



10-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)- 2/19/2016

Work Order: **1602917**

Dear Roger,

ALS Environmental received 6 samples on 23-Feb-2016 09:48 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

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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**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill Site (KSL)- 2/19/2016  
**Work Order:** 1602917

**Work Order Sample Summary**

<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>
1602917-01	KSL021916-1 / Red	Air		2/19/2016	2/23/2016 09:48	<input type="checkbox"/>
1602917-02	KSL021916-2 / Blue	Air		2/19/2016	2/23/2016 09:48	<input type="checkbox"/>
1602917-03	KSL021916-3 / Green	Air		2/19/2016	2/23/2016 09:48	<input type="checkbox"/>
1602917-04	KSL021916-4 / Orange	Air		2/19/2016	2/23/2016 09:48	<input type="checkbox"/>
1602917-05	KSL021916-5 / Yellow	Air		2/19/2016	2/23/2016 09:48	<input type="checkbox"/>
1602917-06	KSL021916-Summa	Air		2/19/2016	2/23/2016 09:48	<input type="checkbox"/>

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill Site (KSL)- 2/19/2016

**Work Order:** 1602917

**Analytical Results**

**Lab ID:** 1602917-01A  
**Client Sample ID:** KSL021916-1 / Red

**Collection Date:** 2/19/2016  
**Matrix:** AIR

**Analyses**

<b>AMMONIA BY NIOSH 6015 MOD.</b>		Method: <b>N6015</b>	Air Volume (L): <b>95.27</b>	Analyst: <b>ALST</b>
Date Analyzed: 3/1/2016		Reporting Limit		
	µg/sample	µg/sample	mg/m3	ppb
Ammonia	ND	1.2	<0.013	<18

**Lab ID:** 1602917-02A  
**Client Sample ID:** KSL021916-2 / Blue

**Collection Date:** 2/19/2016  
**Matrix:** AIR

**Analyses**

<b>ALDEHYDES BY HPLC</b>		Method: <b>ETO-11</b>	Air Volume (L): <b>213.3</b>	Analyst: <b>JMB</b>
Date Analyzed: 2/24/2016 21:59		Reporting Limit		
	µg/sample	µg/sample	mg/m3	ppb
Acetaldehyde	0.26	0.20	0.0012	0.69
Acrolein	ND	12	<0.056	<25
Formaldehyde	0.25	0.20	0.0012	0.95

**Lab ID:** 1602917-03A  
**Client Sample ID:** KSL021916-3 / Green

**Collection Date:** 2/19/2016  
**Matrix:** AIR

**Analyses**

<b>METHANOL BY NIOSH 2000 MOD.</b>		Method: <b>N2000</b>	Air Volume (L): <b>7.11</b>	Analyst: <b>TSA</b>
Date Analyzed: 2/24/2016		Reporting Limit		
	µg/sample	µg/sample	mg/m3	ppb
Methanol	ND	10	<1.4	<1,100

**Lab ID:** 1602917-04A  
**Client Sample ID:** KSL021916-4 / Orange

**Collection Date:** 2/19/2016  
**Matrix:** AIR

**Analyses**

<b>METHYLAMINE BY OSHA 40</b>		Method: <b>O40</b>	Air Volume (L): <b>9.954</b>	Analyst: <b>JMB</b>
Date Analyzed: 2/29/2016 17:32		Reporting Limit		
	µg/sample	µg/sample	mg/m3	ppb
Methylamine	ND	10	<1.0	<790

**Note:**

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill Site (KSL)- 2/19/2016**Work Order:** 1602917**Analytical Results****Lab ID:** 1602917-05A  
**Client Sample ID:** KSL021916-5 / Yellow**Collection Date:** 2/19/2016  
**Matrix:** AIR**Analyses**

<b>AMINE(S) BY OSHA PV2060 MOD.</b>		Method: <b>O2060</b>	Air Volume (L): <b>21.33</b>	Analyst: <b>MHW</b>
Date Analyzed: 2/26/2016		Reporting Limit		
	µg/sample	µg/sample	mg/m3	ppb
Triethylamine	ND	10	<0.47	<110

**Note:**

ALS Environmental

Date: 10-Mar-16

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Work Order:** 1602917  
**Project:** Keystone Landfill Site (KSL)- 2/19/2016

**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: 1602917-03A

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

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Work Order:** 1602917  
**Project:** Keystone Landfill Site (KSL)- 2/19/2016

## 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:**      1602917-05A

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

Client: Pennsylvania DEP Bureau of Air Quality  
 Work Order: 1602917  
 Project: Keystone Landfill Site (KSL)- 2/19/2016

# QC BATCH REPORT

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

MBLK		Sample ID: MBLK-34152-34152			Units: µg/sample		Analysis Date: 2/24/2016 09:59 PM			
Client ID:		Run ID: HPLC1_160224A			SeqNo: 1231940		Prep Date: 2/19/2016		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-34152-34152			Units: µg/sample		Analysis Date: 2/24/2016 09:59 PM			
Client ID:		Run ID: HPLC1_160224A			SeqNo: 1231941		Prep Date: 2/19/2016		DF: 1	
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: LCSD-34152-34152			Units: µg/sample		Analysis Date: 2/24/2016 09:59 PM			
Client ID:		Run ID: HPLC1_160224A			SeqNo: 1231956		Prep Date: 2/19/2016		DF: 1	
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:

1602917-02A

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Work Order:** 1602917  
**Project:** Keystone Landfill Site (KSL)- 2/19/2016

**QC BATCH REPORT**

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

MBLK		Sample ID: <b>MB-R126387-R126387</b>			Units: <b>µg/sample</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

LCS		Sample ID: <b>LCS-R126387-R126387</b>			Units: <b>µg/sample</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

LCSD		Sample ID: <b>LCSD-R126387-R126387</b>			Units: <b>µg/sample</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:

1602917-04A



**Client:** Pennsylvania DEP Bureau of Air Quality  
**Work Order:** 1602917  
**Project:** Keystone Landfill Site (KSL)- 2/19/2016

# QC BATCH REPORT

Batch ID: **R126541**      Instrument ID: **SUB**      Method: **N6015**

MBLK		Sample ID: <b>MB-R126541-R126541</b>			Units: <b>µg/sample</b>			Analysis Date: <b>3/1/2016</b>		
Client ID:		Run ID: <b>SUB_160301E</b>			SeqNo: <b>1235343</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-R126541-R126541</b>			Units: <b>µg/sample</b>			Analysis Date: <b>3/1/2016</b>		
Client ID:		Run ID: <b>SUB_160301E</b>			SeqNo: <b>1235344</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	23.9	2.0	24.3	0	98.4	74.3-115.2	0			

LCSD		Sample ID: <b>LCSD-R126541</b>			Units: <b>µg/sample</b>			Analysis Date: <b>3/1/2016</b>		
Client ID:		Run ID: <b>SUB_160301E</b>			SeqNo: <b>1235352</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	23.6	2.0	24.3	0	97.1	74.3-115.2	23.9	1.26	20	

**The following samples were analyzed in this batch:**

**Client:** Pennsylvania DEP Bureau of Air Quality  
**Project:** Keystone Landfill Site (KSL)- 2/19/2016  
**WorkOrder:** 1602917

**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: 23-Feb-16 09:48

Work Order: 1602917

Received by: SNH

Checklist completed by: Stephanie Harrington 23-Feb-16
eSignature Date

Reviewed by: Rob Nieman 25-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 [ ] 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 [checked] No [ ]

Temperature(s)/Thermometer(s): 4.6

Cooler(s)/Kit(s):

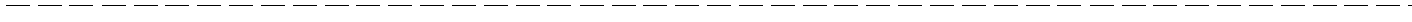
Water - VOA vials have zero headspace? Yes [ ] No [ ] No VOA vials submitted [checked]

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:

[Empty text box for comments]

CorrectiveAction:

[Empty text box for corrective action]