

6 May 2016

***VIA ELECTRONIC MAIL***

Mr. Arne Olsen  
Remedial Project Manager  
Naval Facilities Engineering Command, Southeast  
IPT Gulf Coast OPUE3  
Building 135 — Naval Air Station Jacksonville  
Jacksonville, Florida 32212

**RE: Supplemental Environmental Investigation  
Formaldehyde Sampling Results — Naval Station Guantanamo Bay, Cuba  
Contract No. N62470-11-D-8013  
Contract Task Order JMB5**

Dear Mr. Olsen:

Resolution Consultants performed a Supplemental Environmental Investigation of the Office of Military Commissions Camp Justice, also known as Area of Operation Patriot, at United States Naval Station Guantanamo Bay (NS GTMO), Cuba. The work was conducted at the request of Naval Facilities Engineering Command, Southeast, under Comprehensive Long-term Environmental Action Navy Contract No. N62470-11-D-8013, Contract Task Order JMB5, Statement of Work Number SCSR1501 (Modification 2). This letter identifies sample dates and locations, presents analytical laboratory results, and discusses data validation and other activities associated with the collection of indoor air samples for formaldehyde analysis.

Resolution Consultants mobilized to NS GTMO on 15 April 2016 and conducted sampling activities through 23 April 2016.

#### **Sample Locations**

As shown on Figures 1 through 6 in Attachment A, sorbent cartridges were used to collect 31 indoor air samples and 2 field blanks to determine the presence of formaldehyde in the following buildings, Cuzcos, and modular structures/trailers.

- Cuzcos on 21 April 2016
- Various structures inside the Expeditionary Legal Complex used for meeting spaces or administrative purposes on 22 April 2016



- [REDACTED] trailers used for administrative purposes outside Building AV-29 on 22 and 23 April 2016
- Multiple rooms used for administrative purposes in Hangar AV-32 on 22 and 23 April 2016

### **Sample Collection**

Prior to deploying sorbent cartridges, the heating, ventilating, and air conditioning systems at each location were operating at occupation levels. Prior to sample collection, each air sampling pump was calibrated to a flow rate of 1.2 liters per minute using a rotameter to measure the upstream airflow as it entered the cartridge. Once the calibration was complete, a new cartridge was connected to the air sampling pump and the starting time was recorded. Samples were collected for approximately 8 hours (480 minutes), except for samples collected [REDACTED] [REDACTED] outside of Building AV-29 and the Media Operations Room 1 in Hangar AV-32. Those two samples were collected for approximately 12 hours (720 minutes) following initial pump failure and to later facilitate coordination of sample collection.

At the end of each sampling period, pumps were turned off, stop times were recorded, and the cartridge caps were replaced. Each cartridge was labeled with a sample identification number and air sampling pumps were recalibrated to verify the flow rate. Field blanks were collected in the same manner as the samples, except that no air was drawn through the cartridges.

### **Analytical Results**

Sample media cartridges were chilled during storage, and were packed in a cooler with frozen ice packs for shipment and submittal to Eurofins Air Toxics, Inc., after sample collection. Each cartridge was analyzed for formaldehyde using United States Environmental Protection Agency (U.S. EPA) Method TO-11A. Table 1 summarizes sample identification numbers, sample locations, start and stop times, and sample results. The Eurofins Air Toxics laboratory report is included as Attachment B.

<b>Table 1</b> <b>Formaldehyde Analytical Results</b> <b>Naval Station Guantanamo Bay, Cuba</b>			
<b>Sample ID</b>	<b>Location (Building/Room No.)</b>	<b>Sample Date</b>	<b>Result (<math>\mu\text{g}/\text{m}^3</math>)</b>
AV29IAFMFT	AV-29 [REDACTED]	4-22-2016	9.5
AV29IAFMST	AV-29 [REDACTED]	4-23-2016	14
AV32IAFMM01	AV-32/M01	4-23-2016	5.9
AV32IAFMM02	AV-32/M02	4-22-2016	11
AV32IAFMMP	AV-32/MP	4-22-2016	5.5
CZIAFM10B	CUZCOS/10B	4-21-2016	14
CZIAFM11B	CUZCOS/11B	4-21-2016	5.3
CZIAFM16A	CUZCOS/16A	4-21-2016	5.4
CZIAFM17A	CUZCOS/17A	4-21-2016	9.9
CZIAFM22A	CUZCOS/22A	4-21-2016	5
CZIAFM23A	CUZCOS/23A	4-21-2016	4.8
CZIAFM27B	CUZCOS/27B	4-21-2016	2.8
CZIAFM28B	CUZCOS/28B	4-21-2016	4.8
CZIAFM35A	CUZCOS/35A	4-21-2016	16
CZIAFM36A	CUZCOS/36A	4-21-2016	5.5
CZIAFM43A	CUZCOS/43A	4-21-2016	2.3
CZIAFM44A	CUZCOS/44A	4-21-2016	4.7
CZIAFM47A	CUZCOS/47A	4-21-2016	5.5
CZIAFM48A	CUZCOS/48A	4-21-2016	3.3
CZIAFM4A	CUZCOS/4A	4-21-2016	8.8
CZIAFM5A	CUZCOS/5A	4-21-2016	13
ELCIAFMBL1	ELC/BL-1	4-22-2016	4.3
ELCIAFMBL1-COM	ELC/BL-1 COM	4-22-2016	4.5
ELCIAFMBL11	ELC/BL-11	4-22-2016	6.1
ELCIAFMBL2	ELC/BL-2	4-22-2016	4.7
ELCIAFMBL29	ELC/BL-29	4-22-2016	11
ELCIAFMBL30	ELC/BL-30	4-22-2016	7.5
ELCIAFMBL3107	ELC/BL3-107	4-22-2016	5.6
ELCIAFMBL4	ELC-BL-4	4-22-2016	5.1
ELCIAFMBL5	ELC/BL-5	4-22-2016	6.1
ELCIAFMBL8	ELC/BL-8	4-22-2016	7.9
CZIAFMBLK	Cuzcos Field Blank	4-21-2016	0.053
AV32IAFMBLK	AV-32 Field Blank	4-22-2016	0.032

**Note:**

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter

### Data Verification and Validation


Data verification was performed to assess the completeness of laboratory data by reviewing chain-of-custody forms, laboratory sample logs, receipt condition reports, and laboratory deliverables. Data verification was performed on laboratory analytical data; 10 percent of the raw data (including instrument printouts) was manually validated. Laboratory data, provided in electronic format, was verified for accuracy prior to use and during the data validation process.

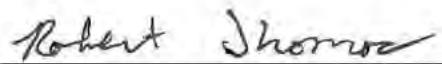
After receipt of the full data package and electronic deliverables, results were validated independently from the laboratory to assess data quality against criteria established in the analytical methods, U.S. EPA data validation guidelines (U.S. EPA August 2014), and *Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories Version 5.0* (DoD July 2013), where applicable. No results were qualified during data review; therefore, all results are considered usable by the project, according to U.S. EPA and DoD guidelines.

An electronic version of this report has been electronically mailed to the NAVFAC SE Contracting Officers Technical Representative.

Sincerely,

Resolution Consultants

  
By: Paul V. Stoddard, PG  
Task Order Manager

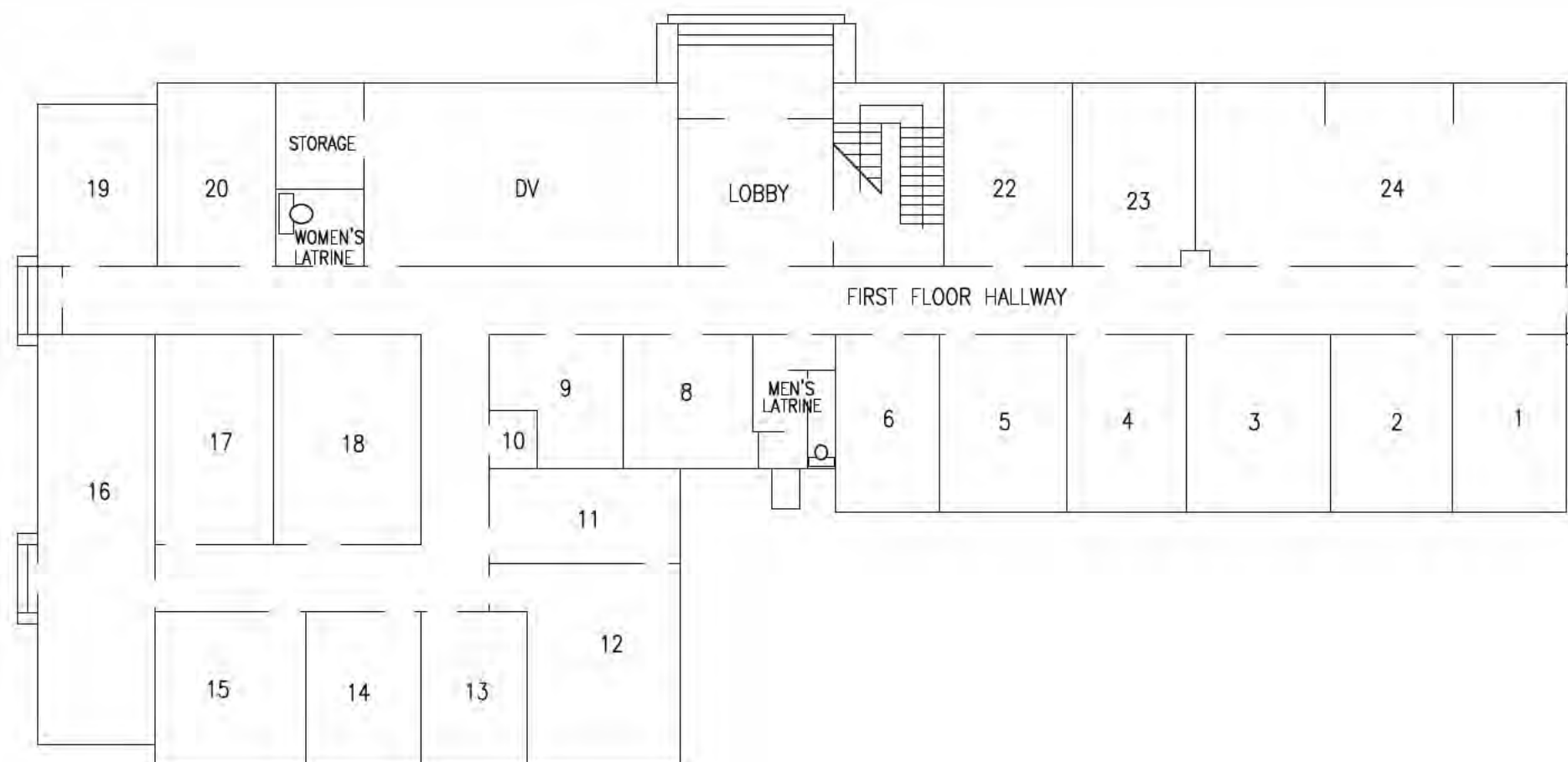
  
Robert Thomas, CHMM  
Environmental Scientist

Attachment A     Figures  
Attachment B     Laboratory Analytical Report

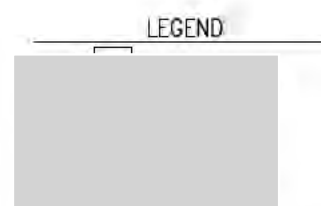
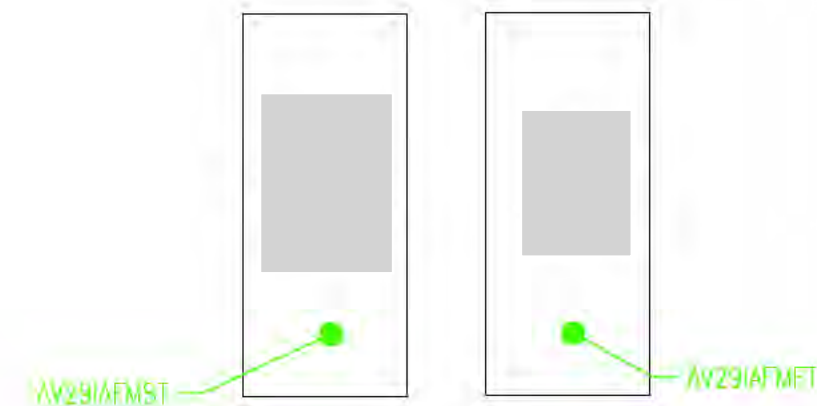


**Attachment A**  
**Figures**





AV29 FIRST FLOOR



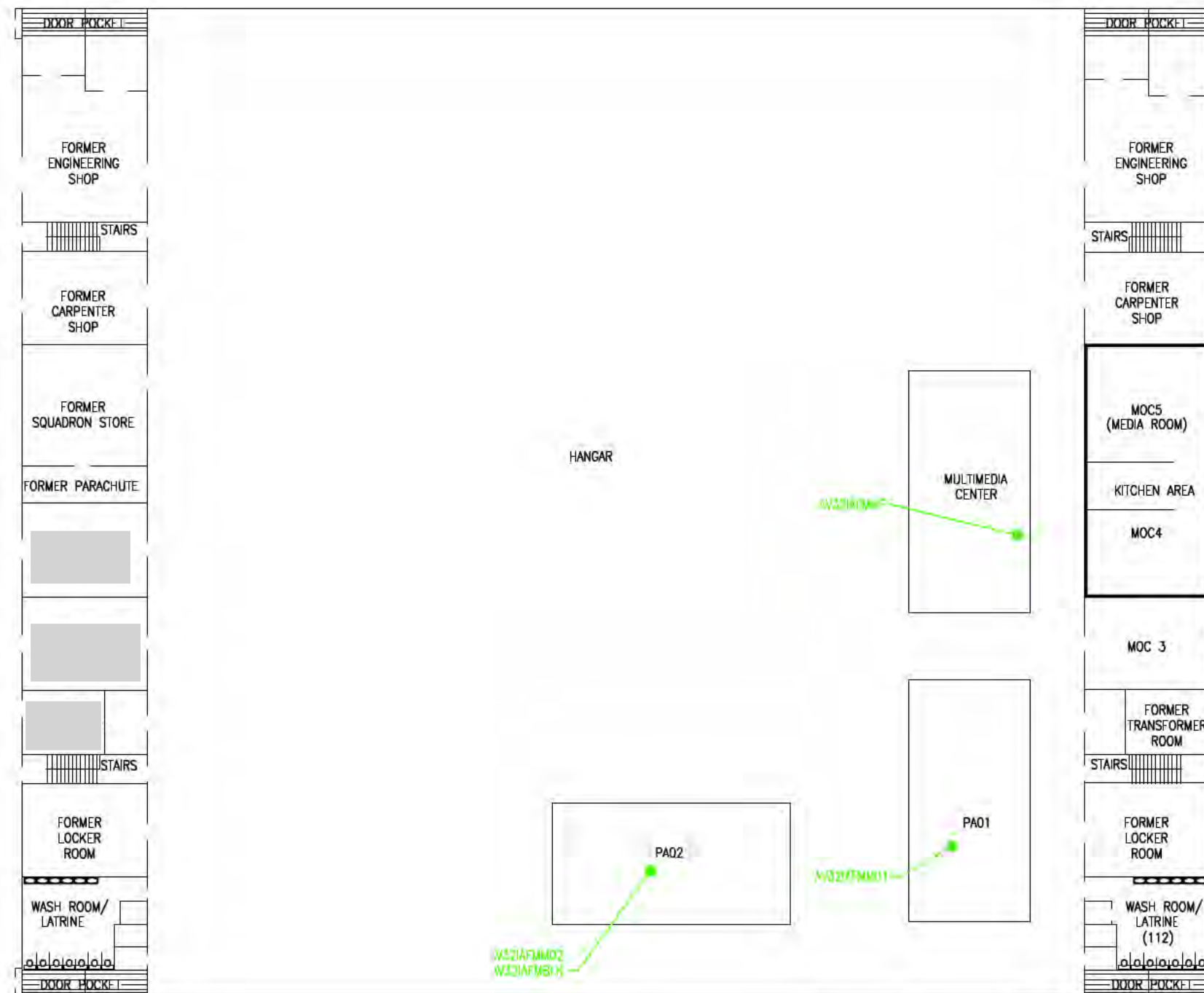
SAMPLE TYPES  
● — FORMALDEHYDE

FIGURE 1  
AV29 (FIRST FLOOR) FLOOR PLAN  
ENVIRONMENTAL INVESTIGATION  
NS GTMO — CAMP JUSTICE  
GUANTANAMO BAY, CUBA



REQUESTED BY: R.THOMAS	DATE: 05/06/16
DRAWN BY: BRONSON	DWG NAME: 17816_B009

NOT TO SCALE



LEGEND



SAMPLE TYPES

● = FORMALDEHYDE

AV32 FIRST FLOOR

NOT TO SCALE

FIGURE 2  
AV32 (FIRST FLOOR) FLOOR PLAN  
ENVIRONMENTAL INVESTIGATION  
NS GTMO – CAMP JUSTICE  
GUANTANAMO BAY, CUBA

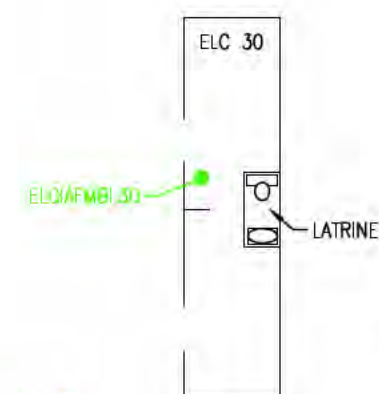
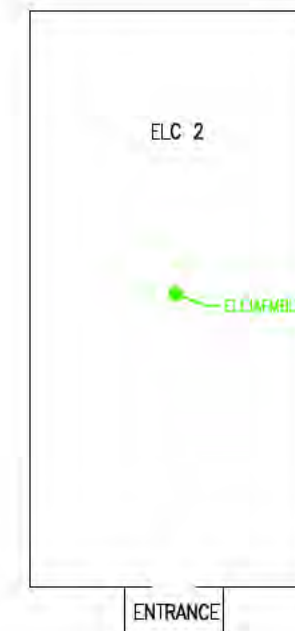
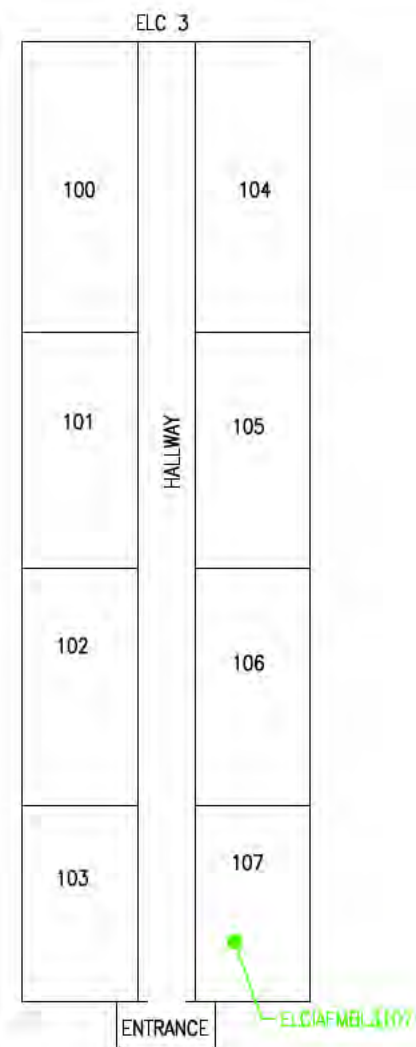
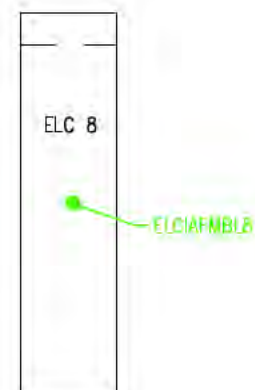
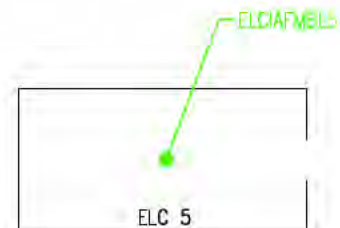
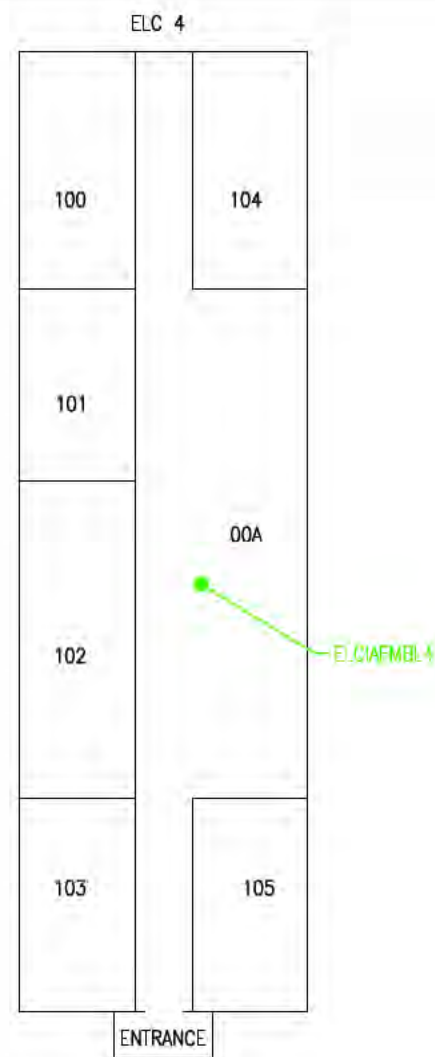


REQUESTED BY: R.THOMAS

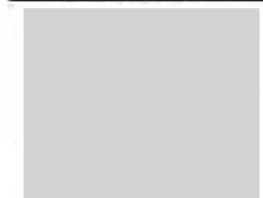
DATE: 05/06/16

DRAWN BY: BRONSON

DWG NAME: 17816\_B010



# LEGEND



## SAMPLE TYPES

● — FORMALDEHYDE

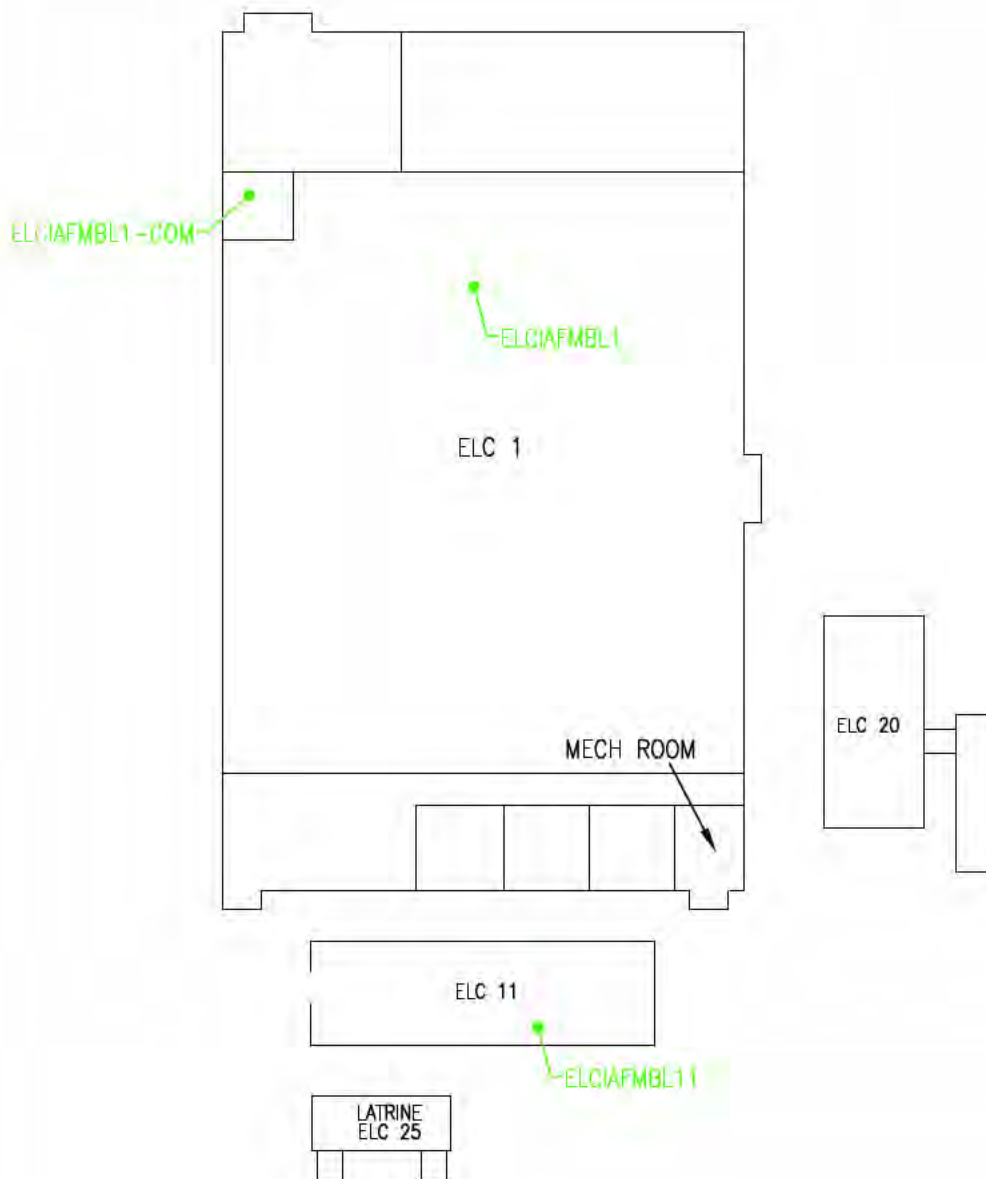
NOT TO SCALE

FIGURE 3  
ELC 2, 3, 4, 5, 8, 29, AND 30 FLOOR PLAN  
ENVIRONMENTAL INVESTIGATION  
NS GTMO — CAMP JUSTICE  
GUANTANAMO BAY, CUBA



REQUESTED BY: R.THOMAS	DATE: 05/06/16
DRAWN BY: BRONSON	DWG NAME: 17816_B011





LEGEND



SAMPLE TYPES

● - FORMALDEHYDE

NOT TO SCALE

FIGURE 4  
ELC 1, 11, AND 20 FLOOR PLAN  
ENVIRONMENTAL INVESTIGATION  
NS GTMO - CAMP JUSTICE  
GUANTANAMO BAY, CUBA

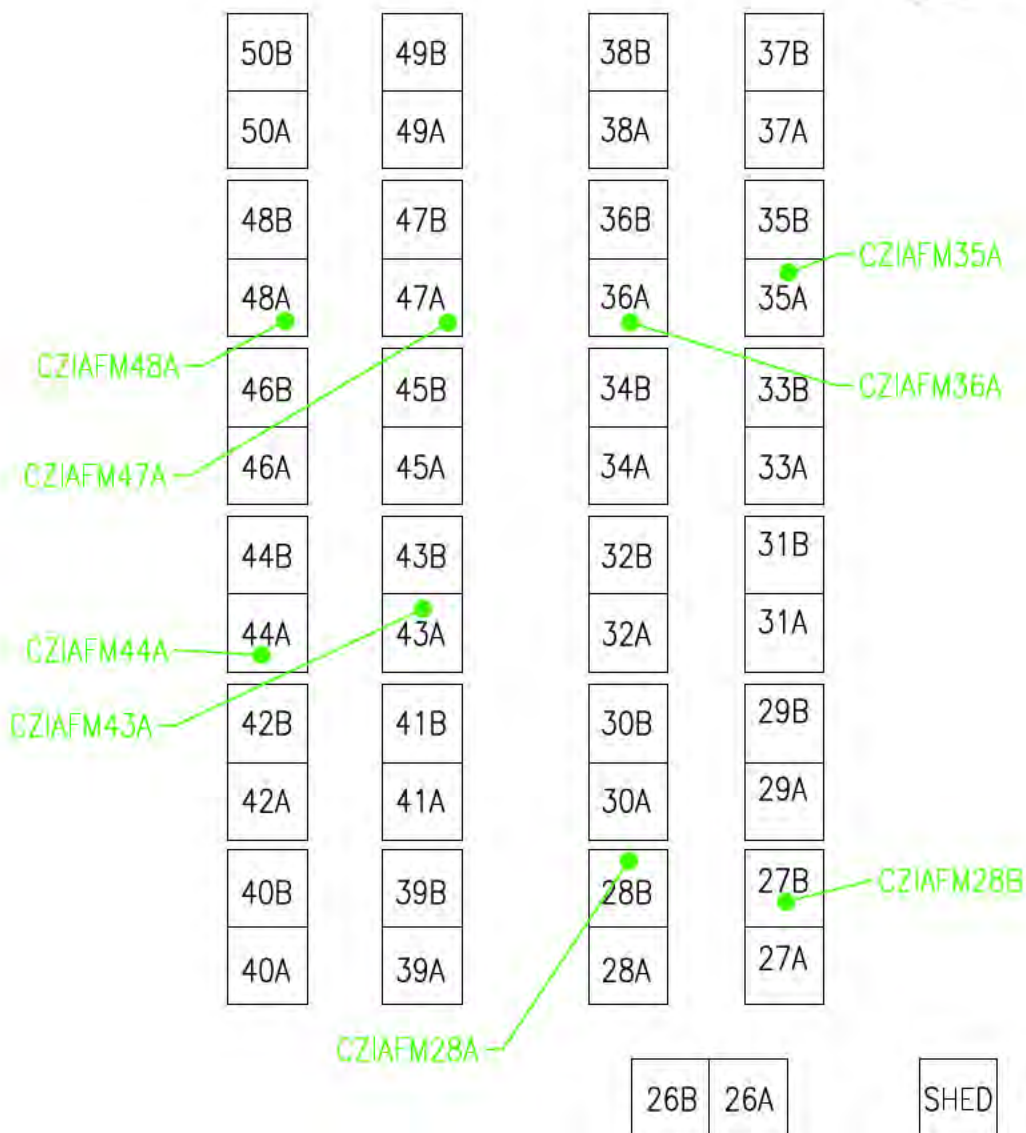


REQUESTED BY: R.THOMAS

DATE: 05/06/16

DRAWN BY: BRONSON

DWG NAME: 17816\_B011



## NEW CUZZCOS

SAMPLE TYPES  
● - FORMALDEHYDE

NOT TO SCALE

FIGURE 5  
NEW CUZZCOS  
ENVIRONMENTAL INVESTIGATION  
NS GTMO - CAMP JUSTICE  
GUANTANAMO BAY, CUBA

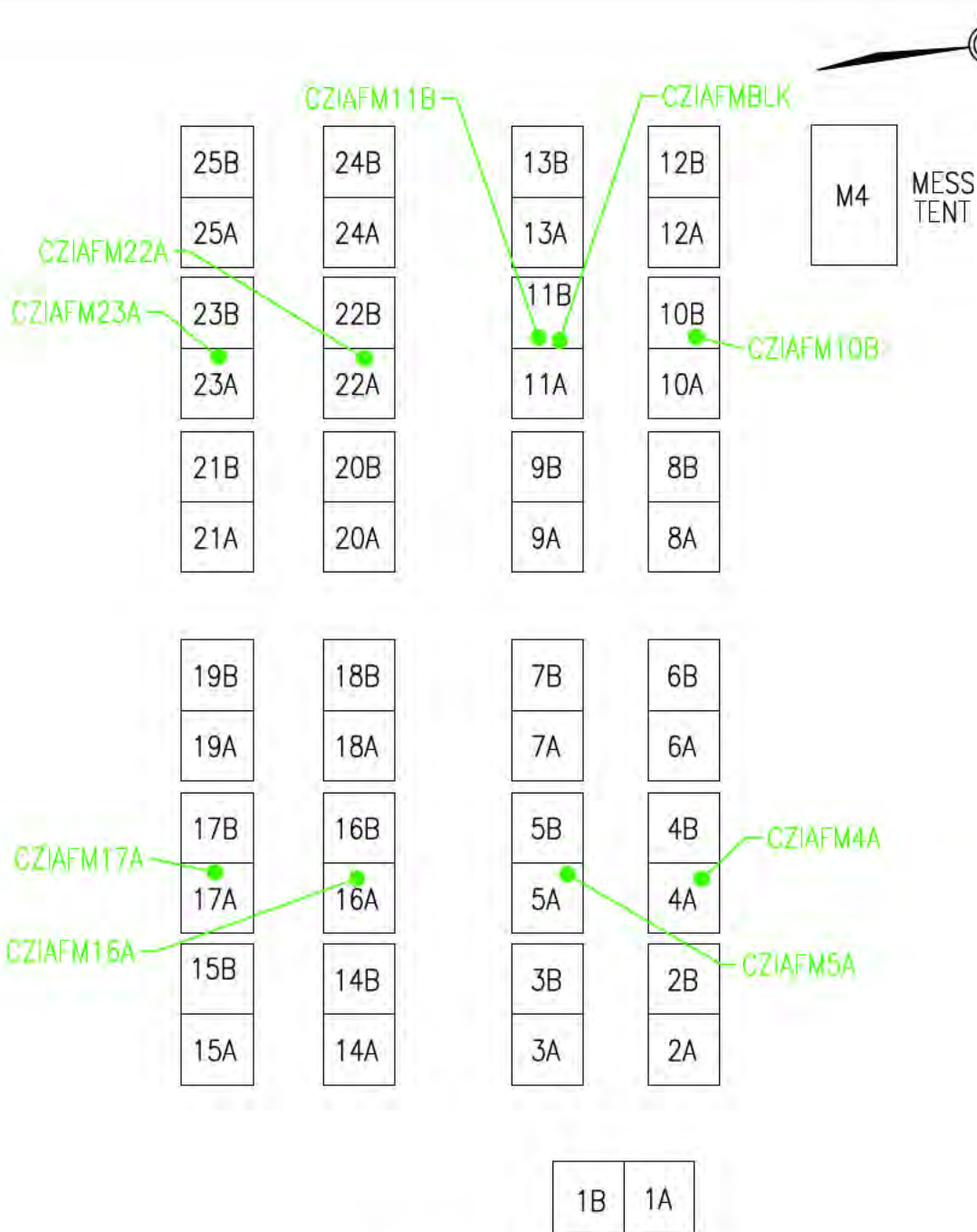


REQUESTED BY: R.THOMAS

DATE: 05/06/16

DRAWN BY: BRONSON

DWG NAME: 17816\_B012



### OLD CUZCOS

**SAMPLE TYPES**  
 - FORMALDEHYDE

NOT TO SCALE

FIGURE 6  
 OLD CUZCOS  
 ENVIRONMENTAL INVESTIGATION  
 NS GTMO - CAMP JUSTICE  
 GUANTANAMO BAY, CUBA



REQUESTED BY: R.THOMAS

DATE: 11/18/15

DRAWN BY: BRONSON

DWG NAME: 17816\_B012

**Attachment B**  
**Laboratory Analytical Report**



5/2/2016

Mr. Mike Dryden  
Earth Toxics, Inc.  
206 Quail Way

Logan UT 84321

Project Name: Site Investigation  
Project #: 0888817816  
Workorder #: 1604558

Dear Mr. Mike Dryden

The following report includes the data for the above referenced project for sample(s) received on 4/27/2016 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori  
Project Manager

**WORK ORDER #: 1604558**

## Work Order Summary

**CLIENT:** Mr. Mike Dryden  
Earth Toxics, Inc.  
206 Quail Way  
Logan, UT 84321

**BILL TO:** Mr. Mike Dryden  
Earth Toxics, Inc.  
206 Quail Way  
Logan, UT 84321

**PHONE:** 925-513-1270

**P.O. #**

**FAX:**

**PROJECT #** 0888817816 Site Investigation

**DATE RECEIVED:** 04/27/2016

**CONTACT:** Kyle Vagadori

**DATE COMPLETED:** 05/02/2016

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>
01A	CZIAFM27B-1	Modified TO-11A
02A	CZIAFM28B-1	Modified TO-11A
03A	CZIAFM35A-1	Modified TO-11A
04A	CZIAFM36A-1	Modified TO-11A
05A	CZIAFM48A-1	Modified TO-11A
06A	CZIAFM47A-1	Modified TO-11A
07A	CZIAFM44A-1	Modified TO-11A
08A	CZIAFM43A-1	Modified TO-11A
09A	CZIAFM4A-1	Modified TO-11A
10A	CZIAFM5A-1	Modified TO-11A
11A	CZIAFM10B-1	Modified TO-11A
12A	CZIAFM11B-1	Modified TO-11A
13A	CZIAFM23A-1	Modified TO-11A
14A	CZIAFM22A-1	Modified TO-11A
15A	CZIAFM17A-1	Modified TO-11A
16A	CZIAFM16A-1	Modified TO-11A
17A	CZIAFMBLK	Modified TO-11A
18A	Lab Blank	Modified TO-11A
19A	LCS	Modified TO-11A
19AA	LCSD	Modified TO-11A

CERTIFIED BY:



Technical Director

DATE: 05/02/16

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935  
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc., certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified TO-11A**  
**Earth Toxics, Inc.**  
**Workorder# 1604558**

Seventeen TO-11 Cartridge samples were received on April 27, 2016. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

<i>Requirement</i>	<i>TO-11A</i>	<i>ATL Modifications</i>
ACN Purity Check	Contribution of analytes from ACN determined as described Sections 9.1.1 and 9.1.2 of Compendium TO-11A.	Total contribution of analytes from ACN and cartridge combined is determined.
Initial Calibration Curve (ICAL)	Multi-point using linear regression performed every 6 months; $r^2 > 0.999$	Multi-point using average Response Factor; % RSD $\leq 10$ %. Re-calibration if daily cal. fails, major maintenance, or column change. Linear regression is performed when requested.
Blank Subtraction	Average blank concentrations calculated. Blank value subtracted from sample result.	One Lab Blank is analyzed per batch; no blank subtraction performed on samples.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

Sampling volume was supplied by the client. A sample volume of 586 L was used to report sample CZIAFMBLK and the Laboratory Blank.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Media for this analysis was certified at the Reporting Limit. Concentrations that are below the level at which the media was certified may be false positives.

**Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- B - Compound present in laboratory blank greater than reporting limit.
- J - Estimated value.
- E - Exceeds instrument calibration range.
- S - Saturated peak.
- Q - Exceeds quality control limits.
- U - Compound analyzed for but not detected above the detection limit.
- M - Reported value may be biased due to apparent matrix interferences.

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File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



## Summary of Detected Compounds

### AMBIENT AIR: EPA METHOD TO-11A HPLC

**Client Sample ID: CZIAFM27B-1**

**Lab ID#: 1604558-01A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.085	1.6	2.8

**Client Sample ID: CZIAFM28B-1**

**Lab ID#: 1604558-02A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.8	4.8

**Client Sample ID: CZIAFM35A-1**

**Lab ID#: 1604558-03A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	9.0	16

**Client Sample ID: CZIAFM36A-1**

**Lab ID#: 1604558-04A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.2	5.5

**Client Sample ID: CZIAFM48A-1**

**Lab ID#: 1604558-05A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	1.9	3.3

**Client Sample ID: CZIAFM47A-1**

**Lab ID#: 1604558-06A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.2	5.5

## Summary of Detected Compounds

### AMBIENT AIR: EPA METHOD TO-11A HPLC

**Client Sample ID: CZIAFM44A-1**

**Lab ID#: 1604558-07A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.7	4.7

**Client Sample ID: CZIAFM43A-1**

**Lab ID#: 1604558-08A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	1.3	2.3

**Client Sample ID: CZIAFM4A-1**

**Lab ID#: 1604558-09A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	5.0	8.8

**Client Sample ID: CZIAFM5A-1**

**Lab ID#: 1604558-10A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	7.3	13

**Client Sample ID: CZIAFM10B-1**

**Lab ID#: 1604558-11A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	8.0	14

**Client Sample ID: CZIAFM11B-1**

**Lab ID#: 1604558-12A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.1	5.3

## Summary of Detected Compounds

### AMBIENT AIR: EPA METHOD TO-11A HPLC

**Client Sample ID: CZIAFM23A-1**

**Lab ID#: 1604558-13A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.7	4.8

**Client Sample ID: CZIAFM22A-1**

**Lab ID#: 1604558-14A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.9	5.0

**Client Sample ID: CZIAFM17A-1**

**Lab ID#: 1604558-15A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	5.7	9.9

**Client Sample ID: CZIAFM16A-1**

**Lab ID#: 1604558-16A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.1	5.4

**Client Sample ID: CZIAFM BLK**

**Lab ID#: 1604558-17A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.085	0.031 J	0.053 J



Air Toxics

Client Sample ID: CZIAFM27B-1

Lab ID#: 1604558-01A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429037	Date of Collection:	4/21/16 3:50:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/29/16 11:17 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.085	1.6	2.8

Air Sample Volume(L): 586

Container Type: TO-11 Cartridge





Air Toxics

Client Sample ID: CZIAFM28B-1

Lab ID#: 1604558-02A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429038	Date of Collection:	4/21/16 3:48:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/29/16 11:43 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.8	4.8

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFM35A-1

Lab ID#: 1604558-03A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429039	Date of Collection:	4/21/16 3:51:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 12:09 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	9.0	16

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFM36A-1

Lab ID#: 1604558-04A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429040	Date of Collection:	4/21/16 3:53:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 12:35 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.2	5.5

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFM48A-1

Lab ID#: 1604558-05A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429041	Date of Collection:	4/21/16 3:31:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 01:01 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	1.9	3.3

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge





Air Toxics

Client Sample ID: CZIAFM47A-1

Lab ID#: 1604558-06A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429042	Date of Collection:	4/21/16 3:33:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 01:27 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.2	5.5

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFM44A-1

Lab ID#: 1604558-07A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429043	Date of Collection:	4/21/16 3:36:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 01:53 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.7	4.7

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFM43A-1

Lab ID#: 1604558-08A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429044	Date of Collection:	4/21/16 3:38:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 02:19 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	1.3	2.3

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFM4A-1

Lab ID#: 1604558-09A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429045	Date of Collection:	4/21/16 4:10:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 02:45 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	5.0	8.8

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFM5A-1

Lab ID#: 1604558-10A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429081	Date of Collection:	4/21/16 4:13:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 06:19 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	7.3	13

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFM10B-1

Lab ID#: 1604558-11A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429049	Date of Collection:	4/21/16 4:16:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 04:29 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	8.0	14

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge





Air Toxics

Client Sample ID: CZIAFM11B-1

Lab ID#: 1604558-12A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429050	Date of Collection:	4/21/16 4:20:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 04:55 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.1	5.3

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFM23A-1

Lab ID#: 1604558-13A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429051	Date of Collection:	4/21/16 4:01:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 05:21 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.7	4.8

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFM22A-1

Lab ID#: 1604558-14A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429052	Date of Collection:	4/21/16 3:59:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 05:47 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.9	5.0

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFM17A-1

Lab ID#: 1604558-15A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429053	Date of Collection:	4/21/16 4:04:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 06:12 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	5.7	9.9

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFM16A-1

Lab ID#: 1604558-16A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429054	Date of Collection:	4/21/16 4:07:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 06:38 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.1	5.4

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: CZIAFMBLK

Lab ID#: 1604558-17A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429036	Date of Collection:	4/21/16 4:28:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/29/16 10:51 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.085	0.031 J	0.053 J

Air Sample Volume(L): 586

J = Estimated value.

Container Type: TO-11 Cartridge





Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1604558-18A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name: f0429048  
Dil. Factor: 1.00

Date of Collection: NA  
Date of Analysis: 4/30/16 04:03 AM  
Date of Extraction: 4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.085	0.026 J	0.044 J

Air Sample Volume(L): 586

J = Estimated value.

Container Type: NA - Not Applicable

**Client Sample ID: LCS**

**Lab ID#: 1604558-19A**

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

<b>File Name:</b>	<b>f0429033</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 4/29/16 09:34 PM</b>
		<b>Date of Extraction: 4/29/16</b>

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Formaldehyde	91	85-115

**Air Sample Volume(L): 1.00**

**Container Type: NA - Not Applicable**

**Client Sample ID: LCSD**

**Lab ID#: 1604558-19AA**

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

<b>File Name:</b>	<b>f0429034</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 4/29/16 10:00 PM</b>
		<b>Date of Extraction: 4/29/16</b>

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Formaldehyde	98	85-115

**Air Sample Volume(L): 1.00**

**Container Type: NA - Not Applicable**





# RESOLUTION CONSULTANTS

## CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name: Syle Investigation

COC No.

Page 2 of 3

Site Location: GTMO, Cuba

Project No: 0888817816 Phase: SI Task: SI

RC Task Order Manager: Paul Stoddard

Sample Analysis Requested (Enter number of containers for each test)

Sampler/Phone # Robbie Thomas

Lab Name: Air Toxics

Turnaround Time(specific): 7 days

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	Formaldehyde	Sample Volume	Unit	Extra Volume for MS/MSD	HOLD
13a	C2JA FM 23A-1	23A	4/21/16	1601		N	N	1	X	576	L		
14a	C2JA FM 22A-1	22A	4/21/16	1559		N	N	1	X	576	L		
15a	C2JA FM 17A-1	17A	4/21/16	1604		N	N	1	X	576	L		
16a	C2JA FM 16A-1	16A	4/21/16	1607		N	N	1	X	576	L		
17a	C2JA FM BLK	BLK	4/21/16	1628		N	N	1	X	576	L		
	AV32JAFM MP-1	MP	4/22/16	1519		N	N	1	X	576	L		
	AV32JAFM M01	M01	4/22/16	0636		N	N	1	X	723	L		
	AV32JAFM M02	M02	4/22/16	1526		N	N	1	X	576	L		
	AV32JAFM BLK	BLK	4/22/16	1530		N	N	1	X	576	L		
	ELCJA FM BL29-1	BL29	4/22/16	1620		N	N	1	X	576	L		
	ELCJA FM BL30-1	BL30	4/22/16	1623		N	N	1	X	576	L		
	ELCJA FM BL11-1	BL11	4/22/16	1629		N	N	1	X	576	L		

Field Comments:

Lab Comments:

Orlando Seal Intact?  
FELTA

Number of coolers in shipment:

Sample Shipment and Delivery Details

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time	Airbill No.	Date Shipped
<u>Robbie Thomas</u>	4/23/16	0710	<u>[Signature]</u>	4/23/16	0710		
<u>[Signature]</u>	4/25/16	0745	<u>[Signature]</u>	4/25/16	0745		
<u>[Signature]</u>	4/25/16	1630	<u>[Signature]</u>	4/27/16	1740		

- (1) AQ=Ambient air, AQ=Air quality control, ASB=Asbestos, CK=Caulk, DS=Storm drain sediment, GS=Soil gas, IC=IDW concrete, IDB=IDW solid, IDS=IDW soil, IDW=IDW water, LF=Free Product, MA=Mastic, PC=Paint Chips, SC=Cement/Concrete, SE=Sediment, SL=Sludge, SO=Soil, SQ=Soil/Solid quality control, SSD=Subsurface sediment, SU=Surface soil (<6 in), SW=Swab or wipe, TA=Animal tissue, TP=Plant tissue, TQ=Tissue quality control, WG=Ground water, WL=Leachate, WO=Ocean water, WP=Drinking water, WQ=Water quality control, WR=Ground water effluent, WS=Surface water, WU=Storm water, WW=Waste water
- (2) Sample Type: AB=Ambient Bk, EB=Equipment Bk, FB=Field Duplicate Sample, IDW=Investigative-Derived Waste, MIS=Incremental Sampling Methodology, N=Normal Environmental Sample, TB=Trip Bk
- (3) Preservative added: HA=Hydrochloric Acid, NI=Nitric Acid, SH=Sodium Hydroxide, SA=Sulfuric Acid, ME=Methanol, SB=sodium bisulfate, ST=Sodium Thiosulfate If NO preservative added leave blank

1604558

5/2/2016

Mr. Mike Dryden  
Earth Toxics, Inc.  
206 Quail Way

Logan UT 84321

Project Name: Site Investigation

Project #: 0888817816

Workorder #: 1604561

Dear Mr. Mike Dryden

The following report includes the data for the above referenced project for sample(s) received on 4/27/2016 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-11A are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori  
Project Manager

# WORK ORDER #: 1604561

## Work Order Summary

**CLIENT:** Mr. Mike Dryden  
Earth Toxics, Inc.  
206 Quail Way  
Logan, UT 84321

**BILL TO:** Mr. Mike Dryden  
Earth Toxics, Inc.  
206 Quail Way  
Logan, UT 84321

**PHONE:** 925-513-1270

**P.O. #**

**FAX:**

**PROJECT #** 0888817816 Site Investigation

**DATE RECEIVED:** 04/27/2016

**CONTACT:** Kyle Vagadori

**DATE COMPLETED:** 05/02/2016

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>
01A	AV32IAFMMP-1	Modified TO-11A
02A	AV32IAFMM01-1	Modified TO-11A
03A	AV32IAFMM02-1	Modified TO-11A
04A	AV32IAFMBLK	Modified TO-11A
05A	ELCIAFMBL29-1	Modified TO-11A
06A	ELCIAFMBL30-1	Modified TO-11A
07A	ELCIAFMBL11-1	Modified TO-11A
08A	ELCIAFMBL5-1	Modified TO-11A
09A	ELCIAFMBL2-1	Modified TO-11A
10A	ELCIAFMBL4-1	Modified TO-11A
11A	ELCIAFMBL8-1	Modified TO-11A
12A	ELCIAFMBL3107-1	Modified TO-11A
13A	ELCIAFMBL1-1	Modified TO-11A
14A	ELCIAFMBL1-COM	Modified TO-11A
15A	AV29IAFMST-1	Modified TO-11A
16A	AV29IAFMFT-1	Modified TO-11A
17A	Lab Blank	Modified TO-11A
18A	LCS	Modified TO-11A
18AA	LCSD	Modified TO-11A

CERTIFIED BY:



Technical Director

DATE: 05/02/16

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935  
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

Eurofins Air Toxics Inc., certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



**LABORATORY NARRATIVE**  
**Modified TO-11A**  
**Earth Toxics, Inc.**  
**Workorder# 1604561**

Sixteen TO-11 Cartridge samples were received on April 27, 2016. The laboratory performed analysis via modified Method TO-11A using reverse phase High Pressure Liquid Chromatography (HPLC) with an Ultraviolet (UV) Detector. The method involves eluting the sorbent tubes with acetonitrile using a gravity feed technique. Method modifications taken to run these samples include:

<i>Requirement</i>	<i>TO-11A</i>	<i>ATL Modifications</i>
ACN Purity Check	Contribution of analytes from ACN determined as described Sections 9.1.1 and 9.1.2 of Compendium TO-11A.	Total contribution of analytes from ACN and cartridge combined is determined.
Initial Calibration Curve (ICAL)	Multi-point using linear regression performed every 6 months; $r^2 > 0.999$	Multi-point using average Response Factor; % RSD $\leq 10$ %. Re-calibration if daily cal. fails, major maintenance, or column change. Linear regression is performed when requested.
Blank Subtraction	Average blank concentrations calculated. Blank value subtracted from sample result.	One Lab Blank is analyzed per batch; no blank subtraction performed on samples.

**Receiving Notes**

The Chain of Custody (COC) information for sample ELCIAFMBL1-1 did not match the entry on the sample tag with regard to sample identification. The information on the COC was used to process and report the sample.

**Analytical Notes**

Sampling volume was supplied by the client. A sample volume of 723 L was used to report sample AV32IAFMBLK and the Laboratory Blank.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Media for this analysis was certified at the Reporting Limit. Concentrations that are below the level at which the media was certified may be false positives.

**Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

---

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## Summary of Detected Compounds

### AMBIENT AIR: EPA METHOD TO-11A HPLC

**Client Sample ID: AV32IAFMMP-1**

**Lab ID#: 1604561-01A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.2	5.5

**Client Sample ID: AV32IAFMM01-1**

**Lab ID#: 1604561-02A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.069	4.3	5.9

**Client Sample ID: AV32IAFMM02-1**

**Lab ID#: 1604561-03A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	6.5	11

**Client Sample ID: AV32IAFMBLK**

**Lab ID#: 1604561-04A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.069	0.023 J	0.032 J

**Client Sample ID: ELCIAFMBL29-1**

**Lab ID#: 1604561-05A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	6.6	11

**Client Sample ID: ELCIAFMBL30-1**

**Lab ID#: 1604561-06A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	4.3	7.5

## Summary of Detected Compounds

### AMBIENT AIR: EPA METHOD TO-11A HPLC

**Client Sample ID: ELCIAFMBL11-1**

**Lab ID#: 1604561-07A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.5	6.1

**Client Sample ID: ELCIAFMBL5-1**

**Lab ID#: 1604561-08A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.5	6.1

**Client Sample ID: ELCIAFMBL2-1**

**Lab ID#: 1604561-09A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.7	4.7

**Client Sample ID: ELCIAFMBL4-1**

**Lab ID#: 1604561-10A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.9	5.1

**Client Sample ID: ELCIAFMBL8-1**

**Lab ID#: 1604561-11A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	4.5	7.9

**Client Sample ID: ELCIAFMBL3107-1**

**Lab ID#: 1604561-12A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.3	5.6

## Summary of Detected Compounds

### AMBIENT AIR: EPA METHOD TO-11A HPLC

**Client Sample ID: ELCIAFMBL1-1**

**Lab ID#: 1604561-13A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.5	4.3

**Client Sample ID: ELCIAFMBL1-COM**

**Lab ID#: 1604561-14A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.6	4.5

**Client Sample ID: AV29IAFMST-1**

**Lab ID#: 1604561-15A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.069	9.8	14

**Client Sample ID: AV29IAFMFT-1**

**Lab ID#: 1604561-16A**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	5.5	9.5



Air Toxics

Client Sample ID: AV32IAFMMP-1

Lab ID#: 1604561-01A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429064	Date of Collection:	4/22/16 3:19:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 10:58 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.2	5.5

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: AV32IAFMM01-1

Lab ID#: 1604561-02A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429065	Date of Collection:	4/23/16 6:36:00 AM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 11:24 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.069	4.3	5.9

Air Sample Volume(L): 723

Container Type: TO-11 Cartridge





Air Toxics

Client Sample ID: AV32IAFMM02-1

Lab ID#: 1604561-03A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

<b>File Name:</b>	<b>f0429066</b>	<b>Date of Collection:</b> 4/22/16 3:26:00 PM
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 4/30/16 11:50 AM
		<b>Date of Extraction:</b> 4/29/16

<b>Compound</b>	<b>Rpt. Limit (ug)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug)</b>	<b>Amount (ug/m3)</b>
Formaldehyde	0.050	0.087	6.5	11

**Air Sample Volume(L): 576**

**Container Type: TO-11 Cartridge**



Air Toxics

Client Sample ID: AV32IAFMBLK

Lab ID#: 1604561-04A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429063	Date of Collection:	4/22/16 3:30:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 10:32 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.069	0.023 J	0.032 J

Air Sample Volume(L): 723

J = Estimated value.

Container Type: TO-11 Cartridge

Client Sample ID: ELCIAFMBL29-1

Lab ID#: 1604561-05A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429067	Date of Collection:	4/22/16 4:20:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 12:16 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	6.6	11

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: ELCIAFMBL30-1

Lab ID#: 1604561-06A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429068	Date of Collection:	4/22/16 4:23:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 12:42 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	4.3	7.5

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: ELCIAFMBL11-1

Lab ID#: 1604561-07A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429069	Date of Collection:	4/22/16 4:29:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 01:08 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.5	6.1

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: ELCIAFMBL5-1

Lab ID#: 1604561-08A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429070	Date of Collection:	4/22/16 4:34:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 01:34 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.5	6.1

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: ELCIAFMBL2-1

Lab ID#: 1604561-09A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429071	Date of Collection:	4/22/16 4:39:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 02:00 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.7	4.7

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: ELCIAFMBL4-1

Lab ID#: 1604561-10A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429072	Date of Collection:	4/22/16 4:44:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 02:26 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.9	5.1

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge





Air Toxics

Client Sample ID: ELCIAFMBL8-1

Lab ID#: 1604561-11A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429075	Date of Collection:	4/22/16 4:50:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 03:43 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	4.5	7.9

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: ELCIAFMBL3107-1

Lab ID#: 1604561-12A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429076	Date of Collection:	4/22/16 4:55:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 04:09 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	3.3	5.6

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: ELCIAFMBL1-1

Lab ID#: 1604561-13A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429077	Date of Collection:	4/22/16 5:02:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 04:35 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.5	4.3

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: ELCIAFMBL1-COM

Lab ID#: 1604561-14A

AMBIENT AIR: EPA METHOD TO-11A HPLC

File Name:	f0429078	Date of Collection:	4/22/16 5:07:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 05:01 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	2.6	4.5

Air Sample Volume(L): 576

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: AV29IAFMST-1

Lab ID#: 1604561-15A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429079	Date of Collection:	4/23/16 6:28:00 AM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 05:27 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.069	9.8	14

Air Sample Volume(L): 723

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: AV29IAFMFT-1

Lab ID#: 1604561-16A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429080	Date of Collection:	4/22/16 5:51:00 PM
Dil. Factor:	1.00	Date of Analysis:	4/30/16 05:53 PM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.087	5.5	9.5

Air Sample Volume(L): 577

Container Type: TO-11 Cartridge



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1604561-17A

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

File Name:	f0429057a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/30/16 07:56 AM
		Date of Extraction:	4/29/16

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Formaldehyde	0.050	0.069	0.021 J	0.029 J

Air Sample Volume(L): 723

J = Estimated value.

Container Type: NA - Not Applicable

**Client Sample ID: LCS**

**Lab ID#: 1604561-18A**

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

<b>File Name:</b>	<b>f0429055</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 4/30/16 07:04 AM</b>
		<b>Date of Extraction: 4/29/16</b>

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Formaldehyde	90	85-115

**Air Sample Volume(L): 1.00**

**Container Type: NA - Not Applicable**



**Client Sample ID: LCSD**

**Lab ID#: 1604561-18AA**

**AMBIENT AIR: EPA METHOD TO-11A HPLC**

<b>File Name:</b>	<b>f0429056</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 4/30/16 07:30 AM</b>
		<b>Date of Extraction: 4/29/16</b>

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Formaldehyde	94	85-115

**Air Sample Volume(L): 1.00**

**Container Type: NA - Not Applicable**



# RESOLUTION CONSULTANTS

## CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name: Site Investigation

Site Location: 67 Mo, Cuba

CR No. JM B5

RC Task Order Manager: Paul Stoddard

Sampler/Client Phone# Robbie Thomas

Lab Name: Air Toxics

Turnaround Time(specific): 7 days

COC No.

Page 2 of 3

PO No.

Project No: 080817 & 16 Phase: SI Task: SI

Sample Analysis Requested (Enter number of containers for each test)

Lab ID	Sample ID (sys. samp. code)	Location ID (sys. loc. code)	Date (mm/dd/yy)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	Formaldehyde	Sample Volume	Unit	Extra Volume for MS/MSD
13A	C23IAFM23A-1	23A	4/21/16	1601		N	N	1	X	576	L	
14	C23IAFM22A-1	22A	4/21/16	1559		N	N	1	X	576	L	
	C23IAFM17A-1	17A	4/21/16	1604		N	N	1	X	576	L	
	C23IAFM16A-1	16A	4/21/16	1607		N	N	1	X	576	L	
	C23IAFM BLK	BLK	4/21/16	1628		N	N	1	X	576	L	
01A	AV32IAFM MP-1	MP	4/22/16	1519		N	N	1	X	576	L	
02A	AV32IAFM M01-1	M01	4/22/16	0636		N	N	1	X	723	L	
03A	AV32IAFM M02-1	M02	4/22/16	1526		N	N	1	X	576	L	
04A	AV32IAFM BLK	BLK	4/22/16	1530		N	N	1	X	576	L	
05A	ELC3IAFM BL29-1	BL29	4/22/16	1620		N	N	1	X	576	L	
06A	ELC3IAFM BL30-1	BL30	4/22/16	1623		N	N	1	X	576	L	
07A	ELC3IAFM BL11-1	BL11	4/22/16	1629		N	N	1	X	576	L	

Field Comments:

Lab Comments:

Sample Shipment and Delivery Details

Number of coolers in shipment:

1

Relinquished by (signature)

Date

Time

Received by (signature)

Date

Time

Samples Iced? (check) Yes X No   

1

Robbie Thomas

4/23/16

0710

1

Paul Stoddard

4/23/16

0710

Airbill No: 0412612016

2

Paul Stoddard

4/25/16

0745

2

Paul Stoddard

04/25/2016

0845

Date Shipped: 04/25/2016

3

Paul Stoddard

04/25/2016

1630

3

Paul Stoddard

04/25/2016

0940

Date Shipped: 04/25/2016

(1) **AQ**=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDB**=IDW Solid, **IDS**=IDW Soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water  
(2) **Sample Type:** **AB**=Ambient Bk, **EB**=Equipment Bk, **FB**=Field Bk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Bk  
(3) **Preservative added:** **HA**=Hydrochloric Acid, **NI**=Nitric Acid, **SH**=Sodium Hydroxide, **SA**=Sulfuric Acid, **ME**=Methanol, **SB**=sodium bisulfate, **ST**=Sodium Thiosulfate If **NO** preservative added leave blank

1604561

**RESOLUTION  
CONSULTANTS****CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD**Project Name: Syle Investigation

COC No.

Page 3 of 3Site Location: GT MO, CubaProject No: 000077816 Phase: SI Task: SIRC Task Order Manager: Paul StoddardSampler/Phone # Robbie ThomasLab Name: Air ToxicsTurnaround Time(specific): 7 days

Sample Analysis Requested (Enter number of containers for each test)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers		Formaldehyde	Sample Volume Unit	Extra Volume for MS/MSD									
								(3)	(4)			HOLD									

08a	ELCJAFM B25-1	B25	4/22/16	1634	1	N	N	1	X	576 L											
09a	ELCJAFM B22-1	B22	4/22/16	1639		N	N	1	X	576 L											
10a	ELCJAFM B24-1	B24	4/22/16	1644		N	N	1	X	576 L											
11a	ELCJAFM B28-1	B28	4/22/16	1650		N	N	1	X	576 L											
12a	ELCJAFM B23107-1	B23	4/22/16	1655		N	N	1	X	576 L											
13a	ELCJAFM B21-1	B21	4/22/16	1702		N	N	1	X	576 L											
14a	ELCJAFM B21-COM	B21	4/22/16	1707		N	N	1	X	576 L											
15a	ELCJAFM B21-1	B21	4/22/16	1707		N	N	1	X	576 L											
16a	AV29JAFM FT-1	FT	4/22/16	1751		N	N	1	X	577 L											

Field Comments:

Lab Comments:

Custody Seal Intact  
04/25/2016 1:10 PM  
Fed Ex

Sample Shipment and Delivery Details

Number of coolers in shipment:

1

Relinquished by (signature)

Date

Time

Received by (signature)

Date

Time

Samples Iced (check) Yes ☒ No ☐

1 Robbie Thomas

4/23/16

0710

1

4/23/16

0710

Airbill No: 041202010

2

4/25/16

0945

2

04/25/2016

0945

Date Shipped: 04/25/2016

3

04/25/2016

0945

3

04/25/2016

0945

Date Shipped: 04/25/2016

(1) AA=Ambient air, AQ=Air quality control, ASB=Asbestos, CK=Caulk, DS=Storm drain sediment, GS=Soil gas, IC=IDW Concrete, IDD=IDW Solid, IDS=IDW soil, IDW=IDW Water, LF=Free Product, MA=Mastic, PC=Paint Chips, SC=Cement/Concrete, SE=Sediment, SL=Sludge, SO=Soil/Solid quality control, SSD=Subsurface sediment, SU=Surface soil (<6 in), SW=Swab or wipe, TA=Animal tissue, TP=Plant tissue, TQ=Tissue quality control, WG=Ground water, WL=Leachate, WO=Ocean water, WP=Drinking water, WQ=Water quality control, WR=Ground water effluent, WS=Surface water, WU=Storm water, WW=Waste water

(2) Sample Type: AB=Ambient Bk, EB=Equipment Bk, FB=Field Duplicate Sample, IDW=Investigative-Derived Waste, MIS=Incremental Sampling Methodology, N=Normal Environmental Sample, TB=Trip Bk

(3) Preservative added: HA=Hydrochloric Acid, NI=Nitric Acid, SH=Sodium Hydroxide, SA=Sulfuric Acid, ME=Methanol, SB=sodium bisulfate, ST=Sodium Thiosulfate. If NO preservative added leave blank

1604561

## Attachment A – Field Monitoring Results NS GITMO

[illegible]



Attachment A – Field Monitoring Results  
NS GITMO

Field Assessor	Building/Room No.	Sample Date	Pump Brand	Pump #	Sample ID	Start	Stop	Sample Length (min.)	Pre-Cal	Post-Cal	Flow Rate (l/m)	Volume (l)
RT/AO	AV-32 / MP	4/22/16	Gil Air 5	BGP4-003	AV32IAFMMP-1	0719	1519	480	1.2	1.2	0.00	0.0
								0			0.00	0.0
RT/AO	AV-32 / MO1	4/22/16	Gil Air 3	PG494	AV32IAFM MO1-1	0723	—	Pump Failure	1.2	—	0.00	0.0
								0			0.00	0.0
RT/AO	AV-32 / MO2	4/22/16	Gil Air 3	PG283	AV32IAFM MO2-1	0726	1526	480	1.2	1.2		
RT/AO	AV32 / Blank	4/22/16	—	—	AV32IAFMBLK	—	1530	—	—	—		
RT/AO	ELC / BL-29	4/22/16	Aircheck 52	P1097	ELC IAFMBL29-1	0820	1620	480	1.2	1.2		
RT/AO	ELC / BL-30	4/22/16	Aircheck 52	P1500	ELC IAFMBL30-1	0823	1623	480	1.2	1.2		
RT/AO	ELC / BL-11	4/22/16	Gil Air 3	PG559	ELC IAFMBL11-1	0829	1629	480	1.2	1.2		
RT/AO	ELC / BL-5	4/22/16	Gil Air 3	PG722	ELC IAFMBL5-1	0834	1634	480	1.2	1.2		
RT/AO	ELC / BL-2	4/22/16	Gil Air 3	PG096	ELC IAFMBL2-1	0839	1639	480	1.2	1.2		
RT/AO	ELC / BL-4	4/22/16	Gil Air 3	PG578	ELC IAFMBL4-1	0844	1644	480	1.2	1.2		
RT/AO	ELC / BL-8	4/22/16	Gil Air 3	PG588	ELC IAFMBL8-1	0850	1650	480	1.2	1.2		
<del>RT/AO</del> RT/AO	<del>ELC / BL</del> ELC / BL3-107	4/22/16	Gil Air 3	PG476	ELC IAFMBL3107-1	0855	1655	480	1.2	1.2		
RT/AO	ELC / BL107	4/22/16	Gil Air 3	PG122	ELC IAFMBL1-1	0902	1702	480	1.2	1.2		
RT/AO	ELC / BL1 Com	4/22/16	Gil Air 3	PG275	ELC IAFMBL1-COM	0907	1707	0	1.2	1.2	0.00	0.0
								0			0.00	0.0
RT/AO	AV-29 / Sat. Trailer	4/22/16	Gil Air	BGP4-001	AV29IAFMST-1	0945	1745	<del>480</del> Pump Failure	1.2	Pump Failure	0.00	0.0
								0			0.00	0.0
RT/AO	AV-29 / Sat. Trailer	4/22/16	Gil Air 3	PG154	AV29IAFMST-1	0950	1750	<del>480</del> 481	1.2	1.2	0.00	0.0
								0			0.00	0.0
RT/AO	AV-29 / Sat. Trailer	4/23/16	Gil Air 3	PG154	AV29IAFMST-1	1825	0628	723	1.2	1.2	0.00	868.00
								0			0.00	0.0
RT/AO	AV-29 3 / MO1	4/23/16	Gil Air 3	PG275	AV29IAFM MO1-1	1833	<del>0628</del> 0636	<del>723</del> 723	1.2	1.2	0.00	<del>723.00</del> 723.00
								0			0.00	0.0
								0			0.00	0.0
								0			0.00	0.0
								0			0.00	0.0
Sampling Equipment:												
Analytical Laboratory:												
Exposure Limits:												