



02-Mar-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 Site (KSL)- 2/10/2016

Work Order: **1602539**

Dear Roger,

ALS Environmental received 6 samples on 15-Feb-2016 09:30 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 13.

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

ADDRESS 4388 Glendale Milford Rd Cincinnati, Ohio 45242- | PHONE (513) 733-5336 | FAX (513) 733-5347

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Environmental 

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RIGHT SOLUTIONS RIGHT PARTNER

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill Site (KSL)- 2/10/2016  
**Work Order:** 1602539

**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>
1602539-01	KSL021016-1 / Red	Air		2/10/2016	2/15/2016	<input type="checkbox"/>
1602539-02	KSL021016-2 / Blue	Air		2/10/2016	2/15/2016	<input type="checkbox"/>
1602539-03	KSL021016-3 / Green	Air		2/10/2016	2/15/2016	<input type="checkbox"/>
1602539-04	KSL021016-4 / Orange	Air		2/10/2016	2/15/2016	<input type="checkbox"/>
1602539-05	KSL021016-5 / Yellow	Air		2/10/2016	2/15/2016	<input type="checkbox"/>
1602539-06	KSL021016-Summa	Air		2/10/2016	2/15/2016	<input type="checkbox"/>

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**Client:** Pennsylvania DEP Bureau of Air Quality

**Project:** Keystone Landfill Site (KSL)- 2/10/2016

**Work Order:** 1602539

**Case Narrative**

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The sample condition upon receipt was acceptable except where noted.

Results relate only to the items tested and are not blank corrected unless indicated.

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill Site (KSL)- 2/10/2016

**Work Order:** 1602539

**Analytical Results**

**Lab ID:** 1602539-01A  
**Client Sample ID:** KSL021016-1 / Red

**Collection Date:** 2/10/2016  
**Matrix:** AIR

**Analyses**

<b>AMMONIA BY NIOSH 6015 MOD.</b>		Method: <b>N6015</b>	Air Volume (L): <b>95.073</b>	Analyst: <b>ALST</b>
Date Analyzed: 2/22/2016		Reporting Limit		
	<b>µg/sample</b>	<b>µg/sample</b>	<b>mg/m3</b>	<b>ug/m3</b>
Ammonia	1.4	1.2	0.015	15

**Lab ID:** 1602539-02A  
**Client Sample ID:** KSL021016-2 / Blue

**Collection Date:** 2/10/2016  
**Matrix:** AIR

**Analyses**

<b>ALDEHYDES BY HPLC</b>		Method: <b>ETO-11</b>	Air Volume (L): <b>212.85</b>	Analyst: <b>JMB</b>
Date Analyzed: 2/24/2016 21:59		Reporting Limit		
	<b>µg/sample</b>	<b>µg/sample</b>	<b>mg/m3</b>	<b>ug/m3</b>
Acetaldehyde	0.29	0.20	0.0014	1.4
Acrolein	ND	12	<0.056	<56
Formaldehyde	0.22	0.20	0.0010	1.0

**Lab ID:** 1602539-03A  
**Client Sample ID:** KSL021016-3 / Green

**Collection Date:** 2/10/2016  
**Matrix:** AIR

**Analyses**

<b>METHANOL BY NIOSH 2000 MOD.</b>		Method: <b>N2000</b>	Air Volume (L): <b>7.095</b>	Analyst: <b>TSA</b>
Date Analyzed: 2/24/2016		Reporting Limit		
	<b>µg/sample</b>	<b>µg/sample</b>	<b>mg/m3</b>	<b>ug/m3</b>
Methanol	ND	10	<1.4	<1,400

**Lab ID:** 1602539-04A  
**Client Sample ID:** KSL021016-4 / Orange

**Collection Date:** 2/10/2016  
**Matrix:** AIR

**Analyses**

<b>METHYLAMINE BY OSHA 40</b>		Method: <b>O40</b>	Air Volume (L): <b>9.933</b>	Analyst: <b>JMB</b>
Date Analyzed: 2/29/2016 17:32		Reporting Limit		
	<b>ug/samp</b>	<b>ug/samp</b>	<b>mg/m3</b>	<b>ug/m3</b>
Methylamine	ND	10	<1.0	<1,000

**Note:**

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill Site (KSL)- 2/10/2016

**Work Order:** 1602539

**Analytical Results**

**Lab ID:** 1602539-05A  
**Client Sample ID:** KSL021016-5 / Yellow

**Collection Date:** 2/10/2016  
**Matrix:** AIR

**Analyses**

<b>AMINE(S) BY OSHA PV2060 MOD.</b>		Method: <b>O2060</b>	Air Volume (L): <b>21.285</b>	Analyst: <b>MHW</b>
Date Analyzed: 2/26/2016		Reporting Limit		
	µg/sample	µg/sample	mg/m3	ug/m3
Triethylamine	ND	10	<0.47	<470

**Note:**

**ALS Environmental**

**Date:** 02-Mar-16

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill Site (KSL)- 2/10/2016  
**Work Order:** 1602539

**Analytical Comments**

<b>Method</b>	<b>Type:</b>	<b>SampID</b>	<b>SeqNo</b>	<b>Analysis</b>	<b>Comments</b>
<b>Batch</b>	<b><u>R126208</u></b>				
	Analysis	1602539-01A	1227361	Ammonia by NIOSH 6015 Mod.	Higher ammonia levels in the backup portion of the tube than in the forward portion indicates that this sample was collected in reverse orientation. There was no evidence that oversampling had occurred.

ALS Environmental

Date: 02-Mar-16

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Work Order:** 1602539  
**Project:** Keystone Landfill Site (KSL)- 2/10/2016

**QC BATCH REPORT**

Batch ID: **34069** Instrument ID: **GC10** Method: **N2000**

<b>MBLK</b>	Sample ID: <b>MBLK-34069-34069</b>			Units: <b>µg/sample</b>			Analysis Date: <b>2/24/2016</b>			
Client ID:	Run ID: <b>GC10_160224B</b>			SeqNo: <b>1229518</b>			Prep Date: <b>2/24/2016</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-34069-34069</b>			Units: <b>µg/sample</b>			Analysis Date: <b>2/24/2016</b>			
Client ID:	Run ID: <b>GC10_160224B</b>			SeqNo: <b>1229519</b>			Prep Date: <b>2/24/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Methanol 78.9 10 79.1 0 99.7 64.1-145 0

<b>LCSD</b>	Sample ID: <b>LCSD-34069-34069</b>			Units: <b>µg/sample</b>			Analysis Date: <b>2/24/2016</b>			
Client ID:	Run ID: <b>GC10_160224B</b>			SeqNo: <b>1229534</b>			Prep Date: <b>2/24/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Methanol 83.6 10 79.1 0 106 64.1-145 78.9 5.78 20

The following samples were analyzed in this batch: 1602539-03A

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

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Work Order:** 1602539  
**Project:** Keystone Landfill Site (KSL)- 2/10/2016

## QC BATCH REPORT

Batch ID: **34091**      Instrument ID: **GC5**      Method: **O2060**

<b>MBLK</b>		Sample ID: <b>MBLK-34091-34091</b>			Units: <b>µg/sample</b>			Analysis Date: <b>2/26/2016</b>		
Client ID:		Run ID: <b>GC5_160226A</b>			SeqNo: <b>1230468</b>			Prep Date: <b>2/25/2016</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-34091-34091</b>			Units: <b>µg/sample</b>			Analysis Date: <b>2/26/2016</b>		
Client ID:		Run ID: <b>GC5_160226A</b>			SeqNo: <b>1230469</b>			Prep Date: <b>2/25/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Triethylamine	103.5	10	90.75	0	114	70-130	0			

<b>LCSD</b>		Sample ID: <b>LCSD-34091-34091</b>			Units: <b>µg/sample</b>			Analysis Date: <b>2/26/2016</b>		
Client ID:		Run ID: <b>GC5_160226A</b>			SeqNo: <b>1230484</b>			Prep Date: <b>2/25/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Triethylamine	107.9	10	90.75	0	119	70-130	103.5	4.22	20	

**The following samples were analyzed in this batch:**      1602539-05A



Client: Pennsylvania DEP Bureau of Air Quality  
 Work Order: 1602539  
 Project: Keystone Landfill Site (KSL)- 2/10/2016

# QC BATCH REPORT

Batch ID: **34152** Instrument ID: **HPLC1** Method: **ETO-11**

MBLK		Sample ID: <b>MBLK-34152-34152</b>			Units: <b>µg/sample</b>		Analysis Date: <b>2/24/2016 09:59 PM</b>			
Client ID:		Run ID: <b>HPLC1_160224A</b>			SeqNo: <b>1231940</b>		Prep Date: <b>2/19/2016</b>		DF: <b>1</b>	
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: <b>LCS-34152-34152</b>			Units: <b>µg/sample</b>		Analysis Date: <b>2/24/2016 09:59 PM</b>			
Client ID:		Run ID: <b>HPLC1_160224A</b>			SeqNo: <b>1231941</b>		Prep Date: <b>2/19/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	0.887	0.20	1	0	88.7	70-130	0			
Formaldehyde	1.05	0.20	1	0	105	70-130	0			

LCSD		Sample ID: <b>LCSD-34152-34152</b>			Units: <b>µg/sample</b>		Analysis Date: <b>2/24/2016 09:59 PM</b>			
Client ID:		Run ID: <b>HPLC1_160224A</b>			SeqNo: <b>1231956</b>		Prep Date: <b>2/19/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetaldehyde	0.902	0.20	1	0	90.2	70-130	0.887	1.68	20	
Formaldehyde	1.087	0.20	1	0	109	70-130	1.05	3.46	20	

The following samples were analyzed in this batch:

1602539-02A

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Work Order:** 1602539  
**Project:** Keystone Landfill Site (KSL)- 2/10/2016

# QC BATCH REPORT

Batch ID: **R126387**      Instrument ID: **HPLC2**      Method: **O40**

<b>MBLK</b>		Sample ID: <b>MB-R126387-R126387</b>			Units: <b>ug/samp</b>			Analysis Date: <b>2/29/2016 05:32 PM</b>		
Client ID:		Run ID: <b>HPLC2_160229A</b>			SeqNo: <b>1231850</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

Methylamine      ND      10

<b>LCS</b>		Sample ID: <b>LCS-R126387-R126387</b>			Units: <b>ug/samp</b>			Analysis Date: <b>2/29/2016 05:32 PM</b>		
Client ID:		Run ID: <b>HPLC2_160229A</b>			SeqNo: <b>1231851</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

Methylamine      25.04      10      22.96      0      109      70-130      0

<b>LCSD</b>		Sample ID: <b>LCSD-R126387-R126387</b>			Units: <b>ug/samp</b>			Analysis Date: <b>2/29/2016 05:32 PM</b>		
Client ID:		Run ID: <b>HPLC2_160229A</b>			SeqNo: <b>1231852</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

Methylamine      18.9      10      22.96      0      82.3      70-130      25.04      28      20      R

The following samples were analyzed in this batch: 1602539-04A

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

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Work Order:** 1602539  
**Project:** Keystone Landfill Site (KSL)- 2/10/2016

## QC BATCH REPORT

Batch ID: **R126208**      Instrument ID: **SUB**      Method: **N6015**

<b>MBLK</b>		Sample ID: <b>MB-R126208-R126208</b>			Units: <b>µg/sample</b>		Analysis Date: <b>2/22/2016</b>			
Client ID:		Run ID: <b>SUB_160222G</b>			SeqNo: <b>1227358</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								

<b>LCS</b>		Sample ID: <b>LCS-R126208-R126208</b>			Units: <b>µg/sample</b>		Analysis Date: <b>2/22/2016</b>			
Client ID:		Run ID: <b>SUB_160222G</b>			SeqNo: <b>1227359</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	21.9	1.2	24.3	0	90.1	74.3-115.2	0			

<b>LCSD</b>		Sample ID: <b>LCSD-R126208</b>			Units: <b>µg/sample</b>		Analysis Date: <b>2/22/2016</b>			
Client ID:		Run ID: <b>SUB_160222G</b>			SeqNo: <b>1227367</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	22.2	1.2	24.3	0	91.4	74.3-115.2	21.9	1.36	20	

**The following samples were analyzed in this batch:**      1602539-01A

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill Site (KSL)- 2/10/2016  
**WorkOrder:** 1602539

**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: 15-Feb-16 09:30

Work Order: 1602539

Received by: SNH

Checklist completed by: Jan Wilcox 15-Feb-16
eSignature Date

Reviewed by: Rob Nieman 16-Feb-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 [checked] No [ ] Not Present [ ]
Custody seals intact on sample bottles? Yes [ ] No [ ] Not Present [checked]
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 [checked] No [ ]

Temperature(s)/Thermometer(s): 4.1

Cooler(s)/Kit(s):

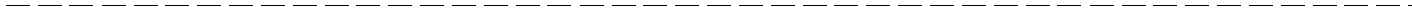
Water - VOA vials have zero headspace? Yes [ ] No [ ] No VOA vials submitted [ ]

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

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

pH adjusted by:

Login Notes:



Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

[Empty text box for comments]

CorrectiveAction:

[Empty text box for corrective action]