



**CALIFORNIA**  
AIR RESOURCES BOARD

# **2022-2023 Eastern Coachella Valley Ambient Air Pesticide Monitoring Report**

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December 2023

## Monitoring Report Approval

**Report Title:** 2022-2023 Eastern Coachella Valley Ambient Air Pesticide Monitoring Report

**Project Lead:** Ivy Osornio, Air Pollution Specialist

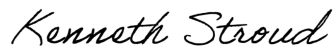
**Approval:** The following air monitoring report has been reviewed and approved by the Community Air Monitoring Branch.



\_\_\_\_\_  
Fernando Amador, Manager  
Community Air Monitoring South Section

\_\_\_\_\_  
12/7/2023

Date



\_\_\_\_\_  
Kenneth Stroud, Chief  
Community Air Monitoring Branch

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12/13/2023

Date

## List of Acronyms

1,3-D	1,3-dichloropropene
AQMD	Air Quality Management District
CARB	California Air Resources Board
CERP	Community Emissions Reduction Plan
CSC	Community Steering Committee
DPR	Department of Pesticide Regulation
ECV	Eastern Coachella Valley
ETM	Elapsed time meter
GC/MS	Gas chromatograph/mass spectrometer
GC/MS/MS	Gas chromatograph/triple quadrupole mass spectrometer
MFS	Mecca Fire Station
MITC	methyl isothiocyanate
MLD	CARB Monitoring and Laboratory Division
NLB	CARB Northern Laboratory Branch
OEHHA	Office of Environmental Health Hazard Assessment
ppb	parts per billion
QC	Quality Control
RL	Reporting limit
sccm	Standard cubic centimeters per minute
TD	Thermal desorption
TFS	Thermal Fire Station
TS	Torres Martinez Desert Cahuilla Indians air monitoring station
XAD	XAD® sorbent tube

# Executive Summary

## Eastern Coachella Valley Ambient Air Pesticide Monitoring Report

As part of the Eastern Coachella Valley (ECV) Community Emissions Reduction Plan (CERP) Chapter 5c, Table 1, Action D<sup>1</sup>, the California Air Resources Board (CARB) conducted air monitoring for the following pesticides: methyl isothiocyanate (MITC); 1,3-dichloropropene (1,3-D); and chloropicrin within the Assembly Bill 617 ECV community from November 28, 2022 to February 24, 2023. The monitoring was conducted throughout the community close to sensitive receptors and pesticide application areas. There were three sampling locations throughout, including two at county fire stations and one at the Torres Martinez Desert Cahuilla Indians air monitoring site.

Air samples of 24-hours in duration were collected for 4 days per week for 13 weeks. Three primary samplers were set up in the communities of Thermal, Mecca, and Martinez. An additional sampler for quality control (QC) was set up in Mecca. Samples were collected on two different media based on the pesticide(s) sampled for; MITC and 1,3-D were collected on thermal desorption (TD) tubes with a flow rate of 25 standard cubic centimeters per minute (sccm); and chloropicrin was collected on XAD-4 tubes with a flow rate of 100 sccm. The samples were analyzed by a gas chromatograph/mass spectrometer (GC/MS) or gas chromatograph/triple quadrupole mass spectrometer (GC/MS/MS) by CARB's Northern Laboratory Branch (NLB) in Sacramento.

### MITC Results

Of the 141 valid primary samples, 70 (49.6%) had MITC concentrations above the reporting limit of 0.03 µg/m<sup>3</sup>. MITC concentrations ranged from 0.03 to 2.19 µg/m<sup>3</sup>. The three samples with the highest concentrations were from the Torres Martinez air monitoring site on 12/15/22 (2.19 µg/m<sup>3</sup>), 12/20/22 (1.62 µg/m<sup>3</sup>), and 2/13/23 (1.71 µg/m<sup>3</sup>). The results are summarized below:

Site	Number of Samples Collected	Invalid <sup>2</sup>	Below the Reporting Limit	At or Above the Reporting Limit
Mecca Fire Station	52	3	19	30
Torres Martinez air monitoring site	52	6	22	24
Thermal Fire Station	52	6	30	16
Total	156	15	71	70

### 1,3-D Results

Of the 141 valid 1,3-D primary samples collected, none of the concentrations were above the reporting limit of 0.25 µg/m<sup>3</sup>. The results are summarized below:

Site	Number of Samples Collected	Invalid	Below the Reporting Limit	At or Above the Reporting Limit
Mecca Fire Station	52	3	49	0
Torres Martinez air monitoring site	52	6	46	0
Thermal Fire Station	52	6	46	0
Total	156	15	141	0

<sup>1</sup> South Coast Air Quality Management District (July 2021) *Eastern Coachella Valley Community Emissions Reduction Plan, Final*. <http://www.aqmd.gov/docs/default-source/ab-617-ab-134/steering-committees/eastern-coachella-valley/final-cerp/final-cerp-july-2021.pdf?sfvrsn=9>

<sup>2</sup> An invalid sample cannot be analyzed due to falling outside of the acceptable sample parameters for any of the following reasons: flow rate and/or sample run time out of specifications, and field issues.

### **Chloropicrin Results**

Of the 139 valid chloropicrin primary samples collected, two (1.4%) of the concentrations were above the reporting limit of 0.06 µg/m<sup>3</sup>. Both samples were collected at the Thermal fire station on 1/20/23 (0.17 µg/m<sup>3</sup>) and 2/9/23 (0.39 µg/m<sup>3</sup>). The results are summarized below:

<b>Site</b>	<b>Number of Samples Collected</b>	<b>Invalid</b>	<b>Below the Reporting Limit</b>	<b>At or Above the Reporting Limit</b>
Mecca Fire Station	52	3	49	0
Torres Martinez air monitoring site	52	4	48	0
Thermal Fire Station	52	10	40	2
<b>Total</b>	<b>156</b>	<b>17</b>	<b>137</b>	<b>2</b>

### **Quality Control Results**

Quality control results were within acceptable ranges and in line with previous CARB MLD pesticide studies.

### **Next Steps**

Per Chapter 5c, Table 2, Action A of the CERP, DPR and OEHHA will evaluate potential community health risks/impacts and prepare a document with their findings based on the results presented in this report and other relevant health information.

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- Attachment A: Sampler Photos
- Attachment B: Mass Flow Meter Certification Report
- Attachment C: Monitoring Field Log Sheets
- Attachment D: Sampling Protocol
- Attachment E: Laboratory Standard Operating Procedures

# 1. Background

In December 2019, the Eastern Coachella Valley (ECV) was designated as one of Assembly Bill 617 (AB617) Year 2 Communities. The ECV community includes the City of Coachella, the City of Indio, a small portion of the City of La Quinta, and the unincorporated areas of Thermal, Oasis, Mecca, and North Shore, and is home to approximately 81,000 people.<sup>3</sup> Residential centers in the rural community are surrounded by areas zoned for agricultural use.

The ECV Community Steering Committee (CSC) was formed in January 2020 and consists of members representing current residents, community organizations, businesses, agencies, schools/universities, and offices of elected officials.

The CSC identified pesticides as one of the top air quality priorities given the amount of agricultural activity in the ECV. CSC concerns include unknown health effects from pesticides and potential toxicity from possible exposure. As part of the Community Emissions Reduction Plan (CERP), the South Coast Air Quality Management District (South Coast AQMD) held public meetings, workshops, and communicated with committee members and responsible local, county, and state agencies, including the California Air Resources Board (CARB), to develop actions and details to address the community's concerns about pesticide emissions and exposures.

The purpose for air monitoring was to measure the concentrations of three prioritized pesticides in the community. A secondary purpose for air monitoring was to engage with the community on their health concerns possibly attributable to air pollution. This community engagement includes sharing an understanding and expertise in pesticide monitoring to potentially address some human health impacts of community concern with the South Coast AQMD and the ECV community.

The monitored pesticides are the result of research<sup>4</sup> by CARB, the California Office of Environmental Health Hazard Assessment (OEHHA), and the Department of Pesticide Regulation (DPR) which took into consideration pesticide use reporting data, CalEnviroScreen 4.0 pesticide indicators, and information from peer-reviewed literature and publicly accessible data.

The prioritized pesticides are:

- Methyl Isothiocyanate (MITC) was monitored as it is the main breakdown product with pesticidal activity of metam sodium, metam potassium, and dazomet.
- 1,3-Dichloropropene (1,3-D)
- Chloropicrin

Each of these pesticides is used as a fumigant, meaning its pesticidal activity is in the vapor or gas phase, and is used to prepare the soil for planting. Each is also a designated Toxic Air Contaminant.<sup>5</sup> MITC is generally used for controlling a variety of fungi and nematodes. Crops that use MITC include peppers (fruiting), watermelons, grapes, lemons, and corn. Its chemical abstract service (CAS) registry number is 556-61-6. 1,3-D is used to control insects, nematodes, and other organisms in the soil. 1,3-D is applied to crops such as grapes, lemons, peppers (fruiting), watermelons, strawberries, and peaches. Its CAS registry number is 542-75-6. Chloropicrin is also used to control soil borne fungi, diseases and nematodes. Its CAS registry number is 76-06-2. Chloropicrin is used as a fumigant for watermelons and strawberries.

A total of 527 valid samples which included 421 primary samples and 106 quality control samples (33 collocated samples, 34 field spikes, and 39 field blanks) were collected from November 28, 2022 to February 24, 2023. Monitoring consisted of four sequential 24-hour sampling periods for each of the 13-week study.

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<sup>3</sup> 2019 Community Recommendations Staff Report – CARB ([https://ww2.arb.ca.gov/sites/default/files/2019-12/2019\\_community\\_recommendations\\_staff\\_report\\_november\\_8\\_acc\\_3.pdf](https://ww2.arb.ca.gov/sites/default/files/2019-12/2019_community_recommendations_staff_report_november_8_acc_3.pdf))

<sup>4</sup> February 2022, Pesticide prioritization and Monitoring in the Eastern Coachella Valley. Available upon request.

<sup>5</sup> AB 1807 - Toxics Air Contaminant Identification and Control | California Air Resources Board/Department of Pesticide Regulation (<https://ww2.arb.ca.gov/resources/documents/ab-1807-toxics-air-contaminant-identification-and-control>)

## 2. Sampling Sites

The locations for air monitoring were selected in consultation with the ECV monitoring working team and CSC, and by evaluating locations near sensitive receptors, areas of concern, and residential neighborhoods downwind of known pesticide use areas. The three monitoring locations are identified in Table 1 along with the global positioning satellite coordinates of each sampler. Coordinates were obtained from Google Maps, which uses the World Geodetic Systems 1984 (WGS84) datum.

Figure 1 shows an aerial view of sensitive receptors and residential regions within the ECV community boundaries along with the locations of the sampling sites. Figure 2 shows a sampler set up at the Mecca Fire Station site.

Photos of the samplers at each site can be seen in Attachment A.

TABLE 1 - SAMPLER LOCATIONS

Site Name	Address	GPS Coordinates (WGS84)
Mecca Fire Station 40 (Quality Control)	91350 66th Ave, Mecca, CA 92254	33° 34' 11.0388" N 116° 4' 22.1088" W
Torres Martinez Desert Cahuilla Indians air monitoring station	66725 Martinez Rd, Thermal, CA 92274	33° 33' 40.1508" N 116° 9' 12.3084" W
Thermal Fire Station	86911 Avenue 58, Thermal, CA 92274	33° 37' 36.3612" N 116° 8' 51.0504" W



**FIGURE 1 - SENSITIVE RECEPTORS AND RESIDENTIAL REGIONS WITHIN THE EASTERN COACHELLA VALLEY**



**FIGURE 2 - SAMPLER AT THE MECCA FIRE STATION SITE**



### 3. Methods

The study began on Monday, November 28, 2022 and the final sample was retrieved on February 25, 2023. Monitoring occurred for four continuous 24-hour periods each week. The sampling process was designed to collect MITC and 1,3-D on TD tubes and chloropicrin on XAD-4 tubes. Samples were collected by passing a measured volume of ambient air through the sorbent tubes mounted on sampling trees. The inlet of each sampling tree was approximately 2 meters above the ground.

Samples were collected in the same sequence for each 24-hour sampling period (Mecca Fire Station, Torres Martinez air monitoring site, and Thermal Fire Station).

Field staff was on site to set up each daily sample. The procedure required a new sorbent tube to be opened on both ends and attached to the sampler. Prior to the start of each 24-hour sample, a flow check and flow adjustments were completed. To perform a flow check, the opened sorbent tube was installed, the pump turned on, and the inlet end of the sorbent tube was connected to a digital mass flow meter. If the flow rate was not within the 10% of the setpoint (between 22.5 and 27.5 sccm for the TD tubes and between 90 and 110 sccm for the XAD tubes), it was corrected to the appropriate setpoint by adjusting the inline rotameter. The flow rate was accurately measured by an Alicat Whisper digital mass flow meter with a range of either 0-200 sccm or 0-500 sccm<sup>6</sup>. If any of the checks failed, the problems were remedied before sampling commenced. After successful completion of the flow checks, the sampler was left on to sample. The flow rate was re-checked at the end of the 24-hour sampling period prior to stopping the pump and removing the sorbent tube. For the samples to be valid, the ending flow rate must have been between 20% of the starting flow, and the elapsed time meter (ETM) must have indicated a run time of between 23.0 and 25.0 hours. Samples out of the specified flow or time ranges were invalidated.<sup>7</sup> The certification document for the mass flow meters can be seen in Attachment B.

At the end of each 24-hour sampling period, the pertinent sampling information was recorded, and the sampled sorbent tubes were placed in individual capped culture tubes with an identification label affixed to each sample. Each culture tube was immediately placed in a cooler with dry ice and stored in a frozen state for the remainder of the week. At the end of the week, the collected samples were transported back to CARB MLD's Northern Laboratory Branch (NLB) and stored in a laboratory freezer until analysis.

The QC samples were collected at the Mecca Fire Station site on an identical secondary sampler following the same procedures. The spiked sorbent tubes for the field spikes were prepared within one week of the scheduled sampling date and stored in the laboratory freezer until either Sacramento field staff picked them up for transport or they were shipped to CARB's Riverside Headquarters for local field staff. The spikes were transported in a frozen state except when the field spikes were used for sampling. The trip spikes remained frozen for the duration of the week.

The completed field logs which contain the sample start and end times, start and end flow rates, and elapsed time meter readings for each sample can be found in Attachment C. Site nomenclature for this study was based upon the location of each sampler and the daily sample number. Additional abbreviations were appended to the QC samples to identify the type of QC sample collected (collocated, blank, or field spike).

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<sup>6</sup> The digital mass flow meter used varied depending on the scheduled field staff (Sacramento team or Riverside team)

<sup>7</sup> Some samples with 22.9-hour ETM values were validated and flagged. See Section 5 for more information

**Sampler Locations**

MFS – Mecca Fire Station (primary and QC)  
TM – Torres Martinez Desert Cahuilla Indians air monitoring station  
TFS – Thermal Fire Station

**Quality Control Codes**

FB – Field blank  
FS – Field Spike  
CO – Collocated

**Examples**

TFS (XAD) - 11/28/22 - 01 = XAD/chloropicrin primary sample #01 at the Thermal Fire Station for November 28, 2022

MFS (TD) - 1/17/23 - 29 (FS) = thermal desorption/MITC/1,3-D field spike sample #29 at the Mecca Fire Station for January 17, 2023

The sampling protocol used during the study can be found in Attachment D.

The NLB extracted and analyzed all samples from this study. The collected sorbent tube samples were analyzed following the laboratory standard operating procedures titled “Standard Operating Procedure for the Analysis of Trichloronitromethane (Chloropicrin) In Ambient Air Using Gas Chromatography/Mass Spectrometry MLD075” and “Standard Operating Procedure for Analysis of Volatile Pesticide Compounds in Ambient Air Using Gas Chromatography/Mass Spectrometer MLD080” (See Attachment E). Following the MLD075 procedure, the XAD-4 tubes were extracted with four milliliters of pesticide grade ethyl acetate. The samples were analyzed by a GC/MS with a split/splitless inlet in the selected ion monitoring mode. Alternatively, a GC/MS/MS with a programmable temperature vaporizing inlet in the selected reaction monitoring mode may have been used. In the MLD080 procedure, TD tubes are capped, with specific autosampler caps, and placed into the thermal desorption system. The compounds are released by heating the tube in a back-flush flow of inert carrier gas followed by secondary trapping on the electrically cooled focusing trap within the system. The trapped compounds are then released by heating and back-flushing the sorbent trap onto the gas chromatography column where they are separated and subsequently identified and quantified by the mass spectrometer in the selection ion monitoring mode.

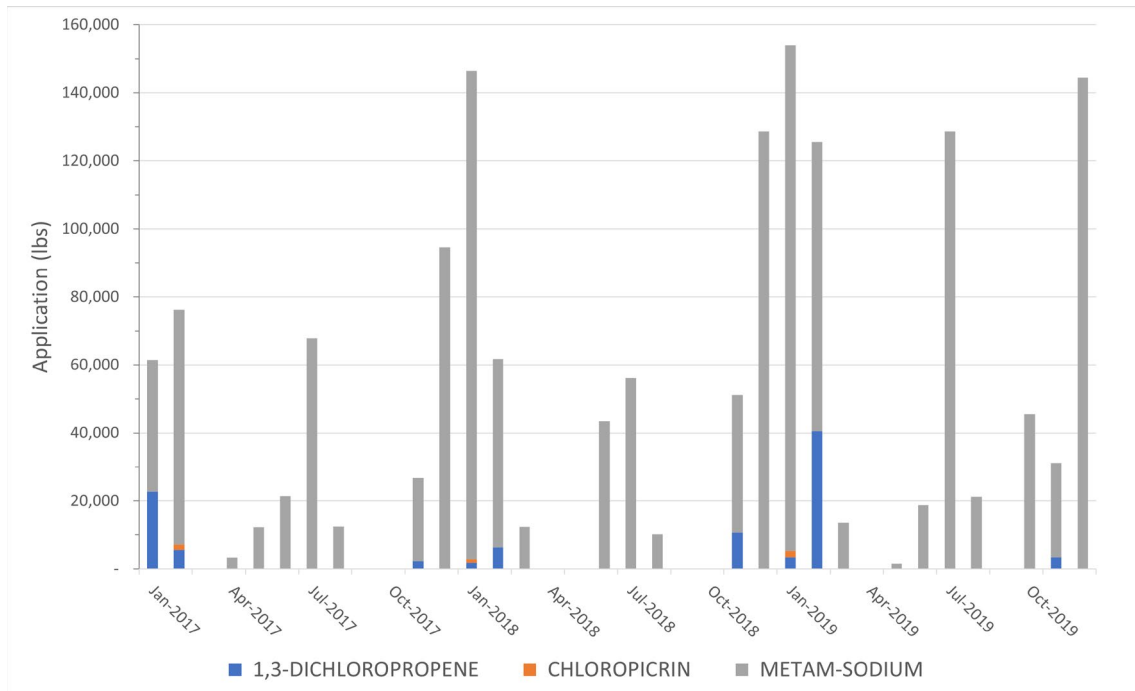
**Sampling Schedule**

Sampling was conducted during the high-use time periods for each of the targeted compounds. The high-use seasons for metam sodium are winter and summer, winter for chloropicrin, and winter and fall for 1,3-D based on the latest available pesticide use data (2017-2019). Information on the reported monthly application of each of the prioritized compounds is included in Table 2. Figure 3 presents the data in a graphical format.

TABLE 2 - ECV MONTHLY PESTICIDE USE IN POUNDS (2017-2019)

Month-Year	1,3-Dichloropropene	Chloropicrin	Metam-Sodium
Jan-2017	22,735.44	-	38,713.58
Feb-2017	5,631.50	1,606.23	68,960.55
Mar-2017	-	-	-
Apr-2017	-	-	3,395.07
May-2017	-	-	12,361.25
Jun-2017	-	-	21,428.15
Jul-2017	-	-	67,746.61
Aug-2017	-	-	12,488.25
Sep-2017	-	-	-
Oct-2017	-	-	-
Nov-2017	2,358.17	-	24,448.19
Dec-2017	-	-	94,560.20
Jan-2018	1,872.17	1,025.38	143,554.37
Feb-2018	6,353.96	-	55,339.30
Mar-2018	-	-	12,399.57
Apr-2018	-	-	-
May-2018	-	-	-
Jun-2018	-	-	43,453.02
Jul-2018	-	-	56,088.43
Aug-2018	-	-	10,202.27
Sep-2018	-	-	-
Oct-2018	-	-	-
Nov-2018	10,761.49	-	40,418.59
Dec-2018	-	-	128,645.39
Jan-2019	3,431.18	1,879.25	148,579.81
Feb-2019	40,580.81	-	84,901.11
Mar-2019	-	-	13,630.91
Apr-2019	-	-	-
May-2019	-	-	1,587.49
Jun-2019	-	-	18,761.33
Jul-2019	-	-	128,619.60
Aug-2019	-	-	21,291.84
Sep-2019	-	-	-
Oct-2019	-	-	45,508.04
Nov-2019	3,432.45	-	27,734.59
Dec-2019	-	-	144,455.30
<b>Total</b>	<b>97,157.15</b>	<b>4,510.86</b>	<b>1,469,272.82</b>

FIGURE 3 - ECV MONTHLY PESTICIDE USE CHART (2017-2019)



The monitoring schedule was kept confidential to ensure various pesticide application frequency/timeframes were not affected and samples were representative of community exposure levels.

## 4. Deviations from Protocol

There were only four deviations from the protocol: the ETM readings were incorrectly written on the log sheets for 12/23/22; the starting ETM was not listed in the log sheet for 01/06/23; the ETMs were inadvertently switched on 01/09/23; and the sampling end date on 1/11/2023 was incorrectly listed in the field log sheets. The information was corrected in the included tables.

After the first week of sampling, additional pumps were added to the Mecca site to ensure sample flow was maintained; both the primary and QC sampler were set up with one pump per sampling line for a total of four pumps. The PVC probe cover fell off during runs on 12/15/2022 and 2/14/2023. On 12/20/22, the pump was turned on during a field blank run, however, the field blank sample was redone that same week. The XAD in-line rotameter was replaced at the Thermal Fire Station site on 12/30/22 due to issues with flow stability.

## 5. Results

Many of the samples had concentrations that were below the laboratory reporting limits listed below:

TABLE 3 - PESTICIDE REPORTING LIMITS

Pesticide	Reporting Limit	
	(µg/sample)	(µg/m <sup>3</sup> )
MITC	0.001	0.03
1,3-D	0.0089	0.25
Chloropicrin	0.008	0.06

### MITC Results

Of the 141 valid primary samples, 70 had MITC concentrations above the reporting limit. MITC concentrations ranged from 0.03 to 2.19 µg/m<sup>3</sup>. The three samples with the highest concentrations were from the Torres Martinez air monitoring site on 12/15/22 (2.19 µg/m<sup>3</sup>), 12/20/22 (1.62 µg/m<sup>3</sup>), and 2/13/23 (1.71 µg/m<sup>3</sup>). The results are summarized below:

TABLE 4 - MITC RESULTS

Site	Number of Samples Collected	Invalid	Below the Reporting Limit	At or Above the Reporting Limit
Mecca Fire Station	52	3	19	30
Torres Martinez air monitoring site	52	6	22	24
Thermal Fire Station	52	6	30	16
Total	156	15	71	70

### **1,3-D Results**

Of the 141 valid 1,3-D primary samples collected, none of the concentrations were above the reporting limit<sup>8</sup>. The results are summarized below:

TABLE 5 - 1,3-D RESULTS

Site	Number of Samples Collected	Invalid	Below the Reporting Limit	At or Above the Reporting Limit
Mecca Fire Station	52	3	49	0
Torres Martinez air monitoring site	52	6	46	0
Thermal Fire Station	52	6	46	0
Total	156	15	141	0

### **Chloropicrin Results**

Of the 139 valid chloropicrin primary samples collected, two of the concentrations were above the reporting limit. Both samples were collected at the Thermal Fire Station on 1/20/23 (0.17 µg/m<sup>3</sup>) and 2/9/23 (0.39 µg/m<sup>3</sup>). The results are summarized below:

TABLE 6 - CHLOROPICRIN RESULTS

Site	Number of Samples Collected	Invalid	Below the Reporting Limit	At or Above the Reporting Limit
Mecca Fire Station	52	3	49	0
Torres Martinez air monitoring site	52	4	48	0
Thermal Fire Station	52	10	40	2
Total	156	17	137	2

Full results separated by location are included in Tables 7 through 9.

### **Data Completeness:**

Over the course of the 13-week monitoring period, a total of 468 primary samples were collected. 47 samples were invalid and 421 were valid for a total of 90% sample validity. Figures 4-6 summarize the results of the valid primary samples per site.

<sup>8</sup> 1,3-dichloropropene is analyzed by measuring the concentration of both its cis- and trans- isomers and then combining the results to obtain a complete 1,3-dichloropropene concentration. In this report, one analysis refers to the combination of the two individual cis- and trans- isomer concentration measurements for a particular air sample.

FIGURE 4 - MECCA FIRE STATION VALID SAMPLES

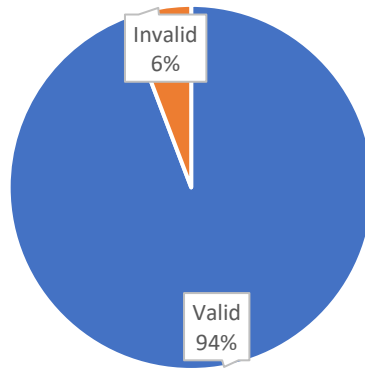


FIGURE 5 - TORRES MARTINEZ AIR MONITORING SITE VALID SAMPLES

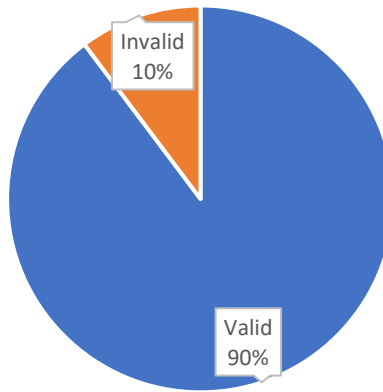
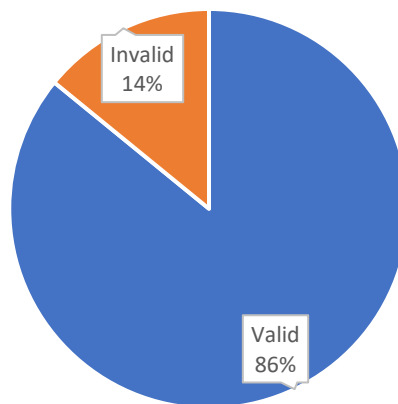


FIGURE 6 - THERMAL FIRE STATION VALID SAMPLES



## **Invalidation and Flagging**

Primary samples were invalidated for the following reasons:

1. Flow rate out of specifications: the ending flow rate was not within the 20% of the target flow rate.
2. Run time out of specifications: the sample did not run for between 23.0 and 25.0 hours as indicated by the ETM<sup>9</sup>.
3. Field issues: Unforeseen circumstances can arise during a field study; such situations included field equipment falling over during high wind events, pump failure, a sorbent tube breaking during sample removal, and a sample missing during transport to NLB.

There were 47 invalidated samples during the study:

- Mecca Fire Station
  - MFS (XAD) - 02, MFS (XAD and TD) - 03, MFS (XAD) – 21, MFS (TD) – 28, MFS (TD) – 49
- Torres Martinez air monitoring site
  - TM (TD) – 02, TM (XAD) – 07, TM (TD) – 20, TM (XAD & TD) – 28, TM (XAD & TD) – 49, TM (XAD & TD) – 50, TM (TD) - 52
- Thermal Fire Station
  - TFS (XAD) – 02, TFS (XAD) – 03, TFS (XAD & TD) – 09, TFS (XAD) – 11, TFS (XAD) – 14, TFS (XAD) – 16, TFS (XAD) – 17, TFS (XAD) – 18, TFS (XAD) – 20, TFS (XAD) – 27, TFS (TD) – 41, TFS (TD) – 46, TFS (TD) – 47, TFS (TD) – 49, TFS (TD) – 50

Four samples were flagged for low sampling times. These samples were collected after 23.0 hours as indicated by the field logs. However, because the ETM only shows six-minute increments, the ETM did not display 23.0 hours and displayed 22.9 hours instead.

- Torres Martinez air monitoring site
  - TM (XAD & TD) - 42
- Thermal Fire Station
  - TFS (XAD & TD) – 51

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<sup>9</sup> Some samples with 22.9-hour ETM values were validated and flagged.



TABLE 7 - MECCA RESULTS

None of the valid 1,3-D samples were detected above the reporting limit of 0.0089 µg/sample or 0.25 µg/m<sup>3</sup>. 30 of the 49 valid MITC samples were above the reporting limit of 0.001 µg/sample or 0.03 µg/m<sup>3</sup>. Concentrations ranged from below the reporting limit (<RL) to 1.56 µg/m<sup>3</sup> with an average concentration of 0.18 µg/m<sup>3</sup>.<sup>10</sup> None of the 49 valid chloropicrin samples were above the reporting limit of 0.008 µg/sample or 0.06 µg/m<sup>3</sup>.

Log #	Sample Start	Volume (m <sup>3</sup> )	1,3-D Concentration		MITC Concentration		Volume (m <sup>3</sup> )	Chloropicrin Concentration		
			(µg/sample)	(µg/m <sup>3</sup> )	(µg/sample)	(µg/m <sup>3</sup> )		(µg/sample)	(µg/m <sup>3</sup> )	
1	11/28/2022	0.03	<RL	<RL	<RL	<RL	0.13	<RL	<RL	
2	11/29/2022	0.04	<RL	<RL	0.0023	0.06	Invalid: Flow rate out of specifications			
3	11/30/2022	Invalid: Flow rate out of specifications					Invalid: Flow rate out of specifications			
4	12/1/2022	0.04	<RL	<RL	<RL	<RL	0.15	<RL	<RL	
5	12/6/2022	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
6	12/7/2022	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
7	12/8/2022	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
8	12/9/2022	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
9	12/14/2022	0.03	<RL	<RL	0.054	1.56	0.14	<RL	<RL	
10	12/15/2022	0.04	<RL	<RL	0.0074	0.21	0.14	<RL	<RL	
11	12/16/2022	0.03	<RL	<RL	0.0073	0.22	0.13	<RL	<RL	
12	12/17/2022	0.04	<RL	<RL	0.0085	0.24	0.14	<RL	<RL	
13	12/20/2022	0.04	<RL	<RL	0.0018	0.05	0.14	<RL	<RL	
14	12/21/2022	0.04	<RL	<RL	0.0031	0.09	0.14	<RL	<RL	
15	12/22/2022	0.03	<RL	<RL	0.0019	0.06	0.14	<RL	<RL	
16	12/23/2022	0.03	<RL	<RL	0.001	0.03	0.14	<RL	<RL	
17	12/27/2022	0.03	<RL	<RL	0.016	0.46	0.14	<RL	<RL	
18	12/28/2022	0.04	<RL	<RL	0.014	0.38	0.14	<RL	<RL	
19	12/29/2022	0.04	<RL	<RL	0.013	0.36	0.14	<RL	<RL	
20	12/30/2022	0.03	<RL	<RL	0.0089	0.26	0.13	<RL	<RL	
21	1/3/2023	0.04	<RL	<RL	0.0013	0.04	Invalid: Run time out of specifications			
22	1/4/2023	0.04	<RL	<RL	0.0046	0.13	0.14	<RL	<RL	
23	1/5/2023	0.04	<RL	<RL	0.012	0.34	0.14	<RL	<RL	
24	1/6/2023	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
25	1/9/2023	0.03	<RL	<RL	0.0097	0.28	0.14	<RL	<RL	
26	1/10/2023	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
27	1/11/2023	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
28	1/12/2023	Invalid: Sample lost					0.14	<RL	<RL	
29	1/17/2023	0.04	<RL	<RL	<RL	<RL	0.15	<RL	<RL	
30	1/18/2023	0.03	<RL	<RL	0.0034	0.10	0.14	<RL	<RL	
31	1/19/2023	0.03	<RL	<RL	0.01	0.29	0.14	<RL	<RL	
32	1/20/2023	0.04	<RL	<RL	0.001	0.03	0.14	<RL	<RL	
33	1/26/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
34	1/27/2023	0.03	<RL	<RL	0.0033	0.10	0.13	<RL	<RL	
35	1/28/2023	0.04	<RL	<RL	0.0054	0.15	0.14	<RL	<RL	
36	1/29/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
37	1/31/2023	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
38	2/1/2023	0.04	<RL	<RL	<RL	<RL	0.15	<RL	<RL	
39	2/2/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
40	2/3/2023	0.04	<RL	<RL	0.041	1.17	0.14	<RL	<RL	
41	2/6/2023	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
42	2/7/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
43	2/8/2023	0.03	<RL	<RL	0.026	0.75	0.14	<RL	<RL	
44	2/9/2023	0.04	<RL	<RL	0.004	0.11	0.14	<RL	<RL	

<sup>10</sup> Averages were calculated treating <RL as ½ the reporting limit.

TABLE 7 - MECCA RESULTS (CONTINUED)

Log #	Sample Start	Volume (m <sup>3</sup> )	1,3-D Concentration		MITC Concentration		Volume (m <sup>3</sup> )	Chloropicrin Concentration	
			(µg/sample)	(µg/m <sup>3</sup> )	(µg/sample)	(µg/m <sup>3</sup> )		(µg/sample)	(µg/m <sup>3</sup> )
45	2/13/2023	0.04	<RL	<RL	0.007	0.19	0.14	<RL	<RL
46	2/14/2023	0.04	<RL	<RL	0.0011	0.03	0.15	<RL	<RL
47	2/15/2023	0.03	<RL	<RL	<RL	<RL	0.13	<RL	<RL
48	2/16/2023	0.04	<RL	<RL	0.017	0.45	0.15	<RL	<RL
49	2/21/2023	Invalid: Flow rate out of specifications					0.15	<RL	<RL
50	2/22/2023	0.03	<RL	<RL	0.0029	0.09	0.14	<RL	<RL
51	2/23/2023	0.04	<RL	<RL	0.008	0.22	0.15	<RL	<RL
52	2/24/2023	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL

TABLE 8 - TORRES MARTINEZ AIR MONITORING SITE RESULTS

None of the valid 1,3-D samples were detected above the reporting limit of 0.0089 µg/sample or 0.25 µg/m<sup>3</sup>. 24 of the 46 valid MITC samples were above the reporting limit of 0.001 µg/sample or 0.03 µg/m<sup>3</sup>. Concentrations ranged from below the reporting limit (<RL) to 2.19 µg/m<sup>3</sup> with an average concentration of 0.27 µg/m<sup>3</sup>. None of the 48 valid chloropicrin samples were above the reporting limit of 0.008 µg/sample or 0.06 µg/m<sup>3</sup>.

Log #	Sample Start	Volume (m <sup>3</sup> )	1,3-D Concentration		MITC Concentration		Volume (m <sup>3</sup> )	Chloropicrin Concentration	
			(µg/sample)	(µg/m <sup>3</sup> )	(µg/sample)	(µg/m <sup>3</sup> )		(µg/sample)	(µg/m <sup>3</sup> )
1	11/28/2022	0.03	<RL	<RL	<RL	<RL	0.15	<RL	<RL
2	11/29/2022	Invalid: Flow rate out of specifications					0.14	<RL	<RL
3	11/30/2022	0.04	<RL	<RL	<RL	<RL	0.15	<RL	<RL
4	12/1/2022	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL
5	12/6/2022	0.03	<RL	<RL	<RL	<RL	0.15	<RL	<RL
6	12/7/2022	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL
7	12/8/2022	0.04	<RL	<RL	<RL	<RL	Invalid: Flow rate out of specifications		
8	12/9/2022	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL
9	12/14/2022	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL
10	12/15/2022	0.03	<RL	<RL	0.075	2.1937	0.14	<RL	<RL
11	12/16/2022	0.03	<RL	<RL	0.027	0.7827	0.14	<RL	<RL
12	12/17/2022	0.04	<RL	<RL	0.033	0.8898	0.14	<RL	<RL
13	12/20/2022	0.04	<RL	<RL	0.059	1.6202	0.14	<RL	<RL
14	12/21/2022	0.04	<RL	<RL	0.013	0.3654	0.14	<RL	<RL
15	12/22/2022	0.04	<RL	<RL	0.024	0.6380	0.14	<RL	<RL
16	12/23/2022	0.03	<RL	<RL	0.01	0.2906	0.14	<RL	<RL
17	12/27/2022	0.04	<RL	<RL	0.0062	0.1683	0.14	<RL	<RL
18	12/28/2022	0.03	<RL	<RL	0.029	0.8426	0.14	<RL	<RL
19	12/29/2022	0.03	<RL	<RL	0.035	1.0248	0.14	<RL	<RL
20	12/30/2022	Invalid: Flow rate out of specifications					0.13	<RL	<RL
21	1/3/2023	0.04	<RL	<RL	0.0012	0.0316	0.14	<RL	<RL
22	1/4/2023	0.03	<RL	<RL	0.0056	0.1621	0.14	<RL	<RL
23	1/5/2023	0.04	<RL	<RL	0.0026	0.0725	0.14	<RL	<RL
24	1/6/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL
25	1/9/2023	0.00	<RL	<RL	0.0028	0.0757	0.15	<RL	<RL
26	1/10/2023	0.04	<RL	<RL	0.0016	0.0432	0.13	<RL	<RL
27	1/11/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL
28	1/12/2023	Invalid: Flow rate out of specifications							
29	1/17/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL
30	1/18/2023	0.03	<RL	<RL	0.0037	0.1055	0.14	<RL	<RL

TABLE 8 - TORRES MARTINEZ AIR MONITORING SITE RESULTS (CONTINUED)

Log #	Sample Start	Volume (m <sup>3</sup> )	1,3-D Concentration		MITC Concentration		Volume (m <sup>3</sup> )	Chloropicrin Concentration	
			(µg/sample)	(µg/m <sup>3</sup> )	(µg/sample)	(µg/m <sup>3</sup> )		(µg/sample)	(µg/m <sup>3</sup> )
31	1/19/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL
32	1/20/2023	0.04	<RL	<RL	0.012	0.3424	0.14	<RL	<RL
33	1/26/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL
34	1/27/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL
35	1/28/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL
36	1/29/2023	0.04	<RL	<RL	0.0019	0.0530	0.14	<RL	<RL
37	1/31/2023	0.04	<RL	<RL	<RL	<RL	0.15	<RL	<RL
38	2/1/2023	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL
39	2/2/2023	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL
40	2/3/2023	0.03	<RL	<RL	<RL	<RL	0.13	<RL	<RL
41	2/6/2023	0.04	<RL	<RL	<RL	<RL	0.15	<RL	<RL
42*	2/7/2023	0.04	<RL	<RL	<RL	<RL	0.13	<RL	<RL
43	2/8/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL
44	2/9/2023	0.04	<RL	<RL	0.0051	0.1448	0.14	<RL	<RL
45	2/13/2023	0.04	<RL	<RL	0.061	1.7149	0.15	<RL	<RL
46	2/14/2023	0.04	<RL	<RL	0.0071	0.1881	0.14	<RL	<RL
47	2/15/2023	0.03	<RL	<RL	0.0027	0.0774	0.14	<RL	<RL
48	2/16/2023	0.04	<RL	<RL	0.0028	0.0728	0.14	<RL	<RL
49	2/21/2023	Invalid: Run time out of specifications							
50	2/22/2023	Invalid: Run time out of specifications							
51	2/23/2023	0.04	<RL	<RL	0.0017	0.0440	0.15	<RL	<RL
52	2/24/2023	Invalid: Flow rate out of specifications					0.15	<RL	<RL

\*Samples highlighted in yellow have been flagged for having a sampling time <23.0-hours

TABLE 9 - THERMAL FIRE STATION RESULTS

None of the valid 1,3-D samples were detected above the reporting limit of 0.0089 µg/sample or 0.25 µg/m<sup>3</sup>. 16 of the 46 valid MITC samples were above the reporting limit of 0.001 µg/sample or 0.03 µg/m<sup>3</sup>. Concentrations ranged from below the reporting limit (<RL) to 0.57 µg/m<sup>3</sup> with an average concentration of 0.06 µg/m<sup>3</sup>. Two of the 42 valid chloropicrin samples were above the reporting limit of 0.008 µg/sample or 0.06 µg/m<sup>3</sup>. Concentrations ranged from below the reporting limit to 0.39 µg/m<sup>3</sup> with an average concentration of 0.04 µg/m<sup>3</sup>.

Log #	Sample Start	Volume (m <sup>3</sup> )	1,3-D Concentration		MITC Concentration		Volume (m <sup>3</sup> )	Chloropicrin Concentration	
			(µg/sample)	(µg/m <sup>3</sup> )	(µg/sample)	(µg/m <sup>3</sup> )		(µg/sample)	(µg/m <sup>3</sup> )
1	11/28/2022	0.03	<RL	<RL	<RL	<RL	0.15	<RL	<RL
2	11/29/2022	0.04	<RL	<RL	<RL	<RL	Invalid: Flow rate out of specifications		
3	11/30/2022	0.04	<RL	<RL	<RL	<RL	Invalid: Flow rate out of specifications		
4	12/1/2022	0.03	<RL	<RL	<RL	<RL	0.15	<RL	<RL
5	12/6/2022	0.03	<RL	<RL	<RL	<RL	0.14	<RL	<RL
6	12/7/2022	0.03	<RL	<RL	<RL	<RL	0.15	<RL	<RL
7	12/8/2022	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL
8	12/9/2022	0.03	<RL	<RL	<RL	<RL	0.13	<RL	<RL
9	12/14/2022	Invalid: Flow rate out of specifications							
10	12/15/2022	0.03	<RL	<RL	0.001	0.0297	0.15	<RL	<RL
11	12/16/2022	0.03	<RL	<RL	0.0014	0.0406	Invalid: Flow rate out of specifications		
12	12/17/2022	0.03	<RL	<RL	0.0031	0.0863	0.15	<RL	<RL
13	12/20/2022	0.04	<RL	<RL	0.0011	0.0308	0.13	<RL	<RL
14	12/21/2022	0.04	<RL	<RL	0.0012	0.0341	Invalid: Flow rate out of specifications		
15	12/22/2022	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL
16	12/23/2022	0.04	<RL	<RL	<RL	<RL	Invalid: Flow rate out of specifications		

TABLE 9 - THERMAL FIRE STATION RESULTS (CONTINUED)

Log #	Sample Start	Volume (m <sup>3</sup> )	1,3-D Concentration		MITC Concentration		Volume (m <sup>3</sup> )	Chloropicrin Concentration		
			(µg/sample)	(µg/m <sup>3</sup> )	(µg/sample)	(µg/m <sup>3</sup> )		(µg/sample)	(µg/m <sup>3</sup> )	
17	12/27/2022	0.03	<RL	<RL	0.0056	0.1568	Invalid: Flow rate out of specifications			
18	12/28/2022	0.04	<RL	<RL	0.0067	0.1854	Invalid: Flow rate out of specifications			
19	12/29/2022	0.03	<RL	<RL	0.0085	0.2326	0.15	<RL	<RL	
20	12/30/2022	0.03	<RL	<RL	0.0088	0.2564	Invalid: Flow rate out of specifications			
21	1/3/2023	0.03	<RL	<RL	<RL	<RL	0.15	<RL	<RL	
22	1/4/2023	0.04	<RL	<RL	0.0029	0.0817	0.14	<RL	<RL	
23	1/5/2023	0.03	<RL	<RL	<RL	<RL	0.15	<RL	<RL	
24	1/6/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
25	1/9/2023	0.04	<RL	<RL	0.0021	0.0617	0.16	<RL	<RL	
26	1/10/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
27	1/11/2023	0.04	<RL	<RL	<RL	<RL	Invalid: Sample tube broke off during removal			
28	1/12/2023	0.04	<RL	<RL	<RL	<RL	0.15	<RL	<RL	
29	1/17/2023	0.02	<RL	<RL	<RL	<RL	0.16	<RL	<RL	
30	1/18/2023	0.04	<RL	<RL	0.0019	0.0540	0.14	<RL	<RL	
31	1/19/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
32	1/20/2023	0.04	<RL	<RL	<RL	<RL	0.14	0.024	0.1675	
33	1/26/2023	0.04	<RL	<RL	<RL	<RL	0.15	<RL	<RL	
34	1/27/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
35	1/28/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
36	1/29/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
37	1/31/2023	0.04	<RL	<RL	<RL	<RL	0.15	<RL	<RL	
38	2/1/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
39	2/2/2023	0.03	<RL	<RL	<RL	<RL	0.13	<RL	<RL	
40	2/3/2023	0.03	<RL	<RL	<RL	<RL	0.13	<RL	<RL	
41	2/6/2023	Invalid: Flow rate out of specifications						0.15	<RL	<RL
42	2/7/2023	0.04	<RL	<RL	<RL	<RL	0.14	<RL	<RL	
43	2/8/2023	0.04	<RL	<RL	0.0017	0.0450	0.14	<RL	<RL	
44	2/9/2023	0.04	<RL	<RL	<RL	<RL	0.14	0.056	0.3886	
45	2/13/2023	0.04	<RL	<RL	0.0053	0.1454	0.15	<RL	<RL	
46	2/14/2023	Invalid: Flow rate out of specifications						0.15	<RL	<RL
47	2/15/2023	Invalid: Flow rate out of specifications						0.14	<RL	<RL
48	2/16/2023	0.04	<RL	<RL	0.021	0.5682	0.15	<RL	<RL	
49	2/21/2023	Invalid: Flow rate out of specifications						0.15	<RL	<RL
50	2/22/2023	Invalid: Flow rate out of specifications						0.14	<RL	<RL
51*	2/23/2023	0.04	<RL	<RL	0.017	0.4631	0.15	<RL	<RL	
52	2/24/2023	0.04	<RL	<RL	<RL	<RL	0.15	<RL	<RL	

\* Samples highlighted in yellow have been flagged for having a sampling time <23.0-hours

## 6. Quality Control Results

Quality control samples were collected at the Mecca Fire Station site. Field QC samples consisted of 13 collocated samples, 13 field spikes, and 13 field blanks. The QC results are good and comparable to other pesticides studies conducted by CARB MLD.

### Collocated Samples

There was one collocation each week, resulting in 13 collocated samples. Some of the values were not quantifiable due to an invalid collocated or primary sample. Samples were invalidated due to the flow rate being out of specifications. Some values were not quantifiable because the concentration values were below the laboratory reporting limit.

The relative percent difference (RPD) of the collocated samples for MITC ranged from 0.26% to 12.54%, meaning variability between the collocated and primary sample concentration was minimal. The primary and collocated samples for 1,3-D and chloropicrin were all below the reporting limit so the RPD could not be calculated.

The formula for calculating the RPD values is as follows:

$$RPD = \frac{2(\text{Collocated } \mu\text{g}/\text{m}^3 - \text{Sample } \mu\text{g}/\text{m}^3)}{\text{Collocated } \mu\text{g}/\text{m}^3 + \text{Sample } \mu\text{g}/\text{m}^3} \times 100$$

Due to rounding of results, calculated values may not match values presented in the tables.

TABLE 10 - COLLOCATED MITC RELATIVE PERCENT DIFFERENCE

Sample Name	Volume (m <sup>3</sup> )	Primary		Volume (m <sup>3</sup> )	Collocated		Relative Percent Difference
		(µg/sample)	(µg/m <sup>3</sup> )		(µg/sample)	(µg/m <sup>3</sup> )	
MFS-03		Invalid		0.04	0.0014	0.0361	
MFS-05	0.03	<RL	<RL	0.03	<RL	<RL	
MFS-09	0.03	0.054	1.5602	0.03	0.053	1.5562	0.26%
MFS-15	0.03	0.0019	0.0552	0.03	0.0018	0.0538	2.48%
MFS-19	0.04	0.013	0.3636	0.03	0.014	0.4122	12.54%
MFS-23	0.04	0.012	0.3353	Invalid			
MFS-26	0.03	<RL	<RL	0.03	<RL	<RL	
MFS-30	0.03	0.0034	0.0998	0.03	<RL	<RL	
MFS-35	0.04	0.0054	0.1507	0.04	0.0061	0.1706	12.37%
MFS-37	0.04	<RL	<RL	0.04	<RL	<RL	
MFS-42	0.04	<RL	<RL	Invalid			
MFS-47	0.03	<RL	<RL	0.03	<RL	<RL	
MFS-50	0.03	0.0029	0.0874	0.03	0.0029	0.0836	4.48%

TABLE 11 - COLLOCATED 1,3-D RELATIVE PERCENT DIFFERENCE

Sample Name	Volume (m <sup>3</sup> )	Primary		Volume (m <sup>3</sup> )	Collocated		Relative Percent Difference
		(µg/sample)	(µg/m <sup>3</sup> )		(µg/sample)	(µg/m <sup>3</sup> )	
MFS-03		Invalid		0.04	<RL	<RL	
MFS-05	0.03	<RL	<RL	0.03	<RL	<RL	
MFS-09	0.03	<RL	<RL	0.03	<RL	<RL	
MFS-15	0.03	<RL	<RL	0.03	<RL	<RL	
MFS-19	0.04	<RL	<RL	0.03	<RL	<RL	
MFS-23	0.04	<RL	<RL	Invalid			
MFS-26	0.03	<RL	<RL	0.03	<RL	<RL	
MFS-30	0.03	<RL	<RL	0.03	<RL	<RL	
MFS-35	0.04	<RL	<RL	0.04	<RL	<RL	
MFS-37	0.03	<RL	<RL	0.04	<RL	<RL	
MFS-42	0.04	<RL	<RL	Invalid			
MFS-47	0.03	<RL	<RL	0.03	<RL	<RL	
MFS-50	0.03	<RL	<RL	0.03	<RL	<RL	

TABLE 12 - COLLOCATED CHLOROPICRIN RELATIVE PERCENT DIFFERENCE

Sample Name	Volume (m <sup>3</sup> )	Primary		Volume (m <sup>3</sup> )	Collocated		Relative Percent Difference
		(µg/sample)	(µg/m <sup>3</sup> )		(µg/sample)	(µg/m <sup>3</sup> )	
MFS-03		Invalid		Invalid			
MFS-05	0.14	<RL	<RL	Invalid			
MFS-09	0.14	<RL	<RL	0.13	<RL	<RL	
MFS-15	0.14	<RL	<RL	0.14	<RL	<RL	
MFS-19	0.14	<RL	<RL	0.14	<RL	<RL	
MFS-23	0.14	<RL	<RL	0.14	<RL	<RL	
MFS-26	0.14	<RL	<RL	0.14	<RL	<RL	
MFS-30	0.14	<RL	<RL	0.14	<RL	<RL	
MFS-35	0.14	<RL	<RL	0.14	<RL	<RL	
MFS-37	0.14	<RL	<RL	0.14	<RL	<RL	
MFS-42	0.14	<RL	<RL	0.14	<RL	<RL	
MFS-47	0.13	<RL	<RL	0.14	<RL	<RL	
MFS-50	0.14	<RL	<RL	0.15	<RL	<RL	

**Field Spikes**

Field spike percent recovery values for each pesticide are shown in the following tables. When viewing the tables, please reference the following equation:

$$Spike\ recovery\ percent = \frac{(Spike\ result - Primary\ Result)}{Spike\ Amount} \times 100$$

Field spike recovery was good overall which indicates that sampling media interferences were not present. Quantifiable field spike recovery ranged from 64% to 153%. The spike recovery criteria is 70-130%; only three of the results fell outside the criteria. Some of the values were not quantifiable due to an invalid field spike or primary sample. Samples were invalidated due to the flow rate being out of specifications.

TABLE 13 - FIELD SPIKE RECOVERY

Sample Name	Analyte	Spike Amount (ng/sample)	Spike Result (ng/sample)	Primary Sample Result (ng/sample)	Percent Recovery
MFS-02	MITC	Invalid		2.3	
	cis-1,3-D	Invalid		0	
	trans-1,3-D	Invalid		0	
	Chloropicrin	Invalid			
MFS-06	MITC	10	8.6	0	86%
	cis-1,3-D	96.79	86	0	89%
	trans-1,3-D	100.34	93	0	93%
	Chloropicrin	120	95	0	79%
MFS-11	MITC	10	17	7.3	97%
	cis-1,3-D	96.79	89	0	92%
	trans-1,3-D	100.34	93	0	93%
	Chloropicrin	120	100	0	83%
MFS-14	MITC	10	11	3.1	79%
	cis-1,3-D	96.79	80	0	83%
	trans-1,3-D	100.34	81	0	81%
	Chloropicrin	120	96	0	80%
MFS-17	MITC	10	26	16	100%
	cis-1,3-D	96.79	82	0	85%
	trans-1,3-D	100.34	86	0	86%
	Chloropicrin	120	98	0	82%
MFS-21	MITC	10	9.9	1.3	86%
	cis-1,3-D	96.79	81	0	84%
	trans-1,3-D	100.34	86	0	86
	Chloropicrin	120	110	Invalid	
MFS-25	MITC	10	25	9.7	153%
	cis-1,3-D	96.79	78	0	81%
	trans-1,3-D	100.34	82	0	82%
	Chloropicrin	120	100	0	83%
MFS-29	MITC	10	9.2	0	92%
	cis-1,3-D	96.79	82	0	85%
	trans-1,3-D	100.34	85	0	85%
	Chloropicrin	120	83	0	69%
MFS-33	MITC	10	8.9	0	89%
	cis-1,3-D	96.79	84	0	87%
	trans-1,3-D	100.34	87	0	87%
	Chloropicrin	120	100	0	83%
MFS-38	MITC	10	9.1	0	91%
	cis-1,3-D	96.79	89	0	92%
	trans-1,3-D	100.34	91	0	91%
	Chloropicrin	120	77	0	64%
MFS-41	MITC	10	9.4	0	94%
	cis-1,3-D	96.79	83	0	86%
	trans-1,3-D	100.34	88	0	88%
	Chloropicrin	120	87	0	73%
MFS-45	MITC	10	16	7	90%
	cis-1,3-D	96.79	82	0	85%
	trans-1,3-D	100.34	87	0	87%
	Chloropicrin	120	90	0	75%
MFS-49	MITC	Invalid			
	cis-1,3-D	Invalid			
	trans-1,3-D	Invalid			
	Chloropicrin	120	90	0	75%

## Field Blanks

Concentrations of all three pesticides were below the reporting limit (<RL) in all 13 field blanks, indicating contamination did not occur from ambient conditions, sampling handling, or other sources. The results are shown in the following table.

**TABLE 14 - FIELD BLANK QUALITY CONTROL RESULTS**

Sample Name	Analyte	Field Blank ( $\mu\text{g}/\text{m}^3$ )	Corresponding Primary Sample ( $\mu\text{g}/\text{m}^3$ )
MFS-01	MITC	<RL	<RL
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL
MFS-07	MITC	<RL	<RL
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL
MFS-10	MITC	<RL	0.21
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL
MFS-16	MITC	<RL	0.03
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL
MFS-18	MITC	<RL	0.38
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL
MFS-22	MITC	<RL	0.13
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL
MFS-27	MITC	<RL	<RL
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL
MFS-31	MITC	<RL	0.29
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL
MFS-34	MITC	<RL	0.10
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL
MFS-39	MITC	<RL	<RL
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL
MFS-43	MITC	<RL	0.75
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL
MFS-46	MITC	<RL	0.03
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL
MFS-51	MITC	<RL	0.22
	1,3-D	<RL	<RL
	Chloropicrin	<RL	<RL



# Attachment A

## **Sampler Photos**

## Mecca Site Photos



Mecca Fire Station – Facing North



Mecca Fire Station – Facing South



Mecca Fire Station – Facing East



Mecca Fire Station – Facing West

## Torres Martinez Air Monitoring Site Photos



Torres Martinez site – Facing North



Torres Martinez site – Facing South



Torres Martinez site – Facing East



Torres Martinez site – Facing West

## Thermal Fire Station Site Photos



Thermal Fire Station Site – Facing North



Thermal Fire Station Site – Facing South



Thermal Fire Station Site – Facing East



Thermal Fire Station Site – Facing West

# Attachment B

## **Mass Flow Meter Certification Report**



# Certificate of Calibration

7641 N. Business Park Dr., Tucson, AZ 85743 U.S.A., 1.888.290.6060



## Device Under Test

<b>Manufacturer:</b>	Alicat Scientific, Inc.	<b>Software Version:</b>	7v22.0-R22
<b>Customer:</b>	State of California Air Resources Board	<b>Pressure Range:</b>	60.00 PSIA
<b>Service Order:</b>	R57281	<b>Pressure Accuracy:</b>	±0.5% of full scale
<b>Serial Number:</b>	194557	<b>Temperature Accuracy:</b>	±1.5°C
<b>Model Number:</b>	MWB-500SCCM-D	<b>Standard Temp. &amp; Pressure:</b>	25.00°C, 14.69595 PSIA
<b>Adder Codes:</b>	5M, GAS: Air, RANGE (500.00 SCCM), HC	<b>Normal Temp. &amp; Pressure:</b>	0.00°C, 14.69595 PSIA
<b>Range:</b>	500.00 SCCM	<b>Calibration Procedure:</b>	DOC-AUTOCAL-GASFLOW/Rev. 95
<b>Process Gas:</b>	Air (Selectable)	<b>Calibration Date:</b>	2022-11-01
<b>Calibration Gas:</b>	Air	<b>Certificate Number:</b>	434786
<b>Temperature:</b>	27.65°C	<b>Cal. due 1 yr. after receipt:</b>	
<b>Humidity:</b>	36%		

## Equipment Used

All test equipment used for calibration is NIST traceable.

Type	Tool Name	Manufacturer/Model	Uncertainty	Due Date
Flow	TOOL-MOLBOX2	DH Instruments - Molbox 1 A...	NA \ Determined by Molbloc	2025-01-11
Flow	TOOL-MOLBLOC3	DH Instruments - 1E3-VCR-V-Q	± 0.2%	2023-02-04
Voltage	TOOL-AIOC27	Alicat - AIOC	± 2.5mV and 4µA	2022-12-21

## Calibration

**Accuracy:** ±0.4% of reading + ±0.2% of full scale.

**Full Scale Range:** 500.00 SCCM

**Calibration Pressure:** 13.53 PSIA

### Output 1 Configuration

8-pin mini-DIN - Pin #6

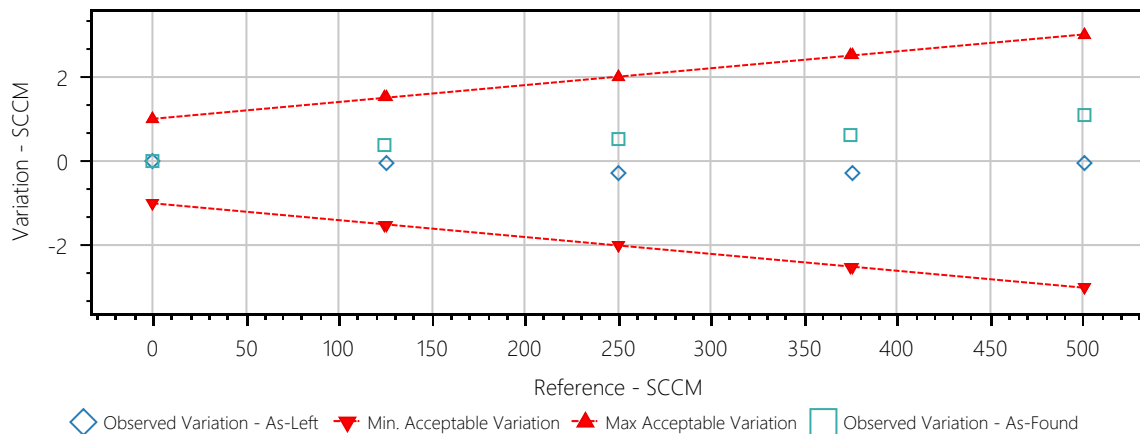
### Output 2 Configuration

8-pin mini-DIN - Pin #2

As-Found		
Indicated	Actual	In Tolerance
0.00	0.00	Yes
125.45	125.07	Yes
250.40	249.89	Yes
375.99	375.38	Yes
501.81	500.72	Yes

As-Left				
Indicated	Actual	In Tolerance	Output 1	Output 2
0.00	0.00	Yes	0.000 Vdc	5.120 Vdc
125.16	125.22	Yes	1.252 Vdc	5.120 Vdc
250.13	250.40	Yes	2.501 Vdc	5.120 Vdc
375.39	375.66	Yes	3.754 Vdc	5.120 Vdc
500.67	500.73	Yes	5.007 Vdc	5.120 Vdc

Error Chart



# Certificate of Calibration

7641 N. Business Park Dr., Tucson, AZ 85743 U.S.A., 1.888.290.6060



## Device Under Test

<b>Manufacturer:</b>	Alicat Scientific, Inc.	<b>Software Version:</b>	7v22.0-R22
<b>Customer:</b>	State of California Air Resources Board	<b>Pressure Range:</b>	60.00 PSIA
<b>Service Order:</b>	R57281	<b>Pressure Accuracy:</b>	±0.5% of full scale
<b>Serial Number:</b>	194559	<b>Temperature Accuracy:</b>	±1.5°C
<b>Model Number:</b>	MWB-500SCCM-D	<b>Standard Temp. &amp; Pressure:</b>	25.00°C, 14.69595 PSIA
<b>Adder Codes:</b>	5M, GAS: Air, RANGE (500.00 SCCM), HC	<b>Normal Temp. &amp; Pressure:</b>	0.00°C, 14.69595 PSIA
<b>Range:</b>	500.0 SCCM	<b>Calibration Procedure:</b>	DOC-AUTOCAL-GASFLOW/Rev. 95
<b>Process Gas:</b>	Air (Selectable)	<b>Calibration Date:</b>	2022-11-01
<b>Calibration Gas:</b>	Air	<b>Certificate Number:</b>	433465
<b>Temperature:</b>	26.24°C	<b>Cal. due 1 yr. after receipt:</b>	
<b>Humidity:</b>	36%		

## Equipment Used

All test equipment used for calibration is NIST traceable.

Type	Tool Name	Manufacturer/Model	Uncertainty	Due Date
Flow	TOOL-MOLBOX2	DH Instruments - Molbox 1 A...	NA \ Determined by Molbloc	2025-01-11
Flow	TOOL-MOLBLOC3	DH Instruments - 1E3-VCR-V-Q	± 0.2%	2023-02-04
Voltage	TOOL-AIOC27	Alicat - AIOC	± 2.5mV and 4µA	2022-12-21

## Calibration

**Accuracy:** ±0.4% of reading + ±0.2% of full scale.

**Full Scale Range:** 500.0 SCCM

**Calibration Pressure:** 13.54 PSIA

### Output 1 Configuration

8-pin mini-DIN - Pin #6

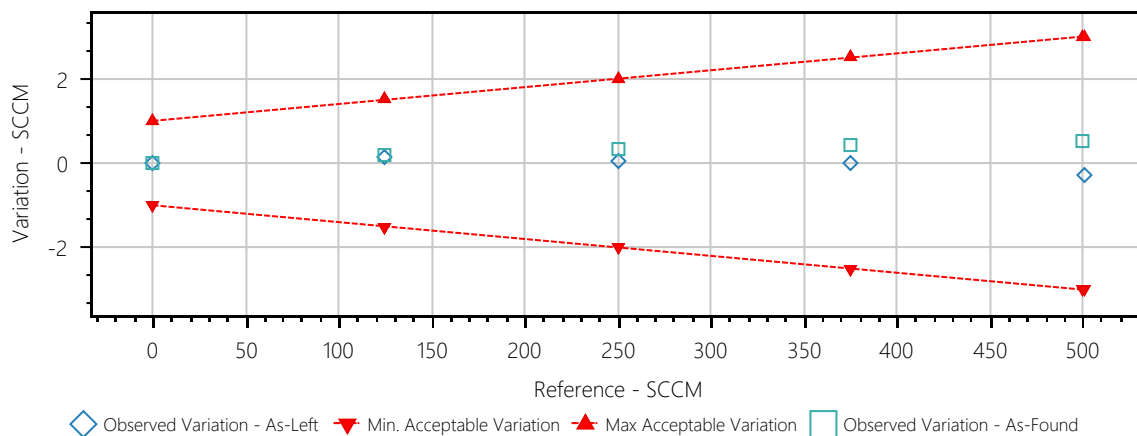
### Output 2 Configuration

8-pin mini-DIN - Pin #2

As-Found		
Indicated	Actual	In Tolerance
0.00	0.00	Yes
125.22	125.04	Yes
250.44	250.11	Yes
375.63	375.22	Yes
500.92	500.39	Yes

As-Left				
Indicated	Actual	In Tolerance	Output 1	Output 2
0.0	0.0	Yes	0.000 Vdc	5.120 Vdc
125.1	125.0	Yes	1.251 Vdc	5.120 Vdc
250.0	250.0	Yes	2.500 Vdc	5.120 Vdc
375.1	375.1	Yes	3.751 Vdc	5.120 Vdc
500.6	500.9	Yes	5.006 Vdc	5.120 Vdc

Error Chart



# Certificate of Calibration

7641 N. Business Park Dr., Tucson, AZ 85743 U.S.A., 1.888.290.6060



## Device Under Test

<b>Manufacturer:</b>	Alicat Scientific, Inc.	<b>Humidity:</b>	36%
<b>Customer:</b>	State of California Air Resources Board	<b>Software Version:</b>	7v02.0-R22
<b>Service Order:</b>	R53349	<b>Pressure Range:</b>	60.00 PSIA
<b>Serial Number:</b>	153013	<b>Pressure Accuracy:</b>	±0.5% of full scale
<b>Model Number:</b>	MWB-200SCCM-D	<b>Temperature Accuracy:</b>	±1.5°C
<b>Adder Codes:</b>	5M, GAS: Air, HC	<b>Standard Temp. &amp; Pressure:</b>	25.00°C, 14.69595 PSIA
<b>Range:</b>	200.0 SCCM	<b>Normal Temp. &amp; Pressure:</b>	0.00°C, 14.69595 PSIA
<b>Process Gas:</b>	Air (Selectable)	<b>Calibration Procedure:</b>	DOC-AUTOCAL-GASFLOW/Rev. 95
<b>Calibration Gas:</b>	Air	<b>Calibration Date:</b>	2022-04-01
<b>Temperature:</b>	27.69°C	<b>Certificate Number:</b>	394245

## Equipment Used

All test equipment used for calibration is NIST traceable.

Type	Tool Name	Manufacturer/Model	Uncertainty	Due Date
Flow	TOOL-MOLBOX3	DH Instruments - Molbox1-A	NA \ Determined by Molbloc	2024-02-03
Flow	TOOL-MOLBLOC3	DH Instruments - 1E3-VCR-V-Q	± 0.2%	2023-02-04
Voltage	TOOL-AIOC21	Alicat - AIOC	± 2.5mV and 4µA	2023-02-17

## Calibration

**Accuracy:** ±0.4% of reading + ±0.2% of full scale.  
**Full Scale Range:** 200.0 SCCM  
**Calibration Pressure:** 13.54 PSIA

### Output 1 Configuration

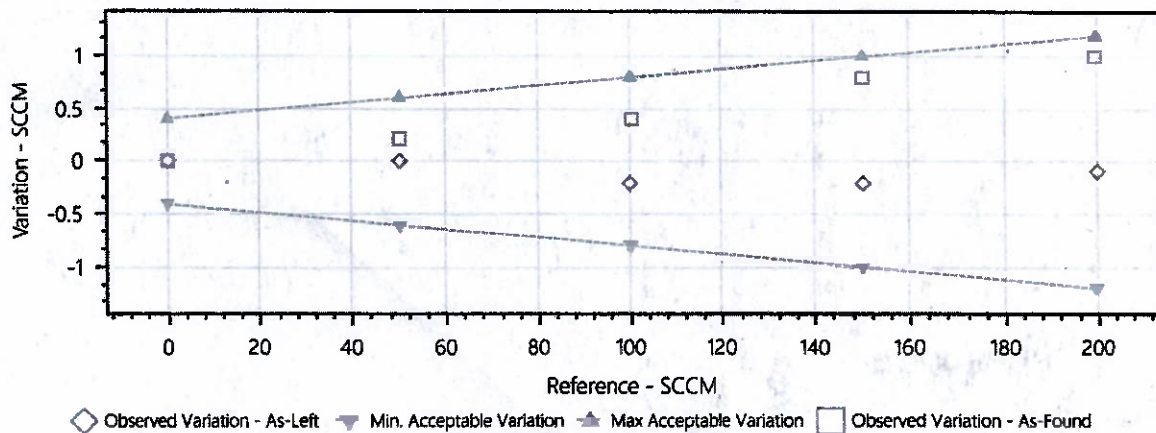
8-pin mini-DIN - Pin #6

### Output 2 Configuration

8-pin mini-DIN - Pin #2

As-Found			As-Left				
Indicated	Actual	In Tolerance	Indicated	Actual	In Tolerance	Output 1	Output 2
0.0	0.0	Yes	0.0	0.0	Yes	0.000 Vdc	5.120 Vdc
50.4	50.2	Yes	50.2	50.2	Yes	1.255 Vdc	5.120 Vdc
100.8	100.4	Yes	100.0	100.2	Yes	2.500 Vdc	5.120 Vdc
151.2	150.4	Yes	150.1	150.3	Yes	3.753 Vdc	5.120 Vdc
200.9	199.9	Yes	200.2	200.3	Yes	5.005 Vdc	5.120 Vdc

Error Chart



Calibrated By: Benny Lopez

2022-04-01

QC Signature:

*Juan Chavarria*

# Certificate of Calibration

7641 N. Business Park Dr., Tucson, AZ 85743 U.S.A., 1.888.290.6060



## Device Under Test

<b>Manufacturer:</b>	Alicat Scientific, Inc.	<b>Humidity:</b>	39%
<b>Customer:</b>	State of California Air Resources Board	<b>Software Version:</b>	8v31.0-R23/RB
<b>Service Order:</b>	R54971	<b>Pressure Range:</b>	60.000 PSIA
<b>Serial Number:</b>	271602	<b>Pressure Accuracy:</b>	±0.75% of reading
<b>Model Number:</b>	MWB-100SCCM-D	<b>Temperature Accuracy:</b>	±0.75°C
<b>Adder Codes:</b>	GAS: Air, P2: ATM	<b>Standard Temp. &amp; Pressure:</b>	25.00°C, 14.69595 PSIA
<b>Range:</b>	100.00 SCCM	<b>Normal Temp. &amp; Pressure:</b>	0.00°C, 14.69595 PSIA
<b>Process Gas:</b>	Air (Selectable)	<b>Calibration Procedure:</b>	DOC-AUTOCAL-GASFLOW/Rev. 95
<b>Calibration Gas:</b>	Air	<b>Calibration Date:</b>	2022-06-06
<b>Temperature:</b>	28.44°C	<b>Certificate Number:</b>	404870

## Equipment Used

All test equipment used for calibration is NIST traceable.

Type	Tool Name	Manufacturer/Model	Uncertainty	Due Date
Flow	TOOL-FLOW80	Alicat - MCM-100SCCM-D	±0.32% reading or ±0.02% full scale, whichever is greater.	2022-06-26
Voltage	TOOL-AIOC15	Alicat - AIOC	± 2.5mV and 4µA	2022-11-14

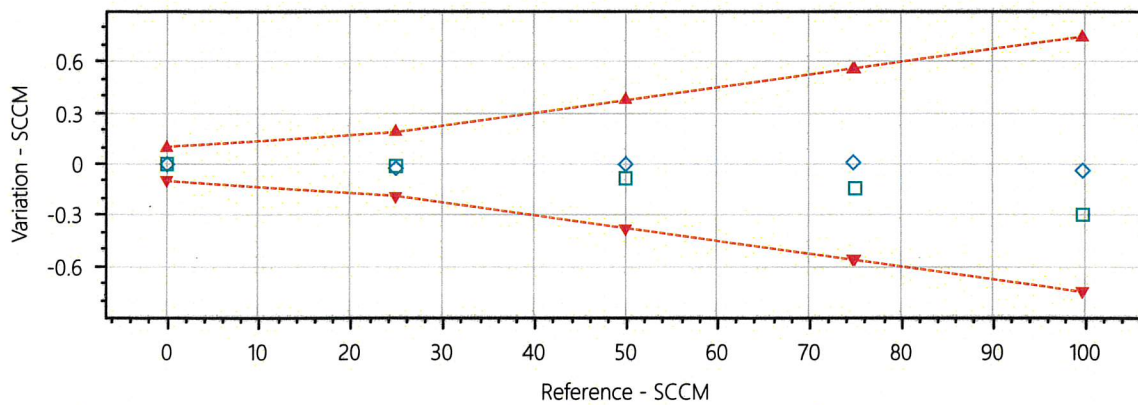
## Calibration

**Accuracy:** ±0.75% of reading or ±0.1% of full scale, whichever is greater  
**Full Scale Range:** 100.00 SCCM  
**Calibration Pressure:** 13.50 PSIA

As-Found		
Indicated	Actual	In Tolerance
0.00	0.00	Yes
24.93	24.94	Yes
49.85	49.93	Yes
74.80	74.94	Yes
99.67	99.97	Yes

As-Left		
Indicated	Actual	In Tolerance
0.00	0.00	Yes
24.93	24.95	Yes
49.93	49.93	Yes
74.94	74.93	Yes
99.93	99.96	Yes

Error Chart



◆ Observed Variation - As-Left 
 ▼ Min. Acceptable Variation 
 ▲ Max Acceptable Variation 
 □ Observed Variation - As-Found

Calibrated By: Jonathan Petersen

2022-06-06

QC Signature:



# Attachment C

## **Monitoring Field Log Sheets**

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: VACA

Week #: 1 Day: 1

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) -	TFS (TD) -	TM (XAD) -	TM (TD) -	MFS (XAD) -	MFS (TD) -	MFS (XAD) - (FB/FS/CO)	MFS (TD) - (FB/FS/CO)
Barcode		522118030	400451	522118025	426667	522118020	426662	522122003	407417
Tube ID									
Sample Start (Date, PST)		11/28/22	1246	11/28/22	1207	11/28/22	1131	11/28/22	1131
Sample Stop (Date, PST)		11/29/22	1225	11/29/22	1143	11/29/22	1047	11/29/22	1046
ETM (Start / Stop (Hours))		19.0	1 42.7	21.4	1 45.0	41.1	1 64.4	~	1 -
Flow (Start / Stop (SCCM))		99.4	1 105	25.2	1 24.7	100.5	1 106.8	24.9	1 23.8
Temperature	At Start / Stop (°C)	31.1	1 31.1	31.7	1 31.5	22.8	1 30.0		
	24-Hour Min / Max	10.4	1 33.3	10.8	1 34.0	10.7	1 32.0		
Relative Humidity	At Start / Stop (%)	16	1 21	22	1 21	26	1 26		
	24-Hour Min / Max	15	1 23	17	1 23	21	1 28		
Precipitation (At Start / Stop)**		(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H	
Wind (At Start / Stop)***		(S) L M H / (S) L M H		(S) L M H / (S) L M H		(S) L M H / (S) L M H		(S) L M H / (S) L M H	

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	
------------------------	--

Flow Meter SN / Barcode(s)	271602
----------------------------	--------

Shipped / Delivered to Lab (Date, PST, Initials)	12/5/22 1130 <i>[Signature]</i>
Shipped / Delivered <5° Celsius?	(Y) N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: UACA

Week #: 1 Day: 2

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) -	TFS (TD) -	TM (XAD) -	TM (TD) -	MFS (XAD) -	MFS (TD) -	MFS (XAD) - (FB/FS/CO)	MFS (TD) - (FB/FS/CO)
		02	02	02	02	02	02		
Barcode		5221118031	407418	5221118026	426657	5221118021	407459	5221122002	407480
Tube ID									
Sample Start (Date, PST)		11/29/22	1232	11/29/22	1152	11/29/22	1105	11/29/22	1100
Sample Stop (Date, PST)		11/30/22	1212	11/30/22	1135	11/30/22	1050	11/30/22	1051
ETM (Start / Stop (Hours))		42.7	1 66.3	45	1 68.7	69.4	1 88.2	212.4	1 236.4
Flow (Start / Stop (SCCM))		99.5	183 25.3	101.3	29.7	100.4	148.5 25.0	172.5	25.2
Temperature	At Start / Stop (°C)	31.1	1 36	30.0	1 32.8	28.9	1 28		
	24-Hour Min / Max	10	1 38.2	9.44	1 37.4	11.0	1 31.7		
Relative Humidity	At Start / Stop (%)	21	1 16	24	1 16	25	1 21		
	24-Hour Min / Max	8	1 25	10	1 25	6	1 26		
Precipitation (At Start / Stop)**		(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***		(S) L M H / (S) L M H		(S) L M H / (S) L M H		(S) L M H / (S) L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	
Flow Meter SN / Barcode(s)	271602

Shipped / Delivered to Lab (Date, PST, Initials)	12/5/22 1130 <i>[Signature]</i>
Shipped / Delivered <5° Celsius?	(Y) N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: VACA

Week #: 1 Day: 3

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - <u>03</u>	TFS (TD) - <u>03</u>	TM (XAD) - <u>03</u>	TM (TD) - <u>03</u>	MFS (XAD) - <u>03</u>	MFS (TD) - <u>03</u>	MFS (XAD) - <u>(FB / FS / CO)</u>	MFS (TD) - <u>(FB / FS / CO)</u>
Barcode		<u>5221118032</u>	<u>426656</u>	<u>5221118027</u>	<u>426660</u>	<u>5221118022</u>	<u>407412</u>	<u>5221122004</u>	<u>426682</u>
Tube ID									
Sample Start (Date, PST)		<u>11/30/22</u>	<u>1220</u>	<u>11/30/22</u>	<u>1142</u>	<u>11/30/22</u>	<u>1110</u>	<u>11/30/22</u>	<u>1109</u>
Sample Stop (Date, PST)		<u>12/1/22</u>	<u>1203</u>	<u>12/1/22</u>	<u>1126</u>	<u>12/1/22</u>	<u>1038</u>	<u>12/1/22</u>	<u>1038</u>
ETM (Start / Stop (Hours))		<u>106.3</u>	<u>1 90</u>	<u>68.7</u>	<u>1 92.4</u>	<u>88.2</u>	<u>1 111.7</u>	<u>236.4</u>	<u>1 260</u>
Flow (Start / Stop (SCCM))		<u>99.3</u>	<u>1 73.8</u>	<u>25.2</u>	<u>1 23.1</u>	<u>108.9</u>	<u>1 102.8</u>	<u>25.0</u>	<u>1 25.6</u>
Temperature	At Start / Stop (°C)	<u>35</u>	<u>1 29</u>	<u>32</u>	<u>1 30</u>	<u>28</u>	<u>1 27.8</u>		
	24-Hour Min / Max	<u>2</u>	<u>1 36</u>	<u>3.89</u>	<u>1 32.7</u>	<u>3.95</u>	<u>1 32.8</u>		
Relative Humidity	At Start / Stop (%)	<u>16</u>	<u>1 23</u>	<u>20</u>	<u>1 26</u>	<u>25</u>	<u>1 25</u>		
	24-Hour Min / Max	<u>10</u>	<u>1 82</u>	<u>16</u>	<u>1 85</u>	<u>16</u>	<u>1 83</u>		
Precipitation (At Start / Stop)**		<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>	
Wind (At Start / Stop)***		<u>(S) L M H / (S) L M H</u>		<u>(S) L M H / (S) L M H</u>		<u>(S) L M H / (S) L M H</u>		<u>(S) L M H / (S) L M H</u>	

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments			
Flow Meter SN / Barcode(s)	<u>271602</u>		

Shipped / Delivered to Lab (Date, PST, Initials)	<u>12/5/22 1130</u>	<u>[Signature]</u>
Shipped / Delivered <5° Celsius?	<u>(Y) N</u>	

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	<u>Y / N</u>



California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: VACA

Week #: 1 Day: 4

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) -	TFS (TD) -	TM (XAD) -	TM (TD) -	MFS (XAD) -	MFS (TD) -	MFS (XAD) - (FB / FS / CO)	MFS (TD) - (FB / FS / CO)
Barcode		522118033	407460	522118028	426670	522118023	407457		
Tube ID									
Sample Start (Date, PST)		12/1/22	1204	12/1/22	1130 <sup>04</sup> +201	12/1/22	1048		
Sample Stop (Date, PST)		12/2/22	1225	12/2/22	1201	12/2/22	11:28		
ETM (Start / Stop (Hours))		90	1 114.3	92.4	1 116.9	111.7	1 136.3		
Flow (Start / Stop (SCCM))		101.5	107.3 24.8	101.3	1 93.0 25.5	100.5	107.6 25.2	1	1
Temperature	At Start / Stop (°C)	29	1 21.06	30	1 21.06	27	21	1	
	24-Hour Min / Max	—	1 —	—	1 —	—	—	1 —	—
Relative Humidity	At Start / Stop (%)	23	1 22	26	1 24	26	1	20	
	24-Hour Min / Max	—	1 —	—	1 —	—	—	1 —	—
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	Did not record MIN/MAX Temp/RH on this day		
Flow Meter SN / Barcode(s)	271602		

Shipped / Delivered to Lab (Date, PST, Initials)	12/5/22 1130 <i>Pr</i>
Shipped / Delivered <5° Celsius?	Y/N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: K. AGUILERA

Week #: 2 Day: 1

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 05	TFS (TD) - 05	TM (XAD) - 05	TM (TD) - 05	MFS (XAD) - 05	MFS (TD) - 05	MFS (XAD) - (FB/FS) (CO) 05	MFS (TD) - (FB/FS) (CO) 05
Barcode	S221202021		S221202025		S221202016		S221202039	
Tube ID	426671		400454		407472		407411	
Sample Start (Date, PST)	12/06/22 12:06		12/06/22 11:16		9:49 12/06/22	10:00 12/06/22	10:39 12/06/22	10:27 12/06/22
Sample Stop (Date, PST)	12/07/22 12:04		12/07/22 10:53		9:11 12/07/22	9:17 12/07/22	9:58 12/07/22	9:52 12/07/22
ETM (Start / Stop (Hours))	114.4 / 138.3		117 / 140.6		136.4 / 159.8		167.7 / 191	
Flow (Start / Stop (SCCM))	101.8 / 99.8		99.7 / 109		24.9 / 25.2		100.4 / 140.1	
Temperature Alicat*	At Start / Stop (°C)*	29.66 / 27.36		29.68 / 27.16		23 / 22.03		
	24-Hour Min / Max	- / -		8 / 32		7 / 28		
Relative Humidity	At Start / Stop (%)	16 / 16		28 / 28		36 / 33		
	24-Hour Min / Max	- / -		24 / 72		21 / 68		
Precipitation (At Start / Stop)**	(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***	S (L) M H / S (L) M H		(S) L M H / (S) L M H		(S) L M H / S L (M) H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	- Arrived to site after 24-Hr Min/Max had cleared on Acurite (12/7)		- Alicat slightly warm as had been left on overnight.	- Other Alicat used for TD flow reading. S/N: 194557 cert: 11/01/22
Flow Meter SN / Barcode(s)	153013			

Shipped / (Delivered) to Lab (Date, PST, Initials)	12/12/22 11:06 (K)
Shipped / Delivered <5° Celsius?	(Y) N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: K. AGUILERA

Week #: 2 Day: 2

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 06	TFS (TD) - 06	TM (XAD) - 06	TM (TD) - 06	MFS (XAD) - 06	MFS (TD) - 06	MFS (XAD) - (FB) (FS) (CO) 06	MFS (TD) - (FB) (FS) (CO) 06
Barcode	S221202022		S221202026		S221202017		S221202041	
Tube ID	426668		426659		407451		407414	
Sample Start (Date, PST)	12/07/22 12:22		12/07/22 11:31		9:40 12/07/22	9:46 12/07/22	10:14 12/07/22	10:22 12/07/22
Sample Stop (Date, PST)	12/08/22 11:45		12/08/22 10:45		8:44 12/08/22	8:48 12/08/22	9:26 12/08/22	9:29 12/08/22
ETM (Start / Stop (Hours))	138.4 / 161.8		140.7 / 163.9		159.8 / 182.9	191 / 214.1	1692.3 / 1715.5	283.6 / 306.7
Flow (Start / Stop <sup>CCM</sup> <del>(CCM)</del> )	100.7 / 113.2 25.1 / 23.8		99.9 / 106.6 24.8 / 24.7		98.9 / 100.2	24.6 / 24	99.4 / 100.8	24.7 / 26.4
Temperature Alicat*	At Start / Stop (°C)* 27.97 / 25.6		26.83 / 25.52		21.4 /		20.2	
	24-Hour Min / Max 3 / 49		3 / 33		6 /		29	
Relative Humidity	At Start / Stop (%) 16 / 16		27 / 29		32 /		31	
	24-Hour Min / Max 16 / 68		16 / 81		16 /		61	
Precipitation (At Start / Stop)**	(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***	S (L) M H / (S) L M H		(S) L M H / (S) L M H		S L (M) H / S (L) M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	- cover of white box Accvite is in left off too long which may explain high temp max.	- strong onion scent on 12/7/22.		
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Flow Meter SN / Barcode(s)	153013
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Shipped / <del>Delivered</del> to Lab (Date, PST, Initials)	12/12/22 11:06 <i>flu</i>
Shipped / Delivered <5° Celsius?	(Y) N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: K. AGUILERA

Week #: 2 Day: 3

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40				
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 07	TFS (TD) - 07	TM (XAD) - 07	TM (TD) - 07	MFS (XAD) - 07	MFS (TD) - 07	MFS (XAD) - (FB)/FS/CO 07	MFS (TD) - (FB)/FS/CO 07	
Barcode	S221202023		S221202027		S221202018		S221202040		
Tube ID	426069		426652		407420		426678		
Sample Start (Date, PST)	12/08/22	12:12	12/08/22	11:14	12/08/22	9:20 12/08/22	9:17 12/08/22	9:33 12/08/22	9:34 12/08/22
Sample Stop (Date, PST)	12/09/22	11:22	12/09/22	10:21	12/09/22	9:01 12/09/22	9:04 12/09/22	9:07 12/09/22	9:08 12/09/22
ETM (Start / Stop (Hours))	161.8 / 185		164 / 187.1		182.4/206.6		214.2/238		- / -
Flow (Start / Stop (CCM/SCCM))	100.6/103.2	25.1/24.2	100.1/124.6	25.3/25.2	97.4/99.5	24.6/25	- / -	- / -	
Temperature Alicat*	At Start / Stop (°C) *		28.81 / 26.27		26.43 / 25.72		21 / 17.8		
	24-Hour Min / Max		1 / 37		2 / 30		2 / 30		
Relative Humidity	At Start / Stop (%)		16 / 16		28 / 31		28 / 43		
	24-Hour Min / Max		16 / 66		16 / 76		16 / 67		
Precipitation (At Start / Stop)**	(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H				
Wind (At Start / Stop)***	(S) L M H / (S) L M H		(S) L M H / (S) L M H		(S) L M H / (S) L M H				

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments				
Flow Meter SN / Barcode(s)	153013			

Shipped / <del>Delivered</del> to Lab (Date, PST, Initials)	12/12/22 11:06 (K)
Shipped / Delivered <5° Celsius?	(Y) / N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: K. AGUILERA

Week #: 2 Day: 4

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 08	TFS (TD) - 08	TM (XAD) - 08	TM (TD) - 08	MFS (XAD) - 08	MFS (TD) - 08	MFS (XAD) - (FB/FS/CO)	MFS (TD) - (FB/FS/CO)
Barcode	S221202024		S221202028		S221202019			
Tube ID	407456		407452		407458			
Sample Start (Date, PST)	12/09/22 11:40		12/09/22 10:45		9:15 12/09/22	9:19 12/09/22		
Sample Stop (Date, PST)	12/10/22 10:54		12/10/22 9:50		8:35 12/10/22	8:37 12/10/22		
ETM (Start / Stop (Hours))	185 / 208.3		187.2 / 210.3		206.7 / 230	238 / 261.3		
Flow (Start / Stop (ccm/sec))	100.3 / 86.2	25.2 / 23.7	100.7 / 102.7	25.4 / 23.8	97.7 / 101.3	24.2 / 24.7		
Temperature	At Start / Stop (°C)*		26.1 / 21.26		26.32 / 19.68		18.6 / 17.2	
	Alicat* 24-Hour Min / Max		0 / 37		1 / 31		1 / 28	
Relative Humidity	At Start / Stop (%)		16 / 23		28 / 35		36 / 48	
	24-Hour Min / Max		16 / 74		16 / 75		16 / 76	
Precipitation (At Start / Stop)**	(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***	(S) L M H / (S) L M H		(S) L M H / (S) L M H		(S) L M H / (S) L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments			- White box in which Acurite is in had fallen cover upon arrival to site 12/10/22
Flow Meter SN / Barcode(s)	153013		

Shipped / Delivered to Lab (Date, PST, Initials)	12/12/22 11:06 <i>KA</i>
Shipped / Delivered <5° Celsius?	(Y) N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet For Ambient Conditions (Acurite Monitor)

Eastern Coachella Valley Pesticide Monitoring

Week #: 2

			Thermal Fire Station	Torres Martinez	Mecca Fire Station	Unit #	
			Unit # <u>3</u>	Unit # <u>2</u>	Unit # <u>4</u>	Unit #	
Day 1	Date: <u>12/6/22</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>39 / 33</u>	<u>29 / 28</u>	<u>19 / 20</u>	/
			24-Hour Min / Max	<u>- / -</u>	<u>8 / 32</u>	<u>7 / 28</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>16 / 16</u>	<u>28 / 28</u>	<u>36 / 33</u>	/
			24-Hour Min / Max	<u>- / -</u>	<u>24 / 72</u>	<u>21 / 68</u>	/
Day 2	Date: <u>12/7/22</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>46 / 37</u>	<u>27 / 28</u>	<u>20 / 22</u>	/
			24-Hour Min / Max	<u>3 / 49</u>	<u>3 / 33</u>	<u>6 / 29</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>16 / 16</u>	<u>27 / 29</u>	<u>32 / 31</u>	/
			24-Hour Min / Max	<u>16 / 68</u>	<u>16 / 81</u>	<u>16 / 61</u>	/
Day 3	Date: <u>12/8/22</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>36 / 34</u>	<u>26 / 25</u>	<u>20 / 17</u>	/
			24-Hour Min / Max	<u>1 / 37</u>	<u>2 / 30</u>	<u>2 / 30</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>16 / 16</u>	<u>28 / 31</u>	<u>28 / 43</u>	/
			24-Hour Min / Max	<u>16 / 66</u>	<u>16 / 76</u>	<u>16 / 67</u>	/
Day 4	Date: <u>12/9/22</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>35 / 31</u>	<u>26 / 22</u>	<u>21 / 13</u>	/
			24-Hour Min / Max	<u>0 / 37</u>	<u>1 / 31</u>	<u>1 / 28</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>16 / 23</u>	<u>28 / 35</u>	<u>36 / 48</u>	/
			24-Hour Min / Max	<u>16 / 74</u>	<u>16 / 75</u>	<u>16 / 76</u>	/

- on <sup>20</sup> For Day 1, arrived after Acurite reset so couldn't record max/mins.

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: Juan Ramon De La Rama

Week #: 03 Day: 01

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - <u>09</u>	TFS (TD) - <u>09</u>	TM (XAD) - <u>09</u>	TM (TD) - <u>09</u>	MFS (XAD) - <u>09</u>	MFS (TD) - <u>09</u>	MFS (XAD) - <u>FS/CO</u> <u>09</u>	MFS (TD) - <u>FS/CO</u> <u>09</u>
Barcode		<u>5221212028</u>		<u>522121032</u>		<u>5221212033</u>		<u>5221212060</u>	
Tube ID		<u>400456</u>		<u>426601</u>		<u>425684</u>		<u>407453</u>	
Sample Start (Date, PST)		<u>12/14/2022 1230p</u>		<u>12/14/2022 1203p</u>		<u>12/14/2022 1118a</u>		<u>12/14/2022 1128a</u>	
Sample Stop (Date, PST)		<u>12/15/2022 1149a</u>		<u>12/15/2022 1107a</u>		<u>12/15/2022 1018a</u>		<u>12/15/2022 1028a</u>	
ETM (Start / Stop (Hours))		<u>208.4 / 231.7</u>		<u>210.3 / 233.4</u>		<u>230.2 / 253.2</u>		<u>261.5 / 284.6</u>	
Flow (Start / Stop (CCM))		<u>98.57 / 158.60</u> <u>25.10 / 25.27</u>		<u>100.08 / 100.18</u> <u>25.04 / 24.00</u>		<u>99.71 / 104.00</u> <u>25.00 / 25.16</u>		<u>99.30 / 95.20</u> <u>25.10 / 24.26</u>	
Temperature (Alicat)	At Start / Stop (°C)	<u>26.70 / 25.27</u>		<u>27.10 / 21.24</u>		<u>21.70 /</u>		<u>20.94</u>	
	24-Hour Min / Max	<u>/ /</u>		<u>/ /</u>		<u>/ /</u>		<u>/ /</u>	
Relative Humidity (Acurite)	At Start / Stop (%)	<u>16 / 16</u>		<u>16 / 22</u>		<u>16 /</u>		<u>26</u>	
	24-Hour Min / Max	<u>16 / 75</u>		<u>16 / 76</u>		<u>16 /</u>		<u>72</u>	
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	<u>769</u>	<u>768</u>	<u>770</u>	<u>770</u>	<u>774</u>	<u>775</u>	<u>774</u>	<u>775</u>
	Precipitation (At Start / Stop)**	<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / N L M H</u>			
Wind (At Start / Stop)***		<u>S (0) M H / S (L) M H</u>		<u>S (L) M H / (S) L M H</u>		<u>S (L) M H / S L M H</u>			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments			
Flow Meter SN / Barcode(s)	<u>194557</u>		

Shipped / Delivered to Lab (Date, PST, Initials)	<u>12/19/2022 1200p JD</u>
Shipped / Delivered <5° Celsius?	<u>(V) / N</u>

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	<u>Y / N</u>

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J De La Rama

Week #: 03 Day: 02

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 10	TFS (TD) - 10	TM (XAD) - 10	TM (TD) - 10	MFS (XAD) - 10	MFS (TD) - 10	MFS (XAD) - (FB/FS/CO) 10	MFS (TD) - (FB/FS/CO) 10
Barcode		5221212027		5221212031		5221212034		5221212061	
Tube ID		400458		407415		400452		400455	
Sample Start (Date, PST)		12/15/2022 1154a		12/15/2022 1117a		12/15/2022 1030a		12/15/2022 1040a	
Sample Stop (Date, PST)		12/15/2022 1054a		12/16/2022 1017a		12/16/2022 0932a		12/15/2022 1045a	
ETM (Start / Stop (Hours))		231.7 / 254.7		233.4 / 256.5		253.2 / 276.3		284.6 / 307.6	
Flow (Start / Stop (CCM))		100.21 / 113.89		24.55 / 24.30		99.88 / 101.89		24.86 / 24.69	
Temperature (Alicat)	At Start / Stop (°C)	23.31 / 21.86		21.19 / 21.13		20.94		18.98	
	24-Hour Min / Max	/ /		/ /		/ /		/ /	
Relative Humidity (Acurite)	At Start / Stop (%)	16 / 28		16 / 38		26		44	
	24-Hour Min / Max	16 / 66		16 / 74		20		65	
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	768	771	770	772	769	772	769	772
	Precipitation (At Start / Stop)**	Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / Ⓝ L M H			
Wind (At Start / Stop)***		S Ⓝ M H / S Ⓝ M H		Ⓝ L M H / Ⓝ L M H		S Ⓝ L M H / Ⓝ L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	PVC covering XAD tube fell off during run.		
Flow Meter SN / Barcode(s)	194557		

Shipped / Delivered to Lab (Date, PST, Initials)	12/19/2022 1200p JD
Shipped / Delivered <5° Celsius?	Ⓝ/N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N



California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: Juan Ramon De La Rana

Week #: 03 Day: 03

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - <u>11</u>	TFS (TD) - <u>11</u>	TM (XAD) - <u>11</u>	TM (TD) - <u>11</u>	MFS (XAD) - <u>11</u>	MFS (TD) - <u>11</u>	MFS (XAD) - (FB/FS/CO)	MFS (TD) - (FB/FS/CO)
Barcode		<u>5221212026</u>		<u>5221212030</u>		<u>5221212057</u>		<u>5221212062</u>	
Tube ID		<u>426681</u>		<u>426680</u>		<u>426658</u>		<u>407419</u>	
Sample Start (Date, PST)		<u>12/16/2022 10:55a</u>		<u>12/16/2022 1018a</u>		<u>12/16/2022 0938a</u>		<u>12/16/2022 0925</u>	
Sample Stop (Date, PST)		<u>12/17/2022 0958a</u>		<u>12/17/2022 0927a</u>		<u>12/17/2022 0838a</u>		<u>12/17/2022 0829</u>	
ETM (Start / Stop (Hours))		<u>254.7 / 277.8</u>		<u>256.5 / 279.6</u>		<u>276.4 / 299.4</u>		<u>307.7 / 330.7</u>	
Flow (Start / Stop (CCM))		<u>100.31 / 201.02</u>		<u>25.41 / 24.51</u>		<u>100.29 / 100.55</u>		<u>25.00 / 24.67</u>	
Temperature (Alicat)	At Start / Stop (°C)	<u>21.62 / 19.37</u>		<u>21.09 / 18.07</u>		<u>19.09</u>		<u>12.37</u>	
	24-Hour Min / Max	<u>/</u>		<u>/</u>		<u>/</u>		<u>/</u>	
Relative Humidity (Acurite)	At Start / Stop (%)	<u>25 / 30</u>		<u>38 / 31</u>		<u>44</u>		<u>36</u>	
	24-Hour Min / Max	<u>16 / 58</u>		<u>16 / 61</u>		<u>16</u>		<u>58</u>	
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	<u>771 / 770</u>		<u>772 / 772</u>		<u>774 / 772</u>		<u>774 / 772</u>	
	Precipitation (At Start / Stop)**	<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>			
Wind (At Start / Stop)***		<u>S (L) M H / S (L) M H</u>		<u>(S) L M H / (S) L M H</u>		<u>(S) L M H / S L (M) H</u>			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	<u>No adjustment of rotameter needed on sample start.</u>
Flow Meter SN / Barcode(s)	<u>194557</u>

Shipped / Delivered to Lab (Date, PST, Initials)	<u>12/19/2022 1200p JD</u>
Shipped / Delivered <5° Celsius?	<u>(Y)/N</u>

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	<u>Y/N</u>

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J De La Rama

Week #: 03 Day: 04

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 12	TFS (TD) - 12	TM (XAD) - 12	TM (TD) - 12	MFS (XAD) - 12	MFS (TD) - 12	MFS (XAD) - (FB / FS / CO) /	MFS (TD) - (FB / FS / CO) /
Barcode		S221212025		S221212029		S221212058		_____	
Tube ID		407413		426679		426685		_____	
Sample Start (Date, PST)		12/17/2022 1000a		12/17/2022 09:36a		12/17/2022 0844a		_____	
Sample Stop (Date, PST)		12/18/2022 1011a		12/18/2022 09:45a		12/18/2022 0906a		_____	
ETM (Start / Stop (Hours))		277.8 / 302.0		279.8 / 303.9		299.5 / 323.9		330.8 / 355.2	
Flow (Start / Stop (CCM))		101.90 / 100.70		24.65 / 24.84		99.18 / 96.11		25.33 / 25.86	
Temperature (Alicat)	At Start / Stop (°C)	18.45 / 20.61		18.26 / 19.84		11.05 /		12.72	
	24-Hour Min / Max	/ /		/ /		/ /		/ /	
Relative Humidity (Acurite)	At Start / Stop (%)	16 / 23		29 / 24		32 /		35	
	24-Hour Min / Max	16 / 56		25 / 24		35 /		36	
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	769 / 767		770 / 767		775 / 772		/ /	
	Precipitation (At Start / Stop)**	Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / Ⓝ L M H			
Wind (At Start / Stop)***		S Ⓣ M H / Ⓣ L M H		Ⓣ L M H / Ⓣ L M H		S L Ⓞ H / Ⓞ L M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	
Flow Meter SN / Barcode(s)	194557

Shipped / Delivered to Lab (Date, PST, Initials)	12/19/2022 1200p JD
Shipped / Delivered <5° Celsius?	Ⓞ/N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet For Ambient Conditions (Acurite Monitor)

Eastern Coachella Valley Pesticide Monitoring

Week #: 03

			Thermal Fire Station	Torres Martinez	Mecca Fire Station		
			Unit # _____	Unit # _____	Unit # _____	Unit # _____	
Day 1	Date:	Temperature (Acurite)	At Start / Stop (°C)	26 / 33	21 / 36	18 / 21	/
			24-Hour Min / Max	-1 / 49	1 / 36	1 / 24	/
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 18	16 / 22	15 / 26	/
			24-Hour Min / Max	16 / 75	16 / 75	15 / 72	/
Day 2	Date:	Temperature (Acurite)	At Start / Stop (°C)	33 / 28	36 / 19	21 / 13	/
			24-Hour Min / Max	3 / 47	4 / 38	4 / 26	/
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 28	16 / 38	26 / 44	/
			24-Hour Min / Max	16 / 66	16 / 74	20 / 55	/
Day 3	Date:	Temperature (Acurite)	At Start / Stop (°C)	28 / 19	20 / 20	14 / 14	/
			24-Hour Min / Max	-3 / 35	0 / 38	-1 / 27	/
		Relative Humidity (Acurite)	At Start / Stop (%)	25 / 30	38 / 31	44 / 36	/
			24-Hour Min / Max	16 / 58	16 / 61	16 / 58	/
Day 4	Date:	Temperature (Acurite)	At Start / Stop (°C)	28 / 26	23 / 24	16 / 18	/
			24-Hour Min / Max	2 / 27	24 / 24	18 / 19	/
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 23	29 / 24	32 / 35	/
			24-Hour Min / Max	16 / 56	25 / 24	35 / 36	/

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: L. Osornio

Week #: 4 Day: 1

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 13	TFS (TD) - 13	TM (XAD) - 13	TM (TD) - 13	MFS (XAD) - 13	MFS (TD) - 13	MFS (XAD) - (FB) FS / CO	MFS (TD) - (FB) / FS / CO
Barcode	J221214049		J221214053		J221214060		J221214059	
Tube ID	426654		426603		426657		426667	
Sample Start (Date, PST)	12/20/22 1238		12/20/22 1200		1054 12/20/22	1058 12/20/22	<del>1045 12/20/22</del> 160	<del>1055 12/20/22</del> 162
Sample Stop (Date, PST)	12/21/22 1206		12/21/22 1126		1032 12/21/22	1033 12/21/22		
ETM (Start / Stop (Hours))	302.1 / 325.5		304.1 / 327.5		323.9 / 347.6		355.3 / 378.8	
Flow (Start / Stop (CCM))	99.6 / 83.7	25.4 / 25.4	100.9 / 100.8	25.6 / 26.2	100.7 / 98.9	25.8 / 24.5	<del>100.8</del> / 160	<del>25.8</del> / 160
Temperature (Alicat)	At Start / Stop (°C) 27.29 / 28.58		25.04 / 29.82		27.42 / 21.19			
Barometric Pressure (Alicat)	At Start / Stop (mmHg) 770 / 767		771 / 768		772 / 772			
Relative Humidity (Acurite)	At Start / Stop (%) 16 / 16		16 / 16		33 / 30			
	24-Hour Min / Max 16 / 75		16 / 70		16 / 75			
Precipitation (At Start / Stop)**	N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***	S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

@ all three sites: removed Acurite box cover to see effect on unit temp readings.

Field Notes / Comments	Harvesting Onions in nearby field (12/20 & 12/21)	Mistakenly got flow readings on FB media - will redo
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Flow Meter SN / Barcode(s)	194559
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Shipped / Delivered to Lab (Date, PST, Initials)	
Shipped / Delivered <5° Celsius?	Y / N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: 1 OSORNIO

Week #: 4 Day: 2

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 14	TFS (TD) - 14	TM (XAD) - 14	TM (TD) - 14	MFS (XAD) - 14	MFS (TD) - 14	MFS (XAD) - (FB/FS/CO) 14	MFS (TD) - (FB/FS/CO) 14
Barcode	S221214050		S221214054		S221214061		S221214057	
Tube ID	426672		426661		407474		407416	
Sample Start (Date, PST)	12/21/22 1220		12/21/22 1137		1051 12/21/22		1053 12/21/22	
Sample Stop (Date, PST)	12/22/22 1148		12/22/22 1106		1020 12/22/22		1021 12/22/22	
ETM (Start / Stop (Hours))	325.6 / 349.1		160 327.6 / 351.0		347.6 / 371.1		378.8 / 402.3	
Flow (Start / Stop (CCM))	100.7 / 159.2		100.0 / 92.8		99.9 / 100.2		25.0 / 24.9	
Temperature (Alicat)	At Start / Stop (°C) 33.4 / 26.83		29.93 / 24.38		29.16 / 16.18			
Barometric Pressure (Alicat)	At Start / Stop (mmHg) 766 / 767		768 / 767		770 / 773			
Relative Humidity (Acurite)	At Start / Stop (%) 21 / 30		22 / 16		28 / 46			
	24-Hour Min / Max 16 / 77		16 / 72		25 / 71			
Precipitation (At Start / Stop)**	(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***	S (L) M H / S (L) M H		S (L) M H / S (L) M H		S (L) M H / S (L) M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	12/21 Harvesting onions in nearby field
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Flow Meter SN / Barcode(s)	194559
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12/22 - Harvesting onions

Shipped / Delivered to Lab (Date, PST, Initials)	
Shipped / Delivered <5° Celsius?	Y / N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: I. OSORNO

Week #: 4 Day: 3

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 15	TFS (TD) - 15	TM (XAD) - 15	TM (TD) - 15	MFS (XAD) - 15	MFS (TD) - 15	MFS (XAD) - (FB / FS / CO) 15	MFS (TD) - (FB / FS / CO) 15
Barcode	J221214051		J221214056		J221214062		J221214058	
Tube ID	426651		426663		407480		407454	
Sample Start (Date, PST)	12/22/22 1158		12/22/22 1115		12/22/22 1035		12/22/22 1029	
Sample Stop (Date, PST)	12/23/22 1141		12/23/22 1108		12/23/22 1012		12/23/22 1006	
ETM (Start / Stop (Hours))	349.1 / 372.8		351.1 / 37.5		371.1 / 394.7		402.3 / 425.9	
Flow (Start / Stop (CCM))	100.7 / 94.3		100.6 / 100.5		100.1 / 97.6		24.7 / 23.9	
Temperature (Alicat)	At Start / Stop (°C) 28.9 / 29.12		25.82 / 29.24		24.59 / 21.16			
Barometric Pressure (Alicat)	At Start / Stop (mmHg) 767 / 768		768 / 769		770 / 772			
Relative Humidity (Acurite)	At Start / Stop (%) 29 / 30		26 / 30		34 <del>770</del> <sup>160</sup> / 42			
	24-Hour Min / Max 20 / 77		22 / 74		27 / 74			
Precipitation (At Start / Stop)**	(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***	S (L) M H / (S) L M H		S (L) M H / (S) L M H		S (L) M H / S (L) M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	12/22 - Harvesting onions
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Flow Meter SN / Barcode(s)	194554
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Shipped / Delivered to Lab (Date, PST, Initials)	
Shipped / Delivered <5° Celsius?	Y / N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: L. OSORNI

Week #: 4 Day: 4

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 16	TFS (TD) - 16	TM (XAD) - 16	TM (TD) - 16	MFS (XAD) - 16	MFS (TD) - 16	MFS (XAD) - (FB) FS / CO 16	MFS (TD) - (FB) FS / CO 16
Barcode	S221214052		S221214055		S221214063		S221214064	
Tube ID	<del>42666</del> 42665 <sup>160</sup>		<del>42666</del> 407455 <sup>160</sup>		407417		<del>160407455</del> 42664	
Sample Start (Date, PST)	12/23/22	1201	12/23/22	1117	12/23/22	1038	12/23/22	1039
Sample Stop (Date, PST)	12/24/22	1103	12/24/22	1033	12/24/22	0955	12/24/22	0956
ETM (Start / Stop (Hours))	373.1 / 396.1		375.0 / 398.3		394.7 / 418.0		426.0 / 449.2	
Flow (Start / Stop (CCM))	100.9 / 59		100.4 / 97.0		99.4 / 97.2		25.1 / 23.5	
Temperature (Alicat)	At Start / Stop (°C)		34.87 / 31.6		30.15 / 26.43		28.62 <sup>160</sup> / 20.52	
Barometric Pressure (Alicat)	At Start / Stop (mmHg)		767 / 771		768 / 773		771 / 776	
Relative Humidity (Acurite)	At Start / Stop (%)		26 / 16		31 / 25		35 / <sup>160</sup> 27	
	24-Hour Min / Max		16 / 71		22 / 74		22 / 73	
Precipitation (At Start / Stop)**	(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***	S (L) M H / S (L) M H		(S) L M H / S (L) M H		S (L) M H / (S) L M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	12/23: Took a while (<10 min) for XAD channel flow to stabilize
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Flow Meter SN / Barcode(s)	194559
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Shipped / Delivered to Lab (Date, PST, Initials)	
Shipped / Delivered <5° Celsius?	Y / N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet For Ambient Conditions (Acurite Monitor)

Eastern Coachella Valley Pesticide Monitoring

Week #: 4

			Thermal Fire Station	Torres Martinez	Mecca Fire Station		
			Unit # <u>3</u>	Unit # <u>2</u>	Unit # <u>4</u>	Unit # _____	
Day 1	Date: <u>12/20</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>29 / 28</u>	<u>28 / 27</u>	<u>22 / 20</u>	/
			24-Hour Min / Max	<u>0 / 53</u>	<u>1 / 50</u>	<u>1 / 24</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>16 / 16</u>	<u>16 / 16</u>	<u>33 / 29</u>	/
			24-Hour Min / Max	<u>16 / 75</u>	<u>16 / 70</u>	<u>16 / 75</u>	/
Day 2	Date: <u>12/21</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>28 / 24</u>	<u>29 / 26</u>	<u>22 / 17</u>	/
			24-Hour Min / Max	<u>0 / 44</u>	<u>2 / 45</u>	<u>2 / 23</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>21 / 30</u>	<u>16 / 16</u>	<u>28 / 46</u>	/
			24-Hour Min / Max	<u>16 / 77</u>	<u>16 / 72</u>	<u>25 / 71</u>	/
Day 3	Date: <u>12/22</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>24 / 24</u>	<u>22 / 23</u>	<u>22 / 19</u>	/
			24-Hour Min / Max	<u>2 / 27</u>	<u>3 / 24</u>	<u>3 / 23</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>29 / 30</u>	<u>26 / 30</u>	<u>36 <sup>16</sup>24 / 42</u>	/
			24-Hour Min / Max	<u>20 / 77</u>	<u>22 / 24</u>	<u>27 / 74</u>	/
Day 4	Date: <u>12/23</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>27 / 30</u>	<u>24 / 27</u>	<u>22 / 23</u>	/
			24-Hour Min / Max	<u>2 / 30</u>	<u>4 / 31</u>	<u>3 / 26</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>26 / 16</u>	<u>31 / 25</u>	<u>35 / 27</u>	/
			24-Hour Min / Max	<u>16 / 71</u>	<u>22 / 74</u>	<u>22 / 73</u>	/



California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: L. Osornio

Week #: 5 Day: 1

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 17	TFS (TD) - 17	TM (XAD) - 17	TM (TD) - 17	MFS (XAD) - 17	MFS (TD) - 17	MFS (XAD) - (FB FS CO) 17	MFS (TD) - (FB FS CO) 17
Barcode	J221221009		J221221013		J221221017		J221221022	
Tube ID	426675		400451		404758		400453	
Sample Start (Date, PST)	12/27/22 1022		12/27/22 0944		12/27/22 0916		12/27/22 0910	
Sample Stop (Date, PST)	12/28/22 1019		12/28/22 0949		12/28/22 0908		12/28/22 0903	
ETM (Start / Stop (Hours))	396.4 / 420.3		398.3 / 422.4		418.0 / 441.9		449.3 / 473.1	
Flow (Start / Stop (CCM))	104.2 / 16.6		24.6 / 25.1		99.8 / 99.9		25.2 / 25.8	
Temperature (Alicat)	17.20 / 28.50		15.49 / 28.20		15.77 / 19.22			
Barometric Pressure (Alicat)	767 / 761		769 / 761		770 15.160 / 764			
Relative Humidity (Acurite)	55 / 44		52 / 35		61 / 55			
	24-Hour Min / Max		44 / 50		32 / 35		55 / 58	
Precipitation (At Start / Stop)**	N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***	S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	12/27/22 - Took 220 min for XAD flow to stabilize. 12/28/22 - Rain overnight	12/27/22 - Harvesting various 12/28/22 - Rain overnight	12/27/22 - Rain overnight 12/28
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Flow Meter SN / Barcode(s)	194559
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Shipped / Delivered to Lab (Date, PST, Initials)	01/03/23 @ 0900 LCO
Shipped / Delivered <5° Celsius?	Y/N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: L. Osornio

Week #: 5 Day: 2

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40							
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 18	TFS (TD) - 18	TM (XAD) - 18	TM (TD) - 18	MFS (XAD) - 18	MFS (TD) - 18	MFS (XAD) - (FB) / FS / CO 18	MFS (TD) - (FB) / FS / CO 18				
Barcode		S221221010		S221221014		S221221018		S221221023					
Tube ID			426660		407418		426671		407414				
Sample Start (Date, PST)		12/28/22	1040	12/29/22	0957	12/29/22	0919	12/29/22	0922	12/29/22	0915	12/29/22	0913
Sample Stop (Date, PST)		12/29/22	1017	12/29/22	0948	12/29/22	0909	12/29/22	0910	12/29/22	0919	12/29/22	0918
ETM (Start / Stop (Hours))		420.4 / 440.0		422.4 / 446.2		441.9 / 465.7		473.1 / 496.9					
Flow (Start / Stop (CCM))		100.8 / 341.5	24.3 / 26.7	99.4 / 98.2	25.6 / 22.5	100.6 / 97.9	25.4 / 26.2						
Temperature (Alicat)	At Start / Stop (°C)	29.59 / 18.90		29.54 / 16.56				25.73 / 13.26					
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	760 / 767		760 / 768				762 / 771					
Relative Humidity (Acurite)	At Start / Stop (%)	39 / 69		35 / 77				50 <del>76</del> <sup>160</sup> / 79					
	24-Hour Min / Max	25 / 89		27 / 88				27 / 89					
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H				N L M H / N L M H					
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H				S L M H / S L M H					

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	
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Flow Meter SN / Barcode(s)	194559
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Shipped / Delivered to Lab (Date, PST, Initials)	01/03/23 @ 0900 IGW
Shipped / Delivered <5° Celsius?	<input checked="" type="checkbox"/> N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: L. Osorais

Week #: 5 Day: 3

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40							
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 19	TFS (TD) - 19	TM (XAD) - 19	TM (TD) - 19	MFS (XAD) - 19	MFS (TD) - 19	MFS (XAD) - (FB / FS / CO) 19	MFS (TD) - (FB / FS / CO) 19				
Barcode		S221221011		S221221015		S221221019		S221221024					
Tube ID		426662		407460		407457		407412					
Sample Start (Date, PST)		12/29/22 1029		12/29/22 0956		12/29/22 0924		12/29/22 0925		12/29/22 0919		12/29/22 0920	
Sample Stop (Date, PST)		12/30/22 1022		12/30/22 0954		12/30/22 0921		12/30/22 0921		12/30/22 0915		12/30/22 0916	
ETM (Start / Stop (Hours))		444.1 / 468.0		446.3 / 470.2		465.8 / 489.7		496.9 / 520.9		1833.5 / 1857.4		424.5 / 448.4	
Flow (Start / Stop (CCM))		100.8 / 116.2 25.0 / 26.0		101.0 / 98.3 25.4 / 22.1		99.6 / 93.8		24.9 / 24.9		101.8 / 93.2		23.9 / 23.4	
Temperature (Alicat)	At Start / Stop (°C)	19.58 / 17.66		18.07 / 16.16		15.63 / 14.68							
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	766 / 769		767 / 770		770 / 772							
Relative Humidity (Acurite)	At Start / Stop (%)	67 / 73		70 / 78		78 / 77							
	24-Hour Min / Max	72 / 73		78 / 78		77 / 78							
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H							
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H							

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	12/29- Replace temp lid due to high probability of rain	12/29- Replace lid on temp box due to high probability of rain 12/30- Harvesting onions	12/29- Place lid on temp box due to high probability of rain
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Flow Meter SN / Barcode(s)	194559
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Shipped / Delivered to Lab (Date, PST, Initials)	01/03/23 @ 0900 IGW
Shipped / Delivered <5° Celsius?	Y/N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: I. Osornio

Week #: 5 Day: 4

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) -	TFS (TD) -	TM (XAD) -	TM (TD) -	MFS (XAD) -	MFS (TD) -	MFS (XAD) - (FB / FS / CO)	MFS (TD) - (FB / FS / CO)
Barcode		S221221012		S221221016		S221221020			
Tube ID		426670		426656		407451			
Sample Start (Date, PST)		12/30/22	1041	12/30/22	1001	12/30/22	0928	12/30/22	0929
Sample Stop (Date, PST)		12/31/22	0942	12/31/22	0918	12/31/22	0853	12/31/22	0853
ETM (Start / Stop (Hours))		468.1 / 491.1		470.3 / 493.5		489.7 / 513.1 / 520.9 / 544.3			
Flow (Start / Stop (CCM))		104.0 / 57.6 / 25.9 / 23.8		101.0 / 86.7 / 25.3 / 16.6		100.7 / 90.6 / 24.4 / 23.7			
Temperature (Alicat)	At Start / Stop (°C)	21.43 / 13.57		17.04 / 12.96		15.28 / 12.66			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	767 / 769		769 / 770		771 / 771			
Relative Humidity (Acurite)	At Start / Stop (%)	66 / 91		76 / 92		77 / 93			
	24-Hour Min / Max	40 / 92		45 / 94		44 / 94			
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)  
\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)  
\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	12/30 - Replace XAD rotometer Keep lid on Acurite box 12/31 - Dense fog. Rain on 12/30	12/30 - Harvesting onions. Keep lid on Acurite box 12/31 - Dense fog. Rain on	12/30 - Keep lid on Acurite box 12/31 - Dense fog. Rain overnight 12/30
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Flow Meter SN / Barcode(s) 194559

Shipped / Delivered to Lab (Date, PST, Initials) 01/03/23 @ 0900 (Go)  
Shipped / Delivered <5° Celsius? (Y) N

12/30. Ag activity @ adjacent field. Moisture @ end of XAD tube

\*For Sacramento Drop Off Only\*  
Received By Lab (Date, PST, Initials)  
Received <5° Celsius? Y / N

California Air Resources Board Field Data Sheet For Ambient Conditions (Acurite Monitor)

Eastern Coachella Valley Pesticide Monitoring

Week #: 5

				Thermal Fire Station	Torres Martínez	Mecca Fire Station	
				Unit # <u>3</u>	Unit # <u>2</u>	Unit # <u>4</u>	Unit # _____
Day 1	Date: <u>12/27/22</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>17 / 23</u>	<u>15 / 27</u>	<u>13 / 21</u>	/
			24-Hour Min / Max	<u>21 / 23</u>	<u>27 / 28</u>	<u>20 / 21</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>55 / 44</u>	<u>52 / 35</u>	<u>60 / 55</u>	/
			24-Hour Min / Max	<u>44 / 50</u>	<u>32 / 35</u>	<u>55 / 58</u>	/
Day 2	Date: <u>12/28/22</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>25 / 19</u>	<u>26 / 17</u>	<u>23 / 16</u>	/
			24-Hour Min / Max	<u>8 / 28</u>	<u>9 / 29</u>	<u>9 / 28</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>39 / 68</u>	<u>35 / 76</u>	<u>50 / 79</u>	/
			24-Hour Min / Max	<u>25 / 89</u>	<u>27 / 88</u>	<u>27 / 89</u>	/
Day 3	Date: <u>12/29/22</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>19 / 16</u>	<u>19 / 16</u>	<u>15 / 15</u>	/
			24-Hour Min / Max	<u>16 / 17</u>	<u>16 / 16</u>	<u>14 / 15</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>67 / 73</u>	<u>70 / 78</u>	<u>78 / 77</u>	/
			24-Hour Min / Max	<u>72 / 73</u>	<u>78 / 78</u>	<u>77 / 78</u>	/
Day 4	Date: <u>12/30/22</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>19 / 13</u>	<u>16 / 13</u>	<u>14 / 11</u>	/
			24-Hour Min / Max	<u>5 / 26</u>	<u>5 / 25</u>	<u>6 / 24</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>63 / 91</u>	<u>76 / 92</u>	<u>77 / 93</u>	/
			24-Hour Min / Max	<u>40 / 92</u>	<u>45 / 94</u>	<u>44 / 94</u>	/

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J. De Le Rana

Week #: 06 Day: 01

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 21	TFS (TD) - 21	TM (XAD) - 21	TM (TD) - 21	MFS (XAD) - 21	MFS (TD) - 21	MFS (XAD) - (FB/FS/CO) 21	MFS (TD) - (FB/FS/CO) 21
Barcode		S221228030		S221228034		S221228039		S221228042	
Tube ID		426577		407456		426668		400454	
Sample Start (Date, PST)		2023/01/03 1100a		2023/01/03 1036a		2023/01/03 1001a		2023/01/03 1006a	
Sample Stop (Date, PST)		2023/01/04 1044a		2023/01/04 1013a		2023/01/04 0932a		2023/01/04 0931a	
ETM (Start / Stop (Hours))		491.1 / 514.8		493.6 / 517.1		513.9 / 536.7		544.3 / 567.8	
Flow (Start / Stop (CCM))		100.5 / 105.6 25.0 / 25.7		100.3 / 101.3 24.8 / 28.8		100.9 / 100.7 25.2 / 24.6		100.6 / 94.22 24.9 / 24.6	
Temperature (Alicat)	At Start / Stop (°C)	21.20 / 23.18		20.25 / 22.1		21.88 / 17.70			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	768 / 770		766 / 770		768 / 774			
Relative Humidity (Acurite)	At Start / Stop (%)	36 / 55		34 / 58		36 / 65			
	24-Hour Min / Max	23 / 85		32 / 85		31 / 81			
Precipitation (At Start / Stop)**		Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / Ⓝ L M H			
Wind (At Start / Stop)***		S Ⓝ M H / S Ⓝ M H		S Ⓝ M H / S Ⓝ L M H		S L Ⓝ M H / S Ⓝ L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	Acurite was wet on wetsco bucket. Likely wetsco dripped and Acurite was wet.
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Flow Meter SN / Barcode(s)	194557
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Shipped / Delivered to Lab (Date, PST, Initials)	2023/01/09 1245p JD
Shipped / Delivered <5° Celsius?	Ⓝ N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J. De La Rana

Week #: 06 Day: 02

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
	TFS (XAD) -	TFS (TD) -	TM (XAD) -	TM (TD) -	MFS (XAD) -	MFS (TD) -	MFS (XAD) - (FB/FS/CO)	MFS (TD) - (FB/FS/CO)
Sample Name (Site - # - *P/CO/FS/FB)	22	22	22	22	22	22	22	22
Barcode	S221228029		S221228033		S221228038		S221228041	
Tube ID		407452		407411		426669		426652
Sample Start (Date, PST)	2023/01/04 1048a		2023/01/04 1020a		2023/01/04 0946a		2023/01/04 0936a	
Sample Stop (Date, PST)	2023/01/05 1105a		2023/01/05 1035a		2023/01/05 0949a		2023/01/04 0946a	
ETM (Start / Stop (Hours))	514.9 / 539.2		517.3 / 541.6		536.7 / 560.7		567.8 / 591.9	
Flow (Start / Stop (CCM))	100.7 / 98.2 / 24.9 / 23.8		100.9 / 96.9 / 24.6 / 22.9		100.1 / 100.3 / 24.8 / 24.1		0 / 0 / 0 / 0	
Temperature (Alicat)	At Start / Stop (°C) 24.47 / 21.68		22.77 / 20.11		18.78 /		16.12	
Barometric Pressure (Alicat)	At Start / Stop (mmHg) 769 / 767		770 / 767		773 /		771	
Relative Humidity (Acurite)	At Start / Stop (%) 50 / 46		56 / 64		64 /		70	
	24-Hour Min / Max 45 / 61		64 / 65		70 /		74	
Precipitation (At Start / Stop)**	N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***	S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	
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Flow Meter SN / Barcode(s)	194557
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Shipped / Delivered to Lab (Date, PST, Initials)	2023/01/09 1245p JD
Shipped / Delivered <5° Celsius?	Y/N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J. De La Rama

Week #: 06 Day: 03

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - <u>23</u>	TFS (TD) - <u>23</u>	TM (XAD) - <u>23</u>	TM (TD) - <u>23</u>	MFS (XAD) - <u>23</u>	MFS (TD) - <u>23</u>	MFS (XAD) - (FB / FS / <u>CO</u> ) <u>23</u>	MFS (TD) - (FB / FS / <u>CO</u> ) <u>23</u>
Barcode		<u>5221228028</u>		<u>5221228032</u>		<u>5221228037</u>		<u>5221228040</u>	
Tube ID		<u>426659</u>		<u>426678</u>		<u>426653</u>		<u>426692</u>	
Sample Start (Date, PST)		<u>2023/01/05 1112a</u>		<u>2023/01/05 1040a</u>		<u>2023/01/05 1000a</u>		<u>2023/01/05 1000a</u>	
Sample Stop (Date, PST)		<u>2023/01/06 1126a</u>		<u>2023/01/06 1054a</u>		<u>2023/01/06 1000a</u>		<u>2023/01/06 1003a</u>	
ETM (Start / Stop (Hours))		<u>539.3 / 563.5</u>		<u>571.7 / 565.9</u>		<u>560.7 / 584.8</u>		<u>571.9 / 615.9</u>	
Flow (Start / Stop (CCM))		<u>99.8 / 100.0</u>		<u>100.8 / 97.0</u>		<u>99.5 / 100.5</u>		<u>25.1 / 24.6</u>	
Temperature (Alicat)	At Start / Stop (°C)	<u>22.81 / 22.43</u>		<u>20.17 / 20.30</u>		<u>16.68</u>		<u>18.71</u>	
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	<u>766 / 772</u>		<u>768 / 771</u>		<u>770</u>		<u>774</u>	
Relative Humidity (Acurite)	At Start / Stop (%)	<u>43 / 21</u>		<u>65 / 26</u>		<u>59</u>		<u>38</u>	
	24-Hour Min / Max	<u>21 / 26</u>		<u>26 / 34</u>		<u>40</u>		<u>85</u>	
Precipitation (At Start / Stop)**		<u>(N) L M H / (N) L M H</u>		<u>N (L) M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>			
Wind (At Start / Stop)***		<u>S (L) M H / S (L) M H</u>		<u>(S) L M H / S (L) M H</u>		<u>S L M (H) / S (L) M H</u>			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)  
\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)  
\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments			
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Flow Meter SN / Barcode(s)	<u>194557</u>
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Shipped / Delivered to Lab (Date, PST, Initials)	<u>2023/01/09 1245p JD</u>
Shipped / Delivered <5° Celsius?	<u>(Y) N</u>

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	<u>Y / N</u>



California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J. DeLaRosa

Week #: 06 Day: 04

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 24	TFS (TD) - 24	TM (XAD) - 24	TM (TD) - 24	MFS (XAD) - 24	MFS (TD) - 24	MFS (XAD) - (FB/FS/CO)	MFS (TD) - (FB/FS/CO)
Barcode	S221228027		S221228031		S221228036			
Tube ID	407471		407472		400455			
Sample Start (Date, PST)	2023/01/06 1130a		2023/01/06 1100a		2023/01/06 1009a			
Sample Stop (Date, PST)	2023/01/07 1056a		2023/01/07 1034a		2023/01/07 1000a			
ETM (Start / Stop (Hours))	563.5 / 587.0		565.0 / 589.6		584.9 / 608.7 616.1 / 639.9			
Flow (Start / Stop (CCM))	100.3 / 1038 24.8 / 24.7		99.9 / 99.8 24.8 / 24.9		100.3 / 95.3 25.0 / 23.1			
Temperature (Alicat)	At Start / Stop (°C) 22.12 / 22.90		20.82 / 21.68		18.28 / 16.18			
Barometric Pressure (Alicat)	At Start / Stop (mmHg) 771 / 770		770 / 771		774 / 776			
Relative Humidity (Acurite)	At Start / Stop (%) 16 / 27		27 / 31		38 / 28			
	24-Hour Min / Max 16 / 77		24 / 80		22 / 62			
Precipitation (At Start / Stop)**	Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / Ⓝ L M H			
Wind (At Start / Stop)***	S Ⓛ M H / S Ⓛ M H		S Ⓛ M H / S Ⓛ M H		S Ⓛ M H / S Ⓛ M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	End flow = 24.9 ccm for TD
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Flow Meter SN / Barcode(s)	194557
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Shipped / Delivered to Lab (Date, PST, Initials)	2023/01/09 1245p JD
Shipped / Delivered <5° Celsius?	Ⓞ/N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet For Ambient Conditions (Acurite Monitor)

Eastern Coachella Valley Pesticide Monitoring

Week #: 06

			Thermal Fire Station	Torres Martinez	Mecca Fire Station		
			Unit # <u>3</u>	Unit # <u>2</u>	Unit # <u>4</u>	Unit # _____	
Day 1	Date:	Temperature (Acurite)	At Start / Stop (°C)	26 / 24	24 / 21	23 / 16	/
			24-Hour Min / Max	10 / 38	10 / 27	10 / 26	/
		Relative Humidity (Acurite)	At Start / Stop (%)	36 / 55	34 / 58	36 / 65	/
			24-Hour Min / Max	23 / 85	32 / 85	31 / 81	/
Day 2	Date:	Temperature (Acurite)	At Start / Stop (°C)	25 / 24	21 / 18	18 / 15	/
			24-Hour Min / Max	20 / 25	18 / 19	14 / 15	/
		Relative Humidity (Acurite)	At Start / Stop (%)	50 / 46	56 / 64	64 / 70	/
			24-Hour Min / Max	46 / 61	64 / 65	70 / 74	/
Day 3	Date:	Temperature (Acurite)	At Start / Stop (°C)	24 / 41	18 / 33	15 / 20	/
			24-Hour Min / Max	37 / 41	29 / 34	12 / 23	/
		Relative Humidity (Acurite)	At Start / Stop (%)	43 / 21	65 / 26	69 / 38	/
			24-Hour Min / Max	21 / 26	26 / 34	38 / 85	/
Day 4	Date:	Temperature (Acurite)	At Start / Stop (°C)	40 / 25	33 / 26	20 / 22	/
			24-Hour Min / Max	2 / 40	3 / 33	7 / 26	/
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 27	27 / 31	38 / 28	/
			24-Hour Min / Max	16 / 77	24 / 80	22 / 62	/

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: VACA

Week #: 7 Day: 1

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 25	TFS (TD) - 25	TM (XAD) - 25	TM (TD) - 25	MFS (XAD) - 25	MFS (TD) - 25	MFS (XAD) - (FB/LES) CO 25	MFS (FB) - (FS) CO 25
Barcode		5230103103 / 426685		5230103107 / 426001		5230103112 / 407467		5230103115 / 407466	
Tube ID									
Sample Start (Date, PST)		1/9/2023 1141		1/9/2023 1109		1/9/2023 1030		1/9/2023 1030	
Sample Stop (Date, PST)		1/10/2023 1120		1/10/2023 1049		1/10/2023 1013		1/10/2023 1011	
ETM (Start / Stop (Hours))		587.2   610.8		589.7   613.4		609   632.6		610.1   633.7	
Flow (Start / Stop (CCM))		100.6   118.5		24.6   23.4		100.6   105.6		24.2   27.9	
Temperature (Alicat)	At Start / Stop (°C)	25.7   27.8		19.1   23.7		14.1   21			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	14.8   14.9		14.9   14.8		15   14.8			
Relative Humidity (Acurite)	At Start / Stop (%)	42   28		58   38		54   54			
	24-Hour Min / Max	21   27		24   60		22   75			
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments			
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Flow Meter SN / Barcode(s)	
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Shipped / Delivered to Lab (Date, PST, Initials)	
Shipped / Delivered <5° Celsius?	Y/N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: VACA

Week #: 7 Day: 2

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 26	TFS (TD) - 26	TM (XAD) - 26	TM (TD) - 26	MFS (XAD) - 26	MFS (TD) - 26	MFS (XAD) - (FB/FS/CO) 26	MFS (TD) - (FB/FS/CO) 26
Barcode		5230103102 / 426658		5230103106 / 407415		5230103111 / 407468		5230103114 / 407453	
Tube ID									
Sample Start (Date, PST)		1/10/2023 1130		1/10/2023 1056		1/10/23 1026		1/10/23 1020	
Sample Stop (Date, PST)		1/11/2023 1130		1/11/2023 1054		1/11/23 1022		1/11/23 1022	
ETM (Start / Stop (Hours))		610.8 1 637.8		613.4 1 637.4		632.6 1 656.4		649.7 1 687.6	
Flow (Start / Stop (CCM))		103 193.2 24.7 122.2		101.7 185.4 25.0 126.5		101.6 193.0 25.0 122.2		100.9 196.1 23.5 122.1	
Temperature (Alicat)	At Start / Stop (°C)	27.8 1 22.2		23.7 1 21.6		21.0 1 19.8			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	14.9 1 14.9		14.8 1 14.8		14.9 1 14.9			
Relative Humidity (Acurite)	At Start / Stop (%)	24.0 1 32.0		26.0 1 27.0		19.8 1 23.2			
	24-Hour Min / Max	14 1 46		13 1 38		12 1 23			
Precipitation (At Start / Stop)**		(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***		(S) L M H / (S) L M H		(S) L M H / (S) L M H		(S) L M H / (S) L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	Sampler fell over due to wind storm TN staff put upright
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Flow Meter SN / Barcode(s)	
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Shipped / Delivered to Lab (Date, PST, Initials)	
Shipped / Delivered <5° Celsius?	Y/N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: VACA

Week #: 7 Day: 3

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 27	TFS (TD) - 27	TM (XAD) - 27	TM (TD) - 27	MFS (XAD) - 27	MFS (TD) - 27	MFS (XAD) - 27 (FB/FS/CO)	MFS (TD) - 27 (FB/FS/CO)
Barcode		5230103101/407413		5230103105/426680		5230103110/407469		5230103113/407464	
Tube ID									
Sample Start (Date, PST)		1/11/2023 1135		1/11/2023 1104		1/11/23 1032		1/11/23 1025	
Sample Stop (Date, PST)		1/12/2023 1105		1/11/2023 1040		1/12/23 944		1/11/23 1030	
ETM (Start / Stop (Hours))		634.8   658.3		637.4   660.9		656.4   679.6		657.6   710.8	
Flow (Start / Stop (CCM))		101.9   117.5		100.6   99.4		101.3   98.9		25.0   24.3	
Temperature (Alicat)	At Start / Stop (°C)	18.9   20.2		17.0   16.4		15.6   16.7			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	14.8   14.8		14.9   14.9		14.9   14.9			
Relative Humidity (Acurite)	At Start / Stop (%)	22   29		32   25		27.69   30			
	24-Hour Min / Max	16   79		20   78		20   73			
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	XAD Tube End broke off when removing from sampler		
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Flow Meter SN / Barcode(s)		
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Shipped / Delivered to Lab (Date, PST, Initials)	
Shipped / Delivered <5° Celsius?	Y/N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: VACA

Week #: 7 Day: 4

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 28	TFS (TD) - 28	TM (XAD) - 28	TM (TD) - 28	MFS (XAD) - 28	MFS (TD) - 28	MFS (XAD) - (FB / FS / CO) 28	MFS (TD) - (FB / FS / CO) 28
Barcode <u>5230</u>		<u>5230103100 / 426681</u>		<u>5230103104 / 400457</u>		<u>5230103108 / 426684</u>			
Tube ID									
Sample Start (Date, PST)		<u>1/12/2023</u>	<u>1105</u>	<u>1/12/2023</u>	<u>1046</u>	<u>1/12/2023</u>	<u>950</u>		
Sample Stop (Date, PST)		<u>1/13/2023</u>	<u>1113</u>	<u>1/13/2023</u>	<u>1051</u>	<u>1/13/2023</u>	<u>1018</u>		
ETM (Start / Stop (Hours))		<u>658.3</u>	<u>1 682.4</u>	<u>6001</u>	<u>1 685</u>	<u>679.6</u>	<u>1704.1</u>	<u>710.8</u>	<u>1735.2</u>
Flow (Start / Stop (CCM))		<u>100.7</u>	<u>101.2</u>	<u>26.1</u>	<u>24.9</u>	<u>101</u>	<u>13.4</u>	<u>24</u>	<u>12.3</u>
Temperature (Alicat)	At Start / Stop (°C)	<u>16.6</u>		<u>16.8</u>		<u>16.0</u>			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	<u>14.9</u>		<u>14.8</u>		<u>14.8</u>			
Relative Humidity (Acurite)	At Start / Stop (%)	<u>16</u>		<u>27</u>		<u>22</u>			
	24-Hour Min / Max	<u>16</u>		<u>27</u>		<u>16</u>			
Precipitation (At Start / Stop)**		<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>			
Wind (At Start / Stop)***		<u>(S) L M H / (S) L M H</u>		<u>(S) L M H / (S) L M H</u>		<u>(S) L M H / (S) L M H</u>			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	<u>TD Sample missing, may have been left at the site. Sample Invalid.</u>
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Flow Meter SN / Barcode(s)	
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Shipped / Delivered to Lab (Date, PST, Initials)	
Shipped / Delivered <5° Celsius?	<u>Y/N</u>

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	<u>Y/N</u>

California Air Resources Board Field Data Sheet For Ambient Conditions (Acurite Monitor)

Eastern Coachella Valley Pesticide Monitoring

Week #: 7

			Thermal Fire Station	Torres Martinez	Mecca Fire Station		
			Unit # _____	Unit # _____	Unit # _____	Unit # _____	
Day 1	Date: <u>1/9/23</u>	Temperature (Acurite)	At Start / Stop (°C)	22   31	20   26	16   17	16   17
			24-Hour Min / Max	10   34	8   34	14   19	14   19
		Relative Humidity (Acurite)	At Start / Stop (%)	42   28	58   38	54   54	54   54
			24-Hour Min / Max	21   61	24   80	22   76	22   76
Day 2	Date: <u>1/10/23</u>	Temperature (Acurite)	At Start / Stop (°C)	12   14	12   16	10   12	10   12
			24-Hour Min / Max	12   16	11   17	9   14	9   14
		Relative Humidity (Acurite)	At Start / Stop (%)	25   25	34   33	25   30	23   30
			24-Hour Min / Max	25   27	32   35	16   63	16   63
Day 3	Date: <u>1/11/23</u>	Temperature (Acurite)	At Start / Stop (°C)	26   24	23   29	21   22	21   22
			24-Hour Min / Max	10   32	9   36	10   30	10   30
		Relative Humidity (Acurite)	At Start / Stop (%)	22   26	32   25	52   30	52   30
			24-Hour Min / Max	16   79	20   78	20   73	20   73
Day 4	Date: <u>1/12/23</u>	Temperature (Acurite)	At Start / Stop (°C)	24   26	27   27	24   24	24   24
			24-Hour Min / Max	10   28	9   28	8   24	8   24
		Relative Humidity (Acurite)	At Start / Stop (%)	16   16	24   27	22   16	22   16
			24-Hour Min / Max	16   20	22   79	16   26	16   26

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: I. Osornio

Week #: 8 Day: 1

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 29	TFS (TD) - 29	TM (XAD) - 29	TM (TD) - 29	MFS (XAD) - 29	MFS (TD) - 29	MFS (XAD) - (FB/FS/CO) 29	MFS (TD) - (FB/FS/CO) 29
Barcode	S230111001		S230111005		S230111009		S230111006	
Tube ID	426622		426630		426614		426626	
Sample Start (Date, PST)	01/17/23	1026	01/17/23	0955	0918 01/17/23	0919 01/17/23	0907 01/17/23	0909 01/17/23
Sample Stop (Date, PST)	01/18/23	1050	01/18/23	1022	0943 01/18/23	01/18/23	0939 01/18/23	0940 01/18/23
ETM (Start / Stop (Hours))	682.4 / 706.8		685.0 / 709.5		704.2 / 728.5		735.3 / 759.7	
Flow (Start / Stop (CCM))	103.1 / 109.3	24.5 / 25.4	100.5 / 93.2	24.8 / 25.2	100.1 / 101.8	24.8 / 24.8	100.5 / 105.2	24.7 / 23.6
Temperature (Alicat)	At Start / Stop (°C) 22.65 / 26.56		19.91 / 20.89		19.82 / 14.78			
Barometric Pressure (Alicat)	At Start / Stop (mmHg) 761 / 769		762 / 771		763 / 774			
Relative Humidity (Acurite)	At Start / Stop (%) 37 / 16		31 / 33		35 / 36			
	24-Hour Min / Max 16 / 32		33 / 37		34 / 41			
Precipitation (At Start / Stop)**	N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***	S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	- Acurite cover on	- Acurite cover on - 01/18: Ag activity in nearby field	- Acurite cover + fan on
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Flow Meter SN / Barcode(s)	194559
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Shipped / Delivered to Lab (Date, PST, Initials)	01/23/23 @ 1100 160
Shipped / Delivered <5° Celsius?	Y/N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N



California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: I. Osornio

Week #: 8 Day: 2

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) -	TFS (TD) -	TM (XAD) -	TM (TD) -	MFS (XAD) -	MFS (TD) -	MFS (XAD) - (FB / FS / <u>CO</u> )	MFS (TD) - (FB / FS / <u>CO</u> )
Barcode		J230111002		J230111006		J230111010		J230111015	
Tube ID		426621		426624		426619		426617	
Sample Start (Date, PST)		01/18/23 1058		01/18/23 1030		0957 01/18/23		0953 01/18/23	
Sample Stop (Date, PST)		01/19/23 1017		01/19/23 0947		0908 01/19/23		0904 01/19/23	
ETM (Start / Stop (Hours))		706.9 / 730.2		709.5 / 732.8		728.6 / 751.7		759.7 / 782.9	
Flow (Start / Stop (CCM))		100.3 / 96.1 25.3 / 25.0		99.3 / 96.5 25.3 / 24.9		101.4 / 97.7 25.0 / 24.0		99.9 / 100.4 25.4 / 23.6	
Temperature (Alicat)	At Start / Stop (°C)	27.56 / 22.42		25.80 / 20.93		20.54 / 14.11			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	768 / 768		769 / 770		772 / 774			
Relative Humidity (Acurite)	At Start / Stop (%)	16 / 32		29 / 40		38 / 36			
	24-Hour Min / Max	16 / 80		16 / 82		16 / 66			
Precipitation (At Start / Stop)**		<u>N</u> L M H / <u>N</u> L M H		<u>N</u> L M H / <u>N</u> L M H		<u>N</u> L M H / <u>N</u> L M H			
Wind (At Start / Stop)***		S L <u>M</u> H / <u>S</u> L M H		S <u>L</u> M H / S <u>L</u> M H		S L <u>M</u> H / <u>S</u> L M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	01/18: Ag activity in adj field - lid on box lid on box
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Flow Meter SN / Barcode(s)	194559
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Shipped / Delivered to Lab (Date, PST, Initials)	01/23/23 @ 1100 160
Shipped / Delivered <5° Celsius?	<u>Y</u> / N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: I. Osorno

Week #: 8 Day: 3

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 31	TFS (TD) - 31	TM (XAD) - 31	TM (TD) - 31	MFS (XAD) - 31	MFS (TD) - 31	MFS (XAD) - (FB) FS / CO 31	MFS (TD) - (FB) FS / CO 31
Barcode		S230111003		S230111007		S230111011		S230111014	
Tube ID		426628		426625		426616		426620	
Sample Start (Date, PST)		01/19/23 1023		01/19/23 0956		0918 01/19/23 0919 01/19/23		0913 01/19/23 0914 01/19/23	
Sample Stop (Date, PST)		01/20/23 1008		01/20/23 0939		0906 01/20/23 0907 01/20/23		0918 01/20/23 0919 01/20/23	
ETM (Start / Stop (Hours))		730.2 / 753.9		732.8 / 756.5		751.8 / 775.5		782.9 / 806.7	
Flow (Start / Stop (CCM))		99.0 / 102.5 25.0 / 25.1		101.0 / 95.3 25.1 / 24.5		100.0 / 98.0 24.5 / 23.1			
Temperature (Alicat)	At Start / Stop (°C)	25.15 / 24.44		23.31 / 19.05		19.67 / 12.37			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	768 / 771		768 / 773		771 / 778			
Relative Humidity (Acurite)	At Start / Stop (%)	33 / 25		36 / 23		40 / 16			
	24-Hour Min / Max	16 / 70		16 / 75		16 / 62			
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	01/19 - Strong brush smell 01/20 - Ag activity in adj field
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Flow Meter SN / Barcode(s)	194559
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Shipped / Delivered to Lab (Date, PST, Initials)	01/23/23 @ 1100 (Gw)
Shipped / Delivered <5° Celsius?	<input checked="" type="radio"/> Y / <input type="radio"/> N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: I. Osornio

Week #: 8 Day: 4

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) -	TFS (TD) -	TM (XAD) -	TM (TD) -	MFS (XAD) -	MFS (TD) -	MFS (XAD) - (FB / FS / CO)	MFS (TD) - (FB / FS / CO)
Barcode		S230111004		S230111008		S230111012			
Tube ID		426629		426623		400456			
Sample Start (Date, PST)		01/20/23 1016		01/20/23 0948		0914 01/20/23		0915 01/20/23	
Sample Stop (Date, PST)		01/21/23 0948		01/21/23 0924		0855 01/21/23		0856 01/21/23	
ETM (Start / Stop (Hours))		753.9 / 777.5		756.5 / 780.2		775.6 / 799.3		806.7 / 830.4	
Flow (Start / Stop (CCM))		102.1 / 100.8 24.8 / 24.7		100.2 / 95.1 25.2 / 24.3		100.5 / 98.5		25.3 / 24.6	
Temperature (Alicat)	At Start / Stop (°C)	26.43 / 17.37		24.22 / 16.62		13.91 / 9.76			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	770 / 777		771 / 778		776 / 782			
Relative Humidity (Acurite)	At Start / Stop (%)	22 / 30		21 / 36		16 / 29			
	24-Hour Min / Max	16 / 56		16 / 58		16 / 51			
Precipitation (At Start / Stop)**		(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***		S (L) M H / S (L) M H		S (L) M H / S (L) M H		S (L) M H / S (L) M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	01/20 - Ag Activity in adj field
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Flow Meter SN / Barcode(s)	194559
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Shipped / Delivered to Lab (Date, PST, Initials)	01/23/23 @ 1100 (AO)
Shipped / Delivered <5° Celsius?	(Y) / N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet For Ambient Conditions (Acurite Monitor)

Eastern Coachella Valley Pesticide Monitoring

Week #: 8

			Thermal Fire Station	Torres Martinez	Mecca Fire Station		
			Unit # <u>3</u>	Unit # <u>2</u>	Unit # <u>4</u>	Unit # _____	
Day 1	Date: <u>01/17/23</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>16 / 25</u>	<u>24 / 27</u>	<u>19 / 16</u>	/
			24-Hour Min / Max	<u>23 / 26</u>	<u>23 / 27</u>	<u>15 / 18</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>37 / 16</u>	<u>31 / 32</u>	<u>35 / 36</u>	/
			24-Hour Min / Max	<u>16 / 32</u>	<u>32 / 37</u>	<u>34 / 41</u>	/
Day 2	Date: <u>01/18/23</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>23 / 21</u>	<u>26 / 19</u>	<u>15 / 14</u>	/
			24-Hour Min / Max	<u>-2 / 28</u>	<u>0 / 31</u>	<u>4 / 25</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>16 / 32</u>	<u>29 / 40</u>	<u>38 / 36</u>	/
			24-Hour Min / Max	<u>16 / 80</u>	<u>16 / 82</u>	<u>16 / 66</u>	/
Day 3	Date: <u>01/19/23</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>22 / 21</u>	<u>21 / 23</u>	<u>14 / 19</u>	/
			24-Hour Min / Max	<u>5 / 27</u>	<u>3 / 30</u>	<u>7 / 22</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>33 / 25</u>	<u>36 / 23</u>	<u>40 / 16</u>	/
			24-Hour Min / Max	<u>16 / 70</u>	<u>16 / 75</u>	<u>16 / 62</u>	/
Day 4	Date: <u>01/20/23</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>22 / 18</u>	<u>22 / 20</u>	<u>19 / 17</u>	/
			24-Hour Min / Max	<u>-1 / 37</u>	<u>0 / 30</u>	<u>3 / 25</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>22 / 30</u>	<u>21 / <sup>low</sup> 36</u>	<u>16 / 29</u>	/
			24-Hour Min / Max	<u>16 / 56</u>	<u>16 <sup>low</sup> 58</u>	<u>16 / 51</u>	/

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J. De La Rama

Week #: 09 Day: 01

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 33	TFS (TD) - 33	TM (XAD) - 33	TM (TD) - 33	MFS (XAD) - 33	MFS (TD) - 33	MFS (XAD) - (FB/FS/CO) 33	MFS (TD) - (FB/FS/CO) 33
Barcode	S230123010		S230123014		S230123019		S230123020	
Tube ID	426611		426661		426615		426667	
Sample Start (Date, PST)	2023/01/26 1049a		2023/01/26 1025a		2023/01/26 0955a		2023/01/26 0955a	
Sample Stop (Date, PST)	2023/01/27 1119a		2023/01/27 1049a		2023/01/27 1005a		2023/01/26 1008a	
ETM (Start / Stop (Hours))	777.5 / 802.0		780.2 / 804.6		799.3/823.5		830.4/854.6	
Flow (Start / Stop (CCM))	100.4 / 105.1		25.2 / 26.6		100.1 / 97.4		25.2 / 30.0	
Temperature (Alicat)	At Start / Stop (°C)		22.51 / 27.12		23.02 / 22.71		20.44 / 24.72	
Barometric Pressure (Alicat)	At Start / Stop (mmHg)		777 / 768		776 / 770		778 / 771	
Relative Humidity (Acurite)	At Start / Stop (%)		16 / 16		16 / 16		16 / 16	
	24-Hour Min / Max		16 / 20		16 / 22		16 / 22	
Precipitation (At Start / Stop)**	(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***	S L M H / S L M H		S L M H / S L M H		S L (M) H / S L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	Padlock cover missing. Not found.	Acanth enclosure lid left off for week (all sites). Storage bucket lid flew off. Recovered.
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Flow Meter SN / Barcode(s)	194557
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Shipped / Delivered to Lab (Date, PST, Initials)	2023/01/30 1300p JD
Shipped / Delivered <5° Celsius?	Y/N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J. De La Rana

Week #: 09 Day: 02

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 34	TFS (TD) - 34	TM (XAD) - 34	TM (TD) - 34	MFS (XAD) - 34	MFS (TD) - 34	MFS (XAD) - (FB/FS/CO) 34	MFS (TD) - (FB/FS/CO) 34
Barcode		S230123009		S230123013		S230123018		S230123021	
Tube ID		407454		407417		426612		400458	
Sample Start (Date, PST)		2023/01/27 1123a		2023/01/27 1051a		2023/01/27 1014a		2023/01/27 1014a	
Sample Stop (Date, PST)		2023/01/28 1023a		2023/01/28 0952a		2023/01/28 0915a		2023/01/27 1019a	
ETM (Start / Stop (Hours))		802.1 / 825.1		804.7 / 827.7		823.6 / 846.7		854.7 / 877.8	
Flow (Start / Stop (CCM))		100.2 / 103.1 / 24.9 / 24.2		100.4 / 95.5 / 25.0 / 26.0		99.9 / 92.3 / 25.1 / 22.2		0 / 0 / 0 / 0	
Temperature (Alicat)	At Start / Stop (°C)	26.84 / 21.53		23.16 / 18.52		24.77 / 14.66			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	768 / 765		770 / 766		771 / 770			
Relative Humidity (Acurite)	At Start / Stop (%)	16 / 29		16 / 32		16 / 35			
	24-Hour Min / Max	16 / 74		16 / 68		16 / 68			
Precipitation (At Start / Stop)**		(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***		(S) L M H / (S) L M H		S (L) M H / S (L) M H		S (L) M H / (S) L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments			
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Flow Meter SN / Barcode(s)	194557
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Shipped / Delivered to Lab (Date, PST, Initials)	2023/01/30 1200p JD
Shipped / Delivered <5° Celsius?	(Y) / N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J. De La Rana

Week #: 09 Day: 03

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 35	TFS (TD) - 35	TM (XAD) - 35	TM (TD) - 35	MFS (XAD) - 35	MFS (TD) - 35	MFS (XAD) - (FB/FS/CO) 35	MFS (TD) - (FB/FS/CO) 35
Barcode		5230123008		5230123012		5230123017		5230123022	
Tube ID		426657		426603		426627		426663	
Sample Start (Date, PST)		2023/01/28 1025a		2023/01/28 0955a		2023/01/28 0918a		2023/01/28 0918a	
Sample Stop (Date, PST)		2023/01/29 1015a		2023/01/29 0949a		2023/01/29 0914a		2023/01/29 0914a	
ETM (Start / Stop (Hours))		825.1 / 848.9		827.7 / 851.6		846.7 / 870.6		877.8 / 901.7	
Flow (Start / Stop (CCM))		100.0 / 99.1   25.0 / 27.1		99.8 / 93.8   25.0 / 24.8		100.0 / 95.9   25.0 / 24.9		99.8 / 93.7   24.8 / 25.0	
Temperature (Alicat)	At Start / Stop (°C)	21.12 / 22.92		18.81 / 20.26		14.72 / 16.44			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	766 / 762		765 / 762		769 / 766			
Relative Humidity (Acurite)	At Start / Stop (%)	29 / 35		31 / 45		38 / 47			
	24-Hour Min / Max	16 / 84		16 / 78		22 / 75			
Precipitation (At Start / Stop)**		Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / Ⓝ L M H			
Wind (At Start / Stop)***		Ⓢ L M H / Ⓢ L M H		Ⓢ L M H / Ⓢ L M H		Ⓢ L M H / Ⓢ L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	
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Flow Meter SN / Barcode(s)	194557
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Shipped / Delivered to Lab (Date, PST, Initials)	2023/01/30 1300 JD
Shipped / Delivered <5° Celsius?	Ⓢ/N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J. De La Rama

Week #: 09 Day: 04

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 36	TFS (TD) - 36	TM (XAD) - 36	TM (TD) - 36	MFS (XAD) - 36	MFS (TD) - 36	MFS (XAD) - (FB/FS/CO) 36	MFS (TD) - (FB/FS/CO) 36
Barcode		S230123007		S230123011		S230123016			
Tube ID		407474		407455		426618		/	
Sample Start (Date, PST)		2023/01/29 1017a		2023/01/29 0951a		2023/01/29 0919a			
Sample Stop (Date, PST)		2023/01/30 1017a		2023/01/30 0951a		2023/01/30 0919a			
ETM (Start / Stop (Hours))		849.0 / 873.0		851.7 / 875.7		870.7 / 894.7 910.8 / 925.8			
Flow (Start / Stop (CCM))		100.5 / 99.8 25.0 / 25.1		99.9 / 101.1 25.1 / 24.7		100.2 / 100.8 24.9 / 24.6			
Temperature (Alicat)	At Start / Stop (°C)	21.05 / 19.55		19.75 / 17.62		18.60 / 14.90			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	761 / 765		763 / 765		764 / 770			
Relative Humidity (Acurite)	At Start / Stop (%)	34 / 36		43 / 48		46 / 55			
	24-Hour Min / Max	16 / 79		22 / 76		25 / 73			
Precipitation (At Start / Stop)**		Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / Ⓝ L M H			
Wind (At Start / Stop)***		S Ⓝ L M H / Ⓝ L M H		S Ⓝ L M H / Ⓝ L M H		Ⓝ L M H / S Ⓝ L M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	
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Flow Meter SN / Barcode(s)	194557
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Shipped / Delivered to Lab (Date, PST, Initials)	2023/01/30 1300p JD
Shipped / Delivered <5° Celsius?	Y/N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N



California Air Resources Board Field Data Sheet For Ambient Conditions (Acurite Monitor)

Eastern Coachella Valley Pesticide Monitoring

Week #: 09

				Thermal Fire Station	Torres Martinez	Mecca Fire Station	
				Unit # <u>3</u>	Unit # <u>2</u>	Unit # <u>4</u>	Unit # <u>    </u>
Day 1	Date:	Temperature (Acurite)	At Start / Stop (°C)	26 / 27	24 / 28	21 / 22	/
			24-Hour Min / Max	27 / 28	26 / 28	21 / 22	/
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 16	16 / 16	16 / 16	/
			24-Hour Min / Max	16 / 20	16 / 22	16 / 22	/
Day 2	Date:	Temperature (Acurite)	At Start / Stop (°C)	27 / 25	28 / 22	20 / 18	/
			24-Hour Min / Max	8 / 31	2 / 30	2 / 23	/
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 29	16 / 32	16 / 35	/
			24-Hour Min / Max	16 / 74	16 / 68	16 / 68	/
Day 3	Date:	Temperature (Acurite)	At Start / Stop (°C)	24 / 22	23 / 21	17 / 15	/
			24-Hour Min / Max	1 / 34	2 / 29	3 / 22	/
		Relative Humidity (Acurite)	At Start / Stop (%)	29 / 35	31 / 45	38 / 47	/
			24-Hour Min / Max	16 / 84	16 / 78	22 / 75	/
Day 4	Date:	Temperature (Acurite)	At Start / Stop (°C)	23 / 18	21 / 17	16 / 12	/
			24-Hour Min / Max	2 / 29	4 / 28	5 / 25	/
		Relative Humidity (Acurite)	At Start / Stop (%)	34 / 35	43 / 48	47 / 55	/
			24-Hour Min / Max	16 / 79	22 / 76	25 / 73	/

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: K. AGUILERA

Week #: 10 Day: 1

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - <u>37</u>	TFS (TD) - <u>37</u>	TM (XAD) - <u>37</u>	TM (TD) - <u>37</u>	MFS (XAD) - <u>37</u>	MFS (TD) - <u>37</u>	MFS (XAD) (FB/FS/CO) <u>37</u>	MFS (TD) (FB/FS/CO) <u>37</u>
Barcode	<u>S230125049</u>		<u>S230125053</u>		<u>S230125057</u>		<u>S230125063</u>	
Tube ID	<u>426654</u>		<u>407412</u>		<u>426671</u>		<u>407414</u>	
Sample Start (Date, PST)	<u>11/31/23</u>	<u>12:47</u>	<u>11/31/23</u>	<u>12:18</u>	<u>11/31/23 11:24</u>	<u>11/31/23 11:26</u>	<u>11/31/23 11:35</u>	<u>11/31/23 11:37</u>
Sample Stop (Date, PST)	<u>2/1/23</u>	<u>12:11</u>	<u>2/1/23</u>	<u>11:33</u>	<u>2/1/23 10:32</u>	<u>2/1/23 10:33</u>	<u>2/1/23 10:39</u>	<u>2/1/23 10:41</u>
ETM (Start / Stop (Hours))	<u>873 / 896.4</u>		<u>876<sup>875.7</sup> / 899</u>		<u>894.7/917.9</u>		<u>925.8/948.9</u>	
Flow (Start / Stop (CCM))	<u>100.9 / 109.9</u>	<u>25.4 / 25.8</u>	<u>100.7 / 108.3</u>	<u>25.2 / 29.7</u>	<u>100.5 / 103.1</u>	<u>25.3 / 25.1</u>	<u>100.7 / 107.8</u>	<u>25.4 / 25.2</u>
Temperature (Alicat)	At Start / Stop (°C) <u>24.43 / 25.3</u>		<u>25.3 / 24.07</u>		<u>20.6 / 21.04</u>			
Barometric Pressure (Alicat)	At Start / Stop (mmHg) <u>766 / 768</u>		<u>766 / 768</u>		<u>769 / 765</u>			
Relative Humidity (Acurite)	At Start / Stop (%) <u>16 / 16</u>		<u>16 / 16</u>		<u>16 / 16</u>			
	24-Hour Min / Max <u>16 / 22</u>		<u>16 / 30</u>		<u>16 / 25</u>			
Precipitation (At Start / Stop)**	<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>			
Wind (At Start / Stop)***	<u>S (L) M H / S (L) M H</u>		<u>S (L) M H / S (L) M H</u>		<u>S L (M) H / S (L) M H</u>			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)  
\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)  
\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	<u>Acurite enclosure lids left off whole week (all sites).</u>
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Flow Meter SN / Barcode(s)	<u>153013</u>
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Shipped / Delivered to Lab (Date, PST, Initials)	<u>2/6/23 9:52 (K)</u>
Shipped / Delivered <5° Celsius?	<u>(Y) / N</u>

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	<u>Y / N</u>

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: K. AGUILERA

Week #: 10 Day: 2

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - <u>38</u>	TFS (TD) - <u>38</u>	TM (XAD) - <u>38</u>	TM (TD) - <u>38</u>	MFS (XAD) - <u>38</u>	MFS (TD) - <u>38</u>	MFS (XAD) - (FB/FS/CO) <u>38</u>	MFS (TD) - (FB/FS/CO) <u>38</u>
Barcode		<u>S230125050</u>		<u>S230125054</u>		<u>S230125058</u>		<u>S230125064</u>	
Tube ID		<u>426655</u>	<u>407451</u>	<u>400451</u>	<u>400451</u>	<u>400451</u>	<u>400451</u>	<u>400451</u>	<u>400451</u>
Sample Start (Date, PST)		<u>2/1/23 12:23</u>	<u>2/1/23 11:41</u>	<u>2/1/23 10:49</u>	<u>2/1/23 10:53</u>	<u>2/1/23 11:04</u>	<u>2/1/23 11:02</u>	<u>2/1/23 11:02</u>	<u>2/1/23 11:02</u>
Sample Stop (Date, PST)		<u>2/2/23 11:35</u>	<u>2/2/23 10:53</u>	<u>2/2/23 9:57</u>	<u>2/2/23 10:00</u>	<u>2/2/23 10:13</u>	<u>2/2/23 10:10</u>	<u>2/2/23 10:10</u>	<u>2/2/23 10:10</u>
ETM (Start / Stop (Hours))		<u>896.5 / 919.7</u>	<u>899 / 922.3</u>	<u>917.9 / 941</u>	<u>949 / 972.1</u>	<u>2072 / 2095.2</u>	<u>663 / 686.2</u>	<u>663 / 686.2</u>	<u>663 / 686.2</u>
Flow (Start / Stop (CCM))		<u>100.5 / 98.6</u>	<u>24.9 / 24.8</u>	<u>100.3 / 100.1</u>	<u>25.2 / 24.6</u>	<u>100.1 / 114.1</u>	<u>25.3 / 28.9</u>	<u>100.9 / 102.6</u>	<u>25.1 / 24.1</u>
Temperature (Alicat)	At Start / Stop (°C)	<u>25.7 / 24.3</u>		<u>24.37 / 23.37</u>		<u>21.67 / 18.5</u>			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	<u>768 / 773</u>		<u>768 / 774</u>		<u>769 / 777</u>			
Relative Humidity (Acurite)	At Start / Stop (%)	<u>16 / 16</u>		<u>16 / 16</u>		<u>16 / 16</u>			
	24-Hour Min / Max	<u>16 / 50</u>		<u>16 / 44</u>		<u>16 / 45</u>			
Precipitation (At Start / Stop)**		<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>			
Wind (At Start / Stop)***		<u>S (L) M H / (S) L M H</u>		<u>S (L) M H / (S) L M H</u>		<u>S (L) M H / (S) L M H</u>			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	<u>- onion smell 2/2</u>
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Flow Meter SN / Barcode(s)	<u>153013</u>
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Shipped / <u>Relivered to Lab</u> (Date, PST, Initials)	<u>2/16/23 9:52 (K)</u>
Shipped / <u>Delivered</u> <5° Celsius?	<u>(Y) N</u>

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	<u>Y/N</u>

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: K. AGUILERA

Week #: 10 Day: 3

Site	Thermal Fire Station 39		Torres Martinez Desert Cahulla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 39	TFS (TD) - 39	TM (XAD) - 39	TM (TD) - 39	MFS (XAD) - 39	MFS (TD) - 39	MFS (XAD) - <input checked="" type="radio"/> FB / FS / CO 39	MFS (TD) - <input checked="" type="radio"/> FB / FS / CO 39
Barcode	S230125051		S230125055		S230125059		S230125062	
Tube ID		4266 <sup>5</sup> 1		407458		407418		407420
Sample Start (Date, PST)	2/2/23	11:48	2/2/23	11:03	2/2/23 10:16	2/2/23 10:19	2/2/23 10:23	2/2/23 10:24
Sample Stop (Date, PST)	2/3/23	11:08	2/3/23	10:26	2/3/23 9:38	2/3/23 9:40	2/3/23 9:46	2/3/23 9:47
ETM (Start / Stop (Hours))	919.8 / 943.1		922.3 / 945.7		941.1/964.4		972.1/995.5	
Flow (Start / Stop (CCM))	99.9/89.9		100.2/98.5		25 / 24.1		100.5 / 98.2	
Temperature (Alicat)	At Start / Stop (°C)		24.27 / 22.53		24.1 / 19.21		19 / 18.79	
Barometric Pressure (Alicat)	At Start / Stop (mmHg)		774 / 768		774 / 772		776 / 774	
Relative Humidity (Acurite)	At Start / Stop (%)		16 / 16		16 / 30		16 / 33	
	24-Hour Min / Max		16 / 57		16 / 51		16 / 51	
Precipitation (At Start / Stop)**	<input type="radio"/> N <input type="radio"/> L <input type="radio"/> M <input type="radio"/> H / <input type="radio"/> N <input type="radio"/> L <input type="radio"/> M <input type="radio"/> H		<input type="radio"/> N <input type="radio"/> L <input type="radio"/> M <input type="radio"/> H / <input type="radio"/> N <input type="radio"/> L <input type="radio"/> M <input type="radio"/> H		<input type="radio"/> N <input type="radio"/> L <input type="radio"/> M <input type="radio"/> H / <input type="radio"/> N <input type="radio"/> L <input type="radio"/> M <input type="radio"/> H			
Wind (At Start / Stop)***	<input checked="" type="radio"/> S <input type="radio"/> L <input type="radio"/> M <input type="radio"/> H / <input type="radio"/> S <input type="radio"/> L <input type="radio"/> M <input type="radio"/> H		S <input type="radio"/> L <input type="radio"/> M <input type="radio"/> H / S <input type="radio"/> L <input type="radio"/> M <input type="radio"/> H		<input checked="" type="radio"/> S <input type="radio"/> L <input type="radio"/> M <input type="radio"/> H / <input type="radio"/> S <input type="radio"/> L <input type="radio"/> M <input type="radio"/> H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	- onion smell 2/2
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Flow Meter SN / Barcode(s)	153013
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Shipped <input checked="" type="radio"/> Delivered <input type="radio"/> to Lab (Date, PST, Initials)	2/6/23 9:52 <input checked="" type="radio"/> PA
Shipped <input checked="" type="radio"/> Delivered <input type="radio"/> <5° Celsius?	<input checked="" type="radio"/> Y <input type="radio"/> N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: K. AGUILERA

Week #: 10 Day: 4

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) -	TFS (TD) -	TM (XAD) -	TM (TD) -	MFS (XAD) -	MFS (TD) -	MFS (XAD) - (FB/FS/CO)	MFS (TD) - (FB/FS/CO)
Barcode		90	40	40	40	40	40		
Tube ID		S230125052	407416	S230125056	426672	S230125060	426675		
Sample Start (Date, PST)		2/3/23	11:21	2/3/23	10:39	2/3/23	9:54	2/3/23	9:57
Sample Stop (Date, PST)		2/4/23	10:28	2/4/23	9:49	2/4/23	9:18	2/4/23	9:19
ETM (Start / Stop (Hours))		943.2	966.3	945.7	968.9	964.4	987.8	995.5	1018.9
Flow (Start / Stop (CCM))		100.4 / 88.6	25.3 / 23.2	100.5 / 93.1	25.2 / 22.6	100.2 / <sup>101.4</sup> 100.5	25.2 / <sup>24.9</sup> 25.2		
Temperature (Alicat)	At Start / Stop (°C)	22.8	19.1	20.82	20.41	18.82		20.1	
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	768	769	770	768	773		770	
Relative Humidity (Acurite)	At Start / Stop (%)	16	16	27	28	27		32	
	24-Hour Min / Max	16	59	16	58	16		51	
Precipitation (At Start / Stop)**		(N) L M H	(N) L M H	(N) L M H	(N) L M H	(N) L M H		(N) L M H	
Wind (At Start / Stop)***		S (L) M H	(S) L M H	S (L) M H	(S) L M H	S (L) M H		(S) L M H	

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments			
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Flow Meter SN / Barcode(s)	153013
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Shipped / <u>Delivered</u> to Lab (Date, PST, Initials)	2/6/23 9:52 (P)
Shipped / <u>Delivered</u> 5° Celsius?	(Y) / N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet For Ambient Conditions (Acurite Monitor)

Eastern Coachella Valley Pesticide Monitoring

Week #: 10

				Thermal Fire Station	Torres Martinez	Mecca Fire Station	
				Unit # <u>3</u>	Unit # <u>2</u>	Unit # <u>4</u>	Unit # _____
Day 1	Date: <u>1/31/23</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>25 / 28</u>	<u>26 / 28</u>	<u>19 / 20</u>	/
			24-Hour Min / Max	<u>9 / 28</u>	<u>7 / 29</u>	<u>9 / 22</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>16 / 16</u>	<u>16 / 16</u>	<u>16 / 16</u>	/
			24-Hour Min / Max	<u>16 / 22</u>	<u>16 / 30</u>	<u>16 / 25</u>	/
Day 2	Date: <u>2/1/23</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>27 / 30</u>	<u>28 / 30</u>	<u>22 / 22</u>	/
			24-Hour Min / Max	<u>0 / 31</u>	<u>2 / 30</u>	<u>2 / 26</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>16 / 16</u>	<u>16 / 16</u>	<u>16 / 16</u>	/
			24-Hour Min / Max	<u>16 / 50</u>	<u>16 / 44</u>	<u>16 / 45</u>	/
Day 3	Date: <u>2/2/23</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>30 / 25</u>	<u>30 / 24</u>	<u>24 / 16</u>	/
			24-Hour Min / Max	<u>3 / 30</u>	<u>5 / 31</u>	<u>4 / 25</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>16 / 16</u>	<u>16 / 30</u>	<u>16 / 33</u>	/
			24-Hour Min / Max	<u>16 / 57</u>	<u>16 / 51</u>	<u>16 / 51</u>	/
Day 4	Date: <u>2/3/23</u>	Temperature (Acurite)	At Start / Stop (°C)	<u>24 / 25</u>	<u>26 / 23</u>	<u>18 / 18</u>	/
			24-Hour Min / Max	<u>0 / 35</u>	<u>3 / 33</u>	<u>3 / 27</u>	/
		Relative Humidity (Acurite)	At Start / Stop (%)	<u>16 / 16</u>	<u>27 / 28</u>	<u>25 / 32</u>	/
			24-Hour Min / Max	<u>16 / 59</u>	<u>16 / 58</u>	<u>16 / 51</u>	/

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: L. Osorio

Week #: 11 Day: 1

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - <u>41</u>	TFS (TD) - <u>41</u>	TM (XAD) - <u>41</u>	TM (TD) - <u>41</u>	MFS (XAD) - <u>41</u>	MFS (TD) - <u>41</u>	MFS (XAD) - (FB/FS/CO) <u>41</u>	MFS (TD) - (FB/FS/CO) <u>41</u>
Barcode	<u>J230201046</u>		<u>J230201050</u>		<u>J230201051</u>		<u>J230201061</u>	
Tube ID	<u>426677</u>		<u>407452</u>		<u>426652</u>		<u>40054</u>	
Sample Start (Date, PST)	<u>02/06/23</u>	<u>1037</u>	<u>02/06/23</u>	<u>1014</u>	<u>0949</u> <u>02/06/23</u>	<u>0947</u> <u>02/06/23</u>	<u>0940</u> <u>02/06/23</u>	<u>0942</u> <u>02/06/23</u>
Sample Stop (Date, PST)	<u>02/07/23</u>	<u>1025</u>	<u>02/07/23</u>	<u>0948</u>	<u>0905</u> <u>02/07/23</u>	<u>0906</u> <u>02/07/23</u>	<u>0901</u> <u>02/07/23</u>	<u>0902</u> <u>02/06/23</u>
ETM (Start / Stop (Hours))	<u>966.3 / 990.1</u>		<u>968.9 / 992.5</u>		<u>987.9 / 1011.1</u>		<u>1018.9 / 1042.2</u>	
Flow (Start / Stop (CCM))	<u>101.5 / 103.9</u>	<u>24.5 / 32.7</u>	<u>100.6 / 107.8</u>	<u>25.6 / 27.2</u>	<u>100.6 / 102.6</u>	<u>24.8 / 24.7</u>	<u>100.1 / 105.8</u>	<u>25.3 / 25.1</u>
Temperature (Alicat)	At Start / Stop (°C) <u>25.47 / 30.62</u>		<u>25.40 / 25.43</u>		<u>22.91 / 19.73</u>			
Barometric Pressure (Alicat)	At Start / Stop (mmHg) <u>769 / 773</u>		<u>768 / 773</u>		<u>770 / 776</u>			
Relative Humidity (Acurite)	At Start / Stop (%) <u>16 / 16</u>		<u>16 / 16</u>		<u>16 / 16</u>			
	24-Hour Min / Max <u>16 / 39</u>		<u>16 / 35</u>		<u>16 / 32</u>			
Precipitation (At Start / Stop)**	<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>		<u>(N) L M H / (N) L M H</u>			
Wind (At Start / Stop)***	<u>S L M (H) / S (L) M H</u>		<u>S L (M) H / (S) L M H</u>		<u>S L (M) (H) / S (L) M H</u>			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	<u>02/06 - Activity in adj by field</u> <u>02/07 - Activity in adj by field. Citrus trees added to monitoring enclosure</u>
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Flow Meter SN / Barcode(s)	<u>194559</u>
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Shipped / Delivered to Lab (Date, PST, Initials)	<u>02/12/23 @ 1100 LGO</u>
Shipped / Delivered <5° Celsius?	<u>(Y) / N</u>

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	<u>Y / N</u>

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: I. Osorio

Week #: 11 Day: 2

Site	Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)	TFS (XAD) - 42	TFS (TD) - 42	TM (XAD) - 42	TM (TD) - 42	MFS (XAD) - 42	MFS (TD) - 42	MFS (XAD) - (FB/FS/CO) 42	MFS (TD) - (FB/FS/CO) 42
Barcode	J230201047		J230201051		J230201055		J230201059	
Tube ID		407472		407471		426653		426692
Sample Start (Date, PST)	02/07/23	1036	02/07/23	0959	02/07/23	0919	02/07/23	0920
Sample Stop (Date, PST)	02/08/23	1006	02/08/23	0938	02/08/23	0902	02/08/23	0903
ETM (Start / Stop (Hours))	990.2 / 1013.7		992.5 / 1015.4		1011.1 / 1034.9		1042.2 / 1065.9	
Flow (Start / Stop (CCM))	100.6 / 103.0		101.8 / 85.6		100.2 / 96.6		24.9 / 24.3	
Temperature (Alicat)	At Start / Stop (°C)		32.13 / 29.93		30.37 / 26.91		24.26 / 16.33	
Barometric Pressure (Alicat)	At Start / Stop (mmHg)		772 / 772		772 / 773		775 / 777	
Relative Humidity (Acurite)	At Start / Stop (%)		16 / 20		16 / 20		16 / 30	
	24-Hour Min / Max		16 / 48		16 / 46		16 / 48	
Precipitation (At Start / Stop)**	(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***	S (L) M H / S (L) M H		S (L) M H / S (L) M H		S (L) M H / S (L) M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	02/07 - Ag activity in adj field
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Flow Meter SN / Barcode(s)	194559
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Shipped / Delivered to Lab (Date, PST, Initials)	02/12/23 @ 1100 190
Shipped / Delivered <5° Celsius?	(Y) N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N



California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: I. Osorio

Week #: 11 Day: 3

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 43	TFS (TD) - 43	TM (XAD) - 43	TM (TD) - 43	MFS (XAD) - 43	MFS (TD) - 43	MFS (XAD) - (FB/FS/CO) 43	MFS (TD) - (FB/FS/CO) 43
Barcode		J230201048		J230201052		J230201056		J230201060	
Tube ID		426668		426669		407411		400453	
Sample Start (Date, PST)		02/08/23 1015		02/08/23 0946		02/08/23 0914	02/08/23 0915	02/08/23 0909	02/08/23 0910
Sample Stop (Date, PST)		02/09/23 1010		02/09/23 0939		02/09/23 0908	02/09/23 0909	02/09/23 0914	02/09/23 0915
ETM (Start / Stop (Hours))		1013.7 / 1037.6		1015.4 / 1039.3		1034.9 / 1058.8	1065.9 / 1089.8	/	/
Flow (Start / Stop (CCM))		99.1 / 99.4	25.2 / 27.4	99.0 / 940	24.9 / 25.7	99.3 / 97.3	24.7 / 23.4	/	/
Temperature (Alicat)	At Start / Stop (°C)	39.7 / 32.77		29.80 / 28.07		22.97 / 22.41			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	771 / 771		772 / 771		774 / 776			
Relative Humidity (Acurite)	At Start / Stop (%)	16 / 16		16 / 16		25 / 16			
	24-Hour Min / Max	16 / 60		16 / 56		14 / 55			
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments			
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Flow Meter SN / Barcode(s)	194559
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Shipped / Delivered to Lab (Date, PST, Initials)	02/12/23 @ 1100 160
Shipped / Delivered <5° Celsius?	Y/N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: L. Osornio

Week #: 11 Day: 4

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - <u>44</u>	TFS (TD) - <u>44</u>	TM (XAD) - <u>44</u>	TM (TD) - <u>44</u>	MFS (XAD) - <u>44</u>	MFS (TD) - <u>44</u>	MFS (XAD) - (FB / FS / CO)	MFS (TD) - (FB / FS / CO)
Barcode		<u>J230201049</u>		<u>J230201053</u>		<u>J230201057</u>			
Tube ID		<u>407460</u>	<u>407460</u>	<u>426679</u>	<u>426679</u>	<u>426656</u>	<u>426656</u>		
Sample Start (Date, PST)		<u>02/09/23</u>	<u>1018</u>	<u>02/09/23</u>	<u>0947</u>	<u>02/09/23</u>	<u>0917</u>	<u>02/09/23</u>	<u>0918</u>
Sample Stop (Date, PST)		<u>02/10/23</u>	<u>0959</u>	<u>02/10/23</u>	<u>0939</u>	<u>02/10/23</u>	<u>0913</u>	<u>02/10/23</u>	<u>0914</u>
ETM (Start / Stop (Hours))		<u>1037.6</u> / <u>1041.3</u>		<u>1039.3</u> / <u>1043.1</u>		<u>1058.8</u> / <u>1082.7</u>	<u>1089.9</u> / <u>1113.8</u>		
Flow (Start / Stop (CCM))		<u>100.4</u> / <u>102.4</u>	<u>25.0</u> / <u>27.2</u>	<u>100.9</u> / <u>97.9</u>	<u>25.2</u> / <u>24.0</u>	<u>101.8</u> / <u>99.3</u>	<u>25.7</u> / <u>25.7</u>		
Temperature (Alicat)	At Start / Stop (°C)	<u>36.27</u> / <u>25.13</u>		<u>32.62</u> / <u>21.38</u>		<u>25.06</u> / <u>15.95</u>			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	<u>770</u> / <u>774</u>		<u>771</u> / <u>775</u>		<u>773</u> / <u>778</u>			
Relative Humidity (Acurite)	At Start / Stop (%)	<u>16</u> / <u>16</u>		<u>16</u> / <u>16</u>		<u>16</u> / <u>26</u>			
	24-Hour Min / Max	<u>16</u> / <u>54</u>		<u>16</u> / <u>41</u>		<u>16</u> / <u>41</u>			
Precipitation (At Start / Stop)**		<u>(N)</u> L M H / <u>(N)</u> L M H		<u>(N)</u> L M H / <u>(N)</u> L M H		<u>(N)</u> L M H / <u>(N)</u> L M H			
Wind (At Start / Stop)***		<u>(S)</u> L <u>(M)</u> H / <u>(S)</u> L M H		<u>(S)</u> L <u>(M)</u> H / <u>(S)</u> L M H		<u>(S)</u> L <u>(M)</u> H / <u>(S)</u> L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	<u>02/10 - Ag activity in adj field</u>
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Flow Meter SN / Barcode(s)	<u>194559</u>
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Shipped / Delivered to Lab (Date, PST, Initials)	<u>02/12/23 @ 1100</u> <u>LO</u>
Shipped / Delivered <5° Celsius?	<u>(Y)</u> / N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet For Ambient Conditions (Acurite Monitor)

Eastern Coachella Valley Pesticide Monitoring

Week #: 11

				Thermal Fire Station	Torres Martinez	Mecca Fire Station	
				Unit # <u>3</u>	Unit # <u>2</u>	Unit # <u>4</u>	Unit # _____
Day 1	Date: <u>02/06/23</u>	Temperature (Acurite)	At Start / Stop (°C)	24 / 25	28 / 26	21 / 22	/
			24-Hour Min / Max	11 / 29	9 / 31	9 / 35	/
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 16	16 / 16	16 / 16	/
			24-Hour Min / Max	16 / 39	16 / 35	16 / 32	/
Day 2	Date: <u>02/07/23</u>	Temperature (Acurite)	At Start / Stop (°C)	<del>16</del> <del>16</del> <del>25</del> <del>26</del> 24 / 27	26 / 28	20 / 18	/
			24-Hour Min / Max	4 / 38	6 / 33	5 / 29	/
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 20	16 / 16	16 / 30	/
			24-Hour Min / Max	16 / 48	16 / 46	16 / 48	/
Day 3	Date: <u>02/08/23</u>	Temperature (Acurite)	At Start / Stop (°C)	28 / 30	28 / 31	20 / 24	/
			24-Hour Min / Max	4 / 34	5 / 33	5 / 28	/
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 16	16 / 16	28 / 16	/
			24-Hour Min / Max	16 / 60	16 / 56	16 / 55	/
Day 4	Date: <u>02/09/23</u>	Temperature (Acurite)	At Start / Stop (°C)	31 / 26	35 / 24	25 / 17	/
			24-Hour Min / Max	0 / 36	2 / 36	3 / 33	/
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 16	16 / 16	16 / 26	/
			24-Hour Min / Max	16 / 54	16 / 41	16 / 41	/

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J. De La Rana

Week #: 12 Day: 01

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 45	TFS (TD) - 45	TM (XAD) - 45	TM (TD) - 45	MFS (XAD) - 45	MFS (TD) - 45	MFS (XAD) - 45 (FB/FS/CO)	MFS (TD) - 45 (FB/FS/CO)
Barcode		5230208001		5230208005		5230208009		5230208016	
Tube ID		426621		426680		426670		426629	
Sample Start (Date, PST)		2023/02/13 0945a		2023/02/13 0923		2023/02/13 0857a		2023/02/13 0857a	
Sample Stop (Date, PST)		2023/02/14 0957		2023/02/14 0929		2023/02/14 0857a		2023/02/14 0857a	
ETM (Start / Stop (Hours))		1061.3 / 1085.5		1063.2 / 1087.3		1082.8 / 1106.8		1113.9 / 1137.9	
Flow (Start / Stop (CCM))		100.0 / 101.2 25.0 / 25.2		100.0 / 101.7 25.0 / 24.2		100.2 / 99.3 25.1 / 25.7		100.0 / 98.2 25.0 / 25.8	
Temperature (Alicat)	At Start / Stop (°C)	22.32 / 21.73		22.77 / 22.18		21.63 /		20.44	
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	763 / 760		763 / 760		764 /		763	
Relative Humidity (Acurite)	At Start / Stop (%)	56 / 30		32 / 46		40 /		51	
	24-Hour Min / Max	30 / 35		46 / 49		27 /		83	
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	
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Flow Meter SN / Barcode(s)	194557
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Shipped / Delivered to Lab (Date, PST, Initials)	2023/02/21 1200p JD
Shipped / Delivered <5° Celsius?	Y/N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J. De La Rana

Week #: 12 Day: 02

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 46	TFS (TD) - 46	TM (XAD) - 46	TM (TD) - 46	MFS (XAD) - 46	MFS (TD) - 46	MFS (XAD) - 46 (FB/FS/CO)	MFS (TD) - 46 (FB/FS/CO)
Barcode		S230208002		S230208006		S230208010		S230208015	
Tube ID		400456		426624		426659		426616	
Sample Start (Date, PST)		2023/02/14 1000 <sub>a</sub>		2023/02/14 0934 <sub>a</sub>		2023/02/14 0902 <sub>a</sub>		2023/02/14 0859 <sub>a</sub>	
Sample Stop (Date, PST)		2023/02/15 1049 <sub>a</sub>		2023/02/15 1023 <sub>a</sub>		2023/02/15 0951 <sub>a</sub>		2023/02/14 0904 <sub>a</sub>	
ETM (Start / Stop (Hours))		1085.6 / 1110.4		1087.4 / 1112.2		1106.9 / 1131.7		1137.9 / 1162.7	
Flow (Start / Stop (CCM))		100.2 / 100.0		25.2 / 47.1		101.5 / 92.8		25.3 / 25.4	
Temperature (Alicat)		At Start / Stop (°C)		21.59 / 20.25		758 <sup>TD</sup> / 769 <sup>TD</sup>		19.79 / 17.15	
Barometric Pressure (Alicat)		At Start / Stop (mmHg)		760 / 770		758 / 769		762 / 772	
Relative Humidity (Acurite)		At Start / Stop (%)		30 / 16		45 / 21		49 / 16	
		24-Hour Min / Max		16 / 16		16 / 21		16 / 16	
Precipitation (At Start / Stop)**		(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***		S L (M) H / S L (M) H		S (L) M H / S (L) M H		S (L) M H / S L (M) H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	Pump box was knocked down + PVC fell off for TD channel, most likely due to gusty wind.	Start/Stop Temp (°C): 22.43 / 19.58
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Flow Meter SN / Barcode(s)	194557
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Shipped / Delivered to Lab (Date, PST, Initials)	
Shipped / Delivered <5° Celsius?	Y / N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J. De La Rama

Week #: 12 Day: 03

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 47	TFS (TD) - 47	TM (XAD) - 47	TM (TD) - 47	MFS (XAD) - 47	MFS (TD) - 47	MFS (XAD) - (FB/FS/CO) 47	MFS (TD) - (FB/FS/CO) 47
Barcode		S230208003		S230208007		S230208011		S230208014	
Tube ID		426628		426625		407456		426630	
Sample Start (Date, PST)		2023/02/15 1051a		2023/02/15 1024a		2023/02/15 0953a		2023/02/15 0953a	
Sample Stop (Date, PST)		2023/02/16 1004a		2023/02/16 0940a		2023/02/16 0900a		2023/02/16 0900a	
ETM (Start / Stop (Hours))		1110.4 / 1133.6		1135.4 <sup>30</sup> / 1135.4 <sub>2023/02/15</sub>		1131.8 / 1154.9		1162.8 / 1185.9	
Flow (Start / Stop (CCM))		100.8 / 101.2 / 25.0 / 36.4		100.4 / 95.3 / 25.0 / 25.0		99.8 / 92.1 <sup>30</sup> / 25.1 / 22.7		100.3 / 98.5 / 25.1 / 23.1	
Temperature (Alicat)	At Start / Stop (°C)	19.86 / 20.65		20.11 / 18.74		17.13 /		16.13	
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	769 / 774		770 / 777		771 /		776	
Relative Humidity (Acurite)	At Start / Stop (%)	16 / 16		16 / 16		16 /		16	
	24-Hour Min / Max	16 / 40		16 / 40		16 /		51	
Precipitation (At Start / Stop)**		(N) L M H / (N) L M H		(N) L M H / (N) L M H		(N) L M H / (N) L M H			
Wind (At Start / Stop)***		S L (M) H / S O M H		S (L) M H / (S) L M H		S L (M) H / S (L) M H			

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments		TM ETM Start = 1122 hrs	MFS TD ETM = 1185.9 hrs
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Flow Meter SN / Barcode(s)	194557
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Shipped / Delivered to Lab (Date, PST, Initials)	2023/02/21 1200p JD
Shipped / Delivered <5° Celsius?	(Y) N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: J. De La Rama

Week #: 12 Day: 04

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 48	TFS (TD) - 48	TM (XAD) - 48	TM (TD) - 48	MFS (XAD) - 48	MFS (TD) - 48	MFS (XAD) - (FB/FS/CO)	MFS (TD) - (FB/FS/CO)
Barcode		S230208004		S230208008		S230208012			
Tube ID		426623		426619		426678			
Sample Start (Date, PST)		2023/02/16 1007a		2023/02/16 0942a		2023/02/16 0903a			
Sample Stop (Date, PST)		2023/02/17 1022a		2023/02/17 1002a		2023/02/17 0941a			
ETM (Start / Stop (Hours))		1133.7 / 1157.9		1135.5 / 1159.8		1154.9 / 1179.5		1186.0 / 1210.5	
Flow (Start / Stop (CCM))		100.0 / 99.7 25.1 / 25.7		100.0 / 91.1 25.1 / 27.6		100.0 / 106.5 24.9 / 26.6			
Temperature (Alicat)	At Start / Stop (°C)	20.73 / 22.46		18.99 / 22.47		16.03 / 18.15			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	774 / 768		773 / 769		777 / 772			
Relative Humidity (Acurite)	At Start / Stop (%)	16 / 16		16 / 16		16 / 16			
	24-Hour Min / Max	16 / 16		16 / 16		15 / 26			
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	
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Flow Meter SN / Barcode(s)	194557
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Shipped / Delivered to Lab (Date, PST, Initials)	2023/02/21 1200p JD
Shipped / Delivered <5° Celsius?	<input checked="" type="radio"/> N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet For Ambient Conditions (Acurite Monitor)

Eastern Coachella Valley Pesticide Monitoring

Week #: 12

			Thermal Fire Station	Torres Martinez	Mecca Fire Station		
			Unit # <u>3</u>	Unit # <u>2</u>	Unit # <u>4</u>	Unit # _____	
Day 1	Date: <u>2023/01/13</u>	Temperature (Acurite)	At Start / Stop (°C)	17 / 23	29 / 22	25 / 17	/
			24-Hour Min / Max	21 / 23	21 / 22	6 / 26	/
		Relative Humidity (Acurite)	At Start / Stop (%)	56 / 30	32 / 46	40 / 51	/
			24-Hour Min / Max	30 / 35	46 / 49	27 / 83	/
Day 2	Date: <u>2023/02/14</u>	Temperature (Acurite)	At Start / Stop (°C)	24 / 19	22 / 22	17 / 20	/
			24-Hour Min / Max	18 / 19	19 / 22	20 / 26	/
		Relative Humidity (Acurite)	At Start / Stop (%)	30 / 16	45 / 21	49 / 16	/
			24-Hour Min / Max	16 / 16	16 / 21	16 / 16	/
Day 3	Date: <u>2023/02/15</u>	Temperature (Acurite)	At Start / Stop (°C)	19 / 23	22 / 23	20 / 23	/
			24-Hour Min / Max	-1 / 31	0 / 25	1 / 35	/
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 16	<del>16</del> 16 / 16 <small>30 02/15/23</small>	16 / 16	/
			24-Hour Min / Max	16 / 40	16 / 40	16 / 51	/
Day 4	Date: <u>2023/02/16</u>	Temperature (Acurite)	At Start / Stop (°C)	23 / 25	23 / 23	23 / 18	/
			24-Hour Min / Max	25 / 25	23 / 26	16 / 18	/
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 16	16 / 16	16 / 16	/
			24-Hour Min / Max	16 / 16	16 / 16	16 / 26	/



California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: JACA

Week #: 13 Day: 1

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 49	TFS (TD) - 49	TM (XAD) - 49	TM (TD) - 49	MFS (XAD) - 49	MFS (TD) - 49	MFS (XAD) (FB/FS/CO) - 49	MFS (TD) (FB/FS/CO) - 49
Barcode		5230215058		5230215062		5230215067		5230215070	
Tube ID		400457		426685		407469		426681	
Sample Start (Date, PST)		2/21/23 1148		2/21/23 1112		2/21/23 1043		2/21/23 1043	
Sample Stop (Date, PST)		2/22/23 1129		2/22/23 1101		2/22/23 1011		2/22/23 1011	
ETM (Start / Stop (Hours))		1158.0 / 1181.9		1159.9 / 1181.3		1179.6 / 1203.1		1210.9 / 1234.2	
Flow (Start / Stop (CCM))		99 / 118		25.5 / 40.5		100.2 / 118.6		25.1 / 29.9	
Temperature (Alicat)	At Start / Stop (°C)	25.8 / 22.3		23.9 / 21.8		22.2 / 19.2			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	14.64 / 14.70		14.60 / 14.70		14.71 / 14.74			
Relative Humidity (Acurite)	At Start / Stop (%)	25 / 18		16 / 16		31 / 20			
	24-Hour Min / Max	16 / 25		16 / 41		16 / 50			
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments			
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Flow Meter SN / Barcode(s)	271602
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Shipped / Delivered to Lab (Date, PST, Initials)	3/1/23 <i>[Signature]</i>
Shipped / Delivered <5° Celsius?	Y/N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: \_\_\_\_\_

Week #: 13 Day: 2

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 50	TFS (TD) - 50	TM (XAD) - 50	TM (TD) - 50	MFS (XAD) - 50	MFS (TD) - 50	MFS (XAD) - (CO) 50	MFS (TD) - (CO) 50
Barcode		5230215055		5230215061		5230215063		5230215069	
Tube ID		426620		407413		407467		426684	
Sample Start (Date, PST)		2/22/23 1132		2/22/23 1109		2/22/23 1050		2/22/23 1050	
Sample Stop (Date, PST)		2/23/23 1057		2/23/23 1010		2/23/23 952		2/23/23 952	
ETM (Start / Stop (Hours))		1181.9   1205.2		1181.3   1206.7		1203.2   1226.2		1234.1   1259.3	
Flow (Start / Stop (CCM))		99   96.5   25   134		99.8   110   25   125		102   101   24   24		104   112.7   25.2   25.0	
Temperature (Alicat)	At Start / Stop (°C)	22.3   24.3		18.6   21.3		19.53   16.43			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	14.69   14.78		14.74   14.80		14.73   14.86			
Relative Humidity (Acurite)	At Start / Stop (%)	16   40		16   40		16   37			
	24-Hour Min / Max	16   61		16   60		16   58			
Precipitation (At Start / Stop)**		(N) L M H / (N) L M H		(N) L M H (N) L M H		(N) L M H (N) L M H			
Wind (At Start / Stop)***		S L M (H) / S L (M) H		S L M (H) / S L (M) H		S L M (H) / S L (M) H			


\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments			
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Flow Meter SN / Barcode(s)	271602
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Shipped / Delivered to Lab (Date, PST, Initials)	3/1/20 
Shipped / Delivered <5° Celsius?	Y / N

\*For Sacramento Drop Off Only\*

Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: VACA

Week #: 13 Day: 3

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) - 51	TFS (TD) - 51	TM (XAD) - 51	TM (TD) - 51	MFS (XAD) - 51	MFS (TD) - 51	MFS (XAD) - (FB) FS / CO 51	MFS (TD) - (FB) FS / CO 51
Barcode		5230215056		5230215059		5230215064		5230215068	
Tube ID		426022		426058		407464		407468	
Sample Start (Date, PST)		2/23/23	1111	2/23/23	1014	2/23/23 945	2/23/23 945	2/23/23 945	2/23/23 945
Sample Stop (Date, PST)		2/24/23	1105	2/24/23	1039	2/24/23 1009	2/24/23 1008	2/24/23	2/24/23
ETM (Start / Stop (Hours))		1205.2	1228.1	1206.7	1231.1	1226.2	1250.0	1257.3	1281.7
Flow (Start / Stop (CCM))		103	1101	25.2	126	99.4	1105	26	126.8
Temperature (Alicat)	At Start / Stop (°C)	23.65	22.23	25.00	21.09	16.76	15.25		
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	14.78	14.84	14.78	14.83	14.85	14.94		
Relative Humidity (Acurite)	At Start / Stop (%)	36	36	34	36	34	36		
	24-Hour Min / Max	36	46	34	46	33	46		
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H	
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H	

\*Circle One, if Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments	
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Flow Meter SN / Barcode(s)	271602
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Shipped / Delivered to Lab (Date, PST, Initials)	3/1/23 <i>gm</i>
Shipped / Delivered <5° Celsius?	Y/N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: VACA

Week #: 13 Day: 4

Site		Thermal Fire Station 39		Torres Martinez Desert Cahuilla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) -	TFS (TD) -	TM (XAD) -	TM (TD) -	MFS (XAD) -	MFS (TD) -	MFS (XAD) - (FB / FS / CO)	MFS (TD) - (FB / FS / CO)
Barcode		5230215057		5230215060		5230215065			
Tube ID		426617		426614		407460			
Sample Start (Date, PST)		2/24/23 1113		2/24/23 1047		2/24/23 1016		2/24/23 1016	
Sample Stop (Date, PST)		2/25/23 1048		2/25/23 1025		2/25/23 0952		2/25/23 0952	
ETM (Start / Stop (Hours))		1229.1   1252.6		1231.1   1254.8		1250.6   1274.2		1281.9   1305.3	
Flow (Start / Stop (CCM))		184   102 25.6   25		105   106.8 24   130.5		99   148.7 29.2   123.5		1   1	
Temperature (Alicat)	At Start / Stop (°C)	22.02   17.76		21.34   16.69		17.12   13.72			
Barometric Pressure (Alicat)	At Start / Stop (mmHg)	14.84   264		14.15   763		14.91   768			
Relative Humidity (Acurite)	At Start / Stop (%)	36   79		35   69		17   78			
	24-Hour Min / Max	27   84		29   86		33   83			
Precipitation (At Start / Stop)**		N L M H / N L M H		N L M H / N L M H		N L M H / N L M H			
Wind (At Start / Stop)***		S L M H / S L M H		S L M H / S L M H		S L M H / S L M H			

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)

\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)

\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments			
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Flow Meter SN / Barcode(s)	271602/153013
----------------------------	---------------

Shipped / Delivered to Lab (Date, PST, Initials)	3/1/23 <i>pn</i>
Shipped / Delivered <5° Celsius?	Y/N

*For Sacramento Drop Off Only*	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y/N

California Air Resources Board Field Data Sheet For Ambient Conditions (Acurite Monitor)

Eastern Coachella Valley Pesticide Monitoring

Week #: 13

				Thermal Fire Station	Torres Martinez	Mecca Fire Station	
				Unit # _____	Unit # _____	Unit # _____	Unit # _____
Day 1	Date: 2/21/25	Temperature (Acurite)	At Start / Stop (°C)	27 / 22	32 / 21	22 / 18	1
			24-Hour Min / Max	21 / 22	10 / 34	8.3 / 33	1
		Relative Humidity (Acurite)	At Start / Stop (%)	22 / 16	20 / 21	35 / 16	1
			24-Hour Min / Max	16 / 22	16 / 41	12 / 45	1
Day 2	Date: 2/22/23	Temperature (Acurite)	At Start / Stop (°C)	22 / 21	21 / 22	18 / 17	1
			24-Hour Min / Max	5 / 24	7 / 25	5 / 20	1
		Relative Humidity (Acurite)	At Start / Stop (%)	16 / 14	21 / 31	16 / 17	1
			24-Hour Min / Max	14 / 51	16 / 53	16 / 57	1
Day 3	Date: 2/23/23	Temperature (Acurite)	At Start / Stop (°C)	24 / 19	22 / 22	17 / 17	1
			24-Hour Min / Max	19 / 25	21 / 22	15 / 17	1
		Relative Humidity (Acurite)	At Start / Stop (%)	42 / 41	31 / 35	17 / 45	1
			24-Hour Min / Max	36 / 46	31 / 37	15 / 45	1
Day 4	Date: 2/24/23	Temperature (Acurite)	At Start / Stop (°C)	19 / 22	21 / 21	17 / 17	1
			24-Hour Min / Max	5 / 22	5 / 22	5 / 22	1
		Relative Humidity (Acurite)	At Start / Stop (%)	41 / 79	35 / 89	45 / 78	1
			24-Hour Min / Max	41 / 100	35 / 86	<sup>PV</sup> 37 / 86	1

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# Attachment D

## **Sampling Protocol**

*December 13, 2022*



**SAMPLING PROTOCOL FOR  
METAM SODIUM,  
1,3-DICHLOROPENE, AND  
CHLOROPICRIN IN EASTERN  
COACHELLA VALLEY**

Prepared by  
Community Air Monitoring Branch  
Monitoring and Laboratory Division  
12/13/2022

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## 1. Study Locations

Sampling is planned to take place within the Eastern Coachella Valley (ECV) Assembly Bill 617 (AB617) boundaries. Due to the small size of the community, a background sampling location will not be available. One site will be selected as the quality control (QC) location and will have an additional set of samplers to run QC samples.

The following sites have been approved by the community steering committee (CSC):

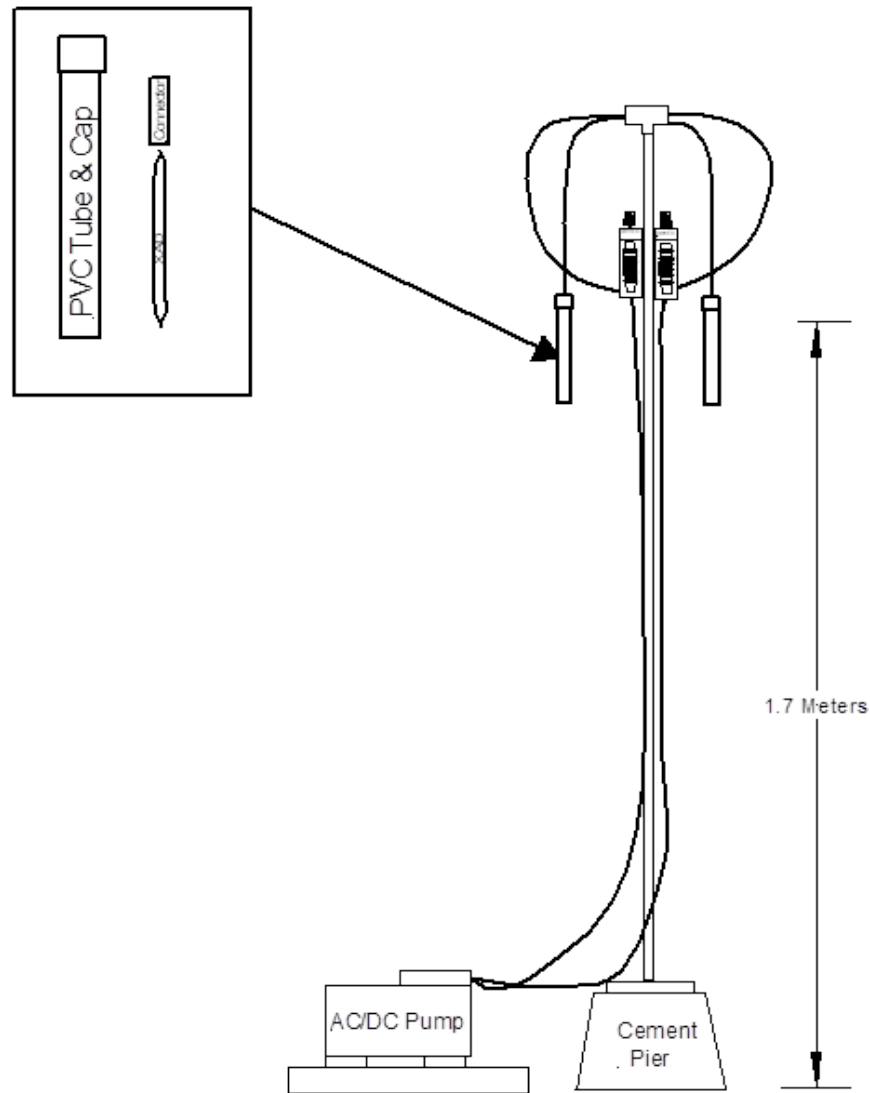
Table 1 - Sampling Site Names and Locations

Site Name	Address	Coordinates
Mecca Fire Station 40 ( <b>Quality Control</b> )	91350 66th Ave, Mecca, CA 92254	33.569733, -116.072808
Torres Martinez Desert Cahuilla Indians air monitoring station	66725 Martinez Rd, Thermal, CA 92274	33.561153, -116.153419
Thermal Fire Station 39	86911 Avenue 58, Thermal, CA 92274	33.626767, - 116.147514

## 2. Study Design

Prior the start of the sampling campaign, sampling equipment shall be installed at each location. A duplicate set of samplers shall be installed at the pre-determined QC location. Figure 1 depicts a standard pesticide cartridge sampler setup.

Figure 1 - Cartridge Sampler Setup



MITC, 1,3-D, and chloropicrin sampling will occur simultaneously on a pre-determined, randomized weekly schedule for 13 weeks. During the 13-week sampling period, four consecutive 24-hour samples will be collected in sequence at each sampling location each week. The sample start and end times will vary depending on field staff work schedules. Field staff will start and retrieve samples at their arrival to each site. Field spikes (FS), field blanks (FB), and collocated duplicate (CO) samples will each collected once a week at the selected QC site.

Field spikes will be prepared by the laboratory on a weekly basis. Depending on the location of the field staff that will be in the field for that week, the spikes will either be picked up by local field staff or shipped to the Riverside headquarters. Field staff will notify the Northern Laboratory Branch of the spike

delivery method one week in advance. The remainder of the sampling media do not require refrigeration and may be picked up or shipped following the laboratory’s preferred handling method.

If CAMB staff is local, they will transport the cartridges to and from MLD’s laboratory in Sacramento, and to and from each sampling location. If Riverside staff are completing the field work for the week, samples will be shipped to the Southern California office in an insulated container/ice chest with ice blocks to maintain a temperature of <math>5^{\circ}</math> Celsius for the duration of the shipment. The cartridges should not be exposed to any extreme conditions or subjected to rough handling that may cause loss or degradation to the sample. The sample temperature will be monitored using 5° WarmMark temperature strips that will be activated immediately before the samples are picked up or packed for shipment. The site operator shall record the temperature of the field spikes on the chain-of-custody (COC) upon receipt.

The field spikes shall arrive to the QC sampling location with no red indicators in the windows to remain valid and usable for sampling. Field spikes must be stored below 5° Celsius except during sampling. The site operator shall have available a sufficient number of ice packs or equivalent dry ice to keep the field spikes and sampled cartridges below 5° Celsius for the duration of the sampling week and during final shipment/transport. If the samples are not immediately shipped at the end of each week, they must be stored in a freezer and shipped as soon as possible.

Table 2 provides a summary of the weekly sampling needs.

Table 2 - Weekly Sampling Summary

Analyte	Measurement/ Sampling Frequency	Sample Duration (Hours)	Sample Flow Rate (SCCM)	Site 1	Site 2	Site 3	Additional QC (One each/week)	Total number of samples/week
MITC/1,3-D	4x/week	24±1	25±10%	X	X	X	FB, FS, CO	15
Chloropicrin	4x/week	24±1	100±10%	X	X	X	FB, FS, CO	15

Sampling times will be recorded in Pacific Standard Time (PST) and the chain-of-custody form (COC) and field data sheet (FDS) will be completed as such.

Field operations will require a variety of equipment and shall include the following:

List of Field Equipment

<u>Quantity</u>	<u>Item Description</u>
(1)	25-foot measuring tape
(1)	Global Positioning System (GPS) with backup batteries and carrying case
(1)	Digital camera with backup batteries and carrying case
(2)	Alicat Whisper or equivalent NIST certified flow meter with the appropriate flow range

- (10) Pesticide samplers each equipped with one sampling train and one rotameter
- (10) Vacuum Pump
- (4) Acurite Digital Thermometer and Hygrometer monitors
- (230) XAD-4 Sorbent Tubes/Cartridges
- (230) Thermal Desorption Sorbent Tubes
- (2) ThermoSafe 422 Ice Storage Chest or equivalent
- (10) Large reusable ice blocks or equivalent dry ice

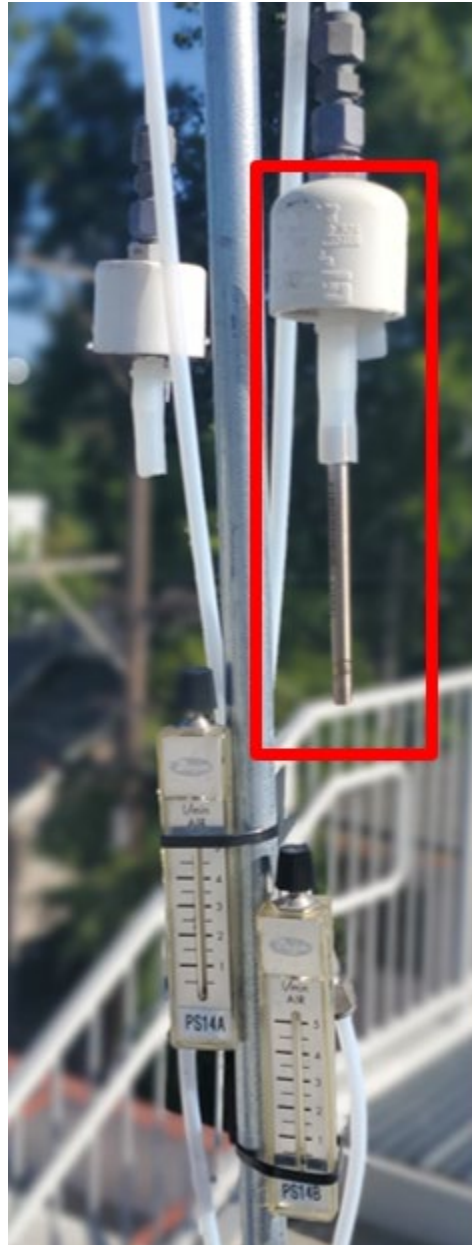
The air samplers will consist of an AC or DC powered pump capable of drawing at least 1000 CCM per minute. Sample flow will be controlled by an in-line rotameter and will be adjusted prior to each sample run to closely match the setpoint. Sample flow rates will be checked with a National Institute of Standards and Technology (NIST) traceable flow meter. At the start of each sampling period, the flow rate of the samplers shall be set to the pre-determined setpoint  $\pm 10\%$ . Field staff will check the end flow rate of each sample just before stopping and retrieving said sample. The end flow should be within 20% of the setpoint upon sample retrieval. Each sample will run  $24 \pm 1$  hours. Exact sampling start and end times may vary. Samples outside of the flow and/or time criteria will be flagged. Prior to sampling the XAD cartridge shall be labeled as depicted in Figure 2.

Figure 2 - Sample Cartridge with Label



The MITC/1,3-D and chloropicrin shall be inserted into the sampler following the indicated flow direction of each cartridge. Both MITC/1,3-D and chloropicrin cartridges must be inserted with the arrow pointed downstream. Figure 3 shows a correctly inserted MITC/1,3-D cartridge.

Figure 3 - MITC/1,3-D Cartridge Loaded into Sampler



The procedure for sampling both MITC/1,3-D and chloropicrin shall follow these steps and shall be repeated for each site:

1. Prepare cartridges for sampling
  - a. Verify Tube ID of TD cartridge against COC
  - b. Record site name and start date & time on COC
  - c. Record site name, sample number, sample barcode, start date & time and the elapsed time meter reading on FDS
  - d. Prepare chloropicrin cartridge
    - i. Using a glass cutter or equivalent to snip both ends of a new XAD cartridge
    - ii. Ensure cartridge is intact with no cracks down the length of the glass
      1. If cracked, dispose of cartridge and repeat step I with new cartridge
    - iii. Attach label as depicted in Figure 2
  - e. Remove both caps of the MITC/1,3-D cartridge
2. Load sample cartridge or field spike (if applicable) onto sampler to the surgical tubing/inlet
  - a. Ensure the arrow printed on the cartridge is facing the correct direction
  - b. Thermal desorption field spikes may have a visual indicator for the spike such as stainless steel caps instead of brass caps
3. Start sample pump on manual mode
4. Attach flow meter to upstream side of cartridge
5. Allow flow to stabilize
6. Verify flow rate
  - a. Is flow rate within 10% of the setpoint?
  - b. Adjust flow via the rotameter knob to closely match the setpoint, if necessary
  - c. Record starting flow value on FDS
7. Remove flow meter
8. Attach solar shield to protect the sample cartridges
9. Close the pump box and battery boxes, if applicable
10. Fill out remainder of the COC and FDS
  - a. Hard reset temperature/RH monitor by pulling the battery for 10 seconds and re-installing battery
    - i. Record current/start temperature (from Alicat) and humidity (from Acurite) on COC
    - ii. Record current/start temperature, barometric pressure, and humidity from Alicat/Acurite on FDS
11. Allow sampler to run for 24±1 hours
12. After 24±1 hours (subsequent day), remove the solar shield and attach flow meter while the sampler is still running
13. Allow flow to stabilize
14. Record flow value on FDS
  - a. Flow should be within 20% of setpoint
    - i. If not, flag sample
15. Stop sample pump
  - a. Record stop date & time and the elapsed time meter reading on FDS
    - i. If total sample time is not within 24±1 hours, flag sample
16. Remove sample cartridge
  - a. Place protective caps on sample cartridge

- i. XAD - Place entire XAD cartridge with caps into culture tube
    - ii. TD – Place TD tube back into protective foam sleeve
  - b. Place culture tube and protective sleeve in zipper lock bag
    - i. One small bag should contain all of the sampled XAD and TD tubes for the day
  - c. Immediately place samples into ice chest with sufficient frozen reusable ice blocks or dry ice
- 17. Record relevant data
  - a. Record current temperature (from Alicat) and humidity (from Acurite) on COC
  - b. Record current/end and 24-hour min/max temperature, barometric pressure, and humidity from Alicat and Acurite on FDS
- 18. Check the entire sampling system for any issues or leaks
- 19. Repeat steps 1-18, if necessary (on sample days 2,3, and 4)
  - a. If sampling is complete for the week, reattach solar shield and close the pump and battery boxes, if applicable

The site operator shall plan to arrive at each site within 24±1 hours of the sample start to retrieve each sample. Upon stopping the sampler and removal of the cartridge, the MITC/1,3-D and chloropicrin cartridges must immediately be capped at both ends and be stored in a freezer or ice chest with ice blocks or dry ice below 5° Celsius. Brass/stainless steel caps shall be attached to the thermal desorption tubes immediately after the sample is retrieved as shown in Figure 4. The brass/stainless steel caps on the MITC/1,3-D samples should only be finger tight and no tools should be used. The chloropicrin cartridges will be capped with the provided caps and labeled with the provided sample labels. All samples must be inserted into a sealable culture tube or protective case to prevent contamination of the sample. Figure 5 shows an XAD cartridge inside of a plastic culture tube.

The COC will be completed to include the sample identification number, sample location, sample start time, and local temperature and relative humidity values. If possible, field staff will record the minimum and maximum temperature and humidity values during the sampling period. A separate FDS will contain additional information such as the sampler start and end flow rates, flow meter barcode, elapsed time meter readings, and local weather conditions. Figure 6 shows a blank FDS.

For the second, third, and fourth samples of the week, the sampler will be set up to run immediately after the retrieval of the previous sample following the above instructions. It will be the responsibility of the site operator to maintain data integrity of all samples and retrieve samples in a timely manner. Samples must be retrieved within 24±1 hours of the start time or they will be flagged. The site operator shall plan to set up and retrieve samples following the same site order for the remainder of the week.

After retrieval of the fourth sample of the week, the site operator shall turn off the pump and reattach the solar shield to the sampler. Any pump and battery boxes shall be shut. The site operator shall check the overall condition of the sampler(s) and fix any issues prior to the start of the next sampling week.

Figure 4 - Thermal Desorption Sample Tube with Brass Caps



Figure 5 - XAD Cartridge in Culture Tube





### Figure 6 - Blank Field Data Sheet

California Air Resources Board Field Data Sheet  
Eastern Coachella Valley Pesticide Monitoring

Site Operator: \_\_\_\_\_ Week #: \_\_\_\_\_ Day: \_\_\_\_\_

Site		Thermal Fire Station 39		Torres Martinez Desert Cahulla Indians AMS		Mecca Fire Station 40			
Sample Name (Site - # - *P/CO/FS/FB)		TFS (XAD) -	TFS (TD) -	TM (XAD) -	TM (TD) -	MFS (XAD) -	MFS (TD) -	MFS (XAD) - (FB / FS / CO)	MFS (TD) - (FB / FS / CO)
Barcode									
Tube ID									
Sample Start (Date, PST)									
Sample Stop (Date, PST)									
ETM (Start / Stop (Hours))		/	/	/	/	/	/	/	/
Flow (Start / Stop (CCM))		/	/	/	/	/	/	/	/
Temperature (Alicat)	At Start / Stop (°C)	/	/	/	/	/	/	/	/
	24-Hour Min / Max	/	/	/	/	/	/	/	/
Relative Humidity (Acurite)	At Start / Stop (%)	/	/	/	/	/	/	/	/
	24-Hour Min / Max	/	/	/	/	/	/	/	/
Barometric Pressure (Alicat)	At Start / Stop (mmHg)								
Precipitation (At Start / Stop)**		N L M H / N L M H	N L M H / N L M H	N L M H / N L M H	N L M H / N L M H	N L M H / N L M H	N L M H / N L M H	N L M H / N L M H	N L M H / N L M H
Wind (At Start / Stop)***		S L M H / S L M H	S L M H / S L M H	S L M H / S L M H	S L M H / S L M H	S L M H / S L M H	S L M H / S L M H	S L M H / S L M H	S L M H / S L M H

\*Circle One, If Applicable - Primary, Field Blank (FB), Field Spike (FS) Collocated (CO)  
\*\*Circle One - None (N), Light (L), Moderate (M), Heavy (H)  
\*\*\*Circle One - Still (S), Light (L), Moderate (M), Heavy (H)

Field Notes / Comments			
Flow Meter SN / Barcode(s)			

Shipped / Delivered to Lab (Date, PST, Initials)	
Shipped / Delivered <5° Celsius?	Y / N

<small>*For Sacramento Drop Off Only*</small>	
Received By Lab (Date, PST, Initials)	
Received <5° Celsius?	Y / N

ECV Pesticide  
Rev: 12/09/22

At the end of each sampling week, the site operator shall prepare all samples for transport/shipping back to Sacramento. All associated paperwork shall be copied/photographed for backup purposes. All samples shall be placed in zipper lock bags containing all the samples for each day. The associated COC forms shall be included in the bags. The FDSs shall be forwarded to the project lead. All the daily sample bags for the week shall be placed in a single larger zipper lock bag, if possible. Staff shall insert an activated 5° WarmMark temperature strip into the larger bag. The entire sample package shall be placed into an insulated container with frozen ice packs or dry ice to maintain a sample temperature of below 5° Celsius. If not shipped or transported immediately, the samples may be placed in a freezer.

If local staff is performing the field operations for the week, they can secure the entire insulated container(s) or ice chest(s) in their vehicle for transport back to Sacramento. If using airline accommodations, staff shall secure samples within the shipping container to prevent damage. Staff must ensure that enough frozen ice packs or dry ice is included to maintain a temperature a sample temperature of below 5° Celsius for the duration of their travels. Staff shall deliver the frozen samples to a laboratory sample freezer or to the Laboratory Support Section’s Sample Handling Team as soon as possible.

If Riverside staff is conducting field operations for the week, staff shall prepare the samples for shipment. Daily sample packages can be separated so they can be accommodated by the provided shipping containers. The ice packs shall be frozen for at least 24-hours prior to shipment. All samples shall be packed and secured as they were received. Multiple shipping containers may be used. Shipping labels should be addressed per the Laboratory Support Section's preferred method. Tracking numbers shall be provided to the Laboratory Support Section upon drop off to the shipping company.

### 3. Sampling and Analysis Procedures

Sampling will occur as scheduled unless inclement weather poses a safety hazard to field staff. Samplers may be set up in elevated locations and on rooftops without safety railings. Field staff safety will be prioritized. In the event of inclement weather such as high winds or heavy rain, field staff will determine if it is safe to set up and retrieve samples. If it is determined that it is unsafe to proceed and a sampling event is missed, a make-up sample may be collected if time and resources permit.

Every week, NLB will supply CAMB staff with new XAD cartridges and pre-logged thermal desorption tubes for primary and QC samples along with an additional 10% of cartridges which will be designated as backups. NLB will provide CAMB with FS for MITC/1,3-D and Chloropicrin that will be available the beginning of each sampling week. FSs must be analyzed within 30 days of spiking and should be returned at the end of each sampling week. Field staff will prioritize sampling of the FSs to occur in the beginning of each sampling week. Laboratory analysis of the samples will follow the appropriate methods. A summary of the methods for each sample type is included in Table 3.

### 4. Field Quality Assurance and Quality Control Procedures

QA and QC procedures for the cartridge samples will follow the flow rates and sample durations listed in Table 2. The site operator will handle all samples with care to avoid breakage and contamination including wearing nitrile gloves and placing samples in protective containers/bags when not sampling.

Instrument flow checks will be performed during set up and just before retrieval of each sample. Starting flow values outside of the setpoint value shall be adjusted to be within 10% prior to each sampling period. The average of start and end values will be used in the calculations of the ambient concentration values. Flow checks will be performed using NIST traceable flow meter(s) with the appropriate flow range(s). Samples outside of the flow and/or time criteria will be flagged.

The sampling instrumentation will also be checked for general operating errors and flow obstructions after each run.

A COC form will accompany each sampling pair of the MITC/1,3-D and chloropicrin cartridges. The site operator shall verify the tube identification number of the MITC/1,3-D cartridge against the COC form. The site operator shall affix the provided sample identification label to every chloropicrin cartridge. A FDS will be completed for each day to include additional field information such as local weather conditions, flow values, and sampler elapsed time meter readings.

QC samples may include field blanks, field spikes, and collocated samples. One of each QC type will be collected once per week at the selected QC location. Field staff will prioritize sampling of the field spike to occur in the beginning of each sampling week.

- **Field Spike (FS)** – Thirteen (13) of each MITC/1,3-D and chloropicrin field spikes will be prepared by the laboratory by injecting 13 with a known concentration of each. The FS will run in collocation at the selected site one time per week.
- **Field Blank (FB)** – Thirteen (13) of each MITC/1,3-D and chloropicrin blanks will be sampled by field staff at pre-determined QC site. The blank cartridge will be loaded on the sampling tree for five minutes, retrieved, and stored in the ice chest for the remainder of the sampling week.
- **Collocated Duplicate (CO)** – A collocated duplicate sample will be sampled and handled as if it were a primary sample.

### Sample Identification

For the chloropicrin samples, laboratory supplied labels will include a sample barcode. MITC/1,3-D cartridges will come from the manufacturer with a permanent identification number. Data on the FDS will include site names, sample numbers, and sample start dates.

Site Name:

- MFS - Mecca Fire Station
- TM - Torres Martinez Desert Cahuilla Indians air monitoring station
- TFS - Thermal Fire Station

Quality Control Samples

- FS = Field Spike
- FB = Field Blank
- CO = Collocated Duplicate

Examples of a sample label are shown below:

- TFS (XAD) - 12/1/22 - 001
  - This designates XAD/chloropicrin primary sample #001 at the Thermal Fire Station for December 1, 2022
- MFS (TD) - 1/2/23 - 005 (FS)
  - This designates thermal desorption/MITC/1,3-D field spike sample #005 at the Mecca Fire Station for January 2, 2023.

## 5. Laboratory Quality Assurance and Quality Control Procedures

The following cartridge validation and analytical quality control criteria will be followed during laboratory analysis.

- **Sample Hold Time:** Sample hold time criteria will follow laboratory's hold time procedures. Samples not analyzed within established hold time will be flagged by the lab.

- **Duplicate/Replicate Analysis:** Laboratory will provide duplicate analytical results and the corresponding relative percent difference (RPD) criteria for duplicative analysis.
- **Reporting Limit (RL):** Sample analysis results less than the RL shall be reported as a less than numerical value. This less than numerical value shall incorporate any dilutions (dilution factor will be included in the report).
- **Analytical Linear Range:** Analytical results greater than 10% of the highest calibration standard shall be diluted and reanalyzed within the calibrated linear range.

Table 3 summarizes the field and laboratory QA and QC that will be implemented.

Table 3 - Field and Laboratory QA/QC

Pesticide	Media	Sampling Duration (Hours)	Sampling Flowrate (SCCM)	Field QC Components	Laboratory QC Components	SOP	Laboratory Instrument
1,3-D	Multi-sorbent thermal desorption tubes, such as Markes 'universal' tubes	24±1	25±10%	FS, FB, CO	ICAL, CCV, Control, MB, Duplicate/Replicate. See SOP for QC criteria.	MLD080	GC/MS
Chloropicrin	XAD-4 sorbent tubes, 600/200mg, custom SKC, or two 400/200mg tubes in tandem (SKC item #226-175)	24±1	100±10%	FS, FB, CO	ICAL, CCV, Control, LCS, MB, Duplicate/Replicate. See SOP for QC criteria.	MLD075	GC/MS or GC/MS/MS
MITC	Multi-sorbent thermal desorption tubes, such as Markes 'universal' tubes	24±1	25±10%	FS, FB, CO	ICAL, CCV, Control, MB, Duplicate/Replicate. See SOP for QC criteria.	MLD080	GC/MS

## 6. Deliverables

### Northern Laboratory Branch

NLB will report validated lab data in analytical units (e.g. ng/sample) to CAMB within 45 days after the month of collection. *NLB will provide CAMB with access to NLB management-approved data via a LIMS database view. This will allow a direct download from the LIMS database to CAMB database. The data in the view will include the following topics:*

1. *Sample identification (Site name, Field Type, Start Sample Date-Time & LIMS ID)*
2. *Analytical results in analytical units*
3. *Reporting limits*
4. *Dilution factors*
5. *Analytical date*
6. *Invalidation information*
7. *Laboratory and/or field comments*
8. *Collocated, Field/Trip Blank, Field Spike analytical results*

*In addition, upon request, NLB can provide CAMB the following:*

9. *All quality control samples, results, and limit checks*
10. *All sample and QC calculation equations*
11. *Copy or location of analytical method or Standard Operating Procedures (SOP) used for analysis*
12. *A listing of any deviations from analytical SOP and this protocol*

### Community Air Monitoring Branch

Within 90 days from receipt of the final results from NLB, CAMB will provide OEHHA/DPR with a report containing the following topics:

1. Personnel Contact List
2. Site Maps
3. Site Photographs
4. Site Descriptions and Measurements (site, sampler, GPS coordinates, inlet height, site-specific comments)
5. Sample Summary Table
6. Field Data Sheets
7. Table of ambient concentration values of all samples
  - a. Calculation of average flow values and laboratory analytical results
  - b. Samples out of the flow and time criteria will be flagged
    - i. Sampling time must be  $24 \pm 1$  hours
    - ii. Sample flow rate must start at setpoint  $\pm 10\%$  and end at setpoint  $\pm 20\%$
8. Flow Meter Certification Report(s)

# Attachment E



## **Laboratory Standard Operating Procedures**



# Standard Operating Procedure for the Analysis of Trichloronitromethane (Chloropicrin) In Ambient Air Using Gas Chromatography/Mass Spectrometry

MLD075  
Revision 1.0

Northern Laboratory Branch  
Monitoring and Laboratory Division

Approval Signatures	Approval Date
 Manisha Singh, Ph.D., Chief Quality Management Branch	1/6/2023
 Michael Werst, Chief Northern Laboratory Branch	1/9/2023

Disclaimer: Mention of any trade name or commercial product in this standard operating procedure does not constitute endorsement or recommendation of this product by the California Air Resources Board. Specific brand names and instrument descriptions listed in the standard operating procedure are for equipment used by the California Air Resources Board's laboratory. Any functionally equivalent instrumentation is acceptable.



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Table 1. Chloropicrin Stock and Intermediate Standards Preparation, page 9

Table 2. Chloropicrin Calibration Standard Preparation, page 10

Table 3. MS Tuning Guide, page 16

Table 4. Quality Control Corrective Actions, page 16

Figure 1. XAD Sorbent Tube, page 12

# Standard Operating Procedure Analysis of Trichloronitromethane (Chloropicrin) in Ambient Air Using Gas Chromatography/Mass Spectrometry

## 1. Scope

This standard operating procedure describes the determination of trichloronitromethane (chloropicrin) in ambient air samples using a gas chromatograph/mass spectrometer (GC/MS) or gas chromatograph/triple quadrupole mass spectrometer (GC/MS/MS). The procedure is for the analysis of chloropicrin collected on XAD-4 sorbent tubes. This Standard Operating Procedure (SOP) is used in conjunction with the Northern Laboratory Branch (NLB) Laboratory Quality Control Manual (QCM).

## 2. Summary of Method

Air samples are collected on 600 milligrams of XAD-4 in glass sorbent tubes. The samples are stored at or below 5 degrees Celsius (°C) until extracted with 4.0 mL of pesticide grade ethyl acetate. The extract is analyzed by a GC/MS with a split/splitless inlet in the selected ion monitoring (SIM) mode. Alternatively, a GC/MS/MS with a Programmable Temperature Vaporizing (PTV) inlet in the selected reaction monitoring (SRM) mode may be used. Sample analysis and quantitation uses an external standard method for instrument calibration.

## 3. Acronyms

Acronym or Term	Definition
°C	Degrees Celsius
CARB	California Air Resources Board
CCV	Continuing Calibration Verification
CS	Control Standard
DPR	Department of Pesticide Regulation
EI	Electron Ionization
EQL	Estimated Quantitation Limit
GC/MS	Gas Chromatography/Mass Spectrometry
GC/MS/MS	Gas Chromatograph/Triple Quadrupole Mass Spectrometer
LCS	Laboratory Control Spike
LIMS	Laboratory Information Management System
LOQ	Limit of Quantitation

<b>Acronym or Term</b>	<b>Definition</b>
m	Meter
MDL	Method Detection Limit
mg/mL	Milligrams per Milliliter
MLD	Monitoring and Laboratory Division
mm	Millimeter
ng/mL	Nanograms per Milliliter
NLB	Northern Laboratory Branch
OLS	Organics Laboratory Section
PFTBA	Perfluorotributylamine
PS	Chloropicrin (military designation)
PTV	Programmable Temperature Vaporizing
QC	Quality Control
QCM	Quality Control Manual
RPD	Relative Percent Difference
SDS	Safety Data Sheet
SIM	Selected Ion Monitoring
SOP	Standard Operating Procedure
SRM	Selected Reaction Monitoring
µg	Microgram
UHP	Ultra-High Purity
µm	Micrometer

#### 4. Definitions

- 4.1. ANALYTICAL BATCH – A set of prepared samples (i.e., extracts) analyzed together as a group in an uninterrupted sequence.
- 4.2. BLANK – Sample media, solvent, or reagent that has not been exposed to the sample stream in order to monitor contamination during sampling, transport, storage, extraction, and/or analysis. The blank is subjected to the same analytical processes as samples.
  - 4.2.1. METHOD BLANK – An XAD-4 sorbent tube that is free of analytes of interest. The sorbent tube is extracted in the same manner and at the same time as samples and is taken through the entire sample analysis process. It is used to monitor the laboratory preparation and analysis systems for interferences and contamination.
  - 4.2.2. SOLVENT BLANK – An aliquot of solvent analyzed with each batch of samples to indicate any contamination or artifacts that may come from the reagents and analytical steps.
  - 4.2.3. FIELD BLANK – An XAD-4 sorbent tube that goes out to the field

and is treated as a sample where it will be connected to a sampler, disconnected without pulling an air sample, then returned to the laboratory. Field blanks are treated like samples in the laboratory. The field blank identifies any potential contamination that may occur from ambient conditions, sample handling, or other sources that samples may be exposed to.

- 4.2.4. TRIP BLANK – An unopened XAD-4 sorbent tube which travels to the field and then back to the laboratory. Trip blanks are treated like samples in the laboratory. The trip blank may aid in identifying any potential issues arising through transportation which could affect the sorbent.
- 4.3. BREAKTHROUGH – Breakthrough occurs when analytes of interest migrate through the XAD-4 sorbent tube from the primary sorbent bed to the secondary sorbent bed.
- 4.4. BREAKTHROUGH ANALYSIS – Breakthrough analysis refers to analysis of the secondary sorbent bed of the XAD-4 sorbent tube to determine if any amount of sample was not retained in the primary sorbent bed. One breakthrough analysis is done per every ten samples, at a minimum. Breakthrough analysis is also done for any samples which exceed the breakthrough threshold limit.
- 4.5. BREAKTHROUGH THRESHOLD LIMIT – The concentration found in the primary sorbent bed that would require analysis of the secondary sorbent bed. The breakthrough threshold limit is set at > 500 ng/mL. Therefore, detections at over 500 ng/mL require analysis of the secondary sorbent bed to check for breakthrough.
- 4.6. CALIBRATION CURVE – The graphical relationship between the known values, such as concentrations, of a series of calibration standards and their instrument response.
- 4.7. CARRYOVER – Contamination from an adjacent sample causing false or inaccurate results in the subsequent sample(s).
- 4.8. CARRYOVER CHECK – A blank which is analyzed after a high concentration sample to determine if any carryover may have occurred.
- 4.9. COLLOCATED SAMPLE – A sample used to assess total precision (sampling and analysis) which is located within a specified radius of the primary sampler. The collocated sampler must be identical in configuration and operation to the primary sampler. The collocated sample is processed identically to the primary sample.

- 4.10. CONTINUING CALIBRATION VERIFICATION (CCV) – A midpoint calibration standard analyzed, at a minimum, once per every ten samples and at the end of the analytical batch to confirm the stability of the instrument calibration.
- 4.11. CONTROL STANDARD (CS) – A midpoint standard analyzed after the calibration curve. The CS should be prepared with a stock standard that is different from what was used to prepare the calibration standard, when available. The CS must be analyzed at a minimum of once per analytical batch.
- 4.12. DILUTION – Dilution is the process of reducing the concentration of a solute in solution, usually by adding more solvent. Dilutions are required when any sample concentration exceeds the calibrated linear range by more than ten percent. After diluting, the concentration should fall within the calibrated linear range. Multiple dilutions are sometimes necessary.
- 4.13. ESTIMATED QUANTITATION LIMIT (EQL) – The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. The EQL is generally five to ten times the MDL. The EQL may be used as the reporting limit if requested by the client.
- 4.14. EXTRACTION BATCH - A batch of samples and associated quality control (QC) which are taken through the extraction process together. The extraction batch is typically analyzed in one analytical batch.
- 4.15. HOLD TIME – The maximum amount of time a sample or extract may be stored prior to performing an operation. Extraction hold time is from sample collection to extracting the sample. Analytical hold time is from sample extraction to analysis.
- 4.16. INTERFERENCE – Discrete artifacts or elevated baselines from solvents, reagents, glassware, and other sample processing hardware that may cause misinterpretation of the chromatographic data. Other interferences include matrix effects, which may cause the target compound to recover higher or lower than the expected value.
- 4.17. METHOD DETECTION LIMIT (MDL) – A statistically derived value that is defined as being the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix (including sample media) containing the analyte. The procedure used to determine the MDL is documented in the NLB's Quality Control Manual.

- 4.18. REPLICATE – A second analysis of a randomly chosen sample within an analytical batch.
- 4.19. REPORTING LIMIT (RL) – A value that is equivalent to or greater than the limit of quantitation. Detections below the reporting limit are typically reported as “< RL” unless otherwise requested by the client.
- 4.20. SPIKE – A known concentration of a standard containing target analytes is added to sampling media or reagent. Spike recoveries indicate efficiency of laboratory or field procedures.
  - 4.20.1. FIELD SPIKE – An XAD-4 sorbent tube is spiked with a known concentration of target analyte that goes out to the field and is treated as a sample, where it will be connected to a collocated sampler and sampled as normal to check for matrix effects. The unspiked collocated sample results are subtracted from the field spike results to determine field spike percent recovery.
  - 4.20.2. LABORATORY CONTROL SPIKE (LCS) – An XAD-4 sorbent tube is spiked with a known concentration of target analyte that is prepared, extracted, and analyzed with and in the same manner as samples. LCS recoveries indicate extraction efficiency.
  - 4.20.3. TRIP SPIKE – An XAD-4 sorbent tube is spiked with a known concentration of target analyte, shipped along with sampling media, and is taken into the field, but returned unopened to the laboratory. Trip spike recoveries indicate if samples may have been affected by shipping conditions.

## **5. Interferences and Limitations**

- 5.1. Interferences may be caused by contaminants in the filters, sampling media, solvents, sample extraction apparatus, filtration apparatus, and glassware. A method blank is extracted and analyzed with each set of samples to monitor these possible sources of contamination.
- 5.2. The analytical system may become contaminated when samples containing high compound concentrations are analyzed. If there is suspected carryover from a high concentration sample, the succeeding sample(s) is reanalyzed to verify results.
- 5.3. High boiling point compounds trapped on the column may cause baseline shifting, or the appearance of broad, extraneous “ghost” peaks. The column should be baked out to remove these contaminants prior to analyzing samples. The bake out temperature must not exceed the column’s maximum operating temperature.

## **6. Personnel Qualifications and Training**

Prior to performing this method, new personnel must be trained by staff with detailed knowledge of this method. Personnel must be trained to understand the program's requirements per any applicable State and federal regulations and guidance, and this SOP. Personnel will also be trained on how to safely and properly operate the equipment needed to perform the method, the quality assurance components, and Laboratory Information Management System (LIMS) functionality pertaining to the program.

Personnel will provide an initial demonstration of capability prior to performing this method on real-world samples (i.e., data for record).

Training will be documented and maintained by the laboratory supervisor.

## **7. Safety Requirements**

All personnel must follow the general health and safety requirements found in Northern Laboratory Branch's (NLB) Chemical Hygiene Plan.

Chloropicrin is used in agriculture as a soil fumigant. It has also been used as a chemical warfare agent (military designation is PS) and a riot control agent. Chloropicrin is an irritant with characteristics of a tear gas and has an intensely irritating odor. Inhalation of 1 part per million (ppm) causes eye irritation and can warn of exposure. The analyst should refer to the safety data sheets (SDS) for additional information regarding chemical properties and precautions.

The handling and preparation of samples, extracts, and standards must be conducted in a hood. Proper personal protective equipment must be worn, including neoprene or nitrile gloves, safety glasses, and a laboratory safety coat. Analysts should ensure that engineering and air quality controls are active and operating properly to reduce or eliminate off-gassing from instrument exhaust ports.

This method uses high pressure gases. Refer to safe handling practices regarding compressed gases when moving and installing the cylinders.

The GC and MS have heated zones which may cause burns. Avoid contact with these zones and devices when in operation and make certain they are de-energized and at ambient temperature prior to servicing.

## **8. Hazardous Waste**

As chloropicrin waste is categorized as acutely toxic, the waste must be disposed of within 90 calendar days upon accumulation of 1.0 kg. The NLB Health &

Safety Coordinator should be notified upon accumulation of 1.0 kg (approximately two pounds) of this waste. Waste consists of liquid chloropicrin and unanalyzed XAD-4 sorbent tubes used to capture chloropicrin. Chloropicrin waste should be stored in the waste containers provided for this purpose. The containers should be properly labeled with appropriate hazardous waste labels indicating the contents and start date of accumulation.

## 9. Equipment and Supplies

- 9.1. Gas Chromatograph: system with programmable oven, electronic pressure control for capillary columns, heated injector, and automated liquid injector
- 9.2. Column: Restek Rtx-200, 60 meter, 320  $\mu\text{m}$  inner diameter, 0.5  $\mu\text{m}$  film thickness, or equivalent. For GC/MS/MS analysis, a Thermo Fisher TG-5SILMS 30 m x 0.25 mm x 0.25  $\mu\text{m}$  column (or equivalent) may be used
- 9.3. Detector: single quadrupole Mass Selective Detector or triple quadrupole Mass Selective Detector
- 9.4. XAD-4 sorbent tubes: 600/200 mg custom tube, SKC. Two 400/200 mg XAD-4 tubes such as SKC, Incorporated (catalog # 226-175) may be used in tandem if the custom tube is not available
- 9.5. Syringe Filters: Disposable PTFE 0.2  $\mu\text{m}$  filter, such as VWR Cat. No. 28145-491
- 9.6. Disposable Syringes: such as BD disposable syringes (part # 309656) 3 – 5 mL volume
- 9.7. 4 mL glass storage vials with Teflon lined screw caps such as VWR (part # 66009-876)
- 9.8. Screw-cap test tubes, such as Globe Scientific part # 89497-770
- 9.9. Ultrasonic bath: capable of temperature programming such as Branson model 8510
- 9.10. 8 mL glass extraction vials such as Kimble Chase (part # 60940A-8)
- 9.11. Autosampler deactivated vials with cap such as National Kit 100-pack (part # CERT5000-82W)
- 9.12. Auto sampler flat bottom inserts such as VWR 0.4 mL 1000-pack (Cat. No. 82028-454)



- 9.13. 25 mL volumetric flasks
- 9.14. Analytical balance capable of weighing as low as 0.1 mg
- 9.15. Eppendorf electronic pipettes: 100-5000  $\mu$ L volume ranges
- 9.16. Disposable Pasteur pipettes: 5  $\frac{3}{4}$ " such as Duran Wheaton Kimble (part # 63A54)
- 9.17. Tweezers
- 9.18. Hand-held glass cutter
- 9.19. Disposable nitrile or neoprene gloves to handle organic solvents
- 9.20. Hamilton microliter syringes (or equivalent): 10  $\mu$ L, 50  $\mu$ L, and 250  $\mu$ L volume ranges
- 9.21. Refrigerator/freezer capable of maintaining a consistent temperature at or below 5°C

## 10. Reagents

- 10.1. Ethyl acetate solvent, pesticide grade or better, CAS No 141-78-6
- 10.2. Chloropicrin, such as Chem Service, 98.8 percent (part # N-11452-1G, neat standard)
- 10.3. Perfluorotributylamine (PFTBA) tune solution
- 10.4. Helium Ultra-High Purity (UHP), 99.999 percent for use as the GC column carrier gas
- 10.5. Argon, (UHP), 99.999 percent for use with the triple quadrupole MS

## 11. Standards Preparation

All standard solutions are prepared using ethyl acetate (pesticide grade or better) as the solvent. The solutions are stored at or below 5°C until used. Standard solutions are equilibrated to room temperature before use, and returned to cold storage at the end of the work day.

Neat standards and standards purchased in solution are valid up to the manufacturer's expiration date. Working standards expire one year from preparation date, but are not to exceed the expiration date of the neat or parent solution. Standard preparation is documented in a logbook.

## 11.1. Calibration Standards

11.1.1. A 1.0 mg/mL chloropicrin stock standard is prepared by weighing out approximately 0.025 g neat chloropicrin in a 25 mL volumetric flask and filling to volume with ethyl acetate.

Intermediate A, a 50,000 ng/mL intermediate standard, is made using a 1.25 mL aliquot of the 1.0 mg/mL stock solution in a 25 mL volumetric flask and filling to volume with ethyl acetate.

Intermediate B, a 5,000 ng/mL intermediate standard, is made using a 2.5 mL aliquot of Intermediate A in a 25 mL volumetric flask and filling to volume with ethyl acetate. Intermediate C, a 500 ng/mL standard, is made using a 2.5 mL aliquot of Intermediate B in a 25 mL volumetric flask. Volumes may be adjusted to accommodate for the concentration of the stock standard solution and/or if smaller volumetric flasks are used. See Table 1 for a summary.

**Table 1. Chloropicrin Stock and Intermediate Standards Preparation**

<b>Stock Standard (ng/mL)</b>	<b>Amount</b>	<b>Final Volume (mL)</b>	<b>Final Concentration</b>
Stock	0.025 g neat	25	1.0 mg/mL
Intermediate A	1.25 mL of stock	25	50,000 ng/mL
Intermediate B	2.5 mL of Intermediate A	25	5,000 ng/mL
Intermediate C	2.5 mL of Intermediate B	25	500 ng/mL

11.1.2. Calibration standards: Table 2 lists calibration curve standard preparation. Five calibration levels ranging from 2 ng/mL to 500 ng/mL is recommended. These standards are made by spiking aliquots of intermediate standard solution onto XAD-4 sorbent tubes. The tubes are extracted with 4.0 mL of ethyl acetate and sonicated at ambient temperature for one hour. The extracts are filtered and stored at or below 5°C.

**Table 2. Chloropicrin Calibration Standard Preparation**

Calibration Level	Standard	Spike Amount (µL)	Extraction Volume (mL)	Final Concentration (ng/mL)
1	Intermediate C	16	4	2
2	Intermediate B	8	4	10
3	Intermediate B	40	4	50
4	Intermediate A	8	4	100
5	Intermediate A	40	4	500

### 11.2. Control Standard (CS)

A mid-level chloropicrin control standard is prepared in the same manner as described in section 11.1, using a second source standard. If a neat standard is used to make the CS, preparation may follow this scheme: prepare a 1.0 mg/mL CS stock in the same manner as described in section 11.1.1, using a second source standard. A 10,000 ng/mL CS intermediate is prepared by diluting 0.25 mL of CS stock to 25 mL in a volumetric flask, using ethyl acetate as the diluent.

If a chloropicrin standard purchased in solution (such as ChemService item # S-11452B1-1mL, 100 µg/mL) is used as the second source, prepare a CS intermediate at 8,000 – 10,000 ng/mL, using ethyl acetate as the diluent. Preparation may follow this scheme: add 0.20 mL of 100 µg/mL chloropicrin solution to a 2.0 mL volumetric flask and bring to volume for a final concentration of 10,000 ng/mL, using ethyl acetate as the diluent.

A mid-level working CS (40 – 60 ng/mL) is prepared from the intermediate CS standard by spiking the appropriate amount onto an XAD-4 sorbent tube. The tube is extracted with 4.0 mL of ethyl acetate and sonicated at ambient temperature for one hour. The extract is filtered and stored at or below 5°C.

A CS is analyzed after the 5-point calibration curve. The CS criteria are based on established control limits.

### 11.3. Laboratory Control Spike (LCS)

A spiked 30 ng/mL LCS is prepared by spiking 24 µL of Intermediate B onto an XAD-4 sorbent tube. The tube is extracted with 4.0 mL of ethyl acetate and sonicated at ambient temperature for one hour. The extract is filtered and stored at or below 5°C. One LCS is to be extracted and analyzed with every extraction batch.

#### 11.4. Field Spikes and Trip Spikes

Prepare the appropriate number of field spikes and trip spikes, as required by field sampling protocol, by spiking 24  $\mu\text{L}$  of Intermediate B onto each XAD-4 sorbent tube. Properly label the XAD-4 sorbent tubes with the date, time, and description (either “field spike” or “trip spike”). Spiked tubes are placed in individual screw-top test tubes and stored at or below 5°C.

### 12. Media and Sample Storage

- 12.1. Media Storage – Prior to sampling, unopened XAD-4 tubes are stored and shipped at ambient temperature.
- 12.2. Spiked Field QC Storage - Spiked XAD-4 field QC tubes (field spikes, trip spikes) are stored at or below 5°C prior to sampling.
- 12.3. XAD-4 Sample Storage – After sampling, all XAD-4 tubes are stored at or below 5°C until extraction.
- 12.4. Extract Storage – After extraction, all extracts are stored at or below 5°C.

### 13. Sample Extraction and Analysis

All samples (primary and secondary sorbent beds) are extracted with 4 mL of ethyl acetate (pesticide grade or better).

#### 13.1. Sample Preparation and Extraction

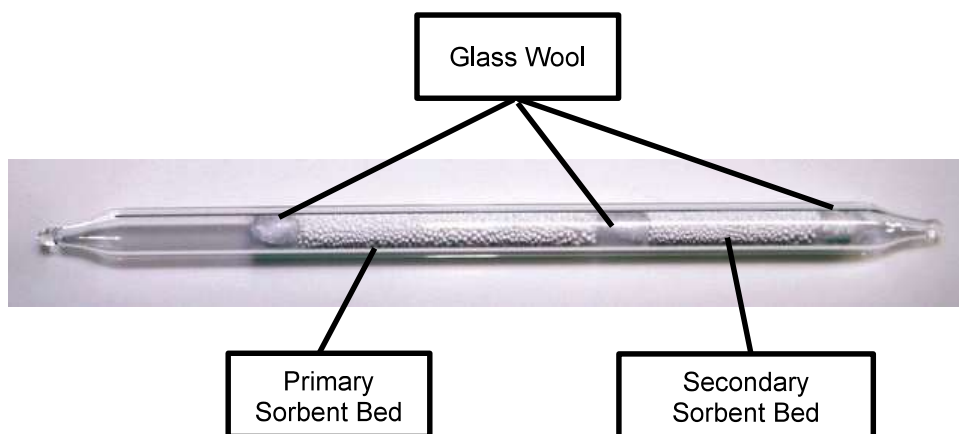
- 13.1.1. Prior to sample analysis, remove the samples from cold storage and allow them to equilibrate to room temperature. Samples must be extracted within 28 days of collection.
- 13.1.2. Obtain the necessary amount of 8 mL glass vials (one for each XAD-4 sorbent tube) and put them on a sampling tray. Label each one clearly with the appropriate standard or sample IDs for each sample.
- 13.1.3. The custom XAD-4 sorbent tube is comprised of two sections separated by glass wool. The longer end (primary sorbent bed) contains 600 mg of XAD-4. It is used for sample analysis. The short end (secondary sorbent bed) contains 200 mg of XAD-4 and is used to test for sample breakthrough. One breakthrough (secondary sorbent bed) analysis should be done for every ten samples, at a minimum.

If custom 600/200 mg XAD-4 tubes are not available, 400/200 mg

tubes can be used. The XAD-4 400/200 tube is comprised of two sections separated by glass wool. The longer end contains 400 mg of XAD-4, and the shorter end contains 200 mg. 600 mg of XAD-4 is needed to trap chloropicrin when sampled at 24 hours using a flow rate of 0.1 L/min; therefore, both sections of the tube must be used to contain the sample. For breakthrough monitoring, a second XAD tube must be used in tandem with the primary tube.

- 13.1.4. Remove the XAD-4 sorbent tube from the screw-top container. Remove the red cap from the end of the primary sorbent bed. Remove the glass wool plug using tweezers. If any of the glass wool contains XAD-4 sorbent, shake off the XAD-4 sorbent into the vial. The glass wool itself can be added to the vial if XAD-4 adheres to the wool. See Figure 1.

**Figure 1. XAD Sorbent Tube**



- 13.1.5. Pour the XAD-4 sorbent from the primary sorbent bed into its correspondingly labeled 8 mL glass vial.
- 13.1.6. Score the tube with the glass cutter just in front of the second section of glass wool and carefully break the tube. Using an automatic pipette, rinse the empty primary sorbent bed of the cut-off tube with 4 mL of ethyl acetate collecting the solvent in the 8 mL glass vial. Retain the secondary sorbent bed for breakthrough analysis, if needed.
- 13.1.7. If 400/200 mg XAD-4 tubes were used, then the 200 mg portion of the tube must be combined with the 400 mg section. Remove the glass wool dividing the 200 mg section of XAD and pour the XAD sorbent from the secondary sorbent bed into the 8 mL glass vial. Remove the final glass wool plug from the tube. Using an

automatic pipette, rinse the empty tube with 4 mL of ethyl acetate, collecting the solvent in the 8 mL glass vial.

- 13.1.8. Cap the vial securely.
- 13.1.9. If breakthrough analysis is being done, extract the breakthrough sorbent bed as described in sections 13.1.4 – 13.1.8 as a separate sample, using 4 mL of ethyl acetate. The breakthrough sorbent bed is either the 200 mg section of the custom tube, or the primary (400 mg section) sorbent bed of the tandem tube. Shake off any sorbent remaining in the glass wool into the 8 mL vial.
- 13.1.10. Prepare a method blank with every extraction batch by opening an unused, clean XAD-4 sorbent tube.
- 13.1.11. Prepare a LCS with every extraction batch by opening an unused, clean XAD-4 sorbent tube and spiking the XAD-4 sorbent with 24  $\mu\text{L}$  of Intermediate B onto the primary sorbent bed.
- 13.1.12. Repeat steps 13.1.3 through 13.1.8 for the LCS, method blank, applicable field QC, and all samples scheduled for analysis.
- 13.1.13. Fill ultrasonic bath to fill line with water. Place all vials containing extracts in the bath and sonicate for one hour at ambient temperature.
- 13.1.14. Filter each extract into individual 4 mL glass vials using a disposable syringe and a disposable 0.20  $\mu\text{m}$  syringe filter. Label each one clearly with the standard names and preparation dates for each sample.
- 13.1.15. Transfer approximately 250  $\mu\text{L}$  of each extract into individual 1.5 mL auto sampler vials equipped with a 250  $\mu\text{L}$  insert.
- 13.1.16. Randomly choose one sample extract as a replicate to be analyzed a second time. One replicate must be analyzed for every ten samples, at a minimum.
- 13.1.17. Transfer approximately 250  $\mu\text{L}$  of the calibration standards and control standard into individual 1.5 mL auto sampler vials equipped with a 250  $\mu\text{L}$  insert. The extracts and standards are now ready for analysis. If extracts cannot be analyzed on the day of extraction, store the extracts at or below 5°C.
- 13.1.18. All extracted samples must be analyzed within 60 calendar days

of extraction.

## 13.2. Sample Analysis

### 13.2.1. Analytical Sequence

Each analytical run of ten or fewer samples must include bracketing standards, controls, replicates, and blanks as listed below. A 1.5  $\mu$ L injection volume is used for all analyses. The recommended order of analysis is as follows:

- Solvent blank
- Calibration standards
- Control standard
- Solvent blank
- Laboratory Control Spike
- Method Blank
- Samples (up to ten including breakthrough samples)
- Breakthrough analysis (one every ten or fewer samples)
- Replicate (one every ten or fewer samples)
- Solvent blank
- CCV (midpoint calibration standard)

### 13.2.2. Analytical Instrument Conditions

#### 13.2.2.1 Single Quadrupole GC/MS with Split/Splitless Inlet GC:

- Injection port temperature: 200°C
- Splitless injection: split flow 50 mL/min, splitless time 1.0 min
- Purge flow: 5.0 mL/min, constant septum purge
- Vacuum compensation: on
- Gas saver flow: 5 mL/min
- Gas saver time: 2 min
- GC Temperature Program:  
Oven initial 60°C, hold 1 min  
Ramp to 130°C at 15°C/min  
Ramp to 250°C at 35°C/min  
Run time = 10 min
- Column Flow: Helium, constant flow at 2.38 mL/min
- Chloropicrin retention time (approximate): 4.58 min

#### MS:

- Mass Spectrometer: Electron Ionization Single Quadrupole
- MS transfer line temperature: 245°C

- Ion source temperature: 250°C
- Selective Ion Monitoring: chloropicrin: 116.9 (quantitation ion), 118.9, 120.9 (qualitative ions)

#### 13.2.2.2 Triple Quadrupole GC/MS/MS with Programmable Temperature Vaporizing (PTV) Inlet

##### GC:

- Splitless injection: split flow 26 mL/min, splitless time 1 min
- Purge flow: 5 mL/min, constant septum purge
- Vacuum compensation: on
- Gas saver flow: 5 mL/min
- Gas saver time: 2 min
- PTV inlet initial temperature: 70°C, hold 0.05 min
- Transfer: 14.5° C/s to 220°C, hold 0.05 min
- Cleaning: ramp at 14.5°C/s to 275°C, hold for 5min at 75 mL/min flow
- GC Temperature Program:
  - Oven initial 40°C, hold for 0.5 min
  - Ramp to 110°C at 15°C/min
  - Ramp to 250°C at 35°C/min
  - Run time: 10 min
- Column Flow: Helium, constant flow at 1.5 mL/min
- Chloropicrin retention time (approximate): 4.56 min

##### MS:

- Mass Spectrometer: Electron Ionization Triple Quadrupole
- MS transfer line temperature: 245°C
- Ion source temperature: 250°C
- Selective Reaction Monitoring (SRM): chloropicrin 116.9 – 81.9 (quantitation ion), 118.9 – 83.9 (qualitative ion)
- Collision energy: 26

Instrument tuning is done using the software parameters detailed on the Dashboard screen. Table 3 shows a list of tunes available for this analysis and recommended frequency. Tuning is done prior to the analytical sequence.



**Table 3. MS Tuning Guide**

<b>Tune Type</b>	<b>Tune Description</b>	<b>Frequency</b>
EI Diagnostics Only	Runs complete diagnostics and generates report. No tuning is performed.	Used to check and troubleshoot MS
EI Full Tune	Complete EI Tuning. Tunes and sets detector gain to $3 \times 10^5$ .	After cleaning the source, or if EI Tune fails. Follow with EI Tune
EI Tune	Tunes resolution, mass, lenses, adjusts detector sensitivity. Does not tune detector gain.	Every six months, or if Daily Tune Check fails. Follow with Daily Tune Check
Daily Tune Check	Checks mass, performs leak check and generates report with gain from detector sensitivity tune.	Daily

**14. Quality Control**

Several types of QC samples are analyzed to ensure and assess the quality of the data. These QC samples, acceptance criteria, and corrective actions are described in Table 4. If QC results do not meet criteria, corrective action must be taken.

**Table 4. Quality Control Corrective Actions**

<b>QC Type</b>	<b>Frequency</b>	<b>Criteria</b>	<b>Corrective Action</b>
Extraction Hold Time	All samples	Store samples at or below 5°C until extraction. Extract within 28 days from collection.	Flag, document, and report.
Analytical Hold Time	All sample and QC extracts	Store extracts at or below 5°C until analysis. Analyze within 60 days from extraction.	Flag, document, and report.

**Table 4. Quality Control Corrective Actions**

<b>QC Type</b>	<b>Frequency</b>	<b>Criteria</b>	<b>Corrective Action</b>
Method Blank	One per extraction batch at a minimum	<RL	Check instrument and method materials for possible contamination. Reanalyze the entire extraction batch. If the method blank is still outside criteria, then evaluate sample results. When sample results are less than ten times higher than method blank results, results are invalidated for those samples associated with the method blank.
Solvent Blank	One per analytical batch at a minimum	<RL	Check instrument and method materials for possible contamination (i.e., carryover, solvent contamination). Reanalyze entire analytical batch if needed. If the method blank meets criteria and there are no analytical issues, report results.
Field Blank	Client request or field protocol	<RL	Reanalyze to confirm results. Investigate if still outside criteria. Report results if no analytical issues.
Breakthrough Analysis	One per ten samples at a minimum; also done for high concentration samples (>500 ng/mL)	any chloropicrin detected in the secondary sorbent bed is $\leq$ RL or $\leq$ 5% of the concentration in the primary sorbent bed, whichever is greater	Reanalyze breakthrough bed to confirm breakthrough. If reanalysis confirms breakthrough, flag, document, and report.
Initial Calibration	Minimum of five calibration levels prior to sample analyses	$R^2 \geq 0.96$ using a quadratic fit	Reanalyze. Prepare new calibration standards if criteria still not met. Once criteria is met, reanalyze entire analytical batch.

**Table 4. Quality Control Corrective Actions**

QC Type	Frequency	Criteria	Corrective Action
Carryover Check	After analysis of high concentration sample (>500 ng/mL)	<RL	Assess subsequent sample. If chloropicrin is not detected, no further action is needed. If chloropicrin is $\geq$ the reporting limit, reanalyze the sample to confirm results are not biased high due to contamination from analysis of preceding high concentration sample. If reanalysis results meet replicate criteria, report results. If not, analyze solvent blanks to clean system. Reanalyze subsequent samples once system is clean.
Collocated Samples	Per client request (typically 10% of field samples) or field protocol	Relative Percent Difference (RPD) $\pm$ 25% for detections > 5 x RL	Verify results by reviewing data. Report results. Notify client if outside criteria.
Continuing Calibration Verification (CCV)	Mid-point calibration standard. Analyzed after ten or fewer samples and at end of analytical batch	Ending and bracketing CCV must be within 20% of expected value.	Reanalyze CCV that failed and all preceding samples that are not bracketed by CCV that met criteria. Prepare new CCV if criteria still not met. Reanalyze entire analytical batch with new CCV.
Control Standard (CS)	After calibration	CS must fall within established control criteria as described in the QCM	Reanalyze CS. Prepare new CS if criteria still not met. Reanalyze entire analytical batch with new CS.

**Table 4. Quality Control Corrective Actions**

<b>QC Type</b>	<b>Frequency</b>	<b>Criteria</b>	<b>Corrective Action</b>
Replicate	One per ten or fewer samples in analytical batch	RPD $\pm$ 25% for detections > 5 x RL	Reanalyze replicate and all associated samples within bracketing standards. If still outside criteria, investigate and correct issues. Reanalyze. Invalidate all samples in analytical batch if replicate fails again.
Laboratory Control Spike (LCS)	One per extraction batch	70-130% of expected value	Reanalyze LCS with the entire analytical batch. If the LCS still does not meet criteria, and all other QC passes, further investigation is required.
Field Spike	Per client request or field protocol	70-130% of expected value	Reanalyze to confirm results. Investigate for possible lab issues if still outside criteria. Report results if no analytical issues are found.
Field Spike Storage	NA	$\leq 5^{\circ}\text{C}$ when not on the sampler	Flag, document, and report.
Trip Spike Storage	NA	$\leq 5^{\circ}\text{C}$	Flag, document, and report.
Trip Spike	Per client request or field protocol	70-130% of expected value	Reanalyze to confirm results. Investigate for possible lab issues if still outside criteria. Report results if no analytical issues are found.

**Table 4. Quality Control Corrective Actions**

QC Type	Frequency	Criteria	Corrective Action
MDL Verification	Annually and when major maintenance or major changes are done	<ul style="list-style-type: none"> <li>• Minimum of seven replicates are required</li> <li>• Must meet criteria of MDL &lt; Spike Concentration &lt; 10x MDL</li> <li>• MDL recoveries must be within 50-150% of expected concentrations</li> </ul>	Prepare and analyze another set of MDL replicates. If the MDL criteria is still not met, the MDL may be accepted with justification and management approval. This must be documented and placed in the MDL data package.

**15. Calculations**

15.1. Chloropicrin stock standard concentration is calculated as:

$$\frac{\text{weight of chloropicrin neat (mg)}}{\text{final volume (mL)}}$$

15.2. Intermediate standard concentrations are calculated as:

$$\frac{\text{stock concentration} \left(\frac{\text{mg}}{\text{mL}}\right) \times \text{volume added (mL)} \times \left(\frac{1000 \mu\text{g}}{\text{mg}}\right) \times \left(\frac{1000 \text{ng}}{\mu\text{g}}\right)}{\text{final volume (mL)}}$$

15.3. Calibration, control, and LCS standard concentrations are calculated as:

$$\frac{\text{concentration of intermediate standard} \left(\frac{\text{ng}}{\text{mL}}\right) \times \text{amount spiked} (\mu\text{L}) \times \left(\frac{\text{mL}}{1000 \mu\text{L}}\right)}{4 \text{ mL extraction volume}}$$

15.4. Relative Percent Difference (RPD) between two results is calculated as:

$$RPD = \frac{|X1 - X2|}{(X1 + X2)/2} \times 100\%$$

Where:

X1 = first measurement value

X2 = second measurement value

15.5. EQL is calculated as:

$$EQL \text{ in } ng/sample = 5 \times MDL \left( \frac{ng}{mL} \right) \times \text{volume extracted} \left( \frac{mL}{sample} \right)$$

$$EQL \text{ in } ng/m^3 = 5 \times \frac{MDL \left( \frac{ng}{mL} \right) \times \text{volume extracted} \left( \frac{mL}{sample} \right)}{\text{sampling volume} (m^3)}$$

Where:

MDL = MDL value in ng/mL units

volume extracted = 4 mL/sample

sampling volume (flow rate is 0.1 L/min): 24 hrs. = 144 liters = 0.144 m<sup>3</sup>

15.6. Field spike recoveries are calculated as:

$$\left( \frac{(\text{field spike recovered amount} - \text{collocated sample recovered amount})}{\text{spiked amount}} \right) \times 100\%$$

15.7. LCS recoveries are calculated as:

$$\left( \frac{LCS \text{ recovered amount}}{\text{spiked amount}} \right) \times 100\%$$

15.8. Trip spike recoveries are calculated as:

$$\left( \frac{\text{trip spike recovered amount}}{\text{spiked amount}} \right) \times 100\%$$

15.9. The concentrations of analyzed samples are initially reported in ng/mL. Ambient air concentrations are reported as ng/sample and are calculated as:

$$\text{raw concentration} \left( \frac{ng}{mL} \right) \times \frac{4 \text{ mL}}{\text{sample}} = \frac{ng}{\text{sample}}$$

## 16. Data Management and Reporting

Data management consists of samples logged into LIMS, documentation of unusual occurrences and their resolutions, creation of data packages (monthly, amendments, and special projects) for peer review and management approval, submittal of data to clients, and archival procedures for sample media and respective chains of custody. All anomalies, corrective actions, and management

approved SOP deviations must be documented in the chemist's logbook, monthly QC report, and final data report. Program and maintenance notebooks and/or logbooks are to be kept with the instrumentation.

- 16.1. After data acquisition, the raw data files are processed by the analytical software to produce result files. The result files contain quantitation information such as peak areas and retention times, along with concentration and instrumentation information.
- 16.2. Peaks found in the chromatogram are verified by retention time and ion spectra to be identified correctly by the chemist. Integration of each peak is evaluated to ensure the software processed the data appropriately. Any improper integration will be amended and documented.
- 16.3. The instrument method is calibrated for both retention time and concentration during data processing using the integrated calibration standard areas. The concentrations of target compounds are based on the peak areas and the known analyte concentrations in the standards. Concentrations are calculated using the instrument standardization routine for samples, blanks, controls, and spikes. Retention times are checked to ensure no excessive peak shifting (beyond 0.3 minutes) has occurred. If shifting occurs, maintenance may need to be performed. Samples showing excessive retention time shifting will be reanalyzed.
- 16.4. The final results will be adjusted by an appropriate dilution factor (only if the sample was diluted; otherwise, the dilution factor would be 1.00) and reported in ng/sample.
- 16.5. All QC and sample results are verified by the chemist and then sent to the LIMS for archive and reporting. Data is reviewed by a peer chemist and approved by management before being released to the client.
- 16.6. Analyte concentrations will not be reported if below the RL unless otherwise requested by the client. (i.e., DPR may request 5x MDL be reported as "EQL" and concentrations between the MDL and EQL be reported as "Trace".) Instrument performance must be evaluated to ensure there is no matrix interference which could bias any reporting below the RL.

## **17. Maintenance and Repairs**

Preventive maintenance is done on an annual basis on the GC/MS and repairs are done as needed by an approved vendor under contract to MLD or by experienced staff. All maintenance and repairs are documented in a logbook.

**18. References**

- 18.1. CARB NLB Laboratory Quality Control Manual Revision 5.0, December 7, 2021
- 18.2. CARB, “Chemical Hygiene Plan for Northern Laboratory Branch 1927 13th Street, 1900 14th Street,” November 2021 or current.
- 18.3. SAS Standard Operating Procedure for Sampling and Analysis of Trichloronitromethane (Chloropicrin) in Application and Ambient Air using Gas Chromatography/Mass Spectrometry Revision 4, 12/01/2010
- 18.4. California Department of Food and Agriculture, Method EM 16 “Determination of Chloropicrin Desorbed from XAD-4 Resin Tubes” 10/14/1999

**19. Revision History**

<b>SOP/Addendum Identification</b>	<b>Approval Date</b>	<b>Description of Change</b>
MLD075 Revision 0.0, Analysis of Trichloronitromethane (Chloropicrin) in Ambient Air Using Gas Chromatography/Mass Spectrometry	September 28, 2017	SAS Standard Operating Procedure for Sampling and Analysis of Trichloronitromethane (Chloropicrin) in Application and Ambient Air using Gas Chromatography/Mass Spectrometry Revision 4. 12/01/2010
MLD075 Revision 1.0	January 9, 2023	Revised calibration standard preparation, sample hold time, extraction solvent, and instrument parameters.







# Standard Operating Procedure for Analysis of Volatile Pesticide Compounds in Ambient Air Using Gas Chromatograph/Mass Spectrometer

MLD080  
Revision 0.0

Northern Laboratory Branch  
Monitoring and Laboratory Division

Approval Signatures	Approval Date
 Manisha Singh, Ph.D., Chief Quality Management Branch	1/17/2023
 Michael Werst, Chief Northern Laboratory Branch	1/20/2023

Disclaimer: Mention of any trade name or commercial product in this standard operating procedure does not constitute endorsement or recommendation of this product by the California Air Resources Board. Specific brand names and instrument descriptions listed in the standard operating procedure are for equipment used by the California Air Resources Board's laboratory. Any functionally equivalent instrumentation is acceptable.

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# Standard Operating Procedure for Analysis of Volatile Pesticide Compounds in Ambient Air Using Gas Chromatograph/Mass Spectrometer

## 1. SCOPE

This method describes the procedures followed by Monitoring and Laboratory Division (MLD) staff to analyze volatile pesticides in ambient air samples using a gas chromatograph/mass spectrometer (GC-MS). The method is based on Environmental Protection Agency (EPA) method TO-17. The following list of compounds have been validated for this method.

Compounds	Reporting Limit (RL), ng / sample	Chemical Abstract Service (CAS) Number
<i>cis</i> -1,3-Dichloropropene	8.88	10061-01-5
<i>trans</i> -1,3-Dichloropropene	8.88	10061-02-6
Methyl Isothiocyanate (MITC)	1.00	556-61-6

This standard operating procedure (SOP) was developed by staff in the Organic Laboratory Section (OLS) of the Northern Laboratory Branch (NLB).

## 2. SUMMARY OF METHOD

Air samples are collected on stainless steel sorbent packed thermal desorption (TD) tubes at sites potentially impacted by nearby pesticide application. The samples are stored at or below five degrees Celsius (°C) from collection until analysis. For analysis the tubes are capped, with specific autosampler caps, and placed into the thermal desorption system. The compounds are released by heating the tube in a back-flush flow of inert carrier gas followed by secondary trapping on the electrically cooled focusing trap within the system. The trapped compounds are then released by heating and back-flushing the sorbent trap onto the gas chromatography column where they are separated and subsequently identified and quantified by the mass spectrometer in the selected ion monitoring (SIM) mode.

### 3. ACRONYMS

**Table 1. Acronyms used in this SOP**

<b>Acronym or Term</b>	<b>Definition</b>
°C	degrees Celsius
AMU	Atomic Mass Units
CAS	Chemical Abstract Service
CCV	Continuing Calibration Verification
CS	Control Standard
CS <sub>2</sub>	Carbon Disulfide
EA	Ethyl acetate
GC-MS	Gas Chromatograph-Mass Spectrometer
ICAL	Initial calibration
LIMS	Laboratory Information Management System
LOQ	Limit of Quantitation
M/Z	mass-to-charge ratio
MDL	Method Detection Limit
µL	Microliter
MITC	Methyl Isothiocyanate
MLD	Monitoring and Laboratory Division
MSD	Mass Spectral Detector
NLB	Northern Laboratory Branch
NOAA	National Oceanic and Atmospheric Administration
OLS	Organics Laboratory Section
PFTBA	Perfluorotributylamine
PPB	Parts per Billion by Mass
PPBV	Parts per Billion by Volume
PTFE	Polytetrafluoroethylene
QC	Quality Control
QCM	Quality Control Manual
RH	Relative Humidity
RL	Reporting Limit
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SDS	Safety Data Sheet
SIM	Selected Ion Monitoring
SOP	Standard Operating Procedure
TD	Thermal Desorption
UHP	Ultra High Purity

#### 4. DEFINITIONS

- 4.1. ANALYTICAL BATCH – A set of samples analyzed together as a group in an uninterrupted sequence.
- 4.2. CALIBRATION CURVE – The graphical relationship between the known values, such as concentrations, of a series of calibration standards and their instrument response.
- 4.3. CALIBRATION STANDARD – A standard containing the target analytes at a known concentration obtained from a source other than that of the control standard (second source) or from a different lot number.
- 4.4. CARRYOVER – Contamination from an adjacent sample causing false or inaccurate results in the subsequent sample(s).
- 4.5. CARRYOVER CHECK – A system blank which is analyzed after a high concentration sample to determine if any carryover may have occurred.
- 4.6. CONTINUING CALIBRATION VERIFICATION (CCV) – A mid-level standard containing the target analytes at a known concentration analyzed once per every ten samples and at the end of every sequence after sample analysis to confirm stability of the instrument.
- 4.7. COLLOCATED SAMPLE – A sample used to assess total precision (sampling and analysis) collected within a specified radius of the primary sample. The collocated sampler must be identical in configuration and operation to the primary sampler. The collocated sample is processed identically to the primary sample.
- 4.8. CONTROL STANDARD (CS) – A standard containing the target analytes at a known concentration obtained from a source other than that of the calibration standard (primary source) or from a different lot number. If a second source is not available, the standard may be prepared by a different person or on a different day. This control contains all target compounds and is used to maintain QC charts.
- 4.9. DILUTION – Is the process of reducing the concentration of a solute in solution. Dilutions are required when any sample concentration exceeds the calibrated linear range by more than ten percent. After diluting, the concentration should fall within the calibrated linear range.

- 4.10. DUPLICATE – A re-analysis of a sample within an analytical batch that is processed through the entire analytical method to show precision.
- 4.11. HOLD TIME – The maximum amount of time a sample may be stored prior to performing an operation. Analytical hold time for tube analysis is from sample collection to analysis.
- 4.12. INTERFERENCE – Discrete artifacts or elevated baselines from environmental factors that may cause systematic errors in measurement of the sample being analyzed or misinterpretation of the chromatographic data.
- 4.13. LIMIT OF QUANTITATION (LOQ) – The minimum concentration or amount of an analyte that a method can measure with a specified degree of confidence. The LOQ is equal to five times the standard deviation of the replicate analysis from the method detection limit (MDL) determination/verification. LOQ is analyte and instrument specific.
- 4.14. METHOD DETECTION LIMIT (MDL) – A statistically derived value that is defined as being the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix (including sample media) containing the analytes of interest.
- 4.15. REPORTING LIMIT (RL) – A number which data is not typically reported below. The RL may or may not be statistically determined and may be established by regulatory requirements or in conjunction with client or program needs. The RL is equivalent to or greater than the LOQ.
- 4.16. SPIKE – A quality control sample employed to evaluate the accuracy of a measurement. A spike is prepared by adding a known amount of the target analyte(s) to an aliquot of the sample or to media prior to sampling. The recovery of a spike provides an indication of the efficiency of the analytical procedure for a given matrix. Spikes can be designated as field, laboratory, matrix, and trip spikes. Field spikes are used to assess matrix interferences.
- 4.17. STANDARD – (calibration or control standard) – A substance or material with properties believed to be traceable with sufficient accuracy to permit its use to evaluate the same property of another. It is a solution or substance commonly prepared by the analyst to establish a calibration curve or the analytical response function of an instrument.

- 4.18. SYSTEM / METHOD BLANK – A cleaned sorbent tube used to monitor the laboratory analytical systems for interferences and contamination. These two QC types of blanks are prepared in the same manner (see Section 14), but are independent from one another.
- 4.19. FIELD BLANK – A sorbent tube that goes out to the field and is treated as a sample where it will be connected to a sampler, disconnected without pulling an air sample, then returned to the laboratory. Field blanks are treated like samples in the laboratory. The field blank identifies any potential contamination that may occur from ambient conditions, sample handling, or other sources that samples may be exposed to. Field blanks are typically only done by client request.
- 4.20. TRIP BLANK – An unopened sorbent tube which travels to the field and then back to the laboratory. Trip blanks are treated like samples in the laboratory. The trip blank may aid in identifying any potential issues arising through transportation which could affect the sorbent. Trip blanks are typically only done by client request.

## 5. INTERFERENCES AND LIMITATIONS

5.1. Note that during optimization and validation of this method certain conditions were found to impact recovery of the target compounds. These conditions were:

- Sampling at temperatures above 35 °C.
  - Temperatures exceeding 35 °C are not expected in California during the November to February 'winter' pesticide spraying season.
  - If sampling exceeds this temperature limit then sample results will be flagged.
  - If sampling is expected to regularly exceed these temperatures then the sampling flow and/or duration should be reduced and recovery validated and documented prior to deployment.
- Sampling at an absolute humidity above 17 g/m<sup>3</sup>.
  - Online moisture calculators such as those from the National Oceanic and Atmospheric Administration (NOAA) can be used to determine the absolute humidity based off the temperature and relative humidity.
  - The below Table 2 shows a range of conditions that give an absolute humidity of 17 g/m<sup>3</sup>.

**Table 2. Conditions that give 17 g/m<sup>3</sup> absolute humidity**

Temperature (°C)	Relative Humidity (%RH)
20	100
25	74
30	57
35	43

- Checking the conditions for the samples is recommended before analysis to identify potentially impacted samples.
  - If sampling has exceeded this humidity limit then sample results will be flagged.
  - If the sampling conditions are expected to regularly exceed 17 g/m<sup>3</sup> then the method should be adjusted and recovery validated and documented prior to deployment.
- 5.2. All target compounds are identified by their mass spectrum and retention times. Compounds having similar GC retention times may co-elute or have ion fragments at the same mass-to-charge (m/z) ratio as the target compound. This can lead to misidentification or inaccurate quantitation.



- 5.3. The analytical system may become contaminated when samples containing high compound concentrations are analyzed. If there is suspected carryover from a high concentration sample, additional system blanks should be analyzed and verified to have results below the RL prior to reanalyzing the succeeding sample(s).
- 5.4. High boiling point compounds trapped on the column may cause baseline shifting, or the appearance of broad, extraneous “ghost” peaks. The column must be baked out to remove these contaminants prior to analyzing samples if present. For example, run the column to usual top temperature and hold for at least 1 hour. The bake out temperature must not exceed the column’s maximum operating temperature.

## **6. PERSONNEL QUALIFICATIONS AND TRAINING**

Prior to performing this method, new personnel must be trained by staff with detailed knowledge of this method. Personnel must be trained to understand the program’s requirements per any applicable State and federal regulations and guidance, and/or this SOP. Personnel must also be trained to safely and properly operate the equipment needed to perform the method, the quality assurance components, and Laboratory Information Management System (LIMS) functionality pertaining to the program. Personnel must provide an initial demonstration of capability prior to performing this method on real-world samples (i.e., data for record). Training will be documented and maintained by the laboratory supervisor.

## **7. SAFETY REQUIREMENTS**

All personnel must follow the general health and safety requirements found in the NLB Chemical Hygiene Plan.

MITC is a breakdown product of metam sodium, metam potassium, and dazomet, which are non-selective soil fumigants used in agriculture. Acute inhalation could cause eye irritation, respiratory, or systemic effects. MITC is also a dermal sensitizer. The analyst should refer to the safety data sheets (SDS) for additional information regarding chemical properties and precautions.

- 7.1. The analyst must wear protective eyewear, lab coat, and nitrile gloves whenever working with liquid standards, solvents, and solutions. Solvents are flammable; standards are irritants, particularly to the eyes and skin, and possibly very toxic. Refer to the SDS for specifics regarding handling, as well as emergency procedures.
- 7.2. This method uses high-pressure gases. Follow safe handling practices (as per CARB Health and Safety training or equivalent) regarding compressed gases when moving and installing the cylinders. Use suitable equipment and protective devices, such as carts and safety shoes.
- 7.3. The TD, GC, and MS have heated zones (refer to applicable instrument manual(s) for specifics), which may cause burns. The cold trap is both heated and cooled. Avoid contact with these zones and devices when in operation and make certain they are de-energized or at ambient temperature prior to servicing by checking temperature gauges.

## **8. HAZARDOUS WASTE**

MITC is classified as a strong lachrymator. All accumulated liquid waste must be stored in an approved waste container. Liquid waste is any form of liquid that is considered hazardous to humans, animals, fish, or the environment. The NLB Health & Safety Coordinator must be notified upon accumulation of 1.0 kg (approximately two pounds) of this waste. Waste consists of liquid MITC and unanalyzed resin tubes used to capture MITC. MITC waste must be stored in waste containers provided for this purpose. The containers must be properly labeled with appropriate hazardous waste labels indicating the contents and start date of accumulation.

Other hazardous waste associated with this analysis consists of used pump oil and solvents. Pump oil is exchanged when serviced, typically on an annual basis. The used oil is collected in a plastic container and stored in the chemical waste unit. Solvents for disposal are stored in suitable waste containers and should be properly labeled with the accumulation start date. Satellite accumulation containers must be disposed of within 1 year of the accumulation start date. The NLB Health & Safety Coordinator must be notified before the 1 year from the accumulation start date, or when the container is full and needs to be disposed, whichever comes first. Once the satellite container is full, it may be moved to the central hazardous waste storage area. It is stored there until removed by the contracted hazardous waste company for disposal.

## 9. EQUIPMENT AND SUPPLIES

- 9.1. Gas chromatograph with a programmable oven, electronic pressure control for capillary columns and heated injector.
- 9.2. Column: Restek Rtx-200, 60 meter, 320  $\mu\text{m}$  inner diameter, 0.5  $\mu\text{m}$  film thickness, or equivalent.
- 9.3. Detector: mass spectral detector (MSD).
- 9.4. Software: A data station for control of GC, MS plus storage and quantification of mass spectral data (see References Section 22 for details).
- 9.5. Refrigerator which can maintain a minimum low temperature of 4  $^{\circ}\text{C}$ .
- 9.6. Adsorbent cold trap, such as a Markes part no. U-T9TNX-2S cold trap, or equivalent.
- 9.7. Stainless steel sorbent tubes packed with a suitable sorbent(s) for the target compounds, such as Markes 'universal' tubes (part no. C3-AAXX-5266), or equivalent.
- 9.8. Brass storage caps for the sorbent tubes,  $\frac{1}{4}$  inches Swagelok type brass fittings with Polytetrafluoroethylene (PTFE) ferrules.
- 9.9. Sample concentrator and sorbent tube auto-sampler, such as a Markes TD-100-xr, or equivalent.
- 9.10. Hamilton microliter ( $\mu\text{L}$ ) syringes (or equivalent): 10  $\mu\text{L}$ , 25  $\mu\text{L}$ , 250  $\mu\text{L}$ , and 1000  $\mu\text{L}$  volume ranges.
- 9.11. Hamilton gas-tight syringes (or equivalent) with suitable needle tips: 50 mL and 500 mL.
- 9.12. Sorbent tube calibration standard loading rig, such as from Markes or equivalent.
- 9.13. Sorbent tube conditioner, such as Markes TC-20, or equivalent.
- 9.14. 4 mL glass storage vials with Teflon lined screw caps, such as VWR (part# 66009-876).

- 9.15. Ultrasonic bath: capable of temperature programming, such as Branson model 8510.
- 9.16. Volumetric Flasks: 5 mL, 10 mL, 25 mL, 50 mL, and 100 mL volume ranges.
- 9.17. Analytical balance capable of weighing as low as 0.1mg, with calibrated weight kit.
- 9.18. Eppendorf electronic pipettes: 100-5000  $\mu$ L volume ranges.
- 9.19. Disposable Pasteur pipettes, 1.5 mL such as Baxter Scientific Products (part# P5200-2).
- 9.20. Tweezers.
- 9.21. Disposable nitrile or neoprene gloves to handle organic solvents.

## 10. REAGENTS AND GASES

Consult the latest version of NLB's Laboratory Quality Control Manual (QCM) for the calibration gas requirements.

- 10.1. Carbon disulfide 99.9+ percent, less than 100 parts ppb benzene such as EMD OmniSolv item # CX0396-6.
- 10.2. Ethyl acetate, pesticide grade or better such as EMD OmniSolv item # EX0242-1 or equivalent.
- 10.3. MITC, neat standard such as Chem Service (item # MET-12392A-1G) or equivalent. Two different lot numbers or sources if possible (for calibration and control standards).
- 10.4. Gas standards containing cis- and trans-1,3-dichloropropene, such as EPA TO-14/15 from Restek or AirGas at 100 ppbV. Two different lot numbers or sources if possible (for calibration and control standards).
- 10.5. Perfluorotributylamine (PFTBA) or MS tune solution.
- 10.6. Ultra High Purity (UHP) Helium, 99.999% for use as the GC column carrier gas.

- 10.7. UHP Nitrogen, 99.999% for use on the calibration standard loading rig and sorbent tube conditioner.

## 11. STANDARDS PREPARATION

All standard solutions are stored refrigerated at  $< 5\text{ }^{\circ}\text{C}$  until used. The standard solutions are removed from the freezer and allowed to equilibrate to room temperature before use. Neat standards are valid up to the manufacturer's expiration date. Working standards expire one year from preparation date but not to exceed the expiration date of the neat standard.

For gas cylinders, the Certificate of Analysis shall reflect the actual analysis of the specific cylinder, as evidenced by cylinder number. The analytical uncertainty of each compound must be less than  $\pm 10\%$  of the actual concentration.

Standards should not be used past the expiration date issued by the vendor unless stability can be verified against a non-expired standard. If used past the expiration, management approval and documentation comparing concentration to historical data is required.

### 11.1. Percent Carbon Disulfide ( $\text{CS}_2$ ) in Ethyl Acetate (EA)

To prepare the 0.1 percent  $\text{CS}_2$  in EA solution, partially fill a 500 mL volumetric flask with EA. Add 500  $\mu\text{L}$   $\text{CS}_2$  to the flask. Fill the flask to volume with EA and invert several times to mix. This solution is used for all MITC standard, QC, and sample preparations.

### 11.2. Calibration Standards

A 1,000  $\mu\text{g}/\text{mL}$  MITC stock standard is prepared by weighing out approximately 0.025 grams neat MITC in a 25.0 mL volumetric flask and filling to volume with 0.1 percent  $\text{CS}_2$  in EA. Three intermediate standards are made using the preparation scheme in Table 3, with 0.1 percent  $\text{CS}_2$  in EA as the diluent. Depending on the actual weight of neat MITC weighed out, the final concentrations may be adjusted accordingly.

**Table 3. MITC Stock and Intermediate Standards Preparation**

Standards	Amount	Vol Flask Size (mL)	Final Concentration (µg/mL)
Stock	0.025 g	25.0	1,000
Intermediate A	0.25 mL of Stock	5.0	50
Intermediate B	0.5 mL of A	5.0	5
Intermediate C	0.5 mL of B	5.0	0.5

For example, Intermediate B at 5 µg/mL is made using a 0.5 mL aliquot of the 50 µg/mL MITC Intermediate A in a 5 mL volumetric flask and filling to volume with 0.1 percent CS<sub>2</sub> in EA.

### 11.3. Control Standard (CS)

11.3.1. A CS stock standard is prepared in the same manner as described in Section 11.2, using a second source standard when possible. A 10 µg/mL CS intermediate is prepared by diluting a 10 µL aliquot of the CS stock to 1 mL, using 0.1 percent CS<sub>2</sub> in EA as the diluent. The CS standards may be prepared by a second analyst if a second source standard is not available.

11.3.2. A CS is analyzed after the calibration curve. The CS criteria are based on control limits, which are established as described in the NLB Quality Control Manual.

### 11.4. Injecting standards to sorbent tubes

Calibration standards: Table 4 lists suggested calibration curve levels, which can be adjusted as needed depending on expected sample concentrations. Both liquid and gas standards are injected to each sorbent tube.

**Table 4. Calibration Levels**

Calibration Level	MITC Standard	Spike Volume for MITC standard (µL)	TO-15 Gas Standard (nominal 100 ppbV) Volume (mL)
1	C (0.5 µg/mL)	1.0	5
2	C (0.5 µg/mL)	2.0	10
3	B (5 µg/mL)	1.0	20
4	A (50 µg/mL)	0.5	200
5	A (50 µg/mL)	1	500

- 11.4.1. Liquid standards are injected before gaseous standards.
- 11.4.2. Liquid standards are introduced to the sorbent tube using a suitably sized (e.g., 10  $\mu$ L) liquid syringe and the calibration standard loading rig.
- 11.4.3. Gaseous standards are introduced to the sorbent tube using a suitably sized gas tight syringe and the calibration standard loading rig.
- 11.4.4. Steps to use the calibration standard loading rig are as follows:
  - 11.4.4.1. Insert tube with grooved (sampling) end of the tube into the loading rig and hand tighten in place.
  - 11.4.4.2. Toggle on gas flow and using a flow meter set to approximately 150 mL/min.
  - 11.4.4.3. Fill syringe with desired volume of liquid/gas standard.
  - 11.4.4.4. Insert needle of the syringe through septum on the loading rig slowly until the front gauze of the tube is reached (which is felt through increased resistance).
  - 11.4.4.5. Retract the needle 1-2 mm and inject.
  - 11.4.4.6. Repeat previous 2 steps for additional gas/liquid standards.
  - 11.4.4.7. Leave tube attached and gas flowing for 2 minutes.
  - 11.4.4.8. Remove and cap tube.
  - 11.4.4.9. Turn off gas flow to the loading rig once finished.

## **12. FIELD SPIKES AND TRIP SPIKES**

These spikes are prepared in the laboratory at client request only. Field spikes are sampled and analyzed with the un-spiked collocated sample. With the spiked and un-spiked sample, a percent recovery can be determined. The data obtained from these spikes can serve as an indication of matrix interferences.

- 12.1. All tubes used must be conditioned prior to use (see Section 14 for instructions).
- 12.2. Follow the standard loading procedure from Section 11 to prepare the appropriate number of field spikes and trip spikes, as required by the sampling protocol.
- 12.3. The tubes are capped and labelled with the date, time, and description (either “field spike” or “trip spike”).
- 12.4. Store the tubes below 5°C.
- 12.5. The spiked and un-spiked tubes are analyzed on a GC-MS in the same manner as any other sample.
- 12.6. Spike samples are required to have the percentage recovery evaluated and the criteria can be found in Section 17, Table 5 of this SOP.

## **13. SAMPLE STORAGE AND HOLD TIME**

- 13.1. Upon receipt of samples verify the temperature has been maintained below 5 °C, if not the sample is flagged in LIMS and analyzed.
- 13.2. Check the brass storage caps are securely fitted, if not then the sample is flagged in LIMS and analyzed.
- 13.3. The samples are stored refrigerated at < 5 °C until analysis.
- 13.4. Samples are analyzed within 30 days of sample collection.



## **14. BLANK PREPARATION**

- 14.1. A method or system blank is accomplished by running a clean tube.
- 14.2. The TC-20 tube conditioner is used to clean/condition the sorbent tubes. The TC-20 can clean/condition up to 20 tubes at a time.
- 14.3. Conditioning at 300 °C for at least 90 minutes with a flow of 50 mL/min nitrogen.
- 14.4. For tubes due to be sent out as sampling media, including field blanks and trip blanks, a minimum of two tubes per cleaning batch is analyzed and verified to be < RL.
- 14.5. If tubes fail to meet the < RL requirement, they should be conditioned again. If samples are routinely at high levels then implementing a longer conditioning time is recommended.
- 14.6. The method/system blanks must meet the criteria summarized in Table 5 for samples to be analyzed and reported.

## **15. SAMPLE PREPARATION**

- 15.1. Samples must be equilibrated to laboratory room temperature, with their storage caps still fitted, prior to analysis.
- 15.2. Remove the brass storage caps.
- 15.3. Fit the autosampler caps and place into the autosampler trays, noting the grooved end of the tube should be on the right side of the tray.
- 15.4. Create a sample/sequence list on the workstation computer for the samples to be analyzed.
- 15.5. Enable sample re-collection in the Markes TD sequence for entire analytical batch to allow for as needed future re-analyses.

## 16. ANALYSIS

### 16.1. Instrument Performance Check

- 16.1.1. The MS must be tuned with calibration gas PFTBA to meet the tuning and standard abundance criteria prior to initiating any data collection. The detector is tuned using the Autotune program. The procedure and the criteria for the PFTBA tune can be found in the GC system manuals.
- 16.1.2. The tune value, with regards to positions and abundance ratios of the tune m/z and their corresponding isotope m/z's, must be reviewed. Refer to applicable manual for specific criteria.
- 16.1.3. The system must be checked for leaks and the electron multiplier voltage must be checked and evaluated. Corrective action must be performed if needed prior to analyzing samples. Refer to applicable manual for specific criteria.
- 16.1.4. The tuning report must be saved and archived with associated sample data.
- 16.1.5. Verify beginning QC meets criteria in Table 5 prior to analyzing samples.

### 16.2. Sample Concentration and Analysis

- 16.2.1. Samples are introduced onto the sorbent trap under control of the thermal desorption equipment and method. These parameters are described in the Appendix OLS-MLD080-A1.
- 16.2.2. After the sorbent trap has finished loading, it is dry purged with helium gas, heated, and the contents are transferred to the GC. The instrument conditions used are described in Appendix OLS-MLD080-A2.
- 16.2.3. The ambient samples are analyzed using the same methods as used for the calibration and control standards.

### 16.3. Analytical Sequence

16.3.1. Each analytical run of 10 or fewer samples must include a PFTBA tune, initial calibration (ICAL), control standard, system and method blanks, duplicates and CCV.

16.3.2. Below is the required order of analysis for a valid batch:

- PFTBA Tune
- System Blank
- Initial Calibration (ICAL)
- Control Standard
- Method Blank
- Samples (up to 10)
- Duplicate (one every 10 or fewer samples)
- Method Blank
- CCV (analyzed once per every ten samples and at the end of every sequence)

### 16.4. Instrument Method

A typical method is shown in the Appendix, OLS-MLD080-A1 and OLS-MLD080-A2.

## 17. QUALITY CONTROL

All QC, samples, duplicates, and additional injections must be analyzed within a 24-hour time period from the injection time of the valid ICAL for the batch to be considered valid and reportable.

Several types of QC samples are evaluated daily, annually, or as needed to verify the instrument is still under control and meet the required acceptance criteria. These are described in Table 5 below. If QC results are not met, corrective action(s) must be taken. Occasionally, deviations may be necessary which shall require documentation and management approval prior to use. These deviations must be documented on the data review checklist in the daily batch packet and final data packages.

**Table 5: Quality Control Corrective Actions**

QC Type	Frequency	Criteria	Corrective Action
PFTBA Tune	Analyze before the initial calibration.	Autotune done by instrument marks as passed and/or meets manufacturer's criteria.	<ul style="list-style-type: none"> <li>• Check Air/Water, background and level of tune standard.</li> <li>• Adjust parameters to improve sensitivity.</li> <li>• Run a full tune followed by an Autotune.</li> <li>• Clean source.</li> <li>• Contact manufacturer if tuning continues to fail. No samples are analyzed.</li> </ul>
Initial Calibration	Minimum of five calibration levels prior to sample analyses.	$R^2 \geq 0.98$ . Using a linear or quadratic fit.	<ul style="list-style-type: none"> <li>• A linear or quadratic fit can be used, whichever gives the best accuracy across the points of the curve.</li> <li>• If the calibration curve fails, re-analyze. Prepare new calibration standards if criteria not met.</li> <li>• If calibration continues to fail, stop, and begin corrective actions to determine the cause of repeated failures (specifics include instrument maintenance and tube issues).</li> </ul>
CCV	Analyzed after 10 or fewer samples and at end of the sequence.	Calculated concentration within $\pm 25\%$ of expected and $\pm 0.300$ minutes of the CCV level of the Initial Calibration.	<ul style="list-style-type: none"> <li>• Reanalyze CCV that failed and all preceding samples that are not bracketed by CCV that met criteria.</li> <li>• Prepare new CCV if criteria still not met.</li> <li>• Reanalyze all samples with new CCV.</li> </ul>
Control Standard	Analyzed once after the initial calibration.	Must fall within established control criteria as described in the QCM.	<ul style="list-style-type: none"> <li>• Re-analyze prior to sample analysis once if 24-hour clock has not lapsed, report the second analysis if it is within criteria, and document the reanalysis on the run log and review checklist.</li> <li>• Analyze another control standard or prepare new control standard and re-analyze.</li> <li>• If the control standard fails for select compound(s) and the sample cannot be reanalyzed, those compounds are invalidated with NLB management approval. Document exceedances.</li> <li>• Re-establish Control Limits.</li> </ul>
System Blank	Analyzed before initial calibration.	<RL.	<ul style="list-style-type: none"> <li>• If initial system blank is equal to or above RL, additional system blanks can be analyzed to clear the analytical system of possible contamination.</li> <li>• The cause of contamination is investigated; and resolved before the rest of the sequence is run.</li> </ul>
Method Blank	Run after the control standard and before the CCV.	<RL.	<ul style="list-style-type: none"> <li>• If the method blank result is equal to or higher than the RL, the following apply:</li> <li>• If sample results are at least 10x higher than the blank result, it is documented on the daily QC package, but no additional corrective action is required.</li> <li>• If sample results are less than 10x higher than the blank result, the analysis results for those samples are invalid.</li> <li>• The cause of contamination is investigated; the entire batch is re-analyzed if required and if sample is available.</li> </ul>

QC Type	Frequency	Criteria	Corrective Action
Field Blank / Trip Blank	Client request or field protocol.	<RL.	<ul style="list-style-type: none"> <li>• If <math>\geq</math> RL reanalyze to confirm results. Investigate if still outside criteria. Flag and report results if no analytical issues.</li> </ul>
Contamination Check	For tubes due to be sent out as sampling media, including field blanks and trip blanks, a minimum of two tubes per cleaning batch is analyzed.	< RL.	<ul style="list-style-type: none"> <li>• If <math>\geq</math> RL repeat tube cleaning/conditioning and repeat the contamination check.</li> <li>• If still <math>\geq</math> RL replace the tube(s).</li> </ul>
Sample Hold Time	All samples.	Store tubes $< 5^{\circ}\text{C}$ until analysis. Analyze within 30 days from collection.	<ul style="list-style-type: none"> <li>• If hold time or temperature is exceeded, samples are flagged, documented, and reported.</li> </ul>
Sampling Conditions Check	All samples.	Maximum temperature $\leq 35^{\circ}\text{C}$ and absolute humidity $\leq 17 \text{ g/m}^3$ .	<ul style="list-style-type: none"> <li>• If local meteorological data indicates <math>&gt; 35^{\circ}\text{C}</math> during sampling document, and flag and report results.</li> <li>• If absolute humidity <math>&gt; 17 \text{ g/m}^3</math> (calculated using average temperature and humidity during sampling and an on-line calculator such as that from NOAA), document, and flag and report results.</li> </ul>
Brass Cap Integrity Check	All samples.	Checks caps aren't loose or have fallen off.	<ul style="list-style-type: none"> <li>• If caps are loose or have fallen off, samples are flagged, documented, and reported</li> </ul>
Duplicate	1 per 10 or fewer samples in analytical batch.	RPD $\pm 25\%$ .	<ul style="list-style-type: none"> <li>• If RPD exceeds <math>\pm 25\%</math>, evaluate.</li> <li>• If primary and duplicate samples have results <math>&lt; 5x</math> RL, no need to notify management. Report results.</li> <li>• If both sample results are <math>\geq 5x</math> RL and the RPD <math>&gt; 25\%</math>, re-analyze duplicate and all associated samples in the batch. If still outside criteria, investigate and correct issues, re-analyze. Invalidate all samples in batch if duplicate fails again.</li> </ul>
Collocated Samples	10% of field samples or per field protocol.	RPD $\pm 25\%$ .	<ul style="list-style-type: none"> <li>• If RPD exceeds <math>\pm 25\%</math>, evaluate.</li> <li>• If primary and collocated samples have results <math>&lt; 5x</math> RL, no need to notify management. Report results.</li> <li>• If both primary and collocated results are <math>\geq 5x</math> RL, notify NLB management, report results and document.</li> </ul>

QC Type	Frequency	Criteria	Corrective Action
Carryover Check	After analysis of high concentration sample exceeding upper linear range.	No target analytes detected above RL.	<ul style="list-style-type: none"> <li>• Analyze one or more system blanks to clean system.</li> <li>• Evaluate subsequent sample(s) if &lt; RL then no further action is necessary, otherwise re-run to confirm results are not biased high due to contamination from analysis of preceding high concentration sample. Duplicate criteria is used to confirm results.</li> <li>• Re-analyze high-level sample at a dilution to get target analyte within the linear calibration range.</li> <li>• Report first analysis for all compounds within the calibration range and report the dilution analysis for the compounds that exceeded the calibration range in the initial analysis.</li> </ul>
Field Spike	Per client request or field protocol.	70-130% of expected value.	<ul style="list-style-type: none"> <li>• Re-analyze to confirm results.</li> <li>• Investigate if still outside criteria.</li> <li>• Report results if no analytical issues and control standard meets criteria.</li> <li>• Results outside criteria are flagged.</li> </ul>
Trip Spike	Per client request or field protocol.	70-130% of expected value.	<ul style="list-style-type: none"> <li>• Re-analyze to confirm results.</li> <li>• Investigate if still outside criteria.</li> <li>• Report results if no analytical issues and control standard meets criteria.</li> <li>• Results outside criteria are flagged.</li> </ul>
MDL Verification	To be verified annually, and when major maintenance or major changes are done.	<ul style="list-style-type: none"> <li>• Minimum of seven replicates are required.</li> <li>• Must meet window criteria of MDL &lt; Spike Concentration &lt; 10x MDL.</li> <li>• MDL recoveries, against expected concentrations, must be within 50-150%.</li> </ul>	<ul style="list-style-type: none"> <li>• If the MDL criteria is not met, prepare and analyze another set of MDL replicates.</li> <li>• If the MDL criteria is still not met, the MDL may be accepted with justification and management approval. This must be documented and placed in the MDL data package.</li> </ul>

## 18. CALCULATIONS

18.1. 0.1 percent CS<sub>2</sub> in EA is calculated as:

$$\frac{\text{amount CS}_2 \text{ spiked } (\mu\text{L}) \times \left(\frac{\text{mL}}{1000 \mu\text{L}}\right)}{\text{final volume (mL)}} \times 100\%$$

18.2. MITC stock standard concentration is calculated as:

$$\frac{\text{weight of MITC neat (g)} \times \left(\frac{1000 \text{ mg}}{\text{g}}\right) \times \left(\frac{1000 \mu\text{g}}{\text{mg}}\right)}{\text{final volume (mL)}}$$

18.3. Intermediate standard concentrations are calculated as:

$$\frac{\text{stock standard concentration } \left(\frac{\mu\text{g}}{\text{mL}}\right) \times \text{volume added (mL)}}{\text{final volume (mL)}}$$

18.4. Relative Percent Difference (%RPD) between two results is calculated as:

$$\%RPD = \frac{|X_1 - X_2|}{(X_1 + X_2)/2} \times 100$$

X<sub>1</sub> = First measurement value

X<sub>2</sub> = Second measurement value

18.5. Relative Standard Deviation (RSD) for Control Limits is calculated as:

$$RSD = \frac{S}{\bar{X}} \times 100$$

S = Standard Deviation

$\bar{X}$  = Sample Mean

18.6. Field spike recoveries are calculated as:

$$\left(\frac{\text{Field spike sample concentration} - \text{Collocated sample concentration}}{\text{Spiked Amount}}\right) \times 100\%$$

## 19. DATA MANAGEMENT AND REPORTING

- 19.1. Data management consists of samples logged into LIMS, documentation of unusual occurrences and their resolutions, creation of data packages (monthly, amendments and special projects) for peer review and management approval, submittal of data to clients, archival procedures for sample media and respective chains of custody. Program and maintenance notebooks and/or logbooks are always to be kept with the instrumentation.
- 19.2. After data acquisition, the analytical software processes raw data files to produce result files. The result files contain quantitation information such as peak areas and retention times, along with concentration and instrumentation information.
- 19.3. All target compounds must be confirmed with spectral information from a standard or MS library. Chromatographic peak integrations performed by the analytical software should be reviewed by the analyst. Any re-integrations (manual changes to the baseline) amended by the chemist are documented in the processing software.
  - 19.3.1. Retention times are visually evaluated to confirm that the peaks are not shifting more than  $\pm 0.300$  minutes compared to the CCV level of the ICAL. If shifting occurs, re-analyze the samples with the RT shifting.
- 19.4. Data Transfer to LIMS
  - 19.4.1. Data from the analytical instrument are transferred into LIMS via a data transfer software (i.e., LIMSLink). Data transfer software is also programmed to check results against QC criteria in LIMS before data transfer. Post data transfer, the analyst will review the raw data and QC data transfer and apply corrective action(s) as needed.
- 19.5. Reporting Results
  - 19.5.1. All data will be reviewed by the analyst, peer reviewed, and approved by management as per the NLB QCM before being released to the client.



- 19.5.2. The final results will be adjusted by an appropriate dilution factor (only if the sample was diluted; otherwise, the dilution factor would be 1.00) and reported in ng/sample.
- 19.5.3. Analyte concentrations will not be reported below the RL unless otherwise requested by the client and approved by NLB management.

## 20. MAINTENANCE AND REPAIRS

Preventative maintenance is done on an annual basis on the autosampler, concentrator, and GC-MS. Repairs are done as needed by an approved vendor under contract to MLD or by a staff member experienced in the repair. Any preventive maintenance and/or repairs completed are documented in a logbook stored near the instrument or recorded in the instrument log files.

## 21. REFERENCES

- 21.1. EPA TO-17, Determination of Volatile Organic Compounds in Ambient Air Using Active Sampling Onto Sorbent Tubes  
<https://www.epa.gov/sites/default/files/2019-11/documents/to-17r.pdf>
- 21.2. CARB NLB Laboratory Quality Control Manual Revision 5.0, December 7, 2021 or current.
- 21.3. CARB, "Chemical Hygiene Plan for Northern Laboratory Branch 1927 13th Street, 1900 14th Street," November 2021 or current.
- 21.4. Trace 1300 and Trace 1310, Gas Chromatographs, Hardware Manual, Thermo Fisher Scientific, January 2016. <https://assets.thermofisher.com/TFS-Assets/CMD/manuals/Man-31715002-GC-TRACE-1300-1310-Hardware-Man31715002-EN.pdf>
- 21.5. Trace 1300 and Trace 1310, Gas Chromatographs, User Guide, Thermo Fisher Scientific, January 2016. <https://assets.thermofisher.com/TFS-Assets/CMD/manuals/Man-31715003-GC-TRACE-1300-1310-User-Man31715003-EN.pdf>

**22. APPENDICES**

Appendix 1 (OLS-MLD080-A1): Typical Thermal Desorption Methods for MLD0780.  
Appendix 2 (OLS-MLD080-A2): Typical GC-MS Methods for MLD080.

**23. Revision History**

<b>SOP/Addendum Identification</b>	<b>Approval Date</b>	<b>Description of Change</b>
MLD080 Revision 0.0	January 20, 2023	New method for the analysis of Volatile pesticides in ambient air using Gas Chromatography/Mass Spectrometry

## Appendix 1

### OLS-MLD080-A1

#### Typical Thermal Desorption Methods for MLD080

Note – These operating conditions are specific to CARB’s use of Markes units with a Thermo GC-MS. Method parameters may change if needed by an experienced analyst and by management approval.

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#### Markes units with a Thermo GC-MS

Standby – Split On; 10 mL/min  
Flow Path – 120 °C  
GC Cycle Time – 15 minutes  
Minimum Carrier Pressure – 5 psi

Dry purge: 2 min at 50 mL/min  
Tube desorb time: 10 mins at 300 °C, trap in line at 10 mL/min, split on at 70 mL/min  
Trap Purge – 2 minutes at 50 mL/min  
Trap Low – 5 °C  
Trap High – 250 °C  
Trap Heating Rate – 20 °C/s  
Trap Hold – 1 minutes; split on at 30 mL/min

Nitrogen Pneumatics – approx. 50 psi

**Appendix 2**

**OLS-MLD080-A2**

Typical GC-MS Methods for MLD080

Note – these operating conditions are specific to CARB’s use of a Thermo GC-MS. Method parameters may change if needed by an experienced analyst and by management approval.

**Thermo GC Parameters:**

Front Inlet – Off  
Front Inlet Flow Mode – FlowCtrl  
Front Inlet Pressure Control – Off  
Front Inlet Flow Control – On  
PrepRun Timeout – 999.99 minutes  
Equilibration Time – 0.100 minutes  
Ready Delay – 0.100 minutes  
Front Inlet Split Mode – Splitless  
Front Inlet Split Flow – Off  
Front Inlet Flow – 2.400 mL/min

**Thermo Column Oven Parameters:**

Rate (°C/min)	Target Value (°C)	Hold Time (minutes)
0.00	60	1.00
15.00	130	0.00
35.00	250	3.00

**Thermo MS Parameters:**

Ion Source (Thermo MS) – 310 °C  
MS Transfer Line – 230 °C  
Ionization Mode – EI

Time (minutes)	Range (amu)	Dwell/Scan Time (seconds)	Detector Gain
4.10	45-300	0.2	3.00x10 <sup>5</sup>
4.10	72, 73, 75, 110, 112, 117, 119, 121	0.006	3.00x10 <sup>5</sup>
9.00	45-300	0.15	3.00x10 <sup>5</sup>