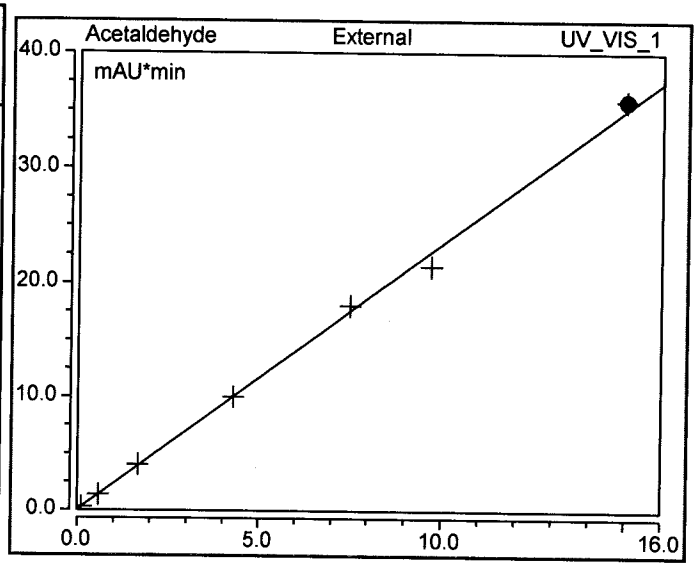
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
Formaldehyde	Area	Lin, WithOffset, 1/A, Avg	7.000	0.023	3.072	0.000	99.869
Acetaldehyde	Area	Lin, WithOffset, 1/A, Avg	7.000	0.019	2.341	0.000	99.871
Acrolein	Area	Lin, WithOffset, 1/A, Avg	7.000	0.006	2.003	0.000	99.870
Acetone	Area	Lin, WithOffset, 1/A, Avg	7.000	0.017	1.734	0.000	99.873
Propionaldehyde	Area	Lin, WithOffset, 1/A, Avg	7.000	0.019	1.683	0.000	99.885
Crotonaldehyde	Area	Lin, WithOffset, 1/A, Avg	7.000	0.014	1.544	0.000	99.874
Butyraldehyde	Area	Lin, WithOffset, 1/A, Avg	7.000	0.011	1.436	0.000	99.870
Benzaldehyde	Area	Lin, WithOffset, 1/A, Avg	7.000	0.009	1.044	0.000	99.869
Isovaleraldehyde	Area	Lin, WithOffset, 1/A, Avg	7.000	0.006	1.219	0.000	99.866
Valeraldehyde	Area	Lin, WithOffset, 1/A, Avg	7.000	0.004	1.164	0.000	99.870
o-Tolualdehyde	Area	Lin, WithOffset, 1/A, Avg	7.000	0.007	0.870	0.000	99.869
m&p-Tolualdehyde	Area	Lin, WithOffset, 1/A, Avg	7.000	0.017	0.886	0.000	99.868
Hexaldehyde	Area	Lin, WithOffset, 1/A, Avg	6.000	0.054	1.054	0.000	99.852
2,5-Dimethylbenzaldel	Area	Lin, WithOffset, 1/A, Avg	7.000	0.033	0.777	0.000	99.863

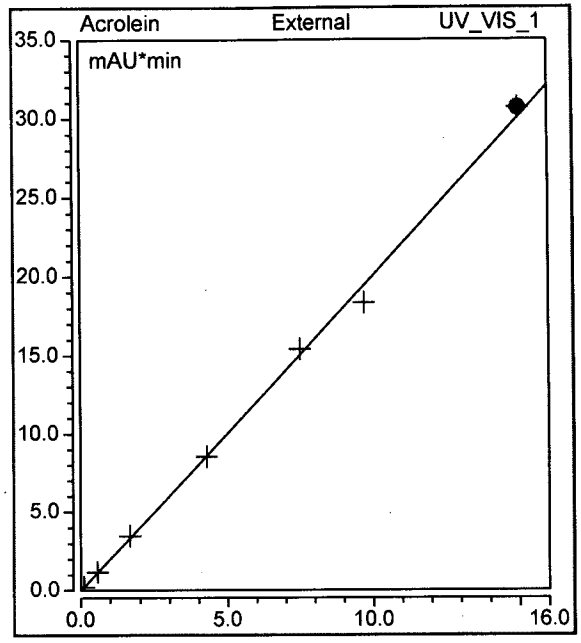
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Formaldehyde	Formaldehyde	Formaldehyde	Formaldehyde
HPLCSTDS805 #1	2.706	0.3611	6.325	0.110
HPLCSTDS805 #1	2.703	0.3575	6.319	0.109
HPLCSTDS805 #1	2.702	0.3568	6.302	0.109
HPLCSTDS805 #2	2.706	1.8043	31.409	0.580
HPLCSTDS805 #2	2.705	1.8028	31.457	0.579
HPLCSTDS805 #2	2.702	1.8049	31.512	0.580
HPLCSTDS805 #3	2.702	5.3061	92.633	1.720
HPLCSTDS805 #3	2.703	5.3162	92.848	1.723
HPLCSTDS805 #3	2.703	5.2996	92.737	1.718
HPLCSTDS805 #4	2.702	13.1016	229.431	4.257
HPLCSTDS805 #4	2.706	13.1321	229.817	4.267
HPLCSTDS805 #4	2.703	13.1233	230.131	4.264
HPLCSTDS805 #5	2.703	23.7275	415.746	7.716
HPLCSTDS805 #5	2.703	23.6427	414.043	7.689
HPLCSTDS805 #5	2.706	23.6653	414.027	7.696
HPLCSTDS805 #6	2.706	28.1652	493.646	9.161
HPLCSTDS805 #6	2.703	28.1456	493.341	9.155
HPLCSTDS805 #6	2.705	28.1166	492.720	9.145
HPLCSTDS805 #7	2.706	47.0814	824.776	15.319
HPLCSTDS805 #7	2.706	47.1619	826.771	15.345
HPLCSTDS805 #7	2.706	47.0192	825.517	15.299



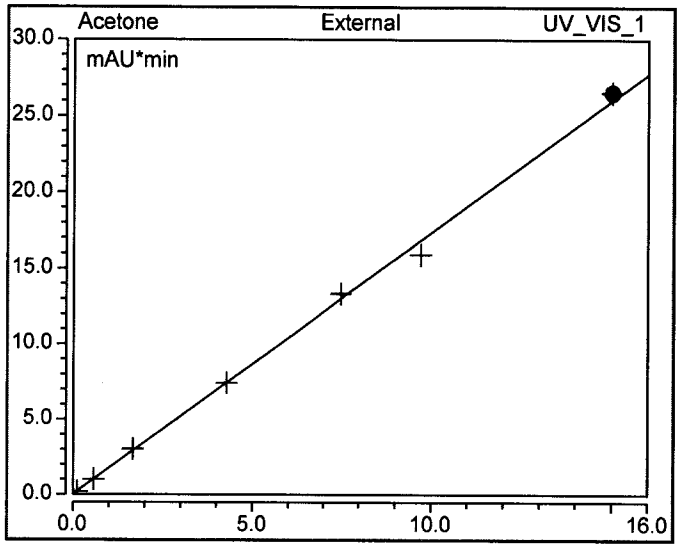
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Acetaldehyde	Acetaldehyde	Acetaldehyde	Acetaldehyde
HPLCSTDS805 #1	3.281	0.278	4.363	0.110
HPLCSTDS805 #1	3.280	0.274	4.337	0.109
HPLCSTDS805 #1	3.277	0.276	4.340	0.109
HPLCSTDS805 #2	3.281	1.372	21.545	0.578
HPLCSTDS805 #2	3.280	1.372	21.587	0.578
HPLCSTDS805 #2	3.277	1.371	21.618	0.577
HPLCSTDS805 #3	3.277	4.044	63.538	1.719
HPLCSTDS805 #3	3.278	4.049	63.709	1.721
HPLCSTDS805 #3	3.278	4.029	63.532	1.713
HPLCSTDS805 #4	3.277	10.011	157.496	4.268
HPLCSTDS805 #4	3.281	10.029	157.572	4.276
HPLCSTDS805 #4	3.280	10.028	157.811	4.275
HPLCSTDS805 #5	3.280	18.084	285.237	7.716
HPLCSTDS805 #5	3.280	18.033	284.371	7.694
HPLCSTDS805 #5	3.282	18.028	283.911	7.692
HPLCSTDS805 #6	3.282	21.478	339.031	9.165
HPLCSTDS805 #6	3.280	21.446	338.841	9.152
HPLCSTDS805 #6	3.281	21.440	338.372	9.149
HPLCSTDS805 #7	3.282	35.869	566.415	15.312
HPLCSTDS805 #7	3.282	35.914	567.907	15.331
HPLCSTDS805 #7	3.282	35.835	567.391	15.298



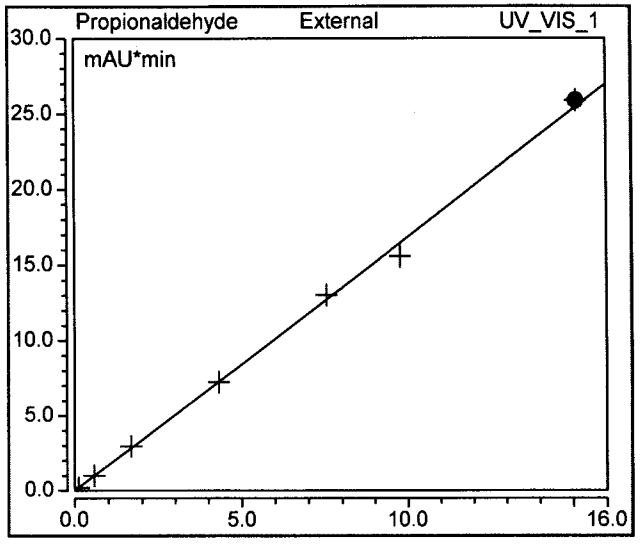
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Acrolein	Acrolein	Acrolein	Acrolein
HPLCSTDS805 #1	4.046	0.225	2.428	0.109
HPLCSTDS805 #1	4.042	0.219	2.428	0.106
HPLCSTDS805 #1	4.043	0.223	2.434	0.108
HPLCSTDS805 #2	4.048	1.170	12.349	0.581
HPLCSTDS805 #2	4.045	1.183	12.425	0.587
HPLCSTDS805 #2	4.040	1.176	12.488	0.584
HPLCSTDS805 #3	4.037	3.475	37.070	1.731
HPLCSTDS805 #3	4.039	3.475	37.000	1.732
HPLCSTDS805 #3	4.038	3.468	37.252	1.728
HPLCSTDS805 #4	4.038	8.551	91.434	4.265
HPLCSTDS805 #4	4.043	8.569	91.663	4.274
HPLCSTDS805 #4	4.049	8.543	89.440	4.261
HPLCSTDS805 #5	4.045	15.442	163.217	7.705
HPLCSTDS805 #5	4.040	15.392	164.262	7.680
HPLCSTDS805 #5	4.051	15.380	161.374	7.674
HPLCSTDS805 #6	4.046	18.355	195.545	9.159
HPLCSTDS805 #6	4.046	18.333	193.318	9.148
HPLCSTDS805 #6	4.040	18.358	197.505	9.161
HPLCSTDS805 #7	4.044	30.690	327.899	15.317
HPLCSTDS805 #7	4.044	30.736	328.846	15.339
HPLCSTDS805 #7	4.045	30.636	327.770	15.290



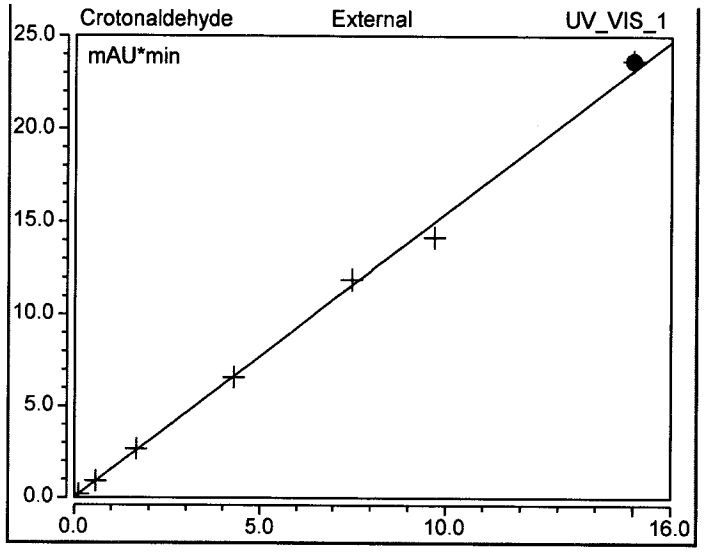
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Acetone	Acetone	Acetone	Acetone
HPLCSTDS805 #1	4.262	0.209	1.879	0.111
HPLCSTDS805 #1	4.256	0.200	1.861	0.106
HPLCSTDS805 #1	4.259	0.207	1.862	0.110
HPLCSTDS805 #2	4.264	1.012	9.274	0.574
HPLCSTDS805 #2	4.260	1.013	9.309	0.574
HPLCSTDS805 #2	4.254	1.013	9.336	0.574
HPLCSTDS805 #3	4.250	3.044	27.702	1.746
HPLCSTDS805 #3	4.253	3.041	27.681	1.744
HPLCSTDS805 #3	4.250	3.033	27.751	1.739
HPLCSTDS805 #4	4.252	7.425	68.313	4.272
HPLCSTDS805 #4	4.256	7.438	68.432	4.279
HPLCSTDS805 #4	4.266	7.422	67.568	4.270
HPLCSTDS805 #5	4.261	13.399	122.704	7.716
HPLCSTDS805 #5	4.255	13.318	122.825	7.669
HPLCSTDS805 #5	4.269	13.336	121.479	7.679
HPLCSTDS805 #6	4.261	15.935	146.437	9.178
HPLCSTDS805 #6	4.262	15.873	145.483	9.143
HPLCSTDS805 #6	4.253	15.938	147.322	9.180
HPLCSTDS805 #7	4.259	26.531	244.760	15.288
HPLCSTDS805 #7	4.259	26.615	245.300	15.336
HPLCSTDS805 #7	4.260	26.472	244.566	15.254



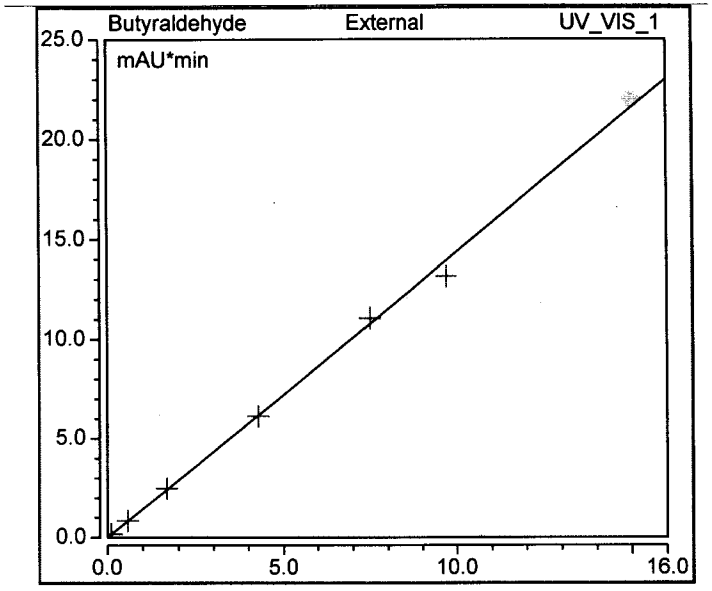
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Propionaldehyde	Propionaldehyde	Propionaldehyd	Propionaldehyde
HPLCSTDS805 #1	4.835	0.206	1.552	0.111
HPLCSTDS805 #1	4.828	0.199	1.554	0.107
HPLCSTDS805 #1	4.828	0.200	1.559	0.108
HPLCSTDS805 #2	4.835	0.996	7.725	0.581
HPLCSTDS805 #2	4.830	1.001	7.753	0.584
HPLCSTDS805 #2	4.823	1.001	7.766	0.584
HPLCSTDS805 #3	4.817	2.969	22.948	1.753
HPLCSTDS805 #3	4.821	2.963	22.936	1.749
HPLCSTDS805 #3	4.816	2.959	22.892	1.747
HPLCSTDS805 #4	4.819	7.258	56.600	4.301
HPLCSTDS805 #4	4.824	7.269	56.651	4.307
HPLCSTDS805 #4	4.839	7.256	56.589	4.300
HPLCSTDS805 #5	4.831	13.101	102.323	7.772
HPLCSTDS805 #5	4.824	12.992	101.795	7.707
HPLCSTDS805 #5	4.845	13.033	101.114	7.732
HPLCSTDS805 #6	4.830	15.591	121.909	9.251
HPLCSTDS805 #6	4.834	15.542	121.561	9.222
HPLCSTDS805 #6	4.821	15.644	121.840	9.283
HPLCSTDS805 #7	4.829	25.894	203.099	15.372
HPLCSTDS805 #7	4.830	26.008	203.387	15.440
HPLCSTDS805 #7	4.830	25.782	202.992	15.306



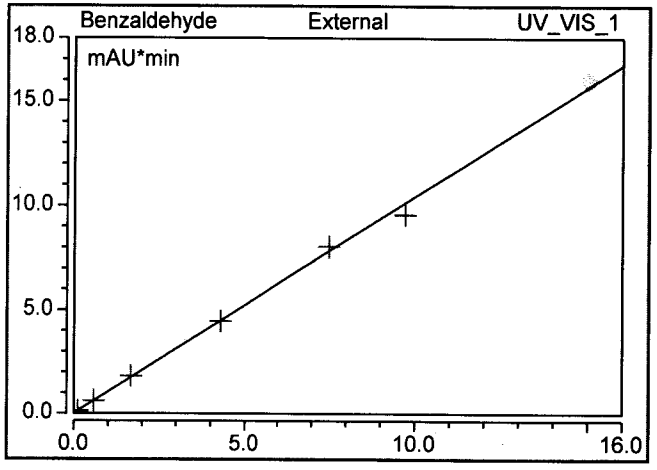
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Crotonaldehyde	Crotonaldehyde	Crotonaldehyde	Crotonaldehyde
HPLCSTDS805 #1	5.937	0.188	2.177	0.113
HPLCSTDS805 #1	5.931	0.186	2.180	0.111
HPLCSTDS805 #1	5.938	0.178	2.152	0.106
HPLCSTDS805 #2	5.940	0.906	10.768	0.578
HPLCSTDS805 #2	5.942	0.908	10.811	0.579
HPLCSTDS805 #2	5.930	0.904	10.787	0.577
HPLCSTDS805 #3	5.926	2.665	31.692	1.717
HPLCSTDS805 #3	5.930	2.668	31.806	1.719
HPLCSTDS805 #3	5.930	2.654	31.690	1.710
HPLCSTDS805 #4	5.927	6.585	78.723	4.257
HPLCSTDS805 #4	5.934	6.587	78.718	4.258
HPLCSTDS805 #4	5.950	6.565	78.922	4.244
HPLCSTDS805 #5	5.939	11.912	142.545	7.708
HPLCSTDS805 #5	5.933	11.865	141.877	7.677
HPLCSTDS805 #5	5.949	11.868	142.039	7.679
HPLCSTDS805 #6	5.938	14.189	169.373	9.182
HPLCSTDS805 #6	5.944	14.133	169.389	9.146
HPLCSTDS805 #6	5.933	14.173	169.355	9.173
HPLCSTDS805 #7	5.938	23.684	283.269	15.334
HPLCSTDS805 #7	5.943	23.730	283.358	15.363
HPLCSTDS805 #7	5.944	23.648	283.480	15.311



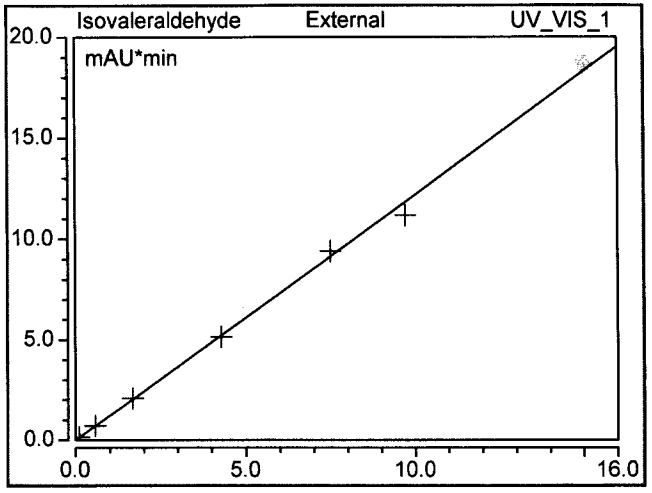
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Butyraldehyde	Butyraldehyde	Butyraldehyde	Butyraldehyde
HPLCSTDS805 #1	6.673	0.169	2.051	0.110
HPLCSTDS805 #1	6.670	0.168	2.050	0.109
HPLCSTDS805 #1	6.677	0.172	2.055	0.112
HPLCSTDS805 #2	6.677	0.837	10.185	0.575
HPLCSTDS805 #2	6.679	0.837	10.206	0.575
HPLCSTDS805 #2	6.668	0.840	10.209	0.577
HPLCSTDS805 #3	6.665	2.480	30.162	1.719
HPLCSTDS805 #3	6.668	2.482	30.068	1.720
HPLCSTDS805 #3	6.668	2.460	30.024	1.705
HPLCSTDS805 #4	6.666	6.125	74.481	4.256
HPLCSTDS805 #4	6.672	6.136	74.615	4.264
HPLCSTDS805 #4	6.687	6.134	74.772	4.263
HPLCSTDS805 #5	6.677	11.087	135.075	7.711
HPLCSTDS805 #5	6.671	11.042	134.678	7.679
HPLCSTDS805 #5	6.687	11.048	134.753	7.683
HPLCSTDS805 #6	6.677	13.171	160.288	9.162
HPLCSTDS805 #6	6.682	13.156	160.812	9.151
HPLCSTDS805 #6	6.671	13.160	160.088	9.154
HPLCSTDS805 #7	6.677	22.025	268.049	15.325
HPLCSTDS805 #7	6.685	22.132	268.876	15.400
HPLCSTDS805 #7	6.682	21.977	268.668	15.292



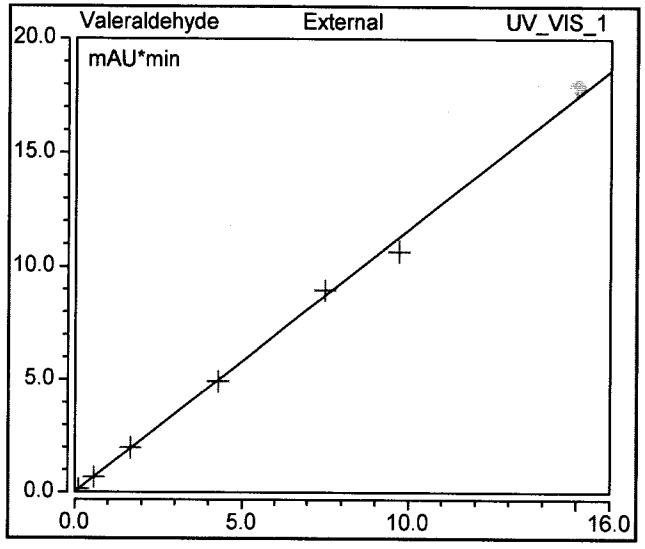
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Benzaldehyde	Benzaldehyde	Benzaldehyde	Benzaldehyde
HPLCSTDS805 #1	7.240	0.125	1.522	0.111
HPLCSTDS805 #1	7.240	0.123	1.496	0.109
HPLCSTDS805 #1	7.247	0.121	1.500	0.108
HPLCSTDS805 #2	7.246	0.609	7.532	0.575
HPLCSTDS805 #2	7.250	0.613	7.559	0.579
HPLCSTDS805 #2	7.239	0.616	7.582	0.582
HPLCSTDS805 #3	7.233	1.804	22.247	1.719
HPLCSTDS805 #3	7.239	1.808	22.308	1.723
HPLCSTDS805 #3	7.239	1.805	22.278	1.720
HPLCSTDS805 #4	7.236	4.458	55.199	4.260
HPLCSTDS805 #4	7.241	4.465	55.244	4.267
HPLCSTDS805 #4	7.257	4.457	55.326	4.259
HPLCSTDS805 #5	7.247	8.058	100.086	7.707
HPLCSTDS805 #5	7.241	8.024	99.759	7.674
HPLCSTDS805 #5	7.255	8.039	99.780	7.689
HPLCSTDS805 #6	7.248	9.582	118.907	9.166
HPLCSTDS805 #6	7.251	9.558	119.165	9.143
HPLCSTDS805 #6	7.241	9.568	118.683	9.153
HPLCSTDS805 #7	7.248	16.026	198.992	15.336
HPLCSTDS805 #7	7.259	16.054	198.732	15.363
HPLCSTDS805 #7	7.252	15.986	199.329	15.298



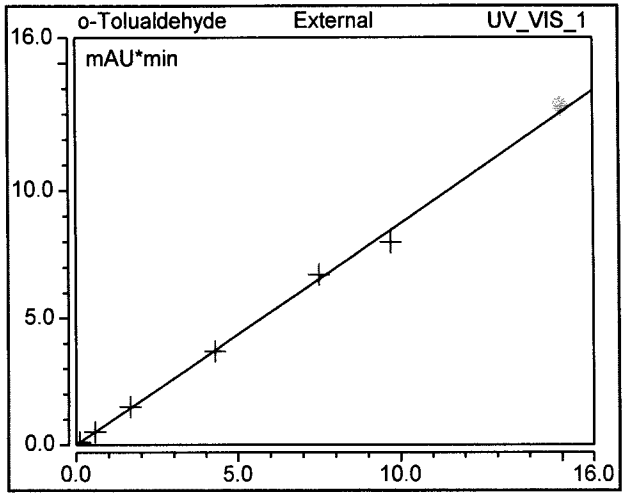
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Isovaleraldehyde	Isovaleraldehyde	sovaleraldehyd	Isovaleraldehyde
HPLCSTDS805 #1	8.156	0.143	1.779	0.113
HPLCSTDS805 #1	8.157	0.141	1.781	0.111
HPLCSTDS805 #1	8.162	0.140	1.763	0.110
HPLCSTDS805 #2	8.160	0.707	8.830	0.575
HPLCSTDS805 #2	8.165	0.710	8.855	0.578
HPLCSTDS805 #2	8.155	0.708	8.852	0.577
HPLCSTDS805 #3	8.148	2.085	26.056	1.706
HPLCSTDS805 #3	8.155	2.084	26.077	1.706
HPLCSTDS805 #3	8.155	2.078	26.039	1.700
HPLCSTDS805 #4	8.154	5.142	64.493	4.214
HPLCSTDS805 #4	8.157	5.152	64.546	4.223
HPLCSTDS805 #4	8.171	5.145	64.819	4.217
HPLCSTDS805 #5	8.162	9.425	117.445	7.728
HPLCSTDS805 #5	8.156	9.382	117.130	7.693
HPLCSTDS805 #5	8.167	9.393	117.097	7.702
HPLCSTDS805 #6	8.165	11.179	139.345	9.168
HPLCSTDS805 #6	8.165	11.174	139.735	9.163
HPLCSTDS805 #6	8.157	11.175	139.333	9.165
HPLCSTDS805 #7	8.163	18.743	233.285	15.374
HPLCSTDS805 #7	8.177	18.762	233.236	15.389
HPLCSTDS805 #7	8.167	18.689	233.521	15.329



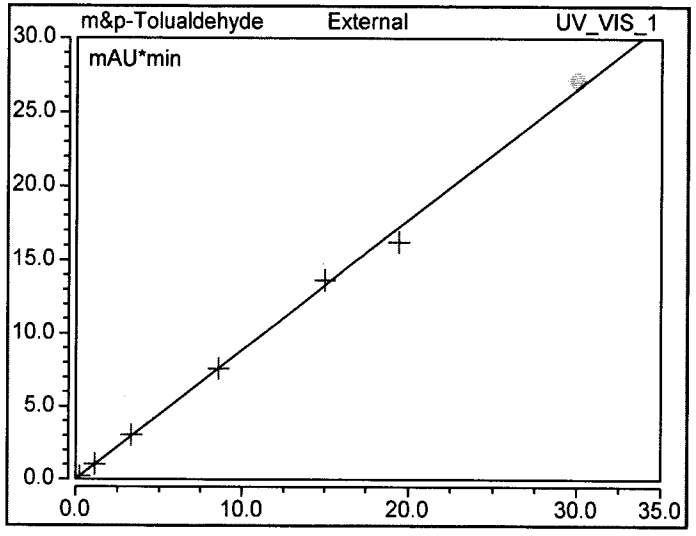
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Valeraldehyde	Valeraldehyde	Valeraldehyde	Valeraldehyde
HPLCSTDS805 #1	8.462	0.138	1.701	0.115
HPLCSTDS805 #1	8.462	0.132	1.660	0.110
HPLCSTDS805 #1	8.464	0.134	1.677	0.111
HPLCSTDS805 #2	8.464	0.676	8.327	0.577
HPLCSTDS805 #2	8.469	0.674	8.334	0.575
HPLCSTDS805 #2	8.459	0.673	8.332	0.574
HPLCSTDS805 #3	8.452	1.980	24.483	1.697
HPLCSTDS805 #3	8.458	1.981	24.520	1.698
HPLCSTDS805 #3	8.459	1.975	24.513	1.692
HPLCSTDS805 #4	8.458	4.927	60.757	4.228
HPLCSTDS805 #4	8.462	4.943	60.870	4.242
HPLCSTDS805 #4	8.475	4.930	61.020	4.231
HPLCSTDS805 #5	8.467	9.004	110.492	7.731
HPLCSTDS805 #5	8.461	8.956	110.015	7.689
HPLCSTDS805 #5	8.470	8.961	110.238	7.693
HPLCSTDS805 #6	8.469	10.685	131.270	9.174
HPLCSTDS805 #6	8.468	10.671	131.467	9.162
HPLCSTDS805 #6	8.462	10.675	131.208	9.165
HPLCSTDS805 #7	8.468	17.885	219.599	15.359
HPLCSTDS805 #7	8.484	17.920	219.304	15.389
HPLCSTDS805 #7	8.473	17.848	219.921	15.327



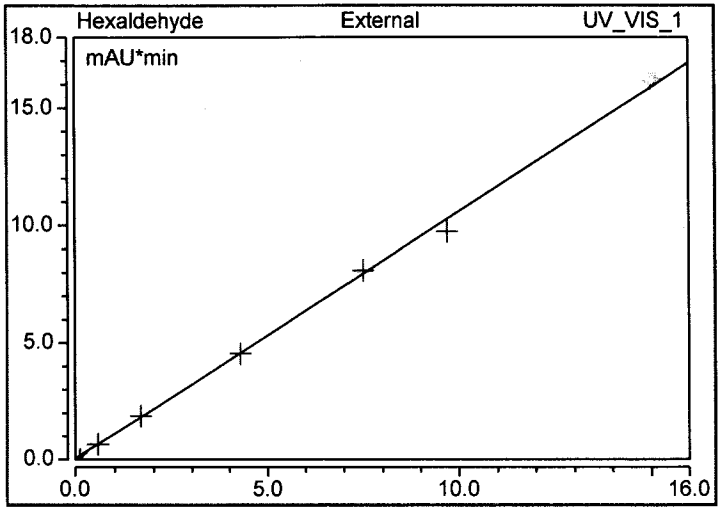
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	o-Tolualdehyde	o-Tolualdehyde	o-Tolualdehyde	o-Tolualdehyde
HPLCSTDS805 #1	8.803	0.105	1.317	0.113
HPLCSTDS805 #1	8.805	0.102	1.306	0.109
HPLCSTDS805 #1	8.809	0.104	1.313	0.111
HPLCSTDS805 #2	8.809	0.505	6.464	0.572
HPLCSTDS805 #2	8.814	0.510	6.518	0.578
HPLCSTDS805 #2	8.805	0.505	6.492	0.572
HPLCSTDS805 #3	8.795	1.497	19.126	1.712
HPLCSTDS805 #3	8.804	1.499	19.163	1.714
HPLCSTDS805 #3	8.804	1.492	19.135	1.706
HPLCSTDS805 #4	8.803	3.699	47.400	4.242
HPLCSTDS805 #4	8.805	3.704	47.491	4.248
HPLCSTDS805 #4	8.820	3.709	47.611	4.254
HPLCSTDS805 #5	8.814	6.727	86.077	7.722
HPLCSTDS805 #5	8.806	6.702	85.753	7.694
HPLCSTDS805 #5	8.815	6.693	85.867	7.682
HPLCSTDS805 #6	8.815	7.984	102.291	9.167
HPLCSTDS805 #6	8.814	7.974	102.291	9.154
HPLCSTDS805 #6	8.808	7.976	102.203	9.157
HPLCSTDS805 #7	8.815	13.346	170.987	15.328
HPLCSTDS805 #7	8.833	13.397	170.020	15.387
HPLCSTDS805 #7	8.820	13.337	170.941	15.317



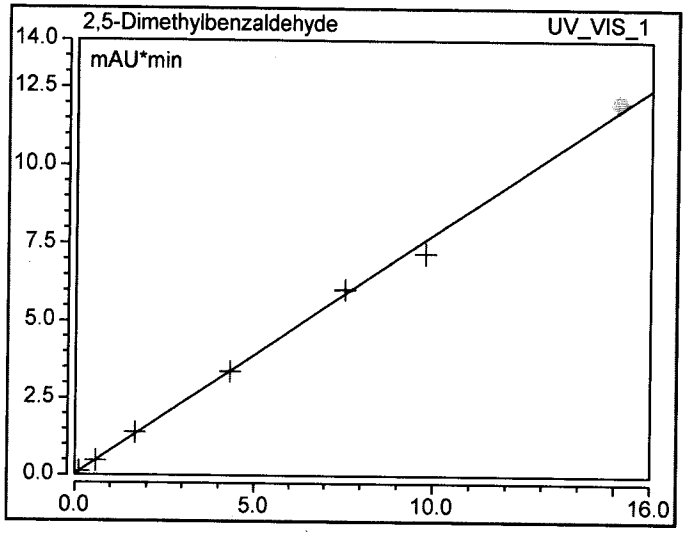
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	m&p-Tolualdehyde	m&p-Tolualdehyde	&p-Tolualdehy	m&p-Tolualdehyde
HPLCSTDS805 #1	8.999	0.213	1.682	0.221
HPLCSTDS805 #1	9.008	0.211	1.674	0.219
HPLCSTDS805 #1	9.008	0.210	1.668	0.218
HPLCSTDS805 #2	9.010	1.039	8.288	1.153
HPLCSTDS805 #2	9.015	1.040	8.273	1.154
HPLCSTDS805 #2	9.005	1.039	8.255	1.153
HPLCSTDS805 #3	8.996	3.067	24.492	3.442
HPLCSTDS805 #3	9.004	3.070	24.459	3.445
HPLCSTDS805 #3	9.005	3.053	24.309	3.426
HPLCSTDS805 #4	9.005	7.585	60.440	8.541
HPLCSTDS805 #4	9.007	7.599	60.747	8.557
HPLCSTDS805 #4	9.020	7.576	60.615	8.531
HPLCSTDS805 #5	9.015	13.677	109.722	15.417
HPLCSTDS805 #5	9.008	13.614	109.230	15.346
HPLCSTDS805 #5	9.015	13.677	109.930	15.417
HPLCSTDS805 #6	9.016	16.240	130.357	18.310
HPLCSTDS805 #6	9.016	16.224	130.280	18.292
HPLCSTDS805 #6	9.009	16.221	130.498	18.288
HPLCSTDS805 #7	9.017	27.188	219.085	30.666
HPLCSTDS805 #7	9.038	27.179	217.762	30.656
HPLCSTDS805 #7	9.024	27.156	217.926	30.630



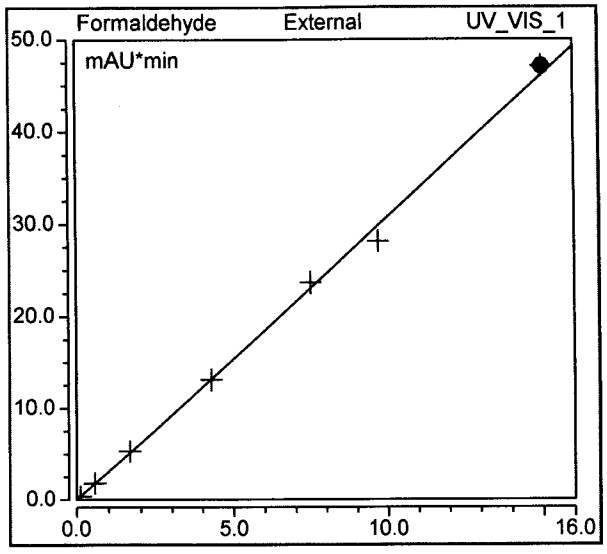
Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Hexaldehyde	Hexaldehyde	Hexaldehyde	Hexaldehyde
HPLCSTDS805 #1	n.a.	n.a.	n.a.	n.a.
HPLCSTDS805 #1	n.a.	n.a.	n.a.	n.a.
HPLCSTDS805 #1	n.a.	n.a.	n.a.	n.a.
HPLCSTDS805 #2	10.261	0.650	8.874	0.565
HPLCSTDS805 #2	10.268	0.652	8.924	0.567
HPLCSTDS805 #2	10.260	0.656	8.955	0.571
HPLCSTDS805 #3	10.251	1.862	25.808	1.715
HPLCSTDS805 #3	10.259	1.875	25.963	1.727
HPLCSTDS805 #3	10.261	1.869	25.924	1.721
HPLCSTDS805 #4	10.261	4.540	63.723	4.256
HPLCSTDS805 #4	10.258	4.550	63.817	4.265
HPLCSTDS805 #4	10.270	4.545	63.983	4.261
HPLCSTDS805 #5	10.266	8.024	114.825	7.562
HPLCSTDS805 #5	10.261	8.135	115.033	7.667
HPLCSTDS805 #5	10.264	8.144	115.010	7.675
HPLCSTDS805 #6	10.266	9.773	137.380	9.221
HPLCSTDS805 #6	10.267	9.738	137.609	9.188
HPLCSTDS805 #6	10.262	9.746	137.187	9.196
HPLCSTDS805 #7	10.266	16.232	230.030	15.350
HPLCSTDS805 #7	10.285	16.252	231.526	15.369
HPLCSTDS805 #7	10.273	16.210	230.395	15.329



Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Dimethylbenzalde	2,5-Dimethylbenzaldehyde	methylbenzald	Dimethylbenzaldehyde
HPLCSTDS805 #1	10.418	0.120	1.475	0.112
HPLCSTDS805 #1	10.423	0.124	1.480	0.117
HPLCSTDS805 #1	10.425	0.116	1.462	0.107
HPLCSTDS805 #2	10.421	0.469	6.670	0.562
HPLCSTDS805 #2	10.430	0.469	6.698	0.561
HPLCSTDS805 #2	10.420	0.478	6.743	0.572
HPLCSTDS805 #3	10.412	1.387	19.625	1.743
HPLCSTDS805 #3	10.419	1.396	19.713	1.754
HPLCSTDS805 #3	10.421	1.393	19.675	1.751
HPLCSTDS805 #4	10.423	3.371	48.469	4.295
HPLCSTDS805 #4	10.418	3.378	48.533	4.305
HPLCSTDS805 #4	10.430	3.371	48.621	4.296
HPLCSTDS805 #5	10.427	5.985	87.525	7.659
HPLCSTDS805 #5	10.424	6.062	87.579	7.758
HPLCSTDS805 #5	10.425	6.068	87.600	7.766
HPLCSTDS805 #6	10.427	7.187	104.610	9.206
HPLCSTDS805 #6	10.429	7.200	104.733	9.222
HPLCSTDS805 #6	10.424	7.181	104.564	9.197
HPLCSTDS805 #7	10.427	12.047	175.486	15.459
HPLCSTDS805 #7	10.447	12.045	175.939	15.457
HPLCSTDS805 #7	10.436	12.014	175.535	15.417



Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Formaldehyde	Formaldehyde	Formaldehyde	Formaldehyde
HPLCSTDS805 #1	2.706	0.3611	6.325	0.110
HPLCSTDS805 #1	2.703	0.3575	6.319	0.109
HPLCSTDS805 #1	2.702	0.3568	6.302	0.109
HPLCSTDS805 #2	2.706	1.8043	31.409	0.580
HPLCSTDS805 #2	2.705	1.8028	31.457	0.579
HPLCSTDS805 #2	2.702	1.8049	31.512	0.580
HPLCSTDS805 #3	2.702	5.3061	92.633	1.720
HPLCSTDS805 #3	2.703	5.3162	92.848	1.723
HPLCSTDS805 #3	2.703	5.2996	92.737	1.718
HPLCSTDS805 #4	2.702	13.1016	229.431	4.257
HPLCSTDS805 #4	2.706	13.1321	229.817	4.267
HPLCSTDS805 #4	2.703	13.1233	230.131	4.264
HPLCSTDS805 #5	2.703	23.7275	415.746	7.716
HPLCSTDS805 #5	2.703	23.6427	414.043	7.689
HPLCSTDS805 #5	2.706	23.6653	414.027	7.696
HPLCSTDS805 #6	2.706	28.1652	493.646	9.161
HPLCSTDS805 #6	2.703	28.1456	493.341	9.155
HPLCSTDS805 #6	2.705	28.1166	492.720	9.145
HPLCSTDS805 #7	2.706	47.0814	824.776	15.319
HPLCSTDS805 #7	2.706	47.1619	826.771	15.345
HPLCSTDS805 #7	2.706	47.0192	825.517	15.299



Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Formaldehyde	Formaldehyde	Formaldehyde	Formaldehyde
HPLCSTDS805 #1	2.706	0.3611	6.325	0.110
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HPLCSTDS805 #1	2.702	0.3568	6.302	0.109
HPLCSTDS805 #2	2.706	1.8043	31.409	0.580
HPLCSTDS805 #2	2.705	1.8028	31.457	0.579
HPLCSTDS805 #2	2.702	1.8049	31.512	0.580
HPLCSTDS805 #3	2.702	5.3061	92.633	1.720
HPLCSTDS805 #3	2.703	5.3162	92.848	1.723
HPLCSTDS805 #3	2.703	5.2996	92.737	1.718
HPLCSTDS805 #4	2.702	13.1016	229.431	4.257
HPLCSTDS805 #4	2.706	13.1321	229.817	4.267
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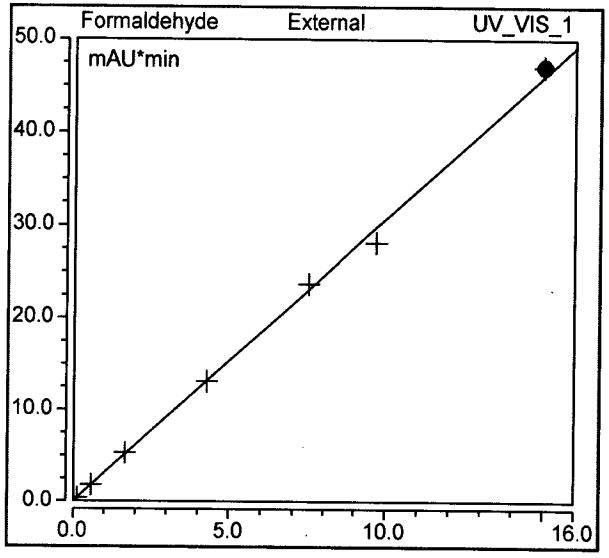
HPLCSTDS805 #6	2.705	28.1166	492.720	9.145
HPLCSTDS805 #7	2.706	47.0814	824.776	15.319
HPLCSTDS805 #7	2.706	47.1619	826.771	15.345
HPLCSTDS805 #7	2.706	47.0192	825.517	15.299



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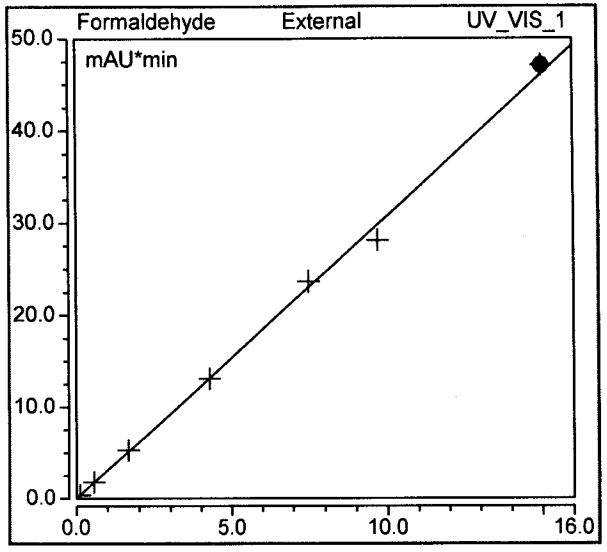
HPLCSTDS805 #7	2.706	47.0192	825.517	15.299



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	Formaldehyde	Formaldehyde	Formaldehyde	Formaldehyde
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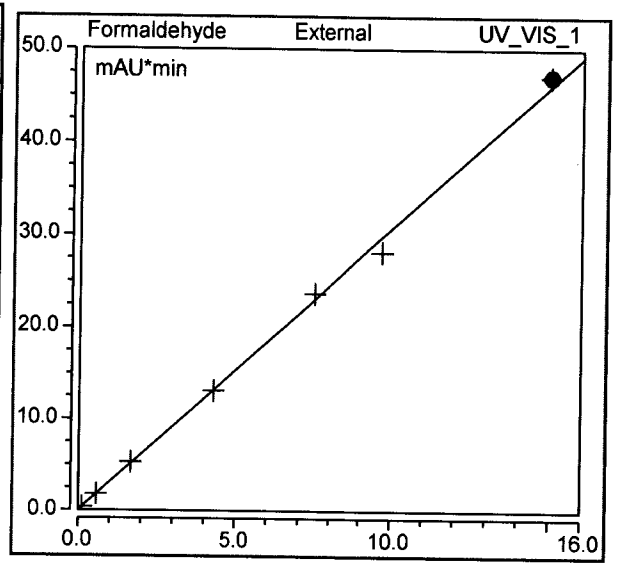

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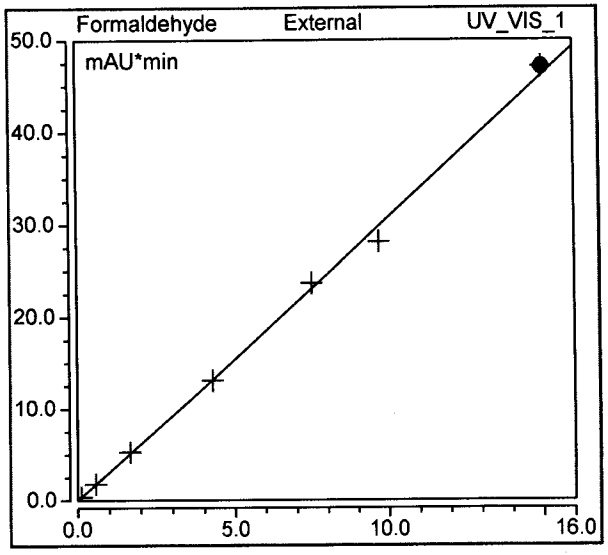

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	Formaldehyde	Formaldehyde	Formaldehyde	Formaldehyde
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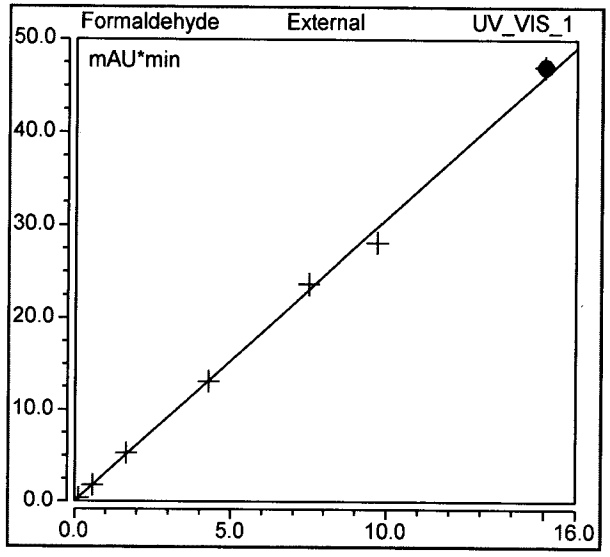

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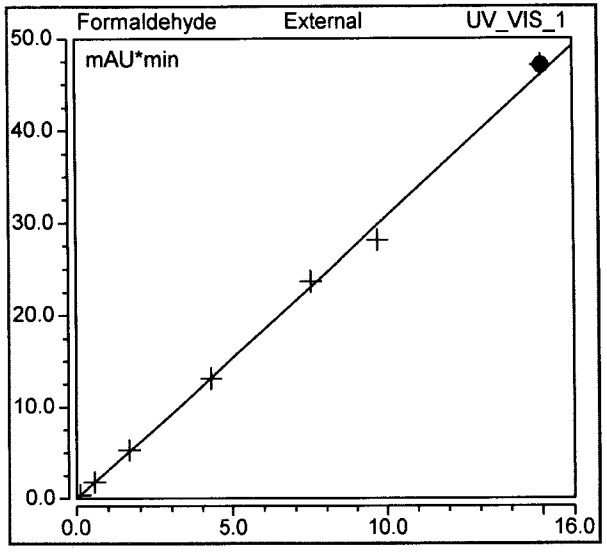

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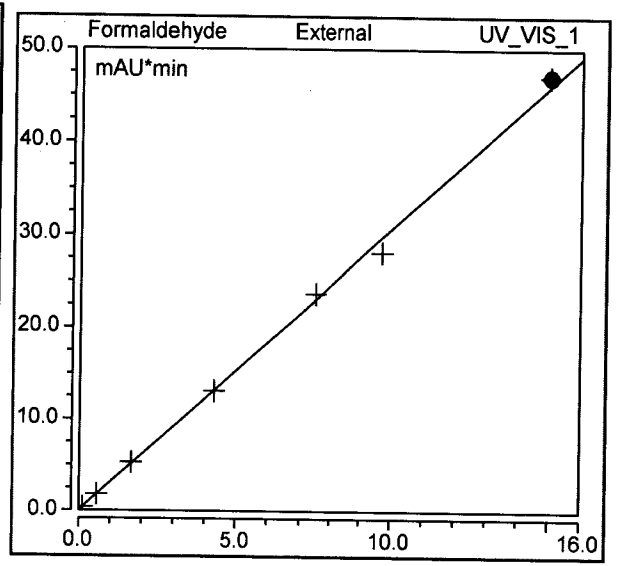

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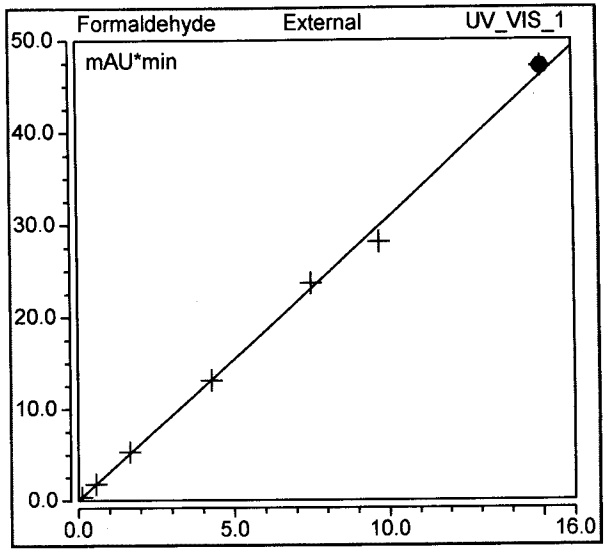

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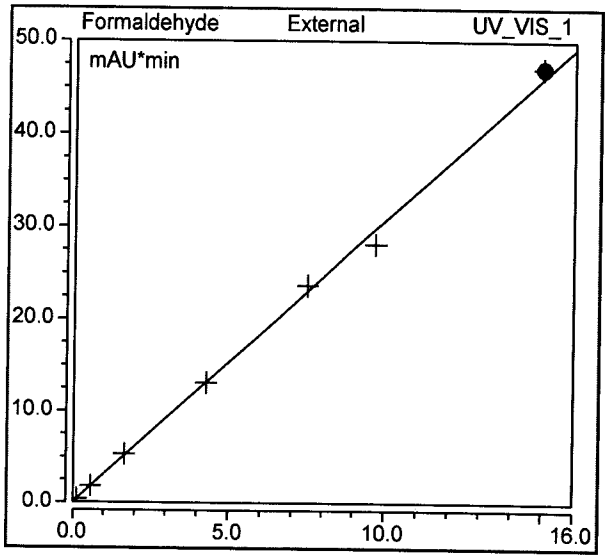

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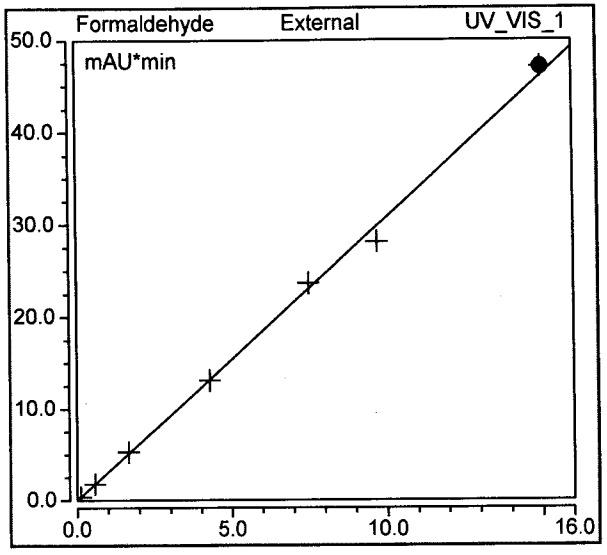
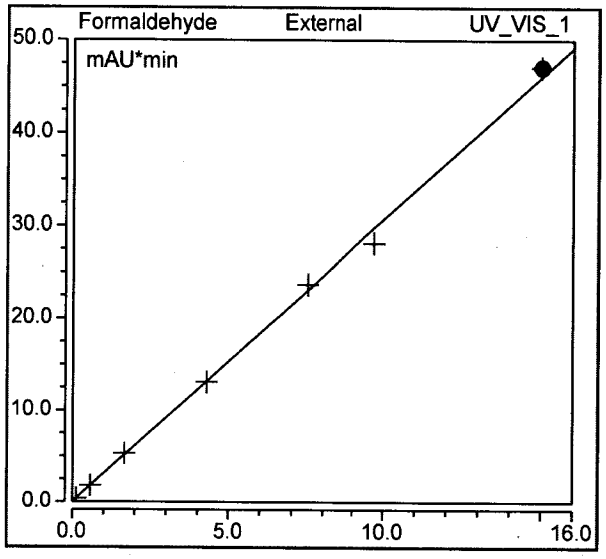
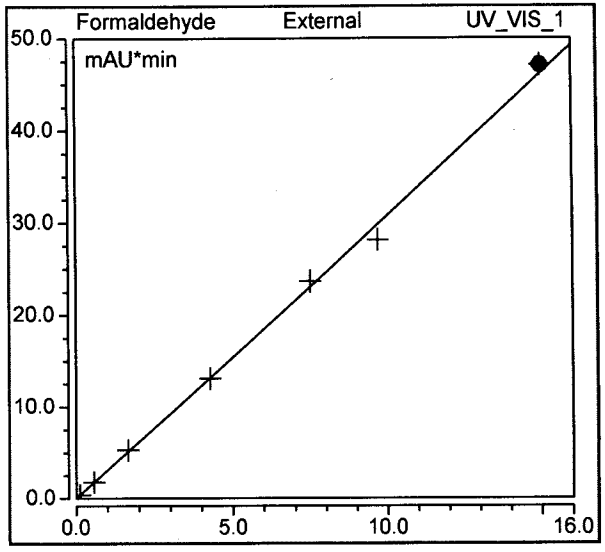
HPLCSTDS805 #7	2.706	47.1619	826.771	15.345
HPLCSTDS805 #7	2.706	47.0192	825.517	15.299



Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Formaldehyde	Formaldehyde	Formaldehyde	Formaldehyde
HPLCSTDS805 #1	2.706	0.3611	6.325	0.110
HPLCSTDS805 #1	2.703	0.3575	6.319	0.109
HPLCSTDS805 #1	2.702	0.3568	6.302	0.109
HPLCSTDS805 #2	2.706	1.8043	31.409	0.580
HPLCSTDS805 #2	2.705	1.8028	31.457	0.579
HPLCSTDS805 #2	2.702	1.8049	31.512	0.580
HPLCSTDS805 #3	2.702	5.3061	92.633	1.720
HPLCSTDS805 #3	2.703	5.3162	92.848	1.723
HPLCSTDS805 #3	2.703	5.2996	92.737	1.718
HPLCSTDS805 #4	2.702	13.1016	229.431	4.257
HPLCSTDS805 #4	2.706	13.1321	229.817	4.267
HPLCSTDS805 #4	2.703	13.1233	230.131	4.264
HPLCSTDS805 #5	2.703	23.7275	415.746	7.716
HPLCSTDS805 #5	2.703	23.6427	414.043	7.689
HPLCSTDS805 #5	2.706	23.6653	414.027	7.696
HPLCSTDS805 #6	2.706	28.1652	493.646	9.161
HPLCSTDS805 #6	2.703	28.1456	493.341	9.155
HPLCSTDS805 #6	2.705	28.1166	492.720	9.145
HPLCSTDS805 #7	2.706	47.0814	824.776	15.319
HPLCSTDS805 #7	2.706	47.1619	826.771	15.345
HPLCSTDS805 #7	2.706	47.0192	825.517	15.299

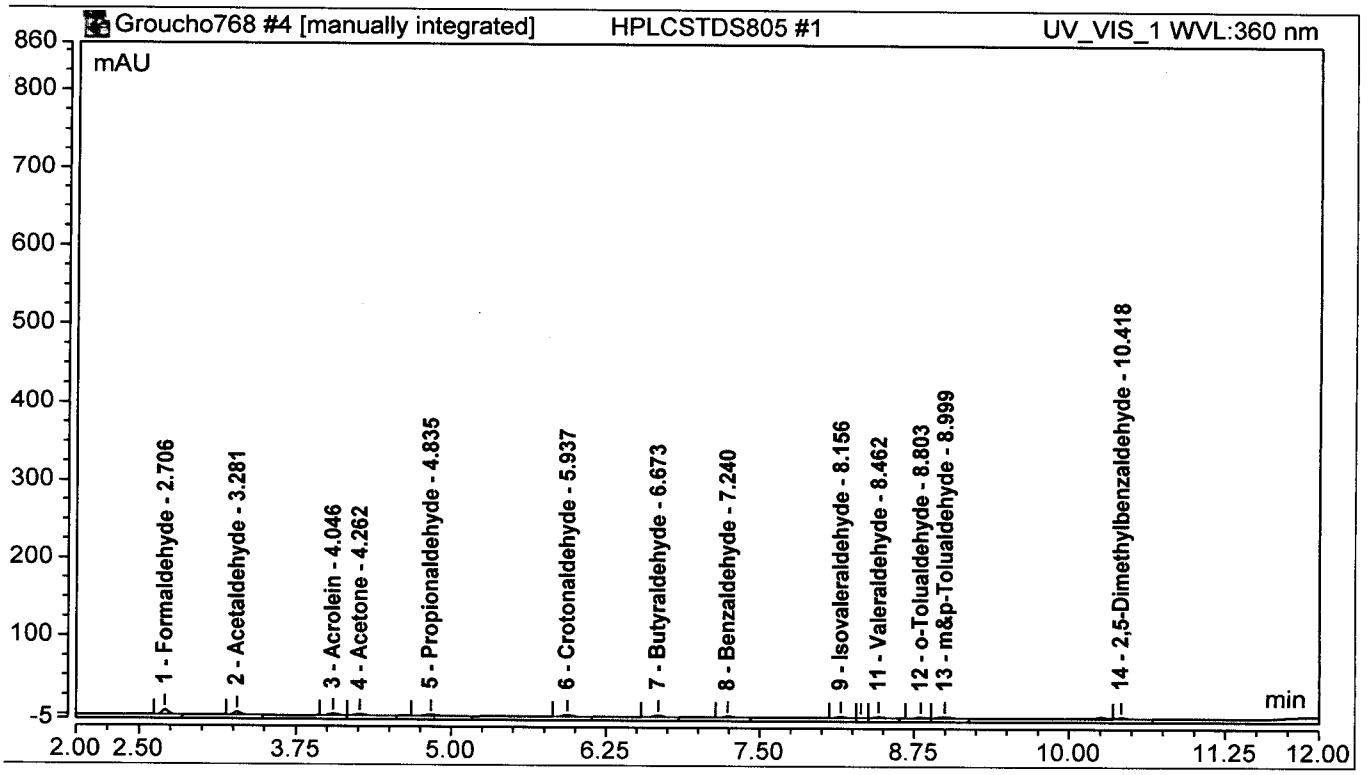


Injection Name	Ret.Time min UV_VIS_1	Area mAU*min UV_VIS_1	Height mAU UV_VIS_1	Amount UV_VIS_1
	Formaldehyde	Formaldehyde	Formaldehyde	Formaldehyde
HPLCSTDS805 #1	2.706	0.3611	6.325	0.110
HPLCSTDS805 #1	2.703	0.3575	6.319	0.109
HPLCSTDS805 #1	2.702	0.3568	6.302	0.109
HPLCSTDS805 #2	2.706	1.8043	31.409	0.580
HPLCSTDS805 #2	2.705	1.8028	31.457	0.579
HPLCSTDS805 #2	2.702	1.8049	31.512	0.580
HPLCSTDS805 #3	2.702	5.3061	92.633	1.720
HPLCSTDS805 #3	2.703	5.3162	92.848	1.723
HPLCSTDS805 #3	2.703	5.2996	92.737	1.718
HPLCSTDS805 #4	2.702	13.1016	229.431	4.257
HPLCSTDS805 #4	2.706	13.1321	229.817	4.267
HPLCSTDS805 #4	2.703	13.1233	230.131	4.264
HPLCSTDS805 #5	2.703	23.7275	415.746	7.716
HPLCSTDS805 #5	2.703	23.6427	414.043	7.689
HPLCSTDS805 #5	2.706	23.6653	414.027	7.696
HPLCSTDS805 #6	2.706	28.1652	493.646	9.161
HPLCSTDS805 #6	2.703	28.1456	493.341	9.155
HPLCSTDS805 #6	2.705	28.1166	492.720	9.145
HPLCSTDS805 #7	2.706	47.0814	824.776	15.319
HPLCSTDS805 #7	2.706	47.1619	826.771	15.345
HPLCSTDS805 #7	2.706	47.0192	825.517	15.299



Peak Analysis Report

Sample Name:	**HPLCSTDS805 #1**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 15:40**	*Run Time:*	**14.00**

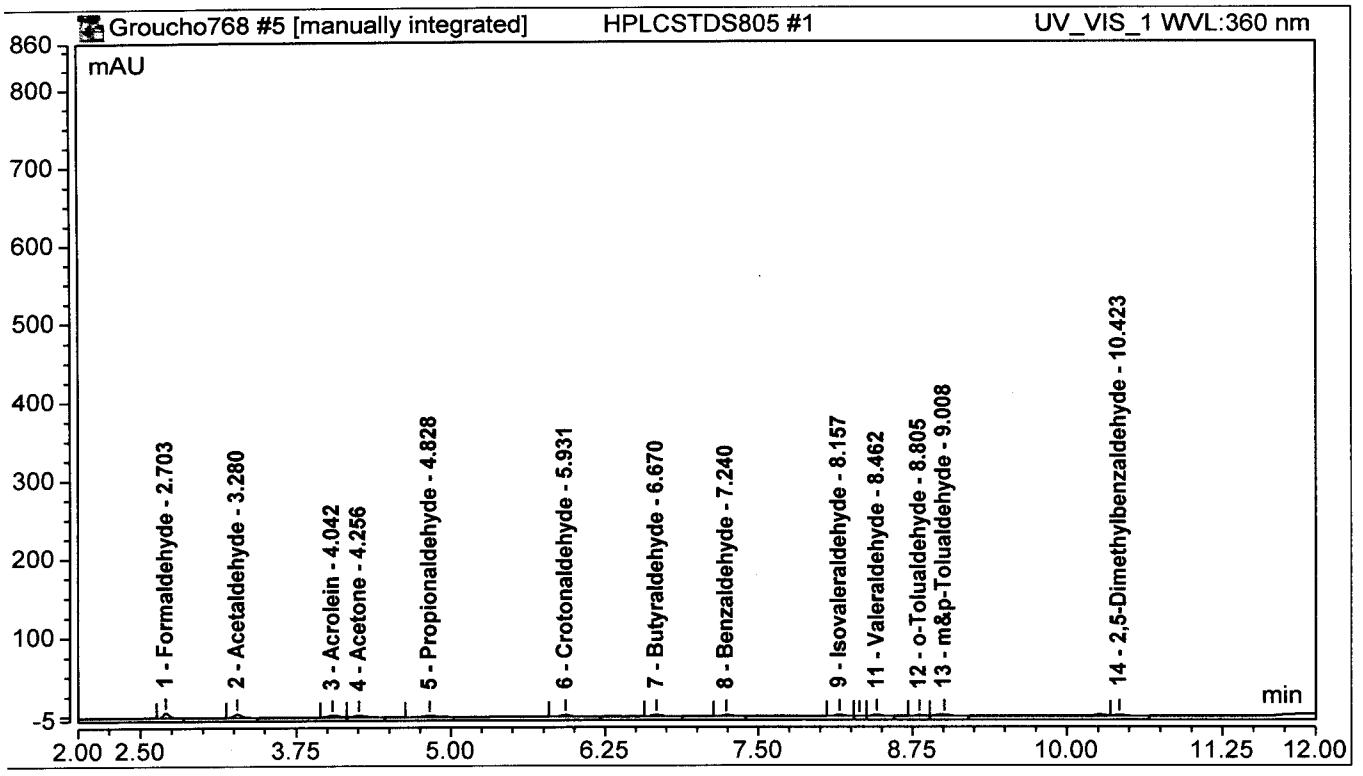


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.71	Formaldehyde	0.361	6.325	0.110
2	3.28	Acetaldehyde	0.278	4.363	0.110
3	4.05	Acrolein	0.225	2.428	0.109
4	4.26	Acetone	0.209	1.879	0.111
5	4.84	Propionaldehyde	0.206	1.552	0.111
6	5.94	Crotonaldehyde	0.188	2.177	0.113
7	6.67	Butyraldehyde	0.169	2.051	0.110
8	7.24	Benzaldehyde	0.125	1.522	0.111
9	8.16	Isovaleraldehyde	0.143	1.779	0.113
11	8.46	Valeraldehyde	0.138	1.701	0.115
12	8.80	o-Tolualdehyde	0.105	1.317	0.113
13	9.00	m&p-Tolualdehyde	0.213	1.682	0.221
14	10.42	2,5-Dimethylbenzaldehyde	0.120	1.475	0.112

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #1**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 15:55**	*Run Time:*	**14.00**

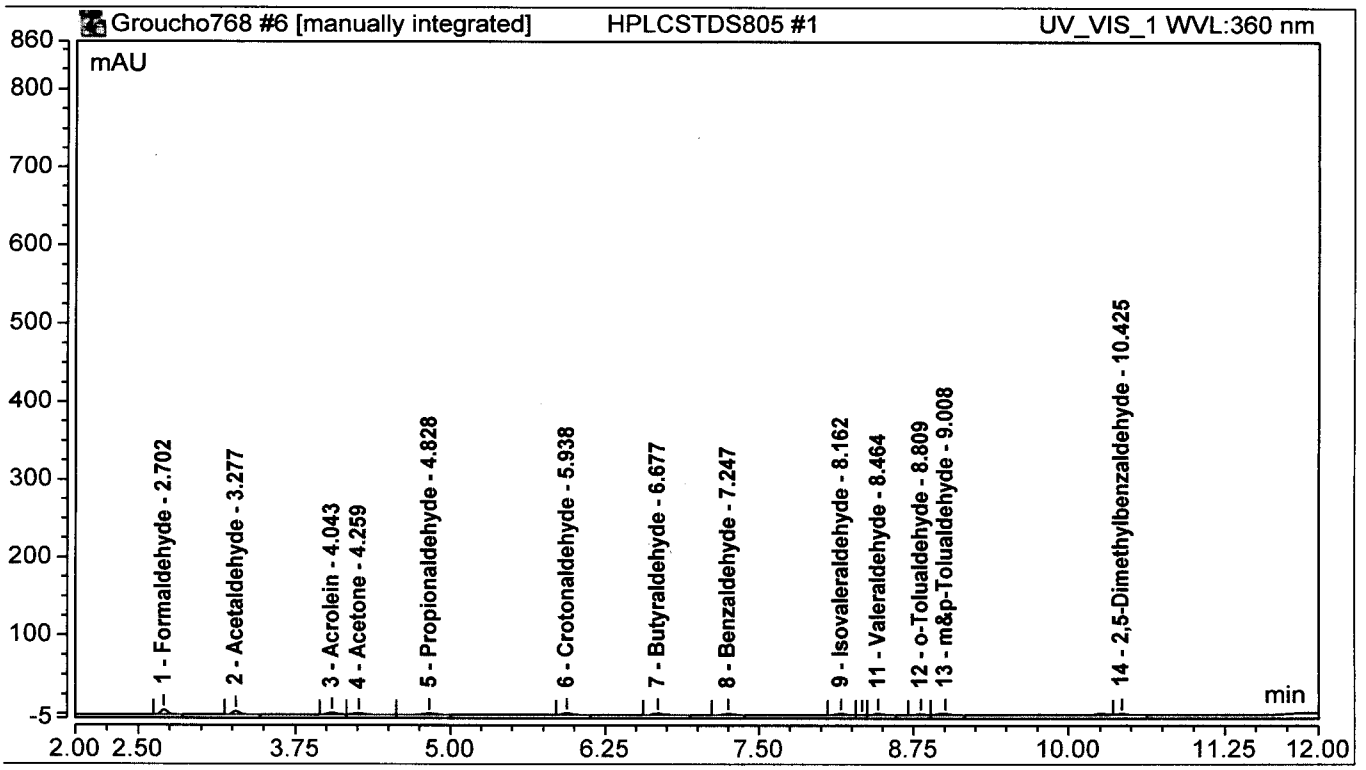


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	0.358	6.319	0.109
2	3.28	Acetaldehyde	0.274	4.337	0.109
3	4.04	Acrolein	0.219	2.428	0.106
4	4.26	Acetone	0.200	1.861	0.106
5	4.83	Propionaldehyde	0.199	1.554	0.107
6	5.93	Crotonaldehyde	0.186	2.180	0.111
7	6.67	Butyraldehyde	0.168	2.050	0.109
8	7.24	Benzaldehyde	0.123	1.496	0.109
9	8.16	Isovaleraldehyde	0.141	1.781	0.111
11	8.46	Valeraldehyde	0.132	1.660	0.110
12	8.81	o-Tolualdehyde	0.102	1.306	0.109
13	9.01	m&p-Tolualdehyde	0.211	1.674	0.219
14	10.42	2,5-Dimethylbenzaldehyde	0.124	1.480	0.117

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #1**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 16:11**	*Run Time:*	**14.00**

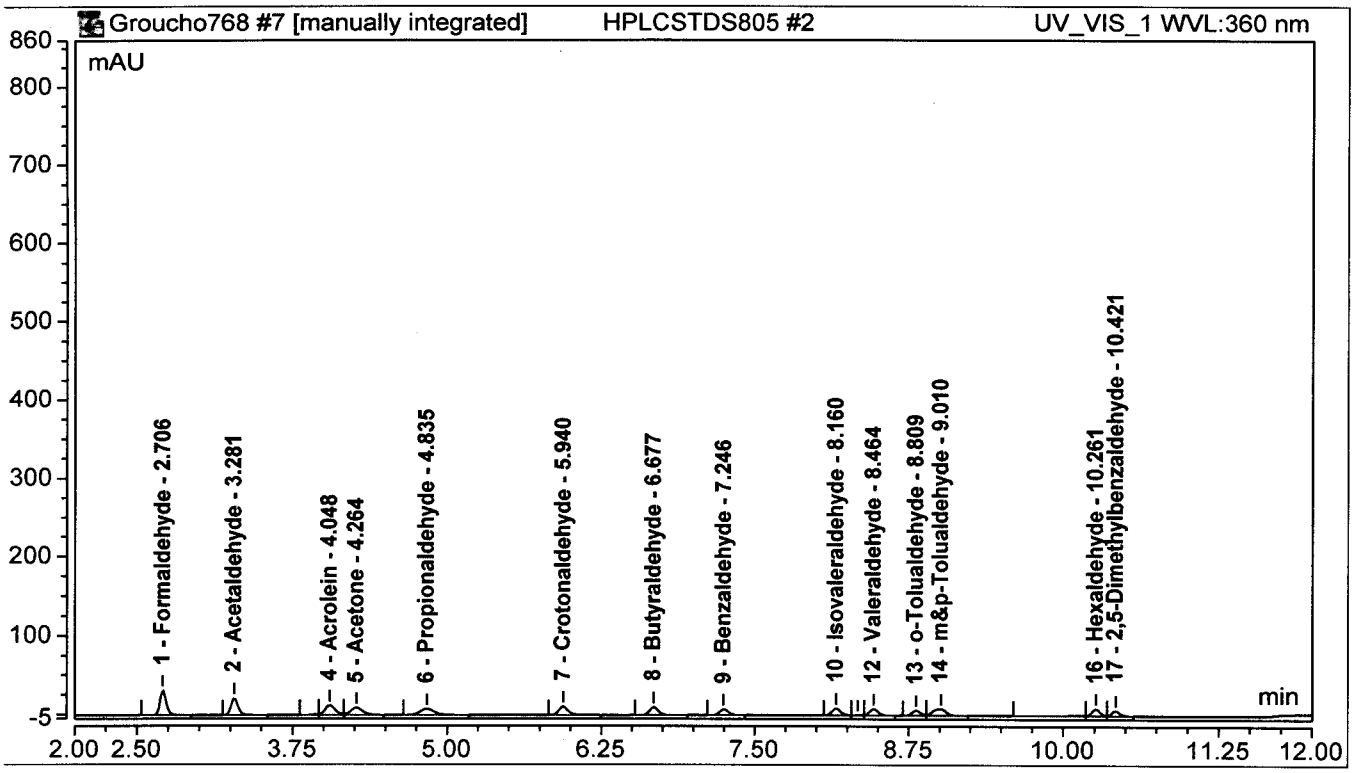


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	0.357	6.302	0.109
2	3.28	Acetaldehyde	0.276	4.340	0.109
3	4.04	Acrolein	0.223	2.434	0.108
4	4.26	Acetone	0.207	1.862	0.110
5	4.83	Propionaldehyde	0.200	1.559	0.108
6	5.94	Crotonaldehyde	0.178	2.152	0.106
7	6.68	Butyraldehyde	0.172	2.055	0.112
8	7.25	Benzaldehyde	0.121	1.500	0.108
9	8.16	Isovaleraldehyde	0.140	1.763	0.110
11	8.46	Valeraldehyde	0.134	1.677	0.111
12	8.81	o-Tolualdehyde	0.104	1.313	0.111
13	9.01	m&p-Tolualdehyde	0.210	1.668	0.218
14	10.42	2,5-Dimethylbenzaldehyde	0.116	1.462	0.107

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #2**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 16:27**	*Run Time:*	**14.00**

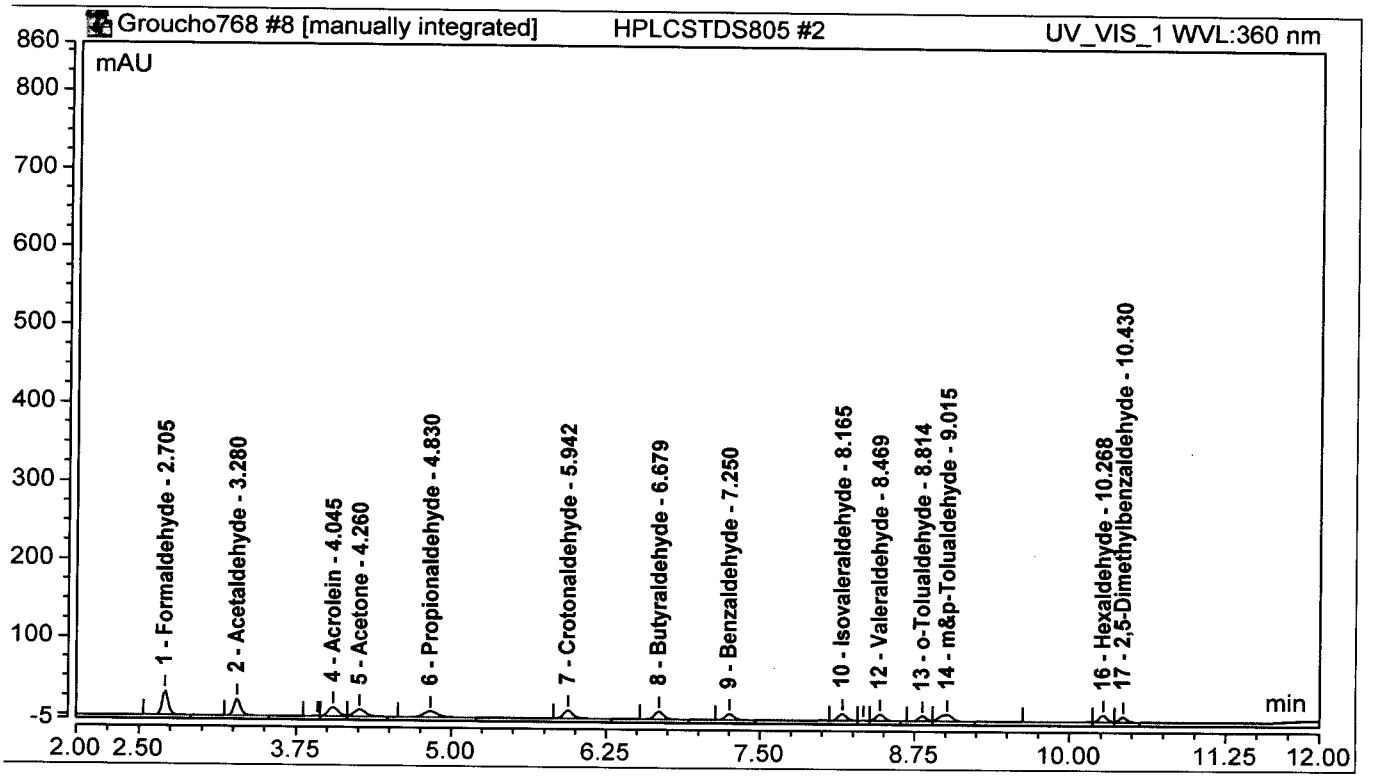


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.71	Formaldehyde	1.804	31.409	0.580
2	3.28	Acetaldehyde	1.372	21.545	0.578
4	4.05	Acrolein	1.170	12.349	0.581
5	4.26	Acetone	1.012	9.274	0.574
6	4.84	Propionaldehyde	0.996	7.725	0.581
7	5.94	Crotonaldehyde	0.906	10.768	0.578
8	6.68	Butyraldehyde	0.837	10.185	0.575
9	7.25	Benzaldehyde	0.609	7.532	0.575
10	8.16	Isovaleraldehyde	0.707	8.830	0.575
12	8.46	Valeraldehyde	0.676	8.327	0.577
13	8.81	o-Tolualdehyde	0.505	6.464	0.572
14	9.01	m&p-Tolualdehyde	1.039	8.288	1.153
16	10.26	Hexaldehyde	0.650	8.874	0.565
17	10.42	2,5-Dimethylbenzaldehyde	0.469	6.670	0.562

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #2**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 16:42**	*Run Time:*	**14.00**

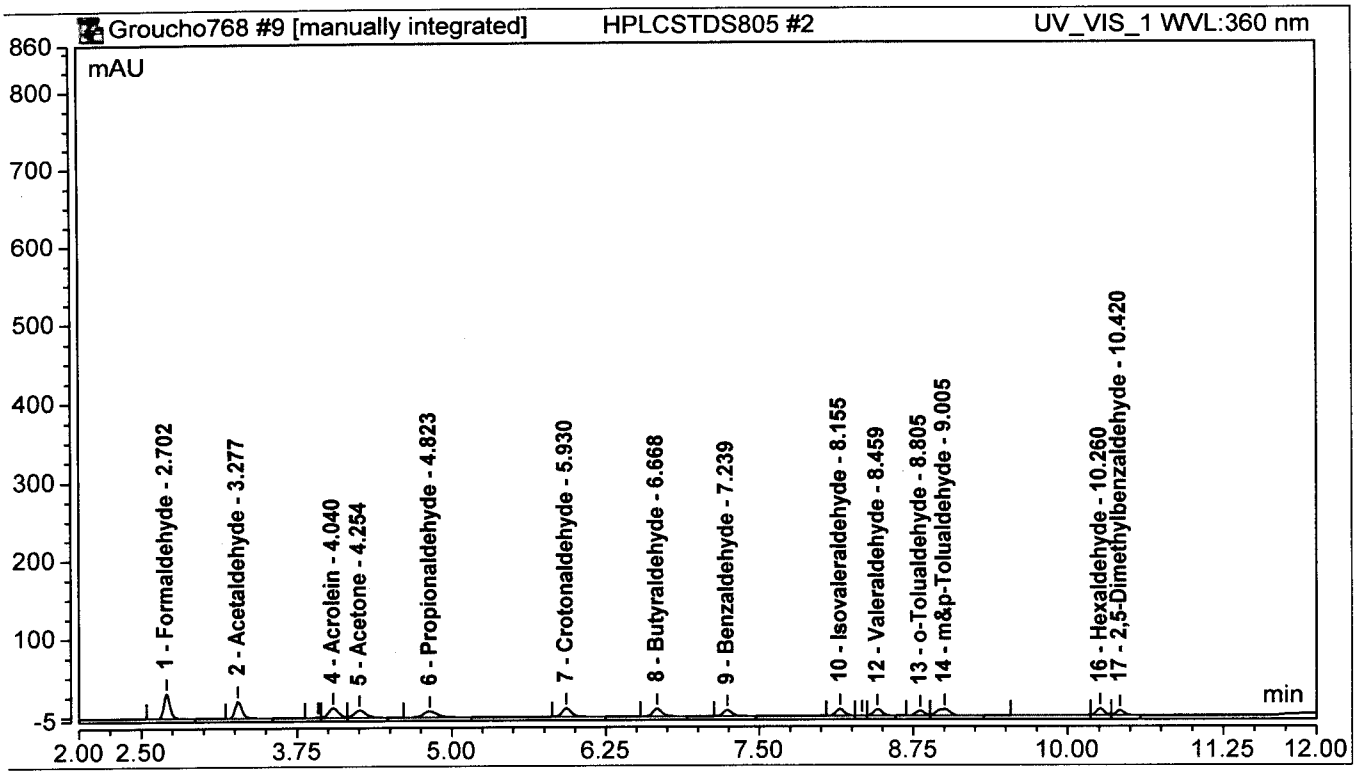


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	1.803	31.457	0.579
2	3.28	Acetaldehyde	1.372	21.587	0.578
4	4.05	Acrolein	1.183	12.425	0.587
5	4.26	Acetone	1.013	9.309	0.574
6	4.83	Propionaldehyde	1.001	7.753	0.584
7	5.94	Crotonaldehyde	0.908	10.811	0.579
8	6.68	Butyraldehyde	0.837	10.206	0.575
9	7.25	Benzaldehyde	0.613	7.559	0.579
10	8.16	Isovaleraldehyde	0.710	8.855	0.578
12	8.47	Valeraldehyde	0.674	8.334	0.575
13	8.81	o-Tolualdehyde	0.510	6.518	0.578
14	9.02	m&p-Tolualdehyde	1.040	8.273	1.154
16	10.27	Hexaldehyde	0.652	8.924	0.567
17	10.43	2,5-Dimethylbenzaldehyde	0.469	6.698	0.561

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #2**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 16:58**	*Run Time:*	**14.00**

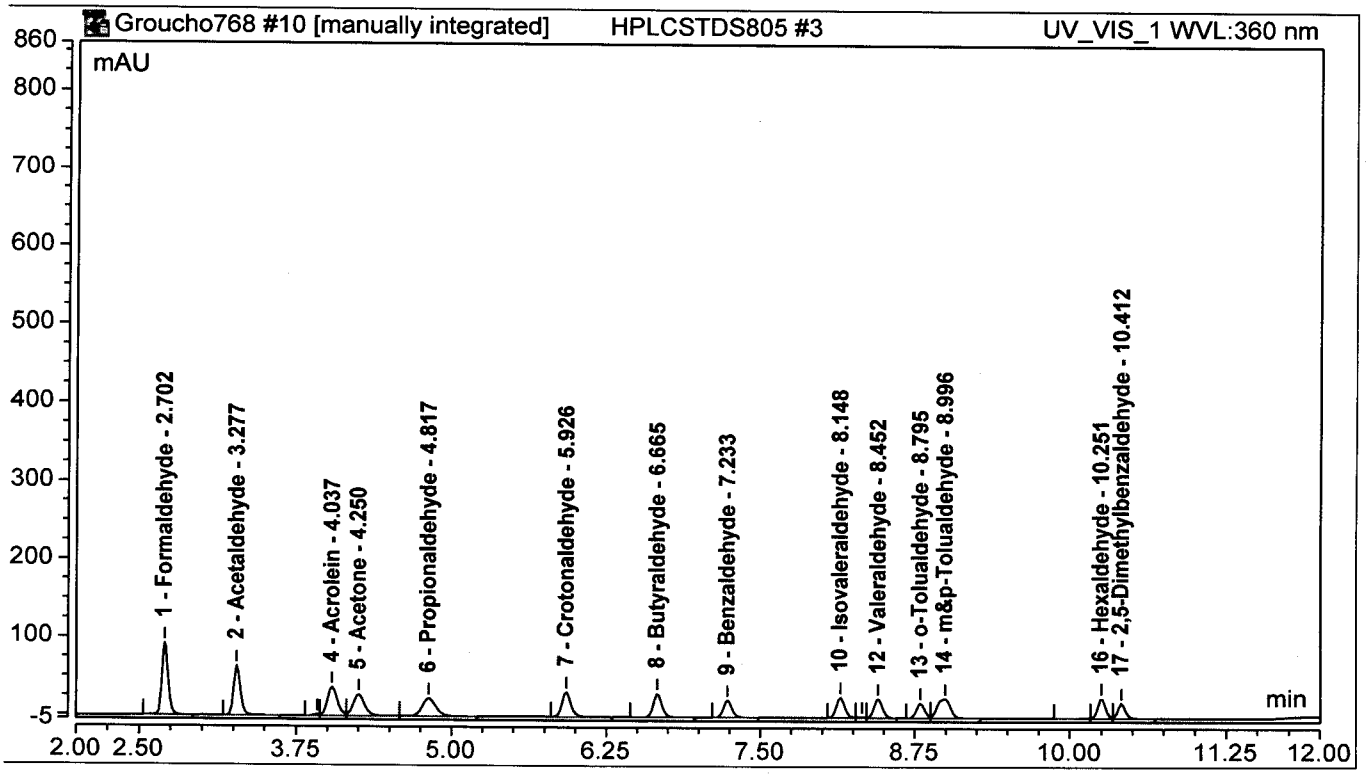


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	1.805	31.512	0.580
2	3.28	Acetaldehyde	1.371	21.618	0.577
4	4.04	Acrolein	1.176	12.488	0.584
5	4.25	Acetone	1.013	9.336	0.574
6	4.82	Propionaldehyde	1.001	7.766	0.584
7	5.93	Crotonaldehyde	0.904	10.787	0.577
8	6.67	Butyraldehyde	0.840	10.209	0.577
9	7.24	Benzaldehyde	0.616	7.582	0.582
10	8.15	Isovaleraldehyde	0.708	8.852	0.577
12	8.46	Valeraldehyde	0.673	8.332	0.574
13	8.81	o-Tolualdehyde	0.505	6.492	0.572
14	9.01	m&p-Tolualdehyde	1.039	8.255	1.153
16	10.26	Hexaldehyde	0.656	8.955	0.571
17	10.42	2,5-Dimethylbenzaldehyde	0.478	6.743	0.572

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #3**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 17:14**	*Run Time:*	**14.00**

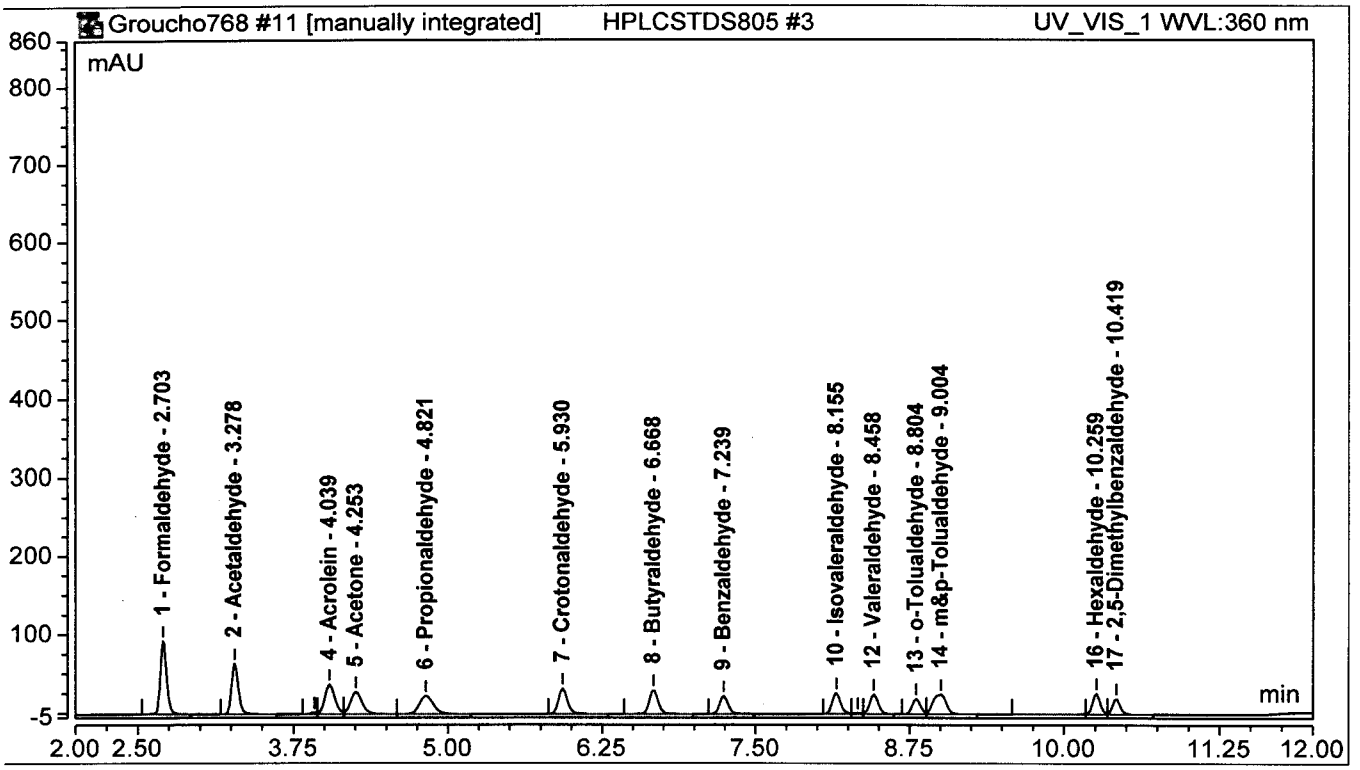


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	5.306	92.633	1.720
2	3.28	Acetaldehyde	4.044	63.538	1.719
4	4.04	Acrolein	3.475	37.070	1.731
5	4.25	Acetone	3.044	27.702	1.746
6	4.82	Propionaldehyde	2.969	22.948	1.753
7	5.93	Crotonaldehyde	2.665	31.692	1.717
8	6.66	Butyraldehyde	2.480	30.162	1.719
9	7.23	Benzaldehyde	1.804	22.247	1.719
10	8.15	Isovaleraldehyde	2.085	26.056	1.706
12	8.45	Valeraldehyde	1.980	24.483	1.697
13	8.80	o-Tolualdehyde	1.497	19.126	1.712
14	9.00	m&p-Tolualdehyde	3.067	24.492	3.442
16	10.25	Hexaldehyde	1.862	25.808	1.715
17	10.41	2,5-Dimethylbenzaldehyde	1.387	19.625	1.743

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #3**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 17:30**	*Run Time:*	**14.00**

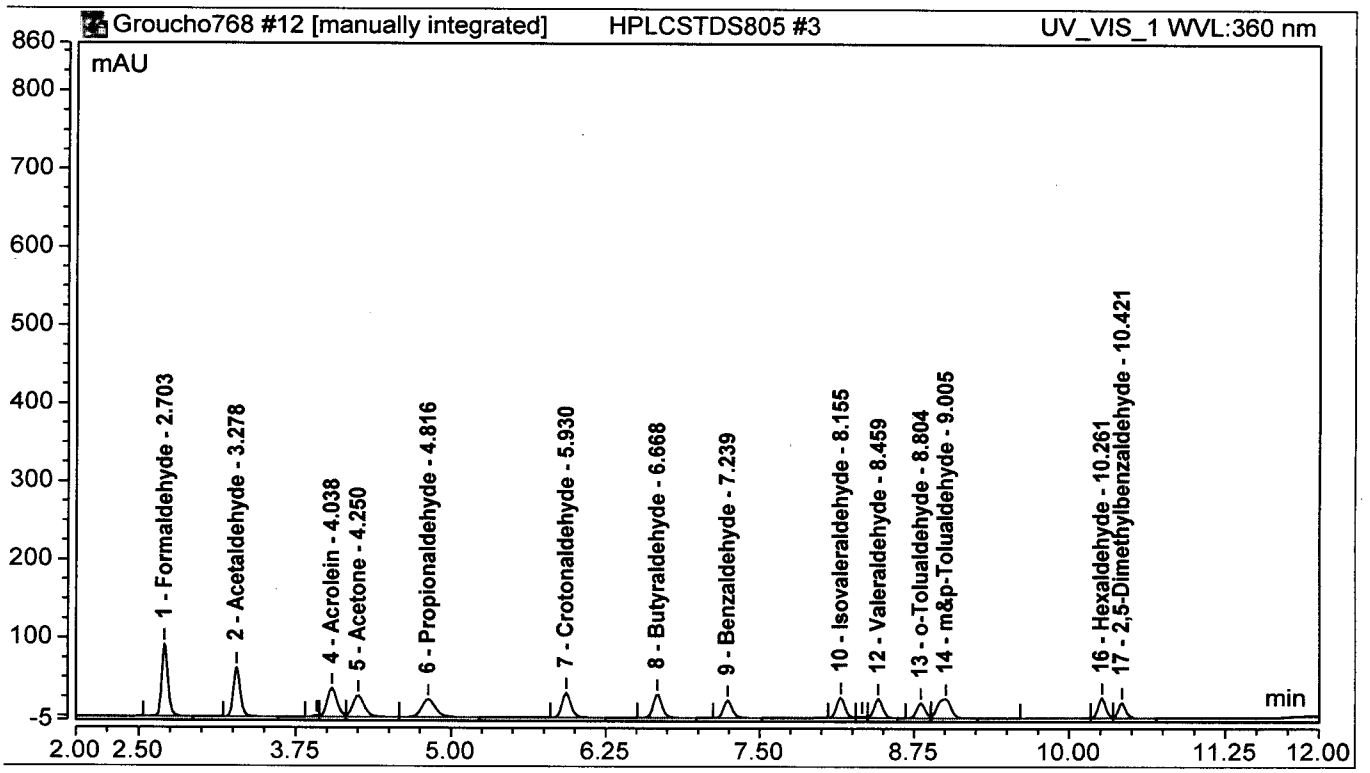


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	5.316	92.848	1.723
2	3.28	Acetaldehyde	4.049	63.709	1.721
4	4.04	Acrolein	3.475	37.000	1.732
5	4.25	Acetone	3.041	27.681	1.744
6	4.82	Propionaldehyde	2.963	22.936	1.749
7	5.93	Crotonaldehyde	2.668	31.806	1.719
8	6.67	Butyraldehyde	2.482	30.068	1.720
9	7.24	Benzaldehyde	1.808	22.308	1.723
10	8.15	Isovaleraldehyde	2.084	26.077	1.706
12	8.46	Valeraldehyde	1.981	24.520	1.698
13	8.80	o-Tolualdehyde	1.499	19.163	1.714
14	9.00	m&p-Tolualdehyde	3.070	24.459	3.445
16	10.26	Hexaldehyde	1.875	25.963	1.727
17	10.42	2,5-Dimethylbenzaldehyde	1.396	19.713	1.754

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #3**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 17:45**	*Run Time:*	**14.00**

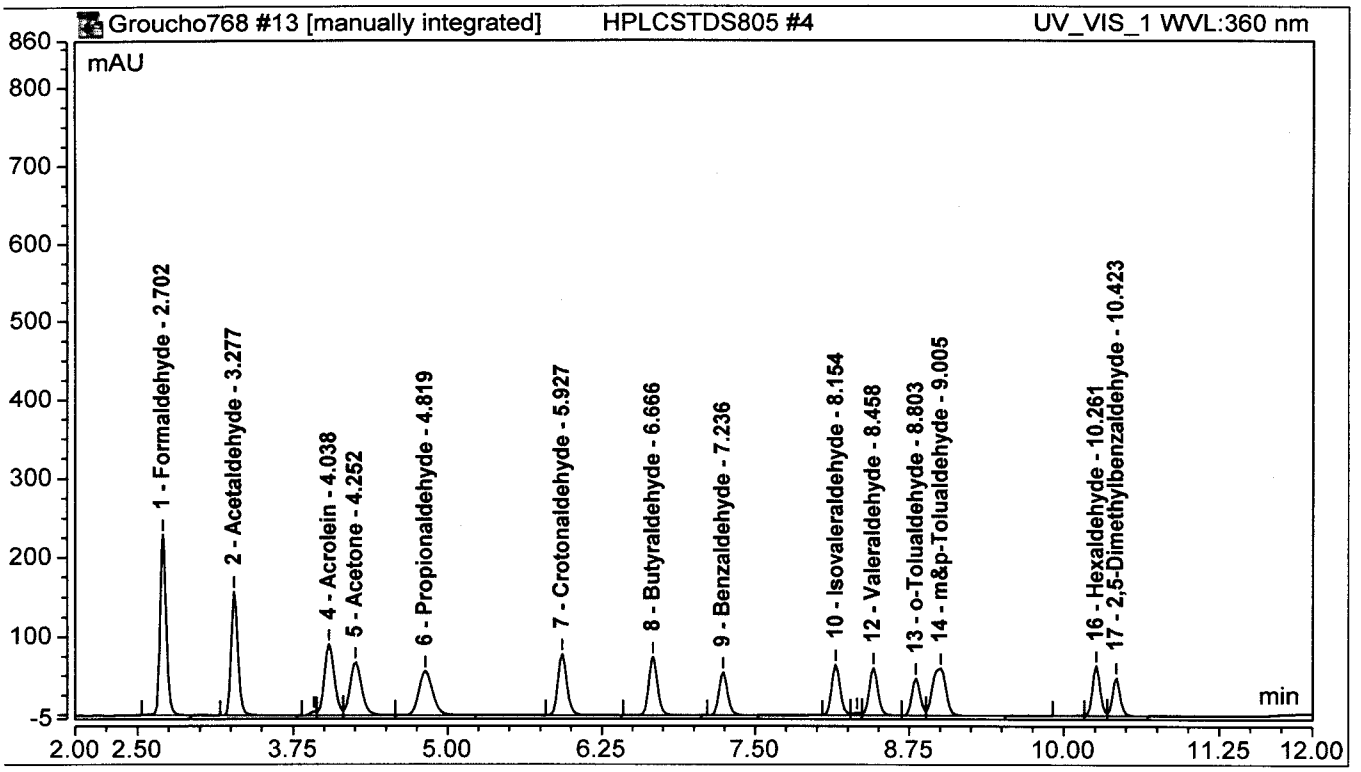


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	5.300	92.737	1.718
2	3.28	Acetaldehyde	4.029	63.532	1.713
4	4.04	Acrolein	3.468	37.252	1.728
5	4.25	Acetone	3.033	27.751	1.739
6	4.82	Propionaldehyde	2.959	22.892	1.747
7	5.93	Crotonaldehyde	2.654	31.690	1.710
8	6.67	Butyraldehyde	2.460	30.024	1.705
9	7.24	Benzaldehyde	1.805	22.278	1.720
10	8.15	Isovaleraldehyde	2.078	26.039	1.700
12	8.46	Valeraldehyde	1.975	24.513	1.692
13	8.80	o-Tolualdehyde	1.492	19.135	1.706
14	9.01	m&p-Tolualdehyde	3.053	24.309	3.426
16	10.26	Hexaldehyde	1.869	25.924	1.721
17	10.42	2,5-Dimethylbenzaldehyde	1.393	19.675	1.751

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #4**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 18:01**	*Run Time:*	**14.00**

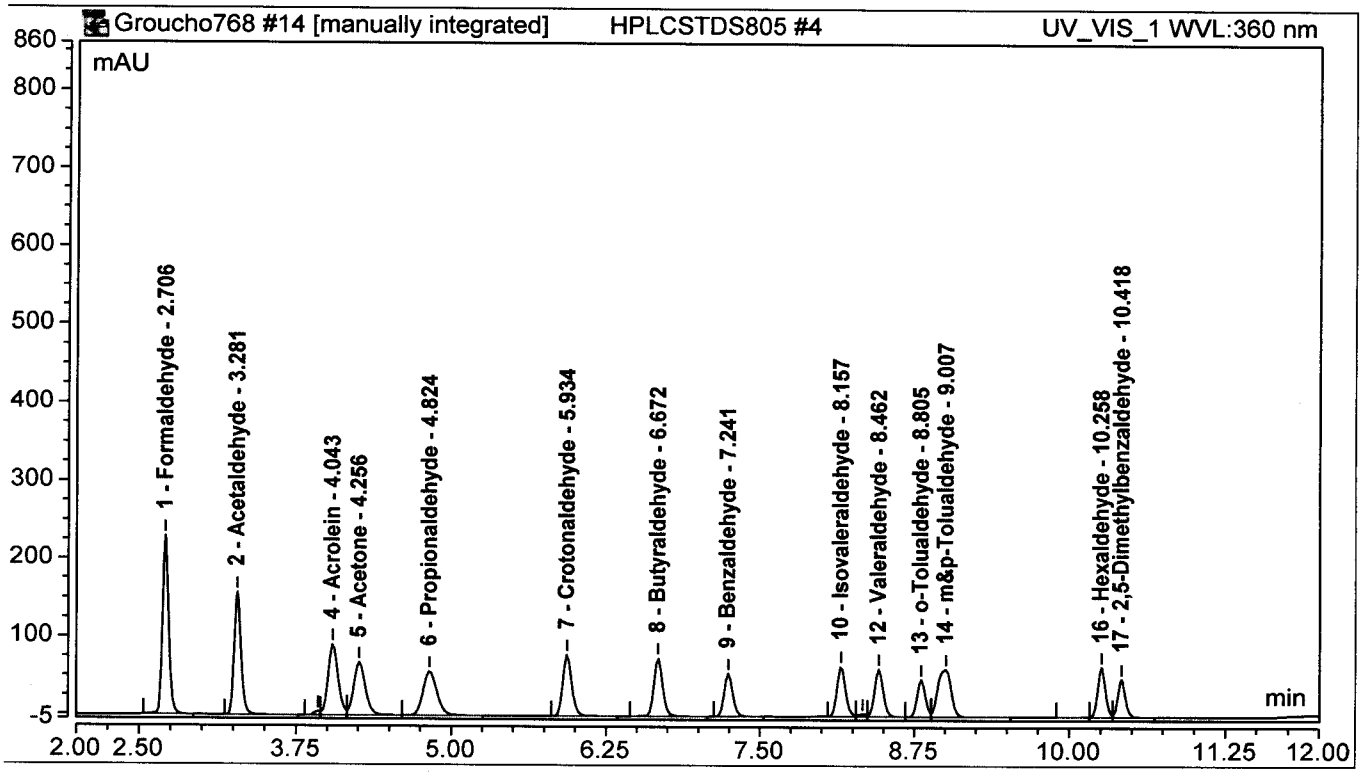


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	13.102	229.431	4.257
2	3.28	Acetaldehyde	10.011	157.496	4.268
4	4.04	Acrolein	8.551	91.434	4.265
5	4.25	Acetone	7.425	68.313	4.272
6	4.82	Propionaldehyde	7.258	56.600	4.301
7	5.93	Crotonaldehyde	6.585	78.723	4.257
8	6.67	Butyraldehyde	6.125	74.481	4.256
9	7.24	Benzaldehyde	4.458	55.199	4.260
10	8.15	Isovaleraldehyde	5.142	64.493	4.214
12	8.46	Valeraldehyde	4.927	60.757	4.228
13	8.80	o-Tolualdehyde	3.699	47.400	4.242
14	9.01	m&p-Tolualdehyde	7.585	60.440	8.541
16	10.26	Hexaldehyde	4.540	63.723	4.256
17	10.42	2,5-Dimethylbenzaldehyde	3.371	48.469	4.295

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #4**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 18:17**	*Run Time:*	**14.00**

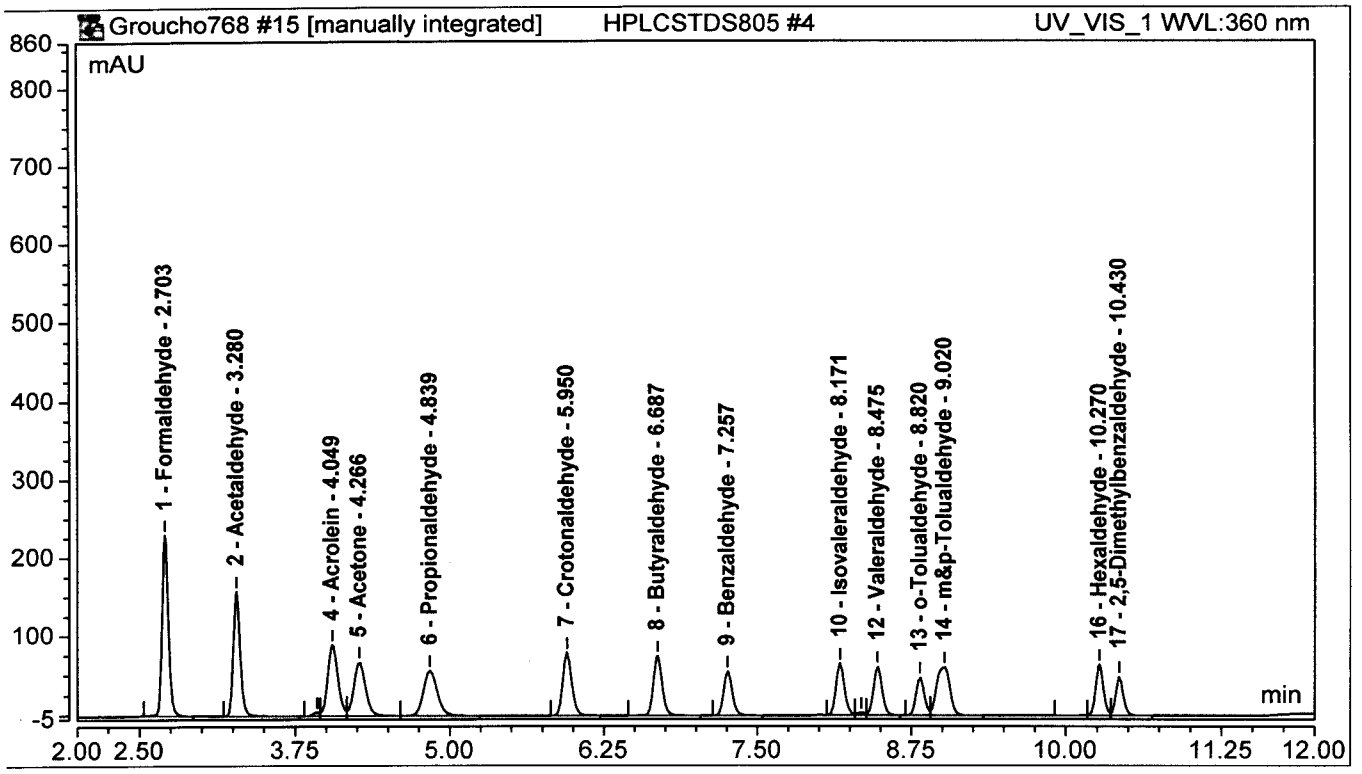


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.71	Formaldehyde	13.132	229.817	4.267
2	3.28	Acetaldehyde	10.029	157.572	4.276
4	4.04	Acrolein	8.569	91.663	4.274
5	4.26	Acetone	7.438	68.432	4.279
6	4.82	Propionaldehyde	7.269	56.651	4.307
7	5.93	Crotonaldehyde	6.587	78.718	4.258
8	6.67	Butyraldehyde	6.136	74.615	4.264
9	7.24	Benzaldehyde	4.465	55.244	4.267
10	8.16	Isovaleraldehyde	5.152	64.546	4.223
12	8.46	Valeraldehyde	4.943	60.870	4.242
13	8.81	o-Tolualdehyde	3.704	47.491	4.248
14	9.01	m&p-Tolualdehyde	7.599	60.747	8.557
16	10.26	Hexaldehyde	4.550	63.817	4.265
17	10.42	2,5-Dimethylbenzaldehyde	3.378	48.533	4.305

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #4**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 18:32**	*Run Time:*	**14.00**

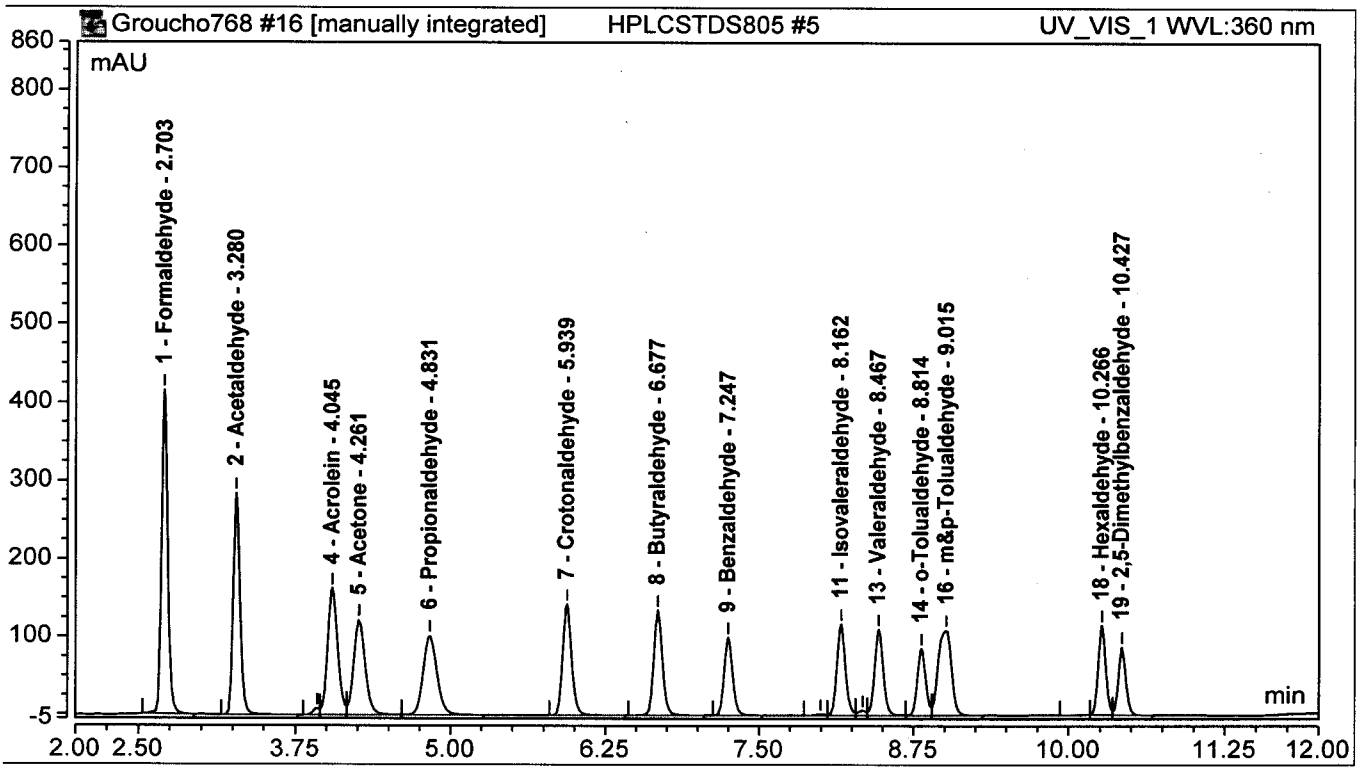


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	13.123	230.131	4.264
2	3.28	Acetaldehyde	10.028	157.811	4.275
4	4.05	Acrolein	8.543	89.440	4.261
5	4.27	Acetone	7.422	67.568	4.270
6	4.84	Propionaldehyde	7.256	56.589	4.300
7	5.95	Crotonaldehyde	6.565	78.922	4.244
8	6.69	Butyraldehyde	6.134	74.772	4.263
9	7.26	Benzaldehyde	4.457	55.326	4.259
10	8.17	Isovaleraldehyde	5.145	64.819	4.217
12	8.48	Valeraldehyde	4.930	61.020	4.231
13	8.82	o-Tolualdehyde	3.709	47.611	4.254
14	9.02	m&p-Tolualdehyde	7.576	60.615	8.531
16	10.27	Hexaldehyde	4.545	63.983	4.261
17	10.43	2,5-Dimethylbenzaldehyde	3.371	48.621	4.296

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #5**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 18:48**	*Run Time:*	**14.00**

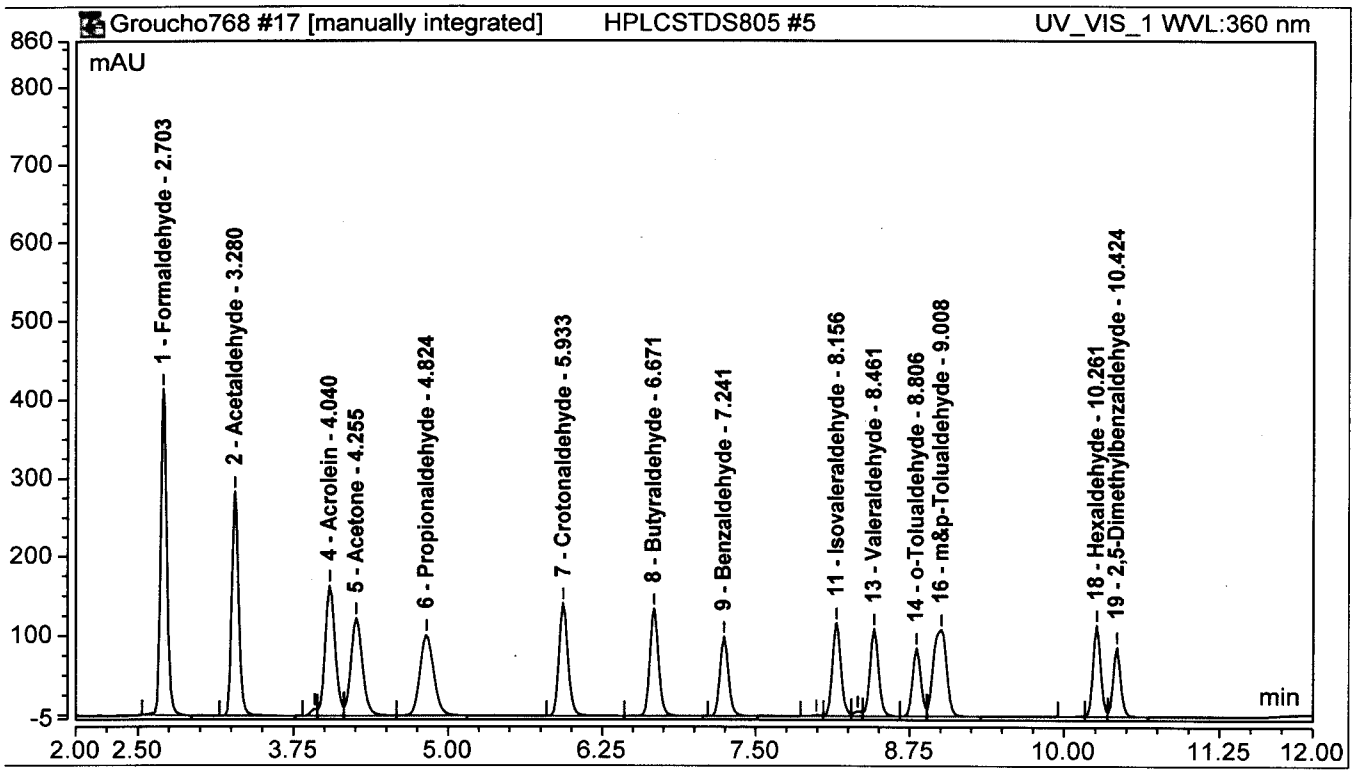


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	23.728	415.746	7.716
2	3.28	Acetaldehyde	18.084	285.237	7.716
4	4.05	Acrolein	15.442	163.217	7.705
5	4.26	Acetone	13.399	122.704	7.716
6	4.83	Propionaldehyde	13.101	102.323	7.772
7	5.94	Crotonaldehyde	11.912	142.545	7.708
8	6.68	Butyraldehyde	11.087	135.075	7.711
9	7.25	Benzaldehyde	8.058	100.086	7.707
11	8.16	Isovaleraldehyde	9.425	117.445	7.728
13	8.47	Valeraldehyde	9.004	110.492	7.731
14	8.81	o-Tolualdehyde	6.727	86.077	7.722
16	9.02	m&p-Tolualdehyde	13.677	109.722	15.417
18	10.27	Hexaldehyde	8.024	114.825	7.562
19	10.43	2,5-Dimethylbenzaldehyde	5.985	87.525	7.659

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #5**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 19:04**	*Run Time:*	**14.00**

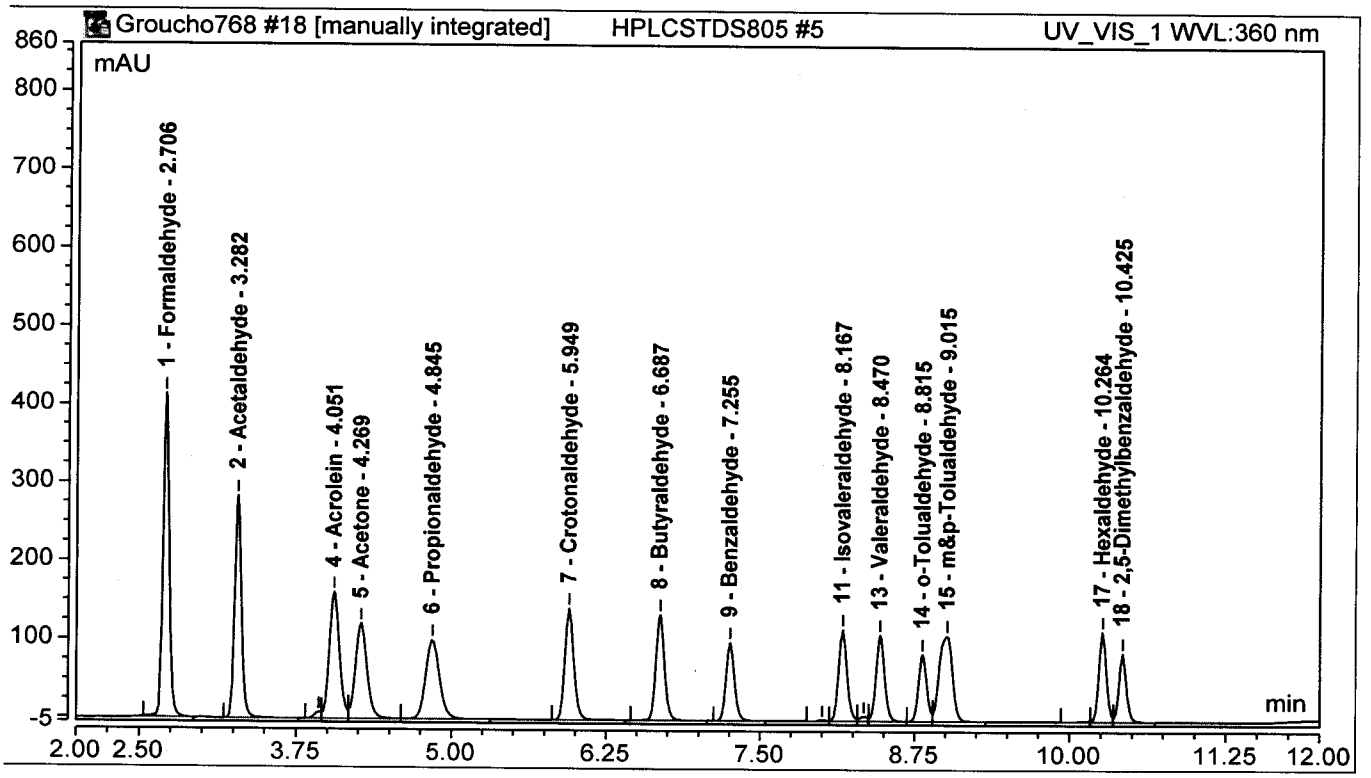


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	23.643	414.043	7.689
2	3.28	Acetaldehyde	18.033	284.371	7.694
4	4.04	Acrolein	15.392	164.262	7.680
5	4.26	Acetone	13.318	122.825	7.669
6	4.82	Propionaldehyde	12.992	101.795	7.707
7	5.93	Crotonaldehyde	11.865	141.877	7.677
8	6.67	Butyraldehyde	11.042	134.678	7.679
9	7.24	Benzaldehyde	8.024	99.759	7.674
11	8.16	Isovaleraldehyde	9.382	117.130	7.693
13	8.46	Valeraldehyde	8.956	110.015	7.689
14	8.81	o-Tolualdehyde	6.702	85.753	7.694
16	9.01	m&p-Tolualdehyde	13.614	109.230	15.346
18	10.26	Hexaldehyde	8.135	115.033	7.667
19	10.42	2,5-Dimethylbenzaldehyde	6.062	87.579	7.758

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #5**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 19:20**	*Run Time:*	**14.00**

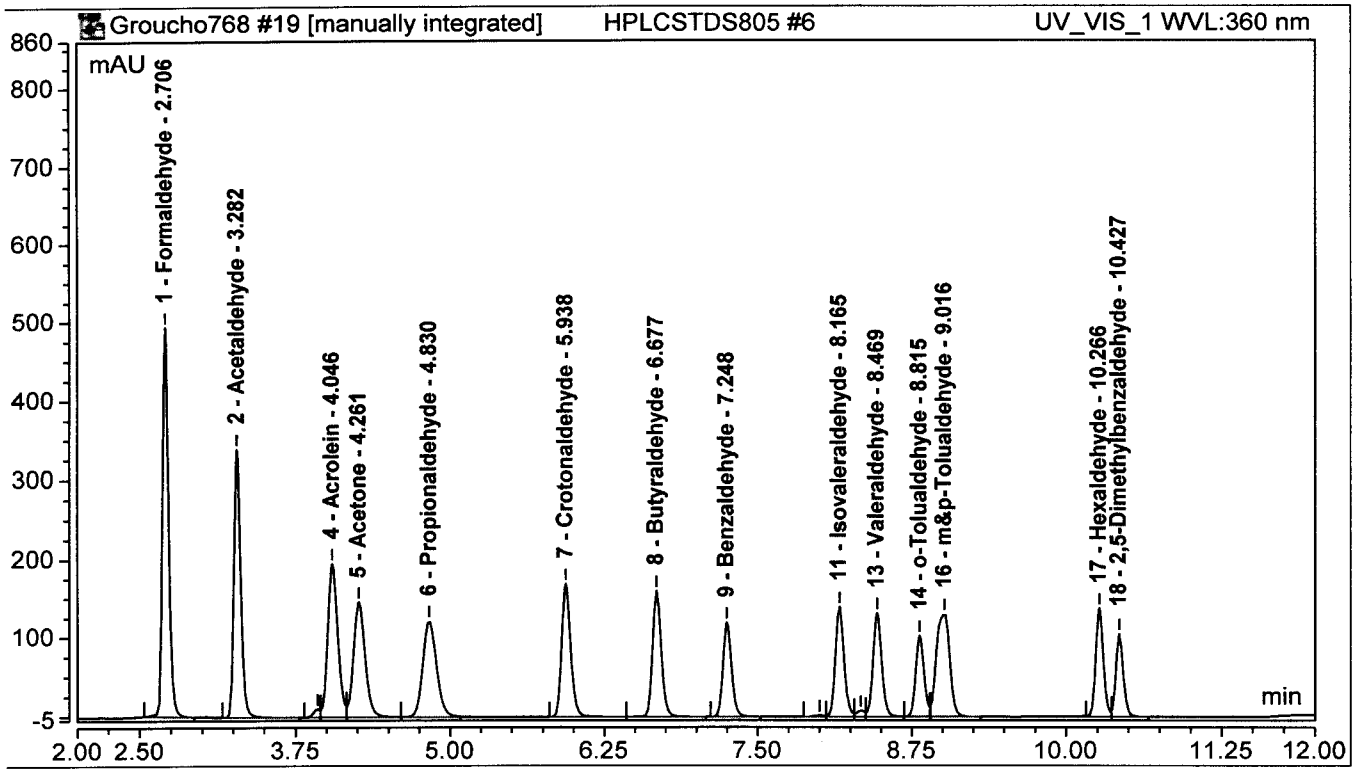


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.71	Formaldehyde	23.665	414.027	7.696
2	3.28	Acetaldehyde	18.028	283.911	7.692
4	4.05	Acrolein	15.380	161.374	7.674
5	4.27	Acetone	13.336	121.479	7.679
6	4.84	Propionaldehyde	13.033	101.114	7.732
7	5.95	Crotonaldehyde	11.868	142.039	7.679
8	6.69	Butyraldehyde	11.048	134.753	7.683
9	7.25	Benzaldehyde	8.039	99.780	7.689
11	8.17	Isovaleraldehyde	9.393	117.097	7.702
13	8.47	Valeraldehyde	8.961	110.238	7.693
14	8.81	o-Tolualdehyde	6.693	85.867	7.682
15	9.02	m&p-Tolualdehyde	13.677	109.930	15.417
17	10.26	Hexaldehyde	8.144	115.010	7.675
18	10.42	2,5-Dimethylbenzaldehyde	6.068	87.600	7.766

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #6**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 19:35**	*Run Time:*	**14.00**

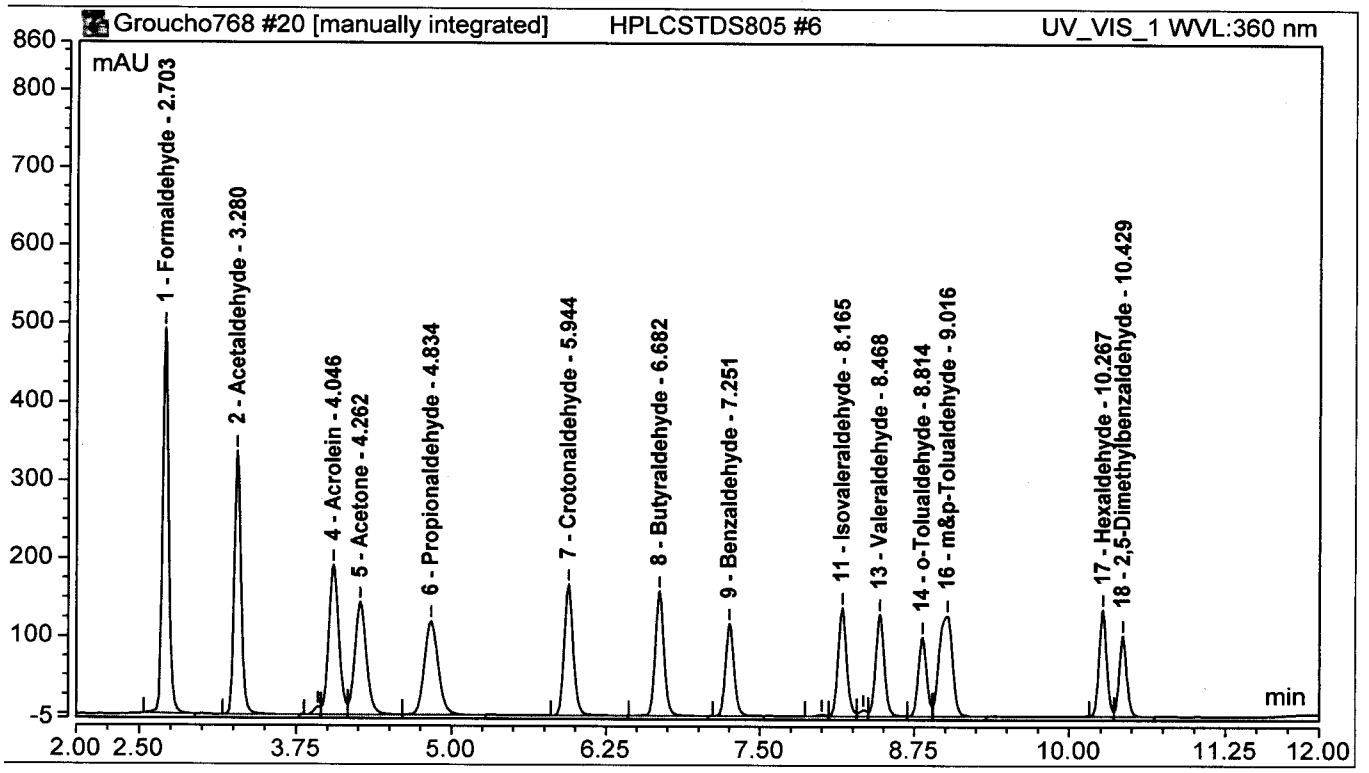


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.71	Formaldehyde	28.165	493.646	9.161
2	3.28	Acetaldehyde	21.478	339.031	9.165
4	4.05	Acrolein	18.355	195.545	9.159
5	4.26	Acetone	15.935	146.437	9.178
6	4.83	Propionaldehyde	15.591	121.909	9.251
7	5.94	Crotonaldehyde	14.189	169.373	9.182
8	6.68	Butyraldehyde	13.171	160.288	9.162
9	7.25	Benzaldehyde	9.582	118.907	9.166
11	8.16	Isovaleraldehyde	11.179	139.345	9.168
13	8.47	Valeraldehyde	10.685	131.270	9.174
14	8.81	o-Tolualdehyde	7.984	102.291	9.167
16	9.02	m&p-Tolualdehyde	16.240	130.357	18.310
17	10.27	Hexaldehyde	9.773	137.380	9.221
18	10.43	2,5-Dimethylbenzaldehyde	7.187	104.610	9.206

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #6**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 19:51**	*Run Time:*	**14.00**

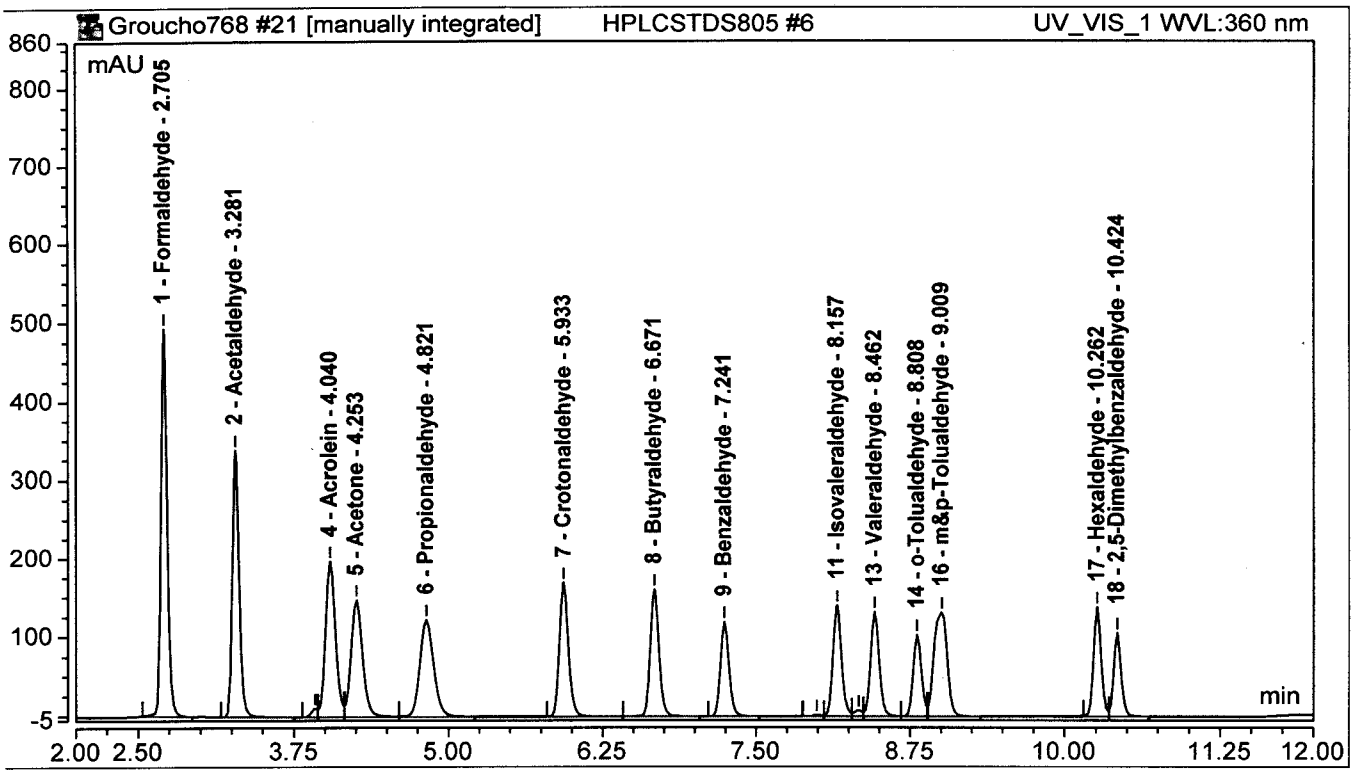


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	28.146	493.341	9.155
2	3.28	Acetaldehyde	21.446	338.841	9.152
4	4.05	Acrolein	18.333	193.318	9.148
5	4.26	Acetone	15.873	145.483	9.143
6	4.83	Propionaldehyde	15.542	121.561	9.222
7	5.94	Crotonaldehyde	14.133	169.389	9.146
8	6.68	Butyraldehyde	13.156	160.812	9.151
9	7.25	Benzaldehyde	9.558	119.165	9.143
11	8.16	Isovaleraldehyde	11.174	139.735	9.163
13	8.47	Valeraldehyde	10.671	131.467	9.162
14	8.81	o-Tolualdehyde	7.974	102.291	9.154
16	9.02	m&p-Tolualdehyde	16.224	130.280	18.292
17	10.27	Hexaldehyde	9.738	137.609	9.188
18	10.43	2,5-Dimethylbenzaldehyde	7.200	104.733	9.222

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #6**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 20:07**	*Run Time:*	**14.00**

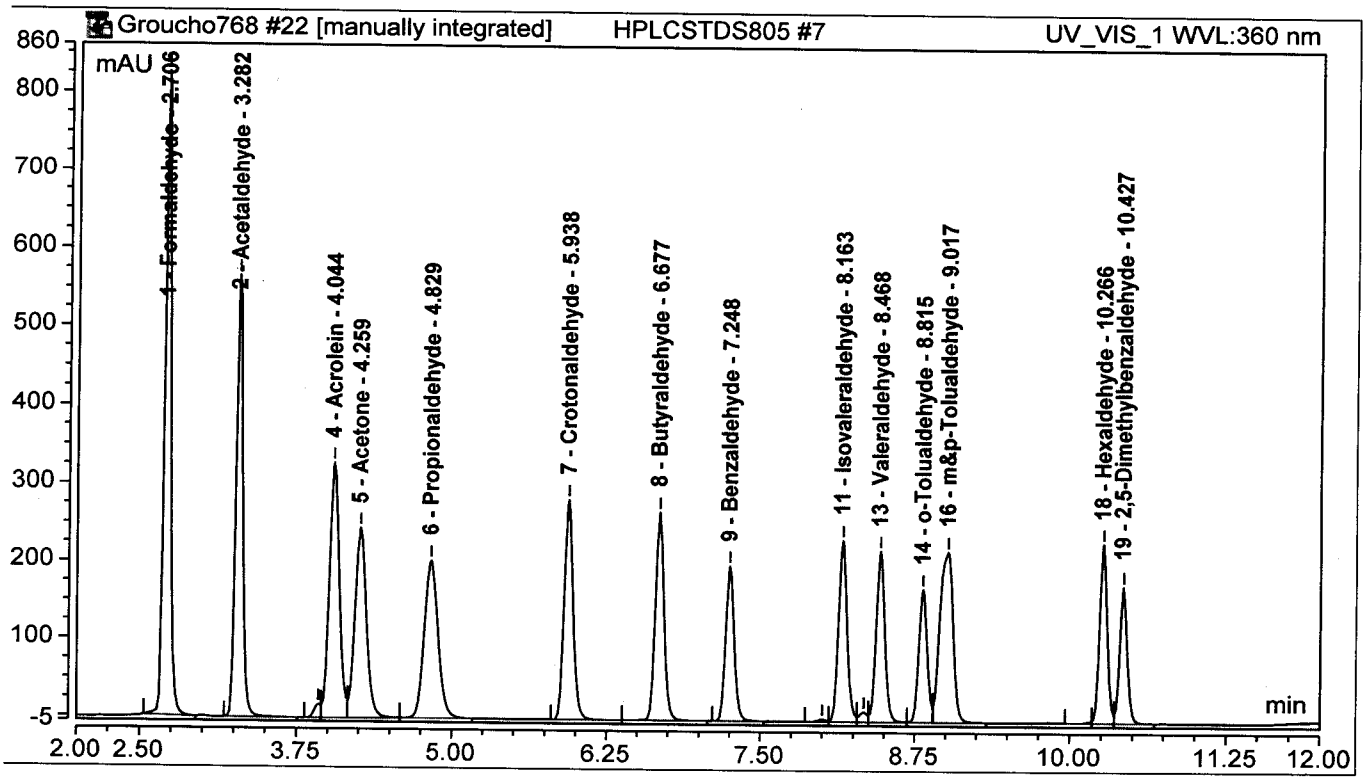


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.70	Formaldehyde	28.117	492.720	9.145
2	3.28	Acetaldehyde	21.440	338.372	9.149
4	4.04	Acrolein	18.358	197.505	9.161
5	4.25	Acetone	15.938	147.322	9.180
6	4.82	Propionaldehyde	15.644	121.840	9.283
7	5.93	Crotonaldehyde	14.173	169.355	9.173
8	6.67	Butyraldehyde	13.160	160.088	9.154
9	7.24	Benzaldehyde	9.568	118.683	9.153
11	8.16	Isovaleraldehyde	11.175	139.333	9.165
13	8.46	Valeraldehyde	10.675	131.208	9.165
14	8.81	o-Tolualdehyde	7.976	102.203	9.157
16	9.01	m&p-Tolualdehyde	16.221	130.498	18.288
17	10.26	Hexaldehyde	9.746	137.187	9.196
18	10.42	2,5-Dimethylbenzaldehyde	7.181	104.564	9.197

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #7**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 20:22**	*Run Time:*	**14.00**

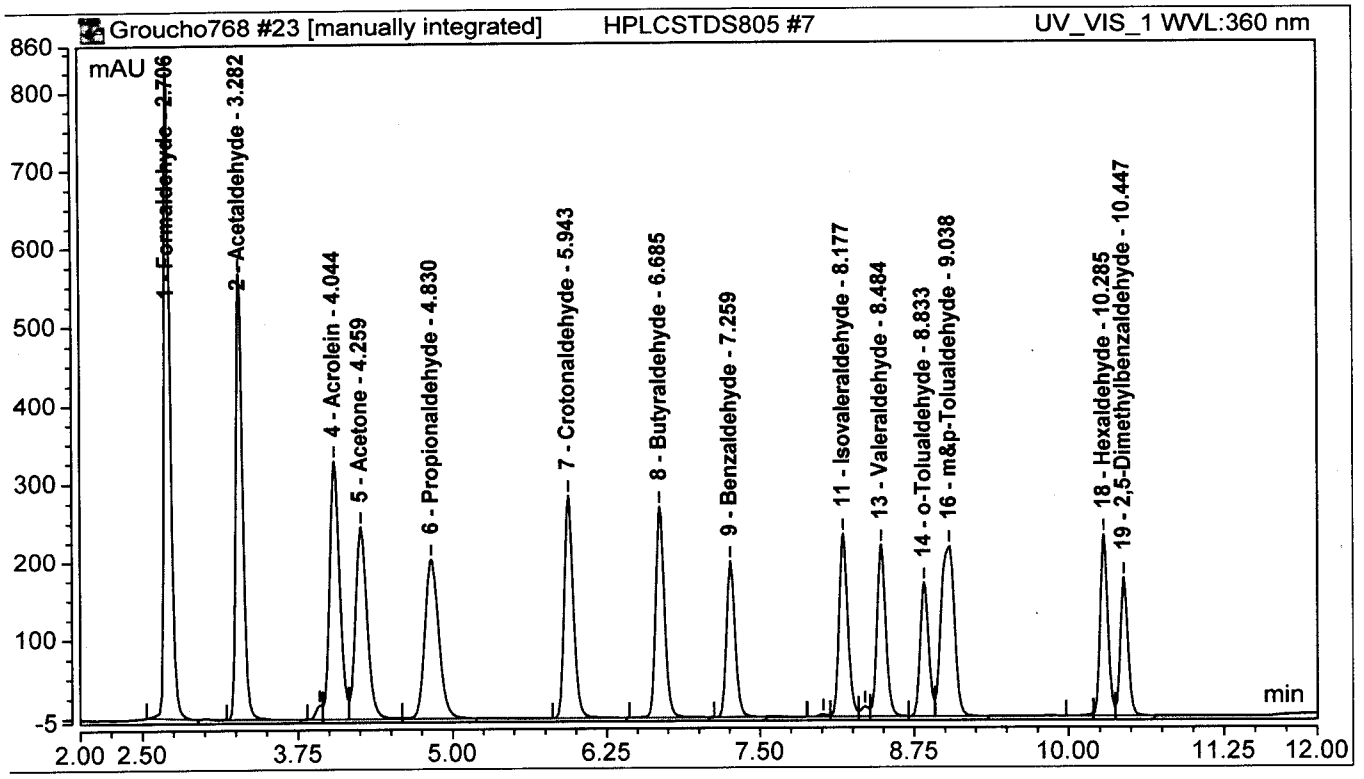


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.71	Formaldehyde	47.081	824.776	15.319
2	3.28	Acetaldehyde	35.869	566.415	15.312
4	4.04	Acrolein	30.690	327.899	15.317
5	4.26	Acetone	26.531	244.760	15.288
6	4.83	Propionaldehyde	25.894	203.099	15.372
7	5.94	Crotonaldehyde	23.684	283.269	15.334
8	6.68	Butyraldehyde	22.025	268.049	15.325
9	7.25	Benzaldehyde	16.026	198.992	15.336
11	8.16	Isovaleraldehyde	18.743	233.285	15.374
13	8.47	Valeraldehyde	17.885	219.599	15.359
14	8.81	o-Tolualdehyde	13.346	170.987	15.328
16	9.02	m&p-Tolualdehyde	27.188	219.085	30.666
18	10.27	Hexaldehyde	16.232	230.030	15.350
19	10.43	2,5-Dimethylbenzaldehyde	12.047	175.486	15.459

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #7**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 20:38**	*Run Time:*	**14.00**

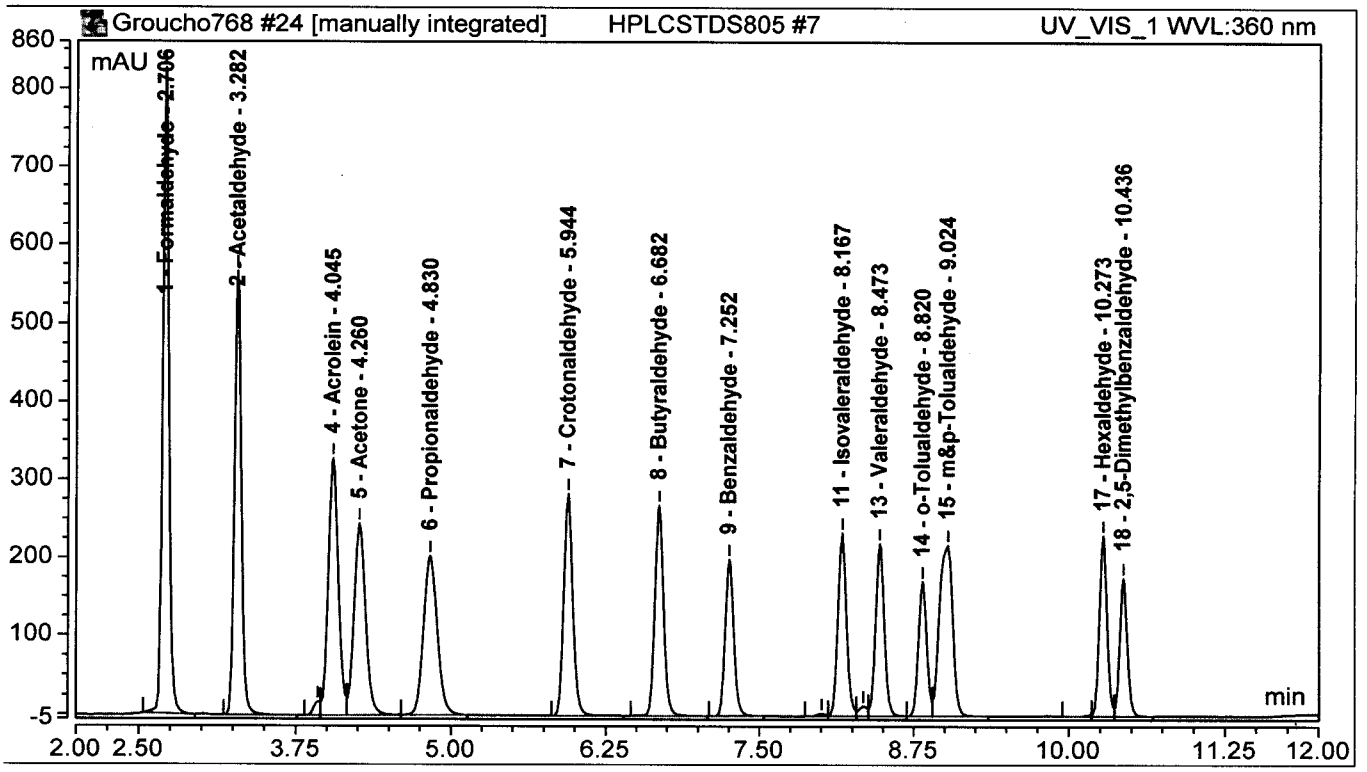


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.71	Formaldehyde	47.162	826.771	15.345
2	3.28	Acetaldehyde	35.914	567.907	15.331
4	4.04	Acrolein	30.736	328.846	15.339
5	4.26	Acetone	26.615	245.300	15.336
6	4.83	Propionaldehyde	26.008	203.387	15.440
7	5.94	Crotonaldehyde	23.730	283.358	15.363
8	6.69	Butyraldehyde	22.132	268.876	15.400
9	7.26	Benzaldehyde	16.054	198.732	15.363
11	8.18	Isovaleraldehyde	18.762	233.236	15.389
13	8.48	Valeraldehyde	17.920	219.304	15.389
14	8.83	o-Tolualdehyde	13.397	170.020	15.387
16	9.04	m&p-Tolualdehyde	27.179	217.762	30.656
18	10.29	Hexaldehyde	16.252	231.526	15.369
19	10.45	2,5-Dimethylbenzaldehyde	12.045	175.939	15.457

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #7**	*Injection Volume:*	**5.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 20:54**	*Run Time:*	**14.00**

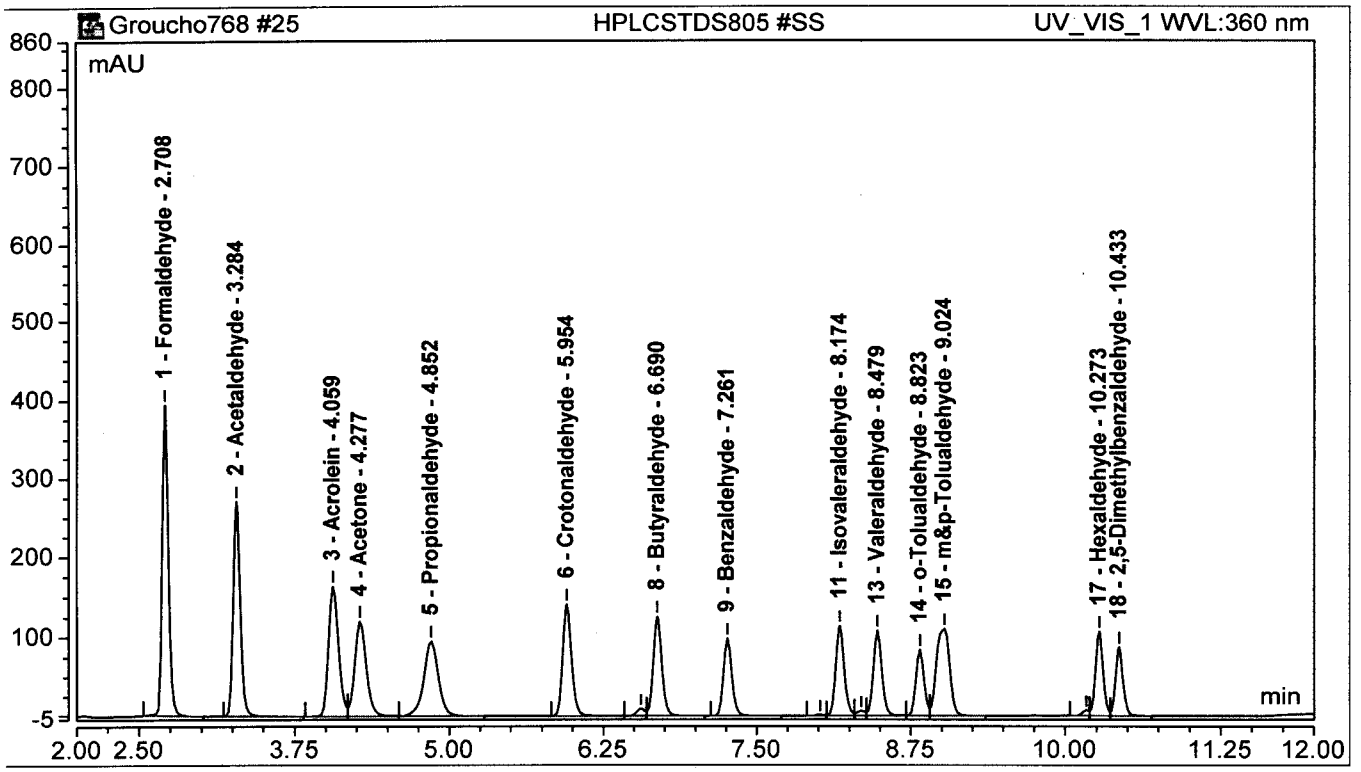


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.71	Formaldehyde	47.019	825.517	15.299
2	3.28	Acetaldehyde	35.835	567.391	15.298
4	4.05	Acrolein	30.636	327.770	15.290
5	4.26	Acetone	26.472	244.566	15.254
6	4.83	Propionaldehyde	25.782	202.992	15.306
7	5.94	Crotonaldehyde	23.648	283.480	15.311
8	6.68	Butyraldehyde	21.977	268.668	15.292
9	7.25	Benzaldehyde	15.986	199.329	15.298
11	8.17	Isovaleraldehyde	18.689	233.521	15.329
13	8.47	Valeraldehyde	17.848	219.921	15.327
14	8.82	o-Tolualdehyde	13.337	170.941	15.317
15	9.02	m&p-Tolualdehyde	27.156	217.926	30.630
17	10.27	Hexaldehyde	16.210	230.395	15.329
18	10.44	2,5-Dimethylbenzaldehyde	12.014	175.535	15.417

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #SS**	*Injection Volume:*	**5.00**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 21:10**	*Run Time:*	**14.00**

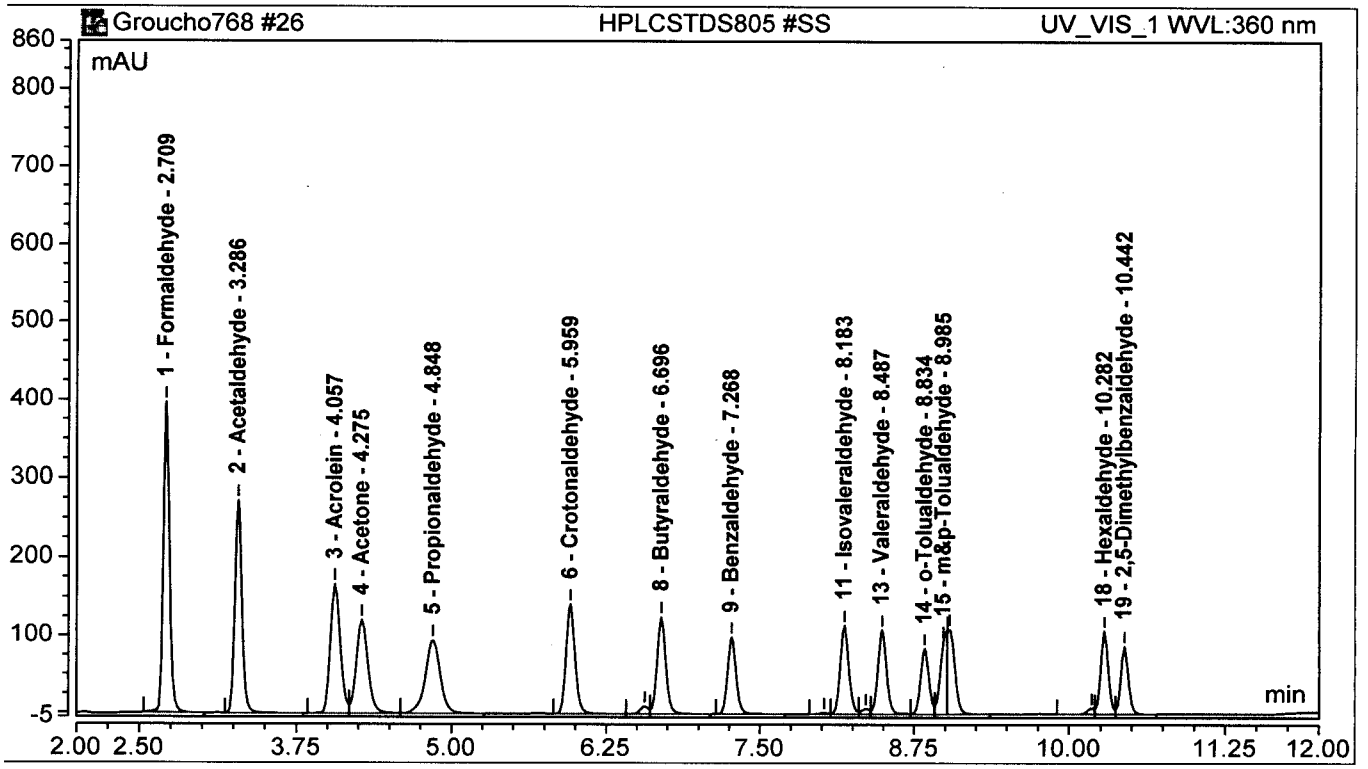


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.71	Formaldehyde	22.589	395.170	7.346
2	3.28	Acetaldehyde	17.916	271.749	7.644
3	4.06	Acrolein	15.666	164.685	7.817
4	4.28	Acetone	13.325	120.922	7.674
5	4.85	Propionaldehyde	13.145	95.618	7.798
6	5.95	Crotonaldehyde	11.730	141.701	7.589
8	6.69	Butyraldehyde	10.346	126.106	7.195
9	7.26	Benzaldehyde	7.983	99.040	7.635
11	8.17	Isovaleraldehyde	9.182	114.688	7.529
13	8.48	Valeraldehyde	8.887	108.893	7.630
14	8.82	o-Tolualdehyde	6.609	84.815	7.587
15	9.02	m&p-Tolualdehyde	13.941	110.864	15.715
17	10.27	Hexaldehyde	7.653	107.390	7.209
18	10.43	2,5-Dimethylbenzaldehyde	6.060	87.792	7.756

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #SS**	*Injection Volume:*	**5.00**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 21:25**	*Run Time:*	**14.00**

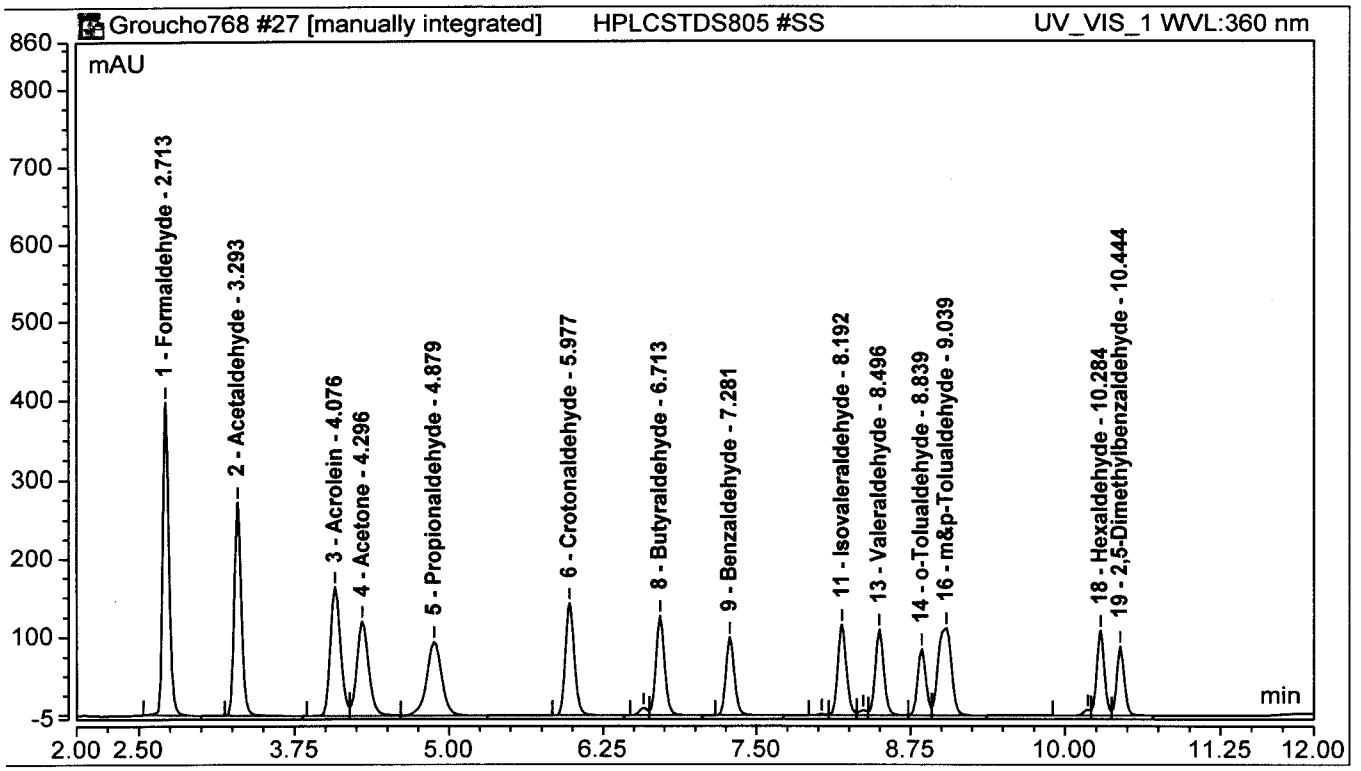


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.71	Formaldehyde	22.579	397.104	7.343
2	3.29	Acetaldehyde	17.896	272.636	7.635
3	4.06	Acrolein	15.658	167.305	7.813
4	4.27	Acetone	13.306	122.054	7.662
5	4.85	Propionaldehyde	13.119	95.555	7.783
6	5.96	Crotonaldehyde	11.696	141.895	7.568
8	6.70	Butyraldehyde	10.318	126.030	7.175
9	7.27	Benzaldehyde	7.980	99.350	7.632
11	8.18	Isovaleraldehyde	9.168	114.826	7.518
13	8.49	Valeraldehyde	8.858	108.963	7.605
14	8.83	o-Tolualdehyde	6.598	84.772	7.574
15	8.98	m&p-Tolualdehyde	6.321	94.063	7.115
18	10.28	Hexaldehyde	7.640	107.747	7.197
19	10.44	2,5-Dimethylbenzaldehyde	6.056	87.890	7.751

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #SS**	*Injection Volume:*	**5.00**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 21:41**	*Run Time:*	**14.00**

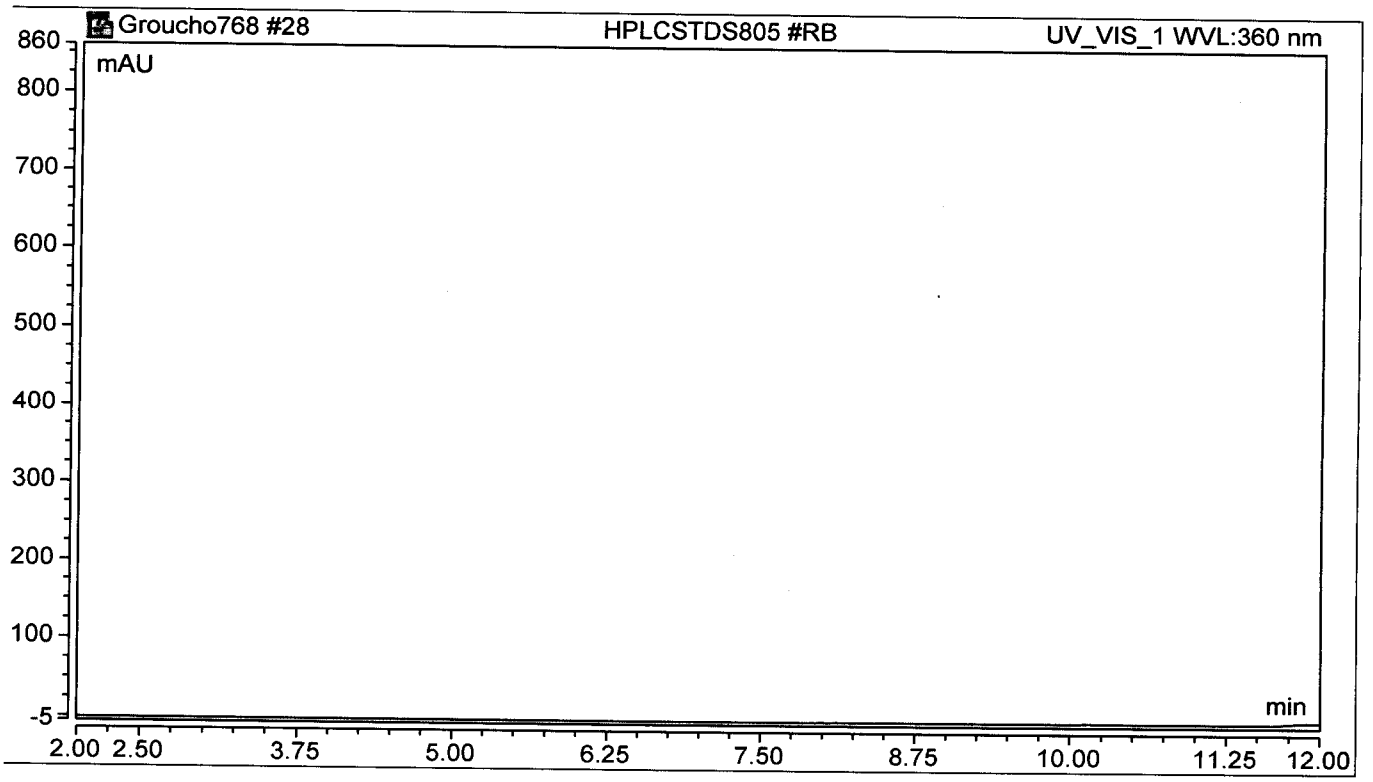


Analyst Comment: Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.71	Formaldehyde	22.779	397.369	7.408
2	3.29	Acetaldehyde	18.056	272.635	7.704
3	4.08	Acrolein	15.771	164.006	7.869
4	4.30	Acetone	13.384	120.486	7.708
5	4.88	Propionaldehyde	13.195	94.861	7.828
6	5.98	Crotonaldehyde	11.786	142.706	7.626
8	6.71	Butyraldehyde	10.389	126.868	7.225
9	7.28	Benzaldehyde	8.013	99.946	7.664
11	8.19	Isovaleraldehyde	9.228	115.761	7.567
13	8.50	Valeraldehyde	8.926	109.799	7.663
14	8.84	o-Tolualdehyde	6.638	85.504	7.620
16	9.04	m&p-Tolualdehyde	13.948	111.702	15.723
18	10.28	Hexaldehyde	7.698	108.556	7.253
19	10.44	2,5-Dimethylbenzaldehyde	6.096	88.521	7.802

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #RB**	*Injection Volume:*	**5.00**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 21:57**	*Run Time:*	**14.00**



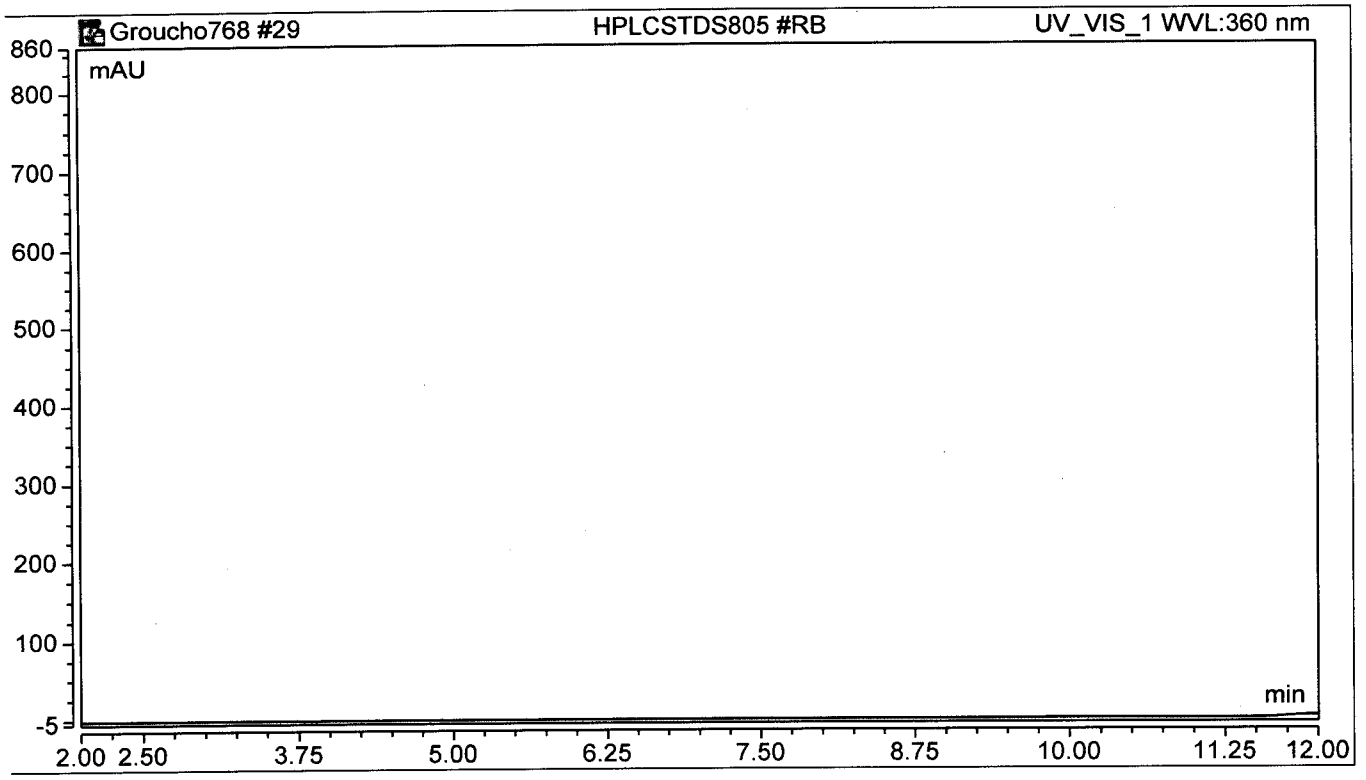
Analyst Comment:

Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount n.a.

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #RB**	*Injection Volume:*	**5.00**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 22:12**	*Run Time:*	**14.00**



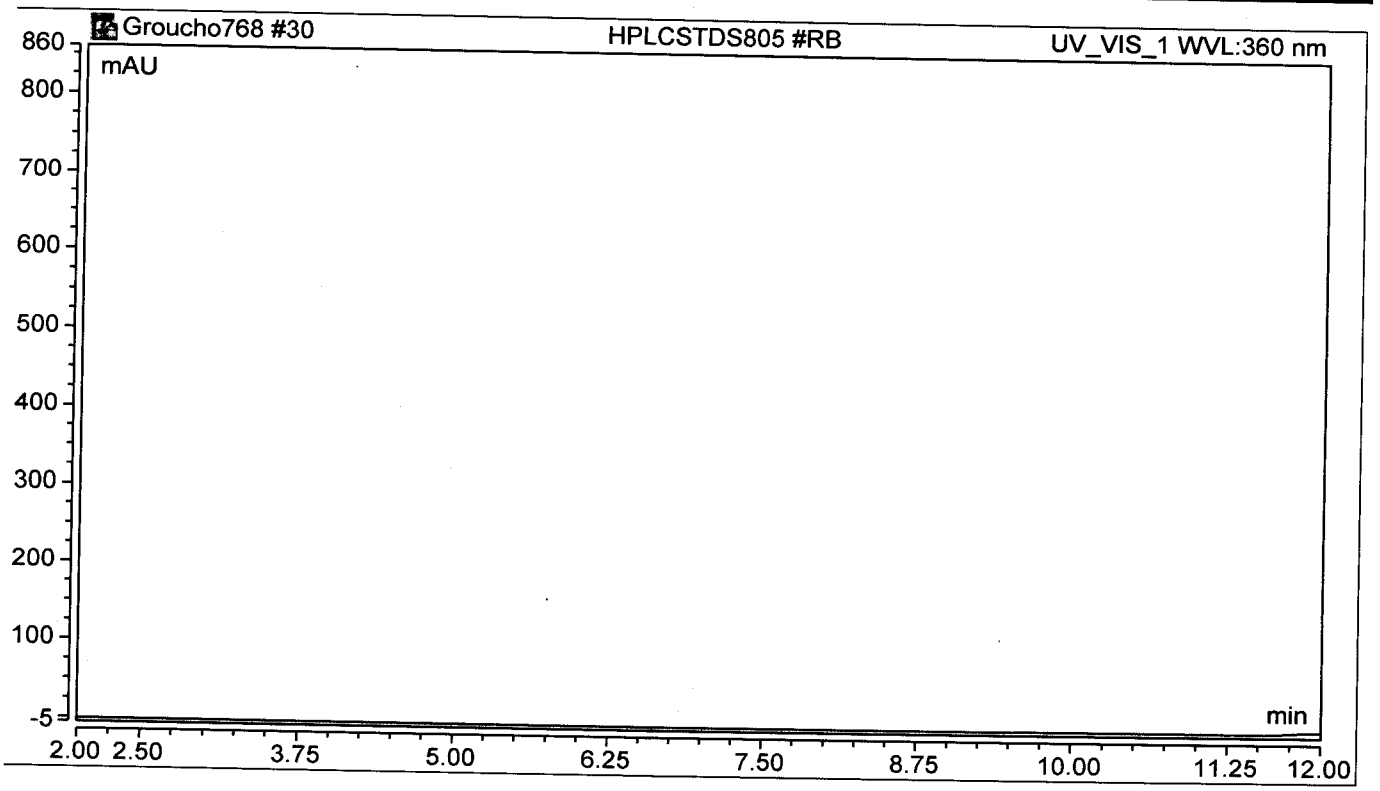
Analyst Comment:

Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount n.a.

Peak Analysis Report

Sample Name:	**HPLCSTDS805 #RB**	*Injection Volume:*	**5.00**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**01-Jul-2019 / 22:28**	*Run Time:*	**14.00**



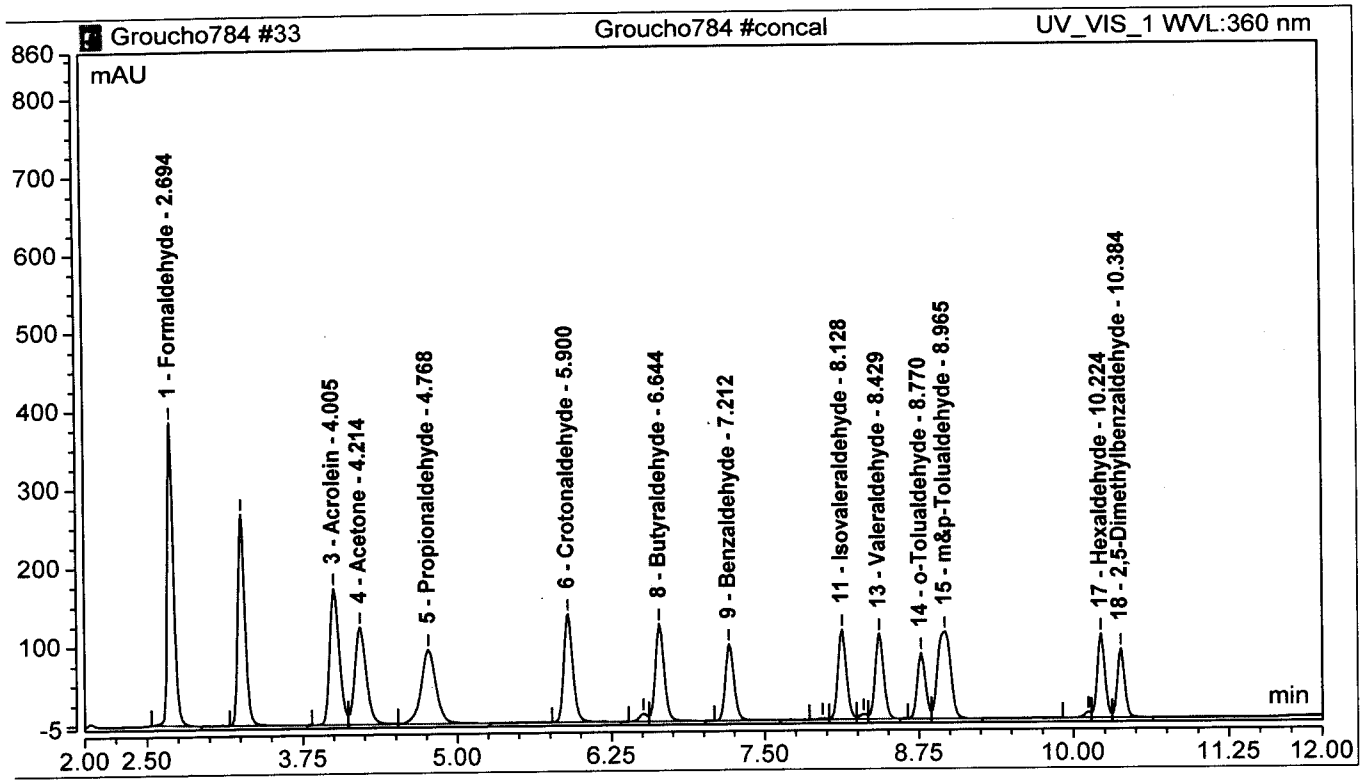
Analyst Comment:

Curve: Groucho768

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount n.a.

Peak Analysis Report

Sample Name:	**Groucho784 #concal**	*Injection Volume:*	**5.00**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 11:40**	*Run Time:*	**14.00**

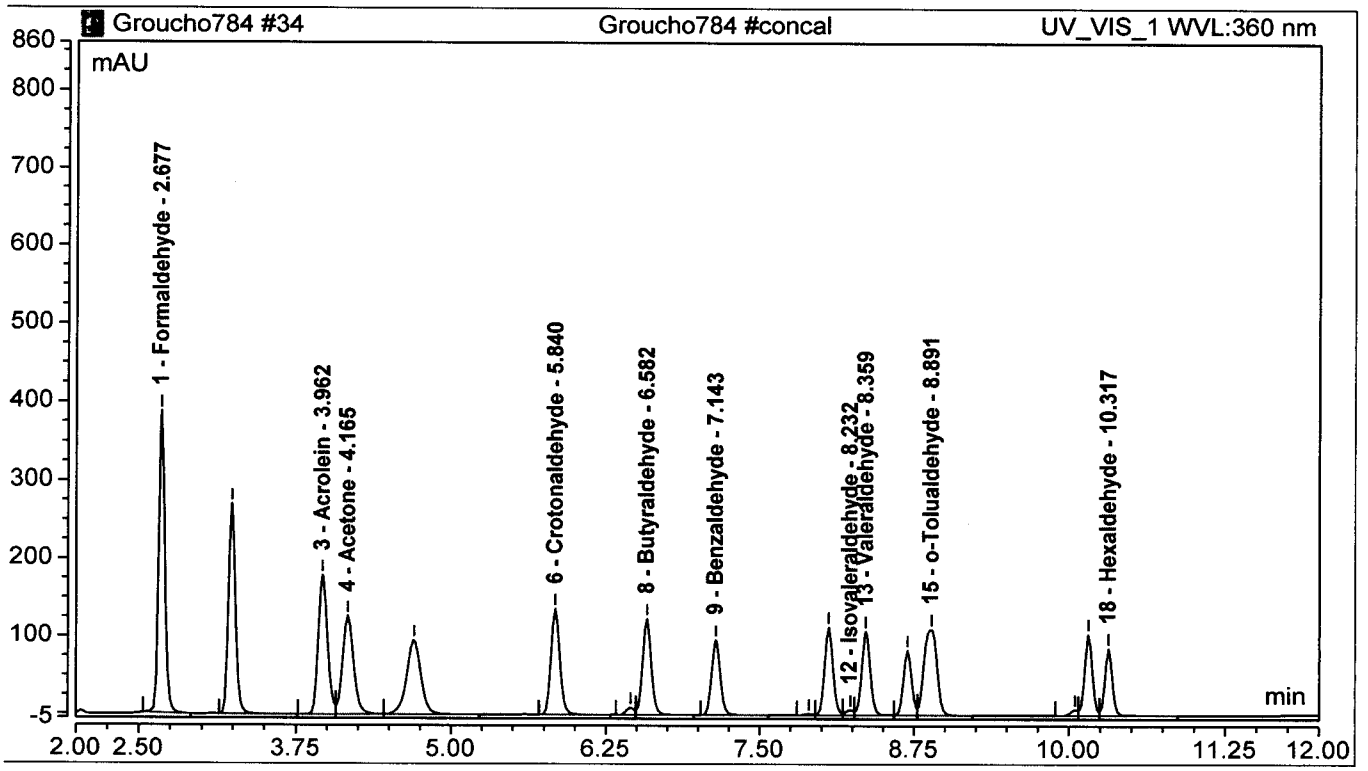


Analyst Comment:

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.69	Formaldehyde	21.977	385.638	7.147
3	4.01	Acrolein	15.411	172.560	7.690
4	4.21	Acetone	13.105	122.993	7.547
5	4.77	Propionaldehyde	12.968	94.019	7.693
6	5.90	Crotonaldehyde	11.443	136.683	7.404
8	6.64	Butyraldehyde	10.153	123.199	7.060
9	7.21	Benzaldehyde	7.793	96.554	7.453
11	8.13	Isovaleraldehyde	8.976	113.556	7.360
13	8.43	Valeraldehyde	8.580	107.702	7.366
14	8.77	o-Tolualdehyde	6.421	83.312	7.370
15	8.97	m&p-Tolualdehyde	13.527	110.214	15.247
17	10.22	Hexaldehyde	7.509	106.267	7.074
18	10.38	2,5-Dimethylbenzaldehyde	5.897	86.996	7.545

Peak Analysis Report

Sample Name:	**Groucho784 #concal**	*Injection Volume:*	**5.00**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 11:55**	*Run Time:*	**14.00**

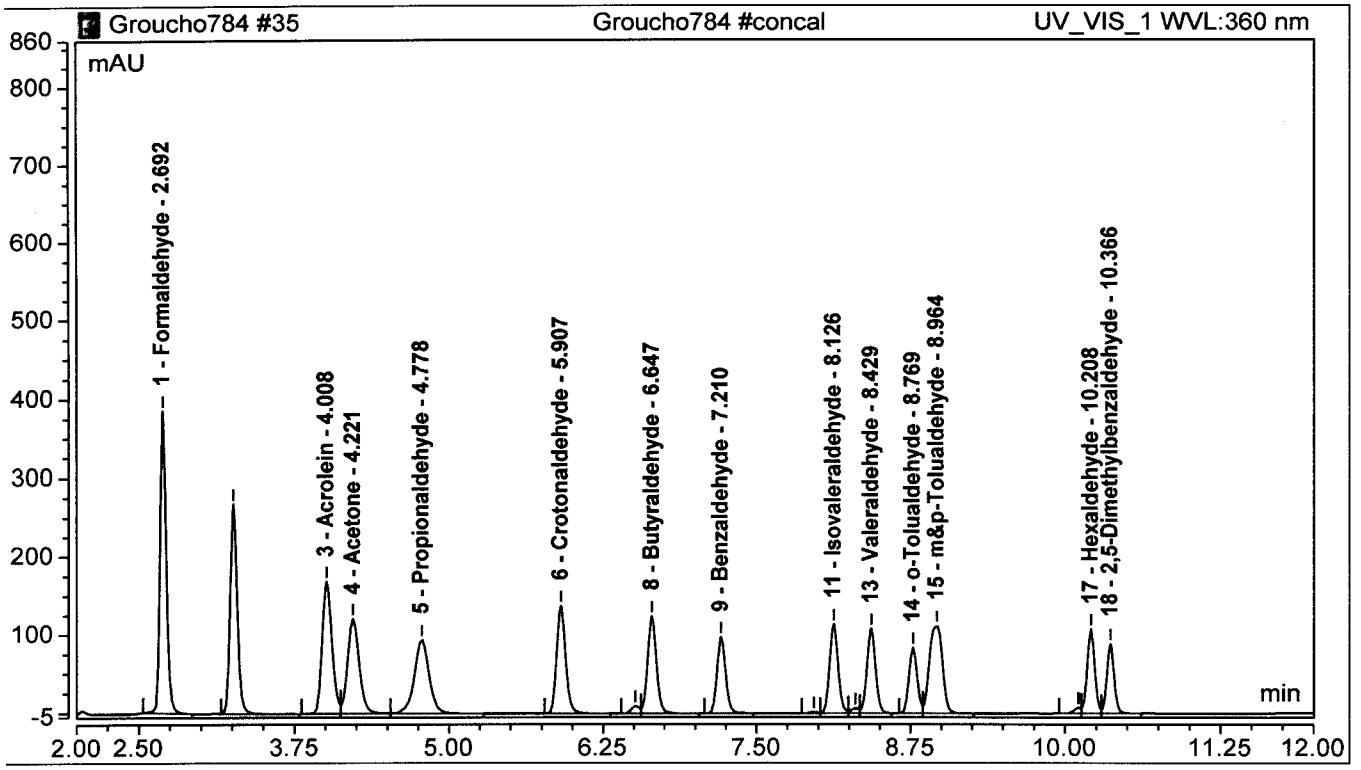


Analyst Comment:

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.68	Formaldehyde	21.978	387.334	7.147
3	3.96	Acrolein	15.531	179.456	7.750
4	4.17	Acetone	13.201	126.973	7.602
6	5.84	Crotonaldehyde	11.494	136.632	7.437
8	6.58	Butyraldehyde	10.209	123.564	7.099
9	7.14	Benzaldehyde	7.822	96.912	7.481
12	8.23	Isovaleraldehyde	0.485	6.678	0.393
13	8.36	Valeraldehyde	8.738	108.231	7.502
15	8.89	o-Tolualdehyde	13.630	111.011	15.655
18	10.32	Hexaldehyde	5.942	86.550	5.587

Peak Analysis Report

Sample Name:	**Groucho784 #concal**	*Injection Volume:*	**5.00**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 12:11**	*Run Time:*	**14.00**

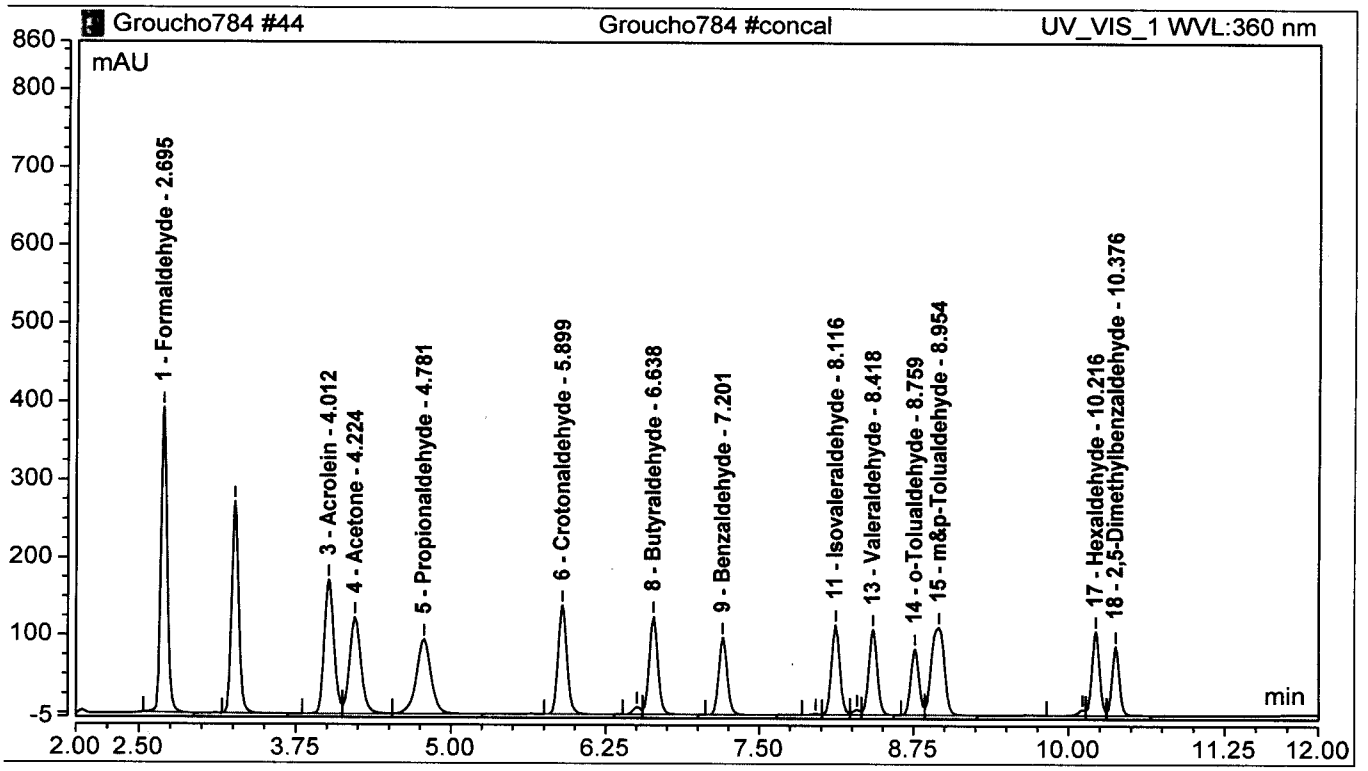


Analyst Comment:

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.69	Formaldehyde	22.076	385.186	7.179
3	4.01	Acrolein	15.467	168.804	7.718
4	4.22	Acetone	13.173	121.296	7.586
5	4.78	Propionaldehyde	13.039	94.033	7.735
6	5.91	Crotonaldehyde	11.523	137.457	7.455
8	6.65	Butyraldehyde	10.228	123.856	7.113
9	7.21	Benzaldehyde	7.825	97.155	7.484
11	8.13	Isovaleraldehyde	9.019	113.334	7.396
13	8.43	Valeraldehyde	8.623	107.504	7.403
14	8.77	o-Tolualdehyde	6.448	83.391	7.401
15	8.96	m&p-Tolualdehyde	13.598	111.353	15.328
17	10.21	Hexaldehyde	7.543	107.338	7.105
18	10.37	2,5-Dimethylbenzaldehyde	5.933	88.009	7.592

Peak Analysis Report

Sample Name:	**Groucho784 #concal**	*Injection Volume:*	**5.00**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 14:33**	*Run Time:*	**14.00**

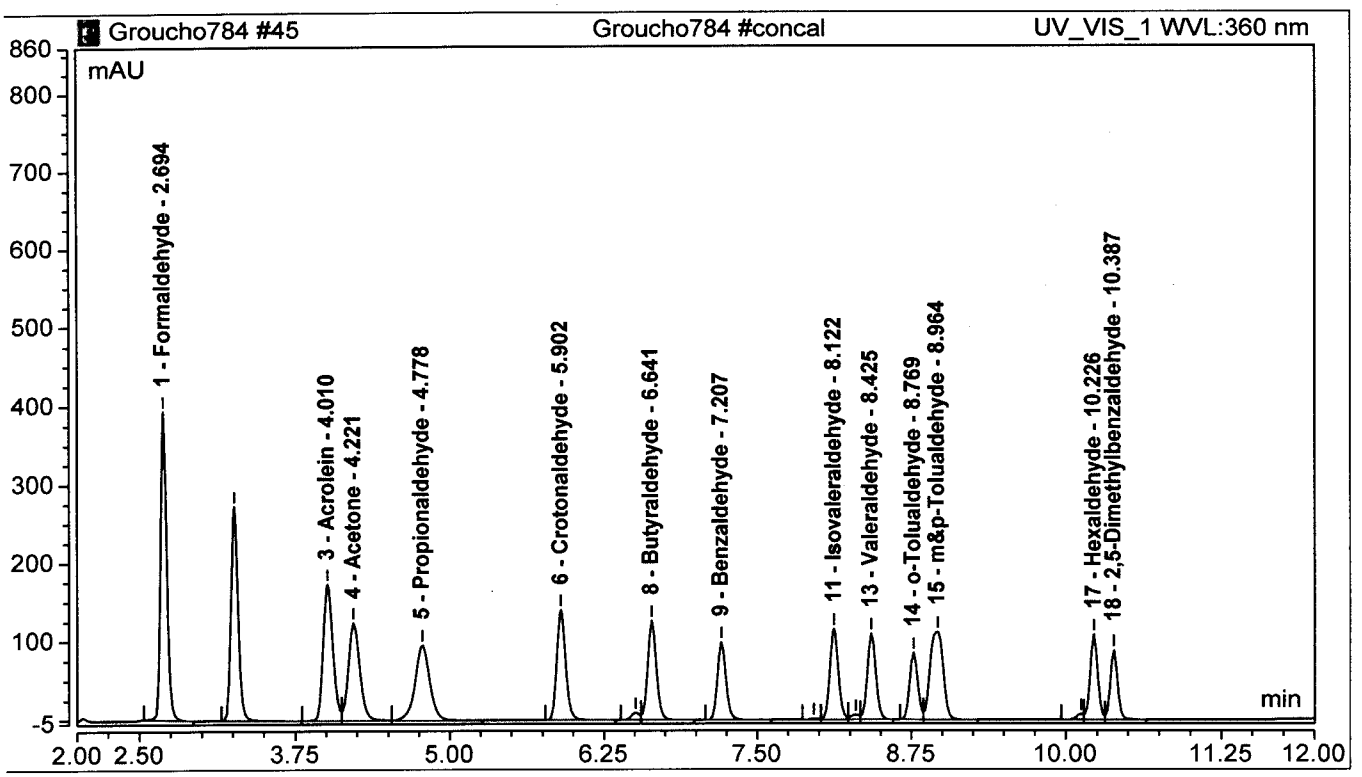


Analyst Comment:

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.69	Formaldehyde	22.357	392.320	7.270
3	4.01	Acrolein	15.680	172.781	7.824
4	4.22	Acetone	13.334	124.096	7.678
5	4.78	Propionaldehyde	13.185	95.815	7.822
6	5.90	Crotonaldehyde	11.663	140.207	7.546
8	6.64	Butyraldehyde	10.345	126.244	7.194
9	7.20	Benzaldehyde	7.939	98.881	7.593
11	8.12	Isovaleraldehyde	9.134	115.425	7.490
13	8.42	Valeraldehyde	8.731	109.450	7.496
14	8.76	o-Tolualdehyde	6.529	84.790	7.494
15	8.95	m&p-Tolualdehyde	13.775	112.215	15.528
17	10.22	Hexaldehyde	7.638	107.741	7.196
18	10.38	2,5-Dimethylbenzaldehyde	6.009	88.276	7.690

Peak Analysis Report

Sample Name:	**Groucho784 #concal**	*Injection Volume:*	**5.00**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 14:49**	*Run Time:*	**14.00**

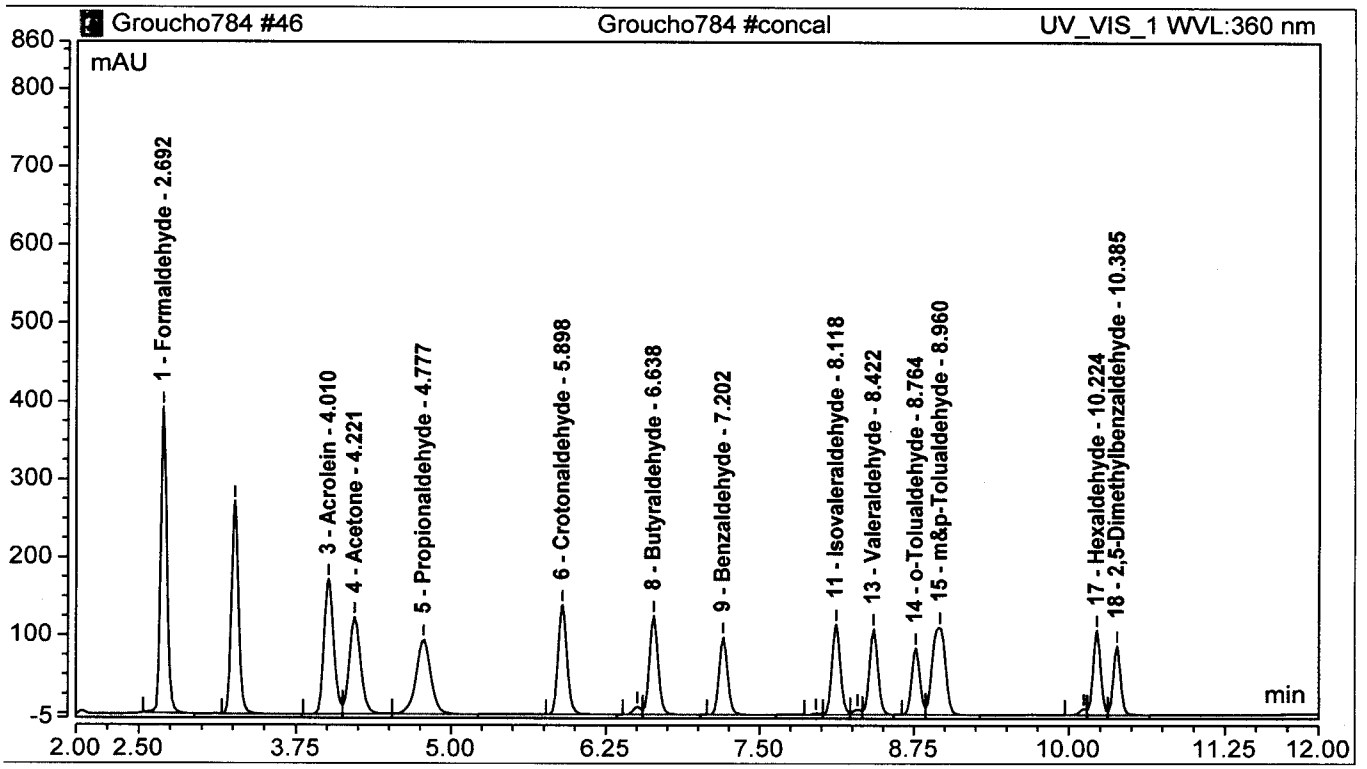


Analyst Comment:

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.69	Formaldehyde	22.377	393.404	7.277
3	4.01	Acrolein	15.715	173.354	7.842
4	4.22	Acetone	13.342	124.304	7.683
5	4.78	Propionaldehyde	13.208	95.758	7.836
6	5.90	Crotonaldehyde	11.676	140.123	7.555
8	6.64	Butyraldehyde	10.347	126.130	7.195
9	7.21	Benzaldehyde	7.942	98.822	7.596
11	8.12	Isovaleraldehyde	9.147	115.184	7.500
13	8.43	Valeraldehyde	8.740	109.333	7.503
14	8.77	o-Tolualdehyde	6.536	84.753	7.502
15	8.96	m&p-Tolualdehyde	13.786	111.601	15.540
17	10.23	Hexaldehyde	7.653	108.106	7.210
18	10.39	2,5-Dimethylbenzaldehyde	6.005	88.306	7.684

Peak Analysis Report

Sample Name:	**Groucho784 #concal**	*Injection Volume:*	**5.00**
Injection Type:	**Check Standard**	*Dilution Factor:*	**1.0**
Instrument Method:	**Grouch_AgilentZprbaxSBC CARBS**	*Operator:*	**APaolantonio**
Inj. Date / Time:	**30-Jul-2019 / 15:04**	*Run Time:*	**14.00**



Analyst Comment:

No.	Time min	Peak Name	Area mAU*min	Height mAU	Amount
1	2.69	Formaldehyde	22.353	392.493	7.269
3	4.01	Acrolein	15.701	173.087	7.834
4	4.22	Acetone	13.328	124.154	7.675
5	4.78	Propionaldehyde	13.200	95.633	7.831
6	5.90	Crotonaldehyde	11.667	139.864	7.549
8	6.64	Butyraldehyde	10.350	126.214	7.197
9	7.20	Benzaldehyde	7.944	98.741	7.598
11	8.12	Isovaleraldehyde	9.138	115.216	7.493
13	8.42	Valeraldehyde	8.728	109.215	7.493
14	8.76	o-Tolualdehyde	6.539	84.568	7.506
15	8.96	m&p-Tolualdehyde	13.758	111.419	15.508
17	10.22	Hexaldehyde	7.635	107.866	7.193
18	10.38	2,5-Dimethylbenzaldehyde	6.006	88.187	7.687

Name	**Grouch_AgilentZprbaxSBC CARBS**
Data Vault	**CM7SQLDVGLP**
Path	**chrom://s022vas04/CM7SQLDVGLP/Instrument Data/Groucho/2019Q3/Groucho768/Groucho768.seq/Grouch_AgilentZprbaxSBC CARBS.instmeth**
Comment	**Grouch_AgilentZprbaxSBC CARBS**
Description	
Run time	**14.000 [min]**
Instrument	**Groucho on c022-le71-3**
Created	**8/7/2018 2:15:55 PM -04:00 APaolantonio**
Last Update	**10/4/2018 5:33:14 PM -04:00 SWilson**

Stage	Time min	Command	Value	Comment
Instrument Setup				
	initial			
		UV.PeakWidth	0.050 [min]	
		UV.UV_LampRequired	Yes	
		ColumnOven.Mode	Combined	
		ColumnOven.LeftTemperature.Nominal	32.00 [°C]	
		ColumnOven.LeftTemperature.UpperLimit	80.00 [°C]	
		ColumnOven.LeftTemperature.LowerLimit	-5.00 [°C]	
		ColumnOven.LeftTemperatureDelta	0.80 [°C]	
		ColumnOven.TempCtrl	On	
		Sampler.WashVial	10	
		Sampler.SampleHeight	0.0 [mm]	
		Sampler.DispSpeed	200 [µl/min]	
		Sampler.DrawSpeed	200 [µl/min]	
		Pump.%A.Equate	"DIUF H2O"	
		Pump.%B.Equate	"ACN"	
		Pump.%C.Equate	"%C"	
		Pump.%D.Equate	"%D"	
		Pump.Pressure.LowerLimit	0.0 [bar]	
		Pump.Pressure.UpperLimit	400.0 [bar]	
		Pump.MaximumFlowRamp	100.000 [ml/min²]	
		Pump.Stroke	Automatic	
		Pump.Compressibility	83 [1/Mbar]	
		Pump.PrimaryChannel	Automatic	
		UV.UV_VIS_1.Wavelength	360 [nm]	
Inject Preparation				
	0.000			
		UV.Autozero		
		Wait	UV.Ready And ColumnOven.Ready And Sampler.Ready And Pump.Ready	
Inject				
	0.000			
		Sampler.Inject		
Start Run				
	0.000			
		UV.UV_VIS_1.AcqOn		
Run			Duration = 14.000 [min]	
	0.000			
		Pump.Flow	1.000 [ml/min]	

	Pump.%B.Value	65.0 [%]
	Pump.%C.Value	0.0 [%]
	Pump.%D.Value	0.0 [%]
1.490		
	Pump.Flow	1.000 [ml/min]
	Pump.%B.Value	65.0 [%]
	Pump.%C.Value	0.0 [%]
	Pump.%D.Value	0.0 [%]
1.500		
	Pump.Flow	1.000 [ml/min]
	Pump.%B.Value	55.0 [%]
	Pump.%C.Value	0.0 [%]
	Pump.%D.Value	0.0 [%]
3.000		
	Pump.Flow	1.000 [ml/min]
	Pump.%B.Value	55.0 [%]
	Pump.%C.Value	0.0 [%]
	Pump.%D.Value	0.0 [%]
3.010		
	Pump.Flow	1.000 [ml/min]
	Pump.%B.Value	65.0 [%]
	Pump.%C.Value	0.0 [%]
	Pump.%D.Value	0.0 [%]
3.560		
	Pump.Flow	1.000 [ml/min]
	Pump.%B.Value	65.0 [%]
	Pump.%C.Value	0.0 [%]
	Pump.%D.Value	0.0 [%]
7.500		
	Pump.Flow	1.000 [ml/min]
	Pump.%B.Value	75.0 [%]
	Pump.%C.Value	0.0 [%]
	Pump.%D.Value	0.0 [%]
8.000		
	Pump.Flow	1.000 [ml/min]
	Pump.%B.Value	80.0 [%]
	Pump.%C.Value	0.0 [%]
	Pump.%D.Value	0.0 [%]
9.500		
	Pump.Flow	1.000 [ml/min]
	Pump.%B.Value	80.0 [%]
	Pump.%C.Value	0.0 [%]
	Pump.%D.Value	0.0 [%]
9.550		
	Pump.Flow	1.000 [ml/min]
	Pump.%B.Value	100.0 [%]
	Pump.%C.Value	0.0 [%]
	Pump.%D.Value	0.0 [%]
12.000		
	Pump.Flow	1.000 [ml/min]

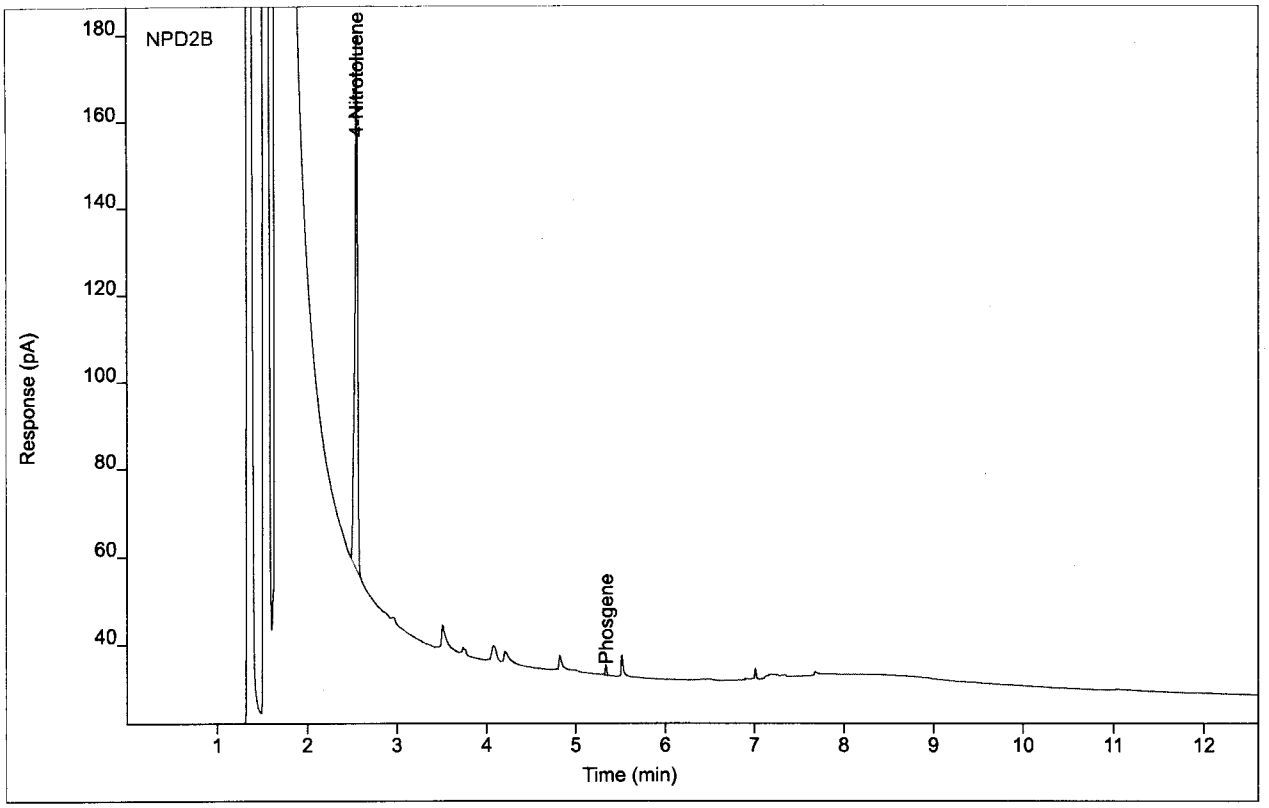
		Pump.%B.Value	100.0 [%]
		Pump.%C.Value	0.0 [%]
		Pump.%D.Value	0.0 [%]
	12.010		
		Pump.Flow	1.000 [ml/min]
		Pump.%B.Value	65.0 [%]
		Pump.%C.Value	0.0 [%]
		Pump.%D.Value	0.0 [%]
Stop Run			
	14.000		
		UV.UV_VIS_1.AcqOff	
End			

Chromatogram Report

Sample Name	0719-205.R-AM-FH.FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	040B0801.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 9:53 AM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Enthalpy Analytical

Sample Type	Sample
Vial Number	Vial 40
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



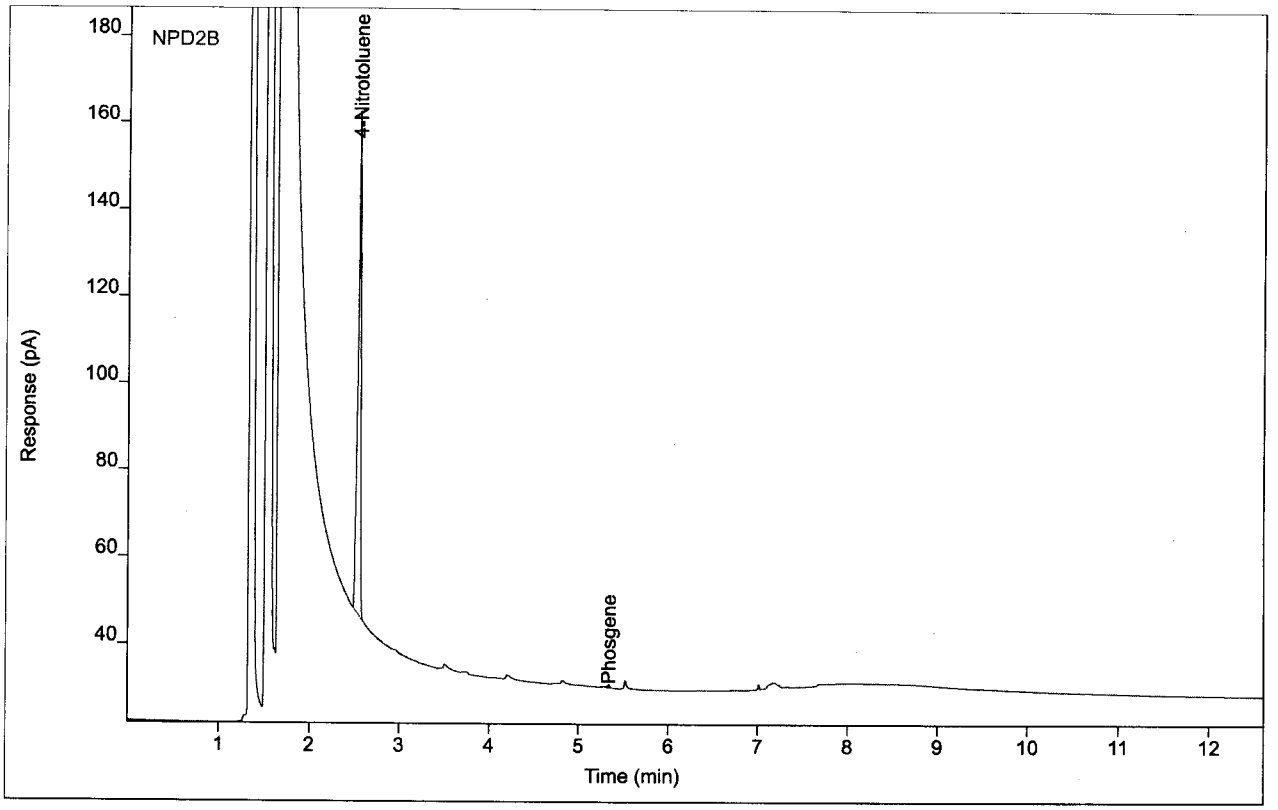
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	258.387	122.934	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	3.17276	2.56059	0.69662	1	0.69662	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.R-AM-FH.BH
Sequence Name	LOLITA0273A ver.4
Inj Data File	041B0901.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 10:08 AM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 41
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



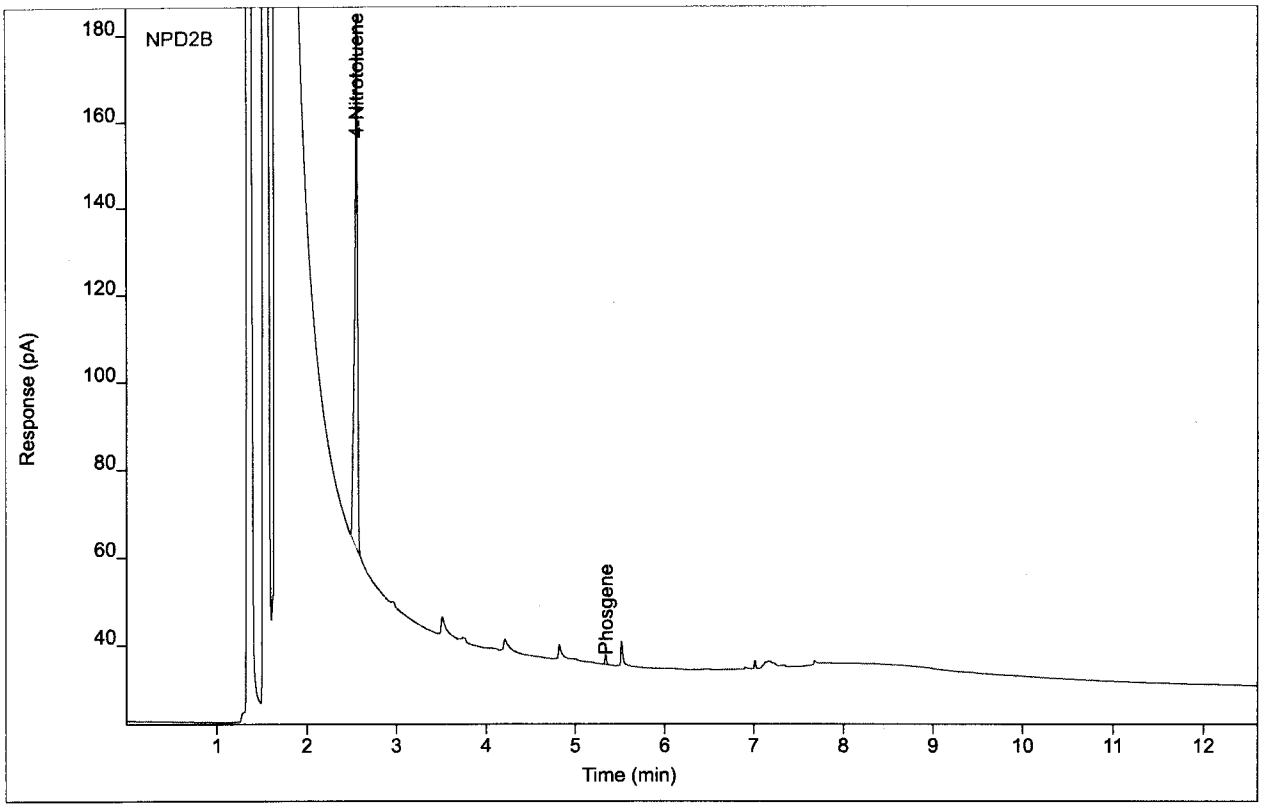
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	257.701	116.225	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	1.20592	0.92112	0.26452	1	0.26452	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.R-AM-BH.FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	042B1001.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 10:23 AM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 42
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



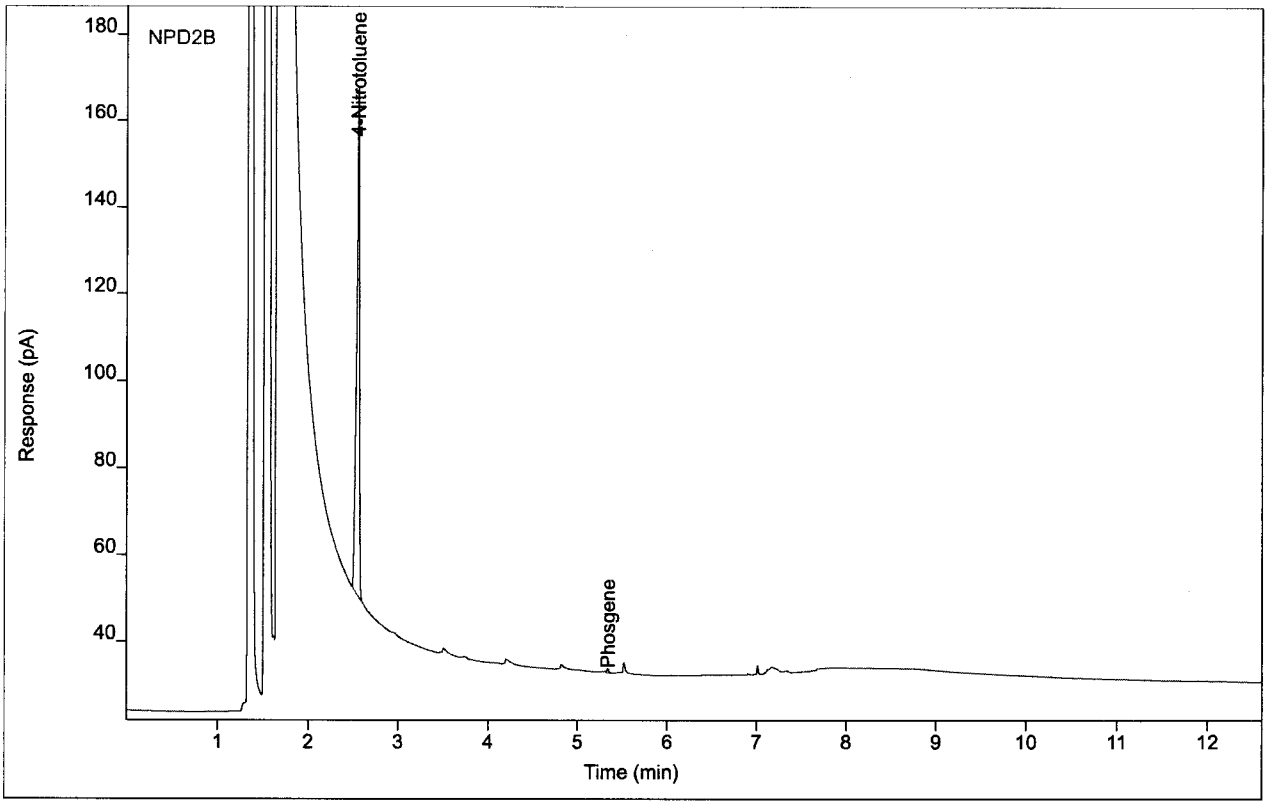
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	260.819	122.611	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	2.74071	2.18513	0.59592	1	0.59592	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.R-AM-BH.BH
Sequence Name	LOLITA0273A ver.4
Inj Data File	043B1101.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 10:38 AM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 43
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



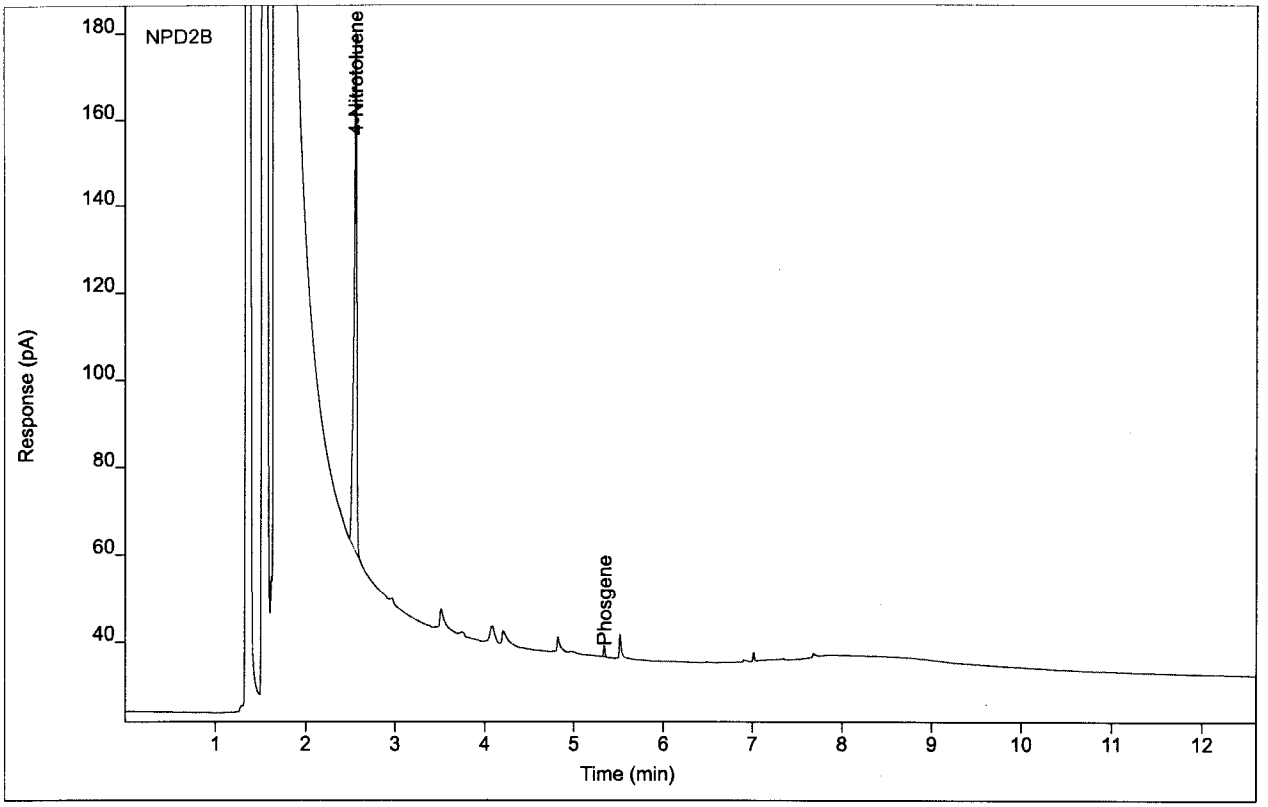
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	256.487	117.479	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	1.43354	1.09672	0.31624	1	0.31624	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.S-AM-FH.FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	044B1301.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 11:08 AM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 44
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



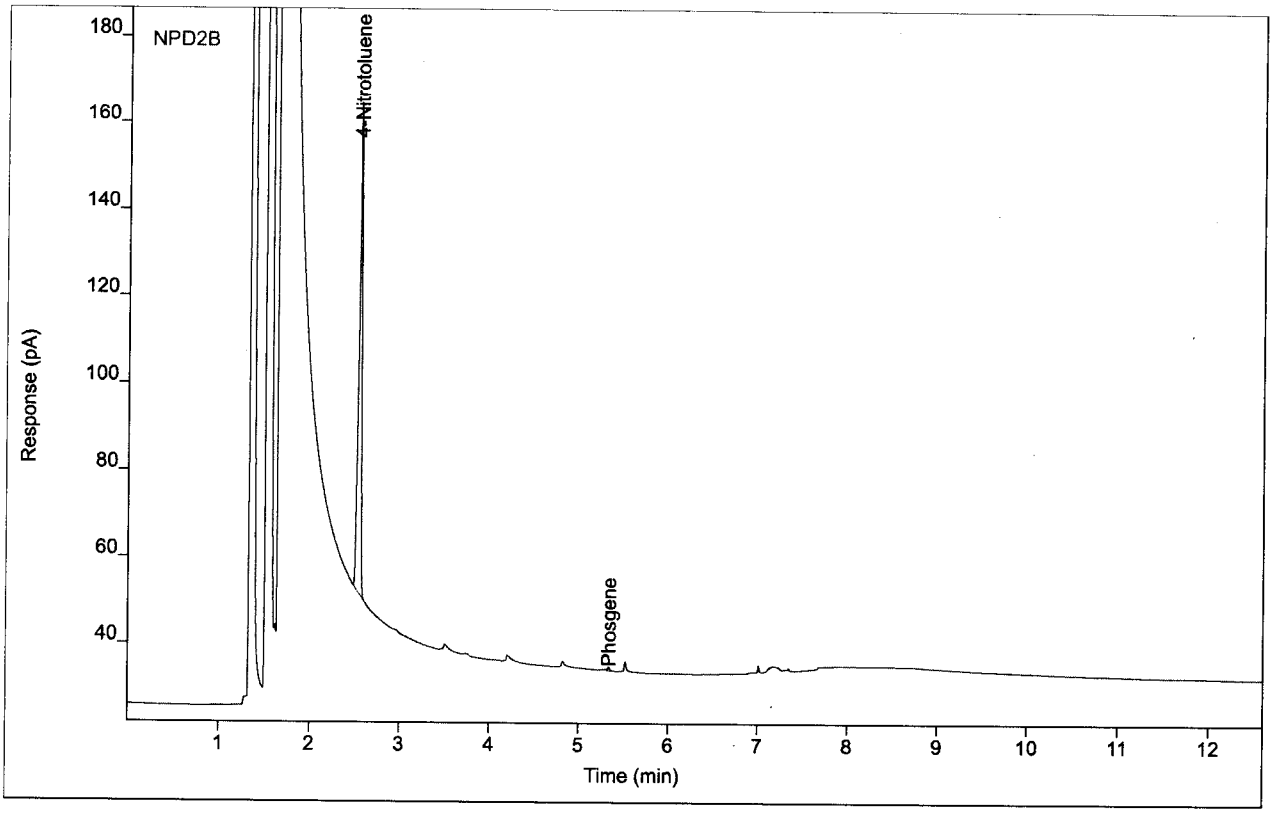
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	253.203	119.506	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	3.33279	2.68041	0.74685	1	0.74685	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.S-AM-FH.BH
Sequence Name	LOLITA0273A ver.4
Inj Data File	045B1401.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 11:23 AM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 45
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



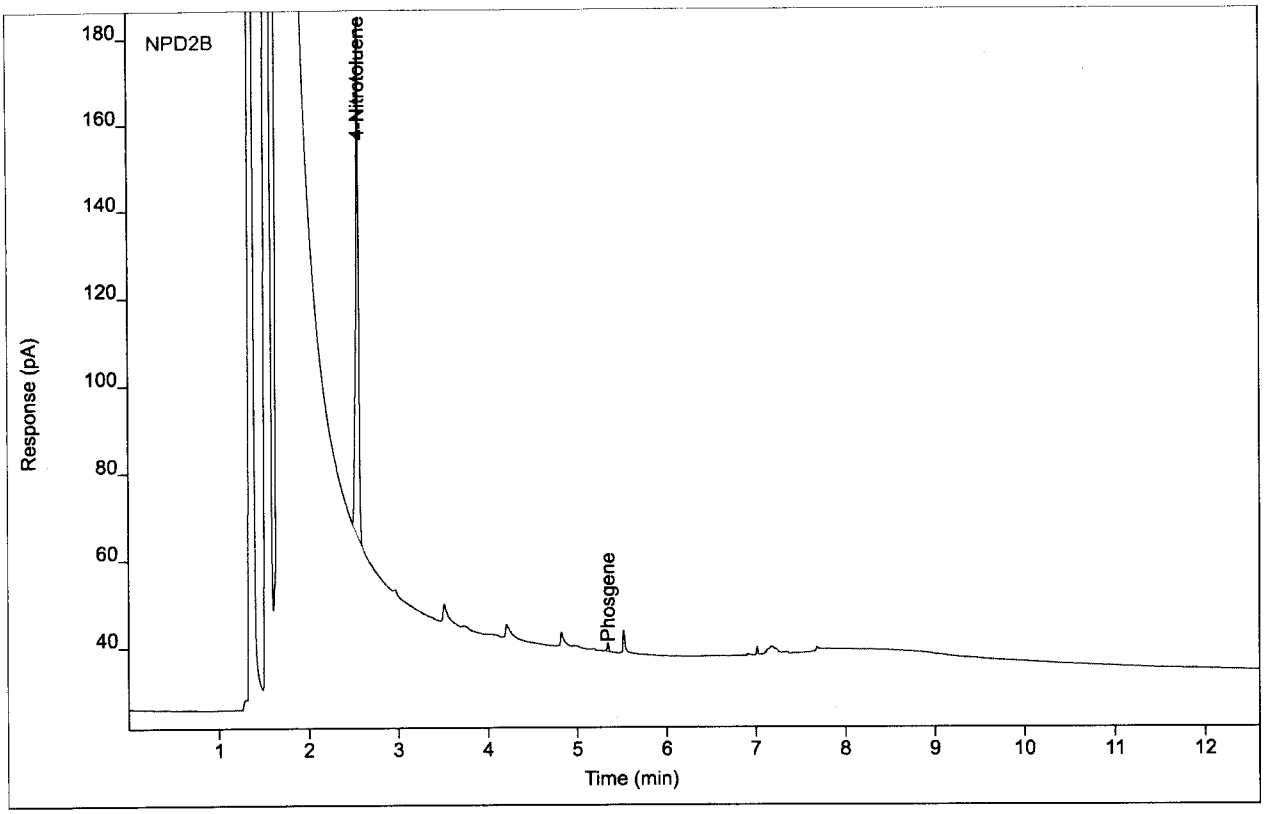
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	247.833	113.486	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	1.31025	1.01697	0.29905	1	0.29905	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.S-AM-BH.FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	046B1501.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 11:38 AM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 46
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



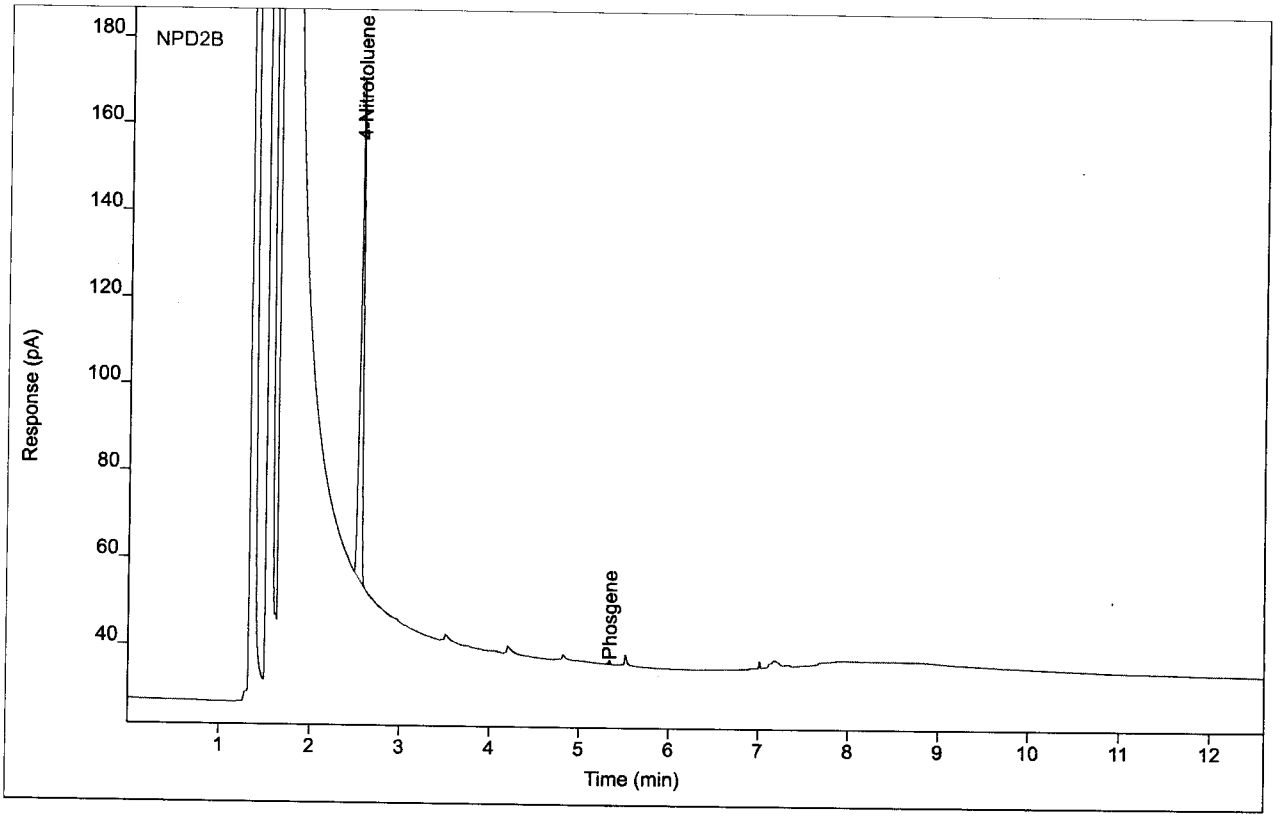
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	249.266	119.850	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	2.52539	2.11143	0.57450	1	0.57450	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.S-AM-BH.BH
Sequence Name	LOLITA0273A ver.4
Inj Data File	047B1601.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 11:53 AM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 47
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



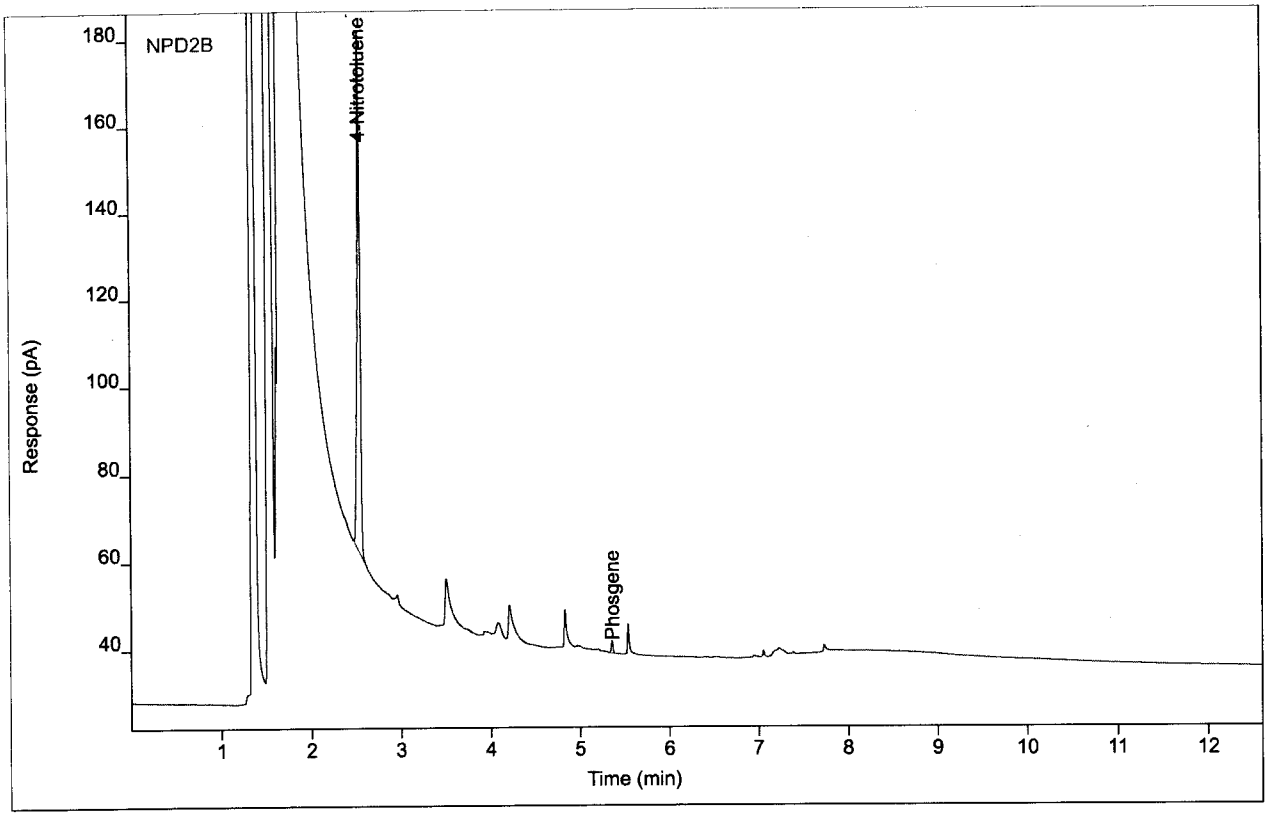
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	250.127	115.462	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	1.30822	1.04659	0.29583	1	0.29583	ug/mL

Chromatogram Report

Sample Name	0719-205.R-PM-FH.r H
Sequence Name	LOLITA0273A ver.4
Inj Data File	048B1701.D
File Location	GC/2019/Lolita/Quar er 3
Injection Date	7/31/2019 12:08 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Enthalpy Analytical

Sample Type	Sample
Vial Number	Vial 48
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



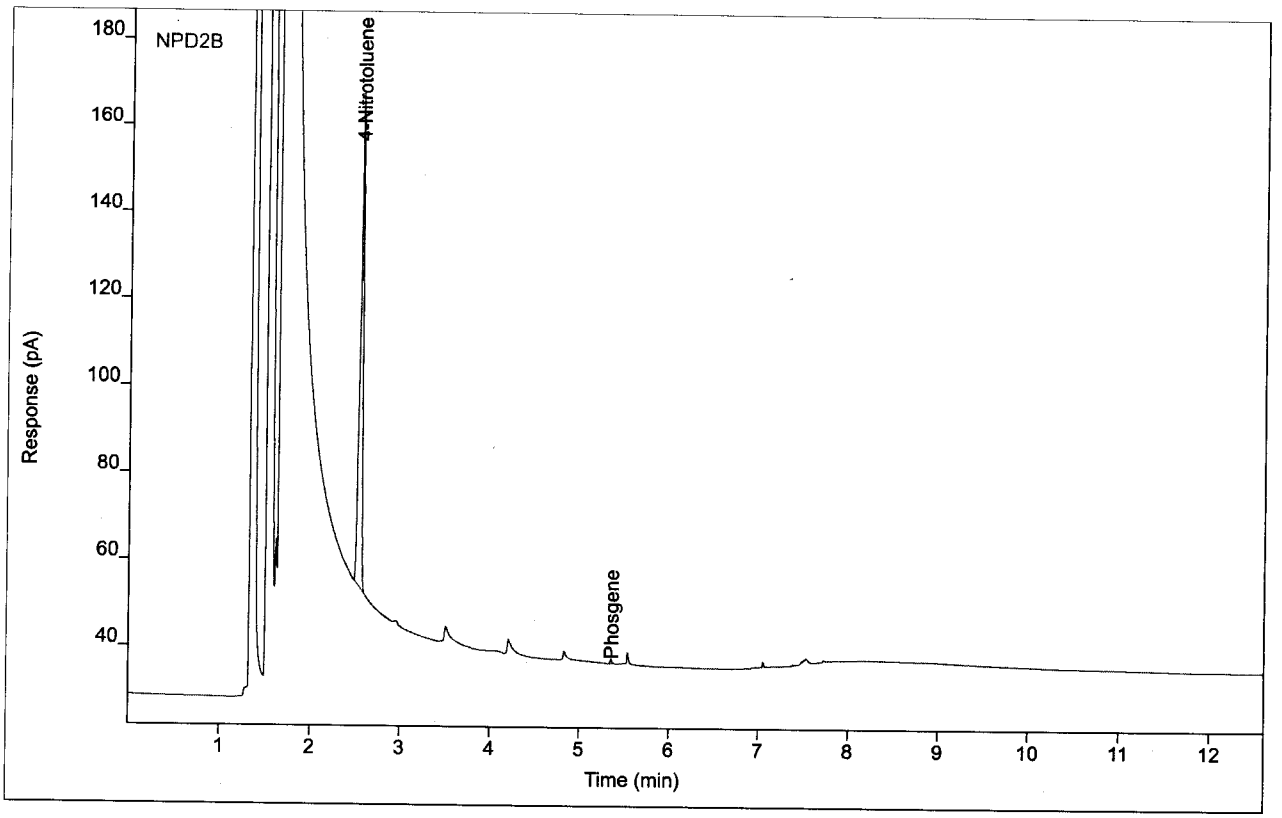
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	261.102	120.114	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	3.67791	2.86897	0.79936	1	0.79936	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.R-PM-FH.BH
Sequence Name	LOLITA0273A ver.4
Inj Data File	049B1801.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 12:24 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 49
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



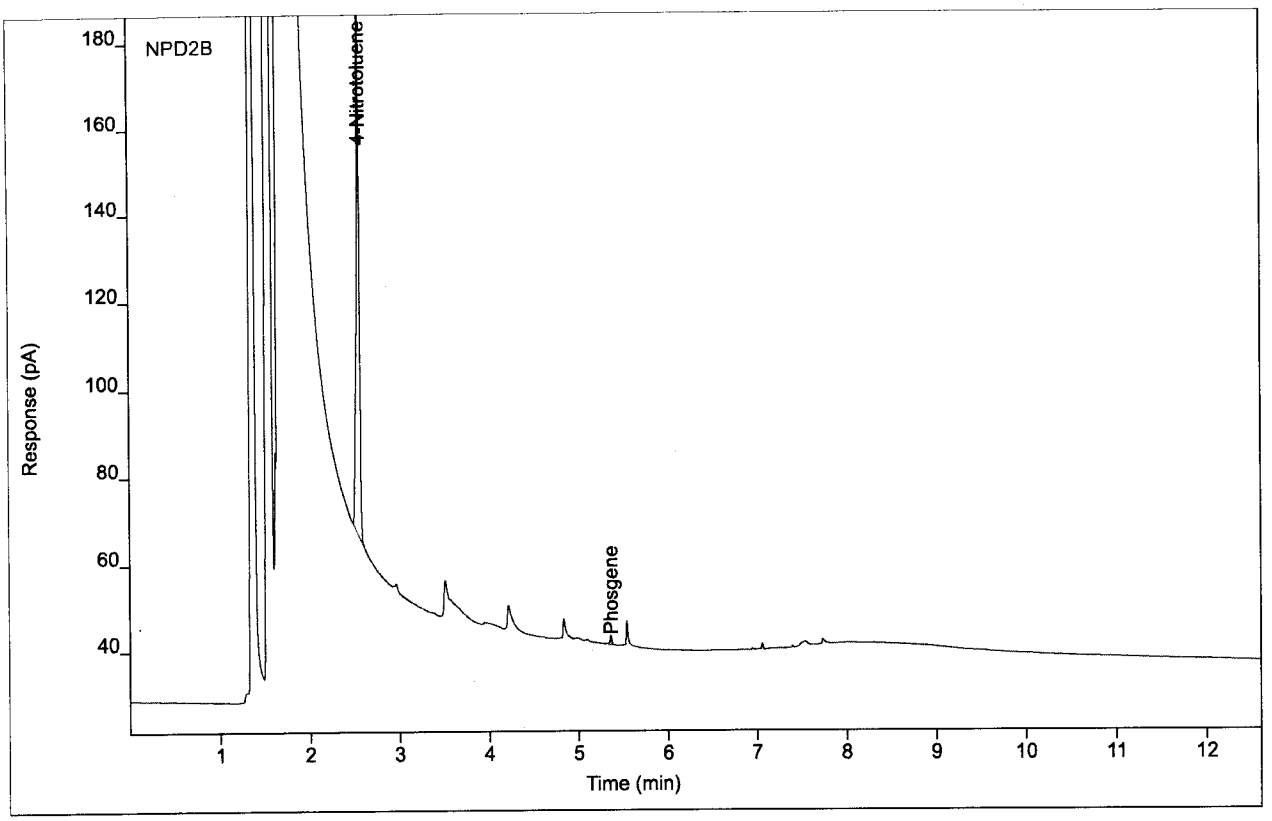
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	252.493	114.673	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	1.51326	1.15138	0.33922	1	0.33922	ug/mL

Chromatogram Report

Sample Name	0719-205.R-PM-BH.FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	050B1901.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 12:39 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Enthalpy Analytical

Sample Type	Sample
Vial Number	Vial 50
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



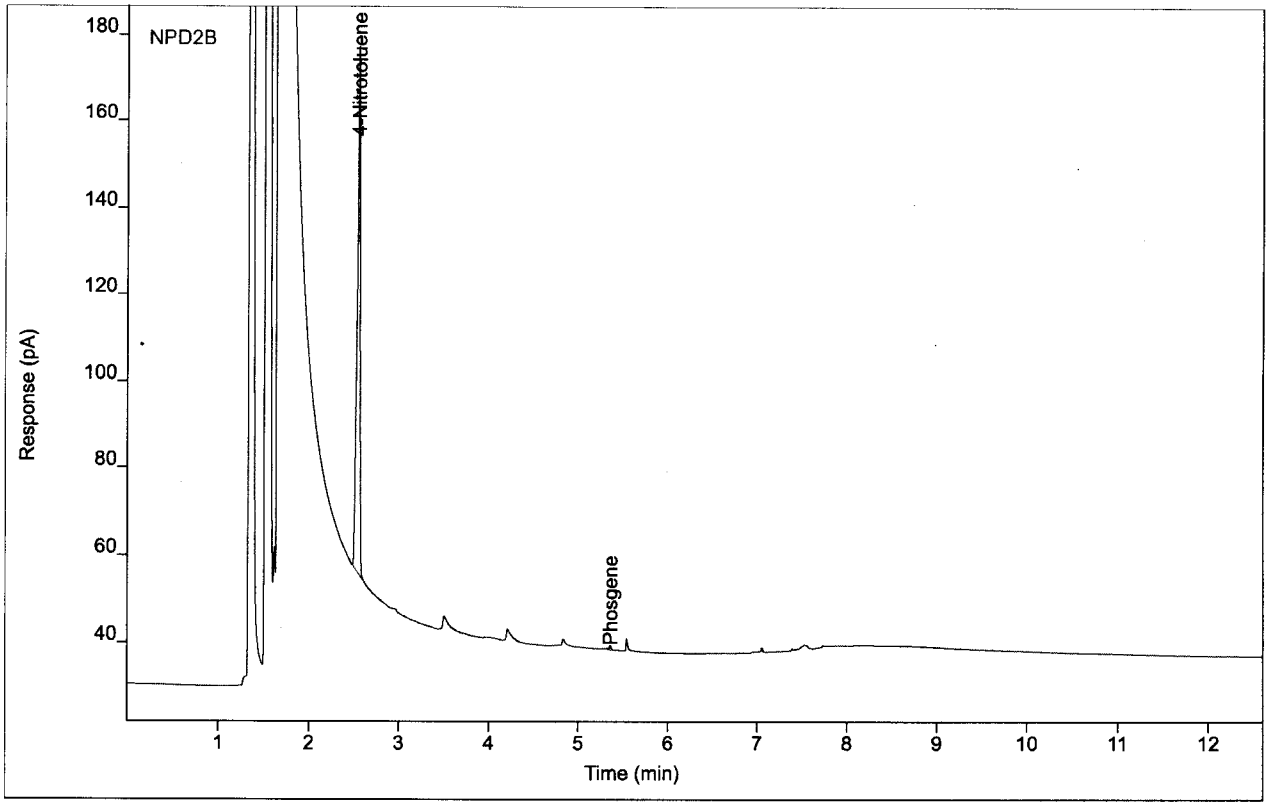
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	260.568	122.318	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	2.86214	2.27166	0.62300	1	0.62300	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.R-PM-BH.BH
Sequence Name	LOLITA0273A ver.4
Inj Data File	051B2001.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 12:54 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 51
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



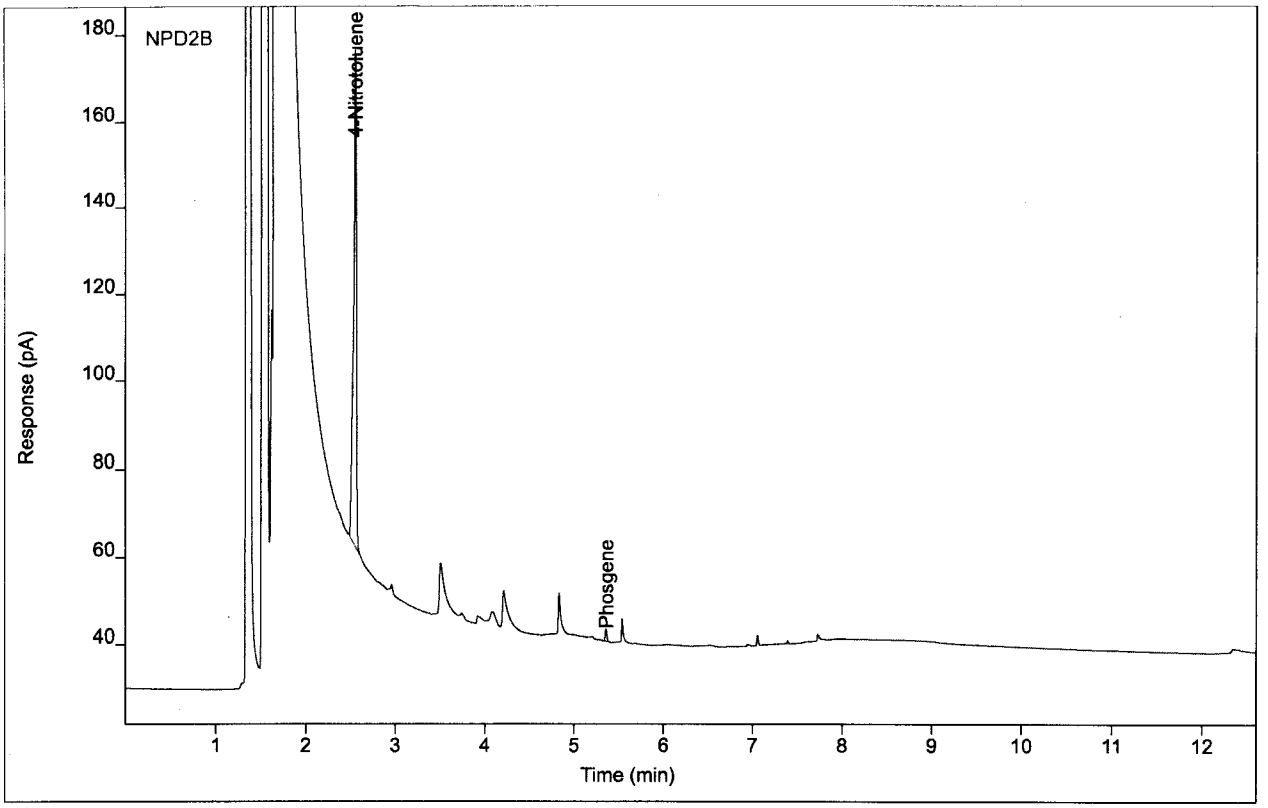
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	270.120	121.573	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	1.42564	1.10488	0.29854	1	0.29854	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.S-PM-FH.FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	056B2201.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 1:24 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 56
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



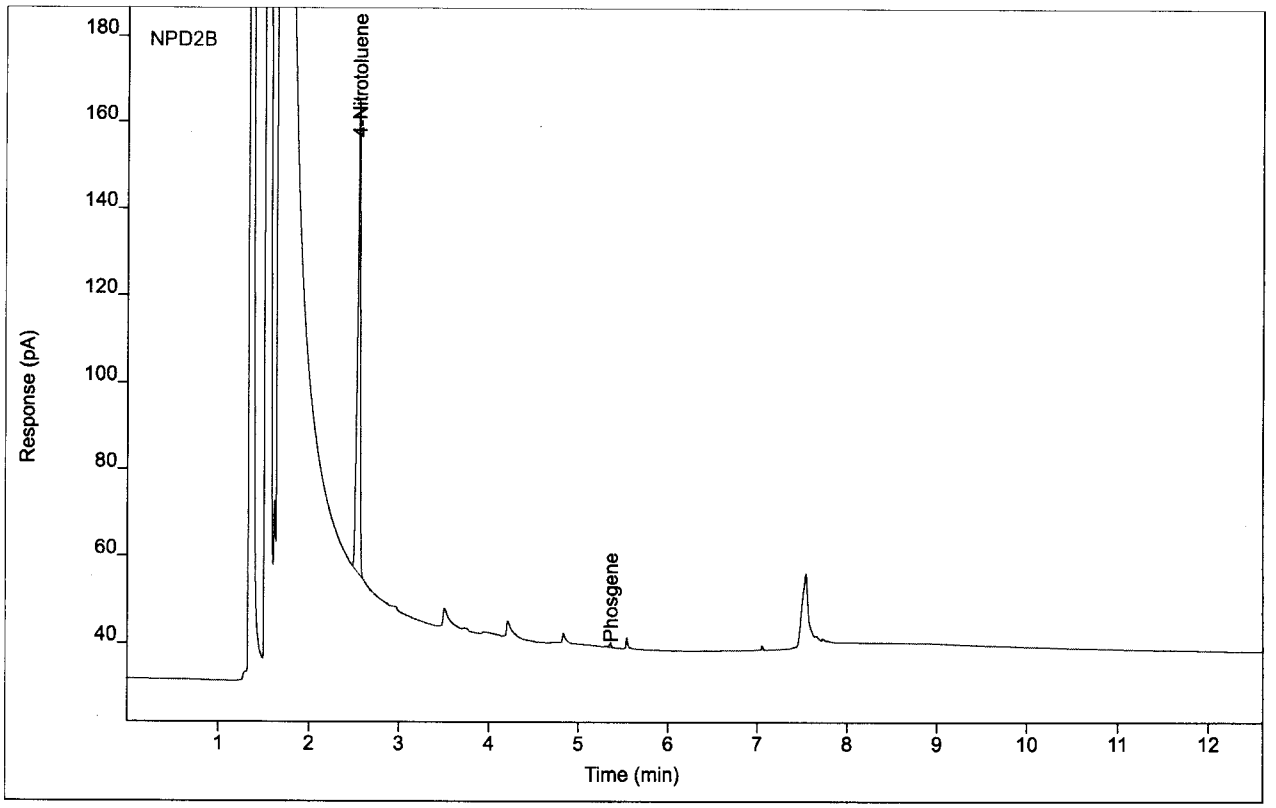
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	247.130	114.209	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	3.56665	2.81301	0.81905	1	0.81905	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.S-PM-FH.BH
Sequence Name	LOLITA0273A ver.4
Inj Data File	057B2301.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 1:39 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 57
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



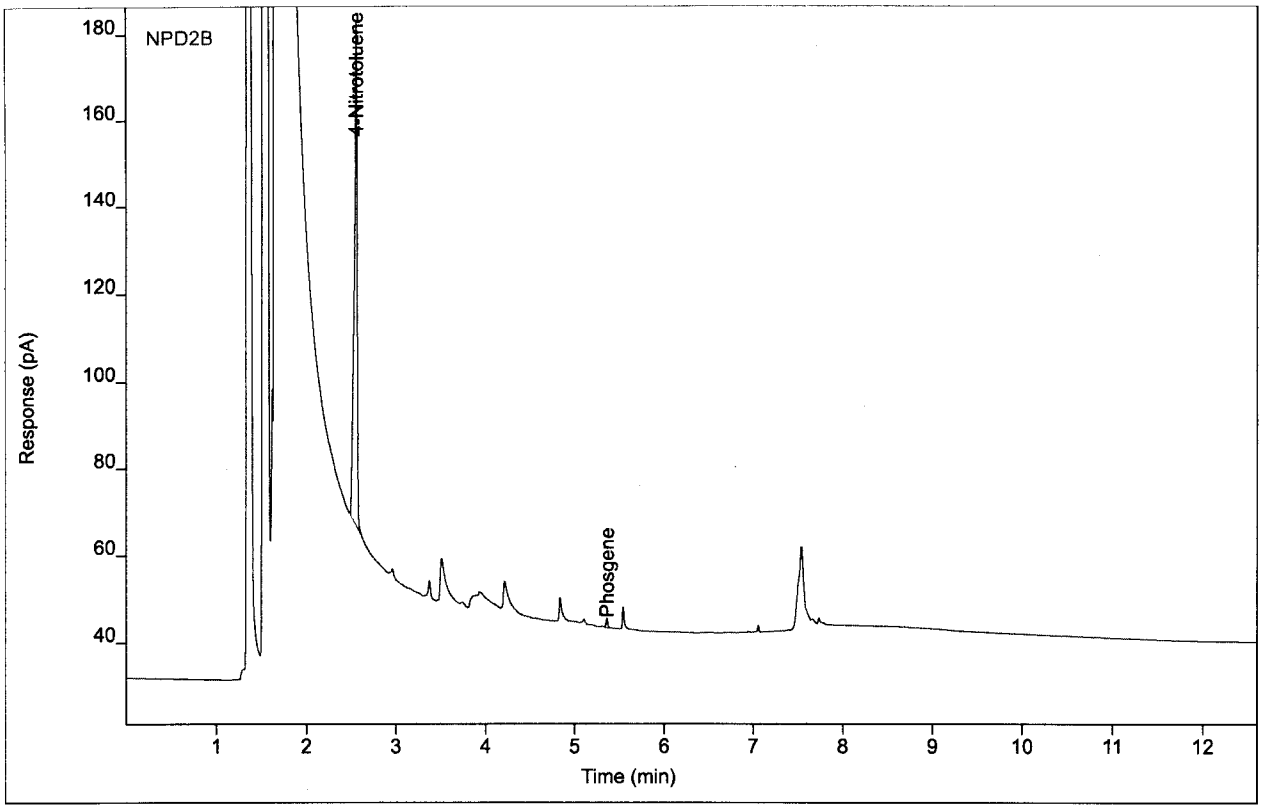
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	241.814	109.433	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	1.60467	1.17868	0.37576	1	0.37576	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.S-PM-BH.FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	058B2401.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 1:54 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 58
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



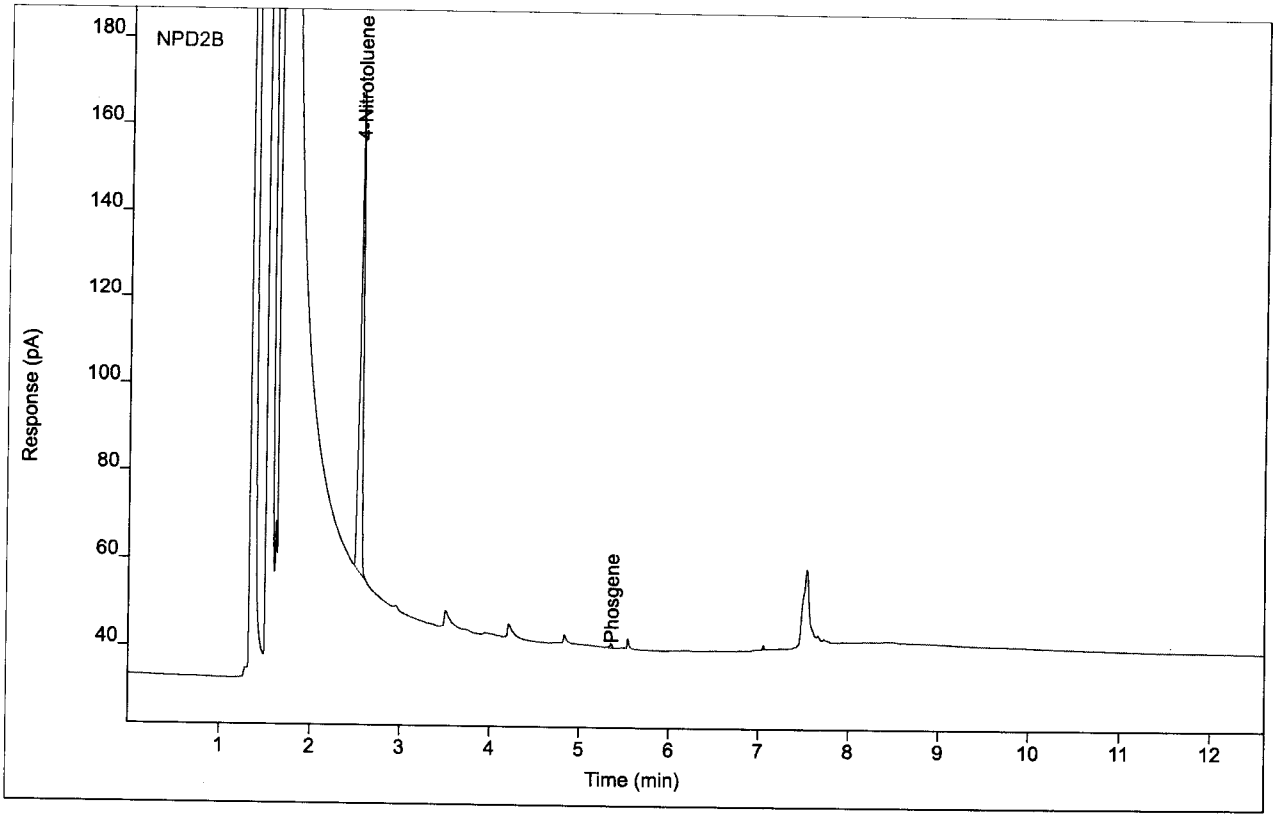
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	251.496	115.790	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	2.94573	2.34204	0.66442	1	0.66442	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.S-PM-BH.BH
Sequence Name	LOLITA0273A ver.4
Inj Data File	059B2501.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 2:09 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 59
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



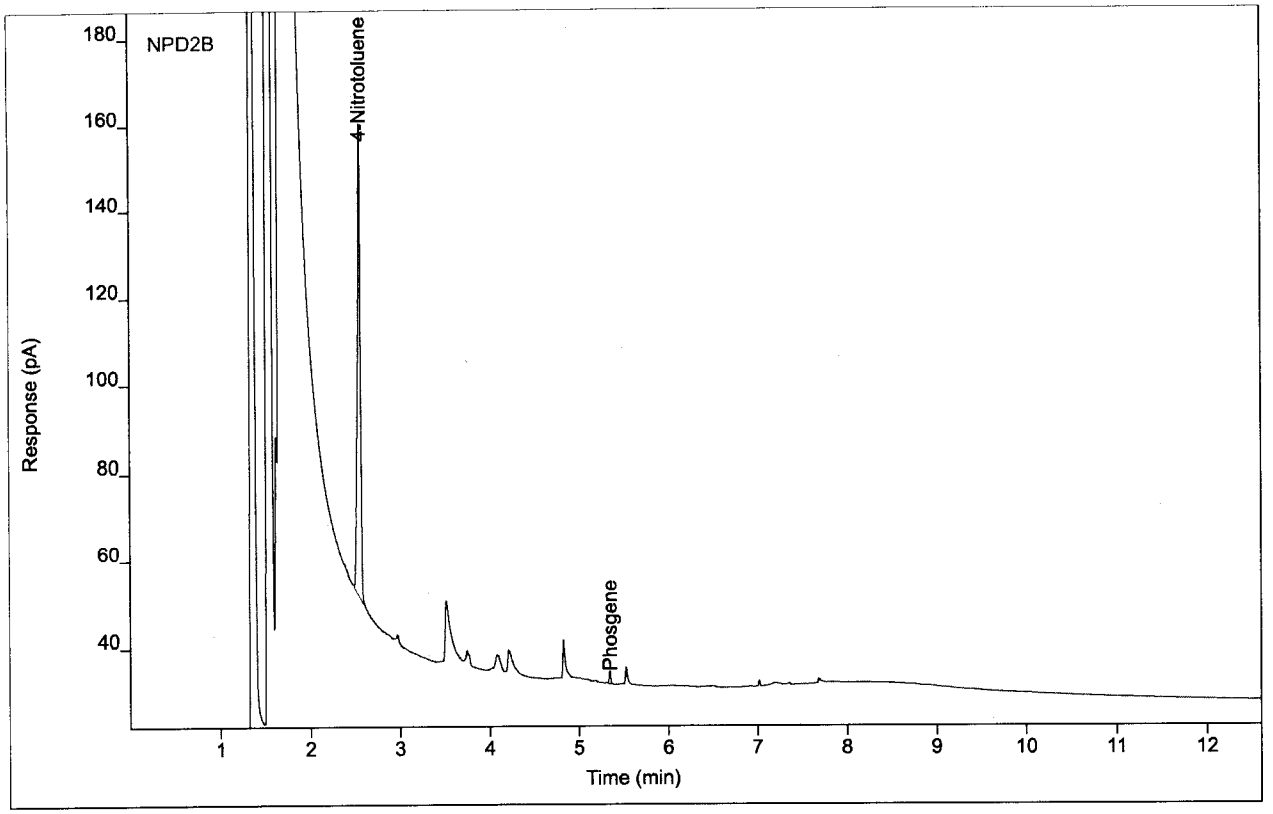
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	249.876	110.970	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	1.50354	1.13129	0.34058	1	0.34058	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.BKGD-FH.FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	035B0301.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/30/2019 7:03 PM
File Modified	7/31/2019 5:40 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 35
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



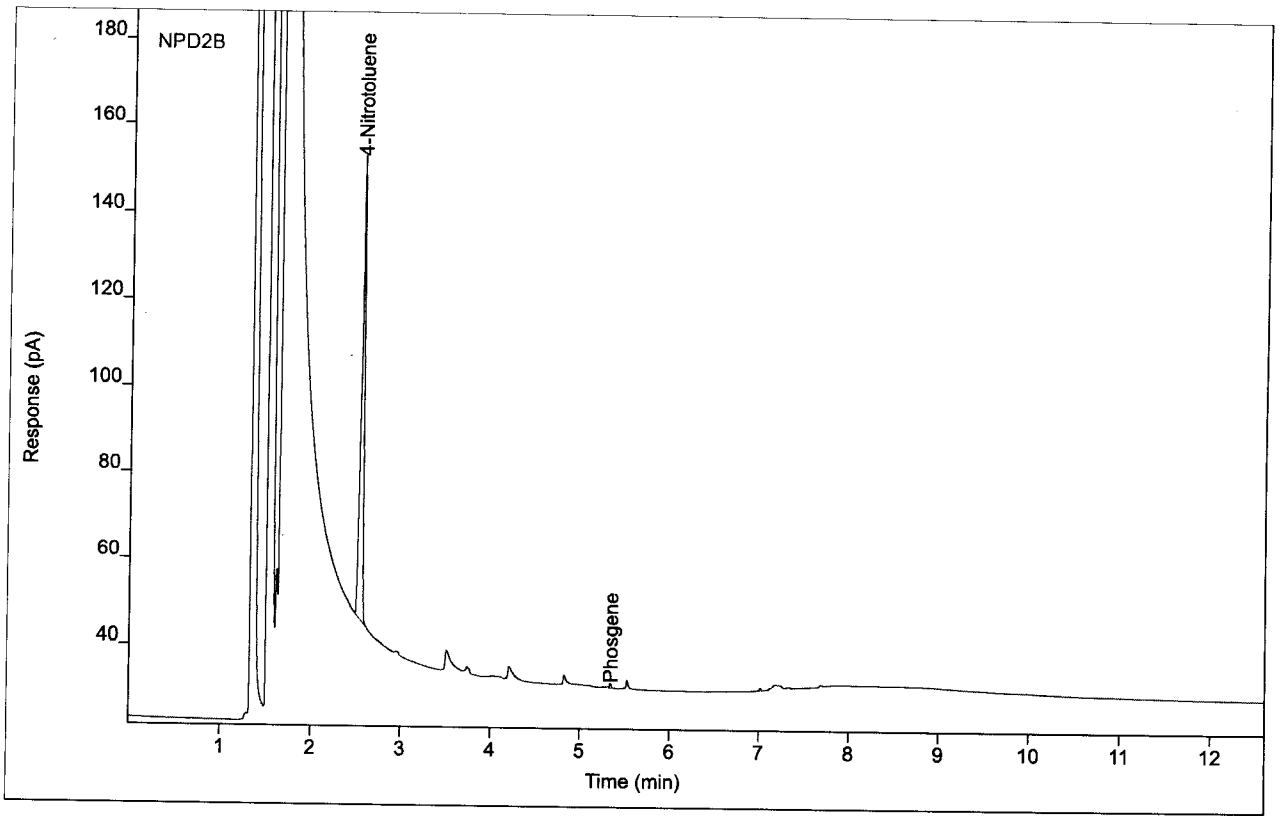
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	237.200	108.953	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	3.66932	2.98460	0.87801	1	0.87801	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.BKGD-FH.BH
Sequence Name	LOLITA0273A ver.4
Inj Data File	037B0501.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/30/2019 7:33 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 37
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



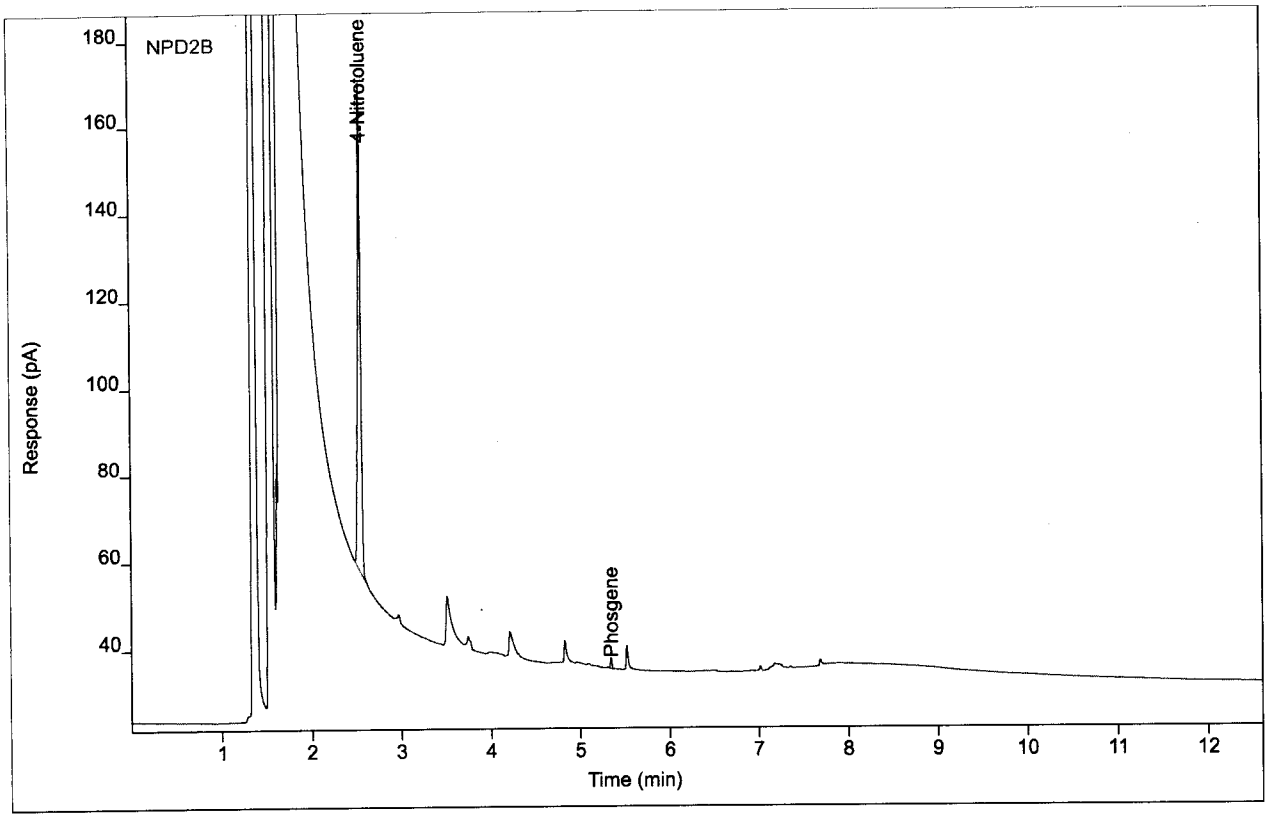
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	236.496	107.398	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	1.55067	1.24445	0.37126	1	0.37126	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.BKGD-BH.FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	038B0601.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/30/2019 7:48 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 38
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



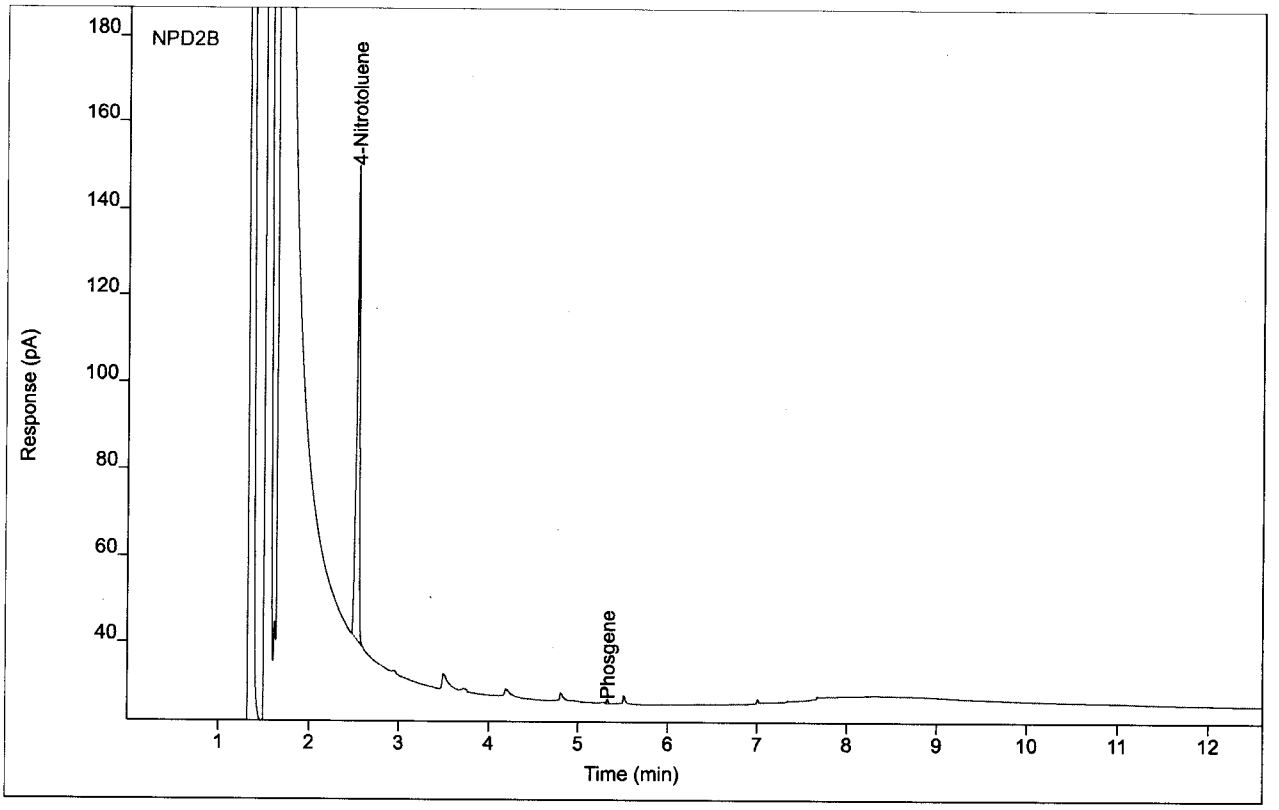
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	244.810	112.676	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	3.15426	2.53047	0.73104	1	0.73104	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.BKGD-BH.BH
Sequence Name	LOLITA0273A ver.4
Inj Data File	039B0701.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 9:38 AM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 39
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



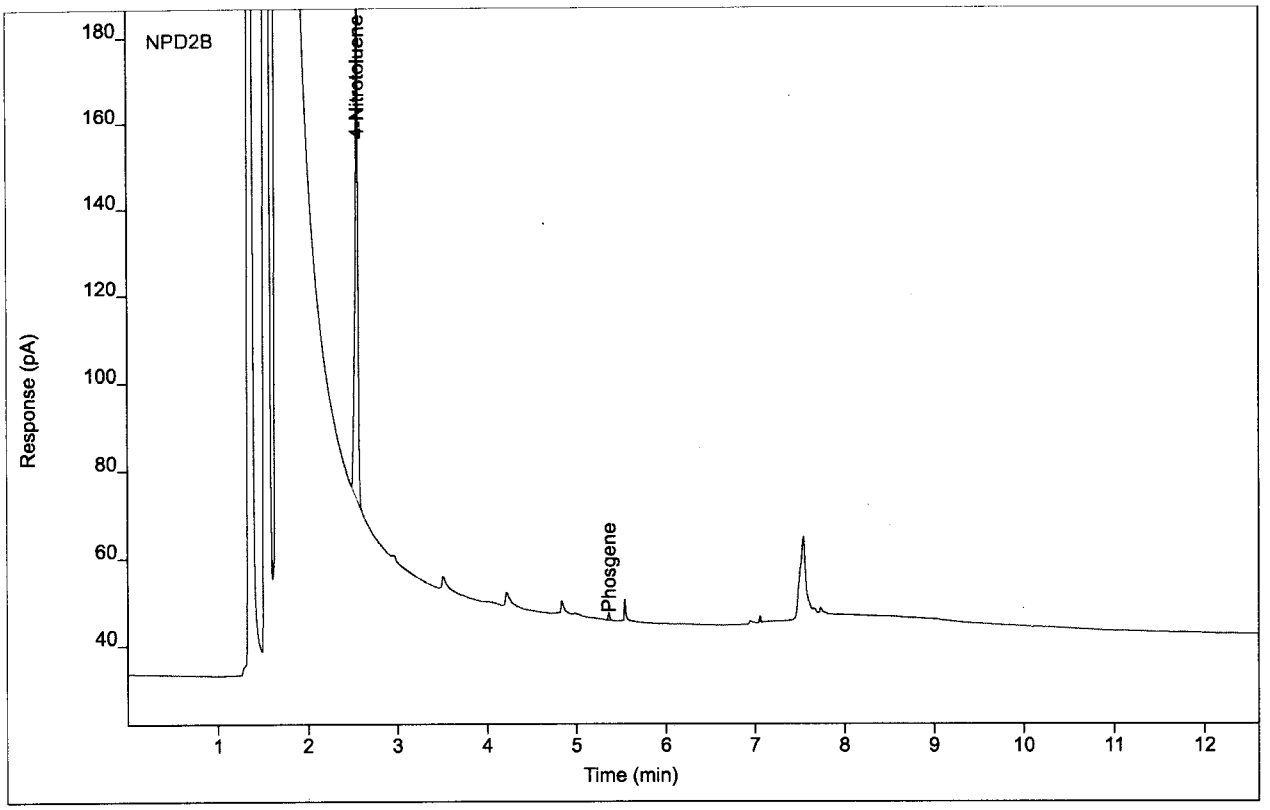
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.54	244.332	109.872	232.640	1	232.640	ug/mL
Phosgene	BB	5.33	1.44909	1.08402	0.33567	1	0.33567	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.BLK-FH.FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	052B2601.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 2:24 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 52
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



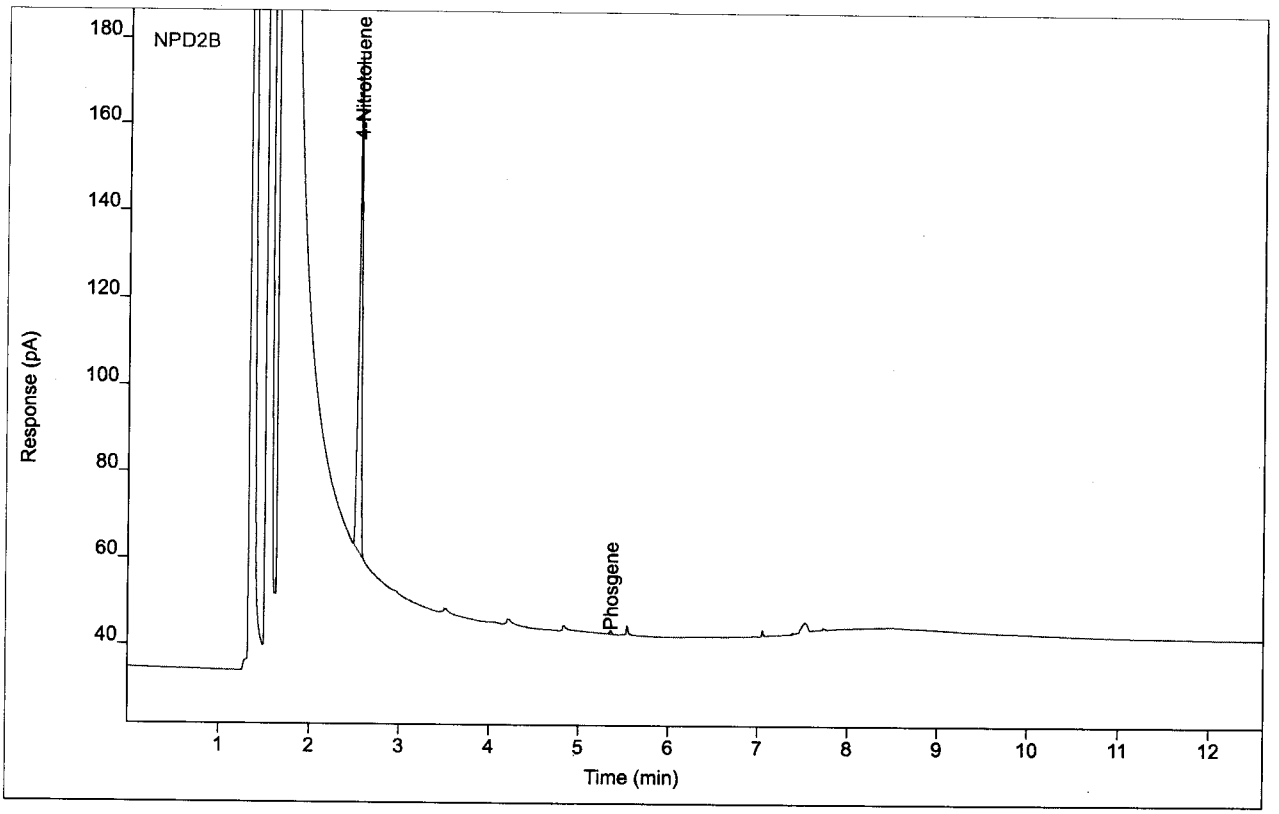
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	247.735	118.573	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	2.25645	1.69188	0.51634	1	0.51634	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.BLK-FH.BH
Sequence Name	LOLITA0273A ver.4
Inj Data File	053B2701.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 2:39 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 53
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



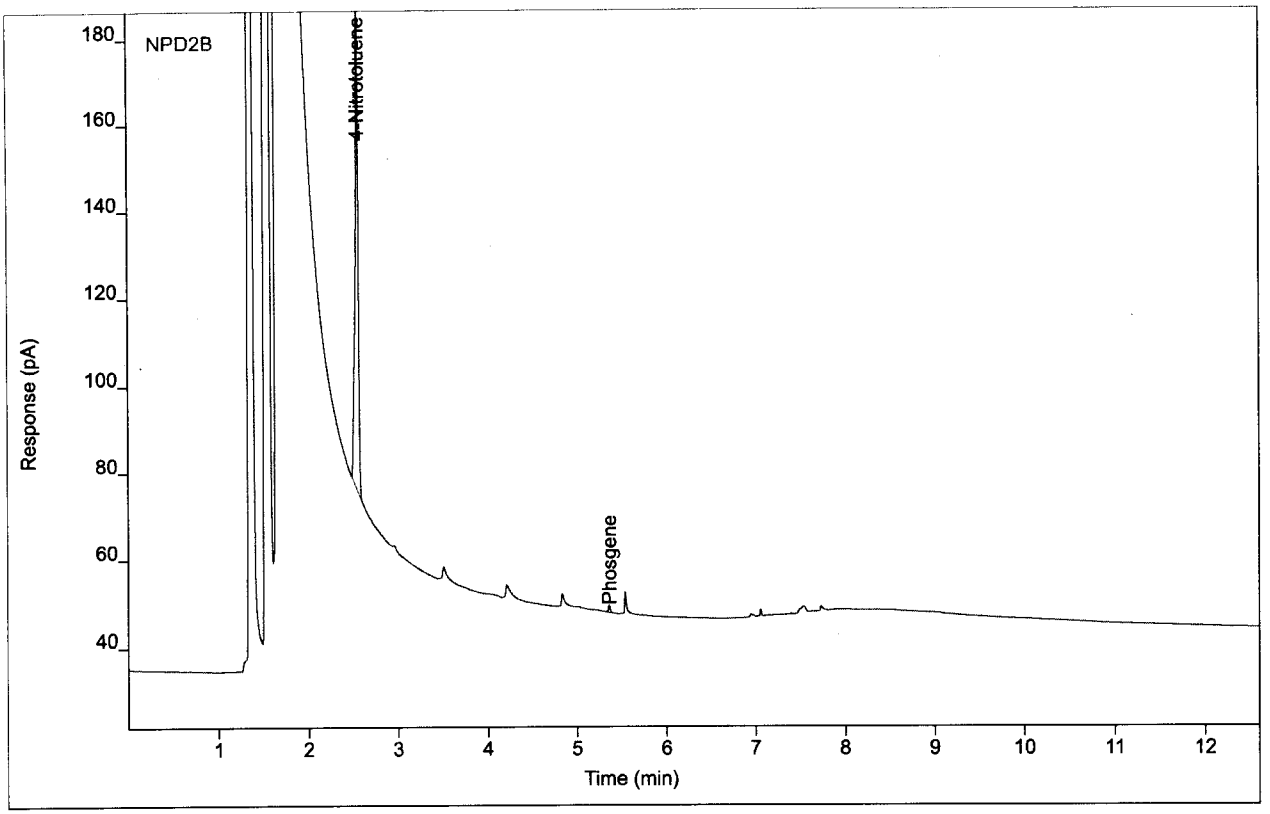
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	256.601	115.596	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	1.25296	0.90088	0.27608	1	0.27608	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.BLK-BH.FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	054B2801.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 2:54 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 54
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



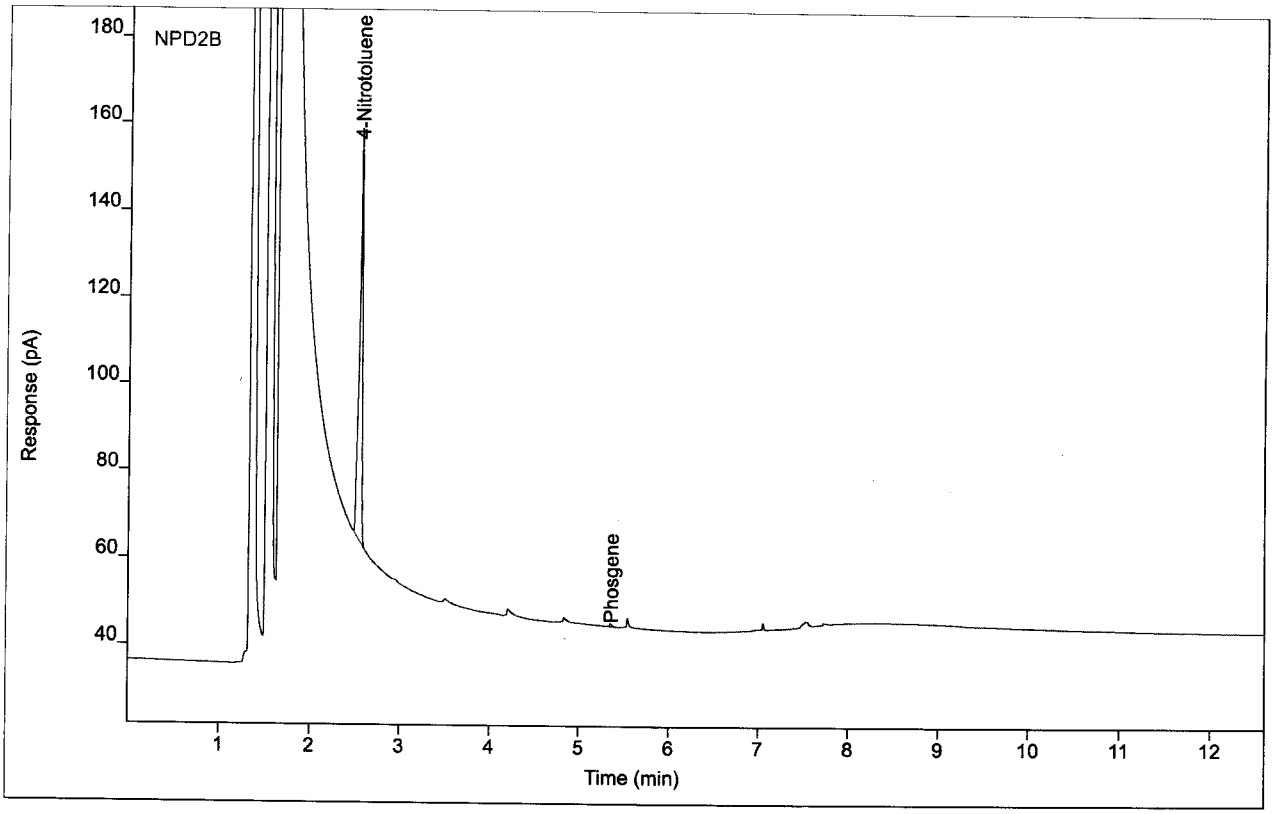
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	243.881	111.490	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	2.20517	1.70104	0.51256	1	0.51256	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.BLK-BH.BH
Sequence Name	LOLITA0273A ver.4
Inj Data File	055B2901.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 3:09 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 55
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



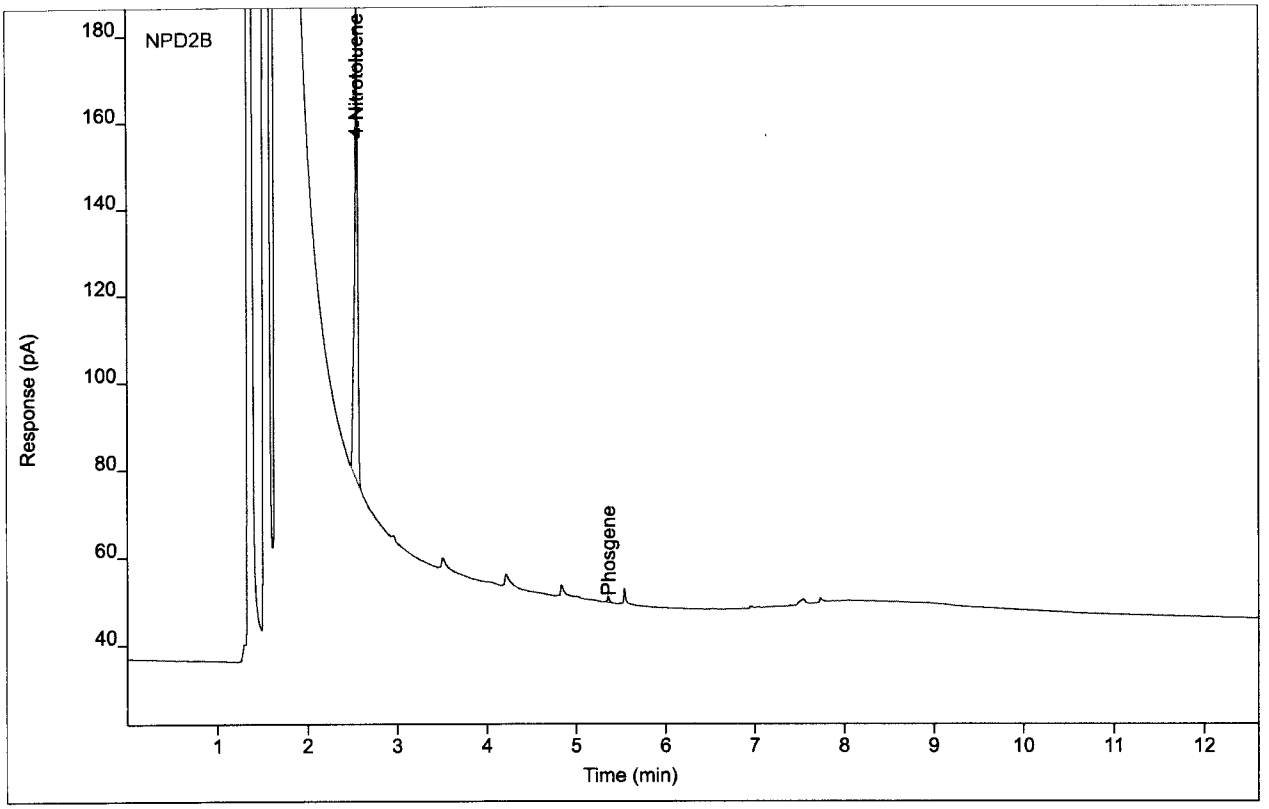
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	216.287	95.2122	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	1.18140	0.84020	0.30902	1	0.30902	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcprep2953 #MB XAD FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	060B3001.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 3:24 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 60
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM

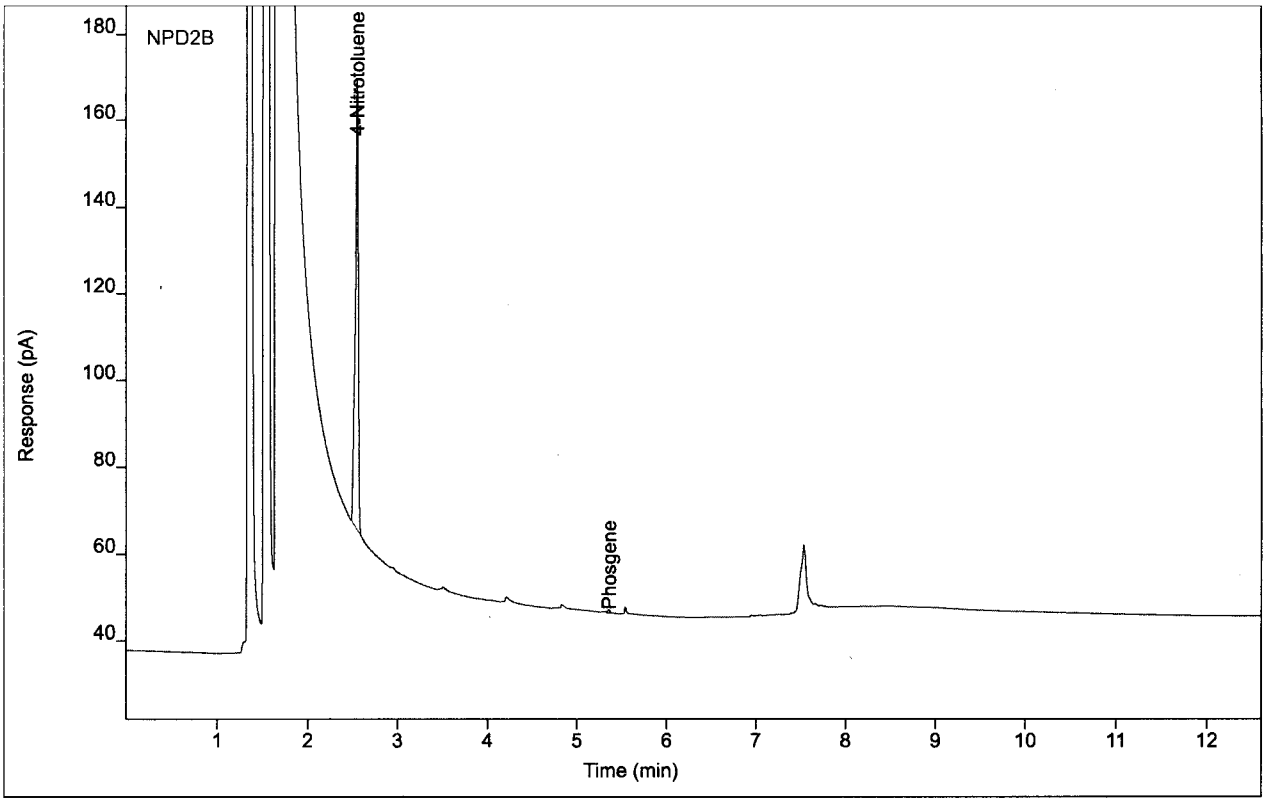


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	241.572	111.162	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	2.08454	1.54719	0.48908	1	0.48908	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcprep2953 #MB XAD BH	Sample Type	Sample
Sequence Name	LOLITA0273A ver.4	Vial Number	Vial 61
Inj Data File	061B3101.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	7/31/2019 3:39 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	7/31/2019 5:41 PM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:40 PM
Operator	Daniel Clayton	Printed	7/31/2019 5:44 PM

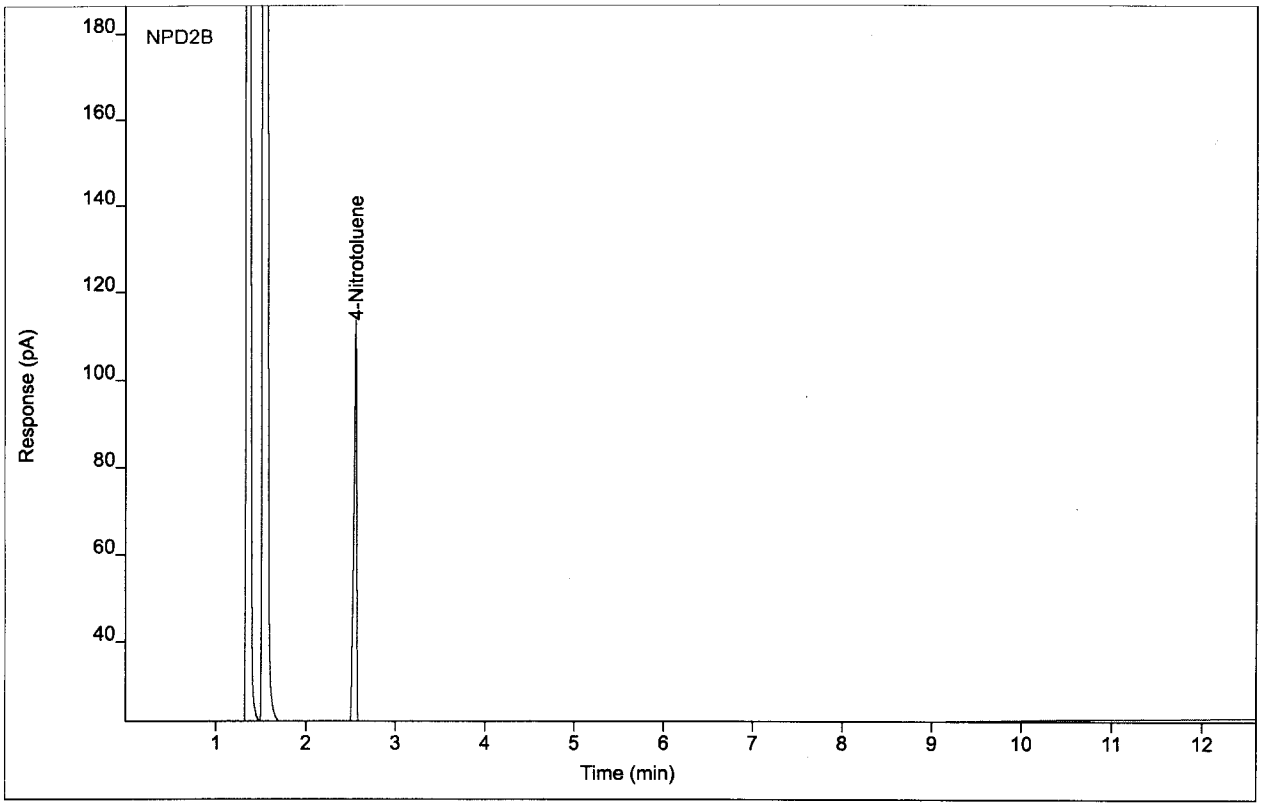


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	238.541	103.827	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	1.16271	0.77692	0.27559	1	0.27559	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcprep2953 #RB	Sample Type	Sample
Sequence Name	LOLITA0273A ver.4	Vial Number	Vial 34
Inj Data File	034B0201.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	7/30/2019 6:48 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	7/31/2019 5:40 PM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:40 PM
Operator	Daniel Clayton	Printed	7/31/2019 5:44 PM



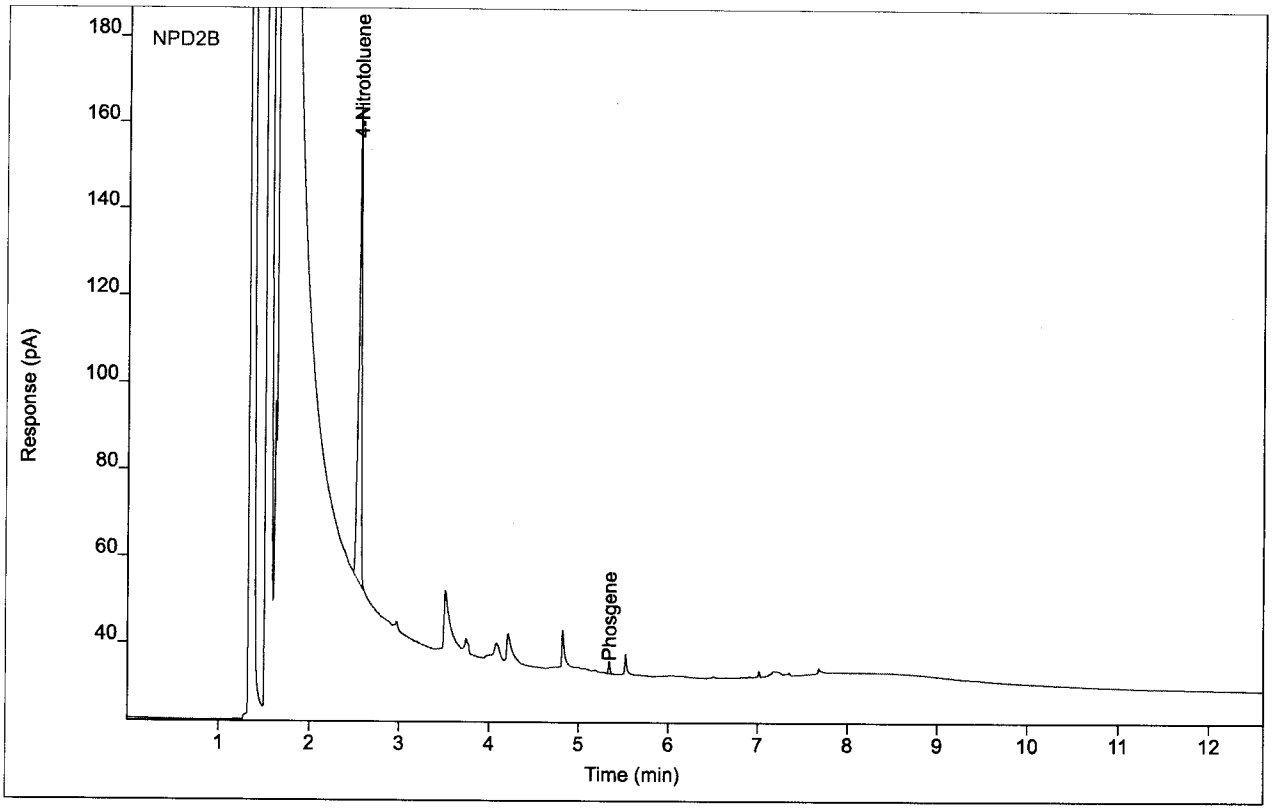
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	210.536	93.7290	232.640	1	232.640	ug/mL
Phosgene		(5.34)				1		

Chromatogram Report

Enthalpy Analytical

Sample Name	0719-205.BKGD-FH-LD.FH
Sequence Name	LOLITA0273A ver.4
Inj Data File	036B0401.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/30/2019 7:18 PM
File Modified	7/31/2019 5:40 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 36
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	241.450	110.769	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	3.78192	3.02576	0.88904	1	0.88904	ug/mL

Calibration Table

General Calibration Setting

Calib. Data Modified : 7/31/2019 5:40:12 PM
Signals calculated separately : No

Rel. Reference Window : 0.000 %
Abs. Reference Window : 0.100 min
Rel. Non-ref. Window : 0.000 %
Abs. Non-ref. Window : 0.070 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Ignored
Weight : Quadratic (Amnt)

Recalibration Settings:
Average Response : No Update
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Sample ISTD Information:

ISTD #	ISTD Amount [ug/mL]	Name
1	232.64000	4-Nitrotoluene

Signal Details

Signal 1: NPD2 B,

Overview Table

RT	Sig	Lvl	Amount [ug/mL]	Area	Rsp.Factor	Ref	ISTD #	Compound
2.552	1	1	239.74800	294.12701	8.15117e-1	No	Yes 1	4-Nitrotoluene
		2	239.75000	295.22165	8.12102e-1			
		3	239.75000	291.11169	8.23567e-1			
5.344	1	1	9.98860e-1	5.05250	1.97696e-1	No	No 1	Phosgene

RT	Sig	Lvl	Amount [ug/mL]	Area	Rsp.Factor	Ref	ISTD #	Compound
		2	4.99430	23.78846	2.09946e-1			
		3	9.98860	52.05507	1.91885e-1			

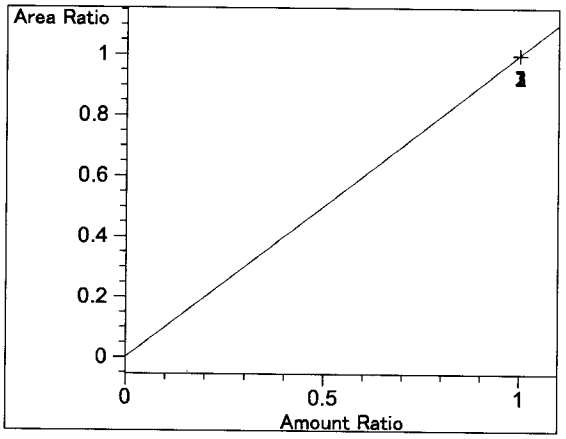
Peak Sum Table

No Entries in table

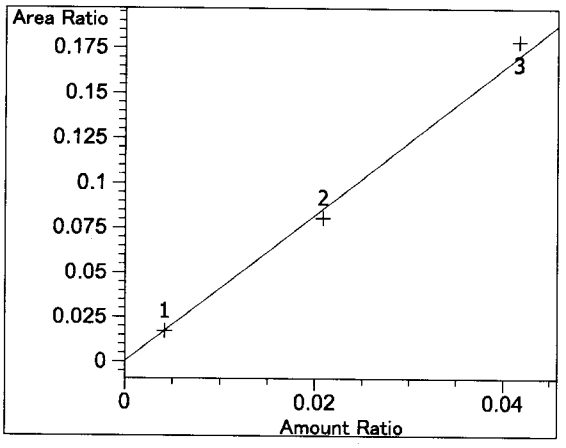
6 Warnings or Errors :

Warning : Curve requires more calibration points., (4-Nitrotoluene)
Warning : Curve requires more calibration points. at 2.552 min, signal 1
Warning : ISTD compound not calibrated on all levels, (4-Nitrotoluene)
Warning : ISTD compound not calibrated on all levels, (4-Nitrotoluene)
Warning : ISTD compound not calibrated on all levels, (4-Nitrotoluene)
Warning : ISTD compound not calibrated on all levels, (4-Nitrotoluene)

Calibration Curves



4-Nitrotoluene at exp. RT: 2.552
NPD2 B,
Correlation: 1.00000
Residual Std. Dev.: 0.00000
Formula: y = mx + b
m: 1.00000
b: 0.00000
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 1
Level 3 : 1



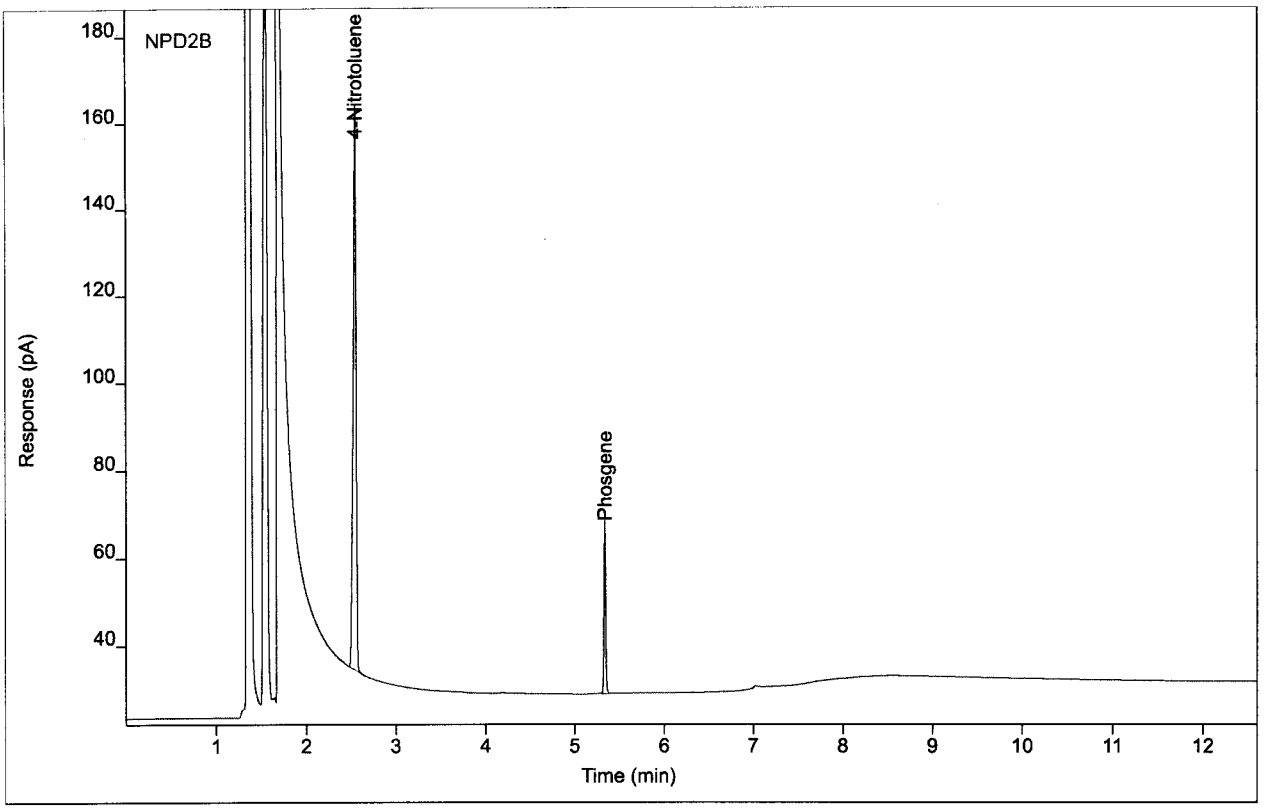
Phosgene at exp. RT: 5.344
NPD2 B,
Correlation: 0.99805
Residual Std. Dev.: 0.00955
Formula: y = mx + b
m: 4.09156
b: 2.72753e-5
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.040001
Level 3 : 0.01

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #13
Sequence Name	LOLITA0273 ver.3
Inj Data File	031B0601.D
File Location	GC/2019/Mr. Ed/Quarter 1
Injection Date	7/30/2019 4:01 PM
File Modified	7/31/2019 4:38 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	31
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 4:38 PM
Printed	7/31/2019 5:44 PM

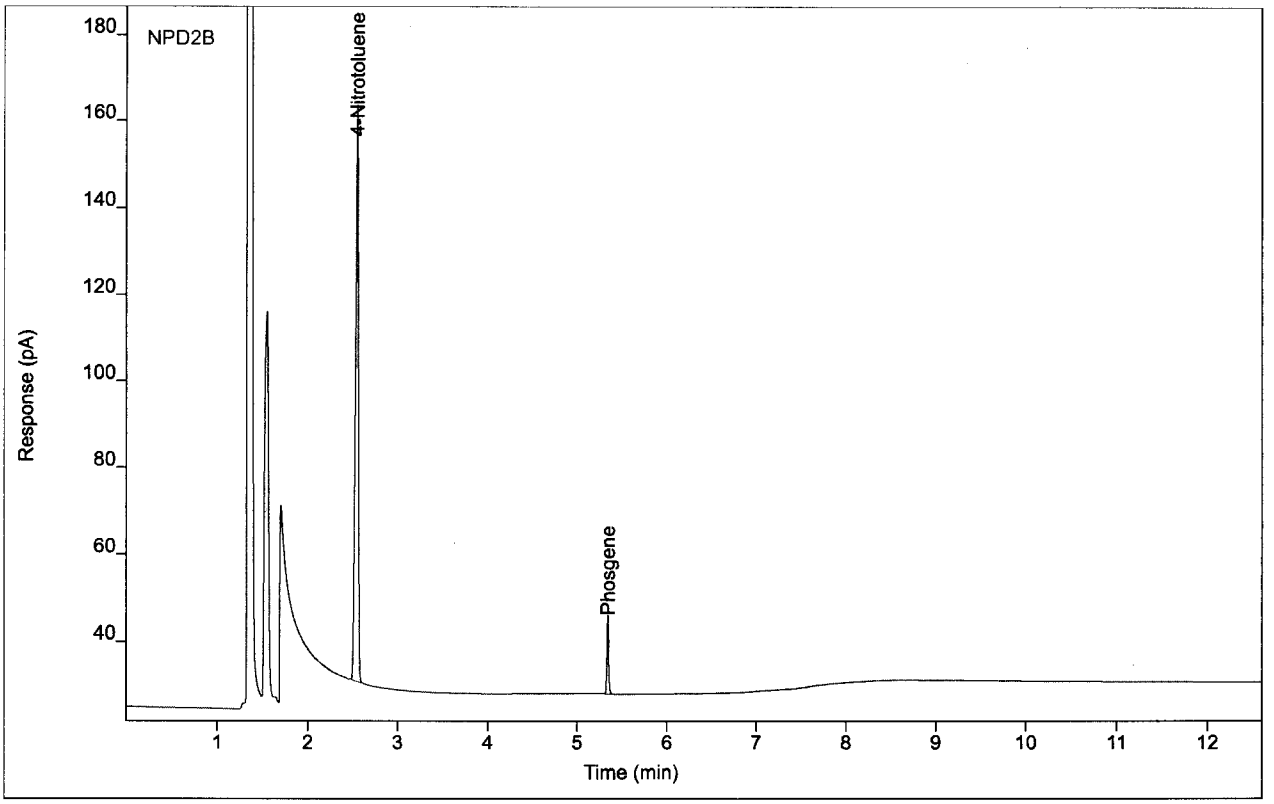


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	I BB	2.55	291.112	129.722	239.750			ug/mL
Phosgene	BB	5.34	52.0551	39.6969	10.2677	1	10.2677	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #12	Sample Type	Calibration
Sequence Name	LOLITA0273 ver.3	Vial Number	32
Inj Data File	032B0701.D	Injection Volume	1
File Location	GC/2019/Mr. Ed/Quarter 1	Injection	1 of 1
Injection Date	7/30/2019 4:16 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	7/31/2019 4:38 PM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 4:38 PM
Operator	Daniel Clayton	Printed	7/31/2019 5:44 PM

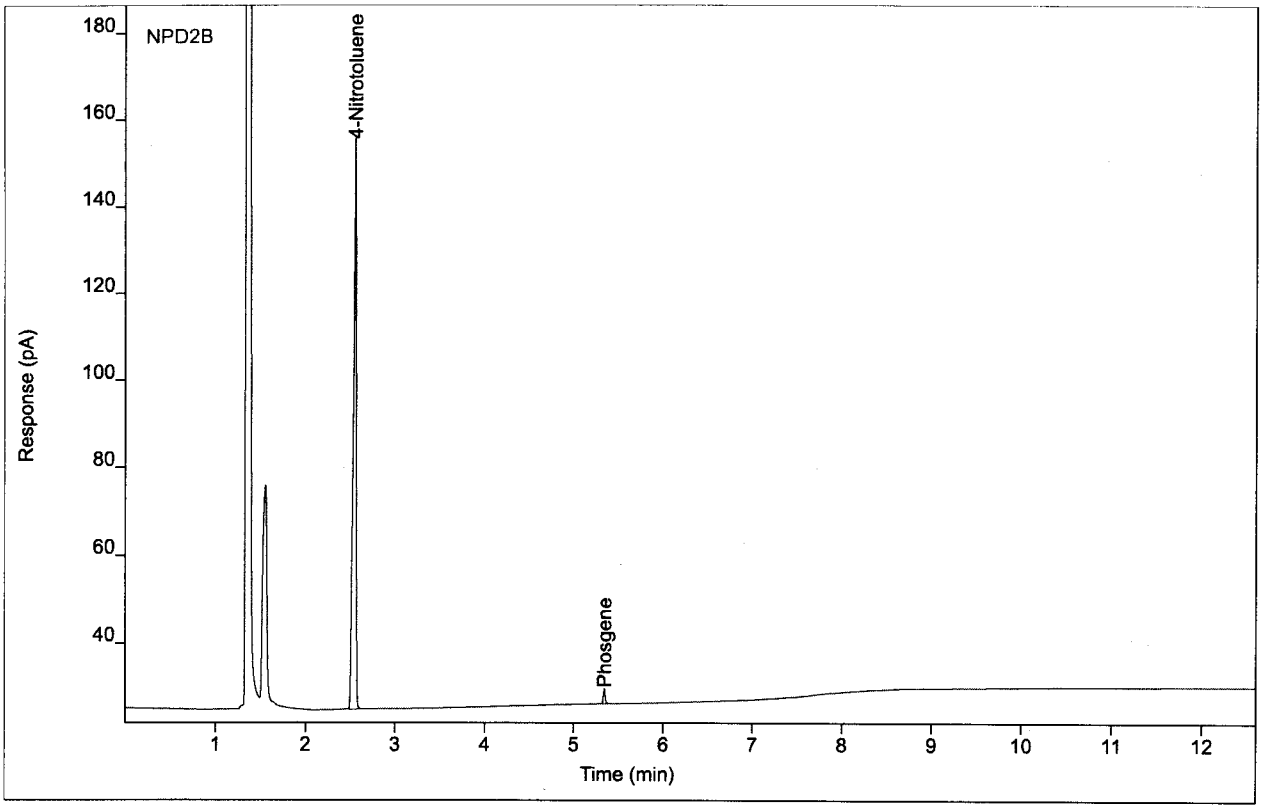


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	I BB	2.55	295.222	132.655	239.750			ug/mL
Phosgene	BB	5.34	23.7885	18.1957	4.64391	1	4.64391	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #11	Sample Type	Calibration
Sequence Name	LOLITA0273 ver.3	Vial Number	33
Inj Data File	033B0801.D	Injection Volume	1
File Location	GC/2019/Mr. Ed/Quarter 1	Injection	1 of 8
Injection Date	7/30/2019 4:31 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	7/31/2019 4:38 PM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 4:38 PM
Operator	Daniel Clayton	Printed	7/31/2019 5:44 PM



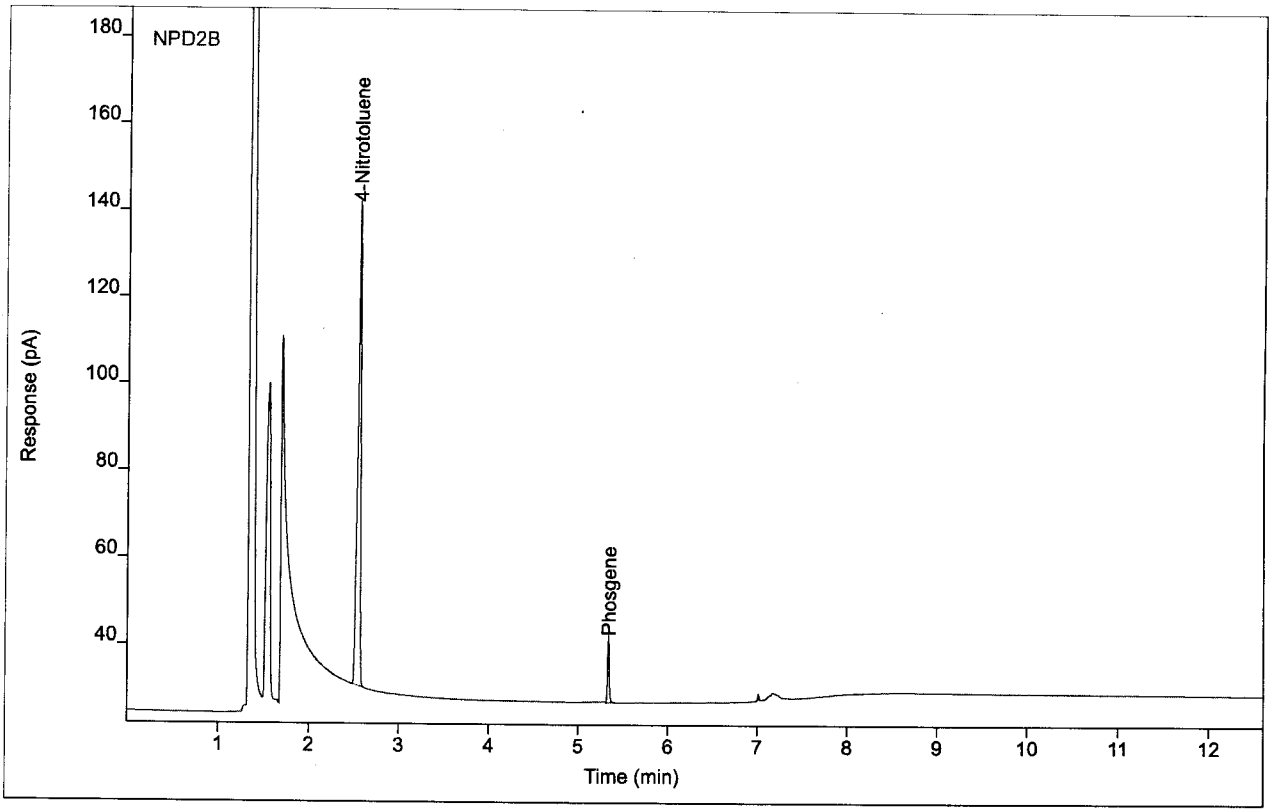
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	I BB	2.55	294.127	130.879	239.748			ug/mL
Phosgene	BB	5.34	5.05250	3.69148	1.01442	1	1.01442	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #12
Sequence Name	LOLITA0273A ver.4
Inj Data File	032B1201.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 10:53 AM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	Vial 32
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



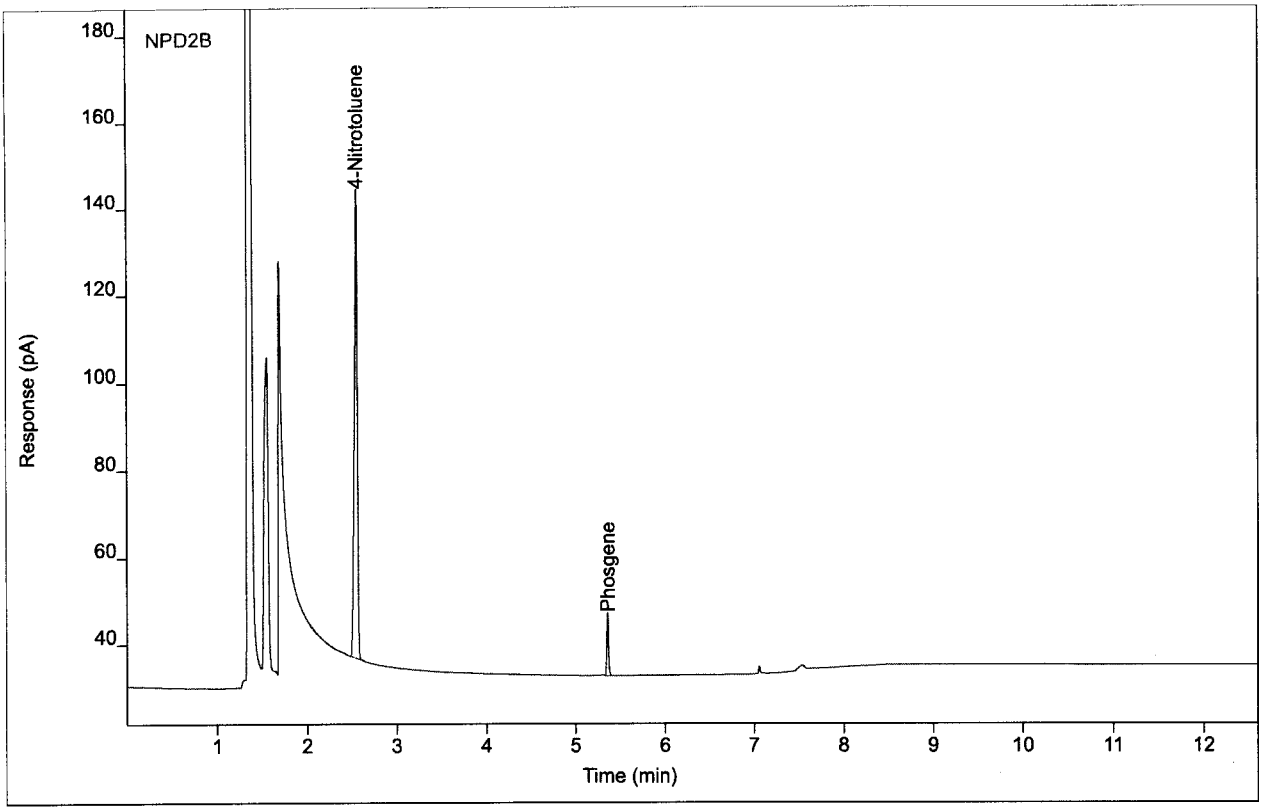
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	249.710	111.791	232.640	1	232.640	ug/mL
Phosgene	BB	5.34	20.1383	15.4905	4.58392	1	4.58392	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #12
Sequence Name	LOLITA0273A ver.4
Inj Data File	032B2101.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 1:09 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	Vial 32
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



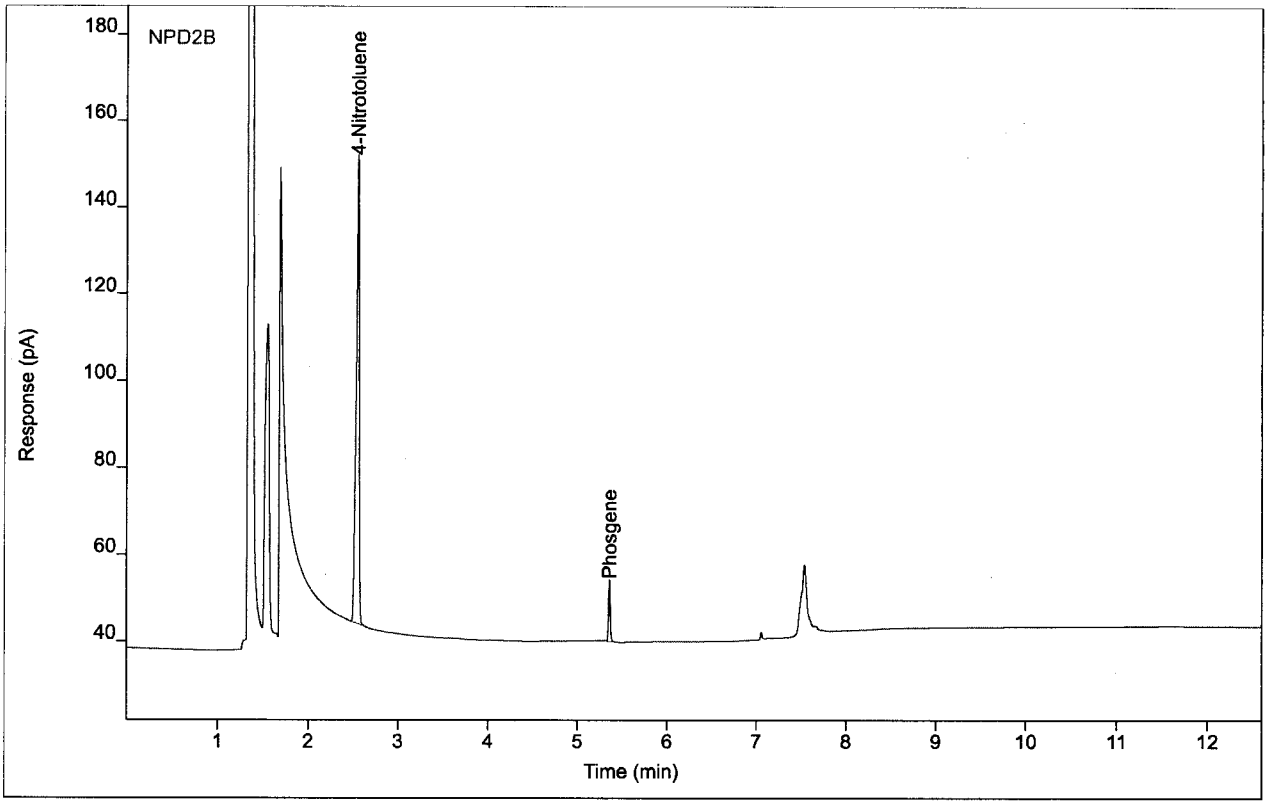
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	243.484	107.793	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	19.4272	14.6337	4.53508	1	4.53508	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #12
Sequence Name	LOLITA0273A ver.4
Inj Data File	032B3201.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	7/31/2019 3:54 PM
File Modified	7/31/2019 5:41 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	Vial 32
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:40 PM
Printed	7/31/2019 5:44 PM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	248.229	108.118	232.640	1	232.640	ug/mL
Phosgene	BB	5.36	19.7415	14.5959	4.52037	1	4.52037	ug/mL

dified on: 7/30/2019 at 2:13:53 PM

LUMN COMP 1
Derive from front detector

COLUMN COMP 2
Derive from back detector

POST RUN
Post Time: 0.00 min

ME TABLE

Time	Specifier	Parameter & Setpoint

GC Injector

Front Injector:
parameters specified

Back Injector:

Sample Washes	0
Sample Pumps	7
Injection Volume	1.00 microliters
Syringe Size	10.0 microliters
Nanoliter Adapter	Off
PostInj Solvent A Washes	3
PostInj Solvent B Washes	3
Viscosity Delay	2 seconds
Plunger Speed	Fast

dified on: 7/30/2019 at 2:13:53 PM

==========

6890 GC METHOD

==========

EN
Initial temp: 160 'C (On)
Initial time: 2.60 min
Ramps:

#	Rate	Final temp	Final time
1	20.00	260	5.00
2	0.0(Off)		

Post temp: 50 'C
Post time: 0.00 min
Run time: 12.60 min

Maximum temp: 400 'C
Equilibration time: 0.50 min

ONT INLET (SPLIT/SPLITLESS)
Mode: Split
Initial temp: 225 'C (On)
Pressure: 1.60 psi (On)
Split ratio: 1.99:1
Split flow: 10.8 mL/min
Total flow: 24.8 mL/min
Gas saver: Off
Gas type: Hydrogen

BACK INLET (SPLIT/SPLITLESS)
Mode: Split
Initial temp: 180 'C (On)
Pressure: 26.34 psi (On)
Split ratio: 20:1
Split flow: 36.0 mL/min
Total flow: 40.5 mL/min
Gas saver: Off
Gas type: Helium

LUMN 1
Capillary Column
Model Number: Restek 10637
Stabilwax 15m x 0.53mmID x 0.5um
Max temperature: 260 'C
Nominal length: 15.0 m
Nominal diameter: 530.00 um
Nominal film thickness: 0.50 um
Mode: constant flow
Initial flow: 5.4 mL/min
Nominal init pressure: 1.60 psi
Average velocity: 56 cm/sec
Inlet: Front Inlet
Outlet: Front Detector
Outlet pressure: ambient

COLUMN 2
Capillary Column
Model Number: Restek 15023
Rtx-200 Rtx-200 30m x 0.25 x 0.25
Max temperature: 340 'C
Nominal length: 30.0 m
Nominal diameter: 250.00 um
Nominal film thickness: 0.25 um
Mode: constant flow
Initial flow: 1.8 mL/min
Nominal init pressure: 26.35 psi
Average velocity: 44 cm/sec
Inlet: Back Inlet
Outlet: Back Detector
Outlet pressure: ambient

ONT DETECTOR (FID)
Temperature: 150 'C (On)
Hydrogen flow: 40.0 mL/min (Off)
Air flow: 450.0 mL/min (Off)
Mode: Constant makeup flow
Makeup flow: 45.0 mL/min (Off)
Makeup Gas Type: Nitrogen
Flame: Off
Electrometer: On
Lit offset: 2.0

BACK DETECTOR (NPD)
Temperature: 275 'C (On)
Hydrogen flow: 2.0 mL/min (On)
Air flow: 60.0 mL/min (On)
Mode: Constant makeup flow
Makeup flow: 3.0 mL/min (On)
Makeup Gas Type: Helium
Adjust offset: 22.00
Electrometer: On
Bead: On
Equilibration time: 1.00

GNAL 1
Data rate: 50 Hz
Type: front detector
Save Data: On
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off
Attenuation: 0

SIGNAL 2
Data rate: 20 Hz
Type: back detector
Save Data: On
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off
Attenuation: 0

This Is The Last Page Of This Report.

ENTHALPY ANALYTICAL

Tetra Tech, Inc.

3746 Mt. Diablo Blvd. Suite 300
Lafayette, CA 94549

Able Contracting
Richland, SC

Analytical Report
EA Project # 0719-205

IO-3.1 (Digestion) / IO-3.4 & 3.5 (Analysis)
TAL Metals

ENTHALPY
ANALYTICAL

Enthalpy Analytical, LLC
Phone: (919) 942-8607 / Fax: (919) 850-9012 / www.enthalpy.com
4620 Industry Lane, Suite B – Durham, NC 27713

ENTHALPY ANALYTICAL

Analysis Report

EA Job#: 0719-205.1 Report Date: 8/1/2019
Client: Tetra Tech Date Received: 7/29/2019
Client Project ID: TAL Metals - Able Contracting - Richland, SC

Concentration in Original Sample - ACF-AS-RES-AM-072719 37mm Filter

Analyte	ug/m^3
Aluminum (Al)	0.77
Antimony (Sb)	< 0.22
Arsenic (As)	< 0.45
Barium (Ba)	0.13
Beryllium (Be)	< 0.045
Cadmium (Cd)	< 0.045
Chromium (Cr)	0.89
Cobalt (Co)	< 0.045
Copper (Cu)	< 0.22
Iron (Fe)	1.3
Lead (Pb)	< 0.045

Approved by:

Matt Loftis, Metals Group Leader

ENTHALPY ANALYTICAL

Analysis Report

EA Job#: 0719-205.1 Report Date: 8/1/2019
Client: Tetra Tech Date Received: 7/29/2019
Client Project ID: TAL Metals - Able Contracting - Richland, SC

Concentration in Original Sample - ACF-AS-RES-AM-072719 37mm Filter

Analyte	ug/m^3
Manganese (Mn)	< 0.22
Nickel (Ni)	< 0.22
Selenium (Se)	< 0.45
Silver (Ag)	< 0.045
Thallium (Tl)	< 0.045
Vanadium (V)	< 0.45
Zinc (Zn)	< 0.45
Calcium (Ca)	54.0
Magnesium (Mg)	11.2
Potassium (K)	< 4.5
Sodium (Na)	15.8

Approved by:

Matt Loftis, Metals Group Leader

ENTHALPY ANALYTICAL

Analysis Report

EA Job#: 0719-205.2 Report Date: 8/1/2019
Client: Tetra Tech Date Received: 7/29/2019
Client Project ID: TAL Metals - Able Contracting - Richland, SC

Concentration in Original Sample - ACF-AS-Smoke-AM 072719 37mm Filter

Analyte	ug/m^3
Aluminum (Al)	0.52
Antimony (Sb)	< 0.23
Arsenic (As)	< 0.46
Barium (Ba)	0.25
Beryllium (Be)	< 0.046
Cadmium (Cd)	< 0.046
Chromium (Cr)	0.90
Cobalt (Co)	< 0.046
Copper (Cu)	< 0.23
Iron (Fe)	0.87
Lead (Pb)	< 0.046

Approved by:

Matt Loftis, Metals Group Leader

ENTHALPY ANALYTICAL

Analysis Report

EA Job#: 0719-205.2 Report Date: 8/1/2019
Client: Tetra Tech Date Received: 7/29/2019
Client Project ID: TAL Metals - Able Contracting - Richland, SC

Concentration in Original Sample - ACF-AS-Smoke-AM 072719 37mm Filter

Analyte	ug/m^3
Manganese (Mn)	< 0.23
Nickel (Ni)	< 0.23
Selenium (Se)	< 0.46
Silver (Ag)	< 0.046
Thallium (Tl)	< 0.046
Vanadium (V)	< 0.46
Zinc (Zn)	< 0.46
Calcium (Ca)	55.1
Magnesium (Mg)	11.5
Potassium (K)	< 4.6
Sodium (Na)	16.5

Approved by:

Matt Loftis, Metals Group Leader

ENTHALPY ANALYTICAL

Analysis Report

EA Job#: 0719-205.3 Report Date: 8/1/2019
Client: Tetra Tech Date Received: 7/29/2019
Client Project ID: TAL Metals - Able Contracting - Richland, SC

Concentration in Original Sample - ACF-AS-RES-PM-072719 37mm Filter

Analyte	ug/m^3
Aluminum (Al)	0.50
Antimony (Sb)	< 0.20
Arsenic (As)	< 0.40
Barium (Ba)	0.13
Beryllium (Be)	< 0.040
Cadmium (Cd)	< 0.040
Chromium (Cr)	1.1
Cobalt (Co)	< 0.040
Copper (Cu)	< 0.20
Iron (Fe)	0.81
Lead (Pb)	< 0.040

Approved by:

Matt Loftis, Metals Group Leader

ENTHALPY ANALYTICAL

Analysis Report

EA Job#:	0719-205.3	Report Date:	8/1/2019
Client:	Tetra Tech	Date Received:	7/29/2019
Client Project ID:	TAL Metals - Able Contracting - Richland, SC		

Concentration in Original Sample - ACF-AS-RES-PM-072719 37mm Filter

Analyte	**ug/m^3**
Manganese (Mn)	< 0.20
Nickel (Ni)	< 0.20
Selenium (Se)	< 0.40
Silver (Ag)	< 0.040
Thallium (Tl)	< 0.040
Vanadium (V)	< 0.40
Zinc (Zn)	< 0.40
Calcium (Ca)	48.0
Magnesium (Mg)	10.4
Potassium (K)	< 4.0
Sodium (Na)	14.7

Approved by:

Matt Loftis, Metals Group Leader

ENTHALPY ANALYTICAL

Analysis Report

EA Job#:	0719-205.4	Report Date:	8/1/2019
Client:	Tetra Tech	Date Received:	7/29/2019
Client Project ID:	TAL Metals - Able Contracting - Richland, SC		

Concentration in Original Sample - ACF-AS-Smoke-PM-072719 37mm Filter

Analyte	**ug/m^3**
Aluminum (Al)	0.48
Antimony (Sb)	< 0.19
Arsenic (As)	< 0.38
Barium (Ba)	0.11
Beryllium (Be)	< 0.038
Cadmium (Cd)	< 0.038
Chromium (Cr)	0.75
Cobalt (Co)	< 0.038
Copper (Cu)	< 0.19
Iron (Fe)	0.86
Lead (Pb)	< 0.038

Approved by:

Matt Loftis, Metals Group Leader

ENTHALPY ANALYTICAL

Analysis Report

EA Job#: 0719-205.4
Client: Tetra Tech
Client Project ID: TAL Metals - Able Contracting - Richland, SC

Report Date: 8/1/2019
Date Received: 7/29/2019

Concentration in Original Sample - ACF-AS-Smoke-PM-072719 37mm Filter

Analyte	ug/m^3
Manganese (Mn)	< 0.19
Nickel (Ni)	< 0.19
Selenium (Se)	< 0.38
Silver (Ag)	< 0.038
Thallium (Tl)	< 0.038
Vanadium (V)	< 0.38
Zinc (Zn)	< 0.38
Calcium (Ca)	41.3
Magnesium (Mg)	8.5
Potassium (K)	< 3.8
Sodium (Na)	12.0

Approved by:

Matt Loftis, Metals Group Leader

ENTHALPY ANALYTICAL

Analysis Report

EA Job#: 0719-205.5 Report Date: 8/1/2019
Client: Tetra Tech Date Received: 7/29/2019
Client Project ID: TAL Metals - Able Contracting - Richland, SC

Concentration in Original Sample - ACF-AS-BKGD-072819 37mm Filter

Analyte	ug/m^3
Aluminum (Al)	0.55
Antimony (Sb)	< 0.19
Arsenic (As)	< 0.39
Barium (Ba)	0.11
Beryllium (Be)	< 0.039
Cadmium (Cd)	< 0.039
Chromium (Cr)	0.73
Cobalt (Co)	< 0.039
Copper (Cu)	< 0.19
Iron (Fe)	0.93
Lead (Pb)	< 0.039

Approved by:

Matt Loftis, Metals Group Leader

ENTHALPY ANALYTICAL

Analysis Report

EA Job#: 0719-205.5 Report Date: 8/1/2019
Client: Tetra Tech Date Received: 7/29/2019
Client Project ID: TAL Metals - Able Contracting - Richland, SC

Concentration in Original Sample - ACF-AS-BKGD-072819 37mm Filter

Analyte	ug/m^3
Manganese (Mn)	< 0.19
Nickel (Ni)	< 0.19
Selenium (Se)	< 0.39
Silver (Ag)	< 0.039
Thallium (Tl)	< 0.039
Vanadium (V)	< 0.39
Zinc (Zn)	< 0.39
Calcium (Ca)	52.7
Magnesium (Mg)	9.6
Potassium (K)	< 3.9
Sodium (Na)	12.7

Approved by:

Matt Loftis, Metals Group Leader

ENTHALPY ANALYTICAL

Analysis Report

EA Job#: 0719-205.6 Report Date: 8/1/2019
Client: Tetra Tech Date Received: 7/29/2019
Client Project ID: TAL Metals - Able Contracting - Richland, SC

Concentration in Original Sample - ACF-Blank-37mm Filter

Analyte	ug
Aluminum (Al)	0.52
Antimony (Sb)	< 0.15
Arsenic (As)	< 0.30
Barium (Ba)	0.096
Beryllium (Be)	< 0.030
Cadmium (Cd)	< 0.030
Chromium (Cr)	0.67
Cobalt (Co)	< 0.030
Copper (Cu)	< 0.15
Iron (Fe)	0.60
Lead (Pb)	< 0.030

Approved by:

Matt Loftis, Metals Group Leader

ENTHALPY ANALYTICAL

Analysis Report

EA Job#:	0719-205.6	Report Date:	8/1/2019
Client:	Tetra Tech	Date Received:	7/29/2019
Client Project ID:	TAL Metals - Able Contracting - Richland, SC		

Concentration in Original Sample - ACF-Blank-37mm Filter

Analyte	ug
Manganese (Mn)	< 0.15
Nickel (Ni)	< 0.15
Selenium (Se)	< 0.30
Silver (Ag)	< 0.030
Thallium (Tl)	< 0.030
Vanadium (V)	< 0.30
Zinc (Zn)	< 0.30
Calcium (Ca)	39.2
Magnesium (Mg)	7.3
Potassium (K)	< 3.0
Sodium (Na)	9.6

Approved by:

Matt Loftis, Metals Group Leader

Aluminum (27) in Cassette Filter

FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-31-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	0.515	0.766
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	0.340	0.517
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	0.375	0.503
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	0.378	0.482
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	0.430	0.554

*Note: 1000L = 1m^3

Aluminum (27) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-31-19

LOQ =	10.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	17.18	17.18	30	1	1		0.515
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	11.34	11.34	30	1	1		0.340
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	12.50	12.50	30	1	1		0.375
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	12.59	12.59	30	1	1		0.378
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	14.32	14.32	30	1	1		0.430
ACF-Blank-37mm Filter	0719-205.6	17.17	17.17	30	1	1		0.515
Lab Blank	0719-205.LB	0.49	0.49	30	1	1	<	0.30
LCS	0719-205.LCS	49.01	98.0	30	2	98.0%	Rec.	
Post Digest MS	0719-205.3 PDS	57.12	57.1	30	1	89.2%	Rec.	
Duplicate	0719-205.4 DUF	12.24	12.24	30	1	N/A	RPD	

Antimony (121) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.150	< 0.223
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.150	< 0.228
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.150	< 0.201
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.150	< 0.191
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.150	< 0.193

*Note: 1000L = 1m^3

Antimony (121) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	5.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	-0.92	-0.92	30	1	1	<	0.150
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	-0.88	-0.88	30	1	1	<	0.150
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	-0.92	-0.92	30	1	1	<	0.150
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	-0.78	-0.78	30	1	1	<	0.150
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	-0.96	-0.96	30	1	1	<	0.150
ACF-Blank-37mm Filter	0719-205.6	-0.96	-0.96	30	1	1	<	0.150
Lab Blank	0719-205.LB	-0.83	-0.83	30	1	1	<	0.15
LCS	0719-205.LCS	48.31	96.6	30	2	96.6%	Rec.	
Post Digest MS	0719-205.1 PDS	46.81	46.8	30	1	93.6%	Rec.	
Duplicate	0719-205.2 DUF	-0.74	-0.74	30	1	N/A	RPD	

Arsenic (75) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.300	< 0.446
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.300	< 0.456
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.300	< 0.402
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.300	< 0.382
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.300	< 0.386

*Note: 1000L = 1m^3

Arsenic (75) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ = 10.0 µg/L
LCS Conc. = 100 µg/L
PDS Conc. = 50.0 µg/L
Analyst: MBL

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	-0.29	-0.29	30	1	1	<	0.300
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	-2.72	-2.72	30	1	1	<	0.300
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	-4.50	-4.50	30	1	1	<	0.300
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	-1.86	-1.86	30	1	1	<	0.300
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	-2.84	-2.84	30	1	1	<	0.300
ACF-Blank-37mm Filter	0719-205.6	-1.42	-1.42	30	1	1	<	0.300
Lab Blank	0719-205.LB	-2.65	-2.65	30	1	1	<	0.30
LCS	0719-205.LCS	45.14	90.3	30	2	90.3%	Rec.	
Post Digest MS	0719-205.1 PDS	45.60	45.6	30	1	91.2%	Rec.	
Duplicate	0719-205.2 DUF	-1.69	-1.69	30	1	N/A	RPD	

Barium (137) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID Client	EA	Filter Volume (L)	Filter Amount (µg)	Sample Amount (µg/m^3)
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	0.090	0.134
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	0.163	0.248
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	0.098	0.132
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	0.083	0.106
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	0.088	0.113

*Note: 1000L = 1m^3

Barium (137) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	1.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	2.99	2.99	30	1	1		0.090
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	5.43	5.43	30	1	1		0.163
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	3.26	3.26	30	1	1		0.098
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	2.77	2.77	30	1	1		0.083
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	2.95	2.95	30	1	1		0.088
ACF-Blank-37mm Filter	0719-205.6	3.19	3.19	30	1	1		0.096
Lab Blank	0719-205.LB	-0.14	-0.14	30	1	1	<	0.03
LCS	0719-205.LCS	48.24	96.5	30	2	96.5%	Rec.	
Post Digest MS	0719-205.1 PDS	50.29	50.3	30	1	100.6%	Rec.	
Duplicate	0719-205.2 DUF	5.34	5.34	30	1	1.6%	RPD	

Beryllium (9) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.030	< 0.045
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.030	< 0.046
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.030	< 0.040
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.030	< 0.038
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.030	< 0.039

*Note: 1000L = 1m^3

Beryllium (9) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	1.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	0.03	0.03	30	1	1	<	0.030
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	0.04	0.04	30	1	1	<	0.030
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	0.01	0.01	30	1	1	<	0.030
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	0.00	0.00	30	1	1	<	0.030
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	-0.01	-0.01	30	1	1	<	0.030
ACF-Blank-37mm Filter	0719-205.6	-0.01	-0.01	30	1	1	<	0.030
Lab Blank	0719-205.LB	-0.01	-0.01	30	1	1	<	0.03
LCS	0719-205.LCS	47.34	94.7	30	2	94.7%	Rec.	
Post Digest MS	0719-205.1 PDS	46.91	46.9	30	1	93.8%	Rec.	
Duplicate	0719-205.2 DUF	0.03	0.03	30	1	N/A	RPD	

Cadmium (111) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.030	< 0.045
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.030	< 0.046
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.030	< 0.040
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.030	< 0.038
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.030	< 0.039

*Note: 1000L = 1m^3

Cadmium (111) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	1.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	0.00	0.00	30	1	1	<	0.030
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	0.01	0.01	30	1	1	<	0.030
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	0.00	0.00	30	1	1	<	0.030
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	0.02	0.02	30	1	1	<	0.030
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	0.00	0.00	30	1	1	<	0.030
ACF-Blank-37mm Filter	0719-205.6	-0.01	-0.01	30	1	1	<	0.030
Lab Blank	0719-205.LB	-0.01	-0.01	30	1	1	<	0.03
LCS	0719-205.LCS	48.69	97.4	30	2	97.4%	Rec.	
Post Digest MS	0719-205.1 PDS	47.26	47.3	30	1	94.5%	Rec.	
Duplicate	0719-205.2 DUF	0.01	0.01	30	1	N/A	RPD	

Chromium (52) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-31-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	0.596	0.886
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	0.589	0.896
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	0.808	1.085
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	0.585	0.746
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	0.566	0.729

*Note: 1000L = 1m^3

Chromium (52) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-31-19

LOQ =	10.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	19.85	19.85	30	1	1		0.596
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	19.62	19.62	30	1	1		0.589
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	26.94	26.94	30	1	1		0.808
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	19.51	19.51	30	1	1		0.585
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	18.87	18.87	30	1	1		0.566
ACF-Blank-37mm Filter	0719-205.6	22.23	22.23	30	1	1		0.667
Lab Blank	0719-205.LB	5.63	5.63	30	1	1	<	0.30
LCS	0719-205.LCS	48.86	97.7	30	2	97.7%	Rec.	
Post Digest MS	0719-205.3 PDS	69.14	69.1	30	1	84.4%	Rec.	
Duplicate	0719-205.4 DUF	18.24	18.24	30	1	N/A	RPD	

Cobalt (59) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.030	< 0.045
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.030	< 0.046
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.030	< 0.040
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.030	< 0.038
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.030	< 0.039

*Note: 1000L = 1m^3

Cobalt (59) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	1.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	0.00	0.00	30	1	1	<	0.030
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	-0.02	-0.02	30	1	1	<	0.030
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	-0.02	-0.02	30	1	1	<	0.030
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	-0.02	-0.02	30	1	1	<	0.030
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	-0.02	-0.02	30	1	1	<	0.030
ACF-Blank-37mm Filter	0719-205.6	-0.02	-0.02	30	1	1	<	0.030

Lab Blank	0719-205.LB	-0.03	-0.03	30	1	1	<	0.03
LCS	0719-205.LCS	44.73	89.5	30	2	89.5%	Rec.	
Post Digest MS	0719-205.1 PDS	44.47	44.5	30	1	88.9%	Rec.	
Duplicate	0719-205.2 DUF	-0.01	-0.01	30	1	N/A	RPD	

Copper (63) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.150	< 0.223
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.150	< 0.228
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.150	< 0.201
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.150	< 0.191
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.150	< 0.193

*Note: 1000L = 1m^3

Copper (63) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	5.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	1.05	1.05	30	1	1	<	0.150
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	2.78	2.78	30	1	1	<	0.150
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	1.37	1.37	30	1	1	<	0.150
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	1.45	1.45	30	1	1	<	0.150
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	0.88	0.88	30	1	1	<	0.150
ACF-Blank-37mm Filter	0719-205.6	1.62	1.62	30	1	1	<	0.150

Lab Blank	0719-205.LB	-0.01	-0.01	30	1	1	<	0.15
LCS	0719-205.LCS	45.47	90.9	30	2	90.9%	Rec.	
Post Digest MS	0719-205.1 PDS	45.01	45.0	30	1	90.0%	Rec.	
Duplicate	0719-205.2 DUF	3.90	3.90	30	1	N/A	RPD	

Iron (239.5nm) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID Client	EA	Filter Volume (L)	Filter Amount (µg)	Sample Amount (µg/m^3)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	672.6	0.841	1.250
ACF-AS-SMOKE-AM-072719 37mm Filter	0719-205.2	657.5	0.570	0.867
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	744.8	0.601	0.807
ACF-AS-SMOKE-PM-072719 37mm Filter	0719-205.4	784.6	0.677	0.863
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	776.6	0.721	0.928

*Note: 1000L = 1m^3

Iron (239.5nm) in Cassette Filter
ICP-OES ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	10.0	µg/L
LCS Conc. =	1000	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MAL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	28.02	28.02	30	1	1		0.841
ACF-AS-SMOKE-AM-072719 37mm Filter	0719-205.2	18.99	18.99	30	1	1		0.570
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	20.02	20.02	30	1	1		0.601
ACF-AS-SMOKE-PM-072719 37mm Filter	0719-205.4	22.58	22.58	30	1	1		0.677
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	24.03	24.03	30	1	1		0.721
ACF-Blank-37mm Filter	0719-205.6	20.03	20.03	30	1	1		0.601
Lab Blank	0719-205.LB	0.16	0.16	30	1	1	<	0.30
LCS	0719-205.LCS	48.97	979.4	30	20	97.9%	Rec.	
Post Digest MS	0719-205.1.S	49.39	247.0	30	5	87.6%	Rec.	
Duplicate	0719-205.3.D	19.79	19.79	30	1	N/A	RPD	

Lead (208) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.030	< 0.045
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.030	< 0.046
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.030	< 0.040
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.030	< 0.038
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.030	< 0.039

*Note: 1000L = 1m^3

Lead (208) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	1.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	0.15	0.15	30	1	1	<	0.030
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	0.29	0.29	30	1	1	<	0.030
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	0.15	0.15	30	1	1	<	0.030
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	0.37	0.37	30	1	1	<	0.030
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	0.07	0.07	30	1	1	<	0.030
ACF-Blank-37mm Filter	0719-205.6	0.12	0.12	30	1	1	<	0.030

Lab Blank	0719-205.LB	-0.02	-0.02	30	1	1	<	0.03
LCS	0719-205.LCS	47.14	94.3	30	2	94.3%	Rec.	
Post Digest MS	0719-205.1 PDS	46.42	46.4	30	1	92.8%	Rec.	
Duplicate	0719-205.2 DUF	0.49	0.49	30	1	N/A	RPD	

Manganese (55) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.150	< 0.223
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.150	< 0.228
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.150	< 0.201
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.150	< 0.191
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.150	< 0.193

*Note: 1000L = 1m^3

Manganese (55) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	5.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	1.78	1.78	30	1	1	<	0.150
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	1.74	1.74	30	1	1	<	0.150
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	2.21	2.21	30	1	1	<	0.150
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	1.65	1.65	30	1	1	<	0.150
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	1.78	1.78	30	1	1	<	0.150
ACF-Blank-37mm Filter	0719-205.6	2.13	2.13	30	1	1	<	0.150
Lab Blank	0719-205.LB	0.33	0.33	30	1	1	<	0.15
LCS	0719-205.LCS	44.68	89.4	30	2	89.4%	Rec.	
Post Digest MS	0719-205.1 PDS	46.91	46.9	30	1	93.8%	Rec.	
Duplicate	0719-205.2 DUF	1.72	1.72	30	1	N/A	RPD	

Nickel (60) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.150	< 0.223
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.150	< 0.228
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.150	< 0.201
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.150	< 0.191
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.150	< 0.193

*Note: 1000L = 1m^3

Nickel (60) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	5.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	0.39	0.39	30	1	1	<	0.150
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	0.43	0.43	30	1	1	<	0.150
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	0.40	0.40	30	1	1	<	0.150
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	0.33	0.33	30	1	1	<	0.150
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	0.30	0.30	30	1	1	<	0.150
ACF-Blank-37mm Filter	0719-205.6	0.44	0.44	30	1	1	<	0.150

Lab Blank	0719-205.LB	0.00	0.00	30	1	1	<	0.15
LCS	0719-205.LCS	45.28	90.6	30	2	90.6%	Rec.	
Post Digest MS	0719-205.1 PDS	44.74	44.7	30	1	89.5%	Rec.	
Duplicate	0719-205.2 DUF	0.44	0.44	30	1	N/A	RPD	

Selenium (82) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.300	< 0.446
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.300	< 0.456
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.300	< 0.403
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.300	< 0.3822
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.300	< 0.386

*Note: 1000L = 1m^3

Selenium (82) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	10.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	-0.36	-0.36	30	1	1	<	0.300
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	-0.27	-0.27	30	1	1	<	0.300
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	-0.81	-0.81	30	1	1	<	0.300
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	-0.59	-0.59	30	1	1	<	0.300
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	-0.72	-0.72	30	1	1	<	0.300
ACF-Blank-37mm Filter	0719-205.6	-0.59	-0.59	30	1	1	<	0.300
Lab Blank	0719-205.LB	-0.97	-0.97	30	1	1	<	0.30
LCS	0719-205.LCS	47.82	95.6	30	2	95.6%	Rec.	
Post Digest MS	0719-205.1 PDS	47.27	47.3	30	1	94.5%	Rec.	
Duplicate	0719-205.2 DUF	-0.37	-0.37	30	1	N/A	RPD	

Silver (107) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.030	< 0.045
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.030	< 0.046
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.030	< 0.040
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.030	< 0.038
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.030	< 0.039

*Note: 1000L = 1m^3

Silver (107) in Cassette Filter

ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	1.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	-0.03	-0.03	30	1	1	<	0.030
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	-0.03	-0.03	30	1	1	<	0.030
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	-0.03	-0.03	30	1	1	<	0.030
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	-0.03	-0.03	30	1	1	<	0.030
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	-0.03	-0.03	30	1	1	<	0.030
ACF-Blank-37mm Filter	0719-205.6	-0.03	-0.03	30	1	1	<	0.030
Lab Blank	0719-205.LB	-0.03	-0.03	30	1	1	<	0.03
LCS	0719-205.LCS	49.27	98.5	30	2	98.5%	Rec.	
Post Digest MS	0719-205.1 PDS	46.81	46.8	30	1	93.6%	Rec.	
Duplicate	0719-205.2 DUF	-0.03	-0.03	30	1	N/A	RPD	

Thallium (205) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID Client	EA	Filter Volume (L)	Filter Amount (µg)	Sample Amount (µg/m^3)
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.030	< 0.045
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.030	< 0.046
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.030	< 0.040
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.030	< 0.038
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.030	< 0.039

*Note: 1000L = 1m^3

Thallium (205) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	1.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	0.23	0.23	30	1	1	<	0.030
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	0.06	0.06	30	1	1	<	0.030
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	0.03	0.03	30	1	1	<	0.030
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	0.01	0.01	30	1	1	<	0.030
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	0.00	0.00	30	1	1	<	0.030
ACF-Blank-37mm Filter	0719-205.6	0.00	0.00	30	1	1	<	0.030

Lab Blank	0719-205.LB	-0.01	-0.01	30	1	1	<	0.03
LCS	0719-205.LCS	47.07	94.1	30	2	94.1%	Rec.	
Post Digest MS	0719-205.1 PDS	47.39	47.4	30	1	94.8%	Rec.	
Duplicate	0719-205.2 DUF	0.00	0.00	30	1	N/A	RPD	

Vanadium (292.4nm) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume (L)	Filter Amount (µg)	Sample Amount (µg/m^3)
Client	**EA**			
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	672.6	< 0.300	< 0.446
ACF-AS-SMOKE-AM-072719 37mm Filter	0719-205.2	657.5	< 0.300	< 0.456
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	744.8	< 0.300	< 0.403
ACF-AS-SMOKE-PM-072719 37mm Filter	0719-205.4	784.6	< 0.300	< 0.382
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	776.6	< 0.300	< 0.386

*Note: 1000L = 1m^3

Vanadium (292.4nm) in Cassette Filter
ICP-OES ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	10.0	µg/L
LCS Conc. =	1000	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MAL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	0.73	0.73	30	1	1	<	0.300
ACF-AS-SMOKE-AM-072719 37mm Filter	0719-205.2	0.19	0.19	30	1	1	<	0.300
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	0.17	0.17	30	1	1	<	0.300
ACF-AS-SMOKE-PM-072719 37mm Filter	0719-205.4	0.49	0.49	30	1	1	<	0.300
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	0.25	0.25	30	1	1	<	0.300
ACF-Blank-37mm Filter	0719-205.6	0.04	0.04	30	1	1	<	0.300
Lab Blank	0719-205.LB	0.63	0.63	30	1	1	<	0.30
LCS	0719-205.LCS	47.76	955.2	30	20	95.5%	Rec.	
Post Digest MS	0719-205.1.S	45.39	227.0	30	5	90.5%	Rec.	
Duplicate	0719-205.3.D	0.12	0.12	30	1	N/A	RPD	

Zinc (66) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume	Filter Amount	Sample Amount
Client	**EA**	**(L)**	**(µg)**	**(µg/m^3)**
ACF-AS-RES-AM-072719 37 mm Filter	0719-205.1	672.6	< 0.300	< 0.446
ACF-AS-Smoke-AM-072719 37 mm Filter	0719-205.2	657.5	< 0.300	< 0.456
ACF-AS-RES-PM-072719 37 mm Filter	0719-205.3	744.8	< 0.300	< 0.403
ACF-AS-Smoke-PM-072719 37 mm Filter	0719-205.4	784.6	< 0.300	< 0.3822
ACF-AS-BKGD-072819 37 mm Filter	0719-205.5	776.6	< 0.300	< 0.386

*Note: 1000L = 1m^3

Zinc (66) in Cassette Filter
ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	10.0	µg/L
LCS Conc. =	100	µg/L
PDS Conc. =	50.0	µg/L
Analyst:	MBL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	4.10	4.10	30	1	1	<	0.300
ACF-AS-Smoke-AM-072719 37mm Filter	0719-205.2	5.78	5.78	30	1	1	<	0.300
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	6.53	6.53	30	1	1	<	0.300
ACF-AS-Smoke-PM-072719 37mm Filter	0719-205.4	5.30	5.30	30	1	1	<	0.300
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	6.61	6.61	30	1	1	<	0.300
ACF-Blank-37mm Filter	0719-205.6	5.49	5.49	30	1	1	<	0.300
Lab Blank	0719-205.LB	0.80	0.80	30	1	1	<	0.30
LCS	0719-205.LCS	46.57	93.1	30	2	93.1%	Rec.	
Post Digest MS	0719-205.1 PDS	49.99	50.0	30	1	91.8%	Rec.	
Duplicate	0719-205.2 DUF	5.93	5.93	30	1	N/A	RPD	

Calcium (393.3nm) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume (L)	Filter Amount (µg)	Sample Amount (µg/m^3)
Client	**EA**			
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	672.6	36.306	53.979
ACF-AS-SMOKE-AM-072719 37mm Filter	0719-205.2	657.5	36.198	55.054
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	744.8	35.730	47.973
ACF-AS-SMOKE-PM-072719 37mm Filter	0719-205.4	784.6	32.382	41.272
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	776.6	40.896	52.660

*Note: 1000L = 1m^3

Calcium (393.3nm) in Cassette Filter
ICP-OES ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	100	µg/L
LCS Conc. =	1000	µg/L
PDS Conc. =	500.0	µg/L
Analyst:	MAL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	201.70	1210.20	30	6	1		36.306
ACF-AS-SMOKE-AM-072719 37mm Filter	0719-205.2	201.10	1206.60	30	6	1		36.198
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	198.50	1191.00	30	6	1		35.730
ACF-AS-SMOKE-PM-072719 37mm Filter	0719-205.4	179.90	1079.40	30	6	1		32.382
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	227.20	1363.20	30	6	1		40.896
ACF-Blank-37mm Filter	0719-205.6	217.60	1305.60	30	6	1		39.168
Lab Blank	0719-205.LB	6.91	6.91	30	1	1	<	3.00
LCS	0719-205.LCS	495.10	990.2	30	2	99.0%	Rec.	
Post Digest MS	0719-205.1.S	685.90	3429.5	30	5	88.8%	Rec.	
Duplicate	0719-205.2.D	203.00	1218.00	30	6	2.2%	RPD	

Magnesium (279.5nm) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID Client	EA	Filter Volume (L)	Filter Amount (µg)	Sample Amount (µg/m^3)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	672.6	7.527	11.191
ACF-AS-SMOKE-AM-072719 37mm Filter	0719-205.2	657.5	7.533	11.457
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	744.8	7.716	10.360
ACF-AS-SMOKE-PM-072719 37mm Filter	0719-205.4	784.6	6.630	8.450
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	776.6	7.485	9.638

*Note: 1000L = 1m^3

Magnesium (279.5nm) in Cassette Filter
ICP-OES ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	100	µg/L
LCS Conc. =	1000	µg/L
PDS Conc. =	500.0	µg/L
Analyst:	MAL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	250.90	250.90	30	1	1		7.527
ACF-AS-SMOKE-AM-072719 37mm Filter	0719-205.2	251.10	251.10	30	1	1		7.533
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	257.20	257.20	30	1	1		7.716
ACF-AS-SMOKE-PM-072719 37mm Filter	0719-205.4	221.00	221.00	30	1	1		6.630
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	249.50	249.50	30	1	1		7.485
ACF-Blank-37mm Filter	0719-205.6	244.80	244.80	30	1	1		7.344
Lab Blank	0719-205.LB	-13.73	-13.73	30	1	1	<	3.00
LCS	0719-205.LCS	491.40	982.8	30	2	98.3%	Rec.	
Post Digest MS	0719-205.1.S	506.50	2532.5	30	5	91.3%	Rec.	
Duplicate	0719-205.3.D	256.30	256.30	30	1	N/A	RPD	

Potassium (766.4nm) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID		Filter Volume (L)	Filter Amount (µg)	Sample Amount (µg/m^3)
Client	**EA**			
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	672.6	< 3.000	< 4.460
ACF-AS-SMOKE-AM-072719 37mm Filter	0719-205.2	657.5	< 3.000	< 4.563
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	744.8	< 3.000	< 4.028
ACF-AS-SMOKE-PM-072719 37mm Filter	0719-205.4	784.6	< 3.000	< 3.824
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	776.6	< 3.000	< 3.863

*Note: 1000L = 1m^3

Potassium (766.4nm) in Cassette Filter
ICP-OES ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	100	µg/L
LCS Conc. =	1000	µg/L
PDS Conc. =	500.0	µg/L
Analyst:	MAL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	93.92	93.92	30	1	1	<	3.000
ACF-AS-SMOKE-AM-072719 37mm Filter	0719-205.2	93.03	93.03	30	1	1	<	3.000
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	92.09	92.09	30	1	1	<	3.000
ACF-AS-SMOKE-PM-072719 37mm Filter	0719-205.4	84.12	84.12	30	1	1	<	3.000
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	72.04	72.04	30	1	1	<	3.000
ACF-Blank-37mm Filter	0719-205.6	78.90	78.90	30	1	1	<	3.000
Lab Blank	0719-205.LB	9.71	9.71	30	1	1	<	3.00
LCS	0719-205.LCS	484.20	968.4	30	2	96.8%	Rec.	
Post Digest MS	0719-205.1.S	445.70	2228.5	30	5	85.4%	Rec.	
Duplicate	0719-205.3.D	90.15	90.15	30	1	N/A	RPD	

Sodium (589.5nm) in Cassette Filter
FLOW CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

Sample ID Client	EA	Filter Volume (L)	Filter Amount (µg)	Sample Amount (µg/m^3)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	672.6	10.614	15.781
ACF-AS-SMOKE-AM-072719 37mm Filter	0719-205.2	657.5	10.821	16.458
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	744.8	10.923	14.666
ACF-AS-SMOKE-PM-072719 37mm Filter	0719-205.4	784.6	9.390	11.968
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	776.6	9.900	12.748

*Note: 1000L = 1m^3

Sodium (589.5nm) in Cassette Filter
ICP-OES ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: Tetra Tech
EA Job#: 0719-205
Analysis Date: 07-30-19

LOQ =	100	µg/L
LCS Conc. =	1000	µg/L
PDS Conc. =	500.0	µg/L
Analyst:	MAL	

Sample ID Client	EA	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dilution Factor	Filter Aliquot Factor		Filter Total (µg)
ACF-AS-RES-AM-072719 37mm Filter	0719-205.1	353.80	353.80	30	1	1		10.614
ACF-AS-SMOKE-AM-072719 37mm Filter	0719-205.2	360.70	360.70	30	1	1		10.821
ACF-AS-RES-PM-072719 37mm Filter	0719-205.3	364.10	364.10	30	1	1		10.923
ACF-AS-SMOKE-PM-072719 37mm Filter	0719-205.4	313.00	313.00	30	1	1		9.390
ACF-AS-BKGD-072819 37mm Filter	0719-205.5	330.00	330.00	30	1	1		9.900
ACF-Blank-37mm Filter	0719-205.6	319.90	319.90	30	1	1		9.597
Lab Blank	0719-205.LB	0.36	0.36	30	1	1	<	3.00
LCS	0719-205.LCS	485.70	971.4	30	2	97.1%	Rec.	
Post Digest MS	0719-205.1.S	492.50	2462.5	30	5	84.3%	Rec.	
Duplicate	0719-205.3.D	363.60	363.60	30	1	N/A	RPD	

ENTHALPY

Chain of Custody Record

Special Handling:
- ☐ Standard Turn Around Time
- ☑ Rush Turn Around Time -- Date Needed ASAP
- All TATs Subject to Approval by Enthalpy Analytical
- All Bag/Can Samples Disposed of 1 Month from Receipt.
- All Other Samples Disposed of 4 Months from Receipt.

Sample(s) Collected by: John Snyder
Client Name: Tetra Tech
Project Manager:

Project Number:
Site Name: Able Contracting
Location: SC

PO#:
Telephone#:
Email: jessica.vickers@tetratech.com

For spiked or duplicate samples: please provide sample volumes for recovery calculations. For Particulates: please provide tare weights and/or condensed water volumes.

Special Instructions:

A=Air V=H2SO4 Z=NaOH W=Water O=Other X=XAD C=Charcoal SG=Silica Gel
G=Grab C=Composite Q=Quality Control O=Other

Sample ID	Date	Time	Sample Volume	Type	Matrix	# of VOA Vials	# of Glass	# of Plastic	# of Bags	# of Canisters	# of Tubes	# Other	TO-15	TAL Metals	Formald.	SVOC	TEM				Notes:
ACF-AS-RES-AM-072719	7/27	00:18	672.6	G	37mm							1		/							
↓	↓	↓	410.6	G	SG						1				/						7969802213
			486.2	G	X						1					/					8262001732
			-24"→-3"	G	A					1		1	/								Summa 0802
		00:40	767.0	G	0.45+ 5.0							1					/				BA319492
ACF-AS-SMOKE-AM-072719	7/27	01:00	-30/-7	G	A					1		1	1								Summa 0799
		↓	657.5	G	37mm							1		/							-
			411.8	G	SG						1				/						7969802214
		04:45	562.5	G	X						1					/					8262001729
		01:00	898.6	G	0.45+ 5.0							1					/				BA319047

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Condition Upon Receipt:
[signature]	7/29	[signature]	7-29-19	1:35 PM	☐ Iced ☐ Ambient ☐ °C
					☐ Iced ☐ Ambient ☐ °C
					☐ Iced ☐ Ambient ☐ °C

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5.6°C Rawtek5 Good Condition Cans received Ambient DSM 07-29-19

ENTHALPY ANALYTICAL

Chain of Custody Record

Special Handling:
- ☐ Standard Turn Around Time
- ☐ Rush Turn Around Time -- Date Needed_____
- All TATs Subject to Approval by Enthalpy Analytical
- All Bag/Can Samples Disposed of 1 Month from Receipt.
- All Other Samples Disposed of 4 Months from Receipt.

Sample(s) Collected by: _____
Client Name: _____
Project Manager: _____

Project Number: _____
Site Name: _____
Location: _____

PO#: _____
Telephone#: _____
Email: _____

For spiked or duplicate samples: please provide sample volumes for recovery calculations. For Particulates: please provide tare weights and/or condensed water volumes.

Special Instructions:

G=Grab C=Composite Q=Quality Control O=Other

Sample ID	Date	Time	Sample Volume	Type		# of VOA Vials	# of Glass	# of Plastic	# of Bags	# of Canisters	# of Tubes	# Other	TO-15	TAL Metals	Formald	SUOC	TEM				Notes:
ACF-AS-RES FM-072719	7/27	1210	-30/-5	G	A					1		1	✓								Summa 0809
↓	↓	↓	744.8	↓	37mm							1		✓							~~7969802217~~
			541.5		SG						1				✓						~~8262001736~~ 7969802217
			421.4		X						1					✓					8262001736
↓	↓	↓	965.3	↓	0.45 5.0							1					✓				BA318944
ACF-AS-SMOKE-FM-072719	7/27	1215	-32/-6	G	A					1		1	✓								Summa 0797
↓	↓	↓	784.6	↓	37mm							1		✓							
			549.5		SG						1				✓						7969802216
			438.3		X						1					✓					8262001738
↓	↓	↓	913.3	↓	0.45 5.0							1					✓				BA318947

Relinquished By	Date	Received By	Date	Time	Sample Condition Upon Receipt
[signature]	7/29	[signature]	7-29-19	1:35PM	☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____

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ENTHALPY ANALYTICAL

Chain of Custody Record

Special Handling:
- ☐ Standard Turn Around Time
- ☐ Rush Turn Around Time – Date Needed_____
- All TATs Subject to Approval by Enthalpy Analytical
- All Bag/Can Samples Disposed of 1 Month from Receipt.
- All Other Samples Disposed of 4 Months from Receipt.

Sample(s) Collected by: _____
Client Name: _____
Project Manager: _____

Project Number: _____
Site Name: _____
Location: _____

PO#: _____
Telephone#: _____
Email: _____

For spiked or duplicate samples: please provide sample volumes for recovery calculations. For Particulates: please provide tare weights and/or condensed water volumes.

Special Instructions:

AxAir 1=H2SO4 2=NaOH W=Water O=Other
XXXAD SG=Cyanide SG=Sulfide Gel Oil

G=Grab C=Composite Q=Quality Control O=Other

Sample ID	Date	Time	Sample Volume	Type	Matrix	# of VOA Vials	# of Glass	# of Plastic	# of Bags	# of Canisters	# of Tubes	# Other	Phosgene	VOC	TAC Metals	Formaldehyde	SVOC	Asbestos			Notes:
ACF-AS-RES-AM-072819	7/28	0:02	473.9	G	X						2		✓								8123100531 " 530
ACF-AS SMOKE-AM-072819	7/28	0:05	603.9	G	X						2		✓								8123100523 " 529
ACF-AS-RES-PM-072819	7/28	11:00	522.5	G	X						2		✓								" 526 " 532
ACF-AS-SMOKE-PM-072819	7/28	11:02	515.2	G	Y						2		✓								" 528 " 524
ACF-AS-BKGD-072819	7/28	1130	-32/-7	G	A					1		4		✓							Summer 0805
↓	↓	↓	776.6	G	37mm							1			✓						
			516.2	G	SG						1					✓					7969802215
			439.4	G	X						1						✓				8262001735
			537.1	G	X						2		✓								8123100527 " 525
			946.3	G	0.45+5.0							1						✓			BA318940

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Condition Upon Receipt:
[signature]	7/29	[signature]	7-29-19	1:35 PM	☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____

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5.6°C Raytek's Grad Condition Cans received Ambient DSM 07-29-19

ENTHALPY ANALYTICAL

Chain of Custody Record

Special Handling:
- ☐ Standard Turn Around Time
- ☐ Rush Turn Around Time -- Date Needed_____
- All TATs Subject to Approval by Enthalpy Analytical
- All Bag/Can Samples Disposed of 1 Month from Receipt.
- All Other Samples Disposed of 4 Months from Receipt.

Sample(s) Collected by: _____
Client Name: _____
Project Manager: _____

Project Number: _____
Site Name: _____
Location: _____

PO#: _____
Telephone#: _____
Email: _____

For spiked or duplicate samples: please provide sample volumes for recovery calculations. For Particulates: please provide tare weights and/or condensed water volumes.

Special Instructions:

G=Grab C=Composite Q=Quality Control O=Other

Sample ID	Date	Time	Sample Volume	Type		# of VOA Vials	# of Glass	# of Plastic	# of Bags	# of Canisters	# of Tubes	# Other	TO-15	TAL Metals	Formaldehyde	SVOC	Phosgene				Notes:
ACF-BLANK	-	-	-	Q	A					1			✓								Summa 0821
					37mm							1		✓							
					SG						1				✓						7969802212
					X						1					✓					8262001737
					X						2										8123100608 615

Relinquished By	Date	Received By	Date	Time	Temp/Condition Upon Receipt
[signature]	7/27	[signature]	7-29-19	1:35 PM	☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____
					☐ Iced ☐ Ambient ☐ °C_____

LIMs Export Table Quant Report

LABORATORY_NAME	SAMPLE_NAME	BATCH_NAME	SAMPLE_DATE	SAMPLE_TIME	DATA_FILE	ACQ_TIME	ACQ_DATE
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019

ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-BLANK**	**X080519A**			**X1902833.D**	**14:05:43**	**8/5/2019**
ENT	ACF-AS-BLANK	X080519A			X1902833.D	14:05:43	8/5/2019
ENT	**ACF-AS-RES-24HrVOC**	**X080519A**	**8/2/2019**	**20:30:00**	**X1902834.D**	**15:01:45**	**8/5/2019**
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	**ACF-AS-RES-24HrVOC**	**X080519A**	**8/2/2019**	**20:30:00**	**X1902834.D**	**15:01:45**	**8/5/2019**
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	**ACF-AS-RES-24HrVOC**	**X080519A**	**8/2/2019**	**20:30:00**	**X1902834.D**	**15:01:45**	**8/5/2019**
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	**ACF-AS-RES-24HrVOC**	**X080519A**	**8/2/2019**	**20:30:00**	**X1902834.D**	**15:01:45**	**8/5/2019**
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019

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ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019

ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-RES-24HrVOC	X080519A	8/2/2019	20:30:00	X1902834.D	15:01:45	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019

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ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019

ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-SMOKE-24HrVOC	X080519A	8/2/2019	20:10:00	X1902835.D	15:57:48	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019

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ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019

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ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019
ENT	ACF-AS-UPWIND-24HrVOC	X080519A	8/2/2019	21:00:00	X1902836.D	16:53:54	8/5/2019

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TEST_METHOD	SAMPLE_TYPE	COMPOUND_TYPE	CAS_NUMBER	COMPOUND_NAME	DILUTION_FACT	RESULT	RESULT_UNITS
TO15	Sample	Target	115-07-1	Propylene	1	0.0438	PPBV
TO15	Sample	Target	75-71-8	Freon 12 (CCl2F2)	1		PPBV
TO15	Sample	Target	76-14-2	Freon 114 (C2Cl2F4)	1		PPBV
TO15	Sample	Target	74-87-3	Chloromethane	1		PPBV
TO15	Sample	Target	75-01-4	Chloroethene (Vinyl chloride)	1		PPBV
TO15	Sample	Target	106-99-0	1,3-Butadiene	1		PPBV
TO15	Sample	Target	74-83-9	Bromomethane	1		PPBV
TO15	Sample	Target	75-00-3	Chloroethane	1		PPBV
TO15	Sample	Target	593-60-2	Bromoethene (Vinyl bromide)	1		PPBV
TO15	Sample	Target	75-69-4	Freon 11 (CCl3F)	1		PPBV
TO15	Sample	Target	64-17-5	Ethanol	1	0.121	PPBV
TO15	Sample	Target	107-02-8	Acrolein	1		PPBV
TO15	Sample	Target	76-13-1	Freon 113 (C2Cl3F3)	1		PPBV
TO15	Sample	Target	75-35-4	1,1-Dichloroethene	1		PPBV
TO15	Sample	Target	67-64-1	Acetone	1	0.0812	PPBV
TO15	Sample	Target	75-15-0	Carbon disulfide	1		PPBV
TO15	Sample	Target	67-63-0	Isopropyl alcohol	1		PPBV
TO15	Sample	Target	107-05-1	Allyl chloride (3-chloropropene)	1		PPBV
TO15	Sample	Target	75-05-8	Acetonitrile	1	0.0386	PPBV
TO15	Sample	Target	75-09-2	Methylene chloride	1	0.0507	PPBV
TO15	Sample	Target	156-60-5	trans-1,2-Dichloroethene	1		PPBV
TO15	Sample	Target	1634-04-4	Methyl tert-butyl ether	1		PPBV
TO15	Sample	Target	107-13-1	Acrylonitrile	1		PPBV
TO15	Sample	Target	110-54-3	Hexane	1		PPBV
TO15	Sample	Target	75-34-3	1,1-Dichloroethane	1		PPBV
TO15	Sample	Target	108-05-4	Vinyl acetate	1		PPBV
TO15	Sample	Target	156-59-2	cis-1,2-Dichloroethene	1		PPBV
TO15	Sample	Target	78-93-3	Methyl ethyl ketone (2-Butanone)	1		PPBV
TO15	Sample	Target	141-78-6	Ethyl acetate	1		PPBV
TO15	Sample	Target	67-66-3	Chloroform	1		PPBV
TO15	Sample	Target	109-99-9	Tetrahydrofuran	1		PPBV
TO15	Sample	Target	71-55-6	1,1,1-Trichloroethane	1		PPBV
TO15	Sample	Target	110-82-7	Cyclohexane	1		PPBV
TO15	Sample	Target	56-23-5	Carbon tetrachloride	1		PPBV
TO15	Sample	Target	71-43-2	Benzene	1		PPBV
TO15	Sample	Target	540-84-1	2,2,4-trimethylpentane	1		PPBV
TO15	Sample	Target	107-06-2	1,2-Dichloroethane	1		PPBV
TO15	Sample	Target	142-82-5	Heptane	1		PPBV
TO15	Sample	Target	79-01-6	Trichloroethene	1		PPBV
TO15	Sample	Target	78-87-5	1,2-Dichloropropane	1		PPBV
TO15	Sample	Target	80-62-6	Methyl methacrylate	1		PPBV

TO15	Sample	Target	123-91-1	1,4-Dioxane	1		PPBV
TO15	Sample	Target	75-27-4	Bromodichloromethane	1		PPBV
TO15	Sample	Target	10061-01-5	cis-1,3-Dichloropropene	1		PPBV
TO15	Sample	Target	108-10-1	Methyl isobutyl ketone	1		PPBV
TO15	Sample	Target	108-88-3	Toluene	1		PPBV
TO15	Sample	Target	10061-02-6	trans-1,3-Dichloropropene	1		PPBV
TO15	Sample	Target	79-00-5	1,1,2-Trichloroethane	1		PPBV
TO15	Sample	Target	127-18-4	Tetrachloroethene	1		PPBV
TO15	Sample	Target	591-78-6	2-Hexanone (Methyl butyl ketone)	1		PPBV
TO15	Sample	Target	124-48-1	Dibromochloromethane	1		PPBV
TO15	Sample	Target	106-93-4	1,2-Dibromoethane	1		PPBV
TO15	Sample	Target	108-90-7	Chlorobenzene	1		PPBV
TO15	Sample	Target	100-41-4	Ethylbenzene	1		PPBV
TO15	Sample	Target	630-20-6	1,1,1,2-Tetrachloroethane	1		PPBV
TO15	Sample	Target	108-38-3 &/ 106-42-3	m-/p-Xylenes	1		PPBV
TO15	Sample	Target	95-47-6	o-Xylene	1		PPBV
TO15	Sample	Target	100-42-5	Styrene	1		PPBV
TO15	Sample	Target	75-25-2	Bromoform	1		PPBV
TO15	Sample	Target	79-34-5	1,1,2,2-Tetrachloroethane	1		PPBV
TO15	Sample	Target	622-96-8	4-Ethyltoluene	1		PPBV
TO15	Sample	Target	95-49-8	2-Chlorotoluene	1		PPBV
TO15	Sample	Target	108-67-8	1,3,5-Trimethylbenzene	1		PPBV
TO15	Sample	Target	95-63-6	1,2,4-Trimethylbenzene	1		PPBV
TO15	Sample	Target	541-73-1	1,3-Dichlorobenzene	1		PPBV
TO15	Sample	Target	106-46-7	1,4-Dichlorobenzene	1		PPBV
TO15	Sample	Target	100-44-7	Benzyl chloride	1		PPBV
TO15	Sample	Target	95-50-1	1,2-Dichlorobenzene	1		PPBV
TO15	Sample	Target	120-82-1	1,2,4-Trichlorobenzene	1		PPBV
TO15	Sample	Target	87-68-3	Hexachlorobutadiene	1		PPBV
TO15	Sample	Target	91-20-3	Naphthalene	1		PPBV
TO15	Sample	Target	106-94-5	1-Bromopropane	1		PPBV
TO15	Sample	Target	111-66-0	1-Octene	1		PPBV
TO15	Sample	Target	111-65-9	n-Octane	1		PPBV
TO15	Sample	Target	98-82-8	Isopropylbenzene	1		PPBV
TO15	Sample	Target	103-65-1	n-Propylbenzene	1		PPBV
TO15	Sample	Target	115-07-1	Propylene	1	1.73	PPBV
TO15	Sample	Target	75-71-8	Freon 12 (CCl2F2)	1	0.493	PPBV
TO15	Sample	Target	76-14-2	Freon 114 (C2Cl2F4)	1		PPBV
TO15	Sample	Target	74-87-3	Chloromethane	1	1.71	PPBV
TO15	Sample	Target	75-01-4	Chloroethene (Vinyl chloride)	1		PPBV
TO15	Sample	Target	106-99-0	1,3-Butadiene	1	0.0883	PPBV
TO15	Sample	Target	74-83-9	Bromomethane	1		PPBV
TO15	Sample	Target	75-00-3	Chloroethane	1		PPBV

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TO15	Sample	Target	593-60-2	Bromoethene (Vinyl bromide)	1		PPBV
TO15	Sample	Target	75-69-4	Freon 11 (CCl3F)	1	0.253	PPBV
TO15	Sample	Target	64-17-5	Ethanol	1	1.39	PPBV
TO15	Sample	Target	107-02-8	Acrolein	1	0.134	PPBV
TO15	Sample	Target	76-13-1	Freon 113 (C2Cl3F3)	1	0.0771	PPBV
TO15	Sample	Target	75-35-4	1,1-Dichloroethene	1		PPBV
TO15	Sample	Target	67-64-1	Acetone	1	2.89	PPBV
TO15	Sample	Target	75-15-0	Carbon disulfide	1	0.144	PPBV
TO15	Sample	Target	67-63-0	Isopropyl alcohol	1	0.176	PPBV
TO15	Sample	Target	107-05-1	Allyl chloride (3-chloropropene)	1		PPBV
TO15	Sample	Target	75-05-8	Acetonitrile	1	0.695	PPBV
TO15	Sample	Target	75-09-2	Methylene chloride	1	0.180	PPBV
TO15	Sample	Target	156-60-5	trans-1,2-Dichloroethene	1		PPBV
TO15	Sample	Target	1634-04-4	Methyl tert-butyl ether	1		PPBV
TO15	Sample	Target	107-13-1	Acrylonitrile	1		PPBV
TO15	Sample	Target	110-54-3	Hexane	1	0.241	PPBV
TO15	Sample	Target	75-34-3	1,1-Dichloroethane	1		PPBV
TO15	Sample	Target	108-05-4	Vinyl acetate	1		PPBV
TO15	Sample	Target	156-59-2	cis-1,2-Dichloroethene	1		PPBV
TO15	Sample	Target	78-93-3	Methyl ethyl ketone (2-Butanone)	1	0.223	PPBV
TO15	Sample	Target	141-78-6	Ethyl acetate	1	0.199	PPBV
TO15	Sample	Target	67-66-3	Chloroform	1		PPBV
TO15	Sample	Target	109-99-9	Tetrahydrofuran	1	0.0754	PPBV
TO15	Sample	Target	71-55-6	1,1,1-Trichloroethane	1		PPBV
TO15	Sample	Target	110-82-7	Cyclohexane	1		PPBV
TO15	Sample	Target	56-23-5	Carbon tetrachloride	1	0.0832	PPBV
TO15	Sample	Target	71-43-2	Benzene	1	0.626	PPBV
TO15	Sample	Target	540-84-1	2,2,4-trimethylpentane	1	0.0689	PPBV
TO15	Sample	Target	107-06-2	1,2-Dichloroethane	1		PPBV
TO15	Sample	Target	142-82-5	Heptane	1	0.117	PPBV
TO15	Sample	Target	79-01-6	Trichloroethene	1		PPBV
TO15	Sample	Target	78-87-5	1,2-Dichloropropane	1		PPBV
TO15	Sample	Target	80-62-6	Methyl methacrylate	1		PPBV
TO15	Sample	Target	123-91-1	1,4-Dioxane	1		PPBV
TO15	Sample	Target	75-27-4	Bromodichloromethane	1		PPBV
TO15	Sample	Target	10061-01-5	cis-1,3-Dichloropropene	1		PPBV
TO15	Sample	Target	108-10-1	Methyl isobutyl ketone	1		PPBV
TO15	Sample	Target	108-88-3	Toluene	1	0.599	PPBV
TO15	Sample	Target	10061-02-6	trans-1,3-Dichloropropene	1		PPBV
TO15	Sample	Target	79-00-5	1,1,2-Trichloroethane	1		PPBV
TO15	Sample	Target	127-18-4	Tetrachloroethene	1		PPBV
TO15	Sample	Target	591-78-6	2-Hexanone (Methyl butyl ketone)	1		PPBV
TO15	Sample	Target	124-48-1	Dibromochloromethane	1		PPBV

TO15	Sample	Target	106-93-4	1,2-Dibromoethane	1		PPBV
TO15	Sample	Target	108-90-7	Chlorobenzene	1		PPBV
TO15	Sample	Target	100-41-4	Ethylbenzene	1	0.306	PPBV
TO15	Sample	Target	630-20-6	1,1,1,2-Tetrachloroethane	1		PPBV
TO15	Sample	Target	108-38-3 &/ 106-42-3	m-/p-Xylenes	1	0.155	PPBV
TO15	Sample	Target	95-47-6	o-Xylene	1	0.0654	PPBV
TO15	Sample	Target	100-42-5	Styrene	1	0.198	PPBV
TO15	Sample	Target	75-25-2	Bromoform	1		PPBV
TO15	Sample	Target	79-34-5	1,1,2,2-Tetrachloroethane	1		PPBV
TO15	Sample	Target	622-96-8	4-Ethyltoluene	1		PPBV
TO15	Sample	Target	95-49-8	2-Chlorotoluene	1		PPBV
TO15	Sample	Target	108-67-8	1,3,5-Trimethylbenzene	1		PPBV
TO15	Sample	Target	95-63-6	1,2,4-Trimethylbenzene	1		PPBV
TO15	Sample	Target	541-73-1	1,3-Dichlorobenzene	1		PPBV
TO15	Sample	Target	106-46-7	1,4-Dichlorobenzene	1		PPBV
TO15	Sample	Target	100-44-7	Benzyl chloride	1		PPBV
TO15	Sample	Target	95-50-1	1,2-Dichlorobenzene	1		PPBV
TO15	Sample	Target	120-82-1	1,2,4-Trichlorobenzene	1		PPBV
TO15	Sample	Target	87-68-3	Hexachlorobutadiene	1		PPBV
TO15	Sample	Target	91-20-3	Naphthalene	1		PPBV
TO15	Sample	Target	106-94-5	1-Bromopropane	1		PPBV
TO15	Sample	Target	111-66-0	1-Octene	1		PPBV
TO15	Sample	Target	111-65-9	n-Octane	1		PPBV
TO15	Sample	Target	98-82-8	Isopropylbenzene	1	0.0948	PPBV
TO15	Sample	Target	103-65-1	n-Propylbenzene	1		PPBV
TO15	Sample	Target	115-07-1	Propylene	1	12.5	PPBV
TO15	Sample	Target	75-71-8	Freon 12 (CCl2F2)	1	0.492	PPBV
TO15	Sample	Target	76-14-2	Freon 114 (C2Cl2F4)	1		PPBV
TO15	Sample	Target	74-87-3	Chloromethane	1	6.67	PPBV
TO15	Sample	Target	75-01-4	Chloroethene (Vinyl chloride)	1		PPBV
TO15	Sample	Target	106-99-0	1,3-Butadiene	1	1.06	PPBV
TO15	Sample	Target	74-83-9	Bromomethane	1	0.118	PPBV
TO15	Sample	Target	75-00-3	Chloroethane	1	0.102	PPBV
TO15	Sample	Target	593-60-2	Bromoethene (Vinyl bromide)	1		PPBV
TO15	Sample	Target	75-69-4	Freon 11 (CCl3F)	1	0.251	PPBV
TO15	Sample	Target	64-17-5	Ethanol	1	1.73	PPBV
TO15	Sample	Target	107-02-8	Acrolein	1	1.12	PPBV
TO15	Sample	Target	76-13-1	Freon 113 (C2Cl3F3)	1	0.0800	PPBV
TO15	Sample	Target	75-35-4	1,1-Dichloroethene	1		PPBV
TO15	Sample	Target	67-64-1	Acetone	1	6.19	PPBV
TO15	Sample	Target	75-15-0	Carbon disulfide	1	0.236	PPBV
TO15	Sample	Target	67-63-0	Isopropyl alcohol	1	0.167	PPBV
TO15	Sample	Target	107-05-1	Allyl chloride (3-chloropropene)	1		PPBV

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TO15	Sample	Target	75-05-8	Acetonitrile	1	2.17	PPBV
TO15	Sample	Target	75-09-2	Methylene chloride	1	0.190	PPBV
TO15	Sample	Target	156-60-5	trans-1,2-Dichloroethene	1		PPBV
TO15	Sample	Target	1634-04-4	Methyl tert-butyl ether	1	0.0984	PPBV
TO15	Sample	Target	107-13-1	Acrylonitrile	1	0.436	PPBV
TO15	Sample	Target	110-54-3	Hexane	1	0.486	PPBV
TO15	Sample	Target	75-34-3	1,1-Dichloroethane	1		PPBV
TO15	Sample	Target	108-05-4	Vinyl acetate	1		PPBV
TO15	Sample	Target	156-59-2	cis-1,2-Dichloroethene	1		PPBV
TO15	Sample	Target	78-93-3	Methyl ethyl ketone (2-Butanone)	1	0.912	PPBV
TO15	Sample	Target	141-78-6	Ethyl acetate	1		PPBV
TO15	Sample	Target	67-66-3	Chloroform	1		PPBV
TO15	Sample	Target	109-99-9	Tetrahydrofuran	1	0.446	PPBV
TO15	Sample	Target	71-55-6	1,1,1-Trichloroethane	1		PPBV
TO15	Sample	Target	110-82-7	Cyclohexane	1	0.0928	PPBV
TO15	Sample	Target	56-23-5	Carbon tetrachloride	1	0.0789	PPBV
TO15	Sample	Target	71-43-2	Benzene	1	8.19	PPBV
TO15	Sample	Target	540-84-1	2,2,4-trimethylpentane	1		PPBV
TO15	Sample	Target	107-06-2	1,2-Dichloroethane	1		PPBV
TO15	Sample	Target	142-82-5	Heptane	1	0.368	PPBV
TO15	Sample	Target	79-01-6	Trichloroethene	1		PPBV
TO15	Sample	Target	78-87-5	1,2-Dichloropropane	1		PPBV
TO15	Sample	Target	80-62-6	Methyl methacrylate	1	0.342	PPBV
TO15	Sample	Target	123-91-1	1,4-Dioxane	1	0.162	PPBV
TO15	Sample	Target	75-27-4	Bromodichloromethane	1		PPBV
TO15	Sample	Target	10061-01-5	cis-1,3-Dichloropropene	1		PPBV
TO15	Sample	Target	108-10-1	Methyl isobutyl ketone	1		PPBV
TO15	Sample	Target	108-88-3	Toluene	1	3.12	PPBV
TO15	Sample	Target	10061-02-6	trans-1,3-Dichloropropene	1		PPBV
TO15	Sample	Target	79-00-5	1,1,2-Trichloroethane	1		PPBV
TO15	Sample	Target	127-18-4	Tetrachloroethene	1		PPBV
TO15	Sample	Target	591-78-6	2-Hexanone (Methyl butyl ketone)	1	0.0826	PPBV
TO15	Sample	Target	124-48-1	Dibromochloromethane	1		PPBV
TO15	Sample	Target	106-93-4	1,2-Dibromoethane	1		PPBV
TO15	Sample	Target	108-90-7	Chlorobenzene	1	0.163	PPBV
TO15	Sample	Target	100-41-4	Ethylbenzene	1	1.84	PPBV
TO15	Sample	Target	630-20-6	1,1,1,2-Tetrachloroethane	1		PPBV
TO15	Sample	Target	108-38-3 &/ 106-42-3	m-/p-Xylenes	1	0.477	PPBV
TO15	Sample	Target	95-47-6	o-Xylene	1	0.226	PPBV
TO15	Sample	Target	100-42-5	Styrene	1	4.97	PPBV
TO15	Sample	Target	75-25-2	Bromoform	1		PPBV
TO15	Sample	Target	79-34-5	1,1,2,2-Tetrachloroethane	1		PPBV
TO15	Sample	Target	622-96-8	4-Ethyltoluene	1		PPBV

TO15	Sample	Target	95-49-8	2-Chlorotoluene	1		PPBV
TO15	Sample	Target	108-67-8	1,3,5-Trimethylbenzene	1	0.109	PPBV
TO15	Sample	Target	95-63-6	1,2,4-Trimethylbenzene	1	0.109	PPBV
TO15	Sample	Target	541-73-1	1,3-Dichlorobenzene	1		PPBV
TO15	Sample	Target	106-46-7	1,4-Dichlorobenzene	1		PPBV
TO15	Sample	Target	100-44-7	Benzyl chloride	1		PPBV
TO15	Sample	Target	95-50-1	1,2-Dichlorobenzene	1		PPBV
TO15	Sample	Target	120-82-1	1,2,4-Trichlorobenzene	1		PPBV
TO15	Sample	Target	87-68-3	Hexachlorobutadiene	1		PPBV
TO15	Sample	Target	91-20-3	Naphthalene	1	0.194	PPBV
TO15	Sample	Target	106-94-5	1-Bromopropane	1		PPBV
TO15	Sample	Target	111-66-0	1-Octene	1		PPBV
TO15	Sample	Target	111-65-9	n-Octane	1	0.205	PPBV
TO15	Sample	Target	98-82-8	Isopropylbenzene	1	0.391	PPBV
TO15	Sample	Target	103-65-1	n-Propylbenzene	1	0.0923	PPBV
TO15	Sample	Target	115-07-1	Propylene	1	0.368	PPBV
TO15	Sample	Target	75-71-8	Freon 12 (CCl2F2)	1	0.479	PPBV
TO15	Sample	Target	76-14-2	Freon 114 (C2Cl2F4)	1		PPBV
TO15	Sample	Target	74-87-3	Chloromethane	1	1.01	PPBV
TO15	Sample	Target	75-01-4	Chloroethene (Vinyl chloride)	1		PPBV
TO15	Sample	Target	106-99-0	1,3-Butadiene	1		PPBV
TO15	Sample	Target	74-83-9	Bromomethane	1		PPBV
TO15	Sample	Target	75-00-3	Chloroethane	1		PPBV
TO15	Sample	Target	593-60-2	Bromoethene (Vinyl bromide)	1		PPBV
TO15	Sample	Target	75-69-4	Freon 11 (CCl3F)	1	0.247	PPBV
TO15	Sample	Target	64-17-5	Ethanol	1	0.643	PPBV
TO15	Sample	Target	107-02-8	Acrolein	1	0.119	PPBV
TO15	Sample	Target	76-13-1	Freon 113 (C2Cl3F3)	1	0.0762	PPBV
TO15	Sample	Target	75-35-4	1,1-Dichloroethene	1		PPBV
TO15	Sample	Target	67-64-1	Acetone	1	2.30	PPBV
TO15	Sample	Target	75-15-0	Carbon disulfide	1	0.0843	PPBV
TO15	Sample	Target	67-63-0	Isopropyl alcohol	1	0.124	PPBV
TO15	Sample	Target	107-05-1	Allyl chloride (3-chloropropene)	1		PPBV
TO15	Sample	Target	75-05-8	Acetonitrile	1	0.532	PPBV
TO15	Sample	Target	75-09-2	Methylene chloride	1	0.159	PPBV
TO15	Sample	Target	156-60-5	trans-1,2-Dichloroethene	1		PPBV
TO15	Sample	Target	1634-04-4	Methyl tert-butyl ether	1		PPBV
TO15	Sample	Target	107-13-1	Acrylonitrile	1		PPBV
TO15	Sample	Target	110-54-3	Hexane	1	0.0793	PPBV
TO15	Sample	Target	75-34-3	1,1-Dichloroethane	1		PPBV
TO15	Sample	Target	108-05-4	Vinyl acetate	1		PPBV
TO15	Sample	Target	156-59-2	cis-1,2-Dichloroethene	1		PPBV
TO15	Sample	Target	78-93-3	Methyl ethyl ketone (2-Butanone)	1	0.142	PPBV

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TO15	Sample	Target	141-78-6	Ethyl acetate	1		PPBV
TO15	Sample	Target	67-66-3	Chloroform	1		PPBV
TO15	Sample	Target	109-99-9	Tetrahydrofuran	1		PPBV
TO15	Sample	Target	71-55-6	1,1,1-Trichloroethane	1		PPBV
TO15	Sample	Target	110-82-7	Cyclohexane	1		PPBV
TO15	Sample	Target	56-23-5	Carbon tetrachloride	1	0.0780	PPBV
TO15	Sample	Target	71-43-2	Benzene	1		PPBV
TO15	Sample	Target	540-84-1	2,2,4-trimethylpentane	1		PPBV
TO15	Sample	Target	107-06-2	1,2-Dichloroethane	1		PPBV
TO15	Sample	Target	142-82-5	Heptane	1		PPBV
TO15	Sample	Target	79-01-6	Trichloroethene	1		PPBV
TO15	Sample	Target	78-87-5	1,2-Dichloropropane	1		PPBV
TO15	Sample	Target	80-62-6	Methyl methacrylate	1		PPBV
TO15	Sample	Target	123-91-1	1,4-Dioxane	1		PPBV
TO15	Sample	Target	75-27-4	Bromodichloromethane	1		PPBV
TO15	Sample	Target	10061-01-5	cis-1,3-Dichloropropene	1		PPBV
TO15	Sample	Target	108-10-1	Methyl isobutyl ketone	1		PPBV
TO15	Sample	Target	108-88-3	Toluene	1	0.174	PPBV
TO15	Sample	Target	10061-02-6	trans-1,3-Dichloropropene	1		PPBV
TO15	Sample	Target	79-00-5	1,1,2-Trichloroethane	1		PPBV
TO15	Sample	Target	127-18-4	Tetrachloroethene	1		PPBV
TO15	Sample	Target	591-78-6	2-Hexanone (Methyl butyl ketone)	1		PPBV
TO15	Sample	Target	124-48-1	Dibromochloromethane	1		PPBV
TO15	Sample	Target	106-93-4	1,2-Dibromoethane	1		PPBV
TO15	Sample	Target	108-90-7	Chlorobenzene	1		PPBV
TO15	Sample	Target	100-41-4	Ethylbenzene	1		PPBV
TO15	Sample	Target	630-20-6	1,1,1,2-Tetrachloroethane	1		PPBV
TO15	Sample	Target	108-38-3 &/ 106-42-3	m-/p-Xylenes	1		PPBV
TO15	Sample	Target	95-47-6	o-Xylene	1		PPBV
TO15	Sample	Target	100-42-5	Styrene	1		PPBV
TO15	Sample	Target	75-25-2	Bromoform	1		PPBV
TO15	Sample	Target	79-34-5	1,1,2,2-Tetrachloroethane	1		PPBV
TO15	Sample	Target	622-96-8	4-Ethyltoluene	1		PPBV
TO15	Sample	Target	95-49-8	2-Chlorotoluene	1		PPBV
TO15	Sample	Target	108-67-8	1,3,5-Trimethylbenzene	1		PPBV
TO15	Sample	Target	95-63-6	1,2,4-Trimethylbenzene	1		PPBV
TO15	Sample	Target	541-73-1	1,3-Dichlorobenzene	1		PPBV
TO15	Sample	Target	106-46-7	1,4-Dichlorobenzene	1		PPBV
TO15	Sample	Target	100-44-7	Benzyl chloride	1		PPBV
TO15	Sample	Target	95-50-1	1,2-Dichlorobenzene	1		PPBV
TO15	Sample	Target	120-82-1	1,2,4-Trichlorobenzene	1		PPBV
TO15	Sample	Target	87-68-3	Hexachlorobutadiene	1		PPBV
TO15	Sample	Target	91-20-3	Naphthalene	1		PPBV

TO15	Sample	Target	106-94-5	1-Bromopropane	1		PPBV
TO15	Sample	Target	111-66-0	1-Octene	1		PPBV
TO15	Sample	Target	111-65-9	n-Octane	1		PPBV
TO15	Sample	Target	98-82-8	Isopropylbenzene	1	0.0723	PPBV
TO15	Sample	Target	103-65-1	n-Propylbenzene	1		PPBV

LIMs Export Table Quant Report

RESULT2	RESULT_UNITS2	MDL	MDL_UNITS	MDL2	MDL2_UNITS	RL	RL_UNITS	RL2
0.0753	ug/m3	0.0350	PPBV	0.0602	ug/m3	0.0384	PPBV	0.0660
	ug/m3	0.0350	PPBV	0.173	ug/m3	0.0390	PPBV	0.193
	ug/m3	0.0350	PPBV	0.245	ug/m3	0.0400	PPBV	0.280
	ug/m3	0.0350	PPBV	0.0723	ug/m3	0.0390	PPBV	0.0805
	ug/m3	0.0350	PPBV	0.0895	ug/m3	0.0402	PPBV	0.103
	ug/m3	0.0350	PPBV	0.0774	ug/m3	0.0391	PPBV	0.0865
	ug/m3	0.0350	PPBV	0.136	ug/m3	0.0396	PPBV	0.154
	ug/m3	0.0350	PPBV	0.0924	ug/m3	0.0403	PPBV	0.106
	ug/m3	0.0350	PPBV	0.153	ug/m3	0.0399	PPBV	0.174
	ug/m3	0.0350	PPBV	0.197	ug/m3	0.0415	PPBV	0.233
0.227	ug/m3	0.100	PPBV	0.188	ug/m3	0.100	PPBV	0.188
	ug/m3	0.0350	PPBV	0.0803	ug/m3	0.0397	PPBV	0.0911
	ug/m3	0.0350	PPBV	0.268	ug/m3	0.0398	PPBV	0.305
	ug/m3	0.0350	PPBV	0.139	ug/m3	0.0400	PPBV	0.159
0.193	ug/m3	0.0350	PPBV	0.0831	ug/m3	0.0402	PPBV	0.0955
	ug/m3	0.0350	PPBV	0.109	ug/m3	0.0402	PPBV	0.125
	ug/m3	0.0350	PPBV	0.0860	ug/m3	0.0402	PPBV	0.0987
	ug/m3	0.0350	PPBV	0.110	ug/m3	0.0402	PPBV	0.126
0.0649	ug/m3	0.0350	PPBV	0.0588	ug/m3	0.0402	PPBV	0.0675
0.176	ug/m3	0.0350	PPBV	0.122	ug/m3	0.0405	PPBV	0.141
	ug/m3	0.0350	PPBV	0.139	ug/m3	0.0408	PPBV	0.162
	ug/m3	0.0350	PPBV	0.126	ug/m3	0.0410	PPBV	0.148
	ug/m3	0.0350	PPBV	0.0760	ug/m3	0.0409	PPBV	0.0887
	ug/m3	0.0350	PPBV	0.123	ug/m3	0.0404	PPBV	0.143
	ug/m3	0.0350	PPBV	0.142	ug/m3	0.0394	PPBV	0.159
	ug/m3	0.0350	PPBV	0.123	ug/m3	0.0407	PPBV	0.143
	ug/m3	0.0350	PPBV	0.139	ug/m3	0.0403	PPBV	0.160
	ug/m3	0.0350	PPBV	0.103	ug/m3	0.0406	PPBV	0.120
	ug/m3	0.0350	PPBV	0.126	ug/m3	0.0403	PPBV	0.145
	ug/m3	0.0350	PPBV	0.171	ug/m3	0.0404	PPBV	0.197
	ug/m3	0.0350	PPBV	0.103	ug/m3	0.0404	PPBV	0.119
	ug/m3	0.0350	PPBV	0.191	ug/m3	0.0398	PPBV	0.217
	ug/m3	0.0350	PPBV	0.120	ug/m3	0.0407	PPBV	0.140
	ug/m3	0.0350	PPBV	0.220	ug/m3	0.0405	PPBV	0.255
	ug/m3	0.0350	PPBV	0.112	ug/m3	0.0399	PPBV	0.128
	ug/m3	0.0350	PPBV	0.164	ug/m3	0.0410	PPBV	0.192
	ug/m3	0.0350	PPBV	0.142	ug/m3	0.0409	PPBV	0.165
	ug/m3	0.0350	PPBV	0.143	ug/m3	0.0402	PPBV	0.165
	ug/m3	0.0350	PPBV	0.188	ug/m3	0.0402	PPBV	0.216
	ug/m3	0.0350	PPBV	0.162	ug/m3	0.0409	PPBV	0.189
	ug/m3	0.0350	PPBV	0.143	ug/m3	0.0415	PPBV	0.170

	ug/m3	0.0350	PPBV	0.126	ug/m3	0.0404	PPBV	0.146
	ug/m3	0.0350	PPBV	0.235	ug/m3	0.0397	PPBV	0.266
	ug/m3	0.0350	PPBV	0.159	ug/m3	0.0393	PPBV	0.178
	ug/m3	0.0350	PPBV	0.143	ug/m3	0.0412	PPBV	0.169
	ug/m3	0.0350	PPBV	0.132	ug/m3	0.0406	PPBV	0.153
	ug/m3	0.0350	PPBV	0.159	ug/m3	0.0406	PPBV	0.184
	ug/m3	0.0350	PPBV	0.191	ug/m3	0.0401	PPBV	0.219
	ug/m3	0.0350	PPBV	0.237	ug/m3	0.0404	PPBV	0.274
	ug/m3	0.0350	PPBV	0.143	ug/m3	0.0406	PPBV	0.166
	ug/m3	0.0350	PPBV	0.298	ug/m3	0.0395	PPBV	0.336
	ug/m3	0.0350	PPBV	0.269	ug/m3	0.0405	PPBV	0.311
	ug/m3	0.0350	PPBV	0.161	ug/m3	0.0412	PPBV	0.189
	ug/m3	0.0350	PPBV	0.152	ug/m3	0.0394	PPBV	0.171
	ug/m3	0.0350	PPBV	0.240	ug/m3	0.0400	PPBV	0.275
	ug/m3	0.0350	PPBV	0.152	ug/m3	0.0405	PPBV	0.176
	ug/m3	0.0350	PPBV	0.152	ug/m3	0.0400	PPBV	0.174
	ug/m3	0.0350	PPBV	0.149	ug/m3	0.0390	PPBV	0.166
	ug/m3	0.0350	PPBV	0.362	ug/m3	0.0402	PPBV	0.415
	ug/m3	0.0350	PPBV	0.240	ug/m3	0.0400	PPBV	0.275
	ug/m3	0.0350	PPBV	0.172	ug/m3	0.0403	PPBV	0.198
	ug/m3	0.0350	PPBV	0.181	ug/m3	0.0403	PPBV	0.209
	ug/m3	0.0350	PPBV	0.172	ug/m3	0.0401	PPBV	0.197
	ug/m3	0.0350	PPBV	0.172	ug/m3	0.0398	PPBV	0.195
	ug/m3	0.0350	PPBV	0.210	ug/m3	0.0404	PPBV	0.243
	ug/m3	0.0350	PPBV	0.210	ug/m3	0.0401	PPBV	0.241
	ug/m3	0.0350	PPBV	0.181	ug/m3	0.0399	PPBV	0.207
	ug/m3	0.0350	PPBV	0.210	ug/m3	0.0408	PPBV	0.245
	ug/m3	0.0350	PPBV	0.260	ug/m3	0.0406	PPBV	0.301
	ug/m3	0.0350	PPBV	0.373	ug/m3	0.0401	PPBV	0.427
	ug/m3	0.0350	PPBV	0.183	ug/m3	0.0414	PPBV	0.217
	ug/m3	0.0350	PPBV	0.176	ug/m3	0.0395	PPBV	0.199
	ug/m3	0.0350	PPBV	0.161	ug/m3	0.0391	PPBV	0.180
	ug/m3	0.0350	PPBV	0.164	ug/m3	0.0401	PPBV	0.187
	ug/m3	0.0350	PPBV	0.172	ug/m3	0.0406	PPBV	0.200
	ug/m3	0.0350	PPBV	0.172	ug/m3	0.0407	PPBV	0.200
2.98	ug/m3	0.0602	PPBV	0.104	ug/m3	0.0660	PPBV	0.114
2.44	ug/m3	0.0602	PPBV	0.298	ug/m3	0.0671	PPBV	0.332
	ug/m3	0.0602	PPBV	0.421	ug/m3	0.0689	PPBV	0.481
3.53	ug/m3	0.0602	PPBV	0.124	ug/m3	0.0671	PPBV	0.139
	ug/m3	0.0602	PPBV	0.154	ug/m3	0.0692	PPBV	0.177
0.195	ug/m3	0.0602	PPBV	0.133	ug/m3	0.0672	PPBV	0.149
	ug/m3	0.0602	PPBV	0.234	ug/m3	0.0680	PPBV	0.264
	ug/m3	0.0602	PPBV	0.159	ug/m3	0.0694	PPBV	0.183

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	ug/m3	0.0602	PPBV	0.263	ug/m3	0.0686	PPBV	0.300
1.42	ug/m3	0.0602	PPBV	0.338	ug/m3	0.0714	PPBV	0.401
2.62	ug/m3	0.172	PPBV	0.324	ug/m3	0.172	PPBV	0.324
0.307	ug/m3	0.0602	PPBV	0.138	ug/m3	0.0683	PPBV	0.157
0.591	ug/m3	0.0602	PPBV	0.461	ug/m3	0.0685	PPBV	0.525
	ug/m3	0.0602	PPBV	0.239	ug/m3	0.0689	PPBV	0.273
6.87	ug/m3	0.0602	PPBV	0.143	ug/m3	0.0691	PPBV	0.164
0.448	ug/m3	0.0602	PPBV	0.187	ug/m3	0.0691	PPBV	0.215
0.432	ug/m3	0.0602	PPBV	0.148	ug/m3	0.0691	PPBV	0.170
	ug/m3	0.0602	PPBV	0.188	ug/m3	0.0692	PPBV	0.217
1.17	ug/m3	0.0602	PPBV	0.101	ug/m3	0.0691	PPBV	0.116
0.625	ug/m3	0.0602	PPBV	0.209	ug/m3	0.0697	PPBV	0.242
	ug/m3	0.0602	PPBV	0.239	ug/m3	0.0701	PPBV	0.278
	ug/m3	0.0602	PPBV	0.217	ug/m3	0.0705	PPBV	0.254
	ug/m3	0.0602	PPBV	0.131	ug/m3	0.0703	PPBV	0.153
0.849	ug/m3	0.0602	PPBV	0.212	ug/m3	0.0696	PPBV	0.245
	ug/m3	0.0602	PPBV	0.244	ug/m3	0.0678	PPBV	0.274
	ug/m3	0.0602	PPBV	0.212	ug/m3	0.0700	PPBV	0.246
	ug/m3	0.0602	PPBV	0.239	ug/m3	0.0693	PPBV	0.275
0.657	ug/m3	0.0602	PPBV	0.178	ug/m3	0.0699	PPBV	0.206
0.719	ug/m3	0.0602	PPBV	0.217	ug/m3	0.0693	PPBV	0.250
	ug/m3	0.0602	PPBV	0.294	ug/m3	0.0696	PPBV	0.340
0.222	ug/m3	0.0602	PPBV	0.178	ug/m3	0.0694	PPBV	0.205
	ug/m3	0.0602	PPBV	0.328	ug/m3	0.0685	PPBV	0.374
	ug/m3	0.0602	PPBV	0.207	ug/m3	0.0700	PPBV	0.241
0.523	ug/m3	0.0602	PPBV	0.379	ug/m3	0.0696	PPBV	0.438
2.00	ug/m3	0.0602	PPBV	0.192	ug/m3	0.0687	PPBV	0.219
0.322	ug/m3	0.0602	PPBV	0.281	ug/m3	0.0705	PPBV	0.329
	ug/m3	0.0602	PPBV	0.244	ug/m3	0.0703	PPBV	0.285
0.478	ug/m3	0.0602	PPBV	0.247	ug/m3	0.0691	PPBV	0.283
	ug/m3	0.0602	PPBV	0.323	ug/m3	0.0691	PPBV	0.371
	ug/m3	0.0602	PPBV	0.278	ug/m3	0.0703	PPBV	0.325
	ug/m3	0.0602	PPBV	0.247	ug/m3	0.0713	PPBV	0.292
	ug/m3	0.0602	PPBV	0.217	ug/m3	0.0696	PPBV	0.251
	ug/m3	0.0602	PPBV	0.403	ug/m3	0.0683	PPBV	0.458
	ug/m3	0.0602	PPBV	0.273	ug/m3	0.0676	PPBV	0.307
	ug/m3	0.0602	PPBV	0.247	ug/m3	0.0709	PPBV	0.291
2.26	ug/m3	0.0602	PPBV	0.227	ug/m3	0.0699	PPBV	0.263
	ug/m3	0.0602	PPBV	0.273	ug/m3	0.0699	PPBV	0.317
	ug/m3	0.0602	PPBV	0.328	ug/m3	0.0689	PPBV	0.376
	ug/m3	0.0602	PPBV	0.408	ug/m3	0.0694	PPBV	0.471
	ug/m3	0.0602	PPBV	0.247	ug/m3	0.0699	PPBV	0.286
	ug/m3	0.0602	PPBV	0.513	ug/m3	0.0679	PPBV	0.578

	ug/m3	0.0602	PPBV	0.463	ug/m3	0.0697	PPBV	0.535
	ug/m3	0.0602	PPBV	0.277	ug/m3	0.0708	PPBV	0.326
1.33	ug/m3	0.0602	PPBV	0.261	ug/m3	0.0677	PPBV	0.294
	ug/m3	0.0602	PPBV	0.413	ug/m3	0.0688	PPBV	0.472
0.673	ug/m3	0.0602	PPBV	0.261	ug/m3	0.0697	PPBV	0.303
0.284	ug/m3	0.0602	PPBV	0.261	ug/m3	0.0687	PPBV	0.298
0.842	ug/m3	0.0602	PPBV	0.256	ug/m3	0.0670	PPBV	0.285
	ug/m3	0.0602	PPBV	0.622	ug/m3	0.0691	PPBV	0.714
	ug/m3	0.0602	PPBV	0.413	ug/m3	0.0688	PPBV	0.472
	ug/m3	0.0602	PPBV	0.296	ug/m3	0.0693	PPBV	0.341
	ug/m3	0.0602	PPBV	0.312	ug/m3	0.0693	PPBV	0.359
	ug/m3	0.0602	PPBV	0.296	ug/m3	0.0690	PPBV	0.339
	ug/m3	0.0602	PPBV	0.296	ug/m3	0.0684	PPBV	0.336
	ug/m3	0.0602	PPBV	0.362	ug/m3	0.0694	PPBV	0.417
	ug/m3	0.0602	PPBV	0.362	ug/m3	0.0690	PPBV	0.415
	ug/m3	0.0602	PPBV	0.312	ug/m3	0.0687	PPBV	0.355
	ug/m3	0.0602	PPBV	0.362	ug/m3	0.0701	PPBV	0.422
	ug/m3	0.0602	PPBV	0.447	ug/m3	0.0698	PPBV	0.518
	ug/m3	0.0602	PPBV	0.642	ug/m3	0.0689	PPBV	0.735
	ug/m3	0.0602	PPBV	0.316	ug/m3	0.0712	PPBV	0.373
	ug/m3	0.0602	PPBV	0.303	ug/m3	0.0680	PPBV	0.342
	ug/m3	0.0602	PPBV	0.276	ug/m3	0.0673	PPBV	0.309
	ug/m3	0.0602	PPBV	0.281	ug/m3	0.0689	PPBV	0.322
0.466	ug/m3	0.0602	PPBV	0.296	ug/m3	0.0698	PPBV	0.343
	ug/m3	0.0602	PPBV	0.296	ug/m3	0.0700	PPBV	0.344
21.5	ug/m3	0.0604	PPBV	0.104	ug/m3	0.0662	PPBV	0.114
2.43	ug/m3	0.0604	PPBV	0.299	ug/m3	0.0674	PPBV	0.333
	ug/m3	0.0604	PPBV	0.423	ug/m3	0.0691	PPBV	0.483
13.8	ug/m3	0.0604	PPBV	0.125	ug/m3	0.0674	PPBV	0.139
	ug/m3	0.0604	PPBV	0.155	ug/m3	0.0695	PPBV	0.178
2.35	ug/m3	0.0604	PPBV	0.134	ug/m3	0.0675	PPBV	0.149
0.460	ug/m3	0.0604	PPBV	0.235	ug/m3	0.0683	PPBV	0.265
0.268	ug/m3	0.0604	PPBV	0.159	ug/m3	0.0696	PPBV	0.184
	ug/m3	0.0604	PPBV	0.264	ug/m3	0.0689	PPBV	0.301
1.41	ug/m3	0.0604	PPBV	0.340	ug/m3	0.0717	PPBV	0.403
3.26	ug/m3	0.173	PPBV	0.325	ug/m3	0.173	PPBV	0.325
2.56	ug/m3	0.0604	PPBV	0.139	ug/m3	0.0686	PPBV	0.157
0.613	ug/m3	0.0604	PPBV	0.463	ug/m3	0.0687	PPBV	0.527
	ug/m3	0.0604	PPBV	0.240	ug/m3	0.0691	PPBV	0.274
14.7	ug/m3	0.0604	PPBV	0.144	ug/m3	0.0694	PPBV	0.165
0.736	ug/m3	0.0604	PPBV	0.188	ug/m3	0.0694	PPBV	0.216
0.410	ug/m3	0.0604	PPBV	0.149	ug/m3	0.0694	PPBV	0.170
	ug/m3	0.0604	PPBV	0.189	ug/m3	0.0695	PPBV	0.218

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3.64	ug/m3	0.0604	PPBV	0.101	ug/m3	0.0694	PPBV	0.117
0.660	ug/m3	0.0604	PPBV	0.210	ug/m3	0.0699	PPBV	0.243
	ug/m3	0.0604	PPBV	0.240	ug/m3	0.0704	PPBV	0.279
0.355	ug/m3	0.0604	PPBV	0.218	ug/m3	0.0707	PPBV	0.255
0.946	ug/m3	0.0604	PPBV	0.131	ug/m3	0.0706	PPBV	0.153
1.71	ug/m3	0.0604	PPBV	0.213	ug/m3	0.0698	PPBV	0.246
	ug/m3	0.0604	PPBV	0.245	ug/m3	0.0680	PPBV	0.275
	ug/m3	0.0604	PPBV	0.213	ug/m3	0.0703	PPBV	0.247
	ug/m3	0.0604	PPBV	0.240	ug/m3	0.0696	PPBV	0.276
2.69	ug/m3	0.0604	PPBV	0.178	ug/m3	0.0702	PPBV	0.207
	ug/m3	0.0604	PPBV	0.218	ug/m3	0.0696	PPBV	0.251
	ug/m3	0.0604	PPBV	0.295	ug/m3	0.0698	PPBV	0.341
1.32	ug/m3	0.0604	PPBV	0.178	ug/m3	0.0697	PPBV	0.206
	ug/m3	0.0604	PPBV	0.330	ug/m3	0.0687	PPBV	0.375
0.319	ug/m3	0.0604	PPBV	0.208	ug/m3	0.0703	PPBV	0.242
0.497	ug/m3	0.0604	PPBV	0.380	ug/m3	0.0699	PPBV	0.440
26.2	ug/m3	0.0604	PPBV	0.193	ug/m3	0.0689	PPBV	0.220
	ug/m3	0.0604	PPBV	0.282	ug/m3	0.0708	PPBV	0.331
	ug/m3	0.0604	PPBV	0.245	ug/m3	0.0706	PPBV	0.286
1.51	ug/m3	0.0604	PPBV	0.248	ug/m3	0.0694	PPBV	0.285
	ug/m3	0.0604	PPBV	0.325	ug/m3	0.0694	PPBV	0.373
	ug/m3	0.0604	PPBV	0.279	ug/m3	0.0706	PPBV	0.326
1.40	ug/m3	0.0604	PPBV	0.248	ug/m3	0.0716	PPBV	0.293
0.584	ug/m3	0.0604	PPBV	0.218	ug/m3	0.0698	PPBV	0.252
	ug/m3	0.0604	PPBV	0.405	ug/m3	0.0686	PPBV	0.460
	ug/m3	0.0604	PPBV	0.274	ug/m3	0.0679	PPBV	0.308
	ug/m3	0.0604	PPBV	0.248	ug/m3	0.0712	PPBV	0.292
11.8	ug/m3	0.0604	PPBV	0.228	ug/m3	0.0702	PPBV	0.264
	ug/m3	0.0604	PPBV	0.274	ug/m3	0.0702	PPBV	0.319
	ug/m3	0.0604	PPBV	0.330	ug/m3	0.0692	PPBV	0.378
	ug/m3	0.0604	PPBV	0.410	ug/m3	0.0697	PPBV	0.473
0.338	ug/m3	0.0604	PPBV	0.248	ug/m3	0.0702	PPBV	0.288
	ug/m3	0.0604	PPBV	0.515	ug/m3	0.0682	PPBV	0.581
	ug/m3	0.0604	PPBV	0.464	ug/m3	0.0700	PPBV	0.538
0.748	ug/m3	0.0604	PPBV	0.278	ug/m3	0.0711	PPBV	0.327
8.00	ug/m3	0.0604	PPBV	0.262	ug/m3	0.0680	PPBV	0.295
	ug/m3	0.0604	PPBV	0.415	ug/m3	0.0691	PPBV	0.474
2.07	ug/m3	0.0604	PPBV	0.262	ug/m3	0.0700	PPBV	0.304
0.980	ug/m3	0.0604	PPBV	0.262	ug/m3	0.0690	PPBV	0.300
21.2	ug/m3	0.0604	PPBV	0.257	ug/m3	0.0673	PPBV	0.287
	ug/m3	0.0604	PPBV	0.625	ug/m3	0.0694	PPBV	0.717
	ug/m3	0.0604	PPBV	0.415	ug/m3	0.0691	PPBV	0.474
	ug/m3	0.0604	PPBV	0.297	ug/m3	0.0696	PPBV	0.342

	ug/m3	0.0604	PPBV	0.313	ug/m3	0.0696	PPBV	0.360
0.535	ug/m3	0.0604	PPBV	0.297	ug/m3	0.0693	PPBV	0.341
0.534	ug/m3	0.0604	PPBV	0.297	ug/m3	0.0687	PPBV	0.338
	ug/m3	0.0604	PPBV	0.363	ug/m3	0.0697	PPBV	0.419
	ug/m3	0.0604	PPBV	0.363	ug/m3	0.0693	PPBV	0.417
	ug/m3	0.0604	PPBV	0.313	ug/m3	0.0689	PPBV	0.357
	ug/m3	0.0604	PPBV	0.363	ug/m3	0.0704	PPBV	0.423
	ug/m3	0.0604	PPBV	0.449	ug/m3	0.0701	PPBV	0.520
	ug/m3	0.0604	PPBV	0.645	ug/m3	0.0692	PPBV	0.738
1.02	ug/m3	0.0604	PPBV	0.317	ug/m3	0.0715	PPBV	0.375
	ug/m3	0.0604	PPBV	0.304	ug/m3	0.0683	PPBV	0.343
	ug/m3	0.0604	PPBV	0.277	ug/m3	0.0676	PPBV	0.310
0.957	ug/m3	0.0604	PPBV	0.282	ug/m3	0.0692	PPBV	0.323
1.92	ug/m3	0.0604	PPBV	0.297	ug/m3	0.0701	PPBV	0.345
0.453	ug/m3	0.0604	PPBV	0.297	ug/m3	0.0703	PPBV	0.345
0.633	ug/m3	0.0611	PPBV	0.105	ug/m3	0.0670	PPBV	0.115
2.37	ug/m3	0.0611	PPBV	0.302	ug/m3	0.0682	PPBV	0.337
	ug/m3	0.0611	PPBV	0.427	ug/m3	0.0699	PPBV	0.489
2.09	ug/m3	0.0611	PPBV	0.126	ug/m3	0.0681	PPBV	0.141
	ug/m3	0.0611	PPBV	0.156	ug/m3	0.0703	PPBV	0.180
	ug/m3	0.0611	PPBV	0.135	ug/m3	0.0682	PPBV	0.151
	ug/m3	0.0611	PPBV	0.237	ug/m3	0.0691	PPBV	0.268
	ug/m3	0.0611	PPBV	0.161	ug/m3	0.0704	PPBV	0.186
	ug/m3	0.0611	PPBV	0.267	ug/m3	0.0696	PPBV	0.305
1.39	ug/m3	0.0611	PPBV	0.343	ug/m3	0.0725	PPBV	0.407
1.21	ug/m3	0.175	PPBV	0.329	ug/m3	0.175	PPBV	0.329
0.273	ug/m3	0.0611	PPBV	0.140	ug/m3	0.0694	PPBV	0.159
0.584	ug/m3	0.0611	PPBV	0.468	ug/m3	0.0695	PPBV	0.533
	ug/m3	0.0611	PPBV	0.242	ug/m3	0.0699	PPBV	0.277
5.46	ug/m3	0.0611	PPBV	0.145	ug/m3	0.0702	PPBV	0.167
0.262	ug/m3	0.0611	PPBV	0.190	ug/m3	0.0701	PPBV	0.218
0.305	ug/m3	0.0611	PPBV	0.150	ug/m3	0.0701	PPBV	0.172
	ug/m3	0.0611	PPBV	0.191	ug/m3	0.0703	PPBV	0.220
0.893	ug/m3	0.0611	PPBV	0.103	ug/m3	0.0702	PPBV	0.118
0.551	ug/m3	0.0611	PPBV	0.212	ug/m3	0.0707	PPBV	0.246
	ug/m3	0.0611	PPBV	0.242	ug/m3	0.0712	PPBV	0.282
	ug/m3	0.0611	PPBV	0.220	ug/m3	0.0715	PPBV	0.258
	ug/m3	0.0611	PPBV	0.133	ug/m3	0.0714	PPBV	0.155
0.280	ug/m3	0.0611	PPBV	0.215	ug/m3	0.0706	PPBV	0.249
	ug/m3	0.0611	PPBV	0.247	ug/m3	0.0688	PPBV	0.278
	ug/m3	0.0611	PPBV	0.215	ug/m3	0.0710	PPBV	0.250
	ug/m3	0.0611	PPBV	0.242	ug/m3	0.0703	PPBV	0.279
0.420	ug/m3	0.0611	PPBV	0.180	ug/m3	0.0710	PPBV	0.209

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	ug/m3	0.0611	PPBV	0.220	ug/m3	0.0703	PPBV	0.253
	ug/m3	0.0611	PPBV	0.298	ug/m3	0.0706	PPBV	0.345
	ug/m3	0.0611	PPBV	0.180	ug/m3	0.0705	PPBV	0.208
	ug/m3	0.0611	PPBV	0.333	ug/m3	0.0695	PPBV	0.379
	ug/m3	0.0611	PPBV	0.210	ug/m3	0.0710	PPBV	0.244
0.491	ug/m3	0.0611	PPBV	0.384	ug/m3	0.0707	PPBV	0.445
	ug/m3	0.0611	PPBV	0.195	ug/m3	0.0697	PPBV	0.223
	ug/m3	0.0611	PPBV	0.286	ug/m3	0.0716	PPBV	0.334
	ug/m3	0.0611	PPBV	0.247	ug/m3	0.0714	PPBV	0.289
	ug/m3	0.0611	PPBV	0.250	ug/m3	0.0702	PPBV	0.288
	ug/m3	0.0611	PPBV	0.328	ug/m3	0.0701	PPBV	0.377
	ug/m3	0.0611	PPBV	0.282	ug/m3	0.0714	PPBV	0.330
	ug/m3	0.0611	PPBV	0.250	ug/m3	0.0724	PPBV	0.297
	ug/m3	0.0611	PPBV	0.220	ug/m3	0.0706	PPBV	0.254
	ug/m3	0.0611	PPBV	0.409	ug/m3	0.0694	PPBV	0.465
	ug/m3	0.0611	PPBV	0.277	ug/m3	0.0687	PPBV	0.312
	ug/m3	0.0611	PPBV	0.250	ug/m3	0.0720	PPBV	0.295
0.657	ug/m3	0.0611	PPBV	0.230	ug/m3	0.0710	PPBV	0.267
	ug/m3	0.0611	PPBV	0.277	ug/m3	0.0710	PPBV	0.322
	ug/m3	0.0611	PPBV	0.333	ug/m3	0.0700	PPBV	0.382
	ug/m3	0.0611	PPBV	0.414	ug/m3	0.0705	PPBV	0.478
	ug/m3	0.0611	PPBV	0.250	ug/m3	0.0710	PPBV	0.291
	ug/m3	0.0611	PPBV	0.521	ug/m3	0.0689	PPBV	0.587
	ug/m3	0.0611	PPBV	0.470	ug/m3	0.0707	PPBV	0.544
	ug/m3	0.0611	PPBV	0.281	ug/m3	0.0719	PPBV	0.331
	ug/m3	0.0611	PPBV	0.265	ug/m3	0.0687	PPBV	0.298
	ug/m3	0.0611	PPBV	0.420	ug/m3	0.0698	PPBV	0.479
	ug/m3	0.0611	PPBV	0.265	ug/m3	0.0707	PPBV	0.307
	ug/m3	0.0611	PPBV	0.265	ug/m3	0.0698	PPBV	0.303
	ug/m3	0.0611	PPBV	0.260	ug/m3	0.0680	PPBV	0.290
	ug/m3	0.0611	PPBV	0.632	ug/m3	0.0701	PPBV	0.725
	ug/m3	0.0611	PPBV	0.420	ug/m3	0.0698	PPBV	0.479
	ug/m3	0.0611	PPBV	0.300	ug/m3	0.0703	PPBV	0.346
	ug/m3	0.0611	PPBV	0.316	ug/m3	0.0703	PPBV	0.364
	ug/m3	0.0611	PPBV	0.300	ug/m3	0.0700	PPBV	0.344
	ug/m3	0.0611	PPBV	0.300	ug/m3	0.0694	PPBV	0.341
	ug/m3	0.0611	PPBV	0.367	ug/m3	0.0705	PPBV	0.424
	ug/m3	0.0611	PPBV	0.367	ug/m3	0.0700	PPBV	0.421
	ug/m3	0.0611	PPBV	0.316	ug/m3	0.0697	PPBV	0.361
	ug/m3	0.0611	PPBV	0.367	ug/m3	0.0712	PPBV	0.428
	ug/m3	0.0611	PPBV	0.454	ug/m3	0.0709	PPBV	0.526
	ug/m3	0.0611	PPBV	0.652	ug/m3	0.0700	PPBV	0.746
	ug/m3	0.0611	PPBV	0.320	ug/m3	0.0723	PPBV	0.379

	ug/m3	0.0611	PPBV	0.307	ug/m3	0.0690	PPBV	0.347
	ug/m3	0.0611	PPBV	0.281	ug/m3	0.0683	PPBV	0.314
	ug/m3	0.0611	PPBV	0.286	ug/m3	0.0700	PPBV	0.327
0.355	ug/m3	0.0611	PPBV	0.300	ug/m3	0.0709	PPBV	0.348
	ug/m3	0.0611	PPBV	0.300	ug/m3	0.0710	PPBV	0.349

LIMs Export Table Quant Report

RL2_UNITS	LAB_FLAGS	DETECT_FLAG	SAMPLE_MATRIX
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	J	Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR

ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
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ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
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ug/m3	ND	N	AIR
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ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR

LIMs Export Table Quant Report

ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
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ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
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ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3	J	Y	AIR
ug/m3	ND	N	AIR
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ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR

ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	J	Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
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ug/m3		Y	AIR
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ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR

ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
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ug/m3		Y	AIR
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ug/m3	ND	N	AIR
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ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR

ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
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ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
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ug/m3	ND	N	AIR
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ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR

LIMs Export Table Quant Report

ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
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ug/m3	ND	N	AIR
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ug/m3	ND	N	AIR
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ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR

ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3	ND	N	AIR
ug/m3		Y	AIR
ug/m3	ND	N	AIR

Tetra Tech, Inc.

3746 Mt. Diablo Blvd. Suite 300
Lafayette, CA 94549

Able Contracting

Richland, SC

Analytical Report
(0819-013)

OSHA Method 61

Phosgene

EPA Method TO-15

TO-15 Compound List

ENTHALPY
ANALYTICAL

Enthalpy Analytical, LLC

Phone: (919) 850 - 4392 / Fax: (919) 850 - 9012 / www.enthalpy.com
800-1 Capitola Drive Durham, NC 27713-4385

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF) and contains 64 pages.

Michael Steven Schapira

QA Review Performed by: Michael Steven Schapira

Report Issued: 8/7/19

ENTHALPY

Summary of Results

ENTHALPY
ANALYTICAL

Enthalpy Analytical

Job No.: 0819-013 OSHA Method 61 Analysis

Tetra Tech, Inc. Able Contracting: Richland, SC

Analyst: Daniel Clayton

Summary Table

Compound / Concentration (ug/m^3)

Sample ID	Phosgene
ACF-AS-Smoke-Night	1.02 J
ACF-AS-RES-Night	0.652 J
ACF-AS-Upwind-Night	0.501 J
ACF-AS-Smoke-Day	1.22 J
ACF-AS-RES-Day	0.277 J
ACF-AS-Upwind-Day	1.00 J

Compound / Catch Weight (ug)

Sample ID	Phosgene
ACF-AS-FB	0.0999 ND
ACF-AS-LB	2.54

Note: All the above results (except ACF-AS-LB) have been blank corrected using the Average ACF-AS-LB result.

Results

ENTHALPY
ANALYTICAL

Enthalpy Analytical

Job No.: 0819-013 OSHA Method 61 Analysis

Tetra Tech, Inc. Able Contracting: Richland, SC

Analyst: Daniel Clayton

Sample ID	Filename	MDL	Curve Min	Curve Max	Ret Time (min)	Conc. (ug/mL)	Liquid Vol (mL)	DF	Catch Weight (ug)	LB Corr. Catch (ug)	Gas Vol (L)	Conc. (ug/m^3)	Flag
Phosgene													
ACF-AS-Smoke-Night-FH-HMP-Tube 8315500289	017B0301.D	0.0999	0.999	99.9	5.36	2.76	1.00	1	2.76	0.218	556.8	0.392	J
ACF-AS-Smoke-Night-BH-HMP-Tube 8315500290	018B0401.D	0.0999	0.999	99.9	5.36	2.89	1.00	1	2.89	0.352	556.8	0.633	J
												1.02	J
ACF-AS-RES-Night-FH-HMP-Tube 8315500291	019B0501.D	0.0999	0.999	99.9	5.36	2.80	1.00	1	2.80	0.257	623.8	0.412	J
ACF-AS-RES-Night-BH-HMP-Tube 8315500286	020B0601.D	0.0999	0.999	99.9	5.36	2.69	1.00	1	2.69	0.150	623.8	0.240	J
												0.652	J
ACF-AS-Upwind-Night-FH-HMP-Tube 8315500295	021B0701.D	0.0999	0.999	99.9	5.36	2.80	1.00	1	2.80	0.261	520.8	0.501	J
ACF-AS-Upwind-Night-BH-HMP-Tube 8315500288	023B0901.D	0.0999	0.999	99.9	5.36	2.55	1.00	1	2.55	0.0999	520.8	0.192	ND
												0.501	J
ACF-AS-Smoke-Day-FH-HMP-Tube 8315500293	024B1001.D	0.0999	0.999	99.9	5.36	3.07	1.00	1	3.07	0.527	542.4	0.972	J
ACF-AS-Smoke-Day-BH-HMP-Tube 8315500292	025B1101.D	0.0999	0.999	99.9	5.36	2.68	1.00	1	2.68	0.135	542.4	0.249	J
												1.22	J
ACF-AS-RES-Day-FH-HMP-Tube 8315500287	026B1301.D	0.0999	0.999	99.9	5.36	2.69	1.00	1	2.69	0.148	535.2	0.277	J
ACF-AS-RES-Day-BH-HMP-Tube 8315500294	027B1401.D	0.0999	0.999	99.9	5.36	2.45	1.00	1	2.45	0.0999	535.2	0.187	ND
												0.277	J

The average result for the two LB tubes has been subtracted from each sample tube in the "LB Corr. Catch (ug)" column, or replaced by the MDL if lower than the MDL.

Enthalpy Analytical

Job No.: 0819-013 OSHA Method 61 Analysis

Tetra Tech, Inc. Able Contracting: Richland, SC

Analyst: Daniel Clayton

Sample ID	Filename	MDL	Curve Min	Curve Max	Ret Time (min)	Conc. (ug/mL)	Liquid Vol (mL)	DF	Catch Weight (ug)	LB Corr. Catch (ug)	Gas Vol (L)	Conc. (ug/m^3)	Flag
Phosgene													
ACF-AS-Upwind-Day-FH-HMP-Tube 8315500308	028B1501.D	0.0999	0.999	99.9	5.36	2.88	1.00	1	2.88	0.334	544.8	0.613	J
ACF-AS-Upwind-Day-BH-HMP-Tube 8315500310	029B1601.D	0.0999	0.999	99.9	5.36	2.75	1.00	1	2.75	0.211	544.8	0.387	J
												1.00	J
LD / ACF-AS-Up-Night-FH-HMP-Tube 8315500295	022B0801.D	0.0999	0.999	99.9	5.36	2.78	1.00	1	2.78	0.243	520.8	0.467	J
								Difference:	0.6		Difference:	7.0	

Sample ID	Filename	MDL	Curve Min	Curve Max	Ret Time (min)	Conc. (ug/mL)	Liquid Vol (mL)	DF	Catch Weight (ug)	LB Corr. Catch (ug)	Flag
ACF-AS-FB-HMP-Tube 8315500313	030B1701.D	0.0999	0.999	99.9	5.36	2.53	1.00	1	2.53	0.0999	ND
ACF-AS-FB-HMP-Tube 8315500306	031B1801.D	0.0999	0.999	99.9	5.36	2.52	1.00	1	2.52	0.0999	ND
									5.05	0.0999	ND
ACF-AS-LB-HMP-Tube 8315500311	032B1901.D	0.0999	0.999	99.9	5.36	2.60	1.00	1	2.60		
ACF-AS-LB-HMP-Tube 8315500307	033B2001.D	0.0999	0.999	99.9	5.36	2.49	1.00	1	2.49		
								Average Value:	2.54		
gcprep2960 #RB	016B0201.D	0.0999	0.999	99.9	NA	0.0999	1.00	1	0.0999		ND

The average result for the two LB tubes has been subtracted from each sample tube in the "LB Corr. Catch (ug)" column, or replaced by the MDL if lower than the MDL.

Sample Name	: ACF-AS-RES-24HrVOC
Sample Info	: 0819-013; Can #800; 500mL load
Data File	: X1902834.D
Dilution	: 1
Pressurization Factor	: 1.720
Acquisition Date	: 2019-08-05 15:01:45
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	1.73	0.0660	0.0602	2.98	0.114	0.104	
Freon 12 (CCl2F2)	0.493	0.0671	0.0602	2.44	0.332	0.298	
Freon 114 (C2Cl2F4)	ND	0.0689	0.0602	ND	0.481	0.421	
Chloromethane	1.71	0.0671	0.0602	3.53	0.139	0.124	
Chloroethene (Vinyl chloride)	ND	0.0692	0.0602	ND	0.177	0.154	
1,3-Butadiene	0.0883	0.0672	0.0602	0.195	0.149	0.133	
Bromomethane	ND	0.0680	0.0602	ND	0.264	0.234	
Chloroethane	ND	0.0694	0.0602	ND	0.183	0.159	
Bromoethene (Vinyl bromide)	ND	0.0686	0.0602	ND	0.300	0.263	
Freon 11 (CCl3F)	0.253	0.0714	0.0602	1.42	0.401	0.338	
Ethanol	1.39	0.172	0.172	2.62	0.324	0.324	
Acrolein	0.134	0.0683	0.0602	0.307	0.157	0.138	m
Freon 113 (C2Cl3F3)	0.0771	0.0685	0.0602	0.591	0.525	0.461	
1,1-Dichloroethene	ND	0.0689	0.0602	ND	0.273	0.239	
Acetone	2.89	0.0691	0.0602	6.87	0.164	0.143	
Carbon disulfide	0.144	0.0691	0.0602	0.448	0.215	0.187	
Isopropyl alcohol	0.176	0.0691	0.0602	0.432	0.170	0.148	
Allyl chloride (3-chloropropene)	ND	0.0692	0.0602	ND	0.217	0.188	
Acetonitrile	0.695	0.0691	0.0602	1.17	0.116	0.101	
Methylene chloride	0.180	0.0697	0.0602	0.625	0.242	0.209	
trans-1,2-Dichloroethene	ND	0.0701	0.0602	ND	0.278	0.239	
Methyl tert-butyl ether	ND	0.0705	0.0602	ND	0.254	0.217	
Acrylonitrile	ND	0.0703	0.0602	ND	0.153	0.131	
Hexane	0.241	0.0696	0.0602	0.849	0.245	0.212	
1,1-Dichloroethane	ND	0.0678	0.0602	ND	0.274	0.244	
Vinyl acetate	ND	0.0700	0.0602	ND	0.246	0.212	
cis-1,2-Dichloroethene	ND	0.0693	0.0602	ND	0.275	0.239	
Methyl ethyl ketone (2-Butanone)	0.223	0.0699	0.0602	0.657	0.206	0.178	
Ethyl acetate	0.199	0.0693	0.0602	0.719	0.250	0.217	
Chloroform	ND	0.0696	0.0602	ND	0.340	0.294	
Tetrahydrofuran	0.0754	0.0694	0.0602	0.222	0.205	0.178	
1,1,1-Trichloroethane	ND	0.0685	0.0602	ND	0.374	0.328	
Cyclohexane	ND	0.0700	0.0602	ND	0.241	0.207	
Carbon tetrachloride	0.0832	0.0696	0.0602	0.523	0.438	0.379	m
Benzene	0.626	0.0687	0.0602	2.00	0.219	0.192	
2,2,4-trimethylpentane	0.0689	0.0705	0.0602	0.322	0.329	0.281	J
1,2-Dichloroethane	ND	0.0703	0.0602	ND	0.285	0.244	
Heptane	0.117	0.0691	0.0602	0.478	0.283	0.247	
Trichloroethene	ND	0.0691	0.0602	ND	0.371	0.323	
1,2-Dichloropropane	ND	0.0703	0.0602	ND	0.325	0.278	
Methyl methacrylate	ND	0.0713	0.0602	ND	0.292	0.247	
1,4-Dioxane	ND	0.0696	0.0602	ND	0.251	0.217	
Bromodichloromethane	ND	0.0683	0.0602	ND	0.458	0.403	
cis-1,3-Dichloropropene	ND	0.0676	0.0602	ND	0.307	0.273	
Methyl isobutyl ketone	ND	0.0709	0.0602	ND	0.291	0.247	
Toluene	0.599	0.0699	0.0602	2.26	0.263	0.227	
trans-1,3-Dichloropropene	ND	0.0699	0.0602	ND	0.317	0.273	
1,1,2-Trichloroethane	ND	0.0689	0.0602	ND	0.376	0.328	
Tetrachloroethene	ND	0.0694	0.0602	ND	0.471	0.408	
2-Hexanone (Methyl butyl ketone)	ND	0.0699	0.0602	ND	0.286	0.247	
Dibromochloromethane	ND	0.0679	0.0602	ND	0.578	0.513	
1,2-Dibromoethane	ND	0.0697	0.0602	ND	0.535	0.463	
Chlorobenzene	ND	0.0708	0.0602	ND	0.326	0.277	
Ethylbenzene	0.306	0.0677	0.0602	1.33	0.294	0.261	
1,1,1,2-Tetrachloroethane	ND	0.0688	0.0602	ND	0.472	0.413	
m-/p-Xylenes	0.155	0.0697	0.0602	0.673	0.303	0.261	

Sample Name	: ACF-AS-RES-24HrVOC
Sample Info	: 0819-013; Can #800; 500mL load
Data File	: X1902834.D
Dilution	: 1
Pressurization Factor	: 1.720
Acquisition Date	: 2019-08-05 15:01:45
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	0.0654	0.0687	0.0602	0.284	0.298	0.261	J
Styrene	0.198	0.0670	0.0602	0.842	0.285	0.256	
Bromoform	ND	0.0691	0.0602	ND	0.714	0.622	
1,1,2,2-Tetrachloroethane	ND	0.0688	0.0602	ND	0.472	0.413	
4-Ethyltoluene	ND	0.0693	0.0602	ND	0.341	0.296	
2-Chlorotoluene	ND	0.0693	0.0602	ND	0.359	0.312	
1,3,5-Trimethylbenzene	ND	0.0690	0.0602	ND	0.339	0.296	
1,2,4-Trimethylbenzene	ND	0.0684	0.0602	ND	0.336	0.296	
1,3-Dichlorobenzene	ND	0.0694	0.0602	ND	0.417	0.362	
1,4-Dichlorobenzene	ND	0.0690	0.0602	ND	0.415	0.362	
Benzyl chloride	ND	0.0687	0.0602	ND	0.355	0.312	
1,2-Dichlorobenzene	ND	0.0701	0.0602	ND	0.422	0.362	
1,2,4-Trichlorobenzene	ND	0.0698	0.0602	ND	0.518	0.447	
Hexachlorobutadiene	ND	0.0689	0.0602	ND	0.735	0.642	
Naphthalene	ND	0.0712	0.0602	ND	0.373	0.316	
1-Bromopropane	ND	0.0680	0.0602	ND	0.342	0.303	
1-Octene	ND	0.0673	0.0602	ND	0.309	0.276	
n-Octane	ND	0.0689	0.0602	ND	0.322	0.281	
Isopropylbenzene	0.0948	0.0698	0.0602	0.466	0.343	0.296	
n-Propylbenzene	ND	0.0700	0.0602	ND	0.344	0.296	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	907,374	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,414,283	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,667,742	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name	: ACF-AS-SMOKE-24HrVOC
Sample Info	: 0819-013; Can #820; 500mL load
Data File	: X1902835.D
Dilution	: 1
Pressurization Factor	: 1.727
Acquisition Date	: 2019-08-05 15:57:48
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	12.5	0.0662	0.0604	21.5	0.114	0.104	
Freon 12 (CCl2F2)	0.492	0.0674	0.0604	2.43	0.333	0.299	
Freon 114 (C2Cl2F4)	ND	0.0691	0.0604	ND	0.483	0.423	
Chloromethane	6.67	0.0674	0.0604	13.8	0.139	0.125	
Chloroethene (Vinyl chloride)	ND	0.0695	0.0604	ND	0.178	0.155	
1,3-Butadiene	1.06	0.0675	0.0604	2.35	0.149	0.134	
Bromomethane	0.118	0.0683	0.0604	0.460	0.265	0.235	
Chloroethane	0.102	0.0696	0.0604	0.268	0.184	0.159	
Bromoethene (Vinyl bromide)	ND	0.0689	0.0604	ND	0.301	0.264	
Freon 11 (CCl3F)	0.251	0.0717	0.0604	1.41	0.403	0.340	
Ethanol	1.73	0.173	0.173	3.26	0.325	0.325	
Acrolein	1.12	0.0686	0.0604	2.56	0.157	0.139	m
Freon 113 (C2Cl3F3)	0.0800	0.0687	0.0604	0.613	0.527	0.463	
1,1-Dichloroethene	ND	0.0691	0.0604	ND	0.274	0.240	
Acetone	6.19	0.0694	0.0604	14.7	0.165	0.144	
Carbon disulfide	0.236	0.0694	0.0604	0.736	0.216	0.188	
Isopropyl alcohol	0.167	0.0694	0.0604	0.410	0.170	0.149	
Allyl chloride (3-chloropropene)	ND	0.0695	0.0604	ND	0.218	0.189	
Acetonitrile	2.17	0.0694	0.0604	3.64	0.117	0.101	
Methylene chloride	0.190	0.0699	0.0604	0.660	0.243	0.210	
trans-1,2-Dichloroethene	ND	0.0704	0.0604	ND	0.279	0.240	
Methyl tert-butyl ether	0.0984	0.0707	0.0604	0.355	0.255	0.218	m
Acrylonitrile	0.436	0.0706	0.0604	0.946	0.153	0.131	
Hexane	0.486	0.0698	0.0604	1.71	0.246	0.213	
1,1-Dichloroethane	ND	0.0680	0.0604	ND	0.275	0.245	
Vinyl acetate	ND	0.0703	0.0604	ND	0.247	0.213	
cis-1,2-Dichloroethene	ND	0.0696	0.0604	ND	0.276	0.240	
Methyl ethyl ketone (2-Butanone)	0.912	0.0702	0.0604	2.69	0.207	0.178	
Ethyl acetate	ND	0.0696	0.0604	ND	0.251	0.218	
Chloroform	ND	0.0698	0.0604	ND	0.341	0.295	
Tetrahydrofuran	0.446	0.0697	0.0604	1.32	0.206	0.178	
1,1,1-Trichloroethane	ND	0.0687	0.0604	ND	0.375	0.330	
Cyclohexane	0.0928	0.0703	0.0604	0.319	0.242	0.208	
Carbon tetrachloride	0.0789	0.0699	0.0604	0.497	0.440	0.380	
Benzene	8.19	0.0689	0.0604	26.2	0.220	0.193	
2,2,4-trimethylpentane	ND	0.0708	0.0604	ND	0.331	0.282	
1,2-Dichloroethane	ND	0.0706	0.0604	ND	0.286	0.245	
Heptane	0.368	0.0694	0.0604	1.51	0.285	0.248	
Trichloroethene	ND	0.0694	0.0604	ND	0.373	0.325	
1,2-Dichloropropane	ND	0.0706	0.0604	ND	0.326	0.279	
Methyl methacrylate	0.342	0.0716	0.0604	1.40	0.293	0.248	
1,4-Dioxane	0.162	0.0698	0.0604	0.584	0.252	0.218	
Bromodichloromethane	ND	0.0686	0.0604	ND	0.460	0.405	
cis-1,3-Dichloropropene	ND	0.0679	0.0604	ND	0.308	0.274	
Methyl isobutyl ketone	ND	0.0712	0.0604	ND	0.292	0.248	
Toluene	3.12	0.0702	0.0604	11.8	0.264	0.228	
trans-1,3-Dichloropropene	ND	0.0702	0.0604	ND	0.319	0.274	
1,1,2-Trichloroethane	ND	0.0692	0.0604	ND	0.378	0.330	
Tetrachloroethene	ND	0.0697	0.0604	ND	0.473	0.410	
2-Hexanone (Methyl butyl ketone)	0.0826	0.0702	0.0604	0.338	0.288	0.248	
Dibromochloromethane	ND	0.0682	0.0604	ND	0.581	0.515	
1,2-Dibromoethane	ND	0.0700	0.0604	ND	0.538	0.464	
Chlorobenzene	0.163	0.0711	0.0604	0.748	0.327	0.278	
Ethylbenzene	1.84	0.0680	0.0604	8.00	0.295	0.262	
1,1,1,2-Tetrachloroethane	ND	0.0691	0.0604	ND	0.474	0.415	
m-/p-Xylenes	0.477	0.0700	0.0604	2.07	0.304	0.262	

Sample Name	: ACF-AS-SMOKE-24HrVOC
Sample Info	: 0819-013; Can #820; 500mL load
Data File	: X1902835.D
Dilution	: 1
Pressurization Factor	: 1.727
Acquisition Date	: 2019-08-05 15:57:48
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	0.226	0.0690	0.0604	0.980	0.300	0.262	
Styrene	4.97	0.0673	0.0604	21.2	0.287	0.257	
Bromoform	ND	0.0694	0.0604	ND	0.717	0.625	
1,1,2,2-Tetrachloroethane	ND	0.0691	0.0604	ND	0.474	0.415	
4-Ethyltoluene	ND	0.0696	0.0604	ND	0.342	0.297	
2-Chlorotoluene	ND	0.0696	0.0604	ND	0.360	0.313	
1,3,5-Trimethylbenzene	0.109	0.0693	0.0604	0.535	0.341	0.297	
1,2,4-Trimethylbenzene	0.109	0.0687	0.0604	0.534	0.338	0.297	m
1,3-Dichlorobenzene	ND	0.0697	0.0604	ND	0.419	0.363	
1,4-Dichlorobenzene	ND	0.0693	0.0604	ND	0.417	0.363	
Benzyl chloride	ND	0.0689	0.0604	ND	0.357	0.313	
1,2-Dichlorobenzene	ND	0.0704	0.0604	ND	0.423	0.363	
1,2,4-Trichlorobenzene	ND	0.0701	0.0604	ND	0.520	0.449	
Hexachlorobutadiene	ND	0.0692	0.0604	ND	0.738	0.645	
Naphthalene	0.194	0.0715	0.0604	1.02	0.375	0.317	
1-Bromopropane	ND	0.0683	0.0604	ND	0.343	0.304	
1-Octene	ND	0.0676	0.0604	ND	0.310	0.277	
n-Octane	0.205	0.0692	0.0604	0.957	0.323	0.282	m
Isopropylbenzene	0.391	0.0701	0.0604	1.92	0.345	0.297	
n-Propylbenzene	0.0923	0.0703	0.0604	0.453	0.345	0.297	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	910,652	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,422,280	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,740,100	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-AS-UPWIND-24HrVOC
Sample Info : 0819-013; Can #796; 500mL load
Data File : X1902836.D
Dilution : 1
Pressurization Factor : 1.746
Acquisition Date : 2019-08-05 16:53:54
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	0.368	0.0670	0.0611	0.633	0.115	0.105	
Freon 12 (CCl2F2)	0.479	0.0682	0.0611	2.37	0.337	0.302	
Freon 114 (C2Cl2F4)	ND	0.0699	0.0611	ND	0.489	0.427	
Chloromethane	1.01	0.0681	0.0611	2.09	0.141	0.126	
Chloroethene (Vinyl chloride)	ND	0.0703	0.0611	ND	0.180	0.156	
1,3-Butadiene	ND	0.0682	0.0611	ND	0.151	0.135	
Bromomethane	ND	0.0691	0.0611	ND	0.268	0.237	
Chloroethane	ND	0.0704	0.0611	ND	0.186	0.161	
Bromoethene (Vinyl bromide)	ND	0.0696	0.0611	ND	0.305	0.267	
Freon 11 (CCl3F)	0.247	0.0725	0.0611	1.39	0.407	0.343	
Ethanol	0.643	0.175	0.175	1.21	0.329	0.329	
Acrolein	0.119	0.0694	0.0611	0.273	0.159	0.140	m
Freon 113 (C2Cl3F3)	0.0762	0.0695	0.0611	0.584	0.533	0.468	
1,1-Dichloroethene	ND	0.0699	0.0611	ND	0.277	0.242	
Acetone	2.30	0.0702	0.0611	5.46	0.167	0.145	
Carbon disulfide	0.0843	0.0701	0.0611	0.262	0.218	0.190	
Isopropyl alcohol	0.124	0.0701	0.0611	0.305	0.172	0.150	
Allyl chloride (3-chloropropene)	ND	0.0703	0.0611	ND	0.220	0.191	
Acetonitrile	0.532	0.0702	0.0611	0.893	0.118	0.103	
Methylene chloride	0.159	0.0707	0.0611	0.551	0.246	0.212	
trans-1,2-Dichloroethene	ND	0.0712	0.0611	ND	0.282	0.242	
Methyl tert-butyl ether	ND	0.0715	0.0611	ND	0.258	0.220	
Acrylonitrile	ND	0.0714	0.0611	ND	0.155	0.133	
Hexane	0.0793	0.0706	0.0611	0.280	0.249	0.215	
1,1-Dichloroethane	ND	0.0688	0.0611	ND	0.278	0.247	
Vinyl acetate	ND	0.0710	0.0611	ND	0.250	0.215	
cis-1,2-Dichloroethene	ND	0.0703	0.0611	ND	0.279	0.242	
Methyl ethyl ketone (2-Butanone)	0.142	0.0710	0.0611	0.420	0.209	0.180	
Ethyl acetate	ND	0.0703	0.0611	ND	0.253	0.220	
Chloroform	ND	0.0706	0.0611	ND	0.345	0.298	
Tetrahydrofuran	ND	0.0705	0.0611	ND	0.208	0.180	
1,1,1-Trichloroethane	ND	0.0695	0.0611	ND	0.379	0.333	
Cyclohexane	ND	0.0710	0.0611	ND	0.244	0.210	
Carbon tetrachloride	0.0780	0.0707	0.0611	0.491	0.445	0.384	
Benzene	ND	0.0697	0.0611	ND	0.223	0.195	
2,2,4-trimethylpentane	ND	0.0716	0.0611	ND	0.334	0.286	
1,2-Dichloroethane	ND	0.0714	0.0611	ND	0.289	0.247	
Heptane	ND	0.0702	0.0611	ND	0.288	0.250	
Trichloroethene	ND	0.0701	0.0611	ND	0.377	0.328	
1,2-Dichloropropane	ND	0.0714	0.0611	ND	0.330	0.282	
Methyl methacrylate	ND	0.0724	0.0611	ND	0.297	0.250	
1,4-Dioxane	ND	0.0706	0.0611	ND	0.254	0.220	
Bromodichloromethane	ND	0.0694	0.0611	ND	0.465	0.409	
cis-1,3-Dichloropropene	ND	0.0687	0.0611	ND	0.312	0.277	
Methyl isobutyl ketone	ND	0.0720	0.0611	ND	0.295	0.250	
Toluene	0.174	0.0710	0.0611	0.657	0.267	0.230	
trans-1,3-Dichloropropene	ND	0.0710	0.0611	ND	0.322	0.277	
1,1,2-Trichloroethane	ND	0.0700	0.0611	ND	0.382	0.333	
Tetrachloroethene	ND	0.0705	0.0611	ND	0.478	0.414	
2-Hexanone (Methyl butyl ketone)	ND	0.0710	0.0611	ND	0.291	0.250	
Dibromochloromethane	ND	0.0689	0.0611	ND	0.587	0.521	
1,2-Dibromoethane	ND	0.0707	0.0611	ND	0.544	0.470	
Chlorobenzene	ND	0.0719	0.0611	ND	0.331	0.281	
Ethylbenzene	ND	0.0687	0.0611	ND	0.298	0.265	
1,1,1,2-Tetrachloroethane	ND	0.0698	0.0611	ND	0.479	0.420	
m-/p-Xylenes	ND	0.0707	0.0611	ND	0.307	0.265	

Sample Name	: ACF-AS-UPWIND-24HrVOC
Sample Info	: 0819-013; Can #796; 500mL load
Data File	: X1902836.D
Dilution	: 1
Pressurization Factor	: 1.746
Acquisition Date	: 2019-08-05 16:53:54
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	ND	0.0698	0.0611	ND	0.303	0.265	
Styrene	ND	0.0680	0.0611	ND	0.290	0.260	
Bromoform	ND	0.0701	0.0611	ND	0.725	0.632	
1,1,2,2-Tetrachloroethane	ND	0.0698	0.0611	ND	0.479	0.420	
4-Ethyltoluene	ND	0.0703	0.0611	ND	0.346	0.300	
2-Chlorotoluene	ND	0.0703	0.0611	ND	0.364	0.316	
1,3,5-Trimethylbenzene	ND	0.0700	0.0611	ND	0.344	0.300	
1,2,4-Trimethylbenzene	ND	0.0694	0.0611	ND	0.341	0.300	
1,3-Dichlorobenzene	ND	0.0705	0.0611	ND	0.424	0.367	
1,4-Dichlorobenzene	ND	0.0700	0.0611	ND	0.421	0.367	
Benzyl chloride	ND	0.0697	0.0611	ND	0.361	0.316	
1,2-Dichlorobenzene	ND	0.0712	0.0611	ND	0.428	0.367	
1,2,4-Trichlorobenzene	ND	0.0709	0.0611	ND	0.526	0.454	
Hexachlorobutadiene	ND	0.0700	0.0611	ND	0.746	0.652	
Naphthalene	ND	0.0723	0.0611	ND	0.379	0.320	
1-Bromopropane	ND	0.0690	0.0611	ND	0.347	0.307	
1-Octene	ND	0.0683	0.0611	ND	0.314	0.281	
n-Octane	ND	0.0700	0.0611	ND	0.327	0.286	
Isopropylbenzene	0.0723	0.0709	0.0611	0.355	0.348	0.300	
n-Propylbenzene	ND	0.0710	0.0611	ND	0.349	0.300	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	946,497	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,533,940	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,757,266	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name	: ACF-AS-BLANK
Sample Info	: 0819-013; Can #805; 500mL load
Data File	: X1902833.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 14:05:43
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	0.0438	0.0384	0.0350	0.0753	0.0660	0.0602	m
Freon 12 (CCl2F2)	ND	0.0390	0.0350	ND	0.193	0.173	
Freon 114 (C2Cl2F4)	ND	0.0400	0.0350	ND	0.280	0.245	
Chloromethane	ND	0.0390	0.0350	ND	0.0805	0.0723	
Chloroethene (Vinyl chloride)	ND	0.0402	0.0350	ND	0.103	0.0895	
1,3-Butadiene	ND	0.0391	0.0350	ND	0.0865	0.0774	
Bromomethane	ND	0.0396	0.0350	ND	0.154	0.136	
Chloroethane	ND	0.0403	0.0350	ND	0.106	0.0924	
Bromoethene (Vinyl bromide)	ND	0.0399	0.0350	ND	0.174	0.153	
Freon 11 (CCl3F)	ND	0.0415	0.0350	ND	0.233	0.197	
Ethanol	0.121	0.100	0.100	0.227	0.188	0.188	
Acrolein	ND	0.0397	0.0350	ND	0.0911	0.0803	
Freon 113 (C2Cl3F3)	ND	0.0398	0.0350	ND	0.305	0.268	
1,1-Dichloroethene	ND	0.0400	0.0350	ND	0.159	0.139	
Acetone	0.0812	0.0402	0.0350	0.193	0.0955	0.0831	
Carbon disulfide	ND	0.0402	0.0350	ND	0.125	0.109	
Isopropyl alcohol	ND	0.0402	0.0350	ND	0.0987	0.0860	
Allyl chloride (3-chloropropene)	ND	0.0402	0.0350	ND	0.126	0.110	
Acetonitrile	0.0386	0.0402	0.0350	0.0649	0.0675	0.0588	J
Methylene chloride	0.0507	0.0405	0.0350	0.176	0.141	0.122	
trans-1,2-Dichloroethene	ND	0.0408	0.0350	ND	0.162	0.139	
Methyl tert-butyl ether	ND	0.0410	0.0350	ND	0.148	0.126	
Acrylonitrile	ND	0.0409	0.0350	ND	0.0887	0.0760	
Hexane	ND	0.0404	0.0350	ND	0.143	0.123	
1,1-Dichloroethane	ND	0.0394	0.0350	ND	0.159	0.142	
Vinyl acetate	ND	0.0407	0.0350	ND	0.143	0.123	
cis-1,2-Dichloroethene	ND	0.0403	0.0350	ND	0.160	0.139	
Methyl ethyl ketone (2-Butanone)	ND	0.0406	0.0350	ND	0.120	0.103	
Ethyl acetate	ND	0.0403	0.0350	ND	0.145	0.126	
Chloroform	ND	0.0404	0.0350	ND	0.197	0.171	
Tetrahydrofuran	ND	0.0404	0.0350	ND	0.119	0.103	
1,1,1-Trichloroethane	ND	0.0398	0.0350	ND	0.217	0.191	
Cyclohexane	ND	0.0407	0.0350	ND	0.140	0.120	
Carbon tetrachloride	ND	0.0405	0.0350	ND	0.255	0.220	
Benzene	ND	0.0399	0.0350	ND	0.128	0.112	
2,2,4-trimethylpentane	ND	0.0410	0.0350	ND	0.192	0.164	
1,2-Dichloroethane	ND	0.0409	0.0350	ND	0.165	0.142	
Heptane	ND	0.0402	0.0350	ND	0.165	0.143	
Trichloroethene	ND	0.0402	0.0350	ND	0.216	0.188	
1,2-Dichloropropane	ND	0.0409	0.0350	ND	0.189	0.162	
Methyl methacrylate	ND	0.0415	0.0350	ND	0.170	0.143	
1,4-Dioxane	ND	0.0404	0.0350	ND	0.146	0.126	
Bromodichloromethane	ND	0.0397	0.0350	ND	0.266	0.235	
cis-1,3-Dichloropropene	ND	0.0393	0.0350	ND	0.178	0.159	
Methyl isobutyl ketone	ND	0.0412	0.0350	ND	0.169	0.143	
Toluene	ND	0.0406	0.0350	ND	0.153	0.132	
trans-1,3-Dichloropropene	ND	0.0406	0.0350	ND	0.184	0.159	
1,1,2-Trichloroethane	ND	0.0401	0.0350	ND	0.219	0.191	
Tetrachloroethene	ND	0.0404	0.0350	ND	0.274	0.237	
2-Hexanone (Methyl butyl ketone)	ND	0.0406	0.0350	ND	0.166	0.143	
Dibromochloromethane	ND	0.0395	0.0350	ND	0.336	0.298	
1,2-Dibromoethane	ND	0.0405	0.0350	ND	0.311	0.269	
Chlorobenzene	ND	0.0412	0.0350	ND	0.189	0.161	
Ethylbenzene	ND	0.0394	0.0350	ND	0.171	0.152	
1,1,1,2-Tetrachloroethane	ND	0.0400	0.0350	ND	0.275	0.240	
m-/p-Xylenes	ND	0.0405	0.0350	ND	0.176	0.152	

Sample Name	: ACF-AS-BLANK
Sample Info	: 0819-013; Can #805; 500mL load
Data File	: X1902833.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 14:05:43
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	ND	0.0400	0.0350	ND	0.174	0.152	
Styrene	ND	0.0390	0.0350	ND	0.166	0.149	
Bromoform	ND	0.0402	0.0350	ND	0.415	0.362	
1,1,2,2-Tetrachloroethane	ND	0.0400	0.0350	ND	0.275	0.240	
4-Ethyltoluene	ND	0.0403	0.0350	ND	0.198	0.172	
2-Chlorotoluene	ND	0.0403	0.0350	ND	0.209	0.181	
1,3,5-Trimethylbenzene	ND	0.0401	0.0350	ND	0.197	0.172	
1,2,4-Trimethylbenzene	ND	0.0398	0.0350	ND	0.195	0.172	
1,3-Dichlorobenzene	ND	0.0404	0.0350	ND	0.243	0.210	
1,4-Dichlorobenzene	ND	0.0401	0.0350	ND	0.241	0.210	
Benzyl chloride	ND	0.0399	0.0350	ND	0.207	0.181	
1,2-Dichlorobenzene	ND	0.0408	0.0350	ND	0.245	0.210	
1,2,4-Trichlorobenzene	ND	0.0406	0.0350	ND	0.301	0.260	
Hexachlorobutadiene	ND	0.0401	0.0350	ND	0.427	0.373	
Naphthalene	ND	0.0414	0.0350	ND	0.217	0.183	
1-Bromopropane	ND	0.0395	0.0350	ND	0.199	0.176	
1-Octene	ND	0.0391	0.0350	ND	0.180	0.161	
n-Octane	ND	0.0401	0.0350	ND	0.187	0.164	
Isopropylbenzene	ND	0.0406	0.0350	ND	0.200	0.172	
n-Propylbenzene	ND	0.0407	0.0350	ND	0.200	0.172	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	901,599	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,376,353	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,594,468	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Lab QC

ENTHALPY

Sample Name : ACF-AS-UPWIND-24HrVOC LD
Sample Info : 0819-013; Can #796; 500mL load
Data File : X1902837.D
Dilution : 1
Pressurization Factor : 1.746
Acquisition Date : 2019-08-05 17:50:02
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	% Diff	Flag *
Propylene	0.383	0.0670	0.0611	0.660	0.115	0.105	4.1	m
Freon 12 (CCl2F2)	0.484	0.0682	0.0611	2.39	0.337	0.302	0.9	
Freon 114 (C2Cl2F4)	ND	0.0699	0.0611	ND	0.489	0.427		
Chloromethane	1.01	0.0681	0.0611	2.09	0.141	0.126	0.2	
Chloroethene (Vinyl chloride)	ND	0.0703	0.0611	ND	0.180	0.156		
1,3-Butadiene	ND	0.0682	0.0611	ND	0.151	0.135		
Bromomethane	ND	0.0691	0.0611	ND	0.268	0.237		
Chloroethane	ND	0.0704	0.0611	ND	0.186	0.161		
Bromoethene (Vinyl bromide)	ND	0.0696	0.0611	ND	0.305	0.267		
Freon 11 (CCl3F)	0.248	0.0725	0.0611	1.39	0.407	0.343	0.6	
Ethanol	0.639	0.175	0.175	1.20	0.329	0.329	0.7	
Acrolein	0.123	0.0694	0.0611	0.282	0.159	0.140	3.1	m
Freon 113 (C2Cl3F3)	0.0800	0.0695	0.0611	0.613	0.533	0.468	5.0	
1,1-Dichloroethene	ND	0.0699	0.0611	ND	0.277	0.242		
Acetone	2.35	0.0702	0.0611	5.58	0.167	0.145	2.3	
Carbon disulfide	0.0809	0.0701	0.0611	0.252	0.218	0.190	4.1	
Isopropyl alcohol	0.138	0.0701	0.0611	0.339	0.172	0.150	10.6	
Allyl chloride (3-chloropropene)	ND	0.0703	0.0611	ND	0.220	0.191		
Acetonitrile	0.534	0.0702	0.0611	0.896	0.118	0.103	0.3	
Methylene chloride	0.175	0.0707	0.0611	0.608	0.246	0.212	9.8	
trans-1,2-Dichloroethene	ND	0.0712	0.0611	ND	0.282	0.242		
Methyl tert-butyl ether	ND	0.0715	0.0611	ND	0.258	0.220		
Acrylonitrile	ND	0.0714	0.0611	ND	0.155	0.133		
Hexane	0.0900	0.0706	0.0611	0.317	0.249	0.215	12.7	m
1,1-Dichloroethane	ND	0.0688	0.0611	ND	0.278	0.247		
Vinyl acetate	ND	0.0710	0.0611	ND	0.250	0.215		
cis-1,2-Dichloroethene	ND	0.0703	0.0611	ND	0.279	0.242		
Methyl ethyl ketone (2-Butanone)	0.157	0.0710	0.0611	0.464	0.209	0.180	10.0	m
Ethyl acetate	ND	0.0703	0.0611	ND	0.253	0.220		
Chloroform	ND	0.0706	0.0611	ND	0.345	0.298		
Tetrahydrofuran	ND	0.0705	0.0611	ND	0.208	0.180		
1,1,1-Trichloroethane	ND	0.0695	0.0611	ND	0.379	0.333		
Cyclohexane	ND	0.0710	0.0611	ND	0.244	0.210		
Carbon tetrachloride	0.0792	0.0707	0.0611	0.499	0.445	0.384	1.6	
Benzene	0.0651	0.0697	0.0611	0.208	0.223	0.195		J
2,2,4-trimethylpentane	ND	0.0716	0.0611	ND	0.334	0.286		
1,2-Dichloroethane	ND	0.0714	0.0611	ND	0.289	0.247		
Heptane	ND	0.0702	0.0611	ND	0.288	0.250		
Trichloroethene	ND	0.0701	0.0611	ND	0.377	0.328		
1,2-Dichloropropane	ND	0.0714	0.0611	ND	0.330	0.282		
Methyl methacrylate	ND	0.0724	0.0611	ND	0.297	0.250		
1,4-Dioxane	ND	0.0706	0.0611	ND	0.254	0.220		
Bromodichloromethane	ND	0.0694	0.0611	ND	0.465	0.409		
cis-1,3-Dichloropropene	ND	0.0687	0.0611	ND	0.312	0.277		
Methyl isobutyl ketone	ND	0.0720	0.0611	ND	0.295	0.250		
Toluene	0.175	0.0710	0.0611	0.658	0.267	0.230	0.2	
trans-1,3-Dichloropropene	ND	0.0710	0.0611	ND	0.322	0.277		
1,1,2-Trichloroethane	ND	0.0700	0.0611	ND	0.382	0.333		
Tetrachloroethene	ND	0.0705	0.0611	ND	0.478	0.414		
2-Hexanone (Methyl butyl ketone)	ND	0.0710	0.0611	ND	0.291	0.250		
Dibromochloromethane	ND	0.0689	0.0611	ND	0.587	0.521		
1,2-Dibromoethane	ND	0.0707	0.0611	ND	0.544	0.470		
Chlorobenzene	ND	0.0719	0.0611	ND	0.331	0.281		
Ethylbenzene	ND	0.0687	0.0611	ND	0.298	0.265		
1,1,1,2-Tetrachloroethane	ND	0.0698	0.0611	ND	0.479	0.420		
m-/p-Xylenes	ND	0.0707	0.0611	ND	0.307	0.265		
o-Xylene	ND	0.0698	0.0611	ND	0.303	0.265		
Styrene	ND	0.0680	0.0611	ND	0.290	0.260		
Bromoform	ND	0.0701	0.0611	ND	0.725	0.632		
1,1,2,2-Tetrachloroethane	ND	0.0698	0.0611	ND	0.479	0.420		
4-Ethyltoluene	ND	0.0703	0.0611	ND	0.346	0.300		
2-Chlorotoluene	ND	0.0703	0.0611	ND	0.364	0.316		

Sample Name	: ACF-AS-UPWIND-24HrVOC LD
Sample Info	: 0819-013; Can #796; 500mL load
Data File	: X1902837.D
Dilution	: 1
Pressurization Factor	: 1.746
Acquisition Date	: 2019-08-05 17:50:02
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	% Diff	Flag *
1,3,5-Trimethylbenzene	ND	0.0700	0.0611	ND	0.344	0.300		
1,2,4-Trimethylbenzene	ND	0.0694	0.0611	ND	0.341	0.300		
1,3-Dichlorobenzene	ND	0.0705	0.0611	ND	0.424	0.367		
1,4-Dichlorobenzene	ND	0.0700	0.0611	ND	0.421	0.367		
Benzyl chloride	ND	0.0697	0.0611	ND	0.361	0.316		
1,2-Dichlorobenzene	ND	0.0712	0.0611	ND	0.428	0.367		
1,2,4-Trichlorobenzene	ND	0.0709	0.0611	ND	0.526	0.454		
Hexachlorobutadiene	ND	0.0700	0.0611	ND	0.746	0.652		
Naphthalene	ND	0.0723	0.0611	ND	0.379	0.320		
1-Bromopropane	ND	0.0690	0.0611	ND	0.347	0.307		
1-Octene	ND	0.0683	0.0611	ND	0.314	0.281		
n-Octane	ND	0.0700	0.0611	ND	0.327	0.286		
Isopropylbenzene	0.0765	0.0709	0.0611	0.376	0.348	0.300	5.7	
n-Propylbenzene	ND	0.0710	0.0611	ND	0.349	0.300		

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	928,284	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,491,156	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,724,398	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : Humid Blank #0702
Sample Info : 500mL load
Data File : X1902832.D
Dilution : 1
Pressurization Factor : 1.000
Acquisition Date : 2019-08-05 13:09:38
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	ND	0.0384	0.0350	ND	0.0660	0.0602	
Freon 12 (CCl2F2)	ND	0.0390	0.0350	ND	0.193	0.173	
Freon 114 (C2Cl2F4)	ND	0.0400	0.0350	ND	0.280	0.245	
Chloromethane	ND	0.0390	0.0350	ND	0.0805	0.0723	
Chloroethene (Vinyl chloride)	ND	0.0402	0.0350	ND	0.103	0.0895	
1,3-Butadiene	ND	0.0391	0.0350	ND	0.0865	0.0774	
Bromomethane	ND	0.0396	0.0350	ND	0.154	0.136	
Chloroethane	ND	0.0403	0.0350	ND	0.106	0.0924	
Bromoethene (Vinyl bromide)	ND	0.0399	0.0350	ND	0.174	0.153	
Freon 11 (CCl3F)	ND	0.0415	0.0350	ND	0.233	0.197	
Ethanol	ND	0.100	0.100	ND	0.188	0.188	
Acrolein	ND	0.0397	0.0350	ND	0.0911	0.0803	
Freon 113 (C2Cl3F3)	ND	0.0398	0.0350	ND	0.305	0.268	
1,1-Dichloroethene	ND	0.0400	0.0350	ND	0.159	0.139	
Acetone	0.0474	0.0402	0.0350	0.113	0.0955	0.0831	m
Carbon disulfide	0.0386	0.0402	0.0350	0.120	0.125	0.109	J
Isopropyl alcohol	ND	0.0402	0.0350	ND	0.0987	0.0860	
Allyl chloride (3-chloropropene)	ND	0.0402	0.0350	ND	0.126	0.110	
Acetonitrile	ND	0.0402	0.0350	ND	0.0675	0.0588	
Methylene chloride	0.0475	0.0405	0.0350	0.165	0.141	0.122	
trans-1,2-Dichloroethene	ND	0.0408	0.0350	ND	0.162	0.139	
Methyl tert-butyl ether	ND	0.0410	0.0350	ND	0.148	0.126	
Acrylonitrile	ND	0.0409	0.0350	ND	0.0887	0.0760	
Hexane	ND	0.0404	0.0350	ND	0.143	0.123	
1,1-Dichloroethane	ND	0.0394	0.0350	ND	0.159	0.142	
Vinyl acetate	ND	0.0407	0.0350	ND	0.143	0.123	
cis-1,2-Dichloroethene	ND	0.0403	0.0350	ND	0.160	0.139	
Methyl ethyl ketone (2-Butanone)	ND	0.0406	0.0350	ND	0.120	0.103	
Ethyl acetate	ND	0.0403	0.0350	ND	0.145	0.126	
Chloroform	ND	0.0404	0.0350	ND	0.197	0.171	
Tetrahydrofuran	ND	0.0404	0.0350	ND	0.119	0.103	
1,1,1-Trichloroethane	ND	0.0398	0.0350	ND	0.217	0.191	
Cyclohexane	ND	0.0407	0.0350	ND	0.140	0.120	
Carbon tetrachloride	ND	0.0405	0.0350	ND	0.255	0.220	
Benzene	ND	0.0399	0.0350	ND	0.128	0.112	
2,2,4-trimethylpentane	ND	0.0410	0.0350	ND	0.192	0.164	
1,2-Dichloroethane	ND	0.0409	0.0350	ND	0.165	0.142	
Heptane	ND	0.0402	0.0350	ND	0.165	0.143	
Trichloroethene	ND	0.0402	0.0350	ND	0.216	0.188	
1,2-Dichloropropane	ND	0.0409	0.0350	ND	0.189	0.162	
Methyl methacrylate	ND	0.0415	0.0350	ND	0.170	0.143	
1,4-Dioxane	ND	0.0404	0.0350	ND	0.146	0.126	
Bromodichloromethane	ND	0.0397	0.0350	ND	0.266	0.235	
cis-1,3-Dichloropropene	ND	0.0393	0.0350	ND	0.178	0.159	
Methyl isobutyl ketone	ND	0.0412	0.0350	ND	0.169	0.143	
Toluene	ND	0.0406	0.0350	ND	0.153	0.132	
trans-1,3-Dichloropropene	ND	0.0406	0.0350	ND	0.184	0.159	
1,1,2-Trichloroethane	ND	0.0401	0.0350	ND	0.219	0.191	
Tetrachloroethene	ND	0.0404	0.0350	ND	0.274	0.237	
2-Hexanone (Methyl butyl ketone)	ND	0.0406	0.0350	ND	0.166	0.143	
Dibromochloromethane	ND	0.0395	0.0350	ND	0.336	0.298	
1,2-Dibromoethane	ND	0.0405	0.0350	ND	0.311	0.269	
Chlorobenzene	ND	0.0412	0.0350	ND	0.189	0.161	
Ethylbenzene	ND	0.0394	0.0350	ND	0.171	0.152	
1,1,1,2-Tetrachloroethane	ND	0.0400	0.0350	ND	0.275	0.240	
m-/p-Xylenes	ND	0.0405	0.0350	ND	0.176	0.152	

Sample Name	: Humid Blank #0702
Sample Info	: 500mL load
Data File	: X1902832.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 13:09:38
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	ND	0.0400	0.0350	ND	0.174	0.152	
Styrene	ND	0.0390	0.0350	ND	0.166	0.149	
Bromoform	ND	0.0402	0.0350	ND	0.415	0.362	
1,1,2,2-Tetrachloroethane	ND	0.0400	0.0350	ND	0.275	0.240	
4-Ethyltoluene	ND	0.0403	0.0350	ND	0.198	0.172	
2-Chlorotoluene	ND	0.0403	0.0350	ND	0.209	0.181	
1,3,5-Trimethylbenzene	ND	0.0401	0.0350	ND	0.197	0.172	
1,2,4-Trimethylbenzene	ND	0.0398	0.0350	ND	0.195	0.172	
1,3-Dichlorobenzene	ND	0.0404	0.0350	ND	0.243	0.210	
1,4-Dichlorobenzene	ND	0.0401	0.0350	ND	0.241	0.210	
Benzyl chloride	ND	0.0399	0.0350	ND	0.207	0.181	
1,2-Dichlorobenzene	ND	0.0408	0.0350	ND	0.245	0.210	
1,2,4-Trichlorobenzene	ND	0.0406	0.0350	ND	0.301	0.260	
Hexachlorobutadiene	ND	0.0401	0.0350	ND	0.427	0.373	
Naphthalene	ND	0.0414	0.0350	ND	0.217	0.183	
1-Bromopropane	ND	0.0395	0.0350	ND	0.199	0.176	
1-Octene	ND	0.0391	0.0350	ND	0.180	0.161	
n-Octane	ND	0.0401	0.0350	ND	0.187	0.164	
Isopropylbenzene	ND	0.0406	0.0350	ND	0.200	0.172	
n-Propylbenzene	ND	0.0407	0.0350	ND	0.200	0.172	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	891,571	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,373,438	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,627,475	17.87	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name	: 5ppbv TO15 LCS
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902829.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 10:15:00
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Response	Concentration (PPBV)	Tag Value (PPBV)	% Recovery	Flag
Propylene	596,439	4.77	4.80	99.4	PASS
Freon 12 (CCl2F2)	1,808,992	4.30	4.88	88.1	PASS
Freon 114 (C2Cl2F4)	2,090,737	4.40	5.01	87.9	PASS
Chloromethane	704,211	4.47	4.88	91.7	PASS
Chloroethene (Vinyl chloride)	738,461	4.26	5.03	84.7	PASS
1,3-Butadiene	553,690	4.81	4.89	98.4	PASS
Bromomethane	753,271	4.39	4.95	88.7	PASS
Chloroethane	415,350	4.28	5.04	84.9	PASS
Bromoethene (Vinyl bromide)	924,820	4.92	4.99	98.7	PASS
Freon 11 (CCl3F)	2,082,745	4.79	5.19	92.2	PASS
Ethanol	323,823	4.52	5.00	90.4	PASS
Acrolein	303,176	4.24	4.97	85.3	PASS
1,1-Dichloroethene	1,195,226	4.25	5.01	84.9	PASS
Freon 113 (C2Cl3F3)	1,520,465	5.18	4.98	104.2	PASS
Acetone	1,095,115	4.41	5.03	87.7	PASS
Isopropyl alcohol	1,350,618	4.80	5.02	95.6	PASS
Carbon disulfide	2,520,055	4.34	5.02	86.4	PASS
Acetonitrile	699,095	5.02	5.03	99.9	PASS
Allyl chloride (3-chloropropene)	375,977	4.40	5.03	87.5	PASS
Methylene chloride	1,030,807	4.16	5.07	82.0	PASS
Acrylonitrile	623,450	4.57	5.11	89.4	PASS
Methyl tert-butyl ether	2,089,551	4.54	5.12	88.6	PASS
trans-1,2-Dichloroethene	1,106,701	4.28	5.10	84.1	PASS
Hexane	1,186,727	4.20	5.06	83.2	PASS
Vinyl acetate	1,995,653	5.36	5.09	105.3	PASS
1,1-Dichloroethane	1,379,829	4.17	4.93	84.7	PASS
Methyl ethyl ketone (2-Butanone)	404,768	4.46	5.08	87.7	PASS
cis-1,2-Dichloroethene	1,297,178	4.28	5.04	85.0	PASS
Ethyl acetate	264,966	4.64	5.04	92.1	PASS
1-Bromopropane	1,372,506	4.91	4.94	99.4	PASS
Tetrahydrofuran	382,728	4.52	5.05	89.5	PASS
Chloroform	1,656,473	4.46	5.06	88.2	PASS
1,1,1-Trichloroethane	1,581,890	4.31	4.98	86.6	PASS
Cyclohexane	1,223,649	4.30	5.09	84.6	PASS
Carbon tetrachloride	1,701,122	4.64	5.06	91.7	PASS
Benzene	2,407,594	4.50	4.99	90.3	PASS
1,2-Dichloroethane	971,765	4.33	5.11	84.7	PASS
2,2,4-trimethylpentane	3,779,050	4.36	5.13	85.1	PASS
Heptane	746,744	4.16	5.03	82.8	PASS
Trichloroethene	1,183,668	5.06	5.02	100.7	PASS
1,2-Dichloropropane	926,109	4.28	4.98	86.0	PASS
Methyl methacrylate	910,791	4.91	5.19	94.7	PASS

Sample Name	: 5ppbv TO15 LCS
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902829.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 10:15:00
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Response	Concentration (PPBV)	Tag Value (PPBV)	% Recovery	Flag
1,4-Dioxane	576,032	4.60	5.06	91.0	PASS
Bromodichloromethane	1,728,049	4.58	4.97	92.2	PASS
cis-1,3-Dichloropropene	1,344,775	4.33	4.92	88.2	PASS
Methyl isobutyl ketone	1,939,512	5.31	5.16	103.0	PASS
Toluene	2,863,028	4.46	5.08	87.7	PASS
1-Octene	692,795	4.39	4.89	89.8	PASS
n-Octane	890,227	4.28	5.01	85.5	PASS
trans-1,3-Dichloropropene	1,307,403	4.53	5.08	89.2	PASS
1,1,2-Trichloroethane	1,041,419	4.56	5.01	91.1	PASS
Tetrachloroethene	1,604,878	5.33	5.05	105.7	PASS
2-Hexanone (Methyl butyl ketone)	1,753,708	5.36	5.08	105.4	PASS
Dibromochloromethane	2,016,646	4.97	4.94	100.8	PASS
1,2-Dibromoethane	1,741,739	5.00	5.07	98.7	PASS
Chlorobenzene	2,357,270	4.98	5.15	96.8	PASS
Ethylbenzene	3,336,233	4.23	4.92	85.9	PASS
1,1,1,2-Tetrachloroethane	1,361,747	4.90	5.00	98.1	PASS
m-/p-Xylenes	2,851,118	4.40	5.07	86.9	PASS
o-Xylene	2,770,581	4.25	5.00	85.1	PASS
Styrene	2,272,980	4.66	4.87	95.6	PASS
Bromoform	2,061,612	6.09	5.02	121.3	PASS
Isopropylbenzene	4,067,208	4.48	5.08	88.3	PASS
1,1,2,2-Tetrachloroethane	2,299,857	4.45	5.00	88.9	PASS
n-Propylbenzene	4,593,352	4.57	5.09	89.9	PASS
4-Ethyltoluene	3,842,451	4.56	5.04	90.5	PASS
2-Chlorotoluene	3,181,294	4.29	5.04	85.2	PASS
1,3,5-Trimethylbenzene	3,305,739	4.22	5.02	84.1	PASS
1,2,4-Trimethylbenzene	3,295,815	4.26	4.97	85.7	PASS
1,3-Dichlorobenzene	2,209,124	5.97	5.05	118.4	PASS
1,4-Dichlorobenzene	2,046,225	6.37	5.02	127.1	PASS
Benzyl chloride	2,448,773	5.87	4.99	117.6	PASS
1,2-Dichlorobenzene	2,292,275	5.62	5.10	110.3	PASS
1,2,4-Trichlorobenzene	878,634	6.67	5.08	131.4	FAIL
Hexachlorobutadiene	1,708,676	4.15	5.01	82.8	PASS
Naphthalene	2,940,614	5.69	5.18	109.9	PASS

Sample Name : 5ppbv TO15 LCS
Sample Info : 125mL load; Can #0738; GCMSPrepPg770
Data File : X1902829.D
Dilution : 1
Pressurization Factor : 1.000
Acquisition Date : 2019-08-05 10:15:00
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	4.77	0.0384	0.0350	8.21	0.0660	0.0602	
Freon 12 (CCl2F2)	4.30	0.0390	0.0350	21.3	0.193	0.173	
Freon 114 (C2Cl2F4)	4.40	0.0400	0.0350	30.8	0.280	0.245	
Chloromethane	4.47	0.0390	0.0350	9.23	0.0805	0.0723	
Chloroethene (Vinyl chloride)	4.26	0.0402	0.0350	10.9	0.103	0.0895	
1,3-Butadiene	4.81	0.0391	0.0350	10.6	0.0865	0.0774	
Bromomethane	4.39	0.0396	0.0350	17.0	0.154	0.136	
Chloroethane	4.28	0.0403	0.0350	11.3	0.106	0.0924	
Bromoethene (Vinyl bromide)	4.92	0.0399	0.0350	21.5	0.174	0.153	
Freon 11 (CCl3F)	4.79	0.0415	0.0350	26.9	0.233	0.197	
Ethanol	4.52	0.100	0.100	8.51	0.188	0.188	
Acrolein	4.24	0.0397	0.0350	9.72	0.0911	0.0803	
Freon 113 (C2Cl3F3)	5.18	0.0398	0.0350	39.7	0.305	0.268	
1,1-Dichloroethene	4.25	0.0400	0.0350	16.8	0.159	0.139	
Acetone	4.41	0.0402	0.0350	10.5	0.0955	0.0831	
Carbon disulfide	4.34	0.0402	0.0350	13.5	0.125	0.109	
Isopropyl alcohol	4.80	0.0402	0.0350	11.8	0.0987	0.0860	
Allyl chloride (3-chloropropene)	4.40	0.0402	0.0350	13.8	0.126	0.110	
Acetonitrile	5.02	0.0402	0.0350	8.43	0.0675	0.0588	
Methylene chloride	4.16	0.0405	0.0350	14.4	0.141	0.122	
trans-1,2-Dichloroethene	4.28	0.0408	0.0350	17.0	0.162	0.139	
Methyl tert-butyl ether	4.54	0.0410	0.0350	16.4	0.148	0.126	
Acrylonitrile	4.57	0.0409	0.0350	9.92	0.0887	0.0760	
Hexane	4.20	0.0404	0.0350	14.8	0.143	0.123	
1,1-Dichloroethane	4.17	0.0394	0.0350	16.9	0.159	0.142	
Vinyl acetate	5.36	0.0407	0.0350	18.9	0.143	0.123	
cis-1,2-Dichloroethene	4.28	0.0403	0.0350	17.0	0.160	0.139	
Methyl ethyl ketone (2-Butanone)	4.46	0.0406	0.0350	13.1	0.120	0.103	
Ethyl acetate	4.64	0.0403	0.0350	16.7	0.145	0.126	
Chloroform	4.46	0.0404	0.0350	21.8	0.197	0.171	
Tetrahydrofuran	4.52	0.0404	0.0350	13.3	0.119	0.103	
1,1,1-Trichloroethane	4.31	0.0398	0.0350	23.5	0.217	0.191	
Cyclohexane	4.30	0.0407	0.0350	14.8	0.140	0.120	
Carbon tetrachloride	4.64	0.0405	0.0350	29.2	0.255	0.220	
Benzene	4.50	0.0399	0.0350	14.4	0.128	0.112	
2,2,4-trimethylpentane	4.36	0.0410	0.0350	20.4	0.192	0.164	
1,2-Dichloroethane	4.33	0.0409	0.0350	17.5	0.165	0.142	
Heptane	4.16	0.0402	0.0350	17.0	0.165	0.143	
Trichloroethene	5.06	0.0402	0.0350	27.2	0.216	0.188	
1,2-Dichloropropane	4.28	0.0409	0.0350	19.8	0.189	0.162	
Methyl methacrylate	4.91	0.0415	0.0350	20.1	0.170	0.143	
1,4-Dioxane	4.60	0.0404	0.0350	16.6	0.146	0.126	
Bromodichloromethane	4.58	0.0397	0.0350	30.7	0.266	0.235	
cis-1,3-Dichloropropene	4.33	0.0393	0.0350	19.7	0.178	0.159	
Methyl isobutyl ketone	5.31	0.0412	0.0350	21.8	0.169	0.143	m
Toluene	4.46	0.0406	0.0350	16.8	0.153	0.132	
trans-1,3-Dichloropropene	4.53	0.0406	0.0350	20.6	0.184	0.159	
1,1,2-Trichloroethane	4.56	0.0401	0.0350	24.9	0.219	0.191	
Tetrachloroethene	5.33	0.0404	0.0350	36.2	0.274	0.237	
2-Hexanone (Methyl butyl ketone)	5.36	0.0406	0.0350	21.9	0.166	0.143	
Dibromochloromethane	4.97	0.0395	0.0350	42.4	0.336	0.298	
1,2-Dibromoethane	5.00	0.0405	0.0350	38.4	0.311	0.269	
Chlorobenzene	4.98	0.0412	0.0350	22.9	0.189	0.161	
Ethylbenzene	4.23	0.0394	0.0350	18.4	0.171	0.152	
1,1,1,2-Tetrachloroethane	4.90	0.0400	0.0350	33.7	0.275	0.240	
m-/p-Xylenes	4.40	0.0405	0.0350	19.1	0.176	0.152	

Sample Name	: 5ppbv TO15 LCS
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902829.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 10:15:00
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	4.25	0.0400	0.0350	18.5	0.174	0.152	
Styrene	4.66	0.0390	0.0350	19.8	0.166	0.149	
Bromoform	6.09	0.0402	0.0350	62.9	0.415	0.362	
1,1,2,2-Tetrachloroethane	4.45	0.0400	0.0350	30.5	0.275	0.240	
4-Ethyltoluene	4.56	0.0403	0.0350	22.4	0.198	0.172	
2-Chlorotoluene	4.29	0.0403	0.0350	22.2	0.209	0.181	
1,3,5-Trimethylbenzene	4.22	0.0401	0.0350	20.7	0.197	0.172	
1,2,4-Trimethylbenzene	4.26	0.0398	0.0350	20.9	0.195	0.172	
1,3-Dichlorobenzene	5.97	0.0404	0.0350	35.9	0.243	0.210	
1,4-Dichlorobenzene	6.37	0.0401	0.0350	38.3	0.241	0.210	
Benzyl chloride	5.87	0.0399	0.0350	30.4	0.207	0.181	
1,2-Dichlorobenzene	5.62	0.0408	0.0350	33.8	0.245	0.210	
1,2,4-Trichlorobenzene	6.67	0.0406	0.0350	49.5	0.301	0.260	
Hexachlorobutadiene	4.15	0.0401	0.0350	44.3	0.427	0.373	
Naphthalene	5.69	0.0414	0.0350	29.8	0.217	0.183	
1-Bromopropane	4.91	0.0395	0.0350	24.7	0.199	0.176	m
1-Octene	4.39	0.0391	0.0350	20.2	0.180	0.161	
n-Octane	4.28	0.0401	0.0350	20.0	0.187	0.164	
Isopropylbenzene	4.48	0.0406	0.0350	22.0	0.200	0.172	
n-Propylbenzene	4.57	0.0407	0.0350	22.5	0.200	0.172	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	953,581	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,660,280	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,986,682	17.87	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Client Name: Tetra Tech, Inc.
Client #: Able Contracting; Richland, SC
Enthalpy Job #: 0819-013

Canister Data

Canister ID	Sample ID	Canister Pressure Pre-Sample (mmHg)	Canister Pressure Post-Sample (mmHg)	Canister Pressure Final (mmHg)	Canister Pressurization Factor
0800	X1902083	-764	-110	359	1.720
0796	X1902073	-764	-152	302	1.746
0820	X1902100	-764	-53	462	1.727

Date Prepared: 8/2/19
Date Received: 8/5/19

Prepared By: BWR
Received By: DSM

Narrative Summary

ENTHALPY

Enthalpy Analytical Narrative Summary

Company	Tetra Tech, Inc.
Analyst	DDC
Parameters	OSHA Method 61

Client #	Able Contracting - Richland, SC
Job #	0819-013
# Samples	6, 2 Blanks

Custody

David Myers received the samples on 8/5/19 after being relinquished by Tetra Tech, Inc. The samples were received at 0.8 °C and in good condition.

Prior to, during, and after analysis, the sample was kept under lock with access only to authorized personnel by Enthalpy Analytical, LLC.

Analysis

The samples were analyzed for phosgene using the analytical procedures in OSHA Method 61.

Each sample was collected on two SKC XAD-2 (Cat# 226-117) tubes. Each tube was desorbed whole as the front half (FH) and back half (BH). All fractions were desorbed using 1 mL of OSHA M61 Phosgene reagent solution and shaken at 450 rev/min for 60 minutes. The tubes were desorbed on 8/5/19.

The GC "Lolita" was used for this analysis.

Calibration

The calibration curve is included in the Raw Data section of this report and referenced in the Analysis Method column on the Detailed Results page.

For each calibration curve used, the first page of the curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.

Chromatographic Conditions

A copy of the acquisition method LOLITA0273_PHOSGENE.M is included near the end of this PDF report.

QC Notes

A Laboratory Duplicate (LD) was analyzed using an aliquot of sample ***ACF-AS-Upwind-Night-FH-HMP-Tube 8315500295*** and yielded a percent difference of 0.6% as measured. With the LB correction (see below) this increased to 7.0%.

ENTHALPY
ANALYTICAL

Enthalpy Analytical Narrative Summary
(continued)

QC Notes (continued)

Phosgene was not identified at concentrations greater than the detection limit in the analysis of laboratory reagent blank though phosgene was identified at levels greater than the LOQ in the analyses of the client blanks.

Per the client's request the LB has been used to blank correct all the sample results. We have averaged the results of the two LB tubes, and subtracted that catch weight value from each fractions' catch weight value (any value below the MDL was increased to the MDL).

Reporting Notes

The samples have results reported on a concentration basis (ug/m^3) per client request, using air sampling volumes the client provided on the Chain of Custody. The client's FB and AB (blanks) had no sampling volume and so are reported as catch weight (ug).

The results presented in this report are representative of the samples as provided to the laboratory.

Enthalpy Analytical Narrative Summary

Company	Tetra Tech, Inc.
Analyst	TDD
Parameters	EPA Method TO-15

Client #	Able Contracting
Job #	0819-013
# Samples	4 Canisters

Custody

David Myers received the samples on 8/5/19 after being relinquished by Tetra Tech, Inc. The samples were received at ambient temperature and in good condition.

Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, LLC.

Analysis

The samples were analyzed for the TO-15 target compound list using the analytical procedures in EPA Method TO-15, *Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS).*

Upon receipt, the canister pressures were measured and recorded. The canisters were then pressurized with UHP nitrogen and a dilution ratio was calculated for each canister. Sample ***ACF-AS-Blank*** has been assigned a dilution factor of 1. Refer to the Canister and Controller Data Sheet on page 25 of this PDF report for the can pressurization factors.

The Agilent Technologies Model 6890N, Gas Chromatograph "Xavier" (S/N US10721018) equipped with a 5975C VL Mass Selective Detector (S/N US71215962) and a Restek Rtx-624 Sil MS, 60 m x 0.32 mm x 1.8 µm capillary column (S/N 1555499) for these analyses.

Calibration

The BFB tune analyses associated with the initial and continuing calibrations met method acceptance criteria. The initial calibration ***(X051419A-TO15)*** met the 30% RSD criteria. The initial calibration verification met the 70-130% recovery criteria. The continuing calibration met the 30% difference criteria. Calibration data has not been provided in this level 2 report, however is available upon request.

Chromatographic Conditions

A copy of the acquisition method (***TO15-SCN2.M***) has not been included in this report but is available upon request.

ENTHALPY

Enthalpy Analytical Narrative Summary
(continued)

QC Notes

All internal standard area responses and retention time criteria were met for these analyses.

The laboratory humid blank associated with the analysis of these samples did not contain any of the target analytes at a concentration greater than 3-times the MDL value.

The Laboratory Control Sample (LCS) met the 70-130% recovery criteria with an allowed exception.

The Laboratory Duplicate (LD) analyzed with this sample set met 25% difference acceptance criteria.

The samples were analyzed within the 30-day holding time required by the method.

Reporting Notes

These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.

The results presented in this report are representative of the samples as provided to the laboratory.

General Reporting Notes

The following are general reporting notes that are applicable to all Enthalpy Analytical, LLC data reports, unless specifically noted otherwise.

- Any analysis which refers to the method as ***"Type"*** represents a planned deviation from the reference method. For instance a Hydrogen Sulfide assay from a Tedlar bag would be labeled as "EPA Method 16-Type" because Tedlar bags are not mentioned as one of the collection options in EPA Method 16.

- The acronym ***MDL*** represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.

- The acronym ***LOQ*** represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.

- The acronym ***ND*** following a value indicates a non-detect or analytical result below the MDL.

- The letter ***J*** in the Qualifier or Flag column in the results indicates that the value is between the MDL and the LOQ. The laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.

- The letter ***E*** in the Qualifier or Flag column indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.

- Sample results are presented 'as measured' for single injection methodologies, or an average value if multiple injections are made. If all injections are below the MDL, the sample is considered non-detect and the ND value is presented. If one, but not all, are below the MDL, the MDL value is used for any injections that are below the MDL. For example, if the MDL is 0.500 and LOQ is 1.00, and the instrument measures 0.355, 0.620, and 0.442 - the result reported is the average of 0.500, 0.620, and 0.500 - - - i.e. 0.540 with a J flag.

- When a spike recovery (Bag Spike, Collocated Spike Train, or liquid matrix spike) is being calculated, the native (unspiked) sample result is used in the calculations, as long as the value is above the MDL. If a sample is ND, then 0 is used as the native amount (not the MDL value).

- The acronym ***DF*** represents Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to determine the final undiluted sample results.

- The addition of ***MS*** to the Sample ID represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. The MS analysis indicates what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix interferes with the analysis of the analyte(s).

ENTHALPY

General Reporting Notes
(continued)

- The addition of ***MSD*** to the Sample ID represents a Matrix Spike Duplicate. Prepared in the same manner as a MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times.

- The addition of ***LD*** to the Sample ID represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results of the duplicate analysis are compared to the initial result. The result should have a difference value of within 10% of the initial result (if the results of the original analysis are greater than the LOQ).

- The addition of ***AD*** to the Sample ID represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.

- The Sample ID ***LCS*** represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our client projects, two spikes are retained as LCSs. The LCSs are labeled with the associated project number and kept in-house at the appropriate temperature conditions. When the project samples are received for analysis, the LCSs are analyzed to confirm that the analyte could be recovered from the media, separate from the samples which were used on the project and which may have been affected by source matrix, sample collection, and/or sample transport.

- **Significant Figures**: Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits. In the case of small numbers, generally 3 significant figures are presented, but still only 2 should be used with confidence. Many neat materials are only certified to 3 digits, and as the mathematically correct final result is always 1 digit less than all its pre-cursors - 2 significant figures are what are most defensible.

- **Manual Integration**: The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations on sample chromatograms, if provided in the report. The peak was ***not integrated*** by the software **"NI"**, the peak was ***integrated incorrectly*** by the software **"II"** or the ***wrong peak*** was integrated by the software **"WP"**. These codes will accompany the analyst's manual integration stamp placed next to the compound name on the chromatogram.

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Sample Custody

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Chain of Custody Record

Page 1 of 1

Special Handling:

☐ Standard Turn Around Time

☑ Rush Turn Around Time – Date Needed ASAP

- All TATs Subject to Approval by Enthalpy Analytical
- All Bag/Can Samples Disposed of 1 Month from Receipt.
- All Other Samples Disposed of 4 Months from Receipt.

Sample(s) Collected by: John Snyder

Client Name: Tetra Tech

Project Manager: Jessica Vickers

Project Number:

Site Name: Able Contracting Fire

Location: Ridgeland, SC

PO#:

Telephone#:

Email: jessica.vickers@tetratech.com

For spiked or duplicate samples: please provide sample volumes for recovery calculations. For Particulates: please provide tare weights and/or condensed water volumes.

Special Instructions:

G=Grab C=Composite Q=Quality Control O=Other

Sample ID	Date	Time	Sample Volume	Type	Matrix	# of VOA Vials	# of Glass	# of Plastic	# of Bags	# of Canisters	# of Tubes	# Other	Phosgene	TO-15							Notes:
ACF-AS-SMOKE-NIGHT	8/2/19	2010	556.8	G	X						2		/								8315500289 / 8315500290
ACF-AS-RES-NIGHT	8/2/19	2030	623.8	G	X						2		/								8315500291 / 8315500286
ACF-AS-UPWIND-NIGHT	8/2/19	2100	520.8	G	X						2		/								8315500295 / 8315500288
ACF-AS-SMOKE-DAY	8/3/19	0835	542.4	G	X						2		/								8315500293 / 8315500292
ACF-AS-RES-DAY	8/3/19	0825	535.2	G	X						2		/								8315500289 / 8315500294
ACF-AS-UPWIND-DAY	8/3/19	0855	544.8	G	X						2		/								8315500308 / 8315500310
ACF-AS-FB	–	–	–	Q	X						2		/								8315500313 / 8315500306
ACF-AS-LB	–	–	–	Q	X						2		/								8315500311 / 8315500307
~~ACF-AS-RES~~																					
ACF-AS-RES-24HRVOC	8/2/19	2030	-30"/-3"	G	A					1				/							Canister 0800
ACF-AS-SMOKE-24HRVOC	8/2/19	2010	-27"/-2"	G	A					1				/							Canister 0820
ACF-AS-UPWIND-24HRVOC	8/2/19	2100	-32"/-5"	G	A					1				/							Canister 0796
ACF-AS-BLANK	–	–	–	Q	A					1				/							Canister 0805

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Condition Upon Receipt:
John Snyder	8/5/19	[signature]	8-5-19	945	☐ Iced ☐ Ambient ☐ °C
					☐ Iced ☐ Ambient ☐ °C
					☐ Iced ☐ Ambient ☐ °C

800-1 Capitola Drive • Durham, NC 27713 • (919) 850-4392 • FAX (919) 850-9012 • www.enthalpy.com

Cased condition. Cans received at ambient temp. Tubes received at 0.8°C Raytek5 DSM 08-05-19

Raw Data

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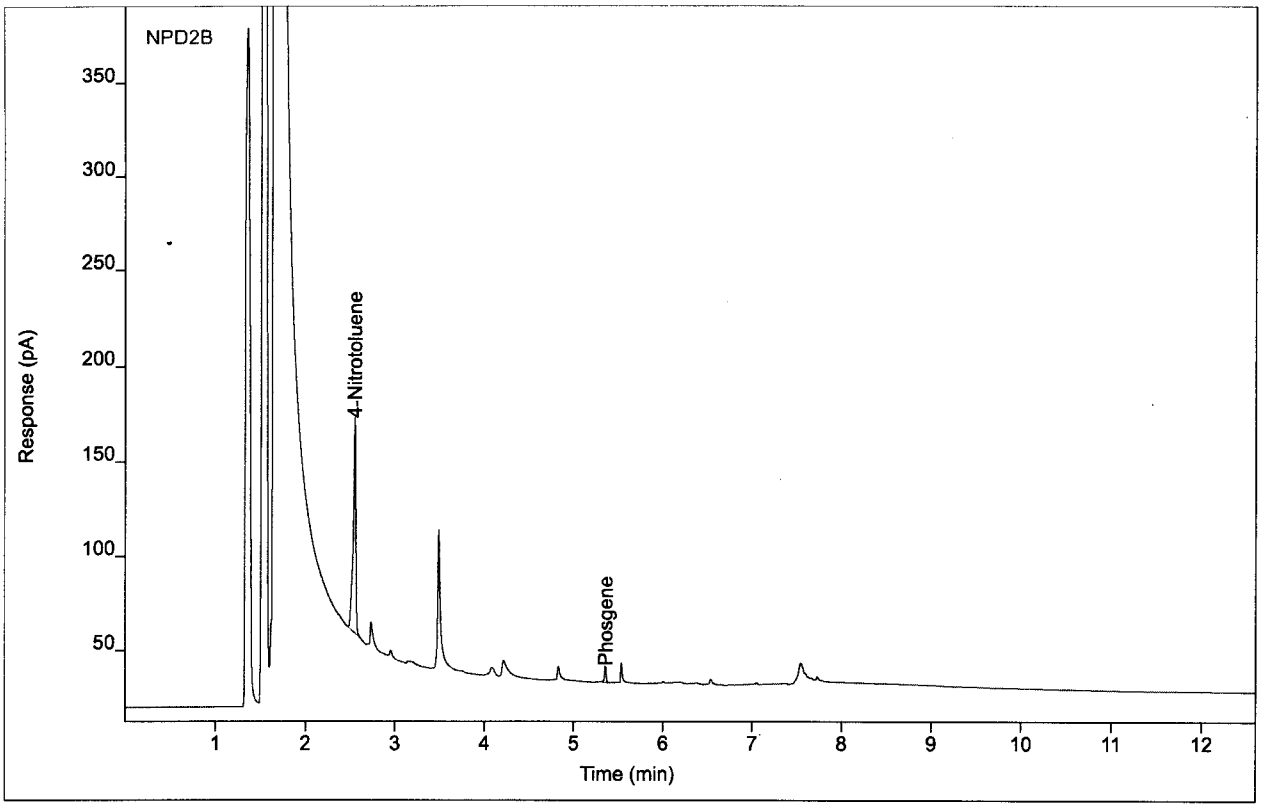
Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.S-N.FH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 17
Inj Data File	017B0301.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 4:38 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM

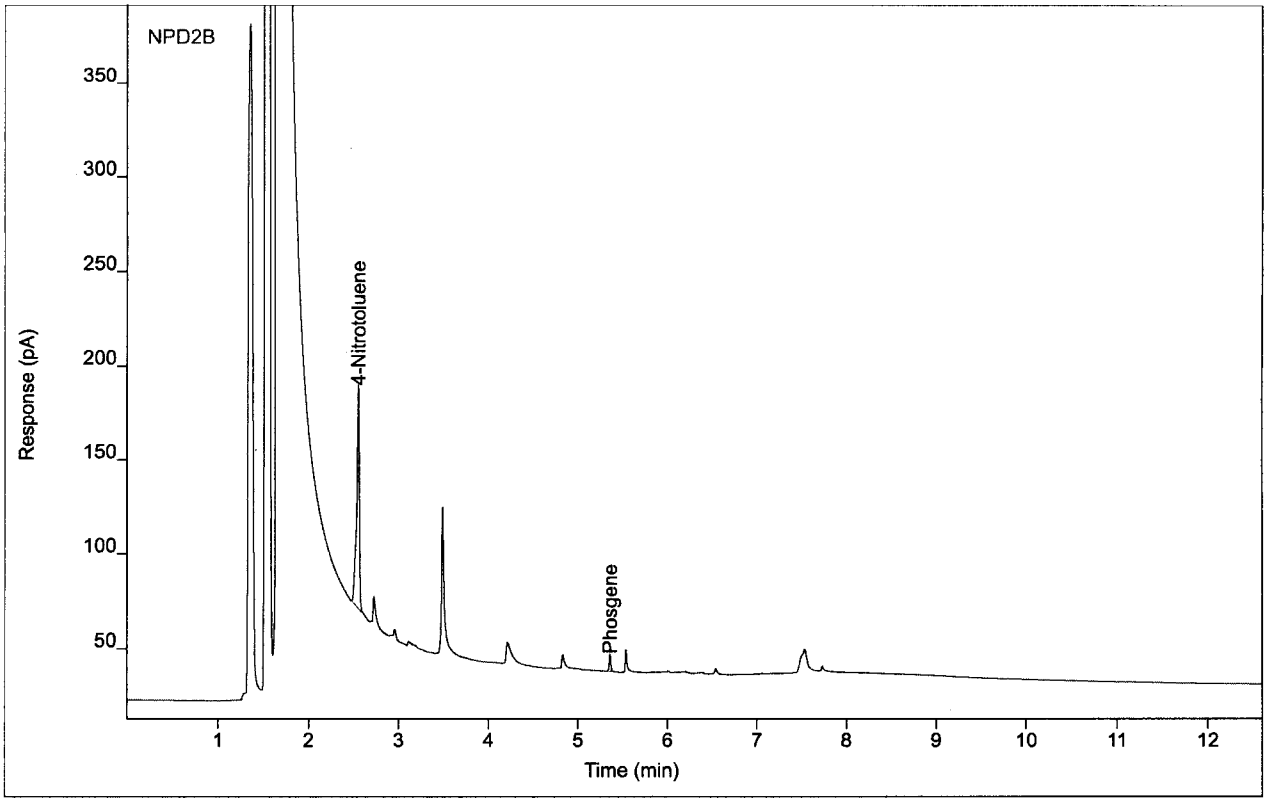


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	232.073	113.754	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	11.0615	8.76326	2.75963	1	2.75963	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.S-N.BH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 18
Inj Data File	018B0401.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 4:53 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM

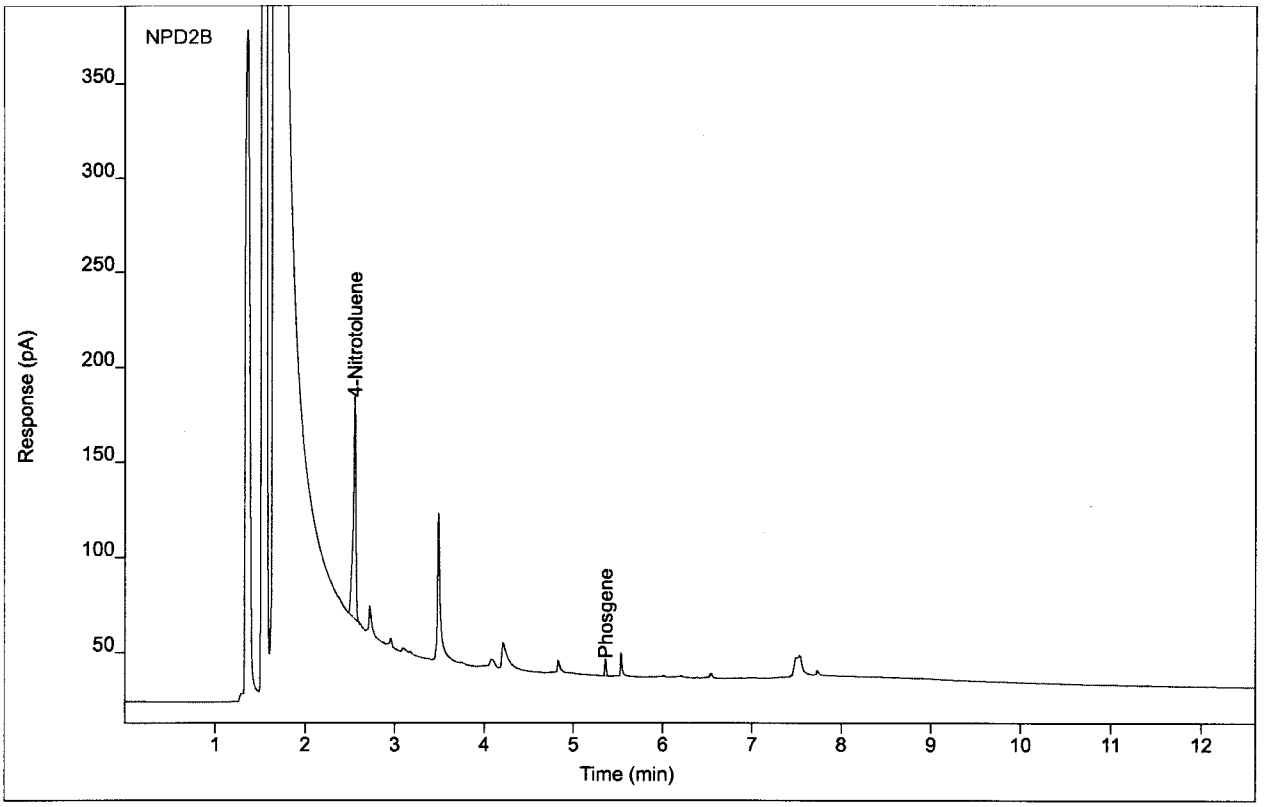


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	239.988	118.804	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	12.0015	9.53979	2.89387	1	2.89387	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.R-N.FH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 19
Inj Data File	019B0501.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 5:08 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM



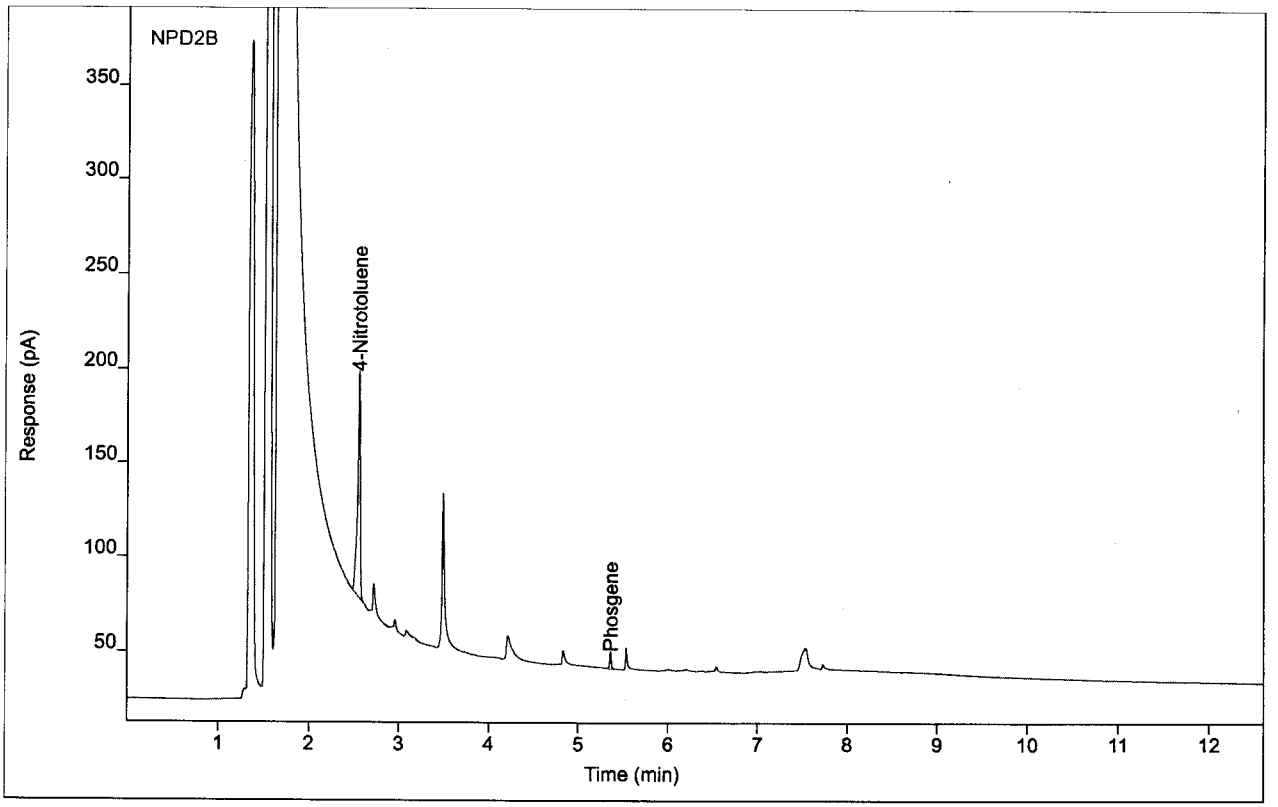
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	238.475	116.596	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	11.5272	9.16080	2.79816	1	2.79816	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.R-N.BH
Sequence Name	LOLITA0274 ver.5
Inj Data File	020B0601.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 5:23 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 20
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



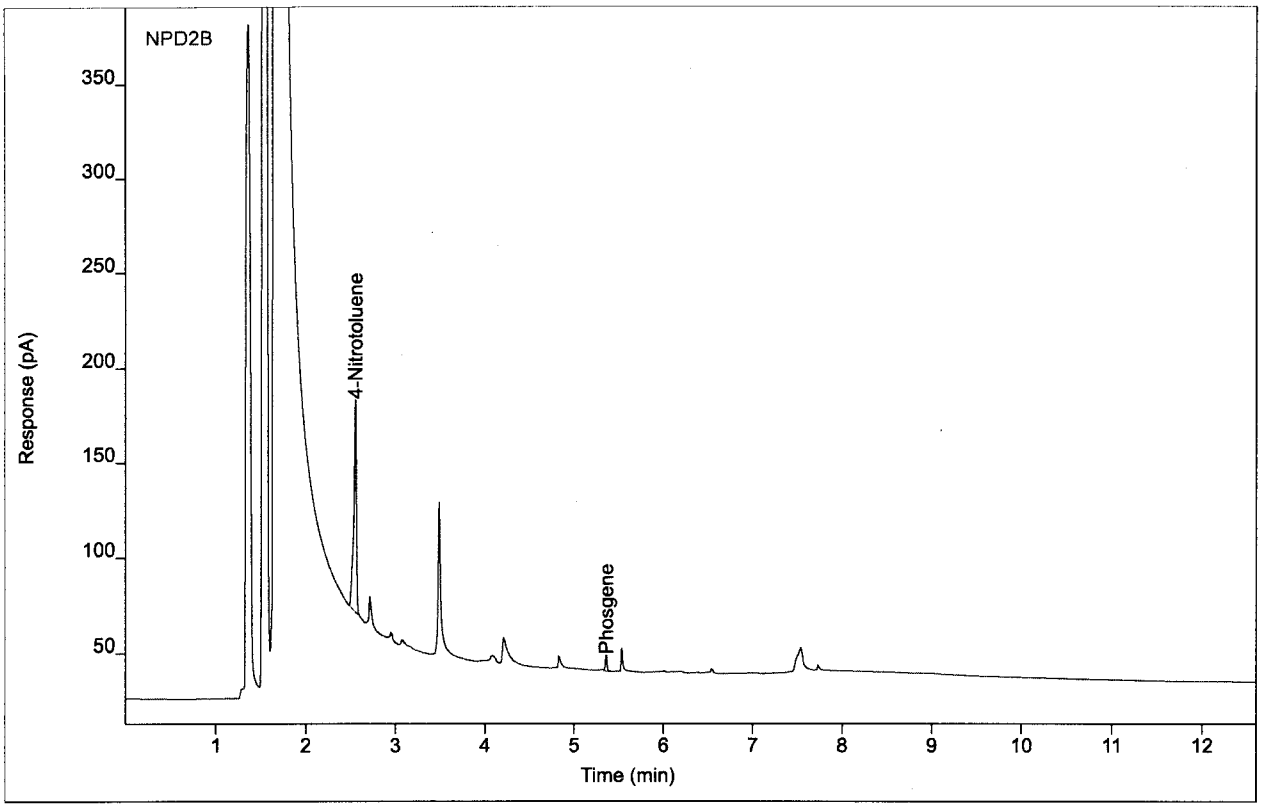
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	244.699	120.601	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	11.3714	9.14092	2.69134	1	2.69134	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.U-N.FH
Sequence Name	LOLITA0274 ver.5
Inj Data File	021B0701.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 5:38 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 21
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



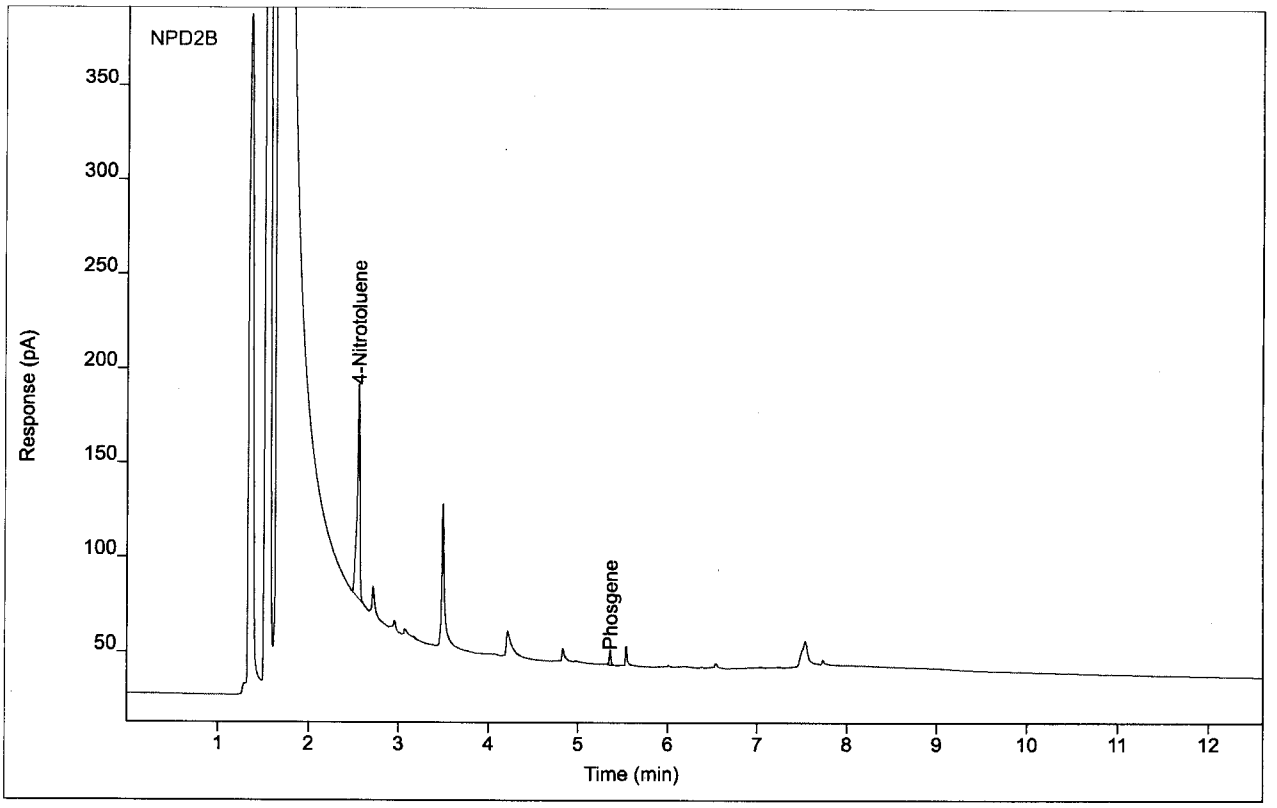
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	228.945	112.339	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	11.0834	8.89495	2.80240	1	2.80240	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.U-N.BH
Sequence Name	LOLITA0274 ver.5
Inj Data File	023B0901.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 6:08 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 23
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM

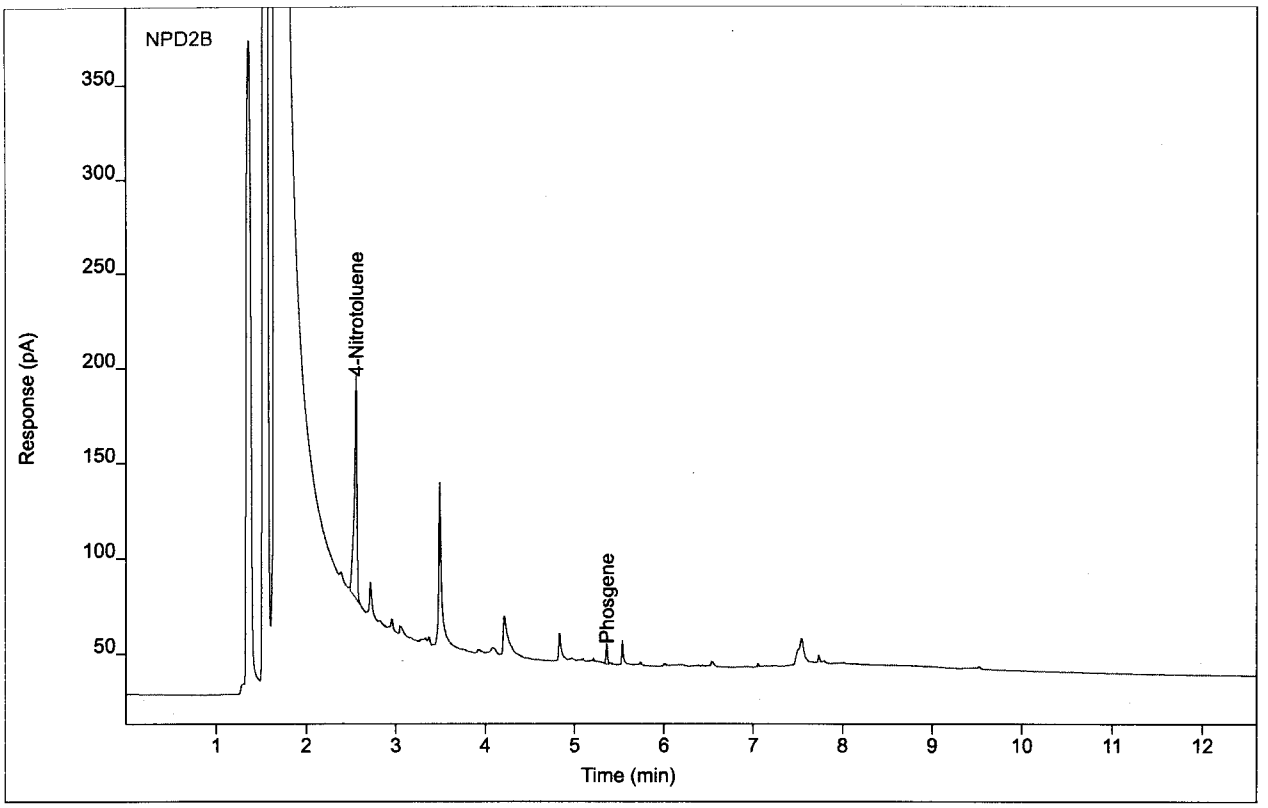


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	237.662	113.760	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	10.4584	8.16962	2.55019	1	2.55019	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.S-D.FH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 24
Inj Data File	024B1001.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 6:23 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM

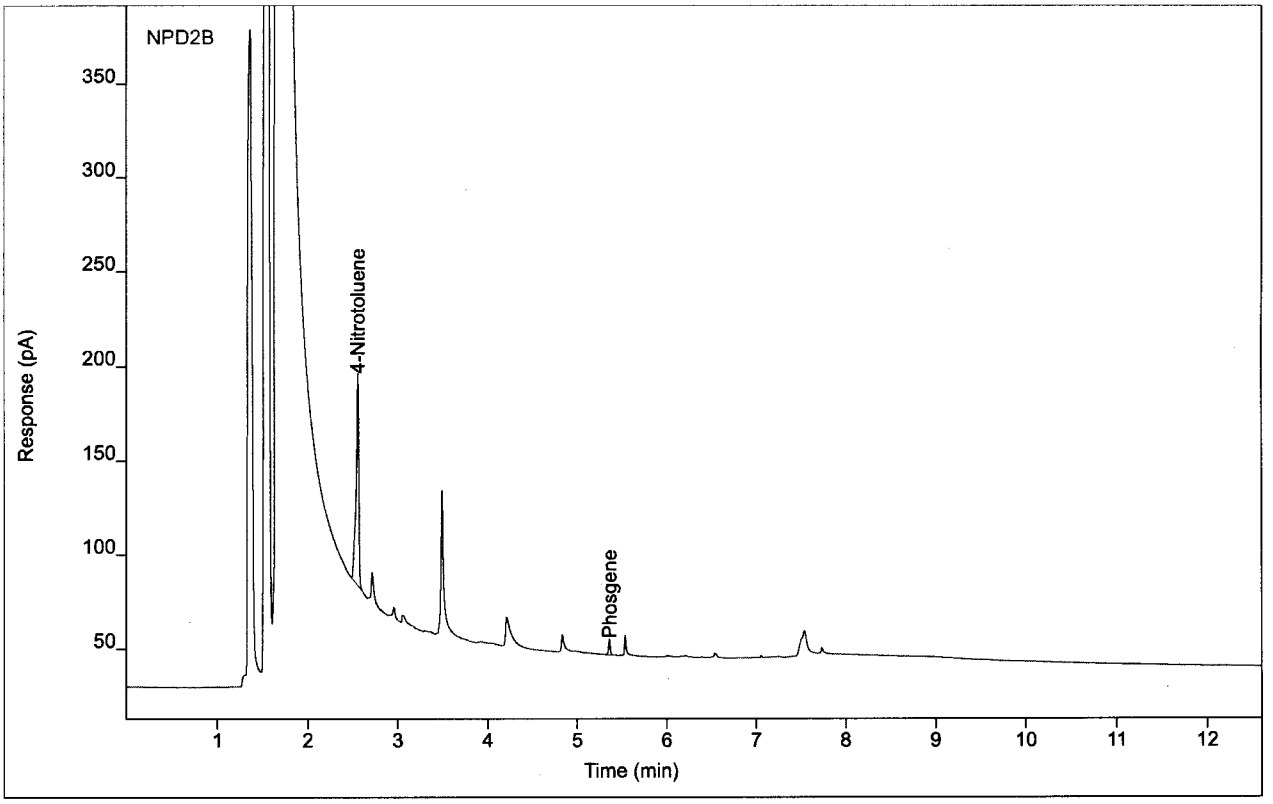


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	242.257	116.799	239.748	1	239.748	ug/mL
Phosgene	VV	5.36	12.8541	10.5442	3.06854	1	3.06854	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.S-D.BH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 25
Inj Data File	025B1101.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 6:38 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM

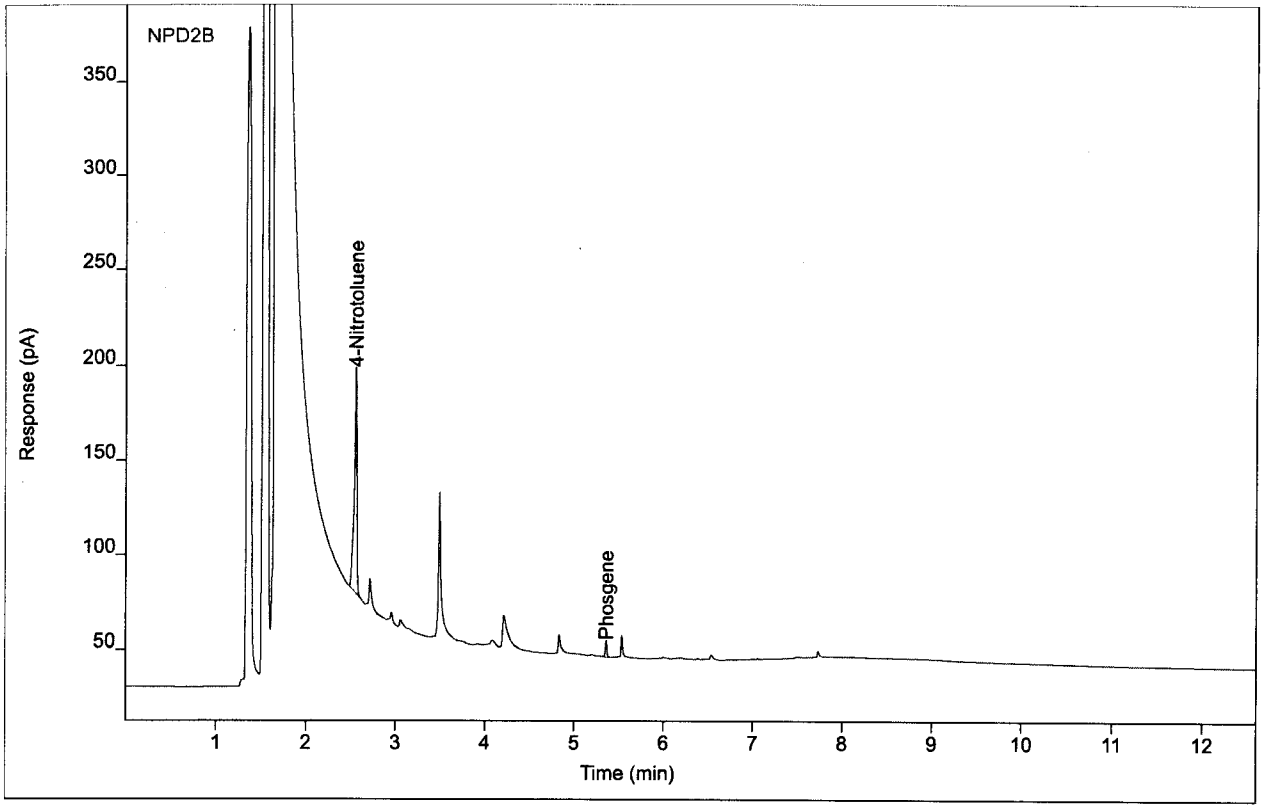


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	235.421	112.945	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	10.8796	8.55639	2.67660	1	2.67660	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.R-D.FH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 26
Inj Data File	026B1301.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 7:09 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM

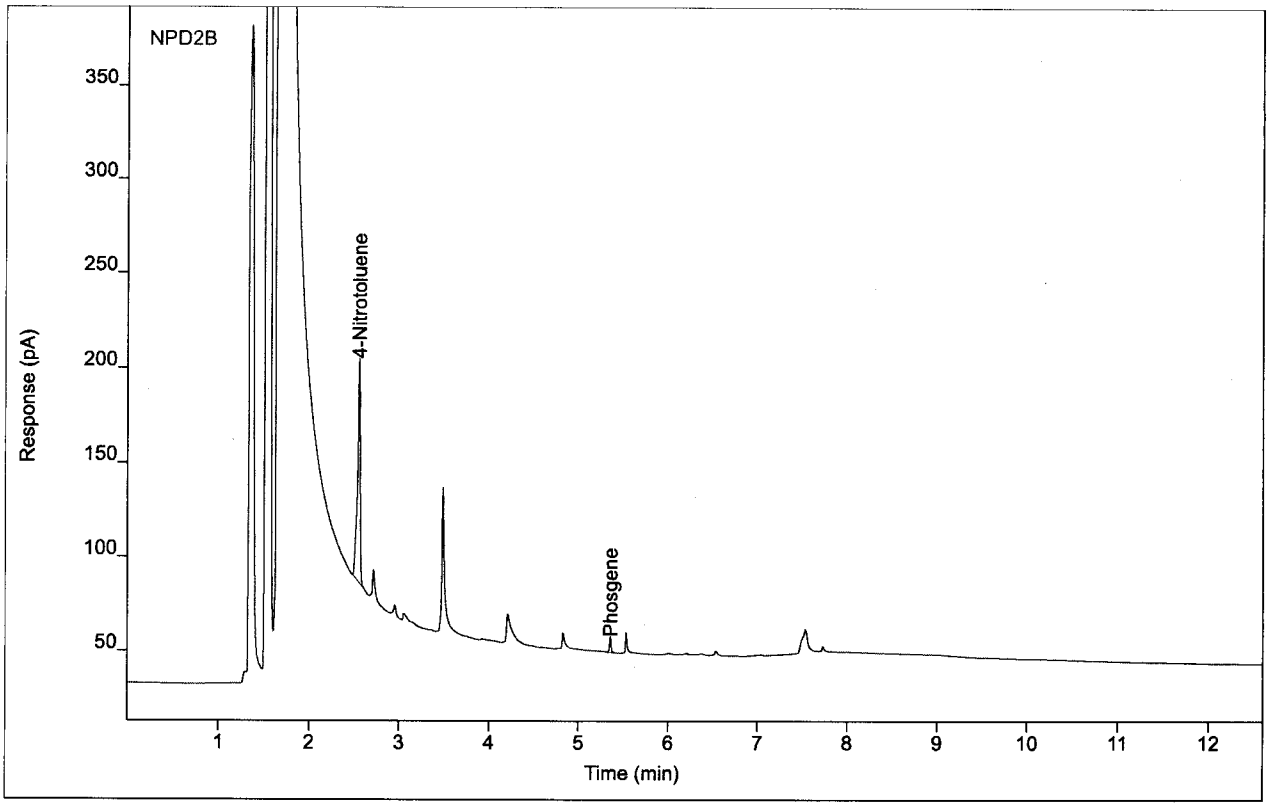


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	242.775	119.548	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	11.2746	8.88456	2.68961	1	2.68961	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.R-D.BH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 27
Inj Data File	027B1401.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 7:24 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM

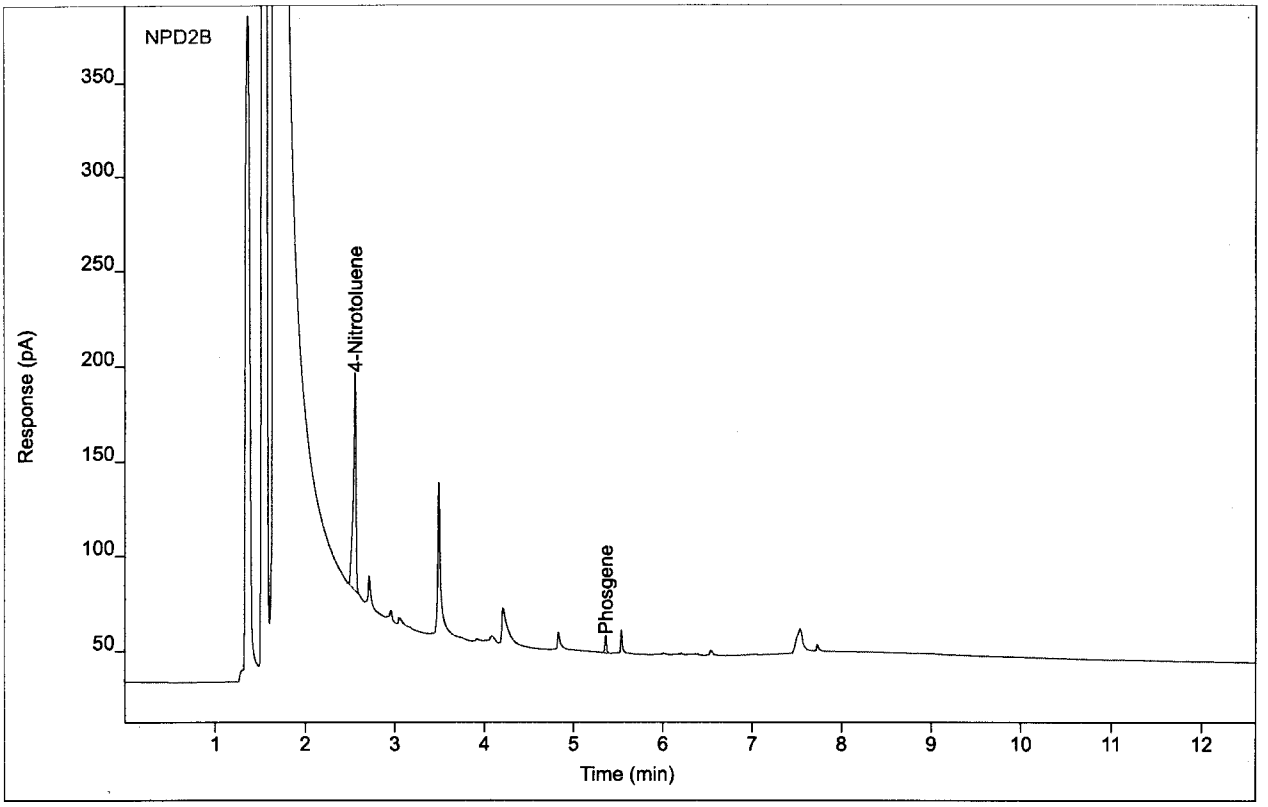


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	246.434	119.151	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	10.4203	8.25036	2.45168	1	2.45168	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.U-D.FH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 28
Inj Data File	028B1501.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 7:39 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM

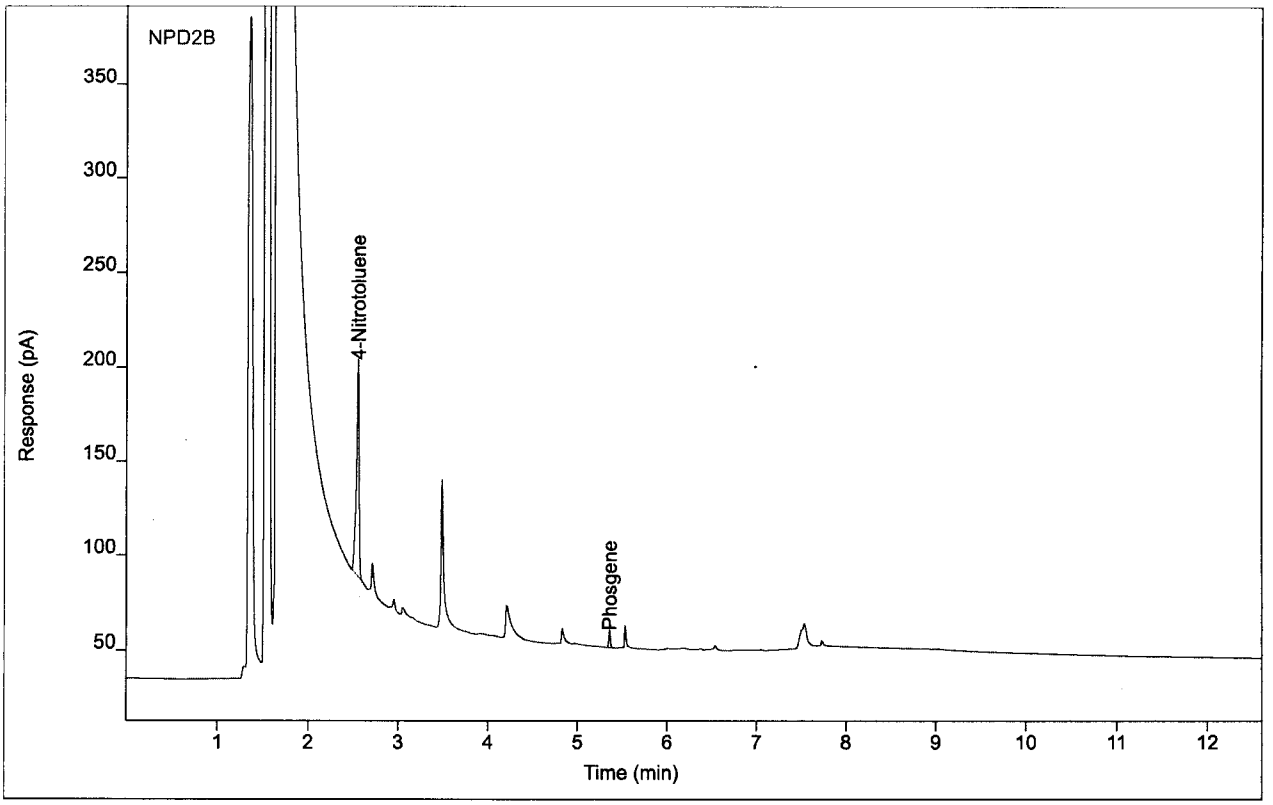


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	238.244	115.510	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	11.8372	9.46701	2.87535	1	2.87535	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.U-D.BH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 29
Inj Data File	029B1601.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 7:54 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM

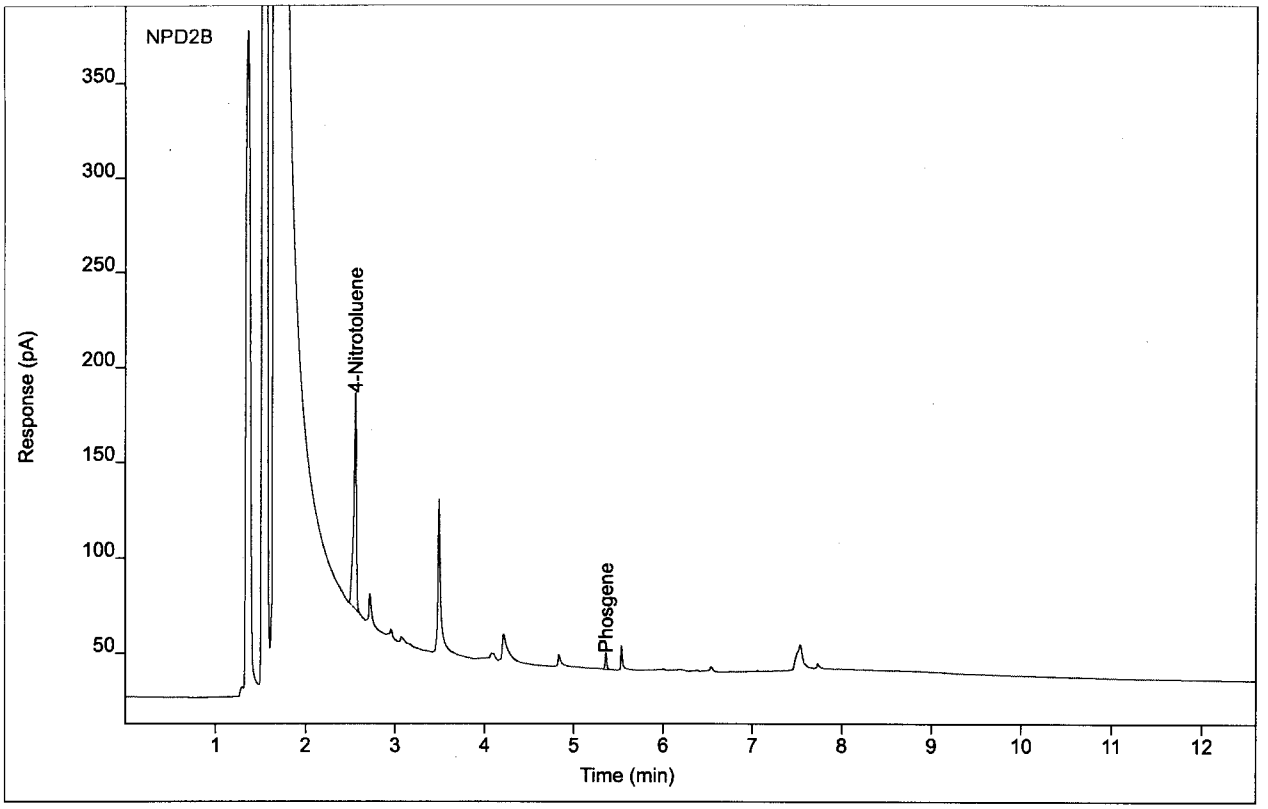


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	238.164	115.930	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	11.3204	8.88982	2.75207	1	2.75207	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.U-N-LD.FH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 22
Inj Data File	022B0801.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 5:53 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM



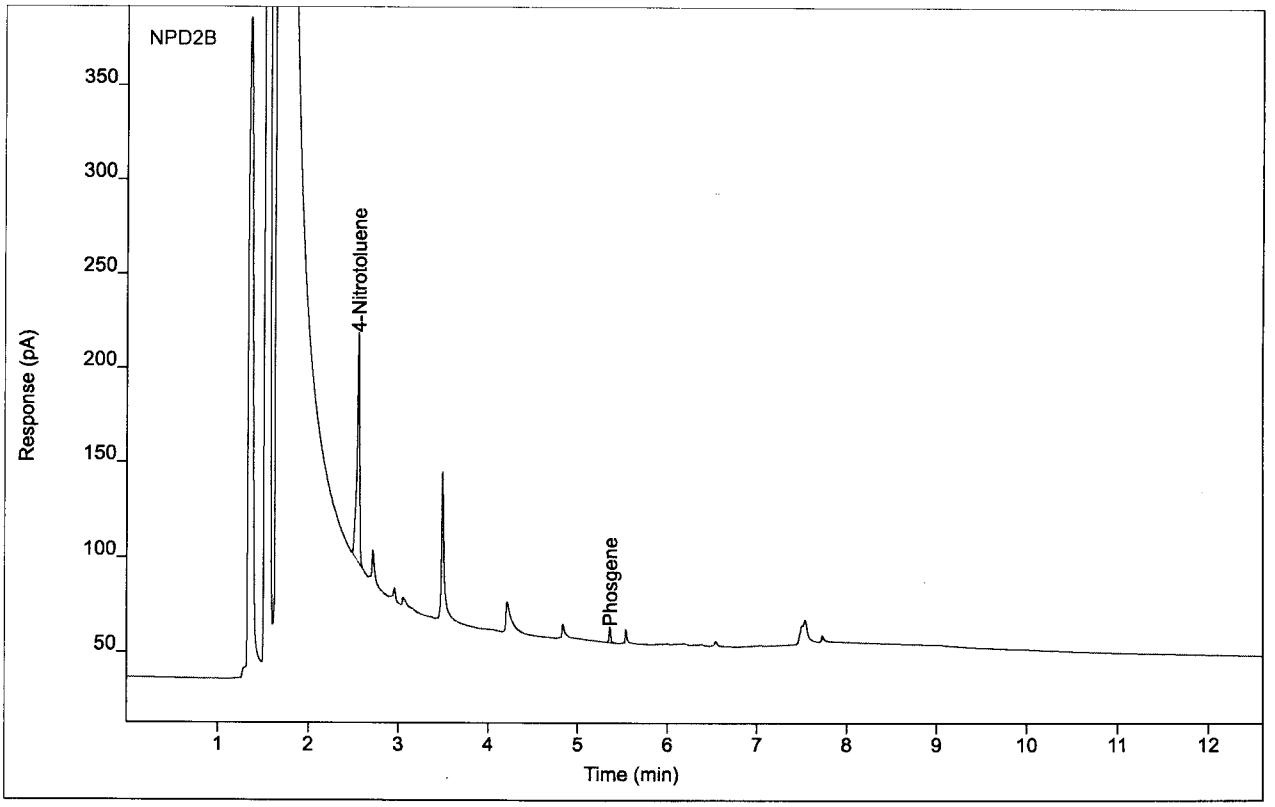
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	230.562	113.388	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	11.0911	8.77664	2.78487	1	2.78487	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.FB-HMP.FH
Sequence Name	LOLITA0274 ver.5
Inj Data File	030B1701.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 8:09 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 30
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM

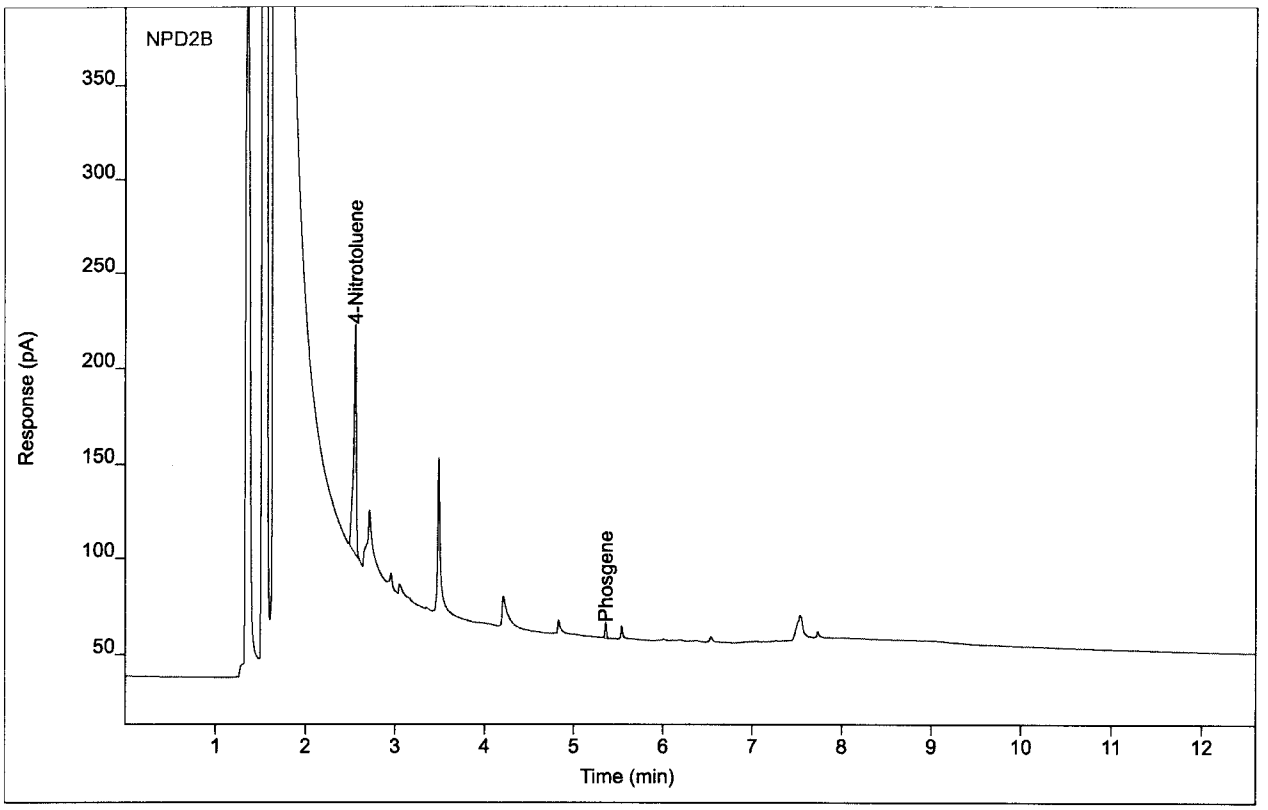


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	245.146	121.835	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	10.7063	8.56376	2.53118	1	2.53118	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.FB-HMP.BH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 31
Inj Data File	031B1801.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 8:24 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM

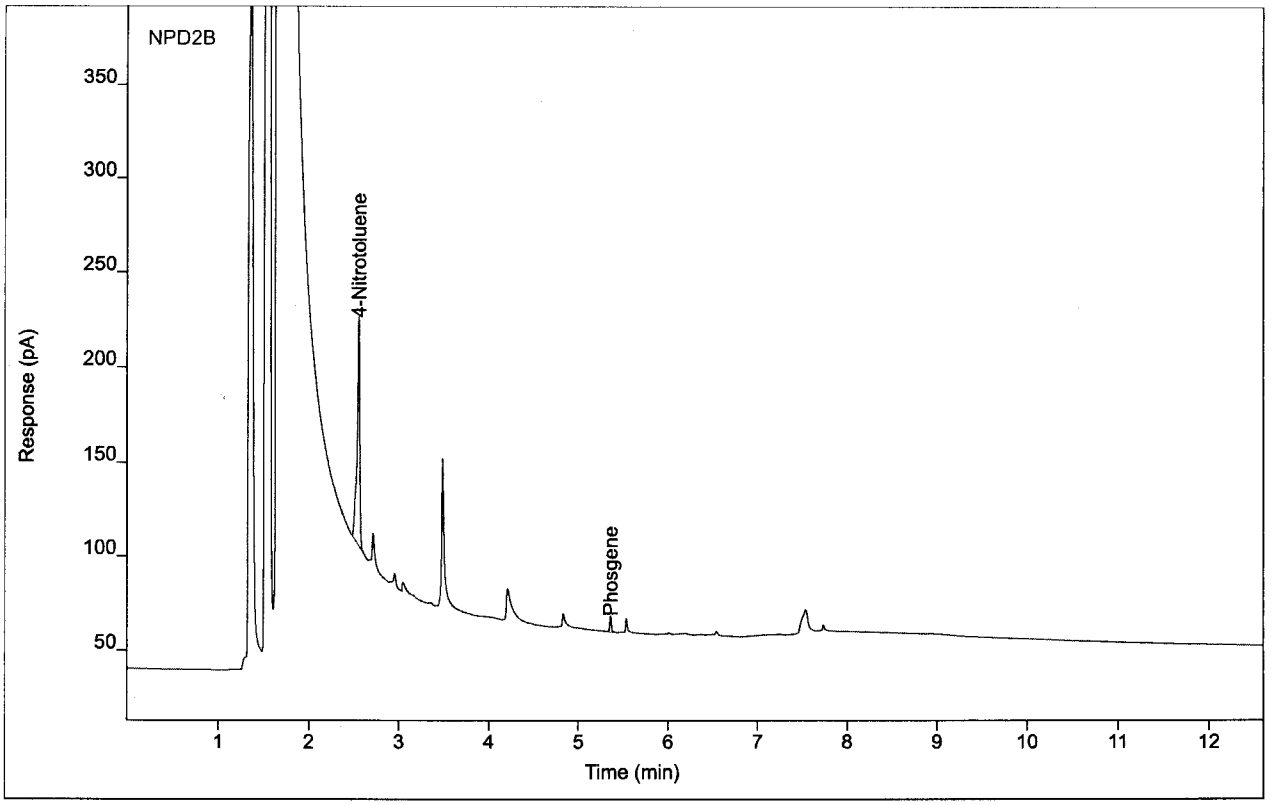


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	247.894	121.045	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	10.7578	8.51000	2.51537	1	2.51537	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.LB-HMP.FH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 32
Inj Data File	032B1901.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 8:39 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM

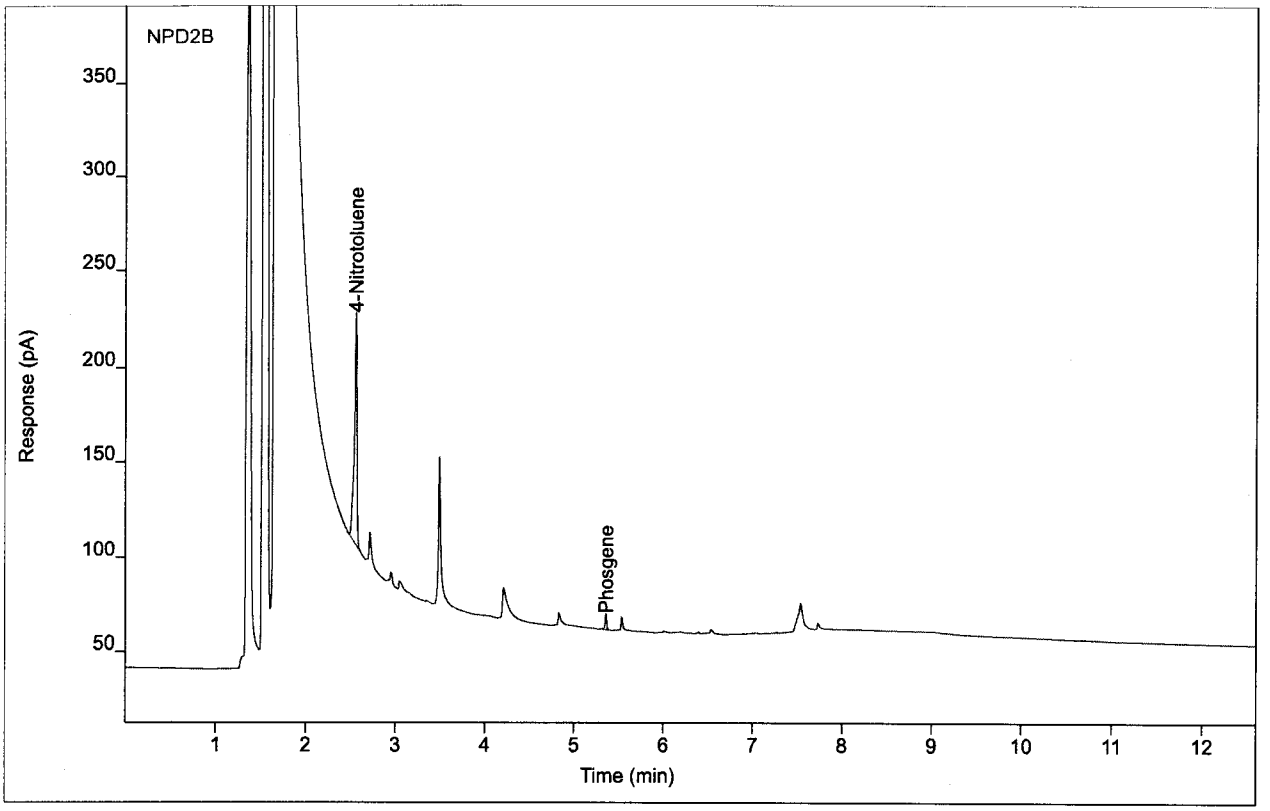


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	246.511	121.066	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	11.0488	8.77161	2.59688	1	2.59688	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.LB-HMP.BH	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 33
Inj Data File	033B2001.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 8:54 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM

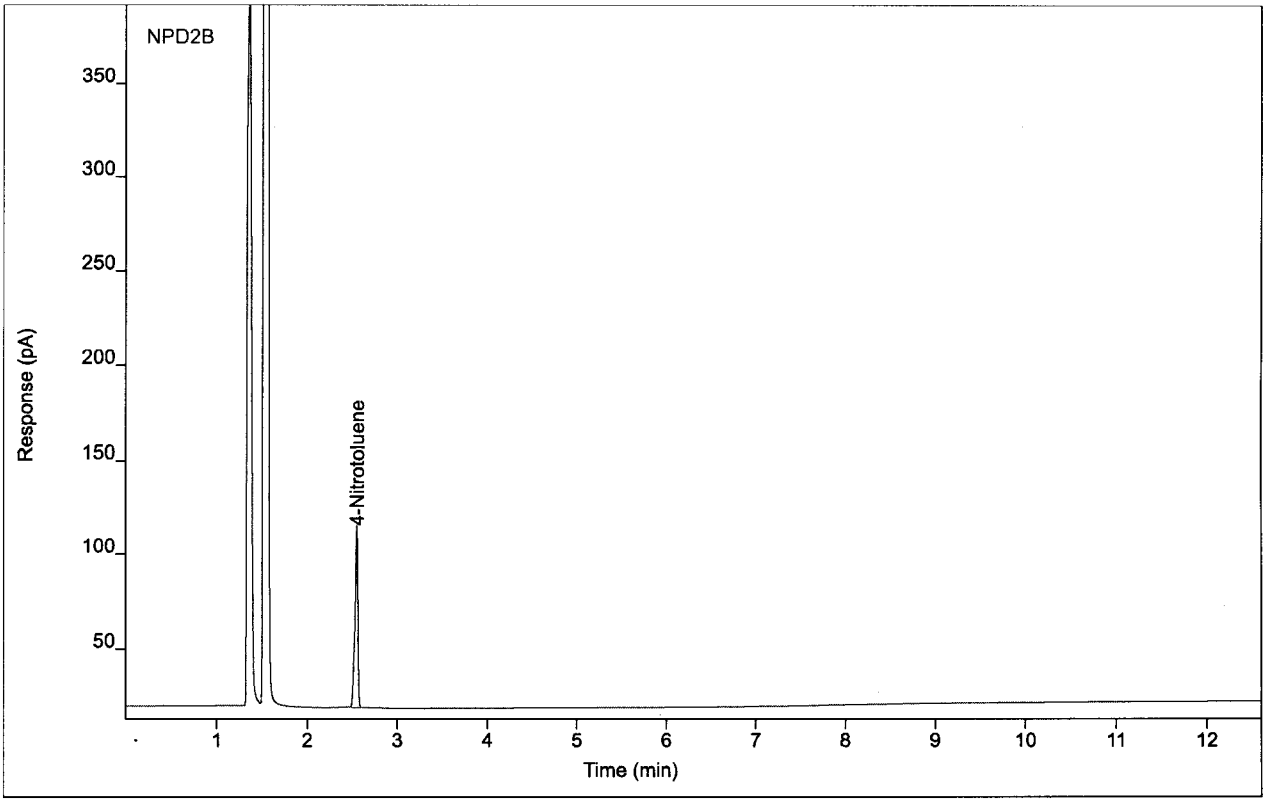


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	244.033	121.600	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	10.4648	8.58231	2.48592	1	2.48592	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcprep2960 #RB	Sample Type	Sample
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 16
Inj Data File	016B0201.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 4:23 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	217.756	96.9789	239.748	1	239.748	ug/mL
Phosgene		(5.34)				1		

Calibration Table

General Calibration Setting

Calib. Data Modified : 7/31/2019 5:40:12 PM
Signals calculated separately : No

Rel. Reference Window : 0.000 %
Abs. Reference Window : 0.100 min
Rel. Non-ref. Window : 0.000 %
Abs. Non-ref. Window : 0.070 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Ignored
Weight : Quadratic (Amnt)

Recalibration Settings:
Average Response : No Update
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Sample ISTD Information:

ISTD #	ISTD Amount [ug/mL]	Name
1	232.64000	4-Nitrotoluene

Signal Details

Signal 1: NPD2 B,

Overview Table

RT	Sig	Lvl	Amount [ug/mL]	Area	Rsp.Factor	Ref	ISTD #	Compound
2.552	1	1	239.74800	294.12701	8.15117e-1	No	Yes 1	4-Nitrotoluene
		2	239.75000	295.22165	8.12102e-1			
		3	239.75000	291.11169	8.23567e-1			
5.344	1	1	9.98860e-1	5.05250	1.97696e-1	No	No 1	Phosgene

RT	Sig	Lvl	Amount [ug/mL]	Area	Rsp.Factor	Ref	ISTD #	Compound
		2	4.99430	23.78846	2.09946e-1			
		3	9.98860	52.05507	1.91885e-1			

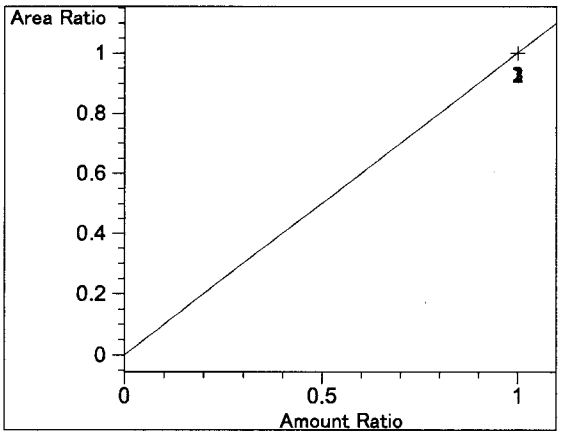
Peak Sum Table

No Entries in table

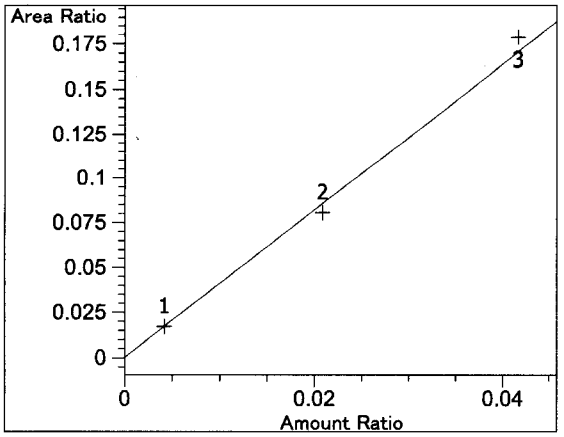
6 Warnings or Errors :

Warning : Curve requires more calibration points., (4-Nitrotoluene)
Warning : Curve requires more calibration points. at 2.552 min, signal 1
Warning : ISTD compound not calibrated on all levels, (4-Nitrotoluene)
Warning : ISTD compound not calibrated on all levels, (4-Nitrotoluene)
Warning : ISTD compound not calibrated on all levels, (4-Nitrotoluene)
Warning : ISTD compound not calibrated on all levels, (4-Nitrotoluene)

Calibration Curves



4-Nitrotoluene at exp. RT: 2.552
NPD2 B,
Correlation: 1.00000
Residual Std. Dev.: 0.00000
Formula: y = mx + b
m: 1.00000
b: 0.00000
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 1
Level 3 : 1

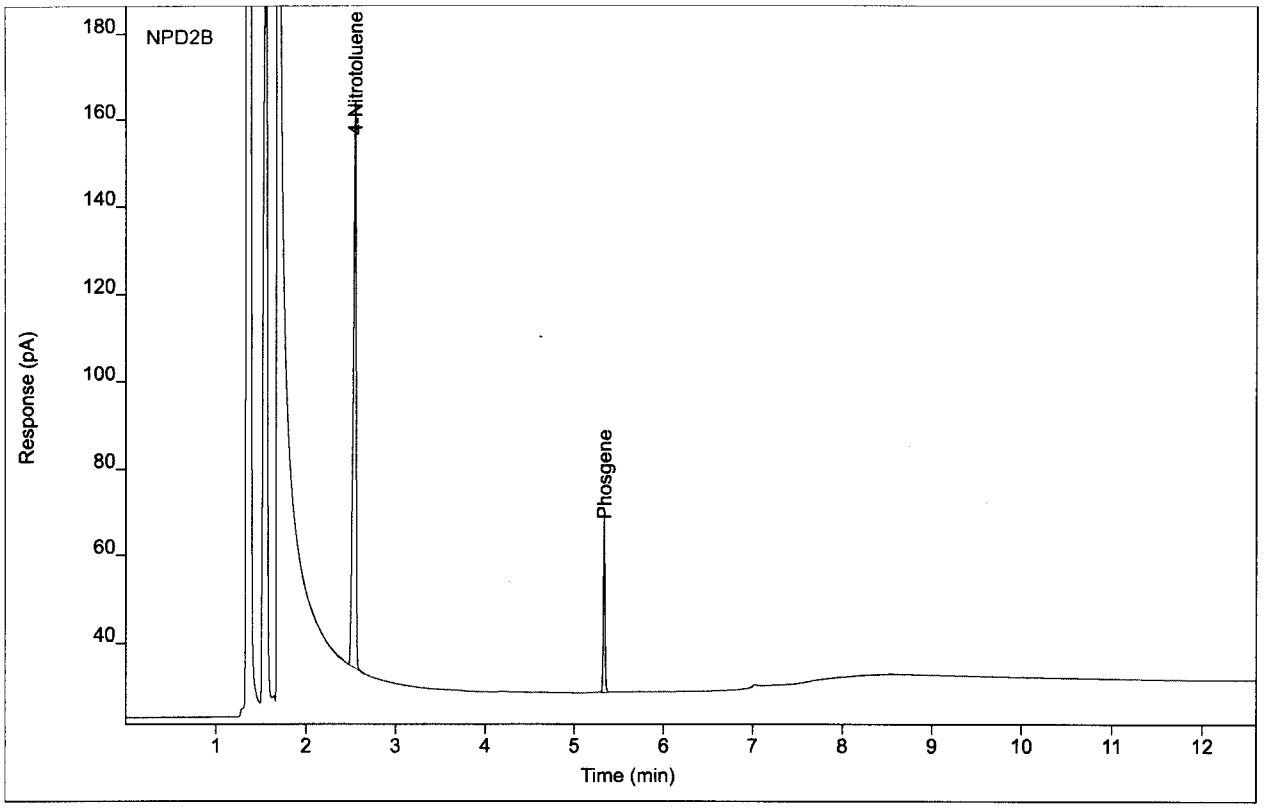


Phosgene at exp. RT: 5.344
NPD2 B,
Correlation: 0.99805
Residual Std. Dev.: 0.00955
Formula: y = mx + b
m: 4.09156
b: 2.72753e-5
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.040001
Level 3 : 0.01

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #13	Sample Type	Calibration
Sequence Name	LOLITA0273 ver.3	Vial Number	31
Inj Data File	031B0601.D	Injection Volume	1
File Location	GC/2019/Mr. Ed/Quarter 1	Injection	1 of 1
Injection Date	7/30/2019 4:01 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	7/31/2019 4:38 PM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 4:38 PM
Operator	Daniel Clayton	Printed	7/31/2019 5:44 PM



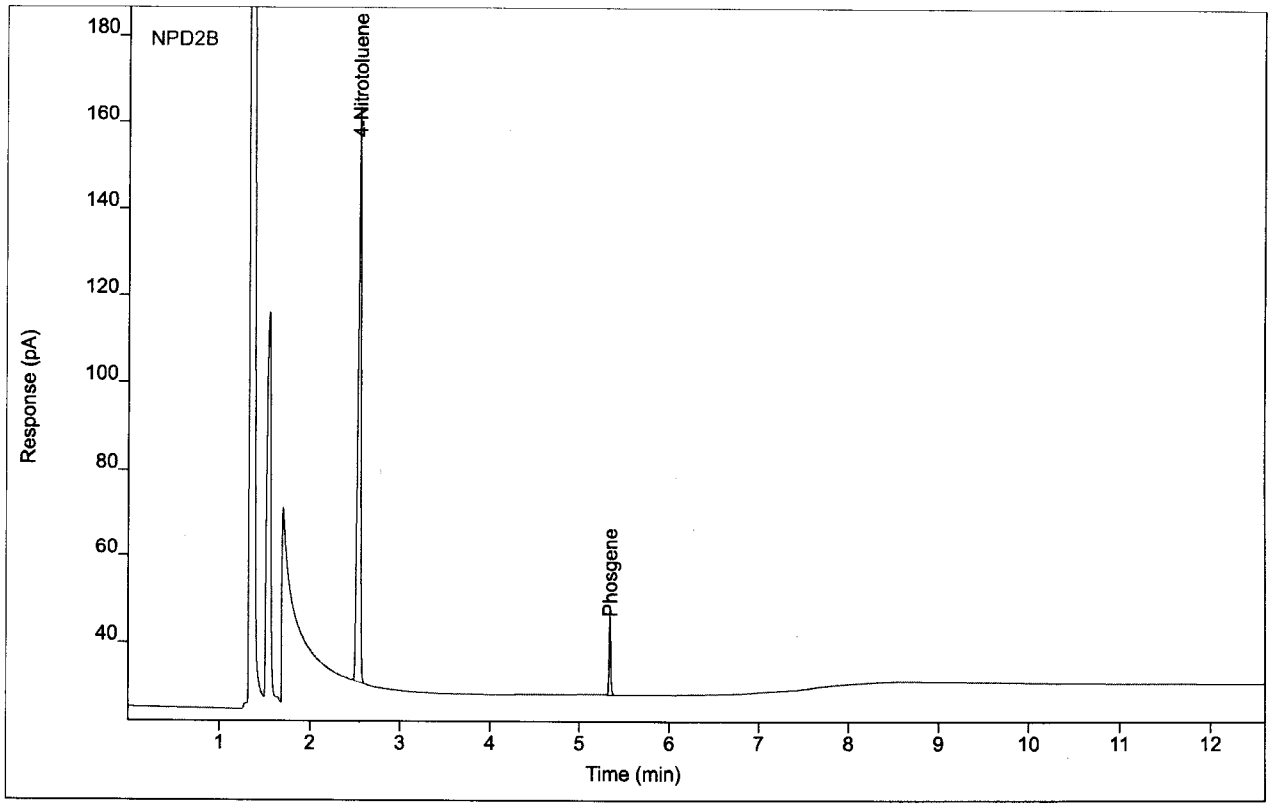
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	I BB	2.55	291.112	129.722	239.750			ug/mL
Phosgene	BB	5.34	52.0551	39.6969	10.2677	1	10.2677	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #12
Sequence Name	LOLITA0273 ver.3
Inj Data File	032B0701.D
File Location	GC/2019/Mr. Ed/Quarter 1
Injection Date	7/30/2019 4:16 PM
File Modified	7/31/2019 4:38 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	32
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 4:38 PM
Printed	7/31/2019 5:44 PM

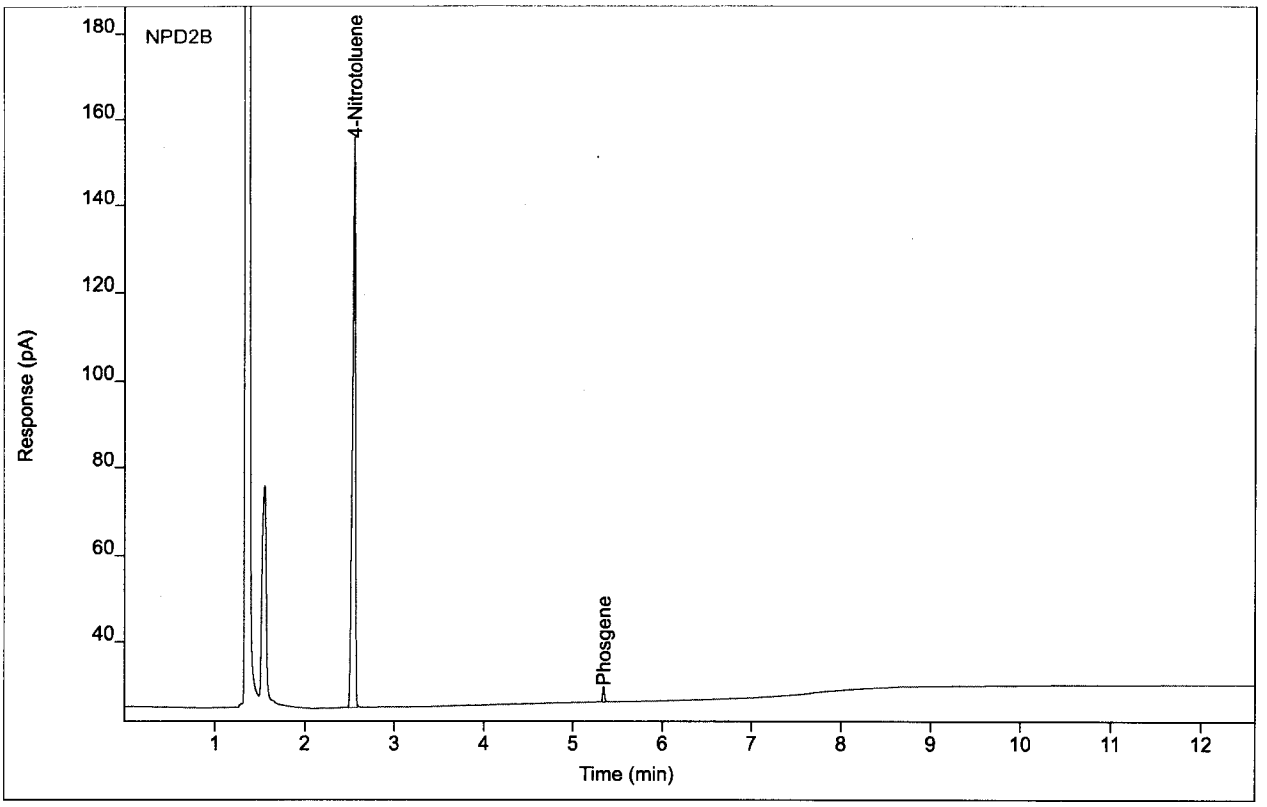


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	I BB	2.55	295.222	132.655	239.750			ug/mL
Phosgene	BB	5.34	23.7885	18.1957	4.64391	1	4.64391	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #11	Sample Type	Calibration
Sequence Name	LOLITA0273 ver.3	Vial Number	33
Inj Data File	033B0801.D	Injection Volume	1
File Location	GC/2019/Mr. Ed/Quarter 1	Injection	1 of 8
Injection Date	7/30/2019 4:31 PM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	7/31/2019 4:38 PM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 4:38 PM
Operator	Daniel Clayton	Printed	7/31/2019 5:44 PM

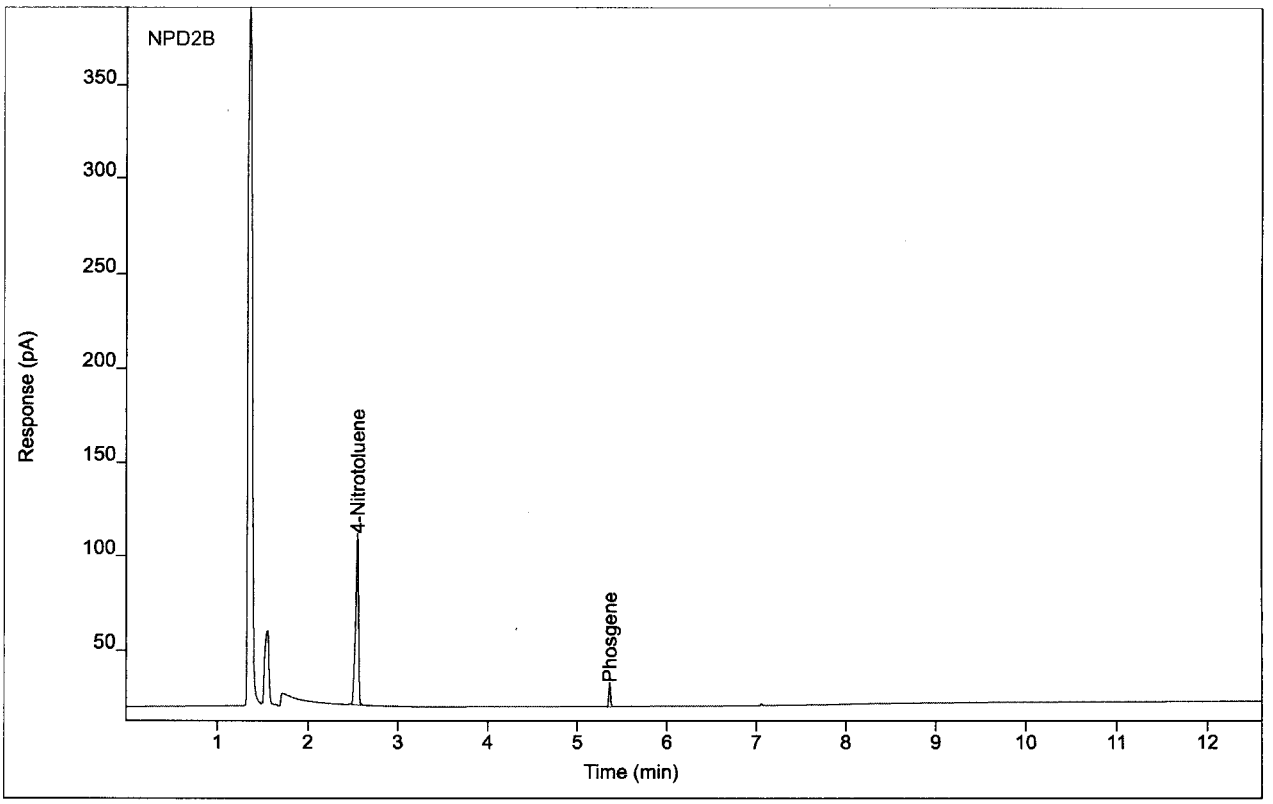


Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	I BB	2.55	294.127	130.879	239.748			ug/mL
Phosgene	BB	5.34	5.05250	3.69148	1.01442	1	1.01442	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #12	Sample Type	Calibration
Sequence Name	LOLITA0274 ver.5	Vial Number	Vial 15
Inj Data File	015B0101.D	Injection Volume	1
File Location	GC/2019/Lolita/Quarter 3	Injection	1 of 1
Injection Date	8/5/2019 11:48 AM	Acquisition Method	LOLITA0273_PHOSGENE.M
File Modified	8/6/2019 11:30 AM	Analysis Method	LOLITA0273_PHOSGENE_R.M
Instrument	Lolita	Method Modified	7/31/2019 5:08 PM
Operator	Daniel Clayton	Printed	8/6/2019 11:33 AM



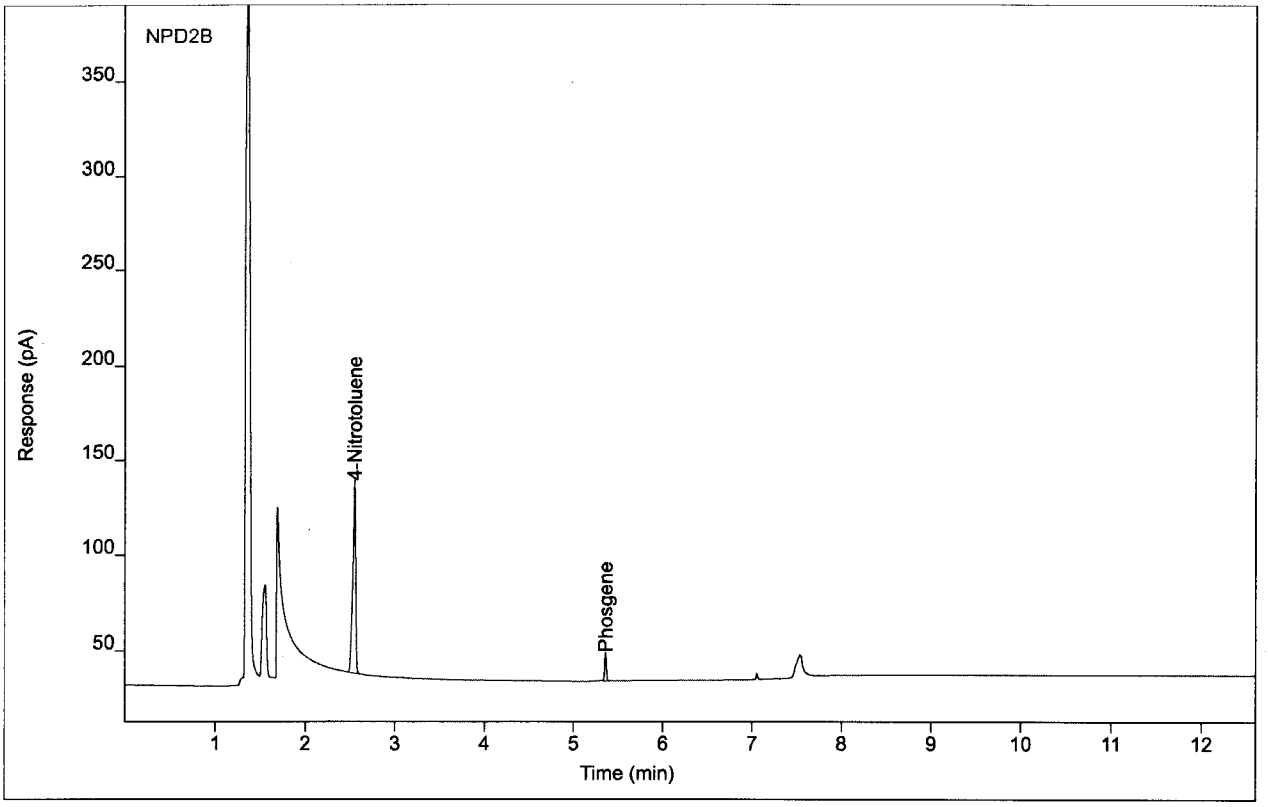
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	205.086	90.8396	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	17.8521	12.9937	5.01417	1	5.01417	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #12
Sequence Name	LOLITA0274 ver.5
Inj Data File	015B1201.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 6:53 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	Vial 15
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



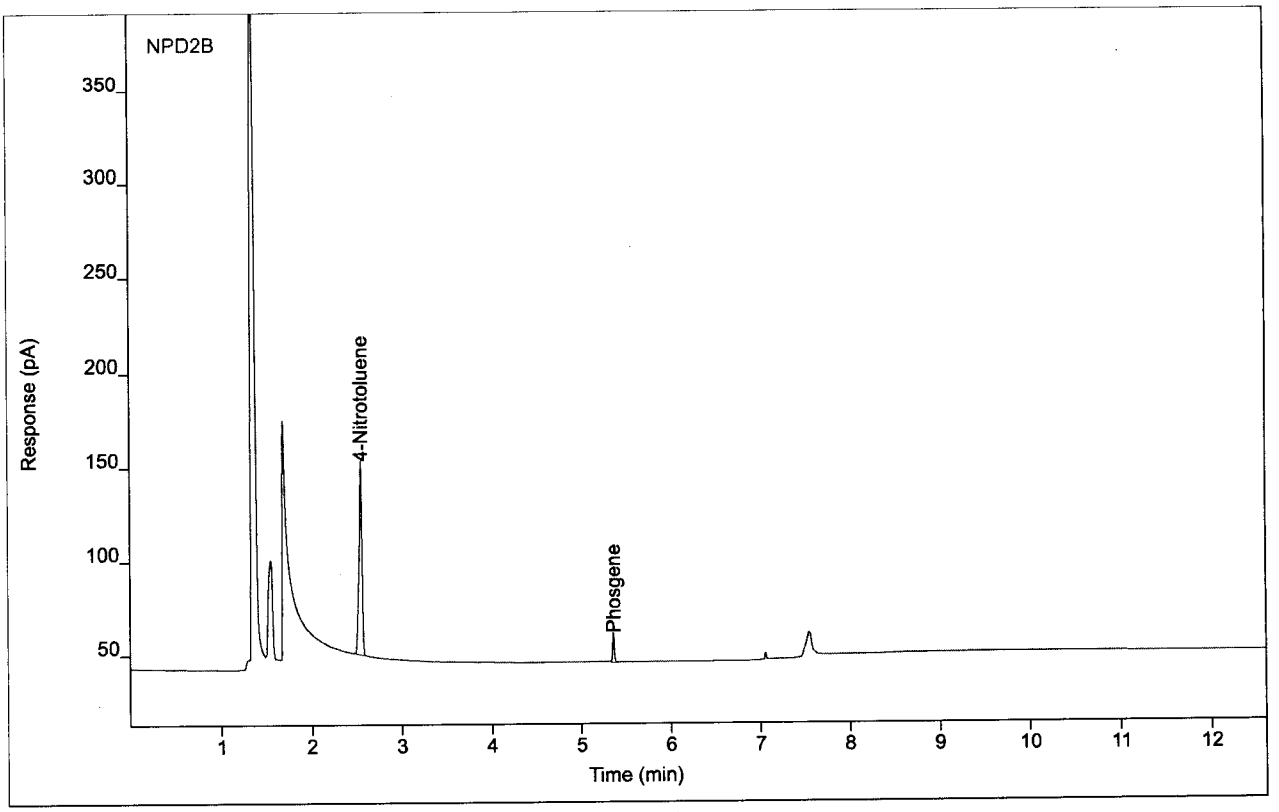
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	227.340	101.030	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	20.4200	15.3750	5.17301	1	5.17301	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #12
Sequence Name	LOLITA0274 ver.5
Inj Data File	015B2101.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 9:09 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	Vial 15
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	232.054	103.328	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	20.8486	15.7895	5.17430	1	5.17430	ug/mL

dified on: 7/30/2019 at 2:13:53 PM

==========

6890 GC METHOD

==========

EN
Initial temp: 160 'C (On)
Initial time: 2.60 min
Ramps:

#	Rate	Final temp	Final time
1	20.00	260	5.00
2	0.0(Off)		

Post temp: 50 'C
Post time: 0.00 min
Run time: 12.60 min

Maximum temp: 400 'C
Equilibration time: 0.50 min

ONT INLET (SPLIT/SPLITLESS)
Mode: Split
Initial temp: 225 'C (On)
Pressure: 1.60 psi (On)
Split ratio: 1.99:1
Split flow: 10.8 mL/min
Total flow: 24.8 mL/min
Gas saver: Off
Gas type: Hydrogen

BACK INLET (SPLIT/SPLITLESS)
Mode: Split
Initial temp: 180 'C (On)
Pressure: 26.34 psi (On)
Split ratio: 20:1
Split flow: 36.0 mL/min
Total flow: 40.5 mL/min
Gas saver: Off
Gas type: Helium

LUMN 1
Capillary Column
Model Number: Restek 10637
Stabilwax 15m x 0.53mmID x 0.5um
Max temperature: 260 'C
Nominal length: 15.0 m
Nominal diameter: 530.00 um
Nominal film thickness: 0.50 um
Mode: constant flow
Initial flow: 5.4 mL/min
Nominal init pressure: 1.60 psi
Average velocity: 56 cm/sec
Inlet: Front Inlet
Outlet: Front Detector
Outlet pressure: ambient

COLUMN 2
Capillary Column
Model Number: Restek 15023
Rtx-200 Rtx-200 30m x 0.25 x 0.25
Max temperature: 340 'C
Nominal length: 30.0 m
Nominal diameter: 250.00 um
Nominal film thickness: 0.25 um
Mode: constant flow
Initial flow: 1.8 mL/min
Nominal init pressure: 26.35 psi
Average velocity: 44 cm/sec
Inlet: Back Inlet
Outlet: Back Detector
Outlet pressure: ambient

ONT DETECTOR (FID)
Temperature: 150 'C (On)
Hydrogen flow: 40.0 mL/min (Off)
Air flow: 450.0 mL/min (Off)
Mode: Constant makeup flow
Makeup flow: 45.0 mL/min (Off)
Makeup Gas Type: Nitrogen
Flame: Off
Electrometer: On
Lit offset: 2.0

BACK DETECTOR (NPD)
Temperature: 275 'C (On)
Hydrogen flow: 2.0 mL/min (On)
Air flow: 60.0 mL/min (On)
Mode: Constant makeup flow
Makeup flow: 3.0 mL/min (On)
Makeup Gas Type: Helium
Adjust offset: 22.00
Electrometer: On
Bead: On
Equilibration time: 1.00

NAL 1
Data rate: 50 Hz
Type: front detector
Save Data: On
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off
Attenuation: 0

SIGNAL 2
Data rate: 20 Hz
Type: back detector
Save Data: On
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off
Attenuation: 0

dified on: 7/30/2019 at 2:13:53 PM

LUMN COMP 1
Derive from front detector

COLUMN COMP 2
Derive from back detector

POST RUN
Post Time: 0.00 min

ME TABLE

Time	Specifier	Parameter & Setpoint

GC Injector

Front Injector:
parameters specified

Back Injector:

Sample Washes	0	
Sample Pumps	7	
Injection Volume	1.00	microliters
Syringe Size	10.0	microliters
Nanoliter Adapter	Off	
PostInj Solvent A Washes	3	
PostInj Solvent B Washes	3	
Viscosity Delay	2	seconds
Plunger Speed	Fast	

This Is The Last Page Of This Report.

ENTHALPY

Tetra Tech, Inc.

3746 Mt. Diablo Blvd. Suite 300
Lafayette, CA 94549

Able Contracting

Richland, SC

Analytical Report
(0819-013)

OSHA Method 61

Phosgene

EPA Method TO-15

TO-15 Compound List

ENTHALPY
ANALYTICAL

Enthalpy Analytical, LLC

Phone: (919) 850 - 4392 / Fax: (919) 850 - 9012 / www.enthalpy.com
800-1 Capitola Drive Durham, NC 27713-4385

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF) and contains ??? pages.

Report Issued: xx/xx/xxxx

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Summary of Results

ENTHALPY
ANALYTICAL

Enthalpy Analytical

Job No.: 0819-013 OSHA Method 61 Analysis

Tetra Tech, Inc. Able Contracting: Richland, SC

Analyst: Daniel Clayton

Summary Table

Compound / Concentration (ug/m^3)

Sample ID	Phosgene
ACF-AS-Smoke-Night	1.02 J
ACF-AS-RES-Night	0.652 J
ACF-AS-Upwind-Night	0.501 J
ACF-AS-Smoke-Day	1.22 J
ACF-AS-RES-Day	0.277 J
ACF-AS-Upwind-Day	1.00 J

Compound / Catch Weight (ug)

Sample ID	Phosgene
ACF-AS-FB	0.0999 ND
ACF-AS-LB	2.54

Note: All the above results (except ACF-AS-LB) have been blank corrected using the Average ACF-AS-LB result.

Results

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ANALYTICAL

Enthalpy Analytical

Job No.: 0819-013 OSHA Method 61 Analysis

Tetra Tech, Inc. Able Contracting: Richland, SC

Analyst: Daniel Clayton

Sample ID	Filename	MDL	Curve Min	Curve Max	Ret Time (min)	Conc. (ug/mL)	Liquid Vol (mL)	DF	Catch Weight (ug)	LB Corr. Catch (ug)	Gas Vol (L)	Conc. (ug/m^3)	Flag
Phosgene													
ACF-AS-Smoke-Night-FH-HMP-Tube 8315500289	017B0301.D	0.0999	0.999	99.9	5.36	2.76	1.00	1	2.76	0.218	556.8	0.392	J
ACF-AS-Smoke-Night-BH-HMP-Tube 8315500290	018B0401.D	0.0999	0.999	99.9	5.36	2.89	1.00	1	2.89	0.352	556.8	0.633	J
												1.02	J
ACF-AS-RES-Night-FH-HMP-Tube 8315500291	019B0501.D	0.0999	0.999	99.9	5.36	2.80	1.00	1	2.80	0.257	623.8	0.412	J
ACF-AS-RES-Night-BH-HMP-Tube 8315500286	020B0601.D	0.0999	0.999	99.9	5.36	2.69	1.00	1	2.69	0.150	623.8	0.240	J
												0.652	J
ACF-AS-Upwind-Night-FH-HMP-Tube 8315500295	021B0701.D	0.0999	0.999	99.9	5.36	2.80	1.00	1	2.80	0.261	520.8	0.501	J
ACF-AS-Upwind-Night-BH-HMP-Tube 8315500288	023B0901.D	0.0999	0.999	99.9	5.36	2.55	1.00	1	2.55	0.0999	520.8	0.192	ND
												0.501	J
ACF-AS-Smoke-Day-FH-HMP-Tube 8315500293	024B1001.D	0.0999	0.999	99.9	5.36	3.07	1.00	1	3.07	0.527	542.4	0.972	J
ACF-AS-Smoke-Day-BH-HMP-Tube 8315500292	025B1101.D	0.0999	0.999	99.9	5.36	2.68	1.00	1	2.68	0.135	542.4	0.249	J
												1.22	J
ACF-AS-RES-Day-FH-HMP-Tube 8315500287	026B1301.D	0.0999	0.999	99.9	5.36	2.69	1.00	1	2.69	0.148	535.2	0.277	J
ACF-AS-RES-Day-BH-HMP-Tube 8315500294	027B1401.D	0.0999	0.999	99.9	5.36	2.45	1.00	1	2.45	0.0999	535.2	0.187	ND
												0.277	J

The average result for the two LB tubes has been subtracted from each sample tube in the "LB Corr. Catch (ug)" column, or replaced by the MDL if lower than the MDL.

Enthalpy Analytical

Job No.: 0819-013 OSHA Method 61 Analysis

Tetra Tech, Inc. Able Contracting: Richland, SC

Analyst: Daniel Clayton

Phosgene

Sample ID	Filename	MDL	Curve Min	Curve Max	Ret Time (min)	Conc. (ug/mL)	Liquid Vol (mL)	DF	Catch Weight (ug)	LB Corr. Catch (ug)	Gas Vol (L)	Conc. (ug/m^3)	Flag
ACF-AS-Upwind-Day-FH-HMP-Tube 8315500308	028B1501.D	0.0999	0.999	99.9	5.36	2.88	1.00	1	2.88	0.334	544.8	0.613	J
ACF-AS-Upwind-Day-BH-HMP-Tube 8315500310	029B1601.D	0.0999	0.999	99.9	5.36	2.75	1.00	1	2.75	0.211	544.8	0.387	J
												1.00	J
LD / ACF-AS-Up-Night-FH-HMP-Tube 8315500295	022B0801.D	0.0999	0.999	99.9	5.36	2.78	1.00	1	2.78	0.243	520.8	0.467	J
								Difference:	0.6		Difference:	7.0	

Sample ID	Filename	MDL	Curve Min	Curve Max	Ret Time (min)	Conc. (ug/mL)	Liquid Vol (mL)	DF	Catch Weight (ug)	LB Corr. Catch (ug)	Flag
ACF-AS-FB-HMP-Tube 8315500313	030B1701.D	0.0999	0.999	99.9	5.36	2.53	1.00	1	2.53	0.0999	ND
ACF-AS-FB-HMP-Tube 8315500306	031B1801.D	0.0999	0.999	99.9	5.36	2.52	1.00	1	2.52	0.0999	ND
									5.05	0.0999	ND
ACF-AS-LB-HMP-Tube 8315500311	032B1901.D	0.0999	0.999	99.9	5.36	2.60	1.00	1	2.60		
ACF-AS-LB-HMP-Tube 8315500307	033B2001.D	0.0999	0.999	99.9	5.36	2.49	1.00	1	2.49		
								Average Value:	2.54		
gcprep2960 #RB	016B0201.D	0.0999	0.999	99.9	NA	0.0999	1.00	1	0.0999		ND

The average result for the two LB tubes has been subtracted from each sample tube in the "LB Corr. Catch (ug)" column, or replaced by the MDL if lower than the MDL.

Sample Name	: ACF-AS-RES-24HrVOC
Sample Info	: 0819-013; Can #800; 500mL load
Data File	: X1902834.D
Dilution	: 1
Pressurization Factor	: 1.720
Acquisition Date	: 2019-08-05 15:01:45
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	1.73	0.0660	0.0602	2.98	0.114	0.104	
Freon 12 (CCl2F2)	0.493	0.0671	0.0602	2.44	0.332	0.298	
Freon 114 (C2Cl2F4)	ND	0.0689	0.0602	ND	0.481	0.421	
Chloromethane	1.71	0.0671	0.0602	3.53	0.139	0.124	
Chloroethene (Vinyl chloride)	ND	0.0692	0.0602	ND	0.177	0.154	
1,3-Butadiene	0.0883	0.0672	0.0602	0.195	0.149	0.133	
Bromomethane	ND	0.0680	0.0602	ND	0.264	0.234	
Chloroethane	ND	0.0694	0.0602	ND	0.183	0.159	
Bromoethene (Vinyl bromide)	ND	0.0686	0.0602	ND	0.300	0.263	
Freon 11 (CCl3F)	0.253	0.0714	0.0602	1.42	0.401	0.338	
Ethanol	1.39	0.172	0.172	2.62	0.324	0.324	
Acrolein	0.134	0.0683	0.0602	0.307	0.157	0.138	m
Freon 113 (C2Cl3F3)	0.0771	0.0685	0.0602	0.591	0.525	0.461	
1,1-Dichloroethene	ND	0.0689	0.0602	ND	0.273	0.239	
Acetone	2.89	0.0691	0.0602	6.87	0.164	0.143	
Carbon disulfide	0.144	0.0691	0.0602	0.448	0.215	0.187	
Isopropyl alcohol	0.176	0.0691	0.0602	0.432	0.170	0.148	
Allyl chloride (3-chloropropene)	ND	0.0692	0.0602	ND	0.217	0.188	
Acetonitrile	0.695	0.0691	0.0602	1.17	0.116	0.101	
Methylene chloride	0.180	0.0697	0.0602	0.625	0.242	0.209	
trans-1,2-Dichloroethene	ND	0.0701	0.0602	ND	0.278	0.239	
Methyl tert-butyl ether	ND	0.0705	0.0602	ND	0.254	0.217	
Acrylonitrile	ND	0.0703	0.0602	ND	0.153	0.131	
Hexane	0.241	0.0696	0.0602	0.849	0.245	0.212	
1,1-Dichloroethane	ND	0.0678	0.0602	ND	0.274	0.244	
Vinyl acetate	ND	0.0700	0.0602	ND	0.246	0.212	
cis-1,2-Dichloroethene	ND	0.0693	0.0602	ND	0.275	0.239	
Methyl ethyl ketone (2-Butanone)	0.223	0.0699	0.0602	0.657	0.206	0.178	
Ethyl acetate	0.199	0.0693	0.0602	0.719	0.250	0.217	
Chloroform	ND	0.0696	0.0602	ND	0.340	0.294	
Tetrahydrofuran	0.0754	0.0694	0.0602	0.222	0.205	0.178	
1,1,1-Trichloroethane	ND	0.0685	0.0602	ND	0.374	0.328	
Cyclohexane	ND	0.0700	0.0602	ND	0.241	0.207	
Carbon tetrachloride	0.0832	0.0696	0.0602	0.523	0.438	0.379	m
Benzene	0.626	0.0687	0.0602	2.00	0.219	0.192	
2,2,4-trimethylpentane	0.0689	0.0705	0.0602	0.322	0.329	0.281	J
1,2-Dichloroethane	ND	0.0703	0.0602	ND	0.285	0.244	
Heptane	0.117	0.0691	0.0602	0.478	0.283	0.247	
Trichloroethene	ND	0.0691	0.0602	ND	0.371	0.323	
1,2-Dichloropropane	ND	0.0703	0.0602	ND	0.325	0.278	
Methyl methacrylate	ND	0.0713	0.0602	ND	0.292	0.247	
1,4-Dioxane	ND	0.0696	0.0602	ND	0.251	0.217	
Bromodichloromethane	ND	0.0683	0.0602	ND	0.458	0.403	
cis-1,3-Dichloropropene	ND	0.0676	0.0602	ND	0.307	0.273	
Methyl isobutyl ketone	ND	0.0709	0.0602	ND	0.291	0.247	
Toluene	0.599	0.0699	0.0602	2.26	0.263	0.227	
trans-1,3-Dichloropropene	ND	0.0699	0.0602	ND	0.317	0.273	
1,1,2-Trichloroethane	ND	0.0689	0.0602	ND	0.376	0.328	
Tetrachloroethene	ND	0.0694	0.0602	ND	0.471	0.408	
2-Hexanone (Methyl butyl ketone)	ND	0.0699	0.0602	ND	0.286	0.247	
Dibromochloromethane	ND	0.0679	0.0602	ND	0.578	0.513	
1,2-Dibromoethane	ND	0.0697	0.0602	ND	0.535	0.463	
Chlorobenzene	ND	0.0708	0.0602	ND	0.326	0.277	
Ethylbenzene	0.306	0.0677	0.0602	1.33	0.294	0.261	
1,1,1,2-Tetrachloroethane	ND	0.0688	0.0602	ND	0.472	0.413	
m-/p-Xylenes	0.155	0.0697	0.0602	0.673	0.303	0.261	

Sample Name	: ACF-AS-RES-24HrVOC
Sample Info	: 0819-013; Can #800; 500mL load
Data File	: X1902834.D
Dilution	: 1
Pressurization Factor	: 1.720
Acquisition Date	: 2019-08-05 15:01:45
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	0.0654	0.0687	0.0602	0.284	0.298	0.261	J
Styrene	0.198	0.0670	0.0602	0.842	0.285	0.256	
Bromoform	ND	0.0691	0.0602	ND	0.714	0.622	
1,1,2,2-Tetrachloroethane	ND	0.0688	0.0602	ND	0.472	0.413	
4-Ethyltoluene	ND	0.0693	0.0602	ND	0.341	0.296	
2-Chlorotoluene	ND	0.0693	0.0602	ND	0.359	0.312	
1,3,5-Trimethylbenzene	ND	0.0690	0.0602	ND	0.339	0.296	
1,2,4-Trimethylbenzene	ND	0.0684	0.0602	ND	0.336	0.296	
1,3-Dichlorobenzene	ND	0.0694	0.0602	ND	0.417	0.362	
1,4-Dichlorobenzene	ND	0.0690	0.0602	ND	0.415	0.362	
Benzyl chloride	ND	0.0687	0.0602	ND	0.355	0.312	
1,2-Dichlorobenzene	ND	0.0701	0.0602	ND	0.422	0.362	
1,2,4-Trichlorobenzene	ND	0.0698	0.0602	ND	0.518	0.447	
Hexachlorobutadiene	ND	0.0689	0.0602	ND	0.735	0.642	
Naphthalene	ND	0.0712	0.0602	ND	0.373	0.316	
1-Bromopropane	ND	0.0680	0.0602	ND	0.342	0.303	
1-Octene	ND	0.0673	0.0602	ND	0.309	0.276	
n-Octane	ND	0.0689	0.0602	ND	0.322	0.281	
Isopropylbenzene	0.0948	0.0698	0.0602	0.466	0.343	0.296	
n-Propylbenzene	ND	0.0700	0.0602	ND	0.344	0.296	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	907,374	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,414,283	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,667,742	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name	: ACF-AS-SMOKE-24HrVOC
Sample Info	: 0819-013; Can #820; 500mL load
Data File	: X1902835.D
Dilution	: 1
Pressurization Factor	: 1.727
Acquisition Date	: 2019-08-05 15:57:48
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	12.5	0.0662	0.0604	21.5	0.114	0.104	
Freon 12 (CCl2F2)	0.492	0.0674	0.0604	2.43	0.333	0.299	
Freon 114 (C2Cl2F4)	ND	0.0691	0.0604	ND	0.483	0.423	
Chloromethane	6.67	0.0674	0.0604	13.8	0.139	0.125	
Chloroethene (Vinyl chloride)	ND	0.0695	0.0604	ND	0.178	0.155	
1,3-Butadiene	1.06	0.0675	0.0604	2.35	0.149	0.134	
Bromomethane	0.118	0.0683	0.0604	0.460	0.265	0.235	
Chloroethane	0.102	0.0696	0.0604	0.268	0.184	0.159	
Bromoethene (Vinyl bromide)	ND	0.0689	0.0604	ND	0.301	0.264	
Freon 11 (CCl3F)	0.251	0.0717	0.0604	1.41	0.403	0.340	
Ethanol	1.73	0.173	0.173	3.26	0.325	0.325	
Acrolein	1.12	0.0686	0.0604	2.56	0.157	0.139	m
Freon 113 (C2Cl3F3)	0.0800	0.0687	0.0604	0.613	0.527	0.463	
1,1-Dichloroethene	ND	0.0691	0.0604	ND	0.274	0.240	
Acetone	6.19	0.0694	0.0604	14.7	0.165	0.144	
Carbon disulfide	0.236	0.0694	0.0604	0.736	0.216	0.188	
Isopropyl alcohol	0.167	0.0694	0.0604	0.410	0.170	0.149	
Allyl chloride (3-chloropropene)	ND	0.0695	0.0604	ND	0.218	0.189	
Acetonitrile	2.17	0.0694	0.0604	3.64	0.117	0.101	
Methylene chloride	0.190	0.0699	0.0604	0.660	0.243	0.210	
trans-1,2-Dichloroethene	ND	0.0704	0.0604	ND	0.279	0.240	
Methyl tert-butyl ether	0.0984	0.0707	0.0604	0.355	0.255	0.218	m
Acrylonitrile	0.436	0.0706	0.0604	0.946	0.153	0.131	
Hexane	0.486	0.0698	0.0604	1.71	0.246	0.213	
1,1-Dichloroethane	ND	0.0680	0.0604	ND	0.275	0.245	
Vinyl acetate	ND	0.0703	0.0604	ND	0.247	0.213	
cis-1,2-Dichloroethene	ND	0.0696	0.0604	ND	0.276	0.240	
Methyl ethyl ketone (2-Butanone)	0.912	0.0702	0.0604	2.69	0.207	0.178	
Ethyl acetate	ND	0.0696	0.0604	ND	0.251	0.218	
Chloroform	ND	0.0698	0.0604	ND	0.341	0.295	
Tetrahydrofuran	0.446	0.0697	0.0604	1.32	0.206	0.178	
1,1,1-Trichloroethane	ND	0.0687	0.0604	ND	0.375	0.330	
Cyclohexane	0.0928	0.0703	0.0604	0.319	0.242	0.208	
Carbon tetrachloride	0.0789	0.0699	0.0604	0.497	0.440	0.380	
Benzene	8.19	0.0689	0.0604	26.2	0.220	0.193	
2,2,4-trimethylpentane	ND	0.0708	0.0604	ND	0.331	0.282	
1,2-Dichloroethane	ND	0.0706	0.0604	ND	0.286	0.245	
Heptane	0.368	0.0694	0.0604	1.51	0.285	0.248	
Trichloroethene	ND	0.0694	0.0604	ND	0.373	0.325	
1,2-Dichloropropane	ND	0.0706	0.0604	ND	0.326	0.279	
Methyl methacrylate	0.342	0.0716	0.0604	1.40	0.293	0.248	
1,4-Dioxane	0.162	0.0698	0.0604	0.584	0.252	0.218	
Bromodichloromethane	ND	0.0686	0.0604	ND	0.460	0.405	
cis-1,3-Dichloropropene	ND	0.0679	0.0604	ND	0.308	0.274	
Methyl isobutyl ketone	ND	0.0712	0.0604	ND	0.292	0.248	
Toluene	3.12	0.0702	0.0604	11.8	0.264	0.228	
trans-1,3-Dichloropropene	ND	0.0702	0.0604	ND	0.319	0.274	
1,1,2-Trichloroethane	ND	0.0692	0.0604	ND	0.378	0.330	
Tetrachloroethene	ND	0.0697	0.0604	ND	0.473	0.410	
2-Hexanone (Methyl butyl ketone)	0.0826	0.0702	0.0604	0.338	0.288	0.248	
Dibromochloromethane	ND	0.0682	0.0604	ND	0.581	0.515	
1,2-Dibromoethane	ND	0.0700	0.0604	ND	0.538	0.464	
Chlorobenzene	0.163	0.0711	0.0604	0.748	0.327	0.278	
Ethylbenzene	1.84	0.0680	0.0604	8.00	0.295	0.262	
1,1,1,2-Tetrachloroethane	ND	0.0691	0.0604	ND	0.474	0.415	
m-/p-Xylenes	0.477	0.0700	0.0604	2.07	0.304	0.262	

Sample Name	: ACF-AS-SMOKE-24HrVOC
Sample Info	: 0819-013; Can #820; 500mL load
Data File	: X1902835.D
Dilution	: 1
Pressurization Factor	: 1.727
Acquisition Date	: 2019-08-05 15:57:48
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	0.226	0.0690	0.0604	0.980	0.300	0.262	
Styrene	4.97	0.0673	0.0604	21.2	0.287	0.257	
Bromoform	ND	0.0694	0.0604	ND	0.717	0.625	
1,1,2,2-Tetrachloroethane	ND	0.0691	0.0604	ND	0.474	0.415	
4-Ethyltoluene	ND	0.0696	0.0604	ND	0.342	0.297	
2-Chlorotoluene	ND	0.0696	0.0604	ND	0.360	0.313	
1,3,5-Trimethylbenzene	0.109	0.0693	0.0604	0.535	0.341	0.297	
1,2,4-Trimethylbenzene	0.109	0.0687	0.0604	0.534	0.338	0.297	m
1,3-Dichlorobenzene	ND	0.0697	0.0604	ND	0.419	0.363	
1,4-Dichlorobenzene	ND	0.0693	0.0604	ND	0.417	0.363	
Benzyl chloride	ND	0.0689	0.0604	ND	0.357	0.313	
1,2-Dichlorobenzene	ND	0.0704	0.0604	ND	0.423	0.363	
1,2,4-Trichlorobenzene	ND	0.0701	0.0604	ND	0.520	0.449	
Hexachlorobutadiene	ND	0.0692	0.0604	ND	0.738	0.645	
Naphthalene	0.194	0.0715	0.0604	1.02	0.375	0.317	
1-Bromopropane	ND	0.0683	0.0604	ND	0.343	0.304	
1-Octene	ND	0.0676	0.0604	ND	0.310	0.277	
n-Octane	0.205	0.0692	0.0604	0.957	0.323	0.282	m
Isopropylbenzene	0.391	0.0701	0.0604	1.92	0.345	0.297	
n-Propylbenzene	0.0923	0.0703	0.0604	0.453	0.345	0.297	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	910,652	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,422,280	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,740,100	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-AS-UPWIND-24HrVOC
Sample Info : 0819-013; Can #796; 500mL load
Data File : X1902836.D
Dilution : 1
Pressurization Factor : 1.746
Acquisition Date : 2019-08-05 16:53:54
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	0.368	0.0670	0.0611	0.633	0.115	0.105	
Freon 12 (CCl2F2)	0.479	0.0682	0.0611	2.37	0.337	0.302	
Freon 114 (C2Cl2F4)	ND	0.0699	0.0611	ND	0.489	0.427	
Chloromethane	1.01	0.0681	0.0611	2.09	0.141	0.126	
Chloroethene (Vinyl chloride)	ND	0.0703	0.0611	ND	0.180	0.156	
1,3-Butadiene	ND	0.0682	0.0611	ND	0.151	0.135	
Bromomethane	ND	0.0691	0.0611	ND	0.268	0.237	
Chloroethane	ND	0.0704	0.0611	ND	0.186	0.161	
Bromoethene (Vinyl bromide)	ND	0.0696	0.0611	ND	0.305	0.267	
Freon 11 (CCl3F)	0.247	0.0725	0.0611	1.39	0.407	0.343	
Ethanol	0.643	0.175	0.175	1.21	0.329	0.329	
Acrolein	0.119	0.0694	0.0611	0.273	0.159	0.140	m
Freon 113 (C2Cl3F3)	0.0762	0.0695	0.0611	0.584	0.533	0.468	
1,1-Dichloroethene	ND	0.0699	0.0611	ND	0.277	0.242	
Acetone	2.30	0.0702	0.0611	5.46	0.167	0.145	
Carbon disulfide	0.0843	0.0701	0.0611	0.262	0.218	0.190	
Isopropyl alcohol	0.124	0.0701	0.0611	0.305	0.172	0.150	
Allyl chloride (3-chloropropene)	ND	0.0703	0.0611	ND	0.220	0.191	
Acetonitrile	0.532	0.0702	0.0611	0.893	0.118	0.103	
Methylene chloride	0.159	0.0707	0.0611	0.551	0.246	0.212	
trans-1,2-Dichloroethene	ND	0.0712	0.0611	ND	0.282	0.242	
Methyl tert-butyl ether	ND	0.0715	0.0611	ND	0.258	0.220	
Acrylonitrile	ND	0.0714	0.0611	ND	0.155	0.133	
Hexane	0.0793	0.0706	0.0611	0.280	0.249	0.215	
1,1-Dichloroethane	ND	0.0688	0.0611	ND	0.278	0.247	
Vinyl acetate	ND	0.0710	0.0611	ND	0.250	0.215	
cis-1,2-Dichloroethene	ND	0.0703	0.0611	ND	0.279	0.242	
Methyl ethyl ketone (2-Butanone)	0.142	0.0710	0.0611	0.420	0.209	0.180	
Ethyl acetate	ND	0.0703	0.0611	ND	0.253	0.220	
Chloroform	ND	0.0706	0.0611	ND	0.345	0.298	
Tetrahydrofuran	ND	0.0705	0.0611	ND	0.208	0.180	
1,1,1-Trichloroethane	ND	0.0695	0.0611	ND	0.379	0.333	
Cyclohexane	ND	0.0710	0.0611	ND	0.244	0.210	
Carbon tetrachloride	0.0780	0.0707	0.0611	0.491	0.445	0.384	
Benzene	ND	0.0697	0.0611	ND	0.223	0.195	
2,2,4-trimethylpentane	ND	0.0716	0.0611	ND	0.334	0.286	
1,2-Dichloroethane	ND	0.0714	0.0611	ND	0.289	0.247	
Heptane	ND	0.0702	0.0611	ND	0.288	0.250	
Trichloroethene	ND	0.0701	0.0611	ND	0.377	0.328	
1,2-Dichloropropane	ND	0.0714	0.0611	ND	0.330	0.282	
Methyl methacrylate	ND	0.0724	0.0611	ND	0.297	0.250	
1,4-Dioxane	ND	0.0706	0.0611	ND	0.254	0.220	
Bromodichloromethane	ND	0.0694	0.0611	ND	0.465	0.409	
cis-1,3-Dichloropropene	ND	0.0687	0.0611	ND	0.312	0.277	
Methyl isobutyl ketone	ND	0.0720	0.0611	ND	0.295	0.250	
Toluene	0.174	0.0710	0.0611	0.657	0.267	0.230	
trans-1,3-Dichloropropene	ND	0.0710	0.0611	ND	0.322	0.277	
1,1,2-Trichloroethane	ND	0.0700	0.0611	ND	0.382	0.333	
Tetrachloroethene	ND	0.0705	0.0611	ND	0.478	0.414	
2-Hexanone (Methyl butyl ketone)	ND	0.0710	0.0611	ND	0.291	0.250	
Dibromochloromethane	ND	0.0689	0.0611	ND	0.587	0.521	
1,2-Dibromoethane	ND	0.0707	0.0611	ND	0.544	0.470	
Chlorobenzene	ND	0.0719	0.0611	ND	0.331	0.281	
Ethylbenzene	ND	0.0687	0.0611	ND	0.298	0.265	
1,1,1,2-Tetrachloroethane	ND	0.0698	0.0611	ND	0.479	0.420	
m-/p-Xylenes	ND	0.0707	0.0611	ND	0.307	0.265	

Sample Name	: ACF-AS-UPWIND-24HrVOC
Sample Info	: 0819-013; Can #796; 500mL load
Data File	: X1902836.D
Dilution	: 1
Pressurization Factor	: 1.746
Acquisition Date	: 2019-08-05 16:53:54
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	ND	0.0698	0.0611	ND	0.303	0.265	
Styrene	ND	0.0680	0.0611	ND	0.290	0.260	
Bromoform	ND	0.0701	0.0611	ND	0.725	0.632	
1,1,2,2-Tetrachloroethane	ND	0.0698	0.0611	ND	0.479	0.420	
4-Ethyltoluene	ND	0.0703	0.0611	ND	0.346	0.300	
2-Chlorotoluene	ND	0.0703	0.0611	ND	0.364	0.316	
1,3,5-Trimethylbenzene	ND	0.0700	0.0611	ND	0.344	0.300	
1,2,4-Trimethylbenzene	ND	0.0694	0.0611	ND	0.341	0.300	
1,3-Dichlorobenzene	ND	0.0705	0.0611	ND	0.424	0.367	
1,4-Dichlorobenzene	ND	0.0700	0.0611	ND	0.421	0.367	
Benzyl chloride	ND	0.0697	0.0611	ND	0.361	0.316	
1,2-Dichlorobenzene	ND	0.0712	0.0611	ND	0.428	0.367	
1,2,4-Trichlorobenzene	ND	0.0709	0.0611	ND	0.526	0.454	
Hexachlorobutadiene	ND	0.0700	0.0611	ND	0.746	0.652	
Naphthalene	ND	0.0723	0.0611	ND	0.379	0.320	
1-Bromopropane	ND	0.0690	0.0611	ND	0.347	0.307	
1-Octene	ND	0.0683	0.0611	ND	0.314	0.281	
n-Octane	ND	0.0700	0.0611	ND	0.327	0.286	
Isopropylbenzene	0.0723	0.0709	0.0611	0.355	0.348	0.300	
n-Propylbenzene	ND	0.0710	0.0611	ND	0.349	0.300	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	946,497	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,533,940	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,757,266	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name : ACF-AS-BLANK
Sample Info : 0819-013; Can #805; 500mL load
Data File : X1902833.D
Dilution : 1
Pressurization Factor : 1.000
Acquisition Date : 2019-08-05 14:05:43
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	0.0438	0.0384	0.0350	0.0753	0.0660	0.0602	m
Freon 12 (CCl2F2)	ND	0.0390	0.0350	ND	0.193	0.173	
Freon 114 (C2Cl2F4)	ND	0.0400	0.0350	ND	0.280	0.245	
Chloromethane	ND	0.0390	0.0350	ND	0.0805	0.0723	
Chloroethene (Vinyl chloride)	ND	0.0402	0.0350	ND	0.103	0.0895	
1,3-Butadiene	ND	0.0391	0.0350	ND	0.0865	0.0774	
Bromomethane	ND	0.0396	0.0350	ND	0.154	0.136	
Chloroethane	ND	0.0403	0.0350	ND	0.106	0.0924	
Bromoethene (Vinyl bromide)	ND	0.0399	0.0350	ND	0.174	0.153	
Freon 11 (CCl3F)	ND	0.0415	0.0350	ND	0.233	0.197	
Ethanol	0.121	0.100	0.100	0.227	0.188	0.188	
Acrolein	ND	0.0397	0.0350	ND	0.0911	0.0803	
Freon 113 (C2Cl3F3)	ND	0.0398	0.0350	ND	0.305	0.268	
1,1-Dichloroethene	ND	0.0400	0.0350	ND	0.159	0.139	
Acetone	0.0812	0.0402	0.0350	0.193	0.0955	0.0831	
Carbon disulfide	ND	0.0402	0.0350	ND	0.125	0.109	
Isopropyl alcohol	ND	0.0402	0.0350	ND	0.0987	0.0860	
Allyl chloride (3-chloropropene)	ND	0.0402	0.0350	ND	0.126	0.110	
Acetonitrile	0.0386	0.0402	0.0350	0.0649	0.0675	0.0588	J
Methylene chloride	0.0507	0.0405	0.0350	0.176	0.141	0.122	
trans-1,2-Dichloroethene	ND	0.0408	0.0350	ND	0.162	0.139	
Methyl tert-butyl ether	ND	0.0410	0.0350	ND	0.148	0.126	
Acrylonitrile	ND	0.0409	0.0350	ND	0.0887	0.0760	
Hexane	ND	0.0404	0.0350	ND	0.143	0.123	
1,1-Dichloroethane	ND	0.0394	0.0350	ND	0.159	0.142	
Vinyl acetate	ND	0.0407	0.0350	ND	0.143	0.123	
cis-1,2-Dichloroethene	ND	0.0403	0.0350	ND	0.160	0.139	
Methyl ethyl ketone (2-Butanone)	ND	0.0406	0.0350	ND	0.120	0.103	
Ethyl acetate	ND	0.0403	0.0350	ND	0.145	0.126	
Chloroform	ND	0.0404	0.0350	ND	0.197	0.171	
Tetrahydrofuran	ND	0.0404	0.0350	ND	0.119	0.103	
1,1,1-Trichloroethane	ND	0.0398	0.0350	ND	0.217	0.191	
Cyclohexane	ND	0.0407	0.0350	ND	0.140	0.120	
Carbon tetrachloride	ND	0.0405	0.0350	ND	0.255	0.220	
Benzene	ND	0.0399	0.0350	ND	0.128	0.112	
2,2,4-trimethylpentane	ND	0.0410	0.0350	ND	0.192	0.164	
1,2-Dichloroethane	ND	0.0409	0.0350	ND	0.165	0.142	
Heptane	ND	0.0402	0.0350	ND	0.165	0.143	
Trichloroethene	ND	0.0402	0.0350	ND	0.216	0.188	
1,2-Dichloropropane	ND	0.0409	0.0350	ND	0.189	0.162	
Methyl methacrylate	ND	0.0415	0.0350	ND	0.170	0.143	
1,4-Dioxane	ND	0.0404	0.0350	ND	0.146	0.126	
Bromodichloromethane	ND	0.0397	0.0350	ND	0.266	0.235	
cis-1,3-Dichloropropene	ND	0.0393	0.0350	ND	0.178	0.159	
Methyl isobutyl ketone	ND	0.0412	0.0350	ND	0.169	0.143	
Toluene	ND	0.0406	0.0350	ND	0.153	0.132	
trans-1,3-Dichloropropene	ND	0.0406	0.0350	ND	0.184	0.159	
1,1,2-Trichloroethane	ND	0.0401	0.0350	ND	0.219	0.191	
Tetrachloroethene	ND	0.0404	0.0350	ND	0.274	0.237	
2-Hexanone (Methyl butyl ketone)	ND	0.0406	0.0350	ND	0.166	0.143	
Dibromochloromethane	ND	0.0395	0.0350	ND	0.336	0.298	
1,2-Dibromoethane	ND	0.0405	0.0350	ND	0.311	0.269	
Chlorobenzene	ND	0.0412	0.0350	ND	0.189	0.161	
Ethylbenzene	ND	0.0394	0.0350	ND	0.171	0.152	
1,1,1,2-Tetrachloroethane	ND	0.0400	0.0350	ND	0.275	0.240	
m-/p-Xylenes	ND	0.0405	0.0350	ND	0.176	0.152	

Sample Name	: ACF-AS-BLANK
Sample Info	: 0819-013; Can #805; 500mL load
Data File	: X1902833.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 14:05:43
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	ND	0.0400	0.0350	ND	0.174	0.152	
Styrene	ND	0.0390	0.0350	ND	0.166	0.149	
Bromoform	ND	0.0402	0.0350	ND	0.415	0.362	
1,1,2,2-Tetrachloroethane	ND	0.0400	0.0350	ND	0.275	0.240	
4-Ethyltoluene	ND	0.0403	0.0350	ND	0.198	0.172	
2-Chlorotoluene	ND	0.0403	0.0350	ND	0.209	0.181	
1,3,5-Trimethylbenzene	ND	0.0401	0.0350	ND	0.197	0.172	
1,2,4-Trimethylbenzene	ND	0.0398	0.0350	ND	0.195	0.172	
1,3-Dichlorobenzene	ND	0.0404	0.0350	ND	0.243	0.210	
1,4-Dichlorobenzene	ND	0.0401	0.0350	ND	0.241	0.210	
Benzyl chloride	ND	0.0399	0.0350	ND	0.207	0.181	
1,2-Dichlorobenzene	ND	0.0408	0.0350	ND	0.245	0.210	
1,2,4-Trichlorobenzene	ND	0.0406	0.0350	ND	0.301	0.260	
Hexachlorobutadiene	ND	0.0401	0.0350	ND	0.427	0.373	
Naphthalene	ND	0.0414	0.0350	ND	0.217	0.183	
1-Bromopropane	ND	0.0395	0.0350	ND	0.199	0.176	
1-Octene	ND	0.0391	0.0350	ND	0.180	0.161	
n-Octane	ND	0.0401	0.0350	ND	0.187	0.164	
Isopropylbenzene	ND	0.0406	0.0350	ND	0.200	0.172	
n-Propylbenzene	ND	0.0407	0.0350	ND	0.200	0.172	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	901,599	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,376,353	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,594,468	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Lab QC

ENTHALPY
ANALYTICAL

Sample Name : ACF-AS-UPWIND-24HrVOC LD
Sample Info : 0819-013; Can #796; 500mL load
Data File : X1902837.D
Dilution : 1
Pressurization Factor : 1.746
Acquisition Date : 2019-08-05 17:50:02
Instrument Method : TO15-SCN.M
Matrix : AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	% Diff	Flag *
Propylene	0.383	0.0670	0.0611	0.660	0.115	0.105	4.1	m
Freon 12 (CCl2F2)	0.484	0.0682	0.0611	2.39	0.337	0.302	0.9	
Freon 114 (C2Cl2F4)	ND	0.0699	0.0611	ND	0.489	0.427		
Chloromethane	1.01	0.0681	0.0611	2.09	0.141	0.126	0.2	
Chloroethene (Vinyl chloride)	ND	0.0703	0.0611	ND	0.180	0.156		
1,3-Butadiene	ND	0.0682	0.0611	ND	0.151	0.135		
Bromomethane	ND	0.0691	0.0611	ND	0.268	0.237		
Chloroethane	ND	0.0704	0.0611	ND	0.186	0.161		
Bromoethene (Vinyl bromide)	ND	0.0696	0.0611	ND	0.305	0.267		
Freon 11 (CCl3F)	0.248	0.0725	0.0611	1.39	0.407	0.343	0.6	
Ethanol	0.639	0.175	0.175	1.20	0.329	0.329	0.7	
Acrolein	0.123	0.0694	0.0611	0.282	0.159	0.140	3.1	m
Freon 113 (C2Cl3F3)	0.0800	0.0695	0.0611	0.613	0.533	0.468	5.0	
1,1-Dichloroethene	ND	0.0699	0.0611	ND	0.277	0.242		
Acetone	2.35	0.0702	0.0611	5.58	0.167	0.145	2.3	
Carbon disulfide	0.0809	0.0701	0.0611	0.252	0.218	0.190	4.1	
Isopropyl alcohol	0.138	0.0701	0.0611	0.339	0.172	0.150	10.6	
Allyl chloride (3-chloropropene)	ND	0.0703	0.0611	ND	0.220	0.191		
Acetonitrile	0.534	0.0702	0.0611	0.896	0.118	0.103	0.3	
Methylene chloride	0.175	0.0707	0.0611	0.608	0.246	0.212	9.8	
trans-1,2-Dichloroethene	ND	0.0712	0.0611	ND	0.282	0.242		
Methyl tert-butyl ether	ND	0.0715	0.0611	ND	0.258	0.220		
Acrylonitrile	ND	0.0714	0.0611	ND	0.155	0.133		
Hexane	0.0900	0.0706	0.0611	0.317	0.249	0.215	12.7	m
1,1-Dichloroethane	ND	0.0688	0.0611	ND	0.278	0.247		
Vinyl acetate	ND	0.0710	0.0611	ND	0.250	0.215		
cis-1,2-Dichloroethene	ND	0.0703	0.0611	ND	0.279	0.242		
Methyl ethyl ketone (2-Butanone)	0.157	0.0710	0.0611	0.464	0.209	0.180	10.0	m
Ethyl acetate	ND	0.0703	0.0611	ND	0.253	0.220		
Chloroform	ND	0.0706	0.0611	ND	0.345	0.298		
Tetrahydrofuran	ND	0.0705	0.0611	ND	0.208	0.180		
1,1,1-Trichloroethane	ND	0.0695	0.0611	ND	0.379	0.333		
Cyclohexane	ND	0.0710	0.0611	ND	0.244	0.210		
Carbon tetrachloride	0.0792	0.0707	0.0611	0.499	0.445	0.384	1.6	
Benzene	0.0651	0.0697	0.0611	0.208	0.223	0.195		J
2,2,4-trimethylpentane	ND	0.0716	0.0611	ND	0.334	0.286		
1,2-Dichloroethane	ND	0.0714	0.0611	ND	0.289	0.247		
Heptane	ND	0.0702	0.0611	ND	0.288	0.250		
Trichloroethene	ND	0.0701	0.0611	ND	0.377	0.328		
1,2-Dichloropropane	ND	0.0714	0.0611	ND	0.330	0.282		
Methyl methacrylate	ND	0.0724	0.0611	ND	0.297	0.250		
1,4-Dioxane	ND	0.0706	0.0611	ND	0.254	0.220		
Bromodichloromethane	ND	0.0694	0.0611	ND	0.465	0.409		
cis-1,3-Dichloropropene	ND	0.0687	0.0611	ND	0.312	0.277		
Methyl isobutyl ketone	ND	0.0720	0.0611	ND	0.295	0.250		
Toluene	0.175	0.0710	0.0611	0.658	0.267	0.230	0.2	
trans-1,3-Dichloropropene	ND	0.0710	0.0611	ND	0.322	0.277		
1,1,2-Trichloroethane	ND	0.0700	0.0611	ND	0.382	0.333		
Tetrachloroethene	ND	0.0705	0.0611	ND	0.478	0.414		
2-Hexanone (Methyl butyl ketone)	ND	0.0710	0.0611	ND	0.291	0.250		
Dibromochloromethane	ND	0.0689	0.0611	ND	0.587	0.521		
1,2-Dibromoethane	ND	0.0707	0.0611	ND	0.544	0.470		
Chlorobenzene	ND	0.0719	0.0611	ND	0.331	0.281		
Ethylbenzene	ND	0.0687	0.0611	ND	0.298	0.265		
1,1,1,2-Tetrachloroethane	ND	0.0698	0.0611	ND	0.479	0.420		
m-/p-Xylenes	ND	0.0707	0.0611	ND	0.307	0.265		
o-Xylene	ND	0.0698	0.0611	ND	0.303	0.265		
Styrene	ND	0.0680	0.0611	ND	0.290	0.260		
Bromoform	ND	0.0701	0.0611	ND	0.725	0.632		
1,1,2,2-Tetrachloroethane	ND	0.0698	0.0611	ND	0.479	0.420		
4-Ethyltoluene	ND	0.0703	0.0611	ND	0.346	0.300		
2-Chlorotoluene	ND	0.0703	0.0611	ND	0.364	0.316		

Sample Name	: ACF-AS-UPWIND-24HrVOC LD
Sample Info	: 0819-013; Can #796; 500mL load
Data File	: X1902837.D
Dilution	: 1
Pressurization Factor	: 1.746
Acquisition Date	: 2019-08-05 17:50:02
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	% Diff	Flag *
1,3,5-Trimethylbenzene	ND	0.0700	0.0611	ND	0.344	0.300		
1,2,4-Trimethylbenzene	ND	0.0694	0.0611	ND	0.341	0.300		
1,3-Dichlorobenzene	ND	0.0705	0.0611	ND	0.424	0.367		
1,4-Dichlorobenzene	ND	0.0700	0.0611	ND	0.421	0.367		
Benzyl chloride	ND	0.0697	0.0611	ND	0.361	0.316		
1,2-Dichlorobenzene	ND	0.0712	0.0611	ND	0.428	0.367		
1,2,4-Trichlorobenzene	ND	0.0709	0.0611	ND	0.526	0.454		
Hexachlorobutadiene	ND	0.0700	0.0611	ND	0.746	0.652		
Naphthalene	ND	0.0723	0.0611	ND	0.379	0.320		
1-Bromopropane	ND	0.0690	0.0611	ND	0.347	0.307		
1-Octene	ND	0.0683	0.0611	ND	0.314	0.281		
n-Octane	ND	0.0700	0.0611	ND	0.327	0.286		
Isopropylbenzene	0.0765	0.0709	0.0611	0.376	0.348	0.300	5.7	
n-Propylbenzene	ND	0.0710	0.0611	ND	0.349	0.300		

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	928,284	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,491,156	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,724,398	17.86	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Sample Name	: Humid Blank #0702
Sample Info	: 500mL load
Data File	: X1902832.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 13:09:38
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	ND	0.0384	0.0350	ND	0.0660	0.0602	
Freon 12 (CCl2F2)	ND	0.0390	0.0350	ND	0.193	0.173	
Freon 114 (C2Cl2F4)	ND	0.0400	0.0350	ND	0.280	0.245	
Chloromethane	ND	0.0390	0.0350	ND	0.0805	0.0723	
Chloroethene (Vinyl chloride)	ND	0.0402	0.0350	ND	0.103	0.0895	
1,3-Butadiene	ND	0.0391	0.0350	ND	0.0865	0.0774	
Bromomethane	ND	0.0396	0.0350	ND	0.154	0.136	
Chloroethane	ND	0.0403	0.0350	ND	0.106	0.0924	
Bromoethene (Vinyl bromide)	ND	0.0399	0.0350	ND	0.174	0.153	
Freon 11 (CCl3F)	ND	0.0415	0.0350	ND	0.233	0.197	
Ethanol	ND	0.100	0.100	ND	0.188	0.188	
Acrolein	ND	0.0397	0.0350	ND	0.0911	0.0803	
Freon 113 (C2Cl3F3)	ND	0.0398	0.0350	ND	0.305	0.268	
1,1-Dichloroethene	ND	0.0400	0.0350	ND	0.159	0.139	
Acetone	0.0474	0.0402	0.0350	0.113	0.0955	0.0831	m
Carbon disulfide	0.0386	0.0402	0.0350	0.120	0.125	0.109	J
Isopropyl alcohol	ND	0.0402	0.0350	ND	0.0987	0.0860	
Allyl chloride (3-chloropropene)	ND	0.0402	0.0350	ND	0.126	0.110	
Acetonitrile	ND	0.0402	0.0350	ND	0.0675	0.0588	
Methylene chloride	0.0475	0.0405	0.0350	0.165	0.141	0.122	
trans-1,2-Dichloroethene	ND	0.0408	0.0350	ND	0.162	0.139	
Methyl tert-butyl ether	ND	0.0410	0.0350	ND	0.148	0.126	
Acrylonitrile	ND	0.0409	0.0350	ND	0.0887	0.0760	
Hexane	ND	0.0404	0.0350	ND	0.143	0.123	
1,1-Dichloroethane	ND	0.0394	0.0350	ND	0.159	0.142	
Vinyl acetate	ND	0.0407	0.0350	ND	0.143	0.123	
cis-1,2-Dichloroethene	ND	0.0403	0.0350	ND	0.160	0.139	
Methyl ethyl ketone (2-Butanone)	ND	0.0406	0.0350	ND	0.120	0.103	
Ethyl acetate	ND	0.0403	0.0350	ND	0.145	0.126	
Chloroform	ND	0.0404	0.0350	ND	0.197	0.171	
Tetrahydrofuran	ND	0.0404	0.0350	ND	0.119	0.103	
1,1,1-Trichloroethane	ND	0.0398	0.0350	ND	0.217	0.191	
Cyclohexane	ND	0.0407	0.0350	ND	0.140	0.120	
Carbon tetrachloride	ND	0.0405	0.0350	ND	0.255	0.220	
Benzene	ND	0.0399	0.0350	ND	0.128	0.112	
2,2,4-trimethylpentane	ND	0.0410	0.0350	ND	0.192	0.164	
1,2-Dichloroethane	ND	0.0409	0.0350	ND	0.165	0.142	
Heptane	ND	0.0402	0.0350	ND	0.165	0.143	
Trichloroethene	ND	0.0402	0.0350	ND	0.216	0.188	
1,2-Dichloropropane	ND	0.0409	0.0350	ND	0.189	0.162	
Methyl methacrylate	ND	0.0415	0.0350	ND	0.170	0.143	
1,4-Dioxane	ND	0.0404	0.0350	ND	0.146	0.126	
Bromodichloromethane	ND	0.0397	0.0350	ND	0.266	0.235	
cis-1,3-Dichloropropene	ND	0.0393	0.0350	ND	0.178	0.159	
Methyl isobutyl ketone	ND	0.0412	0.0350	ND	0.169	0.143	
Toluene	ND	0.0406	0.0350	ND	0.153	0.132	
trans-1,3-Dichloropropene	ND	0.0406	0.0350	ND	0.184	0.159	
1,1,2-Trichloroethane	ND	0.0401	0.0350	ND	0.219	0.191	
Tetrachloroethene	ND	0.0404	0.0350	ND	0.274	0.237	
2-Hexanone (Methyl butyl ketone)	ND	0.0406	0.0350	ND	0.166	0.143	
Dibromochloromethane	ND	0.0395	0.0350	ND	0.336	0.298	
1,2-Dibromoethane	ND	0.0405	0.0350	ND	0.311	0.269	
Chlorobenzene	ND	0.0412	0.0350	ND	0.189	0.161	
Ethylbenzene	ND	0.0394	0.0350	ND	0.171	0.152	
1,1,1,2-Tetrachloroethane	ND	0.0400	0.0350	ND	0.275	0.240	
m-/p-Xylenes	ND	0.0405	0.0350	ND	0.176	0.152	

Sample Name	: Humid Blank #0702
Sample Info	: 500mL load
Data File	: X1902832.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 13:09:38
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	ND	0.0400	0.0350	ND	0.174	0.152	
Styrene	ND	0.0390	0.0350	ND	0.166	0.149	
Bromoform	ND	0.0402	0.0350	ND	0.415	0.362	
1,1,2,2-Tetrachloroethane	ND	0.0400	0.0350	ND	0.275	0.240	
4-Ethyltoluene	ND	0.0403	0.0350	ND	0.198	0.172	
2-Chlorotoluene	ND	0.0403	0.0350	ND	0.209	0.181	
1,3,5-Trimethylbenzene	ND	0.0401	0.0350	ND	0.197	0.172	
1,2,4-Trimethylbenzene	ND	0.0398	0.0350	ND	0.195	0.172	
1,3-Dichlorobenzene	ND	0.0404	0.0350	ND	0.243	0.210	
1,4-Dichlorobenzene	ND	0.0401	0.0350	ND	0.241	0.210	
Benzyl chloride	ND	0.0399	0.0350	ND	0.207	0.181	
1,2-Dichlorobenzene	ND	0.0408	0.0350	ND	0.245	0.210	
1,2,4-Trichlorobenzene	ND	0.0406	0.0350	ND	0.301	0.260	
Hexachlorobutadiene	ND	0.0401	0.0350	ND	0.427	0.373	
Naphthalene	ND	0.0414	0.0350	ND	0.217	0.183	
1-Bromopropane	ND	0.0395	0.0350	ND	0.199	0.176	
1-Octene	ND	0.0391	0.0350	ND	0.180	0.161	
n-Octane	ND	0.0401	0.0350	ND	0.187	0.164	
Isopropylbenzene	ND	0.0406	0.0350	ND	0.200	0.172	
n-Propylbenzene	ND	0.0407	0.0350	ND	0.200	0.172	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	891,571	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,373,438	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,627,475	17.87	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

QC Summary Report

Enthalpy Analytical, LLC

Sample Name	: 5ppbv TO15 LCS
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902829.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 10:15:00
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Response	Concentration (PPBV)	Tag Value (PPBV)	% Recovery	Flag
Propylene	596,439	4.77	4.80	99.4	PASS
Freon 12 (CCl2F2)	1,808,992	4.30	4.88	88.1	PASS
Freon 114 (C2Cl2F4)	2,090,737	4.40	5.01	87.9	PASS
Chloromethane	704,211	4.47	4.88	91.7	PASS
Chloroethene (Vinyl chloride)	738,461	4.26	5.03	84.7	PASS
1,3-Butadiene	553,690	4.81	4.89	98.4	PASS
Bromomethane	753,271	4.39	4.95	88.7	PASS
Chloroethane	415,350	4.28	5.04	84.9	PASS
Bromoethene (Vinyl bromide)	924,820	4.92	4.99	98.7	PASS
Freon 11 (CCl3F)	2,082,745	4.79	5.19	92.2	PASS
Ethanol	323,823	4.52	5.00	90.4	PASS
Acrolein	303,176	4.24	4.97	85.3	PASS
1,1-Dichloroethene	1,195,226	4.25	5.01	84.9	PASS
Freon 113 (C2Cl3F3)	1,520,465	5.18	4.98	104.2	PASS
Acetone	1,095,115	4.41	5.03	87.7	PASS
Isopropyl alcohol	1,350,618	4.80	5.02	95.6	PASS
Carbon disulfide	2,520,055	4.34	5.02	86.4	PASS
Acetonitrile	699,095	5.02	5.03	99.9	PASS
Allyl chloride (3-chloropropene)	375,977	4.40	5.03	87.5	PASS
Methylene chloride	1,030,807	4.16	5.07	82.0	PASS
Acrylonitrile	623,450	4.57	5.11	89.4	PASS
Methyl tert-butyl ether	2,089,551	4.54	5.12	88.6	PASS
trans-1,2-Dichloroethene	1,106,701	4.28	5.10	84.1	PASS
Hexane	1,186,727	4.20	5.06	83.2	PASS
Vinyl acetate	1,995,653	5.36	5.09	105.3	PASS
1,1-Dichloroethane	1,379,829	4.17	4.93	84.7	PASS
Methyl ethyl ketone (2-Butanone)	404,768	4.46	5.08	87.7	PASS
cis-1,2-Dichloroethene	1,297,178	4.28	5.04	85.0	PASS
Ethyl acetate	264,966	4.64	5.04	92.1	PASS
1-Bromopropane	1,372,506	4.91	4.94	99.4	PASS
Tetrahydrofuran	382,728	4.52	5.05	89.5	PASS
Chloroform	1,656,473	4.46	5.06	88.2	PASS
1,1,1-Trichloroethane	1,581,890	4.31	4.98	86.6	PASS
Cyclohexane	1,223,649	4.30	5.09	84.6	PASS
Carbon tetrachloride	1,701,122	4.64	5.06	91.7	PASS
Benzene	2,407,594	4.50	4.99	90.3	PASS
1,2-Dichloroethane	971,765	4.33	5.11	84.7	PASS
2,2,4-trimethylpentane	3,779,050	4.36	5.13	85.1	PASS
Heptane	746,744	4.16	5.03	82.8	PASS
Trichloroethene	1,183,668	5.06	5.02	100.7	PASS
1,2-Dichloropropane	926,109	4.28	4.98	86.0	PASS
Methyl methacrylate	910,791	4.91	5.19	94.7	PASS

QC Summary Report

Enthalpy Analytical, LLC

Sample Name	: 5ppbv TO15 LCS
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902829.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 10:15:00
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Response	Concentration (PPBV)	Tag Value (PPBV)	% Recovery	Flag
1,4-Dioxane	576,032	4.60	5.06	91.0	PASS
Bromodichloromethane	1,728,049	4.58	4.97	92.2	PASS
cis-1,3-Dichloropropene	1,344,775	4.33	4.92	88.2	PASS
Methyl isobutyl ketone	1,939,512	5.31	5.16	103.0	PASS
Toluene	2,863,028	4.46	5.08	87.7	PASS
1-Octene	692,795	4.39	4.89	89.8	PASS
n-Octane	890,227	4.28	5.01	85.5	PASS
trans-1,3-Dichloropropene	1,307,403	4.53	5.08	89.2	PASS
1,1,2-Trichloroethane	1,041,419	4.56	5.01	91.1	PASS
Tetrachloroethene	1,604,878	5.33	5.05	105.7	PASS
2-Hexanone (Methyl butyl ketone)	1,753,708	5.36	5.08	105.4	PASS
Dibromochloromethane	2,016,646	4.97	4.94	100.8	PASS
1,2-Dibromoethane	1,741,739	5.00	5.07	98.7	PASS
Chlorobenzene	2,357,270	4.98	5.15	96.8	PASS
Ethylbenzene	3,336,233	4.23	4.92	85.9	PASS
1,1,1,2-Tetrachloroethane	1,361,747	4.90	5.00	98.1	PASS
m-/p-Xylenes	2,851,118	4.40	5.07	86.9	PASS
o-Xylene	2,770,581	4.25	5.00	85.1	PASS
Styrene	2,272,980	4.66	4.87	95.6	PASS
Bromoform	2,061,612	6.09	5.02	121.3	PASS
Isopropylbenzene	4,067,208	4.48	5.08	88.3	PASS
1,1,2,2-Tetrachloroethane	2,299,857	4.45	5.00	88.9	PASS
n-Propylbenzene	4,593,352	4.57	5.09	89.9	PASS
4-Ethyltoluene	3,842,451	4.56	5.04	90.5	PASS
2-Chlorotoluene	3,181,294	4.29	5.04	85.2	PASS
1,3,5-Trimethylbenzene	3,305,739	4.22	5.02	84.1	PASS
1,2,4-Trimethylbenzene	3,295,815	4.26	4.97	85.7	PASS
1,3-Dichlorobenzene	2,209,124	5.97	5.05	118.4	PASS
1,4-Dichlorobenzene	2,046,225	6.37	5.02	127.1	PASS
Benzyl chloride	2,448,773	5.87	4.99	117.6	PASS
1,2-Dichlorobenzene	2,292,275	5.62	5.10	110.3	PASS
1,2,4-Trichlorobenzene	878,634	6.67	5.08	131.4	FAIL
Hexachlorobutadiene	1,708,676	4.15	5.01	82.8	PASS
Naphthalene	2,940,614	5.69	5.18	109.9	PASS

Sample Name	: 5ppbv TO15 LCS
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902829.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 10:15:00
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
Propylene	4.77	0.0384	0.0350	8.21	0.0660	0.0602	
Freon 12 (CCl2F2)	4.30	0.0390	0.0350	21.3	0.193	0.173	
Freon 114 (C2Cl2F4)	4.40	0.0400	0.0350	30.8	0.280	0.245	
Chloromethane	4.47	0.0390	0.0350	9.23	0.0805	0.0723	
Chloroethene (Vinyl chloride)	4.26	0.0402	0.0350	10.9	0.103	0.0895	
1,3-Butadiene	4.81	0.0391	0.0350	10.6	0.0865	0.0774	
Bromomethane	4.39	0.0396	0.0350	17.0	0.154	0.136	
Chloroethane	4.28	0.0403	0.0350	11.3	0.106	0.0924	
Bromoethene (Vinyl bromide)	4.92	0.0399	0.0350	21.5	0.174	0.153	
Freon 11 (CCl3F)	4.79	0.0415	0.0350	26.9	0.233	0.197	
Ethanol	4.52	0.100	0.100	8.51	0.188	0.188	
Acrolein	4.24	0.0397	0.0350	9.72	0.0911	0.0803	
Freon 113 (C2Cl3F3)	5.18	0.0398	0.0350	39.7	0.305	0.268	
1,1-Dichloroethene	4.25	0.0400	0.0350	16.8	0.159	0.139	
Acetone	4.41	0.0402	0.0350	10.5	0.0955	0.0831	
Carbon disulfide	4.34	0.0402	0.0350	13.5	0.125	0.109	
Isopropyl alcohol	4.80	0.0402	0.0350	11.8	0.0987	0.0860	
Allyl chloride (3-chloropropene)	4.40	0.0402	0.0350	13.8	0.126	0.110	
Acetonitrile	5.02	0.0402	0.0350	8.43	0.0675	0.0588	
Methylene chloride	4.16	0.0405	0.0350	14.4	0.141	0.122	
trans-1,2-Dichloroethene	4.28	0.0408	0.0350	17.0	0.162	0.139	
Methyl tert-butyl ether	4.54	0.0410	0.0350	16.4	0.148	0.126	
Acrylonitrile	4.57	0.0409	0.0350	9.92	0.0887	0.0760	
Hexane	4.20	0.0404	0.0350	14.8	0.143	0.123	
1,1-Dichloroethane	4.17	0.0394	0.0350	16.9	0.159	0.142	
Vinyl acetate	5.36	0.0407	0.0350	18.9	0.143	0.123	
cis-1,2-Dichloroethene	4.28	0.0403	0.0350	17.0	0.160	0.139	
Methyl ethyl ketone (2-Butanone)	4.46	0.0406	0.0350	13.1	0.120	0.103	
Ethyl acetate	4.64	0.0403	0.0350	16.7	0.145	0.126	
Chloroform	4.46	0.0404	0.0350	21.8	0.197	0.171	
Tetrahydrofuran	4.52	0.0404	0.0350	13.3	0.119	0.103	
1,1,1-Trichloroethane	4.31	0.0398	0.0350	23.5	0.217	0.191	
Cyclohexane	4.30	0.0407	0.0350	14.8	0.140	0.120	
Carbon tetrachloride	4.64	0.0405	0.0350	29.2	0.255	0.220	
Benzene	4.50	0.0399	0.0350	14.4	0.128	0.112	
2,2,4-trimethylpentane	4.36	0.0410	0.0350	20.4	0.192	0.164	
1,2-Dichloroethane	4.33	0.0409	0.0350	17.5	0.165	0.142	
Heptane	4.16	0.0402	0.0350	17.0	0.165	0.143	
Trichloroethene	5.06	0.0402	0.0350	27.2	0.216	0.188	
1,2-Dichloropropane	4.28	0.0409	0.0350	19.8	0.189	0.162	
Methyl methacrylate	4.91	0.0415	0.0350	20.1	0.170	0.143	
1,4-Dioxane	4.60	0.0404	0.0350	16.6	0.146	0.126	
Bromodichloromethane	4.58	0.0397	0.0350	30.7	0.266	0.235	
cis-1,3-Dichloropropene	4.33	0.0393	0.0350	19.7	0.178	0.159	
Methyl isobutyl ketone	5.31	0.0412	0.0350	21.8	0.169	0.143	m
Toluene	4.46	0.0406	0.0350	16.8	0.153	0.132	
trans-1,3-Dichloropropene	4.53	0.0406	0.0350	20.6	0.184	0.159	
1,1,2-Trichloroethane	4.56	0.0401	0.0350	24.9	0.219	0.191	
Tetrachloroethene	5.33	0.0404	0.0350	36.2	0.274	0.237	
2-Hexanone (Methyl butyl ketone)	5.36	0.0406	0.0350	21.9	0.166	0.143	
Dibromochloromethane	4.97	0.0395	0.0350	42.4	0.336	0.298	
1,2-Dibromoethane	5.00	0.0405	0.0350	38.4	0.311	0.269	
Chlorobenzene	4.98	0.0412	0.0350	22.9	0.189	0.161	
Ethylbenzene	4.23	0.0394	0.0350	18.4	0.171	0.152	
1,1,1,2-Tetrachloroethane	4.90	0.0400	0.0350	33.7	0.275	0.240	
m-/p-Xylenes	4.40	0.0405	0.0350	19.1	0.176	0.152	

Sample Name	: 5ppbv TO15 LCS
Sample Info	: 125mL load; Can #0738; GCMSPrepPg770
Data File	: X1902829.D
Dilution	: 1
Pressurization Factor	: 1.000
Acquisition Date	: 2019-08-05 10:15:00
Instrument Method	: TO15-SCN.M
Matrix	: AIR

Target Compound	Concentration (PPBV)	RL (PPBV)	MDL (PPBV)	Concentration (ug/m3)	RL (ug/m3)	MDL (ug/m3)	Flag *
o-Xylene	4.25	0.0400	0.0350	18.5	0.174	0.152	
Styrene	4.66	0.0390	0.0350	19.8	0.166	0.149	
Bromoform	6.09	0.0402	0.0350	62.9	0.415	0.362	
1,1,2,2-Tetrachloroethane	4.45	0.0400	0.0350	30.5	0.275	0.240	
4-Ethyltoluene	4.56	0.0403	0.0350	22.4	0.198	0.172	
2-Chlorotoluene	4.29	0.0403	0.0350	22.2	0.209	0.181	
1,3,5-Trimethylbenzene	4.22	0.0401	0.0350	20.7	0.197	0.172	
1,2,4-Trimethylbenzene	4.26	0.0398	0.0350	20.9	0.195	0.172	
1,3-Dichlorobenzene	5.97	0.0404	0.0350	35.9	0.243	0.210	
1,4-Dichlorobenzene	6.37	0.0401	0.0350	38.3	0.241	0.210	
Benzyl chloride	5.87	0.0399	0.0350	30.4	0.207	0.181	
1,2-Dichlorobenzene	5.62	0.0408	0.0350	33.8	0.245	0.210	
1,2,4-Trichlorobenzene	6.67	0.0406	0.0350	49.5	0.301	0.260	
Hexachlorobutadiene	4.15	0.0401	0.0350	44.3	0.427	0.373	
Naphthalene	5.69	0.0414	0.0350	29.8	0.217	0.183	
1-Bromopropane	4.91	0.0395	0.0350	24.7	0.199	0.176	m
1-Octene	4.39	0.0391	0.0350	20.2	0.180	0.161	
n-Octane	4.28	0.0401	0.0350	20.0	0.187	0.164	
Isopropylbenzene	4.48	0.0406	0.0350	22.0	0.200	0.172	
n-Propylbenzene	4.57	0.0407	0.0350	22.5	0.200	0.172	

Internal Standards	Response	Retention Time (min)	Concentration (PPBV)	Flag *
Bromochloromethane (IS)	953,581	11.93	5.00	PASS
1,4-Difluorobenzene (IS)	3,660,280	13.69	5.04	PASS
Chlorobenzene-d5 (IS)	2,986,682	17.87	4.80	PASS

(ND) = Not Detected
*** (J) = Below Calibration Range, (E) = Above Calibration Range, (m) = Manual Integration**
IS Acceptance Criteria: RT +/- 20 sec, Response +/- 40%

Canister and Controller Data Sheet

Enthalpy Analytical, LLC

Client Name: Tetra Tech, Inc.
Client #: Able Contracting; Richland, SC
Enthalpy Job #: 0819-013

Canister Data

Canister ID	Sample ID	Canister Pressure Pre-Sample (mmHg)	Canister Pressure Post-Sample (mmHg)	Canister Pressure Final (mmHg)	Canister Pressurization Factor
0800	X1902083	-764	-110	359	1.720
0796	X1902073	-764	-152	302	1.746
0820	X1902100	-764	-53	462	1.727

Date Prepared: 8/2/19
Date Received: 8/5/19

Prepared By: BWR
Received By: DSM

Narrative Summary

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Enthalpy Analytical Narrative Summary

Company	Tetra Tech, Inc.
Analyst	DDC
Parameters	OSHA Method 61

Client #	Able Contracting - Richland, SC
Job #	0819-013
# Samples	6, 2 Blanks

Custody

David Myers received the samples on 8/5/19 after being relinquished by Tetra Tech, Inc. The samples were received at 0.8 °C and in good condition.

Prior to, during, and after analysis, the sample was kept under lock with access only to authorized personnel by Enthalpy Analytical, LLC.

Analysis

The samples were analyzed for phosgene using the analytical procedures in OSHA Method 61.

Each sample was collected on two SKC XAD-2 (Cat# 226-117) tubes. Each tube was desorbed whole as the front half (FH) and back half (BH). All fractions were desorbed using 1 mL of OSHA M61 Phosgene reagent solution and shaken at 450 rev/min for 60 minutes. The tubes were desorbed on 8/5/19.

The GC "Lolita" was used for this analysis.

Calibration

The calibration curve is included in the Raw Data section of this report and referenced in the Analysis Method column on the Detailed Results page.

For each calibration curve used, the first page of the curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.

Chromatographic Conditions

A copy of the acquisition method LOLITA0273_PHOSGENE.M is included near the end of this PDF report.

QC Notes

A Laboratory Duplicate (LD) was analyzed using an aliquot of sample ***ACF-AS-Upwind-Night-FH-HMP-Tube 8315500295*** and yielded a percent difference of 0.6% as measured. With the LB correction (see below) this increased to 7.0%.

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Enthalpy Analytical Narrative Summary
(continued)

QC Notes (continued)

Phosgene was not identified at concentrations greater than the detection limit in the analysis of laboratory reagent blank though phosgene was identified at levels greater than the LOQ in the analyses of the client blanks.

Per the client's request the LB has been used to blank correct all the sample results. We have averaged the results of the two LB tubes, and subtracted that catch weight value from each fractions' catch weight value (any value below the MDL was increased to the MDL).

Reporting Notes

The samples have results reported on a concentration basis (ug/m^3) per client request, using air sampling volumes the client provided on the Chain of Custody. The client's FB and AB (blanks) had no sampling volume and so are reported as catch weight (ug).

The results presented in this report are representative of the samples as provided to the laboratory.

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Enthalpy Analytical Narrative Summary

Company	Tetra Tech, Inc.
Analyst	TDD
Parameters	EPA Method TO-15

Client #	Able Contracting
Job #	0819-013
# Samples	4 Canisters

Custody

David Myers received the samples on 8/5/19 after being relinquished by Tetra Tech, Inc. The samples were received at ambient temperature and in good condition.

Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, LLC.

Analysis

The samples were analyzed for the TO-15 target compound list using the analytical procedures in EPA Method TO-15, *Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*.

Upon receipt, the canister pressures were measured and recorded. The canisters were then pressurized with UHP nitrogen and a dilution ratio was calculated for each canister. Sample ***ACF-AS-Blank*** has been assigned a dilution factor of 1. Refer to the Canister and Controller Data Sheet on page 25 of this PDF report for the can pressurization factors.

The Agilent Technologies Model 6890N, Gas Chromatograph "Xavier" (S/N US10721018) equipped with a 5975C VL Mass Selective Detector (S/N US71215962) and a Restek Rtx-624 Sil MS, 60 m x 0.32 mm x 1.8 µm capillary column (S/N 1555499) for these analyses.

Calibration

The BFB tune analyses associated with the initial and continuing calibrations met method acceptance criteria. The initial calibration ***(X051419A-TO15)*** met the 30% RSD criteria. The initial calibration verification met the 70-130% recovery criteria. The continuing calibration met the 30% difference criteria. Calibration data has not been provided in this level 2 report, however is available upon request.

Chromatographic Conditions

A copy of the acquisition method (***TO15-SCN2.M***) has not been included in this report but is available upon request.

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Enthalpy Analytical Narrative Summary
(continued)

QC Notes

All internal standard area responses and retention time criteria were met for these analyses.

The laboratory humid blank associated with the analysis of these samples did not contain any of the target analytes at a concentration greater than 3-times the MDL value.

The Laboratory Control Sample (LCS) met the 70-130% recovery criteria with an allowed exception.

The Laboratory Duplicate (LD) analyzed with this sample set met 25% difference acceptance criteria.

The samples were analyzed within the 30-day holding time required by the method.

Reporting Notes

These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.

The results presented in this report are representative of the samples as provided to the laboratory.

General Reporting Notes

The following are general reporting notes that are applicable to all Enthalpy Analytical, LLC data reports, unless specifically noted otherwise.

- Any analysis which refers to the method as ***"Type"*** represents a planned deviation from the reference method. For instance a Hydrogen Sulfide assay from a Tedlar bag would be labeled as "EPA Method 16-Type" because Tedlar bags are not mentioned as one of the collection options in EPA Method 16.

- The acronym ***MDL*** represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.

- The acronym ***LOQ*** represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.

- The acronym ***ND*** following a value indicates a non-detect or analytical result below the MDL.

- The letter ***J*** in the Qualifier or Flag column in the results indicates that the value is between the MDL and the LOQ. The laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.

- The letter ***E*** in the Qualifier or Flag column indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.

- Sample results are presented 'as measured' for single injection methodologies, or an average value if multiple injections are made. If all injections are below the MDL, the sample is considered non-detect and the ND value is presented. If one, but not all, are below the MDL, the MDL value is used for any injections that are below the MDL. For example, if the MDL is 0.500 and LOQ is 1.00, and the instrument measures 0.355, 0.620, and 0.442 - the result reported is the average of 0.500, 0.620, and 0.500 - - - i.e. 0.540 with a J flag.

- When a spike recovery (Bag Spike, Collocated Spike Train, or liquid matrix spike) is being calculated, the native (unspiked) sample result is used in the calculations, as long as the value is above the MDL. If a sample is ND, then 0 is used as the native amount (not the MDL value).

- The acronym ***DF*** represents Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to determine the final undiluted sample results.

- The addition of ***MS*** to the Sample ID represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. The MS analysis indicates what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix interferes with the analysis of the analyte(s).

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General Reporting Notes
(continued)

- The addition of ***MSD*** to the Sample ID represents a Matrix Spike Duplicate. Prepared in the same manner as a MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times.

- The addition of ***LD*** to the Sample ID represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results of the duplicate analysis are compared to the initial result. The result should have a difference value of within 10% of the initial result (if the results of the original analysis are greater than the LOQ).

- The addition of ***AD*** to the Sample ID represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.

- The Sample ID ***LCS*** represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our client projects, two spikes are retained as LCSs. The LCSs are labeled with the associated project number and kept in-house at the appropriate temperature conditions. When the project samples are received for analysis, the LCSs are analyzed to confirm that the analyte could be recovered from the media, separate from the samples which were used on the project and which may have been affected by source matrix, sample collection, and/or sample transport.

- **Significant Figures**: Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits. In the case of small numbers, generally 3 significant figures are presented, but still only 2 should be used with confidence. Many neat materials are only certified to 3 digits, and as the mathematically correct final result is always 1 digit less than all its pre-cursors - 2 significant figures are what are most defensible.

- **Manual Integration**: The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations on sample chromatograms, if provided in the report. The peak was ***not integrated*** by the software **"NI"**, the peak was ***integrated incorrectly*** by the software **"II"** or the ***wrong peak*** was integrated by the software **"WP"**. These codes will accompany the analyst's manual integration stamp placed next to the compound name on the chromatogram.

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Sample Custody

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Page 1 of 1

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Chain of Custody Record

Special Handling:

☐ Standard Turn Around Time

☑ Rush Turn Around Time – Date Needed ASAP

- All TATs Subject to Approval by Enthalpy Analytical
- All Bag/Can Samples Disposed of 1 Month from Receipt.
- All Other Samples Disposed of 4 Months from Receipt.

Sample(s) Collected by: John Snyder

Client Name: Tetra Tech

Project Manager: Jessica Vickers

Project Number:

Site Name: Able Contracting Fac

Location: Ridgeland, SC

PO#:

Telephone#:

Email: jessica.vickers@tetratech.com

For spiked or duplicate samples: please provide sample volumes for recovery calculations. For Particulates: please provide tare weights and/or condensed water volumes.

Special Instructions:

A=All [illegible] H=H2SO4 [illegible] N=NaOH [illegible] O=Other [illegible] X=XAD [illegible] C=Charcoal [illegible]

G=Grab C=Composite Q=Quality Control O=Other

Sample ID	Date	Time	Sample Volume	Type	Matrix	# of VOA Vials	# of Glass	# of Plastic	# of Bags	# of Canisters	# of Tubes	# Other	Phosgene	TO-15							Notes:
ACF-AS-SMOKE-NIGHT	8/2/19	2010	556.8	G	X						2		/								8315500289 8315500290
ACF-AS-RES-NIGHT	8/2/19	2030	623.8	G	X						2		/								8315500291 / 8315500286
ACF-AS-UPWIND-NIGHT	8/2/19	2100	520.8	G	X						2		/								8315500295 / 8315500288
ACF-AS-SMOKE-DAY	8/3/19	0835	542.4	G	X						2		/								8315500293 / 8315500292
ACF-AS-RES-DAY	8/3/19	0825	535.2	G	X						2		/								8315500289 / 8315500294
ACF-AS-UPWIND-DAY	8/3/19	0855	544.8	G	X						2		/								8315500308 / 8315500310
ACF-AS-FB	–	–	–	Q	X						2		/								8315500313 / 8315500306
ACF-AS-LB	–	–	–	Q	X						2		/								8315500311 / 8315500307
~~ACF-AS-RES~~																					
ACF-AS-RES-24HRVOC	8/2/19	2030	-30"/-3"	G	A					1				/							Canister 0800
ACF-AS-SMOKE-24HRVOC	8/2/19	2010	-27"/-2"	G	A					1				/							Canister 0820
ACF-AS-UPWIND-24HRVOC	8/2/19	2100	-32"/-5"	G	A					1				/							Canister 0796
ACF-AS-BLANK	–	–	–	Q	A					1				/							Canister 0805

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Condition Upon Receipt:
John Snyder	8/5/19	[illegible]	8-5-19	945	☐ Iced ☐ Ambient ☐ °C
					☐ Iced ☐ Ambient ☐ °C
					☐ Iced ☐ Ambient ☐ °C

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Good condition. Cans received at ambient temp. Tubes received at 0.8°C Raytek5 DSM 08-05-19

Raw Data

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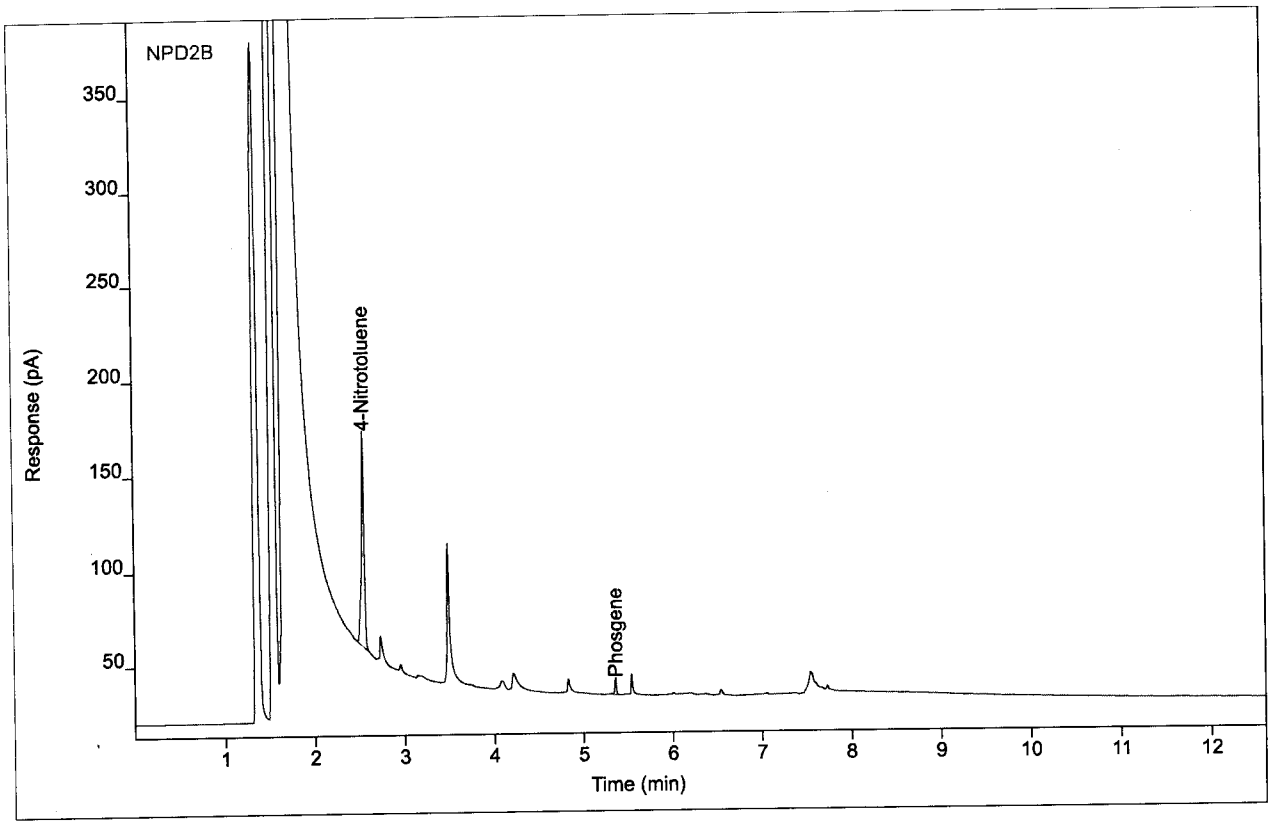
Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.S-N.FH
Sequence Name	LOLITA0274 ver.5
Inj Data File	017B0301.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 4:38 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 17
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



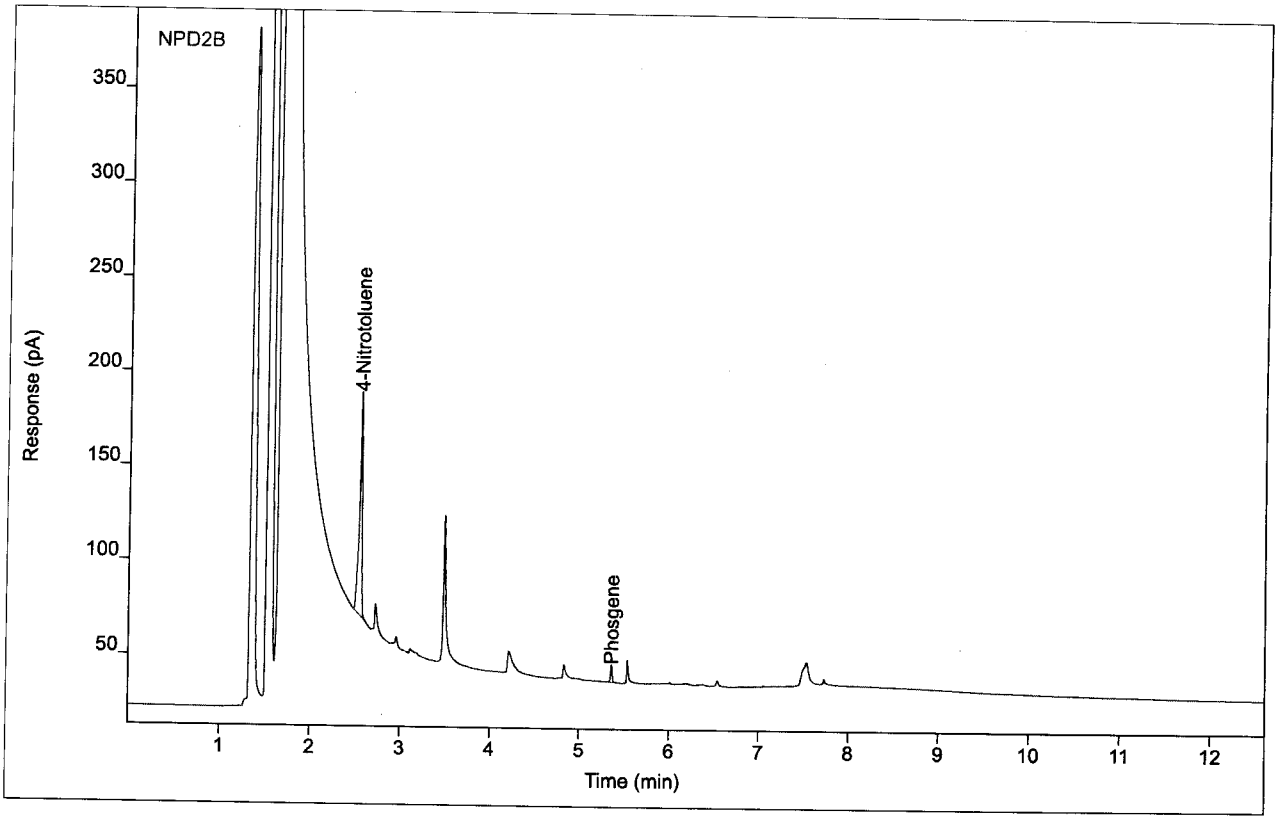
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	232.073	113.754	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	11.0615	8.76326	2.75963	1	2.75963	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.S-N.BH
Sequence Name	LOLITA0274 ver.5
Inj Data File	018B0401.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 4:53 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 18
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



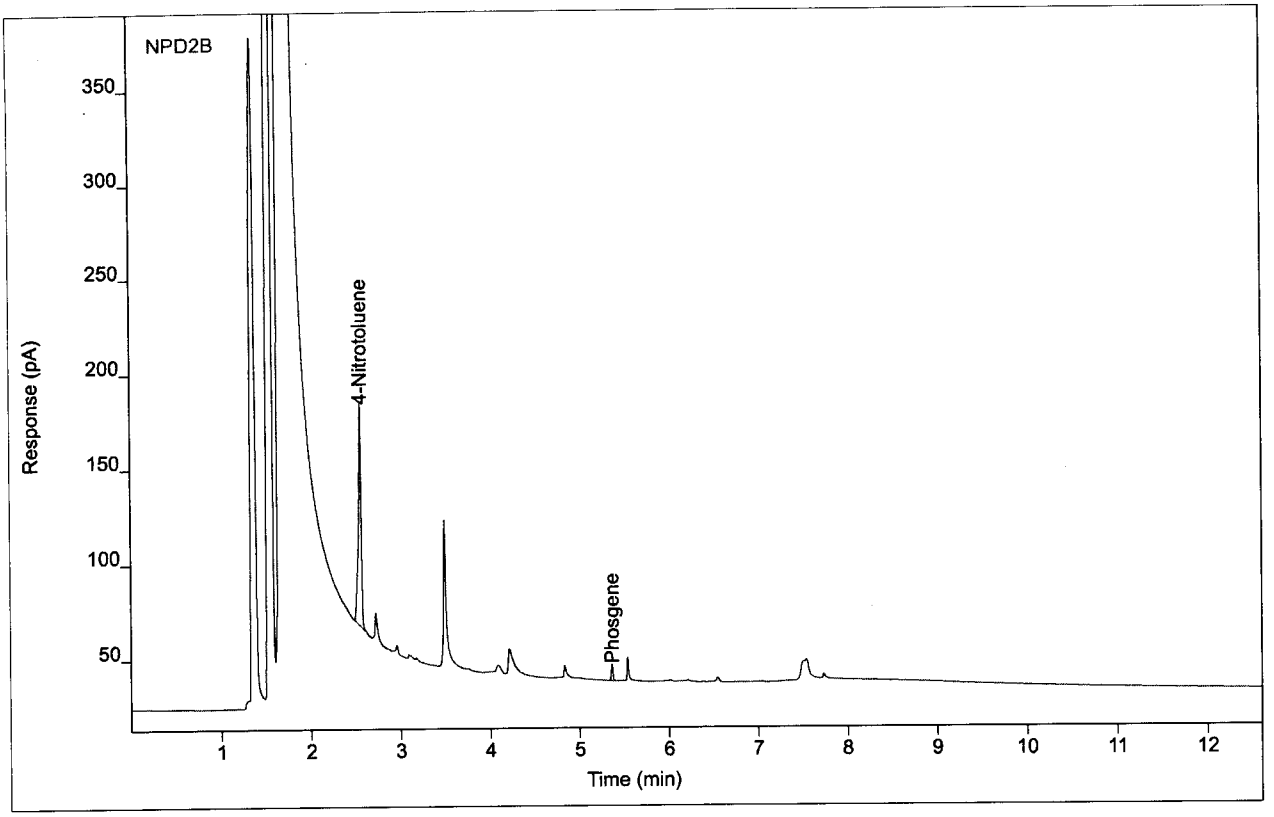
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	239.988	118.804	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	12.0015	9.53979	2.89387	1	2.89387	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.R-N.FH
Sequence Name	LOLITA0274 ver.5
Inj Data File	019B0501.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 5:08 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 19
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



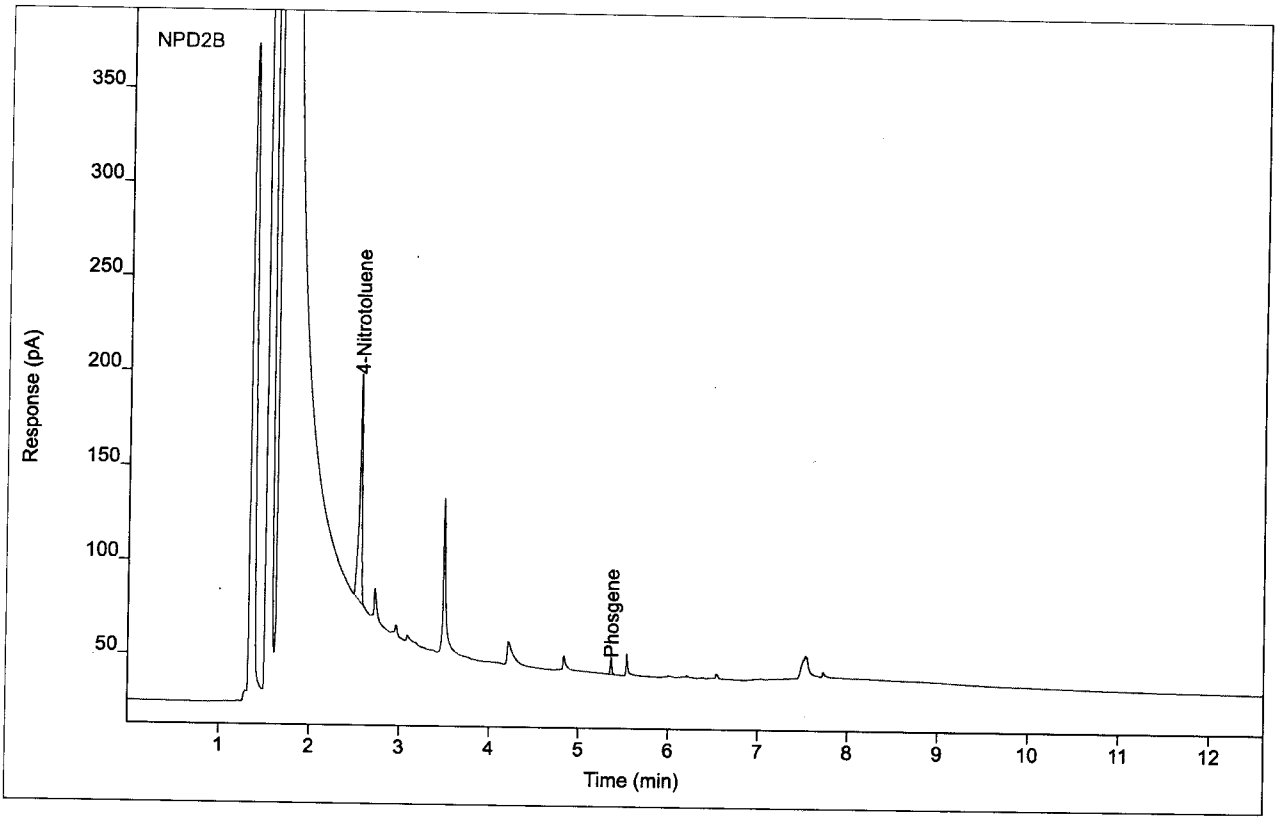
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	238.475	116.596	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	11.5272	9.16080	2.79816	1	2.79816	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.R-N.BH
Sequence Name	LOLITA0274 ver.5
Inj Data File	020B0601.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 5:23 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 20
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



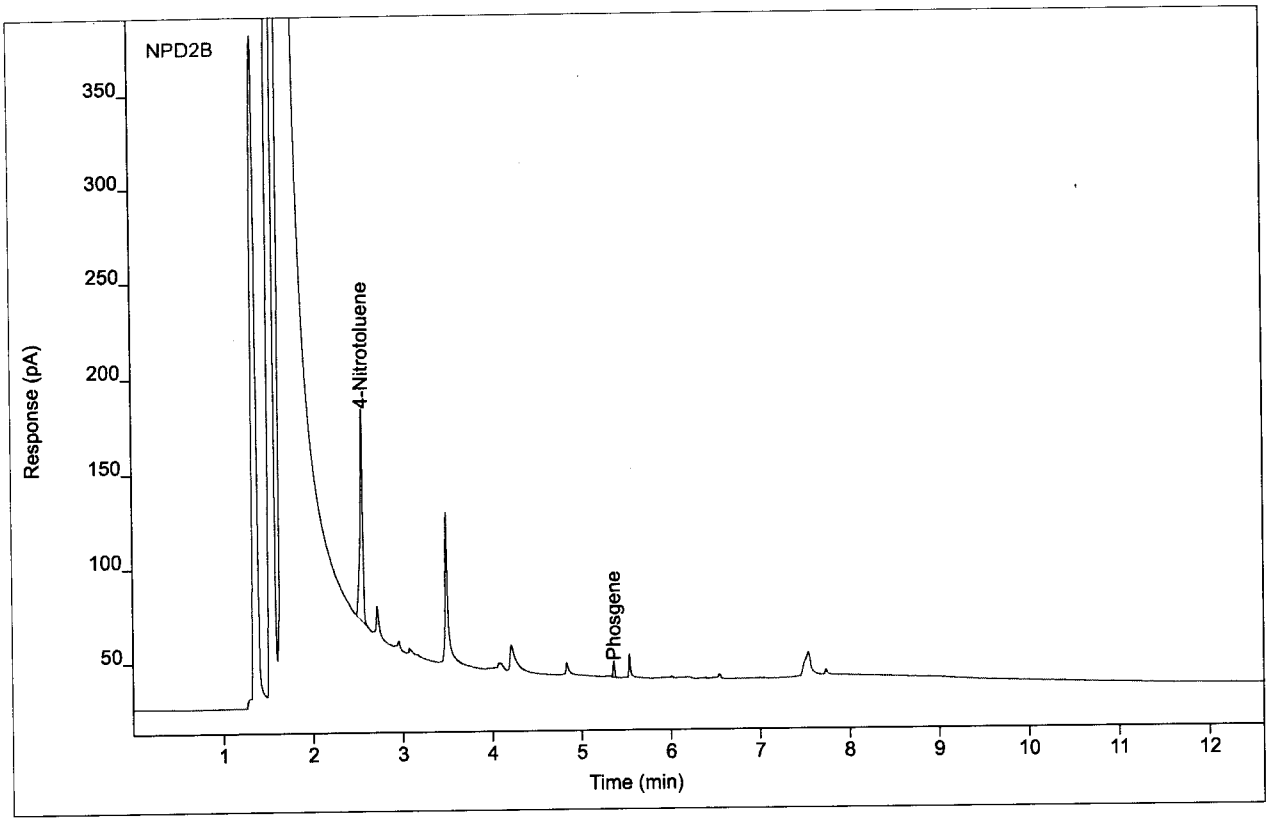
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	244.699	120.601	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	11.3714	9.14092	2.69134	1	2.69134	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.U-N.FH
Sequence Name	LOLITA0274 ver.5
Inj Data File	021B0701.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 5:38 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 21
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



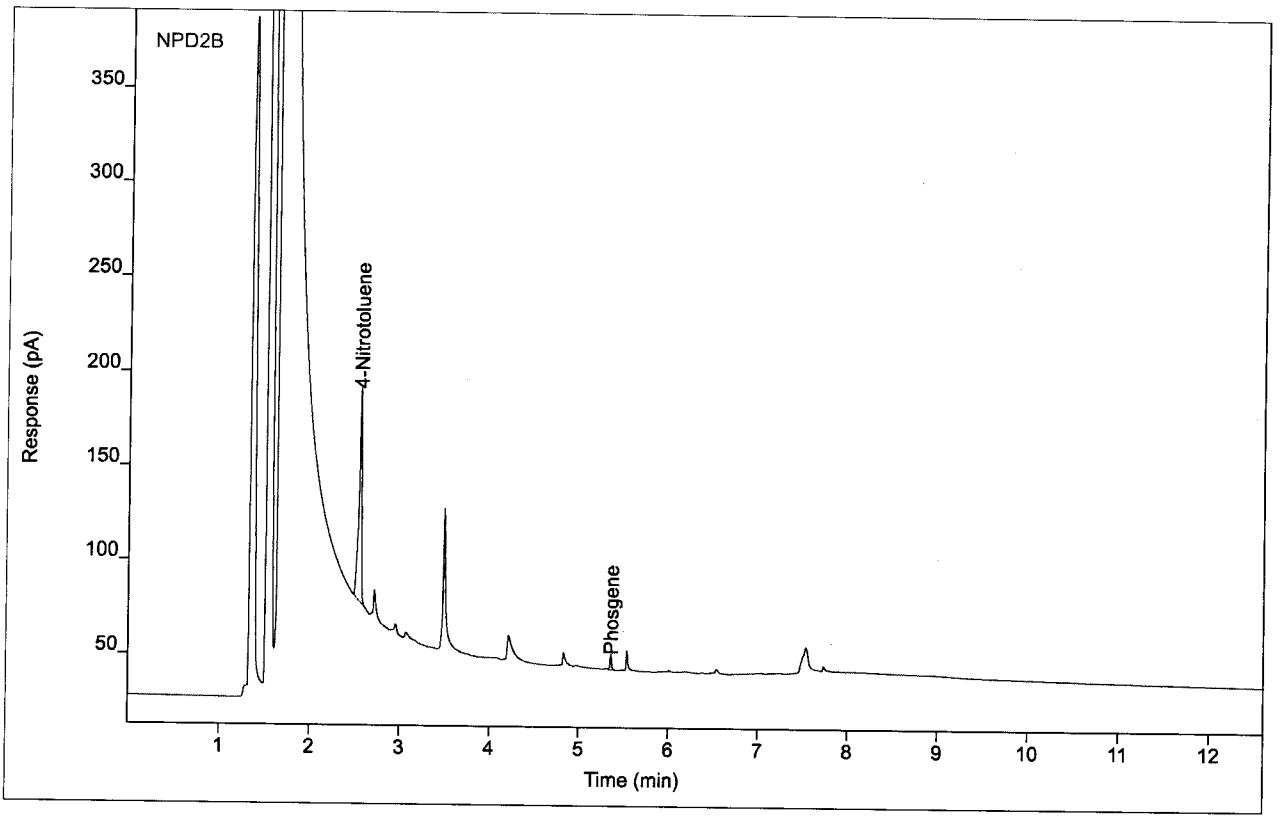
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	228.945	112.339	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	11.0834	8.89495	2.80240	1	2.80240	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.U-N.BH
Sequence Name	LOLITA0274 ver.5
Inj Data File	023B0901.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 6:08 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 23
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



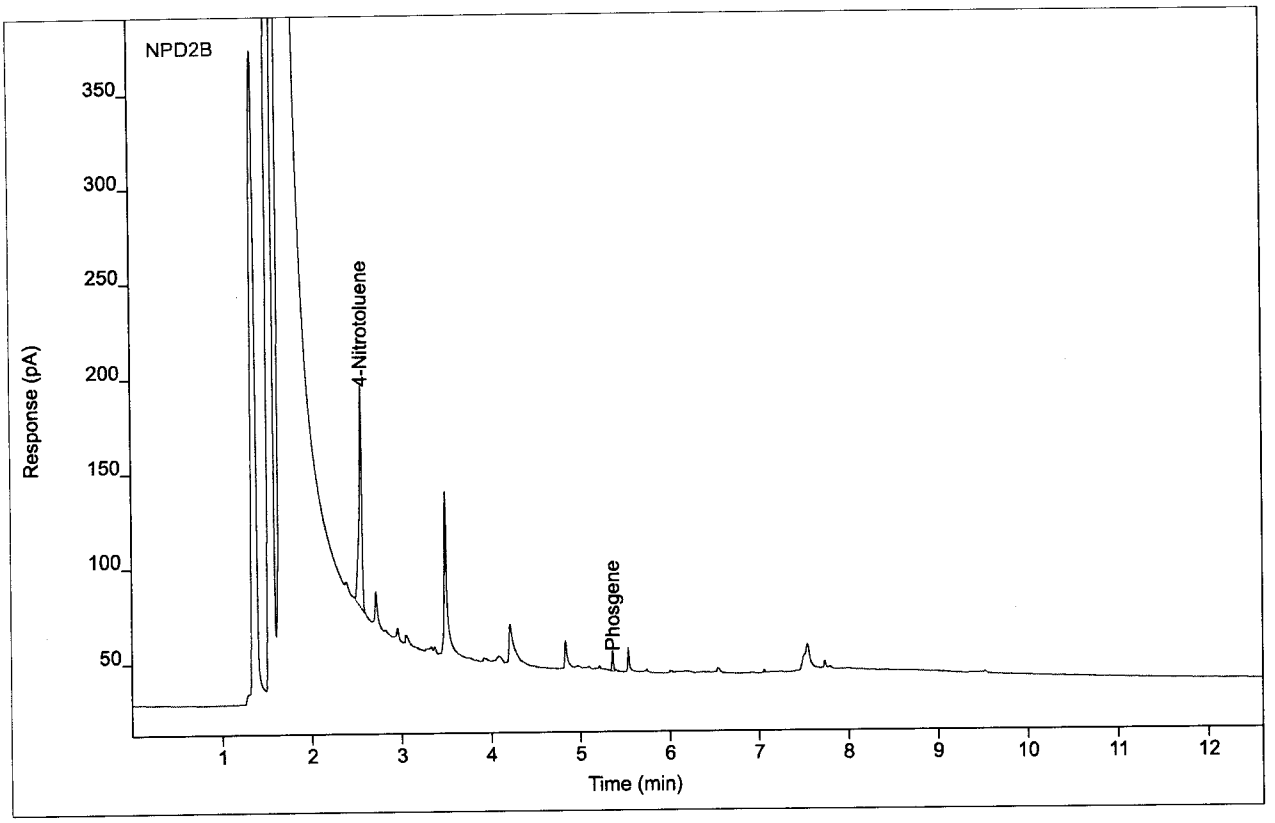
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	237.662	113.760	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	10.4584	8.16962	2.55019	1	2.55019	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.S-D.FH
Sequence Name	LOLITA0274 ver.5
Inj Data File	024B1001.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 6:23 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 24
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



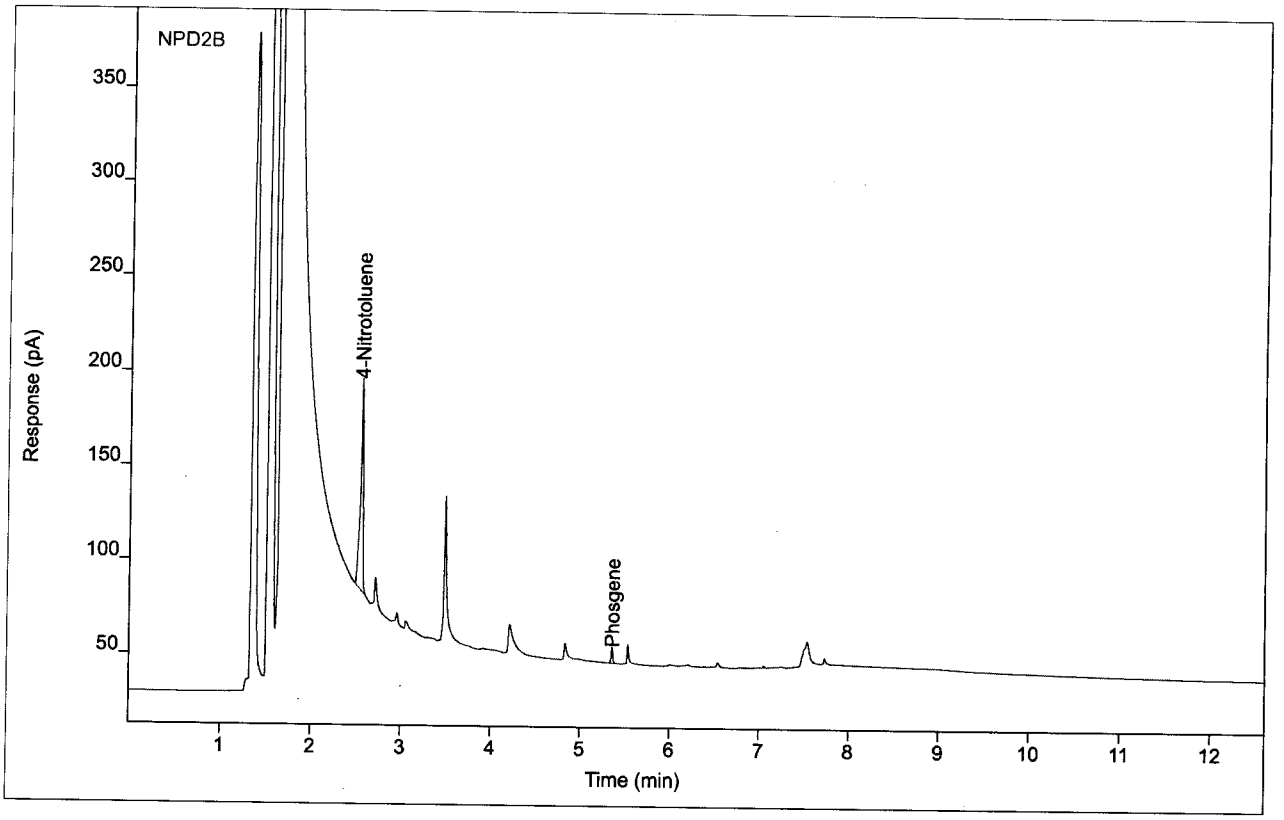
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	242.257	116.799	239.748	1	239.748	ug/mL
Phosgene	VV	5.36	12.8541	10.5442	3.06854	1	3.06854	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.S-D.BH
Sequence Name	LOLITA0274 ver.5
Inj Data File	025B1101.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 6:38 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 25
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



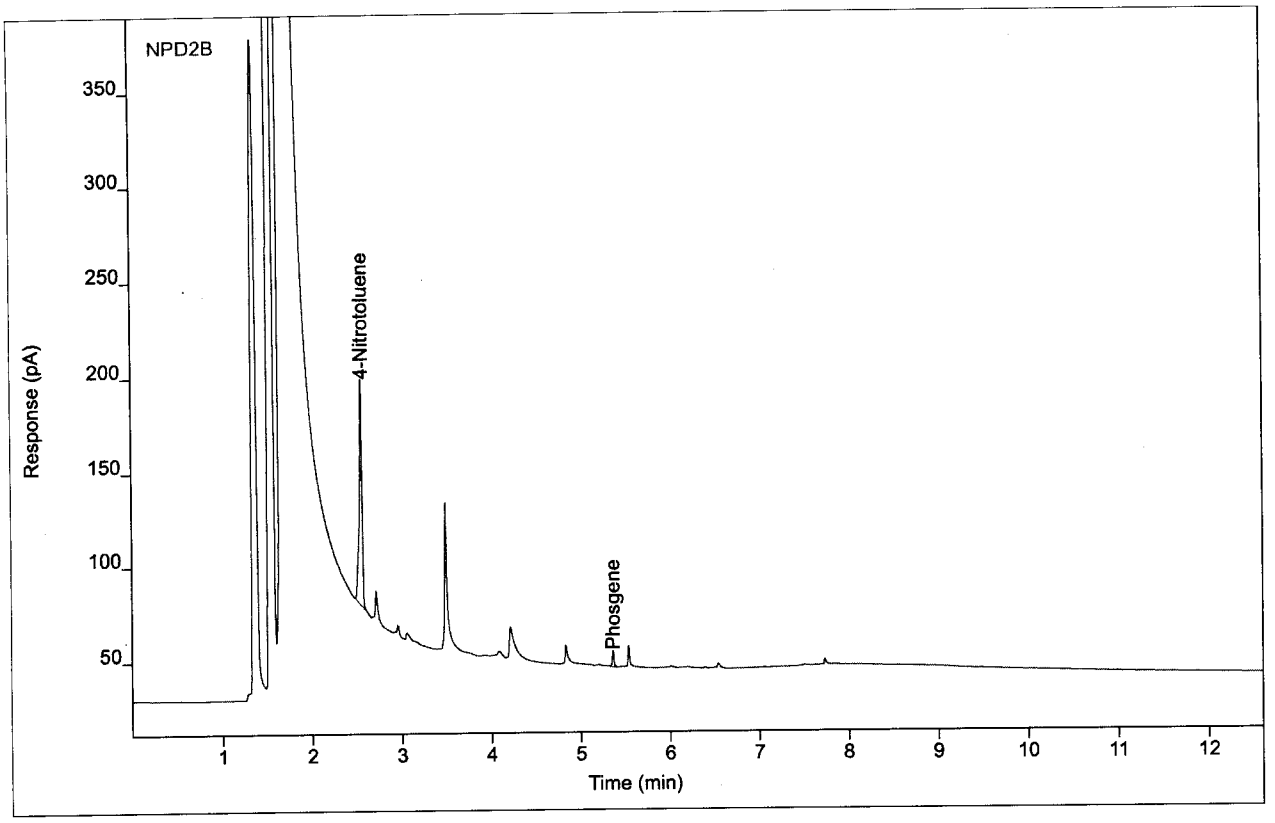
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	235.421	112.945	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	10.8796	8.55639	2.67660	1	2.67660	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.R-D.FH
Sequence Name	LOLITA0274 ver.5
Inj Data File	026B1301.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 7:09 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 26
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



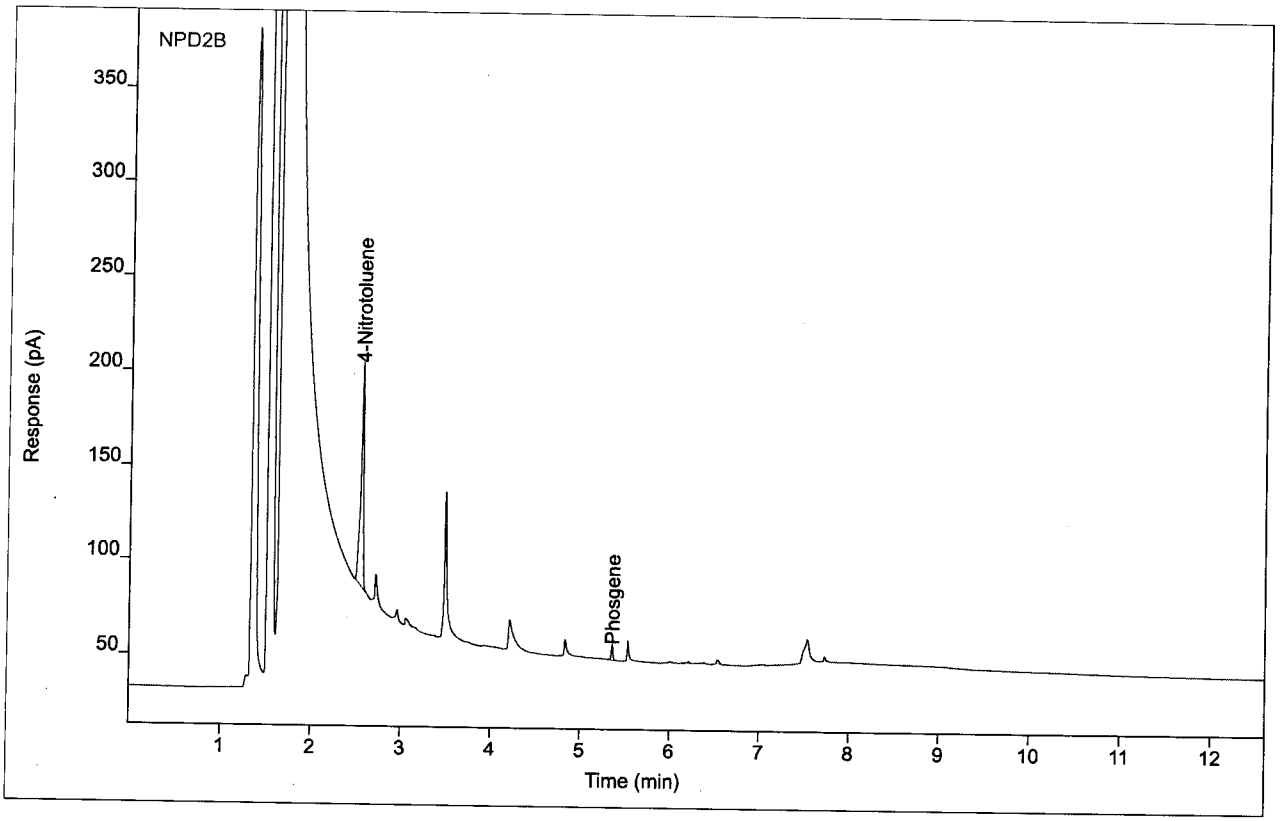
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	242.775	119.548	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	11.2746	8.88456	2.68961	1	2.68961	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.R-D.BH
Sequence Name	LOLITA0274 ver.5
Inj Data File	027B1401.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 7:24 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 27
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



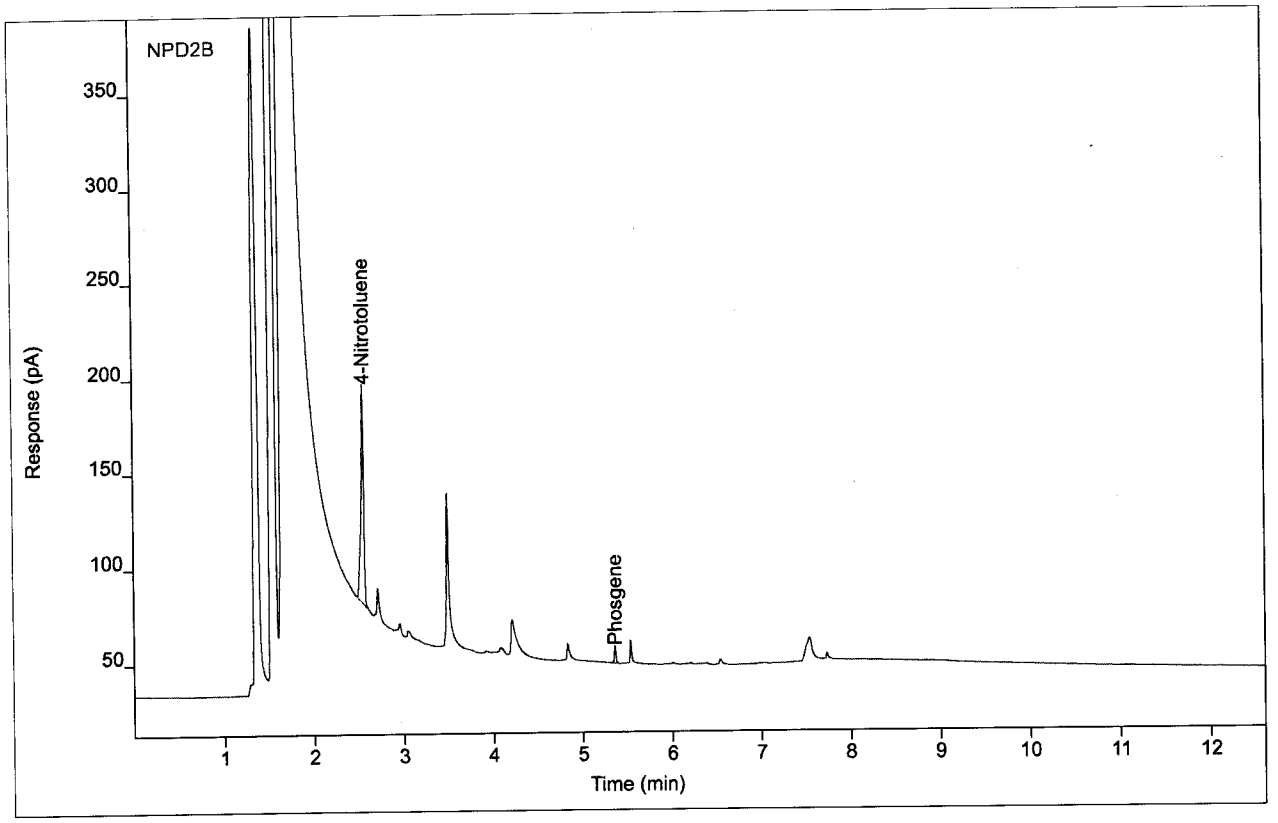
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	246.434	119.151	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	10.4203	8.25036	2.45168	1	2.45168	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.U-D.FH
Sequence Name	LOLITA0274 ver.5
Inj Data File	028B1501.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 7:39 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 28
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



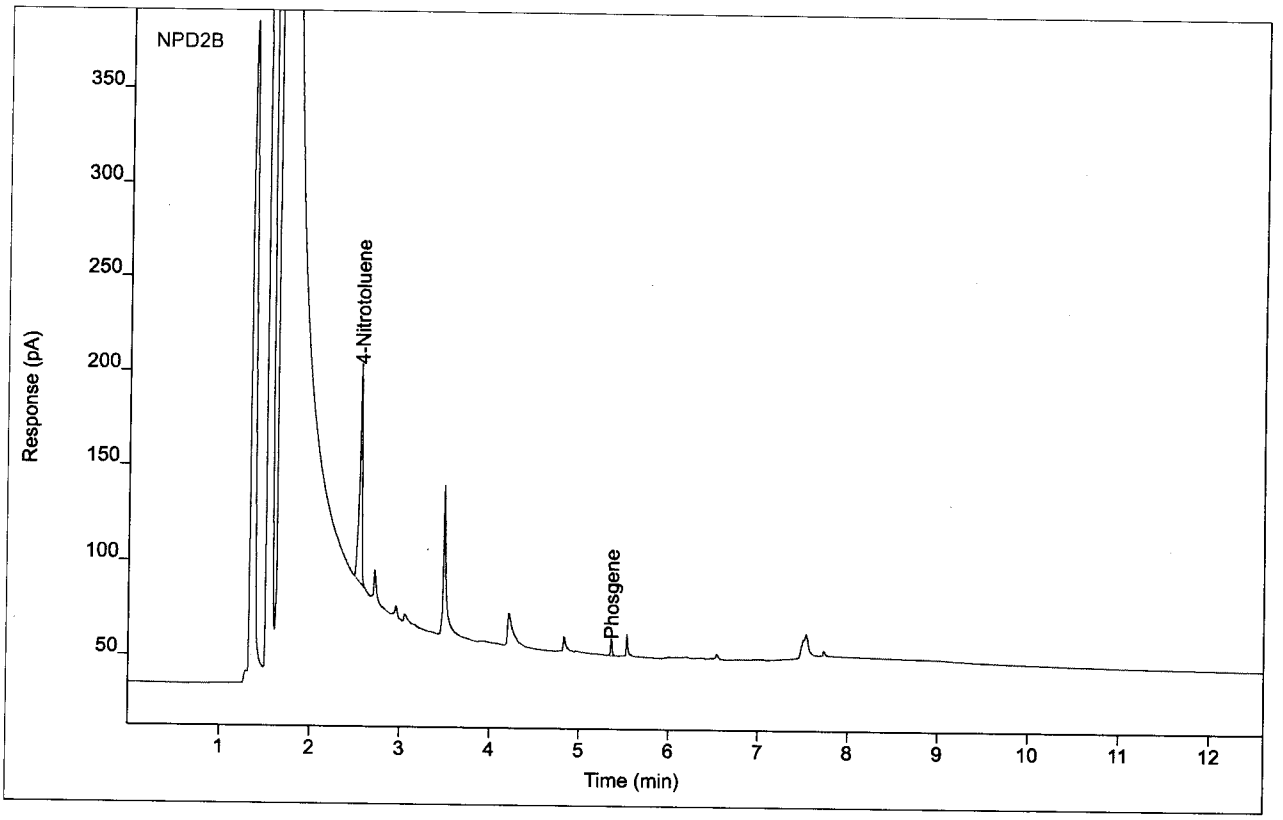
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	238.244	115.510	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	11.8372	9.46701	2.87535	1	2.87535	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.U-D.BH
Sequence Name	LOLITA0274 ver.5
Inj Data File	029B1601.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 7:54 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 29
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



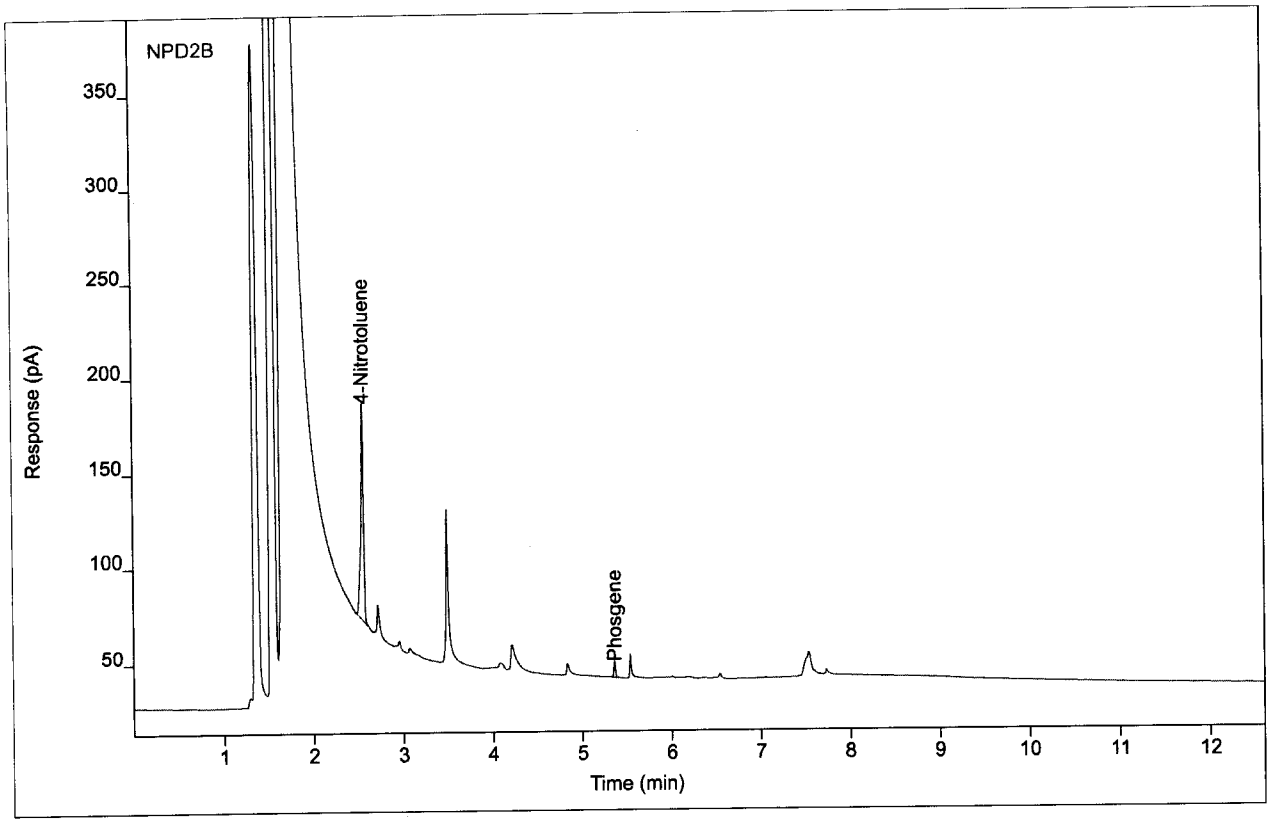
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	238.164	115.930	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	11.3204	8.88982	2.75207	1	2.75207	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.U-N-LD.FH
Sequence Name	LOLITA0274 ver.5
Inj Data File	022B0801.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 5:53 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 22
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



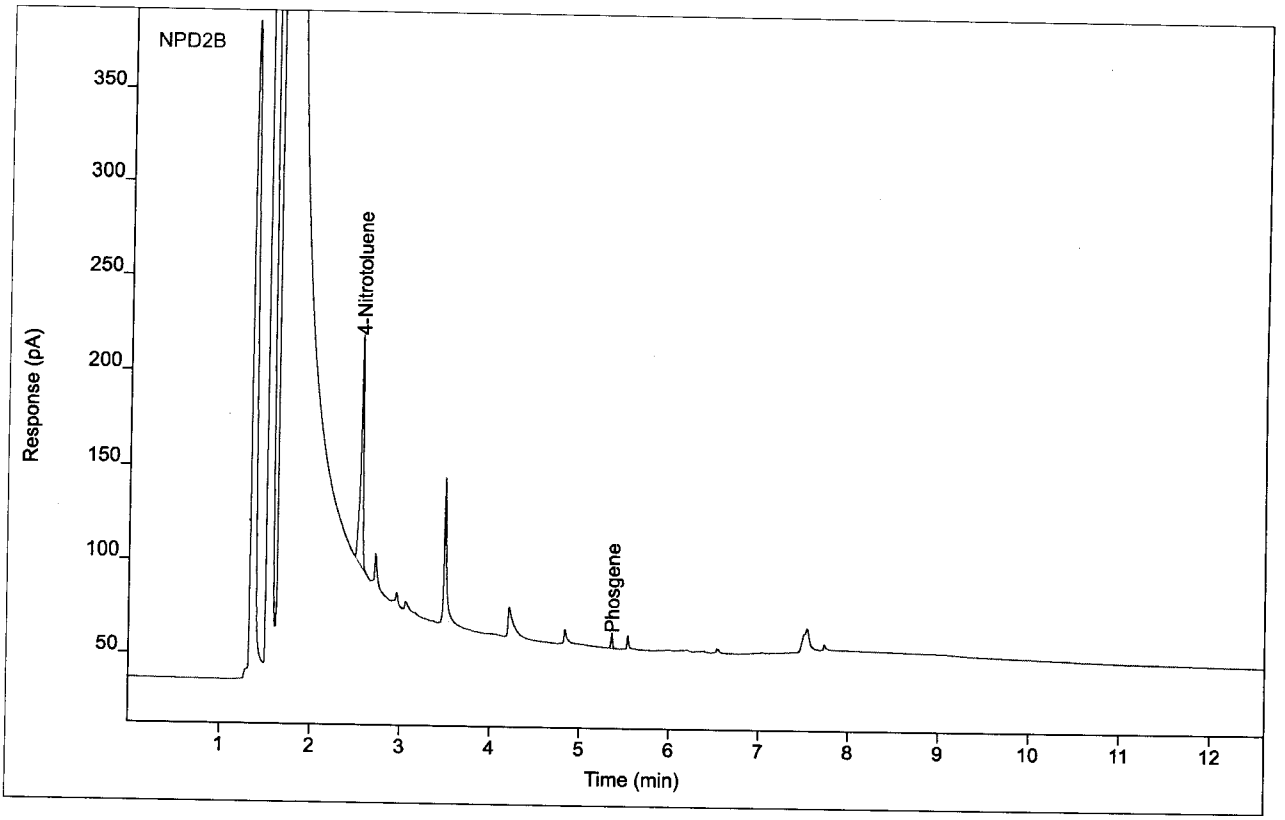
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	230.562	113.388	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	11.0911	8.77664	2.78487	1	2.78487	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.FB-HMP.FH
Sequence Name	LOLITA0274 ver.5
Inj Data File	030B1701.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 8:09 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 30
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



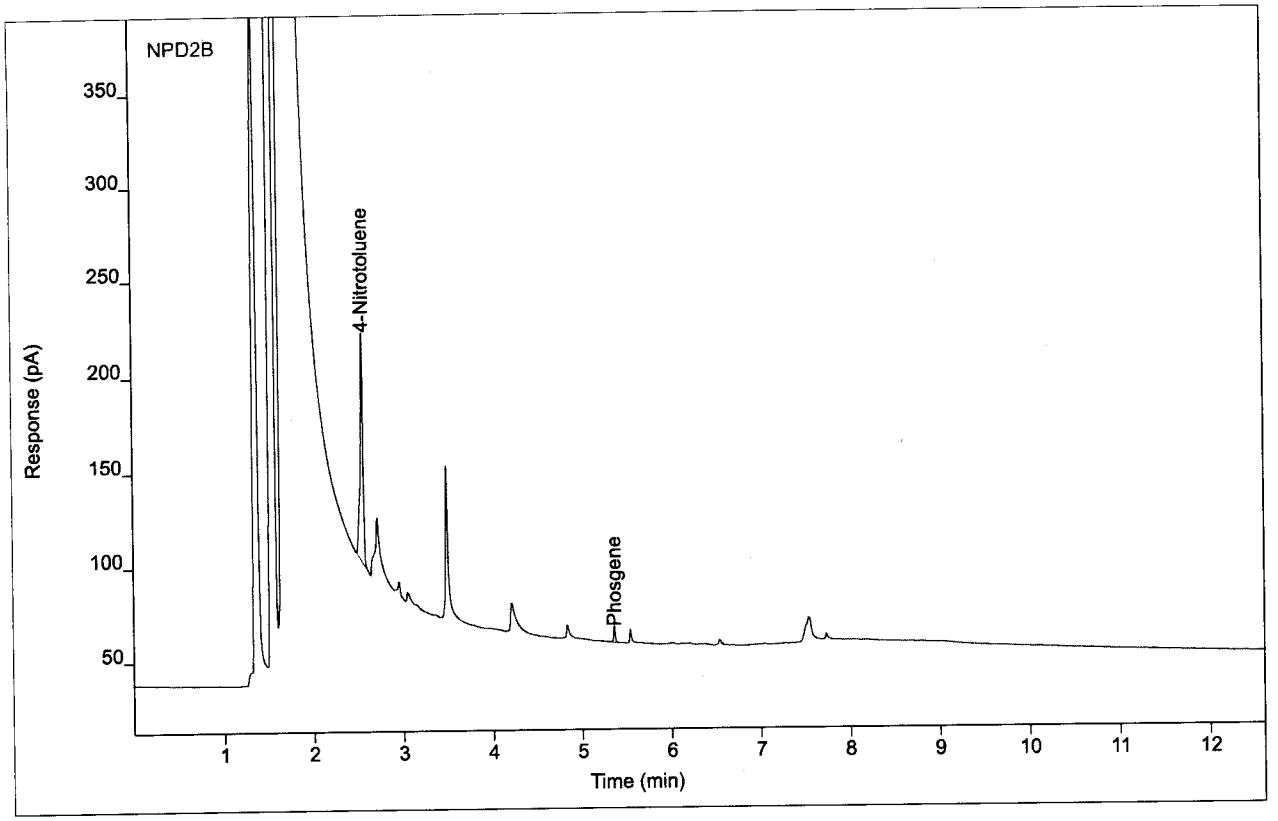
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	245.146	121.835	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	10.7063	8.56376	2.53118	1	2.53118	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.FB-HMP.BH
Sequence Name	LOLITA0274 ver.5
Inj Data File	031B1801.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 8:24 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 31
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



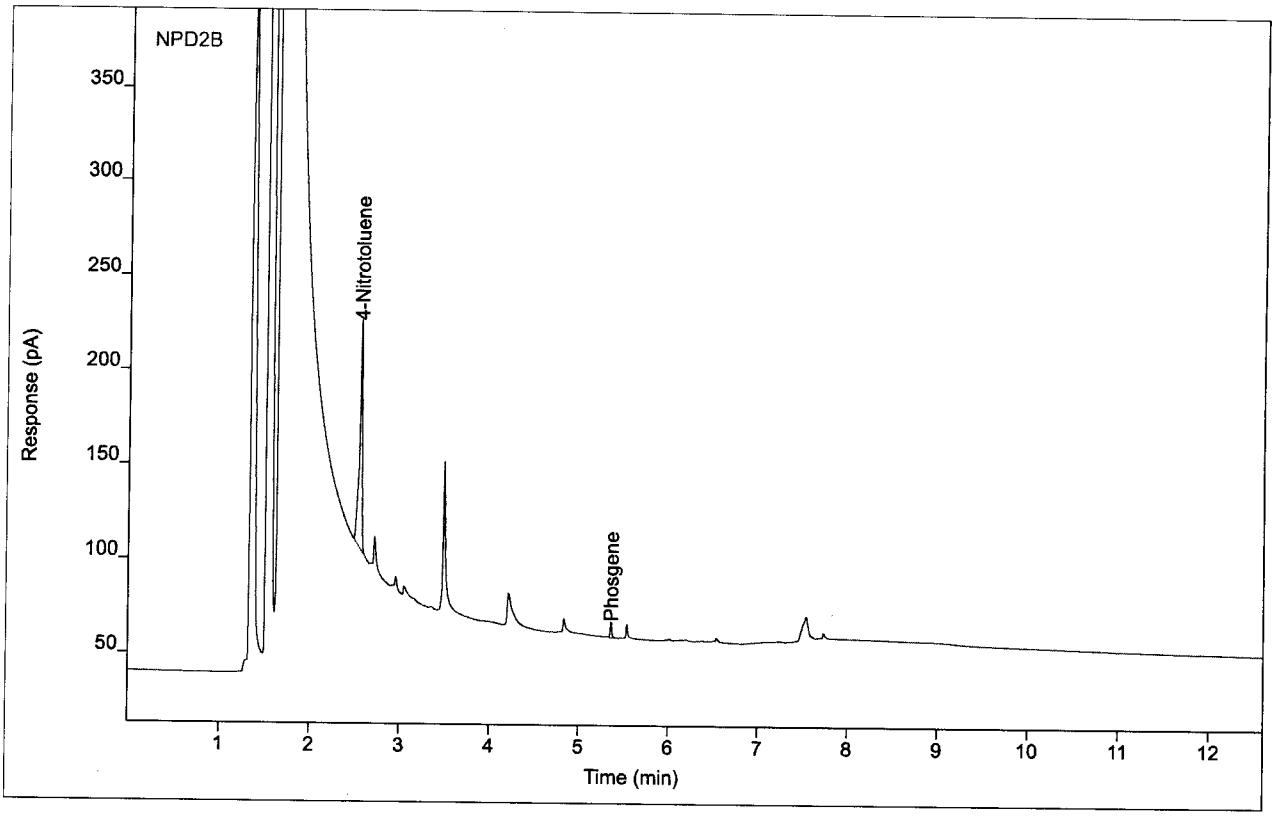
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	247.894	121.045	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	10.7578	8.51000	2.51537	1	2.51537	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.LB-HMP.FH
Sequence Name	LOLITA0274 ver.5
Inj Data File	032B1901.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 8:39 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 32
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



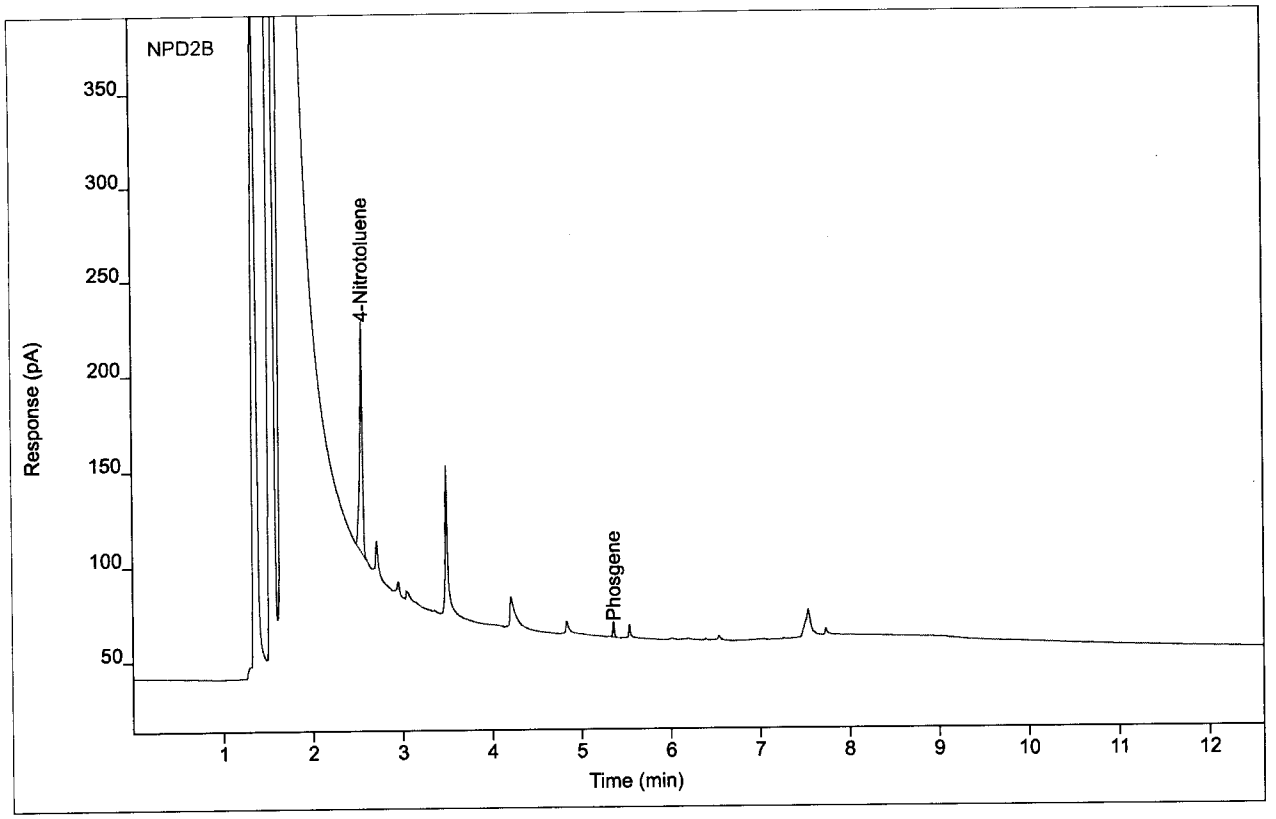
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	246.511	121.066	239.748	1	239.748	ug/mL
Phosgene	VB	5.36	11.0488	8.77161	2.59688	1	2.59688	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	0819-013.LB-HMP.BH
Sequence Name	LOLITA0274 ver.5
Inj Data File	033B2001.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 8:54 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 33
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



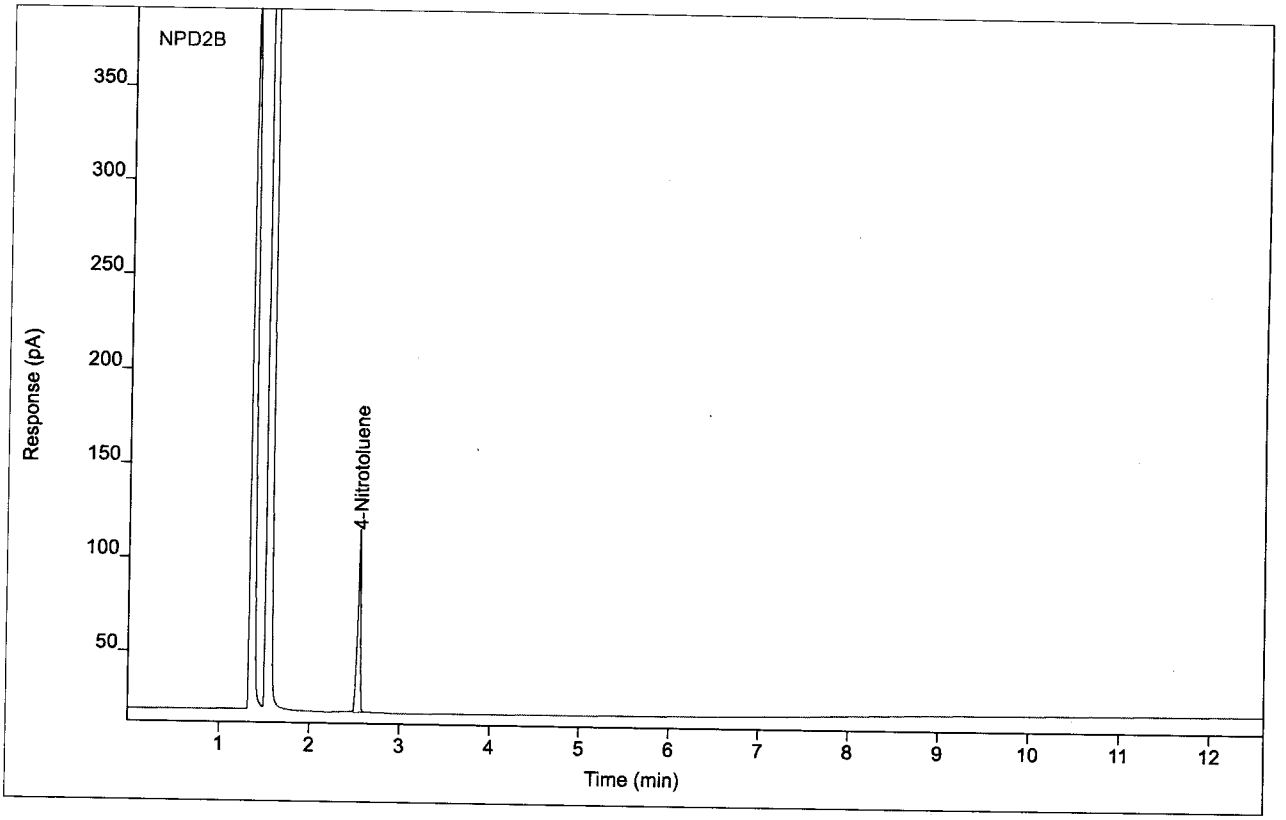
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.56	244.033	121.600	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	10.4648	8.58231	2.48592	1	2.48592	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcprep2960 #RB
Sequence Name	LOLITA0274 ver.5
Inj Data File	016B0201.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 4:23 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Sample
Vial Number	Vial 16
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	217.756	96.9789	239.748	1	239.748	ug/mL
Phosgene		(5.34)				1		

Calibration Table

General Calibration Setting

Calib. Data Modified : 7/31/2019 5:40:12 PM
Signals calculated separately : No

Rel. Reference Window : 0.000 %
Abs. Reference Window : 0.100 min
Rel. Non-ref. Window : 0.000 %
Abs. Non-ref. Window : 0.070 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Ignored
Weight : Quadratic (Amnt)

Recalibration Settings:
Average Response : No Update
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Sample ISTD Information:

ISTD #	ISTD Amount [ug/mL]	Name
1	232.64000	4-Nitrotoluene

Signal Details

Signal 1: NPD2 B,

Overview Table

RT	Sig	Lvl	Amount [ug/mL]	Area	Rsp.Factor	Ref	ISTD	#	Compound
2.552	1	1	239.74800	294.12701	8.15117e-1	No	Yes	1	4-Nitrotoluene
		2	239.75000	295.22165	8.12102e-1				
		3	239.75000	291.11169	8.23567e-1				
5.344	1	1	9.98860e-1	5.05250	1.97696e-1	No	No	1	Phosgene

RT	Sig	Lvl	Amount [ug/mL]	Area	Rsp.Factor	Ref	ISTD #	Compound
		2	4.99430	23.78846	2.09946e-1			
		3	9.98860	52.05507	1.91885e-1			

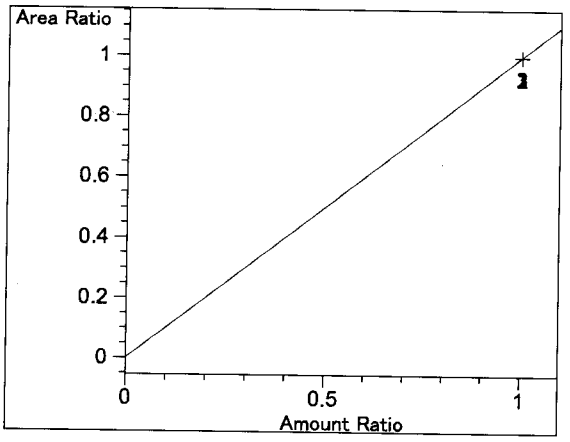
Peak Sum Table

No Entries in table

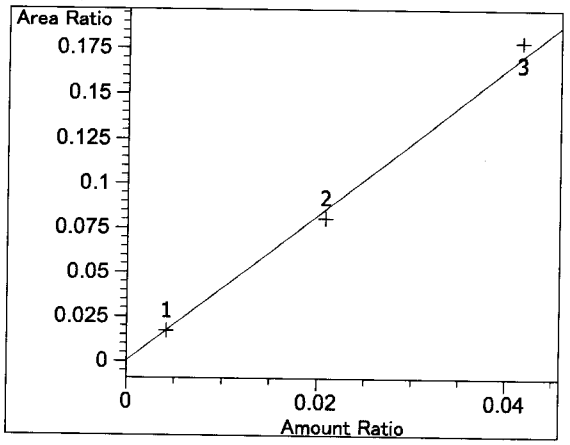
6 Warnings or Errors :

Warning : Curve requires more calibration points., (4-Nitrotoluene)
Warning : Curve requires more calibration points. at 2.552 min, signal 1
Warning : ISTD compound not calibrated on all levels, (4-Nitrotoluene)
Warning : ISTD compound not calibrated on all levels, (4-Nitrotoluene)
Warning : ISTD compound not calibrated on all levels, (4-Nitrotoluene)
Warning : ISTD compound not calibrated on all levels, (4-Nitrotoluene)

Calibration Curves



4-Nitrotoluene at exp. RT: 2.552
NPD2 B,
Correlation: 1.00000
Residual Std. Dev.: 0.00000
Formula: y = mx + b
m: 1.00000
b: 0.00000
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 1
Level 3 : 1



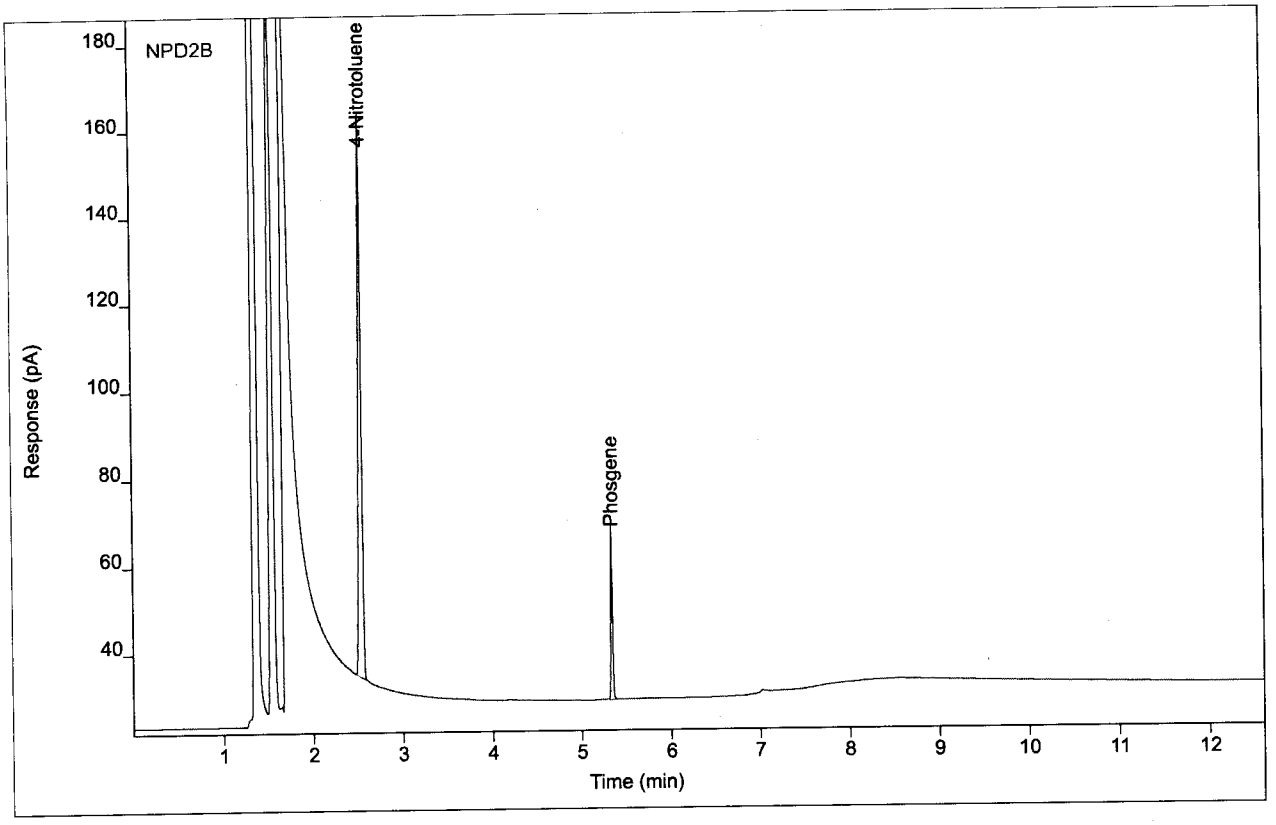
Phosgene at exp. RT: 5.344
NPD2 B,
Correlation: 0.99805
Residual Std. Dev.: 0.00955
Formula: y = mx + b
m: 4.09156
b: 2.72753e-5
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.040001
Level 3 : 0.01

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #13
Sequence Name	LOLITA0273 ver.3
Inj Data File	031B0601.D
File Location	GC/2019/Mr. Ed/Quarter 1
Injection Date	7/30/2019 4:01 PM
File Modified	7/31/2019 4:38 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	31
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 4:38 PM
Printed	7/31/2019 5:44 PM



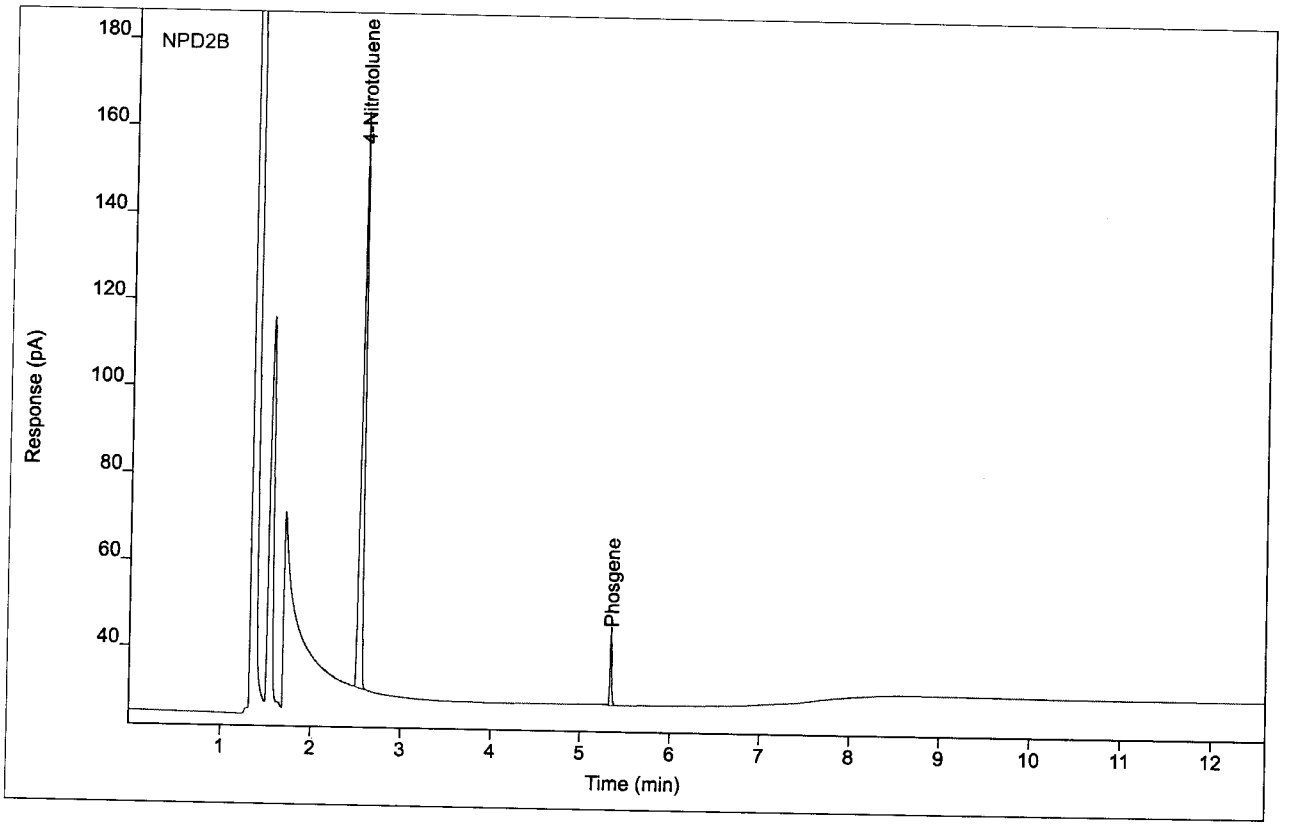
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	I BB	2.55	291.112	129.722	239.750			ug/mL
Phosgene	BB	5.34	52.0551	39.6969	10.2677	1	10.2677	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #12
Sequence Name	LOLITA0273 ver.3
Inj Data File	032B0701.D
File Location	GC/2019/Mr. Ed/Quarter 1
Injection Date	7/30/2019 4:16 PM
File Modified	7/31/2019 4:38 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	32
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 4:38 PM
Printed	7/31/2019 5:44 PM



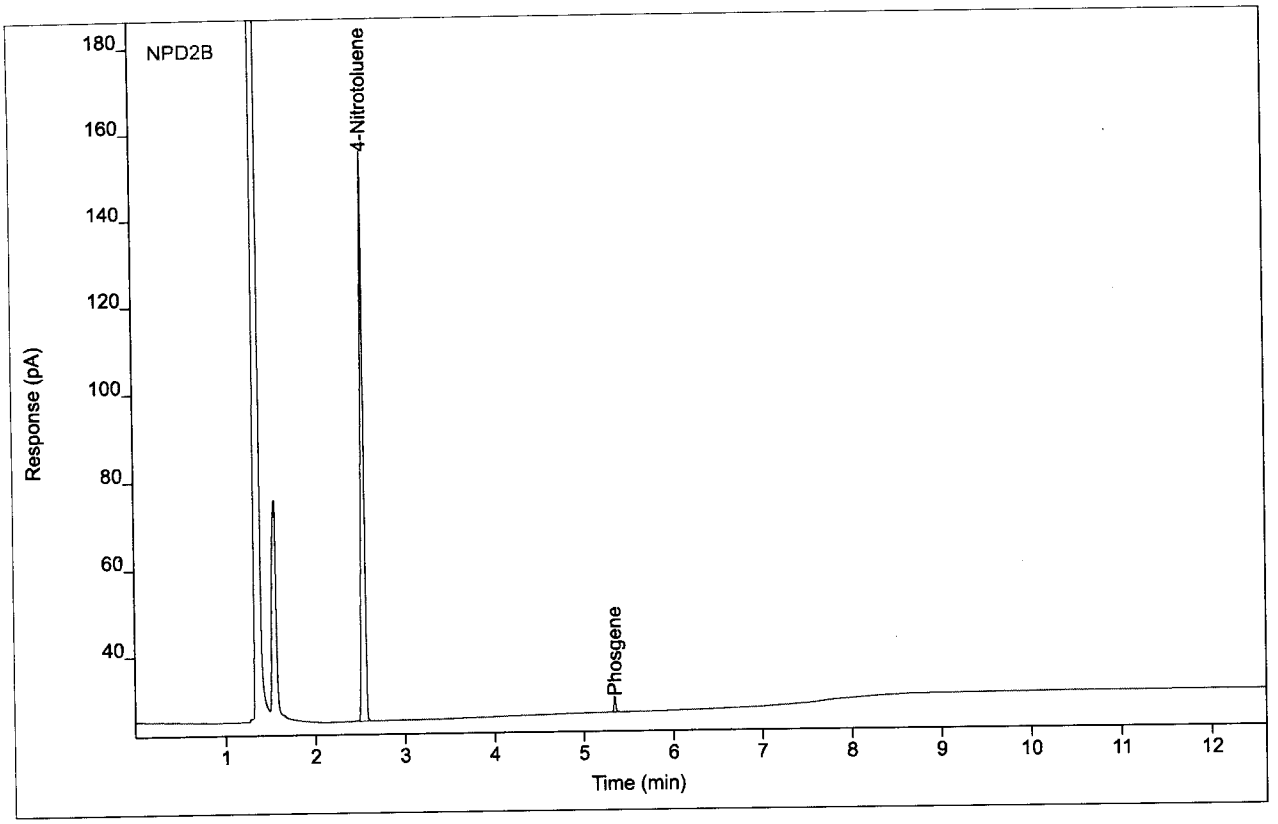
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	I BB	2.55	295.222	132.655	239.750			ug/mL
Phosgene	BB	5.34	23.7885	18.1957	4.64391	1	4.64391	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #11
Sequence Name	LOLITA0273 ver.3
Inj Data File	033B0801.D
File Location	GC/2019/Mr. Ed/Quarter 1
Injection Date	7/30/2019 4:31 PM
File Modified	7/31/2019 4:38 PM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	33
Injection Volume	1
Injection	1 of 8
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 4:38 PM
Printed	7/31/2019 5:44 PM



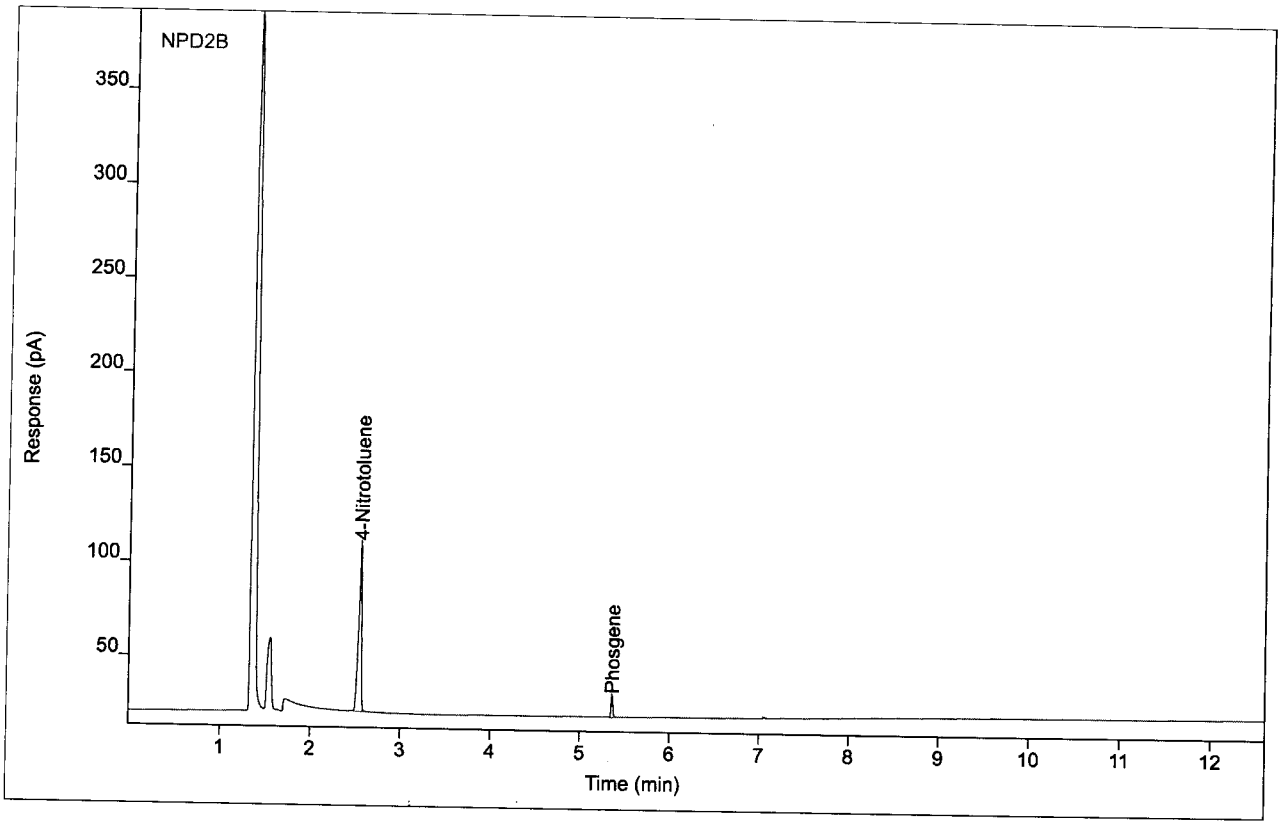
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	I BB	2.55	294.127	130.879	239.748			ug/mL
Phosgene	BB	5.34	5.05250	3.69148	1.01442	1	1.01442	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #12
Sequence Name	LOLITA0274 ver.5
Inj Data File	015B0101.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 11:48 AM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	Vial 15
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



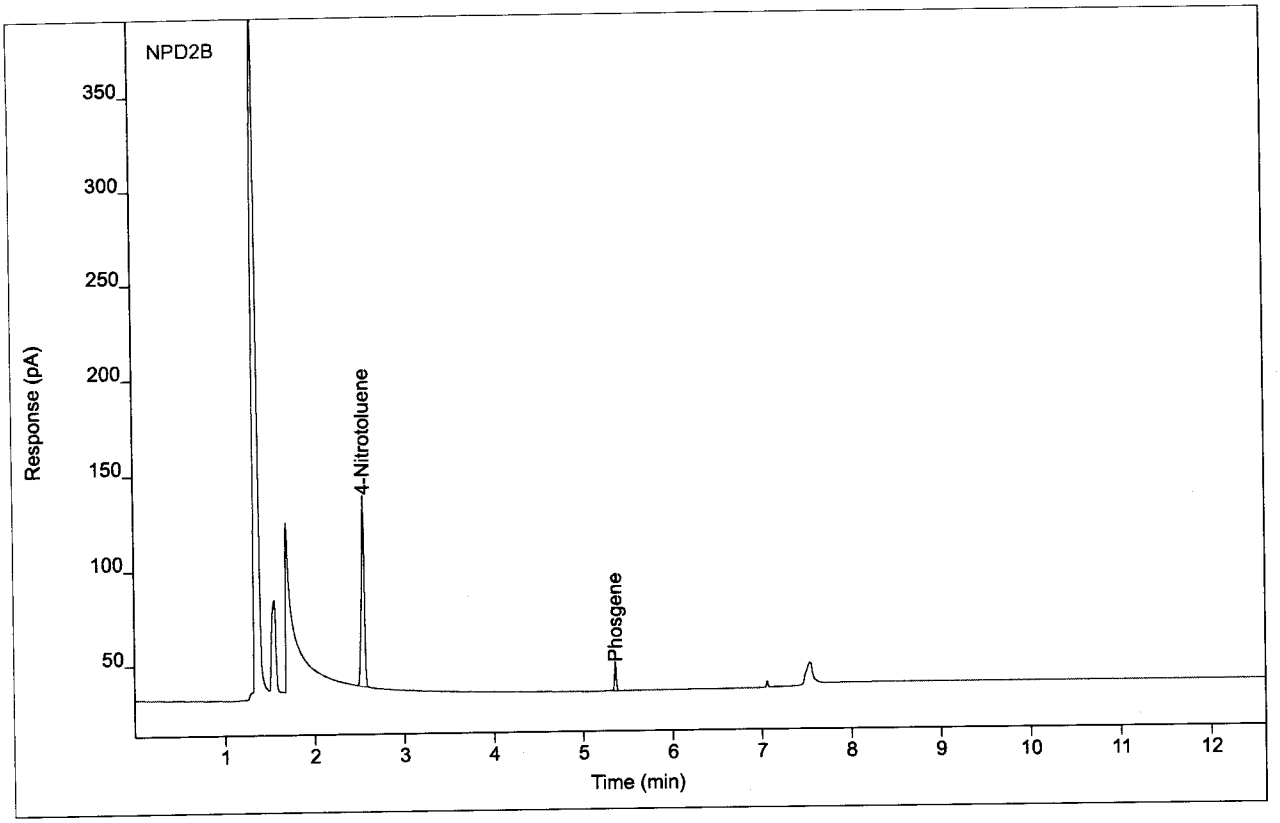
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	205.086	90.8396	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	17.8521	12.9937	5.01417	1	5.01417	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #12
Sequence Name	LOLITA0274 ver.5
Inj Data File	015B1201.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 6:53 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	Vial 15
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



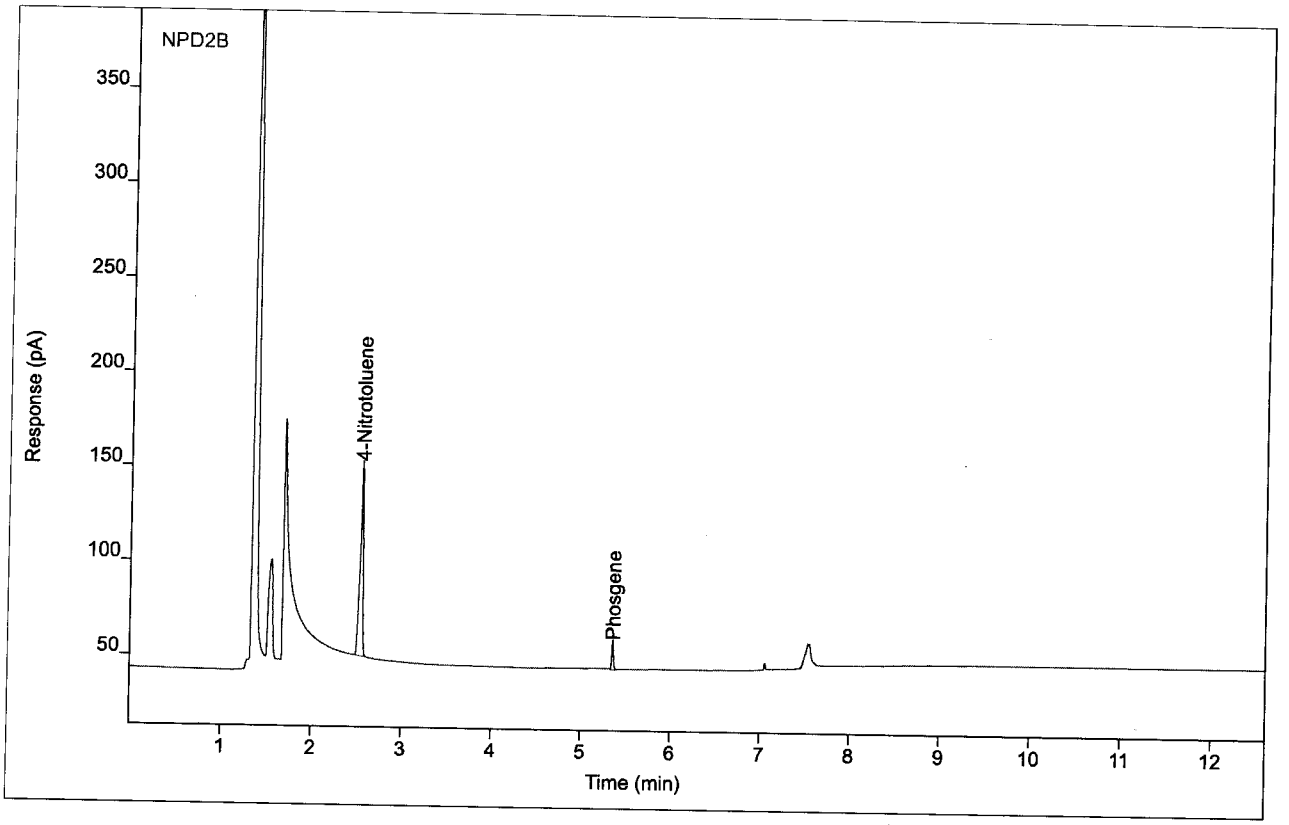
Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	227.340	101.030	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	20.4200	15.3750	5.17301	1	5.17301	ug/mL

Chromatogram Report

Enthalpy Analytical

Sample Name	gcstds1093 #12
Sequence Name	LOLITA0274 ver.5
Inj Data File	015B2101.D
File Location	GC/2019/Lolita/Quarter 3
Injection Date	8/5/2019 9:09 PM
File Modified	8/6/2019 11:30 AM
Instrument	Lolita
Operator	Daniel Clayton

Sample Type	Calibration
Vial Number	Vial 15
Injection Volume	1
Injection	1 of 1
Acquisition Method	LOLITA0273_PHOSGENE.M
Analysis Method	LOLITA0273_PHOSGENE_R.M
Method Modified	7/31/2019 5:08 PM
Printed	8/6/2019 11:33 AM



Compound	Type	RT	Area	Height	Amount	DF	SampAmt	Unit
4-Nitrotoluene	BB	2.55	232.054	103.328	239.748	1	239.748	ug/mL
Phosgene	BB	5.36	20.8486	15.7895	5.17430	1	5.17430	ug/mL

6890 GC METHOD

N
Initial temp: 160 'C (On)
Initial time: 2.60 min
Ramps:

#	Rate	Final temp	Final time
1	20.00	260	5.00
2	0.0(Off)		

Post temp: 50 'C
Post time: 0.00 min
Run time: 12.60 min

Maximum temp: 400 'C
Equilibration time: 0.50 min

NT INLET (SPLIT/SPLITLESS)
Mode: Split
Initial temp: 225 'C (On)
Pressure: 1.60 psi (On)
Split ratio: 1.99:1
Split flow: 10.8 mL/min
Total flow: 24.8 mL/min
Gas saver: Off
Gas type: Hydrogen

BACK INLET (SPLIT/SPLITLESS)
Mode: Split
Initial temp: 180 'C (On)
Pressure: 26.34 psi (On)
Split ratio: 20:1
Split flow: 36.0 mL/min
Total flow: 40.5 mL/min
Gas saver: Off
Gas type: Helium

LUMN 1
Capillary Column
Model Number: Restek 10637
Stabilwax 15m x 0.53mmID x 0.5um
Max temperature: 260 'C
Nominal length: 15.0 m
Nominal diameter: 530.00 um
Nominal film thickness: 0.50 um
Mode: constant flow
Initial flow: 5.4 mL/min
Nominal init pressure: 1.60 psi
Average velocity: 56 cm/sec
Inlet: Front Inlet
Outlet: Front Detector
Outlet pressure: ambient

COLUMN 2
Capillary Column
Model Number: Restek 15023
Rtx-200 Rtx-200 30m x 0.25 x 0.25
Max temperature: 340 'C
Nominal length: 30.0 m
Nominal diameter: 250.00 um
Nominal film thickness: 0.25 um
Mode: constant flow
Initial flow: 1.8 mL/min
Nominal init pressure: 26.35 psi
Average velocity: 44 cm/sec
Inlet: Back Inlet
Outlet: Back Detector
Outlet pressure: ambient

ONT DETECTOR (FID)
Temperature: 150 'C (On)
Hydrogen flow: 40.0 mL/min (Off)
Air flow: 450.0 mL/min (Off)
Mode: Constant makeup flow
Makeup flow: 45.0 mL/min (Off)
Makeup Gas Type: Nitrogen
Flame: Off
Electrometer: On
Lit offset: 2.0

BACK DETECTOR (NPD)
Temperature: 275 'C (On)
Hydrogen flow: 2.0 mL/min (On)
Air flow: 60.0 mL/min (On)
Mode: Constant makeup flow
Makeup flow: 3.0 mL/min (On)
Makeup Gas Type: Helium
Adjust offset: 22.00
Electrometer: On
Bead: On
Equilibration time: 1.00

GNAL 1
Data rate: 50 Hz
Type: front detector
Save Data: On
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off
Attenuation: 0

SIGNAL 2
Data rate: 20 Hz
Type: back detector
Save Data: On
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off
Attenuation: 0

dified on: 7/30/2019 at 2:13:53 PM

LUMN COMP 1
Derive from front detector

COLUMN COMP 2
Derive from back detector

POST RUN
Post Time: 0.00 min

ME TABLE

Time	Specifier	Parameter & Setpoint

GC Injector

Front Injector:
parameters specified

Back Injector:

Sample Washes	0
Sample Pumps	7
Injection Volume	1.00 microliters
Syringe Size	10.0 microliters
Nanoliter Adapter	Off
PostInj Solvent A Washes	3
PostInj Solvent B Washes	3
Viscosity Delay	2 seconds
Plunger Speed	Fast

This Is The Last Page Of This Report.

ENTHALPY

From: Huyser, Matthew <Huyser.Matthew@epa.gov> on behalf of Huyser, Matthew
Sent on: Friday, August 9, 2019 11:47:58 AM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
CC: John Snyder <john.snyder@tetratech.com>
Subject: Able - AQI sheet

Jordan,

On the phone yesterday DHEC mentioned receiving the Idaho AQI numbers. Did you provide the Kevin Eichinger SOG T106 with the AQI number table or the actual Idaho AQI sheet? I can't find the Idaho AQI sheet anywhere and the link is broken now.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Huyser, Matthew <Huyser.Matthew@epa.gov> on behalf of Huyser, Matthew
Sent on: Thursday, July 25, 2019 7:17:52 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>; Eichinger, Kevin <Eichinger.Kevin@epa.gov>
Subject: Able - jasper county em POC

Points of contact for Jasper County emergency Management

Director, Frank Edwards 843-726-7607
Mr. Edwards will be on vacation beginning 7/26

Deputy, Russell Wells 843-263-1316

Shift Officer (overnight) Shannon Smith 843-305-0265
BTW, Shannon is a guy

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

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From: Huyser, Matthew <Huyser.Matthew@epa.gov> on behalf of Huyser, Matthew
Sent on: Thursday, July 25, 2019 7:09:26 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>; Eichinger, Kevin <Eichinger.Kevin@epa.gov>
Subject: Able - owner contact information

Owner Name: Chandler Lloyd
Owner Phone: 843-379-2344

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Friday, July 26, 2019 11:15:12 PM
To: keith.frost@dhec.sc.gov
Subject: Able

We had to call the jasper county fire department to knock down a flare up, visible flames and sustained readings greater than 250

Jordan Garrard
On Scene Coordinator
EPA Region 4
Garrard.jordan@epa.gov
678-644-8648

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From: Reece, Myra <reecemc@dhec.sc.gov>
Sent on: Thursday, August 1, 2019 10:15:31 PM
To: Tisha L. Williams <tlwilliams@jaspercountysc.gov>; Frank Edwards <fedwards@jaspercountysc.gov>; Lisa Wagner <lwagner@jaspercountysc.gov>; chris.collins2@redcross.org; haley.lawson@redcross.org; David Tedder <dtedder@jaspercountysc.gov>; afulghum@jaspercountysc.gov; Porter, Henry <porterhj@dhec.sc.gov>; Frost, Keith <frostrk@dhec.sc.gov>; thompsrb@dhec.sc.gov; Keisler, Van <keislecv@dhec.sc.gov>; Blalock, Juli <blalocje@dhec.sc.gov>; dickmaj@dhec.sc.gov; Garrard, Jordan <Garrard.Jordan@epa.gov>; John Snyder <john.snyder@tetratech.com>; Clay Graves <cgraves@jaspercountysc.gov>; Russell Wells <rwells@jaspercountysc.gov>; eturner@emd.sc.gov; Threatt, Richard <threatrl@dhec.sc.gov>
CC: Marshall, Frances (Fran) <marshaf2@dhec.sc.gov>; Marcus, Mike <MARCUSJM@dhec.sc.gov>; Scaturo, David M. <scaturdm@dhec.sc.gov>; Boyce, Lawra <boycelc@dhec.sc.gov>; Ellenberg, Kristy E. <ellenbke@dhec.sc.gov>; Scott Reynolds <reynolds@dhec.sc.gov>; shealyrg@dhec.sc.gov
Subject: Able Construction Work Group - Conference Call 10 am Friday

Hi Team! Just a reminder of our 10 am conference call tomorrow morning.....conference line/code highlighted in yellow at the end of the notes below.....talk soon!

DHEC staff: gathering in the SARR conference room

Myra C. Reece
Director of Environmental Affairs
S.C. Dept. of Health & Environmental Control
Office: (803) 898-4102
Mobile: (803) 667-1113
Connect: www.scdhec.gov Facebook Twitter

From: Tisha L. Williams <tlwilliams@jaspercountysc.gov>

Sent: Tuesday, July 30, 2019 10:44 AM

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Thursday, August 8, 2019 5:39:12 PM
To: Matthew Huyser <Huyser.Matthew@epa.gov>
Subject: Able Contracting

FYI, Wilda is the site attorney, im a typing up a contact list for you.

Jordan

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Saturday, August 3, 2019 10:09:45 PM
To: Wise, Katie <katie.wise@tetratech.com>; John Snyder <john.snyder@tetratech.com>; Jardine, Rick <Jardine.Richard@epa.gov>; Paul Prys <Paul.Prys@tetratech.com>
Subject: Able Contracting

Katie, can you update the story map with the roving air monitoring locations.

Thanks

Jordan Garrard
On Scene Coordinator
EPA Region 4
Garrard.jordan@epa.gov
678-644-8648

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Thursday, August 1, 2019 6:58:44 PM
To: Scott Reynolds <reynolds@dhec.sc.gov>; keith.frost@dhec.sc.gov; rwells@jaspercountysc.gov
Subject: Able Contracting

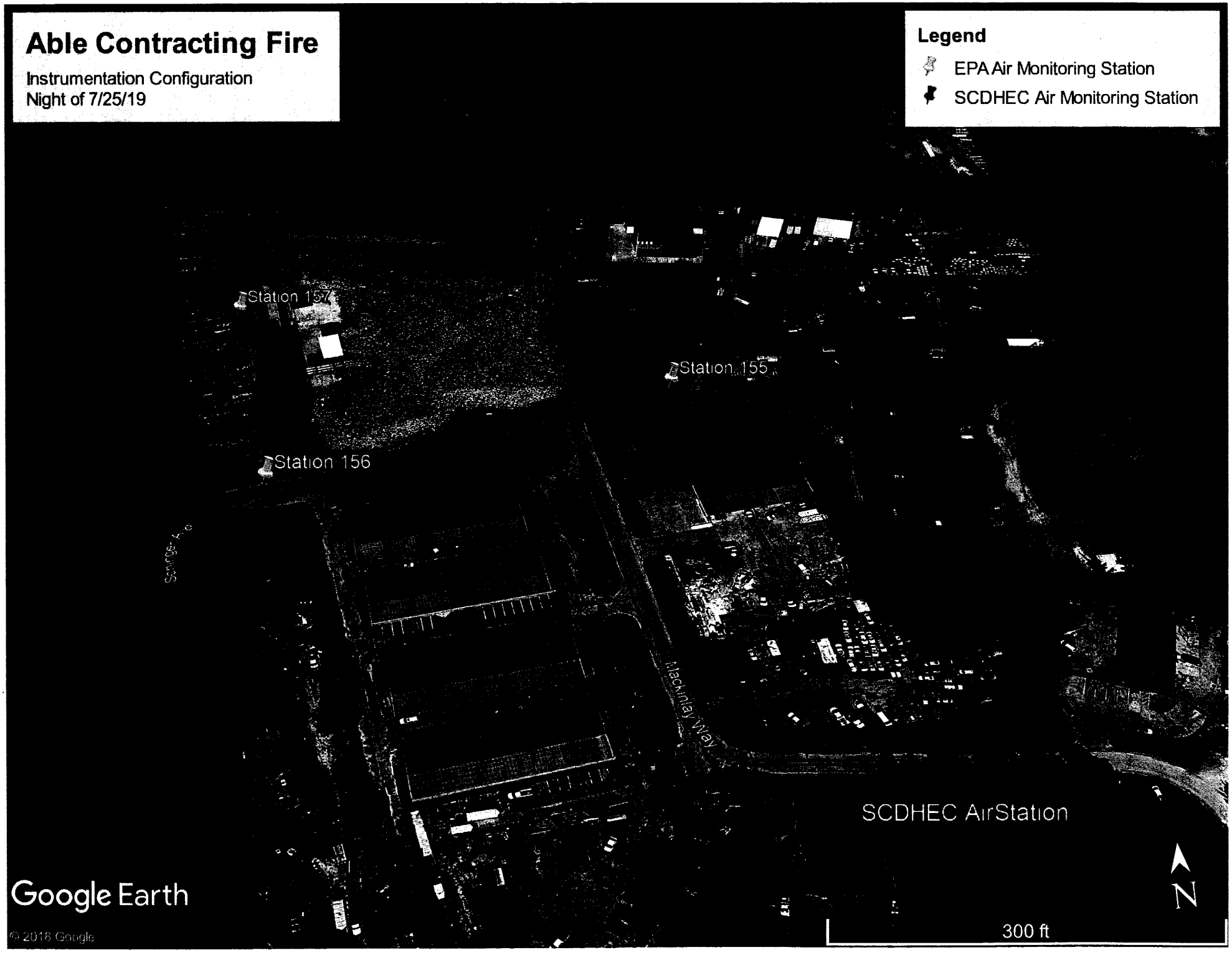
All,

Mr. Lloyd called me this afternoon. According to Mr. Lloyd from someone at the county told him that firefighting activities couldn't resume until the EPA received the sampling results. I want to confirm full scale firefighting activities can resume either by the owner, contractor, or Jasper County Emergency Services. We don't need to wait for analytical results if someone wants to begin putting out the fire permanently.

Jordan Garrard
On-Scene Coordinator
EPA Region 4
Emergency Response and Removal Branch
Work: 404-562-8642
Cell: 678-644-8648

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Thursday, August 1, 2019 5:45:01 PM
To: Frederick, Tim <Frederick.Tim@epa.gov>
Subject: able contracting
Attachments: Map for 7072619 meeting.pdf (12.03 MB), SOGT106_Particulate_Monitoring_Guideline_02232017_final.pdf (489.33 KB), Viper Summary report_AR and DustTrack_ABLE CONTRACTING_072619.pdf (166.16 KB), Viper_Summary_Report_AR and DustTrack_07272019_0700_07282019_0700.pdf (265.39 KB), Viper_Summary_Report_AR and DustTrack_ABLE CONTRACTING_072519_1951_through_07262019_0700.pdf (166.16 KB), Viper_Summary_Report_AR and DustTrack_ABLE CONTRACTING_072619_0700_through_07262019_1900.pdf.pdf (193.92 KB), Viper_Summary_Report_AR and DustTrack_ABLE CONTRACTING_072619_1900_through_07272019_0700.pdf (158.44 KB), Viper_Summary_Report_AR and DustTrack_Able_Contracting_07282019_0700_07292019_0200.pdf (200.43 KB)

Station 155 – Station 1
Station 156 – Station 2
Station 157 – Station 3
Station 4 is arearae to the northwest of station 3


Able Contracting Fire
Instrumentation Configuration
Night of 7/25/19
Legend
EPA Air Monitoring Station
SCDHEC Air Monitoring Station
Station 157
Station 155
Station 156
Mackinlay Way
SCDHEC AirStation
N
300 ft
Google Earth
© 2018 Google

Summary

- This guide is intended to be used for monitoring particulates released from fires. Effects from other potential pollutants and products of combustion are not addressed in this document. Refer to EPA Emergency Response Air Monitoring Guidance Tables, 2012 Edition 3[a] for guidance on other pollutants.
- $PM_{2.5}$ is the preferred metric for fire response particulate monitoring.
- The DataRAM 4 and the DustTrak DRX 8533EP are the standard monitoring instrument for measuring particulate concentrations.
- The E-BAM, available from ERT, is the alternate monitoring instrument when accuracy is a critical factor.
- Instrument accessories may be needed to offset weather variables and provide power during extended monitoring periods.
- Establish monitoring sites downwind of the hot zone and immediately upwind. Monitoring may also be recommended in the hot zone if there is a health risk to response workers.
- Use Table 1 to select the appropriate response action. Community action levels apply to everyone in neighboring areas affected by smoke. Worker action levels apply to response workers at the site.

Introduction

Fire presents a multitude of health and safety hazards as a result of effects on air quality. Smoke is the most visible air pollutant and is composed of Carbon Monoxide (CO), Carbon Dioxide (CO_2), Water Vapor, Particulate Matter (PM), hydrocarbons, organic chemicals, Nitric Oxides (NO_X), and minerals. Smoke can disperse quickly and may present significant health risks for nearby communities. Variables that impact dispersion include wind, temperature, moisture, and topography. Air monitoring guidance for these and other products of combustion are presented in the EPA Emergency Response Air Monitoring Guidance Tables[a].

PM consists of solid and liquid particles suspended in air. PM can readily enter the body through inhalation and can cause both acute and chronic health effects. Particulates will be present in all smoke resulting from a fire, regardless of the fuel source; however, different types of fuels will produce different sizes and concentrations of PM. Heat is also a factor which can effect particulate concentrations. After a fire has been suppressed, particulate concentrations can be higher during the smoldering phase because of less-complete combustion[b].

Most particulates in smoke are between 0.4 - 0.7 micrometers (μm) which is considered respirable. Particulates are typically classified as PM_{10} or $PM_{2.5}$ which refers to the particulate size.

- PM_{10} is defined as "course" particles measuring 10 μm or less in diameter.
- $PM_{2.5}$ is defined as "fine" particles with a diameter equal to or less than 2.5 μm.

It is recommended that monitoring efforts focus on measuring $PM_{2.5}$ during emergency fire responses. The California Air Resource Board states that most smoke particulates are between 0.4 – 0.7 μm, and concludes $PM_{2.5}$ would be a more practical monitoring parameter to use[b]. In 2007, Naeher et al. also indicated that $PM_{2.5}$ was the more suitable particulate monitoring metric [c]. Further, the EPA Air Quality Index (AQI) uses $PM_{2.5}$ in the health rating guide, also suggesting that $PM_{2.5}$ is the more appropriate standard when looking at the health hazards of particulates.

Links to Additional Information:

- Graph of particle size distribution of atmospheric particles
- Graph of particle size from particulate emissions
- Emission Study with graph of particle size distribution

Air Quality Thresholds, Actions and Recommendations

Evacuation and/or protect-in-place procedures should be recommended for areas downwind of or in the visible smoke cloud.

Once instrument readings become available, the concentrations may be an indication of potential exposure. Table 1 (for $PM_{2.5}$) and Table 2 (for PM_{10}) lists the threshold levels for different concentrations and the recommended actions that should be taken to prevent harm to community members and workers/responders at the response site. These actions may include communication with community members, evacuations, and medical monitoring. Consider consulting ATSDR to assist with generating public health statements, factsheets and possible development of a medical monitoring plan.

Criteria listed in the Protective Action Criteria (PAC) were assessed, but the values for particulates were much higher than those used in the AQI[d]. Because of this, the PAC values are not the preferred metric for response action guidance.

Odors and visible air opacity may trigger complaints and concerns in affected areas. Conditions and individual sensitivities can play a significant role in determining the point at which smoke becomes noticeable. If such concerns are presented, monitoring instrument results and Table 1 (for $PM_{2.5}$) and Table 2 (for PM_{10}) recommendations should be used to guide response actions.

TABLE 1: Threshold Levels and Recommended Response Actions for $PM_{2.5}$

$PM_{2.5}$ Threshold Levels ($\mu g/m^3$)				
1 Hr. Avg.[1]	**24 Hr. Avg.[1]**	**Level of Health Concern**	**Meaning**	**Action**
COMMUNITY ACTION LEVELS				
0.0 – 40.0	0.0 – 12.0	Good	Air quality is considered satisfactory, and air pollution poses little or no risk	Implement communication plan [2].
40.1 – 80.0	12.1 - 35.4	Moderate	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive [3] to air pollution.	Issue public announcement about health effects [2]. Stay out of areas with visible smoke.
80.1 – 175.0	35.5 - 55.4	Unhealthy for Sensitive Groups	Members of sensitive groups may experience health effects. The general public is not likely to be affected.	Recommend evacuation or shelter-in-place for sensitive populations [2,4].
175.1 – 300.0	55.5 - 150.4	Unhealthy	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.	Consider closing schools and cancelling outdoor events. Recommend shelter-in-place for affected neighborhoods.
300.1 - 500.0	150.5 - 250.4	Very Unhealthy	Health warnings of emergency conditions. The entire population is more likely to be affected.	Consider closing schools and cancel all outdoor events. Recommend shelter-in-place and/or evacuation for affected neighborhoods.
> 500.0	> 250.5	Hazardous	Health alert: everyone may experience more serious health effects	Recommend closing schools & cancel outdoor events. Recommend closing workplaces and evacuating affected neighborhood.
Source	**Particulates not otherwise regulated/specified ($\mu g/m^3$) 8 Hr. Avg.**		**Meaning**	**Action**
WORKER ACTION LEVELS				
OSHA PEL	15,000 (total dust) 5,000 (respirable fraction - <10µm)		Safe with use of level D PPE up to this level.	Levels above the 8 hour TWA require the use of level C PPE (use P100 particulate filter). See ERRB P100 – PPE Guidelines for Specific Activities/Tasks and P102 - Respiratory Protection Equipment Selection.
ACGIH TLV	10,000 (inhalable fraction - <100µm) 3,000 (respirable fraction - <10µm)		Safe with use of level D PPE up to this level.	Consider implementing industrial hygiene measures and/or using level C PPE.

[1] Threshold values taken from original EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc for $PM_{2.5}$ (24 hour) and Idaho Department of Environmental Quality AQI for $PM_{2.5}$ (1 hour) taken from http://app.airsis.com/usfs/aqi.asp.

[2] Recommendations from EPA Air Now web site. See Reference E.

[3] People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.

[4] Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air. See Reference E.

TABLE 2: Threshold Levels and Recommended Response Actions for PM_{10}

PM_{10} Threshold Levels ($\mu g/m^3$)[1] 24 Hr. Avg.	Level of Health Concern	Meaning	Action
COMMUNITY ACTION LEVELS			
0.0 – 12.0	Good	None	Implement communication plan [2].
12.1 – 55.0	Moderate	Unusually sensitive[3] people should consider reducing prolonged or heavy exertion.	Issue public announcement about health effects [4].
55.1 – 155.0	Unhealthy for Sensitive Groups	Increasing likelihood of respiratory symptoms and aggravation of lung disease, such as asthma.	Recommend evacuation or shelter-in-place for sensitive populations [2,4].
155.1 – 255.0	Unhealthy	Increased respiratory symptoms and aggravation of lung disease, such as asthma; possible respiratory effects in general population.	Consider closing schools and cancelling outdoor events. Recommend shelter-in-place for affected neighborhoods.
255.1-355.0	Very Unhealthy	Significant increase in respiratory symptoms and aggravation of lung disease, such as asthma; increasing likelihood of respiratory effects in general population.	Consider closing schools and cancel all outdoor events. Recommend shelter-in-place and/or evacuation for affected neighborhoods.
355.1-425.0	Hazardous	Serious risk of respiratory symptoms and aggravation of lung disease, such as asthma; respiratory effects likely in general population.	Recommend closing schools & cancel outdoor events. Recommend closing workplaces and evacuating affected neighborhood.

[1] Threshold values taken from EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc
[2] Recommendations from EPA Air Now web site. See Reference E.
[3] People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
[4] Sensitive individuals defined as people with lung disease, older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, older adults and children who are at greater risk from the presence of particles in the air. See Reference E.

Monitoring Instruments and Methods

Region IV Emergency Response, Removal and Prevention Branch (ERRPB) currently uses the DataRAM 4 and the DustTrak DRX 8533EP for particulate monitoring.

The DustTrak DRX 8533EP was added to the Branch inventory in February 2017. The DustTrak uses light scattering measurement similar to the DataRAM 4 but has the ability to both size and mass fractions simultaneously. The unit concurrently provides PM10, PM4, PM2.5, PM1 and Total particulate data without having to change the impactor head. The customized units the Branch maintains have external pumps, and a built in/automatic heater unit that is preset to keep the moisture level below 40%.

The DataRAM 4 has advantages such as portability, an internal power supply, and a large detection range. One of the drawbacks of the DataRAM 4 is that mass concentrations tend to be over-estimated. United States Forestry Service (USFS) studies have shown that the DataRAM 4 estimations are on average 144% higher than actual concentrations[f]. Because of this, the USFS recommends applying a correction factor of 0.39 to instrument readings[f]. The DataRAM 4 is the preferred instrument when portability is important and/or if very high concentrations are expected (i.e. at source).

The E-BAM monitor is available through EPA Environmental Response Team (ERT), and is considered to be the most accurate monitoring instrument available. Some of the drawbacks include reduced portability (heavier, awkward shape), narrow detection range, and it requires an auxiliary power source. The E-BAM is the preferred instrument when accuracy is a critical factor and high concentrations are not expected (i.e. better for measuring fugitive dust concentrations on metals removal sites).

Use of monitoring instruments can also be affected by available resources, weather, and environmental conditions. Accessories and adapters may be required to offset the effects of these variables.

- Heater: A temperature conditioning heater must be used if humidity is > 40%. Without a heater in these conditions, measurements may be biased towards higher readings. Refer to instrument manual for further instruction. These are available for most particulate monitoring instruments.
- Power Generation: Most instruments will run for 15-24 hours on a full battery charge. A generator, solar panel, or auxiliary battery system will likely be needed for equipment without a built-in power supply or for continuous monitoring > 15 hours.
- GFCI: If a power generation system is used, a power strip/surge protector should be used to accommodate other accessories and monitoring equipment. This will also prevent possible electrical damage to expensive equipment.
- Impactor: The DataRAM and DustTrak are used with an impactor attachment which connects to the air intake. This functions as a pre-collector to help offset some of the effects of wind and precipitation. It should be utilized at all times.

TABLE 3. Instruments Available for an EPA Response

Criteria	DataRAM 4	E-BAM	DUSTTRAK DRX 8533EP
Accuracy (% above actual) [1]	144%	1%	Not determined
Detection Range (μg/m³) [2]	0.1 - 400,000	0.1 - 65,000	0.1 - 400,000
Weight (lbs)$_2$	13	28 (without battery)	
Setup Time	15 min	15-30 min	15 min
Measurement Method	light scattering	filter tape	90° light scattering
Power Requirements	Re-chargeable internal battery. 24 hr. run time.	Requires AC power source or external DC. Solar option avail.	Dual re-chargeable batteries, 12 hour run time each.
Availability	Regional Readiness Center (6 units)	1-2 days via EPA ERT	Regional Readiness Center (3 units)

[1] based on results from US Forest Service 2006 study *Smoke Particulate Monitors*. See Reference F.
[2] taken from manufacturers specifications.

Table 4. Comparison of Common Particulate Monitors on the Market

Criteria	DataRAM 4000	DataRAM 2000	E-BAM	E-Sampler	DUSTTRAK
Accuracy (% above actual)[1]	144%	15%	1%	13%	217%
Detection Range ($\mu g/m^3$)[2]	0.1 - 400,000	0.1 - 400,000	0.1 - 65,000	0.1 - 65,000	0.1 - 400,000
Weight (lbs)[2]	13	12	28 (without battery)	12 (without battery)	9 (device only); 38 (with enclosure)
Setup Time	15 min	15 min	15-30 min	15-30 min	Unknown
Measurement Method	light scattering	light scattering	filter tape	light scattering	90-degree light scattering
Power Requirements	Re-chargeable internal battery. 24 hr. run time.	Re-chargeable internal battery. 24 hr. run time.	Requires AC power source or external DC. Solar option	Requires AC power source or external DC. Solar option	Re-chargeable internal battery. 15-24 hr. run time.

[1] based on results from US Sorest Service 2006 study *Smoke Particulate Monitors*. See Reference a.
[2] taken from manufacturers specs

Monitoring Locations

Monitoring for particulates should take place both at the work zone and in surrounding areas where the smoke may travel or accumulate. Consider areas between the release point and sensitive receptors. Temperature, wind, and humidity can affect where smoke travels. As the earth's surface is heated in the afternoon, the atmosphere becomes more unstable when heated air expands. This causes smoke to disperse in a more vertical pattern in the afternoon and early evening. Warm temperatures or major changes in daytime high/low temperatures will cause the smoke to rise higher than in cooler temperatures with a narrow high/low range. As the atmosphere stabilizes overnight and through the morning, smoke will disperse horizontally and settle into low-lying areas and valleys[g].

Wind is a significant factor in smoke dispersion. Unstable atmospheric conditions in the afternoon also increase wind speed which increases the rate and distance of dispersion. Humidity above 80% can cause moisture to condense on smoke particles. This can create a fog type effect which slows and settles smoke. Precipitation can cause a similar effect and slow dispersion. Atmospheric inversions should be taken into consideration when determining monitoring locations and recommending evacuation or protect-in-place zones. An atmospheric inversion occurs when a layer of air that is warmer than the air below traps the surface air in place and prevents dispersion of any pollutants it contains.

Surface structures such as buildings and trees can significantly change air flow direction and cause stagnant air pockets to form. This can trap smoke in small, confined areas and create hot spots with significantly higher particulate concentrations than nearby locations. When monitoring areas which are surrounding the source consider the following:

- Downwind areas will be most impacted by smoke.
- It should be expected that particulate readings at ground level will be higher at night or in the morning than in the afternoon or early evening.

Monitoring at the work zone may be necessary to establish appropriate levels of PPE for response workers. This will also help to determine safe areas to stage response support activities where workers may not be using protective equipment.

When choosing a monitoring site, some additional items should also be considered:

- Availability of power sources will determine what type of power generation is required. The absence of auxiliary power will require more frequent maintenance and may require additional staffing, especially if the monitoring period is > 24 hours.
- Consider security measures (i.e. locked boxes, chains, etc.) if instruments are to be sited in public areas and left unattended.
- Ensure generators or equipment from other activities which may release emissions do not interfere with monitoring stations.
- Power lines or electrical utility areas should be avoided.

Health Effects

PM_{10} and $PM_{2.5}$ are considered to be respirable. Particulates > 10 µm do not typically reach the lungs, but can irritate the eyes, nose, and throat. Although PM_{10} is respirable, $PM_{2.5}$ is inhaled deeper into lung tissue due to their small size (approximately 1/30th the average width of human hair[h]), and thus presents a greater health hazard than larger particulates. PM between 0.1 µm and 1 µm can remain in the atmosphere for days or weeks, meaning there is a potential for long range dispersion from the source.

Smoke and particulate exposure will typically have the largest effect on the respiratory system. Irritation and coughing are common acute symptoms of exposure to particulates. Individuals subject to particulate exposure may first notice irritation of the throat, eyes, and nose. This may be followed by coughing, chest pain, and shortness of breath if exposure continues.

- Acute effects of particulate exposure include irritation of the respiratory system, coughing, and breathing difficulties.
- Chronic effects of particulate exposure include reduced lung function, asthma, lung cancer, chronic bronchitis, cardiovascular disease, premature death, and may cause birth defects[e].

These symptoms can be magnified for sensitive individuals, which can include groups or individuals with pre-existing conditions (e.g.: asthma, heart disease, lung disease), children, the elderly, and pregnant women. Sensitive individuals can experience aggravation of respiratory and cardiovascular systems at lower levels which may not affect non-sensitive individuals[e].

PM can also transport other pollutants which creates additional health concerns. Special consideration and precautions should be made if other pollutants are expected. ATSDR can provide assistance with generating public health statements, factsheets and possible development of a medical monitoring plan.

Reporting

Generate air monitoring summary reports to present data to the Incident Management Team (IMT) during Command, Planning, and Tactical meetings/briefings. Air monitoring summary reports typically group instruments by location and summarize each analyte result with number of readings, number of detections, concentration range, and a time-time weighted average over the period of the report. For particulates, specifically, the air monitoring report typically classifies the reporting period based on the AQI as seen in Table 1 and Table 2.

Develop the reporting schedule around the operational periods established by the IMT, and include sufficient time to review air monitoring summary reports prior to meetings/briefings since they often become the data backing up health-based decisions (e.g. whether to modify/implement evacuation zones or how to advise schools on openings/delayed starts).

References

a. EPA ERTG – *Air Monitoring Guidance Tables* http://www.epaosc.org/sites/0001/files/US%20EPA%20Air%20Tables%20Edition3_FINAL%202.pdf
b. California Air Resource Board. *Wildfire Smoke, A Guide for Public Health Officials*. July 2008. http://www.arb.ca.gov/carpa/toolkit/data-to-mes/wildfire-smoke-guide.pdf
c. Naeher, L.P., Brauer, M., Lipsett, M., Zelikoff, J.T., Simpson, C.D., Koenig, J.Q. and Smith, K.R. 2007. *Woodsmoke Health Effects: A Review*. Inhalation Toxicology. 19: 67–106.
d. US Department of Energy. *Protective Action Criteria http://www.atlintl.com/doe/teels/teel.html*
e. EPA Air Now. *Air Quality Index – A Guide to Air Quality and Your Health.* http://www.airnow.gov/index.cfm?action=aqibasics.aqi
f. USDA Forest Service – Technology Development Program. *Smoke Particulate Monitors: 2006 Update.* December 2006. https://www3.epa.gov/ttnamti1/files/ambient/smoke/ebamrpt.pdf
g. Auburn University. *Smoke Dispersion* *http://www.auburn.edu/academic/forestry_wildlife/fire/smoke_guide/smoke_dispersion.htm*
h. US Environmental Protection Agency. Fine particle ($PM_{2.5}$) Designations, Frequent Questions. http://www.epa.gov/pmdesignations/faq.htm

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire**

From: **7/25/19 19:51** ***To:*** ***7/26/19 7:00***

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	7,362	5,396	0 - 30,618 ppb	49.5 ppb	1,000 ppb
	CO	No	7,362	662	0 - 36 ppm	0.5 ppm	83 ppm
	H_2S	No	7,362	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,362	7,362	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,362	0	0 - 0%	0%	10%
DustTrak 1	PM-2.5	Moderate	11,564	11,564	2 - 652 µg/m³	13.8 µg/m³	See SOG #: T106

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	6,209	315	0 - 1,349 ppb	7.4 ppb	1,000 ppb
	CO	No	6,209	2,943	0 - 41 ppm	5.1 ppm	83 ppm
	H_2S	No	6,209	202	0 - 2.3 ppm	0 ppm	0.5 ppm
	O_2	No	6,209	6,209	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,209	0	0 - 0 %	0%	10%
DustTrak 2	PM-2.5	Moderate	14,670	14,670	9 - 438 µg/m³	33.8 µg/m³	See SOG #: T106

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	6,741	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	6,741	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	6,741	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,741	6,741	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,741	0	0 - 0%	0%	10%
DustTrak 3	PM-2.5	Moderate	8,281	8,281	11 - 216 µg/m³	23.3 µg/m³	See SOG #: T106

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	6,476	15	0 - 698 ppb	0.4 ppb	1,000 ppb
	CO	No	6,476	26	0 - 10 ppm	0 ppm	83 ppm
	H_2S	No	6,476	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,476	6,476	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,476	0	0 - 0%	0%	10%

Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Able Contracting Fire

From: **7/27/19** **0700 hours** ***To:*** ***7/28/19*** ***0700 hours***

Location 1						
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Av**
AreaRAE 1	VOC	No	11,334	6,623	0 - 2535 ppb	86.3 p
	CO	No	11,334	455	0 - 11 ppm	0.2 pp
	H_2S	No	11,334	0	0 - 0 ppm	0 pp
	O_2	No	11,334	11,334	20.9 - 20.9%	20.9
	LEL	No	11,334	0	0 - 0%	0%
DustTrak 1	PM-2.5	Good	41,230	39,154	0 - 498 µg/m³	8.5 µg

Location 2						
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Av**
AreaRAE 2	VOC	No	11,166	45	0 - 718 ppb	6.1 pp
	CO	No	11,166	135	0 - 7 ppm	0 pp
	H_2S	No	11,166	4	0 - 0.6 ppm	0 pp
	O_2	No	11,166	11,166	20.9 - 20.9%	20.9
	LEL	No	11,166	0	0 - 0 %	0%
DustTrak 2	PM-2.5	Very Unhealthy	48,763	48,763	8 - 6550 µg/m³	202.6 µ

Location 3						
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Av**
AreaRAE 3	VOC	No	11,528	7,621	0 - 3538 ppb	70.6 p
	CO	No	11,528	31	0 - 7 ppm	0 pp
	H_2S	No	11,528	0	0 - 0 ppm	0 pp
	O_2	No	11,528	11,528	20.9 - 20.9%	20.9
	LEL	No	11,528	0	0 - 0%	0%
DustTrak 3	PM-2.5	Unhealthy	42,191	42,191	16 - 7890 µg/m³	88.4 µg

min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppm	Parter per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
$\mu g/m^3$	Micrograms per cubic meter
VOC	Volatile organic compoud

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: **Able Contracting Fire**

From: **7/25/19 19:51** ***To:*** ***7/26/19 7:00***

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	7,362	5,396	0 - 30,618 ppb	49.5 ppb	1,000 ppb
	CO	No	7,362	662	0 - 36 ppm	0.5 ppm	83 ppm
	H_2S	No	7,362	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,362	7,362	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,362	0	0 - 0%	0%	10%
DustTrak 1	PM-2.5	Moderate	11,564	11,564	2 - 652 µg/m³	13.8 µg/m³	See SOG #: T106

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	6,209	315	0 - 1,349 ppb	7.4 ppb	1,000 ppb
	CO	No	6,209	2,943	0 - 41 ppm	5.1 ppm	83 ppm
	H_2S	No	6,209	202	0 - 2.3 ppm	0 ppm	0.5 ppm
	O_2	No	6,209	6,209	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,209	0	0 - 0 %	0%	10%
DustTrak 2	PM-2.5	Moderate	14,670	14,670	9 - 438 µg/m³	33.8 µg/m³	See SOG #: T106

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	6,741	0	0 - 0 ppb	0 ppb	1,000 ppb
	CO	No	6,741	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	6,741	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,741	6,741	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,741	0	0 - 0%	0%	10%
DustTrak 3	PM-2.5	Moderate	8,281	8,281	11 - 216 µg/m³	23.3 µg/m³	See SOG #: T106

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	6,476	15	0 - 698 ppb	0.4 ppb	1,000 ppb
	CO	No	6,476	26	0 - 10 ppm	0 ppm	83 ppm
	H_2S	No	6,476	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,476	6,476	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,476	0	0 - 0%	0%	10%

Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Able Contracting Fire

From: **7/26/19 7:00** ***To:*** ***7/26/19 18:59***

Location 1

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	7,598	109	0 - 6,319 ppb	7 ppb	1,000 ppb
	CO	No	7,598	529	0 - 19 ppm	0.3 ppm	83 ppm
	H_2S	No	7,598	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,598	7,598	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,598	0	0 - 0%	0%	10%
DustTrak 1	PM-2.5	Good	25,313	25,310	0 - 220 µg/m³	6.3 µg/m³	See SOG #: T106

Location 2

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	7,795	111	0 - 5,277 ppb	2.4 ppb	1,000 ppb
	CO	No	7,795	148	0 - 13 ppm	0.1 ppm	83 ppm
	H_2S	No	7,795	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,795	7,795	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,795	0	0 - 0 %	0%	10%
DustTrak 2	PM-2.5	Unhealthy	44,965	44,965	1 - 1260 µg/m³	84.2 µg/m³	See SOG #: T106

Location 3

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	8,496	4,210	0 - 20,802 ppb	45.9 ppb	1,000 ppb
	CO	No	8,496	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	8,496	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	8,496	8,496	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	8,496	0	0 - 0%	0%	10%
DustTrak 3	PM-2.5	Unhealthy for Sensative Groups	38,022	38,022	14 - 1390 µg/m³	52 µg/m³	See SOG #: T106

Location 4

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	7,855	88	0 - 21,572 ppb	4.7 ppb	1,000 ppb
	CO	No	7,855	607	0 - 24 ppm	0.5 ppm	83 ppm
	H_2S	No	7,855	17	0 - 1 ppm	0 ppm	0.5 ppm
	O_2	No	7,855	7,855	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,855	0	0 - 0%	0%	10%

Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Able Contracting Fire

From: **7/26/19** **1900 hours** ***To:*** ***7/27/19*** ***0700 hours***

Location 1

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	6,934	4,053	0 - 881 ppb	27.8 ppb	1 ppm
	CO	No	6,934	268	0 - 11 ppm	0.2 ppm	83 ppm
	H_2S	No	6,934	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	6,934	6,934	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	6,934	0	0 - 0%	0%	10%
DustTrak 1	PM-2.5	Good	36,181	36,175	0 - 417 µg/m³	7.6 µg/m³	See SOG #: T106

Location 2

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	7,164	1,248	0 - 1513 ppb	24.8 ppb	1 ppm
	CO	No	7,164	426	0 - 16 ppm	0.2 ppm	83 ppm
	H_2S	No	7,164	13	0 - 1 ppm	0 ppm	0.5 ppm
	O_2	No	7,164	7,164	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,164	0	0 - 0 %	0%	10%
DustTrak 2	PM-2.5	Very Unhealthy	44,566	44,566	10 - 10400 µg/m³	167.8 µg/m³	See SOG #: T106

Location 3

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	7,952	7,952	0 - 920 ppb	31.9 ppb	1 ppm
	CO	No	7,952	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	7,952	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,952	7,952	20.9 - 21.1%	20.9%	<19.5 or >23%
	LEL	No	7,952	0	0 - 0%	0%	10%
DustTrak 3	PM-2.5	Unhealthy	39,505	39,505	16 - 2430 µg/m³	57.8 µg/m³	See SOG #: T106

Location 4

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	7,372	219	0 - 112984 ppb	29.2 ppb	1 ppm
	CO	No	7,372	59	0 - 23 ppm	0.1 ppm	83 ppm
	H_2S	No	7,372	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	7,372	7,372	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	7,372	0	0 - 0%	0%	10%

Notes:

- % Percent
- < Less than
- > Greater than
- AEGL Acute Exposure Guideline levels for airborne chemicals
- CO Carbon monoxide
- H_2S Hydrogen Sulfide
- LEL Lower Explosive Level

min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppm	Parter per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
$\mu g/m^3$	Micrograms per cubic meter
VOC	Volatile organic compoud

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Able Contracting Fire

From: **7/28/19 0700 hours** ***To:*** ***7/29/19 0200 hours***

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 1	VOC	No	2,452	1,406	0 - 3,302 ppb	77.7 ppb	1,000 ppb
	CO	No	2,452	26	0 - 6 ppm	0 ppm	83 ppm
	H_2S	No	2,452	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	2,452	2,452	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	2,452	0	0 - 0%	0%	10%
DustTrak 1	PM-2.5	Good	6,341	6,332	0 - 351 µg/m³	8.6 µg/m³	See SOG #: T106

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 2	VOC	No	2,432	1	0 - 119 ppb	0 ppb	1,000 ppb
	CO	No	2,432	3	0 - 4 ppm	0 ppm	83 ppm
	H_2S	No	2,432	1	0 - 0.4 ppm	0 ppm	0.5 ppm
	O_2	No	2,432	2,432	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	2,432	0	0 - 0 %	0%	10%
DustTrak 2	PM-2.5	Unhealthy for Sensitive Groups	7,267	7,267	11 - 363 µg/m³	40.6 µg/m³	See SOG #: T106

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 3	VOC	No	2,449	1,096	0 - 3,200 ppb	36 ppb	1,000 ppb
	CO	No	2,449	0	0 - 0 ppm	0 ppm	83 ppm
	H_2S	No	2,449	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	2,449	2,449	20.9 - 20.9%	20.9%	<19.5 or >23%
	LEL	No	2,449	0	0 - 0%	0%	10%
DustTrak 3	PM-2.5	Unhealthy	4,708	4,708	19 - 1060 µg/m³	101.6 µg/m³	See SOG #: T106

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL/TLV/60 min AEGL)
AreaRAE 4	VOC	No	2,434	404	0 - 36,051 ppb	27.5 ppb	1,000 ppb
	CO	No	2,434	95	0 - 19 ppm	0.2 ppm	83 ppm
	H_2S	No	2,434	0	0 - 0 ppm	0 ppm	0.5 ppm
	O_2	No	2,434	2,434	20.9 - 21.3%	20.9%	<19.5 or >23%
	LEL	No	2,434	0	0 - 0%	0%	10%

Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline levels for airborne chemicals
CO	Carbon monoxide
H_2S	Hydrogen Sulfide
LEL	Lower Explosive Level
min	Minute
O_2	Oxygen
PEL	Permissible exposure limit
ppm	Parts per million
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
TLV	Threshold limit value
µg/m³	Micrograms per cubic meter
VOC	Volatile organic compoud

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Thursday, August 1, 2019 5:06:45 PM
To: Webster, James <Webster.James@epa.gov>; Moore, Tony <moore.tony@epa.gov>
Subject: Able Contracting

Jim,
We are having the conference call tomorrow at 10:00 am with SCDech and jasper county to discuss the results of the air sampling. I was asking Glenn and question and he mentioned there was a conference call tomorrow with epa air division. Just wanting to confirm if there is another call I need to be on.
Jordan

Jordan Garrard
On Scene Coordinator
EPA Region 4
Garrard.jordan@epa.gov
678-644-8648

From: <ert-frcc@dhec.sc.gov>
Sent on: Thursday, July 25, 2019 3:13:14 PM
To: R4DutyOSC <R4DutyOSC@epa.gov>
CC: leepd@dhec.sc.gov
Subject: Able Contracting - Okatie (Ridgeland)

Matt,

I spoke with Renee Shealy - our Bureau Director and she informed me that Myra Reece - Environmental Affairs Director and Henry Porter - Bureau Director or Land and Waste Management (both with DHEC) are meeting with county officials in Jasper and Beaufort tomorrow. EMD representative Kim Stinson will also be at the meetings. It is requested that EPA be in attendance. Details and times are not available at this time.

Richard Threatt - Office Manager for the Beaufort Regional Office is involved with a group discussion regarding the site and is up to date on current status and activities. He will be the best contact for meeting information for tomorrow and EPA OSC involvement. His number is 843-986-4426 or the office number is 843-846-1030.

I am working on getting the NRC report generated.

Thanks!
Dana

Duty Officer, Division of Emergency Response
S.C. Department of Health & Environmental Control
Mobile: (803) 920-4840
24-Hour: (888) 481-0125
ert-frcc@dhec.sc.gov

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Thursday, August 8, 2019 6:21:39 PM
To: Matthew Huyser <Huyser.Matthew@epa.gov>; Benjamin Franco <Franco.Benjamin@epa.gov>
Subject: Able Contracting

Current ceiling for START TDD is $90,000. I don't know if it would all fall under Removal Action or Assessment, I don't know how management would classify the sampling that was completed. I have also drafted 2 polreps, which are awaiting mgmt approval.

Jordan

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent on: Sunday, August 4, 2019 1:05:13 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
CC: John Snyder <john.snyder@tetratech.com>; Lawrence, Laura <Laura.Lawrence@tetratech.com>
Subject: Able Contracting Air Monitoring Results - 080319 - 080419
Attachments: Viper Summary report_SPM_08032019-08042019.pdf (116.39 KB)

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

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Armstrong, Kathy

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent: Sunday, August 04, 2019 9:05 AM
To: Garrard, Jordan
Cc: John Snyder; Lawrence, Laura
Subject: Able Contracting Air Monitoring Results - 080319 - 080419
Attachments: Viper Summary report_SPM_08032019-08042019.pdf

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

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Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: ABLE CONTRACTING FIRE

From: **8/3/19** **0:00** ***To:*** ***8/4/19*** ***6:59***

Location 1 (Southwest Corner Residential Property Line)							
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Average**	**Action Level (PEL / RML / 60 min AEGL)**
SPM Flex 1	Phosgene (COCl2)	3	4337	3	0 - 6 ppb	0 ppb	100 ppb / 0.23ppb / 40 ppb

Location 2 (East Side of Pile)							
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Average**	**Action Level (PEL / RML / 60 min AEGL)**
SPM Flex 2	Phosgene (COCl2)	0	3267	0	0 - 0 ppb	0 ppb	100 ppb / 0.23ppb / 40 ppb

Location 3 (Northeast North)							
Instrument	**Analyte**	**Period Average Exceedances**	**Number of Readings**	**Number of Detections**	**Concentration Range**	**Period Average**	**Action Level (PEL / RML / 60 min AEGL)**
SPM Flex 3	Phosgene (COCl2)	5	4319	5	0 - 22 ppb	0 ppb	100 ppb / 0.23ppb / 40 ppb

Notes:

AEGL	Acute Exposure Guideline levels for airborne chemicals (8 hour exposure)
min	Minute
PEL	Permissible exposure limit
ppb	Parts per billion
RML	Removal Management Level
TLV	Threshold limit value

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Saturday, August 3, 2019 8:39:20 PM
To: Bryant, Melissa <Bryant.Melissa@epa.gov>; Schaefer, Joe <Schaefer.Joe@epa.gov>
Subject: Able Contracting fire

Melissa,

We are running 3 SPMs with phosgene tapes on viper at the able Contracting Fire. We would like a data pull from 0900 8/3/19 to 0700 8/4/19. We are planning on ending air monitoring tomorrow am.
Thanks

Jordan Garrard
On Scene Coordinator
EPA Region 4
Garrard.jordan@epa.gov
678-644-8648

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Friday, August 2, 2019 2:24:55 AM
To: Frederick, Tim <Frederick.Tim@epa.gov>; Moore, Tony <moore.tony@epa.gov>; James Webster <Webster.James@epa.gov>
Subject: Able Contracting Fire
Attachments: Draft_Summary Tables Able Contracting.pdf (74.83 KB)

Preliminary Data not QA/QC

2 hits above Residential RML - Phosgene and Acrolein

Phosgene detected in every sample including the field blank.

Acrolein detected in every sample.

Jordan Garrard
On-Scene Coordinator
EPA Region 4
Emergency Response and Removal Branch
Work: 404-562-8642
Cell: 678-644-8648

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, August 01, 2019 10:25 PM
To: Frederick, Tim; Moore, Tony; James Webster
Subject: Able Contracting Fire
Attachments: Draft_Summary Tables Able Contracting.pdf

Preliminary Data not QA/QC

2 hits above Residential RML - Phosgene and Acrolein

Phosgene detected in every sample including the field blank.

Acrolein detected in every sample.

Jordan Garrard
On-Scene Coordinator
EPA Region 4
Emergency Response and Removal Branch
Work: 404-562-8642
Cell: 678-644-8648

ABLE CONTRACTING FIRE
AIR SAMPLES
Summary of Detections
DATA HAS NOT BEEN QC'd - NOT FOR PUBLIC DISTRIBUTION

	EPA RMLs	BACKGROUND	STATION 1 (SE Corner)	STATION 2 (SW Corner)	STATION 1 (SE Corner)	STATION 2 (SW Corner)	STATION 1 (SE Corner)	STATION 2 (SW Corner)	STATION 1 (SE Corner)	STATION 2 (SW Corner)
		ACF-AS-BKGD-072819	ACF-AS-RES-AM-072719	ACF-AS-SMOKE-AM-072719	ACF-AS-RES-PM-072719	ACF-AS-SMOKE-PM-072719	ACF-AS-RES-AM-072819	ACF-AS-SMOKE-AM-072819	ACF-AS-RES-PM-072819	ACF-AS-SMOKE-PM-072819
		Sample Volume	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*
		946.3 Liters	*767 Liters*	*898.6 Liters*	*965.3 Liters*	*913.3 Liters*	-	-	-	-
		None detected	None detected	None detected	None detected	None detected	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*
		537.10 Liters	-	-	-	-	*473.90 Liters*	*603.90 Liters*	*542.50 Liters*	*550.50 Liters*
	0.94	[illegible]	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*	[illegible]	[illegible]	[illegible]	[illegible]
		516.20 Liters	*410.60 Liters*	*411.80 Liters*	*541.50 Liters*	*549.50 Liters*	-	-	-	-
	22	**4.88**	**1.70**	**2.50**	**3.04**	**6.09**	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*
		776.6 Liters	*672.6 Liters*	*657.5 Liters*	*744.8 Liters*	*784.6 Liters*	-	-	-	-
	16	**0.55**	**0.77**	**0.52**	**0.5**	**0.48**	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*
	1.6	**0.11**	**0.13**	**0.25**	**0.13**	**0.11**				
	Not Listed	**52.7**	**0.54**	**55.1**	**48**	**41.3**				
	Not Listed	**0.73**	**0.89**	**0.9**	**1.1**	**0.75**				
	Not Listed	**0.93**	**1.3**	**0.87**	**0.81**	**0.86**				
	Not Listed	**9.6**	**11.2**	**11.5**	**10.4**	**8.5**				
	Not Listed	**12.7**	**15.8**	**16.5**	**14.7**	**12**				
unds (µg/m³)		-	-	-	-	-	-	-	-	-
	97,000	**12**	**8.66**	**7.51**	**10.5**	**16.1**	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*
	190	**1.85**	**2.17**	**0.892**	**0.99**	**1.63**				
	0.063	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				
	36	**2.52**	**6.46**	**3.4**	**2.5**	**15.1**				
	6.3	**0.749**	**1.06**	**0.689**	**0.769**	**2.21**				
	2,200	**0.214**	**0.514**	**0.279**	**0.444**	**0.405**				
	47	**0.481**	**0.482**	**0.478**	**0.496**	**0.466**				
	31,000	0.19 U	0.191 U	0.19 U	0.195 U	**0.276**				
	280	**1.23**	**4.76**	**2.95**	**1.23**	**11.6**				
	3,100	**0.999**	**0.262**	0.25 U	**0.803**	0.253 U				
	56	**0.321**	**0.294**	0.26 U	0.267 U	**0.374**				
	Not Listed	**16.7**	**4.28**	**2.33**	**9.26**	**2.56**				
	110	**2.07**	**3.36**	**1.12**	**0.768**	**5.86**				
	Not Listed	**0.913**	0.355 U	0.354 U	0.363 U	**0.357** U				
	Not Listed	**1.18**	**1.38**	**1.33**	**1.4**	**1.28**				
	Not Listed	**2.33**	**2.4**	**2.38**	**2.41**	**2.36**				
	Not Listed	**0.554**	**0.66**	**0.547**	**0.605**	**0.577**				
	1,300	**2.26**	**0.769**	**0.365**	**0.891**	**1**				
	2,200	**4.05**	**1.55**	**0.647**	**2.37**	**1.43**				
	630	**0.404**	**0.468**	**0.434**	**0.949**	**0.478**				
	Not Listed	0.357 U	**0.838**	**0.421**	0.366 U	**1.06**				
tanone)	16,000	**1.02**	**0.847**	**0.805**	**0.612**	**1.57**				
	9,400	0.302 U	**0.373**	0.302 U	0.31 U	0.305 U				
	2,200	0.304 U	0.305 U	0.303 U	0.312 U	**0.857**				
	1,100	0.264 U	0.265 U	0.264 U	**0.312**	0.267 U				
	1,900	**0.691**	**0.871**	**0.674**	**0.999**	**0.651**				
	8.3	**0.336**	0.39 U	0.388 U	0.398 U	**0.537**				
	Not Listed	**0.99**	**0.353**	0.334 U	0.343 U	**0.562**				
	3,100	**0.629**	0.359 U	0.357 U	0.367 U	0.361 U				
	9,400	**2.91**	**7.88**	**3.99**	**2.96**	**14.2**				
	3,100	**0.348**	**1.71**	**2.13**	**0.446**	**8.66**				
	1,100	0.489 U	0.491 U	0.489 U	**0.736**	0.494 U				
	6,300	0.213 U	**0.472**	**0.373**	0.218 U	**0.796**				
	16,000	**9.82**	**6.48**	**2.62**	**5.08**	**7.6**				
	190	**3.23**	**0.784**	**0.318**	**0.817**	**0.414**				
	190	**0.898**	0.354 U	0.352 U	0.362 U	0.356 U				
	Not Listed	**2.12**	**0.684**	0.342 U	**0.487**	0.346 U				
	310	**6.86**	**2.37**	**0.941**	**2.51**	**1.66**				
	310	**2.75**	**0.95**	**0.362**	**0.916**	**0.759**				
mpounds (µg/m³)		*439.4 Liters*	*486.2 Liters*	*562.5 Liters*	*421.4 Liters*	*438.3 Liters*	-	-	-	-
pounds		None detected	None detected	None detected	None detected	None detected	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*

Able Contracting Fire
Environmental Protection Agency
The identification of the analyte is acceptable; the reported value is an estimate
Micrograms per cubic meter
Not Analysed
Not Detected
Removal Management Levels; Residential Ambient Air, April 2019. (Lower value of carcinogenic/noncarcinogenic listed; TR=1E-04/THQ=3.0)
The analyte was not detected at or above the reporting limit
The analyte was not detected at or above the reporting limit; which is considered approximate due to deficiencies in one or more quality control criteria
Bolded values indicate a chemical detection
Shaded and **bolded** values exceed the April 2019 Residential RMLs

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Saturday, July 27, 2019 1:56:25 PM
To: Corey CB. Brown <cbrown@bashaservices.com>
Subject: Able Contracting Fire

472 Schinger Ave, ridgeland, SC
Can we have someone hear around 11:00-11:30 to pickup the trailer and equipment.

Jordan Garrard
On Scene Coordinator
EPA Region 4
Garrard.jordan@epa.gov
678-644-8648

Share Copy link Download Delete Copy to Version history Previous 21 of 34

From: Huyser, Matthew <Huyser.Matthew@epa.gov> on behalf of Huyser, Matthew
Sent on: Thursday, July 25, 2019 6:46:33 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>; Eichinger, Kevin <Eichinger.Kevin@epa.gov>; Falkner, Amber <Amber.Falkner@tetratech.com>; Josiah Williams <josiah.williams@tetratech.com>; chris.draper@tetratech.com; John Snyder <john.snyder@tetratech.com>; Corey CB. Brown <cbrown@bashaservices.com>; Jessica Vickers <Jessica.Vickers@tetratech.com>
Subject: Able Contracting Fire - NRC#1253131

For those who haven't seen the NRC report, it is provided below

Site Name: Able Contracting Fire
Site ID: C4A9
EPA ID: SCN000407717
Address: 472 Schinger Rd, Ridgeland, Jasper County, South Carolina

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: 404-562-8934 | cell: 678-427-8829 | fax: 404-562-8699
epaosc.org

-----Original Message-----
From: HQS-PF-fldr-NRC@uscg.mil <HQS-PF-fldr-NRC@uscg.mil>
Sent: Thursday, July 25, 2019 12:23 PM
To: R4DutyOSC <R4DutyOSC@epa.gov>
Subject: NRC#1253131

NATIONAL RESPONSE CENTER 1-800-424-8802
GOVERNMENT USE ONLYGOVERNMENT USE ONLY***
Information released to a third party shall comply with any
applicable federal and/or state Freedom of Information and Privacy Laws

Incident Report # 1253131

INCIDENT DESCRIPTION

*Report taken by NRC at 12:12 on 25-JUL-19
Incident Type: FIXED
Incident Cause: UNKNOWN
Affected Area:
Incident was discovered on 25-JUL-19 at 09:36 local incident time.
Affected Medium: AIR

REPORTING PARTY
Name: DANA COOK
Organization: SC DHEC
Address: 2600 BULL STREET
COLUMBIA, SC 29201
Email Address:

PRIMARY Phone: (803)8964117
Type of Organization: STATE GOVERNMENT

From: Huyser, Matthew <Huyser.Matthew@epa.gov> on behalf of Huyser, Matthew
Sent on: Thursday, July 25, 2019 6:18:02 PM
To: ert-frcc@dhec.sc.gov; Garrard, Jordan <Garrard.Jordan@epa.gov>; Eichinger, Kevin <Eichinger.Kevin@epa.gov>
CC: leepd@dhec.sc.gov
Subject: Able Contracting Fire - Points of Contact

Dana, thanks for the info.

Jordan and Kevin, note request for EPA presence at meeting with DHEC and Jasper County and Beufort County tomorrow (July 26)

Points of contact that I have so far:

Richard Threatt, DHEC Beaufort Regional Office Manager
Cell: 843-986-4426

Kim Crouse, DHEC regional on-call responder
Phone: 843-812-7205

David Payne, DHEC Beaufort Regional Office
Phone: 843-812-0285

Kelsey Timmerman, DHEC Beaufort Regional Office
Cell: 843-592-8674

Scott Reynolds, DHEC Air Laboratories Director
Office: 803-898-3305

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: ert-frcc@dhec.sc.gov <ert-frcc@dhec.sc.gov>
Sent: Thursday, July 25, 2019 11:13 AM
To: R4DutyOSC <R4DutyOSC@epa.gov>
Cc: leepd@dhec.sc.gov
Subject: Able Contracting - Okatie (Ridgeland)

Matt,

Share Copy link Download Delete Copy to Version history Previous 23 of 34

From: Huyser, Matthew <Huyser.Matthew@epa.gov> on behalf of Huyser, Matthew
Sent on: Friday, July 26, 2019 5:27:05 PM
To: Jones, Katrina <Jones.Katrina@epa.gov>
CC: Krieger, Geoffrey <krieger.geoffrey@epa.gov>; Eichinger, Kevin <Eichinger.Kevin@epa.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Able Contracting Fire - START

START was mobilized to the Able Contracting Fire. Two personnel are in the field and additional personnel are providing remote support for sample coordination.
An initial TDD ceiling of **$78,000** is requested which will accommodate a potential deployment of 10 days with remote support and anticipated high costs of lab analyses

Site Name: Able Contracting Fire
Site ID: C4A9
EPA ID: SCN000407717

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Bates, Lloyd
Sent: Thursday, July 25, 2019 1:33 PM
To: Masterson, Chris <Masterson.Christopher@epa.gov>
Cc: Huyser, Matthew <Huyser.Matthew@epa.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>; Eichinger, Kevin <Eichinger.Kevin@epa.gov>
Subject: RE: ER Site Birth Request - C4A6 - Able Contracting Fire

Site ID: C4A9

EPA ID: SCN000407717

From: Masterson, Chris
Sent: Thursday, July 25, 2019 1:12 PM
To: Bates, Lloyd <Bates.Lloyd@epa.gov>
Cc: Huyser, Matthew <Huyser.Matthew@epa.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>; Eichinger, Kevin <Eichinger.Kevin@epa.gov>
Subject: RE: ER Site Birth Request - C4A6 - Able Contracting Fire

Oops, sorry, slightly corrected lat-long. Other info unchanged.

Christopher Masterson
Field Technician III | Digital Infrastructure

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Thursday, August 8, 2019 10:22:38 PM
To: Pinkney, James <Pinkney.James@epa.gov>; Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Able Contracting Fire

James,
OSC Huyser is mobilizing back to Able Contracting facility. He will be conducting additional air monitoring and potential sampling. We are still waiting for validated air data. We have received validated water sampling data. The SCDECH will be looking to us to release the data since we collected it, it asked if we could coordinate any releases with them. I have spoken to our START contractor to get a timeline on when to expect validated data. I know the island packet has been inquiring about the data. The island packet reporter was at a SCDECH meeting today when the site was mentioned. It was said SCDECH was expecting the data today or tomorrow. I have spoken with the reporter earlier in the week and told him we wouldn't release any preliminary or invalidated data.

Jordan Garrard
On Scene Coordinator
EPA Region 4
Garrard.jordan@epa.gov
678-644-8648

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Thursday, August 8, 2019 5:35:26 PM
To: Reece, Myra <reecemc@dhec.sc.gov>; James Webster <Webster.James@epa.gov>; Moore, Tony <moore.tony@epa.gov>; Walker, Mary <walker.mary@epa.gov>
Subject: Able Contracting Fire Air Sampling Data
Attachments: Draft_Summary Tables Able Contracting_round 2 added.pdf (104.21 KB)

Please see the attached preliminary data. The results have not been validated and the QA/QC review has not been conducted.

Jordan Garrard
On-Scene Coordinator
EPA Region 4
Emergency Response and Removal Branch
Work: 404-562-8642
Cell: 678-644-8648

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, August 08, 2019 1:35 PM
To: Reece, Myra; James Webster; Moore, Tony; Walker, Mary
Subject: Able Contracting Fire Air Sampling Data
Attachments: Draft_Summary Tables Able Contracting_round 2 added.pdf

Please see the attached preliminary data. The results have not been validated and the QA/QC review has not been conducted.

Jordan Garrard
On-Scene Coordinator
EPA Region 4
Emergency Response and Removal Branch
Work: 404-562-8642
Cell: 678-644-8648

ABLE CONTRACTING FIRE
AIR SAMPLES
Summary of Detections
DATA HAS NOT BEEN QC'd - NOT FOR PUBLIC DISTRIBUTION

	EPA RMLs	BACKGROUND	STATION 1 (SE Corner)	STATION 2 (SW Corner)	STATION 1 (SE Corner)	STATION 2 (SW Corner)	STATION 1 (SE Corner)	STATION 2 (SW Corner)	STATION 1 (SE Corner)	STATION 2 (SW Corner)
		ACF-AS-BKGD-072819	ACF-AS-RES-AM-072719	ACF-AS-SMOKE-AM-072719	ACF-AS-RES-PM-072719	ACF-AS-SMOKE-PM-072719	ACF-AS-RES-AM-072819	ACF-AS-SMOKE-AM-072819	ACF-AS-RES-PM-072819	ACF-AS-SMOKE-PM-072819
		Sample Volume	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*	*Sample Volume*
/cc)		*946.3 Liters*	*767 Liters*	*898.6 Liters*	*965.3 Liters*	*913.3 Liters*	-	-	-	-
		None detected	None detected	None detected	None detected	None detected	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*
^{3})		*537.10 Liters*	-	-	-	-	*473.90 Liters*	*603.90 Liters*	*542.50 Liters*	*550.50 Liters*
	0.94		*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*				
(µg/m^3)		*516.20 Liters*	*410.60 Liters*	*411.80 Liters*	*541.50 Liters*	*549.50 Liters*	-	-	-	-
	22	**4.88**	**1.70**	**2.50**	**3.04**	**6.09**	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*
		776.6 Liters	*672.6 Liters*	*657.5 Liters*	*744.8 Liters*	*784.6 Liters*	-	-	-	-
	16	**0.55**	**0.77**	**0.52**	**0.5**	**0.48**				
	1.6	**0.11**	**0.13**	**0.25**	**0.13**	**0.11**				
	Not Listed	**52.7**	**0.54**	**55.1**	**48**	**41.3**				
	Not Listed	**0.73**	**0.89**	**0.9**	**1.1**	**0.75**	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*
	Not Listed	**0.93**	**1.3**	**0.87**	**0.81**	**0.86**				
	Not Listed	**9.6**	**11.2**	**11.5**	**10.4**	**8.5**				
	Not Listed	**12.7**	**15.8**	**16.5**	**14.7**	**12**				
c Compounds (µg/m^3)		-	-	-	-	-	-	-	-	-
	97,000	**12**	**8.66**	**7.51**	**10.5**	**16.1**				
	190	**1.85**	**2.17**	**0.892**	**0.99**	**1.63**				
	0.063									
	4.1	0.159 U	0.159 U	0.158 U	0.163 U	0.202 U				
	36	**2.52**	**6.46**	**3.4**	**2.5**	**15.1**				
	16	0.275 U	0.276 U	0.274 U	0.282 U	0.277 U				
	6.3	**0.749**	**1.06**	**0.689**	**0.769**	**2.21**				
	2,200	**0.214**	**0.514**	**0.279**	**0.444**	**0.405**				
ride	47	**0.481**	**0.482**	**0.478**	**0.496**	**0.466**				
	160	0.339 U	0.34 U	0.338 U	0.348 U	0.342 U				
	31,000	0.19 U	0.191 U	0.19 U	0.195 U	**0.276**				
	280	**1.23**	**4.76**	**2.95**	**1.23**	**11.6**				
	3,100	**0.999**	**0.262**	0.25 U	**0.803**	0.253 U				
	56	**0.321**	**0.294**	0.26 U	0.267 U	**0.374**				
	Not Listed	**16.7**	**4.28**	**2.33**	**9.26**	**2.56**				
	220	0.259 U	0.261 U	0.259 U	0.266 U	0.262 U				
	110	**2.07**	**3.36**	**1.12**	**0.768**	**5.86**				
	Not Listed	**0.913**	0.355 U	0.354 U	0.363 U	0.357 U				
)	Not Listed	**1.18**	**1.38**	**1.33**	**1.4**	**1.28**				
)	Not Listed	**2.33**	**2.4**	**2.38**	**2.41**	**2.36**				
F_3)	Not Listed	**0.554**	**0.66**	**0.547**	**0.605**	**0.577**				
	1,300	**2.26**	**0.769**	**0.365**	**0.891**	**1**	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*
	2,200	**4.05**	**1.55**	**0.647**	**2.37**	**1.43**				
	630	**0.404**	**0.468**	**0.434**	**0.949**	**0.478**				
e	Not Listed	0.357 U	**0.838**	**0.421**	0.366 U	**1.06**				
ne (2-Butanone)	16,000	**1.02**	**0.847**	**0.805**	**0.612**	**1.57**				
etone	9,400	0.302 U	**0.373**	0.302 U	0.31 U	0.305 U				
ate	2,200	0.304 U	0.305 U	0.303 U	0.312 U	**0.857**				
ether	1,100	0.264 U	0.265 U	0.264 U	**0.312**	0.267 U				
de	1,900	**0.691**	**0.871**	**0.674**	**0.999**	**0.651**				
	8.3	**0.336**	0.39 U	0.388 U	0.398 U	**0.537**				
	Not Listed	**0.99**	**0.353**	0.334 U	0.343 U	**0.562**				
	3,100	**0.629**	0.359 U	0.357 U	0.367 U	0.361 U				
	9,400	**2.91**	**7.88**	**3.99**	**2.96**	**14.2**				
	3,100	**0.348**	**1.71**	**2.13**	**0.446**	**8.66**				
e	1,100	0.489 U	0.491 U	0.489 U	**0.736**	0.494 U				
	6,300	0.213 U	**0.472**	**0.373**	0.218 U	**0.796**				
	16,000	**9.82**	**6.48**	**2.62**	**5.08**	**7.6**				
enzene	190	**3.23**	**0.784**	**0.318**	**0.817**	**0.414**				
enzene	190	**0.898**	0.354 U	0.352 U	0.362 U	0.356 U				
entane	Not Listed	**2.12**	**0.684**	0.342 U	**0.487**	0.346 U				
	310	**6.86**	**2.37**	**0.941**	**2.51**	**1.66**				
	310	**2.75**	**0.95**	**0.362**	**0.916**	**0.759**				
ganic Compounds (µg/m^3)		*439.4 Liters*	*486.2 Liters*	*562.5 Liters*	*421.4 Liters*	*438.3 Liters*	-	-	-	-
nic Compounds		None detected	None detected	None detected	None detected	None detected	*Not sampled*	*Not sampled*	*Not sampled*	*Not sampled*

Notes:

ACF	Able Contracting Fire
EPA	Environmental Protection Agency
J	The identification of the analyte is acceptable; the reported value is an estimate
µg/m^3	Micrograms per cubic meter
NA	Not Analysed
ND	Not Detected
RMLs	Removal Management Levels; Residential Ambient Air, April 2019. (Lower value of carcinogenic/noncarcinogenic listed; TR=1E-04/THQ+3.0)
U	The analyte was not detected at or above the reporting limit
UJ	The analyte was
BOLD	Bolded values
BOLD	Shaded and **bolded** values exceed the April 2019 Residential RMLs

ABLE CONTRACTING FIRE
AIR SAMPLES
Summary of Detections
DATA HAS NOT BEEN QC'd - NOT FOR PUBLIC DISTRIBUTION

Analyte	EPA RMLs	STATION 1 (SE Corner)	STATION 2 (West Side)	STATION 3 (Upwind)		STATION 1 (SE Corner)	STATION 2 (West Side)	STATION 3 (Upwind)		STATION 1 (SE Corner)	STATION 2 (West Side)
		ACF-AS-RES-24HRVOC	ACF-AS-SMOKE-24HRVOC	ACF-AS-UPWIND-24HRVOC		ACF-AS-RES-NIGHT	ACF-AS-SMOKE-NIGHT	ACF-AS-UPWIND-NIGHT		ACF-AS-RES-DAY	ACF-AS-SMOKE-DAY
		Sample Volume	*Sample Volume*	*Sample Volume*		*Sample Volume*	*Sample Volume*	*Sample Volume*		*Sample Volume*	*Sample Volume*
Asbestos (fibers/cc)		-	-	-		-	-	-		-	-
Asbestos		*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*
Phosgene (µg/m³)						*623.80 Liters*	*556.80 Liters*	*520.80 Liters*		*535.20 Liters*	*542.40 Liters*
Phosgene	0.94	*Not sampled*	*Not sampled*	*Not sampled*		**0.652 J**	**1.02 J**	**0.501 J**		**0.277 J**	**1.22 J**
Formaldehyde (µg/m³)		-	-	-		-	-	-		-	-
Formaldehyde	22	*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*
Metals (µg/m³)		-	-	-		-	-	-		-	-
Aluminum	16	*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*
Barium	1.6										
Calcium	Not Listed										
Chromium	Not Listed										
Iron	Not Listed										
Magnesium	Not Listed										
Sodium	Not Listed										
Volatile Organic Compounds (µg/m³)		-	-	-		-	-	-		-	-
Acetone	97,000	**6.87**	**14.7**	**5.46**		*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*
Acetonitrile	190	**1.17**	**3.64**	**0.893**							
Acrolein	0.063	[illegible]	[illegible]	[illegible]							
Acrylonitrile	4.1	1.53 U	**0.946**	0.155 U							
Benzene	36	**2.00**	**26.2**	0.223 U							
Bromomethane	16	0.26 U	**0.46**	0.268 U							
1,3-Butadiene	6.3	**0.195**	**2.35**	0.151							
Carbon disulfide	2,200	**0.448**	**0.736**	**0.262**							
Carbon tetrachloride	47	**0.523**	**0.497**	**0.491**							
Chlorobenzene	160	0.326 U	**0.748**	0.331 U							
Chloroethane	31,000	0.183 U	**0.268**	0.186 U							
Chloromethane	280	**3.53**	**13.8**	**2.09**							
Cyclohexane	3,100	0.241 U	**0.319**	0.244 U							
1,4-Dioxane	56	0.251 U	**0.584**	0.254 U							
Ethanol	Not Listed	**2.62**	**3.26**	**1.21**							
Ethyl acetate	220	**0.719**	0.251 U	0.253 U							
Ethylbenzene	110	**1.33**	**8.00**	0.298 U							
4-Ethyltoluene	Not Listed	0.341 U	0.342 U	0.346 U							
Freon 11 (CCl_3F_3)	Not Listed	**1.42**	**1.41**	**1.39**							
Freon 12 (CCl_2F_2)	Not Listed	**2.44**	**2.43**	**2.37**							
Freon 113 ($C_2Cl_3F_3$)	Not Listed	**0.591**	**0.613**	**0.584**							
Heptane	1,300	**0.478**	**1.51**	0.288 U							
Hexane	2,200	**0.849**	**1.71**	**0.28**							
Isopropyl alcohol	630	**0.432**	**0.41**	**0.305**							
Isopropylbenzene	Not Listed	**0.466**	**1.92**	**0.355**							
Methyl ethyl ketone (2-Butanone)	16,000	**0.657**	**0.338**	**0.42**							
Methyl isobutyl ketone	9,400	0.286 U	0.292 U	0.295 U							
Methyl methacrylate	2,200	0.292 U	**1.4**	0.297 U							
Methyl tert-butyl ether	1,100	0.254 U	**0.355**	0.258 U							
Methylene chloride	1,900	**0.625**	**0.66**	**0.551**							
Naphthalene	8.3	0.373 U	**1.02**	0.379 U							
n-Octane	Not Listed	0.322 U	**0.957**	0.327 U							
n-Propylbenzene	3,100	0.344 U	**0.453**	0.349 U							
Propylene	9,400	**2.98**	**21.5**	**0.633**							
Styrene	3,100	**0.842**	**21.2**	0.29 U							
Tetrachloroethene	1,100	0.471 U	0.473 U	0.478 U							
Tetrahydrofuran	6,300	**0.222**	**1.32**	0.208 U							
Toluene	16,000	**2.26**	**11.8**	**0.657**							
1,2,4-Trimethylbenzene	190	0.336 U	**0.534**	0.341 U							
1,3,5-Trimethylbenzene	190	0.339 U	**0.535**	0.344 U							
2,2,4-Trimethylpentane	Not Listed	**0.332 J**	0.331 U	0.334 U							
m-/p-Xylenes	310	**0.673**	**2.07**	0.307 U							
o-Xylene	310	**0.284**	**0.98**	0.303 U							
Semivolatile Organic Compounds (µg/m³)		-	-	-		-	-	-		-	-
Semivolatile Organic Compounds		*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*	*Not sampled*		*Not sampled*	*Not sampled*

Notes:

ACF	Able Contracting Fire
EPA	Environmental Protection Agency
J	The identification of the analyte is acceptable; the reported value is an estimate
µg/m³	Micrograms per cubic meter
NA	Not Analysed
ND	Not Detected
RMLs	Removal Management Levels; Residential Ambient Air, April 2019. (Lower value of carcinogenic/noncarcinogenic listed; TR=1E-04/THQ=3.0)
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BOLD	Bolded values
BOLD	Shaded and **bolded** values exceed the April 2019 Residential RMLs

TETRA TECH

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From: Snyder, John <John.Snyder@tetratech.com>
Sent on: Tuesday, July 30, 2019 2:34:14 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Able Contracting Fire Analytical

Mr. Garrard,
The following methods were employed at Able Contracting:

Analysis	Method	Media	Flow Rate	Duration
VOCs	TO-15	6L Summa	12.5 mL/min (avg)	8 hr
SVOCs	SW-8270D	XAD-2 tube	1 L/min	8 hr
Phosgene	OSHA 61	2x HMP-coated XAD tubes in series	1 L/min	8 hr
Formaldehyde	TO-11A	DNPH-coated SG tube	1 L/min	8 hr
TAL metals	SW-6020	37 mm filter cartridge	1.5 L/min	8 hr
Asbestos	TEM	MCE filter	2 L/min	8 hr.

The 2 L/min for TEM analysis is short of the goal of 5L/min...had to do what we could with the gear that we had.

-John

John Snyder, PG, PE | Environmental Engineer
Mobile **+1 (770) 402-9013** | john.snyder@tetratech.com

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Raleigh, NC (Cary) | tetratech.com

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TETRA TECH

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From: Pinkney, James <Pinkney.James@epa.gov> on behalf of Pinkney, James
Sent on: Friday, August 2, 2019 4:46:44 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Webster, James <Webster.James@epa.gov>; Moore, Tony <moore.tony@epa.gov>; Garrard, Jordan <Garrard.Jordan@epa.gov>
CC: Wise, Allison <Wise.Allison@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Harris-Young, Dawn <Harris-Young.Dawn@epa.gov>
Subject: Able Contracting Fire Desk Statement
Attachments: Able Contracting Fire Desk Statement.docx (14.51 KB)

See attached and below. Please update.

James Pinkney
Public Affairs Specialist
U.S. Environmental Protection Agency, Region 4
Office of External Affairs
Phone: (404) 562-9183
Email: pinkney.james@epa.gov
https://www.epa.gov/aboutepa/about-epa-region-4-southeast
Follow Region 4 on Twitter: www.twitter.com/EPASoutheast
And Facebook: www.facebook.com/eparegion4

Able Contracting Fire Desk Statement
August 2, 2019

On Thursday, July 25, 2019, the South Carolina Department of Health and Environmental Control (DHEC) requested the Environmental Protection Agency's (EPA) assistance in responding to an ongoing fire at the Able Contracting Recycled Materials Process Facility on Richland, SC.
Messages

- EPA On-Scene Coordinators (OSCs) were deployed along with EPA START contractors. Upon arrival, EPA conducted air monitoring and air sampling to determine if hazardous substances were being released from the pile to the air or water. Air monitoring was conducted from Thursday, July 25 to Monday, July 31, approximately 88 hours.
- EPA monitored for particulates, VOCs, CO, H2S, O2 and LEL. Elevated particulate readings were observed at various times throughout the day and night. The air monitoring data has been shared with SCDECH and Jasper County.
- EPA collected 2 rounds of air samples at the source and downwind at the closest resident. The samples have been sent to an offsite location for analysis. The samples will be analyzed for numerous chemical compounds. EPA also collected water samples from the firefighting water runoff currently being contained in a series of onsite drainage ditches. Those water samples will be analyzed for numerous compounds as well.
- As of July 29, 2019, EPA has ceased air monitoring and demobilized from the area. EPA will continue to coordinate with Jasper County and SCDHEC and will share analytical results as soon as they are received.

Background
The facility is approximately two acres in size and contains a large pile of shredded debris. Frequent fires

Armstrong, Kathy

From: Pinkney, James
Sent: Friday, August 02, 2019 12:47 PM
To: Jenkins, Brandi; Webster, James; Moore, Tony; Garrard, Jordan
Cc: Wise, Allison; Myers, Bryan; Harris-Young, Dawn
Subject: Able Contracting Fire Desk Statement
Attachments: Able Contracting Fire Desk Statement.docx

See attached and below. Please update.

James Pinkney
Public Affairs Specialist
U.S. Environmental Protection Agency, Region 4
Office of External Affairs
Phone: (404) 562-9183
Email: pinkney.james@epa.gov
https://www.epa.gov/aboutepa/about-epa-region-4-southeast
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And Facebook: www.facebook.com/eparegion4

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Background

The facility is approximately two acres in size and contains a large pile of shredded debris. Frequent fires have been reported resulting in fire department responses to extinguish flames, however a persistent plume of smoke has been observed by locals as well as county and state officials.

Able Contracting Fire Desk Statement

August 2, 2019

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Background

The facility is approximately two acres in size and contains a large pile of shredded debris. Frequent fires have been reported resulting in fire department responses to extinguish flames, however a persistent plume of smoke has been observed by locals as well as county and state officials.

From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Thursday, August 8, 2019 6:14:55 PM
To: Matthew Huyser <Huyser.Matthew@epa.gov>; Benjamin Franco <Franco.Benjamin@epa.gov>
Subject: Able Contracting Fire POCs

Site Attorney – Wilda Cobb

Owner (PRP) – Chandler Lloyd
Able Contracting, 472 Schinger Ave, Ridgeland, SC 29936
843-379-2344 – Office
843-384-2519 – Cell
Ablecontracting29936@gmail.com

Facility Manager – Norm Lamarche – 843-379-2344

Jay Stever (adjacent property owner, pond owner) – 843-298-1394, jstever107@aol.com

Russell Wells – Deputy Fire Chief Jasper County, 843-263-1316, rwells@jaspercountysc.gov

Jared Stromer – Business Owner, Stromer plumbing (south of facility) – 843-368-8632, nstromer@gmail.com

Scott Reynolds – SCDECH (Air monitoring), 803-898-3305, reynolds@dhec.sc.gov

Keith Frost – Assistant Chief, Bureau of Air Quality, 803-465-1529, keith.frost@dhec.sc.gov

Myra Reece, SCDECH Director of Environmental Affairs, 803-667-1113, reecemc@dhec.sc.gov

Armstrong, Kathy

From: Garrard, Jordan
Sent: Thursday, August 08, 2019 2:15 PM
To: Matthew Huyser; Benjamin Franco
Subject: Able Contracting Fire POCs

Site Attorney – Wilda Cobb

Owner (PRP) – Chandler Lloyd
Able Contracting, 472 Schinger Ave, Ridgeland, SC 29936
843-379-2344 – Office
843-384-2519 – Cell
Ablecontracting29936@gmail.com

Facility Manager – Norm Lamarche – 843-379-2344

Jay Stever (adjacent property owner, pond owner) – 843-298-1394, jstever107@aol.com

Russell Wells – Deputy Fire Chief Jasper County, 843-263-1316, rwells@jaspercountysc.gov

Jared Stromer – Business Owner, Stromer plumbing (south of facility) – 843-368-8632, nstromer@gmail.com

Scott Reynolds – SCDECH (Air monitoring), 803-898-3305, reynolds@dhec.sc.gov

Keith Frost – Assistant Chief, Bureau of Air Quality, 803-465-1529, keith.frost@dhec.sc.gov

Myra Reece, SCDECH Director of Environmental Affairs, 803-667-1113, reecemc@dhec.sc.gov

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SURFACE WATER RESULTS SUMMARY TABLE
DETECTIONS ONLY
ABLE CONTRACTING FIRE

Parameter	[illegible]	[illegible]	[illegible]
	Groundwater	Surface Water	
Metals (ug/L)			
Aluminum	2,000	87,750	231
Antimony	6	190,900	[illegible]
Arsenic	10	[illegible]	493
Barium	2,000	220,2,000	[illegible]
Cadmium	5	[illegible]	1.6
Calcium	NL	115,000 NL	[illegible]
Chromium	100	[illegible]	148
Copper	1,300	[illegible]	20.2
Iron	1,400	1,000 NL	[illegible]
Lead	[illegible]	[illegible]	[illegible]
Magnesium	NL	82,000 NL	[illegible]
Manganese	45	91,1,680	326
Nickel	40	[illegible]	30.3
Potassium	NL	53,000 NL	79,300
Sodium	NL	680,000 NL	[illegible]
Vanadium	NL	27.75	[illegible]
Zinc	500	[illegible]	24.4
Volatile Organic Compounds (ug/L)			
1,2-Dichloroethane	5	2,000,3,500	[illegible]
2-Butanone (MEK)	1,200	22,000,200,000	[illegible]
2-Hexanone	10	77,1,800	[illegible]
4-Methyl-2-pentanone (MIBK)	880	170,2,200	[illegible]
Acetone	1,800	1,700,15,000	[illegible]
Benzene	5	180,700	[illegible]
Chloroethane	17	NL	[illegible]
Ethylbenzene	70	91,550	[illegible]
m&p-Xylene	400	27,240	[illegible]
Naphthalene	40	21,170	[illegible]
o-Xylene	400	27,240	[illegible]
Toluene	1,000	92,560	[illegible]
Xylene (Total)	10,000	27,240	[illegible]
Semivolatile Organic Compounds (ug/L)			
2,4-Dimethylphenol	40	15,140	[illegible]
2-Methylphenol(o-cresol)	100	87,900	[illegible]
3&4-Methylphenol(m&p-cresol)	200	92,560	[illegible]
Phenol	550	150,4,720	[illegible]

Notes:

[illegible] Drinking water values are contained in EPA MCLs. When no MCL is not listed, the EPA RSL is [illegible] Surface water values are compared to EPA Ecotoxicity Aquatic Life levels. When DHEC levels are not listed, EPA Surface Water Screening Values are used.

READ Reported value exceeds the comparison criteria

Notes: Acute exposure
Chronic exposure
Cancer Cancer exposure
[illegible] The analyte was positively identified, the associated value is the approximate concentration of the analyte in the sample
[illegible] The analyte was positively identified, the associated value is the approximate concentration of the analyte in the sample, biased high
[illegible] The analyte was positively identified, the associated value is the approximate concentration of the analyte in the sample, biased low
MCL Maximum exposure level
MCLs Maximum contaminant level
NL Not listed
RSL Regional Screening Level, Tapwater TR [illegible]
[illegible] The analyte was analyzed for, but was not detected at or above the associated value (reporting limit)
[illegible] The analyte was analyzed for, but was not detected at or above the associated value (reporting limit) which is estimated
[illegible] Inorganic exposure

Page [illegible]

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SURFACE WATER RESULTS SUMMARY TABLE
DETECTIONS ONLY
ABLE CONTRACTING FIRE

Parameter	MCL/RSL[1]	DHEC (max/cont) /EPA (chr/acute)[2]	ACF-SW-POND
	Groundwate	Surface Water	
Metals (µg/L)			
Aluminum	*2,000*	*87/750*	251
Antimony	6	*190/900*	32.3
Arsenic	10	340/150	493
Barium	2,000	*220/2,000*	133
Cadmium	5	0.53/0.10	3.6
Calcium	NL	*116,000/NL*	725,000
Chromium	100	580/28	148
Copper	1,300	3.8/2.9	20.2
Iron	*1,400*	*1,000/NL*	300
Lead	15	14/0.54	5.0 U
Magnesium	NL	*82,000/NL*	48,900
Manganese	*48*	*93/1,680*	526
Nickel	*40*	150/16	30.5
Potassium	NL	*53,000/NL*	75,300
Sodium	NL	*680,000/NL*	248,000
Vanadium	NL	*27/79*	22.7
Zinc	*600*	37/37	24.4
Volatile Organic Compounds (µg/L)			
1,2-Dichloroethane	5	*2,000/8,200*	0.55 J
2-Butanone (MEK)	*1,200*	*22,000/200,000*	43.2 J+
2-Hexanone	*10*	*99/1,800*	5.0 U
4-Methyl-2-pentanone (MIBK)	*630*	*170/2,200*	5.0 U
Acetone	*1,800*	*1,700/15,000*	269 J+
Benzene	5	*160/700*	21.4
Chloromethane	*19*	NL	1.8
Ethylbenzene	700	*61/550*	6.0
m&p-Xylene	*400*	*27/240*	1.8 J
Naphthalene	*40*	*21/170*	2.3
o-Xylene	*400*	*27/240*	1.1
Toluene	1,000	*62/560*	10.5
Xylene (Total)	10,000	*27/240*	1.1
Semivolatile Organic Compounds (µg/L)			
2,4-Dimethylphenol	*40*	*15/140*	6.0 J
2-Methylphenol(o-Cresol)	*100*	*67/600*	11.1
3&4-Methylphenol(m&p Cresol)	*200*	*62/560*	7.9 J
Phenol	*580*	*160/4,700*	9.8 UJ

Notes:

1 Drinking water values are compared to EPA MCLs. When an MCL is not listed, the EPA RSL is

2 Surface water values are compared to DHEC Freshwater Aquatic Life levels. When DHEC levels are not listed, EPA Surface Water Screening Values are used

SHAD Reported value exceeds the comparison criteria

Acute Acute exposure

Chr Chronic exposure

Cont Continuous exposure

J The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample, biased high.

J- The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample, biased low.

Max Maximum exposure level

MCL Maximum contaminant level

NL Not listed

RSL Regional Screening Level; Tapwater TR=1E-06, THQ=0.1

U The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).

UJ The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is estimated.

µg/L micrograms per liter

PRE-REVIEW SURFACE WATER RESULTS SUMMARY TABLE
DETECTIONS ONLY
ABLE CONTRACTING FIRE

Parameter	MCL/RSL[1]	ACF-GW-472B		DHEC (acute/cont) /EPA (chr/cont)[2]	ACF-SW-DITCH	ACF-SW-POND
	Groundwater			Surface Water		
Metals (µg/L)						
Aluminum	*2,000*	100 U		*87/750*	527	251
Antimony	6	5.0 U		*190/900*	61.0	32.3
Arsenic	10	10.0 U		340/150	554	493
Barium	2,000	5.7		*220/2,000*	175	133
Cadmium	5	1.0 U		0.53/0.10	4.3	3.6
Calcium	NL	27,200		*116,000/NL*	904,000	725,000
Chromium	100	5.0 U		580/28	191	148
Copper	1,300	27.6		3.8/2.9	38.4	20.2
Iron	*1,400*	50.0 U		*1,000/NL*	1,070	300
Lead	15	5.0 U		14/0.54	3.0 J	5.0 U
Magnesium	NL	9,370		*82,000/NL*	83,100	48,900
Manganese	*48*	21.8		*93/1,680*	820	526
Nickel	*40*	2.6 J		150/16	49.2	30.5
Potassium	NL	2,760 J		*53,000/NL*	112,000	75,300
Sodium	NL	10,600		*680,000/NL*	430,000	248,000
Vanadium	NL	5.0 U		*27/79*	36.4	22.7
Zinc	*600*	130		37/37	72.7	24.4
Volatile Organic Compounds (µg/L)						
1,2-Dichloroethane	5	1.0 U		*2,000/8,200*	0.83 J	0.55 J
2-Butanone (MEK)	*1,200*	5.0 U		*22,000/200,000*	71.6	43.2
2-Hexanone	*10*	5.0 U		*99/1,800*	3.5 J	5.0 U
4-Methyl-2-pentanone (MIBK)	*630*	5.0 U		*170/2,200*	9.4 J	5.0 U
Acetone	*1,800*	25.0 U		*1,700/15,000*	325	269
Benzene	5	1.0 U		*160/700*	29.7	21.4
Chloromethane	*19*	0.69 J		NL	2.0 U	1.8
Ethylbenzene	700	1.0 U		*61/550*	6.2	6.0
m&p-Xylene	*400*	2.0 U		*27/240*	2.4 J	1.8 J
Naphthalene	*40*	1.0 U		*21/170*	3.9	2.3
o-Xylene	*400*	1.0 U		*27/240*	1.6 J	1.1
Toluene	1,000	1.0 U		*62/560*	14.5	10.5
Xylene (Total)	10,000	1.0 U		*27/240*	2.0 U	1.1
Semivolatile Organic Compounds (µg/L)						
2,4-Dimethylphenol	*40*	100 U		*15/140*	108	6.0 J
2-Methylphenol(o-Cresol)	*100*	100 U		*67/600*	137	11.1
3&4-Methylphenol(m&p Cresol)	*200*	100 U		*62/560*	82.9 J	7.9 J

Notes:

1 Drinking water values are compared to EPA MCLs. When an MCL is not listed, the EPA RSL is used

2 Surface water values are compared to DHEC Freshwater Aquatic Life levels. When DHEC levels are not listed, EPA Surface Water Screening Values are used

SHAD Reported value exceeds the comparison criteria

Acute Acute exposure

Chr Chronic exposure

Cont Continuous exposure

J The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.

Max Maximum exposure level

MCL Maximum contaminant level

NL Not listed

RSL Regional Screening Level; Tapwater TR=1E-06, THQ=0.1

U The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).

µg/L micrograms per liter

SURFACE WATER RESULTS SUMMARY TABLE
DETECTIONS ONLY
ABLE CONTRACTING FIRE

Parameter	MCL/RSL[1]	ACF-GW-472R		DHEC (max/cont) /EPA (chr/acute)[2]	ACF-SW-DITCH	ACF-SW-POND
	Groundwater			Surface Water		
Metals (µg/L)						
Aluminum	*2,000*	100 U		*87/750*	527	251
Antimony	6	5.0 U		*190/900*	61.0	32.3
Arsenic	10	10.0 U		340/150	554	493
Barium	2,000	5.7		*220/2,000*	175	133
Cadmium	5	1.0 U		0.53/0.10	4.3	3.6
Calcium	NL	27,200		*116,000/NL*	904,000	725,000
Chromium	100	5.0 U		580/28	191	148
Copper	1,300	27.6		3.8/2.9	38.1	20.2
Iron	*1,400*	50.0 U		*1,000/NL*	1,070	300
Lead	15	5.0 U		14/0.54	3.0 J	5.0 U
Magnesium	NL	9,370		*82,000/NL*	83,100	48,900
Manganese	*48*	21.8		*93/1,680*	820	526
Nickel	*40*	2.6 J		150/16	43.2	30.5
Potassium	NL	2,760 J		*53,000/NL*	112,000	75,300
Sodium	NL	10,600		*680,000/NL*	430,000	248,000
Vanadium	NL	5.0 U		*27/79*	36.4	22.7
Zinc	*600*	130		37/37	72.7	24.4
Volatile Organic Compounds (µg/L)						
1,2-Dichloroethane	5	1.0 U		*2,000/8,200*	0.83 J	0.55 J
2-Butanone (MEK)	*1,200*	5.0 U		*22,000/200,000*	71.6	43.2 J+
2-Hexanone	*10*	5.0 U		*99/1,800*	3.5 J	5.0 U
4-Methyl-2-pentanone (MIBK)	*630*	5.0 U		*170/2,200*	9.4 J	5.0 U
Acetone	*1,800*	25.0 U		*1,700/15,000*	325	269 J+
Benzene	5	1.0 U		*160/700*	29.7	21.4
Chloromethane	*19*	0.69 J		NL	2.0 U	1.8
Ethylbenzene	700	1.0 U		*61/550*	6.2	6.0
m&p-Xylene	*400*	2.0 U		*27/240*	2.4 J	1.8 J
Naphthalene	*40*	1.0 U		*21/170*	3.9	2.3
o-Xylene	*400*	1.0 U		*27/240*	1.6 J	1.1
Toluene	1,000	1.0 U		*62/560*	14.5	10.5
Xylene (Total)	10,000	1.0 U		*27/240*	2.0 U	1.1
Semivolatile Organic Compounds (µg/L)						
2,4-Dimethylphenol	*40*	100 U		*15/140*	108 J-	6.0 J
2-Methylphenol(o-Cresol)	*100*	100 U		*67/600*	137 J-	11.1
3&4-Methylphenol(m&p Cresol)	*200*	100 U		*62/560*	82.9 J-	7.9 J
Phenol	*580*	100 UJ		*160/4,700*	67.8 J-	9.8 UJ

Notes:

1 Drinking water values are compared to EPA MCLs. When an MCL is not listed, the EPA RSL is used

2 Surface water values are compared to DHEC Freshwater Aquatic Life levels. When DHEC levels are not listed, EPA Surface Water Screening Values are used

SHAD Reported value exceeds the comparison criteria

Acute Acute exposure

Chr Chronic exposure

Cont Continuous exposure

J The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.

J+ The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample, biased high.

J- The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample, biased low.

Max Maximum exposure level

MCL Maximum contaminant level

NL Not listed

RSL Regional Screening Level; Tapwater TR=1E-06, THQ=0.1

U The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).

SURFACE WATER RESULTS SUMMARY TABLE
DETECTIONS ONLY
ABLE CONTRACTING FIRE

UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is estimated.
µg/L	micrograms per liter

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From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Monday, August 5, 2019 1:30:31 PM
To: James Webster <Webster.James@epa.gov>; Franklin Hill <Hill.Franklin@epa.gov>; Moore, Tony <moore.tony@epa.gov>
Subject: Able Contracting Fire Update

On July 25, South Carolina Department of Health and Environmental Control (DHEC) requested that the EPA respond to an ongoing fire at the Able Contracting recycled materials process facility. The facility is approximately ten acres in size and contains a large pile of shredded debris. Frequent fires have been reported resulting in fire department responses to extinguish flames, however a persistent plume of smoke has been observed by locals as well as county and state officials. The property owner was applying water to the pile but reportedly ceased application on July 24. EPA On-Scene Coordinators (OSCs) supported by EPA START contractors conducted monitoring and sampling in air and water.

On Friday, Aug 2nd OSC Garrard and START mobilized back to the Site Friday August 2 to rejoin Unified Command. Continued smoldering and intermittent flash fires erupting contributed to the Jasper County Council Chairman to issue a Declaration of Emergency Order to the nearby community of approximately a dozen residences. The county has secured housing for the evacuees from 6 residences. EPA has resumed air screening and sampling to confirm concentrations from previous sampling event. EPA collected two rounds (Day and Night) air samples for Phosgene and VOCs. EPA also air monitored for Phosgene and VOCs with Single Point Monitors and MultiRae Pro. Field screening indicated low level VOCs and intermittent low phosgene concentrations (0 - 22 ppb). Field screening numbers averaged below health based concern levels. SC DHEC continues to monitor for particulates which remain a health concern. OSC met with residences on August 3rd and referred them to ATSDR and SCDECH to discuss medical symptoms they are experiencing. EPA will receive lab analytical results on Thursday, August 8th. Preliminary water samples results from firefighting runoff have been shared with SCDECH and Jasper County. A conference call with Jasper County and SDECH will be held on Thursday/Friday to discuss the sampling results. Media interest remains fair.

From: Jones, Chris <chris.jones@tetratech.com>
Sent on: Friday, August 2, 2019 7:16:44 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
CC: John Snyder <john.snyder@tetratech.com>
Subject: Able Contracting Fire Water Data Summary Table
Attachments: Able Contracting Fire SW Pre-Review Table.pdf (72.38 KB)

Mr. Garrard,

See attached for the data summary table for water samples collected at the Able Contracting Fire. I will send you the EDD momentarily.

Let me know if you need anything else.

Chris Jones | Readiness Coordinator
Direct **(678) 775-3081** | Main **(678) 775-3080** | Cell **(404) 395-5220** | chris.jones@tetratech.com

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Think Green: Reduce, Reuse, Recycle

From: Jones, Chris <chris.jones@tetratech.com>
Sent on: Friday, August 2, 2019 7:16:44 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
CC: John Snyder <john.snyder@tetratech.com>
Subject: Able Contracting Fire Water Data Summary Table
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Chris Jones | Readiness Coordinator
Direct **(678) 775-3081** | Main **(678) 775-3080** | Cell **(404) 395-5220** | chris.jones@tetratech.com

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Think Green: Reduce, Reuse, Recycle

Armstrong, Kathy

From: Jones, Chris <chris.jones@tetratech.com>
Sent: Friday, August 02, 2019 3:17 PM
To: Garrard, Jordan
Cc: John Snyder
Subject: Able Contracting Fire Water Data Summary Table
Attachments: Able Contracting Fire SW Pre-Review Table.pdf

Mr. Garrard,

See attached for the data summary table for water samples collected at the Able Contracting Fire. I will send you the EDD momentarily.

Let me know if you need anything else.

Chris Jones | Readiness Coordinator
Direct **(678) 775-3081** | Main **(678) 775-3080** | Cell **(404) 395-5220** | chris.jones@tetratech.com

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Think Green: Reduce, Reuse, Recycle

PRE-REVIEW SURFACE WATER RESULTS SUMMARY TABLE
ABLE CONTRACTING FIRE

Parameter	MCL	ACF-SW-477E	ACF-SW-DITCH	ACF-SW-POND
Metals (µg/L)				
Aluminum	NL	100 U	527	251
Antimony	6	5.0 U	**61.0**	**32.3**
Arsenic	10	10.0 U	**554**	**493**
Barium	2,000	5.7	175	133
Cadmium	5	1.0 U	4.3	3.6
Calcium	NL	27200	904000	725000
Chromium	100	5.0 U	**191**	**148**
Copper	1,300	27.6	38.1	20.2
Iron	NL	50.0 U	1070	300
Lead	15	5.0 U	3.0 J	5.0 U
Magnesium	NL	9370	83100	48900
Manganese	NL	21.8	820	526
Nickel	NL	2.6 J	43.2	30.5
Potassium	NL	2760 J	112000	75300
Sodium	NL	10600	430000	248000
Vanadium	NL	5.0 U	36.4	22.7
Zinc	NL	130	72.7	24.4
Volatile Organic Compounds (µg/L)				
1,2-Dichloroethane	5	1.0 U	0.83 J	0.55 J
2-Butanone (MEK)	NL	5.0 U	71.6	43.2
2-Hexanone	NL	5.0 U	3.5 J	5.0 U
4-Methyl-2-pentanone (MIBK)	NL	5.0 U	9.4 J	5.0 U
Acetone	NL	25.0 U	325	269
Benzene	5	1.0 U	**29.7**	**21.4**
Chloromethane	NL	0.69 J	2.0 U	1.8
Ethylbenzene	700	1.0 U	6.2	6.0
m&p-Xylene	NL	2.0 U	2.4 J	1.8 J
Naphthalene	NL	1.0 U	3.9	2.3
o-Xylene	NL	1.0 U	1.6 J	1.1
Toluene	1,000	1.0 U	14.5	10.5
Xylene (Total)	10,000	1.0 U	2.0 U	1.1
Semivolatile Organic Compounds (µg/L)				
2,4-Dimethylphenol	NL	100 U	108	6.0 J
2-Methylphenol(o-Cresol)	NL	100 U	137	11.1
3&4-Methylphenol(m&p Cresol)	NL	100 U	82.9 J	7.9 J

Notes:

BOLD Reported value exceeds the MCL.

J The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.

MCL Maximum contaminant level

NL Not listed

U The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).

From: Masterson, Chris <Masterson.Christopher@epa.gov> on behalf of Masterson, Chris
Sent on: Thursday, July 25, 2019 7:05:45 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>; Eichinger, Kevin <Eichinger.Kevin@epa.gov>
CC: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Able Contracting Fire Website

https://response.epa.gov/ablecontractingfire

Christopher Masterson
Field Technician III | Digital Infrastructure
US EPA - End User Services

Emergency Response, Removal, Prevention, and Preparedness Branch (ERRPPB)
61 Forsyth St SW, 11th Fl
Atlanta, GA 30303
Office: 404-562-8706
Cell: 678-644-6538
Fax: 404-562-8701
Email: masterson.christopher@epa.gov

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From: Shuster, Robert <Robert.Shuster@tetratech.com>
Sent on: Monday, August 19, 2019 4:35:35 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Able contracting fire

Hello this is Robert Shuster from Tetra tech. I am the one who had to get a hotel that was above the GSA rates while at the able contracting fire, and was just wondering if I could get a written confirmation that you said that was ok. Just an email saying it was approved would work as I just need something in "writing" as I fill out my expense reports for that trip.

Robert Shuster| Environmental Scientist
Direct **(678) 775-3098** | Cell **(678) 525-5683**
robert.shuster@tetratech.com

Tetra Tech | Complex World, Clear Solutions™
1955 Evergreen Blvd. Suite 300, Bldg. 200, Duluth, GA 30096 | tetratech.com.

Armstrong, Kathy

From: Jones, Chris <chris.jones@tetratech.com>
Sent: Friday, August 02, 2019 3:29 PM
To: Garrard, Jordan
Cc: Jones, Katrina; John Snyder; Andrew Johnson; Reed, Angel; Valentino, Renee
Subject: Able Contracting Fire_TDD No. TT-01-128_100 percent notice

Mr. Garrard,

To meet the requirements of the Superfund Technical Assessment and Response Team (START) IV Contract No. EP-S4-14-03, Tetra Tech is writing to notify you that we anticipating reaching 100 percent of the approved funding for the Able Contracting Fire, Technical Direction Document (TDD) No. TT-01-128, this weekend. The current estimated budget status through August 1, 2019 is as follows:

Authorized TDD Ceiling:	$78,000.00
Estimated Funding Expended:	$60,500.00
Estimated Funding Remaining:	$18,000.00

Tetra Tech has been tasked to mobilize to the site to conduct air monitoring and collect additional air samples. Based on anticipated level of effort and number of samples, Tetra Tech estimates that an additional $12,000.00 is needed to support these activities through August 4.
Additional funding will be needed to conduct data validation, prepare/submit a response letter report, conduct project and data management, and conduct project closeout activities.

Thanks,

Chris Jones | Readiness Coordinator
Direct **(678) 775-3081** | Main **(678) 775-3080** | Cell **(404) 395-5220** | chris.jones@tetratech.com

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From: Garrard, Jordan <Garrard.Jordan@epa.gov> on behalf of Garrard, Jordan
Sent on: Thursday, August 1, 2019 5:23:15 PM
To: Pinkney, James <Pinkney.James@epa.gov>
Subject: Able Contracting press inquiry
Attachments: voicemail-147.m4a (41.43 KB), ATT00001.txt (99 Bytes)

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent on: Monday, August 5, 2019 6:02:52 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Able Contracting Summary Table

Jordan,

Here's the mobile air monitoring tables for VOCs and CO. Give them a look and let me know if you need anything else.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

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From: Chandler & Angela Lloyd <ablecontracting29936@gmail.com>
Sent on: Friday, August 9, 2019 7:03:31 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Able Contracting

Good afternoon Jordan! May we have the results for the testing y'all completed, please?
Thank you,
Angela

From: Prys, Paul <Paul.Prys@tetratech.com>
Sent on: Sunday, August 4, 2019 12:41:44 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>
CC: John Snyder <john.snyder@tetratech.com>; Lawrence, Laura <Laura.Lawrence@tetratech.com>
Subject: Able Contractor Air Monitoring Results - 080319 to 0804019
Attachments: Viper Summary report_SPM_08032019-08042019.xlsx (14.24 MB)

Here's the data summary for air monitoring conducted from 080319 to 080419.

Paul Prys | Senior Environmental Scientist/Project Manager
Direct: 678.775.3106 | Cell: 404.849.7136 | Fax: 678.775.3138
paul.prys@tetratech.com

Tetra Tech | Atlanta Office
1955 Evergreen Blvd. Bldg. 200, Ste. 300, Duluth, GA 30096 www.tetratech.com | NASDAQ:TTEK

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Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: ABLE CONTRACTING FIRE

From: **8/3/19 0:00** ***To:*** ***8/4/19 6:59***

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL / RML / 60 min AEGL)
SPM Flex 1	Phosgene (COCl2)	3	4337	3	0 - 6 ppb	0 ppb	100 ppb / 0.23ppb / 40 ppb

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL / RML / 60 min AEGL)
SPM Flex 2	Phosgene (COCl2)	0	3267	0	0 - 0 ppb	0 ppb	100 ppb / 0.23ppb / 40 ppb

Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level (PEL / RML / 60 min AEGL)
SPM Flex 3	Phosgene (COCl2)	5	4319	5	0 - 22 ppb	0 ppb	100 ppb / 0.23ppb / 40 ppb

Notes:

AEGL	Acute Exposure Guideline levels for airborne chemicals (8 hour exposure)
min	Minute
PEL	Permissible exposure limit
ppb	Parts per billion
RML	Removal Management Level
TLV	Threshold limit value

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From: Huyser, Matthew <Huyser.Matthew@epa.gov> on behalf of Huyser, Matthew
Sent on: Thursday, July 25, 2019 5:40:29 PM
To: Jessica Vickers <Jessica.Vickers@tetratech.com>
CC: Garrard, Jordan <Garrard.Jordan@epa.gov>
Subject: Able Fire - air sampling methods
Attachments: 1502566 COC.PDF (279.75 KB), 1504268 Report.pdf (500.5 KB)

Below is a list from Dave Mickunas on sampling methodology that would be beneficial.

- Primary focus should be on PAHs which are expected
- Formaldehyde method is also provided below
- Both Dave and SESD recommended considering phthalates, except the TO-13A method doesn't list phthalates so Dave is checking in with a laboratory in CA on phthalates and will respond to me in an hour about their response
- VOCs may still be beneficial for poly-vinyl chloride and benzene so measurement of VOCs shouldn't be completely dismissed
- Dioxins, pesticides, and PCBs are optional

Attached is a COC and report from Bennett Landfill sampling. These samples were taken over the smoke plume. Analyses in the COC is listed below and the report contains the method numbers

- VOCs
- PM2.5 mass
- Total metals
- Particle Size
- Formaldehyde
- Total Mass

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 1:27 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Air Methods

Good Afternoon,

https://www3.epa.gov/ttnamti1/files/ambient/airtox/tocomp99.pdf
VOCs - Method TO-15: Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography Mass Spectrometry (GC/MS)
VOCs - Method TO-17: Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto

Armstrong, Kathy

From: Huyser, Matthew
Sent: Thursday, July 25, 2019 1:40 PM
To: Jessica Vickers
Cc: Garrard, Jordan
Subject: Able Fire - air sampling methods
Attachments: 1502566 COC.PDF; 1504268 Report.pdf

Below is a list from Dave Mickunas on sampling methodology that would be beneficial.

- Primary focus should be on PAHs which are expected
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- VOCs
- PM2.5 mass
- Total metals
- Particle Size
- Formaldehyde
- Total Mass

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Mickunas, Dave
Sent: Thursday, July 25, 2019 1:27 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Subject: Air Methods

Good Afternoon,

https://www3.epa.gov/ttnamti1/files/ambient/airtox/tocomp99.pdf
VOCs - Method TO-15: Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography Mass Spectrometry (GC/MS)
VOCs - Method TO-17: Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes Compendium Method TO-13A

SVOCs - Method TO-13A: Determination of Polycyclic Aromatic Hydrocarbons (PAHs) in Ambient Air Using Gas Chromatographic/Mass Spectrometry (GC/MS)
Formaldehyde - Method TO-11A: Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Performance Liquid Chromatography (HPLC)
Pesticides and PCBs - Method TO-10A: Determination Of Pesticides And Polychlorinated Biphenyls In Ambient Air Using Low Volume Polyurethane Foam (PUF) Sampling Followed By Gas Chromatographic/Multi-Detector Detention (GC/MD)
Dioxins - Method TO-9A- Determination of Polychlorinated, Polybrominated And Brominated/Chlorinated Dibenzo-p-Dioxins And Dibenzofurans In Ambient Air

PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5515.pdf
PAH - https://www.cdc.gov/niosh/docs/2003-154/pdfs/5506.pdf

Best regards,
David B. Mickunas
Trace Atmospheric Gas Analyzer (TAGA) Laboratories Coordinator
US EPA/Environmental Response Team
109 T.W. Alexander Drive
Mail Code E343-04
Research Triangle Park, NC 27711
919 541 4191 (office)
609 865 1574 (cellular)

1502566

ALS Life Sciences Division
4388 Glendale Milford Road, Cincinnati, OH 45242
Tel: (513) 483-3174
www.alsglobal.com

CHAIN OF CUSTODY FORM FOR AIR SAMPLE ANALYSIS

Client name: Tetra Tech EM, Inc.
Address: 1955 Evergreen Blvd, Bldg 200, Suite 300
Duluth, GA 30096

Contact: Didi Fung
Phone: 678-775-3095
Fax: 678-775-3138

Project Name/#: Bennett Landfill / 02003
Samplers Name: Didi Fung
Sampling Date: 2/19/2015

	SAMPLE ID	SAMPLE DESCRIPTION (e.g. Locations, Name, etc)	PUMP NUMBER	TIME			FLOW RATE (L/min)			VOLUME (L)	ANALYSIS REQUESTED/REMARKS
				START	END	TOTAL(hh:min)	INITIAL	FINAL	AVG		
1	BLSMK03Z23-021915	Center of Landfill Grid Z23	Summa 109135	10:47	10:47	<00:01	29.5 in Hg	3 in Hg	not applicable	not applicable	VOCs
2	BLSMK04AA24-021915	Center of Landfill AA24	AirCon-2 EPA G2	11:38	12:38	60	9.930	9.524	9.727	583.6	PM2.5 mass; filter # 1044
3	BLSMK04AA24-021915	Center of Landfill AA24	AirCon-2 EPA G3	11:38	12:38	60	4.015	3.854	3.935	236.1	Total Metals
4	BLSMK04AA24-021915	Center of Landfill AA24	AirCon-2 EPA G4	11:38	12:38	60	8.032	7.725	7.879	472.7	Particle Size
5	BLSMK04AA24-021915	Center of Landfill AA24	AirCon-2 EPA G5	11:38	12:38	60	1.023	1.076	1.050	63.0	Formaldehyde
6	BLSMK04AA24-021915	Center of Landfill AA24	AirCon-2 EPA G6	11:38	12:38	60	16.77	16.31	16.54	992.4	Total Mass
7	BLSMK05AA24-021915	Center of Landfill AA24	AirCon-2 EPA G4	15:01	15:28	27	8.054	7.197	7.63	205.9	Particle Size

Turnaround Time: Normal (5 days): YES 3 Days Rush: 2 Days Rush: Next Day Rush:

Comments:

Relinquished By:	Didi Fung	Date/Time:	2/23/15 1830
Received By:	FedEx	Date/Time:	2/23/15 1930
Relinquished By:		Date/Time:	
Received By:	Susanne Hall	Date/Time:	2/24/15 12:29

Delivered Direct to Lab: O Shipped: FedEx
Method of Shipment: Priority Overnight
Lab Recipient: Sample Receiving
Date Shipped: 2/23/2015

ALS Environmental

09-Apr-2015

DiDi Fung
Tetra Tech, Inc.
1955 Evergreen Pkwy
Ste. 300 Bldg. 200
Duluth, GA 30096

Tel: (678) 775-3095
Fax:

Re: Bennett Landfill; 103X902702003 Work Order: **1504268**

Dear DiDi,

ALS Environmental received 15 samples on 09-Apr-2015 08:42 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 12.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Shawn Smythe

Electronically approved by: Shawn Smythe

Shawn Smythe
Project Manager

ALS Environmental

Date: 09-Apr-15

Client: Tetra Tech, Inc.
Project: Bennett Landfill; 103X902702003
Work Order: **1504268**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1504268-01	BLCH-040715	Air		4/7/2015 10:01	4/9/2015 08:42	☐
1504268-02	BLCH-040715	Air		4/7/2015 10:02	4/9/2015 08:42	☐
1504268-03	BLCH-040715	Air		4/7/2015 09:43	4/9/2015 08:42	☐
1504268-04	BLGAS-040715	Air		4/7/2015 11:28	4/9/2015 08:42	☐
1504268-05	BLGAS-040715	Air		4/7/2015 11:28	4/9/2015 08:42	☐
1504268-06	BLGAS-040715	Air		4/7/2015 11:28	4/9/2015 08:42	☐
1504268-07	BLLF-040715	Air		4/7/2015 12:56	4/9/2015 08:42	☐
1504268-08	BLLF-040715	Air		4/7/2015 12:56	4/9/2015 08:42	☐
1504268-09	BLLF-040715	Air		4/7/2015 12:56	4/9/2015 08:42	☐
1504268-10	BLMA-040715	Air		4/7/2015 09:00	4/9/2015 08:42	☐
1504268-11	BLMA-040715	Air		4/7/2015 09:00	4/9/2015 08:42	☐
1504268-12	BLMA-040715	Air		4/7/2015 09:00	4/9/2015 08:42	☐
1504268-13	BLFA-040815	Air		4/8/2015 15:30	4/9/2015 08:42	☐
1504268-14	BLFA-040815	Air		4/8/2015 15:30	4/9/2015 08:42	☐
1504268-15	BLFA-040815	Air		4/8/2015 15:30	4/9/2015 08:42	☐

Client: Tetra Tech, Inc.
Project: Bennett Landfill; 103X902702003
Work Order: 1504268

Case Narrative

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested.

Results relate only to the items tested and are not blank corrected unless indicated.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

ALS Environmental

Date: *09-Apr-15*

Client: Tetra Tech, Inc.
Project: Bennett Landfill; 103X902702003

Work Order: 1504268

Analytical Results

Lab ID: 1504268-01A
Client Sample ID: BLCH-040715
Collection Date: 4/7/2015 10:01:00 AM
Matrix: AIR

Analyses

HYDROGEN CYANIDE BY NIOSH 6010 MOD. Method: **N6010** Air Volume (L): **91.16** Analyst: **CTS**
Date Analyzed: 4/9/2015

	µg/sample	Reporting Limit µg/sample	mg/m3
Hydrogen cyanide	ND	1.0	<0.011

Lab ID: 1504268-02A
Client Sample ID: BLCH-040715
Collection Date: 4/7/2015 10:02:00 AM
Matrix: AIR

Analyses

MERCURY BY NIOSH 6009 MOD. Method: **N6009** Air Volume (L): **92.81** Analyst: **SLW**
Date Analyzed: 4/9/2015 14:39

	µg/sample	Reporting Limit µg/sample	mg/m3
Mercury	ND	0.050	<0.00054

Lab ID: 1504268-03A
Client Sample ID: BLCH-040715
Collection Date: 4/7/2015 9:43:00 AM
Matrix: AIR

Analyses

ALDEHYDES BY HPLC Method: **ETO-11** Air Volume (L): **587** Analyst: **MRS**
Date Analyzed: 4/9/2015 13:08

	µg/sample	Reporting Limit µg/sample	**ppm**
Formaldehyde	**0.89**	**0.20**	**0.0012**

Lab ID: 1504268-04A
Client Sample ID: BLGAS-040715
Collection Date: 4/7/2015 11:28:00 AM
Matrix: AIR

Analyses

HYDROGEN CYANIDE BY NIOSH 6010 MOD. Method: **N6010** Air Volume (L): **83.4** Analyst: **CTS**
Date Analyzed: 4/9/2015

	µg/sample	Reporting Limit µg/sample	mg/m3
Hydrogen cyanide	ND	1.0	<0.012

Note:

ALS Environmental

Date: *09-Apr-15*

Client: Tetra Tech, Inc.
Project: Bennett Landfill; 103X902702003

Work Order: 1504268

Analytical Results

Lab ID: 1504268-05A
Client Sample ID: BLGAS-040715
Collection Date: 4/7/2015 11:28:00 AM
Matrix: AIR

Analyses

MERCURY BY NIOSH 6009 MOD. Method: **N6009** Air Volume (L): **94.9** Analyst: **SLW**
Date Analyzed: 4/9/2015 14:43

	µg/sample	Reporting Limit µg/sample	mg/m3
Mercury	ND	0.050	<0.00053

Lab ID: 1504268-06A
Client Sample ID: BLGAS-040715
Collection Date: 4/7/2015 11:28:00 AM
Matrix: AIR

Analyses

ALDEHYDES BY HPLC Method: **ETO-11** Air Volume (L): **710** Analyst: **MRS**
Date Analyzed: 4/9/2015 13:29

	µg/sample	Reporting Limit µg/sample	**ppm**
Formaldehyde	**0.90**	**0.20**	**0.0010**

Lab ID: 1504268-07A
Client Sample ID: BLLF-040715
Collection Date: 4/7/2015 12:56:00 PM
Matrix: AIR

Analyses

HYDROGEN CYANIDE BY NIOSH 6010 MOD. Method: **N6010** Air Volume (L): **89.65** Analyst: **CTS**
Date Analyzed: 4/9/2015

	µg/sample	Reporting Limit µg/sample	mg/m3
Hydrogen cyanide	ND	1.0	<0.011

Lab ID: 1504268-08A
Client Sample ID: BLLF-040715
Collection Date: 4/7/2015 12:56:00 PM
Matrix: AIR

Analyses

MERCURY BY NIOSH 6009 MOD. Method: **N6009** Air Volume (L): **95.71** Analyst: **SLW**
Date Analyzed: 4/9/2015 14:51

	µg/sample	Reporting Limit µg/sample	mg/m3
Mercury	ND	0.050	<0.00052

Note:

ALS Environmental

Date: *09-Apr-15*

Client: Tetra Tech, Inc.
Project: Bennett Landfill; 103X9027020C3

Work Order: 1504268

Analytical Results

Lab ID: 1504268-09A
Client Sample ID: BLLF-040715
Collection Date: 4/7/2015 12:56:00 PM
Matrix: AIR

Analyses

ALDEHYDES BY HPLC		Method: ETO-11	Air Volume (L): 714.1	Analyst: MRS
Date Analyzed: 4/9/2015 13:50		Reporting Limit		
	µg/sample	µg/sample	ppm	
Formaldehyde	1.4	0.20	0.0016	

Lab ID: 1504268-10A
Client Sample ID: BLMA-040715
Collection Date: 4/7/2015 9:00:00 AM
Matrix: AIR

Analyses

HYDROGEN CYANIDE BY NIOSH 6010 MOD.		Method: N6010	Air Volume (L): 0	Analyst: CTS
Date Analyzed: 4/9/2015		Reporting Limit		
	µg/sample	µg/sample	mg/m3	
Hydrogen cyanide	ND	1.0	NA	

Lab ID: 1504268-11A
Client Sample ID: BLMA-040715
Collection Date: 4/7/2015 9:00:00 AM
Matrix: AIR

Analyses

MERCURY BY NIOSH 6009 MOD.		Method: N6009	Air Volume (L): 0	Analyst: SLW
Date Analyzed: 4/9/2015 14:55		Reporting Limit		
	µg/sample	µg/sample	mg/m3	
Mercury	ND	0.050	NA	

Lab ID: 1504268-12A
Client Sample ID: BLMA-040715
Collection Date: 4/7/2015 9:00:00 AM
Matrix: AIR

Analyses

ALDEHYDES BY HPLC		Method: ETO-11	Air Volume (L): 0	Analyst: MRS
Date Analyzed: 4/9/2015 14:12		Reporting Limit		
	µg/sample	µg/sample	ppm	
Formaldehyde	ND	0.20	NA	

Note:

ALS Environmental

Date: *09-Apr-15*

Client: Tetra Tech, Inc.
Project: Bennett Landfill; 103X902702003

Work Order: 1504268

Analytical Results

Lab ID: 1504268-13A
Client Sample ID: BLFA-040815

Collection Date: 4/8/2015 3:30:00 PM
Matrix: AIR

Analyses

HYDROGEN CYANIDE BY NIOSH 6010 MOD. Method: **N6010** Air Volume (L): **0** Analyst: **CTS**

Date Analyzed: 4/9/2015

	µg/sample	Reporting Limit µg/sample	mg/m3
Hydrogen cyanide	ND	1.0	NA

Lab ID: 1504268-14A
Client Sample ID: BLFA-040815

Collection Date: 4/8/2015 3:30:00 PM
Matrix: AIR

Analyses

MERCURY BY NIOSH 6009 MOD. Method: **N6009** Air Volume (L): **0** Analyst: **SLW**

Date Analyzed: 4/9/2015 15:00

	µg/sample	Reporting Limit µg/sample	mg/m3
Mercury	ND	0.050	NA

Lab ID: 1504268-15A
Client Sample ID: BLFA-040815

Collection Date: 4/8/2015 3:30:00 PM
Matrix: AIR

Analyses

ALDEHYDES BY HPLC Method: **ETO-11** Air Volume (L): **0** Analyst: **MRS**

Date Analyzed: 4/9/2015 14:33

	µg/sample	Reporting Limit µg/sample	ppm
Formaldehyde	ND	0.20	NA

Note:

ALS Environmental

Date: 09-Apr-15

Client: Tetra Tech, Inc.
Work Order: 1504268
Project: Bennett Landfill; 103X902702003

QC BATCH REPORT

Batch ID: **27748** Instrument ID: **HG1** Method: **N6009**

MBLK Sample ID: **MBLK-27748-27748**
Client ID: Run ID: **HG1_150409A** Units: **µg/sample** SeqNo: **1033770** Analysis Date: **4/9/2015 02:35 PM** Prep Date: **4/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.050								

LCS Sample ID: **LCS-27748-27748**
Client ID: Run ID: **HG1_150409A** Units: **µg/sample** SeqNo: **1033768** Analysis Date: **4/9/2015 02:31 PM** Prep Date: **4/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.566	0.050	0.5	0	113	64.7-123	0			

LCSD Sample ID: **LCSD-27748-27748**
Client ID: Run ID: **HG1_150409A** Units: **µg/sample** SeqNo: **1033769** Analysis Date: **4/9/2015 02:33 PM** Prep Date: **4/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.522	0.050	0.5	0	104	64.7-123	0.566	8.09	20	

The following samples were analyzed in this batch:

1504268-02A	1504268-05A	1504268-08A
1504268-11A	1504268-14A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech, Inc.
Work Order: 1504268
Project: Bennett Landfill; 103X902702003

QC BATCH REPORT

Batch ID: **27761** Instrument ID: **HPLC2** Method: **ETO-11**

MBLK Sample ID: **MBLK-27761-27761** Units: **µg/sample** Analysis Date: **4/9/2015 12:20 PM**
Client ID: Run ID: **HPLC2_150409A** SeqNo: **1033841** Prep Date: **4/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Formaldehyde	ND	0.20								

LCS Sample ID: **LCS-27761-27761** Units: **µg/sample** Analysis Date: **4/9/2015 11:59 AM**
Client ID: Run ID: **HPLC2_150409A** SeqNo: **1033839** Prep Date: **4/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Formaldehyde	1.96	0.20	2	0	98	70-130	0			

LCSD Sample ID: **LCSD-27761-27761** Units: **µg/sample** Analysis Date: **4/9/2015 12:09 PM**
Client ID: Run ID: **HPLC2_150409A** SeqNo: **1033840** Prep Date: **4/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Formaldehyde	2.014	0.20	2	0	101	70-130	1.96	2.75	20	

The following samples were analyzed in this batch:

1504268-03A	1504268-06A	1504268-09A
1504268-12A	1504268-15A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech, Inc.
Work Order: 1504268
Project: Bennett Landfill; 103X902702003

QC BATCH REPORT

Batch ID: **R117303** Instrument ID: **WETCHEM** Method: **N6010**

MBLK Sample ID: **MB-R117303-R117303** Units: **µg/sample** Analysis Date: **4/9/2015**
Client ID: Run ID: **WETCHEM_150409A** SeqNo: **1033730** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Hydrogen cyanide	ND	1.0								

LCS Sample ID: **LCS-R117303-R117303** Units: **µg/sample** Analysis Date: **4/9/2015**
Client ID: Run ID: **WETCHEM_150409A** SeqNo: **1033731** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Hydrogen cyanide	171.2	1.0	231.2	0	74.1	50-150	0			

LCSD Sample ID: **LCSD-R117303** Units: **µg/sample** Analysis Date: **4/9/2015**
Client ID: Run ID: **WETCHEM_150409A** SeqNo: **1033737** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Hydrogen cyanide	170.4	1.0	231.2	0	73.7	50-150	171.2	0.509		

The following samples were analyzed in this batch:

1504268-01A	1504268-04A	1504268-07A
1504268-10A	1504268-13A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 09-Apr-15

Client: Tetra Tech, Inc.
Project: Bennett Landfill; 103X902702003
WorkOrder: **1504268**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SDL	Sample Detection Limit
SW	SW-846 Method

Units Reported	Description
µg/sample	

ALS Environmental

Sample Receipt Checklist

Client Name: **TETRATECH-DULUTH**

Date/Time Received: **09-Apr-15 08:42**

Work Order: **1504268**

Received by: **JNW**

Checklist completed by: Jan Wilcox (eSignature) 09-Apr-15 (Date)

Reviewed by: Shawn Smythe (eSignature) 09-Apr-15 (Date)

Matrices:

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☑	No ☐	Not Present ☐
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):			
Cooler(s)/Kit(s):			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☐	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

Share Copy link Download Delete Copy to Version history Previous 42 of 61

From: Huyser, Matthew <Huyser.Matthew@epa.gov> on behalf of Huyser, Matthew
Sent on: Thursday, July 25, 2019 8:24:29 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>; Eichinger, Kevin <Eichinger.Kevin@epa.gov>
CC: Miller, Angela <Miller.Angela@epa.gov>; Moore, Abena <Moore.Abena@epa.gov>
Subject: Able Fire - CIC availability

Jordan and Kevin,

Rachel called and informed me that Angela Miller and Abena Ajanaku will be available to provide support beginning 7/26/2019 if you need them.

Angela Miller
678-575-8132

Abena Ajanaku
404-735-9352

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Huyser, Matthew <Huyser.Matthew@epa.gov> on behalf of Huyser, Matthew
Sent on: Thursday, July 25, 2019 5:57:06 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>; John Snyder <john.snyder@tetratech.com>; Falkner, Amber <Amber.Falkner@tetratech.com>; chris.draper@tetratech.com; Josiah Williams <josiah.williams@tetratech.com>
Subject: Able Fire - DHEC air monitor

The following link is live data from a DHEC air monitor near the Site

https://grovestreams.com/singleDash.html?itemUid=19a7c93a-bfd0-33d9-adb6-dab05f442054&org=15772a4f-dbea-3f07-afd1-822eb81046b4&api_key=d9fff443-7d5e-3c69-9644-2114020fddb9

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

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From: Huyser, Matthew <Huyser.Matthew@epa.gov> on behalf of Huyser, Matthew
Sent on: Thursday, July 25, 2019 6:42:28 PM
To: Garrard, Jordan <Garrard.Jordan@epa.gov>; Eichinger, Kevin <Eichinger.Kevin@epa.gov>
CC: Threatt, Richard <threatrl@dhec.sc.gov>
Subject: Able Fire - meeting tomorrow (July 26)

Jordan and Kevin,

Provided below are the details for meeting between DHEC and the counties.
EPA presence is requested.

Richard Threatt is your point of contact, his contact info is at the bottom of the email.

Matthew J. Huyser, PE - On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4 | 61 Forsyth St SW | Atlanta, Georgia | 30303
Emergency Response Removal and Prevention Branch (ERRPB)
office: **404-562-8934** | cell: **678-427-8829** | fax: **404-562-8699**
epaosc.org

From: Threatt, Richard <threatrl@dhec.sc.gov>
Sent: Thursday, July 25, 2019 2:40 PM
To: Huyser, Matthew <Huyser.Matthew@epa.gov>
Cc: Scott Reynolds <reynolds@dhec.sc.gov>
Subject: Meeting tomorrow

Meeting to discuss Able Recycling

When:Fri 7/26/2019 10:00 am - 11:30 am
Where:Jasper County Government Building - 358 Third Avenue Ridgeland, SC 29936 - Zenie Ingram Conference Room

Thank you for your help. My contact info is below if they need it.

Richard L. Threatt, Jr.
Office Manager

Lowcountry- Beaufort EA

S.C. Dept. of Health & Environmental Control
Office: (843) 846-1030