CHIQUITA CANYON
A Waste Connections Company

December 23, 2024

Via First Class Mail

Re: Chiquita Canyon, LLC's December 2024 State of the Landfill Report

To Whom It May Concern:

Enclosed herein is a hard copy of the December 2024 State of the Landfill Report, prepared by Chiquita Canyon, LLC ("Chiquita"). This report provides a summary overview of the Elevated Temperature Landfill event that is occurring at a portion of the Chiquita Canyon Landfill (the "Landfill") and the efforts Chiquita and its experts are taking to mitigate this event. Please note that this report includes data and information as of October 31, 2024. Chiquita intends to update this report periodically with more recent data, information, and analysis.

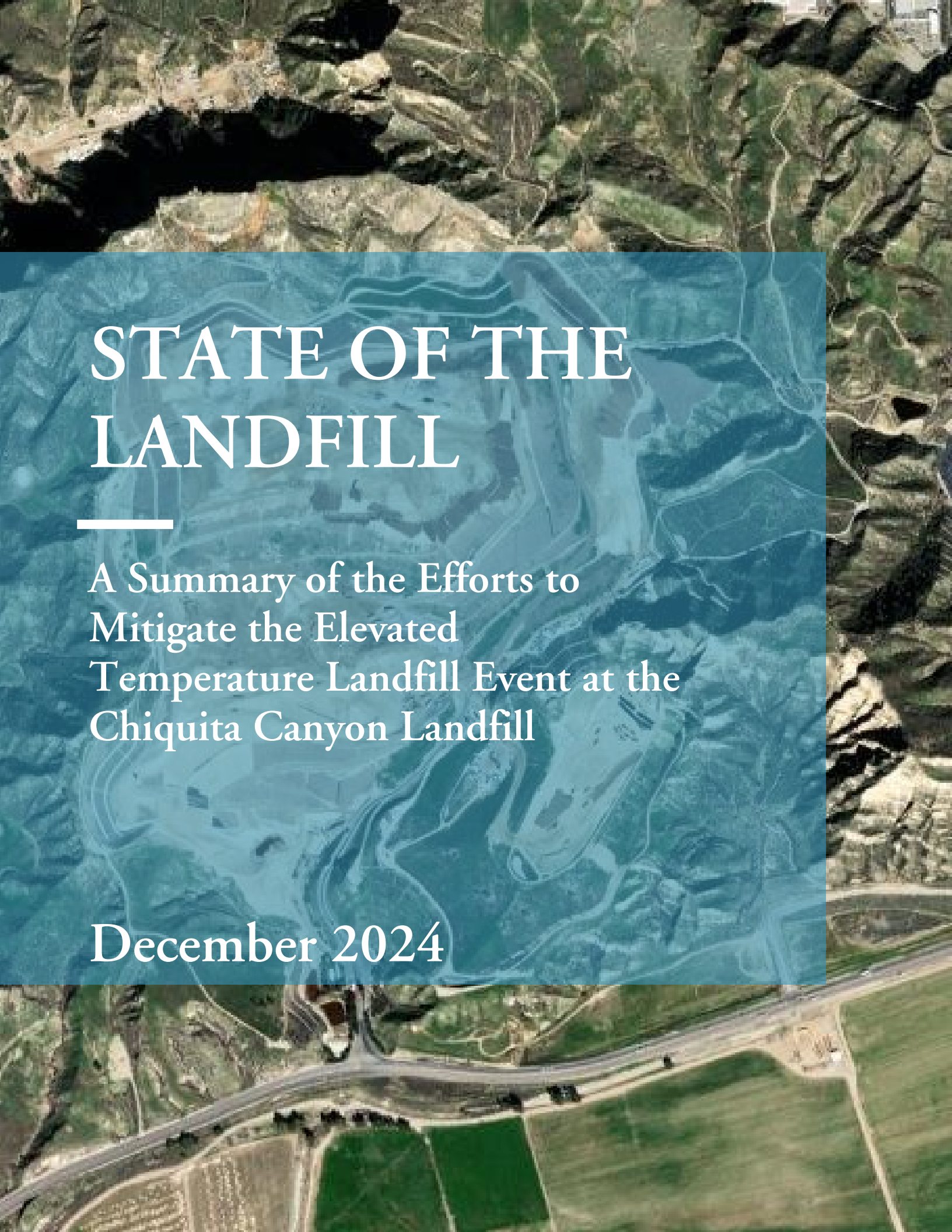
Please let us know of any questions. We look forward to continuing to work collaboratively with our regulators to mitigate the landfill reaction and to provide our neighbors and the public with accurate and updated information about the Landfill and our efforts to mitigate the reaction.

Regards,

Steve Cassulo
District Manager
Chiquita Canyon, LLC

Attachment: December 2024 State of the Landfill Report

29201 Henry Mayo Drive | Castaic, California 91384
www.chiquitacanyon.com



STATE OF THE LANDFILL

A Summary of the Efforts to Mitigate the Elevated Temperature Landfill Event at the Chiquita Canyon Landfill

December 2024

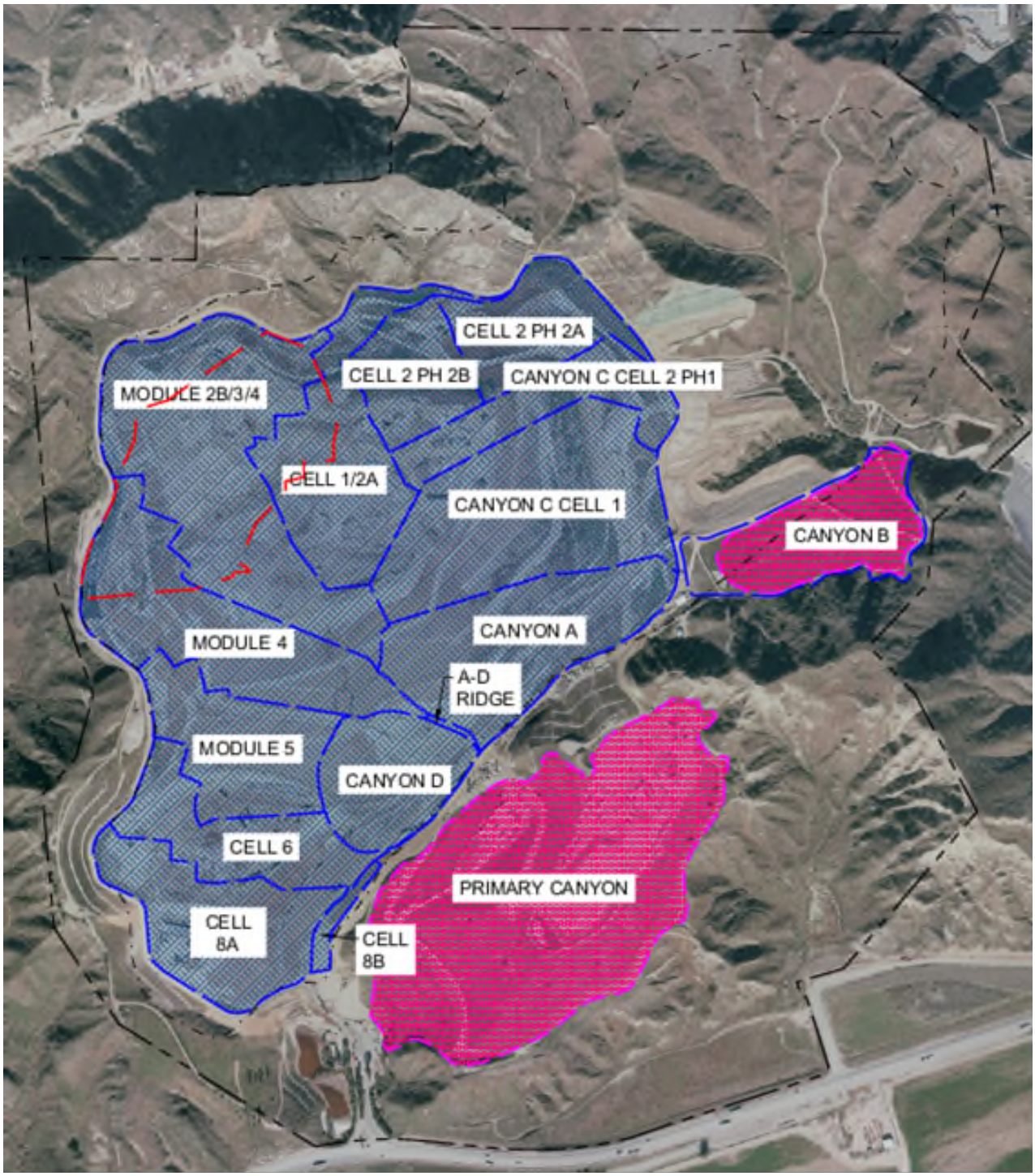
Executive Summary

This report presents a summary of Chiquita Canyon, LLC's ("Chiquita") efforts to mitigate the Elevated Temperature Landfill event at the Chiquita Canyon Landfill (the "Landfill"). Please note that this report incorporates data collected at different times and intervals. As applicable, this report presents and analyzes data through the Third Quarter of 2024, or October 31, 2024. Updates since these time periods will be presented in the next version of this report.

The Chiquita Canyon Landfill

The Chiquita Canyon Landfill is a municipal solid waste landfill located in Castaic, California. It is the second largest landfill in Los Angeles County (the "County"), and it takes in nearly a quarter of the County's municipal solid waste from millions of residents and businesses annually. The Landfill is approximately 639 acres in size, with 400 acres permitted for waste disposal. Active waste disposal operations are currently taking place in an area of the Landfill referred to as Cell 8A. See **Figure 1** for a map of the Landfill.

Figure 1. Map of the Chiquita Canyon Landfill and the landfill modules, cells, and canyons. An approximate outline of the area of the Landfill affected by the reaction, often referred to as the "data-driven reaction area" or the "reaction area", as of October 2024, is shown by the dashed red line. The "reaction" is discussed in more detail below.



The Landfill is Experiencing an Elevated Temperature Landfill Event

The Landfill is currently exhibiting signs of an Elevated Temperature Landfill ("ETLF") event, also referred to as a landfill reaction. This reaction is occurring in an older part of the Landfill that has not been used for years. Current waste disposal operations are occurring in a different area of the Landfill. Current operations are not impacted by the reaction and do not contribute to the reaction.

ETLFs are a relatively recent development in the landfill industry. The first known ETLF event at a landfill in the United States occurred around 2008. Since then, only approximately ten (10) to fifteen (15) large-scale ETLF events have been recognized by the landfill industry.

ETLF events typically result in the increased production of both landfill gas and liquids, commonly referred to as leachate. The increased landfill gas and leachate can result in odors.

Chiquita is Implementing Impactful Mitigation Measures

Chiquita is proud of its efforts to implement numerous measures to minimize the spread of the reaction and to mitigate any potential impacts. Chiquita is working cooperatively with its regulators to investigate, develop, and implement these mitigation measures. The primary objective of these efforts is to deprive the reaction of heat by removing hot gas and liquids from the Landfill.

Chiquita is doing everything it can to mitigate any impacts of the reaction. Chiquita's actions include installing over 220 vertical dual extraction landfill gas wells since December 6, 2023 and equipping many of them with dewatering pumps, allowing Chiquita to remove hot gas and liquids from the Landfill (see **Figure 2**). Chiquita is destroying certain compounds (e.g., hydrogen and methane) in the gas removed from the Landfill by converting them to a harmless compound (i.e., carbon dioxide) in its landfill gas flares or thermal oxidizer (which is similar to a flare) (see **Figure 3**). Chiquita is managing the liquids by piping them from the Landfill, using granular activated carbon treatment systems to treat them as needed, and transporting them off-site for disposal at appropriate liquid waste disposal facilities. Chiquita is also constructing a geosynthetic cover (see **Figure 4**) over portions of the reaction area (see the red dashed line in **Figure 1**). Chiquita expects that this additional cover will reduce potential odors in the shorter term. Chiquita spends millions of dollars each month on engineers, contractors, and equipment to mitigate any potential impacts of the reaction and looks forward to continuing to collaborate with its regulators on the continued management of the Landfill, specifically the reaction area.

Figure 2. Picture of a vertical dual extraction landfill gas well. Chiquita installed over 220 such wells between December 6, 2023 and the end of October 2024.

Figure 3. Picture of Chiquita's landfill gas flaring facility, showing the three existing flares.

Figure 4. Aerial image of the geosynthetic cover over portions of the reaction area (approximated by the red line). Chiquita had installed approximately 41 acres of cover as of October 31, 2024.

Chiquita's Mitigation Measures Are Yielding Positive Results

Chiquita regularly measures and tracks a variety of data to assess whether the reaction area is increasing, decreasing, or staying the same. Landfill gas, settlement and slope stability, liquid, and waste temperature data demonstrate that Chiquita's efforts are effectively containing the reaction in the northwest portion of the Landfill. The data consistently show that the reaction area has not spread to any new areas of the Landfill. Liquid level data also show that liquid levels along the western slope of the reaction area are beginning to decrease, suggesting that Chiquita's dewatering efforts are yielding positive results.

Table of Contents

Acronyms

Carbon Dioxide	CO_2
Carbon Monoxide	CO
Certified Unified Program Agency	CUPA
Chiquita Canyon Landfill	Landfill
Chiquita Canyon, LLC	Chiquita
Department of Toxic Substances Control	DTSC
Elevated Temperature Landfill	ETLF
Environmental Protection Agency	EPA
Granular activated carbon	GAC
High-density polyethylene	HDPE
Leachate collection and removal system	LCRS
Local Enforcement Agency	LEA
Los Angeles County	County
Los Angeles Regional Water Quality Control Board	Water Board
Methane	CH_4
Multi-Agency Critical Action Team	MCAT
Notice of Violation	NOV
Parts per million	ppm
Parts per million by volume	ppmv
Resource Conservation and Recovery Act	RCRA
Response Multi-Agency Coordination Group	RMAC
Semi-volatile organic compounds	SVOCs
South Coast Air Quality Management District	South Coast AQMD
Standard cubic feet per minute	scfm
Temperature monitoring probes	TMPs
Thermal oxidizer	TOX
Unilateral Administrative Order	UAO
Volatile organic compounds	VOCs
Waste Discharge Requirements	WDRs

Chiquita Canyon Landfill: Essential Southern California Solid Waste Infrastructure

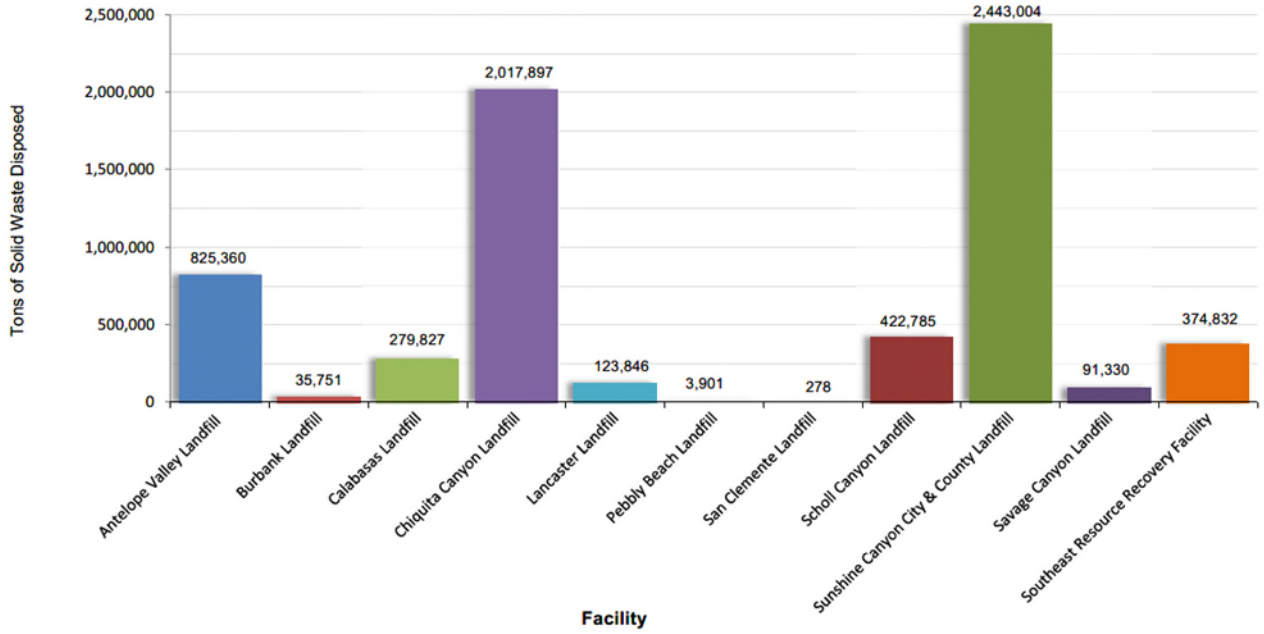
This report presents a summary of Chiquita Canyon, LLC's ("Chiquita") efforts to mitigate the Elevated Temperature Landfill event at the Chiquita Canyon Landfill (the "Landfill"). Please note that this report incorporates data collected at different times and intervals. As applicable, this report presents and analyzes data through the Third Quarter of 2024, or October 31, 2024. Updates since these time periods will be presented in the next version of this report.

Background

The Chiquita Canyon Landfill is a Class III disposal site located at 29201 Henry Mayo Drive in Castaic, California 91384. The Landfill is approximately 639 acres in size with 400 acres permitted for waste disposal. The permitted landfill consists of two closed areas, Primary Canyon (approx. 55 acres), which operated from 1970 to 1987, and Canyon B (approx. 15 acres), which operated from 1987 to 1988; one active operating area, the Main Canyon area, which spans approximately 212 acres (Canyons A, C, and D, and Cells 1 through 6 and 8); and a permitted expansion, the East Canyon area, which will span approximately 114 acres (Cells 7 and 9 through 13) (see **Figure 1**). Approximately four (4) acres of the permitted Main Canyon area have not been developed due to setback and slope stability constraints. Active waste disposal operations are currently taking place in Cell 8A.

The Landfill is a critical component of Southern California's solid waste infrastructure, taking in nearly a quarter of Los Angeles County's (the "County") waste from millions of residents and businesses annually. The Landfill's municipal solid waste intake has recently (2020-2023) averaged approximately 200,000 tons per month and roughly two million tons per year. It is the second-largest landfill in the County (see **Figure 5**).

Figure 5. Graph of solid waste disposal quantities by facility in the County in 2021.[1]



Compliance History Prior to the Reaction

Prior to 2020, the Landfill operated as a municipal solid waste landfill for over fifty (50) years with no significant issues and a strong compliance record. Chiquita was largely seen as a model solid waste disposal facility.

In 2020, the Landfill began receiving increased odor complaints related to fresh trash odors coming from Chiquita's working face (active disposal location) when disposal operations moved to a new landfill cell (Cell 6) (see **Figure 1**). These odor complaints resulted in the issuance of notices of violation ("NOVs") from the South Coast Air Quality Management District ("South Coast AQMD"), Chiquita's local air regulator.

As a result, Chiquita Canyon, LLC, the owner and operator of the Landfill, entered into a Stipulated Order for Abatement with South Coast AQMD in late 2020 ("2020 Stipulated Order"). An order for abatement is an enforcement mechanism requiring a company who has received notices of violation from South Coast AQMD to take specific actions to remedy the alleged violations. A stipulated order for abatement is an order for abatement that the company has agreed to.

[1] Los Angeles County Public Works, *Countywide Integrated Waste Management Plan, 2021 Annual Report* (Dec. 2022), *available at* https://dpw.lacounty.gov/epd/swims/ShowDoc.aspx?id=17389&hp=yes&type=PDF.

After further development and implementation of standard operating procedures to address the fresh trash odors from Chiquita's working face, odor complaints significantly decreased. Chiquita stopped receiving NOVs from South Coast AQMD related to these odors because Chiquita successfully resolved this issue. The 2020 Stipulated Order expired in 2022.

The Reaction: While Rare, Chiquita is Effectively Managing It

The Landfill is currently exhibiting signs of an Elevated Temperature Landfill ("ETLF") event,[2] also referred to as a landfill reaction, in an old, inactive portion of the Landfill. This area, which Chiquita refers to as the "reaction area," is depicted by the red dashed line in **Figure 1**, and has not been used for years. Current waste disposal operations continue in a different area of the Landfill. These current disposal operations are not impacted by the ongoing reaction and do not contribute to the reaction.

History of ETLFs

ETLFs are a relatively recent development in the landfill industry. The first known ETLF event at a landfill in the United States occurred around 2008. Since then, approximately ten (10) to fifteen (15) large-scale ETLF events have been recognized by the landfill industry through reports prepared by landfill owners and submitted to regulatory agencies and/or papers published by research organizations. There are also other landfills with a few landfill gas collection wells that have exhibited elevated temperatures, but the elevated temperatures have not spread, and these landfills are not considered ETLFs.

Common Characteristics of ETLFs

Some of the most common characteristics of an ETLF event include the following, though not every characteristic may be observed at any individual landfill:

- An increase in gas, leachate, and waste temperatures.[3] The waste temperatures conform to the "belly-curve" profile in which the maximum temperatures occur around the center of the waste depth.[4]
- An increase in gas production, increase in subsurface gas pressures, and changes in gas composition.[5]
- A change in the odor characteristics of the landfill gas (often described as a "chemical" odor) compared to typical landfill gas.[6]
- An increase in leachate quantities, evidence of pressurized liquids, and changes in leachate composition.[7]

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[2] See *infra*, Chiquita is Experiencing an ETLF Event, Not A Fire, for a discussion of the data that illustrates that the Landfill is experiencing an ETLF event, not a landfill fire.
[3] See R. Grillo, *Energy Recycling – Landfill Waste Heat Generation and Recovery*, 1 Current Sustainable Renewable Energy Reports, at p. 152 (Sept. 16, 2014), *available at* https://link.springer.com/article/10.1007/s40518-014-0017-2; see W. Meyer, *Characteristics of Elevated Temperature Landfills (ETLFs) Landfills*, 2024 Global Waste Management Symposium, Indian Wells, CA, Feb. 25 – 28, 2024.
[4] See Meyer, *supra* fn. 3; see M. Barlaz et al., *Diagnosing and Understanding Elevated Temperature Landfills (Part 1)*, Waste 360 (October 31, 2016).
[5] See Grillo, *supra* fn. 3, at p. 152; see Meyer, *supra* fn. 3.
[6] See Grillo, *supra* fn. 3, at p. 152; see Meyer, *supra* fn. 3; see Barlaz, *supra* fn. 4.
[7] See Grillo, *supra* fn. 3, at p. 152; see Meyer, *supra* fn. 3.

- Accelerated widespread landfill settlement across the affected area (as opposed to highly localized rapid settlement, which, as described below, is indicative of a potential landfill fire).[8]

ETLF events, including the ETLF event at the Landfill, typically cause increases in the production of both landfill gas and leachate. The landfill gas and leachate can also result in odors.

Chiquita's Mitigation Efforts

Chiquita is proud of its unprecedented efforts to implement numerous measures to minimize the spread of the reaction. The primary objective of Chiquita's efforts is to remove heat by extracting hot gases and hot liquids (i.e., leachate) from the Landfill. Chiquita spends millions of dollars each month on engineers, contractors, and equipment to manage the reaction and the Landfill, including installing hundreds of new landfill gas wells and dewatering pumps within the wells (an example of a dual extraction well with a dewatering pump is depicted in **Figure 2**), and installing a geosynthetic cover over portions of the reaction area (see **Figure 6**), which Chiquita expects to improve landfill gas collection with a corresponding decrease in fugitive gas emissions and off-site odors.

[8] See Grillo, *supra* fn. 3, at p. 152; see Meyer, *supra* fn. 3.

Figure 6. Picture of the installation of the geosynthetic cover at the Landfill.

Chiquita has undertaken these measures in collaboration with and under the close supervision of its many regulators. The key enforcement documents containing these measures include:

- A Stipulated Order for Abatement with South Coast AQMD, initially issued on September 6, 2023, and most recently modified on November 13, 2024 ("2023 Stipulated Order")
- A June 6, 2024 Compliance Order issued by the Los Angeles County Department of Public Health, acting as Chiquita's Local Enforcement Agency ("LEA") (the "LEA Compliance Order")
- A February 21, 2024 Unilateral Administrative Order issued by the U.S. Environmental Protection Agency ("EPA") (the "UAO")
- A March 20, 2024 Investigative Order issued by the Los Angeles Regional Water Quality Control Board ("Water Board") (the "Water Board Investigative Order")

Chiquita's regulators include but are not limited to:

- South Coast AQMD
- Water Board
- EPA
- California Environmental Protection Agency ("CalEPA")

- California Department of Toxic Substances Control ("DTSC")
- LEA
- Los Angeles County Fire Department acting as Chiquita's Certified Unified Program Agency ("CUPA")

The Response Multi-Agency Coordination Group ("RMAC"), which was composed of federal, state, and local on-site coordinators and led by EPA, was also onsite at the Landfill but was disbanded on October 14, 2024, when the RMAC determined that the emergency response phase ended. The Multi-Agency Critical Action Team ("MCAT"), also led by EPA, is now coordinating enforcement efforts at the Landfill.

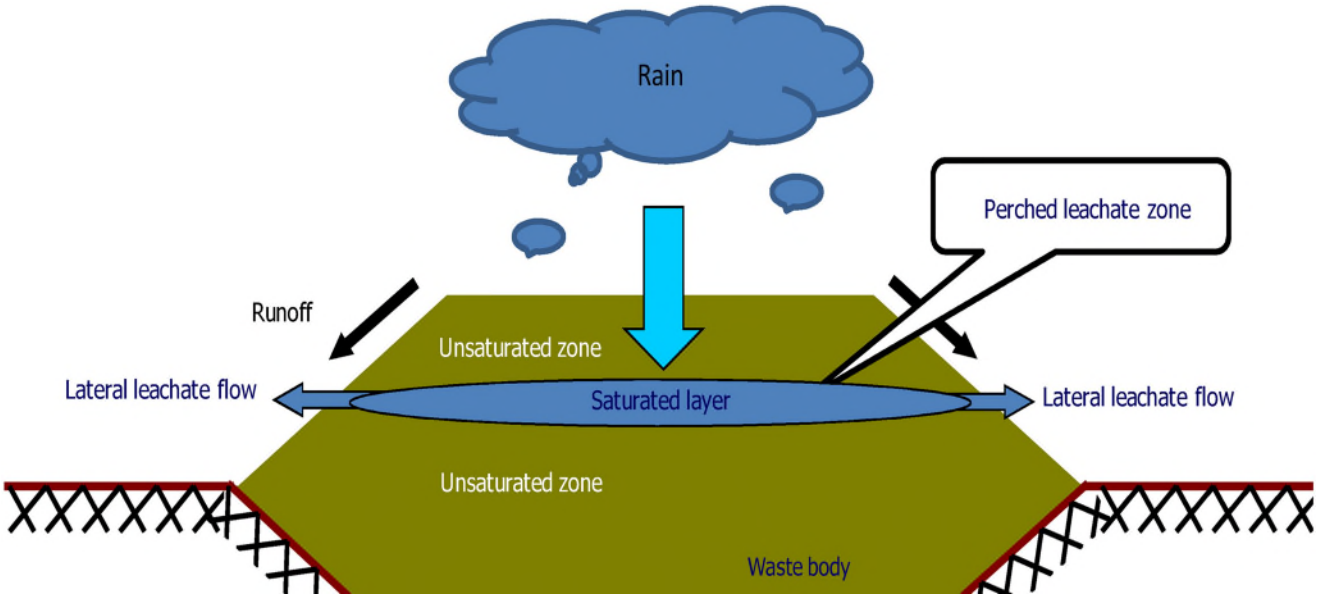
Leachate: Increased Collection and Changing Composition

Liquids that have filtered through the waste in a landfill are known as "leachate." Leachate results primarily from moisture in the wastes accepted for disposal, percolation of rain through the waste, and liquids used for landfill operations (e.g., liquids used to suppress dust).

Where is liquid stored in a landfill?

The liquid in any landfill, including the Chiquita Canyon Landfill, may be "entrained," which means it is stored within the pore space of the waste, soil, and other materials in the landfill. This moisture is not free liquid (or leachate) until it is released from storage. Typically, once released, the leachate flows downward where it is collected by the leachate collection and removal system ("LCRS"), discussed below, at the base of the landfill. Leachate may saturate a local portion of the waste mass, where it may then remain as perched layers and lenses within the landfill (see **Figure** 7). Leachate may also find a preferential pathway through various materials outward, resulting in lateral leachate flow through the landfill surface (also shown in **Figure** 7).

Figure 7. Diagram of a landfill with a perched layer of leachate. Note that this figure is conceptual and for illustrative purposes only. This figure does not represent actual conditions at the Chiquita Canyon Landfill.[9]



Chiquita's Leachate Collection and Removal System

Chiquita's LCRS consists of a series of pipes constructed over a composite liner, which comprises a high-density polyethylene ("HDPE") geomembrane layer (plastic liner) and a low hydraulic conductivity layer (clay liner) (see **Figure 8**). Chiquita's liner system is designed to contain leachate accumulated in the Landfill and direct it to the LCRS (see **Figure 9**).

[9] See D. Di Trapani, et al., *Influence of the Height of Municipal Solid Waste Landfill on the Formation of Perched Leachate Zones*, J. of Envt'l Eng., 151141 Vol. 8 (Feb. 9, 2025), *available from:* https://ascelibrary.com/doi/10.1061/%28ASCE%29EE.1943-7870.0000950.

Figure 8. Diagram of a typical capped landfill, highlighting the bottom liner system, the landfill gas collection system (i.e., extraction wells), and the leachate collection system. Note that this figure is conceptual and for illustrative purposes only. This figure does not represent specific conditions at the Chiquita Canyon Landfill.

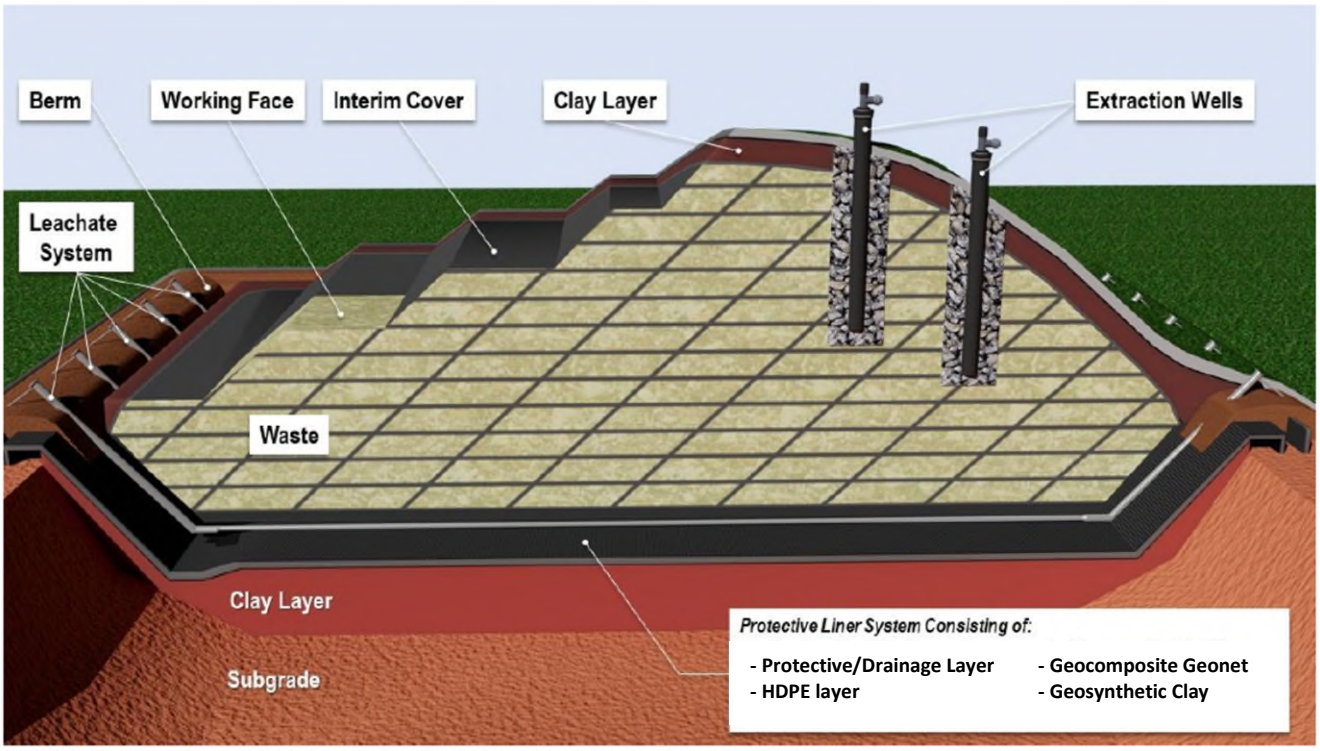
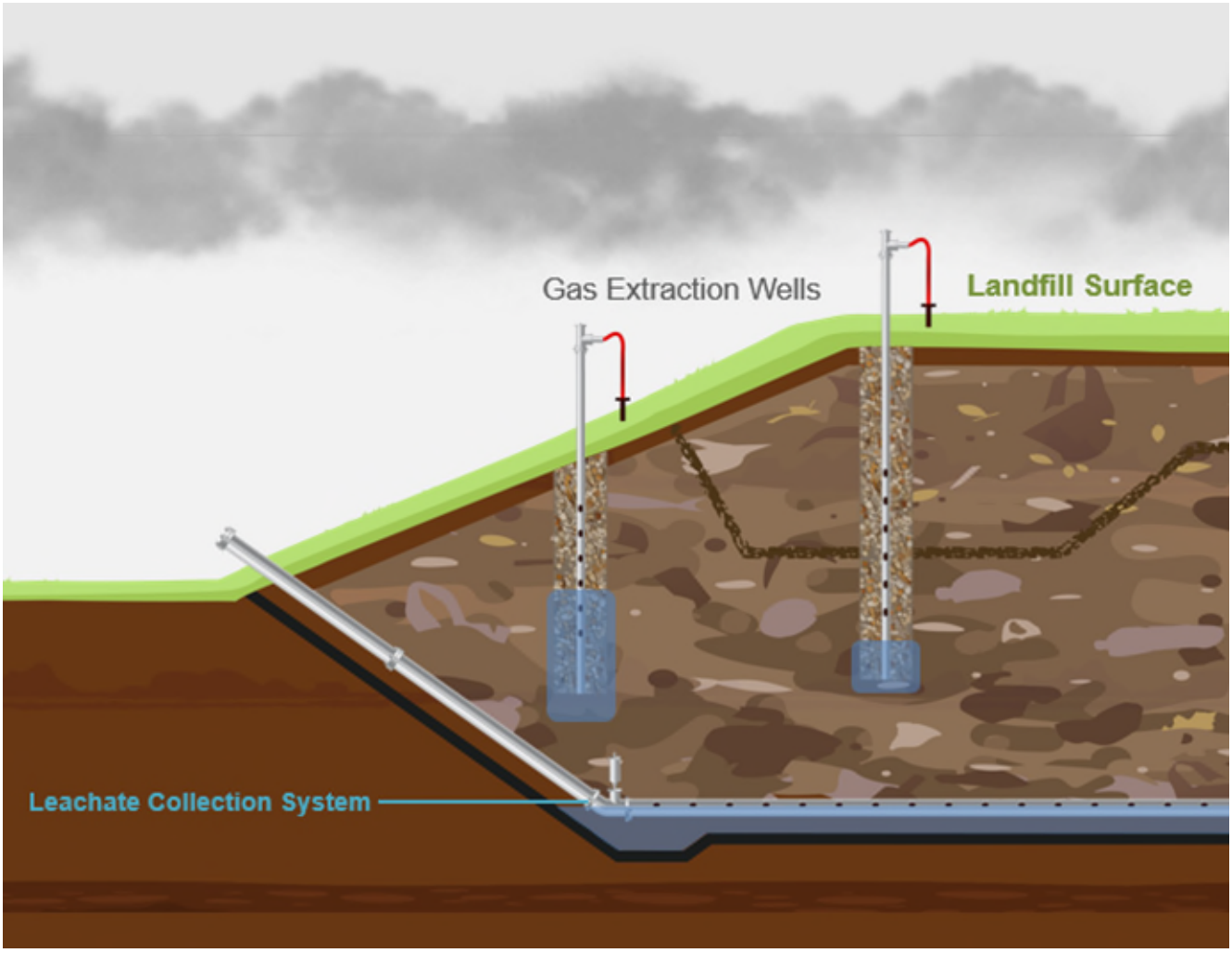


Figure 9. Diagram of a typical capped landfill, highlighting a leachate collection system and how leachate can be pumped or piped from different areas of a landfill. Note that this figure is conceptual and for illustrative purposes only. This figure does not represent specific conditions at the Chiquita Canyon Landfill.



Site liquid data show that the leachate collected from the LCRS at the base of the Landfill is of a different chemical composition (e.g., does not exhibit elevated volatile organic compounds ("VOCs")) than the leachate pumped from landfill gas wells located in the reaction area, and Chiquita personnel have not observed any significant changes in leachate flow rates in the bottom LCRS over time, thus indicating that the LCRS continues to function as intended.

How has the ETLF event affected Chiquita's leachate collection?

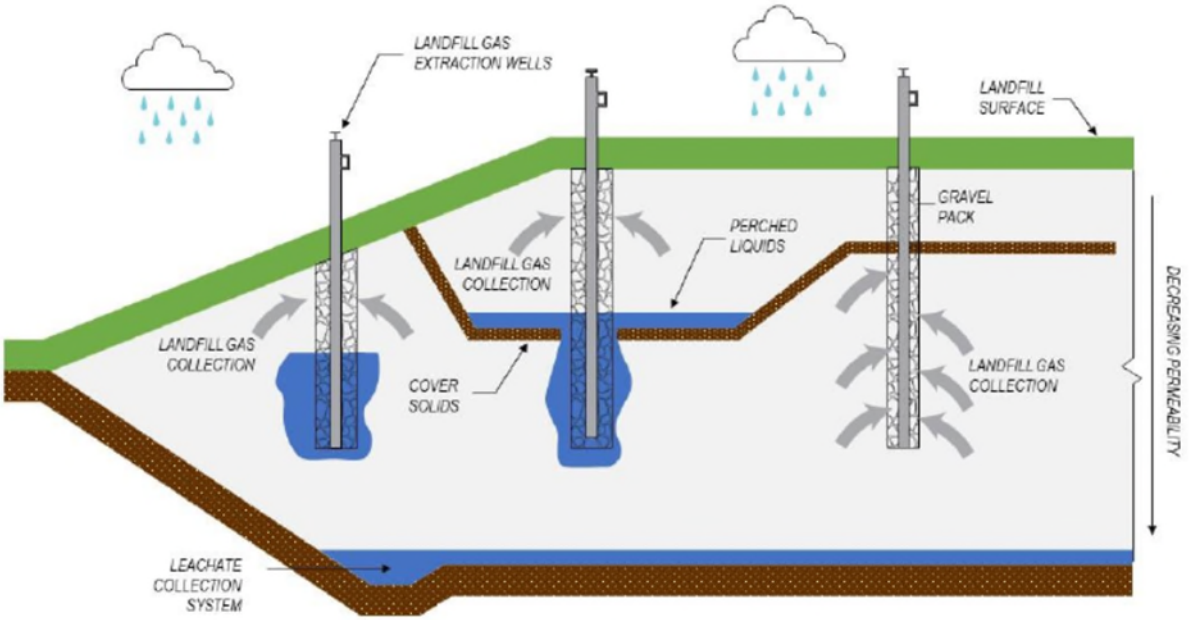
Chiquita has been collecting an increased volume of leachate from the Landfill because of the ETLF event. Before the elevated temperatures associated with the reaction were observed, Chiquita collected approximately 230,000 gallons of leachate per week from the bottom LCRS. As a result of the ETLF event, Chiquita now extracts more than 1,400,000 gallons of leachate per week from a combination of the bottom LCRS and the vertical wells.

ETLF events can also change the type and concentration of constituents in leachate. Extensive leachate testing and analysis has demonstrated that some of the leachate extracted from the Landfill is characteristically hazardous, due to its concentration of the organic constituent, benzene. Given the quantity of hazardous leachate collected, it is necessary for Chiquita to pretreat the leachate onsite. Robust efforts to find sufficient off-site hazardous waste treatment or disposal capacity (which are continuously being updated) have been unable to identify facilities that can treat more than a small fraction of the volume of non-pretreated leachate being removed from the Landfill on a weekly basis.

How is Chiquita managing this increased production of leachate?

Leachate is piped from extraction wells to remove perched liquid from the waste mass (see **Figure 10**), as well as from condensate sumps and leachate sumps (collection points for liquid).

Figure 10. Diagram of a typical capped landfill, highlighting a landfill gas collection system (extraction wells) and how they can be used to pump perched liquids and landfill gas from within a landfill waste mass. This diagram does not include an illustration of a sump. Note that this figure is conceptual and for illustrative purposes only. This figure does not represent specific conditions at the Chiquita Canyon Landfill.

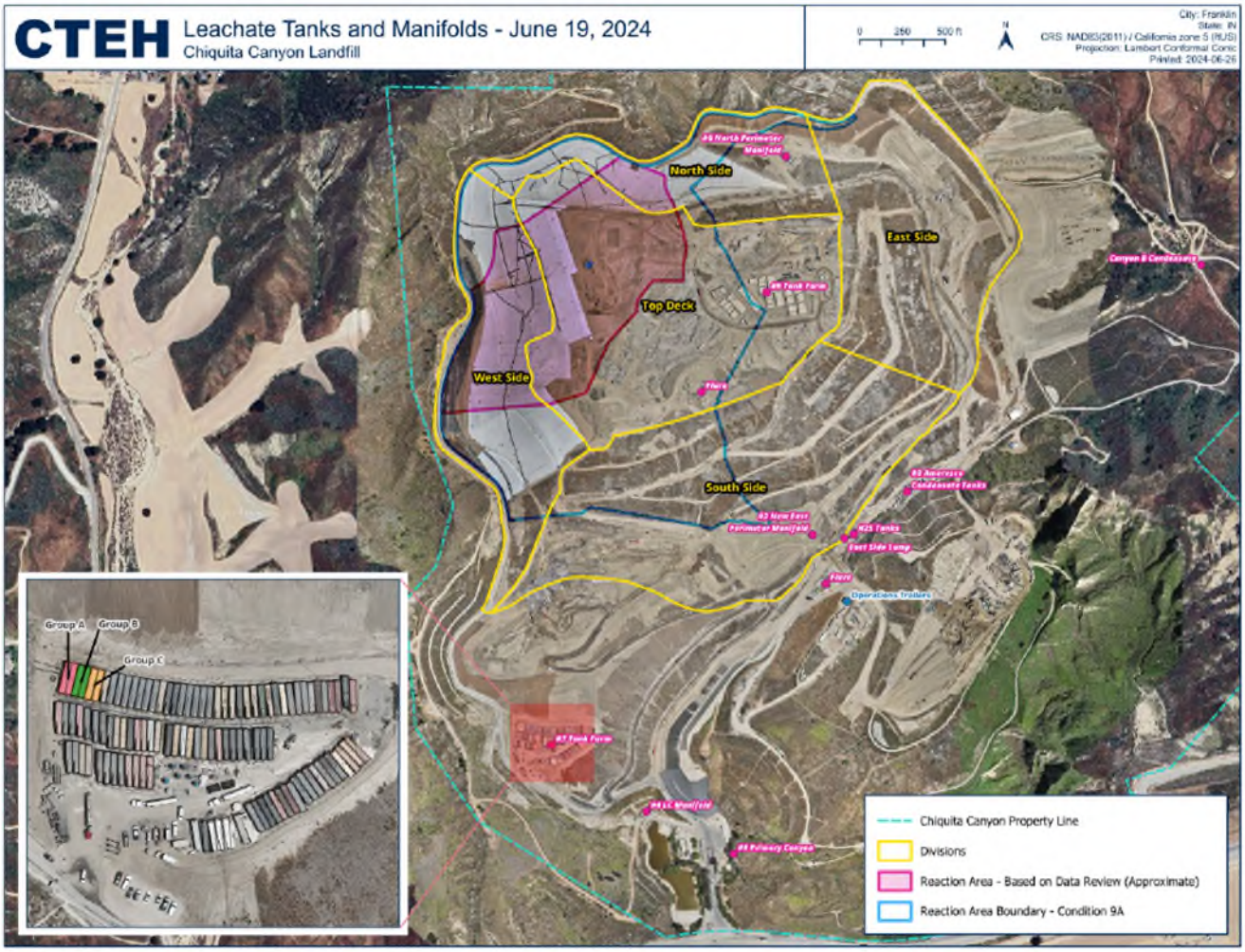


From the extraction wells and sumps, leachate is then piped to tanks where it is accumulated for a brief period prior to treatment. Since the reaction began, Chiquita has rapidly expanded the number of enclosed leachate frac tanks onsite from four (4) to over 250 (see **Figure 11**).

Figure 11. Images of a leachate tank farm at the Landfill.

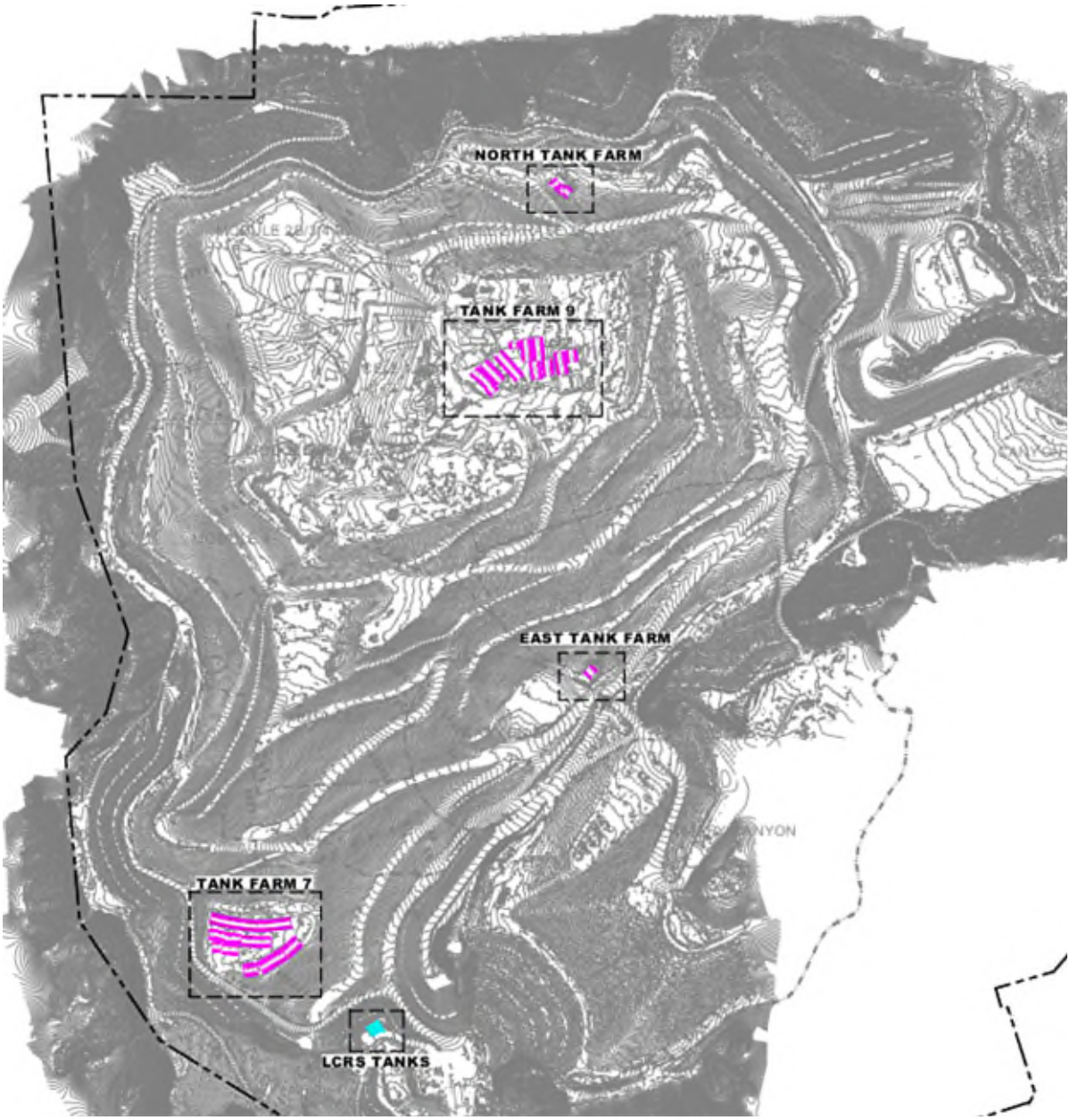
The leachate tanks are divided into different groups of tanks. At present, leachate is accumulated in seven (7) distinct areas across the Landfill. As illustrated in **Figure 12**, those areas include: #2 East Perimeter; #3 Ameresco Condensate Tanks; #4 Leachate Collection Manifold; #6 North Perimeter; #7 Tank Farm; #8 Primary Canyon; and #9 Tank Farm.

Figure 12. Map of the Landfill showing the leachate tank groups. Note that the #8 Primary Canyon group accumulates landfill gas condensate that is not affected by the reaction.



Leachate that is characteristically hazardous is treated at both the #7 and #9 Tank Farms (see **Figure 13**), where it is filtered and treated using granular activated carbon ("GAC"). The treatment units use sand and bag filtration to remove solids from the leachate before the leachate is passed through a series of GAC vessels. The systems are designed to enhance the removal of VOCs and semi-volatile organic compounds ("SVOCs"). This treatment renders the leachate non-hazardous from a regulatory perspective.

Figure 13. Map of the Landfill and leachate tank farms.



Chiquita's current treatment capacity can treat more leachate per day than is collected and requires treatment. There are currently two enclosed GAC systems in place at the Landfill (see **Figure 14** for an image of one of the Landfill's GAC systems). Treatment capacity can be expanded if needed.

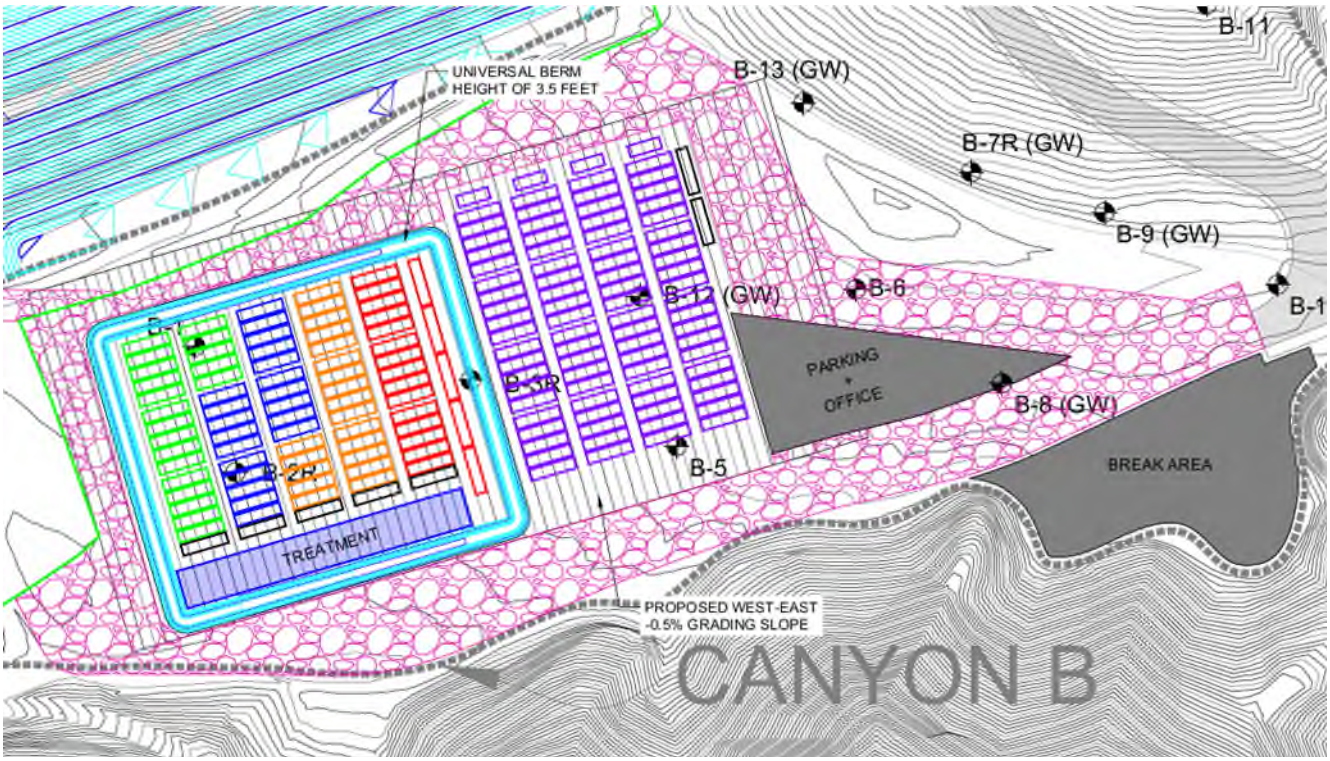
Figure 14. Picture of a GAC treatment system at the Landfill.

The treated non-hazardous leachate is piped from the GAC systems to separate holding tanks (post-GAC units). The post-treatment, non-hazardous leachate is held in the post-GAC units staged at the #7 and #9 Tank Farms for off-site transport and disposal (see **Figure 13**). Chiquita may further treat some or all of the treated non-hazardous leachate to enable it to meet the waste acceptance criteria for other off-site treatment and disposal facilities. Chiquita is also continuing investigations into other potential filtration or treatment systems and technologies to further filter or treat the leachate for total dissolved solids or other constituents,

thereby allowing for disposal at additional disposal facilities with permitting limits related to total dissolved solids or other constituents.

Chiquita is in the process of working with the CUPA to conduct this on-site treatment pursuant to the Conditional Authorization tier of California's tiered hazardous waste permitting program. This future treatment system is being designed to proactively comply with both federal and state regulations, including Resource Conservation and Recovery Act ("RCRA") tank and containment requirements and California seismic (earthquake-related) requirements.[10] **Figure 15** depicts an initial design drawing of the proposed new tank farm, as well as the proposed layout of the treatment units.

Figure 15. Initial design drawing of the proposed new tank farm. Note that this design and the location of the new tank farm is subject to regulator review and further modification.



[10] While Chiquita's existing tank farms were created during the immediate response effort, Chiquita does not believe they pose either a seismic or environmental risk. The existing tank farms are all positioned on the landfill footprint within the liner limits and have surface water collection areas to prevent any leaks or seeps from impacting the environment.

Where is Chiquita sending this leachate for off-site disposal?

There are very limited options nationwide for the disposal of hazardous liquids, particularly at the volume being collected from the Landfill (approximately 1,400,000 gallons a week). Chiquita personnel have been diligently working to secure additional off-site leachate disposal options (both hazardous and non-hazardous disposal options). To date, Chiquita has contacted over 600 facilities and has shipped leachate classified as hazardous as far as Arkansas. Chiquita currently ships non-hazardous leachate to industrial pre-treatment, incineration, solidification, and evaporation facilities. The majority of the leachate is sent to industrial pre-treatment facilities.

Chiquita's Mitigation Efforts are Far Reaching and Operations-Intensive

In consultation with and under the close supervision of its many regulators, Chiquita is implementing numerous, unprecedented measures to minimize the spread of the reaction and address any potential impacts from the reaction.

Landfill Gas Collection and Control System

Chiquita's landfill gas collection and control system is designed to minimize fugitive emissions of landfill gas. Horizontal landfill gas collection trenches and vertical landfill gas extraction wells are connected to a central header (pipe) system that conveys landfill gas to the flares, where odorous compounds are converted to harmless byproducts, carbon dioxide and water vapor (see **Figure 2** and **Figure 3**).

Chiquita installed a portable thermal oxidizer ("TOX") at the Landfill to assist the three existing flares with fully combusting the landfill gas from the reaction area, sometimes referred to as the "reaction gas," and as required by the 2023 Stipulated Order. The TOX allows Chiquita to increase its control capacity (i.e., its ability to burn landfill gas to combust constituents, reducing their emission to the atmosphere) on a faster timeline than the timeline for permitting and constructing a new flare. The TOX is also better able than the flares to convert the constituents in the reaction gas to carbon dioxide and water vapor.

Extraction of landfill gas is an important aspect of helping to control the off-site migration of the landfill gas and the subsequent potential for odors reaching a community, and to reduce the spread and heat generation associated with the reaction. Chiquita has expanded its landfill gas collection and control system to address the reaction gas. Since December 6, 2023, in addition to operating a new landfill gas flare and the new TOX, Chiquita has installed over 220 new vertical landfill gas extraction wells. See **Figure 16** and **Figure 17** for the progression of Chiquita's vertical well installations between December 6, 2023 and October 31, 2024. Since December 1, 2023, Chiquita has also installed more than 264,852 linear feet (about 50 miles) of pipe throughout the Landfill. This work is ongoing, and additional wells, pipes, and other control devices (e.g., flares) are being designed and planned for installation in 2025 and 2026.

Figure 16. Map of vertical landfill gas wells installed at the Landfill as of December 6, 2023.

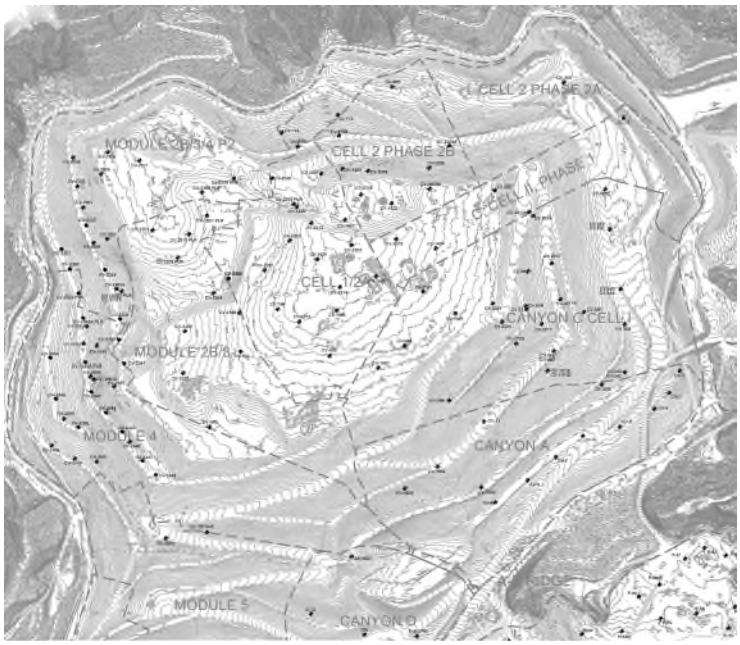


Figure 17. Map of vertical landfill gas wells installed at the Landfill as of October 31, 2024. The green wells are those proposed and in the process of being installed. Chiquita installed over 220 vertical wells between December 6, 2023 and October 31, 2024.

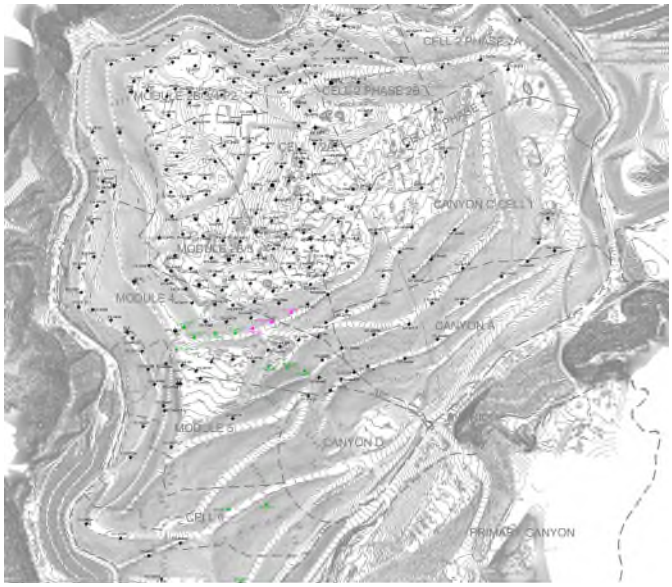
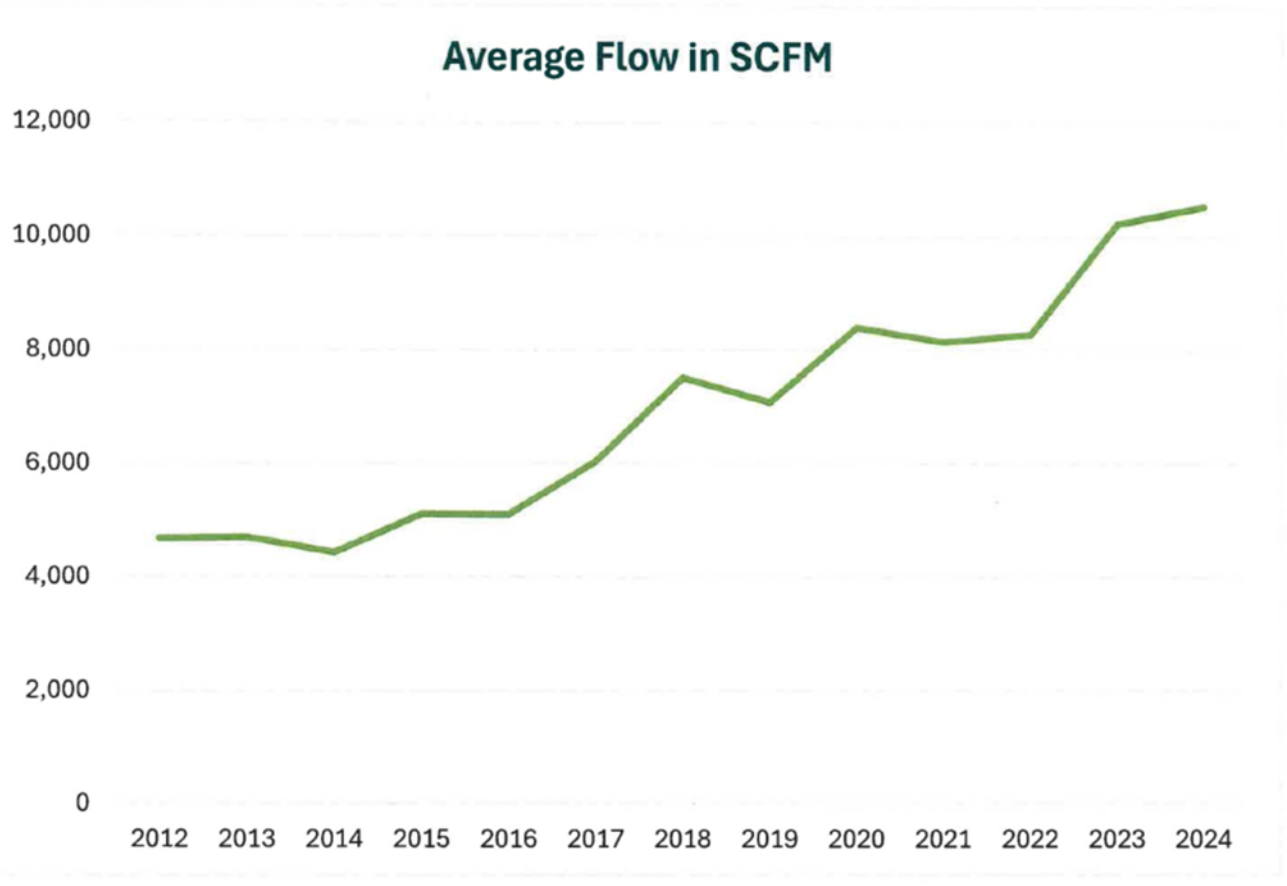


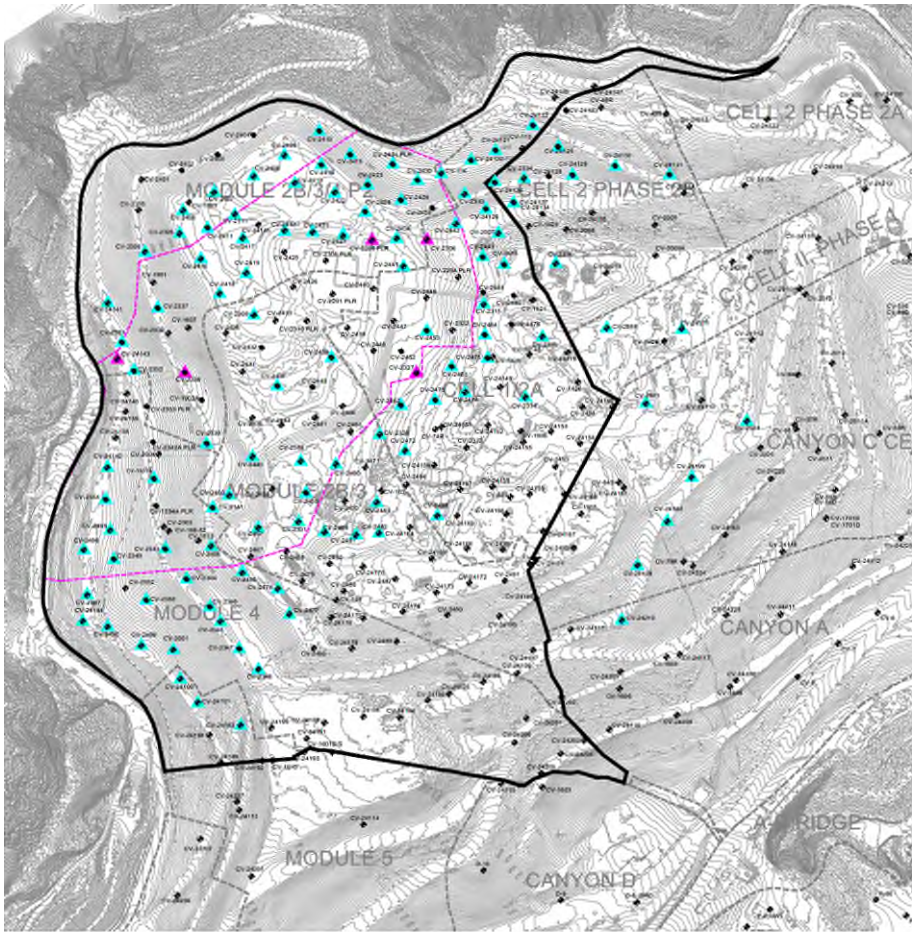
Figure 18 shows the significant increase in landfill gas flow rate (i.e., captured and controlled landfill gas) that has been achieved at the Landfill as a result of the installation of the new flares, thermal oxidizer, and additional vertical landfill gas wells and associated pipes. Since the elevated temperatures associated with the landfill reaction were observed, the flow rate has increased from roughly 8,000 standard cubic feet per minute ("scfm") to approximately 13,500 scfm, an increase of approximately 69%, due to continued system modifications and improvements. This increased flow rate translates to the collection and control of about 5,500 scfm of additional landfill gas that could potentially be released to the atmosphere.

Figure 18. Graph of Chiquita's landfill gas flow rate from 2012 to 2024. Note that the average flow rate in 2024 so far is 10,500 scfm, but the current flow rate as of October 31, 2024 has reached approximately 13,500 scfm.



Extracting landfill leachate is another key measure for reducing the spread and impact of landfill reactions and removing perched leachate from the landfill. Chiquita is installing dewatering pumps in its vertical landfill gas wells to pump perched leachate out of the Landfill. As of October 31, 2024, Chiquita has installed and began operating pumps in over 110 wells, and this number continues to increase (see **Figure 19**). Chiquita extracted nearly 50 million gallons of leachate between January 1 and October 31, 2024.

Figure 19. Map of vertical landfill gas wells with dewatering pumps. The solid black line is the reaction area as defined by South Coast AQMD under the 2023 Stipulated Order, and the dashed magenta line is the data-driven reaction area. The blue triangles mark wells with pumps operating as of October 2024, whereas the pink triangles mark wells with pumps that have been installed but are not yet in operation. Note that once a pump is installed, piping infrastructure must also be installed to route the pumped leachate to tanks.

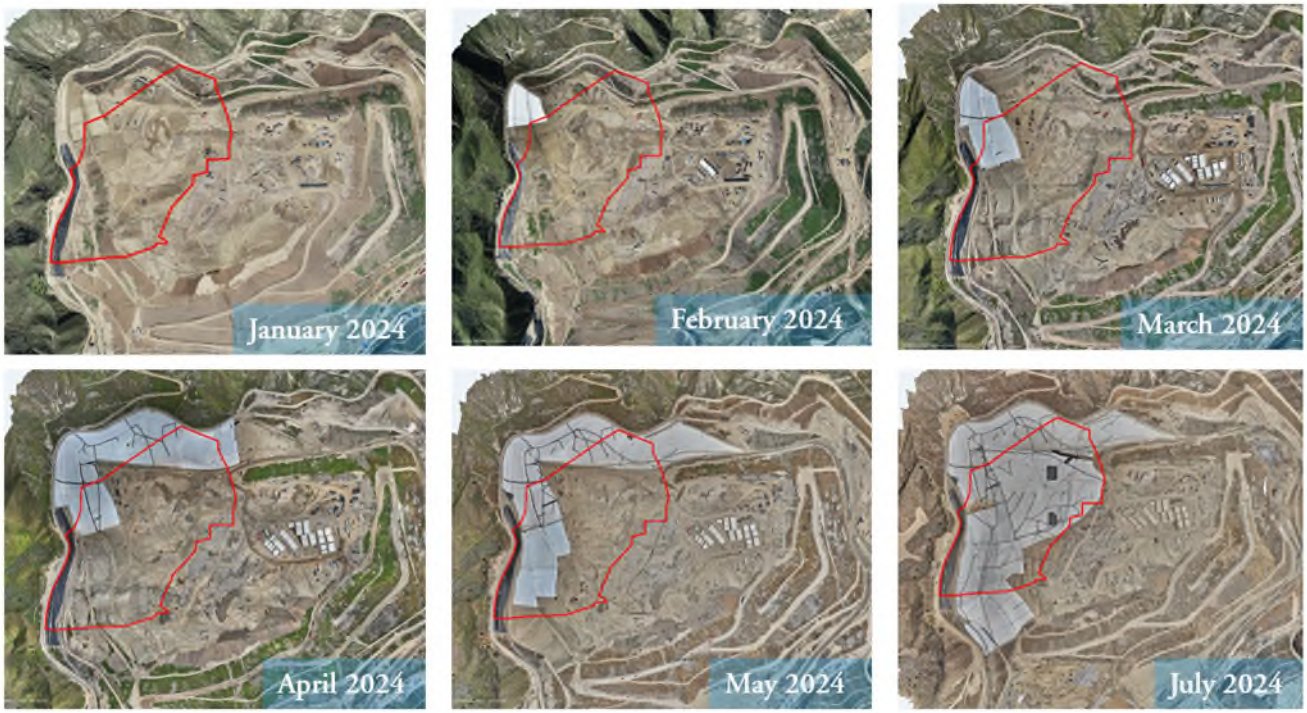


Geosynthetic Cover

The geosynthetic cover, sometimes referred to as the geomembrane cap, is a 30-mil (0.030 inches) HDPE (i.e., plastic) liner that is being installed over the west and north slopes and the top deck of the reaction area (see **Figure 20**). Surface landfill gas collectors (perforated pipes that lay flat on the ground) are being installed under the cover to allow for gas collection between the surface of the landfill and the geosynthetic cover. Soil is being placed in certain areas on top of the geosynthetic cover to protect it and allow for vehicles to access the area. A series of storm drains and lined ditches will control surface drainage from the cover and direct stormwater to existing control structures.

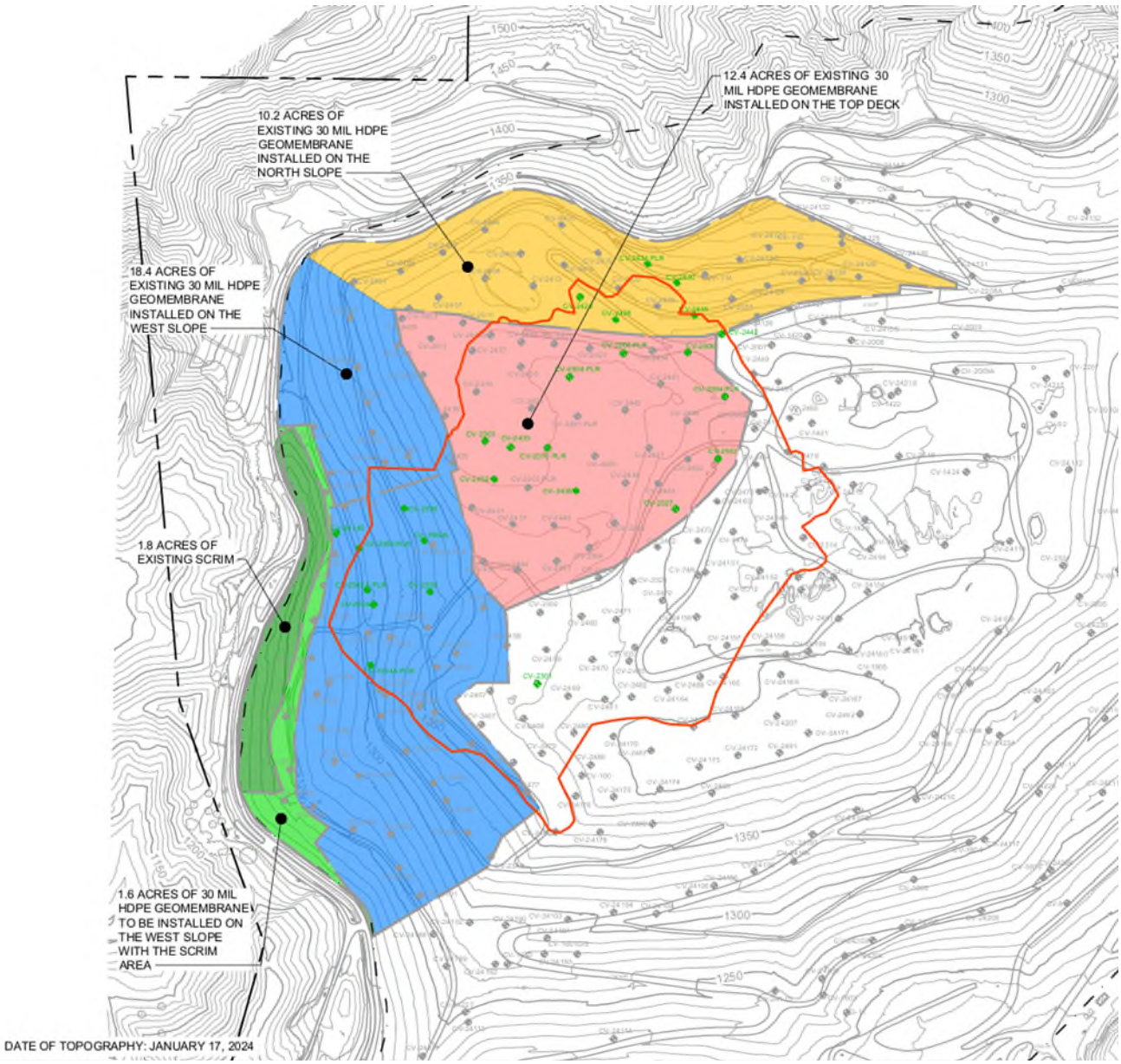
This additional cover is required by the LEA Compliance Order, the 2023 Stipulated Order, and the UAO. Chiquita expects this geosynthetic cover will increase the effectiveness of the landfill gas collection system and thus help control any potential odors by limiting surface emissions from the Landfill.

Figure 20. Aerial images of the progression of Chiquita's installation of the geosynthetic cover from January to July 2024. The red line illustrates the approximate boundaries of the data-driven reaction area.



Work to install the geosynthetic cover began in December 2023. As of October 31, 2024, Chiquita had installed approximately 41 acres of geosynthetic cover (see **Figure 4**), and approximately 3.4 additional acres remained to be covered on the west slope of the Landfill (see **Figure 21**). Chiquita estimates that the remaining 3.4 acres will be covered by January 2025. The west slope toe drain must be completed before installation of those remaining acres because the cover would cut off access to the installation of the toe drain.

Figure 21. Drawing of the phased installation of the geosynthetic cover. The green areas are the portions that remained to be installed as of the end of October 2024.



The West Toe Drain Installation

This project will facilitate leachate drainage and additional leachate collection along the west slope of the Landfill, improve gas collection by completing the installation of the geosynthetic cover, and allow for stormwater collected on top of the liner to flow directly into the concrete stormwater channel.

Before the start of this project, approximately 1.8 acres of the west slope were covered by a temporary plastic cover, also referred to as the scrim, the black cover shown in **Figure 22** below. This cover and the drainage features under it were installed in about August 2023. Due to the amount of sediment in the liquids running through these drainage features, Chiquita decided to replace these drainage features at the same time as its installation of the upgraded system.

Figure 22. Aerial image of the temporary plastic cover (scrim) on the west slope of the Landfill (December 2023).

This project includes the installation of a new toe drain and secondary drain and the replacement of the temporary plastic cover with the geosynthetic cover discussed above (see **Figure 23** and **Figure 24**). A toe drain is a system that collects and routes water or leachate from a landfill's slope to a designated location for removal. To install the permanent toe drain and liner, Chiquita expected to excavate across an area measuring approximately 55,000 square feet (representing a volume of 14,000 cubic yards of soil and buried waste).

Chiquita began this project on August 8, 2024, after months of close coordination with its regulators, including the RMAC and South Coast AQMD. Prior to beginning this work, Chiquita collaborated with its regulators to refine the project's work plan and develop odor mitigation measures for this work. Chiquita is conducting this work in compliance with its West Toe Drain Installation Work Plan, a dedicated health and safety plan, and the 2023 Stipulated Order.

Figure 23. Drawing of the west toe drain installation project area.

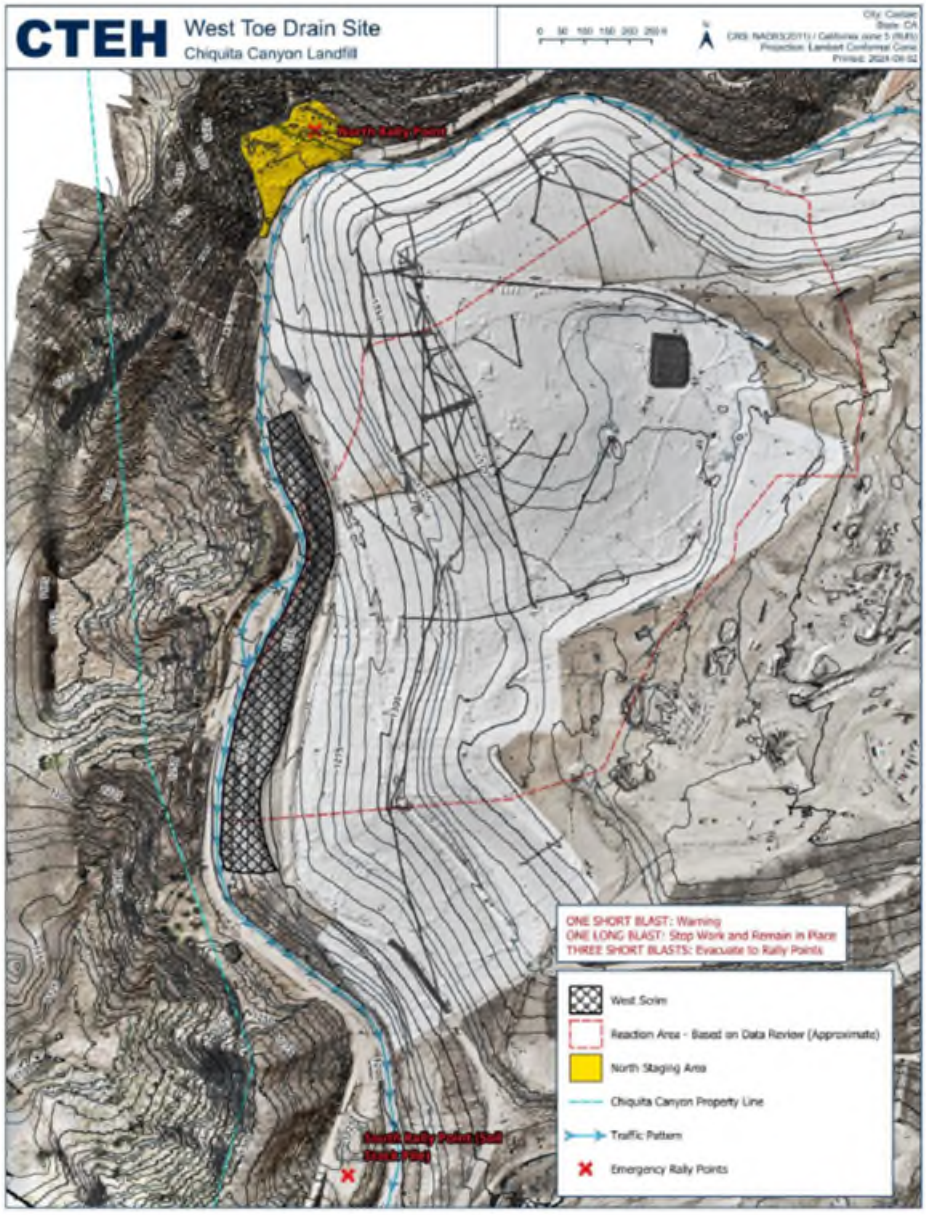


Figure 24. Images of the west slope post-excavation and installation of the new toe drain.

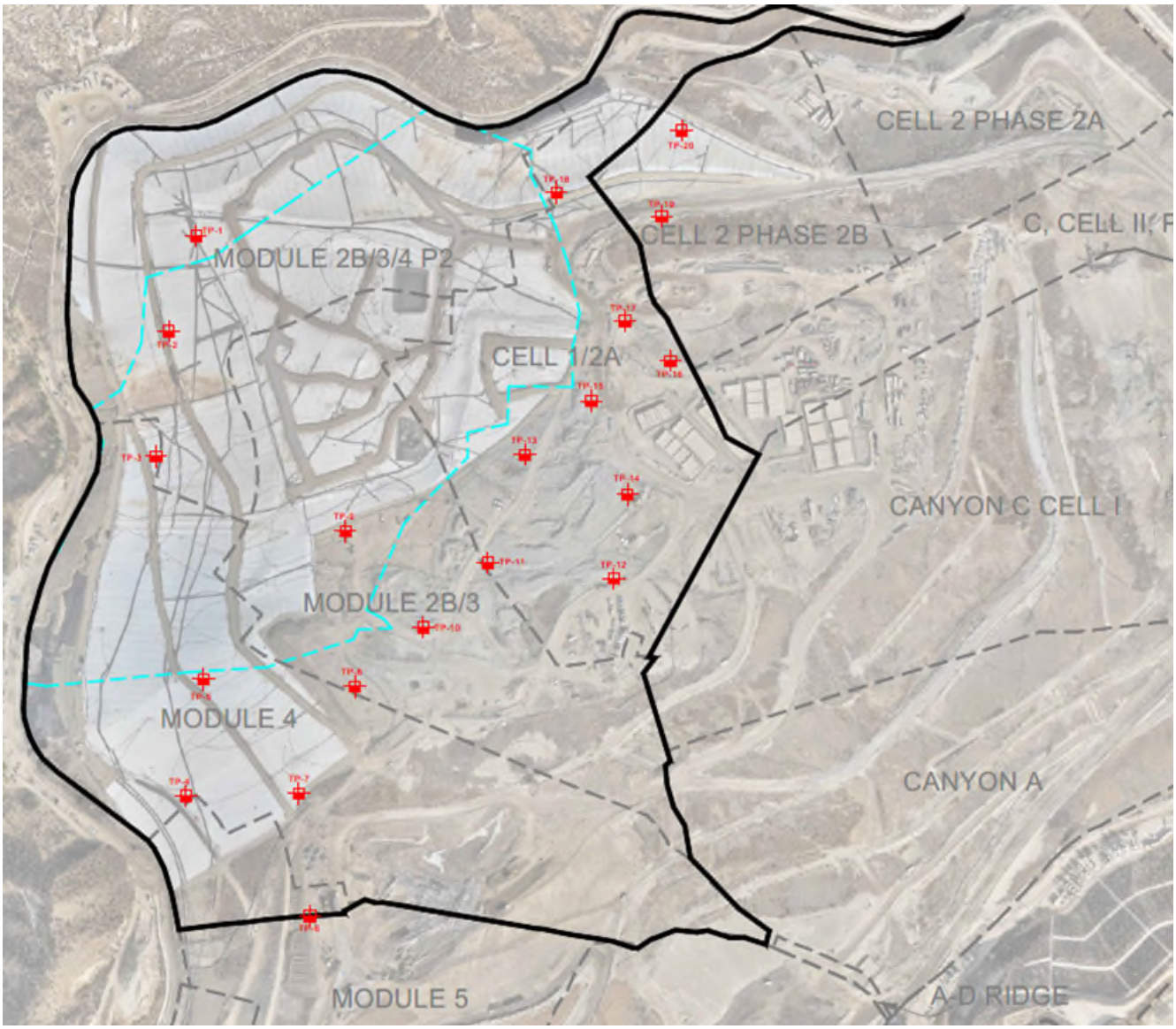
Chiquita completed the initial excavation portion of this project on October 24, 2024, and anticipated at that time that the installation of the new toe drain would be completed in November. Chiquita completed the excavation across an area measuring approximately 32,659 square feet (representing a volume of 7,329 cubic yards of soil and buried waste).

Chiquita provides weekly updates on this project to South Coast AQMD, Chiquita's other regulators, the Castaic Area Town Council, Chiquita's Community Advisory Committee, the Val Verde Civic Association, and the Castaic Union School District.

Waste Temperature Monitoring Probes

A critical measurement used by Chiquita's experts in assessing the reaction is the temperature of waste in and around the reaction area. In collaboration with the LEA, Chiquita installed waste temperature monitoring probes ("TMPs" or "probes") in and around the reaction area to monitor waste temperatures at varying depths within the landfill waste mass. Chiquita initially installed twenty (20) probes and is working on the installation of an additional fifteen (15) probes. See **Figure 25**, showing the locations of the initial twenty (20) probes.

Figure 25. Map of the initial twenty (20) waste temperature monitoring probes that Chiquita installed in and around the data-driven reaction area (indicated by the dashed blue line).



Chiquita's Regular Reporting and Document Availability is Extensive

Chiquita submits numerous updates and reports to its regulators pursuant to its various enforcement documents. To illustrate, under the 2023 Stipulated Order, Chiquita submits approximately nine weekly reports, six monthly reports, four quarterly reports, and three semi-annual reports. Further, under the LEA Compliance Order, Chiquita submits five weekly reports, three monthly reports, and one quarterly report. The majority of these reports are posted on Chiquita's Odor Mitigation website: https://chiquitacanyon.com/odor-mitigation/. To demonstrate the voluminous scope of information submitted to regulators on a regular basis, some of these updates and reports are summarized below by submittal frequency. This is not a comprehensive list of updates or reports, and it does not include the substantial number of one-time updates or reports required pursuant to Chiquita's enforcement documents.

Weekly and Bi-Weekly

1. EPA Task Force Updates – weekly summary of relevant site operational activities, regulatory communications, public meetings, and reports submitted to regulators
2. Updates on the West Toe Drain Project – weekly summary of the status of the west toe drain installation and related excavation
3. Leachate Inspection Reports – weekly compilation of the twice-daily leachate seep inspection logs
4. Cover Issue Reports – weekly summary of issues observed with the landfill soil cover and geosynthetic cover, including measures taken to address any issues observed; these reports also include settlement data and observations related to slope stability
5. Leachate Tank Reports – weekly summary of leachate tank counts and leachate production and treatment data
6. Methane Monitoring Data Results – weekly results of methane concentration measurements at two perimeter monitoring wells that have exhibited methane exceedances
7. Temperature Monitoring Probe Updates – weekly summary of the data recorded by the in-situ waste temperature monitoring probes
8. Updates on the Installation of the Geosynthetic Cover – weekly summary of the status of the installation of the geosynthetic cover
9. Well Drilling Updates – weekly summary of well drilling activities from the past week and those anticipated for the upcoming week
10. Leachate Dewatering Pump Updates – weekly summary of pump installation activities from the past week
11. CUPA Updates – bi-weekly update on Chiquita's application for Conditional Authorization

Monthly

12. South Coast AQMD Condition 8 Reports – monthly report summarizing a wide variety of information collected under the 2023 Stipulated Order, including landfill gas temperature and

composition data, landfill surface emissions data, liquid data, improvements made to the landfill gas and liquid systems, excavation updates, and liquid management, storage, and treatment data

13. LEA Compliance Order Milestones 1A-3 and 5 Reports – monthly report summarizing a variety of information collected under the LEA Compliance Order, including the reaction area boundaries, weekly temperature monitoring probe data, and landfill gas data
14. Reaction Area Boundary Determinations – monthly evaluation of the geographical boundaries of the reaction area
15. Leachate Sampling Reports – monthly report on leachate sampling data collected from representative locations
16. Community Air Monitoring Program Reports – monthly summary of all community air monitoring performed in the prior month
17. Enhanced Air Monitoring Program Reports – monthly summary of all enhanced community air monitoring performed in the prior month
18. CUP Condition 69 Reports – monthly summary of all notices of violations related to air quality received over the past 30 days and the actions Chiquita is taking to address the alleged violations
19. Integrated Waste Management Task Force Updates – monthly report on all notices of violation received over the past month and the actions Chiquita is taking to address the alleged violations, as well as updates on Chiquita's implementation of the 2023 Stipulated Order, the LEA Compliance Order, and the UAO
20. UAO Progress Reports – monthly progress report describing significant developments related to UAO compliance obligations during the previous month; Chiquita will begin submitting these reports once the Master Work Plan required by the UAO is approved by EPA

Quarterly

21. Community Air Monitoring Reports – quarterly summary of all community air monitoring performed in the prior quarter
22. Enhanced Air Monitoring Reports – quarterly summary of all enhanced community air monitoring performed in the prior quarter
23. Groundwater Monitoring Reports – quarterly assessment of sampling results from the new groundwater monitoring wells
24. Liner Integrity Reports – quarterly report on the integrity of the bottom liner and leachate collection system within the reaction area

Semi-Annually and Annually

25. Surface Water Monitoring Reports – summary of all surface water data collected
26. Annual Compliance Reports – summary to the Los Angeles County Department of Regional Planning on all landfill operations
27. Annual Community Air Monitoring Reports – summary of community air monitoring data and analysis from the prior year
28. Other Air Monitoring Reports – summary of air emissions data collected and reported

Slope Stability Analyses Illustrate Potential Stability Impacts of the Reaction are Localized

Chiquita's stability consultant, a California Certified Engineering Geologist who specializes in landfill stability, has evaluated and continues to evaluate the stability of the western and south-facing slopes of the Landfill. The purpose of these analyses is to better understand the impacts that the reaction and its increased production of landfill gas and leachate may have had on slope stability in and around the reaction area. When the initial analyses were performed, the range in possible variation of important stability analysis parameters within the reaction area was high, and the analyses compensated for this variation with conservative assumptions. Since the initial analyses were completed, new site data have been collected that reduce the uncertainty associated with this variation, and subsequent analyses have validated the findings of the previous western and southern slope analyses that potential stability impacts of the reaction are localized.

Western Slope Analyses

The analyses of the western slope found that the potential stability impacts of the reaction are localized and do not affect the entire western slope of the Landfill. Principal conclusions included:

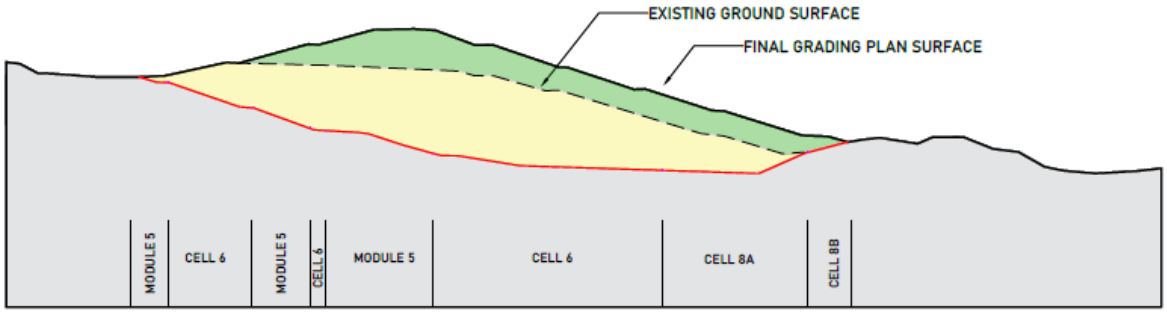
- While the western slope had been affected by reaction-related lateral (sideways) movement, there is no evidence that the Landfill's bottom liner system has been directly affected by such movement.
- Slope movement sufficient to impact the Landfill's bottom liner is unlikely.
- Lowering leachate levels across the Landfill will further increase the stability of the slope.

South-Facing Slope Analyses

Chiquita's stability consultant also performed several evaluations of the stability of the south-facing, unbuttressed slope of the Landfill that is underlain by Modules 4 and 5 and Cells 6 and 8 (see **Figure 1** for a map of these modules and cells). These evaluations found that the reaction had no effect on the stability of the south-facing slope. In order to be conservative, these analyses assumed that the reaction expanded to the southern end of Module 4—which it has not—and incorporated current leachate and landfill information as well as the regulators' recommended waste strength properties.

The south-facing slope stability analyses also found that the placement of waste in Cell 8B would buttress (i.e., strengthen) the existing slope (see **Figure 26**). This waste placement would increase the safety factor of the Cell 8 area by about 19 percent (from about 1.6 to about 1.9) in the most critical direction of potential sliding and increase the seismic stability of this portion of the Landfill.

Figure 26. Diagram of a cross-section of the Landfill's south slope, emphasizing how placement of waste in Cell 8B would support the existing waste fill slope.



These results continue to show that the southern slope of the Landfill meets both the static and seismic stability criteria specified in 27 CCR 21750(f)(5) and the Landfill's Waste Discharge Requirements ("WDRs").

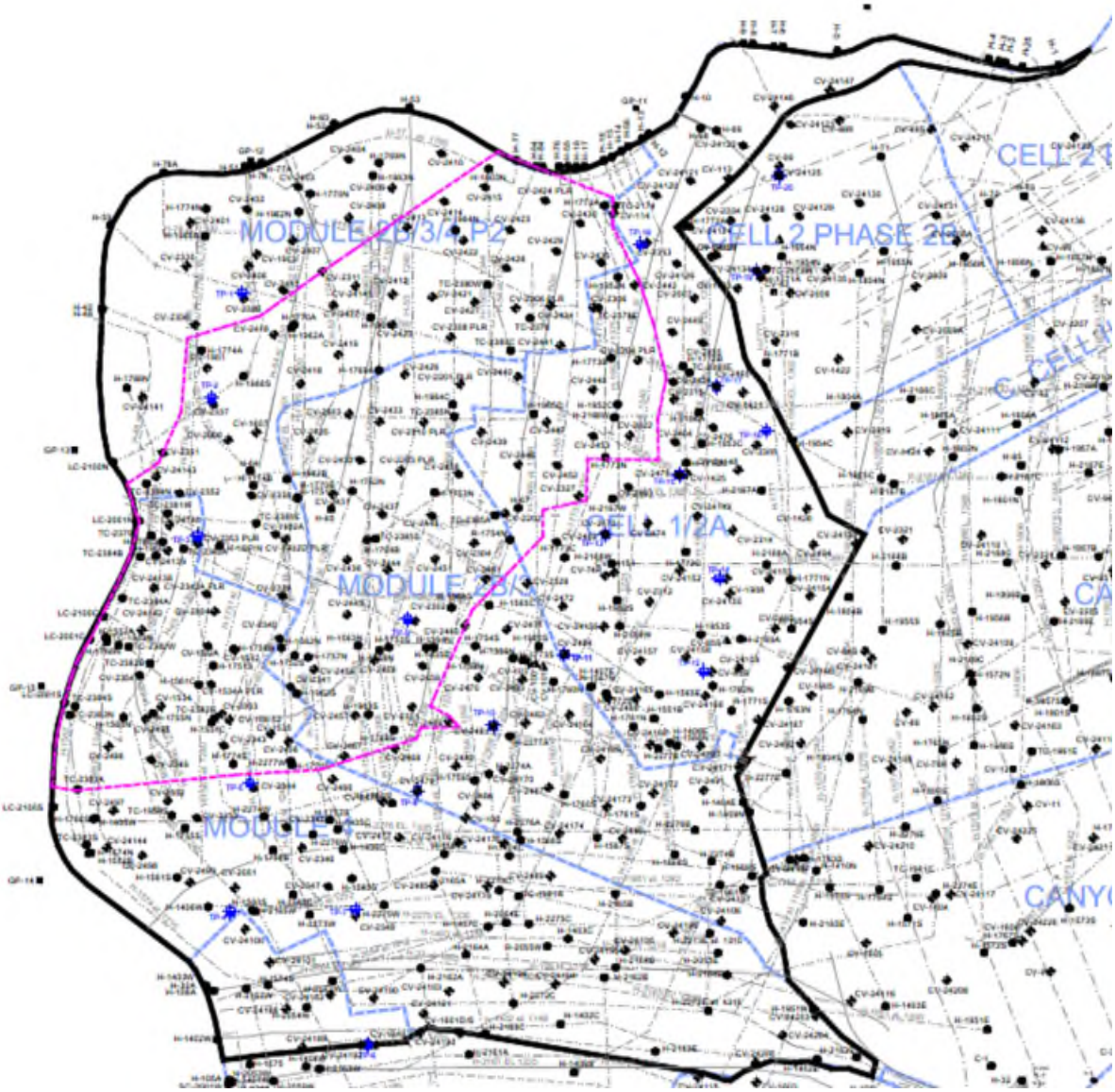
Data Demonstrate Chiquita's Progress in Addressing the Reaction

Chiquita regularly measures and tracks a variety of data to assess whether the reaction area is expanding, contracting, or staying the same. The data consistently demonstrate that the reaction area has neither expanded in size nor spread to any new landfill cells. The data, which are assessed on an ongoing basis and summarized on a monthly basis by a Reaction Committee of experts formed under the 2023 Stipulated Order, include the following:

- Landfill gas wellhead temperatures in excess of approximately 160°F;
- Poor gas quality (defined as methane levels of less than 30%) in conjunction with methane-to-carbon dioxide ratios of less than 1.0;
- The concentration of hydrogen in the landfill gas measured greater than 2% by volume;
- Accelerated settlement of the landfill surface, defined as approximately 18 inches or greater within a 60-day period, and cracks in landfill cover. This corresponds to a strain value (i.e., settlement rate) rate of 3% per year for areas with a 300-foot waste column depth;
- First-hand observations of landfill or consultant field personnel related to atypical excess leachate quantities;
- Observations of subsurface waste conditions and characteristics as noted on borehole drilling logs for recently installed landfill gas wells; and
- Subsurface temperatures recorded by the waste temperature probes.

The Reaction Committee's monthly determinations evaluating the geographical boundaries of the reaction area are submitted to South Coast AQMD and posted on Chiquita's Odor Mitigation website. While there have been some slight fluctuations in the boundaries of the reaction area, the Reaction Committee agrees that the boundaries have remained stable. **Figure 27** depicts the boundaries of the reaction area as determined by the Reaction Committee using data from September 2024.

Figure 27. Map of the reaction area as evaluated by the Reaction Committee using September 2024 data. The solid black line is the reaction area as defined by South Coast AQMD under the 2023 Stipulated Order. The dashed magenta line is the data-driven reaction area.



Along with Chiquita's expansion of operational infrastructure, Chiquita has also greatly expanded its data collection capabilities. The gathering and analysis of this additional data over the coming months, as the entire site reaches equilibrium with the new infrastructure, will demonstrate the effectiveness of Chiquita's efforts and inform priorities for additional infrastructure installation.

Landfill Gas Data

Chiquita uses the landfill gas data it collects to assist in design and operations and to monitor the health of the Landfill. The data demonstrate that the reaction has remained confined to the northwest corner of the Landfill.

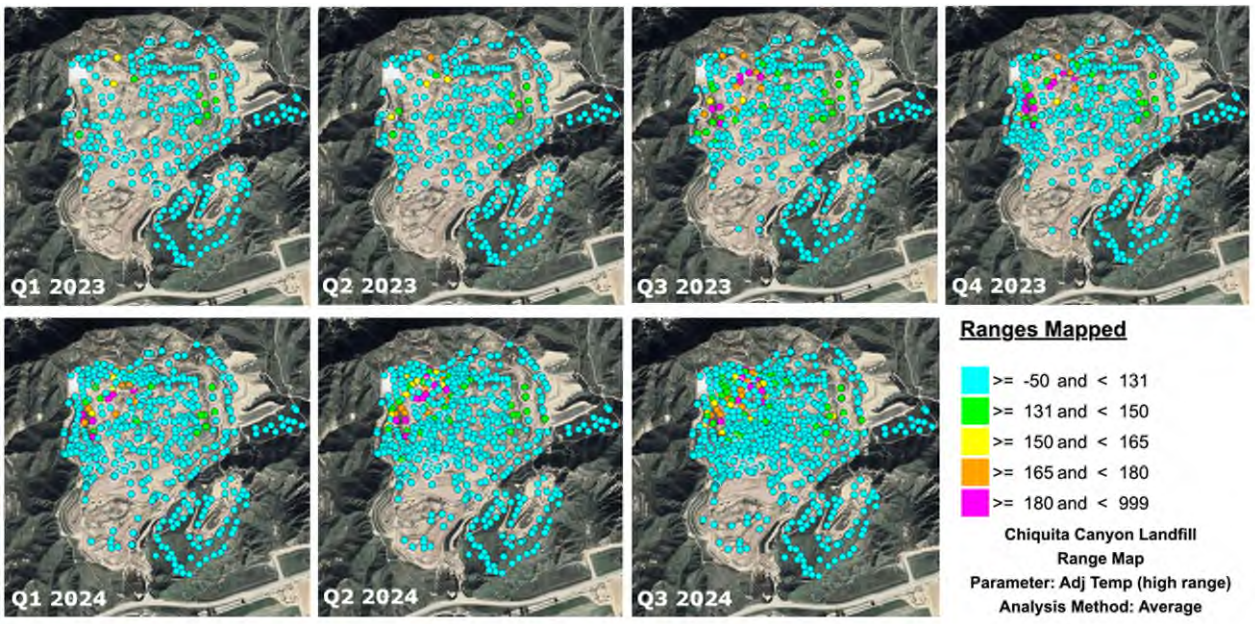
Landfill Gas Wellhead Temperatures

Landfill gas temperature is one key metric both Chiquita and the Reaction Committee use to assess the reaction area. Research and practical experience indicate that anaerobic decomposition—a process where microorganisms break down organic materials in the absence of oxygen to produce landfill gas—typically becomes inhibited at temperatures in excess of 150°F. For example, methane generation in a sample excavated from a landfill exhibited 37 and 75% inhibition at 145 and 154 °F, respectively.[11] Chiquita has defined landfill gas wellhead temperatures in excess of approximately 160°F as a potential indicator of heat generation and accumulation that could be associated with the reaction and warrants more detailed evaluation and analysis.[12]

Figure 28 shows the progression of Chiquita's landfill gas wellhead temperatures from the beginning of 2023 through 2024. These maps demonstrate that while some wells in the northwest corner of the Landfill steadily increased in temperature, and are now above that 160°F threshold, these increased temperatures have remained confined to that area of the Landfill. Wellhead temperature is one of several data points supporting the Reaction Committee's determination that the reaction has not spread geographically to new Landfill cells or modules.

[11] See S. Schupp et al., *Evaluation of the Temperature Range for Biological Activity in Landfills Experiencing Elevated Temperatures*, 1 ACS ES&T Eng. 2, p. 216-27 (Oct. 1, 2020), a*vailable from* http://dx.doi.org/10.1021/acsestengg.0c00064.
[12] *Id.*

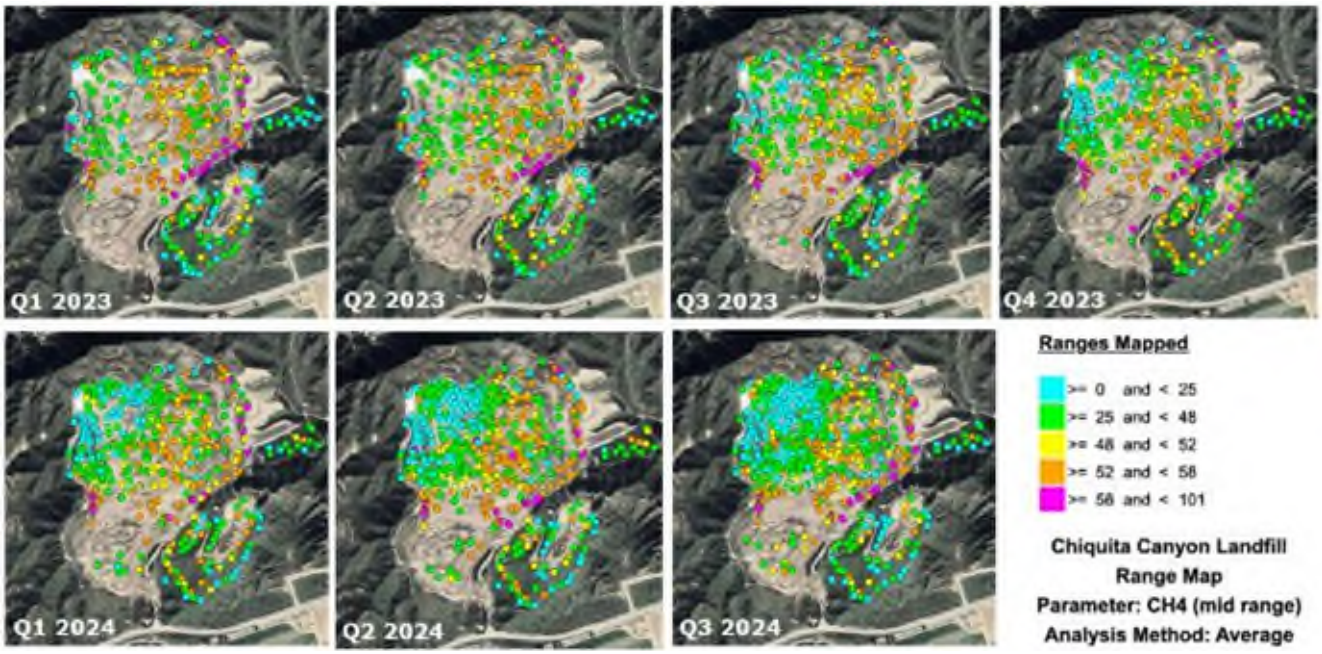
Figure 28. Quarterly maps of landfill gas wellhead temperatures from Q1 2023 (top left) through Q3 2024 (bottom right). This progression shows an increase in temperatures above the 160°F threshold that is confined to the northwest corner of the Landfill.



Landfill Gas Quality

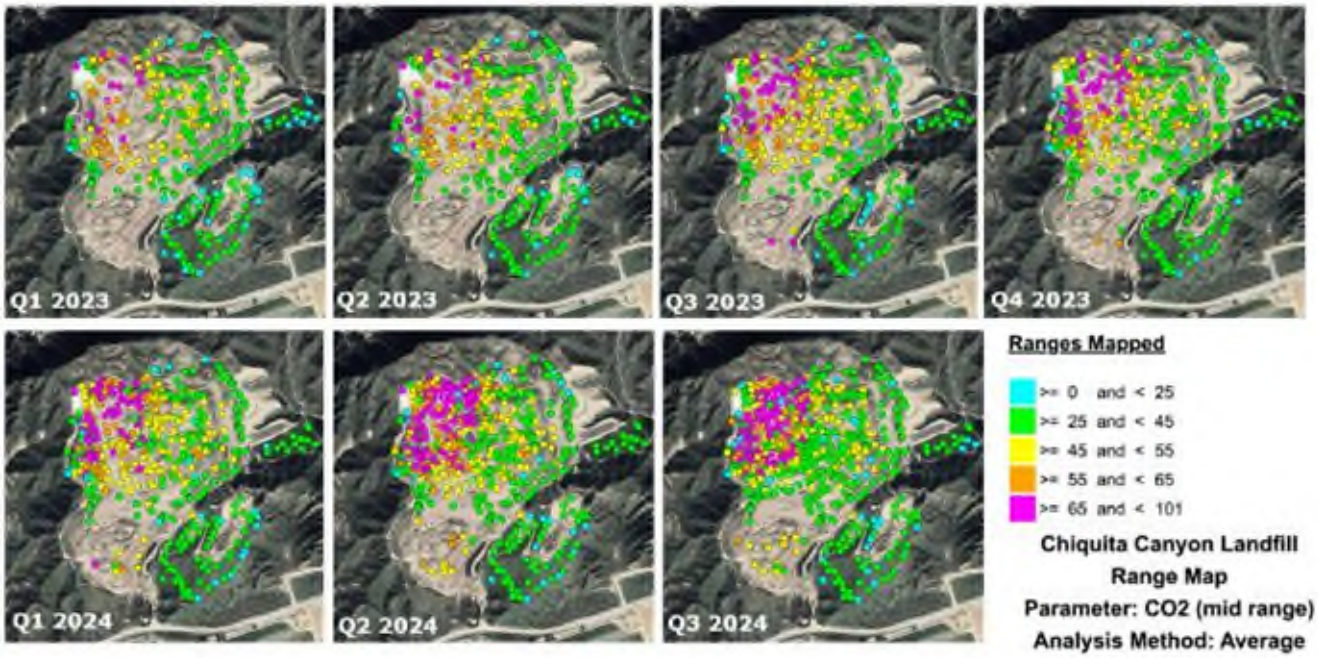
Landfills typically are also evaluated based on gas quality, including methane (CH_4) content. While there are a number of factors that can lower methane levels, the Reaction Committee has opted to consider methane concentrations less than 30% to be a potential indicator of gas composition that could be attributed to the reaction and warrants more detailed evaluation and analysis. As illustrated in **Figure 29**, the blue and green points where methane is less than 30% are tightly clustered in the northwest corner of the Landfill and have remained there. This supports the Reaction Committee's determination that the reaction is not expanding geographically to new Landfill cells or modules.

Figure 29. Quarterly maps of methane percentages from Q1 2023 (top left) through Q3 2024 (bottom right). This progression shows that the low methane percentages indicative of a landfill reaction have been primarily confined to the northwest corner of the Landfill.



Increases in carbon dioxide (CO_2) concentrations while methane concentrations decrease is another potential indicator of gas composition that could be attributed to the reaction and warrant further evaluation and analysis. The maps in **Figure 30** show that the orange and pink points where carbon dioxide is elevated are also tightly clustered in the northwest corner of the Landfill and have remained there. This further supports the Reaction Committee's determination that the reaction is not expanding geographically to new Landfill cells or modules.

Figure 30. Quarterly maps of carbon dioxide percentages from Q1 2023 (top left) through Q3 2024 (bottom right). This progression shows that the elevated carbon dioxide percentages indicative of a landfill reaction have been confined to the northwest corner of the Landfill.



Settlement and Slope Stability Data

Chiquita conducts daily monitoring and tracking of the soil cover for fissures and tension cracks and of the geosynthetic-covered area for damage or evidence of possible instability. Chiquita's inspection logs show that Chiquita's efforts to diligently locate and repair any observed cracks or fissures are helping to maintain the integrity of the landfill cover.

Chiquita's slope stability consultant has evaluated these inspection logs on a monthly basis since May 2024. Chiquita's consultant determined that all of the cracks and fissures identified in the logs were attributable to settlement as opposed to slope instability in part because of their orientations, locations, and patterns of cracking. Most of the fissures and tension cracks identified between April and September 2024, for example, were located on the top deck of the Landfill. The consultant also performed multiple site visits, walking traverses of the reaction area and the south-facing slope beginning in 2022, specifically looking for evidence of potential instability. Neither Chiquita nor the consultant have observed or found cracking or other evidence in the soil cover areas or the areas covered by the geosynthetic cover that are indicative of slope instability or failure or of potential slope instability or failure.

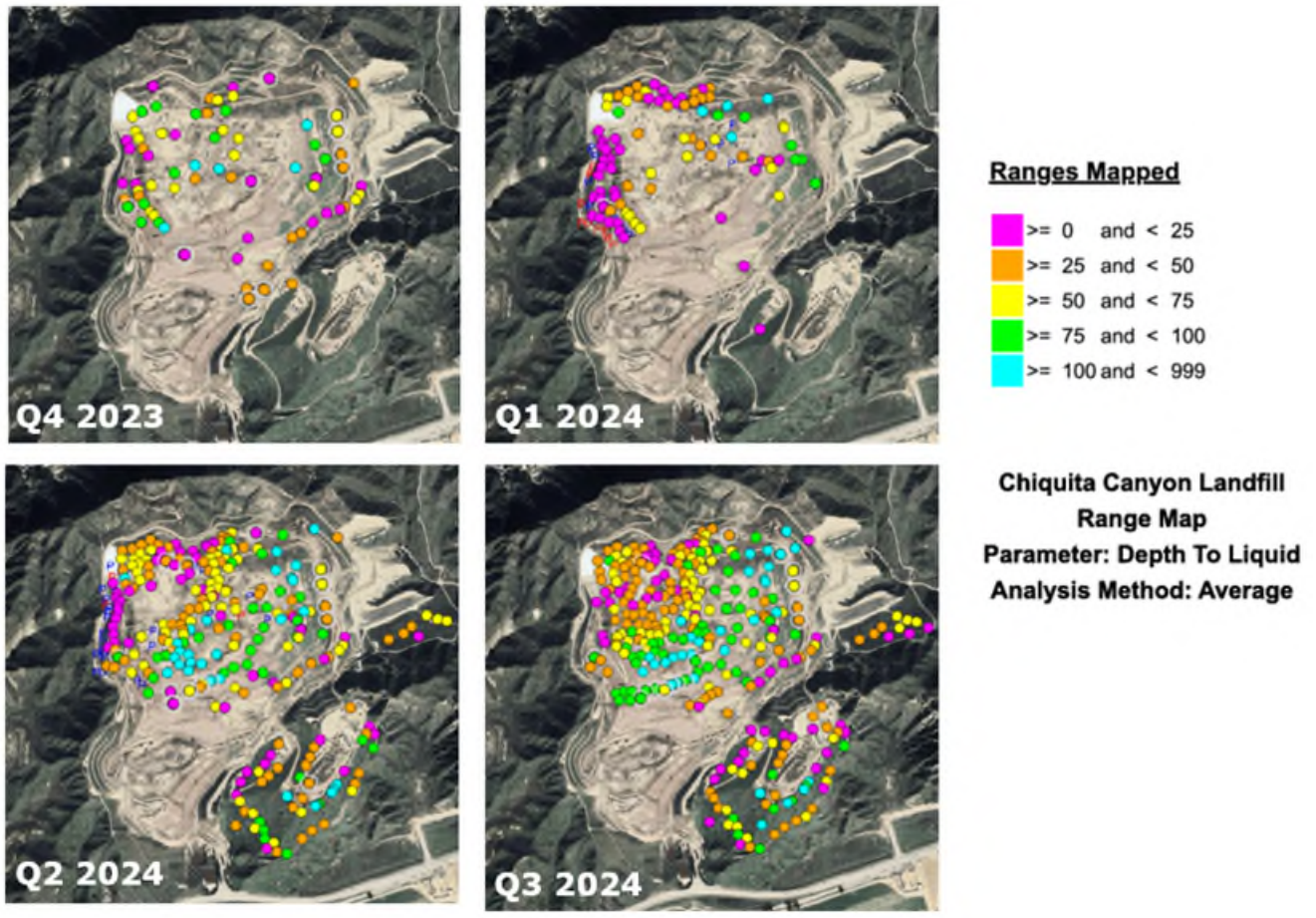
Chiquita's consultant further determined that his and Chiquita's observations of the soil cover areas show that the frequency and extent of cracking and fissures have decreased in recent months, which further supports that the cracking is not related to slope instability.

Liquid Data

Liquid data from some of the vertical landfill gas extraction wells suggest that Chiquita's dewatering efforts are beginning to lower liquid levels in the reaction area. Data from the western slope of the reaction area, for example, show that liquid levels are beginning to decrease in that area (see **Figure 31**). This suggests that Chiquita's dewatering efforts are having a positive impact.

Chiquita has made substantial infrastructure improvements (e.g., the new wells and pumps) at the Landfill. It is important to allow time for the impacts of such improvements to be fully realized before installing additional infrastructure beyond that which is currently planned. As the current infrastructure continues to remove liquids to the depths of the wells installed in 2023/2024, this extraction will allow the waste to "dry out". This "drying" of the waste is needed to allow the next phase of wells to be installed to greater depths, and accordingly to allow for the removal of liquids from greater depths, as the "drying" will allow for the use of conventional landfill drilling techniques.

Figure 31. Quarterly maps of liquid levels as depth to liquid (feet) from Q4 2023 (top left) through Q3 2024 (bottom right). The liquid level data demonstrate liquid readings in wells after installation and reaching equilibrium.

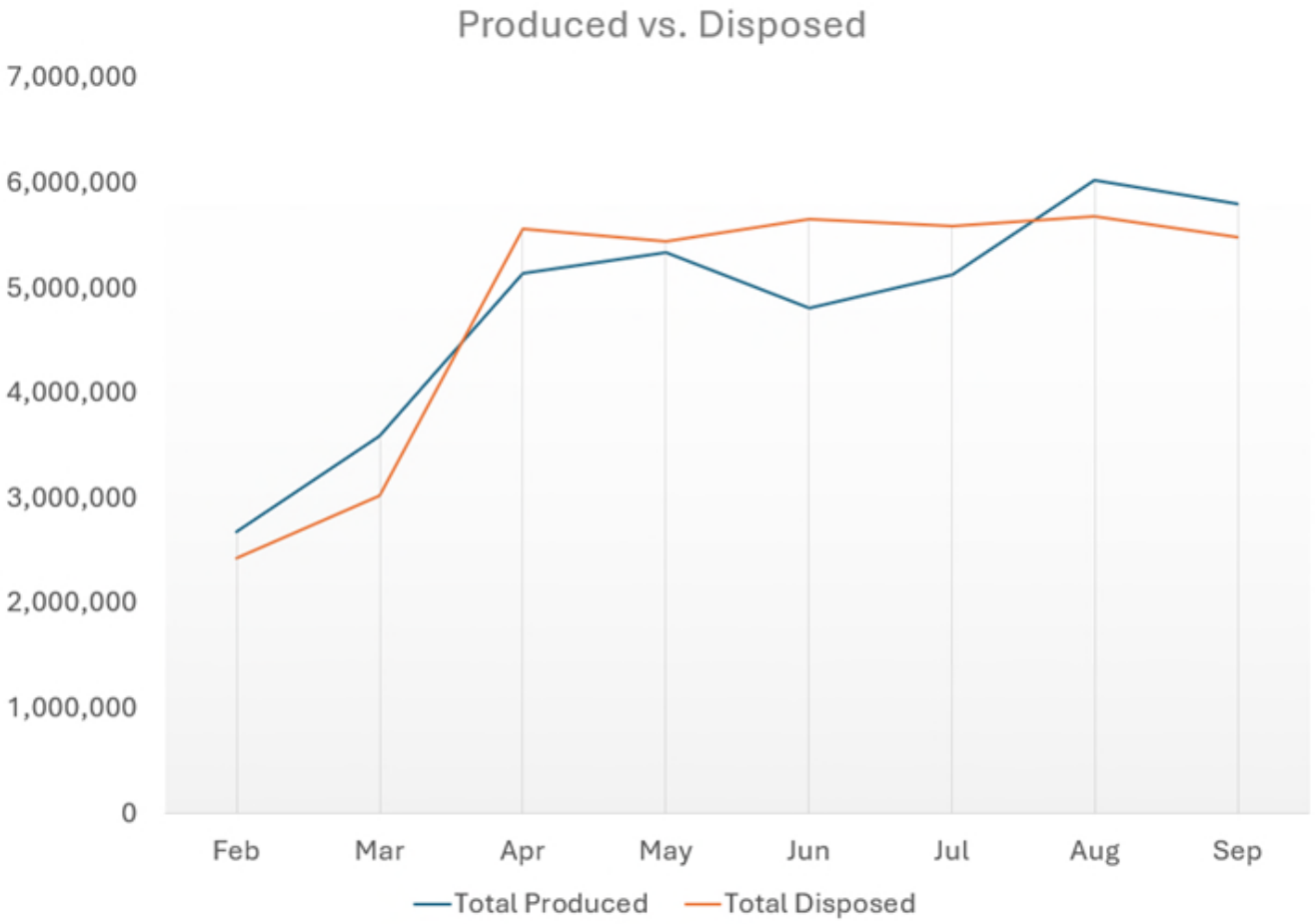


Chiquita has worked diligently to ensure it has sufficient accumulation and disposal capacity for its increased removal of leachate. **Figure 32** is a graph prepared by DTSC based on August 2, 2024 data provided by Chiquita. Leachate collection and disposal data is made available to Chiquita's regulators on an ongoing basis, and summaries of the data are publicly available on Chiquita's website (https://chiquitacanyon.com/odor-mitigation/). The orange line illustrates the total volume (gallons per month) of leachate sent to Chiquita's off-site disposal facilities. The blue line illustrates the total volume (gallons per month) of leachate collected from the Landfill.

The volume of leachate shipped off-site for treatment and disposal increased significantly between February and July 2024, which documents Chiquita's efforts to prioritize off-site disposal of the leachate that had been accumulating onsite. In the July/August 2024 timeframe, the graph in **Figure 32** shows that the volume of leachate shipped off-site for disposal remained relatively constant as Chiquita began to test additional

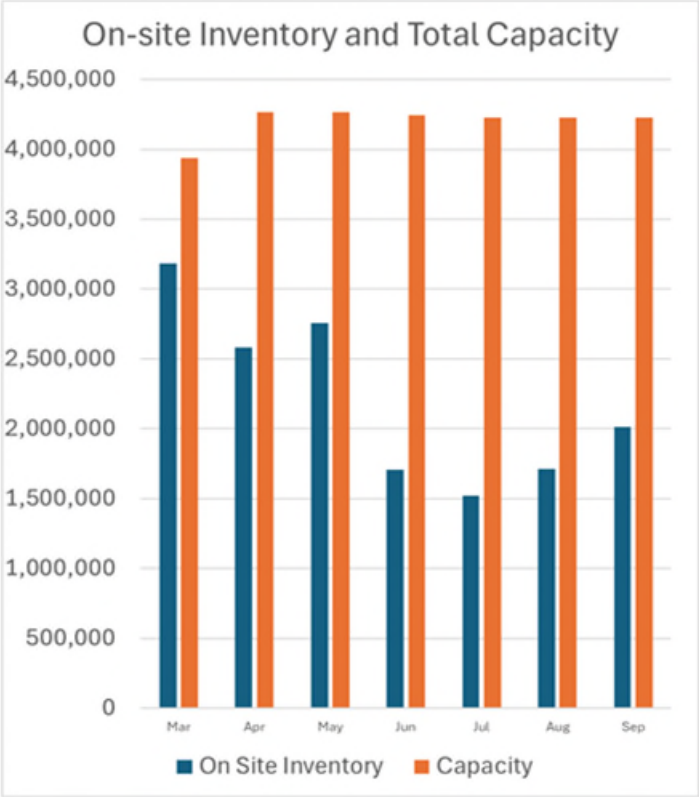
leachate treatment technologies that would allow for Chiquita to ship more leachate off-site to more disposal facilities in the future. Nevertheless, Chiquita maintains adequate accumulation and disposal capacity to properly manage the volume of leachate removed from the Landfill.

Figure 32. Graph of volume of leachate collected from the Landfill (gallons per month) versus volume of leachate disposed at Chiquita's off-site disposal facilities (gallons per month).



As previously discussed, Chiquita's ability to accumulate leachate has significantly increased since 2023, when the high liquid accumulation was first observed and recognized to be a symptom of the reaction. **Figure 33** is another graph prepared by DTSC based on August 2, 2024 data provided by Chiquita. It depicts the volume of leachate (gallons per month) that is currently contained in Chiquita's on-site leachate frac tanks versus the total capacity of Chiquita's tank systems.

Figure 33. Graph of the volume of liquid (gallons per month) accumulated in Chiquita's on-site leachate frac tanks and the total capacity of Chiquita's tank system.



This figure shows that Chiquita has sufficient capacity to accommodate operational fluctuations in the volumes of liquid that Chiquita pumps from the Landfill, as well as to accommodate the expected increase in flows from the completion of dewatering infrastructure installations. It is important to note that Chiquita must maintain some on-site inventory of leachate to account for fluctuations in off-site transportation capacity. Transportation between the Landfill and Chiquita's off-site disposal options is conducted by independent haulers. If Chiquita does not maintain some on-site inventory for haulers that arrive at the Landfill, then Chiquita risks these haulers permanently leaving for other disposal jobs with more certainty. It is also impossible for Chiquita to predict the exact volumes of leachate that will be treated to levels required to meet the permit limits of Chiquita's off-site disposal options at any given time. This is another reason Chiquita must maintain some on-site inventory for its haulers.

Waste Temperature Monitoring Probe Data

Chiquita's waste temperature monitoring probes similarly show that there are no signs that the reaction is expanding. As shown in **Figure 34**, the temperature graph for TP-01, which is located in the northwest corner in close proximity to the boundary of the reaction area (see **Figure 25**), shows relatively consistent temperatures with slight decreases in the last month at all thermocouple depths. This shows that the reaction area is not expanding further to the northwest.

Figure 34. Temperature graph for temperature monitoring probe TP-01.

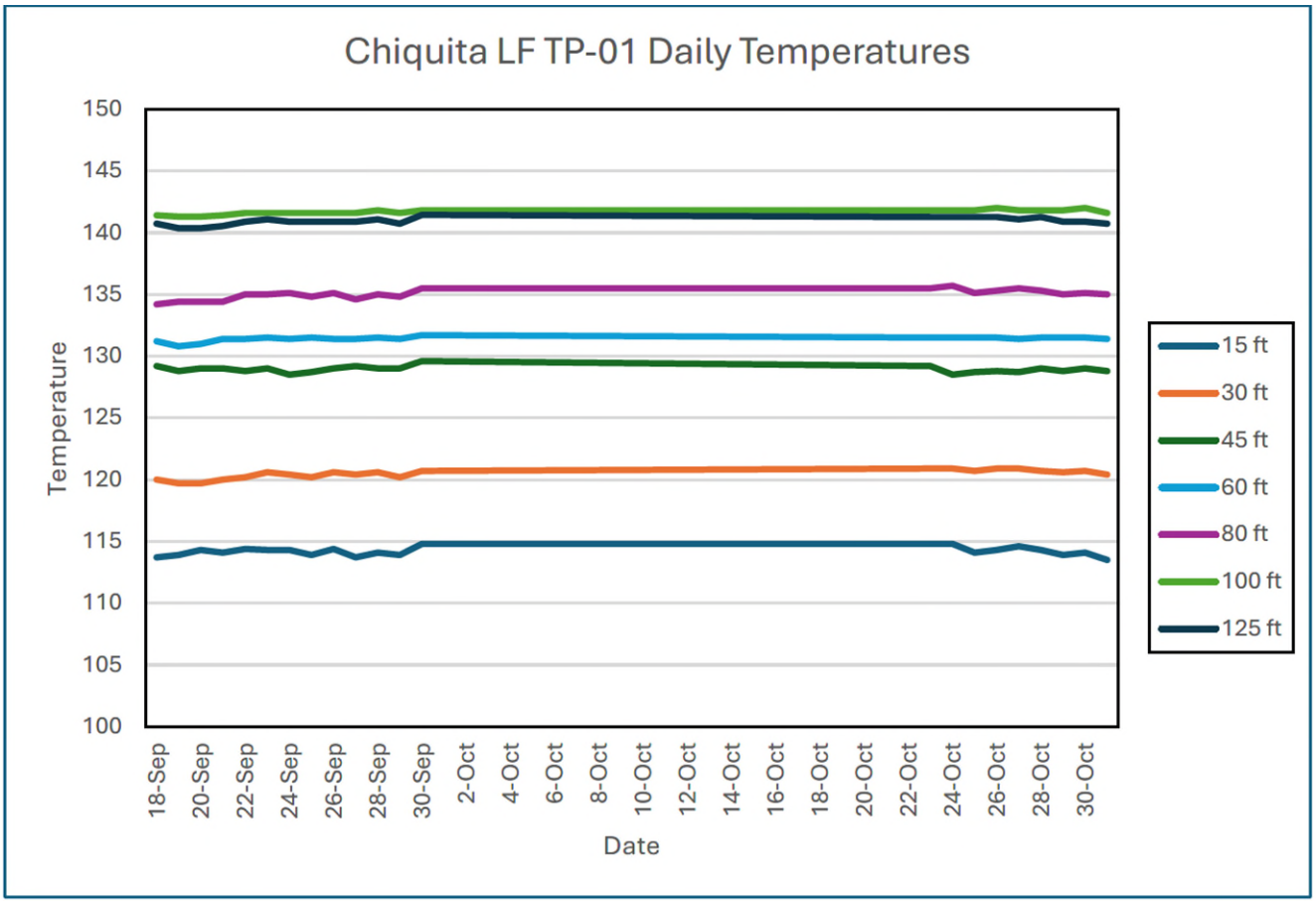
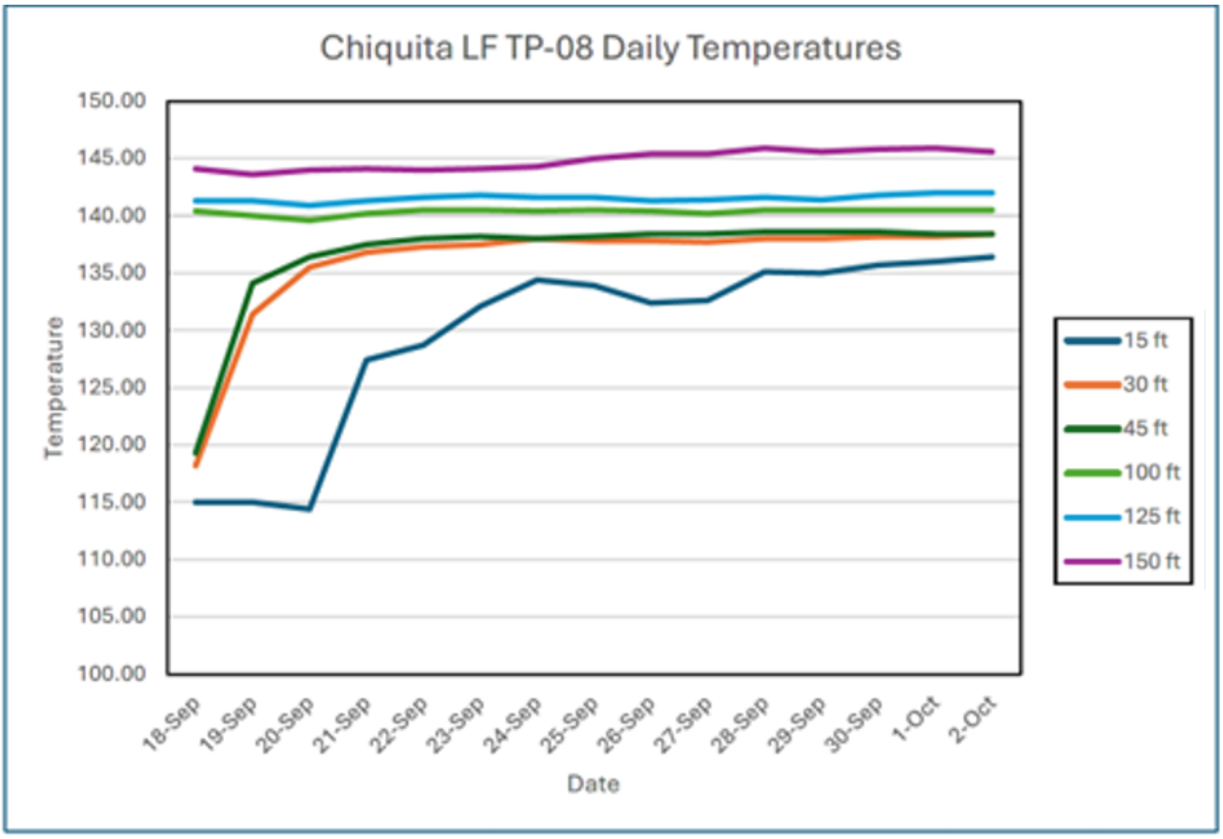


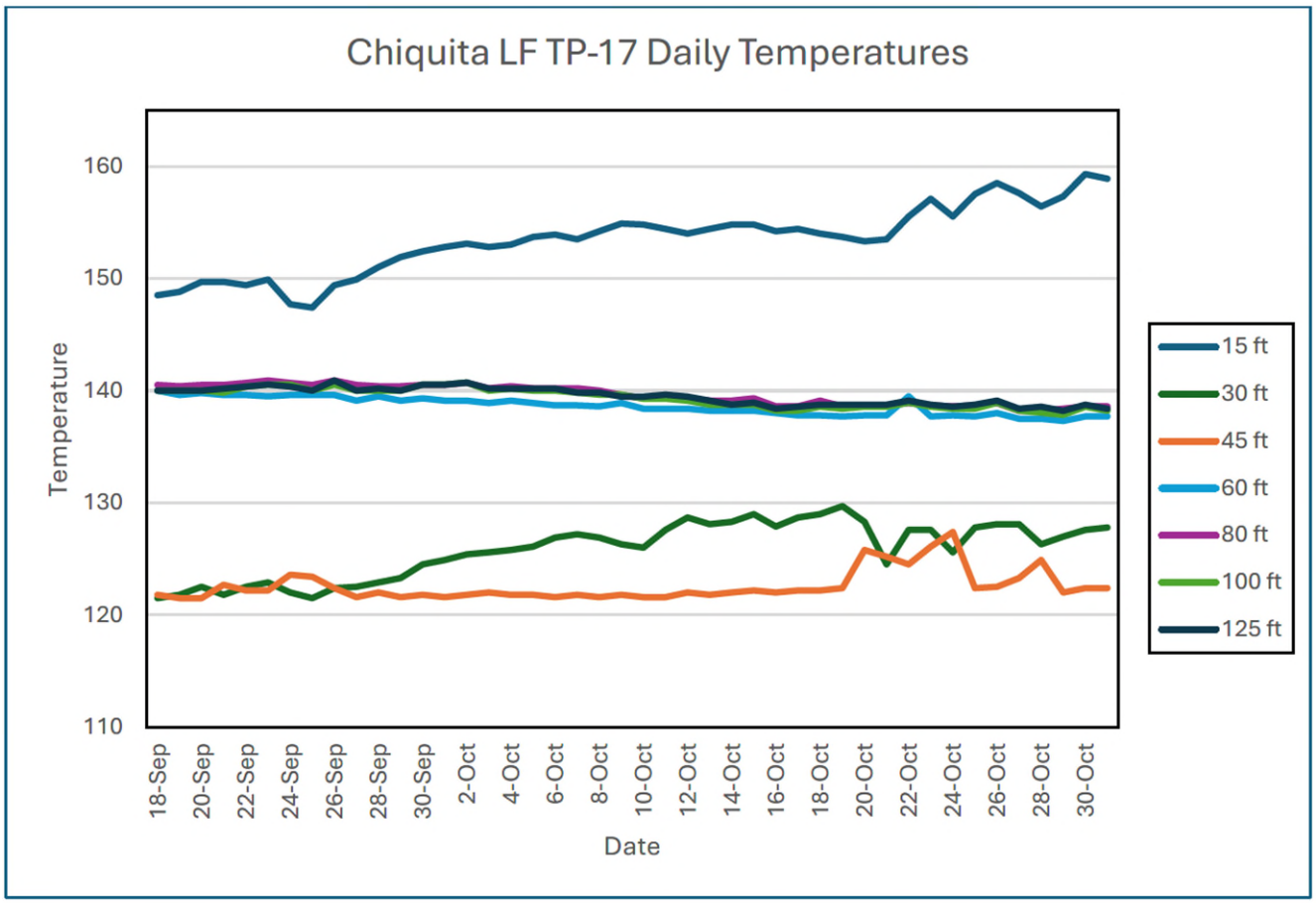
Figure 35 contains the temperature graph for TP-08, which is located on the southeast boundary of the reaction area (see **Figure 25**). This graph shows relatively consistent temperatures at deeper depths and fluctuations at shallower depths. These shallow temperature fluctuations are likely due to dewatering in the well in which TP-08 is co-located, as well as in surrounding wells. As liquids are drawn down in the wells, landfill gas is allowed to flow, causing fluctuations in temperatures from the removal of the insulating liquids. Despite these fluctuations, none of the temperatures obtained from thermocouples at shallow depths have been indicative of reaction temperatures. This shows that there has been no expansion of the reaction area to the southeast.

Figure 35. Temperature graph for temperature monitoring probe TP-08.



As shown in **Figure 36**, the temperature graph for TP-17, which is located in the northeast corner of the reaction area (see **Figure 25**), shows relatively consistent temperatures at the deeper thermocouples. The increase in temperatures at the shallowest thermocouple and the fluctuations in temperatures at the other shallow thermocouples are most likely due to dewatering for the same reasons described above for TP-08. Despite the increase in temperatures at the shallowest thermocouple, Chiquita's experts believe that the highest recorded temperature of 158°F is not indicative of reaction conditions in this area, and temperatures recorded by this probe have begun to cool to a maximum temperature of 144°F since. This data shows that there are no signs of the reaction area moving to the northeast.

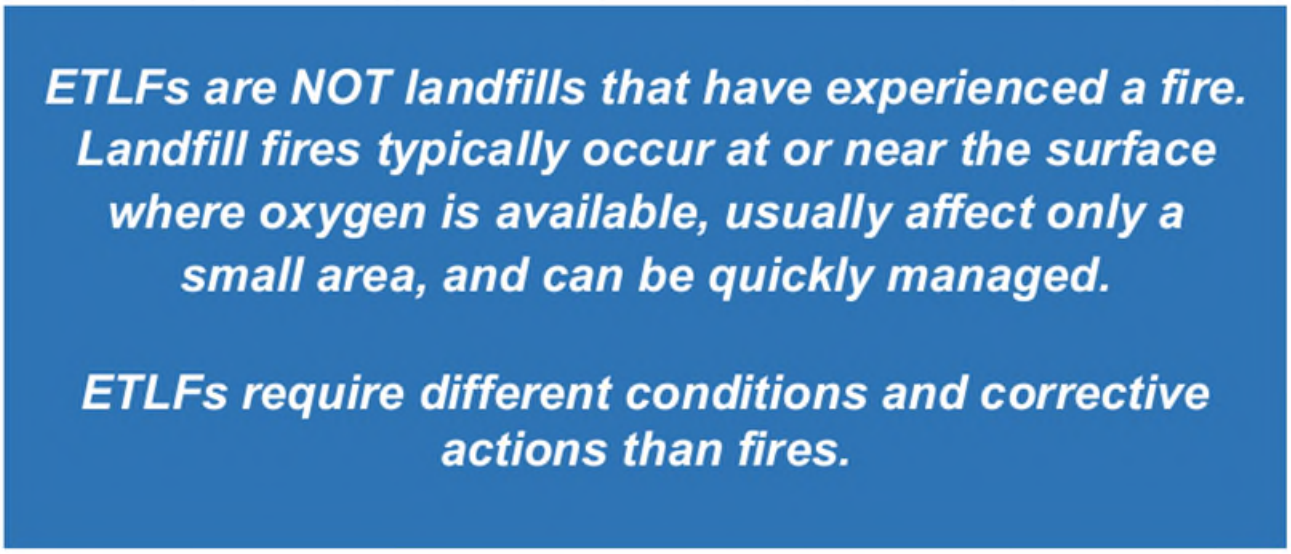
Figure 36. Temperature graph for temperature monitoring probe TP-17.



Chiquita is Experiencing an ETLF Event, Not A Fire

The Landfill is currently exhibiting signs of an ETLF event or subsurface reaction, **not** a landfill fire or subsurface oxidation event. Although the signs of a fire and an ETLF event overlap for some monitoring parameters, there are key differences (see **Figure 37**). These key differences point to the Landfill experiencing an ETLF event, not a fire.

Figure 37. ETLFs vs landfill fires.[13]



CalRecycle's Fire Criteria Do Not Indicate a Fire

California's Department of Resources Recycling and Recovery ("CalRecycle") has listed the following six criteria for identifying a landfill fire:

1. Smoke emanating from the gas extraction well, sink hole, or landfill fissure;
2. Combustion residue (i.e., carbon soot) in extraction wells, headers, or screens at the flare inlet;
3. Black carbon tar-like substance along a fissure or crack in the area of concern;

[13] M. Krause, When Does a Municipal Solid Waste Landfill become an Elevated Temperature Landfill (ETLF)?, U.S. EPA, Washington, DC, EPA/600/R-21/285, 2022, *available at* https://www.epa.gov/system/files/documents/2022-04/elevated-temperature-landfills-factsheet-1.pdf.

4. Unique municipal solid waste combustion odor;
5. Substantial settlement over a short period (i.e., post-combustion indicator); and
6. Landfill gas temperatures more than 176°F and/or levels of carbon monoxide (CO) more than 1,500 parts per million by volume ("ppmv") with one of the above indicators.[14]

The Landfill is not experiencing criteria 1, 2, 3, or 4. No smoke has emanated from the Landfill's gas wells, sink holes, or landfill fissures. There has been no evidence of combustion residue in the Landfill's wells, headers, or flare inlet screens. There has been no evidence of a black carbon tar-like substance along any crack in the reaction area. There has been no evidence of a unique municipal solid waste combustion odor (e.g., acrid burning or smoldering smell of smoke or waste materials being subject to fire) coming from the Landfill.

Further, while the Landfill has experienced evidence of substantial settlement over a short period, landfill gas temperatures above 176°F, and CO concentrations above 1,500 ppmv, these criteria are also common signs of an ETLF event and are not unique to fires like the first four criteria. The settlement of the Landfill's surface in the reaction area is also broad and pronounced, rather than in discrete and isolated portions. The broad and pronounced nature of the settlement is more indicative of an ETLF event.[15]

Other Key Indicators Do Not Indicate a Fire

Other key indicators monitored and assessed by Chiquita's experts also indicate that Chiquita is experiencing a landfill reaction, not a fire. For example, Chiquita has seen no visual indicators of a fire at the Landfill, such as burning odors or smoke. In addition, the Landfill has experienced increased leachate production, which is common in landfills with ETLF conditions.[16] Landfills with subsurface fires do not result in accumulation of liquids.[17] The composition of Chiquita's reaction area gas is also indicative of an ETLF event as opposed to a fire.

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[14]Letter from T. Thalhamer, CalRecycle, to K. Gork, Local Enforcement Agency, pp. 5-6 (Oct. 16, 2023), *available at* https://s3.us-west-1.amazonaws.com/chiquitacanyon.com.bucket/2023/10/2023-10-17-LEA-letter-to-CCL.pdf.

[15] Compare M. Barlaz, et al., *Heat Generation and Accumulation at Municipal Solid Waste Landfills Experiencing Elevated Temperatures*, Solid Waste Association of North America (Spring 2016 Conference, Heat Generation at Solid Waste Landfills), p. 7, 8, 11; see Krause, *supra* fn. 13.

[16] Grillo, *supra* fn. 3, at p. 152; Barlaz, *supra* fn. 4; Barlaz, *supra* fn. 15, at pp. 7-8.

[17] Barlaz, *supra* fn. 4, at pp. 7-8.

Conclusion

Chiquita is experiencing an ETLF event, not a landfill fire, in the northwest corner of the Landfill. This ETLF event is increasing the amount of landfill gas and leachate produced by the Landfill. To address the ETLF event and the increased amounts of landfill gas and leachate, Chiquita is proudly collaborating with its regulators to design and implement numerous measures to minimize the spread of the reaction and mitigate any potential impacts. These measures include, as of the end of October 2024:

- Installation of over 41 acres of geosynthetic cover over the reaction area to reduce the volume of fugitive gas emissions which have the potential to cause odors;
- Installation of over 110 dewatering pumps to remove leachate and the corresponding heat from the Landfill;
- Installation of over 220 vertical dual extraction wells to reduce pressures and remove gas and heat from the Landfill; and
- Evaluation of data on a monthly basis to look for evidence of reaction spread to other cells or modules of the Landfill, which it has not found to date.

Chiquita has made great progress in implementing these measures. The Reaction Committee of experts has determined that the ETLF event remains confined to the northwest portion of the Landfill and that there is no evidence that it is spreading geographically to new landfill cells. Further, dewatering efforts appear to be having a positive effect, with liquid levels beginning to decrease, especially along the western slope of the Landfill.

Chiquita is committed to doing everything it can to address the landfill reaction, and it appears that these efforts are working to minimize the spread of the reaction. Chiquita will continue working cooperatively with its regulators to manage the reaction and address community concerns.