



June 21, 2022



Kleinfelder  
ATTN: Amit Nair  
849 W. Levoy Dr., Suite 200  
Taylorsville, UT 84123

LA Cert #04140  
EPA Methods TO3, TO14A, TO15, 25C/3C,  
ASTM D1946, RSK-175

TX Cert T104704450-14-6  
EPA Methods TO14A, TO15

UT Cert CA0133332015-3  
EPA Methods TO3, TO14A, TO15, RSK-175

### LABORATORY TEST RESULTS

Project Reference: WIWMD LFG Characterization  
Project Number: 20230732  
Lab Number: N061308-01/02

Enclosed are results for sample(s) received 6/13/22 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

#### Report Narrative:

- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the TNI Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Amit Nair on 6/17/22.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

A handwritten signature in blue ink, appearing to read "M Johnson".

Mark Johnson  
Operations Manager  
MJohnson@AirTechLabs.com

Note: The cover letter is an integral part of this analytical report.



**TECHNOLOGY**  
**Laboratories, Inc.**

18501 E. Gale Ave., Suite 130  
City of Industry, CA 91748  
Ph: 626-964-4032  
Fx: 626-964-5832

**CHAIN OF CUSTODY RECORD**

TURNAROUND TIME		DELIVERABLES	PAGE: 1	OF 1
Standard <input type="checkbox"/>	48 hours <input type="checkbox"/>	EDD <input type="checkbox"/>	Condition upon receipt:	
Same Day <input type="checkbox"/>	72 hours <input type="checkbox"/>	EDF <input type="checkbox"/>	Sealed Yes <input type="checkbox"/> No <input type="checkbox"/>	
24 hours <input type="checkbox"/>	96 hours <input checked="" type="checkbox"/>	LEVEL 3 <input type="checkbox"/>	Intact Yes <input type="checkbox"/> No <input type="checkbox"/>	
Other:		LEVEL 4 <input type="checkbox"/>	Chilled _____ deg C	

Project No.: 20230732  
Project Name: WIWMD LFB Characterization  
Report To: Amit Nair  
Company: Kleinfelder  
Street: 45 849 W Levey Dr, Suite 200  
City/State/Zip: Taylorsville, UT 84123  
Phone& Fax: 801 261 3336  
e-mail: anair@kleinfelder.com

BILLING	ANALYSIS REQUEST				
P.O. No.: 20230732	25C/3C + CH4, CO2, 10TU (ASTM D 4588) ASTM D 5504	TO15	Siloxanes		
Bill to:					
Accounts payable US@kleinfelder.com					

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	CONTAINER TYPE						
N061308-01	DCL-1	6/10/22	14:06	Air	6L	X	X	X	X		
↓ -02	DCL-2	6/10/22	14:16	Air	6L	X	X	X	X		

AUTHORIZATION TO PERFORM WORK		COMPANY	DATE/TIME	COMMENTS
SAMPLED BY: <i>[Signature]</i>		Kleinfelder	6/10/22 14:48	
RELINQUISHED BY		COMPANY	DATE/TIME	
RELINQUISHED BY: <i>FedEx</i>		Kleinfelder	6/10/22 14:48	
RELINQUISHED BY				
RELINQUISHED BY: <i>FedEx</i>				Hold DCL-1 analysis pending DCL-2 results. Analysis per quote WLF050422JDZ & Add'l analysis per qt ↓ qd 6/15/22
RELINQUISHED BY: <i>FedEx</i>				
RELINQUISHED BY: <i>FedEx</i>				
RELINQUISHED BY: <i>FedEx</i>				
RELINQUISHED BY: <i>FedEx</i>				
METHOD OF TRANSPORT (circle one): Walk-In <u>FedEx</u> UPS Courier ATLI Other _____				

**Client:** Kleinfelder  
**Attn:** Amit Nair  
**Project Name:** WIWMD LFG Characterization  
**Project No.:** 20230732  
**Date Received:** 6/13/2022  
**Matrix:** Air

**TNMOC by EPA METHOD 25C**  
**Fixed Gases by EPA METHOD 3C**

Lab No.:	N061308-02								
Client Sample I.D.:	DCL-2								
Date/Time Sampled:	6/10/22 14:16								
Date/Time Analyzed:	6/16/22 20:24								
QC Batch No.:	220616GC8A1								
Analyst Initials:	RC\AS								
Dilution Factor:	3.9								
<b>ANALYTE</b>	<b>(Units)</b>	<b>Result</b>	<b>RL</b>						
TNMOC N2 corrected	(ppmv-C)	4,200	39						
TNMOC O2 corrected	(ppmv-C)	3,300	39						
TNMOC uncorrected	(ppmv-C)	2,800	39						
Nitrogen	(% v/v)	24	3.9						
Oxygen/Argon	(% v/v)	2.6	1.9						
Carbon Dioxide	(% v/v)	34	0.039						
Methane	(% v/v)	43	0.0039						

RL = Reporting Limit

ND = Not detected at or above the RL.

TNMOC = Total Non-Methane Organic Compounds

ppmv-C = parts per million by volume as carbon

TNMOC N2 corrected (applicable if N2 < 20%)

TNMOC O2 corrected (applicable if N2 > 20% and O2 < 5%)

TNMOC uncorrected = not corrected for N2, O2 or moisture

NA = Nitrogen/oxygen/moisture correction causes division by zero.

Reviewed/Approved By: \_\_\_\_\_

Mark Johnson  
 Operations Manager

Date

6-17-22

The cover letter is an integral part of this analytical report



**AirTECHNOLOGY Laboratories, Inc.**

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**Client:** Kleinfelder  
**Attn:** Amit Nair  
**Project Name:** WIWMD LFG Characterization  
**Project No.:** 20230732  
**Date Received:** 06/13/22  
**Matrix:** Air  
**Reporting Units:** % v/v

## ASTM D3588

<b>Lab No.:</b>	<b>N061308-02</b>						
<b>Client Sample I.D.:</b>	<b>DCL-2</b>						
<b>Date/Time Sampled:</b>	<b>6/10/22 14:16</b>						
<b>Date/Time Analyzed:</b>	<b>6/16/22 20:24</b>						
<b>QC Batch No.:</b>	<b>220616GC8A1</b>						
<b>Analyst Initials:</b>	<b>RC\AS</b>						
<b>Dilution Factor:</b>	<b>3.9</b>						
<b>ANALYTE</b>	<b>Result % v/v</b>	<b>RL % v/v</b>					
<b>Net Heating Value (BTU/ft3)</b>	<b>379</b>	<b>3.9</b>					
<b>Gross Heating Value (BTU/ft3)</b>	<b>421</b>	<b>3.9</b>					

Results normalized including non-methane hydrocarbons

BTU values based on D1946 analysis and non-methane analysis assumed as propane

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: 

Mark Johnson  
Operations Manager

Date 6-17-22

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**Attn:** Amit Nair  
**Project Name:** WIWMD LFG Characterization  
**Project No.:** 20230732  
**Date Received:** 06/13/22  
**Matrix:** Air  
**Reporting Units:** ppmv

**ASTM D5504**

<b>Lab No.:</b>	<b>N061308-02</b>						
<b>Client Sample I.D.:</b>	<b>DCL-2</b>						
<b>Date/Time Sampled:</b>	<b>6/10/22 14:16</b>						
<b>Date/Time Analyzed:</b>	<b>6/14/22 16:24</b>						
<b>QC Batch No.:</b>	<b>220614GC3A2</b>						
<b>Analyst Initials:</b>	<b>AS</b>						
<b>Dilution Factor:</b>	<b>3.9</b>						
<b>ANALYTE</b>	<b>Result ppmv</b>	<b>RL ppmv</b>					
Hydrogen Sulfide	140 d	7.8					
Carbonyl Sulfide	ND	0.78					
Methyl Mercaptan	1.9	0.78					
Ethyl Mercaptan	ND	0.78					
Dimethyl Sulfide	2.6	0.78					
Carbon Disulfide	ND	0.78					
Dimethyl Disulfide	ND	0.78					
Total Reduced Sulfur	150	0.78					

ND = Not Detected (below RL)

RL = Reporting Limit

d = Result obtained from a secondary dilution

Reviewed/Approved By: 

Mark Johnson  
Operations Manager

Date 6-17-22

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QC Batch No.: 220614GC3A2

Matrix: Air

Reporting Units: ppmv

## ASTM D5504

Lab No.:	METHOD BLANK			LCS		LCSD					
Date/Time Analyzed:	6/14/22 14:17			6/14/22 13:46		6/14/22 14:02					
Analyst Initials:	AS			AS		AS					
Dilution Factor:	1.0			1.0		1.0					
ANALYTE	Result ppmv	RL ppmv	SPIKE AMT. ppmv	Result ppmv	% Rec.	Result ppmv	% Rec.	% RPD	Limits		
									Low %Rec	High %Rec	Max. RPD
Hydrogen Sulfide	ND	0.20	1.19	0.999	84	1.01	85	1.0	70	130	30
Carbonyl Sulfide	ND	0.20	1.11	1.02	92	1.03	93	0.6	70	130	30
Methyl Mercaptan	ND	0.20	1.16	1.03	89	1.03	89	0.6	70	130	30
Ethyl Mercaptan	ND	0.20	1.10	0.908	83	0.909	83	0.1	70	130	30
Dimethyl Sulfide	ND	0.20	1.04	0.980	94	0.961	92	1.9	70	130	30
Carbon Disulfide	ND	0.20	1.08	1.01	94	1.01	94	0.3	70	130	30
Dimethyl Disulfide	ND	0.20	1.14	1.07	94	1.08	94	0.4	70	130	30

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Operations Manager

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**Attn:** Amit Nair  
**Project Name:** WIWMD LFG Characterization  
**Project No.:** 20230732  
**Date Received:** 06/13/22  
**Matrix:** Air  
**Reporting Units:** ppbv

## EPA Method TO15

<b>Lab No.:</b>	N061308-02							
<b>Client Sample I.D.:</b>	DCL-2							
<b>Date/Time Sampled:</b>	6/10/22 14:16							
<b>Date/Time Analyzed:</b>	6/17/22 13:06							
<b>QC Batch No.:</b>	220617MS2A1							
<b>Analyst Initials:</b>	DT							
<b>Dilution Factor:</b>	78							
<b>ANALYTE</b>	<b>Result ppbv</b>	<b>RL ppbv</b>						
Dichlorodifluoromethane (12)	ND	78						
Chloromethane	ND	160						
1,2-CI-1,1,2,2-F ethane (114)	ND	78						
Vinyl Chloride	88	78						
Bromomethane	ND	78						
Chloroethane	370	160						
Trichlorofluoromethane (11)	ND	78						
1,1-Dichloroethene	ND	78						
Carbon Disulfide	160	160						
1,1,2-CI 1,2,2-F ethane (113)	ND	78						
Acetone	13,000	160						
Methylene Chloride	530	78						
t-1,2-Dichloroethene	110	78						
1,1-Dichloroethane	ND	78						
Vinyl Acetate	ND	78						
c-1,2-Dichloroethene	290	78						
2-Butanone	21,000 d	78						
t-Butyl Methyl Ether (MTBE)	ND	78						
Chloroform	ND	78						
1,1,1-Trichloroethane	ND	78						
Carbon Tetrachloride	ND	78						
Benzene	850	78						
1,2-Dichloroethane	810	78						
Trichloroethene	260	78						
1,2-Dichloropropane	ND	78						
Bromodichloromethane	ND	78						
c-1,3-Dichloropropene	ND	78						
4-Methyl-2-Pentanone	1,100	78						
Toluene	10,000	78						
t-1,3-Dichloropropene	ND	160						



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**Matrix:** Air  
**Reporting Units:** ppbv

## EPA Method TO15

<b>Lab No.:</b>	N061308-02						
<b>Client Sample I.D.:</b>	DCL-2						
<b>Date/Time Sampled:</b>	6/10/22 14:16						
<b>Date/Time Analyzed:</b>	6/17/22 13:06						
<b>QC Batch No.:</b>	220617MS2A1						
<b>Analyst Initials:</b>	DT						
<b>Dilution Factor:</b>	78						
<b>ANALYTE</b>	<b>Result ppbv</b>	<b>RL ppbv</b>					
1,1,2-Trichloroethane	ND	78					
Tetrachloroethene	500	78					
2-Hexanone	ND	78					
Dibromochloromethane	ND	78					
1,2-Dibromoethane	ND	78					
Chlorobenzene	ND	78					
Ethylbenzene	2,300	78					
p,&m-Xylene	4,500	78					
o-Xylene	1,300	78					
Styrene	260	78					
Bromoform	ND	78					
1,1,2,2-Tetrachloroethane	ND	78					
Benzyl Chloride	ND	190					
4-Ethyl Toluene	370	78					
1,3,5-Trimethylbenzene	120	78					
1,2,4-Trimethylbenzene	200	78					
1,3-Dichlorobenzene	ND	78					
1,4-Dichlorobenzene	ND	78					
1,2-Dichlorobenzene	ND	78					
1,2,4-Trichlorobenzene	ND	78					
Hexachlorobutadiene	ND	78					

ND = Not Detected (below RL)

RL = Reporting Limit

d = Result obtained from secondary dilution. Batch No.:

Reviewed/Approved By:



Mark Johnson  
 Operations Manager

Date

6-17-22



AirTECHNOLOGY Laboratories, Inc.

TO15 REPORT 2022\_1.xlsx



**Client:** Kleinfelder  
**Attn:** Amit Nair  
**Project Name:** WIWMD LFG Characterization  
**Project No.:** 20230732  
**Date Received:** 06/13/22  
**Matrix:** Air  
**Reporting Units:** ppbv

## EPA Method TO15

<b>Lab No.:</b>	<b>METHOD_ BLANK</b>						
<b>Client Sample I.D.:</b>	-						
<b>Date/Time Sampled:</b>	-						
<b>Date/Time Analyzed:</b>	6/17/22 11:11						
<b>QC Batch No.:</b>	220617MS2A1						
<b>Analyst Initials:</b>	DT						
<b>Dilution Factor:</b>	0.20						
<b>ANALYTE</b>	<b>Result ppbv</b>	<b>RL ppbv</b>					
Dichlorodifluoromethane (12)	ND	0.20					
Chloromethane	ND	0.40					
1,2-CI-1,1,2,2-F ethane (114)	ND	0.20					
Vinyl Chloride	ND	0.20					
Bromomethane	ND	0.20					
Chloroethane	ND	0.40					
Trichlorofluoromethane (11)	ND	0.20					
1,1-Dichloroethene	ND	0.20					
Carbon Disulfide	ND	0.40					
1,1,2-CI 1,2,2-F ethane (113)	ND	0.20					
Acetone	ND	0.40					
Methylene Chloride	ND	0.20					
t-1,2-Dichloroethene	ND	0.20					
1,1-Dichloroethane	ND	0.20					
Vinyl Acetate	ND	0.20					
c-1,2-Dichloroethene	ND	0.20					
2-Butanone	ND	0.20					
t-Butyl Methyl Ether (MTBE)	ND	0.20					
Chloroform	ND	0.20					
1,1,1-Trichloroethane	ND	0.20					
Carbon Tetrachloride	ND	0.20					
Benzene	ND	0.20					
1,2-Dichloroethane	ND	0.20					
Trichloroethene	ND	0.20					
1,2-Dichloropropane	ND	0.20					
Bromodichloromethane	ND	0.20					
c-1,3-Dichloropropene	ND	0.20					
4-Methyl-2-Pentanone	ND	0.20					
Toluene	ND	0.20					



Client: Kleinfelder  
 Attn: Amit Nair  
 Project Name: WIWMD LFG Characterization  
 Project No.: 20230732  
 Date Received: 06/13/22  
 Matrix: Air  
 Reporting Units: ppbv

## EPA Method TO15

Lab No.:	METHOD_ BLANK								
Client Sample I.D.:	-								
Date/Time Sampled:	-								
Date/Time Analyzed:	6/17/22 11:11								
QC Batch No.:	220617MS2A1								
Analyst Initials:	DT								
Dilution Factor:	0.20								
ANALYTE	Result ppbv	RL ppbv							
t-1,3-Dichloropropene	ND	0.40							
1,1,2-Trichloroethane	ND	0.20							
Tetrachloroethene	ND	0.20							
2-Hexanone	ND	0.20							
Dibromochloromethane	ND	0.20							
1,2-Dibromoethane	ND	0.20							
Chlorobenzene	ND	0.20							
Ethylbenzene	ND	0.20							
p,&m-Xylene	ND	0.20							
o-Xylene	ND	0.20							
Styrene	ND	0.20							
Bromoform	ND	0.20							
1,1,2,2-Tetrachloroethane	ND	0.20							
Benzyl Chloride	ND	0.50							
4-Ethyl Toluene	ND	0.20							
1,3,5-Trimethylbenzene	ND	0.20							
1,2,4-Trimethylbenzene	ND	0.20							
1,3-Dichlorobenzene	ND	0.20							
1,4-Dichlorobenzene	ND	0.20							
1,2-Dichlorobenzene	ND	0.20							
1,2,4-Trichlorobenzene	ND	0.20							
Hexachlorobutadiene	ND	0.20							

ND = Not Detected (below RL)

RL = Reporting Limit

Reviewed/Approved By: 

Mark Johnson  
Operations Manager

Date 6-17-22



AirTECHNOLOGY Laboratories, Inc.

TO15 REPORT 2022\_1.xlsx

**Client:** Kleinfelder  
**Attn:** Amit Nair  
**Project Name:** WIWMD LFG Characterization  
**Project No.:** 20230732  
**Date Received:** 06/13/22  
**Matrix:** Air  
**Reporting Units:** ppbv

## EPA Method TO15

<b>Lab No.:</b>	<b>N061308-02</b>						
<b>Client Sample I.D.:</b>	<b>DCL-2</b>						
<b>Date/Time Sampled:</b>	<b>6/10/22 14:16</b>						
<b>Date/Time Analyzed:</b>	<b>6/17/22 13:06</b>						
<b>QC Batch No.:</b>	<b>220617MS2A1</b>						
<b>Analyst Initials:</b>	<b>DT</b>						
<b>Dilution Factor:</b>	<b>78</b>						
<b>ANALYTE</b>	<b>Result ppbv</b>	<b>RL ppbv</b>					
Hexamethyldisiloxane (L2, MM)	790	390					
Hexamethylcyclotrisiloxane (D3)	ND	390					
Octamethyltrisiloxane (L3, MDM)	ND	390					
Octamethylcyclotetrasiloxane (D4)	1,600	390					
Decamethyltetrasiloxane (L4, MD2M)	ND	390					
Decamethylcyclopentasiloxane (D5)	430	390					
Dodecamethylpentasiloxane (L5, MD3M)	ND	390					

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Mark Johnson  
Operations Manager

Date

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**Project No.:** 20230732  
**Date Received:** 06/13/22  
**Matrix:** Air  
**Reporting Units:** ppbv

## EPA Method TO15

<b>Lab No.:</b>	<b>METHOD_ BLANK</b>						
<b>Client Sample I.D.:</b>	-						
<b>Date/Time Sampled:</b>	-						
<b>Date/Time Analyzed:</b>	6/17/22 11:11						
<b>QC Batch No.:</b>	220617MS2A1						
<b>Analyst Initials:</b>	DT						
<b>Dilution Factor:</b>	0.20						
<b>ANALYTE</b>	<b>Result ppbv</b>	<b>RL ppbv</b>					
Hexamethyldisiloxane (L2, MM)	ND	1.0					
Hexamethylcyclotrisiloxane (D3)	ND	1.0					
Octamethyltrisiloxane (L3, MDM)	ND	1.0					
Octamethylcyclotetrasiloxane (D4)	ND	1.0					
Decamethyltetrasiloxane (L4, MD2M)	ND	1.0					
Decamethylcyclopentasiloxane (D5)	ND	1.0					
Dodecamethylpentasiloxane (L5, MD3M)	ND	1.0					

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## LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 220617MS2A1

Matrix: Air

Reporting Units: ppbv

EPA Method TO15  
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK			LCS		LCSD					
Date/Time Analyzed:	6/17/22 11:11			6/17/22 9:11		6/17/22 9:51					
Analyst Initials:	DT			DT		DT					
Dilution Factor:	0.20			1.0		1.0					
ANALYTE	Result ppbv	RL ppbv	AMT. ppbv	Result ppbv	% Rec.	Result ppbv	% Rec.	RPD	Low %Rec	High %Rec	Max. RPD
I,1-Dichloroethene	ND	0.20	10	8.88	88.8	8.73	87.3	1.8	70	130	30.0
Methylene Chloride	ND	0.20	10	8.98	89.8	9.05	90.5	0.7	70	130	30.0
Trichloroethene	ND	0.20	10	9.83	98.3	9.55	95.5	3.0	70	130	30.0
Toluene	ND	0.20	10	9.26	92.6	9.05	90.5	2.3	70	130	30.0
1,1,2,2-Tetrachloroethane	ND	0.20	10	9.06	90.6	9.31	93.1	2.7	70	130	30.0

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Operations ManagerDate: 6-17-22

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