

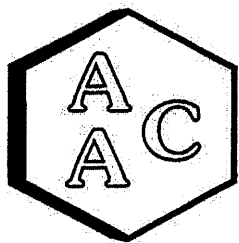
Volatile Organic Compound Analysis Results for Samples Collected in Nuiqsut, Alaska

Sample Location: Nuiqsut Ambient Air Quality Monitoring Station

Date Sample Collected: 4/12/2022

Analysis Conducted by: Atmospheric Analysis & Consulting, Inc.

Analysis Method: EPA Method TO-12/PAMS Protocol by GC/MS/FID



Atmospheric Analysis & Consulting, Inc.

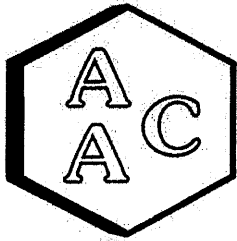
Laboratory Analysis Report

CLIENT : SLR International Corporation
PROJECT NO : 220802
MATRIX : AIR
UNITS : ppb (v/v)

DATE RECEIVED : 04/14/2022
DATE REPORTED : 04/15/2022

HYDROCARBONS (C2-C12) SPECIATED

Client ID AAC ID	NUI 220802-30194			Sample Reporting Limit (SRL) (MRLxDFs)	NUI DUP 220802-30195			Sample Reporting Limit (SRL) (MRLxDFs)	Method Reporting Limit (MRL)
	Date Sampled	Date Analyzed	Can Dilution Factor		Date Sampled	Date Analyzed	Can Dilution Factor		
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Ethylene	<SRL	U	1	0.64	<SRL	U	1	0.82	0.50
Acetylene	<SRL	U	1	0.64	<SRL	U	1	0.82	0.50
Ethane	2.13		1	0.64	3.26		1	0.82	0.50
Propylene	0.88		1	0.85	1.23		1	1.10	0.67
Propane	0.77		1	0.43	1.30		1	0.55	0.33
Isobutane	<SRL	U	1	0.32	<SRL	U	1	0.41	0.25
1-Butene	<SRL	U	1	0.32	<SRL	U	1	0.41	0.25
n-Butane	<SRL	U	1	0.32	<SRL	U	1	0.41	0.25
trans-2-Butene	<SRL	U	1	0.32	<SRL	U	1	0.41	0.25
cis-2-Butene	<SRL	U	1	0.32	<SRL	U	1	0.41	0.25
Isopentane	<SRL	U	1	0.26	<SRL	U	1	0.33	0.20
1-Pentene	<SRL	U	1	0.26	<SRL	U	1	0.33	0.20
n-Pentane	<SRL	U	1	0.26	<SRL	U	1	0.33	0.20
Isoprene	<SRL	U	1	0.26	<SRL	U	1	0.33	0.20
trans-2-Pentene	<SRL	U	1	0.26	<SRL	U	1	0.33	0.20
cis-2-Pentene	<SRL	U	1	0.26	<SRL	U	1	0.33	0.20
2,2-Dimethylbutane	<SRL	U	1	0.21	<SRL	U	1	0.27	0.17
Cyclopentane	<SRL	U	1	0.26	<SRL	U	1	0.33	0.20
2,3-Dimethylbutane	<SRL	U	1	0.21	<SRL	U	1	0.27	0.17
2-Methylpentane	<SRL	U	1	0.21	<SRL	U	1	0.27	0.17
3-Methylpentane	<SRL	U	1	0.21	<SRL	U	1	0.27	0.17
1-Hexene	<SRL	U	1	0.21	<SRL	U	1	0.27	0.17
n-Hexane	<SRL	U	1	0.21	0.59		1	0.27	0.17
Methylcyclopentane	<SRL	U	1	0.21	<SRL	U	1	0.27	0.17
2,4-Dimethylpentane	<SRL	U	1	0.18	<SRL	U	1	0.24	0.14
Benzene	<SRL	U	1	0.21	<SRL	U	1	0.27	0.17
Cyclohexane	<SRL	U	1	0.21	<SRL	U	1	0.27	0.17
2-Methylhexane	<SRL	U	1	0.18	<SRL	U	1	0.24	0.14
2,3-Dimethylpentane	<SRL	U	1	0.18	<SRL	U	1	0.24	0.14
3-Methylhexane	<SRL	U	1	0.18	<SRL	U	1	0.24	0.14
2,2,4-Trimethylpentane	<SRL	U	1	0.16	<SRL	U	1	0.21	0.13
n-Heptane	<SRL	U	1	0.18	<SRL	U	1	0.24	0.14
Methylcyclohexane	<SRL	U	1	0.18	<SRL	U	1	0.24	0.14
2,3,4-Trimethylpentane	<SRL	U	1	0.16	<SRL	U	1	0.21	0.13



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Laboratory Analysis Report

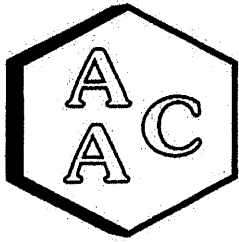
CLIENT : SLR International Corporation
PROJECT NO : 220802
MATRIX : AIR
UNITS : ppb (v/v)

DATE RECEIVED : 04/14/2022
DATE REPORTED : 04/15/2022

HYDROCARBONS (C2-C12) SPECIATED

<i>Client ID</i>	NUI			Sample Reporting Limit (SRL) (MRLxDFs)	NUI DUP			Sample Reporting Limit (SRL) (MRLxDFs)	Method Reporting Limit (MRL)
<i>AAC ID</i>	220802-30194				220802-30195				
<i>Date Sampled</i>	04/12/2022				04/12/2022				
<i>Date Analyzed</i>	04/14/2022				04/14/2022				
<i>Can Dilution Factor</i>	1.28			1.65					
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Toluene	<SRL	U	1	0.18	<SRL	U	1	0.24	0.14
2-Methylheptane	<SRL	U	1	0.16	<SRL	U	1	0.21	0.13
3-Methylheptane	<SRL	U	1	0.16	<SRL	U	1	0.21	0.13
n-Octane	<SRL	U	1	0.16	<SRL	U	1	0.21	0.13
Ethylbenzene	<SRL	U	1	0.16	<SRL	U	1	0.21	0.13
m/p-Xylenes	<SRL	U	1	0.16	<SRL	U	1	0.21	0.13
Styrene	<SRL	U	1	0.16	<SRL	U	1	0.21	0.13
o-Xylene	<SRL	U	1	0.16	<SRL	U	1	0.21	0.13
Nonane	<SRL	U	1	0.14	<SRL	U	1	0.18	0.11
Isopropylbenzene	<SRL	U	1	0.14	<SRL	U	1	0.18	0.11
n-Propylbenzene	<SRL	U	1	0.14	<SRL	U	1	0.18	0.11
m-Ethyltoluene	<SRL	U	1	0.14	<SRL	U	1	0.18	0.11
p-Ethyltoluene	<SRL	U	1	0.14	<SRL	U	1	0.18	0.11
1,3,5-Trimethylbenzene	<SRL	U	1	0.14	<SRL	U	1	0.18	0.11
o-Ethyltoluene	<SRL	U	1	0.14	<SRL	U	1	0.18	0.11
1,2,4-Trimethylbenzene	<SRL	U	1	0.14	<SRL	U	1	0.18	0.11
n-Decane	<SRL	U	1	0.13	<SRL	U	1	0.16	0.10
1,2,3-Trimethylbenzene	<SRL	U	1	0.14	<SRL	U	1	0.18	0.11
m-Diethylbenzene	<SRL	U	1	0.13	<SRL	U	1	0.16	0.10
p-Diethylbenzene	<SRL	U	1	0.13	<SRL	U	1	0.16	0.10
n-Undecane	<SRL	U	1	0.12	<SRL	U	1	0.15	0.09
n-Dodecane	<SRL	U	1	0.11	<SRL	U	1	0.14	0.08

U - Compound was analyzed for, but was not detected at or above the SRL.



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Quality Control/Quality Assurance Report PAMS Calibration Verification Analysis

Initial Calibration Date : 02/11/2022
Standard ID : MS1-020922-01

Instrument ID : MS01
Analysis Date : 04/11/2022
Analyst : RB

Continuing Calibration Verification

Propane	xRF	Daily RF	RPD*
	698	718	2.85

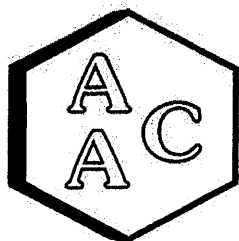
* Must be <10%

Laboratory Control Spike (LCS) / Laboratory Control Spike Duplicate (LCSD)

Propane	Sample Conc. (ppbC)	Spike Added (ppbC)	Recovery (ppbC)		% Recovery**		RPD***
			LCS	LCSD	LCS	LCSD	
	0.00	4.24	4.36	4.40	102.8	103.8	0.91

** Must be 80-120%

*** Must be <25%



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Quality Control/Quality Assurance Report

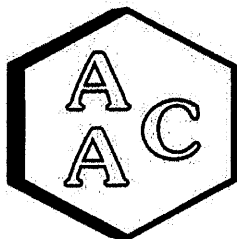
PAMS Method Blank Analysis

Matrix : Air
Units : ppbC

Instrument ID : MS01
Analysis Date : 04/11/2022
Analyst : RB

Analyte	Result	PQL
Ethylene	<PQL	1.0
Acetylene	<PQL	1.0
Ethane	<PQL	1.0
Propylene	<PQL	2.0
Propane	<PQL	1.0
Isobutane	<PQL	1.0
1-Butene	<PQL	1.0
n-Butane	<PQL	1.0
trans-2-Butene	<PQL	1.0
cis-2-Butene	<PQL	1.0
Isopentane	<PQL	1.0
1-Pentene	<PQL	1.0
n-Pentane	<PQL	1.0
Isoprene	<PQL	1.0
trans-2-Pentene	<PQL	1.0
cis-2-Pentene	<PQL	1.0
2,2-Dimethylbutane	<PQL	1.0
Cyclopentane	<PQL	1.0
2,3-Dimethylbutane	<PQL	1.0
2-Methylpentane	<PQL	1.0
3-Methylpentane	<PQL	1.0
1-Hexene	<PQL	1.0
n-Hexane	<PQL	1.0
Methylcyclopentane	<PQL	1.0
2,4-Dimethylpentane	<PQL	1.0
Benzene	<PQL	1.0
Cyclohexane	<PQL	1.0
2-Methylhexane	<PQL	1.0
2,3-Dimethylpentane	<PQL	1.0
3-Methylhexane	<PQL	1.0
2,2,4-Trimethylpentane	<PQL	1.0
n-Heptane	<PQL	1.0
Methylcyclohexane	<PQL	1.0
2,3,4-Trimethylpentane	<PQL	1.0

Analyte	Result	PQL
Toluene	<PQL	1.0
2-Methylheptane	<PQL	1.0
3-Methylheptane	<PQL	1.0
n-Octane	<PQL	1.0
Ethylbenzene	<PQL	1.0
m/p-Xylenes	<PQL	1.0
Styrene	<PQL	1.0
o-Xylene	<PQL	1.0
Nonane	<PQL	1.0
Isopropylbenzene	<PQL	1.0
n-Propylbenzene	<PQL	1.0
m-Ethyltoluene	<PQL	1.0
p-Ethyltoluene	<PQL	1.0
1,3,5-Trimethylbenzene	<PQL	1.0
o-Ethyltoluene	<PQL	1.0
1,2,4-Trimethylbenzene	<PQL	1.0
n-Decane	<PQL	1.0
1,2,3-Trimethylbenzene	<PQL	1.0
m-Diethylbenzene	<PQL	1.0
p-Diethylbenzene	<PQL	1.0
n-Undecane	<PQL	1.0
n-Dodecane	<PQL	1.0
TNMHC (ppbC)	<PQL	20



Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report PAMS Duplicate Analysis

AAC ID : 220696-29731
 Matrix : Air
 Units : ppbC

Instrument ID : MS01
 Analysis Date : 04/11/2022
 Analyst : RB

Analyte	Sample Analysis	Sample Duplicate	RPD
Ethylene	3.57	3.59	0.6
Acetylene	13.3	13.6	2.2
Ethane	5.31	5.31	0.0
Propylene	4.92	4.96	0.8
Propane	16.7	16.7	0.0
Isobutane	3.39	3.43	1.2
1-Butene	<PQL	<PQL	NA
n-Butane	9.58	9.62	0.4
trans-2-Butene	<PQL	<PQL	NA
cis-2-Butene	<PQL	<PQL	NA
Isopentane	2.97	2.92	1.7
1-Pentene	<PQL	<PQL	NA
n-Pentane	<PQL	<PQL	NA
Isoprene	<PQL	<PQL	NA
trans-2-Pentene	<PQL	<PQL	NA
cis-2-Pentene	<PQL	<PQL	NA
2,2-Dimethylbutane	<PQL	<PQL	NA
Cyclopentane	<PQL	<PQL	NA
2,3-Dimethylbutane	<PQL	<PQL	NA
2-Methylpentane	<PQL	<PQL	NA
3-Methylpentane	<PQL	<PQL	NA
1-Hexene	<PQL	<PQL	NA
n-Hexane	2.90	2.69	7.5
Methylcyclopentane	<PQL	<PQL	NA
2,4-Dimethylpentane	<PQL	<PQL	NA
Benzene	<PQL	<PQL	NA
Cyclohexane	<PQL	<PQL	NA
2-Methylhexane	<PQL	<PQL	NA
2,3-Dimethylpentane	<PQL	<PQL	NA
3-Methylhexane	<PQL	<PQL	NA
2,2,4-Trimethylpentane	<PQL	<PQL	NA
n-Heptane	<PQL	<PQL	NA
Methylcyclohexane	<PQL	<PQL	NA
2,3,4-Trimethylpentane	<PQL	<PQL	NA
Toluene	1.99	1.93	3.1
2-Methylheptane	<PQL	<PQL	NA
3-Methylheptane	<PQL	<PQL	NA
n-Octane	<PQL	<PQL	NA
Ethylbenzene	<PQL	<PQL	NA
m/p-Xylenes	<PQL	<PQL	NA
Styrene	<PQL	<PQL	NA
o-Xylene	<PQL	<PQL	NA
Nonane	3.29	3.27	0.6
Isopropylbenzene	<PQL	<PQL	NA
n-Propylbenzene	<PQL	<PQL	NA
m-Ethyltoluene	<PQL	<PQL	NA
p-Ethyltoluene	<PQL	<PQL	NA

Analyte	Sample Analysis	Sample Duplicate	RPD
1,3,5-Trimethylbenzene	<PQL	<PQL	NA
o-Ethyltoluene	<PQL	<PQL	NA
1,2,4-Trimethylbenzene	<PQL	<PQL	NA
n-Decane	<PQL	<PQL	NA
1,2,3-Trimethylbenzene	<PQL	<PQL	NA
m-Diethylbenzene	<PQL	<PQL	NA
p-Diethylbenzene	<PQL	<PQL	NA
n-Undecane	<PQL	<PQL	NA
n-Dodecane	<PQL	<PQL	NA
Total PAMS (ppbC)	68.0	68.0	0.0
TNMHC (ppbC)	681	758	11