



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Dr., Diamond Bar, CA 91765-4182

MONITORING AND ANALYSIS
REPORT OF LABORATORY ANALYSIS

(Page 1 of 5)

To: Rafael Reynosa
Sr. Enforcement Manager
Compliance & Enforcement

Laboratory No. 1929406-01

Requested By Larry Israel

Rule No. NA

Sampling Location

Aliso Canyon
East of Main Plant
Porter Ranch, CA 91326

ST No. NA

Report Created 10/25/2019

ANALYTICAL WORK PERFORMED, METHOD OF ANALYSIS, AND RESULTS

Volatile Organic Compounds (VOCs) in Ambient Air by GC/FID

See attached results and sample information.

Reviewed By:

Stephen Dutz
Principal A.Q. Chemist
Laboratory Services

Date Reviewed:

10/25/19

Approved By:

Aaron Katzenstein, Ph.D.
Senior Manager
Laboratory Services
(909) 396-2219

Date Approved:

10/25/2019



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MONITORING AND ANALYSIS
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Laboratory No. 1929406-01
Sample Description Grab, 6 L Stainless Steel Canister 53464, Aliso Canyon
Sample Comments East of Main Plant (KVS Bldg), taken at inlet to transmission pipeline (1180-1181).
 GC-FID results should be considered estimates due to uncertainty associated with large dilution (400,000x).

Sample Date 10/19/2019

Received Date 10/21/2019

Analyzed Date 10/24/2019

Volatile Organic Compounds (VOCs) in Ambient Air by GC/FID

<u>Analyte, Unit</u>	<u>Result</u>	<u>MDL</u>	<u>MRL</u>	<u>Ambient Avg</u>
Total NMOC, ppbC	140000000	40000	120000	100-700
Total Calibrated, ppbC	140000000	40000	120000	
Ethane, ppbv	61000000 (EH)	20000	60000	
Ethylene, ppbv	ND	20000	60000	0.7-4.1
Acetylene, ppbv	ND	20000	60000	
Propane, ppbv	3800000	13000	40000	0.4-5.0
Propylene, ppbv	ND	13000	40000	0.2-0.7
Isobutane, ppbv	290000	10000	30000	0.2-0.9
n-Butane, ppbv	370000	10000	30000	0.3-1.7
1-Butene, ppbv	ND	10000	30000	0.1-0.3
trans-2-Butene, ppbv	ND	10000	30000	
cis-2-Butene, ppbv	ND	10000	30000	
Isopentane, ppbv	110000	8000	24000	
1-Pentene, ppbv	ND	8000	24000	
n-Pentane, ppbv	75000	8000	24000	0.1-0.6
Isoprene, ppbv	ND	8000	24000	
trans-2-Pentene, ppbv	ND	8000	24000	
cis-2-Pentene, ppbv	ND	8000	24000	
2,2-Dimethylbutane, ppbv	7400	6700	20000	
Cyclopentane, ppbv	ND	8000	24000	
2,3-Dimethylbutane, ppbv	8900	6700	20000	
2-Methylpentane, ppbv	20000	6700	20000	
3-Methylpentane, ppbv	15000	6700	20000	
1-Hexene, ppbv	ND	6700	20000	<0.1-0.1
n-Hexane, ppbv	22000	6700	20000	0.1-0.2
Methylcyclopentane, ppbv	14000	6700	20000	
2,4-Dimethylpentane, ppbv	ND	5700	17000	
Benzene, ppbv	7700	6700	20000	0.1-0.5
Cyclohexane, ppbv	15000	6700	20000	



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Volatile Organic Compounds (VOCs) in Ambient Air by GC/FID

<u>Analyte, Unit</u>	<u>Result</u>	<u>MDL</u>	<u>MRL</u>	<u>Ambient Avg</u>
2-Methylhexane, ppbv	6100	5700	17000	
2,3-Dimethylpentane, ppbv	5900	5700	17000	
3-Methylhexane, ppbv	6500	5700	17000	
2,2,4-Trimethylpentane, ppbv	ND	5000	15000	
n-Heptane, ppbv	8600	5700	17000	0.1-0.2
Methylcyclohexane, ppbv	18000	5700	17000	
2,3,4-Trimethylpentane, ppbv	ND	5000	15000	
Toluene, ppbv	8500	5700	17000	0.1-0.6
2-Methylheptane, ppbv	ND	5000	15000	
3-Methylheptane, ppbv	ND	5000	15000	
n-Octane, ppbv	ND	5000	15000	<0.1-0.3
Ethylbenzene, ppbv	ND	5000	15000	0.1-0.2
m+p-Xylene, ppbv	ND	5000	15000	0.1-0.2
Styrene, ppbv	ND	5000	15000	<0.1-0.2
o-Xylene, ppbv	ND	5000	15000	0.1-0.2
n-Nonane, ppbv	ND	4400	13000	<0.1-0.1
Isopropylbenzene, ppbv	ND	4400	13000	
n-Propylbenzene, ppbv	ND	4400	13000	
m-Ethyltoluene, ppbv	ND	4400	13000	
p-Ethyltoluene, ppbv	ND	4400	13000	
1,3,5-Trimethylbenzene, ppbv	ND	4400	13000	
o-Ethyltoluene, ppbv	ND	4400	13000	
1,2,4-Trimethylbenzene, ppbv	ND	4400	13000	
n-Decane, ppbv	ND	4000	12000	<0.1-0.1
1,2,3-Trimethylbenzene, ppbv	ND	4400	13000	
m-Diethylbenzene, ppbv	ND	4000	12000	
p-Diethylbenzene, ppbv	ND	4000	12000	
n-Undecane, ppbv	ND	3600	11000	<0.1
n-Dodecane, ppbv	ND	3300	10000	<0.1



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MONITORING AND ANALYSIS
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Laboratory No.	1929406-01 - continued	
Sample Description	Grab, 6 L Stainless Steel Canister 53464, Aliso Canyon	
Sample Comments	East of Main Plant (KVS Bldg), taken at inlet to transmission pipeline (1180-1181). GC-FID results should be considered estimates due to uncertainty associated with large dilution (400,000x).	
Sample Date 10/19/2019	Received Date 10/21/2019	Analyzed Date 10/24/2019

** J = Value is between method detection and reporting limits.*

EH = Estimated; Exceeds Upper Range, LJ = Identification of Analyte is Acceptable; Reported Value is an Estimate

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
SAMPLE ANALYSIS REQUEST**

DISTRICT INFORMATION
 INVOICE SOURCE
 LABORATORY NO. 1929406-01

TO: SCAQMD LAB: X OTHER:

SOURCE NAME: Aliso Canyon I.D. No. _____

Source Address: _____ City: _____

Mailing Address: _____ City: _____ Zip: _____

Contact Person: _____ Title: _____ Tel: 0-

Analysis Requested by: _____ Date: _____

Approved by: _____ Office: Compliance Budget #: 50-375

REASON REQUESTED: Court/Hearing Board Permit Pending Hazardous/Toxic Spill

 Suspected Violation Rule(s) Other

Sample Collected by: Larry Israel Date: 10/19/19 Time: 14:17

Specify the description and location where the sample was collected:

Analysis Requested:

Relinquished by	Received by	Firm/Agency	Date	Time
<u>Jamario Israel</u>	<u>Steve Buehler</u>	<u>SCAQMD</u>	<u>10/19/19</u>	<u>14:25</u>
<u>Steve Buehler</u>	<u>SCAQMD Lab Table</u>	<u>SCAQMD</u>	<u>10-19-19</u>	<u>20:55 PST</u>
<u>SCAQMD Lab Table</u>	<u>Ningping Rao</u>	<u>SCAQMD</u>	<u>10-21-19</u>	<u>13:29:32</u>

Remarks: Please expedite immediately violation pending

FF53464 East of Main Plant (KVS Bldg)
taken at inlet to Transmission Pipeline (1180-1181)



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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To: Rafael Reynosa
Sr. Enforcement Manager
Compliance & Enforcement

Laboratory No. 1929406-01

Requested By Larry Israel

Rule No. NA

Sampling Location

Aliso Canyon
East of Main Plant
Porter Ranch, CA 91326

ST No. NA

Report Created 10/25/2019

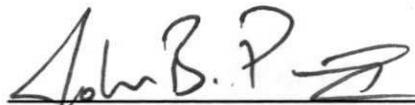
ANALYTICAL WORK PERFORMED, METHOD OF ANALYSIS, AND RESULTS

Percent hydrogen (H₂), nitrogen (N₂), oxygen (O₂), and methane (CH₄) by SCAQMD Method 10.1 (GC-TCD)

Total Gaseous Non-Methane Non-Ethane Organic Carbon by SCAQMD Method 25.1 (GC-TCA)

See attached results and sample information.

Reviewed By:



Brad Parrack
Principal A.Q. Chemist
Laboratory Services

Date Reviewed:

10/25/19

Approved By:



Aaron Katzenstein, Ph.D.
Senior Manager
Laboratory Services
(909) 396-2219

Date Approved:

10/25/2019



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Laboratory No. 1929406-01
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Sample Comments East of Main Plant (KVS Bldg), taken at inlet to transmission pipeline (1180-1181).

Sample Date 10/19/2019 **Received Date 10/21/2019** **Analyzed Date 10/21/2019**

Percent hydrogen (H2), nitrogen (N2), oxygen (O2), and methane (CH4) by SCAQMD Method 10.1 (GC-TCD)

Analyte, Unit	Result	Dilution	MDL	MRL
H2, %	ND	2	-	2
O2, %	ND	2	-	2
N2, %	1.1	2	-	2
CH4, %	94.4	2	-	2

Laboratory No. 1929406-01
Sample Description Grab, 6 L Stainless Steel Canister - 53464, Aliso Canyon
Sample Comments East of Main Plant (KVS Bldg), taken at inlet to transmission pipeline (1180-1181).
Methane reported though TCD due to high concentration. CO2 estimated at 9000 ppm.

Sample Date 10/19/2019 **Received Date 10/21/2019** **Analyzed Date 10/21/2019**

Total Gaseous Non-Methane Non-Ethane Organic Carbon by SCAQMD Method 25.1 (GC-TCA)

Analyte, Unit	Result	Dilution	MDL	MRL
Ethane, ppmvC	87200	116	23.2	116
NMNEOC, ppmvC	11300	116	23.2	116



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Laboratory No. 1929406-01

Percent hydrogen (H2), nitrogen (N2), oxygen (O2), and methane (CH4) by SCAQMD Method 10.1 (GC-TCD)

QUALITY CONTROL SUMMARY

CCV1 (CC122586)

Analyte, Unit

H2, %

O2, %

N2, %

CH4, %

Measured	Theoretical	Absolute Difference	QC Limit ±0.5%
1.01	0.944	0.07	PASS
1.05	1.03	0.02	PASS
1.05	0.959	0.09	PASS
0.99	1.01	0.02	PASS

CCV2 (CC73109)

Analyte, Unit

H2, %

O2, %

N2, %

CH4, %

Measured	Theoretical	Absolute Difference	QC Limit ±0.5%
NA	NA	NA	NA
24.93	24.63	0.30	PASS
5.15	4.93	0.22	PASS
NA	NA	NA	NA

CCV3 (FF130)

Analyte, Unit

H2, %

O2, %

N2, %

CH4, %

Measured	Theoretical	Absolute Difference	QC Limit ±0.5%
NA	NA	NA	NA
1.10	0.997	0.10	PASS
94.36	93.9	0.46	PASS
NA	NA	NA	NA

CCV4 (CC122586)

Analyte, Unit

H2, %

O2, %

N2, %

CH4, %

Measured	Theoretical	Absolute Difference	QC Limit ±0.5%
1.01	0.944	0.07	PASS
1.01	1.03	0.02	PASS
1.02	0.959	0.06	PASS
0.99	1.01	0.02	PASS

CCV5 (CC73109)

Analyte, Unit

H2, %

O2, %

N2, %

CH4, %

Measured	Theoretical	Absolute Difference	QC Limit ±0.5%
NA	NA	NA	NA
24.89	24.63	0.26	PASS
5.10	4.93	0.17	PASS
NA	NA	NA	NA



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MONITORING AND ANALYSIS
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Laboratory No. 1929406-01

Percent hydrogen (H₂), nitrogen (N₂), oxygen (O₂), and methane (CH₄) by SCAQMD Method 10.1 (GC-TCD)

QUALITY CONTROL SUMMARY

CCV6 (CA03593)
Analyte, Unit

H₂, %
O₂, %
N₂, %
CH₄, %

Measured	Theoretical	Absolute Difference	QC Limit ±0.5%
25.51	25.34	0.17	PASS
NA	NA	NA	NA
0.20	NA	0.20	PASS
49.13	49.00	0.13	PASS



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Laboratory No. 1929406-01

Total Gaseous Non-Methane Non-Ethane Organic Carbon by SCAQMD Method 25.1 (GC-TCA)

QUALITY CONTROL SUMMARY

CCV1 (CC106783)

Analyte, Unit
 CO, ppmvC
 CH4, ppmvC
 Ethane, ppmvC
 NMNEOC, ppmvC

Measured	Theoretical	Percent Error	Absolute Difference	QC Limit ±5% or ±1
1.78	1.92	7.48	0.14	PASS
2.08	2.02	2.77	0.06	PASS
2.19	2.03	7.88	0.16	PASS
1.94	2.03	4.34	0.09	PASS

CCV2 (CC135067)

Analyte, Unit
 CO, ppmvC
 CH4, ppmvC
 Ethane, ppmvC
 NMNEOC, ppmvC

Measured	Theoretical	Percent Error	Absolute Difference	QC Limit ±5% or ±1
10239	10100	1.38	138.92	PASS
10093	9950	1.44	143.07	PASS
10092	9940	1.53	151.65	PASS
10187	10000	1.87	186.76	PASS

CCV3 (CC106783)

Analyte, Unit
 CO, ppmvC
 CH4, ppmvC
 Ethane, ppmvC
 NMNEOC, ppmvC

Measured	Theoretical	Percent Error	Absolute Difference	QC Limit ±5% or ±1
1.90	1.92	1.25	0.02	PASS
2.07	2.02	2.27	0.05	PASS
2.20	2.03	8.37	0.17	PASS
2.06	2.03	1.58	0.03	PASS

CCV4 (CC135067)

Analyte, Unit
 CO, ppmvC
 CH4, ppmvC
 Ethane, ppmvC
 NMNEOC, ppmvC

Measured	Theoretical	Percent Error	Absolute Difference	QC Limit ±5% or ±1
9985	10100	1.14	114.66	PASS
9839	9950	1.11	110.91	PASS
9836	9940	1.04	103.69	PASS
9932	10000	0.68	68.08	PASS

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
SAMPLE ANALYSIS REQUEST**

DISTRICT INFORMATION
 INVOICE SOURCE
 LABORATORY NO. 1929406-01

TO: SCAQMD LAB: X OTHER:

SOURCE NAME: Aliso Canyon I.D. No. _____

Source Address: _____ City: _____

Mailing Address: _____ City: _____ Zip: _____

Contact Person: _____ Title: _____ Tel: 0-

Analysis Requested by: _____ Date: _____

Approved by: _____ Office: Compliance Budget #: 50-375

REASON REQUESTED: Court/Hearing Board Permit Pending Hazardous/Toxic Spill

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