

September 10, 2025

Luke LeMond
Site Manager
Solid Waste Program
State of Washington Dept. of Ecology
Central Regional Office
1250 West Alder St.
Union Gap, WA 98903-0009

Re: DTG Yakima – Agreed Order No. DE 21624 – Monthly Progress Letter – August

Dear Mr. LeMond:

In accordance with Section 7.3 of Agreed Order (AO) No. DE 21624, the following is a description of the actions taken during August 2025 to implement the requirements of this AO.

Activities:

On-site activities included weekly gas probe and every other week ambient monitoring. The once per month regulatory review meeting was held on August 28, 2025. The monitoring data summary through August 2025 from Landfill Fire Control, Inc. (LFCI) is attached.

Q3A groundwater sampling was performed the week of August 4.

The Q2 groundwater report was progressed.

The Q2 MTCA technical memorandum was progressed.

Gregory Drilling completed the installation of the new thermistors T4 through T7.

Deviations from Plans (if any):

The LFCI August summary identifies concern for increased oxygen levels in the fill. This may be due to the thermistor installations and cut road access. Thermistor installation was completed in August and the cut road will be backfilled.

The August 14-15 gas probe testing included review of the MTCA area surface with no indications of cracking or venting identified.

Deviations Description from the Scope of Work and Schedule:

Drilling progressed slower than plan, but is now complete.

All Data Received or Collected:

Ambient and gas probe data for gases and temperature were emailed, separately, to Ecology weekly after measurements were taken. Gas probe data was entered into the tracking spreadsheets and assessed by LFCI. The summary of the data has been included as an attachment.

Address

22745 29th Dr. SE, Ste 200,
Bothell, WA 98021

Contact

425 549 3000
dtgreecycle.com

Deliverables for the Upcoming Month:

Deliverables will include:

- Weekly ambient and gas probe data
- September Progress Report
- Q2 groundwater report
- Q2 MTCA TM

Please contact me to discuss any of the above items.

Respectfully,



Ian Sutton
Director of Engineering
DTG Recycle
isutton@dtgrecycle.com

Enclosures: LFCI Data Update – August 2025

cc: mbrady@parametrix.com
steven.newchurch@co.yakima.wa.us



Providing a full range of landfill fire control and prevention services.

- Fire Safety Training
- Fire Safety Audits
- Fire Prevention and Response Plans
- Fire Extinguishment Strategies
- Fire Extinguishment Services
- Fire Monitoring
- Environmental Monitoring
- Forensic Investigations

September 9th, 2025

LFCIPRJ-2023-001

Mr. Ian Sutton, Director of Engineering
DTG Recycle
P.O. Box 14302 Mill Creek, WA 98082
By email: isutton@dtgrecycle.com

Re: Monthly Data Assessment Report DTG Yakima Landfill Fire Incident – August 2025

Dear Mr. Sutton,

LFCI has prepared a monthly review and update of gas and temperature monitoring data that is being collected at the DTG Recycle Landfill Fire in Yakima, Washington. The update includes maps showing the spatial distribution of temperature, carbon monoxide, and oxygen within the monitoring area and presents the data collected, highlighting trends and interpreting the results.

Following the continued slow signs of suppression observed in the past several months and a levelling trend observed in 2025, the month of August has exhibited a mixed response on account of a substantive air incursion event that started on July 1, 2025. Overall, CO and temperatures continue to trend downward, particularly in GP-3, the hottest probe. Thermistor response in T-1 has also been one of levelling off with modest reheating on account of the recent air incursion.

When looking at long term trends, the collected data has indicated that the subsurface smolder has become much less active since the soil cover was applied. Temperature and other parameters have all indicated a decrease in fire activity, with CO once again low and decreasing.

A concern has been recognized with oxygen levels increasing throughout the month to highest levels observed to date in many wells (see spatial maps of O₂). As there has been no large scale pressure swings to have triggered such a response in August 2025, LFCI is concerned that cover integrity may have been impacted by desiccation cracking and/or settlement induced stress cracking. LFCI recommends that the cover integrity be inspected for signs of cracks and remedial action implemented quickly.

As well, LFCI has noted a seasonal trend in oxygen levels, with elevated oxygen levels occurring in summer months, and lower oxygen levels in winter months. It was previously speculated that these trends were correlated with atmospheric pressure swings; however, as the highest oxygen levels are being observed in the summer months when average atmospheric pressures are low, and short term pressure swings are less intense, it is now believed that the reduced oxygen levels are more likely the result of frozen ground conditions and snow cover which inhibits air entry into the landfill in the winter months.

Plotting the temperature data in plan view clearly shows that the area affected by fire has markedly decreased over time. As stated in previous monthly updates, LFCI believes that the

LANDFILL FIRE CONTROL INC.

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www.landfillfire.com



data shows a small smolder continues to be active near GP-3, and that the rate of combustion of the smolder is steadily decreasing, however slowly. Based on the extinguishment target of temperature dropping below 180°F, we currently project that the fire will be declared extinguished within the year (summer 2026). However; if the temperature response continues to level off around 300 F, additional intervention may become necessary.

Based on this, LFCI recommends that monitoring continue on a weekly basis until it can be shown that CO levels in all locations have decreased to below 500ppm, once corrected for cross sensitivity effects. At that time, monitoring can be decreased for prevention purposes. Given the recent response and the reduced time line now projected to extinguishment, LFCI is of the opinion that further intervention is not warranted at this time.

We trust that this report provides the information you require, and should you need anything else please don't hesitate to contact the undersigned.

Sincerely,

LANDFILL FIRE CONTROL INC.

Dr. Tony Sperling, P.Eng.
President



September 9th, 2025

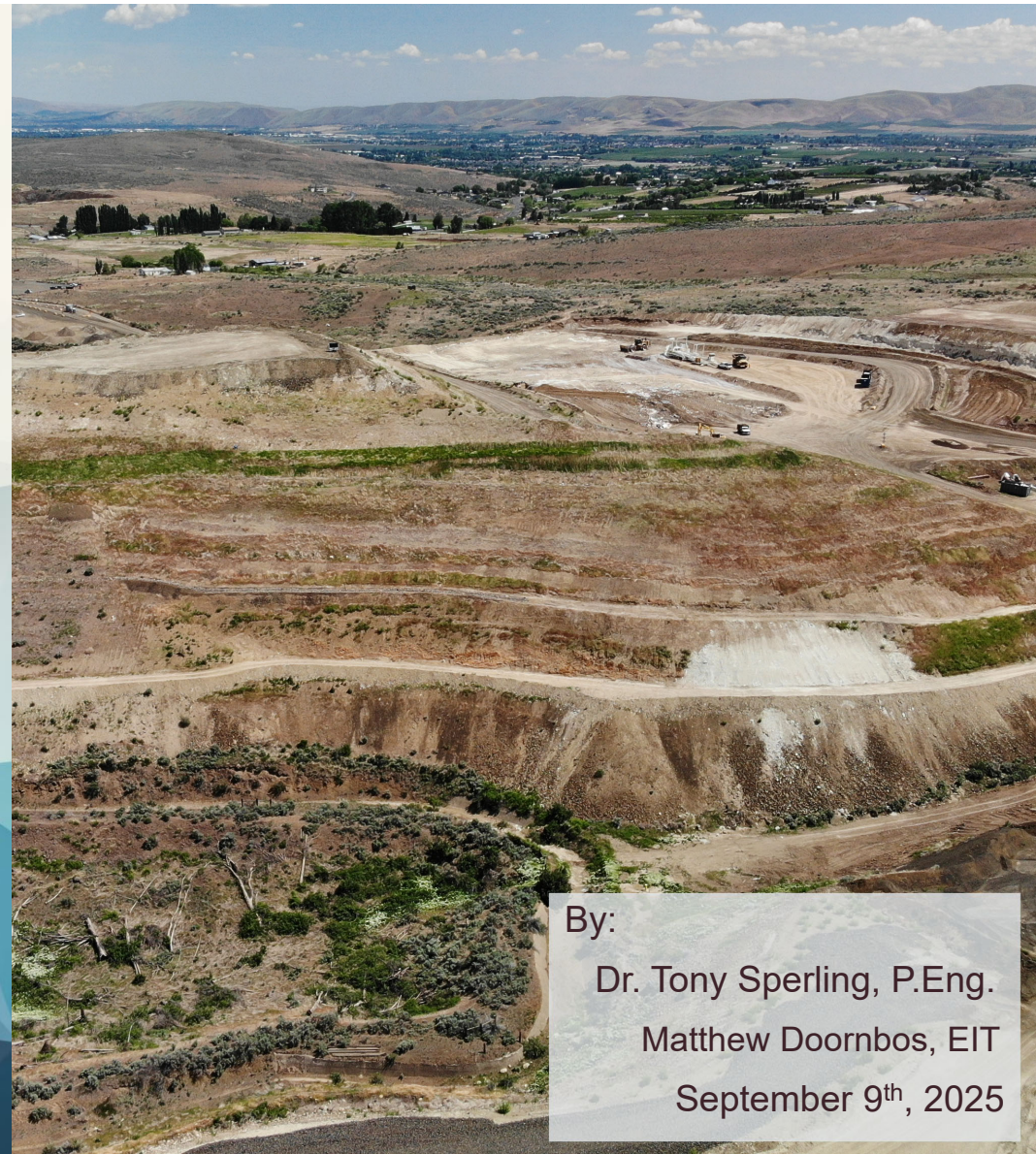
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DTG LPL LANDFILL FIRE INVESTIGATIONS AND MITIGATION

Monthly Monitoring Data Review
August 2025



By:
Dr. Tony Sperling, P.Eng.
Matthew Doornbos, EIT
September 9th, 2025

Contents

BHP Locations

Monitoring Data Review

Thermistor Temperature Data

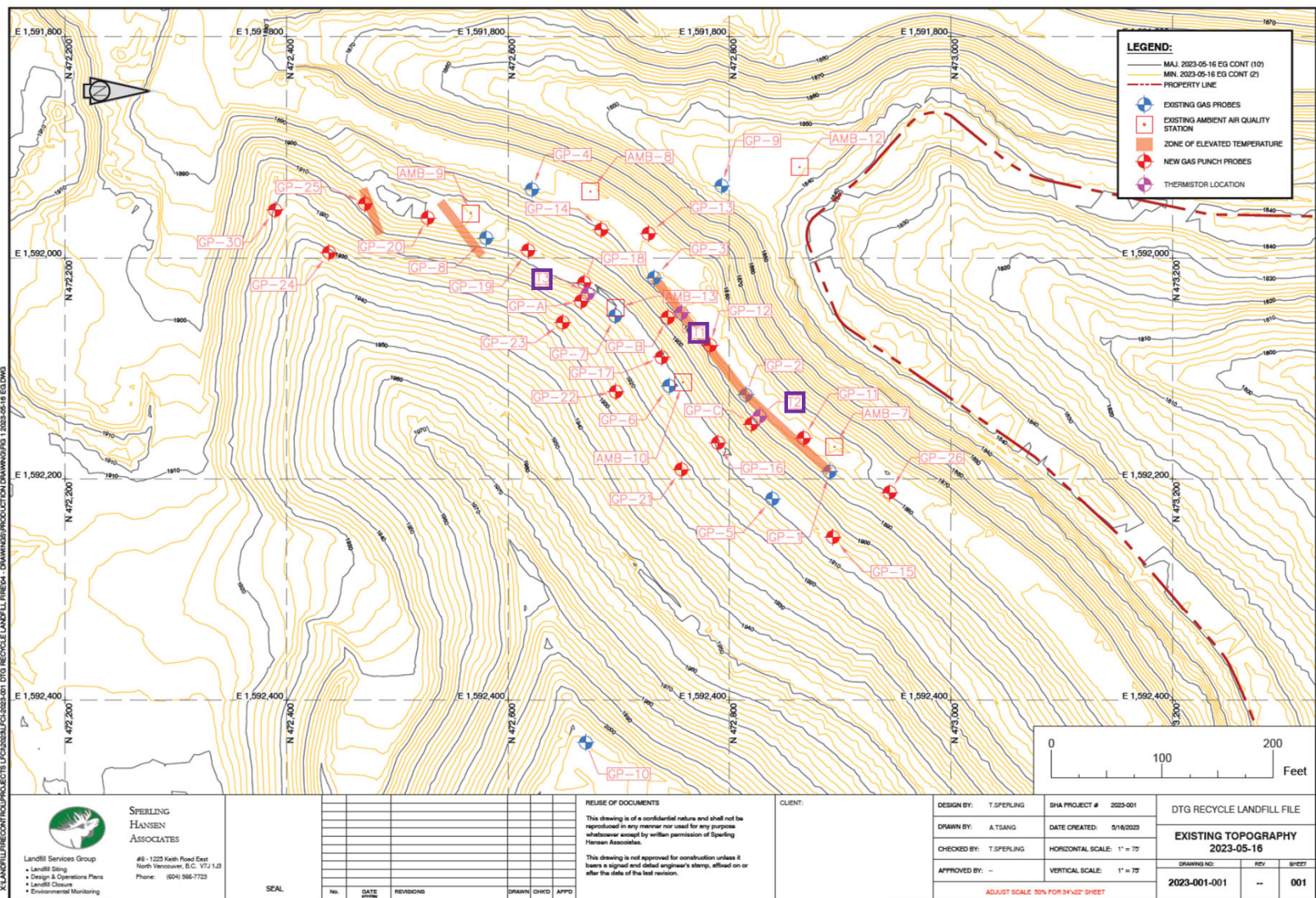
Overall Interpretation



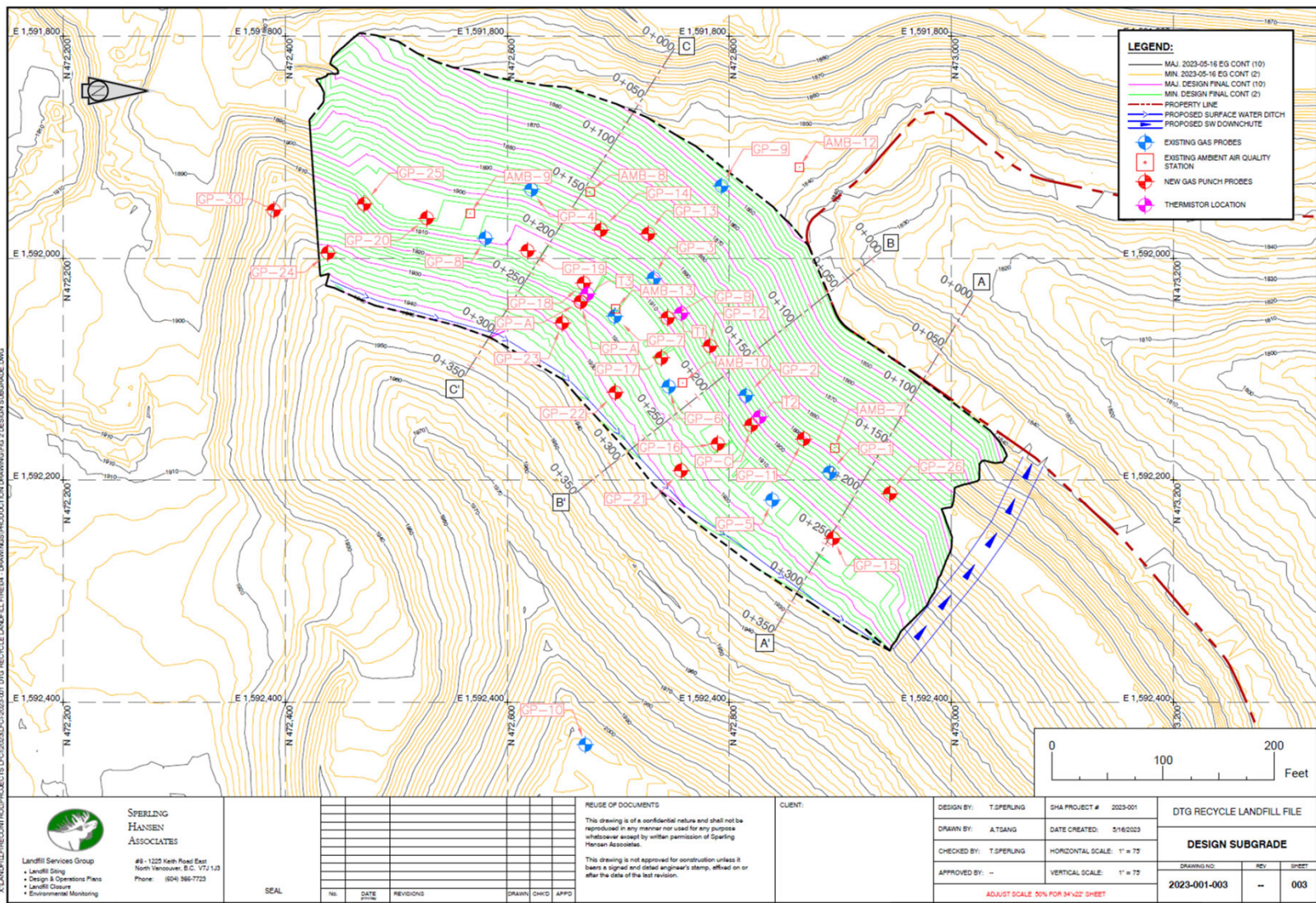


- Existing GPs
- New GPs

GP-15 5 GP-21 GP-22 GP-23 GP-24 GP-25
GP-16 GP-17 GP-18 GP-19 GP-20
1 GP-11 2 GP-12 GP-13 GP-14 GP-25
T2 T1 T3
3 4 6 7 8



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**Sperling
HANSEN
ASSOCIATES**

Landfill Services Group
• Landfill Siting
• Design & Operations Plans
• Landfill Closure
• Environmental Monitoring

#8 - 1225 Keith Road East
North Vancouver, B.C. V7J 1J3
Phone: (604) 366-7723

SEAL

NO.	DATE	REVISIONS	DRAWN	CHKD	APPD

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This drawing is not approved for construction unless it bears a signed and dated engineer's stamp, affixed on or after the date of the last revision.

CLIENT:

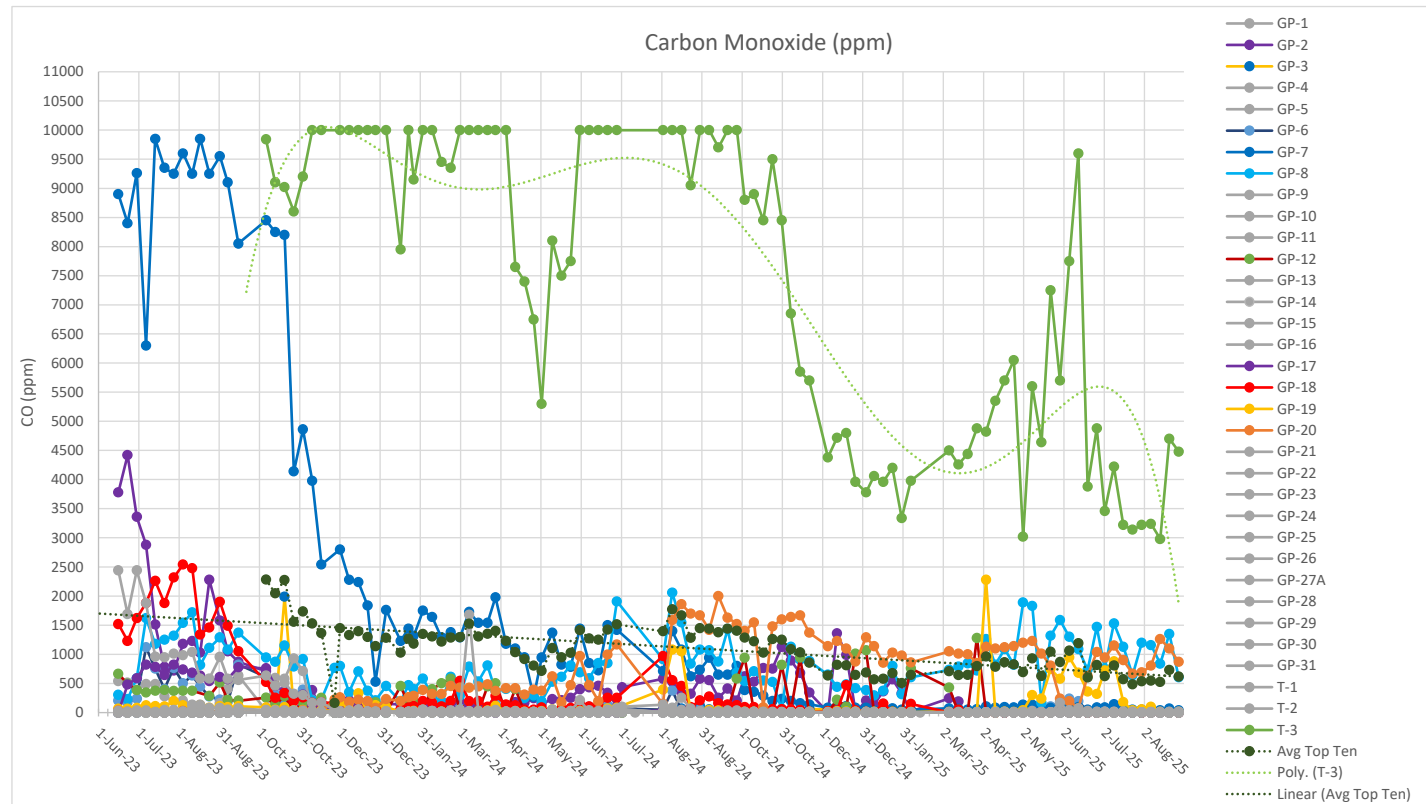
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APPROVED BY:	—	VERTICAL SCALE:	1" = 75'
ADJUST SCALE 50% FOR 34"x42" SHEET			

DTG RECYCLE LANDFILL FILE		
DESIGN SUBGRADE		
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Carbon Monoxide

The month of August saw Carbon Monoxide levels maintained around 3500ppm in T-3 during the first half of the month, spiking up to 4500 in the last two monitoring events of the month.

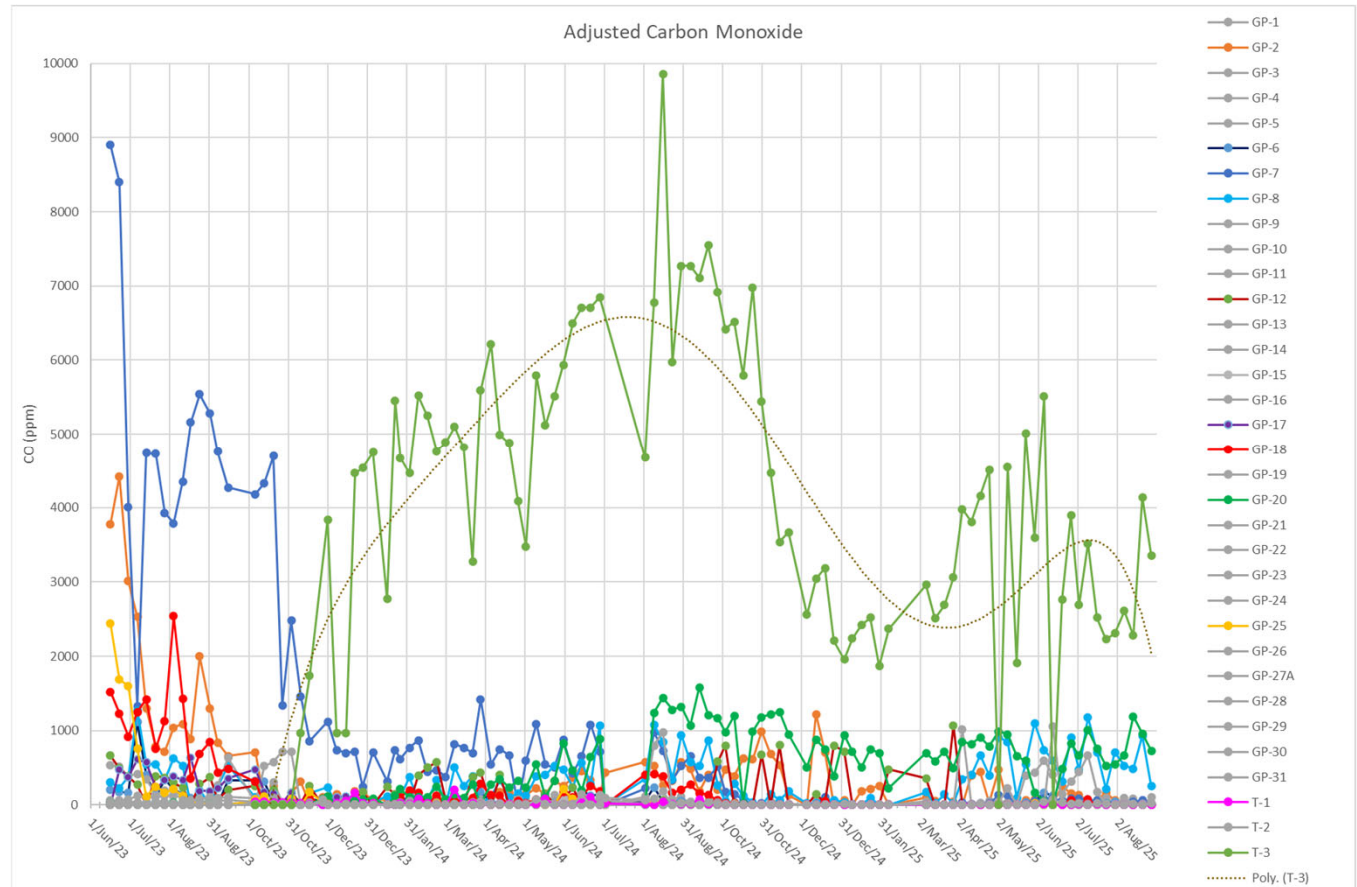
The average CO across the top 10 wells has been decreasing steadily since soil application commenced, with a slight increase since January 2025, correlating with increased pressure oscillations that push more atmospheric air into the landfill. This slight increase has now returned to declining trends.



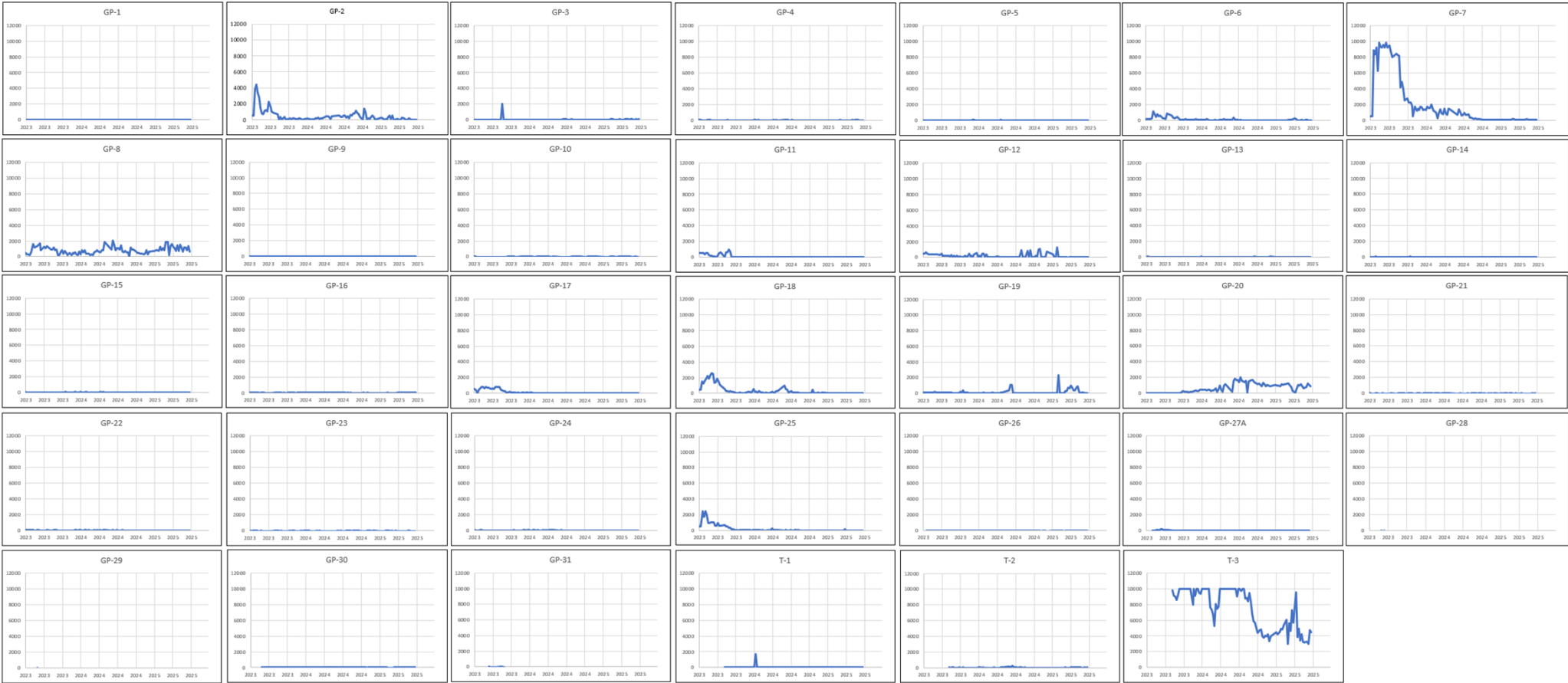
CO Adjusted for H2 Gas

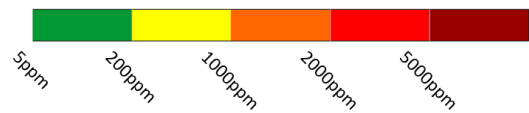
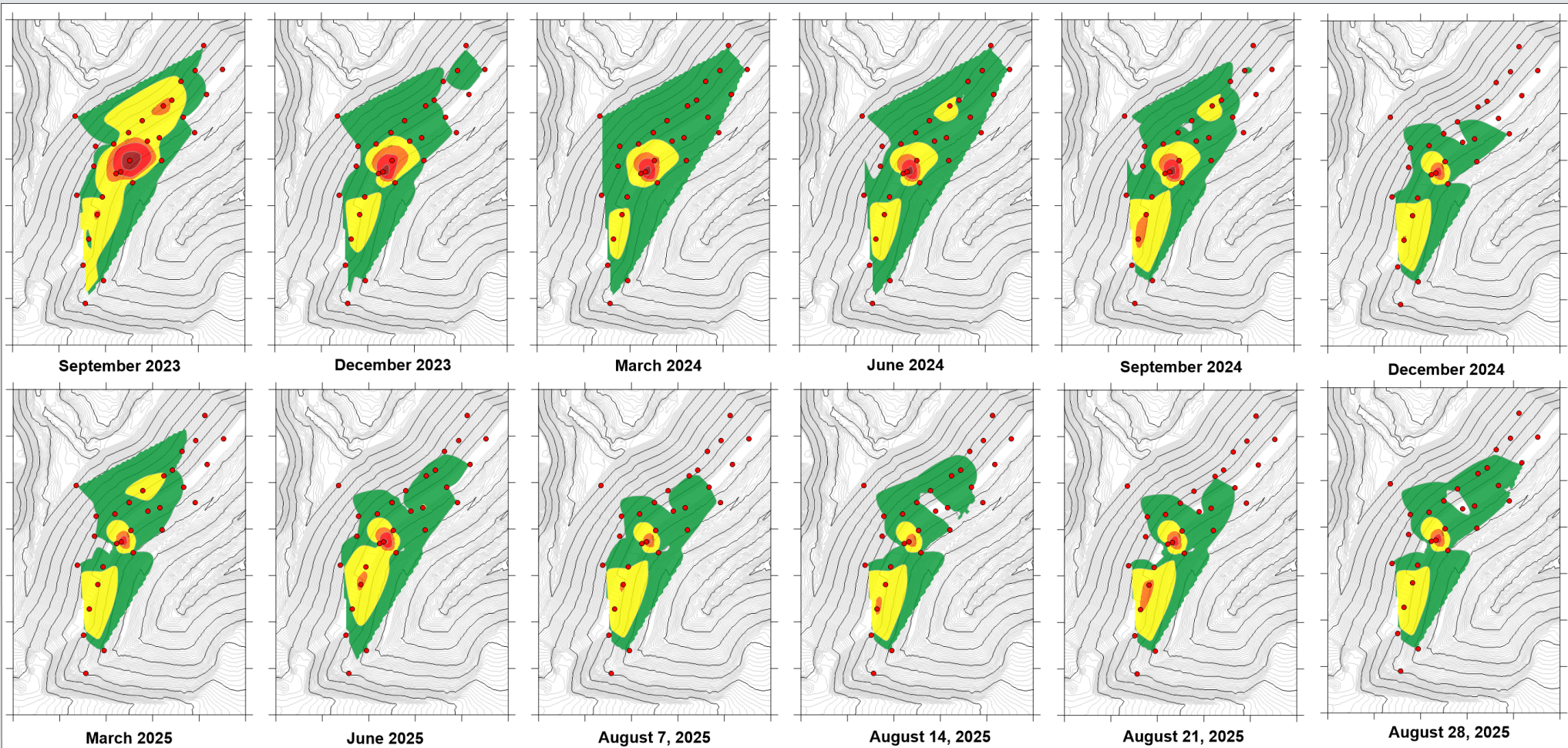
Adjusted CO measurements have also shown somewhat increased but varying levels of carbon monoxide between January 2025 and early June 2025, followed by a decrease June through August, 2025. The two most recent readings in late August saw an increase 4,100 ppm in T-3, the only monitoring point that remains elevated.

It is suspected that this increase in CO at T-3 is related to an uptick in temperature in T-1 at 40' depth and GP-12. This can be attributed to the increased oxygen availability at depth, as indicated by oxygen levels in T-1, T-2 and T-3.



CO Levels by Individual Wells





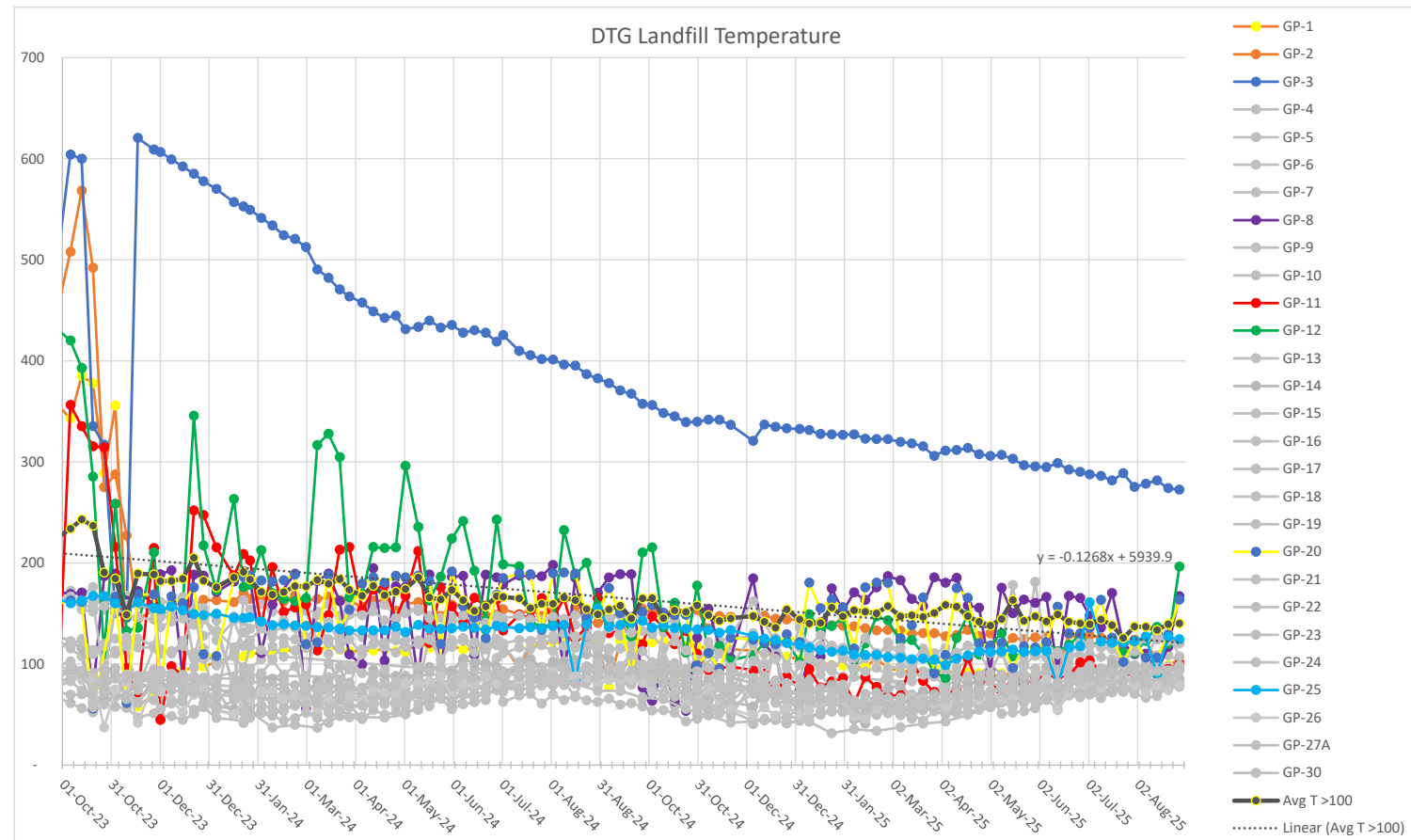
- Data taken from first monitoring event of each month unless noted otherwise
- Data has been interpolated between data points
- Datapoints (probe locations) represented in red
- CO levels are measured in ppm
- Ground contours are of existing ground at beginning of project, with design contours added for after addition of fill

Temperature (F)

August saw continued decreasing temperatures in GP-3, the hottest well, with temperatures continuing to fall below 300F at a slow rate.

Similar to previous months, the trend line continues to show gradual cooling, with the wells reading above 100F showing some variation but seeming to be generally stable over the past month.

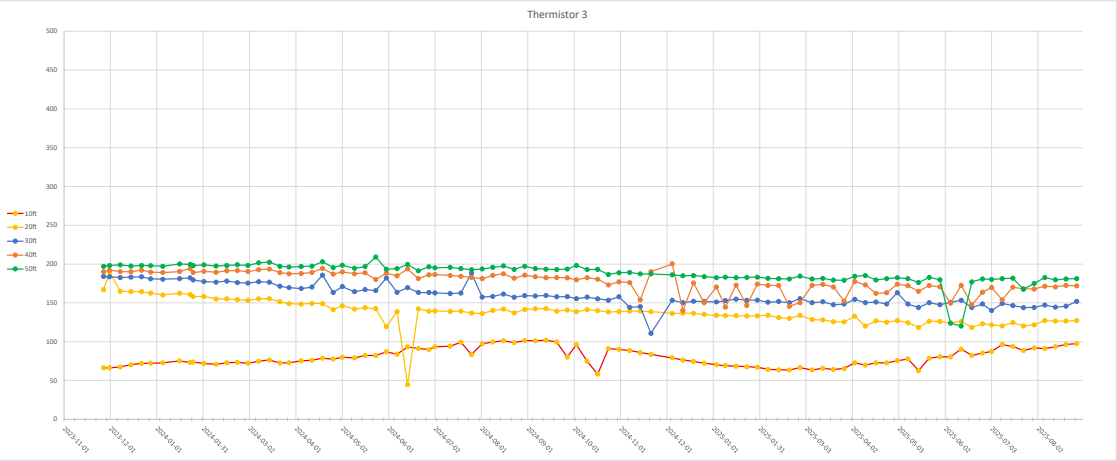
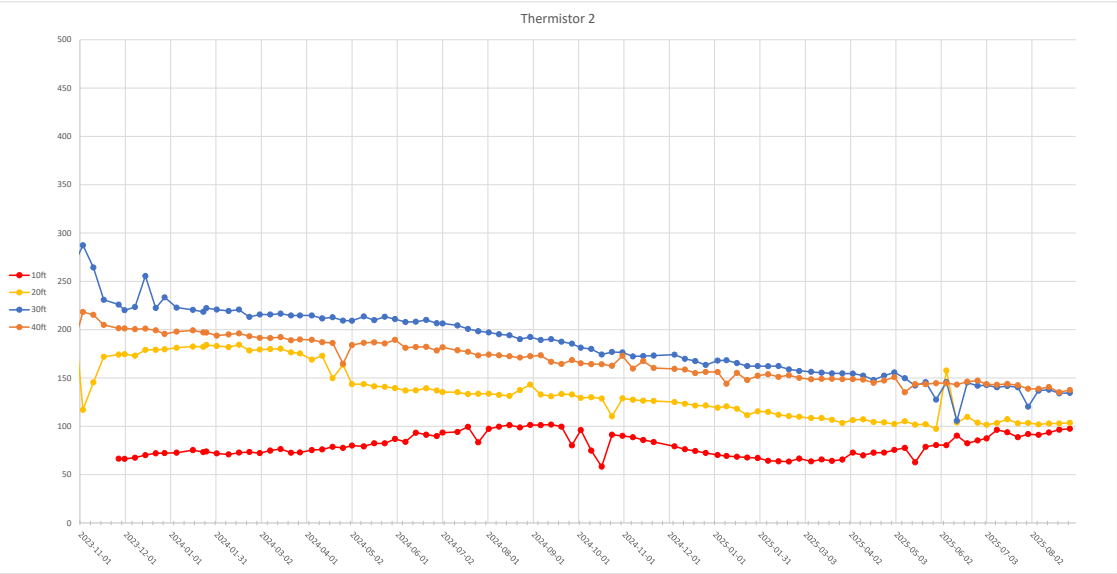
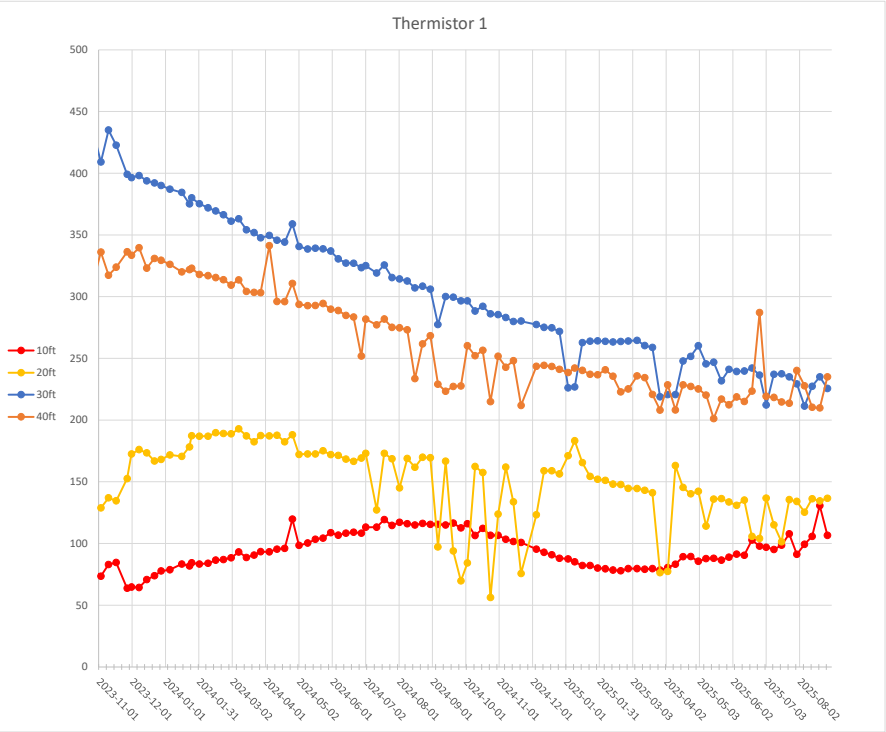
Note the seasonal warming that can be seen in the lowest temperature wells, exhibiting slightly higher temperatures during the summer months. These are expected to begin falling again, similar to this time of year in 2024.

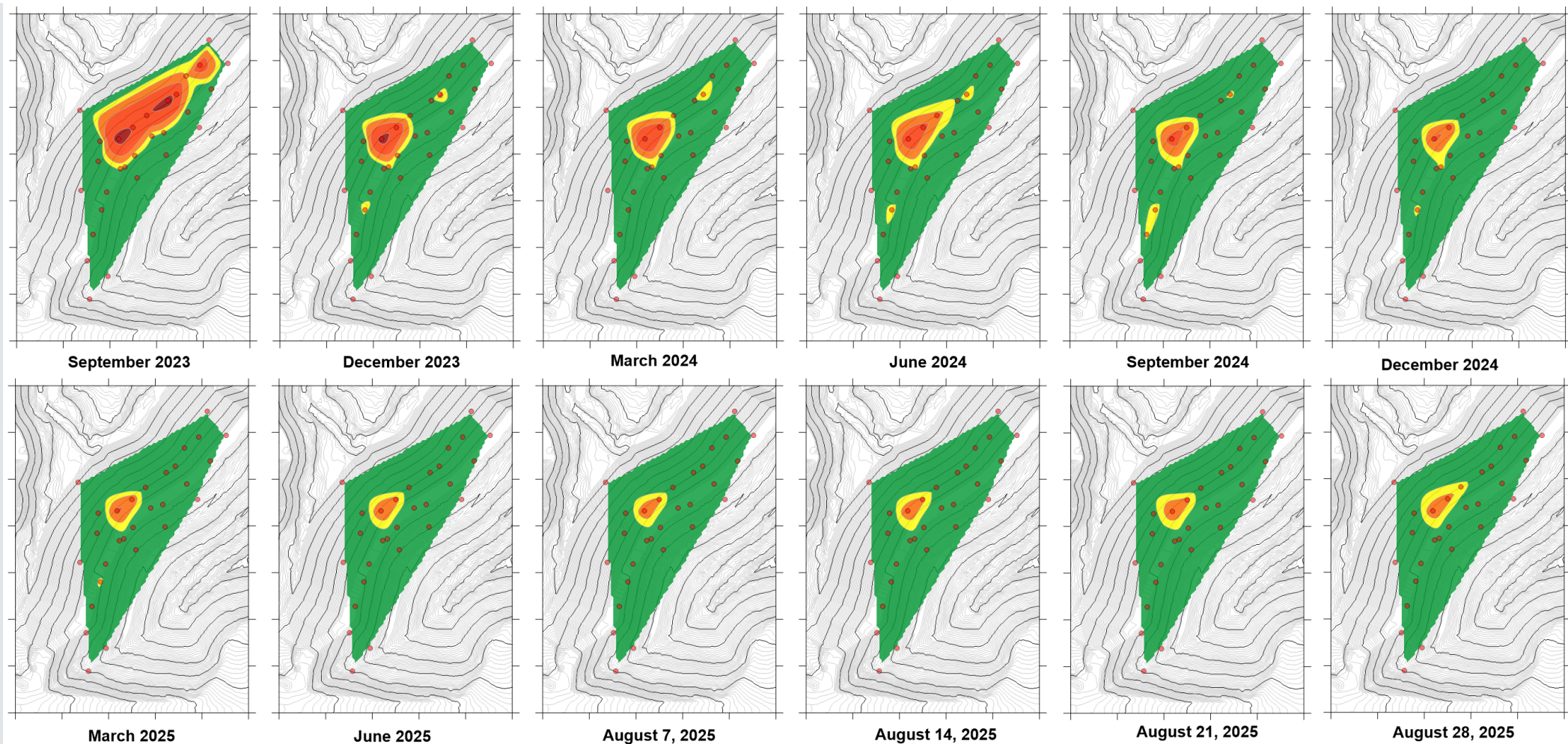


Thermistor Temperatures

Thermistor temperatures are mostly stable, with a slight downward trend in T-1 and T-2, however; the rate of cooling is decreasing, especially in T-1. Consideration should be given to installing a dedicated thermistor on T-1 at 20 ft, as the oscillations seen at depths of 20 and 30ft feet indicate there may be issues with the measurements.

There is a slight increase in T-3, which SHA expects to decrease as the ambient temperatures decrease over the winter.



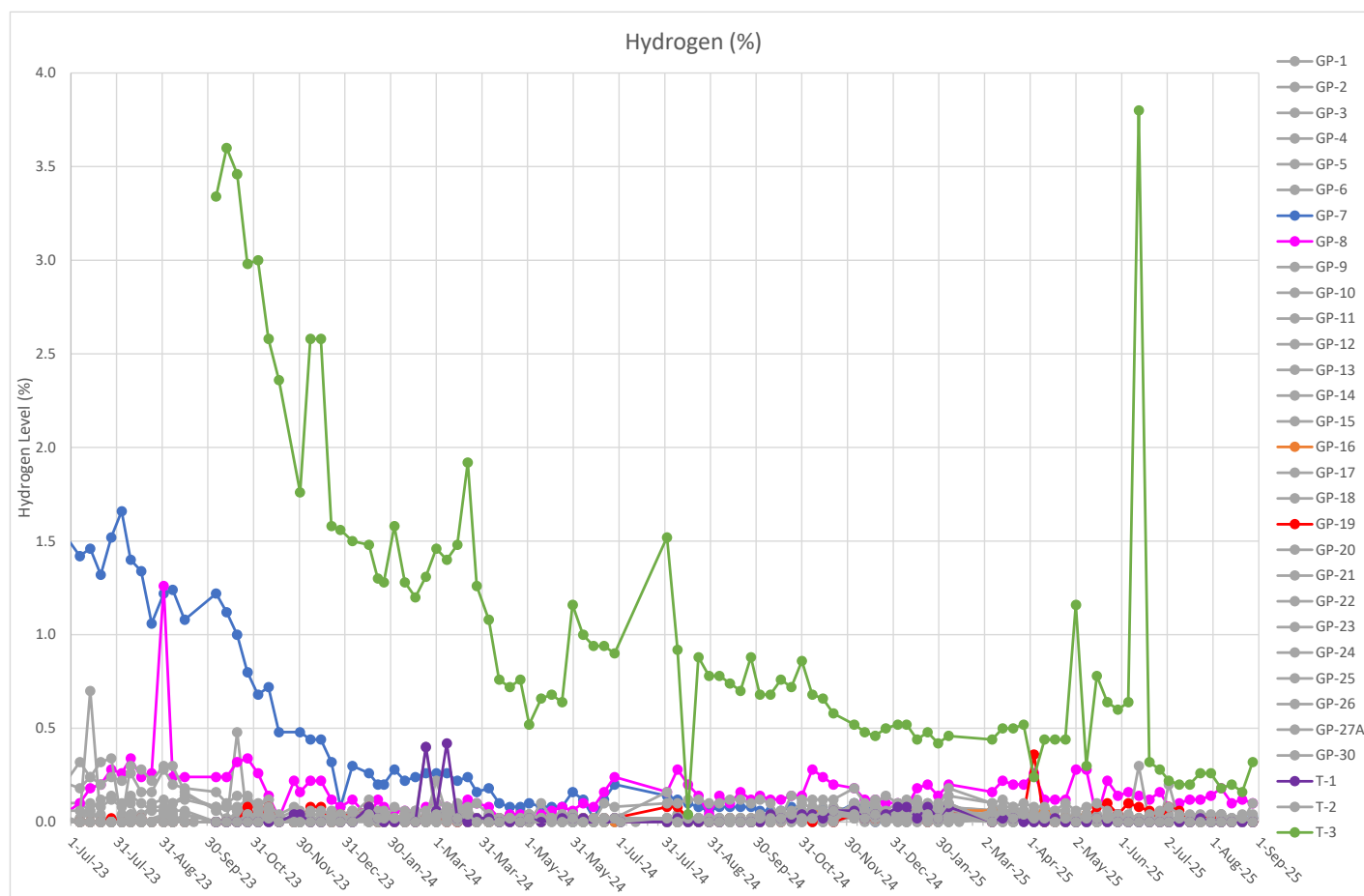


- Data taken from first monitoring event of each month unless noted otherwise
- Data has been interpolated between data points
- Datapoints (probe locations) represented in red
- Temperatures are measured in degrees Fahrenheit
- Ground contours are of existing ground at beginning of project, with design contours added for after addition of fill

Hydrogen

The hydrogen measurements in T-3 have continued at an all-time low, around 0.25%.

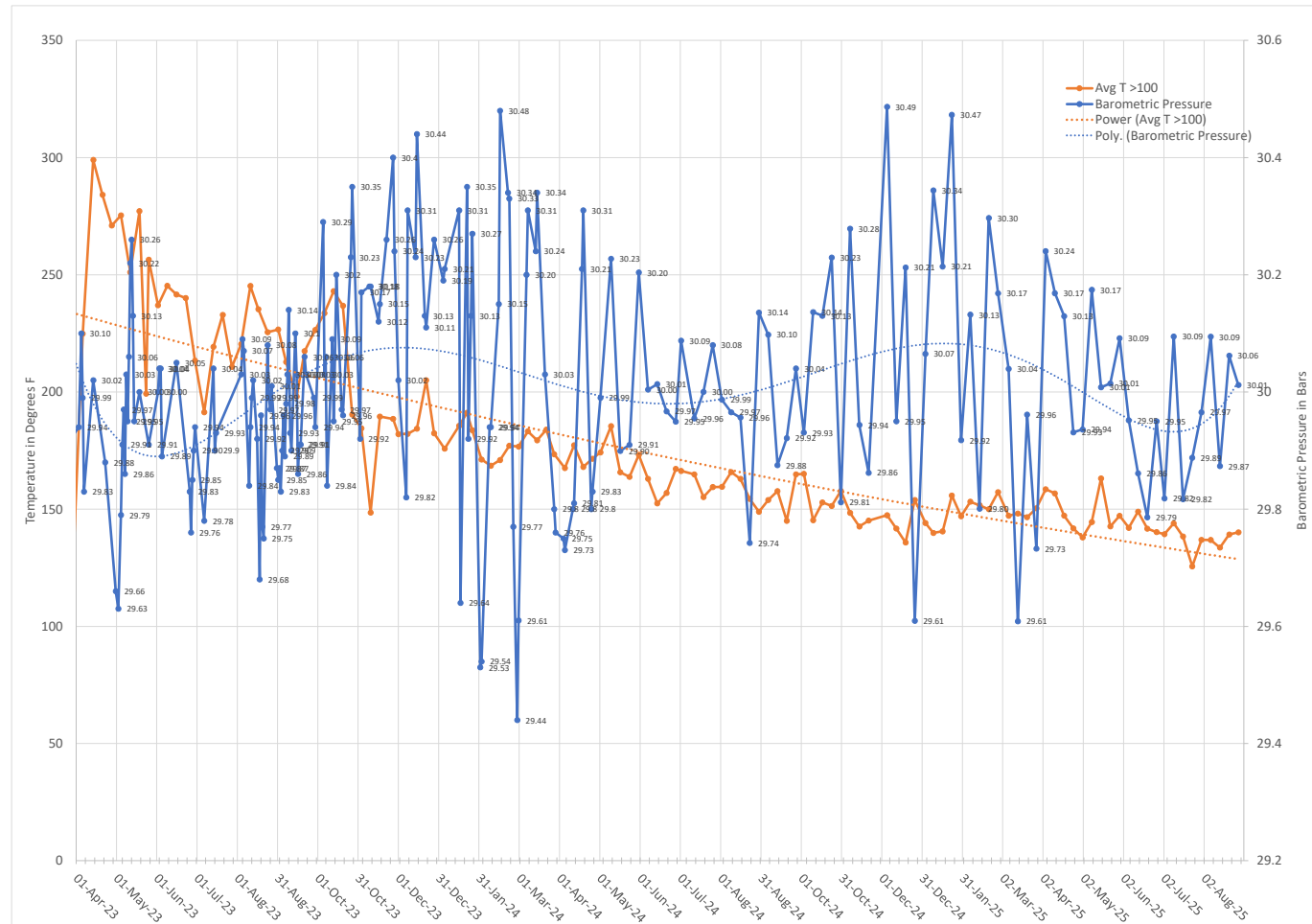
Hydrogen remains very low in all other wells. Production of H₂ is often observed with smoldering waste. LFCI believes that the level of H₂ dropping continues to indicate that the fire is less active.



Barometric Pressure

The site continues to see a decreasing atmospheric pressure over the summer, and it is expected that the trend will turn upwards in the coming months.

Based on past pressure trends, we anticipated this low pressure environment from April through to September, which resulted in the expected less oxygen availability. This has seemingly had the desired effect of providing less oxygen to fuel the fire, as temperatures have continued to decrease.



Oxygen

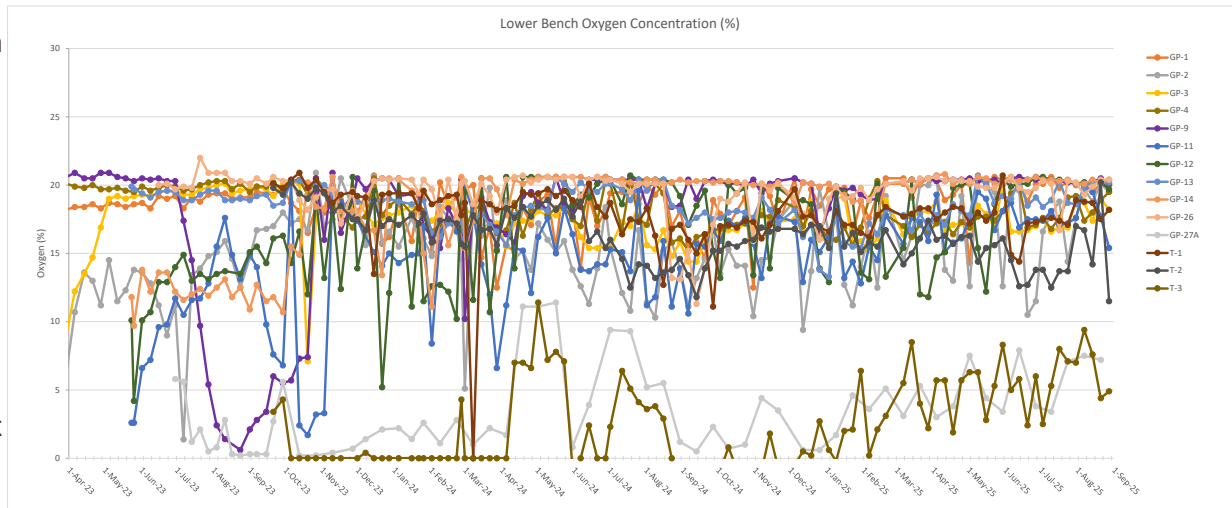
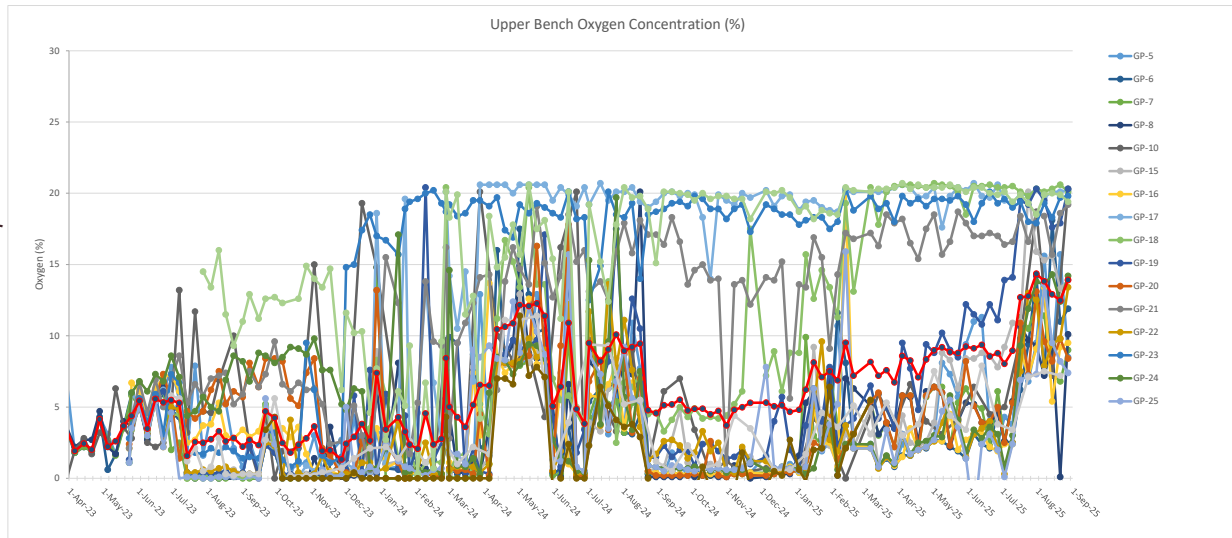
The oldest portion of the landfill is likely relatively inert and biologically inactive, producing very little methane. As a result, the pore space is full of atmospheric air, leading to the generally high oxygen concentrations. In plan view, oxygen levels have been increasing since January of 2025.

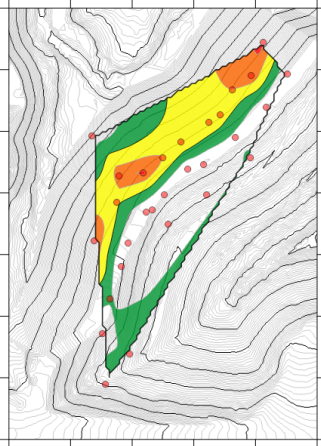
Oxygen levels in many of the GPs in the upper bench appear to oscillate seasonally, with higher oxygen levels in the summer months. Initially, it was suspected this was related to atmospheric pressure swings; however, the highest average pressure and greatest swings occur in the winter, while highest oxygen levels occur in the summer. It is now theorized that oxygen entry in the winter is inhibited by snow cover and frozen soil which reduces air permeability.

An incursion of atmospheric air has been detected in upper bench oxygen concentrations starting July 1, 2025. Areas on the plan view that were consistently green (<10% O₂) have changed to yellow (<15% O₂) or orange (<20% O₂). Such a trend has been detected previously starting April, 1, 2024. Both events were preceded by very large fluctuations in atmospheric pressure of up to 1 Bar.

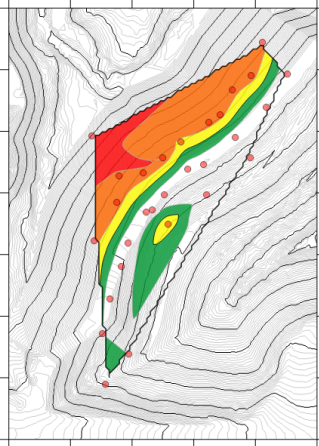
April, 2024 triggered a smolder resurgence based on CO, as did Jan 1, 2025 O₂ increase. July 1, 2025 increase seems to have caused a similar increase.

The surface of the fire area should be checked for settlement and dessication cracks that could be allowing more air entry.

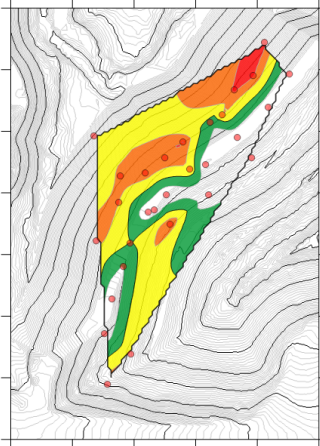




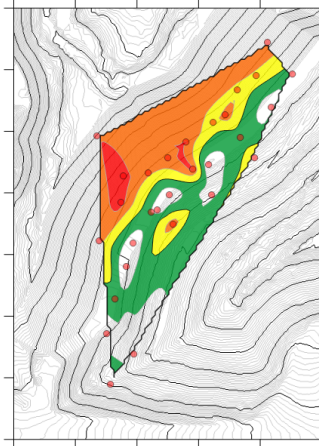
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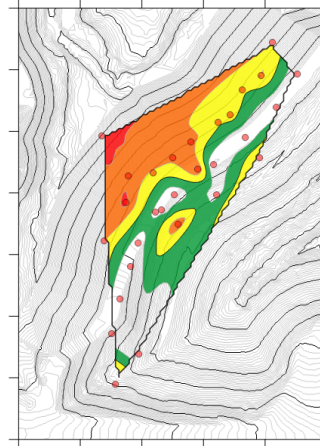
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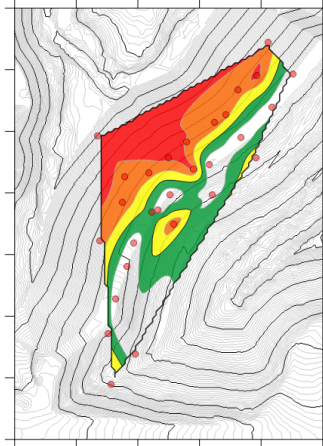
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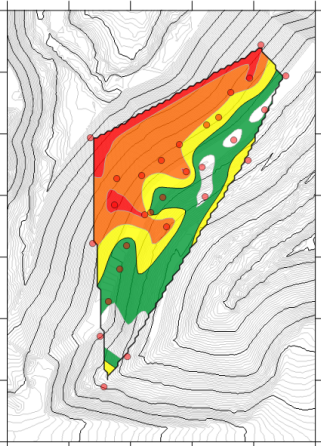
June 2024



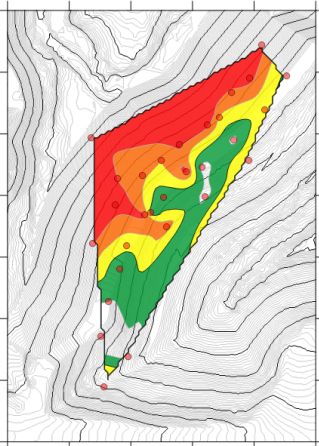
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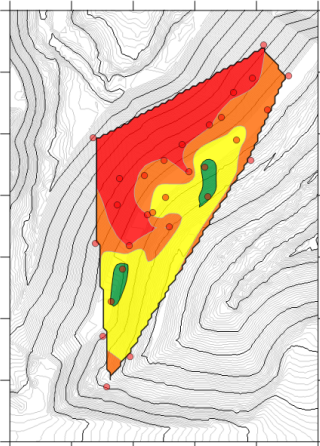
December 2024



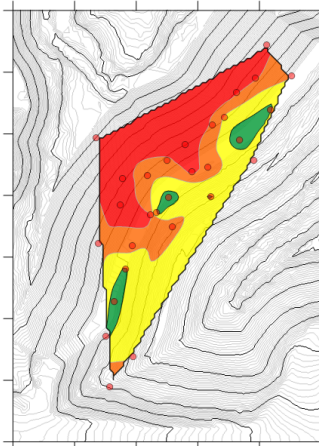
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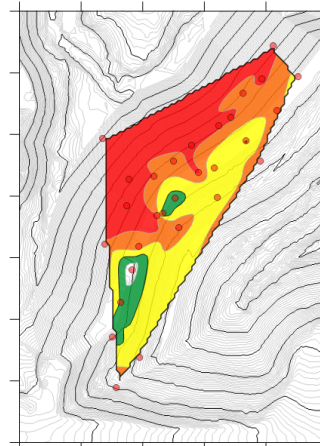
June 2025



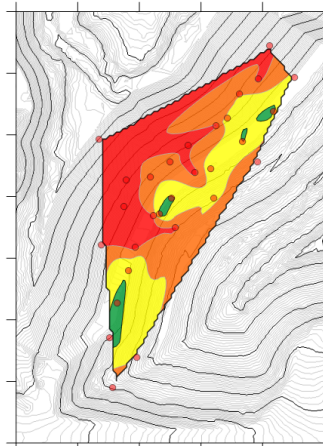
August 7, 2025



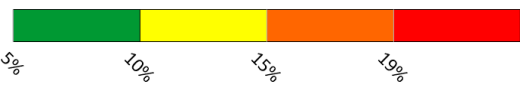
August 14, 2025



August 21, 2025



August 28, 2025



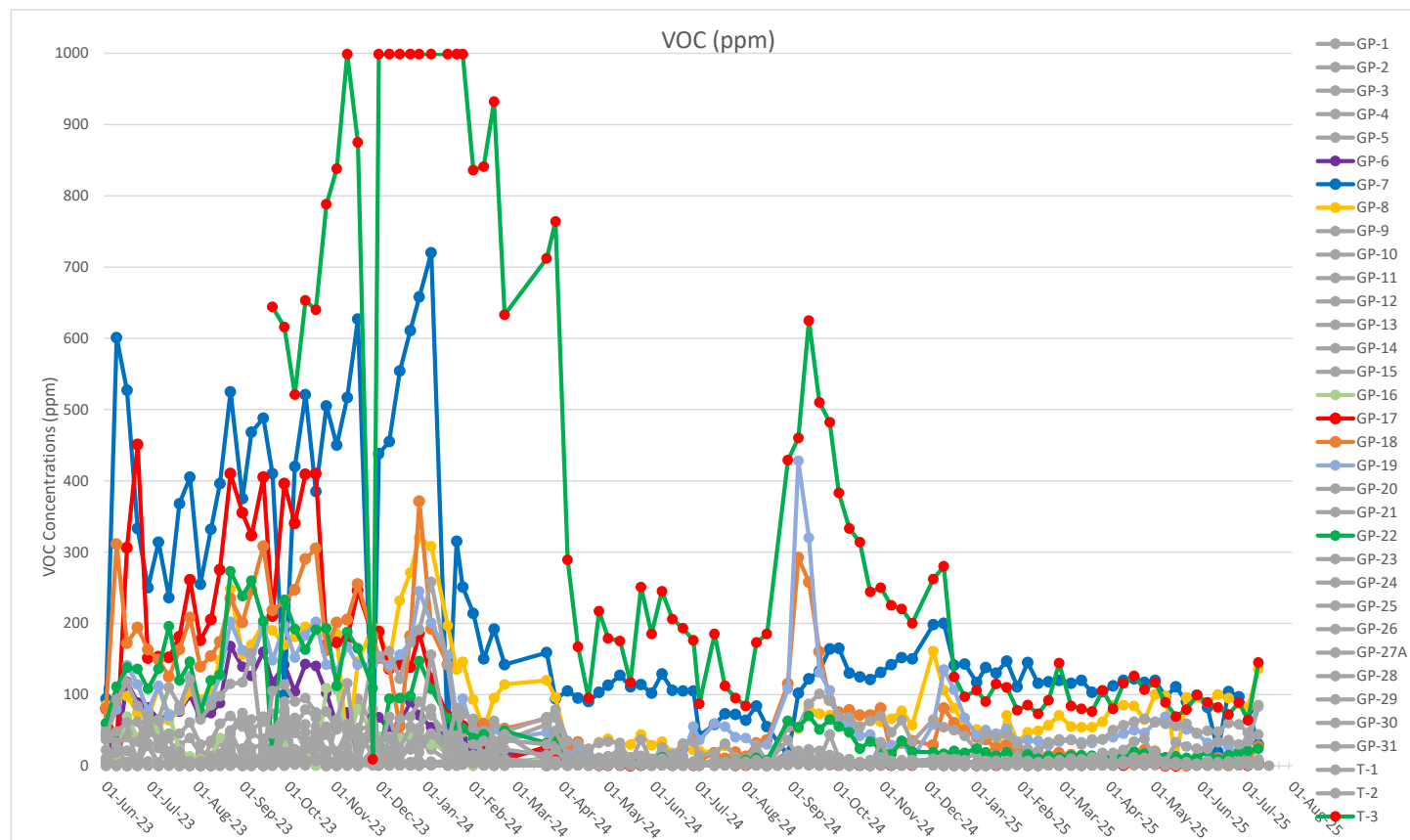
- Data taken from first monitoring event of each month unless noted otherwise
- Data has been interpolated between data points
- Datapoints (probe locations) represented in red
- O₂ levels are measured in percent composition of sampled gas
- Ground contours are of existing ground at beginning of project, with design contours added for after addition of fill

Volatile Organic Compounds

Through June and the first monitoring event of July, VOC levels have continued a modest declining trend with the highest concentrations in several wells around 100ppm.

VOC emissions are often related to subsurface landfill fires. The fact that VOC emissions have declined and stayed low for the past several months are a strong indication that the fire is inactive.

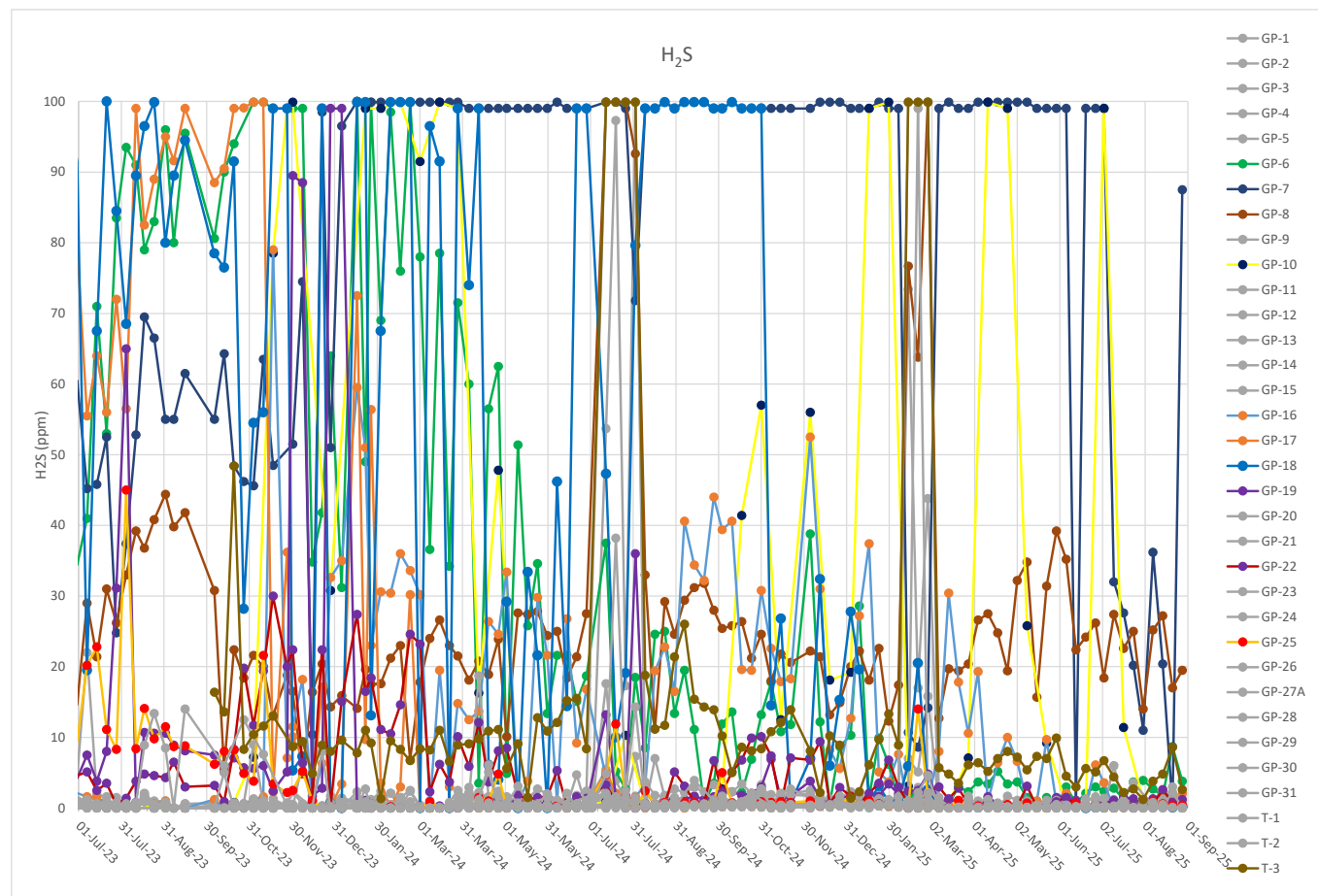
VOCs have not been measured since mid July as the MultiRAE gas monitor is awaiting a new bulb, which has been difficult to source.



Hydrogen Sulfide

H₂S data continues to be noisy, likely affected by atmospheric pressure fluctuation. Most locations are low, and historically high wells (GP-7, GP-10) have also lowered to 20ppm.

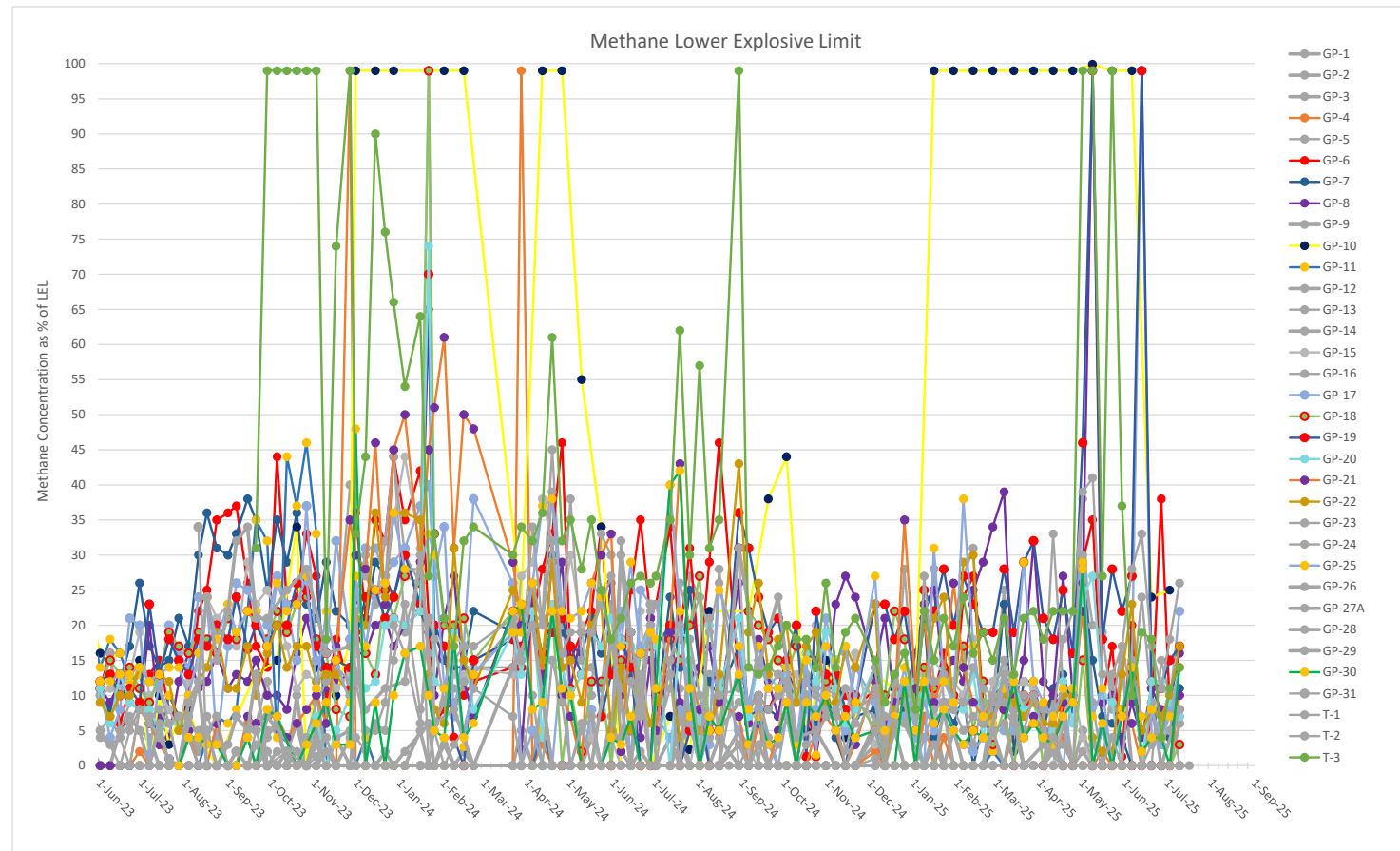
As mentioned previously, it is possible that the H₂S sensor is being impacted by CO cross interference. With CO concentration decreasing, reported H₂S concentration is dropping as well.



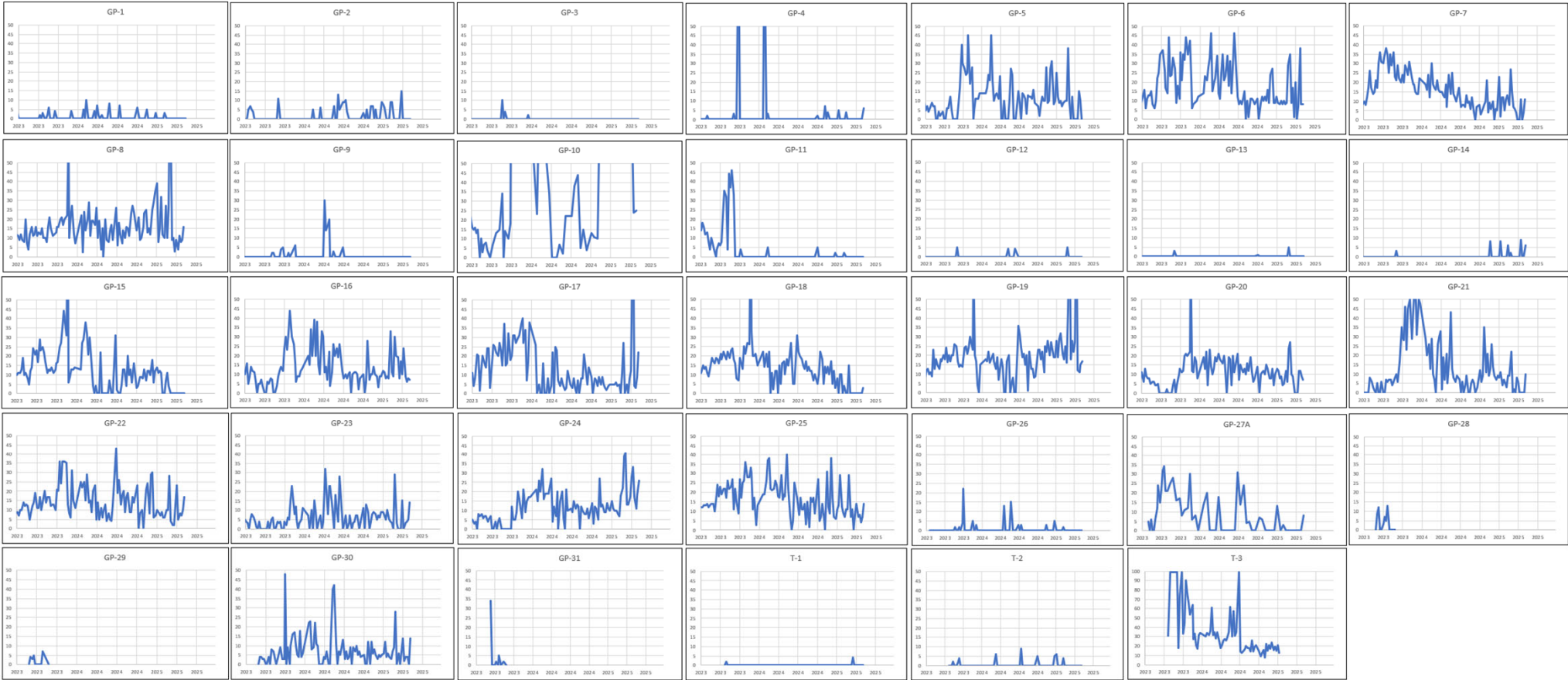
Lower Explosive Limit

Many data points are fluctuating wildly – the direct methane composition is a better indicator of levels within the landfill.

As LEL is measured with the MultiRAE, the last three monitoring events were not recorded in July.



LEL for individual GP



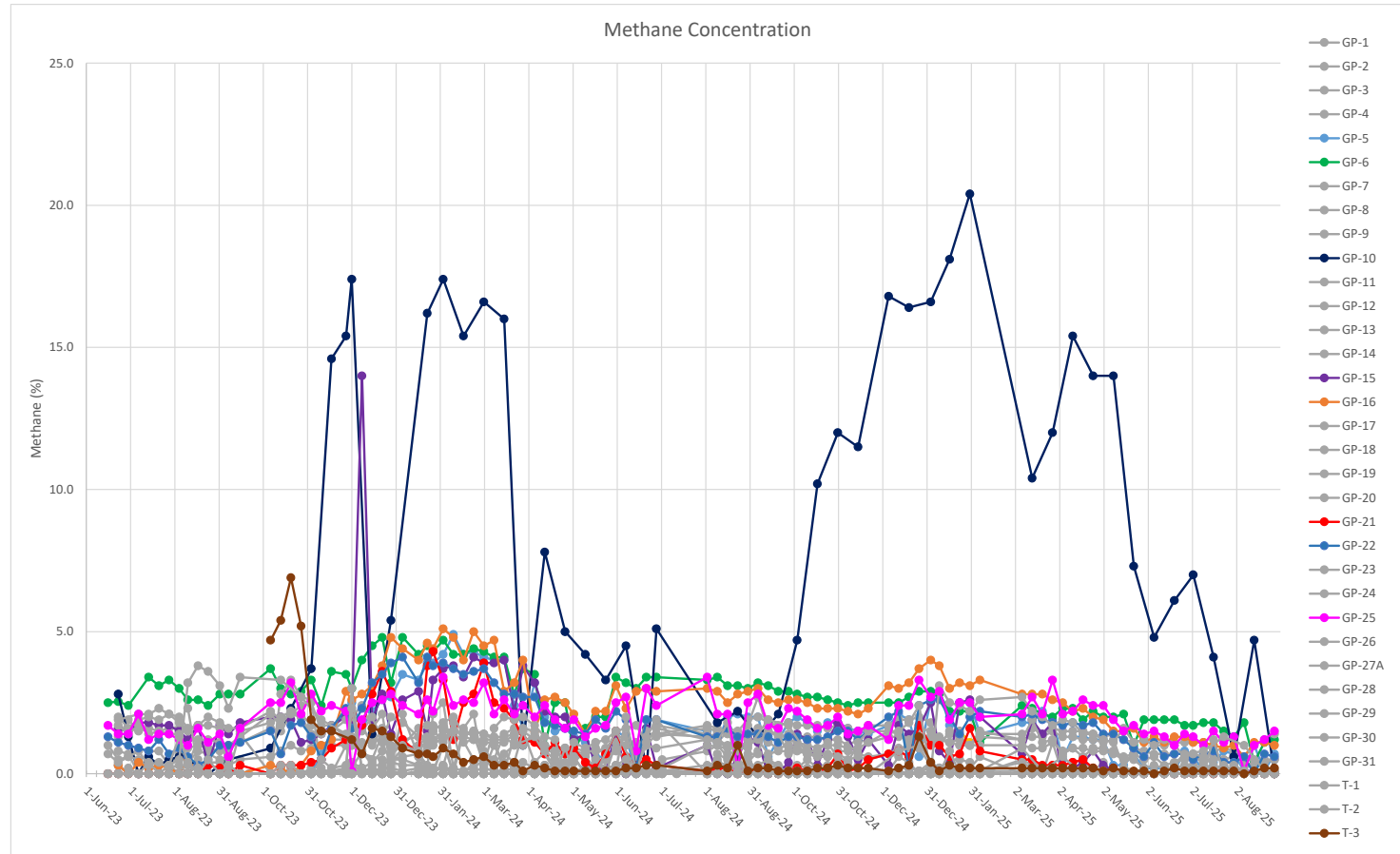
Methane

Methane levels for most wells are converging between 0 and 2.5% indicating that landfill is not biologically active.

Only well GP-10 has been indicating higher methane concentrations, but has recently fallen down to less than 1%.

There appears to be a seasonal fluctuation with high methane levels occurring in Jan of each year in crest monitor GP-10.

Cause is unclear, LFCI believes this is possibly due to freezing or snow pack on the landfill surface.

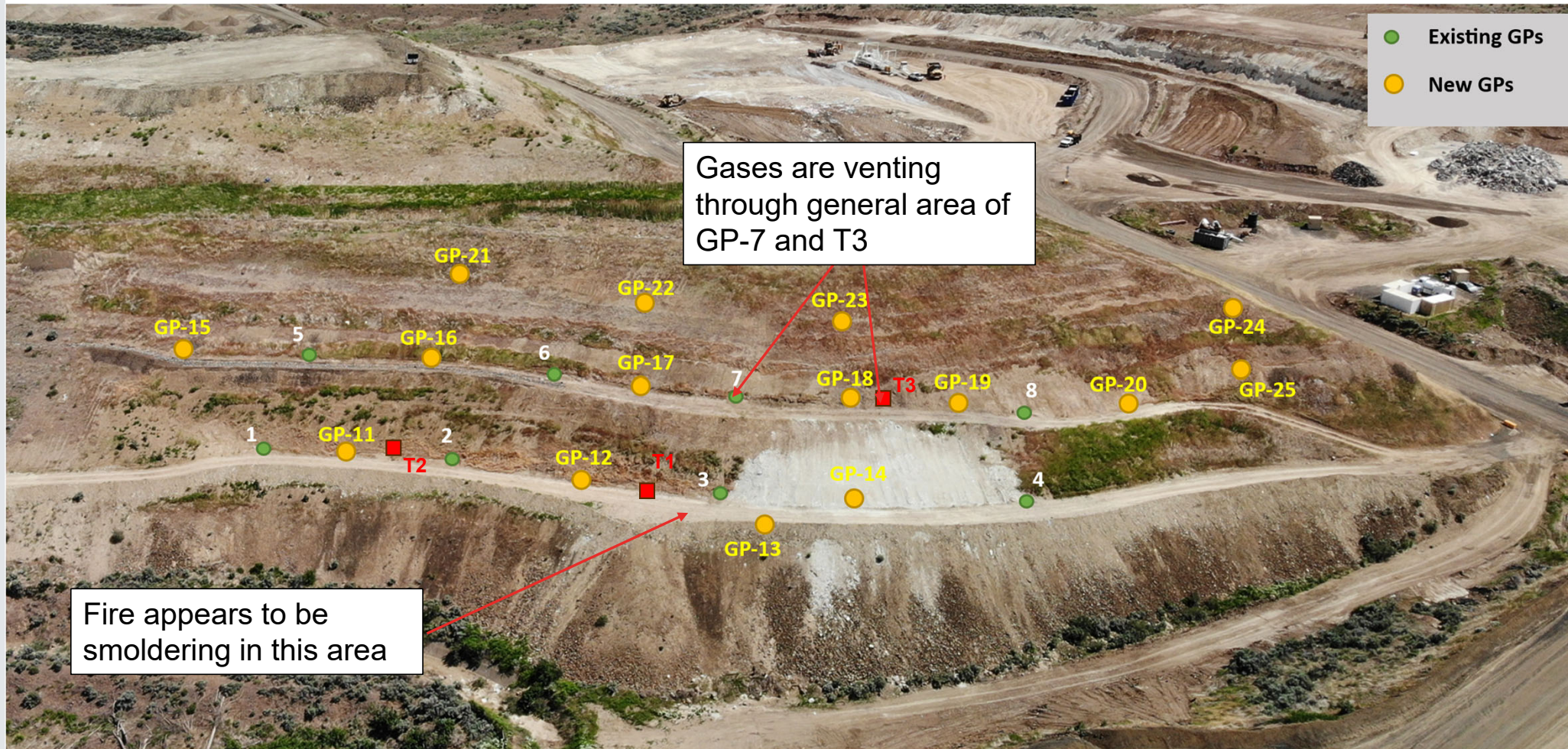


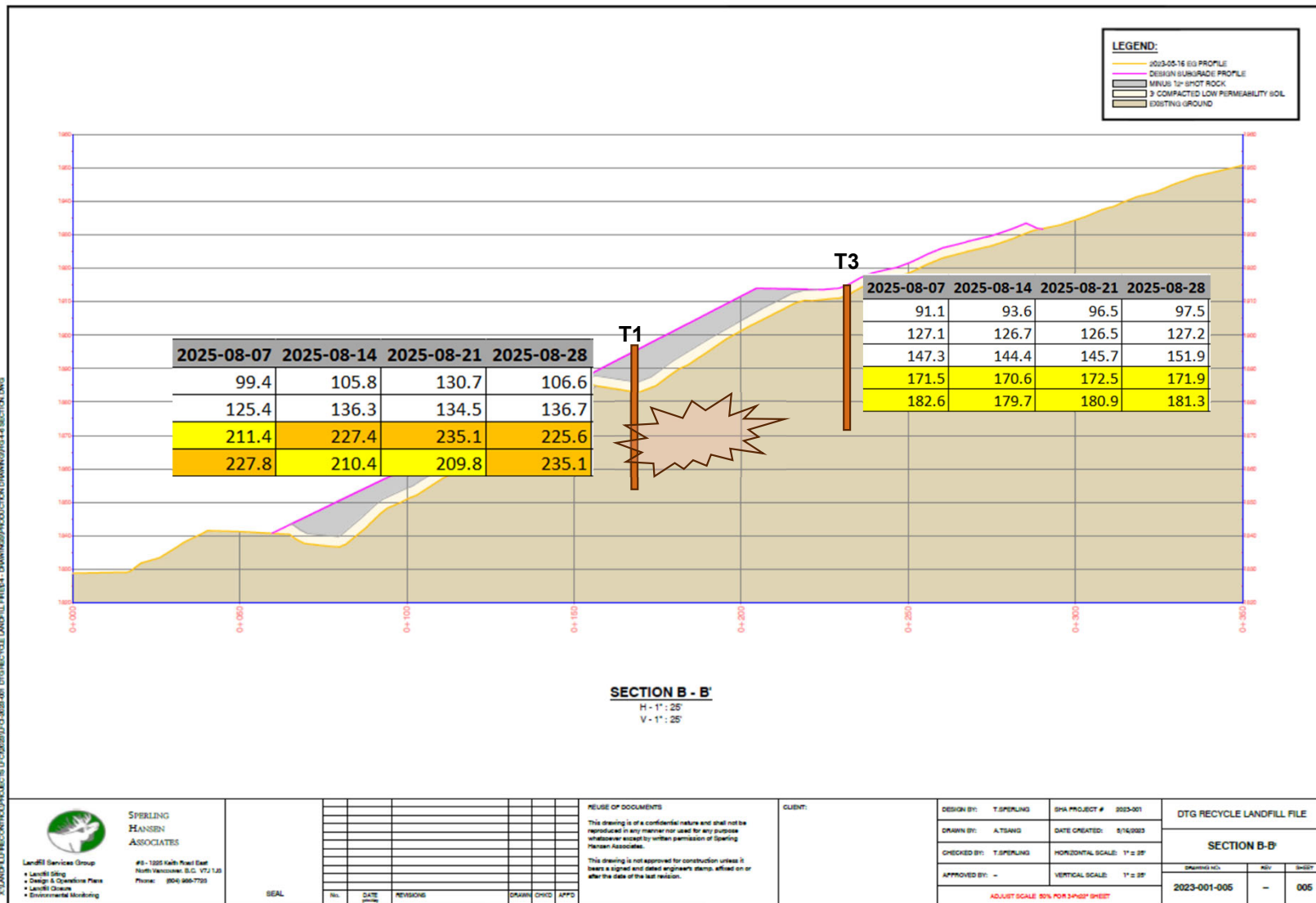


- Existing GPs
- New GPs



Fire Path





Data Interpretation

LFCI believes that suppression efforts continue to work, but slowly. CO levels and temperatures have decreased dramatically since cover fill was placed. Temperatures initially decreased, but have levelled off to a slower cooling trend since December 2024, as have most gas concentrations. Current seasonal warming may be contributing to slowing the cooling trend, as seen in the lower temperature wells over the summer of 2025.

Temperatures have dropped significantly all around to Dec. 2024 when the trend has shifted to a steady condition, with minimal changes occurring. In August, temperatures of the hottest well (GP-3) have continued to decrease at a slow but steady rate.

In LFCI experience, CO has been best indicator of suppression at other landfill sites. CO in T-3 has risen between Jan and May 2025, and again decreased June-mid August. In August, 2025 CO levels in T-3 increased by 1,000 ppm. This is believed to be correlated to increase in smoulder activity at T-1 and GP-12 due to summer time increase in oxygen availability.

High O₂ continues to fluctuate seasonally as a result of increased soil cover permeability during summer months when ground is not frozen. The recent increases in O₂ starting July 1, 2025 are of concern. As atmospheric pressure has been declining and no large pressure swings noted, LFCI is concerned about possibility decreasing effectiveness of soil cover due to desiccation or settlement cracking. Cover integrity should be inspected and repaired as required.

LFCI believes that the waste continues to smolder underneath GP-3 and T-1 (elevated temperature) but the rate of smolder is steadily decreasing. Also, a 'chimney' effect is occurring, causing higher levels of indicator gases at T-3, GP-8 and GP-20.