HEALTH IMPACTS REPORT – PUBLIC SUMMARY

I. HEALTH IMPACTS REPORT OVERVIEW

Based on air quality data collected and reviewed in the communities surrounding the Chiquita Canyon Landfill, short- and long-term health impacts (such as disease or cancer) are not expected due to emissions from CCL. However, the data does indicate that odors within the community are capable of causing physical symptoms, such as headaches and nausea. Individuals who experience odors around Chiquita Canyon Landfill can take steps such as moving inside or closing their windows, when odors are present.

II. PURPOSE OF THE HEALTH IMPACTS REPORT

Chiquita Canyon Landfill ("CCL" or "Landfill") is currently operating under conditions imposed through a Modified Stipulated Order for Abatement ("Modified Stipulated Order") from the South Coast Air Quality Management District ("South Coast AQMD"). The Modified Stipulated Order contains numerous conditions targeted at mitigating the ongoing landfill reaction at CCL and its associated emissions. The Modified Stipulated Order also requires a report on the potential health impacts associated with potential emissions from CCL detected in the surrounding community. CTEH and Intertox prepared, respectively, the attached Health Impacts Report and Odor Impacts Assessment Report (together, "Reports") on behalf of Chiquita Canyon, LLC ("Chiquita"), owner and operator of the Landfill, in accordance with the Modified Stipulated Order. This Public Summary is intended to provide the public with an easy-to-understand summary of the Reports.

Data from extensive air quality and odor studies, as well as ambient air monitoring at CCL and in the surrounding communities—collectively conducted by CTEH, Intertox, Roux Associates (on behalf of the Los Angeles County Department of Public Health), and SCS Engineers ("SCS")—were all used to inform these Reports.

CTEH evaluated air monitoring and sampling data and conducted a toxicological assessment (evaluation of whether air quality might lead to disease or health problems) of "constituents of interest," or COIs, detected in the surrounding community and potentially emitted from CCL. CTEH's Health Impacts Report is the first attached report. Intertox evaluated odor data and conducted a physiological response assessment (automatic, instinctive, unlearned bodily responses to internal or external stimuli, generally temporary in nature). Intertox's Odor Impact

Assessment Report is the second attached report. Together, these two reports form the Health Impacts Report as required by the Modified Stipulated Order.

CTEH concludes that the COIs were found at levels that did not pose acute or chronic toxicological health risks, including cancer and non-cancer health endpoints. CTEH predominantly detected COIs at comparable concentrations to those found across the South Coast Air Basin and greater Los Angeles County. One COI, hydrogen sulfide, was found at concentrations that may result in odor-related symptoms such as headache and nausea.

Based on a June 2024 odor study, Intertox found that odorants were detected at or above the lowest odor detection threshold at locations surrounding CCL less than 2.5% of the time. However, some of the COIs detected, along with their associated odorants, can trigger short-term physiological responses if residents near the CCL are exposed to sufficient concentrations for sufficient periods of time. Given that odors tend to be transient in nature physiological responses to exposure to these odorants at sufficient concentrations would be expected to subside once exposure to the COIs and odorants stops.

The Reports offer recommended actions for residents of that may be exposed to ambient air constituents documented across air quality and odor studies throughout communities surrounding CCL, including:

- Keeping windows and doors shut when odors are present;
- Staying indoors when strong odors are present; and
- Removing one's self from an area where odors are present.

III. BACKGROUND

CCL is a 639-acre municipal solid waste landfill owned and operated by Chiquita Canyon, LLC. CCL is in Castaic, CA, and has provided waste disposal services to Santa Clarita Valley and the surrounding Los Angeles County communities since 1972. CCL accepts municipal solid waste, residential and commercial waste, yard and green waste, clean fill soil, and debris from construction and demolition.

A. The Elevated Temperature Landfill Event At CCL.

CCL has been experiencing an "elevated temperature landfill event" ("ETLF") or "reaction" in an old, closed portion of the Landfill. The ongoing reaction, which has changed the manner in which waste decomposes in a roughly 30-35 acre area in the northwest portion of the Landfill, has

resulted in increased production of landfill leachate (the liquid that naturally moves through a landfill) and increased production of landfill gas.

B. Complaints And Notices of Violation.

Residents in neighborhoods near CCL – including Val Verde, Live Oak, and Hasley Hills – have complained and reported that odors have caused them to experience nausea, headaches, and difficulty breathing. In 2023 and 2024, South Coast AQMD received thousands of odor complaints from the communities surrounding CCL. South Coast AQMD has issued Chiquita 222 notices of violation with respect to these complaints, which ultimately led to the current Modified Stipulated Order seeking to mitigate the reaction and its impacts.

C. Air Monitoring And Odor Studies Conducted In The Communities Around CCL.

In anticipation of preparing the Health Impacts Report, CTEH collected air monitoring and sampling data from March 4-31, 2024 (the "28-Day Study") throughout the Val Verde, Live Oak, and Hasley Hills neighborhoods around CCL. CTEH collected data regarding constituents of interest including VOCs and sulfur compounds. During the 28-Day Study, CTEH collected over a hundred-thousand data points using various air monitoring methods to allow for the development of a toxicological health assessment.

CTEH and Intertox also conducted a follow up study from June 11-18, 2024, approximately between the hours of 7 am and 7 pm. During this study, CTEH and Intertox took air samples in neighborhoods surrounding CCL when an odor was detected at or above a threshold used by numerous agencies to determine when an odor may be a "nuisance" (that threshold is 7 D/T (dilutions over threshold)) using a specialized odor measuring device called a Nasal Ranger® Field Olfactometer (an ambient air "megaphone" for the human nose to smell odors). Intertox used this data to develop a physiological response assessment to odors detected around CCL and the compounds detected simultaneously with those odors.

Data collected by SCS Engineers and Roux Associates additionally inform this Report. SCS has been collecting 24-hour air samples from seven air monitoring stations in the communities around CCL since September 2023. Roux Associates conducted 24-hour air sampling from October 31, 2023, through December 16, 2023, at seven locations throughout the community surrounding CCL.

IV. HEALTH IMPACTS REPORT SUMMARY

A. CTEH's Health Impacts Evaluation.

CTEH used the 28-Day Study data to evaluate potential health risks and consulted other air sampling efforts around CCL for comparison. CTEH evaluated the data to assess toxicity, non-cancer health impacts, and cancer health impacts. For the evaluation of potential non-cancer effects, CTEH used state and federal agency health-based screening levels ("HBSLs"), including the California Office of Environmental Health Hazard Assessment ("OEHHA") reference exposure limit ("REL") values. OEHHA defines the RELs as "*the concentration at which no adverse non-cancer health effects are anticipated even in sensitive members of the general population, with infrequent one-hour exposures or continuous exposure over a significant fraction of a lifetime*."). For the evaluation of potential cancer health outcomes, CTEH used inhalation unit risk ("IUR") values, which were chosen based on COIs that OEHHA has classified as probable or possible carcinogens.

The results of the 28-Day Study risk assessment indicate that, of all the constituents of interest evaluated, only hydrogen sulfide met the criteria that would warrant additional consideration for the assessment of adverse health effects. This is partly due to a single, unusually high detection on March 13, 2024. Nevertheless, CTEH conducted a safety evaluation and considered the potential health effects resulting from exposure at documented levels relative to levels at which hydrogen sulfide is known to cause adverse health effects. This assessment did not anticipate adverse health effects based on the concentrations detected. As required by the Stipulated Order for Abatement, CTEH also conducted this safety evaluation of detected hydrogen sulfide in comparison to the OEHHA REL, specifically the acute REL of 30 parts of hydrogen sulfide per billion parts of air. Based on that analysis and the stated basis for the OEHHA acute REL for hydrogen sulfide, headache and nausea were identified as potential symptoms at the three highest detected concentrations during the 28-Day Study.

Findings from CTEH's 28-Day Study data show that COIs were consistently found at levels that did not pose an acute or chronic health risk (including both cancer and non-cancer health endpoints). The data also show that the constituents are largely detected at comparable concentrations to those found across the South Coast Air Basin and greater Los Angeles County. Similar conclusions were reached by Roux Associates in their February 7, 2024 Report produced on behalf of the Los Angeles County Department of Public Health.

In addition to evaluating the 28-Day Study data, CTEH assessed samples that were taken in June when odors were detected at or above a standard often used by state and local agencies for determining when an odor may be considered a "nuisance" under their programs. CTEH found that while sulfur compounds were detected with high frequency in grab samples deployed during odorous episodes in communities near CCL, such episodes were infrequent and fleeting in nature during the time frame in which sampling was conducted. While the sulfur compounds detected in the community were not at concentrations that would pose a health risk, they were documented at levels that are likely to be objectionable and could cause discomfort and nausea if sustained for long enough periods of time. As such, CTEH recommends that additional characterization of intermittent odors remains a priority to best inform the potential for changing conditions, and to ensure chemical constituents are not observed during these episodic events above levels that could pose a health risk.

B. Intertox's Odor Impacts Assessment.

Intertox evaluated the air quality data that it collected around CCL, as well as data from other sources, to characterize odors and constituent concentrations when odors were detected at certain levels. Intertox evaluated the chemicals detected against irritation thresholds derived from chemical odor irritation data provided by authoritative agencies and organizations and in the peer-reviewed literature to determine whether a physiological response to odorous episodes would be expected. Based on this analysis, Intertox found that:

- If an odor is detected in the neighborhoods surrounding CCL, it is most likely caused by hydrogen sulfide and/or dimethyl sulfide. These pungent chemicals have the lowest odor detection thresholds and were the most frequently detected chemicals at or above the lowest odor detection threshold;
- Odor intensities at or above a standard often used by state and local agencies for determining when an odor may be considered a "nuisance" were recorded less than 2.5% of the time when Intertox tested during the June 2024 study;
- Such odors were typically characterized as garbage, manure, tar/asphalt; and
- If an odor at or above 7 D/T is detected in the neighborhoods surrounding CCL, people likely detected individual or combinations of sulfides (hydrogen sulfide and dimethyl disulfide), propylene dichloride, and/or mercaptans (butyl mercaptan, tert-butyl mercaptan, propyl mercaptan, ethyl mercaptan, and methyl mercaptan), because these chemicals were detected in the study at or above their average odor detection thresholds.

V. CONCLUSIONS AND RECOMMENDED ACTIONS FOR PERSONS EXPOSED TO CONSTITUENTS OF INTEREST

The Reports conclude that the constituents of interest were consistently found at levels that did not pose acute or chronic health risks, including both cancer and non-cancer health endpoints. Some odorous COIs detected can trigger short-term physiological responses in residents around CCL if residents are exposed to sufficient concentrations for sufficient periods of time. Those physiological responses include eye watering, nasal or respiratory irritation, headaches, nausea, and lightheadedness. However, because the presence of odorous COIs is transient, residents who might experience physiological responses should see their physiological responses subside once exposure to the COIs and odorants stops.

The Reports recommend that additional characterization of intermittent odors remains a priority to best inform the potential for changing conditions, and to ensure chemical constituents are not observed during these episodic events above levels that could pose a health risk.

The Reports also recommend limiting exposure to odorants as the most effective way to reduce physiological effects and any potential toxicological effects. Limiting exposure is recommended because the odors are typically short-lived and intermittent, meaning physiological responses generally resolve when exposure to the odorant(s) ends. The Reports recommend certain actions to limit exposure, including:

- Keeping windows and doors shut when odors are present;
- Staying indoors when strong odors are present; and
- Removing one's self from an area where odors are present.

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Date: August 1, 2024

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Date: August 1, 2024