



29-Apr-2016

Roger Bellas  
Pennsylvania DEP Bureau of Air Quality  
12th Floor RCSOB  
400 Market Street  
Harrisburg, PA 17105

Tel: (570) 826-2511  
Fax:

Re: Keystone Landfill (KSL)- 4/7/16

Work Order: **1604362**

Dear Roger,

ALS Environmental received 6 samples on 12-Apr-2016 10:30 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 11.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

**Rob Nieman**

Electronically approved by: Rob Nieman

Rob Nieman  
Project Manager

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Environmental 

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**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill (KSL)- 4/7/16  
**Work Order:** 1604362

**Work Order Sample Summary**

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<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1604362-01	KSL040716-1 / Red	Air		4/7/2016	4/12/2016 10:30	<input type="checkbox"/>
1604362-02	KSL040716-2 / Blue	Air		4/7/2016	4/12/2016 10:30	<input type="checkbox"/>
1604362-03	KSL040716-3 / Green	Air		4/7/2016	4/12/2016 10:30	<input type="checkbox"/>
1604362-04	KSL040716-4 / Orange	Air		4/7/2016	4/12/2016 10:30	<input type="checkbox"/>
1604362-05	KSL040716-5 / Yellow	Air		4/7/2016	4/12/2016 10:30	<input type="checkbox"/>
1604362-06	KSL040716-Summa	Air		4/7/2016	4/12/2016 10:30	<input type="checkbox"/>

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill (KSL)- 4/7/16

**Work Order:** 1604362

**Analytical Results**

**Lab ID:** 1604362-01A  
**Client Sample ID:** KSL040716-1 / Red

**Collection Date:** 4/7/2016  
**Matrix:** AIR

**Analyses**

<b>AMMONIA BY NIOSH 6015 MOD.</b>		Method: <b>N6015</b>	Air Volume (L): <b>87.636</b>	Analyst: <b>ALST</b>
Date Analyzed: 4/23/2016		Reporting Limit		
	µg/sample	µg/sample	ug/m3	ppb
Ammonia	ND	1.2	<14	<20

**Lab ID:** 1604362-02A  
**Client Sample ID:** KSL040716-2 / Blue

**Collection Date:** 4/7/2016  
**Matrix:** AIR

**Analyses**

<b>ALDEHYDES BY HPLC</b>		Method: <b>ETO-11</b>	Air Volume (L): <b>196.2</b>	Analyst: <b>JMB</b>
Date Analyzed: 4/20/2016 11:04		Reporting Limit		
	µg/sample	µg/sample	ug/m3	ppb
Acetaldehyde	ND	0.20	<1.0	<0.57
<b>Acrolein</b>	<b>2.0</b>	<b>0.20</b>	<b>10</b>	<b>4.4</b>
<b>Formaldehyde</b>	<b>0.24</b>	<b>0.20</b>	<b>1.2</b>	<b>1.0</b>

**Lab ID:** 1604362-03A  
**Client Sample ID:** KSL040716-3 / Green

**Collection Date:** 4/7/2016  
**Matrix:** AIR

**Analyses**

<b>METHANOL BY NIOSH 2000 MOD.</b>		Method: <b>N2000</b>	Air Volume (L): <b>6.54</b>	Analyst: <b>MHW</b>
Date Analyzed: 4/26/2016		Reporting Limit		
	µg/sample	µg/sample	ug/m3	ppb
Methanol	ND	10	<1,500	<1,200

**Lab ID:** 1604362-04A  
**Client Sample ID:** KSL040716-4 / Orange

**Collection Date:** 4/7/2016  
**Matrix:** AIR

**Analyses**

<b>METHYLAMINE BY OSHA 40</b>		Method: <b>O40</b>	Air Volume (L): <b>19.62</b>	Analyst: <b>MHW</b>
Date Analyzed: 4/13/2016 19:27		Reporting Limit		
	µg/sample	µg/sample	ug/m3	ppb
Methylamine	ND	3.0	<150	<120

**Note:**

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill (KSL)- 4/7/16

**Work Order:** 1604362

**Analytical Results**

**Lab ID:** 1604362-05A

**Collection Date:** 4/7/2016

**Client Sample ID:** KSL040716-5 / Yellow

**Matrix:** AIR

**Analyses**

<b>AMINE(S) BY OSHA PV2060 MOD.</b>		Method: <b>O2060</b>	Air Volume (L): <b>19.62</b>	Analyst: <b>MHW</b>
Date Analyzed: 4/25/2016		Reporting Limit		
	µg/sample	µg/sample	ug/m3	ppb
Triethylamine	ND	10	<510	<120

**Note:**

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Work Order:** 1604362  
**Project:** Keystone Landfill (KSL)- 4/7/16

**QC BATCH REPORT**

Batch ID: **35446** Instrument ID: **GC5** Method: **O2060**

<b>MBLK</b>	Sample ID: <b>MBLK-35446-35446</b>			Units: <b>µg/sample</b>		Analysis Date: <b>4/25/2016</b>				
Client ID:	Run ID: <b>GC5_160425A</b>			SeqNo: <b>1267616</b>		Prep Date: <b>4/25/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Triethylamine ND 10

<b>LCS</b>	Sample ID: <b>LCS-35446-35446</b>			Units: <b>µg/sample</b>		Analysis Date: <b>4/25/2016</b>				
Client ID:	Run ID: <b>GC5_160425A</b>			SeqNo: <b>1267617</b>		Prep Date: <b>4/25/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Triethylamine 92.57 10 90.75 0 102 70-130 0

<b>LCSD</b>	Sample ID: <b>LCSD-35446-35446</b>			Units: <b>µg/sample</b>		Analysis Date: <b>4/25/2016</b>				
Client ID:	Run ID: <b>GC5_160425A</b>			SeqNo: <b>1267636</b>		Prep Date: <b>4/25/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Triethylamine 78.96 10 90.75 0 87 70-130 92.57 15.9 20

The following samples were analyzed in this batch: 1604362-05A

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Work Order:** 1604362  
**Project:** Keystone Landfill (KSL)- 4/7/16

## QC BATCH REPORT

Batch ID: **35466**      Instrument ID: **GC1**      Method: **N2000**

<b>MBLK</b>		Sample ID: <b>MBLK-35466-35466</b>			Units: <b>µg/sample</b>			Analysis Date: <b>4/26/2016</b>		
Client ID:		Run ID: <b>GC1_160426A</b>			SeqNo: <b>1268968</b>			Prep Date: <b>4/26/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methanol	ND	10								

<b>LCS</b>		Sample ID: <b>LCS-35466-35466</b>			Units: <b>µg/sample</b>			Analysis Date: <b>4/26/2016</b>		
Client ID:		Run ID: <b>GC1_160426A</b>			SeqNo: <b>1268969</b>			Prep Date: <b>4/26/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methanol	87.03	10	79.1	0	110	64.1-145	0			

<b>LCSD</b>		Sample ID: <b>LCSD-35466-35466</b>			Units: <b>µg/sample</b>			Analysis Date: <b>4/26/2016</b>		
Client ID:		Run ID: <b>GC1_160426A</b>			SeqNo: <b>1268988</b>			Prep Date: <b>4/26/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methanol	88.32	10	79.1	0	112	64.1-145	87.03	1.47	20	

**The following samples were analyzed in this batch:**      1604362-03A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Pennsylvania DEP Bureau of Air Quality  
 Work Order: 1604362  
 Project: Keystone Landfill (KSL)- 4/7/16

# QC BATCH REPORT

Batch ID: 35337 Instrument ID: HPLC2 Method: ETO-11

MBLK		Sample ID: MBLK-35337-35337			Units: µg/sample		Analysis Date: 4/20/2016 11:04 AM			
Client ID:		Run ID: HPLC2_160420B			SeqNo: 1265970		Prep Date: 4/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	ND	0.20								
Formaldehyde	ND	0.20								

LCS		Sample ID: LCS-35337-35337			Units: µg/sample		Analysis Date: 4/20/2016 11:04 AM			
Client ID:		Run ID: HPLC2_160420B			SeqNo: 1265971		Prep Date: 4/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	1.296	0.20	2	0	64.8	61.5-120	0			
Formaldehyde	2.106	0.20	2	0	105	70-130	0			

LCSD		Sample ID: LCSD-35337-35337			Units: µg/sample		Analysis Date: 4/20/2016 11:04 AM			
Client ID:		Run ID: HPLC2_160420B			SeqNo: 1265986		Prep Date: 4/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	1.292	0.20	2	0	64.6	61.5-120	1.296	0.317	20	
Formaldehyde	2.067	0.20	2	0	103	70-130	2.106	1.83	20	

The following samples were analyzed in this batch:

1604362-02A





**Client:** Pennsylvania DEP Bureau of Air Quality  
**Work Order:** 1604362  
**Project:** Keystone Landfill (KSL)- 4/7/16

## QC BATCH REPORT

Batch ID: **R128209**      Instrument ID: **SUB**      Method: **N6015**

MBLK		Sample ID: <b>MB-R128209-R128209</b>			Units: <b>µg/sample</b>			Analysis Date: <b>4/23/2016</b>		
Client ID:		Run ID: <b>SUB_160423A</b>			SeqNo: <b>1267545</b>			Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ammonia	ND	1.2								

LCS		Sample ID: <b>LCS-R128209-R128209</b>			Units: <b>µg/sample</b>			Analysis Date: <b>4/23/2016</b>		
Client ID:		Run ID: <b>SUB_160423A</b>			SeqNo: <b>1267546</b>			Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ammonia	22.1	1.2	24.3	0	90.9	74.3-115.2	0			

LCSD		Sample ID: <b>LCSD-R128209</b>			Units: <b>µg/sample</b>			Analysis Date: <b>4/23/2016</b>		
Client ID:		Run ID: <b>SUB_160423A</b>			SeqNo: <b>1267561</b>			Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ammonia	22.6	1.2	24.3	0	93	74.3-115.2	22.1	2.24	20	

**The following samples were analyzed in this batch:**      1604362-01A

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill (KSL)- 4/7/16  
**WorkOrder:** 1604362

**QUALIFIERS,  
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	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

<u>Acronym</u>	<u>Description</u>
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 Quantitation Limit
SDL	Sample Detection Limit
SW	SW-846 Method

<u>Units Reported</u>	<u>Description</u>
µg/sample	
ppbv	
ppm	

Sample Receipt Checklist

Client Name: PADEP-HARRISBURG

Date/Time Received: 12-Apr-16 10:30

Work Order: 1604362

Received by: RDN

Checklist completed by: Stephanie Harrington 12-Apr-16
eSignature Date

Reviewed by: Rob Nieman 13-Apr-16
eSignature Date

Matrices:

Carrier name: FedEx

- Shipping container/cooler in good condition? Yes [checked] No [ ] Not Present [ ]
Custody seals intact on shipping container/cooler? Yes [ ] No [ ] Not Present [checked]
Custody seals intact on sample bottles? Yes [checked] No [ ] Not Present [ ]
Chain of custody present? Yes [checked] No [ ]
Chain of custody signed when relinquished and received? Yes [checked] No [ ]
Chain of custody agrees with sample labels? Yes [checked] No [ ]
Samples in proper container/bottle? Yes [checked] No [ ]
Sample containers intact? Yes [checked] No [ ]
Sufficient sample volume for indicated test? Yes [checked] No [ ]
All samples received within holding time? Yes [checked] No [ ]
Container/Temp Blank temperature in compliance? Yes [ ] No [checked]

Temperature(s)/Thermometer(s): 15.5

Cooler(s)/Kit(s):

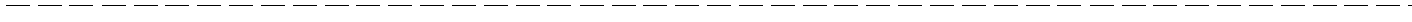
Water - VOA vials have zero headspace? Yes [ ] No [ ] No VOA vials submitted [checked]

Water - pH acceptable upon receipt? Yes [ ] No [ ] N/A [checked]

pH adjusted? Yes [ ] No [ ] N/A [checked]

pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: