BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In The Matter Of

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT,

Petitioner,

vs.

CHIQUITA CANYON, LLC, a Delaware Corporation,
[Facility ID No. 119219]

Respondent.

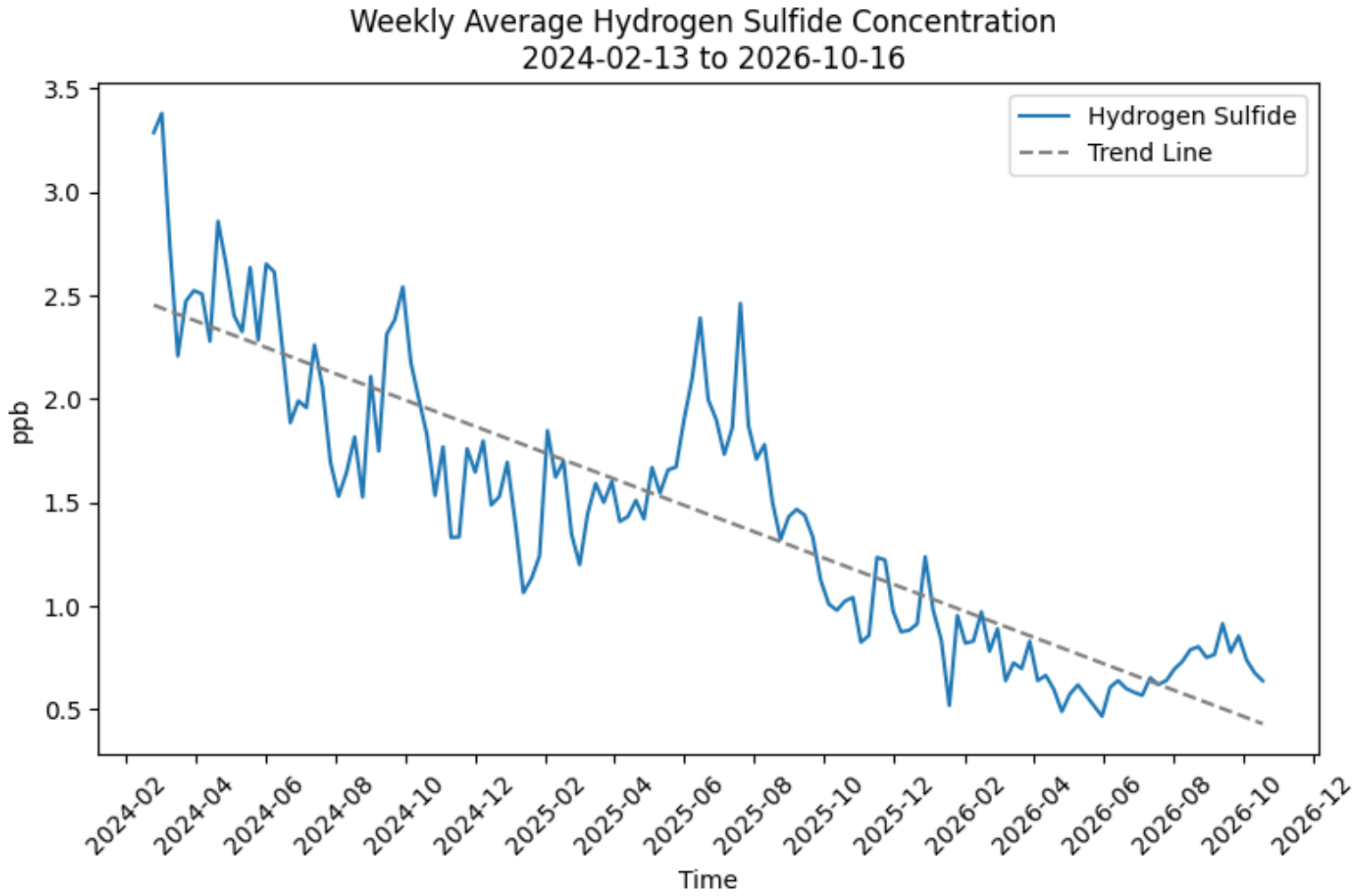
Case No. 6177-4

EXHIBIT E TO DECLARATION OF PATRICK SULLIVAN, BCES, CPP, REPA

Health and Safety Code § 41700, and
District Rules 402, 431.1, 3002, 203, 1150

Hearing Date: October 28 and 29, 2026
Hearing Time: 9:30 A.M.
Place: Hearing Board
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Offsite Hydrogen Sulfide Data



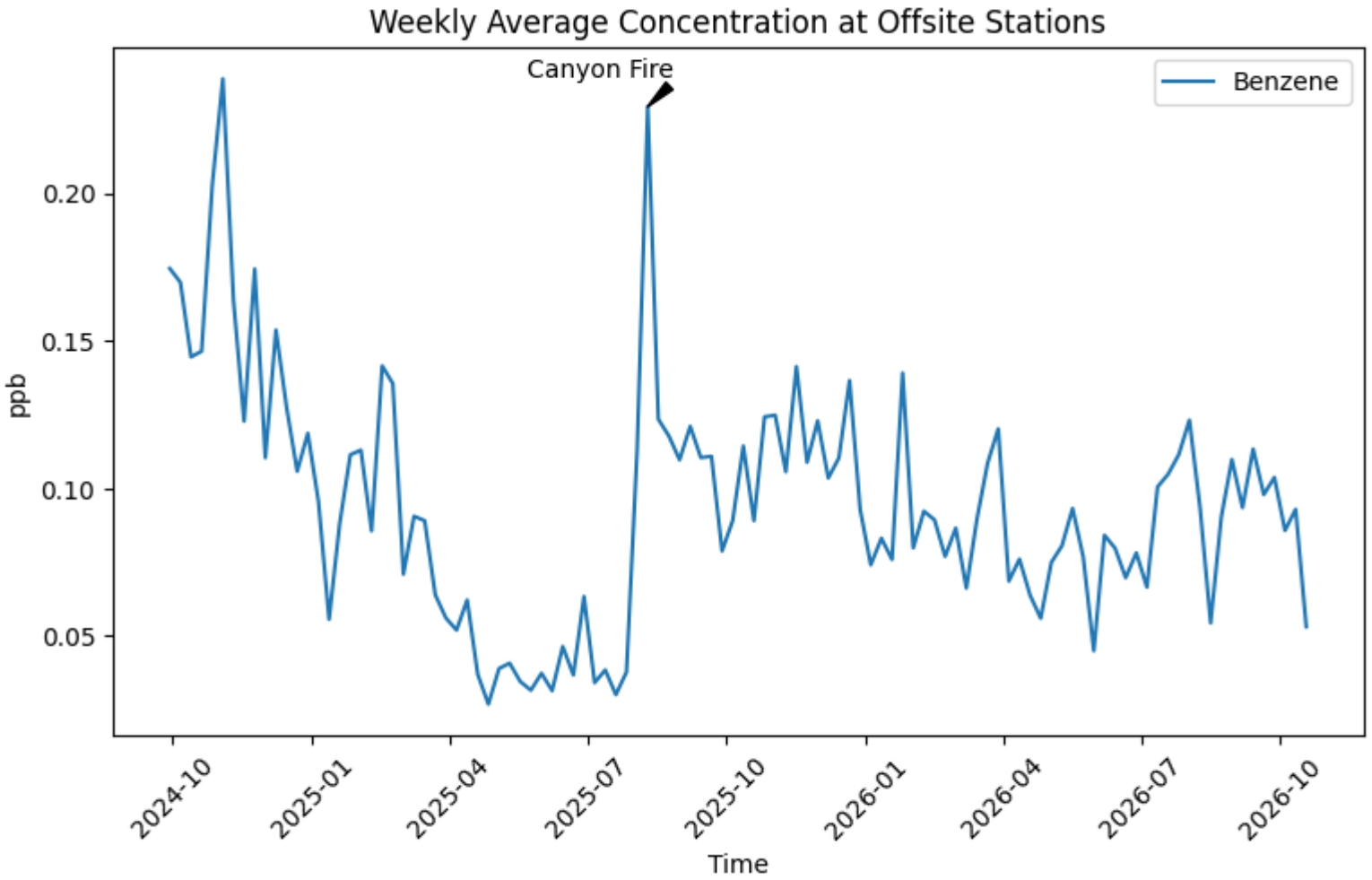
*Data updated through October 16, 2026

BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In The Matter Of SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, Petitioner, vs. CHIQUITA CANYON, LLC, a Delaware Corporation, [Facility ID No. 119219] Respondent.	**Case No. 6177-4** **EXHIBIT F TO DECLARATION OF PATRICK SULLIVAN, BCES, CPP, REPA** Health and Safety Code § 41700, and District Rules 402, 431.1, 3002, 203, 1150 Hearing Date: October 28 and 29, 2026 Hearing Time: 9:30 A.M. Place: Hearing Board South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765

Offsite Benzene Data



*Data updated through October 16, 2026

BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In The Matter Of

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT,

Petitioner,

vs.

CHIQUITA CANYON, LLC, a Delaware Corporation,
[Facility ID No. 119219]

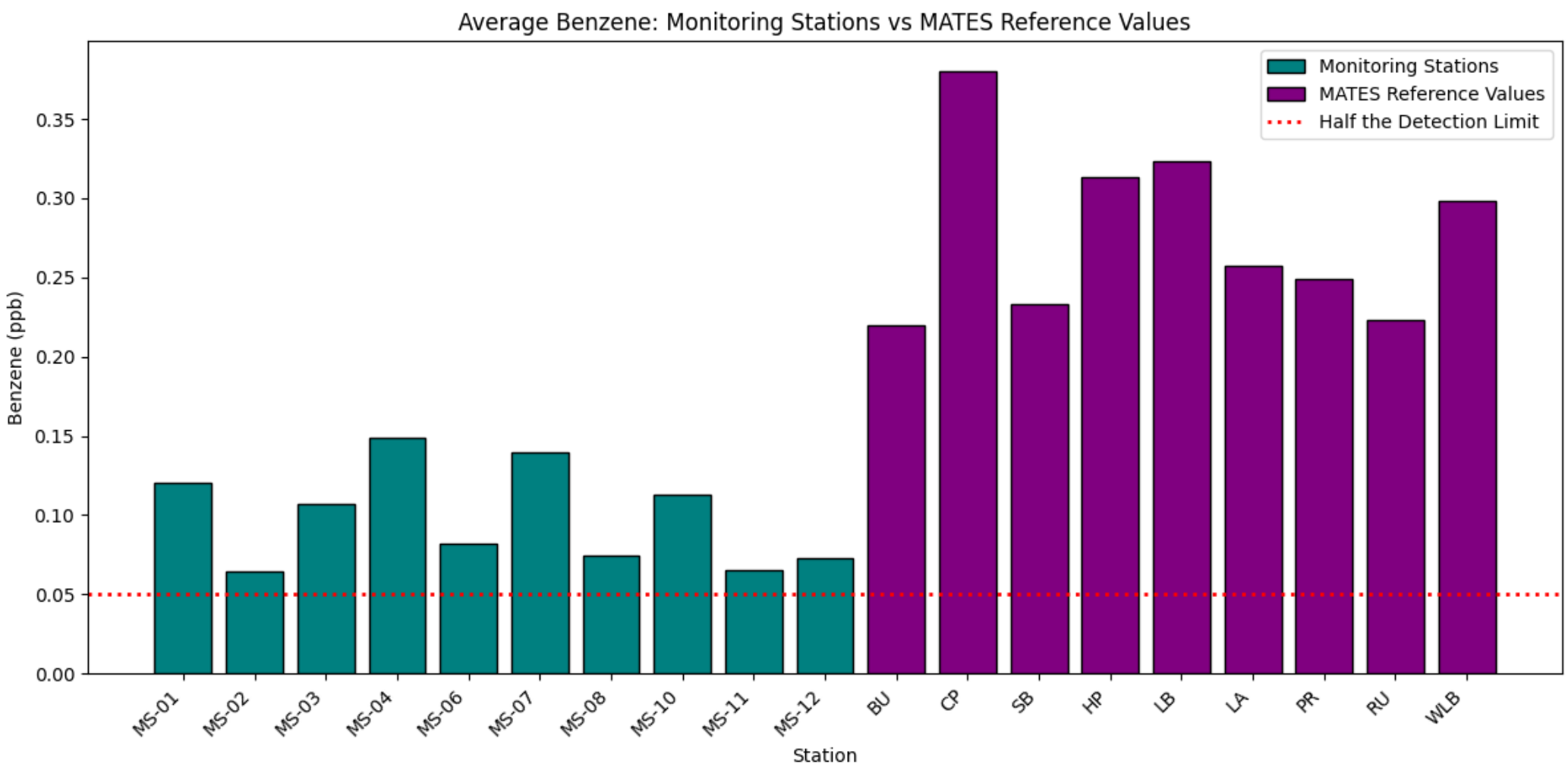
Respondent.

Case No. 6177-4

EXHIBIT G TO DECLARATION OF PATRICK SULLIVAN, BCES, CPP, REPA

Health and Safety Code § 41700, and
District Rules 402, 431.1, 3002, 203, 1150

Hearing Date: October 28 and 29, 2026
Hearing Time: 9:30 A.M.
Place: Hearing Board
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765


Average Benzene: Monitoring Stations vs MATES Reference Values
Monitoring Stations
MATES Reference Values
Half the Detection Limit
Benzene (ppb)
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
MS-01
MS-02
MS-03
MS-04
MS-06
MS-07
MS-08
MS-10
MS-11
MS-12
BU
CP
SB
HP
LB
LA
PR
RU
WLB
Station

BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In The Matter Of SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, Petitioner, vs. CHIQUITA CANYON, LLC, a Delaware Corporation, [Facility ID No. 119219] Respondent.	**Case No. 6177-4** **EXHIBIT H TO DECLARATION OF PATRICK SULLIVAN, BCES, CPP, REPA** Health and Safety Code § 41700, and District Rules 402, 431.1, 3002, 203, 1150 Hearing Date: October 28 and 29, 2026 Hearing Time: 9:30 A.M. Place: Hearing Board South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765

Offsite Acute REL Exceedances

Compound	Max Recorded (parts per billion – PPB)	OEHHA REL (parts per billion – PPB)	Number of Data Points	Number Above Threshold	Percent Above Threshold
Benzene	14.24	8	102631	3	0.003
2_Butanone	35.85	4,500	102628	0	0
Hydrogen Sulfide**	29	30	137783	0	0
Isopropyl Alcohol	68.09	1,300	101638	0	0
Methanol	89.81	21,000	102602	0	0
Toluene	28.32	1,300	102631	0	0
m,p-Xylene	57.45	5,000	101117	0	0
Acrolein**	1.49	1.1	65873	2	0.003

*Data from 6-20-2024 through 10-16-2026

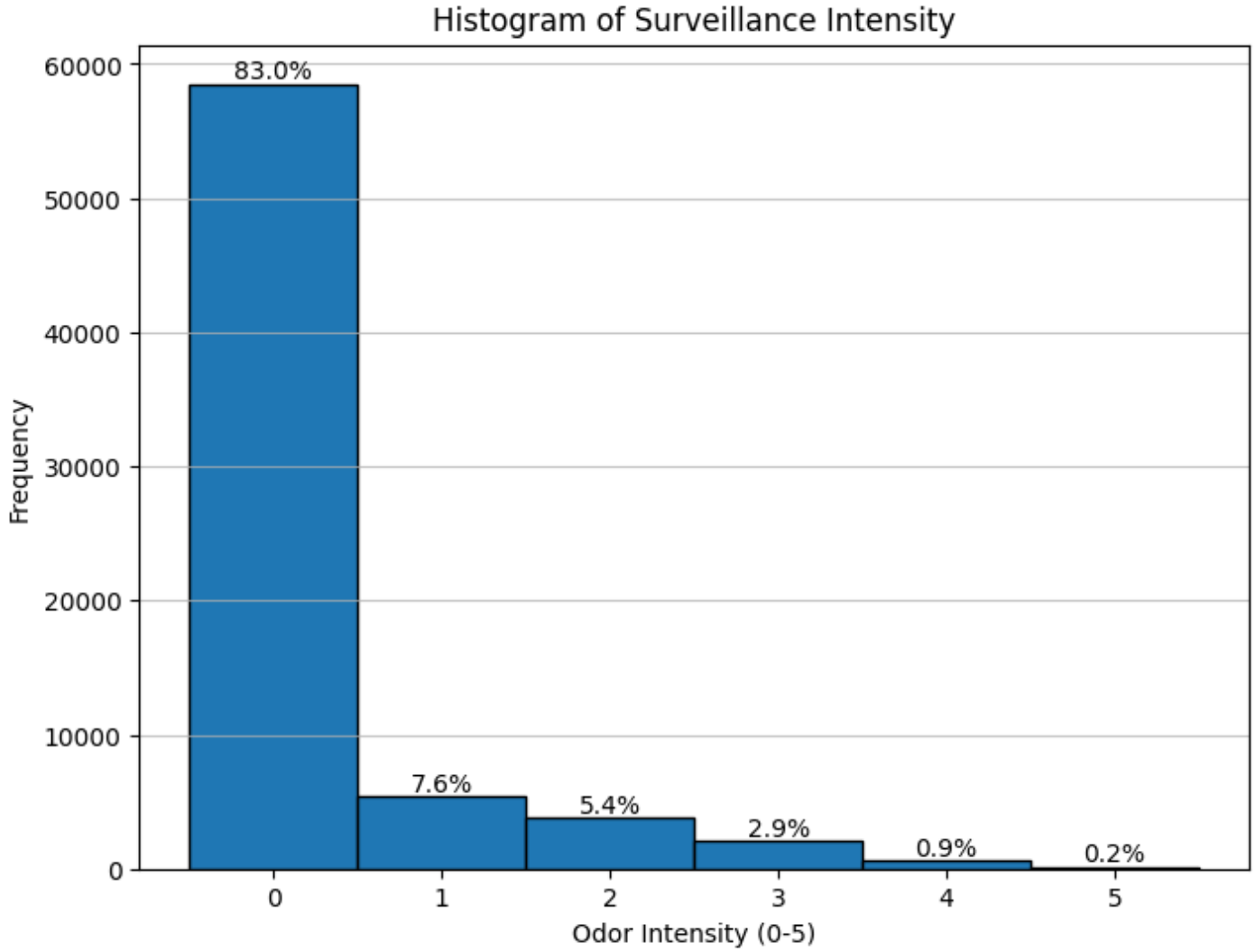
**Invalidated exceedances were removed from this table

BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In The Matter Of SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, Petitioner, vs. CHIQUITA CANYON, LLC, a Delaware Corporation, [Facility ID No. 119219] Respondent.	**Case No. 6177-4** **EXHIBIT I TO DECLARATION OF PATRICK SULLIVAN, BCES, CPP, REPA** Health and Safety Code § 41700, and District Rules 402, 431.1, 3002, 203, 1150 Hearing Date: October 28 and 29, 2026 Hearing Time: 9:30 A.M. Place: Hearing Board South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765

Odor Surveillance Intensity Data



*Data updated to October 13, 2026

BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In The Matter Of

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT,

Petitioner,

vs.

CHIQUITA CANYON, LLC, a Delaware Corporation,
[Facility ID No. 119219]

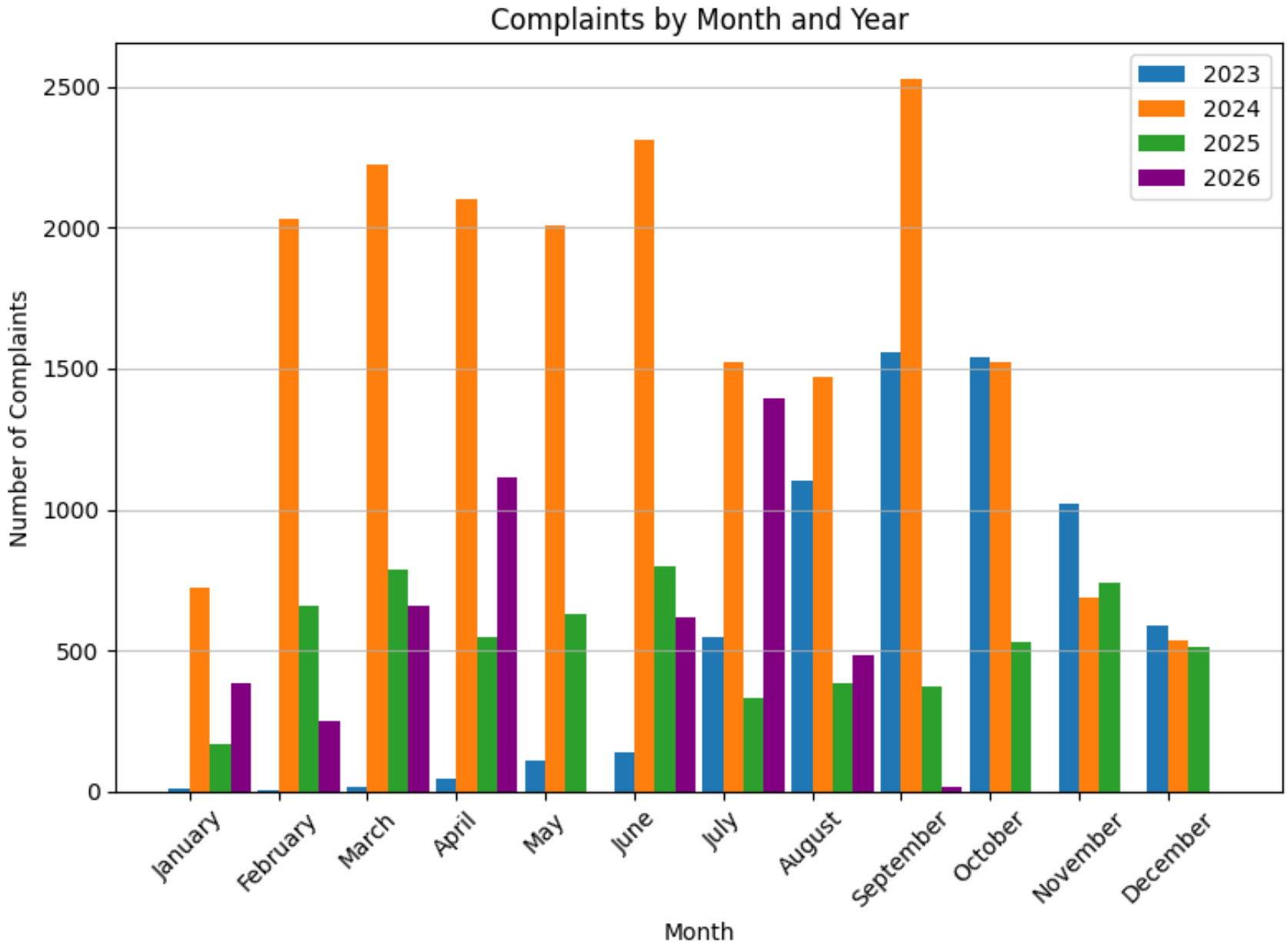
Respondent.

Case No. 6177-4

EXHIBIT J TO DECLARATION OF PATRICK SULLIVAN, BCES, CPP, REPA

Health and Safety Code § 41700, and
District Rules 402, 431.1, 3002, 203, 1150

Hearing Date: October 28 and 29, 2026
Hearing Time: 9:30 A.M.
Place: Hearing Board
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765



*Data updated through September 4,2026

BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In The Matter Of

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT,

Petitioner,

vs.

CHIQUITA CANYON, LLC, a Delaware Corporation,
[Facility ID No. 119219]

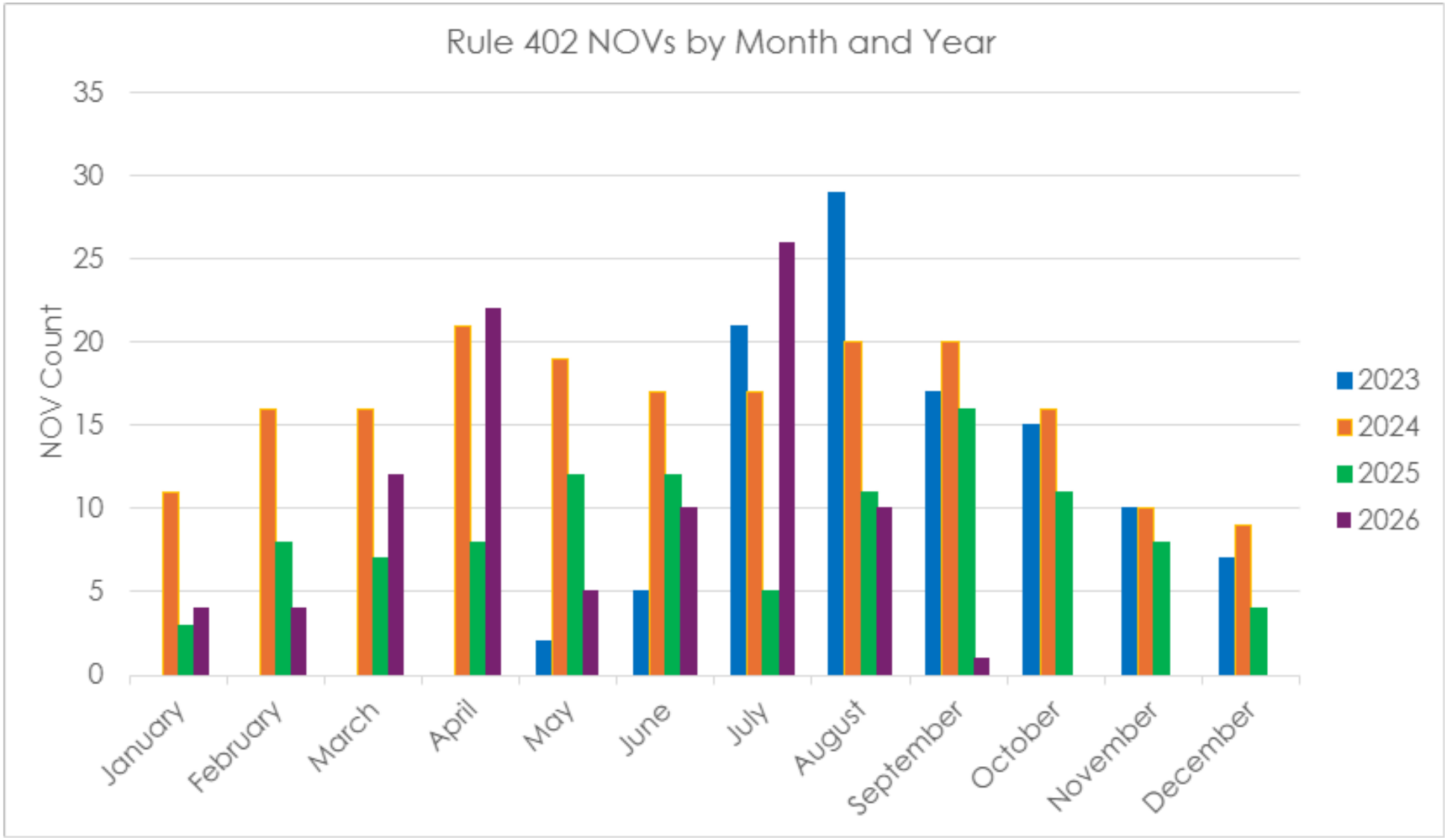
Respondent.

Case No. 6177-4

EXHIBIT K TO DECLARATION OF PATRICK SULLIVAN, BCES, CPP, REPA

Health and Safety Code § 41700, and
District Rules 402, 431.1, 3002, 203, 1150

Hearing Date: October 28 and 29, 2026
Hearing Time: 9:30 A.M.
Place: Hearing Board
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765



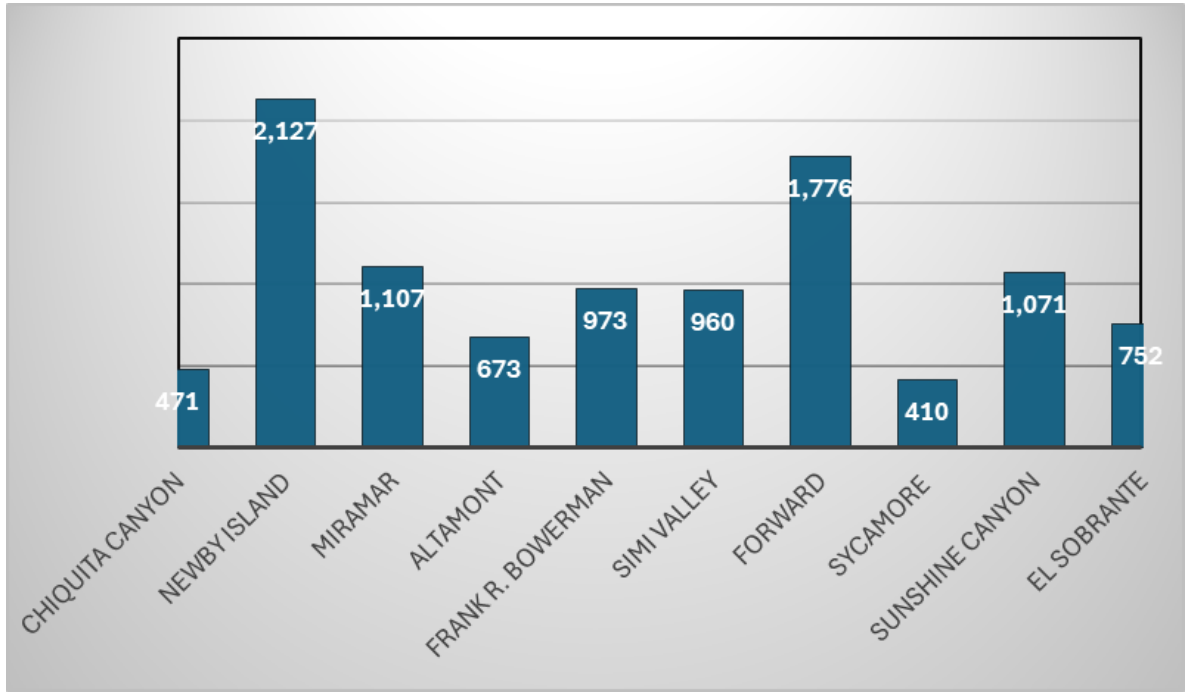
*Data updated through October 16, 2026

BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In The Matter Of SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, Petitioner, vs. CHIQUITA CANYON, LLC, a Delaware Corporation, [Facility ID No. 119219] Respondent.	**Case No. 6177-4** **EXHIBIT L TO DECLARATION OF PATRICK SULLIVAN, BCES, CPP, REPA** Health and Safety Code § 41700, and District Rules 402, 431.1, 3002, 203, 1150 Hearing Date: October 28 and 29, 2026 Hearing Time: 9:30 A.M. Place: Hearing Board South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765

Methane Emissions from Active Large Landfills in California

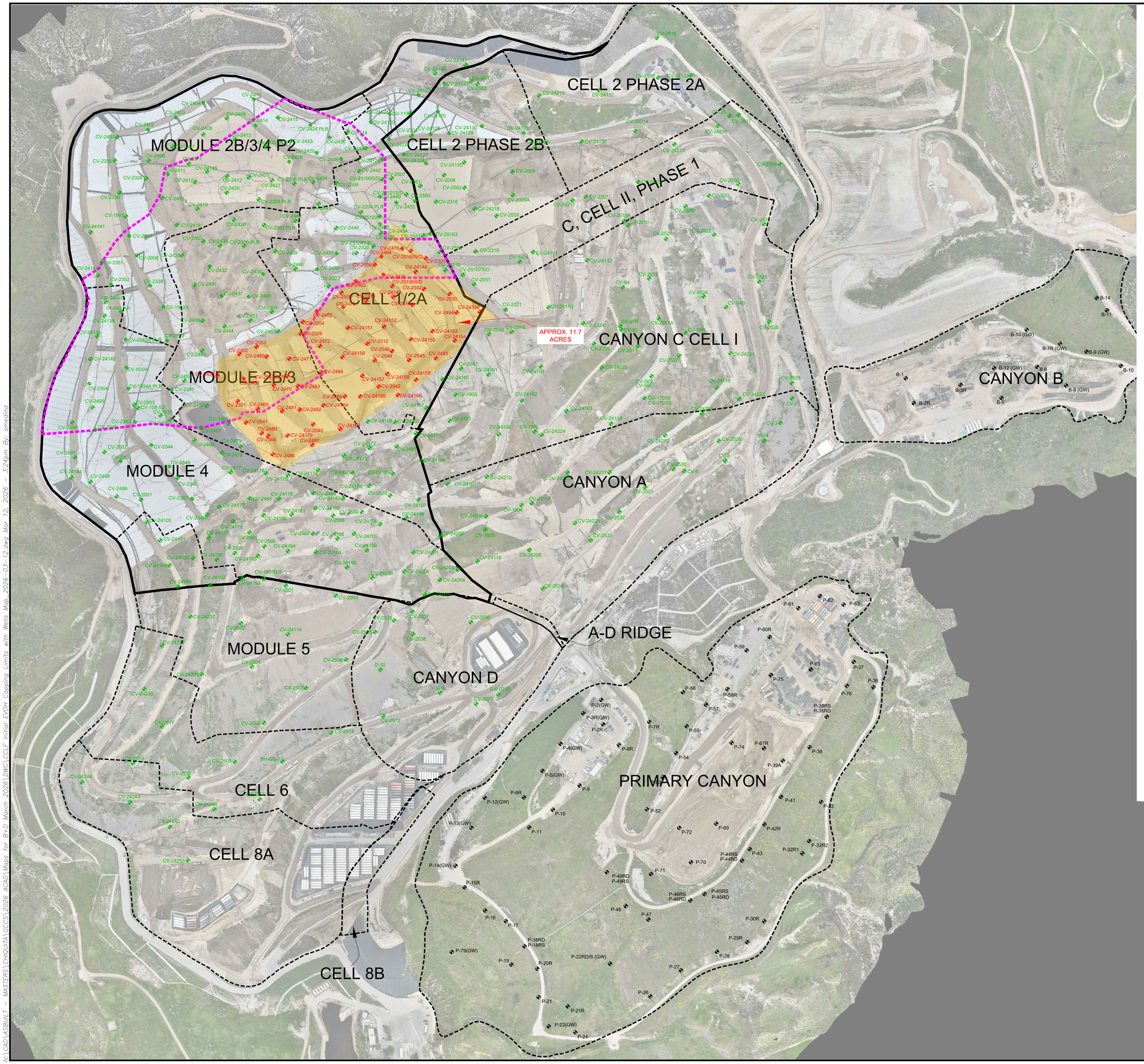


Landfill	District	Years
Chiquita Canyon	SCAQMD	2017-2024
Newby Island	BAAD	2017-2025
Miramar	SDAPCD	2027-2025
Altamont	BAAD	2017-2026
Frank R. Bowerman	SCAQMD	2016-2026
Simi Valley	VCAPCD	2020-2025
Forward	SJVAPCD	2017-2025
Sycamore	SDAPCD	2023-2026
Sunshine Canyon	SCAQMD	2016-2026
El Sobrante	SCAQMD	2020-2026

BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In The Matter Of SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, Petitioner, vs. CHIQUITA CANYON, LLC, a Delaware Corporation, [Facility ID No. 119219] Respondent.	**Case No. 6177-4** **EXHIBIT M TO DECLARATION OF PATRICK SULLIVAN, BCES, CPP, REPA** Health and Safety Code § 41700, and District Rules 402, 431.1, 3002, 203, 1150 Hearing Date: October 28 and 29, 2026 Hearing Time: 9:30 A.M. Place: Hearing Board South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765



LEGEND

- REACTION AREA BOUNDARY (APPROXIMATE) - BASED ON DATA REVIEW (02/10/2026)
- EXISTING CELL LIMITS (APPROXIMATE)
- REACTION AREA BOUNDARY - CONDITION 9A
- INITIAL INSTALLED EVOH (60-MIL) CAPPING LIMITS (APPROX.)
- CV-XX — EXISTING LFG VERTICAL EXTRACTION WELL - WITHIN INITIAL INSTALLED EVOH (60-MIL) CAPPING LIMITS
- CV-XX — EXISTING LFG VERTICAL EXTRACTION WELL - OUTSIDE INITIAL INSTALLED EVOH (60-MIL) CAPPING LIMITS
- CV-XX — EXISTING LFG VERTICAL EXTRACTION WELL CANYON B & PRIMARY CANYON

GENERAL DRAWING NOTES:

1. EXISTING TOPOGRAPHIC SURVEY INFORMATION SHOWN WAS PROVIDED BY PROPELLOR. AERIAL PHOTOGRAPHY DATED FEBRUARY 10, 2026.
2. NORTH ARROW SHOWN HERE IS REFERENCE TO THE CALIFORNIA STATE PLANE ZONE V COORDINATE SYSTEM, NAD 83.

NO.	REVISION	DATE

SHEET TITLE: INITIAL EVOH CAPPING

PROJECT TITLE: CHIQUITA CANYON LANDFILL CASTAIC, CALIFORNIA

CLIENT: CHIQUITA CANYON LANDFILL CASTAIC, CALIFORNIA

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
3900 KILROY AIRPORT WAY, SUITE 300
LONG BEACH, CA 90806
PH: (562) 426-9544

PROJ. NO. -
DSN. BY: -
DWN. BY: SRM
CHK. BY: -
APP. BY: -
FILE NO: N:\CHIQUITA

DATE: 03/12/2026

SCALE: AS SHOWN

1 of 1

N:\CAD\ASBUILT - MASTERS\CHIQUITA\GCCS\2026 ACAD\Maps for B+D March 2026\DWG\CCLF Initial EVOH Capping Limits with Wells Map_2026-03-12.dwg Mar 12, 2026 - 3:24pm By: smedina

BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In The Matter Of SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, Petitioner, vs. CHIQUITA CANYON, LLC, a Delaware Corporation, [Facility ID No. 119219] Respondent.	**Case No. 6177-4** **EXHIBIT N TO DECLARATION OF PATRICK SULLIVAN, BCES, CPP, REPA** Health and Safety Code § 41700, and District Rules 402, 431.1, 3002, 203, 1150 Hearing Date: October 28 and 29, 2026 Hearing Time: 9:30 A.M. Place: Hearing Board South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765

Archived: Thursday, August 6, 2026 6:45:09 PM
From: Huber, Rachelle
Sent: Sat, 1 Aug 2026 07:38:14
To: Baitong Chen
Cc: Kevin Green
Subject: RE: Chiquita Canyon Landfill (Facility ID 119219) – SOFA Condition 104
Importance: Normal
Sensitivity: None
Attachments: John Zink Enclosed Flare Low Methane Letter REV0.pdf

---

[EXTERNAL SENDER: Use caution with links/attachments]

All –
Please note that Chiquita intended to refer to Condition 104 in the earlier correspondence. The reference to Condition 1 was a typographical error.

Best,

Rachelle Huber
Project Manager

SCS Engineers
4683 Chabot Drive, Suite 200
Pleasanton, CA 94588
(925) 789-5710 (work cell)
rhuber@scsengineers.com

Driven by Client Success
www.scsengineers.com

SCS ENGINEERS
Environmental Consultants and Contractors

From: Huber, Rachelle <RHuber@scsengineers.com>
Sent: Friday, July 31, 2026 6:57 PM
To: Baitong Chen <BChen@aqmd.gov>; Larry Israel <lisrael@aqmd.gov>; ndickel@aqmd.gov; Christina Ojeda <cojeda@aqmd.gov>
Cc: Kevin Green <Kevin.Green@WasteConnections.com>; Bill Haley <william.haley@wasteconnections.com>; Sarah Phillips <Sarah.Phillips@WasteConnections.com>; Dylan Smith <Dylan.Smith@WasteConnections.com>; Jones, Art <AJones@scsengineers.com>; Viswanathan, Srividhya <SViswanathan@scsengineers.com>; Sullivan, Pat <PSullivan@SCSEngineers.com>
Subject: Chiquita Canyon Landfill (Facility ID 119219) – SOFA Condition 1

[EXTERNAL SENDER: Use caution with links/attachments]

All,

In accordance with Condition 1 of the Stipulated Order, attached is a letter from John Zink Company LLC concerning the operation of enclosed flares at lower methane concentrations.

Chiquita has also been working with the installer to obtain written confirmation of the minimum landfill gas methane content necessary for Flares 1, 2, and 3 to ensure destruction efficiency of methane and NMOCs consistent with regulatory requirements, as required by Condition 1(a), and the written documentation required by Condition 1(b) regarding the proposed timeline for installation of the supplemental fuel system. The installer has not yet been able to provide the flare-specific minimum methane concentrations or the requested installation timeline. Chiquita will continue working with the installer to obtain that documentation and will provide it to South Coast AQMD as soon as practicable.

Please let us know if you have any questions.

Best,

Rachelle Huber
Project Manager

SCS Engineers
4683 Chabot Drive, Suite 200
Pleasanton, CA 94588
(925) 789-5710 (work cell)
rhuber@scsengineers.com

Driven by Client Success
www.scsengineers.com

July 31, 2026

William Haley
Sr. Project Engineer
Waste Connections

Mr. Haley:

At the request of Waste Connections, this letter addresses the operation of enclosed flares with gas streams approaching methane concentrations less than 30% by volume or lower heating value (LHV) of 275 BTU/SCF.

An enclosed flare burns gas inside a protected combustion chamber to destroy compounds such as methane. As methane content in the gas stream declines, the heating value of the gas decreases. With a lower heating value, less heat is released during combustion. Additionally, when the gas has a lower methane concentration, there is typically more carbon dioxide in the gas which further cools the flame since carbon dioxide is not flammable.

If the heat content from the gas is too low, the flame will not be able to heat the stack to its operating temperature. Effective combustion requires three things: sufficient temperature, enough time at that temperature, and good mixing inside the stack. Of these, maintaining temperature is the biggest challenge for low methane streams. An additional concern surrounding low methane applications is flame stability. As the methane content drops, it becomes more difficult to maintain flame stability because continous pilots are not present.

Generally, gas streams with methane content less than 30% by volume or with low flowrates may require auxiliary fuel to reliably start combustion and maintain temperature. A table has been included below to provide additional clarity on the operation of enclosed flares with varying methane concentrations.

Methane %	Approximate Lower Heating Value (BTU/SCF)	Enclosed Flare Meets Operational Requirements for Combustion Without Supplemental Fuel	Requires Supplemental Fuel
50	455	Yes with sufficient flow	No
40	365	Yes with sufficient flow	No
35	320	Yes with sufficient flow	No
30	275	Unreliable independent of flow	Potentially
25	230	Not feasible independent of flow	Yes
20	185	Not feasible independent of flow	Yes

Sincerely,

Colten Cates
Applications Engineer
John Zink Company LLC
T: +1 (539) 399-0793

BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In The Matter Of SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, Petitioner, vs. CHIQUITA CANYON, LLC, a Delaware Corporation, [Facility ID No. 119219] Respondent.	**Case No. 6177-4** **EXHIBIT O TO DECLARATION OF PATRICK SULLIVAN, BCES, CPP, REPA** Health and Safety Code § 41700, and District Rules 402, 431.1, 3002, 203, 1150 Hearing Date: October 28 and 29, 2026 Hearing Time: 9:30 A.M. Place: Hearing Board South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765

8 Sunset Way
Henderson, Nevada 89014

209-345-2062
File No. 07224200.24

September 9, 2026

Mr. William Haley – Site Engineer
Chiquita Canyon Landfill
29201 Henry Mayo Dr.
Castaic, CA 91384

Subject: Chiquita Canyon Landfill, Castaic California

Condition No. 104(b) Construction Project Schedule for the Supplemental Fuel System for the LFG Flares

Dear Mr. Haley:

SCS Engineers is pleased to provide the Chiquita Canyon Landfill (Site), with the summary below for the procurement, installation and testing of a new supplemental fuel system for the LFG Flares. This project will include the specification, ordering and installation of the following major equipment (See attached documents for delivery timelines upon initial order placement):

- 1000-gallon propane tank
- Vortex Flow meter (Or equivalent) rated for liquified propane gas with output signal
- Globe flow control valve
- Large Diameter Fusion Equipment to install piping for propane injection point
- Other ancillary material (stainless steel piping, remote data transmitter and programming – these materials are readily available)

Upon delivery of the equipment and materials, SCS shall perform the following construction activities in accordance with the work outlined below:

- Perform site grading and pad preparation for the propane tank installation and install the propane tank.
- Install a 2-inch HDPE-to-stainless steel transition fitting at the designed injection point.
- Install all required valves, flow meters, piping, and support structures necessary for the injection system.

Upon completion of the installation of the above, SCS shall install and program the necessary data transmission device to enable the recording of the propane flow utilized by the system into SCS RMC or an on-site storage device.

The final work would be the testing, verification and commissioning of the supplemental system.

SCS has developed the proposed schedule, below, to complete installation of the supplemental propane fuel system as expedited as feasible, considering equipment lead times and required work sequence. SCS will coordinate procurement and delivery, pursue expedited shipping, and perform activities concurrently where feasible. Work will advance as equipment becomes available and prerequisites are completed, without compromising safe installation practices or necessary testing and commissioning.

CHIQUITA CANYON LANDFILL

CONDITION NO. 104(b) PROJECT SCHEDULE

CASTAIC, CALIFORNIA

		Weeks									
Task Number	**Description**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Procurement and Delivery of all Materials and Equipment Needed										
2	Installation of the Propane Tank, Piping, Meter, Valves, and Supports										
3	Installation and Programing of the Fuel-flow Recording System										
4	Testing and Comissioning of the Fuel-flow Recording System										

Total Project Completion Timeline - Maximum of 10 weeks from Notice to Proceed

The four-week procurement and delivery period includes equipment specification, ordering, supplier lead times, and delivery to the Site. Quoted shipment lead times cover only part of this process. SCS will coordinate orders and deliveries to support the installation sequence and pursue expedited shipment where feasible. Installation is scheduled for weeks 4–8, overlapping with procurement and delivery, and includes grading and preparation of the propane tank pad, placement of the tank, installation of the HDPE-to-stainless-steel transition fitting at the injection point, and installation of the piping, valves, flow meter, and support structures. Installation and programming of the propane-flow recording system are scheduled for week 9, followed by testing, verification, and commissioning in week 10.

SCS will continue to evaluate opportunities to shorten these timeframes as work progresses.

SCS appreciates the opportunity to be of assistance to Chiquita Canyon on this project. As you review the enclosed information, please contact Art Jones at (209) 345-2062 or Jenny Kim at (949) 948-3571 if you have any questions or comments.

Sincerely,

Arthur E Jones Jr
DSW Region Manager/VP
SCS Engineers
209-345-2062
AJones@scsengineers.com

Jenny Kim, PE
Project Manager
SCS Engineers
949-948-3571
JennyKim@scsengineers.com

Attachments: Propane Tank quote and delivery timeline
Globe Valve
Vortex Flow Meter
Sidewinder Fusion Equipment

Rental Quotation

Bill To:

103705
SCS FIELD SERVICES, INC. DIV
3900 KILROY AIRPORT WAY STE 1
LONG BEACH, CA 90806-6816

Ship To:

CHIQUITA CANYON LANDFILL
29201 HENRY MAYO DR
CASTAIC, CA 91384-2705

Quote Number	35051957
Quote Date	09/04/26
Expiration Date	09/07/26
Page	1 of 1

Payment Terms NET 60	Customer Job/Project Name	Written By MEYER VINCZE
Freight Terms PREPAID AND ADD	Contact	Sales Rep CALIFORNIA LANDFILL SALES
Ship Via Best Way	Additional Info	

#	Qty	UM	Product	Description	Each	Extended
					Rate	
1	1	DAY	70100200	RENT SIDEWINDER SADDLE FUSION MACHINE - CHAIN CLAM	[redacted]	[redacted]
			Subtotal			[redacted]

CURRENT LEAD TIME IS 2 WEEKS TO SHIP OUT

ISCO Standard Terms and Conditions apply. Please visit https://www.isco-pipe.com/terms-and-conditions.aspx

Merchandise Total	Tax(1)	Shipping/Handling(2)	Quote Total
[redacted]	[redacted]	[redacted]	**US $** [redacted]

1 Sales tax will be charged based on the ship to address at the time of invoice if there is no tax certificate on file.

2 Freight amount in this quote is an estimate only. Actual freight terms and charges will be determined at the time the order is placed.

Accepted By: _____

Printed Name: _____

Date: _____

ZEECO®
22151 EAST 91ST STREET
BROKEN ARROW, OK 74014
+1 918 258 8551
AFTERMARKET_INQUIRY@ZEECO.COM
ZEECO.COM

ZEECO QUOTATION

FOR 24/7 PARTS & SERVICE SUPPORT, CALL +1 918 258 8551 OR CALL OUR U.S. TOLL FREE NUMBER: 844 GO ZEECO

PROPOSAL

Attention	Rachelle Huber	**Quote Date**	25-Aug-2026	**Pages**	5
Company	SCS Engineers	**Email**	RHuber@scsengineers.com	**Phone**	
End User	Chiquita Canyon | Chiquita Canyon Landfill				
From	Esther Green	**Email**	Esther_Green@zeeco.com	**Phone**	918 893 8449
Quote #	2026-09487SP-01-R0	**Client Ref.:**	Propane Valve		

Thank you for choosing Zeeco for your Aftermarket needs, should additional information be required please do not hesitate to contact us.

QUOTED Items

Item #	Qty	Dwg #	Part #	Customer #	Description	Ref.	Price Each	Total
1	1				THRD or SW, CS Globe Valve 1" standard trim material Valve will be Drop Shipped No Drawings Supplied		[redacted]	[redacted]

QUOTE Total: [redacted]

Prices are firm for: 30 days

All prices quoted in: US Dollars

Shipment: Two Weeks ARO

Shipping Terms: Drop Ship to Customer

EXPEDITING AVAILABLE UPON REQUEST

Note: Minimum Order Value of $250.00 required

Terms: See Attached Zeeco Terms and Conditions of Sale

Unless otherwise stated, the item(s) in this proposal are priced based upon Zeeco's standard AML (Approved Manufactures List).

Storage and handling fees will be applied if an order is not picked up or shipped from Zeeco's shop within six weeks from notification of readiness to ship.

Inspection: Materials testing and Non Destructive Testing (NDT), such as PMI, PT testing, X - ray, Refractory testing, Paint Adhesion testing, Air Flow Testing, Gas Flow Testing and etc.are not included in this proposal unless explicitly quoted in the pricing section.

Documents will be submitted in PDF format only and distributed by e-mail, unless explicitly stated otherwise in this proposal.

PPD & ADD freight will be charged at cost plus twenty-five percent for normal delivery

PPD & ADD freight will be charged at cost plus thirty percent for expedited delivery

Freight pricing does not include provisions for containerization, unless otherwise noted.

If applicable and unless otherwise stated, the quoted item(s) in this proposal are based upon Zeeco's standard painting and surface preperation specifications.

Zeeco is not responsible for specifications not included in the inquiry package or revised after the issuance of the PO.We can provide a cost impact (if any) to meet any particular new or revised specification after receiving the specification.

Prepared By: Esther Green 08/25/2026
Applications Aftermarket Sales

Reviewed By: 08/25/2026
Director of Aftermarket and Service

This Quotation is based on the acceptance of the attached Zeeco Standard Terms and Conditions.

Zeeco strives to offer competitive prices and reserves the right to change quoted prices at any time.

AFTERMARKET

22151 East 91st Street | Broken Arrow, OK 74014 USA | +1.918.258.8551 | zeeco.com

Below is a list of featured Zeeco products. **Call** +1 918 258 8551 or **email** aftermarket_inquiry@zeeco.com today to learn more about our full line of combustion equipment and services.

AERIAL INSPECTIONS

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THE SALE OF EQUIPMENT, PARTS, MATERIALS, SUPPLIES, SOFTWARE AND OTHER GOODS (THE "GOODS") OR SERVICES (THE "SERVICES"), AS DESCRIBED IN SELLER'S QUOTATION OR PROPOSAL (THE "PROPOSAL"), ARE EXPRESSLY CONDITIONED UPON BUYER'S AGREEMENT TO THESE TERMS & CONDITIONS. ANY ADDITIONAL OR DIFFERENT TERMS PROPOSED BY BUYER ARE EXPRESSLY OBJECTED TO AND WILL NOT BE BINDING UPON SELLER UNLESS AGREED TO IN WRITING BY SELLER. ANY PURCHASE ORDER (THE "ORDER") ISSUED BY BUYER FOR THE PURCHASE OF GOODS OR SERVICES SHALL CONSTITUTE BUYER'S AGREEMENT TO THESE TERMS & CONDITIONS. UNLESS OTHERWISE SPECIFIED IN THE PROPOSAL OR THE ORDER, ANY PROPOSAL BY SELLER SHALL EXPIRE THIRTY (30) DAYS FROM ITS DATE AND MAY BE MODIFIED OR WITHDRAWN BY SELLER BEFORE RECEIPT OF BUYER'S ACCEPTANCE. THE GOODS AND SERVICES ARE COLLECTIVELY REFERRED TO AS THE "WORK." UNLESS OTHERWISE STATED, THE SELLER SHALL BE ZEECO, INC., 22151 EAST 91ST STREET, BROKEN ARROW, OKLAHOMA 74014 (USA), AND THE BUYER SHALL BE THE PARTY IDENTIFIED AS SUCH ON THE ORDER.

1. PRICE: Unless otherwise stated in the Proposal, the price of the Order (the "Price") is fixed and firm and is exclusive of all taxes, duties, fees, charges or assessments of any nature levied by any governmental authority. Additionally, unless otherwise stated in the Proposal, the Price is contingent upon the use of sub-contractors and sub-suppliers listed on Seller's Approved Manufacturers List ("AML") as may be amended from time-to-time, and the manufacture of Goods pursuant to Seller's standard painting procedures. Payment terms shall be as stated in the Proposal and Seller's acceptance of the Order is subject to credit approval that may include payment by means of an irrevocable documentary letter of credit issued by a first-class U.S. bank acceptable to Seller with funds payable upon delivery of customary presentation documents. The form of the letter of credit shall be negotiated by the parties and submitted to Seller for approval prior to issuance. All costs and fees of the letter of credit shall be to Buyer's account. Seller shall not be required to obtain any form of payment or performance security in favor of the Buyer, including but not limited to, bank guarantees, standby letters of credit, or surety bonds. Buyer's breach of agreed payment terms may result in: (a) Seller's suspension of the Work; (b) Seller's termination of the Order due to Buyer's default; (c) Buyer's liability for Seller's mobilization and demobilization costs in the event of suspension or termination by Seller, in addition to other damages; (d) Seller's demand for further assurances of performance by Buyer which may include, without limitation: (i) alteration of payment terms or milestones; (ii) full payment prior to shipment; (iii) additional payment security; (iv) or a delay in shipment that may exceed the length of Buyer's delay in payment.

2. CHANGES: Order changes by Buyer may significantly and disproportionately affect both the Price and completion or delivery date(s) (the "Delivery Schedule"). If Buyer desires to make a modification to the quantity, place, Delivery Schedule, or method of delivery, or the drawings, designs, or specifications of the Work (a "Change"), then Buyer shall so notify Seller in writing and provide sufficient details and descriptions of the proposed Change so that Seller may evaluate the impact of the Change on the Price, Delivery Schedule, or both. Under no circumstances shall Seller be obligated to perform a Change without an agreement concerning modifications to the Price, Delivery Schedule, or both.

3. DELAYS BY BUYER: If Buyer delays delivery for any reason, including but not limited to technical modifications or Changes, suspension, failure to review drawings submitted by Seller within the time specified, or any other cause (whether or not within Buyer's control), such delays may significantly and disproportionately affect both the Price and Delivery Schedule, which shall then be subject to a reasonable adjustment. The impact of Buyer caused delays on the Delivery Schedule may, in some cases, be more significant or of a longer duration than the actual period of Buyer's delay. In the event of Buyer's delay for any reason Seller shall be entitled to invoice Buyer, and Buyer agrees to pay timely, for materials on hand, fabrication completed or in process, and services provided. Unless specified in the Order, or otherwise by written agreement, where the Order requires submission of certain documents (including but not limited to drawings, manuals, or other documents related to the Goods) by Seller to Buyer for approval, then Buyer shall respond to such submission with approval or rejection within fourteen (14) days after Seller's issuance of such document(s) to Buyer. The failure of Buyer to approve or reject the document(s) by such time shall result in the document(s) being deemed approved and accepted.

4. LIMITED WARRANTY FOR GOODS: Seller warrants the Goods will operate substantially in conformance with Seller's specifications stated the Proposal and will be free from defects in material and workmanship for a period of twelve (12) months from the date of initial operation, or eighteen (18) months from the date of shipment, whichever is earlier (the "Warranty Period") when subjected to normal, proper and intended usage by properly trained personnel. Seller agrees during the Warranty Period, to repair or replace, at Seller's option, defective Goods so as to cause the Goods to operate in substantial conformance with Seller's specifications; provided that Buyer shall: (a) promptly notify Seller in writing upon the discovery of any defect and specify details of the warranty claim; (b) provide Seller with all operating data that Seller may reasonably request in order for Seller to evaluate the warranty claim; and (c) after Seller's review of the warranty claim, return the defective Goods to Seller with costs prepaid by Buyer if required to do so by Seller. Replacement parts may be new or refurbished. Shipment to Buyer of repaired or replaced Goods shall be in accordance with the delivery terms of the Order. Notwithstanding any other provision of this warranty, Seller may at its option, elect to send a service technician to Buyer's site to inspect, repair or replace (if applicable) warranted Goods, or otherwise to determine whether the Goods should be returned to Seller for repair or replacement. Goods or components thereof that are obtained by Seller from an original manufacturer or third party supplier are not warranted by Seller, but Seller will, to the extent possible, assign to Buyer any warranty rights in such Goods or components that Seller received from the original manufacturer or third party supplier. Consumables such as, but not limited to, bulbs, fuses, thermocouples, gaskets, and similar items are outside the scope of this warranty. Seller's warranty assumes the Goods are "at grade," and all responsibility for and costs of removal and/or reinstallation of warranted parts or Goods as well as the cost of and responsibility for gaining access to the warranted parts or Goods, are excluded from this warranty. If the Goods are not placed into service within six (6) months after shipment, in order to validate the warranty, the Goods shall be inspected by Seller at the time of commissioning and refurbished, if necessary, to like new condition at the Buyer's expense. For any extended time of storage at the jobsite without assembly/installation, the Goods shall be stored and protected in accordance with Seller's instructions and industry standard long-term storage methods. This warranty shall be void if the Goods have been: (w) exposed to corrosion, erosion, or chemical attack; (x) operated contrary to Seller's instructions or accepted industry practices; (y) improperly maintained or operated, or subjected to accident, abuse, or vandalism; or (z) operated in conditions other than those stated in Buyer's written specifications. Additionally, this warranty shall be void if the Buyer is not in compliance with its payment obligations to Seller pursuant to the Order. Seller shall have no obligation to make repairs, replacements or corrections resulting from normal wear and tear to the Goods. If Seller determines that a warranty claim is not valid, then Buyer shall pay or reimburse Seller for all costs of investigating and responding to such claim, including non-warranty parts sold or installed, at Seller's then prevailing daily service rates and materials rates. ANY INSTALLATION, MAINTENANCE, REPAIR, SERVICE, RELOCATION OR ALTERATION OR OTHER TAMPERING WITH THE GOODS, THAT IS PERFORMED BY ANY PERSON OR ENTITY OTHER THAN SELLER WITHOUT SELLER'S PRIOR WRITTEN APPROVAL, OR ANY USE OF REPLACEMENT PARTS NOT SUPPLIED BY SELLER, SHALL IMMEDIATELY VOID AND CANCEL ALL WARRANTIES WITH RESPECT TO THE GOODS. IF THE WARRANTY BECOMES VOID, THE BUYER MAY PURCHASE FROM SELLER, IF AVAILABLE, A SERVICE AGREEMENT OR ONE-TIME SERVICE AT THEN CURRENT RATES. THE OBLIGATIONS CREATED BY THIS WARRANTY TO REPAIR OR REPLACE DEFECTIVE GOODS SHALL BE THE SOLE REMEDY OF BUYER IN THE EVENT OF A WARRANTY CLAIM. SELLER MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, OTHER THAN AS STATED HEREIN. SELLER DISCLAIMS ALL IMPLIED WARRANTIES.

5. LIMITED WARRANTY FOR SERVICES: Seller warrants the Services will conform to the specifications stated in the Proposal and will be performed in a workmanlike manner. The warranty on Services shall be for a period of three (3) months following completion of the Services (the "Service Warranty Period"). Seller agrees during the Service Warranty Period, to re-perform any defective Services; provided that Buyer shall promptly notify Seller in writing upon the discovery of any defect and specify details of the warranty claim. THE OBLIGATIONS CREATED BY THIS WARRANTY TO REPERFORM DEFECTIVE SERVICES SHALL BE THE SOLE REMEDY OF BUYER IN THE EVENT OF A WARRANTY CLAIM. SELLER MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, OTHER THAN AS STATED HEREIN. SELLER DISCLAIMS ALL IMPLIED WARRANTIES.

6. BACKCHARGES: No backcharges will be paid or allowed by Seller unless Seller is notified in writing of any claim of defect in the Goods or Services and Seller is given a minimum of thirty (30) days within which to begin remediation of such defect. All backcharges must be approved in writing by Seller before

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any Services are reperformed or any Goods are repaired, replaced, or altered in any manner by Buyer or returned to Seller.

7. CANCELLATION FEE: Buyer may cancel the Order for convenience prior to delivery upon written notice to Seller, in which case Seller will cease activity (except that related to the cancellation) and promptly terminate all related subcontracts. In such event, Buyer shall pay the greater of: (a) Seller's total costs incurred in performing the Order up to the date of receipt of notice of cancellation and all costs associated with the cancellation, including but not limited to, costs of canceling related subcontracts and any currency hedge(s) maintained by Seller relative to the Order, plus reasonable overhead and profit; or (b) a cancellation fee of twenty-five percent (25%) of the Price. However, the amount payable to Seller for cancellation will not exceed the Price.

8. TERMINATION FOR DEFAULT: Buyer may declare Seller in default only if: (a) Seller breaches a material provision of the Order; (b) Buyer provides Seller thirty (30) days written notice specifying Seller's alleged breach in detail; and (c) Seller fails to reasonably cure such alleged breach with the thirty (30) day period following Seller's receipt of Buyer's written notice. In the event of Seller's uncured default, Buyer's sole remedy shall be to terminate the Order and recover any payments made to Seller for the Order.

9. INTELLECTUAL PROPERTY INFRINGEMENT & INDEMNITY: Seller warrants the Goods do not infringe any United States patent. Seller shall, subject to the limitations herein, indemnify Buyer for reasonable damages if the Goods are held to constitute infringement of a United States patent. This indemnity shall not apply: (a) to Goods or parts thereof manufactured pursuant to Buyer's design, or to changes in Seller's design requested by Buyer; and (b) if the infringement is a result of Buyer's operation of the Goods. Buyer shall promptly notify Seller in writing of any alleged claim of infringement, permit Seller to control the defense or compromise of any such claim, and render such assistance as Seller may require. Seller shall have no indemnity obligations to Buyer under this Section if the Buyer is not in compliance with its payment obligations to Seller pursuant to the Order.

10. INDEMNITY: Seller shall be responsible for any illness, injury or death, of the employees of the Seller, its subsidiaries, and their officers, directors, employees, agents, and contractors (collectively, the "Seller Group") and for the loss or damage to the property of any member of the Seller Group, arising out of or relating to the performance of this Order and REGARDLESS OF WHETHER CAUSED OR BROUGHT ABOUT BY THE NEGLIGENCE (INCLUDING ACTIVE, PASSIVE, SOLE, JOINT OR CONCURRENT NEGLIGENCE) OF THE BUYER, ITS SUBSIDIARIES AND ITS CUSTOMER OR ULTIMATE RECIPIENT OR USER OF THE GOODS OR SERVICES AND THEIR OFFICERS, DIRECTORS, EMPLOYEES, AGENTS AND CONTRACTORS (COLLECTIVELY, THE "BUYER GROUP") OR ANY OTHER THEORY OF LEGAL LIABILITY, and Seller shall release, defend, protect, indemnify and hold harmless all members of the Buyer Group from and against any loss, cost, claim, suit, judgment, award or damage (including reasonable attorney's fees) on account of such illness, injury or death, loss or damage. In exchange, Buyer shall be responsible for any illness, injury or death, of the employees of any member of the Buyer Group and for the loss or damage to the property of any member of the Buyer Group, arising out of or relating to the performance of this Order and REGARDLESS OF WHETHER CAUSED OR BROUGHT ABOUT BY THE NEGLIGENCE (INCLUDING ACTIVE, PASSIVE, SOLE, JOINT OR CONCURRENT NEGLIGENCE) OF ANY MEMBER OF THE SELLER GROUP OR ANY OTHER THEORY OF LEGAL LIABILITY, and Buyer shall release, defend, protect, indemnify and hold harmless all members of the Seller Group from and against any loss, cost, claim, suit, judgment, award or damage (including reasonable attorney's fees) on account of such illness, injury or death, loss or damage. Seller and Buyer shall each release, defend, protect, indemnify and hold harmless each other, and the applicable members of the Seller Group or Buyer Group, from and against any loss, cost, claim, suit, judgment, award or damage (including reasonable attorney's fees) for illness, injury, death, or damage to property of third parties (not included within the definitions of Seller Group or Buyer Group) but only to the extent caused by the negligent acts or omissions of such party. Seller shall have no indemnity obligations to Buyer under this Section if the Buyer is not in compliance with its payment obligations to Seller pursuant to the Order. Should any of the preceding indemnities be judged unenforceable or be limited by applicable law, then each party's indemnity obligations to the other shall be limited to the extent that liability for any such illness, injury, death or damage to property is caused by the negligent acts or omissions of such party.

11. GOVERNING LAW: To the maximum extent permissible, this Order shall be governed and construed in accordance with the laws of the State of Oklahoma (U.S.A.), exclusive of any principles of conflicts of laws that would require application of the substantive laws of another jurisdiction. The exclusive venue for all legal actions under this Order shall be the State or Federal Courts sitting in Tulsa, Oklahoma (U.S.A.), and the parties submit to the personal jurisdiction thereof and waive any other venue that may be applicable to such action. This Order excludes the application of the United Nations Convention on Contracts for the International Sale of Goods.

12. FORCE MAJEURE: Except for Buyer's obligations to pay sums to Seller when due, neither party shall be liable for its failure to perform obligations under the Order if such failure results from fire, flood, earthquake, storm, hurricane or other natural disaster, war, invasion, act of foreign enemies, rebellion, terrorist activities, nationalization, government sanction, blockage, embargo, or interruption or failure of electricity, water, telephone or utility service.

13. ASSIGNMENT: Buyer shall not assign the Order without the prior written consent of Seller, and such consent shall not be unreasonably withheld; however, any assignment shall not relieve Buyer of its payment and indemnity obligations to Seller.

14. ENFORCEABILITY: Should a court of competent jurisdiction rule that any provision herein is invalid or unenforceable, such ruling shall not affect the validity or enforceability of any other provision.

15. WAIVER: Seller's failure to enforce any provisions herein shall not constitute a waiver of such rights, or preclude their later enforcement.

16. WAIVER OF CONSEQUENTIAL DAMAGES: SELLER SHALL NOT BE LIABLE FOR PUNITIVE, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LIABILITY FOR REMOVAL AND REINSTALLATION COSTS, LOSS OF USE, LOSS OF BUSINESS OPPORTUNITY, LOSS OF PROFIT OR REVENUE, LOSS OF PRODUCT OR OUTPUT, OR BUSINESS INTERRUPTION.

17. LIMITATION OF LIABILITY: ANYTHING TO THE CONTRARY CONTAINED IN THIS ORDER NOTWITHSTANDING, SELLER'S CUMULATIVE LIABILITY ARISING OUT OF OR IN ANY MANNER RELATED TO ITS PERFORMANCE SHALL NOT EXCEED, IN THE AGGREGATE, ONE HUNDRED PERCENT (100%) OF THE MONIES RECEIVED BY SELLER UNDER THIS ORDER. THE REMEDIES PROVIDED TO BUYER UNDER THIS ORDER ARE IN LIEU OF ALL OTHER REMEDIES WHICH MAY BE OR BECOME AVAILABLE TO BUYER AT LAW OR IN EQUITY. THE LIMITATIONS SET FORTH HEREIN APPLY WHETHER CLAIMS ARISE PURSUANT TO CONTRACT, TORT, INDEMNITY, STATUTE, EQUITY OR ANY OTHER THEORY OF LAW, INCLUDING, BUT NOT LIMITED TO, THE BREACH OF ANY LEGAL DUTY OR THE FAULT, NEGLIGENCE, PROFESSIONAL LIABILITY OR STRICT LIABILITY OF SELLER. THIS LIMITATION SHALL BE INCLUSIVE OF ALL INSURANCE, BOND, AND LETTER OF CREDIT PROCEEDS, WHICH MAY BE PAID TO THE BUYER BY THE INSURERS, SURETIES OR BANKS OF SELLER. SHOULD THESE REMEDIES BE FOUND INADEQUATE OR TO HAVE FAILED IN THEIR ESSENTIAL PURPOSE FOR ANY REASON WHATSOEVER, THEN THE BUYER AGREES THAT THE SELLER'S RETURN TO THE BUYER OF NO GREATER THAN ONE HUNDRED PERCENT (100%) OF THE MONIES RECEIVED BY SELLER UNDER THIS ORDER SHALL PREVENT THE REMEDIES FROM FAILING THEIR ESSENTIAL PURPOSE AND SHALL BE CONSIDERED BY BUYER AS A FAIR AND ADEQUATE REMEDY.

18. ENTIRE AGREEMENT: This Order contains the entire agreement of the parties and supersedes any and all prior course of dealing, agreements, understandings and communications between Buyer and Seller related to the subject matter of this Order. No amendment or modification of this Order shall be binding unless it is in writing and is signed by an authorized representative of Buyer and Seller.

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The below payment terms apply to clients with established credit accounts, currently in good standing. Terms and conditions of sale are subject to change at Zeeco's discretion, based upon client's past credit performance. ***If a client requires payment terms other than those listed below, a written request must be submitted stating the desired payment terms, prior to order placement. Zeeco will review any request and will make every effort to work with the customer to arrange mutually satisfactory payment terms.*** In addition, all new client accounts are subject to credit approval.

DOMESTIC SHIPMENTS:	
Order Value	**Terms (Net 15 unless otherwise indicated)**
Less than $20,000	100% on readiness to ship
$20,000 to $100,000	25% on submittal of approval drawings
	75% on readiness to ship
$100,000 to $500,000	10% on order placement
	20% on submittal of approval drawings
	30% on purchase of major material
	40% on readiness to ship
Over $500,000	10% on order placement
	20% on submittal of approval drawings
	20% on purchase of major material
	20% on start of fabrication
	30% on readiness to ship

INTERNATIONAL SHIPMENTS [INCLUDING CANADA AND MEXICO]	
Order Value	**Terms (Net 15 unless otherwise indicated)**
Less than $20,000	100% on readiness to ship
$20,000 to $100,000	25% on submittal of approval drawings
	75% on readiness to ship
$100,000 to $500,000	10% on order placement
	20% on submittal of approval drawings
	30% on purchase of major material
	40% on readiness to ship
Over $500,000	10% on order placement
	20% on submittal of approval drawings
	20% on purchase of major material
	20% on start of fabrication
	30% on readiness to ship
All progress payments are payable by T/T (Net 15). Final payments less than $20,000 are payable prior to shipment of equipment. All final payments of $20,000 or greater are to be secured by a letter of credit issued prior to start of equipment fabrication. Payments made by letter of credit require an irrevocable letter of credit, issued by a reputable United States Bank and payable at sight, upon presentation of documents. The terms and format of the letter of credit are subject to Zeeco's approval prior to issuance.	

Should customer fail to pay per the agreed-upon payment conditions, delivery may be impacted, or the order could be place on hold pending resolution.

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Vortex Flow Meter for Gas, Biogas/Air/Propane/Argon

★★★★★
5 out of 5 based on 1 reviews | Write a review

[redacted]

Selling low price vortex flow meter for gas. Vortex flow measurement natural gas, biogas, propane, air, argon, etc. The gas flow meter has available calibers DN15-DN200, available output signal 4~20mA, 0-5V, 0-10V, 1.6Mpa work pressure. Vortex flowmeter focus on flammable and explosive gas flow measurement, suitable for petroleum, chemical, gas supply industry.

Nominal Diameter *	DN15 (Flow range 1-7m³/h)
Output Signal *	4-20mA
Material *	Aluminum Alloy
Medium *	
Medium Temperature (°C) *	
Medium Pressure (MPa) *	

SKU: ATO-FLOW-VFM

1 ADD TO CART

30-day Returns Free Shipping Delivery date: 8-12 days

Huber, Rachelle

From: Josh Goshen <josh@pcpropane.com>
Sent: Friday, September 4, 2026 11:48 AM
To: Ambriz, Antonio
Subject: Re: Quote

This email originated from outside of SCS Engineers. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Antonio,

So to lease a 1000 tank set up the way you need it would be [redacted] per month

To purchase a 1000 tank set up the way you need it would be [redacted] plus tax

Lead time would be same either way, around a 5 day lead time

Please let me know if you have any questions

Thank you,

Josh Goshen
Pacific Coast Propane
C.(714) 616-1411
www.pcpropane.com

Inline image

On Fri, Sep 4, 2026 at 9:40 AM Josh Goshen <josh@pcpropane.com> wrote:

> Received, I will work on a quote for lease and for purchasing
>
> Thank you,
>
> Josh Goshen
> Pacific Coast Propane
> C.(714) 616-1411
> www.pcpropane.com
>
> Inline image
>
> On Fri, Sep 4, 2026 at 9:36 AM Ambriz, Antonio <AAmbriz@scsengineers.com> wrote:

Good morning, Josh,

Can you please send me a quote with the following information?

1. A 1,000-gallon tank, or the closest size available

2. Estimated delivery timeline

Thank you,

Antonio

Antonio Ambriz
Superintendent
AAmbriz@scsengineers.com
O: 562-426-9544
M: 562-756-8045
3900 Kilroy Airport Way, Ste.300
Long Beach, CA 90806 Zip

BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In The Matter Of

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT,

Petitioner,

vs.

CHIQUITA CANYON, LLC, a Delaware Corporation,
[Facility ID No. 119219]

Respondent.

Case No. 6177-4

EXHIBIT P TO DECLARATION OF PATRICK SULLIVAN, BCES, CPP, REPA

Health and Safety Code § 41700, and District Rules 402, 431.1, 3002, 203, 1150

Hearing Date: October 28 and 29, 2026
Hearing Time: 9:30 A.M.
Place: Hearing Board
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Chiquita Canyon Landfill Evaluation of Post-Combustion SO_x Control System

Chiquita Canyon Landfill
29201 Henry Mayo Drive
Castaic, CA 91384
661-257-3655

SCS ENGINEERS

01204123.21 | August 28, 2026

3050 Fite Circle, Suite 111-112
Sacramento, CA 95827
916-804-8075

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1.0 INTRODUCTION AND PURPOSE

Under the modified Stipulated Order for Abatement (SOFA) No. 6177-4, dated June 3, 2026, as agreed to by the South Coast Air Quality Management District (SCAQMD or District) and Chiquita Canyon Landfill (CCL), CCL is required to investigate known and possible post-combustion sulfur oxides (SO_x) control systems and evaluate whether these systems can be practically applied at the CCL. Specifically, Condition 3.d of the SOFA requires the following:

> *3.d. Respondent shall investigate known and possible post-combustion SOx control systems, viability of such system(s), and feasibility of operation of such system(s) at the landfill. A report detailing the results of the investigation, SOx control systems identified, feasibility of the systems at the landfill, advantages/disadvantages of the control systems, viability and expected SOx control efficiency, expected limitations (if any) due to conditions at the landfill, a list of equipment which may be required for installation (e.g. new TOx unit(s), SOx scrubber, gas cooling and drainage system, etc.), and a proposed timeline for design and installation of such system(s). The report shall be submitted to South Coast AQMD [Baitong Chen, Air Quality Engineer, (bchen@aqmd.gov); Nathaniel Dickel, Senior Air Quality Engineer, (ndickel@aqmd.gov), and Christina Ojeda, Air Quality Inspector, (cojeda@aqmd.gov)] by August 28, 2026.*

This report details the results of this investigation and considers expected SO_x control performance, site-specific operating conditions, potential limitations, required equipment, and a preliminary implementation approach.

During combustion, total reduced sulfur (TRS) compounds in landfill gas (LFG) are converted to SO_x, with the majority of the SOx being sulfur dioxide (SO_2). As an alternative to TRS pretreatment to reduce SOx emissions, post-combustion controls can achieve similar reductions.

SOx control has been developed and implemented in other industries. Wet and dry SOx control systems have been used for many years on boilers, incinerators, and other combustion sources. However, SCS and CCL are unaware of any post-combustion treatment that has been developed and installed for the treatment of landfill gas. The LFG composition, moisture content, siloxanes, variable sulfur loading, flow conditions, site conditions (e.g., space, ground conditions, slopes, etc.), and operation of multiple flares and thermal oxidizers (TOX) are impediments to installation that must be considered before determining which technology is practical for CCL.

1.1 SCOPE AND LIMITATIONS OF EVALUATION

This report presents a screening-level engineering evaluation based on available CCL operating data, LFG composition data, sulfur monitoring information, source test results, published technical information, and established air pollution control practices. The evaluation is intended to identify technologies that, based on the results of this initial investigation, appear technically viable for further development.

This screening-level evaluation does not establish that any particular technology or configuration is presently practical, reliably operable, or economically viable for full-scale application at CCL. This report is not a final process design, equipment specification, or procurement document. Detailed equipment sizing, vendor selection, final performance guarantees, and detailed engineering would be completed during subsequent phases of a project for a chosen technology. As part of this evaluation, we contacted 3 scrubber vendors, Mach Engineering, Torch-Air, and Monroe Environmental, to get preliminary thoughts on the different scrubber technologies being considered herein.

2.0 EXISTING LFG SYSTEM AND SULFUR CONTROL

CCL operates an active LFG collection and control system that maintains the collection wells under vacuum and conveys collected LFG through the facility header system to available treatment and combustion equipment. The Title V permit includes an LFG treatment and flaring system with a design capacity of 16,000 standard cubic feet per minute (scfm), multiple carbon adsorber vessels, and permitted flare systems used to combust collected LFG. Additional TOX units, awaiting incorporation into the Title V permit, have been installed at CCL to handle reaction gas.

There are three (3) flares and five (5) TOX units in operation, as of the date of this report. Although the control system is currently undergoing upgrades, the long-term plan for LFG control is to maintain 3 flares and 4 TOX units on a long-term basis. However, the exact units may vary over time, with a maximum capacity of approximately 28,000 scfm. Presently, about 16,000 scfm is being combusted in these devices. However, projections indicate that approximately 17,000 scfm may be available for recovery, with the remaining control capacity designated for redundancy.

Sulfur in the collected LFG is present as hydrogen sulfide (H_2S) and reduced organic sulfur compounds, including dimethyl sulfide (DMS) and methyl mercaptan (MM). Existing sulfur treatment has primarily focused on H_2S removal upstream of combustion. However, available site testing indicates that DMS and other reduced sulfur compounds can remain after treatment and therefore contribute to SO_x formation during combustion.

The issue evaluated in this report is therefore not simply whether additional upstream H_2S treatment can be provided, but whether SO_x generated from the remaining sulfur compounds can be practically controlled downstream of the flares and TOX units.

Collected LFG may be routed to the facility gas treatment system and/or to combustion control equipment. The facility also collects vapors from portions of the leachate and condensate handling system and conveys these vapors into the LFG collection and control system. Current sampling locations include the Parnel, Zeeco 7, and Hero TOX and flare station inlet streams, together with locations upstream and downstream of the existing H_2S treatment system at the flare station.

3.0 EXISTING OPERATING DATA AND DESIGN BASIS

Before evaluating post-combustion SO_x control technologies, the evaluation needs to be based on actual conditions at CCL rather than typical values from other combustion applications.

SCS reviewed available site-specific sulfur monitoring, source testing, and operating information to establish the preliminary design basis for the SO_x control evaluation. The information reviewed includes sulfur speciation, gas flow, temperature, moisture content, gas composition, and available emissions data.

The November 24, 2025, and March 30, 2026, quarterly leachate and condensate vapor sampling conducted by Montrose Air Quality Services (now Onterris) provides useful information on the gas entering several flare systems and other locations within the collection and treatment system. The testing included measurements of flow rate, temperature, moisture, gas composition, H_2S, and speciated reduced sulfur compounds. The March 2026 testing represents the most recent quarterly sampling data available for this evaluation and is included along with the November 2025 results to characterize sulfur loading and variability. See Appendix A.

3.1 SULFUR SPECIATION AND INLET GAS CONDITIONS

The available sulfur monitoring data show that sulfur entering the combustion equipment is not limited to H_2S. DMS, MM, and other reduced sulfur compounds are also present at varying concentrations. During combustion, all of the TRS compounds will be converted to SO_x. This means that post-combustion controls can focus on SO_x reductions without concerns for the different inlet concentrations of H_2S, DMS, or MM.

The November 2025 and March 2026 sampling events provide useful snapshots of both sulfur composition and physical gas conditions at several locations within the system. Of particular importance to this evaluation are the Parnel, Zeeco, and Hero inlet locations, along with the Flare Station pre- and post-H_2S treatment locations. Tables 3-1 and 3-2 summarize the measured inlet conditions and sulfur concentrations for the November 2025 and March 2026 sampling events, respectively.

Table 3-1 November 24, 2025 Inlet Gas Conditions and Sulfur Concentrations

Sampling Location	Flow Rate (scfm)	Temp (°F)	Moisture (%)	O_2 (%)	H_2S (ppmv)	DMS (ppmv)	MM (ppmv)	Total Sulfur (ppmv as H_2S)
Parnel Inlet	1,368	129	3.67	7.25	133	828	258.0	1,291.09
Zeeco Inlet	2,520	154	5.68	8.83	107	315	82.7	526.54
Hero Inlet	610	131	4.10	7.25	140	963	303.0	1481.11
Tank Farm 7B	559	92	1.05	8.27	181	70.2	24.3	286.26
Tank Farm Canyon D	180	92	0.83	21.36	0.24	1.90	0.35	2.71
Tank Farm 13	296	94	0.87	21.30	<0.08	14.10	0.28	14.74
Flare Station Pre-H_2S	1,643	110	2.68	4.83	244	291	82.1	649.48
Flare Station Post-H_2S	1,648	108	2.72	5.35	27.7	278	37.5	393.05

Note: These values are from Table 4-1 of the November 24, 2025 test report. The testing included SCAQMD Methods 2.1, 3.1, 4.1, and 307-91 for flow/temperature, gas composition, moisture, and reduced sulfur compounds.

Table 3-2 March 30, 2026 Inlet Gas Conditions and Sulfur Concentrations

Sampling Location	Flow Rate (scfm)	Temp (°F)	Moisture (%)	O_2 (%)	H_2S (ppmv)	DMS (ppmv)	MM (ppmv)	Total Sulfur (ppmv as H_2S)
Parnel Inlet	2,306	110	5.00	9.80	102	334	108	572.32
Zeeco Inlet	1,115	106	3.81	5.67	159	975	344	1,557.10
Hero Inlet	1,923	116	4.47	5.00	124	924	325	1,439.64
Tank Farm Canyon D	190	94	0.87	20.88	0.13	5.19	0.79	6.11
Tank Farm 13	259	96	0.91	21.42	<0.08	14.6	0.34	15.56
Flare Station Pre-H_2S	1,728	113	2.43	6.07	165	363	105	662.39
Flare Station Post-H_2S	1,706	110	2.65	5.02	186	351	108	672.2

Note: Values are from Table 4-1 of the March 30, 2026 Montrose sampling report. Testing included SCAQMD Methods 2.1, 3.1, 4.1, and 307-91 for flow/temperature, gas composition, moisture, H_2S, and reduced sulfur compounds.

3.1.1 One-Year Sulfur Variability

The November 2025 and March 2026 sampling events provide a detailed snapshot of sulfur composition and inlet gas conditions at the time of testing. To better understand the range of conditions a post-combustion SO_x control system may need to accommodate, we also reviewed the most recent year of available sulfur monitoring data.

The one-year data shows substantial variability in both sulfur concentration and speciation between the individual inlet streams. Table 3-3 summarizes the observed ranges for H_2S, DMS, MM, and TRS.

Table 3-3 One-Year Sulfur Concentration Ranges

Sampling Location	H_2S (ppmv)	DMS (ppmv)	MM (ppmv)	TRS (ppmv)
Zeeco Inlet	35-329	91-956	12-338	190-1,478
Hero Inlet	92-318	385-1,385	22-542	633-2,303
Parnel Inlet	82-329	90-1,330	27-525	307-2,109
FL-2009 Inlet	10-175	107-529	7-195	223-872
FL-1995 Inlet	4-123	150-468	5-129	174-664
FL-2023 Inlet	4-169	163-435	5-68	194-505

Note: See Appendix A for identification of the supporting one-year sulfur monitoring dataset.

3.2 COMBUSTION UNIT OPERATING AND EXHAUST CONDITIONS

Available 2025 source test data for Flare 1, Flare 2, and Flare 3 were reviewed to establish representative post-combustion exhaust conditions for this evaluation. Table 3-4 summarizes the measured exhaust flow, temperature, moisture, oxygen, particulate matter, and SOx emissions from these source tests.

Table 3-4 2025 Flare Post-Combustion Exhaust Conditions

Unit	Test Date	Inlet Flow (dscfm)	Exhaust Flow (dscfm)	Exhaust Temp. (°F)	Moisture (%)	O_2 (%)	PM (lb/hr)	SO_x as SO_2 (lb/hr)
Flare 1	July 8, 2025	3,167	26,687	1,483	8.8	11.70	0.88	13.31
Flare 2	December 4, 2025	3,184	24,807	1,509	11.0	11.96	0.84	10.14
Flare 3	June 6, 2025	5,398	18,215	~1,502	—	13.0	1.06	~20.5*

*Flare 3 SOx is approximately 492.4 lb/day as SO_2, equivalent to approximately 20.5 lb/hr.
Flare 1 and Flare 2 values come directly from their 2025 compliance source-test summaries. The Flare 3 summary provides the corresponding exhaust-flow, temperature, and emissions information.

The three flare source tests show measured post-combustion exhaust flows ranging from approximately 18,000 to 27,000 dscfm per unit, with a combined measured exhaust flow of approximately 70,000 dscfm during the respective source tests. Exhaust temperatures were approximately 1,500°F. These conditions confirm that a post-combustion SO_x control system would require substantial gas cooling or quenching before routing the exhaust to a conventional wet scrubbing system.

The source-test results also show measurable particulate loading and calculated SO_x emissions from each flare. These parameters are relevant to scrubber sizing, gas conditioning, fouling potential, reagent demand, and preliminary cost evaluation.

The source tests represent individual operating conditions and should not be considered the full operating range for each combustion unit. Actual LFG operating ranges should therefore be considered together with the measured source-test exhaust conditions when developing the final design basis. For screening purposes, the measured flare exhaust conditions provide a reasonable basis for evaluating the approximate scale of the post-combustion control system.

The inlet testing summarized in Section 3.1 provides useful information regarding sulfur loading and gas characteristics entering the combustion system. The available flare source-test data provides a useful preliminary design basis for evaluating post-combustion SO_x control. Comparable post-combustion TOX source-test data were not available for this evaluation since source testing of the TOX units had not yet been completed. Under the SOFA, protocols for source testing of TOX units have been submitted to SCAQMD, and once approved, source testing will be completed. These data will be helpful in evaluating TOX post-combustion conditions. Once the source testing is completed, TOX exhaust conditions can be confirmed before final equipment sizing, and system configuration are established.

3.3 POST-COMBUSTION EXHAUST CHARACTERISTICS

Available 2025 flare source-test data include post-combustion particulate matter, moisture, oxygen, temperature, flow, and calculated SO_x emissions. The measured particulate emissions indicate that particulate loading must be considered in the design of the gas-conditioning and SO_x control system because particulate or condensed material could contribute to fouling, scaling, spray-nozzle plugging, or mist-eliminator loading.

Siloxanes are also an important consideration for the overall control system. Site-specific siloxane concentrations have not been measured in the current LFG or combustion exhaust. However, CCL operations personnel have observed significant siloxane-related buildup on the flares and TOX units while the carbon treatment vessels have been offline. For purposes of this screening evaluation, pretreatment of the LFG for siloxane control is assumed to be required. Future siloxane sampling is needed to establish a site-specific design basis and confirm the appropriate pretreatment technology and equipment requirements.

3.4 DATA GAPS AND ADDITIONAL INFORMATION REQUIRED

The available sulfur monitoring and source test information provides a reasonable basis for screening potential post-combustion SO_x control technologies. However, several parameters must be further defined before final equipment selection and design.

These additional parameters include the full operating range of exhaust flow and temperature for the flare and TOX units, TOX-specific post-combustion exhaust conditions, allowable backpressure, post-combustion condensable loading, representative LFG siloxane concentrations needed to establish the pretreatment design basis, and the preferred configuration for grouping or combining individual exhaust streams.

These remaining items do not prevent a preliminary feasibility determination, but they will need to be addressed during subsequent engineering to confirm equipment sizing, configuration, and expected long-term performance and viability.

4.0 POST-COMBUSTION SO_X CONTROL TECHNOLOGIES

Several commercially available technologies can be used to control SO_x from combustion exhaust. The technologies considered in this evaluation include:

- Wet packed-bed scrubbing;
- Wet spray scrubbing;
- Semi-dry and dry control systems; and
- Other developing catalytic processes.

The initial technology screening focuses on systems that have demonstrated commercial use for SOx removal. Because direct application to LFG flare and TOX exhaust is limited, the evaluation also considers how each technology could be adapted to CCL conditions.

4.1 COUNTER-CURRENT WET PACKED-BED SCRUBBER

Based on the technologies reviewed to date, a counter-current wet packed-bed scrubber appears to be the logical starting point for further evaluation.

In this type of system, exhaust gas enters the lower portion of the scrubber and travels upward through a packed section while an alkaline scrubbing solution flows downward through the packing. The counter-current arrangement provides good gas-to-liquid contact and is commonly used for acid gas control.

SO_x is absorbed into the scrubbing liquid and neutralized using an alkaline reagent. Depending on the final system design, sodium hydroxide, sodium-based reagents, or lime/limestone systems could potentially be considered.

The advantage of the packed-bed system is its relatively high SO_x removal capability and established use for acid gas control. The concern at CCL is whether particulate, silicon-containing material, condensables, or other combustion products could foul the packing or mist eliminator over time. For that reason, the scrubber itself should not be considered independently. Gas cooling, drainage, particulate management, packing selection, mist elimination, and maintenance access must all be part of determining whether this configuration is practical and viable.

As part of the initial technology screening, SCS also sought input from an experienced air pollution control professional regarding potential SOx scrubber configurations and equipment suppliers. Based on that input, a counter-current wet scrubber was identified as an appropriate technology for further evaluation. Potential suppliers identified for systems in the approximate size range being considered include Mach Engineering, Torch-Air, Monroe Environmental, MXD Environmental (formerly Branch Environmental Corp.), Ducon, and Indusco. Larger-scale suppliers identified included Babcock & Wilcox and Hitachi Power Systems. Consistent with the screening-level nature of this evaluation, SCS has not obtained detailed information from these equipment suppliers for CCL-specific designs, performance guarantees, or cost proposals. As the evaluation proceeds into subsequent stages, SCS intends to contact appropriate suppliers to obtain more detailed information regarding available equipment, expected performance, site-specific design considerations, and cost.

4.2 WET SPRAY TOWER SCRUBBER

A spray tower uses an alkaline liquid sprayed directly into the exhaust gas rather than relying on a packed section to provide gas-liquid contact.

A spray tower generally provides less contact area than a packed-bed system and may require a larger vessel or greater liquid circulation to achieve comparable removal. The advantage is less internal packing that can plug or foul.

For CCL, a spray tower may therefore warrant consideration if the post-combustion exhaust contains enough particulate or silicon-containing material to create a significant fouling concern for a packed bed.

4.3 SEMI-DRY AND DRY SO_X CONTROL SYSTEMS

Semi-dry and dry SOx control systems are also commercially available. These systems typically inject an alkaline sorbent into the exhaust stream, where the sorbent reacts with SOx. Reaction products are then collected as solids.

The primary advantage of these technologies is reduced wastewater generation compared with a conventional wet scrubber.

The concern for this application is that the system would generate additional solids that would need to be collected and managed. Performance may also depend more on temperature, residence time, sorbent contact, and downstream particulate control.

These technologies should remain in the screening evaluation, particularly if wastewater management becomes a significant constraint. Still, at this stage, they are more complex than wet scrubbing for the CCL application because they include more treatment stages and more equipment.

4.4 OTHER/EMERGING TECHNOLOGIES

Other approaches for controlling SO_x continue to be developed. The literature reviewed includes catalytic systems intended to convert SOx to elemental sulfur rather than transferring the sulfur into a liquid or solid waste stream.

These technologies may provide advantages in certain industrial applications. However, the information reviewed to date does not demonstrate commercial application to LFG flare or TOX exhaust under conditions comparable to CCL. SCS also reviewed a technical article evaluating catalytic SO_x conversion as part of the initial technology screening (Reference 11). From the article, we were able to glean details regarding catalytic systems, the equipment required, how they operate, how they differ from scrubbing systems, and the different applications where they may have some value.

For purposes of this evaluation, catalytic SO_x conversion is considered an emerging or alternative technology and is not carried forward for further evaluation at this time. Although catalytic processes may offer potential advantages, including conversion of SO_x to elemental sulfur rather than transfer of the sulfur to a liquid or solid waste stream, the information reviewed to date does not demonstrate commercial application for LFG flare or TOX exhaust or other similar emission sources under operating conditions comparable to those at CCL. Accordingly, the technology's site-specific

performance, reliability, scalability, and practical applicability cannot presently be assessed with sufficient confidence. Catalytic SOx conversion therefore is not carried forward for more detailed evaluation during this phase of the investigation. This screening determination does not foreclose future consideration of the technology if additional commercial operating experience, vendor information, or performance data for comparable applications become available.

4.5 TECHNOLOGY SCREENING SUMMARY

Based on the screening evaluation, counter-current wet packed-bed scrubbing appears to be the most appropriate technology to carry forward for more detailed evaluation. Wet spray will also remain under consideration as a possible first stage in conjunction with a wet packed-bed stage. Semi-dry sorbent injection systems should also remain under consideration until the site-specific design basis is further developed. Table 4-1 summarizes the preliminary technology screening results.

Table 4-1 Technology Screening Summary

Technology	Expected SOx Control	Applicability to LFG Exhaust	Screening Result
Counter-current wet packed-bed scrubber	High	Good	Carry forward
Wet spray tower	Moderate to high	Potentially good	Carry forward
Semi-dry system	Moderate to high	Possible	Further evaluation
Dry sorbent injection	Moderate	Possible	Limited depending on target
Catalytic/emerging systems	Uncertain	Limited demonstrated experience	Low priority

5.0 FEASIBILITY AND VIABILITY OF POST-COMBUSTION SO_X CONTROLS AT CHIQUITA CANYON LANDFILL

The key question for this evaluation is not simply whether a technology can remove SO_x. Several technologies have the potential to remove SO_x. The more important question is whether a technology can provide the required level of control and be installed to reliable operation given CCL's unique facility.

The evaluation therefore considers SO_x control efficiency together with fouling, corrosion, gas variability, maintenance, wastewater or solids generation, footprint, constructability, and integration with the existing combustion system.

5.1 EXPECTED SOx CONTROL EFFICIENCY

Expected SOx control efficiency will depend on the selected technology, inlet SO_x loading, exhaust flow and temperature, reagent selection, liquid-to-gas ratio, and final system configuration.

Published EPA information indicates that wet SO_x scrubbing systems can achieve high removal efficiencies when properly designed and operated. Depending on scrubber configuration and operating conditions, wet scrubbing systems in established applications can generally provide approximately 80 to greater than 99 percent SO_x removal, with well-designed wet systems commonly operating above 90 percent removal. Removal occurs when SO_x is absorbed into the scrubbing liquid and neutralized using an alkaline reagent. Counter-current packed-bed systems would generally be expected to fall toward the upper end of the range when gas-liquid contact, reagent chemistry, and operating conditions are properly controlled.

The approximately 95 percent SO_x control level identified for the similar landfill TOX/scrubber application discussed above is consistent with the screening-level performance range evaluated in this report. Actual performance at CCL will still depend on the final system design and site-specific operating conditions.

Based on currently available information, SCS cannot yet predict or guarantee a CCL-specific removal efficiency. These ranges are based on established industrial applications and should be considered screening-level performance expectations. They are not intended to represent guaranteed performance for LFG combustion exhaust at CCL. Actual removal efficiency will depend on the final exhaust conditions, sulfur loading, reagent chemistry, fouling potential, liquid-to-gas ratio, and equipment configuration.

Table 5-1 summarizes the screening-level SO_x control efficiencies considered in this evaluation.

Table 5-1 Screening-Level SOx Control Performance

Technology	Screening-Level Expected SOx Control	Basis
Counter–current wet scrubber	Approximately 90–99%	Established wet acid-gas control technology; expected to operate toward the higher end with proper design
Wet spray tower	Approximately 80% to >99%; typically >90% in many applications	EPA published information; performance dependent on gas-liquid contact and reagent use
Semi-dry system	Moderate to high; site-specific	Published acid-gas control information
Dry sorbent injection	Moderate; site-specific	Performance dependent on sorbent, temperature, residence time, and downstream particulate control
Catalytic/emerging systems	Uncertain for LFG application	Limited comparable commercial experience

5.2 LFG-SPECIFIC OPERATION CONSIDERATIONS

Several conditions at CCL could affect long-term scrubber operation.

Siloxanes and silicon-containing combustion products are a significant operating concern at CCL. Although site-specific siloxane concentrations are not currently available, operations personnel have observed substantial buildup on the existing flares and TOX units while the carbon treatment vessels have been offline. For purposes of this evaluation, pretreatment of the LFG for siloxane control is assumed to be required before combustion. The final pretreatment technology, media requirements, and equipment sizing should be refined after representative siloxane sampling is completed.

Moisture is another consideration. Because a wet scrubber would normally cool and saturate the gas, the system will need to be designed for condensate collection and drainage. Ductwork upstream and downstream of the scrubber may also require corrosion-resistant materials or lining.

The sulfur loading itself is variable. The existing data shows significant changes in TRS and individual sulfur species over time and between combustion-unit inlet streams. Any wet scrubbing system would therefore need sufficient turndown and reagent control to respond to changes in SO_x loading.

None of these conditions necessarily prevent wet scrubbing, but they must be incorporated into the design rather than treated as secondary issues.

5.3 COMBINING MULTIPLE COMBUSTION SOURCES

One potential configuration is to combine exhaust from multiple flares and/or TOX units and route the combined gas stream to a common SO_x control system.

From a process standpoint, combining exhaust from multiple combustion units appears technically possible; however, the final configuration will depend on allowable backpressure, simultaneous operating conditions, total exhaust flow, temperature, condensation, turndown, physical layout,

isolation requirements, and system reliability. A single central scrubber may provide advantages in equipment consolidation and cost, while grouping similar units may provide greater operating flexibility and reduce the consequence of a single system outage.

It may ultimately be more practical to group similar combustion units rather than route every unit to one central scrubber. This decision should be made after the operating conditions and physical layout are better defined.

5.4 ADVANTAGES AND DISADVANTAGES

Table 5-2 summarizes the advantages, disadvantages, site-specific limitations, and preliminary applicability of the post-combustion SO_x control technologies evaluated.

Table 5-2 Advantages and Disadvantages

Technology	Expected SOx Control	Advantages	Disadvantages	Site Limitations	Preliminary Applicability
Counter-current wet packed bed	High	High removal; established acid-gas technology	Fouling, wastewater, corrosion	LFG contaminants and variable loading	High
Wet spray tower	Moderate to high	More open design; less packing	Lower gas-liquid contact	May require larger system, which is problematic due to landfill space constraints	Moderate to high
Semi-dry system	Moderate to high	Less wastewater	Solids handling	Temperature and particulate-control requirements	Moderate
Dry sorbent injection	Moderate	Simpler configuration	Lower removal; high reagent use	May not meet required LAER performance	Moderate
Catalytic conversion	Uncertain	Potential sulfur recovery	Limited commercial experience for LFG	Unproven for this application	Low

5.5 OVERALL FEASIBILITY DETERMINATION

Based on the information reviewed to date, commercial post-combustion technologies appear to be technically capable of removing SO_x and may be adaptable to CCL. Site-specific practical feasibility and long-term viability have not yet been established. Counter-current wet scrubbing is a leading candidate for further evaluation because of its established use for acid gas control and its potential to achieve high SO_x removal.

Published performance information indicates that wet SO_x scrubbing systems can potentially achieve removal efficiencies in the range needed for further best available control technology (BACT) and lowest achievable emission rate (LAER) evaluations; however, the achievable performance under CCL-specific LFG exhaust conditions will require confirmation during subsequent engineering, pilot testing, and vendor evaluation.

The primary uncertainties relate to long-term operation under LFG-specific conditions, including sulfur loading variability, moisture (LFG is a very wet gas), particulate matter, potential siloxane-related deposits, corrosion, pressure drop, and integration with the existing combustion systems. Although none of the identified conditions has yet been shown to be a categorical fatal flaw, based on currently available information, several could materially affect practical feasibility, reliability, cost, performance, and configuration. These issues will need to be addressed during subsequent evaluation and engineering.

6.0 PRELIMINARY EQUIPMENT REQUIREMENTS

A post-combustion SO_x control system at CCL would involve considerably more than the scrubber vessel itself.

Depending on the selected configuration, equipment may include:

- Exhaust collection ductwork from the flare and/or TOX units;
  - Concrete foundation enhancements
  - Flare/TOx structural modifications
- LFG siloxane pretreatment/control equipment;
- Pretreatment media handling/replacement provisions, as applicable;
- Gas cooling or quenching system;
- Condensate collection and drainage;
- Knockout or moisture-separation equipment;
- SOx scrubber;
- Packing or spray system;
- Mist eliminator;
- Scrubbing-liquid recirculation pumps;
- Reagent storage and feed;
- pH and liquid chemistry controls;
- Blowdown system;
- Wastewater treatment or disposal (or combination with existing liquids management system);
- Induced-draft or booster fan, if required;
- Stack;
- SOx monitoring and other instrumentation;
- Electrical equipment and controls;
- Structural steel and foundations; and
- Isolation dampers where required.

Whether additional TOX capacity is required will depend on the final control system configuration and how the existing units are grouped.

The gas cooling and drainage system may become particularly important because the exhaust entering a wet scrubber will need to be conditioned to an appropriate temperature, and condensation in common ductwork needs to be controlled. A conceptual process arrangement could be:

LFG → Siloxane Pretreatment → Flare/TOX → Exhaust Gas Cooling/Quench → SO_x Scrubber → Mist Eliminator → Fan, if required → Stack

The final arrangement would be developed during subsequent engineering based on the selected technology, site configuration, and operating requirements.

6.1 PRELIMINARY FOOTPRINT CONSIDERATIONS

Because the permanent layout of the CCL control stations is still being developed, this evaluation approaches the space requirement from the equipment side rather than evaluating a specific available site area.

We reviewed publicly available manufacturer information for commercial packed-tower scrubbers and associated equipment to establish representative equipment dimensions. The individual component areas and additional space for operations, maintenance, media replacement, piping, ductwork, and access are screening-level layout assumptions and are not vendor-provided dimensions specific to CCL.

Based on the anticipated equipment requirements and these screening assumptions, approximately 1,500 to 3,000 square feet per control train (see Table 6-1) is considered a reasonable preliminary installed plot-area range. This range is intended for planning purposes only and does not represent a vendor General Arrangement drawing or detailed site layout. Larger areas may be required for multiple scrubber trains, extensive ductwork, separate liquid storage, reagent delivery areas, or additional maintenance and crane access. Chiquita is already limited on space for existing equipment, especially space that is not underlain by refuse; therefore, system layout and space planning will be a key component of subsequent engineering analyses.

Table 6-1 Preliminary Control-System Footprint Basis

Component	Screening Planning Area
Scrubber/quench equipment	150–300 ft²
LFG siloxane pretreatment	200–300 ft²
Recirculation pumps/piping	100–150 ft²
Reagent storage/feed	100–200 ft²
Fan/local duct transitions	100–200 ft²
Blowdown/liquid handling	75–150 ft²
Electrical/controls	75–100 ft²
Local ductwork/supports	100–200 ft²
Equipment subtotal	~900–1,600 ft²
Operations/maintenance/access	~50–75% additional area
Installed plot area	~1,500–3,000 ft²/control train

6.2 RESIDUALS AND LIQUID WASTE MANAGEMENT

A wet SOx scrubbing system would create an additional liquid waste stream associated with scrubber blowdown. The scrubber liquid would generally be recirculated within the system, with a portion periodically or continuously removed as necessary to control accumulated dissolved and suspended material.

Depending on the selected reagent and operating chemistry, the blowdown would be expected to contain dissolved sulfur compounds and salts, residual alkalinity or reagent, suspended particulate matter, and other material transferred from the exhaust gas into the scrubber liquid.

CCL generates substantial quantities of leachate and does not have an on-site wastewater disposal system. Liquid waste streams are generally hauled offsite, although some streams may be treated prior to disposal. Scrubber blowdown would therefore represent an additional liquid waste stream that would need to be managed within the existing offsite disposal program or through another approved management approach.

A reliable gallons-per-day blowdown estimate cannot be established from gas flow alone. The blowdown rate will depend on the selected scrubber chemistry, allowable dissolved solids concentration, makeup-water demand, reagent selection, sulfur loading, particulate capture, and vendor-specific recirculation design. Blowdown generation rate and composition should therefore be specifically evaluated during subsequent vendor design and, if pursued, pilot testing.

6.3 PRELIMINARY COST CONSIDERATIONS

At this stage of the evaluation, a detailed capital and operating cost estimate cannot be developed because the final system configuration, LFG siloxane pretreatment requirements, number and grouping of combustion units, TOX exhaust conditions, gas cooling requirements, reagent system, wastewater management, ductwork, fan requirements, and site-specific construction requirements have not yet been established.

However, for planning purposes, a screening-level cost range was developed to indicate the potential magnitude of the project. The estimate is based in part on available 2025 emissions source test data for Flare 1, Flare 2, and Flare 3, including measured post-combustion exhaust flow rates and exhaust temperatures. The three flare source tests represent a combined measured exhaust flow of approximately 70,000 dscfm, with exhaust temperatures of approximately 1,500°F. These data provide a preliminary basis for evaluating the scale of the exhaust streams that would require SOx control.

Based on the available source test data, preliminary equipment requirements identified in this evaluation, and available EPA cost information for wet SOx control systems, the total installed project cost is preliminarily estimated to be on the order of approximately $8 million to $15 million.

The current screening-level cost estimate considers siloxane pretreatment as an additional project requirement; however, site-specific siloxane concentrations, pretreatment sizing, media consumption, and vendor-specific cost information are not currently available. These factors add uncertainty to the current cost range.

The $8 million to $15 million range is intended only as a screening-level planning estimate and should not be considered a firm project cost, budgetary estimate, vendor quotation, or construction estimate. Comparable post-combustion TOX source test data were not available, and the final number and grouping of scrubber systems have not been established. Actual project costs could therefore fall outside this range depending on the final exhaust design basis, system configuration, gas cooling requirements, ductwork, fans, reagent handling, wastewater management, electrical improvements, foundations, materials of construction, and other site-specific requirements. The cost range should be refined as the conceptual system configuration is developed and detailed information is obtained from scrubber vendors.

7.0 LAER PERFORMANCE CONSIDERATIONS

Historically, SO_x control requirements at the landfill have generally been expressed on a performance basis using an inlet sulfur concentration. One potential reference point for this evaluation is an SO_x emission level equivalent to combustion of LFG containing 60 ppmv inlet TRS.

For purposes of this screening evaluation, the 60-ppmv inlet TRS-equivalent level is used as a ***reference point*** for evaluating potential SO_x control performance. Final LAER requirements will be determined through the applicable regulatory process.

This will be particularly important because the existing sulfur data show TRS concentrations considerably above 60 ppmv for several combustion-unit inlet streams. The required percentage reduction will therefore vary depending on the inlet sulfur loading.

The screening-level removal ranges discussed in Section 5.1 indicate that wet scrubbing has the potential to provide substantial SOx reduction; however, whether the 60-ppmv TRS-equivalent reference level can be achieved across the full range of CCL operating conditions will require site-specific performance evaluation.

If subsequent engineering indicates that the selected technology can consistently achieve the equivalent 60 ppmv performance level under expected operating conditions, a performance-based LAER approach may warrant further consideration.

If the evaluation shows that this level cannot be reliably maintained because of the variability or other LFG-specific operating conditions, another approach would be to propose a technology-based LAER. Under that approach, the selected post-combustion control system and the level of reduction it can reliably achieve under site-specific conditions would become the basis for the proposed LAER requirement.

Because post-combustion SO_x scrubbing does not appear to have been previously demonstrated on comparable LFG exhaust, the distinction between these two approaches should remain open until the vendor evaluations and site-specific performance calculations are completed.

8.0 PILOT OR SLIPSTREAM TESTING CONSIDERATIONS

A pilot test should not necessarily be the first step. Enough operating information is available to develop a preliminary design basis and obtain meaningful vendor evaluations before deciding whether pilot testing is needed.

However, because this appears to be an atypical application of SO_x scrubbing, a vendor-supported pilot or slipstream test would provide useful information before committing to the full-scale design.

If performed, the pilot should focus on the issues that cannot be adequately answered through calculations or vendor experience, including:

- Actual SO_x removal under CCL exhaust conditions;
- Fouling and scaling;
- Effect of particulate and silicon-containing combustion products;
- Reagent consumption;
- Makeup-water consumption;
- Scrubber liquid chemistry;
- Blowdown generation rate and composition;
- Mist-eliminator performance;
- Pressure drop; and
- Performance as sulfur loading and gas flow change.

The pilot-test scope, slipstream flow rate, and test duration should be developed with the selected scrubber vendor. For planning purposes, Flare 4 is considered the preliminary location for pilot testing because its exhaust can be modified before permanent installation, bypassing questions about foundation alterations for the pilot equipment. Flare 4 will have an LFG inlet flow of approximately 5,000 scfm. The pilot system would treat only a representative slipstream of the Flare 1 exhaust rather than the full exhaust flow. The pilot does not need to treat the entire Flare 4 exhaust stream; rather, the slipstream should be sized to provide representative gas conditions and sufficient operating time to evaluate removal efficiency, fouling, reagent consumption, pressure drop, water consumption, and blowdown characteristics.

9.0 PRELIMINARY IMPLEMENTATION SCHEDULE

At this stage, the sequence listed in Table 9-1 provides a reasonable framework for subsequent evaluation and design after this study:

The schedule is preliminary and is intended to illustrate the anticipated sequence of activities. Actual durations will depend on the selected technology, permitting requirements, equipment lead times, pilot testing, and site-specific construction considerations. Overall, this project could potentially be completed in 2 to 3 years after a decision to proceed, longer if significant permitting, equipment procurement, design, or construction issues are encountered.

Table 9-1 Preliminary Implementation Schedule

Activity	Preliminary Estimated Duration
Complete site data review, collection of additional data from source testing, and design basis	6-8 weeks
Vendor screening and preliminary technical evaluation	6-8 weeks after review
Select preferred technology/configuration	4-5 weeks after screening and evaluation
Vendor-supported flare pilot/slipstream evaluation	Approximately 6–9 months, including planning, vendor mobilization, testing, and evaluation
Representative LFG siloxane sampling and analysis	2–4 weeks
Preliminary and detailed engineering and air permit application	4-6 months after selection of technology and pilot test
SCAQMD and other agency permitting/review	TBD
Equipment procurement/fabrication	Vendor-dependent, but could be 9-12 months after completion of engineering design
Site preparation and construction	3-4 months after procurement and fabrication
Installation and integration	2-3 months after site preparation and construction
Startup/commissioning	2-4 weeks after installation and integration
Performance testing	Following startup within 90 days

10.0 CONCLUSIONS AND RECOMMENDED NEXT STEPS

Based on the information reviewed, SCS identified counter-current, wet packed-bed scrubbing; wet spray scrubbing; and semi-dry and dry sorbent systems as commercially available post-combustion SO_x control technologies that may warrant further consideration for CCL. Catalytic SO_x conversion was also reviewed but is considered an emerging or alternative technology and is not carried forward for more detailed evaluation during this phase. Among the technologies evaluated, counter-current wet scrubbing in packed-bed currently appears to be the leading candidate to carry forward for further site-specific evaluation at CCL, in particular because of its established use for acid gas control and its potential to achieve high SO_x removal.

Published performance information indicates that wet SO_x scrubbers can provide approximately 80 to greater than 95 percent removal depending on scrubber type, design, and operating conditions, with well-designed systems commonly operating above 90 percent removal. These published ranges provide a general screening-level indication of the potential control performance; they are not CCL-specific performance predictions or guarantees. CCL will need to confirm actual achievable control efficiency and performance based on the final design basis and vendor evaluation.

This screening-level evaluation does not establish that any particular technology or configuration is presently practical, reliably operable, or economically viable for full-scale application at CCL. Practical feasibility and viability of the selected technology or configuration will depend on the system's ability to achieve meaningful SO_x reductions while operating reliably under CCL-specific conditions, without adversely affecting the availability or operation of existing LFG collection, treatment, and combustion systems.

The primary remaining questions thus relate to applying the technology to LFG combustion exhaust rather than its basic ability to remove SO_x. These include exhaust flow and temperature, sulfur loading variability, moisture, particulate and condensable material, potential siloxane-related deposits, allowable backpressure, and whether individual or grouped combustion units provide the most practical configuration.

The next phase should focus on refining the site-specific design basis, developing conceptual system configurations, and engaging qualified equipment suppliers as part of the subsequent engineering process. A screening-level order-of-magnitude cost estimate range has also been developed using the available 2025 Flare 1, Flare 2, and Flare 3 source-test data, preliminary facility operating information, and available EPA cost information.

Based on the information currently available, the total installed project cost is preliminarily estimated to be approximately $8 million to $15 million for a scrubber system serving the main flare station. Additional smaller scrubbers would be needed at permanent TOX locations. This range should be refined as the TOX exhaust conditions, final system configuration, and design basis are further developed. The existing CCL sulfur data provides a strong starting point. The most recent year shows substantial variability in sulfur loading and confirms that DMS represents a significant portion of the sulfur entering several combustion units. This supports the need to evaluate the total sulfur loading rather than designing around H_2S alone.

The next steps should include the following:

1) Finalize the sulfur and exhaust design basis using available flare source-test data and incorporate TOX exhaust conditions after completion of TOX source testing.
2) Complete the review of particulate, moisture, criteria pollutant, condensable, and toxic-emission information using current and subsequent source-test data.
3) Conduct representative LFG siloxane sampling and establish the design basis for siloxane pretreatment, if needed.
4) Develop preliminary individual, grouped, and combined exhaust-system configurations based on the permanent flare and TOX station locations.
5) Define the preliminary footprint requirements and develop conceptual equipment layouts for the control-station locations.
6) Develop the preliminary liquid-handling basis, including expected scrubber blowdown rate, composition, storage, and onsite and offsite disposal requirements.
7) Provide the design basis to qualified SO_x control vendors and request expected removal efficiency, equipment configuration, operating limitations, utility requirements, footprint, reagent consumption, water use, blowdown generation, and preliminary capital and operating cost information.
8) Compare predicted performance against the 60-ppmv inlet TRS-equivalent LAER reference level and determine whether a performance-based or technology-based LAER approach is more appropriate.
9) Select the preferred technology and conceptual configuration based on detailed vendor information and site requirements.
10) Develop and conduct a vendor-supported pilot/slipstream test at the flare station using one of the flares as the preliminary source.
11) Complete detailed design plans and specifications and obtain final, detailed vendor proposals.
12) Complete permitting, procurement, construction, commissioning, and required performance testing.

Integration of the post-combustion control system with the existing LFG collection, treatment, and combustion systems will be an important part of subsequent engineering. The post-combustion control system is not just a scrubber tower. Additional modifications and equipment may be required, including modifications to flare and TOX exhaust stacks to route gas to the control system, quench towers, scrubber towers, reagent storage and feed systems, blowdown handling equipment, electrical systems, controls, foundations, ductwork, and associated support equipment.

11.0 REFERENCES

Below are references used for the Evaluation of Post-Combustion SOx Control System:

1) SCAQMD, SOFA, Condition 3.d, Chiquita Canyon Landfill.
2) South Coast Air Quality Management District, Chiquita Canyon LLC Title V Facility Permit, Facility ID 119219, Revision No. 13, September 28, 2023.
3) Chiquita Canyon sulfur-speciation monitoring data, 2022–2026.
4) Montrose Air Quality Services, LLC. 2025 Gas Flare No. 1 Source Test, Chiquita Canyon Landfill, Test Date July 8, 2025, Document No. W002AS-055166-RT-7684.
5) Montrose Air Quality Services, LLC. 2025 Gas Flare No. 2 Compliance Source Test, Chiquita Canyon Landfill, Test Date December 4, 2025, Document No. W002AS-056370-RT-8152.
6) Air Testing Services, Inc. 2025 Gas Flare No. 3 Source Test, Chiquita Canyon Landfill, Test Date June 6, 2025, "5.0 Test Results and Discussion".
7) Montrose Air Quality Services, LLC, Source Test Report for 2025 Fourth Quarter Leachate and Condensate Vapor Sampling at Chiquita Canyon Landfill, Test Date November 24, 2025, Document No. W002AS-061273-RT-8054, December 24, 2025.
8) Montrose Air Quality Services, LLC. Source Test Report for 2026 1st Quarter Leachate and Condensate Vapor Sampling at the Chiquita Canyon Landfill, Test Date March 30, 2026, Document No. W002AS-066231-RT-8345, April 28, 2026.
9) U.S. Environmental Protection Agency. EPA Air Pollution Control Cost Manual, Section 5, Chapter 1 – Wet and Dry Scrubbers for Acid Gas Control, Seventh Edition, April 2021.
10) U.S. Environmental Protection Agency. EPA Air Pollution Control Cost Manual, Section 6 – Particulate Matter Controls, Chapter 2 – Wet Scrubbers for Particulate Matter. EPA/452/B-02-001, July 15, 2002.
11) Personal communications with Mach Engineering, Torch-Air, and Monroe Environmental by Pat Sullivan of SCS.
12) ScienceDirect article identified during the technical literature review. https://www.sciencedirect.com/science/article/abs/pii/S0957582023010819 SO2 dry-based catalytic removal from flue gas leading to elemental sulfur production: A comprehensive review.

Appendix A – Supporting Sulfur Monitoring Data

Appendix A identifies the supporting one-year sulfur monitoring data used to evaluate the variability of hydrogen sulfide (H_2S), dimethyl sulfide (DMS), methyl mercaptan (MM), and total reduced sulfur (TRS) concentrations entering the combustion units. These data provide the basis for the concentration ranges summarized in Table 3-3.

Supporting Spreadsheet:

- Chiquita Sulfur Data 2022-2026_MRS v2.0.xlsx
- Chiquita Sulfur Data 2022-2026 V3.0.xlsx

The supporting spreadsheet is maintained in the project files and can be provided upon request.

Appendix B – 2025 Flare Source Test Summary Data

Appendix B presents selected 2025 source test summary data for Flare 1, Flare 2, and Flare 3 used to establish representative post-combustion exhaust conditions for this evaluation. The source test data provides the basis for the preliminary exhaust flow, temperature, moisture, oxygen, particulate, and SOx conditions discussed in Section 3.2 and considered in the screening-level cost evaluation in Section 6.3.

Selected source test summary tables supporting the data presented in Table 3-4 are provided below.

Flare 1 Tables Summary

TABLE 4-1
GENERAL RESULTS
CHIQUITA CANYON LANDFILL
GAS FLARE NO. 1 (JOHN ZINK)
JULY 8, 2025

Parameter/Units	Inlet Result	Exhaust Result	Limit
O_2, %	4.51	11.70	--
CO_2, %	40.58	9.94	--
N_2, %	25.46	78.36	--
H_2O, %	--	8.8	--
Flow Rate, wscfm	--	29,258	--
Flow Rate, dscfm	3,167	26,687	4,000 (inlet)
Temperature, °F(3)	--	1,483	--
Temperature, °F(4)	--	1,549	>1400
Btu/scf	308.0	--	--
NO_x			
ppm	--	9.33	--
ppm @ 3% O_2	--	18.15	--
lb/hr (as NO_2)	--	1.81	3.9
lb/day (as NO_2)	--	43.48	--
lb/MMBtu (as NO_2)	--	0.026	0.06 (BACT)
lb/MMCF (as NO_2)	--	9.53	--
CO(5)			
ppm	--	<20.00	2,000 (Rule 407)
ppm @ 3% O_2	--	<38.90	--
lb/hr	--	<2.36	5.6
lb/day	--	<56.71	--
lb/MMBtu	--	<0.030	0.06 (BACT)
lb/MMCF	--	<12.44	--
Methane			
ppm	291,791	<2.20	--
lb/hr	2,338	<0.15	--
Destruction Efficiency, % Methane	--	>99.99	≥99
VOC			
ppm (as CH_4)	18,922	3.80	--
lb/hr (as CH_4)	151.59	0.26	0.92 (Exhaust)
lb/day (as CH_4)	3,638	6.16	--
lb/MMBtu (as CH_4)	--	0.004	--
ppm (as hexane)	3,154	0.63	--
ppm @ 3% O_2 (as hexane)(1)	3,443	1.35	20 (Exhaust)
lb/MMCF (as hexane)	--	1.21	--
lb/MMBtu (as hexane)	--	0.004	--
lb/hr (as hexane)	135.8	0.23	--
Destruction Efficiency, % Hexane(1)	--	99.83	≥98
Particulate Matter			
gr/dscf	--	0.0038	0.055 (Rule 404)
gr/dscf @ 12% CO_2	--	0.0046	0.1 (Rule 409)
lb/hr	--	0.88	1.4
lb/day	--	21.07	--
lb/MMBtu	--	0.013	--
lb/MMCF	--	3.89	--
Sulfur Compounds			
H_2S, ppm	3.16	--	--
Carbonyl Sulfide, ppm	1.37	--	--
Methyl Mercaptan, ppm	26.39	--	--
Ethyl Mercaptan, ppm	<0.05	--	--
Dimethyl Sulfide	267.85		
Unidentified Sulfur Compounds, ppm	107.39	--	--
Total Sulfur Compounds,			
Total Sulfur as H_2S- Inlet, ppm	415.2	--	150 (Rule 431.1)
SO_x Exhaust, lb/hr (as SO_2)(2)	--	13.31	2.5
SO_x Exhaust, lb/day (as SO_2)(2)	--	319.3	--
lb/MMCF	--	70.0	--

(1) SCAQMD Rule 1150.1 and NSPS require that a flare meet the concentration standard or DRE.
(2) The exhaust SO_x lb/hr and lb/day results are calculated from inlet reduced sulfur concentrations.
(3) Temperatures taken from the sampling ports.
(4) Temperatures taken from the facility.
(5) Values presented reflect 20% of the selected analyzer range.

TABLE 4-2
TRACE ORGANIC SPECIES DESTRUCTION EFFICIENTY RESULTS
CHIQUITA CANYON LANDFILL
GAS FLARE NO. 1 (JOHN ZINK)
JULY 8, 2025

Sample Location:	**Inlet**			**Exhaust**			
Test No.:	VOC - AVG 1, 2 & 3			VOC - AVG 1, 2 & 3			
Start Time:	0838, 0913, 0948			0838, 0913, 0948			**Destruction**
Flow Rate, dscfm:	3,167			26,687			**Efficiency**
Species	**ppb**		**lb/hr**	**ppb**		**lb/hr**	**%**
Benzene:		130,000	5.09	<	0.60	< 1.99×10^{-4}	> 99.996%
Benzyl Chloride:	ND<	750	< 4.76×10^{-2}	ND<	0.49	< 2.60×10^{-4}	N/A
Chlorobenzene:	ND<	750	< 4.23×10^{-2}	ND<	0.49	< 2.31×10^{-4}	N/A
1,2-Dichlorobenzene:	ND<	750	< 5.53×10^{-2}	ND<	0.49	< 3.02×10^{-4}	N/A
1,4-Dichlorobenzene:	ND<	750	< 5.53×10^{-2}	ND<	0.49	< 3.02×10^{-4}	N/A
1,1-Dichloroethane:	ND<	750	< 3.72×10^{-2}	ND<	0.49	< 2.03×10^{-4}	N/A
1,2-Dichloroethane:	ND<	750	< 3.72×10^{-2}	ND<	0.49	< 2.03×10^{-4}	N/A
1,1 Dichloroethene:	ND<	750	< 3.65×10^{-2}	ND<	0.49	< 1.99×10^{-4}	N/A
Dichloromethane:	ND<	750	< 3.19×10^{-2}	ND<	0.49	< 1.75×10^{-4}	N/A
1,2-dibromoethane:	ND<	750	< 7.06×10^{-2}	ND<	0.49	< 3.86×10^{-4}	N/A
Perchloroethylene:	ND<	750	< 6.24×10^{-2}	ND<	0.49	< 3.41×10^{-4}	N/A
Carbon Tetrachloride:	ND<	750	< 5.78×10^{-2}	ND<	0.49	< 3.16×10^{-4}	N/A
Toluene:		26,667	1.23	ND<	0.49	< 1.89×10^{-4}	> 99.98%
1,1,1-Trichloroethane:	ND<	750	< 5.02×10^{-2}	ND<	0.49	< 2.74×10^{-4}	N/A
Trichloroethene:	ND<	750	< 4.94×10^{-2}	ND<	0.49	< 2.70×10^{-4}	N/A
Chloroform:	ND<	750	< 4.49×10^{-2}	ND<	0.49	< 2.45×10^{-4}	N/A
Vinyl Chloride:	ND<	750	< 2.35×10^{-2}	ND<	0.49	< 1.28×10^{-4}	N/A
m+p-Xylene:		16,333	8.69×10^{-1}	ND<	0.96	< 4.31×10^{-4}	> 99.95%
o-Xylene:		5,600	2.98×10^{-1}	ND<	0.49	< 2.18×10^{-4}	> 99.93%
Total Trace Organics:			< 8.19E			< 4.88×10^{-3}	> 99.94%

<- indicates that the species was detected in the sample above the analytical detection limit for the species in one of the test runs.
ND< - indicates that the species was not detected in the sample above the analytical detection limit for this species.
The values reported is the detection limit for the species and the actual concentration is lower.
N/A - indicates that the destruction efficiency cannot be calculated because the inlet concentration is below the detection limit.

Flare 2 Tables Summary

TABLE 4-1
GENERAL RESULTS
CHIQUITA CANYON LANDFILL
GAS FLARE NO. 2 (JOHN ZINK)
DECEMBER 4, 2025

Parameter/Units	Inlet Result	Exhaust Result	Limit
O_2, %	5.23	11.96	--
CO_2, %	35.52	9.12	--
N_2, %	28.80	78.92	--
H_2O, %	3.41	11.0	--
Flow Rate, wscfm	--	27,870	--
Flow Rate, dscfm	3,184	24,807	4,000 (inlet)
Temperature, °F(3)	--	1,509	--
Temperature, °F(4)	--	1,507	>1400
Btu/scf	300.0	--	--
NO_x(5)			
ppm	--	<2.00	--
ppm @ 3% O_2	--	<4.00	--
lb/hr (as NO_2)	--	<0.36	2.4
lb/day (as NO_2)	--	<8.66	--
lb/MMBtu (as NO_2)	--	<0.006	0.025 (BACT)
lb/MMCF (as NO_2)	--	<1.89	--
CO(5)			
ppm	--	<20.00	2,000 (Rule 407)
ppm @ 3% O_2	--	<40.05	--
lb/hr	--	<2.20	7.2
lb/day	--	<52.72	--
lb/MMBtu	--	<0.034	0.06 (BACT)
lb/MMCF	--	<11.50	--
Methane			
ppm	287,649	3.40	--
lb/hr	2,317	0.21	--
Destruction Efficiency, % Methane	--	99.99	≥99
VOC			
ppm (as CH_4)	9,497	3.80	--
lb/hr (as CH_4)	76.49	0.24	1.33 (Exhaust)
lb/day (as CH_4)	1,836	5.72	--
lb/MMBtu (as CH_4)	--	0.004	--
ppm (as hexane)	1,583	0.63	--
ppm @ 3% O_2 (as hexane)(1)	1,808	1.25	20 (Exhaust)
lb/MMCF (as hexane)	--	1.12	--
lb/MMBtu (as hexane)	--	0.003	0.038 (Rule 1118.1)
lb/hr (as hexane)	68.5	0.213	--
Destruction Efficiency, % Hexane(1)	--	99.69	≥98
Particulate Matter			
gr/dscf	--	0.0040	0.056 (Rule 404)
gr/dscf @ 12% CO_2	--	0.0052	0.1 (Rule 409)
lb/hr	--	0.84	1.4
lb/day	--	20.22	--
lb/MMBtu	--	0.013	--
lb/MMCF	--	3.97	--
Sulfur Compounds			
H_2S, ppm	15.59	--	--
Carbonyl Sulfide, ppm	1.14	--	--
Methyl Mercaptan, ppm	23.65	--	--
Ethyl Mercaptan, ppm	0.49	--	--
Dimethyl Sulfide	202.90	--	--
Unidentified Sulfur Compounds, ppm	70.98	--	--
Total Sulfur Compounds,			
Total Sulfur as H_2S- Inlet, ppm	314.7	--	150 (Rule 431.1)
SO_x Exhaust, lb/hr (as SO_2)(2)	--	10.14	2.5
SO_x Exhaust, lb/day (as SO_2)(2)	--	243.39	--
lb/MMCF	--	53.08	--

(1) SCAQMD Rule 1150.1 and NSPS require that a flare meet the concentration standard or DRE.
(2) The exhaust SO_x lb/hr and lb/day results are calculated from inlet reduced sulfur concentrations.
(3) Temperatures taken from the sampling ports.
(4) Temperatures taken from the facility.
(5) Values presented reflect 20% of the selected analyzer range.

TABLE 4-2
TRACE ORGANIC SPECIES DESTRUCTION EFFICIENTY RESULTS
CHIQUITA CANYON LANDFILL
GAS FLARE NO. 2 (JOHN ZINK)
DECEMBER 4, 2025

Sample Location:	Inlet			Exhaust			
Test No.:	VOC - AVG 1, 2 & 3			VOC - AVG 1, 2 & 3			
Start Time:	0822, 00857, 0932			0822, 00857, 0932			Destruction
Flow Rate, dscfm:	3,184			24,807			Efficiency
Species	**ppb**		**lb/hr**	**ppb**		**lb/hr**	**%**
Benzene:		79,333	3.12	<	0.74	< 2.28×10^{-4}	> 99.99%
Benzyl Chloride:	ND<	380	< 2.42×10^{-2}	ND<	0.30	< 1.49×10^{-4}	N/A
Chlorobenzene:	ND<	380	< 2.16×10^{-2}	ND<	0.30	< 1.33×10^{-4}	N/A
1,2-Dichlorobenzene	ND<	380	< 2.82×10^{-2}	ND<	0.30	< 1.73×10^{-4}	N/A
1,4-Dichlorobenzene	ND<	380	< 2.82×10^{-2}	ND<	0.30	< 1.73×10^{-4}	N/A
1,1-Dichloroethane:	ND<	380	< 1.90×10^{-2}	ND<	0.30	< 1.17×10^{-4}	N/A
1,2-Dichloroethane:		590	2.94×10^{-2}	ND<	0.30	< 1.17×10^{-4}	> 99.60%
1,1 Dichloroethene:	ND<	380	< 1.86×10^{-2}	ND<	0.30	< 1.14×10^{-4}	N/A
Dichloromethane:	ND<	380	< 1.63×10^{-2}	ND<	0.30	< 1.00×10^{-4}	N/A
1,2-dibromoethane:	ND<	380	< 3.60×10^{-2}	ND<	0.30	< 2.21×10^{-4}	N/A
Perchloroethylene:	ND<	380	< 3.18×10^{-2}	ND<	0.30	< 1.95×10^{-4}	N/A
Carbon Tetrachloride:	ND<	380	< 2.95×10^{-2}	ND<	0.30	< 1.81×10^{-4}	N/A
Toluene:		15,333	7.12×10^{-1}	ND<	0.30	< 1.09×10^{-4}	> 99.98%
1,1,1-Trichloroethane:	ND<	380	< 2.56×10^{-2}	ND<	0.30	< 1.57×10^{-4}	N/A
Trichloroethene:	ND<	380	< 2.52×10^{-2}	ND<	0.30	< 1.55×10^{-4}	N/A
Chloroform:	ND<	380	< 2.29×10^{-2}	ND<	0.30	< 1.41×10^{-4}	N/A
Vinyl Chloride:	ND<	380	< 1.20×10^{-2}	ND<	0.30	< 7.36×10^{-5}	N/A
m+p-Xylene:		7,900	4.23×10^{-1}	ND<	0.60	< 2.50×10^{-4}	> 99.94%
o-Xylene:		2,800	1.50×10^{-1}	ND<	0.30	< 1.25×10^{-4}	> 99.92%
1,3-Dichlorobenzene	ND<	380	< 2.82×10^{-2}	ND<	0.30	< 1.73×10^{-4}	N/A
Total Trace Organics:			< 4.81			< 3.49×10^{-3}	> 99.93%

<- indicates that the species was detected in the sample above the analytical detection limit for the species in one of the test runs.
ND< - indicates that the species was not detected in the sample above the analytical detection limit for this species.
The values reported is the detection limit for the species and the actual concentration is lower.
N/A - indicates that the destruction efficiency cannot be calculated because the inlet concentration is below the detection limit.

Flare 3 Tables Summary

5.0 TEST RESULTS AND DISCUSSION

The source test results can be found on the following page 5-2.

The results indicated that the unit meets the destruction requirements of 98% for NMOCs & 99% for Methane.

Constituent:	Test Results:	Permit Limits:
VOC Removal Efficiency: **ppmv, as hexane @ 3% O2**	**98.609% DRE** **1.11 ppmv**	**> 98% DRE** **< 20 ppmv**
VOC as hexane:	**0.1214 lb/hr** **0.0029 lb/MMBtu**	**1.09 lb/hr** **0.006 lb/MMBtu**
Methane Removal Efficiency:	**99.997% DRE**	**> 99% DRE**
Sulfur Oxides:	**492.4 lb/day**	**124.08 lb/day**
TRS	**769.3 ppm**	**150 ppm as H2S**
NOx:	**0.53 lb/hr** **0.011 lb/MMBtu**	**4.55 lb/hr** **0.025 lb/MMBtu**
CO:	**0.098 lb/hr** **2.8 ppm @ 3%O2** **.002 lb/MMbtu**	**10.93 lb/hr** **2000 ppm (Rule 407)** **.06 lb/MMbtu**
Particulate:	**0.0068 gr/dscf** **1.06 lb/hr**	**0.1 gr/dscf @12% CO2 (Rule 409)** **2.16 lb/hr**
Inlet Flow Rate	**5398 dscfm**	**< 6000 dscfm**

No testing or analytical problems were encountered during any phase of the test program.

Chiquita Landfill
Castaic, CA
Landfill Gas Flare No. 3
6/6/2025

TABLE 5-1. TEST RESULTS

PARAMETER	UNITS	VALUE
Exhaust Stack Gas Flowrate	dscfm	18215
Fuel Flowrate	scfm, avg	5398
Fuel BTU	BTU/scf	306

TABLE 5-2. SOURCE TEST RESULTS

POLLUTANT	UNITS	EMISSIONS		SCAQMD RULE
		MEASURED	ALLOWED	
Nitrogen Oxide ***Actual Observed***	ppmv ppmv @ 3% O2 lb/hr lb/MMBtu	4.0 9.1 0.53 0.013	-- -- 4.55 0.025	Permit
Nitrogen Oxide ***20% of Full Scale***	ppmv ppmv @ 3% O2 lb/hr lb/MMBtu	< 5 < 11 < 0.66 < 0.016	-- -- 4.55 0.025	Permit
Carbon Monoxide ***20% of Full Scale***	ppmv ppmv @ 3% O2 lb/hr lb/MMBtu	< 20 < 46 < 1.61 < 0.040	2,000 -- 5.6 0.06	Permit
Carbon Monoxide ***Actual Observed***	ppmv ppmv @ 3% O2 lb/hr lb/MMBtu	1.2 2.8 0.098 0.00242	2000 -- 5.6 0.06	Permit
Oxygen	%	13.0	--	--
Inlet Total Sulfurs SO2	lb/Day	452.50	124.08	Permit
Total Reduced Sulfur as H2S	ppm	111.2	150	
Inlet VOC	ppmv as hexane lb/hr, as hexane	178 2.44	-- --	Permit
Exhaust VOC	ppmv as hexane ppmv @ 3% O2 as hexane lb/hr, As hexane Removal Efficiency, %	2.94 6.7 0.03 98.61	-- 20 1.09 98% DRE	-- Permit Permit Permit
Inlet Methane	ppm, as CH4 (Avg) lb/hr, as CH4	215788 2953.9	-- --	-- --
Exhaust Methane	ppm, as CH4 (Avg) lb/hr, as CH4 Removal Efficiency, %	1.7 0.07 99.998	-- -- 99% DRE	-- -- Permit
Total Particulate	gr/dscf lb/hr gr/dscf @12% CO2	0.0068 1.06 0.008	0.1 2.16 0.10	Permit
Flow Rate (inlet)	dscfm	5398	6000	Permit
Flare Temp. (avg)	Degrees F°	1502	--	--

LABORATORY ANALYSIS REPORT

CLIENT : AIRx Testing
PROJECT NO. : 251418
MATRIX : AIR
UNITS : ppmv

SAMPLING DATE : 06/06/2025
RECEIVING DATE : 06/06/2025
ANALYSIS DATE : 06/06/2025
REPORT DATE : 06/18/2025

Total Reduced Sulfur Compounds by SCAQMD 307.91

Client ID	Sulfur Inlet	Sulfur Outlet
AAC ID	251418-76364	251418-76366
Analyte	Result	Result
Hydrogen Sulfide	49.2	< 0.050
COS / SO2	1.79	110
Methyl Mercaptan	87.7	< 0.050
Ethyl Mercaptan	1.55	< 0.050
Dimethyl Sulfide	522	< 0.050
Carbon Disulfide	0.360	< 0.050
Isopropyl Mercaptan	2.63	< 0.050
tert-Butyl Mercaptan	0.259	< 0.050
n-Propyl Mercaptan	0.403	< 0.050
Methylethylsulfide	7.17	< 0.050
sec-Butyl Mercaptan / Thiophene	9.93	< 0.050
iso-Butyl Mercaptan	0.904	< 0.050
Diethyl Sulfide	< 0.050	< 0.050
n-Butyl Mercaptan	< 0.050	< 0.050
Dimethyl Disulfide	28.6	< 0.050
2-Methylthiophene	< 0.050	< 0.050
3-Methylthiophene	5.97	< 0.050
Tetrahydrothiophene	3.11	< 0.050
Bromothiophene	< 0.050	< 0.050
Thiophenol	0.576	< 0.050
Diethyl Disulfide	0.060	< 0.050
Total Unidentified Sulfur	17.9	< 0.050
Total Reduced Sulfurs	738	< 0.050

All unidentified compound's concentrations expressed in terms of H_2S (TRS does not include COS and SO2)
Sample Reporting Limit (SRL) is equal to Reporting Limit x Analysis Dil. Fac.

2225 Sperry Ave., Ventura, CA 93003
www.aaclab.com
(805) 650-1642

SCS Field Services
Chiquita Canyon Landfill
Landfill Flare No. 3

Emission Summary

	Run #1
ø - Start of Run, time	9:20
ø - End of Run, time	10:20
Vlc - Volume of water collected, ml	19.0
Vm - Gas volume, meter cond., dcf	70.310
Y - Meter calibration factor	1.0012
Pbar - Barometric pressure, in. Hg	29.94
Pg - Stack static pressure, in. H2O	0.01
Ps - Stack absolute pressure, in. H2O	29.94
^H - Avg. meter press. diff., in. H2O	3.863
Tm - Absolute meter temperature, °R	529.9
Bws - Water vapor part in gas stream	0.012
Bws - Moisture @ Saturation	1.00
CO2 - Dry concentration, volume %	9.9
O2 - Dry concentration, volume %	13.0
Md - Mole wt. stack gas, dry, g/mole	30.104
Ms - Mole wt. stack gas, wet, g/gmole	29.953
Cp - Pitot tube coef., dimensionless	0.84
^p - Avg. of sq. roots of each^p	0.083
Ts - Absolute stack Temp. °R	1985.4
A - Area of stack, square feet	132.7
Vs - Stack Gas Flow, ft/sec	8.8
An - Area of nozzle, square feet	7.213E-03
ø - Sampling time, minutes	72.00
I - Isokinetic variation, percent	97.9
µs - Gas Viscosity, micropoise	594.60
Qstd - Volumetric flow rate, dscfm	18.215
Vm(std) - Standard sample gas vol., dscf	69.7789
TPM - Total PM g	0.0307
TPM - Total PM gr/dscf	0.0068
TPM - Total PM lb/hr	1.06

SPECIATED ORGANICS

Client : SCS
Site : Chiquita Canyon
Unit : Landfill Flare No. 1

T std: 60 °F
Run No.: 1

Date : 6/6/2025
Job #: 19164
Lab #: 225-084

Q std: **18,215** dscfm

Compound Name	Lab Results ppb	lb/hr	MW
Chlorodifluoromethane	< 1.24	< 0.00031	86.5
Propylene	< 2.48	< 0.00030	42.08
Dichlorodifluoromethane	< 1.24	< 0.00043	121
Chloromethane	< 1.24	< 0.00018	50.49
1,2-Dichloro-1,1,2,2-Tetrafluoroethane	< 1.24	< 0.00061	170.92
Vinyl Chloride	< 1.24	< 0.00022	62.5
Methanol	< 12.40	< 0.0011	32.04
1-3 Butadiene	< 1.24	< 0.00019	54.09
Bromomethane	< 1.24	< 0.00034	94.95
Chloroethane	< 1.24	< 0.00023	64.52
Dichlorofluoromethane	< 1.24	< 0.00037	102.92
Ethanol	**13.5**	**0.001791**	46.06
Vinyl Bromide	< 1.24	< 0.00038	106.9
Acetone	**10.4**	**0.001739**	58.08
Trichlorofluoromethane	< 1.24	< 0.00049	137.38
Isopropyl Alcohol	< 4.96	< 0.00086	60.09
Acrylonitrile	< 2.48	< 0.00038	53.1
1,1-Dichloroethylene	< 1.24	< 0.00035	96.95
Methylene Chloride	< 2.48	< 0.00061	84.94
Allyl Chloride (Chloroprene)	< 2.48	< 0.00055	76.53
Carbon Disulfide	< 4.96	< 0.0011	76.1
1,1,2-Trichloro-1,2,2-Trifluoroethane	< 1.24	< 0.00067	187.375
t-1,2-Dichloroethylene	< 1.24	< 0.00035	96.94
1,1-Dichloroethane	< 1.24	< 0.00035	98.96
MTBE	< 1.24	< 0.00031	88.15
Vinyl Acetate	< 2.48	< 0.00061	86.09
2-Butanone	< 1.24	< 0.00026	72.11
cis-1,2-Dichloroethene	< 1.24	< 0.00035	96.94
Hexane	< 1.24	< 0.00031	86.00
Chloroform	< 1.24	< 0.00043	119.38
Ethyl Acetate	< 1.24	< 0.00031	88.10
Tetrahydrofuran	< 1.24	< 0.00026	72.11
1,2-Dichloroethane	< 1.24	< 0.00035	98.96
1,1,1-Trichloroethane	< 1.24	< 0.00048	133.4
Benzene	< 1.24	< 0.00028	78.10
Carbon Tetrachloride	< 1.24	< 0.00055	153.24
Cyclohexane	< 1.24	< 0.00026	74.18
1,2-Dichloropropane	< 1.24	< 0.00040	112.99
Bromodichloromethane	< 1.24	< 0.00059	163.83
1,4-Dioxane	< 2.48	< 0.00063	88.11
Trichloroethene	< 1.24	< 0.00047	131.40
2,2,4-Trimethylpentane	< 1.24	< 0.00041	114.23
Heptane	< 1.24	< 0.00041	116.16
cis-1,3-Dichloropropene	< 1.24	< 0.00040	110.97
4-Methyl-2-Pentanone (MiBK)	< 1.24	< 0.00036	100.16
t-1,3-Dichloropropene	< 1.24	< 0.00040	110.97
1,1,2-Trichloroethane	< 1.24	< 0.00048	133.40
Toluene	< 1.24	< 0.00033	92.13
2-Hexanone	< 1.24	< 0.00048	134.60
Dibromochloromethane	< 1.24	< 0.00074	208.28
1,2-Dibromomethane	< 1.24	< 0.00067	187.88
Tetrachloroethylene	< 1.24	< 0.00059	165.83
Chlorobenzene	< 1.24	< 0.00040	112.56
Ethylbenzene	< 1.24	< 0.00038	106.16
m & p-Xylenes	< 2.48	< 0.00076	106.16
Bromoform	< 1.24	< 0.00090	252.72
Styrene	< 1.24	< 0.00037	104.14
1,1,2,2-Tetrachloroethane	< 1.24	< 0.00060	167.85
o-Xylene	< 1.24	< 0.00038	106.16
4-Ethyltoluene	< 1.24	< 0.00043	120.19
1,3,5-Trimethylbenzene	< 1.24	< 0.00040	112.99
1,2,4-Trimethylbenzene	< 1.24	< 0.00043	120.19
Benzyl Chloride	< 1.24	< 0.00045	126.59
1,3-Dichlorobenzene	< 1.24	< 0.00052	147.00
1,4-Dichlorobenzene	< 1.24	< 0.00052	147.01
1,2-Dichlorobenzene	< 1.24	< 0.00052	147.01
1,2,4-Trichlorobenzene	< 1.24	< 0.00065	181.45
Hexachlorobutadiene	< 1.24	< 0.00093	260.76

SPECIATED ORGANICS

Client : SCS
Site : Chiquita Canyon
Unit : Landfill Flare No. 1

T std: 60 °F
Run No.: 2

Date : 6/6/2025
Job #: 19164
Lab #: 225-084

Q std: **18,215** dscfm

Compound Name	Lab Results ppb	lb/hr	MW
Chlorodifluoromethane	< 1.29	< 0.00032	86.5
Propylene	< 2.57	< 0.00031	42.08
Dichlorodifluoromethane	< 1.29	< 0.00045	121
Chloromethane	< 1.29	< 0.00019	50.49
1,2-Dichloro-1,1,2,2-Tetrafluoroethane	< 1.29	< 0.00063	170.92
Vinyl Chloride	< 1.29	< 0.00023	62.5
Methanol	< 12.9	< 0.00119	32.04
1-3 Butadiene	< 1.29	< 0.00020	54.09
Bromomethane	< 1.29	< 0.00035	94.95
Chloroethane	< 1.29	< 0.00024	64.52
Dichlorofluoromethane	< 1.29	< 0.00038	102.92
Ethanol	< 5.14	< 0.00068	46.06
Vinyl Bromide	< 1.29	< 0.00040	106.9
Acetone	**6.3**	**0.0011**	58.08
Trichlorofluoromethane	< 1.29	< 0.00051	137.38
Isopropyl Alcohol	< 5.14	< 0.00089	60.09
Acrylonitrile	< 2.57	< 0.00039	53.1
1,1-Dichloroethylene	< 1.29	< 0.00036	96.95
Methylene Chloride	< 2.57	< 0.00063	84.94
Allyl Chloride (Chloroprene)	< 2.57	< 0.00057	76.53
Carbon Disulfide	< 5.14	< 0.00113	76.1
1,1,2-Trichloro-1,2,2-Trifluoroethane	< 1.29	< 0.00070	187.375
t-1,2-Dichloroethylene	< 1.29	< 0.00036	96.94
1,1-Dichloroethane	< 1.29	< 0.00037	98.96
MTBE	< 1.29	< 0.00033	88.15
Vinyl Acetate	< 1.29	< 0.00032	86.09
2-Butanone	< 2.57	< 0.00053	72.11
cis-1,2-Dichloroethene	< 1.29	< 0.00036	96.94
Hexane	< 1.29	< 0.00032	86.00
Chloroform	< 1.29	< 0.00044	119.38
Ethyl Acetate	< 1.29	< 0.00033	88.10
Tetrahydrofuran	< 1.29	< 0.00027	72.11
1,2-Dichloroethane	< 1.29	< 0.00037	98.96
1,1,1-Trichloroethane	< 1.29	< 0.00050	133.4
Benzene	< 1.29	< 0.00029	78.10
Carbon Tetrachloride	< 1.29	< 0.00057	153.24
Cyclohexane	< 1.29	< 0.00028	74.18
1,2-Dichloropropane	< 1.29	< 0.00042	112.99
Bromodichloromethane	< 1.29	< 0.00061	163.83
1,4-Dioxane	< 2.57	< 0.00065	88.11
Trichloroethene	< 1.29	< 0.00049	131.40
2,2,4-Trimethylpentane	< 1.29	< 0.00042	114.23
Heptane	< 1.29	< 0.00043	116.16
cis-1,3-Dichloropropene	< 1.29	< 0.00041	110.97
4-Methyl-2-Pentanone (MiBK)	< 1.29	< 0.00037	100.16
t-1,3-Dichloropropene	< 1.29	< 0.00041	110.97
1,1,2-Trichloroethane	< 1.29	< 0.00050	133.40
Toluene	< 1.29	< 0.00034	92.13
2-Hexanone	< 2.57	< 0.00100	134.60
Dibromochloromethane	< 1.29	< 0.00077	208.28
1,2-Dibromomethane	< 1.29	< 0.00070	187.88
Tetrachloroethylene	< 1.29	< 0.00062	165.83
Chlorobenzene	< 1.29	< 0.00042	112.56
Ethylbenzene	< 1.29	< 0.00039	106.16
m & p-Xylenes	< 2.57	< 0.00079	106.16
Bromoform	< 1.29	< 0.00094	252.72
Styrene	< 1.29	< 0.00039	104.14
1,1,2,2-Tetrachloroethane	< 1.29	< 0.00062	167.85
o-Xylene	< 1.29	< 0.00039	106.16
4-Ethyltoluene	< 1.29	< 0.00045	120.19
1,3,5-Trimethylbenzene	< 1.29	< 0.00042	112.99
1,2,4-Trimethylbenzene	< 1.29	< 0.00045	120.19
Benzyl Chloride	< 1.29	< 0.00047	126.59
1,3-Dichlorobenzene	< 1.29	< 0.00055	147.00
1,4-Dichlorobenzene	< 1.29	< 0.00055	147.01
1,2-Dichlorobenzene	< 1.29	< 0.00055	147.01
1,2,4-Trichlorobenzene	< 1.29	< 0.00067	181.45
Hexachlorobutadiene	< 1.29	< 0.00097	260.76

SPECIATED ORGANICS

Client : SCS
Site : Chiquita Canyon
Unit : Landfill Flare No. 1

T std: 60 °F
Run No.: 3

Date : 6/6/2025
Job #: 19164
Lab #: 225-084

Q std: **18,215** dscfm

Compound Name	Lab Results ppb	lb/hr	MW
Chlorodifluoromethane	< 1.07	< 0.00027	86.5
Propylene	< 2.15	< 0.00026	42.08
Dichlorodifluoromethane	< 1.07	< 0.00037	121
Chloromethane	**3.07**	**0.00045**	50.49
1,2-Dichloro-1,1,2,2-Tetrafluoroethane	< 1.07	< 0.00053	170.92
Vinyl Chloride	< 1.07	< 0.00019	62.5
Methanol	< 10.7	< 0.00099	32.04
1-3 Butadiene	< 1.07	< 0.00017	54.09
Bromomethane	< 1.07	< 0.00029	94.95
Chloroethane	< 1.07	< 0.00020	64.52
Dichlorofluoromethane	< 1.07	< 0.00032	102.92
Ethanol	< 4.30	< 0.00057	46.06
Vinyl Bromide	< 1.07	< 0.00033	106.9
Acetone	**27.5**	**0.0046**	58.08
Trichlorofluoromethane	< 1.07	< 0.00042	137.38
Isopropyl Alcohol	< 4.30	< 0.00074	60.09
Acrylonitrile	< 2.15	< 0.00033	53.1
1,1-Dichloroethylene	< 1.07	< 0.00030	96.95
Methylene Chloride	< 2.15	< 0.00053	84.94
Allyl Chloride (Chloroprene)	< 2.15	< 0.00047	76.53
Carbon Disulfide	**9.56**	**0.0021**	76.1
1,1,2-Trichloro-1,2,2-Trifluoroethane	< 1.07	< 0.00058	187.375
t-1,2-Dichloroethylene	< 1.07	< 0.00030	96.94
1,1-Dichloroethane	< 1.07	< 0.00030	98.96
MTBE	< 1.07	< 0.00027	88.15
Vinyl Acetate	**2.23**	**0.00055**	86.09
2-Butanone	**11.80**	**0.00245**	72.11
cis-1,2-Dichloroethene	< 1.07	< 0.00030	96.94
Hexane	< 1.07	< 0.00026	86.00
Chloroform	< 1.07	< 0.00037	119.38
Ethyl Acetate	< 1.07	< 0.00027	88.10
Tetrahydrofuran	< 1.07	< 0.00022	72.11
1,2-Dichloroethane	< 1.07	< 0.00030	98.96
1,1,1-Trichloroethane	< 1.07	< 0.00041	133.4
Benzene	< 1.07	< 0.00024	78.10
Carbon Tetrachloride	< 1.07	< 0.00047	153.24
Cyclohexane	< 1.07	< 0.00023	74.18
1,2-Dichloropropane	< 1.07	< 0.00035	112.99
Bromodichloromethane	< 1.07	< 0.00050	163.83
1,4-Dioxane	< 2.15	< 0.00055	88.11
Trichloroethene	< 1.07	< 0.00040	131.40
2,2,4-Trimethylpentane	< 1.07	< 0.00035	114.23
Heptane	< 1.07	< 0.00036	116.16
cis-1,3-Dichloropropene	< 1.07	< 0.00034	110.97
4-Methyl-2-Pentanone (MiBK)	< 1.07	< 0.00031	100.16
t-1,3-Dichloropropene	< 1.07	< 0.00034	110.97
1,1,2-Trichloroethane	< 1.07	< 0.00041	133.40
Toluene	**1.35**	**0.00036**	92.13
2-Hexanone	< 2.15	< 0.00083	134.60
Dibromochloromethane	< 1.07	< 0.00064	208.28
1,2-Dibromomethane	< 1.07	< 0.00058	187.88
Tetrachloroethylene	< 1.07	< 0.00051	165.83
Chlorobenzene	< 1.07	< 0.00035	112.56
Ethylbenzene	< 1.07	< 0.00033	106.16
m & p-Xylenes	< 2.15	< 0.00066	106.16
Bromoform	< 1.07	< 0.00078	252.72
Styrene	< 1.07	< 0.00032	104.14
1,1,2,2-Tetrachloroethane	< 1.07	< 0.00052	167.85
o-Xylene	< 1.07	< 0.00033	106.16
4-Ethyltoluene	< 1.07	< 0.00037	120.19
1,3,5-Trimethylbenzene	< 1.07	< 0.00035	112.99
1,2,4-Trimethylbenzene	< 1.07	< 0.00037	120.19
Benzyl Chloride	< 1.07	< 0.00039	126.59
1,3-Dichlorobenzene	< 1.07	< 0.00045	147.00
1,4-Dichlorobenzene	< 1.07	< 0.00045	147.01
1,2-Dichlorobenzene	< 1.07	< 0.00045	147.01
1,2,4-Trichlorobenzene	< 1.07	< 0.00056	181.45
Hexachlorobutadiene	< 1.07	< 0.00080	260.76

SPECIATED ORGANICS

Client : SCS
Site : Chiquita Canyon
Unit : Landfill Flare No. 1

T std: 60 °F
Run No.: Inlet

Date : 6/6/2025
Job #: 19164
Lab #: 225-084

Q std: 5,398 dscfm

Compound Name	Lab Results ppb	lb/hr	MW
Chlorodifluoromethane	**557**	**0.041**	86.5
Propylene	**93500**	**3.36**	42.08
Dichlorodifluoromethane	< 60	< 0.006	121
Chloromethane	**924**	**< 0.040**	50.49
1,2-Dichloro-1,1,2,2-Tetrafluoroethane	< 60	< 0.009	170.92
Vinyl Chloride	< 60	< 0.0032	62.5
Methanol	**1990000**	**54.41**	32.04
1-3 Butadiene	< 60	< 0.003	54.09
Bromomethane	< 60	< 0.005	94.95
Chloroethane	**275**	**0.015**	64.52
Dichlorofluoromethane	< 60	< 0.005	102.92
Ethanol	**749000**	**29.44**	46.06
Vinyl Bromide	< 60	< 0.005	106.9
Acetone	**375000**	**18.59**	58.08
Trichlorofluoromethane	< 60	< 0.007	137.38
Isopropyl Alcohol	**144000**	**7.38**	60.09
Acrylonitrile	< 60	< 0.0027	53.1
1,1-Dichloroethylene	< 60	< 0.005	96.95
Methylene Chloride	**128**	**0.009**	84.94
Allyl Chloride (Chloroprene)	< 119	< 0.008	76.53
Carbon Disulfide	**344**	**0.022**	76.1
1,1,2-Trichloro-1,2,2-Trifluoroethane	< 60	< 0.010	187.375
t-1,2-Dichloroethylene	< 60	< 0.005	96.94
1,1-Dichloroethane	< 60	< 0.005	98.96
MTBE	**657**	**0.049**	88.15
Vinyl Acetate	< 60	< 0.004	86.09
2-Butanone	**215000**	**13.23**	72.11
cis-1,2-Dichloroethene	< 60	< 0.005	96.94
Hexane	**2570**	**0.19**	86.00
Chloroform	< 60	< 0.006	119.38
Ethyl Acetate	**29700**	**2.23**	88.10
Tetrahydrofuran	**240000**	**14.77**	72.11
1,2-Dichloroethane	**553**	**0.047**	98.96
1,1,1-Trichloroethane	< 60	< 0.007	133.4
Benzene	**140000**	**9.33**	78.10
Carbon Tetrachloride	< 60	**0.008**	153.24
Cyclohexane	**2680**	**0.17**	74.18
1,2-Dichloropropane	< 60	< 0.006	112.99
Bromodichloromethane	< 60	< 0.008	163.83
1,4-Dioxane	**5040**	**0.379**	88.11
Trichloroethene	< 60	< 0.007	131.40
2,2,4-Trimethylpentane	< 60	< 0.006	114.23
Heptane	< 60	< 0.006	116.16
cis-1,3-Dichloropropene	< 60	< 0.006	110.97
4-Methyl-2-Pentanone (MiBK)	**9890**	**0.845**	100.16
t-1,3-Dichloropropene	< 60	< 0.006	110.97
1,1,2-Trichloroethane	< 60	< 0.007	133.40
Toluene	**24800**	**1.95**	92.13
2-Hexanone	**4980**	**0.57**	134.60
Dibromochloromethane	< 60	< 0.011	208.28
1,2-Dibromomethane	< 60	< 0.010	187.88
Tetrachloroethylene	**260**	**0.037**	165.83
Chlorobenzene	**750**	**0.072**	112.56
Ethylbenzene	**10400**	**0.94**	106.16
m & p-Xylenes	**22000**	**1.99**	106.16
Bromoform	< 60	< 0.013	252.72
Styrene	**1290**	**0.115**	104.14
1,1,2,2-Tetrachloroethane	< 60	< 0.009	167.85
o-Xylene	**7670**	**0.69**	106.16
4-Ethyltoluene	**1950**	**0.20**	120.19
1,3,5-Trimethylbenzene	**1890**	**0.182**	112.99
1,2,4-Trimethylbenzene	**5470**	**0.56**	120.19
Benzyl Chloride	< 60	< 0.006	126.59
1,3-Dichlorobenzene	< 60	< 0.007	147.00
1,4-Dichlorobenzene	**403**	**0.051**	147.01
1,2-Dichlorobenzene	< 60	< 0.007	147.01
1,2,4-Trichlorobenzene	< 60	< 0.009	181.45
Hexachlorobutadiene	< 60	< 0.013	260.76

Laboratory Analysis Report

CLIENT : AirX Testing
PROJECT NO : 251418
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 06/06/2025
DATE REPORTED : 06/17/2025
ANALYST : DL/CH

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	TO15 IN R1			Sample Reporting Limit (SRL) (MRLxDF's)	TO15 OUT R1			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	251418-76371				251418-76372				
Date Sampled	06/06/2025				06/06/2025				
Date Analyzed	06/12/2025				06/12/2025				
Can Dilution Factor	2.38				2.48				
Compound	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Chlorodifluoromethane	557		50	59.6	<SRL	U	1	1.24	0.50
Propene	93500		500	1190	<SRL	U	1	2.48	1.00
Dichlorodifluoromethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Chloromethane	924		50	59.6	<SRL	U	1	1.24	0.50
Dichlorotetrafluoroethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Vinyl Chloride	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Methanol	1990000		25000	298000	<SRL	U	1	12.4	5.00
1,3-Butadiene	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Bromomethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Chloroethane	275		50	59.6	<SRL	U	1	1.24	0.50
Dichlorofluoromethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Ethanol	749000		5000	23800	13.5		1	4.96	2.00
Vinyl Bromide	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Acetone	375000		5000	23800	10.4		1	4.96	2.00
Trichlorofluoromethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
2-Propanol (IPA)	144000		5000	23800	<SRL	U	1	4.96	2.00
Acrylonitrile	<SRL	U	50	119	<SRL	U	1	2.48	1.00
1,1-Dichloroethene	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Methylene Chloride (DCM)	128		50	119	<SRL	U	1	2.48	1.00
Allyl Chloride	<SRL	U	50	119	<SRL	U	1	2.48	1.00
Carbon Disulfide	344		50	238	<SRL	U	1	4.96	2.00
Trichlorotrifluoroethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
trans-1,2-Dichloroethene	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
1,1-Dichloroethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Methyl Tert Butyl Ether (MTBE)	657		50	59.6	<SRL	U	1	1.24	0.50
Vinyl Acetate	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
2-Butanone (MEK)	215000		5000	11900	<SRL	U	1	2.48	1.00
cis-1,2-Dichloroethene	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Hexane	2570		50	59.6	<SRL	U	1	1.24	0.50
Chloroform	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Ethyl Acetate	29700		500	596	<SRL	U	1	1.24	0.50
Tetrahydrofuran	240000		5000	5960	<SRL	U	1	1.24	0.50
1,2-Dichloroethane	553		50	59.6	<SRL	U	1	1.24	0.50
1,1,1-Trichloroethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Benzene	140000		5000	5960	<SRL	U	1	1.24	0.50

Laboratory Analysis Report

CLIENT : AirX Testing
PROJECT NO : 251418
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 06/06/2025
DATE REPORTED : 06/17/2025
ANALYST : DL/CH

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	TO15 IN R1			Sample Reporting Limit (SRL)	TO15 OUT R1			Sample Reporting Limit (SRL)	Method Reporting Limit (MRL)
AAC ID	251418-76371				251418-76372				
Date Sampled	06/06/2025				06/06/2025				
Date Analyzed	06/12/2025				06/12/2025				
Can Dilution Factor	2.38				2.48				
Compound	Result	Qualifier	Analysis DF	(MRLxDF's)	Result	Qualifier	Analysis DF	(MRLxDF's)	
Carbon Tetrachloride	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Cyclohexane	2680		50	59.6	<SRL	U	1	1.24	0.50
1,2-Dichloropropane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Bromodichloromethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
1,4-Dioxane	5040		50	119	<SRL	U	1	2.48	1.00
Trichloroethene (TCE)	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
2,2,4-Trimethylpentane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Heptane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
cis-1,3-Dichloropropene	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
4-Methyl-2-pentanone (MiBK)	9890		50	59.6	<SRL	U	1	1.24	0.50
trans-1,3-Dichloropropene	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
1,1,2-Trichloroethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Toluene	24800		500	596	<SRL	U	1	1.24	0.50
2-Hexanone (MBK)	4980		50	119	<SRL	U	1	2.48	1.00
Dibromochloromethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
1,2-Dibromoethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Tetrachloroethene (PCE)	260		50	59.6	<SRL	U	1	1.24	0.50
Chlorobenzene	750		50	59.6	<SRL	U	1	1.24	0.50
Ethylbenzene	10400		500	596	<SRL	U	1	1.24	0.50
m & p-Xylene	22000		50	119	<SRL	U	1	2.48	1.00
Bromoform	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Styrene	1290		50	59.6	<SRL	U	1	1.24	0.50
1,1,2,2-Tetrachloroethane	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
o-Xylene	7670		50	59.6	<SRL	U	1	1.24	0.50
4-Ethyltoluene	1950		50	59.6	<SRL	U	1	1.24	0.50
1,3,5-Trimethylbenzene	1890		50	59.6	<SRL	U	1	1.24	0.50
1,2,4-Trimethylbenzene	5470		50	59.6	<SRL	U	1	1.24	0.50
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
1,3-Dichlorobenzene	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
1,4-Dichlorobenzene	403		50	59.6	<SRL	U	1	1.24	0.50
1,2-Dichlorobenzene	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
1,2,4-Trichlorobenzene	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
Hexachlorobutadiene	<SRL	U	50	59.6	<SRL	U	1	1.24	0.50
BFB-Surrogate Std. % Recovery		101%				81%			50-150%

U - Compound was not detected at or above the SRL.

Laboratory Analysis Report

CLIENT : AirX Testing
PROJECT NO : 251418
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 06/06/2025
DATE REPORTED : 06/17/2025
ANALYST : DL/CH

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	TO15 OUT R2			Sample Reporting Limit (SRL)	TO15 OUT R3			Sample Reporting Limit (SRL)	Method Reporting Limit (MRL)
AAC ID	251418-76373				251418-76374				
Date Sampled	06/06/2025				06/06/2025				
Date Analyzed	06/13/2025				06/13/2025				
Can Dilution Factor	2.57				2.15				
Compound	Result	Qualifier	Analysis DF	(MRLxDF's)	Result	Qualifier	Analysis DF	(MRLxDF's)	
Chlorodifluoromethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Propene	<SRL	U	1	2.57	<SRL	U	1	2.15	1.00
Dichlorodifluoromethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Chloromethane	<SRL	U	1	1.29	3.07		1	1.07	0.50
Dichlorotetrafluoroethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Vinyl Chloride	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Methanol	<SRL	U	1	12.9	<SRL	U	1	10.7	5.00
1,3-Butadiene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Bromomethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Chloroethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Dichlorofluoromethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Ethanol	<SRL	U	1	5.14	<SRL	U	1	4.30	2.00
Vinyl Bromide	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Acetone	6.30		1	5.14	27.5		1	4.30	2.00
Trichlorofluoromethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
2-Propanol (IPA)	<SRL	U	1	5.14	<SRL	U	1	4.30	2.00
Acrylonitrile	<SRL	U	1	2.57	<SRL	U	1	2.15	1.00
1,1-Dichloroethene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Methylene Chloride (DCM)	<SRL	U	1	2.57	<SRL	U	1	2.15	1.00
Allyl Chloride	<SRL	U	1	2.57	<SRL	U	1	2.15	1.00
Carbon Disulfide	<SRL	U	1	5.14	9.56		1	4.30	2.00
Trichlorotrifluoroethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
trans-1,2-Dichloroethene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,1-Dichloroethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Methyl Tert Butyl Ether (MTBE)	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Vinyl Acetate	<SRL	U	1	1.29	2.23		1	1.07	0.50
2-Butanone (MEK)	<SRL	U	1	2.57	11.8		1	2.15	1.00
cis-1,2-Dichloroethene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Hexane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Chloroform	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Ethyl Acetate	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Tetrahydrofuran	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,2-Dichloroethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,1,1-Trichloroethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Benzene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50

Laboratory Analysis Report

CLIENT : AirX Testing
PROJECT NO : 251418
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 06/06/2025
DATE REPORTED : 06/17/2025
ANALYST : DL/CH

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	TO15 OUT R2			Sample Reporting Limit (SRL) (MRLxDF's)	TO15 OUT R3			Sample Reporting Limit (SRL) (MRLxDF's)	Method Reporting Limit (MRL)
AAC ID	251418-76373				251418-76374				
Date Sampled	06/06/2025				06/06/2025				
Date Analyzed	06/13/2025				06/13/2025				
Can Dilution Factor	2.57				2.15				
Compound	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF		
Carbon Tetrachloride	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Cyclohexane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,2-Dichloropropane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Bromodichloromethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,4-Dioxane	<SRL	U	1	2.57	<SRL	U	1	2.15	1.00
Trichloroethene (TCE)	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
2,2,4-Trimethylpentane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Heptane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
cis-1,3-Dichloropropene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
4-Methyl-2-pentanone (MiBK)	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
trans-1,3-Dichloropropene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,1,2-Trichloroethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Toluene	<SRL	U	1	1.29	1.35		1	1.07	0.50
2-Hexanone (MBK)	<SRL	U	1	2.57	<SRL	U	1	2.15	1.00
Dibromochloromethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,2-Dibromoethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Tetrachloroethene (PCE)	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Chlorobenzene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Ethylbenzene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
m & p-Xylene	<SRL	U	1	2.57	<SRL	U	1	2.15	1.00
Bromoform	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Styrene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,1,2,2-Tetrachloroethane	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
o-Xylene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
4-Ethyltoluene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,3,5-Trimethylbenzene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,2,4-Trimethylbenzene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Benzyl Chloride (a-Chlorotoluene)	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,3-Dichlorobenzene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,4-Dichlorobenzene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,2-Dichlorobenzene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
1,2,4-Trichlorobenzene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
Hexachlorobutadiene	<SRL	U	1	1.29	<SRL	U	1	1.07	0.50
BFB-Surrogate Std. % Recovery		84%				89%			50-150%

U - Compound was not detected at or above the SRL.

Run No. 1 Inlet Sulfur Compounds

Speciated Compound	Concentration ppm, as H2S	No. of S molecules in Compound	Total S ppm, as H2S	SO2 Conc. mg/dscf	Avg. Inlet Flow Rate dscfm	SO2 Rate lb/hr	SO2 Rate lb/day
Hydrogen Sulfide	49.2	1	49.2	3.77	5398	2.6900	64.6
Carbonyl Sulfide	1.79	1	1.79	0.14	5398	0.0979	2.35
Methyl mercaptan	87.70	1	87.7	6.72	5398	4.7950	115.08
Ethyl mercaptan	1.550	1	1.6	0.12	5398	0.0847	2.03
Dimethyl sulfide	522.0	1	522.0	39.97	5398	28.5404	684.97
Carbon disulfide	0.360	2	0.7	0.06	5398	0.0394	0.94
iso-propyl mercaptan	2.63	1	2.6	0.20	5398	0.1438	3.45
tert-Butyl Mercaptan	0.26	1	0.3	0.02	5398	0.0142	0.34
n-Propyl Mercaptan	0.40	1	0.4	0.03	5398	0.0220	0.53
methylethylsulfide	7.17	1	7.2	0.55	5398	0.3920	9.41
sec-Butyl-Mercaptan /Thiophene	9.93	1	9.9	0.76	5398	0.5429	13.03
iso-Butyl Mercaptan	0.90	1	0.9	0.07	5398	0.0494	1.19
Diethyl Sulfide	0.05	1	0.1	0.00	5398	0.0027	0.07
n-Butyl Mercaptan	0.05	1	0.1	0.00	5398	0.0027	0.07
Dimethyl disulfide	28.60	2	57.2	4.38	5398	3.1274	75.06
2-Methylthiophene	0.05	1	0.1	0.00	5398	0.0027	0.07
3-Methylthiophene	5.970	1	6.0	0.46	5398	0.3264	7.83
Tetrahydrothiophene	3.11	1	3.1	0.24	5398	0.1700	4.08
Bromothiophene	0.05	1	0.1	0.00	5398	0.0027	0.07
Thiophenol	0.58	1	0.6	0.04	5398	0.0315	0.76
Diethyl Disulfide	0.06	2	0.1	0.01	5398	0.0066	0.16
Unidentified Sulfur Compounds	17.90	1	17.9	1.37	5398	0.9787	23.49
Total			769.3			42.06	1009.5

Run No. 1 Outlet Sulfur Compounds

Speciated Compound	Concentration ppm, as H2S	No. of S molecules in Compound	Total S ppm, as H2S	SO2 Conc. mg/dscf	Avg. Outlet Flow Rate dscfm	SO2 Rate lb/hr	SO2 Rate lb/day
Hydrogen Sulfide	0.05	1	0.1	0.00	18215	0.0092	0.2
Carbonyl Sulfide	110.000	1	110.0	8.42	18215	20.2945	487.07
Methyl mercaptan	0.05	1	0.1	0.00	18215	0.0092	0.22
Ethyl mercaptan	0.05	1	0.1	0.00	18215	0.0092	0.22
Dimethyl sulfide	0.05	1	0.1	0.00	18215	0.0092	0.22
Carbon disulfide	0.05	2	0.1	0.01	18215	0.0184	0.44
iso-propyl mercaptan	0.05	1	0.1	0.00	18215	0.0092	0.22
tert-Butyl Mercaptan	0.05	1	0.1	0.00	18215	0.0092	0.22
n-Propyl Mercaptan	0.05	1	0.1	0.00	18215	0.0092	0.22
methylethylsulfide	0.05	1	0.1	0.00	18215	0.0092	0.22
sec-Butyl-Mercaptan /Thiophene	0.05	1	0.1	0.00	18215	0.0092	0.22
iso-Butyl Mercaptan	0.05	1	0.1	0.00	18215	0.0092	0.22
Diethyl Sulfide	0.05	1	0.1	0.00	18215	0.0092	0.22
n-Butyl Mercaptan	0.05	1	0.1	0.00	18215	0.0092	0.22
Dimethyl disulfide	0.05	2	0.1	0.01	18215	0.0184	0.44
2-Methylthiophene	0.05	1	0.1	0.00	18215	0.0092	0.22
3-Methylthiophene	0.05	1	0.1	0.00	18215	0.0092	0.22
Tetrahydrothiophene	0.05	1	0.1	0.00	18215	0.0092	0.22
Bromothiophene	0.05	1	0.1	0.00	18215	0.0092	0.22
Thiophenol	0.05	1	0.1	0.00	18215	0.0092	0.22
Diethyl Disulfide	0.05	2	0.1	0.01	18215	0.0184	0.44
Unidentified Sulfur Compounds	0.05	1	0.1	0.00	18215	0.0092	0.22
Total			111.2			20.52	492.4