

# Model of Liquid Generation and Total Quantity Report

Prepared For:



Blue Ridge Services Montana, Inc.  
P.O. Box 1945  
Hamilton, MT 59840  
Telephone: (406) 370-8544



July 7, 2025 Update

[www.blueridgeservices.com](http://www.blueridgeservices.com)

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July 7, 2025

Mr. Baitong Chen  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, California 91765

RE: Stipulated Order for Abatement, Case No. 6177-4, Conditions No. 12(g)(vii) and 12(g)(vii)(1)

In accordance with Condition No. 12(g)(vii) of the Stipulated Order for Abatement (Stipulated Order) with the South Coast Air Quality Management District (SCAQMD) in Case No. 6177-4, Blue Ridge Services Montana, Inc. (BRS) prepared a **MODEL OF LIQUID GENERATION AND TOTAL QUANTITY REPORT** on June 25, 2024. Per Condition No. 12(g)(vii), that initial report required the following:

The development of a model to estimate the rate of liquid generation in the landfill, and total quantity of liquid existing within the landfill waste mass at any given time (including supporting assumptions, references, and calculations). No later than June 25, 2024, the Respondent shall submit to the SCAQMD a report summarizing the model and results of modeling.

Subsequent to that initial report, the first semi-annual report was submitted to satisfy Condition No. 12(g)(vii)(1), which requires an update to the liquid generation model and a report submitted to the SCAQMD summarizing the updated model and results of modeling on a semi-annual basis beginning on January 7, 2025, and every six months thereafter.

This report, submitted on July 7, 2025, is the third report (the second semi-annual report) and it describes the updated model and results of modeling requested per the above-listed conditions.

Respectfully,

A handwritten signature in black ink, appearing to read "Neal Bolton", with a stylized flourish at the end.

Neal Bolton, P.E.

President

Blue Ridge Services Montana, Inc.

[neal@blueridgeservices.com](mailto:neal@blueridgeservices.com)

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## ACRONYMS

Acronym	Meaning
<b>CY</b>	Cubic Yard
<b>CCL or “the Landfill”</b>	Chiquita Canyon Landfill
<b>LCRS</b>	Leachate Collection and Removal System
<b>LFG</b>	Landfill Gas
<b>MC</b>	Moisture Content
<b>MSW</b>	Municipal Solid Waste
<b>PCY</b>	Pounds per Cubic Yard
<b>SCAQMD</b>	South Coast Air Quality Management District

## EXECUTIVE SUMMARY

This report satisfies Condition No. 12(g)(vii)(1) of the Stipulated Order, which requires an update to the reports submitted on June 25, 2024, and January 7, 2025, in accordance with Condition No. 12(g)(vii). Like the two previous reports, this updated report summarizes the results of a model that estimates the rate of liquid generation in the landfill and the quantity of liquid existing within the landfill waste mass. Similarly, this report provides supporting assumptions, references, and calculations used to update the model and present the results of our current liquids estimate.

Like the previous report submitted on January 7, 2025, this report includes not only entrained moisture but also includes an estimate of the quantity of additional *absorbed* moisture, along with moisture that has been trapped above low permeability layers of intermediate cover soil where it creates saturated zones. Beginning in 2022, and through June 2025, approximately 137 million gallons of liquid were extracted from the Chiquita Canyon Landfill (CCL or Landfill). This is in addition to the normal baseline of approximately 5 million gallons of leachate per year that is removed from the Landfill's Leachate Collection and Removal System (LCRS). In total, both sources have extracted approximately 155 million gallons of liquid from the Landfill.

Our updated modeling indicates there may be at least 124 million gallons of liquid yet to be removed from the area impacted by the reaction. Our updated estimate is based on a summation of the following three sources of liquid located within the Landfill, and incorporates recent settlement data as explained herein:

1. Initial entrained moisture of inbound waste;
2. Moisture that has been added to waste mass by infiltration; and
3. Saturated zones.

These three sources of moisture within the Landfill were assessed in the current model and are presented in this updated report.

Monthly leachate extraction quantities have continued to increase, though at a slower rate than we observed in 2023. Leachate extraction hit its highest point in May 2025, reaching approximately 7.8 million gallons that month (See Figure 1). June 2025 was slightly lower at just under 7.7 million gallons. As Chiquita Canyon, LLC (Chiquita) continues installing new pumps, which allows the site

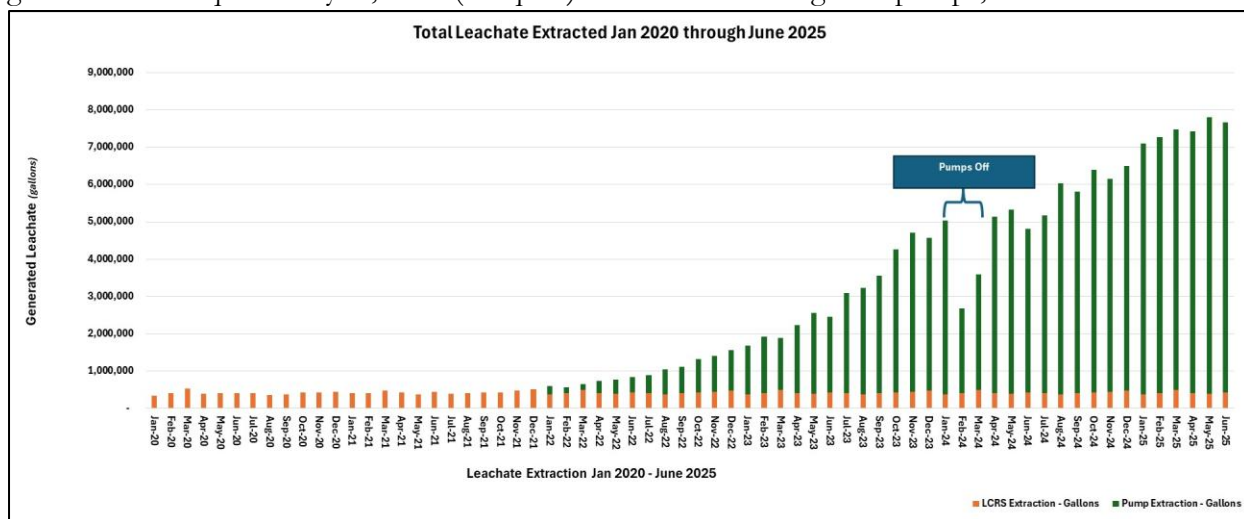


Figure 1 - Combined leachate removed from LCRS and pumps January 2020 through June 2025.

to extract more liquid, and improving related infrastructure, leachate extraction rates may continue to increase through 2025. Once the number of pumps stabilizes, the rate of extraction is also expected to stabilize, and eventually decline. However, this decline might be masked by certain operational practices, such as adding more pumps and lowering pump elevations inside well bores as liquid elevations decrease, both of which may serve to increase the rate of leachate extraction in the short term.

Please note that the rate of liquid extraction does not necessarily reflect the actual rate at which liquid is being liberated by the reaction. Although a large quantity of liquid is being liberated, the pump data is more indicative of the number of pumps that are in place and functioning at any given time.

Improvements have been made to how some of the information is presented in this report, particularly that of the liquid levels based on the Lorentz pump data. In the prior report, cross sections were provided, but with the installation and operation of more pumps and in a larger area of the Landfill, that approach proved to be confusing. This report instead provides isopach figures showing the elevation change of the liquid levels between months. These isopach figures present a clearer picture of what the liquid levels were doing monthly and in relation to days of downtime each pump had relative to the liquid level.

## INTRODUCTION

Per Condition No. 12(g)(vii) of the Stipulated Order, the SCAQMD required Chiquita to develop a model that accomplishes two objectives:

1. Estimates the volume of liquid within the waste mass of the Landfill, and
2. Estimates the generation (i.e., liberation) rate of liquid from that waste mass.

Per subsequent Condition No. 12(g)(vii)(1), the initial report was to be updated and submitted semi-annually, beginning on January 7, 2025. The first semi-annual report was submitted on January 7, 2025. This report is the second semi-annual report to be produced under this condition.

The model described herein integrates several variables that were updated based on new information and data received since the submittal of the first semi-annual report on January 7, 2025. This updated information and data includes settlement, liquid levels, precipitation, number of pumps, and liquid volumes extracted from the landfill. We concur with updating this model on a semi-annual basis, because the liquid volume and liberation rates are expected to change as the reaction wanes and as the waste mass surrounding the reaction continues to liberate liquid. Please note that unlike the first semi-annual report, this second semi-annual report does not include any reference to additional inbound waste, because CCL stopped receiving outside waste on January 1, 2025.

## DEFINITIONS

### **LEACHATE**

Liquid exists within the Landfill as moisture that is held (i.e., entrained) within municipal solid waste (MSW) material as free liquid that is present in static perched zones in the form of layers of saturated waste and as free liquid that may be in the process of flowing through the waste.

Some “free liquid” exists within the waste mass of CCL. Waste, soil, and other materials within the Landfill also contain entrained moisture that, if liberated, may also become free liquid. In terms of scale, most of the liquid in any landfill, including CCL, is entrained in the waste. Some of this liquid may be liberated to become free liquid, but some moisture always remains entrained in the waste mass. The free liquid is referred to as leachate.

When it comes to landfill leachate, and in the context of this model, we are assuming that leachate is any free liquid (or moisture) that has contacted waste.

Leachate may exist as it flows downward toward the liner where it is collected by the LCRS, or as it flows laterally toward a surface leachate seep. It may also exist as a saturated layer or “lens” within the waste mass.

This total liquid/moisture volume, along with liquid that is added in various ways, represents the total potential source of liquid generation. In this context, liquid generation refers to the rate at which free liquid is liberated within the waste mass. Liquid generation is discussed later in this document.

When discussing liquid and/or moisture volume within the Landfill, there are two important terms one must understand: saturation and field capacity. These terms are often confused and may mistakenly be used interchangeably, but they represent two related, but different, conditions that are discussed below.

## **SATURATION**

Saturation is when all the pore space within an object or material is filled with water. Suppose you placed a sponge into a bowl and then added water until the sponge was completely submerged. If you pressed on the submerged sponge – or patiently watched – you would observe air bubbles coming out of the sponge. After enough pressing and/or enough time, there would be no more bubbles, because all the pores within the sponge would be filled with water. At this point, the sponge would be saturated.

Items or materials within a landfill may become saturated if they are in an area where liquid has pooled or if excess water is unable to leave because it is in a confined area – it is compartmentalized. This concentration of liquid may occur on top of the landfill liner, a low-permeability layer of cover soil, an old access road, or another confining (i.e., limiting) layer within the landfill. Please note that this does not refer to a “lake” of liquid, but rather to a layer of waste that is at some point of saturation.

Full or partial saturation may also occur if liquid is added to an object or material faster than it can drain out. To illustrate, if you continue pouring water on the sponge and do not allow time for it to naturally drain, it will continue to be at some degree of saturation. In other words, it is unable to drain and reach its field capacity.

## **FIELD CAPACITY**

We can think of field capacity as a point of equilibrium in terms of an item or material that has reached its maximum moisture holding capacity, though is not necessarily saturated. For example, if we removed a saturated sponge from a bowl and set it on a drying rack, water would drain from the sponge. After a while, no more water would drip from the sponge. However, if, at that point, we used an eye dropper to add a single drop of water to the sponge, a single drop of water would drop out the bottom. When the sponge has all the water it can hold and cannot retain even a single drop

more, it is at field capacity. It may not be fully saturated, in that not all pores are filled with water, but still the sponge has all the water it can hold.

A similar state of equilibrium may exist within a landfill. However, it should be considered an equilibrium at a specific point in time. Because waste material is continually decomposing, settling, and changing state (from solid to liquid or gas), the equilibrium that defines field capacity is constantly changing. In the process, the quantity of moisture entrained in the waste or liberated as free liquid is changing too. This equilibrium is also affected by free liquid that may be held or that is passing through the waste mass.

## SATURATED ZONE

The well-drilling process has identified numerous saturated zones within the Landfill. Some of these saturated zones may be interconnected and others may be isolated. These zones are likely caused by the historic operational practice of not removing layers of daily and intermediate cover soil before placing subsequent layers of MSW. This practice occurred prior to Chiquita’s acquisition of the Landfill. Those low-permeability layers of soil may act as a quasi-liner, restricting the downward flow of leachate toward the landfill’s main LCRS. As leachate accumulates on those layers, the adjacent waste mass is impacted and becomes wetter.

## REACTION AREA

In this report, we refer to the “reaction area.” Please note there are two different reaction area boundaries (See Figure 2) as defined below.

### DATA-DRIVEN REACTION AREA BOUNDARY

This is the boundary that defines the limits of the Elevated Temperature Landfill (ETLF) conditions based on several criteria, including subsurface and wellhead temperature, leachate quantity, leachate characteristics, gas quantity, gas characteristics, and settlement, as required by Conditions 9(b) of the Stipulated Order. Under the supervision of SCAQMD and in accordance with the Stipulated Order, a Reaction Committee was established and tasked with delineating the data-driven reaction area boundary. The Reaction Committee evaluates data on an ongoing basis to make monthly reaction area determinations. In June 2025, based on May 2025 data, the Reaction Committee made a slight adjustment to the data-driven reaction area boundary eastward to encompass CV-24062, CV-24063, CV-24064, CV-24083, CV-24084, and TP-11. The June determination describes how the conditions observed at those wells could be attributed to the migration of landfill gas (LFG), heat, and leachate from the existing reaction area, but that the Reaction Committee nevertheless believed that it was prudent to institute these adjustments. That adjusted boundary is shown here (See Figure 2).

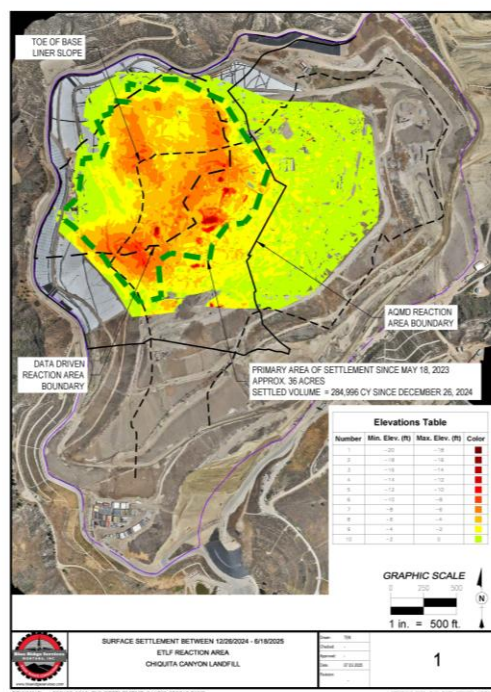


Figure 2: Apparent Settled Area



### SCAQMD REACTION AREA BOUNDARY

This is the boundary that the South Coast Air Quality Management District (SCAQMD) previously defined as the perimeter of the reaction area. This boundary was defined initially by the boundaries of Cells 1/2A, 2B/3, 4 and Module 2B/3/4 P2 of the Landfill.

## APPROACH

We utilized the same approach as was used in the previous (January 7, 2025) model by attempting to quantify infiltration moisture that has been absorbed into the Landfill's waste mass, along with liquid that may be creating a saturated zone above a low permeability layer within the Landfill. Regarding that data, we modeled the quantity of liquid within the Landfill by estimating the overall moisture content within the waste mass and extrapolating from there the volume of moisture that could be liberated, as free liquid, from the moisture stored within the Landfill. Our estimate is based on a summation of the following three factors:

1. Initial entrained moisture of inbound waste;
2. Moisture that has been added to waste mass by infiltration; and
3. Saturated zones.

These three sources of moisture within the Landfill are included in the current model and explained in this updated report.

We estimated the ultimate (ending) moisture content (MC) of the waste mass – after decomposition – and then assumed that all liquid above that baseline is available to be liberated. We assume that the average ending MC, after decomposition, will be approximately 15%. That figure was assumed to apply to both categories of waste decomposition discussed below.

1. **Typical Decomposition** – Under what we consider to be typical conditions, moisture within the waste mass is liberated during the typical decomposition process to the point where the remaining entrained liquid represents a MC of approximately 15%. Under the arid conditions at CCL, complete decomposition, and the ultimate liberation of moisture down to that average level of 15% within the waste mass, would occur over many decades. The LCRS and gas collection systems were designed to effectively handle this relatively slow rate of decomposition.
2. **Reaction Decomposition** – Under ETLF conditions, moisture within the waste mass is liberated at a much faster rate. Nonetheless, we estimated that the ending MC after reaction decomposition will also be 15%.

Please note that this integrated model and the associated modeling results are based upon multiple layered assumptions. These assumptions may change as new data is collected, or if any assumptions are shown to be inaccurate, in which case the results of this model may change significantly. For this reason, along with the ever-present need for more data to confirm assumptions and analyses, we will continue to update this model and report those modeling results semi-annually. The assumptions set forth in the first semi-annual report (submitted on January 7, 2025) did not change with the inclusion of the new data. The next semi-annual report will be submitted on January 7, 2026.

## VOLUME OF LIQUID

We began our analysis by stating our base assumption that liquid (or moisture) within the landfill can neither be created nor destroyed. We recognize that some chemical bonding of hydrogen and oxygen may occur to produce water ( $H_2O$ ), but not on a scale that would significantly increase the volume of liquid or moisture within the waste mass.

We have also assumed any free liquid that has an uninterrupted path to the base of the Landfill will be collected by the underlying LCRS. This is the desired process, and the *pass-through* leachate does not add to the inventory of liquid stored within the Landfill.

Typically, liquid is liberated through the process of organic decomposition and does so at a somewhat predictable and relatively steady rate. Conversely, the ETLF reaction liberates liquid more quickly, and over a much shorter time.

As noted in the initial report, while various methods exist for measuring MC in soil, none can be accurately applied to the waste mass in a landfill so, our approach was to estimate the initial MC in the inbound waste stream. Then, we estimated the additional moisture that could be added by infiltration into the Landfill's waste mass.

As noted above, we identified the following three potential sources of moisture within the waste mass that include:

1. Initial entrained moisture of inbound waste;
2. Moisture that has been added to waste mass by infiltration; and
3. Saturated zones.

Each of these sources is explained in detail herein.

Through our experience and research, we determined that the most accurate method for estimating overall MC within CCL's waste mass is to apply industry-typical MC factors to various types of solid waste and then modify them based on site-specific assumptions. Those site-specific assumptions address entrained moisture, absorbed moisture, and liquid stored in saturated zones, mostly above low permeability layers of intermediate cover soil.

### ***ENTRAINED MOISTURE***

We first estimated the overall MC by applying industry-typical MC factors to the categories of solid waste that can be found in CCL's waste mass.

To estimate the total liquid volume within CCL's waste mass, we estimated the total volume of *entrained* moisture within the waste. Remember, entrained moisture within the waste can only become liquid (i.e., leachate) if it is liberated during the decomposition process.

We began our estimation of entrained moisture by analyzing CCL's most recent 15 years of inbound tonnage data and subdividing it by type of waste material. We then applied typical MC to those waste categories.

In addition to the moisture that is entrained in the Landfill's waste mass and present in the saturated zones, some moisture is continually added to the Landfill, mostly from infiltration of stormwater.

This added moisture should continue to be considered when updating the model to show future leachate volumes. We can also continue to make updated estimates of future liquid volumes as moisture is liberated to become free liquid (i.e., leachate).

To estimate the quantity of absorbed moisture, we performed a run of the HELP model. HELP is an acronym for, “Hydrologic Evaluation of Landfill Performance.” The HELP model was developed by the U.S. Army Corps of Engineers for the U.S. Environmental Protection Agency. It has been widely used to estimate leachate generation rates for various types of final cover designs for closed landfills.

Through this process, we estimated that, on average, every ton – and every cubic yard – of fill within CCL’s waste mass contains approximately 46.37 gallons of entrained moisture. Within the area of settlement, we estimated that entrained moisture from the initial MC of the inbound waste represents 689,713,329<sup>1</sup> gallons. The amount of entrained moisture has increased since the previous report because there has been additional settlement. See Section on Settlement for a more detailed explanation of this change in settlement.

## **ADDED MOISTURE**

We also considered the additional moisture that was added due to infiltration through the soil cover and into the waste mass during the wet season. Rainfall that does not run off or that is not stored in the topmost layer of daily or intermediate cover – and later released through evapotranspiration – will percolate into the Landfill. Some of this percolated liquid will be stored (i.e., entrained) within the waste mass. This is the well-known sponge-effect of solid waste landfills and is based on the relatively high field capacity of MSW.

We estimated that the waste mass in the area impacted by the reaction has stored an additional 8,610,685 gallons of liquid added due to infiltration. This estimated amount has not changed since we submitted the January 7, 2025 report.

## **SATURATED ZONES**

Free liquid that is not absorbed within the waste mass will flow downward within the Landfill until it reaches the base liner and is removed by the LCRS. However, the presence of saturated zones at the Landfill suggests that much of that free liquid may be stored on top of low permeability layers of intermediate cover soil (See Figure 3). Numerous saturated zones have been encountered during well-drilling operations – which seems to corroborate this assumption.

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<sup>1</sup> Please note that to prevent confusion between various numbers, and to allow the reader to track values accurately, we have opted to show the entire number rather than using the traditional protocol of rounding the number.

We estimated in the prior report that the saturated zones represent approximately 95,262,326 gallons within the area impacted by the reaction.

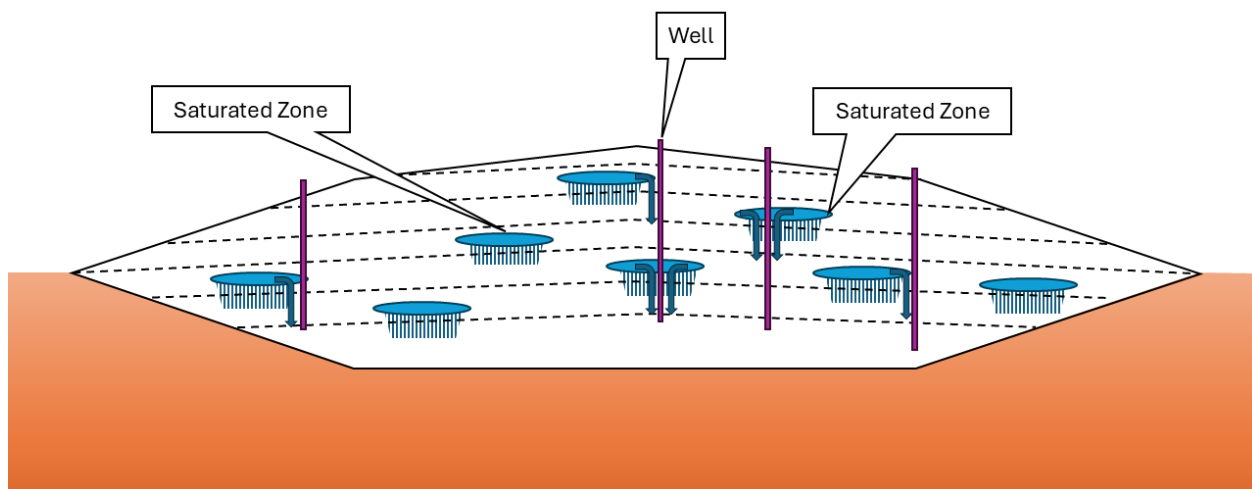


Figure 3: Saturated Zones

Much of the liquid in those saturated zones is being pumped and extracted out of the Landfill by a series of pumps located across the Landfill, and which are most densely spaced in and around the reaction area. In fact, it is only the liquid from those saturated zones that can be pumped and extracted. All other liquids are entrained or passing through as they move downward toward the LCRS.

The liquid from the Landfill's saturated zones may be moving laterally above layers of intermediate cover soil, or it may be moving downward as it slowly seeps through a soil layer. The liquid may also be migrating downward through a vertical well, until it reaches another low permeability layer. Finally, the liquid may reach the bottom of the Landfill where it can be extracted via the LCRS.

In some cases, if the liquid is under pressure due to being heated, is affected by LFG pressure, or is loaded by the weight of the overlying waste mass, the liquid may move upward through layers within the Landfill or within a vertical well. But most often, the liquid will move downward or laterally within the Landfill. LFG, on the other hand,

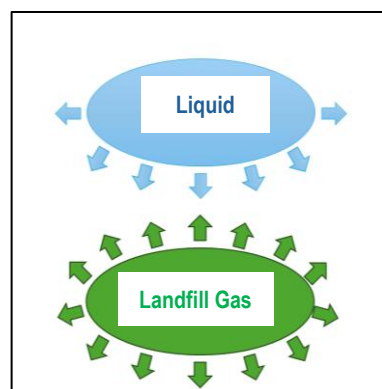


Figure 4 - Movement of Gas & Leachate

will move in any direction following the path of least resistance (See Figure 4).

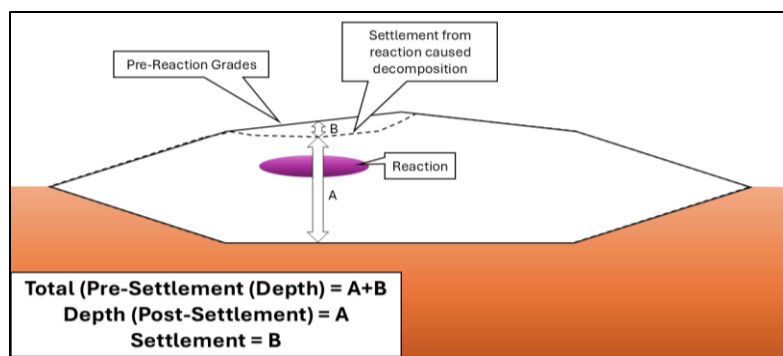


Figure 5 - Schematic of Settlement above Reaction Core

## LANDFILL SETTLEMENT

Research and our experience indicate that a typical landfill may ultimately settle 20% of its initial depth, due to physical, chemical, biological, and mechanical factors – mostly related to decomposition of organic matter. At best, landfill settlement is a complex process.

ETLF conditions can result in portions of a landfill settling very quickly (See Figure 5). Settlement continues within the area of the reaction. We have maintained the same assumptions used in the previous report, as related to settlement, except for the change in the amount of settlement, as discussed in the Section on Settlement.

These assumptions are:

1. Waste stream characterization data suggests that 55% of CCL's inbound waste mass is organic. This is the only portion that will undergo decomposition.
2. During operational activities, additional landfill airspace is filled with cover soil, further reducing the average percentage of organic material, within the waste mass, that can be decomposed.
3. Further, the organic portion of the waste mass is, under typical landfill conditions, unlikely to fully decompose.
4. Under ETLF conditions, organics are decomposing very quickly and have been observed to be a wet sludge, described as "oatmeal" by the drillers, contractors, and operations staff. We are estimating that as the organics within the landfill transform to *oatmeal*, they undergo a 60% volume reduction. Accordingly, every cubic yard of organic material placed in the landfill would, after decomposition, occupy only 0.4cy under ETLF conditions within and adjacent to the reaction.

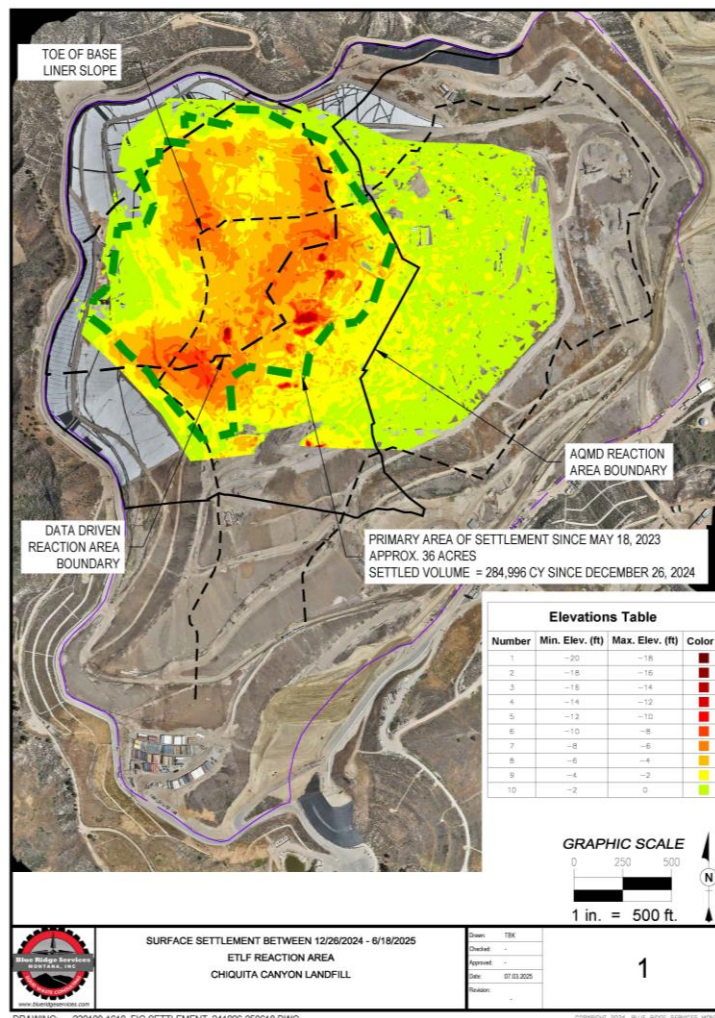


Figure 6 - Settlement

5. Between May 18, 2023, and December 26, 2024, we calculated that the area impacted by the reaction had settled 942,064 cy. Then between December 26, 2024, and June 18, 2025, the area settled an additional 284,996 cy, which is approximately the same rate of settlement observed in the six months prior to the January 7, 2025 report, bringing the total to 1,227,060 cy (See Figure 6). This amount is conservative because it does not include the soil that was placed on settled areas to maintain positive drainage, repair soil stress cracks, etc. However, based on the 1,227,060 cy of settlement we could measure (the effect), we calculated that

approximately 4,957,818 cy of material had been directly affected by the reaction (the cause). We estimated the approximate volume of landfill mass affected by the reaction, by the equation:

$$WMVi = \frac{\text{Settlement}}{ORG \times VR \times (cy\ waste \div (cy\ cover\ soil + cy\ waste))}$$

Where:

WMVi = Initial Waste Mass Volume

ORG = Organic (decomposable) Portion of Waste Mass = 55%

VR = Volume Reduction under ETLF Conditions = 60%

CR = Cover Ratio Factor (waste volume: cover soil volume) = 3:1 = 0.75 waste

Settlement = Measured Settlement in and adjacent to Reaction Area = 1,227,060 cy

$$4,957,818\ cy = \frac{1,227,060\ cy}{55\% \times 60\% \times (3 \div 4)}$$

This rapid decomposition has clearly liberated significant amounts of liquid and LFG. We also believe that a significant quantity of liquid still exists as free liquid within the landfill waste mass.

## ***VOLUME OF LIQUID SUMMARY***

The HELP model is not specifically designed for estimating operational leachate volumes, nor did we base our estimates solely on the results of the HELP modeling. However, we believe it provided one more reference point in our estimation of liquid volumes within the Landfill. Our estimate of absorbed moisture and liquid in saturated zones was in part based on the HELP modeling using operational conditions, including the presence of intermediate cover soil on the landfill surface.

During the operational phase, it is anticipated that greater quantities of liquid will enter the Landfill through infiltration than would be expected after closure, when the final cover system has been placed. However, this is not true for much of the data-driven reaction boundary because of the geosynthetic cover that is in place and is being extended. The geosynthetic cover eliminates infiltration in this area.

Our modeling indicates that 4,957,818 cy of material within the Landfill reacted or was impacted by the temperature, liquid, or gas movement relating to the reaction. This resulted in 1,227,060 cy of settlement. See the section on Settlement within this report for a more detailed explanation. We also estimated that approximately two times that volume of material has also been impacted by some level of heat and the transfer of LFG and leachate from the reaction. This combined total area impacted by the reaction represents approximately 11,418,958 cy of material. Within that volume of affected material, we suggest there are 793,586,340 gallons of liquid. Of that, we roughly estimate that perhaps 532,320,938 gallons will be retained after decomposition.

That means at least 261,265,401 gallons could potentially be liberated. This amount is in addition to the baseline leachate extraction amount that is typically handled through the LCRS, which serves the entire landfill. Leachate removal records indicate that as of June 30, 2025, CCL has extracted



137,489,800 gallons of leachate above the historic baseline of approximately 5 million gallons per year, leaving an estimated 123,775,661 gallons of liquid that still may be liberated.

As previously noted, we expect the removal of this liberated liquid may take several years. Based on current extraction rates and continued increases in the number of pumps and expanded infrastructure, we continue to believe 2025 will likely see the peak of liquid extraction.

## LIQUID GENERATION RATE

The second part of this model calculates the estimated rate at which liquid is being liberated within the Landfill’s waste mass. As previously noted, some moisture is present in waste, soil, and other materials within the Landfill. In some cases, that moisture may be retained in those materials until they reach their respective field capacity. When entrained moisture is liberated into a “free liquid” within the waste mass, it becomes *leachate*.

### LEACHATE THROUGH THE LCRS

Pumping data from 2020 and 2021 establishes a good baseline for leachate generation. In the initial report, we assumed that historically, leachate extraction equaled liquid liberation. Accordingly, we assumed that because the LCRS was extracting an average of 416,825 gallons per month (See Figure 7), or approximately 5,001,901 gallons per year, that was also the amount of leachate the Landfill was liberating. In this updated model, and as stated in our January 7, 2025, report, we have modified that assumption. Like in our previous report, we continue to suggest that liberation from within the Landfill’s waste mass exceeded what was being extracted by the LCRS. That excess leachate was added to the entrained moisture within the waste mass and was stored in the form of saturated zones caused by the historic practice (prior to Chiquita’s acquisition of the Landfill) of not removing layers of cover soil to allow for uniform flow of leachate and LFG. This has been verified anecdotally by the presence of saturated zones.

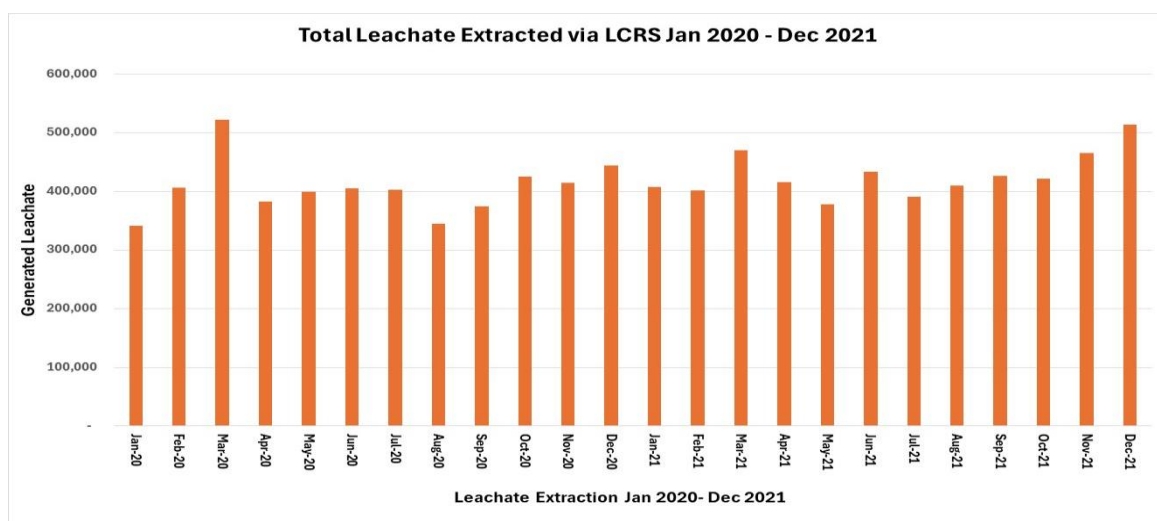


Figure 7 - Historic typical quantity of leachate removed through the LCRS.

In January 2022, the leachate removal rate began to increase above the historic LCRS baseline (See Figure 8). In the following 12-18 months, leachate extraction quantities increased exponentially, except for 2 months (February and March 2024) when the pumps were temporarily shut down. By mid-2024, the rate of increase had slowed, though leachate volumes were still increasing. The liquid extraction rates have been impacted in part due to limitations in pump and infrastructure capacity to handle the extracted leachate. Improvements are ongoing and more pumps have been installed and become operational in 2025.

Leachate extraction hit its highest point in May 2025, reaching approximately 7.8 million in that month (See Figure 1). June 2025 was slightly lower at just under 7.7 million gallons. At the time of the last semi-annual report, which evaluated data between May 18, 2023, and December 26, 2024, leachate extraction levels had reached approximately 6 million gallons per month.

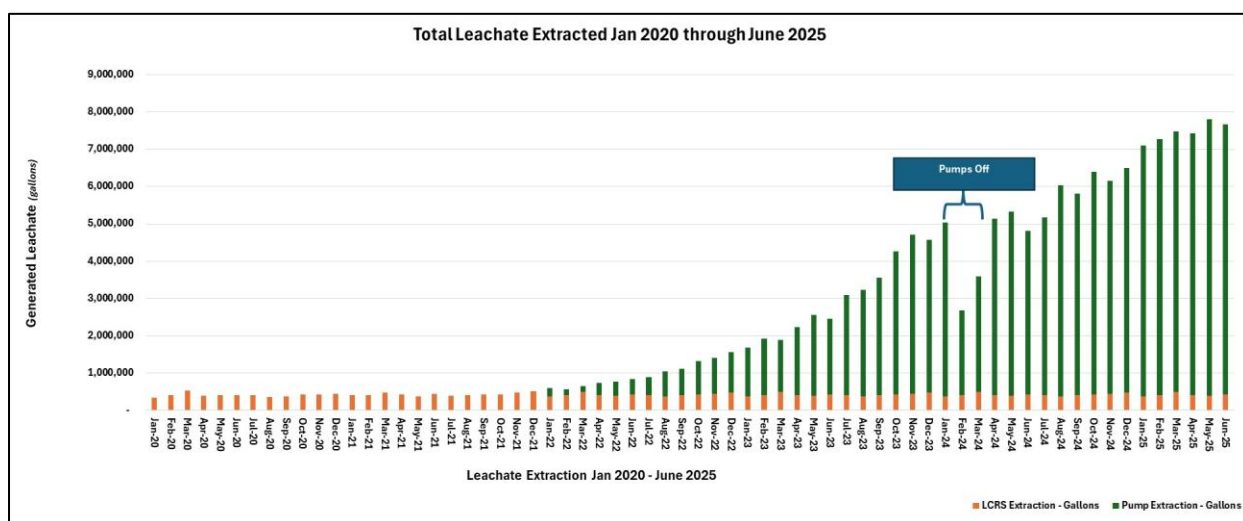


Figure 8 - Leachate removal per month January 2020 - June 2025.

## LIQUID ELEVATION LEVELS

Chiquita continues to install pumps to extract leachate from wells and sumps. As of June 26, 2025, the number of pumps installed and operational increased to 167.<sup>2</sup> This number does not represent the number of pumps that are operating at any given time since pumps are routinely taken out of operation for maintenance purposes and as part of the transition from pneumatic to Lorentz pumps. In the previous report, we sought to show leachate levels in and adjacent to the data-driven reaction area boundary using cross-sections that relied on Lorentz pump data from a limited number of wells. And, while that data showed a general lowering of liquid levels, the data was based on lots of interpolation between wells.

For this report, there is more data available, mainly from the increased number of Lorentz pumps that were installed in the past several months. Unlike traditional pneumatic pumps, Lorentz pumps provide continual, ongoing liquid level measurements. Using that data, we were able to create a series of isopach maps that show, on a month-to-month basis, the increase or decrease in leachate levels

<sup>2</sup> The number of pumps installed, but not yet operational, was 180 as of June 26, 2025.



measured by Lorentz pumps in different areas of the Landfill. Please note that these isopach maps show the change in leachate levels from one month to another.

Each monthly isopach map is shown in Appendix A. However, we have shown here the most recent isopach map (See Figure 9). It shows the change in liquid levels observed from the Lorentz pump data collected from April to May 2025.<sup>3</sup> The legend and depth table for this drawing is also shown here (See Figure 10).

We believe this use of a series of isopach maps provides a much clearer perspective of how leachate levels are being impacted by CCL's increasing pumping effort.

Individual wells where Lorentz pumps have been installed are shown by the circles on the isopach maps. Only pumps with Lorentz pumps are shown (See Figure 9). As detailed within Figure 10, within each circle are two numerical values that indicate how many days that particular pump was offline in the current month for that map and the previous month. The number at the top of the circle reflects the previous month and the number at the bottom reflects the current month.

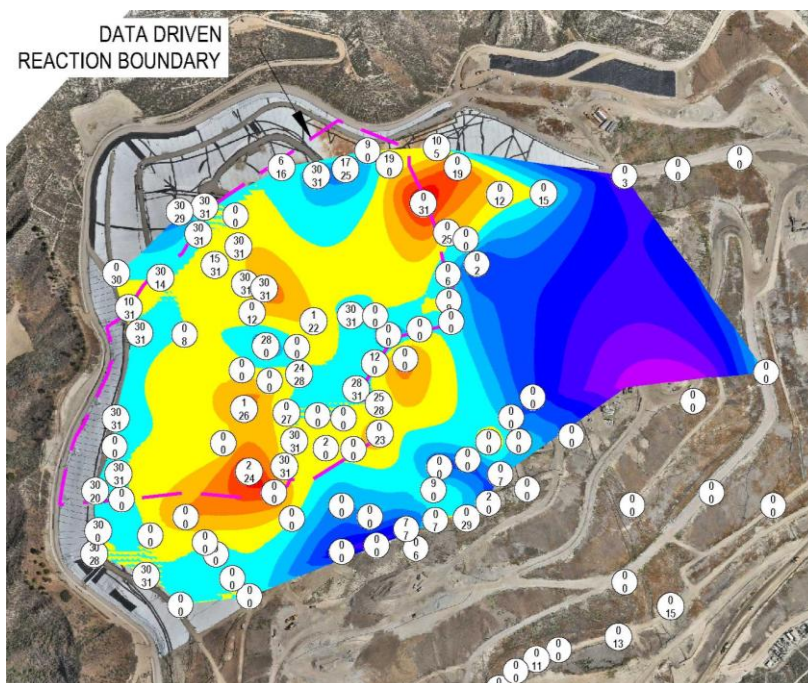


Figure 9 - Change in liquid levels Apr to May 2025

<sup>3</sup> June 2025 data was not available in time to include in this report.

When looking at the legend in Figure 10, a negative number indicates a drop in the liquid level for a well from April to May 2025, while a positive number indicates the liquid level has increased at that particular well. For example, along the east side of the Lorentz pump array, leachate levels have consistently dropped. The few red and orange areas that show leachate levels rising, mostly occur where one or more pumps were offline.

This isopach map, along with the other isopach maps shown in Appendix A, clearly indicate that when pumps are working, liquid levels drop or stabilize for that particular well. Conversely, when pumps are offline, especially for many days, liquid levels appear to rise for that particular well. Again, this map does not show the elevation of liquid, but only indicates the change in liquid level from one month to the next.

Depth Table			
Number	Min. Change in Depth (ft)	Max. Change in Depth (ft)	Color
1	-90	-80	■
2	-80	-70	■
3	-70	-60	■
4	-60	-50	■
5	-50	-40	■
6	-40	-30	■
7	-30	-20	■
8	-20	-10	■
9	-10	0	■
10	0	10	■
11	10	20	■
12	20	30	■
13	30	40	■
14	40	50	■
15	50	60	■

**WELL LEGEND**



 APRIL - DAYS DOWN TIME  
 MAY - DAYS DOWN TIME

Figure 10 - Legend for liquid level isopach map.

## SUMMARY

Based on the extraction and leachate removal data, we calculated that of the initial estimate of 793,586,340 gallons of moisture within the 36-acre settlement boundary area, 137,489,800 gallons of liquid had been removed as of June 30, 2025. Accounting for the moisture that will always remain entrained within the waste mass, we estimate that at least an additional 123,775,602 gallons of liquid may be liberated by the reaction and the impacted waste mass around the reaction.

We see the lowering of liquid elevation levels shown in the Lorentz pump data (See Figure 9 on previous page) as a positive sign that current liquid extraction efforts are continuing to be successful and extraction rates will, at some point stabilize, and eventually decline.

The accuracy of the model, in terms of tracking the liquid generation rate, will improve as additional site data is obtained. Of specific value will be additional well logs, liquid levels, and spatial data within and adjacent to the reaction area, particularly from the Lorentz pumps.

The above-listed data should be monitored over time to determine whether these liquid generation rate variables (i.e., settlement, leachate volumes, etc.) have indeed peaked and continue to decline. We believe that semi-annual updates are sufficient to track and report those changes.

## APPENDIX A – ISOPACH MAPS OF LIQUID LEVELS

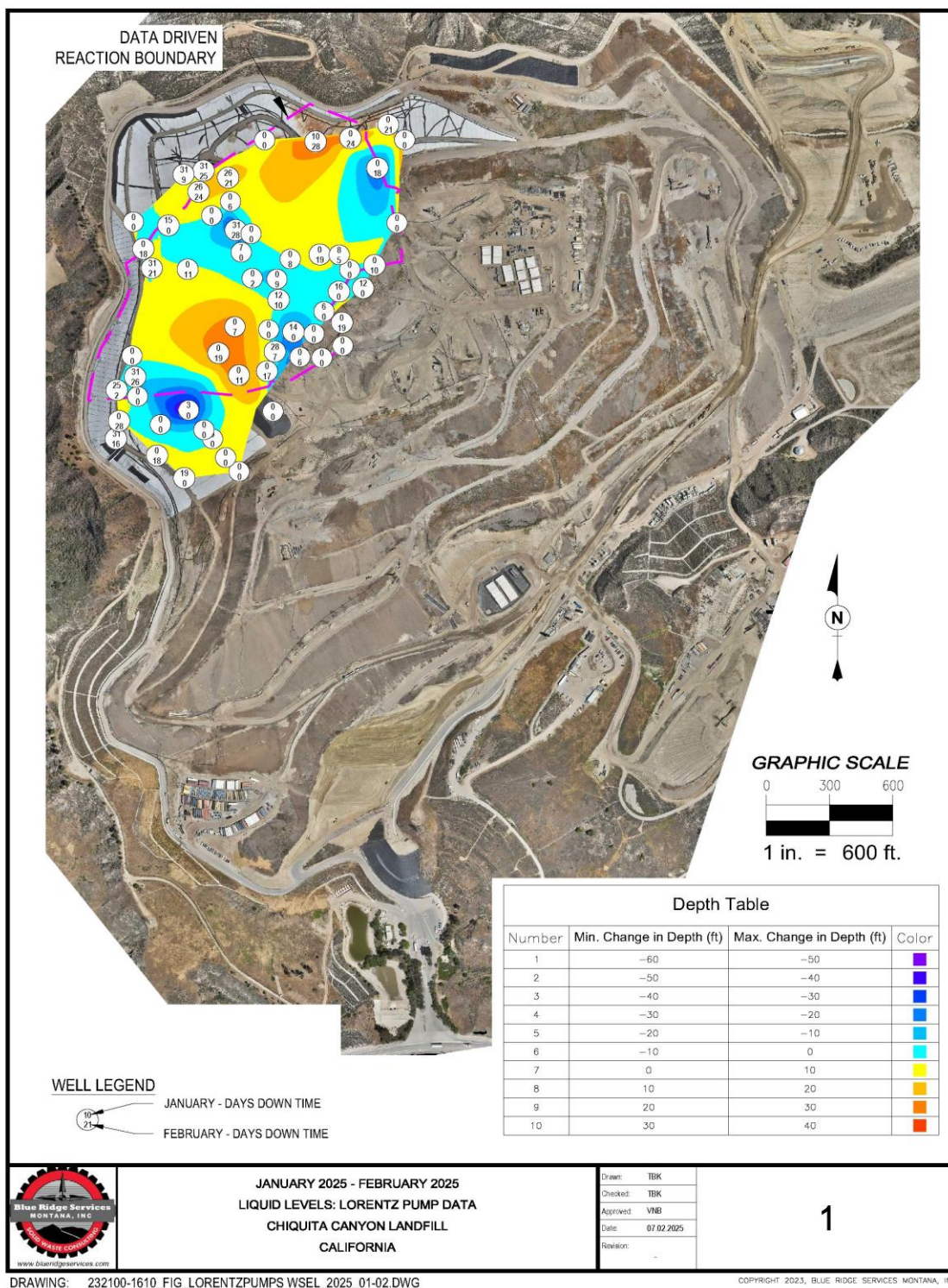


Figure 11 - Liquid level change Jan-Feb 2025



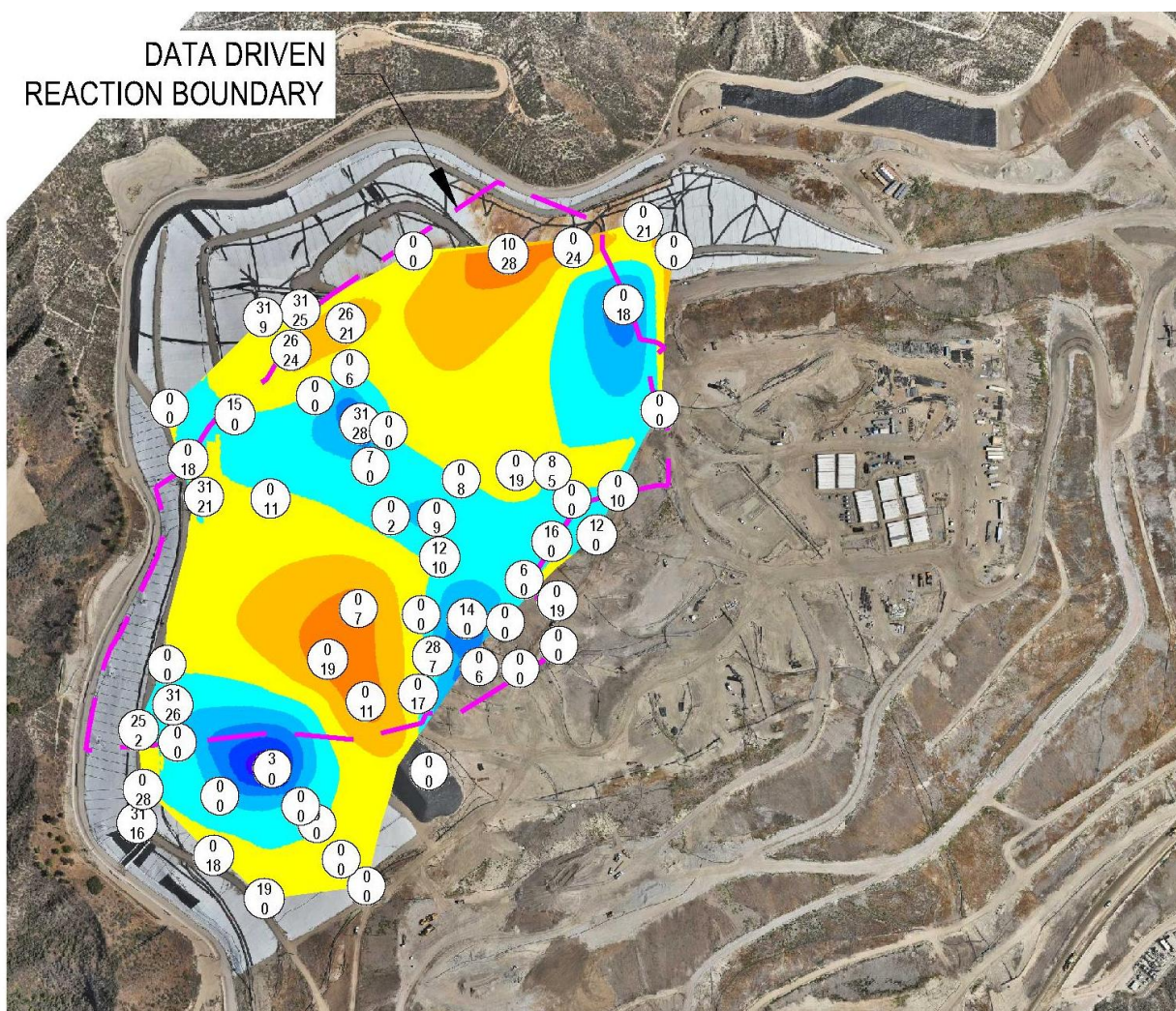


Figure 12 - Liquid level change Jan-Feb 2025



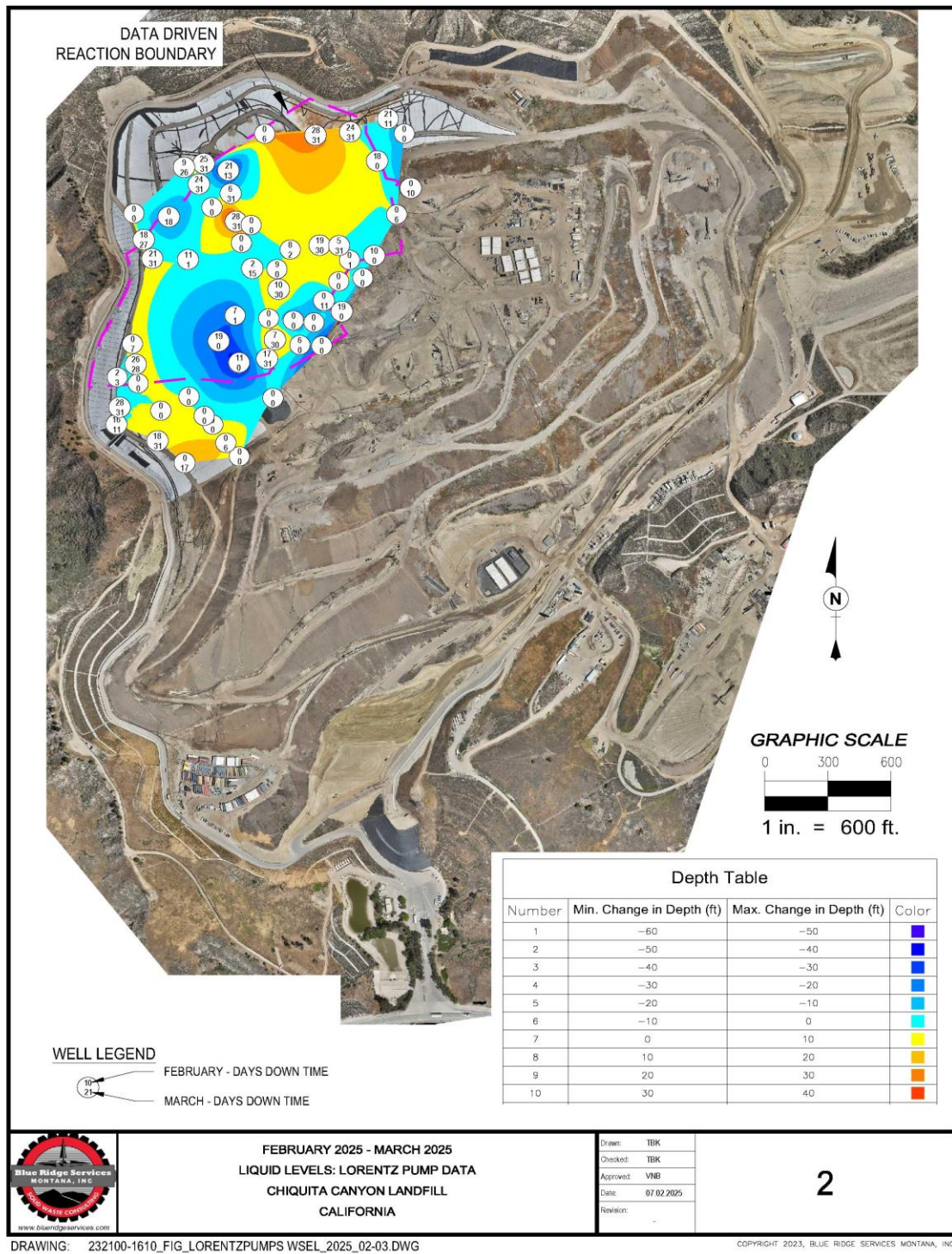


Figure 13 - Liquid level change Feb-Mar 2025







# Model of Liquid Generation and Total Quantity Report – Chiquita Canyon Landfill

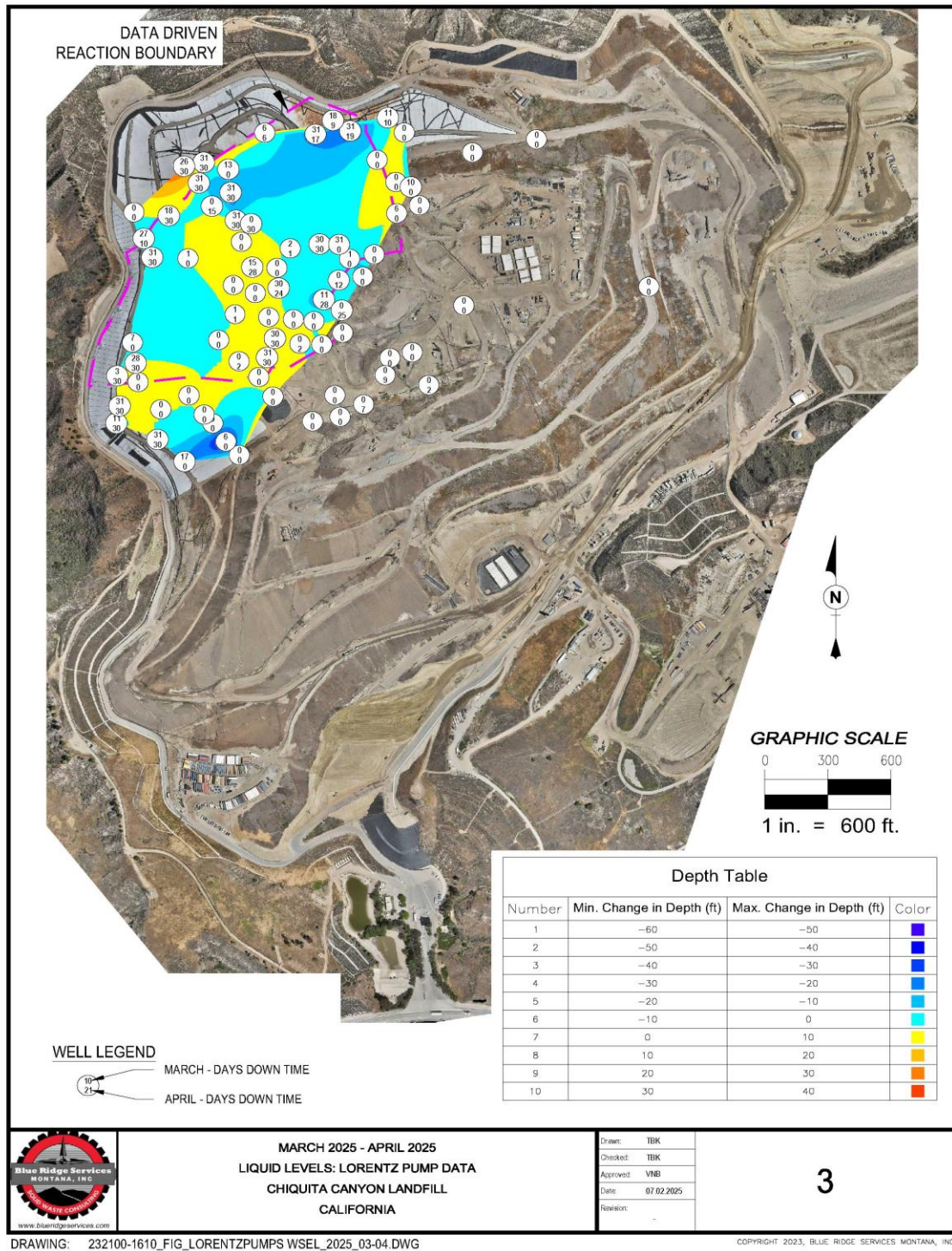


Figure 15 - Liquid level change Mar-Apr 2025







# Model of Liquid Generation and Total Quantity Report – Chiquita Canyon Landfill

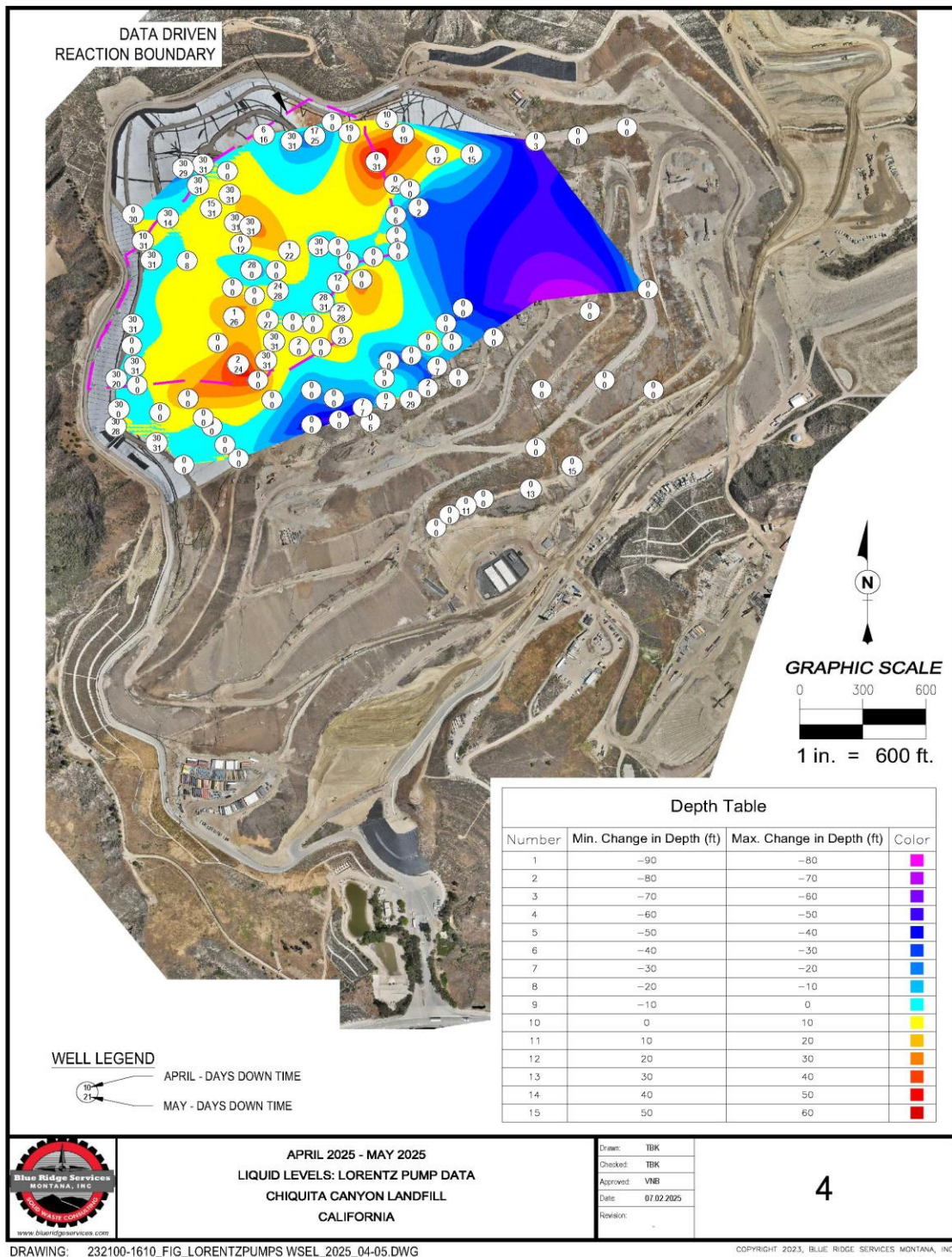


Figure 17 - Liquid level change Apr-May 2025



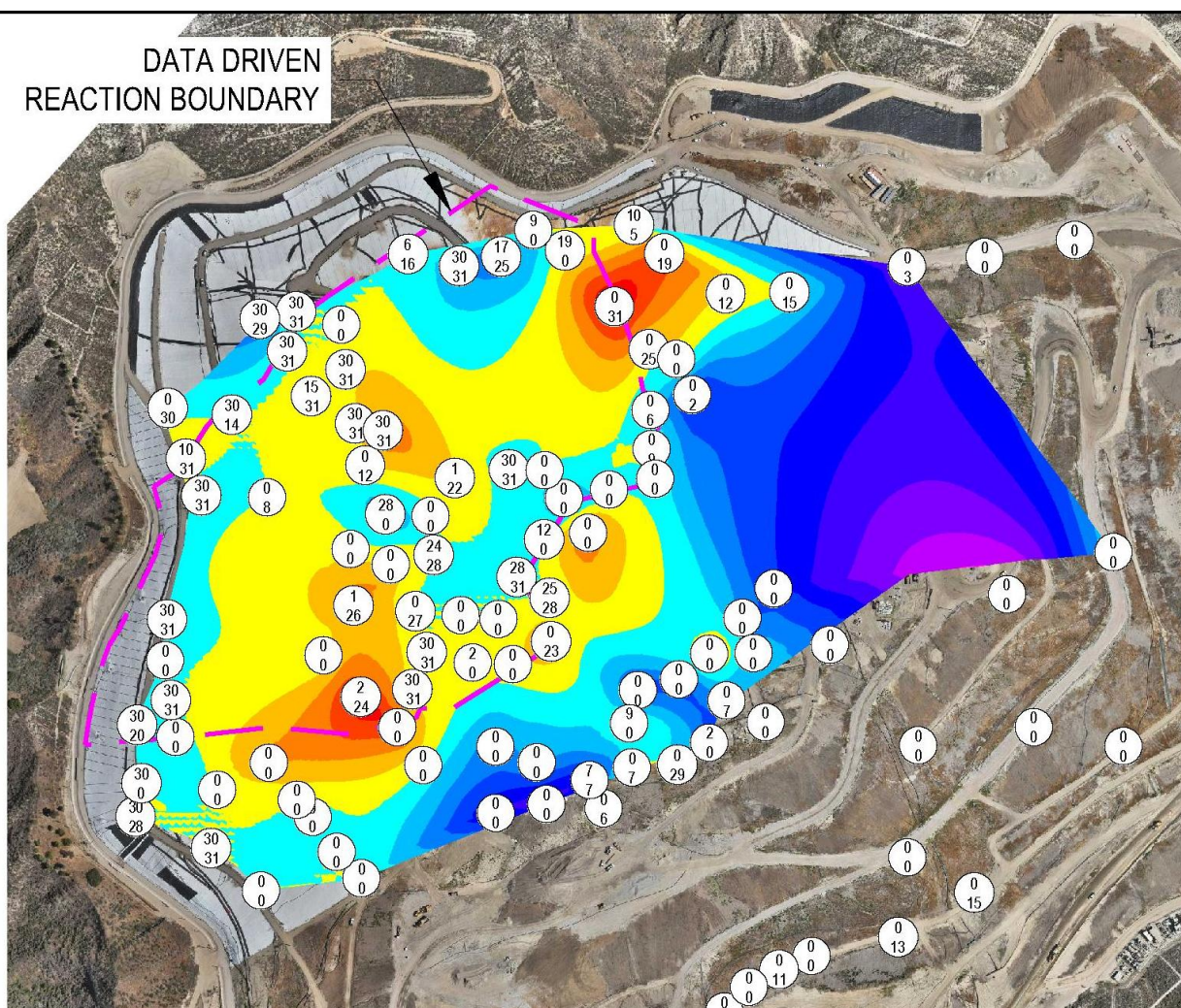


Figure 18 - Liquid level change Apr-May 2025