



AtmAA Inc.

23917 Craftsman Rd., Calabasas, CA 91302 • (818) 223-3277 • FAX (818) 223-8250

environmental consultants
laboratory services

LABORATORY ANALYSIS REPORT

BTEX Analysis in SUMMA Canister Samples by Method EPA TO-15

Report Date: November 2, 2015
Client: AirKinetics, Inc.
Project Location: SCG - Aliso Canyon
Project No.: 14424
Date Received: November 2, 2015
Date Analyzed: November 2, 2015

ANALYSIS DESCRIPTION

Benzene, toluene, ethylbenzene, and xylenes were measured by gas chromatography/mass spectrometry (GC/MS) by Method EPA TO-15.

AtmAA Lab No.:	13065-11	13065-12	13065-13	13065-14	13065-15
Sample I.D.:	Porter Ranch Community School	Holleigh Benson Park - BB Court	Porter Ranch Est. Seson Inlet	Sample Highlands 1	Castlebay Elementary
Components	<i>(Concentration in ppbv)</i>				
Benzene	1.22	0.89	1.05	0.66	0.67
Toluene	2.02	0.78	0.60	<0.6	<0.6
Ethylbenzene	<0.6	<0.6	<0.6	<0.6	<0.6
m + p-xylenes	<0.6	<0.6	<0.6	<0.6	<0.6
o-xylene	<0.6	<0.6	<0.6	<0.6	<0.6


Michael L. Porter
Laboratory Director

LABORATORY ANALYSIS REPORT

BTEX Analysis in SUMMA Canister Samples by Method EPA TO-15

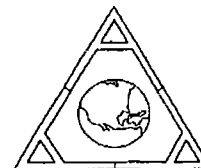
Report Date: November 2, 2015
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ANALYSIS DESCRIPTION

Benzene, toluene, ethylbenzene, and xylenes were measured by gas chromatography/mass spectrometry (GC/MS) by Method EPA TO-15.

AtmAA Lab No.:	13065-16	13065-17	13065-18	13065-19
Sample I.D.:	Starter Set Preschool	Sample Highlands 2	Sample SS9	Sample SS5
<u>Components</u>	<i>(Concentration in ppbv)</i>			
Benzene	0.79	0.90	1.59	1.04
Toluene	0.77	1.20	0.81	<0.6
Ethylbenzene	<0.6	<0.6	<0.6	<0.6
m + p-xylenes	<0.6	<0.6	<0.6	<0.6
o-xylene	<0.6	<0.6	<0.6	<0.6


 Michael L. Porter
 Laboratory Director



QUALITY ASSURANCE SUMMARY
(Repeat Analysis)

Project Location: SCG - Aliso Canyon
 Date Received: November 2, 2015
 Date Analyzed: November 2, 2015

Component	Sample ID	Repeat Analysis		Mean Conc.	% Diff. From Mean
		Run #1	Run #2		
<i>(Concentration in ppbv)</i>					
Benzene	Porter Ranch Community School	1.38	1.06	1.22	13
	Sample SS9	1.51	1.67	1.59	5.0
	Sample SS5	1.02	1.05	1.04	1.4
Toluene	Porter Ranch Community School	1.84	2.2	2.02	8.9
	Sample SS9	0.83	0.79	0.81	2.5
	Sample SS5	<0.6	<0.6	<0.6	---
Ethylbenzene	Porter Ranch Community School	<0.6	<0.6	<0.6	---
	Sample SS9	<0.6	<0.6	<0.6	---
	Sample SS5	<0.6	<0.6	<0.6	---
m + p-xylenes	Porter Ranch Community School	<0.6	<0.6	<0.6	---
	Sample SS9	<0.6	<0.6	<0.6	---
	Sample SS5	<0.6	<0.6	<0.6	---
o-xylene	Porter Ranch Community School	<0.6	<0.6	<0.6	---
	Sample SS9	<0.6	<0.6	<0.6	---
	Sample SS5	<0.6	<0.6	<0.6	---

Nine SUMMA canister samples, laboratory numbers 13065-(11-19), were analyzed for BTEX. Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". The average % difference from mean for 5 repeat measurements from nine SUMMA canister samples is 6.2%.





LABORATORY ANALYSIS REPORT

Hydrogen Sulfide and Reduced Sulfur Compounds
Analysis in Tedlar Bag Samples by Method SCAQMD 307.91

Report Date: November 2, 2015
Client: AirKinetics, Inc.
Project Location: SCG - Aliso Canyon
Project No.: 14424
Date Received: November 2, 2015
Date Analyzed: November 2, 2015

ANALYSIS DESCRIPTION

Hydrogen sulfide was analyzed by gas chromatography with a Hall electrolytic conductivity detector operated in the oxidative sulfur mode. All other components were measured by GC/ Mass Spec.

AtmAA Lab No.:	13065-2	13065-3	13065-4	13065-5	13065-6
Sample I.D.:	Porter Ranch Community School	Holleigh Benson Park - BB Court	Porter Ranch Est. Sesnon Inlet	Sample Highlands 1	Castlebay Elementary
Components	(Concentration in ppbv)				
Hydrogen sulfide	<50	<50	<50	<50	NA
Carbonyl sulfide	<10	<10	<10	<10	NA
Methyl mercaptan	<10	<10	<10	<10	NA
Ethyl mercaptan	<10	<10	<10	<10	NA
Dimethyl sulfide	<10	<10	<10	<10	NA
Carbon disulfide	<10	<10	<10	<10	NA
isopropyl mercaptan	<10	<10	<10	<10	NA
n-propyl mercaptan	<10	<10	<10	<10	NA
Dimethyl disulfide	<10	<10	<10	<10	NA
TRS	<150	<150	<150	<150	NA

TRS - total reduced sulfur

NA - Not analyzed, bag received flat

Michael L. Porter
Laboratory Director

LABORATORY ANALYSIS REPORT

Hydrogen Sulfide and Reduced Sulfur Compounds
Analysis in Tedlar Bag Samples by Method SCAQMD 307.91

Report Date: November 2, 2015
Client: AirKinetics, Inc.
Project Location: SCG - Aliso Canyon
Project No.: 14424
Date Received: November 2, 2015
Date Analyzed: November 2, 2015

ANALYSIS DESCRIPTION

Hydrogen sulfide was analyzed by gas chromatography with a Hall electrolytic conductivity detector operated in the oxidative sulfur mode. All other components were measured by GC/Mass Spec.

AtmAA Lab No.:	13065-7	13065-8	13065-9	13065-10
Sample I.D.:	Starter Set	Sample	Sample	Sample
<u>Components</u>	Preschool	Highlands 2	SS9	SS5
<i>(Concentration in ppbv)</i>				
Hydrogen sulfide	<50	<50	NA	<50
Carbonyl sulfide	<10	<10	NA	<10
Methyl mercaptan	<10	<10	NA	<10
Ethyl mercaptan	<10	<10	NA	<10
Dimethyl sulfide	<10	<10	NA	<10
Carbon disulfide	<10	<10	NA	<10
isopropyl mercaptan	<10	<10	NA	<10
n-propyl mercaptan	<10	<10	NA	<10
Dimethyl disulfide	<10	<10	NA	<10
TRS	<150	<150	NA	<150

TRS - total reduced sulfur

NA - Not analyzed, bag received flat



Michael L. Porter
Laboratory Director



QUALITY ASSURANCE SUMMARY
(Repeat Analyses)

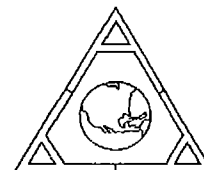
Project Location: SCG - Aliso Canyon

Date Received: November 2, 2015

Date Analyzed: November 2, 2015

Components	Sample ID	Repeat Analysis		Mean Conc.	% Diff. From Mean
		Run #1	Run #2		
		<i>(Concentration in ppbv)</i>			
Hydrogen sulfide	Porter Ranch Community School	<50	<50	<50	---
	Holleigh Bernson Park -BB Court	<50	<50	<50	---
	Porter Ranch Estates - Sesnon Inlet	<50	<50	<50	---
	Highlands 1	<50	<50	<50	---
	Starter Set Preschool	<50	<50	<50	---
	Highlands 2	<50	<50	<50	---
	Sample SS5	<50	<50	<50	---
Carbonyl sulfide	Sample SS5	<10	<10	<10	---
Methyl mercaptan	Sample SS5	<10	<10	<10	---
Ethyl mercaptan	Sample SS5	<10	<10	<10	---
Dimethyl sulfide	Sample SS5	<10	<10	<10	---
Carbon disulfide	Sample SS5	<10	<10	<10	---
iso-propyl mercaptan	Sample SS5	<10	<10	<10	---
n-propyl mercaptan	Sample SS5	<10	<10	<10	---
Dimethyl disulfide	Sample SS5	<10	<10	<10	---

Seven Tedlar bag samples, laboratory numbers 13065-(2-10), were analyzed for total reduced sulfur compounds. Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". No % difference from mean can be calculated from the seven Tedlar bag samples.



AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No.: (SCG Account) JOB NAME: SCG - Aliso Canyon

LABORATORY: ATMAA JOB No.: 14424

DATE SAMPLES WERE TRANSMITTED: 11/2/2015 EXPECTED DATE OF RESULTS: 11/16/2015

SAMPLE MATRIX: Ambient Air

TYPE OF ANALYSIS REQUIRED: Please analyze samples for Total Sulfur in accordance with SCAQMD Method 307-91 procedures. Please observe the maximum 24-hr holding time.

Sample/Run ID#	Sample Collection Date	Sample Components	Sample Matrix	Conditional Sample
13065-2 Porter Ranch Community School	11/01/15 (0305-0315)	Tedlar Bag	Ambient Air	
-3 Holleigh Bernson Park - BB Court	11/01/15 (0327-0337)	Tedlar Bag	Ambient Air	
-4 Porter Ranch Estates - Sesnon Inlet	11/01/15 (0346-0356)	Tedlar Bag	Ambient Air	
-5 Highlands 1	11/01/15 (0403-0413)	Tedlar Bag	Ambient Air	
FLAT -6 Castlebay Elementary	11/01/15 (0450-0500)	Tedlar Bag	Ambient Air	
-7 Starter Set Preschool	11/01/15 (0507-0517)	Tedlar Bag	Ambient Air	
-8 Highlands 2	11/01/15 (0525-0535)	Tedlar Bag	Ambient Air	
FLAT -9 SS9	11/01/15 (0609-0619)	Tedlar Bag	Ambient Air	
10 SS5	11/01/15 (0626-0636)	Tedlar Bag	Ambient Air	
		Tedlar Bag		

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: Musson Date/Time: 11/2/15 @ 1010

Transported by: Southern California Express Date/Time: 11/2/15 @ 1010

Transported to: ATMAA (818) 223-3277
23917 Craftsman Rd.
Calabasas, CA 91302

Received by: [Signature] Date/Time: 11-2-15 12:45

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No.: (SCG Account) JOB NAME: SCG - Aliso Canyon

LABORATORY: ATMAA JOB No.: 14424

DATE SAMPLES WERE TRANSMITTED: 11/2/2015 EXPECTED DATE OF RESULTS: 11/16/2015

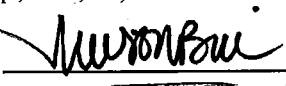
SAMPLE MATRIX: Am

TYPE OF ANALYSIS REQUIRED: Please analyze samples for BTEX in accordance with EPA method TO-14 procedures and for speciated hydrocarbons by EPA method 18.

13065-11
-12
-13
-14
-15
-16
-17
-18
-19

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
Porter Ranch Community School	11/01/15 (0305-0315)	Tank # S7	Ambient Air	
Holleigh Bernson Park - BB Court	11/01/15 (0327-0337)	Tank # S2	Ambient Air	
Porter Ranch Estates - Sesnon Inlet	11/01/15 (0346-0356)	Tank # S19	Ambient Air	
Highlands 1	11/01/15 (0403-0413)	Tank # S31	Ambient Air	
Castlebay Elementary	11/01/15 (0450-0500)	Tank # S18	Ambient Air	
Starter Set Preschool	11/01/15 (0507-0517)	Tank # (S14)	Ambient Air	
Highlands 2	11/01/15 (0525-0535)	Tank # S28	Ambient Air	
SS9	11/01/15 (0609-0619)	Tank # S22	Ambient Air	
SS5	11/01/15 (0626-0636)	Tank # S19 S13	Ambient Air	

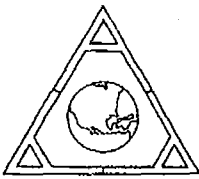
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Samples Relinquished by:  Date/Time: 11/2/15 @ 1010

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Received by:  Date/Time: 11-2-15 12:45



LABORATORY ANALYSIS REPORT

Speciated Hydrocarbons Analysis in SUMMA Canister Samples

Report Date: November 2, 2015
Client: AirKinetics, Inc.
Site: So Cal Gas
Location: Aliso Canyon
Project No.: 14424

Date Received: November 2, 2015
Date Analyzed: November 2, 2015

ANALYSIS DESCRIPTION

Hydrocarbon Speciation analysis was performed by flame ionization detection/gas chromatography (FID/GC), modified EPA-18.

AtmAA Lab No.:	13065-11	(repeat)	13065-12	13065-13	13065-14	13065-15
Sample ID:	SUMMA	SUMMA	SUMMA	SUMMA	SUMMA	SUMMA
	S7	S7	S2	S19	S31	S18
	(Concentration in ppmv, component)					
Methane	10.29	9.88	17.01	2.75	2.47	3.66
non-methane hydrocarbons analysis by carbon number grouping						
	(Concentration in ppmv, as component)					
Ethene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetylene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethane	0.33	0.30	0.59	<0.05	<0.05	0.06
C3	0.03	0.02	0.04	<0.03	<0.03	<0.03
Iso-Butane	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Butane	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Iso-Pentane	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
N-Pentane	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
C6	<0.02	<0.02	0.21	<0.02	<0.02	<0.02
Hexane	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Benzene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
TNMNE	0.09	0.06	1.38	<0.4	<0.4	<0.4
TNMHC	0.75	0.66	1.18	<0.4	<0.4	<0.4

TNMNE - total non-methane, non-ethane, hydrocarbons as ppmvC.
TNMHC - total non-methane hydrocarbons as ppmvC.

Michael L. Porter
Laboratory Director

LABORATORY ANALYSIS REPORT

Speciated Hydrocarbons Analysis in SUMMA Canister Samples

Report Date: November 2, 2015
 Client: AirKinetics, Inc.
 Site: So Cal Gas
 Location: Aliso Canyon
 Project No.: 14424

Date Received: November 2, 2015
 Date Analyzed: November 2, 2015

ANALYSIS DESCRIPTION

Hydrocarbon Speciation analysis was performed by flame ionization detection/gas chromatography (FID/GC), modified EPA-18.

AtmAA Lab No.:	13065-16	13065-17	13065-18	13065-19	(repeat)
Sample ID:	SUMMA	SUMMA	SUMMA	SUMMA	SUMMA
	S14	S28	S22	S19	S19
	(Concentration in ppmv, component)				
Methane	4.45	3.15	416.6	1035	1056
non-methane hydrocarbons analysis by carbon number grouping					
Ethene	<0.05	<0.05	<0.05	<0.05	<0.05
Acetylene	<0.05	<0.05	<0.05	<0.05	<0.05
Ethane	0.08	0.06	15.58	38.51	38.94
C3	<0.03	<0.03	0.90	2.13	2.16
Iso-Butane	<0.02	<0.02	0.08	0.20	0.19
N-Butane	<0.02	<0.02	0.09	0.17	0.17
Iso-Pentane	<0.02	<0.02	0.02	0.04	0.04
N-Pentane	<0.02	<0.02	0.02	0.02	0.02
C6	<0.02	<0.02	<0.02	<0.02	<0.02
Hexane	<0.02	<0.02	<0.02	<0.02	<0.02
Benzene	<0.02	<0.02	<0.02	<0.02	<0.02
TNMNE	<0.4	<0.4	3.58	8.17	8.22
TNMHC	<0.4	<0.4	34.74	85.19	86.10

TNMNE - total non-methane, non-ethane, hydrocarbons as ppmvC.
 TNMHC - total non-methane hydrocarbons as ppmvC.


 Michael L. Porter
 Laboratory Director



AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No.: (SCG Account) JOB NAME: SCG - Aliso Canyon

LABORATORY: ATMAA JOB No.: 14424

DATE SAMPLES WERE TRANSMITTED: 11/2/2015 EXPECTED DATE OF RESULTS: 11/16/2015

SAMPLE MATRIX: Ambient Air

TYPE OF ANALYSIS REQUIRED: Please analyze samples for Total Sulfur in accordance with SCAQMD Method 307-91 procedures. Please observe the maximum 24-hr holding time.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples
13065-2 Porter Ranch Community School	11/01/15 (0305-0315)	Tedlar Bag	Ambient Air	
-3 Holleigh Bernson Park - BB Court	11/01/15 (0327-0337)	Tedlar Bag	Ambient Air	
-4 Porter Ranch Estates - Sesnon Inlet	11/01/15 (0346-0356)	Tedlar Bag	Ambient Air	
15 Highlands 1	11/01/15 (0403-0413)	Tedlar Bag	Ambient Air	
FLAT 16 Castlebay Elementary	11/01/15 (0450-0500)	Tedlar Bag	Ambient Air	
-7 Starter Set Preschool	11/01/15 (0507-0517)	Tedlar Bag	Ambient Air	
-8 Highlands 2	11/01/15 (0525-0535)	Tedlar Bag	Ambient Air	
FLAT 9 SS9	11/01/15 (0609-0619)	Tedlar Bag	Ambient Air	
10 SS5	11/01/15 (0626-0636)	Tedlar Bag	Ambient Air	
		Tedlar Bag		

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: MUSTONBUI Date/Time: 11/2/15 @ 1010

Transported by: Southern California Express Date/Time: 11/2/15 @ 1010

Transported to: ATMAA (818) 223-3277
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Calabasas, CA 91302

Received by: [Signature] Date/Time: 11-2-15 12:45

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No.: (SCG Account) JOB NAME: SCG - Aliso Canyon

LABORATORY: ATMAA JOB No.: 14424

DATE SAMPLES WERE TRANSMITTED: 11/2/2015 EXPECTED DATE OF RESULTS: 11/16/2015

SAMPLE MATRIX: Am

TYPE OF ANALYSIS REQUIRED: Please analyze samples for BTEX in accordance with EPA method TO-14 procedures and for speciated hydrocarbons by EPA method 18.

13065-11
-12
-13
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-17
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-19

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
Porter Ranch Community School	11/01/15 (0305-0315)	Tank # S7	Ambient Air	
Holleigh Bernson Park - BB Court	11/01/15 (0327-0337)	Tank # S2	Ambient Air	
Porter Ranch Estates - Sesnon Inlet	11/01/15 (0346-0356)	Tank # S19	Ambient Air	
Highlands 1	11/01/15 (0403-0413)	Tank # S31	Ambient Air	
Castlebay Elementary	11/01/15 (0450-0500)	Tank # S18	Ambient Air	
Starter Set Preschool	11/01/15 (0507-0517)	Tank # (S14)	Ambient Air	
Highlands 2	11/01/15 (0525-0535)	Tank # S28	Ambient Air	
SS9	11/01/15 (0609-0619)	Tank # S22	Ambient Air	
SS5	11/01/15 (0626-0636)	Tank # S19 S13	Ambient Air	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: Murphy Date/Time: 11/2/15 @ 1010

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