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February 14, 2024

Via E-Mail

Dylan Clark
Senior Environmental Scientist (Supervisor)
Department of Toxic Substances Control
Office of Criminal Investigations
Dylan.Clark@dtsc.ca.gov

Re: Applicability of Immediate Response Exemption at Chiquita Canyon Landfill

Dear Mr. Clark:

Following up on our call earlier today, Chiquita Canyon, LLC (“Chiquita”) writes to seek concurrence from the California Department of Toxic Substances Control (“DTSC”) on the applicability of the “immediate response exemption” under the state hazardous waste regulations at the Chiquita Canyon Landfill (the “Landfill”). We understand that DTSC acknowledges the emergency nature of the situation and is agreeable to Chiquita’s storage and on-site treatment of potentially hazardous waste. Through this letter, Chiquita memorializes the need for the application of the immediate response exemption pursuant to 22 Cal. Code Regs. §§ 66264.1(g)(8)(A)2, 66265.1(e)(11)(A)2, and 66270.1(c)(3)(A)2.

Due to the ongoing chemical reaction at the Landfill, the constituents of the Landfill’s leachate are changing, causing some of the leachate and condensate to test above the regulatory limits for constituents including benzene and exhibit flash points in the potentially ignitable range. Chiquita is accumulating the leachate in onsite tanks and diligently looking for offsite disposal options for this waste, but in the meantime is rapidly running out of storage capacity at the Landfill because of its inability to treat this material onsite so that it can pass requirements

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for offsite disposal. Chiquita cannot turn off the production of leachate. At best, it can stop collecting this waste stream, but the leachate must go somewhere.

Allowing the leachate to go uncontrolled risks discharge of potentially hazardous waste into the environment and buildup within the landfill gas collection piping which will impede the Landfill's ability to pull gas and will have the ill-timed consequence of impeding the mitigation of the ongoing landfill reaction. The result will be a longer reaction time, and increased odors and other risks to the community.

It is essential that Chiquita continue accumulating the leachate in onsite tanks and initiate steps to treat leachate onsite so that the leachate may be further treated and disposed of at an offsite non-hazardous waste treatment and disposal facility. Chiquita appreciates DTSC's cooperation and looks forward to an ongoing dialogue about how to appropriately manage this rapidly evolving waste stream.

I. Summary of Events to Date and Concerns with Leachate Constituents.

As you know, the Landfill is experiencing a rare, underground reaction in an inactive portion of the Landfill (also known as an "Elevated Temperature Landfill" or "ETLF" event). The reaction has caused an increase in the production of landfill gas and leachate, resulting in impacts to the surrounding community. Leachate production has increased approximately ten-fold since the reaction began. The Landfill has gone from accumulating approximately 100,000 gallons of leachate a week to over a million gallons of leachate a week. All of this leachate must be accumulated onsite and then disposed of offsite. The rapid increase in leachate production has caused operational difficulties for this landfill, which was designed per regulation to accommodate the average leachate production of a landfill in this semi-arid region. Chiquita has been working diligently to keep up with this increase in production.

The reaction has also caused a change in the constituents found in the leachate. Over the past few months, Chiquita has identified through extensive testing of leachate an increasing amount of certain constituents, including volatile organic compounds ("VOCs") like benzene, and also flash points in the potentially ignitable range. As Chiquita has noted in other correspondence to DTSC, beginning in early January, certain samples of leachate and condensate (another waste stream produced at the Landfill) have tested above the regulatory limits for constituents including benzene, other VOCs and semi-volatile organic compounds ("SVOCs"), and certain metals. The concentrations of these constituents have continued to increase, greatly limiting Chiquita's disposal options.

As summarized below, Chiquita has made and continues to make great efforts to obtain additional onsite accumulation options and identify offsite disposal options for potentially hazardous liquids. However, Chiquita's ability to continue expanding its onsite storage tank

farms and send potentially hazardous liquids for offsite disposal are limited, and the significant quantities of leachate generated make both tasks difficult.

To avoid continued accumulation of liquids for which Chiquita does not have adequate disposal outlets (due to the elevated levels of constituents described above), Chiquita has shut off pumps that are actively pulling leachate from the Landfill in order to reduce the flow of leachate to the onsite accumulation tanks. Failing to extract this liquid from the Landfill for an extended period of time will reverse the hard work Chiquita has undertaken to slow and stop the reaction. Chiquita's experts unanimously agree that removing heat through removal of liquids is crucial to addressing the underlying reaction.

Further, the build-up of pressure and liquids will likely cause increases in leachate seeps from the sides of the landfill. Unlike controlled leachate pumped from the landfill, leachate seeps are unpredictable and may be difficult to contain. As reported to the Regional Water Quality Control Board, Chiquita has had numerous seeps that have reached the Landfill's concrete stormwater channels. While Chiquita has many mitigation measures in place (dirt berms or dams, vacuum trucks), with rain approaching, leachate seeps could commingle with stormwater and reach the Landfill's sedimentation basin, or worse, be discharged offsite.

Chiquita's unique and unprecedented situation warrants application of the immediate response exemption. Chiquita seeks confirmation that it may continue to store and treat the liquids onsite using an injection of a blend of chemicals into the leachate piping and tanks. This treatment has been used at other landfills to reduce odors. It is also expected to reduce constituents of concern like benzene. After treatment, Chiquita will conduct further sampling and analysis to confirm that the treated leachate is within regulatory limits and, once confirmed, will send the liquid offsite for disposal at the facilities that have previously accepted Chiquita's leachate stream for treatment and disposal.

This letter summarizes the application of the immediate response exemption in this unique situation, describing the potential implications of failing to remove sufficient liquids from the reaction (as detailed in the attached declarations of four experts), the efforts Chiquita has taken to expand onsite accumulation options and identify additional offsite treatment and disposal options, and Chiquita's current onsite treatment option.

II. The Immediate Response Exemption Applies to the Rapidly Evolving Issues at the Landfill.

Under California hazardous waste regulations, a permit (and compliance with the substantive standards for permitted or interim status facilities) is "not required for treatment or containment activities which are necessary to perform an immediate response to ... an imminent and substantial threat of a discharge of hazardous waste." (*See* 22 Cal. Code Regs. §§ 66264.1(g)(8)(A)2, 66265.1(e)(11)(A)2, and 66270.1(c)(3)(A)2.) DTSC has stated the immediate

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response exemption applies if “there is sufficient evidence that persons or the environment may be harmed if IMMEDIATE actions are not taken to reduce or eliminate the threat from the hazardous waste involved.” (See <https://dtsc.ca.gov/emergency-permits-issued-july-2022-june-2023/#When> (capitals in the original).) Similarly, the U.S. Environmental Protection Agency (“EPA”) has explained, under the corresponding federal rules (codified at 40 CFR 264.1(g)(8)(i)(B), 265.1(c)(11)(i)(B), 270.1(c)(3)(i)(B), and 270.61(a)), that the immediate response exemption was promulgated “in recognition of the fact that in emergency situations, where immediate response in the form of treatment or storage is necessary to protect human health and the environment, there may be *no time available to comply with the regulatory standards or to obtain an emergency permit.*” (See 48 Fed. Reg. 2508, 2509 (January 19, 1983) (emphasis added).)

Chiquita anticipates preparing an emergency permit application for some containment and treatment activities at the Landfill. Depending on the evolving circumstances relating to the ongoing reaction, Chiquita may eventually need to apply for a regular (non-emergency) permit. As discussed below, however, the permit application process will take time. In the interim, immediate measures are necessary to minimize the potential for harm to persons and the environment. Accordingly, the immediate response exemption should govern until a permit can be obtained.

A. There is an “imminent and substantial threat of a discharge of hazardous waste.”

As previously reported to DTSC, some recent “grab” samples of leachate and condensate generated at the Landfill have exceeded regulatory thresholds under the Toxicity Characteristic Leaching Procedure (“TCLP”) for benzene and/or other hazardous constituents, or exhibited flash points lower than the ignitable limit of 140°F. (See 22 Cal. Code Regs. §§ 66261.24(a)(1) and 66261.21(a)(1).) While there may be questions about whether these grab samples were representative of the full leachate and condensate waste streams or discrete portions thereof, there can be no doubt that some of such materials might be hazardous wastes.

Moreover, there is an imminent and substantial threat that such potential hazardous wastes could be discharged into the environment. As described above, due to the space constraints and limitations in accumulation capacity, Chiquita has temporarily shut off pumps to reduce the amount of liquids that are extracted from the reaction. This does not mean that liquid is not being produced by the reaction; it means that liquid is continuing to accumulate inside of the waste mass. The liquid must go somewhere.

The experts agree.

Neal Bolton, a landfill engineer with over forty years of experience in the solid waste industry and author of *The Handbook of Landfill Operations*, opines that failure to control

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Chiquita's leachate could have severe consequences. The increased leachate production caused by the ETLF conditions has already caused leachate seepage on the western and northern sloped portions of the area of the Landfill impacted by the reaction. (N. Bolton Decl. at ¶ 15.) "Should Chiquita be unable to continue extracting leachate from the Landfill through pumping directly from wells or sumps for an extended period of time, it is my opinion that this leachate will follow the path of least resistance and may exit the landfill as a leachate seep." (N. Bolton Decl. at ¶ 21.) According to Mr. Bolton, "the best way to address leachate seeps is to . . . pump them directly into the Landfill's leachate collection and storage system" as part of a "robust dewatering well system." (N. Bolton Decl. at ¶ 20.)

Leachate that cannot be controlled in Chiquita's customary methods is prone to escaping the Landfill and collecting in Chiquita's stormwater channel. (N. Bolton Decl. at ¶ 21.) In fact, this very scenario has occurred at Chiquita, and while Chiquita has been successful in managing such leachate seeps thus far, "[w]ithout ongoing dewatering, the seeps are likely to become larger and harder to manage, further increasing the risk of seeps reaching the stormwater channel." (N. Bolton Decl. at ¶ 22.) This risk of this potentially hazardous material being discharged to the environment is exacerbated during wet weather, and Chiquita is squarely in the middle of the wet weather season. (N. Bolton Decl. at ¶ 23.) Mr. Bolton's penultimate conclusion summarizes the issue:

When rains are imminent, there is an increased risk that leachate in stormwater channels will reach the [Landfill's] sedimentation basin. If Chiquita is unable to remove all leachate from the channel, even with mitigation measures in place like dirt berms, a strong rain could wash leachate into the stormwater basin. During the wet season, the sedimentation basin may discharge to the environment. If Chiquita experiences a large seep, or a large rain event, it may not be able to pump this liquid quickly enough to avoid such an outcome.

(N. Bolton Decl. at ¶ 23.)

As required by the Stipulated Order for Abatement with the South Coast Air Quality Management District, Chiquita has taken aggressive steps to minimize the potential for the leachate to be discharged into the environment. (S. Viswanathan Decl. at ¶ 10 [describing installation of 43 liquid extraction pumps pursuant to the Stipulated Order].) Chiquita is also undertaking twice daily leachate seep inspections as required by the Stipulated Order and immediately correcting or repairing any seeps that are discovered. While such efforts have generally been highly effective, seeps continue to emerge, several of which in the past month have reached the onsite stormwater channel. (N. Bolton Decl. at ¶ 15.) While there are numerous mitigation measures in place to contain seeps and prevent such seeps from moving offsite, during

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a heavy rainstorm some leachate washed through multiple dirt berms temporarily installed in the stormwater channel and likely reached the sedimentation basin while it was actively discharging. Chiquita took samples from the discharge point and is awaiting results. (*See* N. Bolton Decl. at ¶¶ 17-19 [describing mitigation measures].)

Further, there has been at least one recent release of a small amount of leachate from a storage tank containing material believed to be non-hazardous. While this release was caught and remediated quickly, it underscores the continuing risk of further discharges given the logistical challenges posed by the dynamic nature of the ongoing landfill reaction event.

Moreover, failing to extract leachate from the Landfill will only serve to frustrate efforts to control and stop the reaction. Robert E. Dick, P.E., B.C.E.E., a solid waste management engineer of over thirty years with experience in ETLFs across the country, has reviewed the data and concluded that, at the Landfill, “the ETLF event is likely caused by heat generated within the waste mass from typical anaerobic digestion processes accumulating to a point, inhibiting normal waste degradation processes, and being replaced by abiotic (non-biological) chemical reactions affiliated with ETLFs that become self-sustaining.” (R. Dick Decl. at ¶ 11.) In short, heat must be removed from the waste mass. Removal of heat is accomplished by removing hot leachate and landfill gas: “Central to slowing and stopping the ETLF event is preventing the accumulation of heat by aggressive removal of hot fluids (gas and leachate), and preventing the conditions that enable the ETLF event to occur, including elevated temperatures and pressure.” (R. Dick Decl. at ¶ 13.) Ultimately:

If Chiquita is unable to extract leachate from the waste mass undergoing the reaction, and subsequently to transport this leachate off-site for ultimate disposal, Chiquita will be unable to continue the extraction of hot liquids to mitigate the landfill reaction, and it will likely cause an elevation of temperatures and pressure and will enable the ETLF event to persist and potentially expand, exacerbating the rate, aerial extent, and severity of impacts of the landfill reaction, including potentially further increasing in landfill gas and leachate production.

(R. Dick Decl. at ¶ 14.)

The consequences of failing to continue controlling the reaction are not mere abstraction—they are likely to cause real-world impacts to the communities surrounding Chiquita. Srividhya Viswanathan, P.E., a solid waste management engineer with seventeen-years’ experience in the industry, including the design of landfill gas systems, concludes that it is her “unequivocal professional opinion [] that turning off the liquids removal pumps for an extended period of time will cause the landfill to retain heat and exacerbate the landfill reaction,

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resulting in increased surface emissions and odors, among other issues, including slope stability concerns.” (S. Viswanathan Decl. at ¶ 12.) Ms. Viswanathan, who advises on expanding the Landfill’s landfill gas well-field and dewatering system, has assisted with Chiquita’s massive efforts to install and operate dewatering infrastructure at the Landfill to control the reaction. (S. Viswanathan Decl. at ¶ 6.) She agrees with Mr. Dick that the “retention of liquids and [landfill gas] in the waste mass will result in increased retention of heat, and reaction gas respectively.” (S. Viswanathan Decl. at ¶ 13.) Ms. Viswanathan’s opinion is that:

Turning off the Landfill’s leachate collection pumps for an extended period of time would be detrimental to Chiquita’s significant efforts to slow the landfill reaction and reduce its impacts. Dewatering [removal of leachate] is a crucial piece of Chiquita’s mitigation strategy. By turning off the pumps, Chiquita will reverse significant progress that has been made. The [landfill gas] extraction wells that fill with liquids will not be able to effectively pull gas, resulting in increased surface emissions and odors, among other issues.

(S. Viswanathan Decl. at ¶ 14.)

Pat Sullivan, Senior Vice President at SCS Engineers, Practice Leader for SCS’s Solid Waste Practice in Southwestern United states, and National Expert for SCS’s companywide Clean Air Act program, has been assisting Chiquita for over twenty years. He is an expert in, among other things, landfill gas systems. According to Mr. Sullivan, the excess liquids produced by the reaction “can fill up the pore space within the waste, making it harder to collect landfill gas because the system has to pull against the liquids and because the liquids block the holes in the extraction well piping such that gas cannot be pulled through them.” (P. Sullivan Decl. at ¶ 10.) The inability to remove and manage liquids, in turn, limits Chiquita’s ability extract and manage landfill gas: “The combined effect of this would include an increase in surface emissions of landfill gas, the accumulation of heat in the Landfill, and more leachate seeps, which will expose liquids to the surface causing odorous emissions and potential runoff.” (P. Sullivan Decl. at ¶ 12.) His opinion with respect to leaving leachate in the landfill is dire:

The accumulation of heat will cause the reaction to propagate and likely spread to other areas of the Landfill. Ultimately, the inability to extract liquids from the Landfill could prove catastrophic in terms of controlling the subsurface reaction.

(P. Sullivan Decl. at ¶ 13.)

The overwhelming conclusion from these expert opinions is that Chiquita must be able to remove and manage the leachate being produced by the ETLF event. Failure to do so not only

risks an imminent and substantial threat of discharge of hazardous waste, it may also result in the propagation and amplification of the impacts of the ongoing ETLF event. Chiquita should be allowed to remove, treat, and dispose of this liquid so it can continue its efforts to mitigate the reaction and protect the community.

B. An “immediate response is required, which necessitates “treatment [and] containment activities.”

As noted above, the facility must continue extracting from the Landfill both leachate, and gases that result in liquid condensate, in order to protect against potential discharges of hazardous waste and mitigate the ongoing reaction. Because of the potentially hazardous nature of the leachate and condensate has only recently been discovered, Chiquita needs time to identify and implement a strategy for treating and disposing of the wastes. Chiquita has already retained a third-party consultant experienced in hazardous waste management to assist in these efforts, and that consultant has already begun preparing and implementing plans to ensure appropriate management of any hazardous waste. In the meantime, the facility has to perform “containment activities” (*i.e.*, onsite accumulation) for these wastes. Indeed, even if a treatment and disposal solution were immediately available, onsite accumulation would be necessary as a matter of logistics (*e.g.*, in advance of onsite treatment or loading onto trucks for offsite treatment).

1. Chiquita is rapidly increasing its onsite accumulation capacity but faces space constraints and other operational challenges.

Because of the extremely large volumes of leachate and condensate being generated (approximately 200,000 gallons or 4,000 drum’s worth per day), accumulation in containers under the “90-day” accumulation rule in 22 Cal. Code Regs. section 66262.34 is not a viable option. That rule also allows storage in tanks, but such tanks (and their associated ancillary equipment) must meet extensive requirements such as integrity assessments from an independent, qualified, professional engineer; secondary containment; air emission controls (in some cases), among others. Chiquita and its third-party consultant are evaluating and will implement measures to comply with the tank standards to the maximum extent possible, including evaluating whether the existing leachate tanks are RCRA-compliant from a structural and design perspective. Chiquita is also evaluating secondary containment options for these tanks, but will likely need to empty the currently filled tanks in order to install secondary containment.

In the interim, the third-party consultant is assisting with implementing available best management practices with respect to secondary containment. Given the need to quickly and dramatically expand on-site accumulation capacity to deal with the increasing quantities of leachate and condensate, the facility cannot comply with the full range of tank requirements overnight. While the facility is taking measures to ensure the liquids are being contained in a

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protective manner and to comply with the tank standards to the maximum extent possible, it needs temporary flexibility to do so without satisfying the full set of regulatory standards during the ongoing immediate response.

In short, and as explained further below, Chiquita currently has less approximately one day left of leachate storage capacity at the site.

In order to create as much capacity as possible for the incredibly large amount of leachate being produced by the reaction, new tanks have been delivered to the site regularly. However, due to space constraints, the maximum number of tanks that can be arranged onsite is limited. Currently, Chiquita has 100 tanks onsite that are able to accumulate landfill liquids, including condensate tanks, and 81 of those tanks are located in the #7 Tank Farm area.

The #7 Tank Farm has capacity for four or five more tanks. Once the maximum capacity at the Tank Farm is reached (approximately 85 or 86 total tanks), the Tank Farm will be full, and Chiquita will have reached its maximum leachate tank capacity.

Based on these tank counts, Chiquita estimates that it only about one day of capacity remaining. This additional capacity also represents a best-case scenario because it assumes 100% of the capacity of each tank can be utilized. In reality, a tank is not filled to 100% capacity.

Prior to recent events, the goal was to have enough tanks onsite to store the increased amount of (non-hazardous) leachate produced by the reaction. However, the changing characteristics of the leachate mean that these goals need to be modified. Currently, Chiquita is batching all leachate and condensate before it goes offsite for disposal. As of now, each batch will need to be stored for approximately five days while awaiting testing results. Due to this batching, Chiquita would need onsite accumulation capacity equal to approximately five times the daily leachate generation amount to hold the batched leachate while it awaits sampling results and before each batch is shipped offsite.

As mentioned above, Chiquita has retained a third-party consultant to assist in the management of hazardous waste onsite. This consultant has already begun implementing compliance measures and best management practices, and is working on the necessary plans for longer term management and compliance with applicable laws and regulations. For example, the consultant is working with Chiquita to implement daily inspections of the leachate tanks, including leak detection. The consultant is also working with the site to prepare daily inspection logs, and is tracking waste to ensure that all tanks are appropriately monitored and their accumulation dates are tracked. To ensure preparedness, the consultant is also preparing a hazardous waste contingency plan and a training matrix for applicable facility personnel.

2. Chiquita is exhausting options for offsite disposal of potentially hazardous liquids.

Despite Chiquita's best efforts to bring more tanks to the site to accumulate the leachate and condensate, the tank capacity will very soon be depleted. As noted above, Chiquita has turned off pumps to try to prolong the remaining capacity, but this is likely to be detrimental to the ongoing efforts to slow and stop the reaction, and may contribute to the impacts to the community.

Currently, Chiquita has contracted with Clean Harbors to take some of this leachate. Clean Harbors is currently open to accepting two loads per day at their Salt Lake City, Utah facility and two loads per day at their Nebraska facility. Each truckload is approximately 5,000 gallons. They are open to scaling this up, but the maximum intake capacity at each of the facilities is only 10,000 gallons per day. To put that in perspective, Chiquita generates approximately 200,000 gallons of leachate *per day*. Even if both Clean Harbors facilities used their full capacities to accept Chiquita leachate, this would only address approximately 10% of the Landfill's total leachate production.

Chiquita is looking into other options as well, but it will take time to set up the proper waste profiles and finalize any disposal agreements. To date, Chiquita has contacted ten facilities across California and the Western United States that may be able to accept, treat, and dispose of this leachate. Chiquita has provided analytics of the leachate to the few facilities it has heard back from and has yet to hear back from the other facilities it has attempted to contact. At least one of the facilities cannot accept the waste as it does not appear to have the infrastructure to accept liquid wastes. Moreover, even if Chiquita were able to contract with more offsite disposal facilities, Chiquita understands that these additional facilities would still be unable to handle the vast amount of leachate that is produced at the Landfill.

Chiquita is also limited by truck and tanker availability and the amount of time it would take for trucks to reach some of these facilities. If all of the leachate produced at the Landfill each day were shipped offsite for treatment and disposal, Chiquita would need to ship around forty loads per day, and the significant trucking resources and time required for transport on the road per load make this entirely infeasible.

3. Because of onsite space constraints and the inability to stop the production of liquids, Chiquita must begin onsite treatment of potentially hazardous liquids.

Even with such flexibility with respect to onsite accumulation, Chiquita also needs to begin "treatment activities" as an essential part of its immediate response to render the liquids non-hazardous or less hazardous so that they can safely and properly be sent offsite for ultimate disposition, freeing up onsite storage capacity for the liquids that continue to be generated.

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To treat the waste onsite, Chiquita is proposing to inject two chemicals, iron chelate and hydrogen peroxide, into its onsite frac tanks. These injections are typically utilized for odor control, but will also help reduce VOCs, including benzene. The iron chelate solution will cause sulfur compounds to drop out into elemental sulfur, which helps to eliminate odors. The hydrogen peroxide activates the iron chelate, putting it into the correct oxidative state, and also moderates the pH of the leachate. The hydrogen peroxide has the added benefit of oxidizing VOCs, including benzene. Chiquita is currently working to determine exactly how much of these two chemicals it will need to inject in order to bring the benzene and other VOCs down to meet treatment objectives.

The current plan is to inject these chemicals into three sets of tanks that have shown recently elevated levels of benzene: the #7 Tank Farm (Group A) tanks, the #6 North Perimeter tanks, and the #2 East Perimeter tanks. Once Chiquita begins injecting, it will be continuously dosing the tanks utilizing plastic totes of the chemicals that will be injected. Pumps will drip the chemicals into the frac tanks at a prescribed rate. The tanks are set up such that there are initial tanks that are filled, with the overflow going to a battery of ten tanks, leaving a standing level of liquid in the initial influent tanks. Chiquita will inject the chemicals into these initial tanks. As leachate cycles through the tanks, the length of time the leachate spends in the initial and subsequent tanks will provide the residence time needed for the chemical reactions with the injected materials to occur.

There should be no emissions from these tanks. All tanks have vacuum applied to head space within the tanks. This volume of head space is routed to the facility's flares. While a "clean" reaction oxidizing the VOCs would result in carbon dioxide and water, any lighter VOCs that may be generated by the chemical reactions with the injected materials will be routed to the flares.

Chiquita is also considering injections of these two chemicals directly into the leachate forcemains. However, Chiquita is currently focusing on the injections into the frac tanks due to the immediate need to unload these tanks in the short term.

To address sulfides and any other materials that settle out, Chiquita will allow the materials to accumulate in the tanks and then remove the accumulated solids. Management of these solids will depend on the content and testing of the materials. Once the leachate has been treated, Chiquita will test the leachate to ensure that the reactions adequately reduced VOCs in the leachate. Chiquita will also test the residual solids to determine appropriate disposal pathways.

C. There is “[insufficient] time available to comply with the regulatory standards or to obtain an emergency permit.”

Chiquita does not have time to wait for an emergency permit to begin onsite containment and treatment of potentially hazardous liquids. Unlike typical hazardous waste generation (e.g., at a manufacturing facility), the stream of leachate cannot be turned off. Leachate will flow from the landfill, either collected through the leachate collection system, or unimpeded through leachate seeps.

The California hazardous waste regulations specify that an emergency permit “shall clearly specify the hazardous wastes to be [managed], and the manner and location of their transfer, treatment, storage, or disposal.” (*See* 22 Cal. Code Regs. § 66270.61(b)(3).) In addition, such a permit “shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of [the hazardous waste regulations].” (*See* 22 Cal. Code Regs. § 66270.61(b)(6).) Moreover, the permit must be accompanied by a public notice including a brief description of the reasons underlying the emergency authorization, including the finding of “imminent and substantial endangerment.” (*See* 22 Cal. Code Regs. § 66270.61(b)(5)(D).)

An application for an emergency permit must include sufficient information to support permit issuance and to develop all the mandatory permit elements. DTSC has issued guidance elaborating on the information needed for an application, including details about the quantity and characterization of the waste, why the situation is an emergency, the proposed management of the wastes, options considered, potential impacts on public health and safety, nearby environment and cultural resources that might be affected, proposed measures to minimize harm, etc. (*See* <https://dtsc.ca.gov/wp-content/uploads/sites/31/2015/09/EMERGENCY-PERMIT-APPLICATION-REQUIREMENTS-FINAL-docx-accessible.pdf>.)

In the present case, development of such an application will take some time. Numerous factors complicate the development of an application, including the large volumes of waste being generated on a continuing basis, evolving information about the composition and properties of the waste, the unusual and unpredictable nature of the underground landfill reaction generating the waste, difficulties in finding suitable onsite or offsite treatment and disposal options, obtaining potentially necessary regulatory approvals, and practical challenges in operationalizing potential solutions. Even if it were possible to prepare an application quickly, the situation is currently so dynamic that it might well be overtaken by events in a matter of days.

The current situation appears to be different in these respects from other cases in which regulated entities have been able to submit applications and obtain emergency permits in very short order. Review of emergency permits posted on DTSC’s website shows permits issued for situations that involve a small number of containers of well-defined wastes and simple, well-

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defined treatment methods. (See, e.g., [Emergency Permit for Lockheed-Martin Aeronautics](#) (July 18, 2022) (permit for one-time stabilization of a single 1-liter container of tetrahydrofuran); [Emergency Permit for Merck Research Labs](#) (July 20, 2022) (permit for one-time stabilization of 3 containers of discrete chemicals, with a total volume less than 1 liter); [Emergency Permit for University of California-Davis](#) (September 28, 2022) (permit for one-time stabilization of 6 containers of known shock-sensitive materials).) Moreover, in these other examples, there was considerably less urgency, since the facilities apparently had no problem holding the wastes in accordance with the “90-day” generator accumulation provisions in 22 Cal. Code Regs. § 66262.34 and sought the immediate response exemption for treatment of the wastes only.

Chiquita is out of time. It must act now to accumulate and treat on-site the potentially hazardous liquid waste streams that have evolved rapidly in the past month. The potential consequences of failing to do so are dire. Uncontrolled seeps of potentially hazardous leachate, a worsening underground chemical reaction, and increased odor impacts in the community are simply not an option. We appreciate the DTSC’s attention to this important matter and are available to discuss at any time.

Sincerely,



Jacob P. Duginski
Megan L. Morgan
Gary J. Smith
Yin Zhou

Counsel for Chiquita Canyon, LLC

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Declaration of Neal Bolton, P.E.

I, Neal Bolton, declare:

1. I present this declaration based upon personal knowledge and expertise in landfill engineering and solid waste management and am competent to testify to the facts and opinions set forth herein.

Background and Credentials

2. I am a registered civil engineer in California with more than 45 years' experience in heavy construction, landfill operations, and solid waste management. During this time, I have worked at more than 500 landfills – mostly in North America, including more than 80 active landfills and dozens of closed landfills in California alone.

3. Prior to starting my landfill consulting company Blue Ridge Services in 1988 (now Blue Ridge Services Montana, Inc.), I worked as a field engineer for Waste Management, where I worked first-hand with landfill operations, and for Oakland Scavenger Company, where I managed landfill operations, development, and construction projects for sites ranging in size from 200 to 7,000 tons per day.

4. I have worked on landfill siting, expansion, and closure projects, and on hundreds of landfill development projects that included: site layout, access roads, waste footprint placement (a waste footprint is the perimeter of waste within the landfill), fill sequencing, grading, drainage, base grade and final grade design. I routinely advise landfills on odor control issues, which have become an increasing concern for landfills and the communities in which they operate. I have worked at numerous landfills where leachate management, including mitigation of leachate seeps is a normal part of landfill operations.

5. I regularly provide training courses throughout North America – including several each year in California – on landfill engineering and best practices. I have been on the faculty of the Solid Waste Association of North America (“SWANA”) for more than 25 years and have taught more than 50 classes for them during that time. In many instances, these are certification classes for landfill managers, regulators, and engineers. One example is the Manager of Landfill Operations

1 (“MOLO”) class, a standard in the U.S. and Canada for landfill managers. In 2021-2022, I revised
2 the MOLO class handbook used in all of SWANA’s MOLO classes. Another example is
3 “Operational Issues for Landfill Managers,” a class that used one of my books, *Handbook of Landfill*
4 *Operations* as the class text. Overall, I have taught hundreds of classes for landfill operators,
5 managers, regulators and designers. Many of these classes addressed operational issues related to
6 odor prevention and control, as well as leachate management. Other than landfills in arid climates,
7 leachate seeps are very common and various mitigation practices are standard and effective.

8 6. The California Department of Resources Recycling and Recovery (“CalRecycle”),
9 oversees the State’s waste management programs. CalRecycle ensures that state waste management
10 programs are carried out through its local (solid waste) enforcement agencies (“LEA”). In Los
11 Angeles County, the LEA is the Department of Public Health (“DPH”). CalRecycle has hired me to
12 teach more than 20 LEA courses on landfill compliance topics. These courses were intended to help
13 waste facility operators and regulators work together and better understand how waste facilities
14 operate. These courses covered the topic of leachate control, including leachate seeps.

15 7. I have designed and implemented various testing procedures for evaluating landfill
16 equipment and operating methods, including cover soil use studies, compaction tests, and
17 productivity analyses. I also regularly provide consulting on landfill best management practices
18 (“BMPs”) to prevent and mitigate the environmental impacts of leachate collection, storage, spill
19 response, seeps, evaporation pond processes, spraying for dust control, and other practices related to
20 leachate.

21 8. I have written three major studies of landfill operations: *Handbook of Landfill*
22 *Operations* (“HOLO”) (1995), *Handbook of Landfill Safety* (2009), and *Process Improvement for*
23 *Solid Waste Facilities* (2016). All three books are considered authoritative in the landfill field and
24 are widely used by private operators and government agencies overseeing landfill operations. The
25 HOLO contains sections that specifically address leachate. I have also authored over two-hundred
26 and fifty articles on solid waste operations, many of which address the prevention, control, and
27 handling of leachate.

28

1 9. I have been hired as an expert witness on solid waste issues more than 70 times and
2 have testified as an expert witness (in deposition, hearing, or trial) more than 15 times in both civil
3 and criminal cases.

4 **Experience Working with Chiquita Canyon, LLC**

5 10. In 2023, I was retained by Chiquita Canyon, LLC (“Chiquita”) to provide expert
6 consulting services related to a series of notices of violation issued to Chiquita by the South Coast
7 Air Quality Management District (“South Coast AQMD”). Blue Ridge advised Chiquita on
8 procedures to mitigate odors from leachate and managing leachate seeps.

9 **Overview of Leachate and Leachate-Related Odors**

10 11. Leachate is liquid generated from rainfall and the natural decomposition of waste.
11 Under normal conditions, leachate is filtered downwards through the landfill waste mass to the
12 bottom of the landfill (the landfill liner) and the landfill’s leachate collection system. The leachate
13 collection system then directs the leachate to collection sumps which remove the leachate from the
14 landfill waste mass into onsite storage tanks.

15 12. The Chiquita Canyon Landfill (“Landfill”) has a working leachate collection and
16 storage system composed of a bottom liner collection system that pumps leachate from the bottom
17 liner to onsite storage tanks. Under usual circumstances, tankers transport the extracted leachate to
18 approved offsite disposal facilities. The Landfill has been designed and constructed in accordance
19 with federal and state regulations, including those related to the prevention, control, collection, and
20 management of leachate.

21 13. The elevated temperature landfill conditions at the Landfill are generating unusual
22 quantities of leachate, much more than is expected from a Landfill in southern California. This
23 unexpected increased production of liquids has caused leachate seeps at the Landfill.

24 14. Leachate seeps occur when liquid within the landfill waste mass moves downward,
25 encounters a layer of low permeability material, flows along the top of that layer, and emerges from
26 the perimeter landfill slope. Early indicators of leachate seeps include wet areas, horizontal lines of
27 wet zones, changes in vegetation (i.e., isolated areas of greener vegetation, taller vegetation, or
28 other indicators of subsurface moisture), and/or vegetation that could indicate a subsurface plane of

1 lower permeability material that may be transmitting leachate to the outside slope. Leachate seeps
2 are common at landfills that receive significant rainfall and have fine-grained soils such as clay or
3 silt.

4 **Chiquita is Implementing Best Practices for Mitigation of Leachate Seeps**

5 15. The increased leachate production caused by the elevated temperature landfill
6 conditions has caused leachate seepage on the Western Slope and Northern Slope of the Landfill,
7 seepage which has intermittently reached the perimeter stormwater channels.

8 16. Leachate seeps, when they do occur, need to be contained, repaired, and the leachate
9 removed to prevent and minimize odors.

10 17. Chiquita currently takes numerous measures to manage leachate seeps. Chiquita has
11 increased monitoring for leachate seeps at the Landfill to ensure prompt remediation. Landfill staff
12 conduct visual inspections of the landfill twice daily and promptly repair and address any observed
13 seeps through a combination of mitigation measures.

14 18. For leachate seeps that have reached the concrete stormwater channels, Chiquita
15 controls the seeps using dirt berms or dams to prevent the seeps from moving to the on-site
16 sedimentation basin, or off-site. These dirt berms or dams allow for quick removal via vacuum truck.

17 19. Chiquita uses vacuum trucks on site to pump liquids from any ditches or channels
18 containing the seep liquids and then transfer the liquids to onsite storage tanks where the liquids
19 await disposal.

20 20. While immediate detection and mitigation of leachate seeps is crucial, in my
21 professional opinion, the best way to address leachate seeps is to keep the liquids contained within
22 the landfill waste mass and pump them directly into the Landfill's leachate collection and storage
23 system. A robust dewatering well system assists in removing liquids and preventing the emergence
24 of leachate seeps.

25 **Turning Off Leachate Collection Pumps for an Extended Period of Time Will Increase the** 26 **Likelihood of Leachate Seeps**

27 21. Chiquita has already experienced and managed leachate seeps occurring at the
28 Landfill as a result of the reaction. Should Chiquita be unable to continue extracting leachate from

1 the Landfill through pumping directly from wells or sumps for an extended period of time, it is my
2 opinion that this leachate will follow the path of least resistance and may exit the Landfill as a
3 leachate seep. Considering the proximity of the Western and Northern slopes to the stormwater
4 channels, there is a strong likelihood that this will result in further leachate reaching the stormwater
5 channel.

6 22. Chiquita has already experienced numerous instances of leachate reaching the
7 stormwater channel, even while it was pumping to draw out liquids through extraction wells. Without
8 ongoing dewatering, the seeps are likely to become larger and harder to manage, further increasing
9 the risk of seeps reaching the stormwater channel.

10 23. Chiquita is in the middle of the wet weather season (approximately November 15
11 through April 15). When rains are imminent, there is an increased risk that leachate in stormwater
12 channels will reach the sedimentation basin. If Chiquita is unable to remove all leachate from the
13 channel, even with mitigation measures in place like dirt berms, a strong rain could wash leachate
14 into the stormwater basin. During the wet season, the sedimentation basin may discharge to the
15 environment. If Chiquita experiences a large seep, or a large rain event, it may not be able to pump
16 this liquid quickly enough to avoid such an outcome.

17 I declare under penalty of perjury under the laws of the State of California that the foregoing
18 is true and correct to my personal knowledge.

19 Executed on this 14th day of February, 2024, in Victor, Montana.

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Neal Bolton
President
Blue Ridge Services, Inc.

1 **Declaration of Srividhya Viswanathan, P.E.**

2 I, Srividhya Viswanathan, declare:

3 1. I present this declaration based upon personal knowledge and expertise in landfill
4 engineering and solid waste management and am competent to testify to the facts and opinions set forth
5 herein.

6 **Background and Credentials**

7 2. I am a licensed professional engineer with over 17 years' experience on solid waste
8 management services and infrastructure projects. I work on municipal solid waste ("MSW") landfills
9 like the Chiquita Canyon Landfill (the "Landfill"). My work includes design and installation of landfill
10 gas ("LFG") collection systems, landfill dewatering systems, LFG Blower-Flare Station planning and
11 site civil design, and construction oversight for LFG-related projects. I have designed 5-year operational
12 fill and gas collection and control system ("GCCS") sequence plans, and prepared Joint Technical
13 Document updates for various landfills in California. In the last five years, I have provided over 200
14 LFG Design, Construction Quality Assurance Support and Regulatory Support Services, as well as over
15 50 Landfill Design, Construction Quality Assurance Support and/or Regulatory Support Services.

16 3. I have worked with SCS Engineers, Inc. ("SCS") for approximately 12 years. I am
17 currently the Vice President and Director of Engineering of SCS's Southwest Region, where I lead solid
18 waste engineering operations in California, Arizona, Nevada, Utah, and New Mexico. I am a licensed
19 professional engineer in California (License No. 80360), Arizona (License No. 59485), and Nevada
20 (License No. 028004).

21 4. My experience working with landfills and LFG systems has provided me with the skills,
22 knowledge, and judgment to advise on Chiquita's activities related to LFG collection and dewatering.

23 5. I have assisted in the preparation of technical documents and data in support of stipulated
24 abatement orders during regulatory negotiations and litigation procedures.

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1 **Experience Working with Chiquita Canyon Landfill**

2 6. SCS works on the permitting, engineering design, construction, as well as operations and
3 maintenance and other improvements related to the Landfill’s LFG collection and control system, the
4 LFG wellfield dewatering system, as well as the Landfill’s leachate and condensate management and
5 storage system. SCS has performed this work for many years on behalf of Chiquita. I began working
6 with Chiquita in November 2022, primarily advising on the Landfill’s LFG well-field and dewatering
7 system, and since then I have continued working on these components at the Landfill.

8 **Chiquita’s Significant Efforts to Remove Liquids**

9 7. The Landfill is undergoing what is known in the industry as an “elevated temperature
10 landfill event” (“ETLF” or “reaction”). The reaction has caused an increase in the production of LFG
11 and liquids.

12 8. The Landfill is in a semi-arid climate and, as a result, has a liquids management system
13 designed to manage the level of liquids anticipated at a landfill in this type of climate. It does not have
14 (nor could it have anticipated that it would need) a system in place at the Landfill that is equipped to
15 handle the amount of excess liquids being generated as a result of the reaction.

16 9. Removing liquids created by the reaction is imperative for slowing the reaction and
17 reducing its impacts. Removing liquids reduces heat, which will improve the reaction conditions.
18 Removing liquids also improves the well-field gas extraction capabilities, allowing for extraction of
19 additional landfill gas, which will both reduce heat and reduce surface emissions that may cause odors.

20 10. As required by the Stipulated Order for Abatement that Chiquita entered with the South
21 Coast Air Quality Management District, Chiquita has been and continues to expeditiously and
22 aggressively remove liquids from impacted LFG wells. An impacted well occurs when liquids from the
23 waste mass enter the perforations of a typical LFG extraction well, and LFG recovery from the well is
24 reduced. Chiquita has developed dewatering guidelines to identify wells which are impacted by liquids.
25 Chiquita dewateres wells by applying liquids removal techniques to remove the free liquids in such wells
26 to improve liquids removal and LFG extraction. Chiquita has also installed numerous dewatering pumps
27 in its wells (43 pumps to date), to facilitate the efficient removal of liquids.

1 11. Chiquita has been and continues to aggressively expand the LFG collection system with
2 the addition of LFG vertical dual extraction wells. Dual extraction means the well has the capability for
3 a dewatering pump to be installed, if needed. It is important that all new wells have this capability so
4 that Chiquita can continue to improve dewatering capabilities as needed. Chiquita has added 83 LFG
5 vertical dual extraction wells since July 2023, when Chiquita began constructing wells in response to the
6 reaction.

7 **Turning Off Pumps for Extended Time Will Exacerbate the Reaction and Increase Surface**
8 **Emissions and Odors**

9 12. My unequivocal professional opinion is that turning off the liquids removal pumps for an
10 extended period of time will cause the landfill to retain heat and exacerbate the landfill reaction,
11 resulting in increased surface emissions and odors, among other issues, including slope stability
12 concerns.

13 13. Excessive liquids from the waste mass are expected to enter the LFG extraction wells.
14 This will result in, over time, partial or complete blockage of perforations in the casing of the LFG
15 extraction well, thereby partially or fully reducing recovery of LFG from the well. The retention of
16 liquids and LFG in the waste mass will result in increased retention of heat, and reaction gas
17 respectively. The accumulation of heat is likely the cause of the reaction, thus the retention of heat
18 would exacerbate the reaction and its impacts. The Landfill's LFG vertical extraction wells will be
19 impacted with liquids, and wells filled with liquids cannot effectively and efficiently pull gas, which will
20 result in increased surface emissions and odors.

21 **Conclusion**

22 14. Turning off the Landfill's leachate collection pumps for an extended period of time
23 would be detrimental to Chiquita's significant efforts to slow the landfill reaction and reduce its impacts.
24 Dewatering is a crucial piece of Chiquita's mitigation strategy. By turning off the pumps, Chiquita will
25 reverse significant progress that has been made. The LFG extraction wells that fill with liquids will not
26 be able to effectively pull gas, resulting in increased surface emissions and odors, among other issues.

1 I declare under penalty of perjury under the laws of the State of California that the foregoing is true and
2 correct to my personal knowledge.

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4 Executed on this 15th day of February, 2024, in New Delhi, India.

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8 Srividhya Viswanathan, P.E.
9 Vice President
10 SCS Engineers

1 **Declaration of Robert E. Dick, P.E., B.C.E.E.**

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3 I, Robert E. Dick, declare as follows:

4 1. I am of sufficient age and am competent to provide this declaration. I make this
5 declaration based upon personal knowledge and am competent to testify to the facts set forth
6 herein.

7 **Background and Credentials**

8 2. I am a licensed professional engineer with over 30 years' experience on civil and
9 environmental engineering projects related to solid waste management. I have performed landfill,
10 landfill gas, and leachate engineering projects (design, permitting, construction, and operations) in
11 more than 15 states and several foreign countries. I have performed over 150 landfill gas projects
12 involving landfill gas migration control, odor control, emissions control, Clean Air Act compliance,
13 and energy recovery/utilization. I have performed over 100 landfill projects involving new cell
14 bottom liner systems, final capping and closure, leachate management and treatment, stormwater
15 management, fill sequence and operational planning, airspace analyses, groundwater monitoring,
16 remedial measures and corrective actions. My work focuses largely on municipal solid waste
17 ("MSW") landfills like the Chiquita Canyon Landfill (the "Landfill").

18 3. I have worked with SCS Engineers, Inc. ("SCS") for approximately 33 years. I am
19 currently the Senior Vice President and Business Unit Director of SCS' Mid-Atlantic operations. I
20 am a licensed professional engineer in Virginia (License No. 024815) and North Carolina (License
21 No. 022790).

22 4. In the last 8 years, I have researched and advised landfills regarding conditions that
23 engineers and the industry have termed Elevated Temperature Landfills ("ETLFs"). These are
24 landfills experiencing elevated temperature and other conditions that are rare but increasing in
25 frequency across the industry. Of the hundreds of municipal solid waste landfills in North America,
26 there are approximately 10 to 15 landfills with the majority of their waste mass that can be
27 characterized as an ETLF. There are also approximately 40 or so other landfills that have a
28 relatively limited portion of their waste mass exhibiting ETLF conditions. Collectively, I have

1 advised seven landfills that exhibited a multitude of various ETLF conditions, including discharges
2 of pressurized leachate from boreholes and well piping due to substantial subsurface pressures, on
3 the implementation of best management practices to manage the reaction conditions as well as
4 mitigate community impacts, such as odors. Two of these landfills had the majority of their waste
5 mass characterized as an ETLF and implemented extensive corrective actions and remedial
6 measures. The corrective measures that I have helped to design and implement were effective in
7 both addressing the underlying reaction and resultant odors.

8 5. I have authored several publications and made numerous presentations on air
9 quality, solid waste management, landfill engineering and landfill gas management/control,
10 leachate management and treatment, landfill gas wellfield dewatering design/operations, elevated
11 temperature landfills, landfill management strategies, greenhouse gas emissions, composting, and
12 regulatory compliance. I serve as a Virginia Department of Professional and Occupational
13 Regulation Waste Management Facility Operators Board-approved training course instructor for
14 solid waste management facility operators' license examinations, which addresses topics related to
15 landfills, leachate, landfill gas, and other aspects of solid waste management.

16 6. My experience working with landfills and ETLFs has provided me with the skills,
17 knowledge, and judgment to identify conditions related to an ETLF, and advise on the best
18 management practices suited to mitigate these conditions.

19 7. I have been involved in providing technical support and engineering expertise for
20 multiple landfills and have been hired as an expert witness or provided testimony as a subject
21 matter expert before legislative bodies and regulatory agencies as well as in civil cases, over fifteen
22 times.

23 **Experience Working with Chiquita Canyon Landfill**

24 8. SCS works on the permitting, engineering design, construction, as well as operations
25 and maintenance ("O&M") and other improvements related to the Landfill's landfill gas collection
26 and control system, the landfill gas wellfield dewatering system, as well as the Landfill's leachate
27 and condensate management and storage system, and has done so for many years. In early 2023,
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1 my colleagues at SCS sought my expertise on ETLFs because the Landfill was showing signs
2 consistent with ETLF conditions.

3 9. I assisted with a root cause analysis to identify the source of excess emissions of
4 total reduced sulfur and sulfur oxides under the Landfill's Title V permit. I reviewed data related to
5 the landfill gas system, including well-field monitoring data, laboratory analytical data, landfill gas
6 system drawings, and site photos and videos. My assessment of the data was that a portion of the
7 Landfill was exhibiting the typical symptoms of an ETLF and that an ETLF event was occurring.

8 10. I was retained by Chiquita Canyon, LLC ("Chiquita") to provide expert consulting
9 services related to managing the ETLF conditions and its resulting impacts, including odors and
10 liquids.

11 **Chiquita Canyon Landfill is Experiencing an ETLF Event**

12 11. The Landfill is experiencing the typical symptoms of an ETLF event, including
13 elevated temperatures, increased production of landfill gas and liquids, changes in landfill gas and
14 liquids/leachate composition, distinct odors, accelerated settlement, and significant subsurface
15 pressures. At Chiquita, the ETLF event is likely caused by heat generated within the waste mass
16 from typical anaerobic digestion processes accumulating to a point, inhibiting normal waste
17 degradation processes, and being replaced by abiotic (non-biological) chemical reactions affiliated
18 with ETLFs that become self-sustaining.

19 12. Over the past year, Chiquita has undertaken numerous actions to assess, evaluate,
20 measure, and investigate the ETLF event and its potential causes.

21 Based on these assessments, we believe that location and intensity of the ETLF event is relatively
22 unchanged from September through January 2023.

23 **Removing Heat by Aggressively Removing Gas and Liquids is Essential to Mitigating the ETLF** 24 **Event**

25 13. Chiquita has taken numerous actions to slow and stop the ETLF event, in
26 coordination with Chiquita's regulators. Central to slowing and stopping the ETLF event is
27 preventing the accumulation of heat by aggressive removal of hot fluids (gas and leachate), and
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1 preventing the conditions that enable the ETLF event to occur, including elevated temperatures and
2 pressure.

3 14. If Chiquita is unable to extract leachate from the waste mass undergoing the
4 reaction, and subsequently to transport this leachate off-site for ultimate disposal, Chiquita will be
5 unable to continue the extraction of hot liquids to mitigate the landfill reaction, and it will likely
6 cause an elevation of temperatures and pressure and will enable the ETLF event to persist and
7 potentially expand, exacerbating the rate, aerial extent, and severity of impacts of the landfill
8 reaction, including potentially further increasing in landfill gas and leachate production. Other
9 unintended consequences, like slope instability, may also arise.

10 15. It is essential that Chiquita be able to continue removing and managing leachate
11 from the reaction because this activity enables removal and reduction of heat, which is an
12 imperative to mitigate and remediate ETLF characteristics.

13 I declare under penalty of perjury under the laws of the State of California that the foregoing
14 is true and correct to my personal knowledge.

15 Executed on this 14th day of February, 2024, in Powhatan, Virginia.

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18 Robert E. Dick
19 Senior Vice President
20 SCS Engineers
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1 **Declaration of Patrick Sullivan, BCES, CPP, REPA**

2 I, Patrick Sullivan, declare:

3 1. I present this declaration based upon personal knowledge and expertise in landfill
4 engineering and solid waste management and am competent to testify to the facts and opinions set forth
5 herein.

6 **Background and Credentials**

7 2. I am an air quality and landfill gas specialist and Senior Vice President with SCS
8 Engineers, Inc. ("SCS"), a leading landfill gas operations consulting company, with special expertise in
9 solid waste facilities and landfills. I have worked at hundreds of landfills, including at least fifteen sites
10 in Southern California.

11 3. I have 34 years of experience in the area of environmental consulting, specializing in
12 solid waste management. I am the Managing Director of SCS's consulting and engineering operations
13 within the Southwestern United States, and I also serve as the Practice Leader for SCS's Solid Waste
14 Practice in the same region. I am the National Expert for SCS's companywide Clean Air Act program. I
15 also oversee SCS's companywide Greenhouse Gas and Risk Assessment programs and am one of the
16 national experts on risk assessment and toxic exposure issues for landfills and landfill gas. I am the SCS
17 Principal-in-Charge for projects related to air quality permitting and compliance, greenhouse gas
18 emissions and climate change, landfill gas engineering and compliance, and facility investigation and
19 risk assessment. I have published and/or presented over 150 technical papers and/or presentations in
20 industry journals, publications, conferences, seminar, and workshops.

21 4. In the area of landfill gas, I have been the SCS Principal-in-Charge on over 100 projects
22 involving landfill gas system design, planning, engineering, and/or construction oversight, including
23 expert witness work. I oversee a staff of ten registered professional engineers in California with landfill
24 gas system design expertise, as well as more than 100 other staff members with landfill gas-related
25 engineering experience.

26 5. I also manage air quality and greenhouse gas permitting, air monitoring, emissions
27 estimation, and risk assessment for many landfills and industrial facilities throughout California,
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1 including at least fifteen landfills in the South Coast Air Quality Management District (“South Coast
2 AQMD”).

3 **Experience Working with Chiquita Canyon Landfill**

4 6. SCS has been contracted by Chiquita Canyon, LLC (“Chiquita”) to operate and maintain
5 the landfill gas collection and control system at the Chiquita Canyon Landfill (“Landfill”). SCS works
6 on the permitting, engineering design, construction, as well as operations and maintenance and other
7 improvements related to the Landfill’s landfill gas collection and control system, the landfill gas
8 wellfield dewatering system, as well as the Landfill’s leachate and condensate management and storage
9 system, and has done so for many years. I have been working on Chiquita’s landfill gas collection and
10 control system and related compliance activities for over twenty years.

11 **Chiquita’s Expansion of Gas Well System and Liquid Collection System**

12 7. Chiquita is experiencing an elevated temperature landfill (“ETLF”) event or chemical
13 reaction within an inactive portion of the waste mass. In response to odor issues, and pursuant to a
14 Stipulated Order for Abatement with South Coast AQMD in Case No. 6177-4, Chiquita is implementing
15 and developing mitigation measures to slow and stop the reaction, and address the odors and impacts to
16 the community.

17 8. The ETLF event is causing the Landfill to produce an excess amount of landfill gas. The
18 landfill gas collection system is currently unable to collect all of that gas. This means that the excess
19 landfill gas is escaping through the surface of the Landfill as excess surface emissions and is
20 contributing to the emissions exceedances and related odors.

21 9. To mitigate against the release of landfill gas, Chiquita has expanded and continues to
22 expand its gas well system.

23 10. The reaction, among other things, also produces excess liquids. Those liquids can fill up
24 the pore space within the waste, making it harder to collect landfill gas because the system has to pull
25 against the liquids and because the liquids block the holes in the extraction well piping such that gas
26 cannot be pulled through them. Removing liquids is one of the means by which to reduce the heat within
27 the Landfill, which is a key mitigation measure for slowing and stopping the reaction. Removing liquids
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1 also allows the landfill gas system to function more effectively and pull more landfill gas, which also
2 removes heat and assists in slowing and stopping the reaction.

3 11. The Landfill is in a semi-arid climate and, as a result, has a liquids management system
4 designed to manage the level of liquids anticipated at a landfill in this type of climate. It does not have
5 (nor could it have anticipated that it would need) a system in place at the Landfill that is equipped to
6 handle the amount of excess liquids being generated as a result of the reaction.

7 **Effects on Landfill Gas System Should the Well Pumps Be Turned Off**

8 12. If Chiquita stops removing liquids from the reaction by shutting off pumps that are
9 actively pulling the leachate from the Landfill for an extended period of time, then the liquids will
10 continue to accumulate in the waste mass and fill the gas extraction wells with liquid. This will impede
11 Chiquita's ability to address the reaction by preventing Chiquita from removing heat from the Landfill
12 through the removal of these liquids. In addition, the gas collection system will become progressively
13 less effective at removing landfill gas. The combined effect of this would include an increase in surface
14 emissions of landfill gas, the accumulation of heat in the Landfill, and more leachate seeps, which will
15 expose liquids to the surface causing odorous emissions and potential runoff.

16 **Conclusion**

17 13. Turning off the Landfill's leachate collection pumps for an extended period of time
18 would be detrimental to Chiquita's significant efforts to slow the landfill reaction and reduce its impacts.
19 Dewatering is a crucial piece of Chiquita's mitigation strategy and the most effective way to remove
20 heat from the Landfill. By turning off the pumps, Chiquita will reverse significant progress that has been
21 made in controlling the reaction and limiting its spread. The gas wells that fill with liquids will not be
22 able to effectively pull gas, resulting in increased surface emissions and odors, among other issues. The
23 accumulation of heat will cause the reaction to propagate and likely spread to other areas of the Landfill.
24 Ultimately, the inability to extract liquids from the Landfill could prove catastrophic in terms of
25 controlling the subsurface reaction.

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1 I declare under penalty of perjury under the laws of the State of California that the foregoing is true and
2 correct to my personal knowledge.

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4 Executed on this 14th day of February, 2024, in Sacramento, CA.

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9 Patrick Sullivan
10 Senior Vice President
11 SCS Engineers
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