August 10, 2026

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 – July

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 July 2026 to implement the requirements of this AO.

Activities:
On-site activities included weekly gas probe and every other week ambient monitoring. A regulatory review meeting was not held in July 2026. The monitoring data summary through July 2026 from Landfill Fire Control, Inc. (LFCI) is attached.

Parametrix continued to develop the Q2 groundwater report.

Parametrix developed revisions to the Interim Action Work Plan (IAWP) in response to Ecology comments.

Deviations from Plans (if any):
None.

Deviations Description from the Scope of Work and Schedule:
None.

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.

Deliverables for the Upcoming Month:
Deliverables will include:

- Weekly ambient and gas probe data
- Draft IAWP
- August Progress Report

Please contact me to discuss any of the above items.

Respectfully,

Ian Sutton
Sr. Director of Engineering
DTG Recycling
isutton@dtgrecycle.com

Enclosures to follow: LFCI Data Update – July 2026

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

August 10th, 2026 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 – July 2026

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, early July showed a strong upward spike in CO, H2 and VOC readings in T-6S, T-6D and T-3. Int the second half of July, the readings dropped strongly to return close to pre-event levels. A fairly strong uptick in O2 concentrations was noted in early July and is believed to be responsible for increased smolder activity.

Overall, O2 levels are dropping with time since August, 2025, at which time the average O2 was 15%. It has now declined to about 7%.

Temperatures remain on a steady but exponentially decreasing downward trend. The highest temperature is now being recorded at T-4. The elevated temperatures in T-4 are isolated from the other elevated areas although the temperatures are very similar. LFCI believes that there is a secondary hot spot in the area of T-4, with smolder gases migrating up slope to be detected at T-6 and T-7. The temperature in T-4 is following the same trends as GP-3 and T-1.

The significant upticks in CO and VOC in the area are of T-4 were a concern, but recent drops in indicator parameters are positive.

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 data shows a small smolder continues to be active near GP-3, and that the rate of smolder activity in this area is steadily decreasing, however slowly. Based on the extinguishment target of temperature dropping below 180°F, on account of the flattening of the temperature curves of the hottest wells, we are now projecting that the fire will be declared extinguished late 2027 if no further intervention is taken to inhibit air entry. Also, the spike in CO concentrations around T-4 at T-6 and T-7 indicated rewarming activity in that area, but recent trends in late July indicate things are again becoming less active.

Based on this assessment, 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.

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

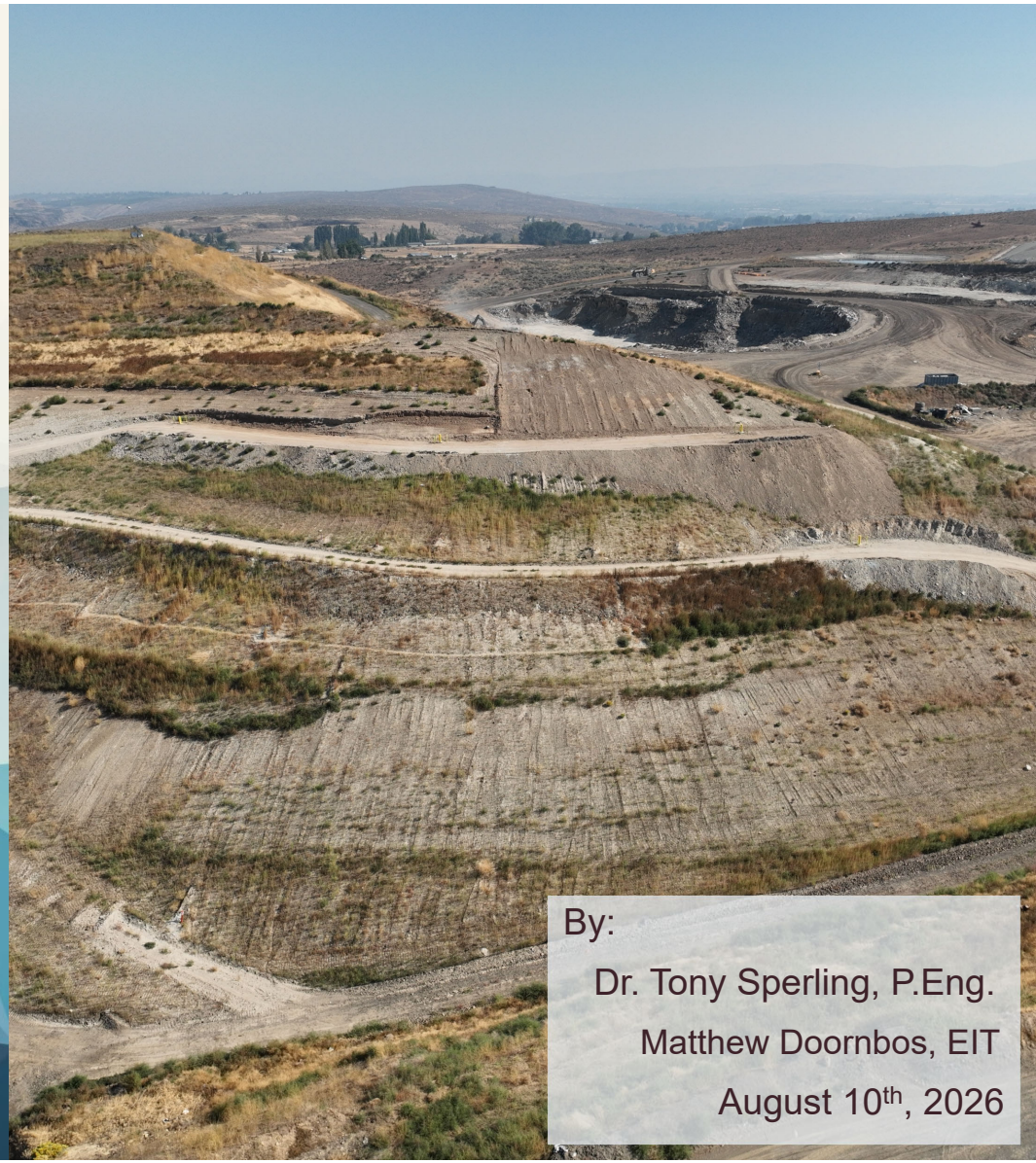
August 10th, 2026

LANDFILL FIRE CONTROL INC.
#8-1225 East Keith Rd., North Vancouver, BC – V7J 1J3
P: (604)-986-7723 E: sperling@sperlinghansen.com
www.landfillfire.com

DTG LPL LANDFILL FIRE INVESTIGATIONS AND MITIGATION

Monthly Monitoring Data Review

July 2026



By:

Dr. Tony Sperling, P.Eng.

Matthew Doornbos, EIT

August 10th, 2026

Introduction

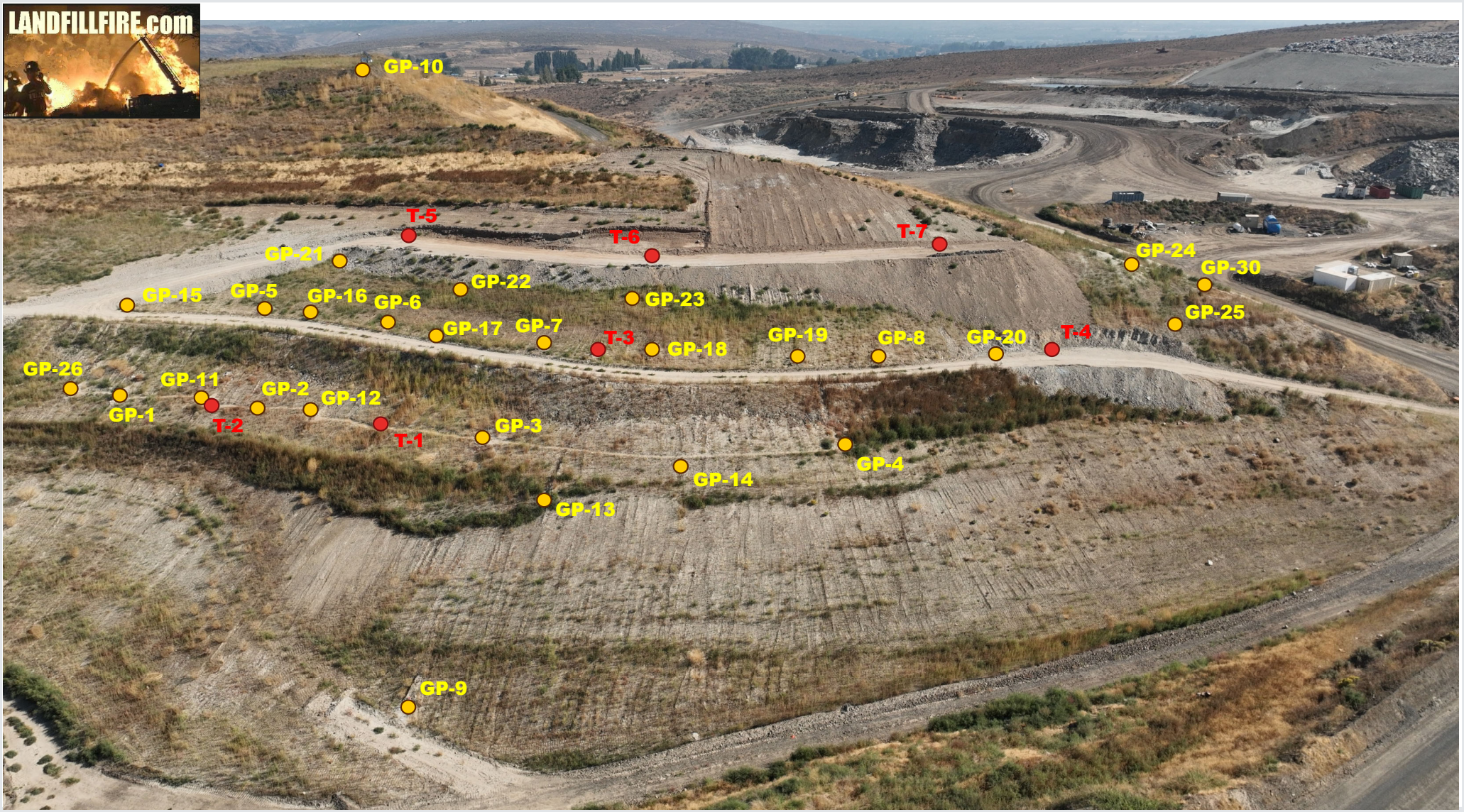
BHP Locations

- There have been 31 Ground Probes installed, 3 of which are no longer monitored. 26 probes are monitored weekly, and 2 are monitored on a bi-weekly basis.
- Three thermistor wells were installed in mid-2023, which are monitored at varying depths to better determine the location of the hotspot.
- Four more thermistor wells were installed in mid-2025 to better determine the extent of the area with elevated temperatures as the fire comes closer to extinguishment.

Monitoring Data Review

- The monitoring locations are measured for levels of gas that would indicate a fire or increased thermal activity, including Carbon Monoxide, Oxygen, VOCs, Hydrogen, Hydrogen Sulfide, and Methane.
- In addition to gas levels, the temperature in each well is recorded.

Overall Interpretation


LANDFILLFIRE.com
GP-10
T-5
T-6
T-7
GP-21
GP-22
GP-23
GP-24
GP-30
GP-15
GP-5
GP-16
GP-6
GP-17
GP-7
T-3
GP-18
GP-19
GP-8
GP-20
T-4
GP-25
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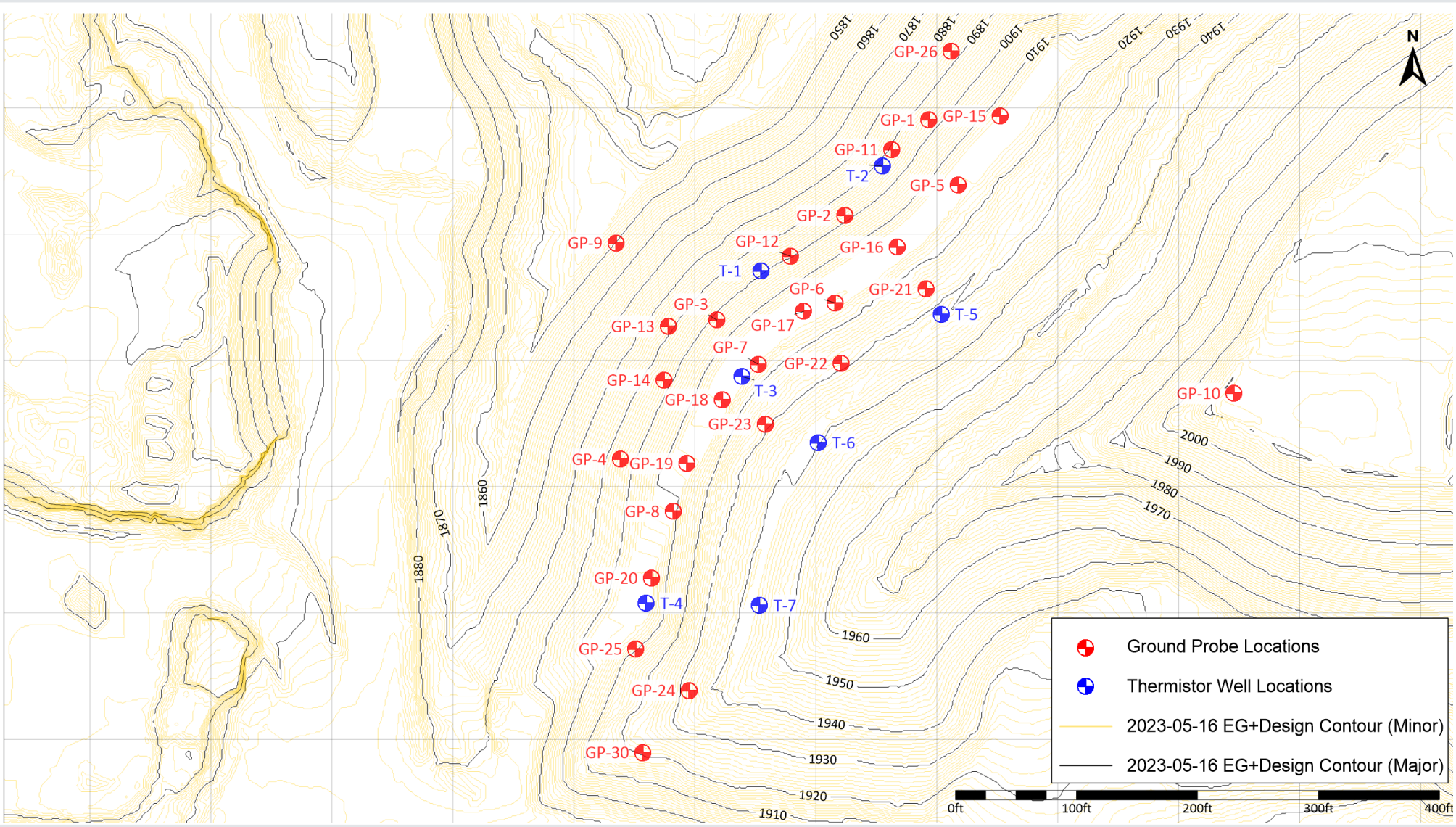
GP-14
GP-13
GP-9



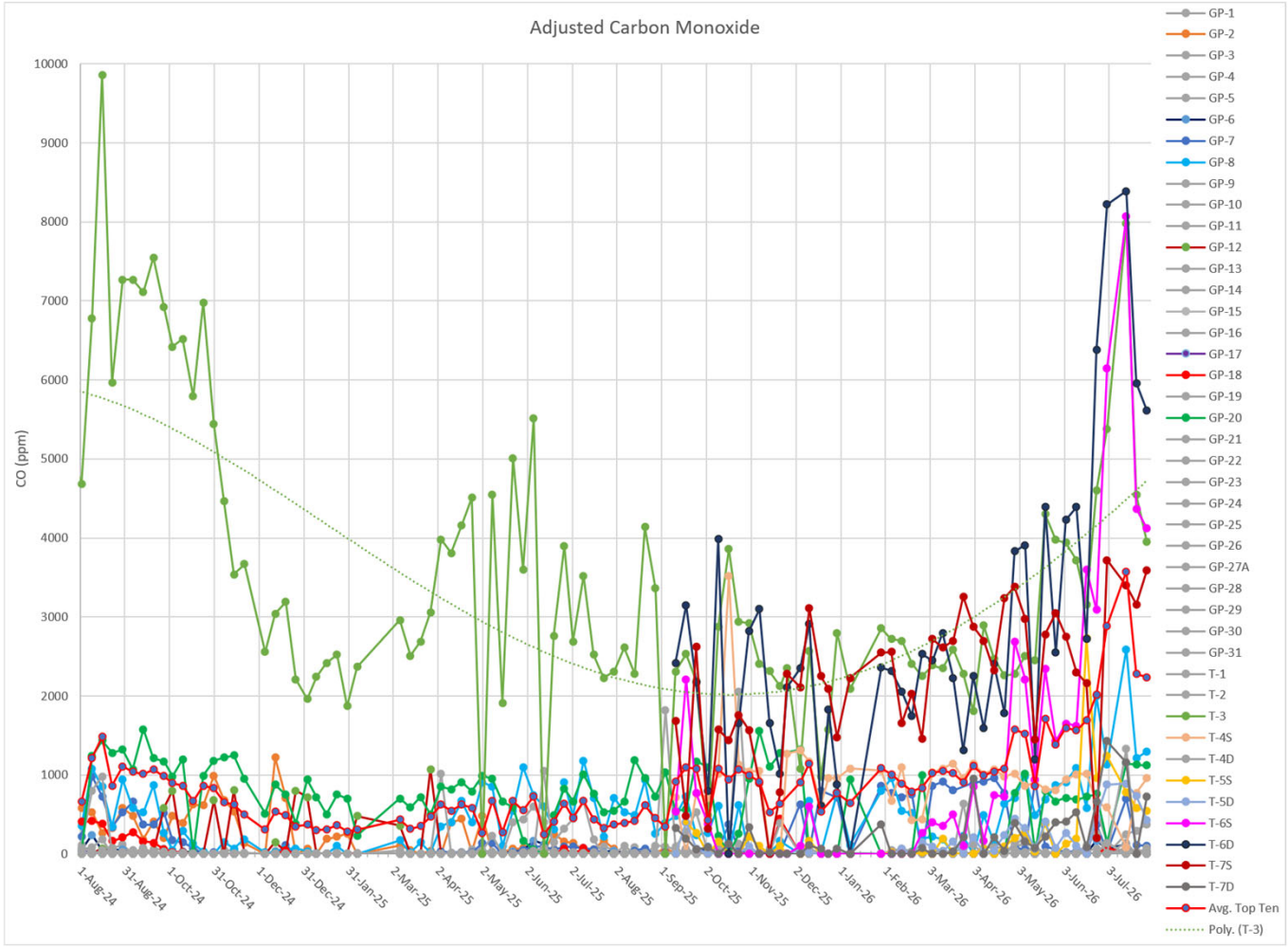
N
GP-26
GP-1
GP-15
GP-11
T-2
GP-5
GP-2
GP-9
GP-12
GP-16
T-1
GP-6
GP-21
GP-3
T-5
GP-13
GP-17
GP-7
GP-22
GP-14
T-3
GP-18
GP-10
GP-23
T-6
GP-4
GP-19
GP-8
GP-20
T-4
T-7
GP-25
GP-24
GP-30
1850
1860
1870
1880
1890
1900
1910
1920
1930
1940
1960
1950
1940
1930
1920
1910
2000
1990
1980
1970
1860
1870
1880
Ground Probe Locations
Thermistor Well Locations
2023-05-16 EG+Design Contour (Minor)
2023-05-16 EG+Design Contour (Major)
0ft
100ft
200ft
300ft
400ft

Carbon Monoxide

In early July there was a spike in CO levels observed in three monitoring wells, T-6D, T-6S and T-3, with levels increasing to 8,000 ppm. In late July, CO levels started dropping to 4,000 – 5,500 ppm, indicating that smolder activity is again declining.

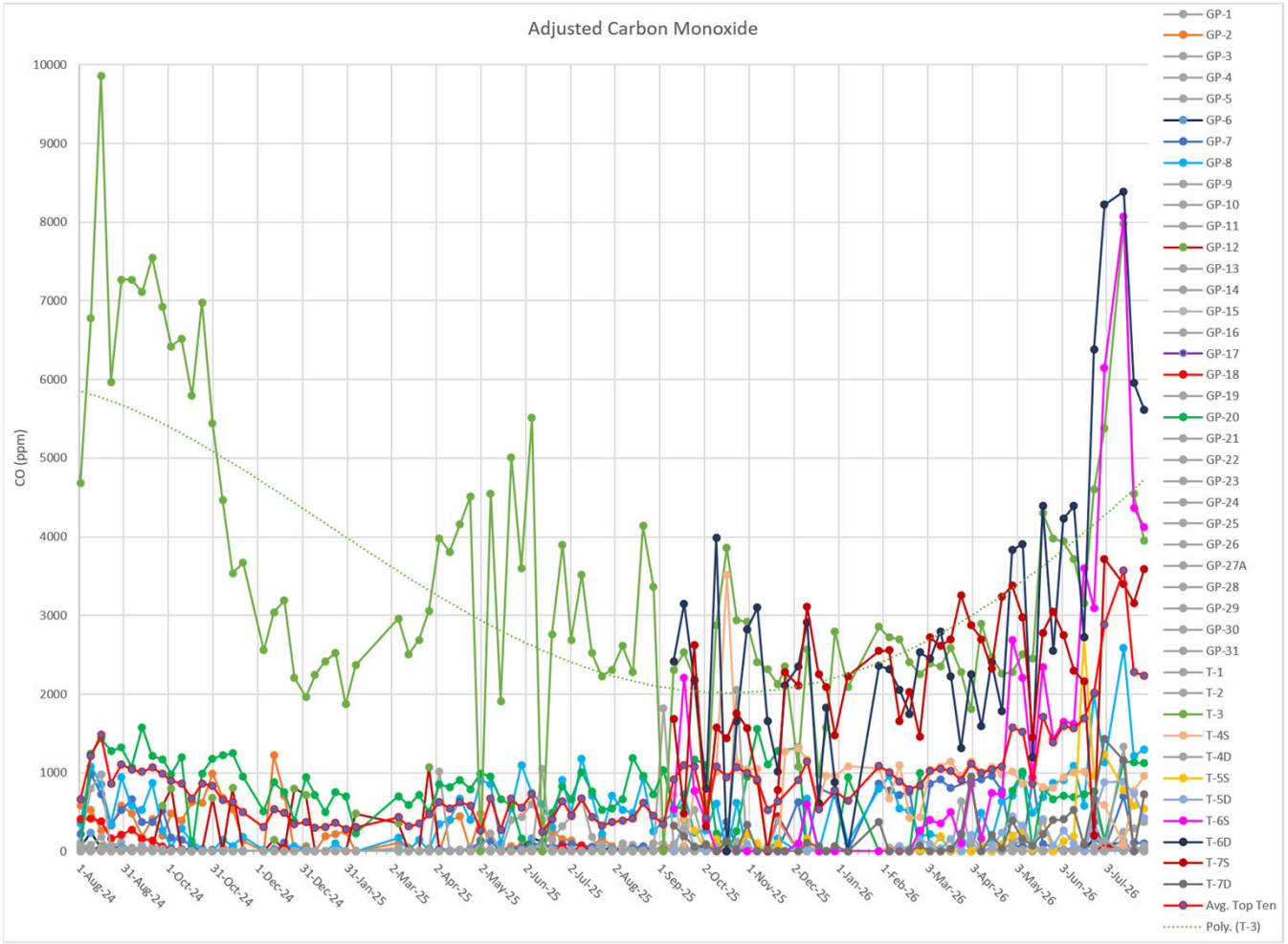
There was previously concern that the spikes were due to purging issues. Based on continued trends, it appears that CO levels have indeed increased and are now dropping.

The temperature monitoring does not indicate any increase of smolder activity.

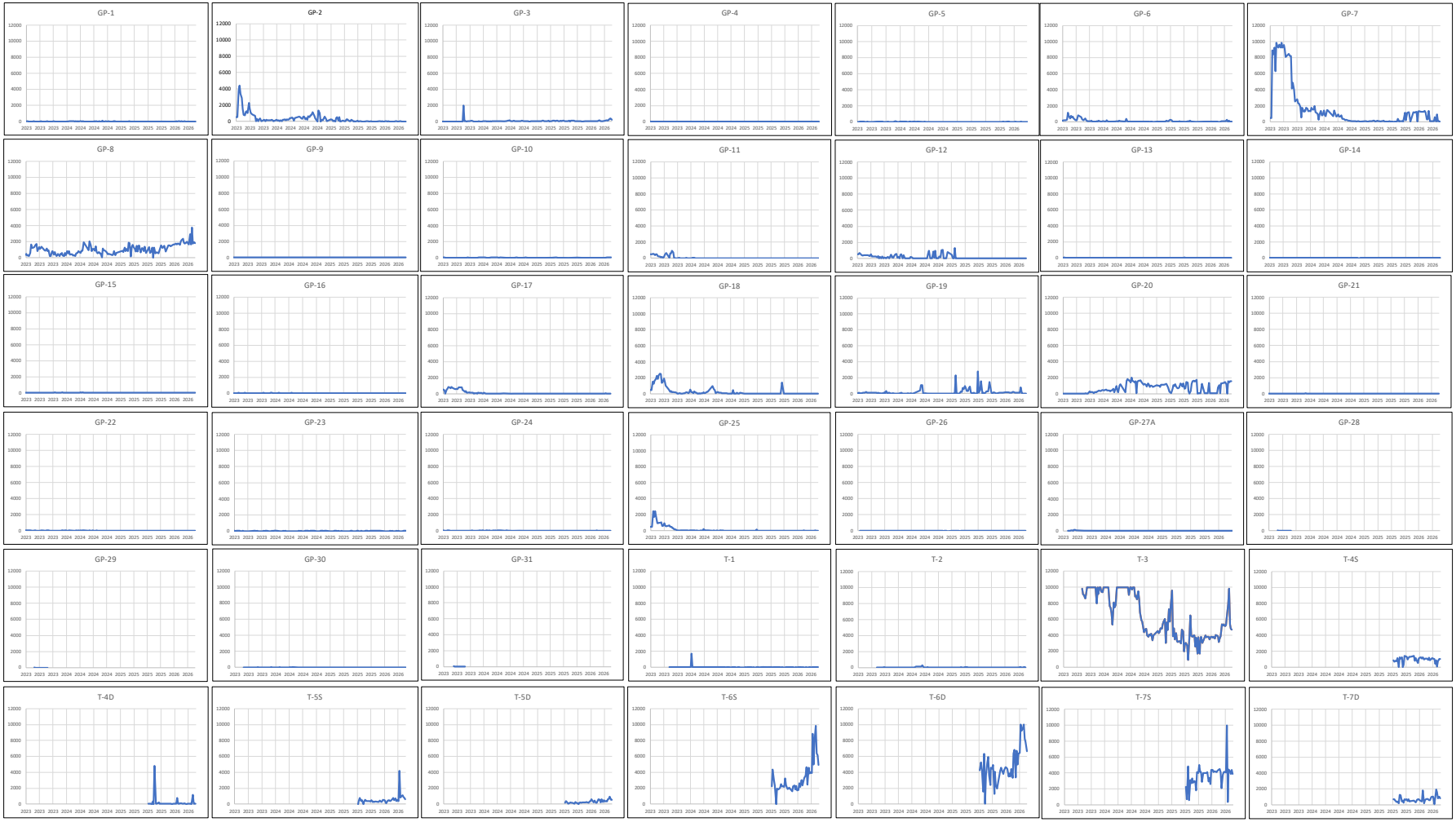


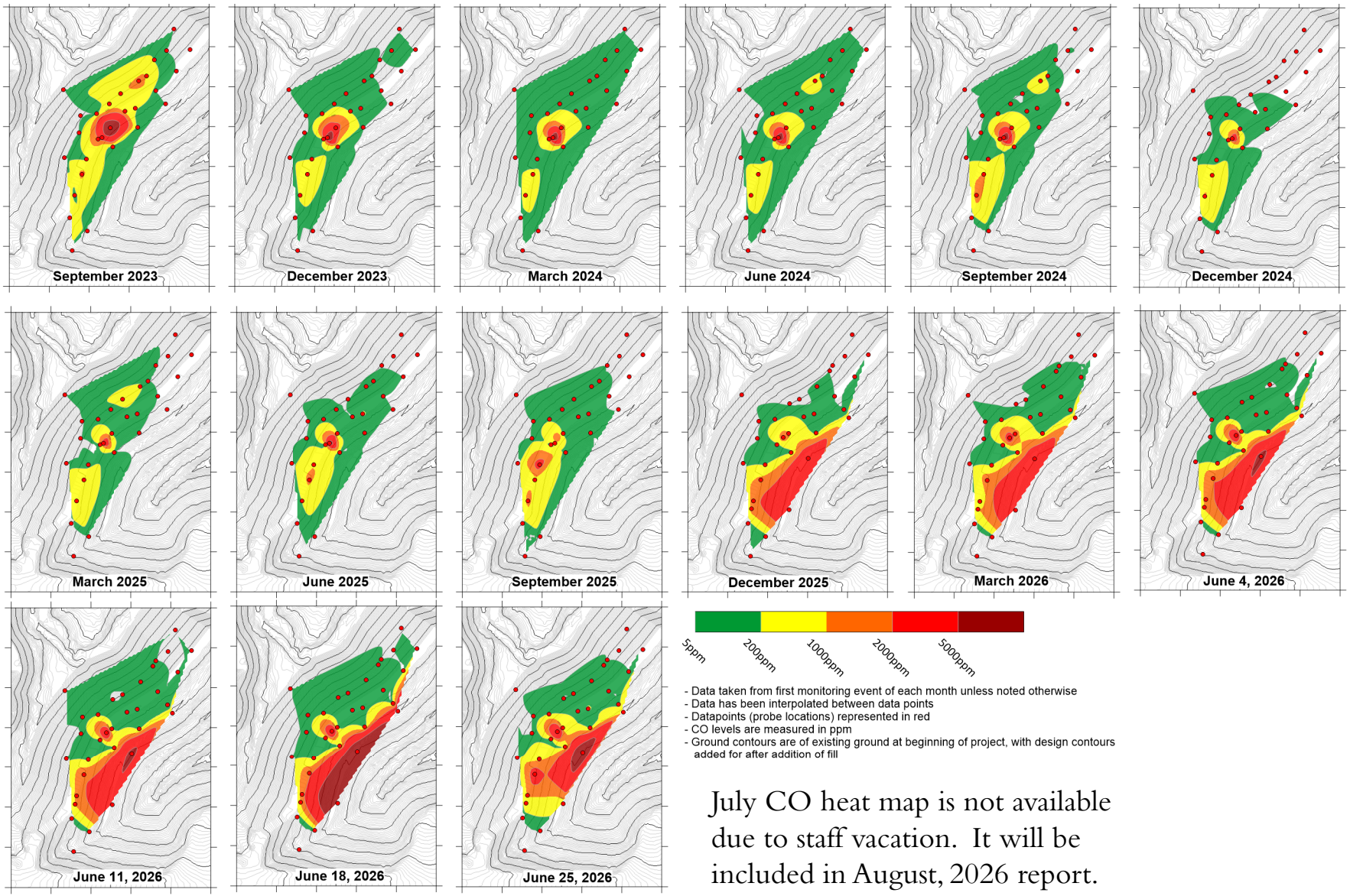
CO Adjusted for H2 Gas

Adjusted CO measurements are trending in a similar pattern to unadjusted CO. There has been a gradual increase in adjusted CO since early May, and a strong upward trend in three monitoring wells, T-6S, T-6D and T-3 starting in early July, but levels have dropped back down to pre-event flare up levels, except at T-6D.



CO Levels by Individual Wells





July CO heat map is not available due to staff vacation. It will be included in August, 2026 report.

LFCI Temperature Scale

LFCI uses this temperature scale to evaluate subsurface temperature data.

Currently, the highest recorded temperature at the site is 242.5F, at T-4 which is at the low range of the “Suspected Subsurface Exothermic Reaction in MSW”, indicative of a very gradual smolder.

This well continues on a steady cooling trend, with temperatures decreasing from a high of 286F.

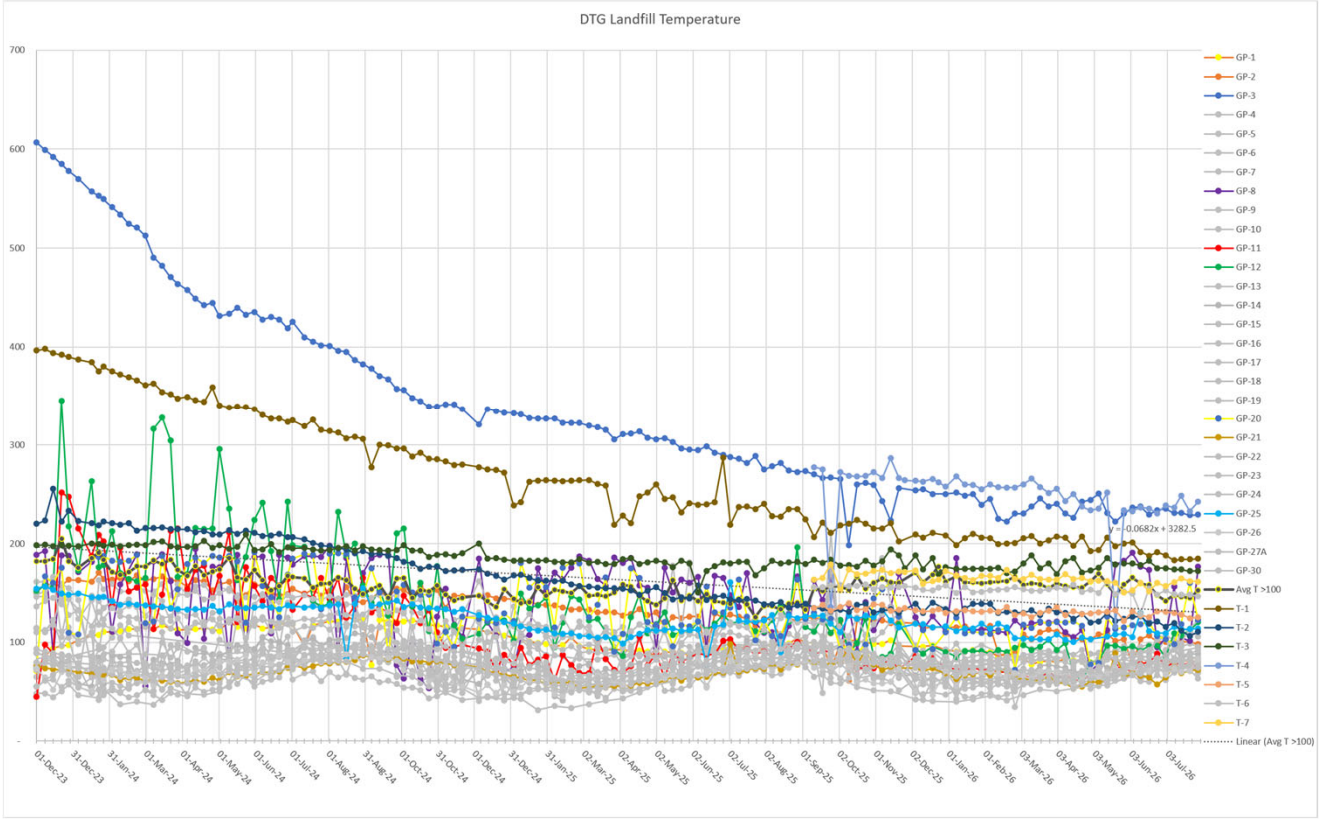
Fahrenteit Deg F	Celcius Deg C			
1,832	1,000	Fire		Fire
1,382	750			
932	500			
608	320		Upper Limit of Torrefaction (low temp. Pyrolysis)	
601	316		Wood ignites spontaneously	
500	260	Exothermic Deay of Wood		Exothermic Pyrolysis
400	204			
392	200			
392	200		Minimum temperature for Industrial Water Gas Shift Reaction (fast)	
324	162		Melting point of EVOH Resin	
300	149			
290	143	Suspected Subsurface Exothermic Reaction in MSW		Possible Exothermic Reactions
280	138			
270	132		Melting point of HDPE Liner (125 to 130C)	
260	127			
250	121			
240	116			
230	110			
220	104		Trigger Temperature for Exothermic Chemical Activity (104C)	
212	100		Boiling Point of Water	
210	99	Heat Transfer and Exothermic Metal Oxidation		Chemical Heating Up
200	93			
190	88			
180	82			
176	80		Maximum Biological Temperature per LFCI experience	
175	79		Trigger for Elevated Temperatures in Gas Extraction Wells	
170	77			
167	75	Aerobic Biological Decomposition	Upper Limit of Aerobic Biologic Decomposition Temps.	Aerobic Warm
165	74		Maximum temperature for methanogenesis	
160	71			
150	66			
145	63		Temperature to which vaiance issued for running hot wells	
140	60			
131	55	Anaerobic Biological Decomposition	NSPS standard for maximum temperature in well	Anaerobic Normal
130	54			
120	49			
110	43			
100	38			
90	32			
80	27			
70	21			
60	16			

Temperature (F)

July monitoring saw the continued decreasing temperature trend in GP-3 and T-4 (the hottest wells). The low temperature wells (gray) continue to show the expected seasonal trend.

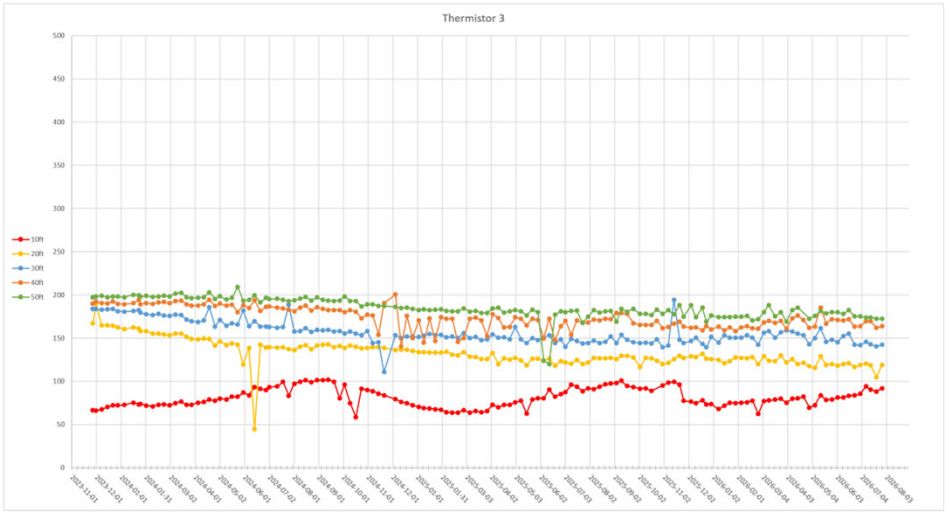
LFCI continues to see overall decreasing trends in the three hottest locations (GP-3, T-4, and T-1). The increases previously noted have continued decreasing.

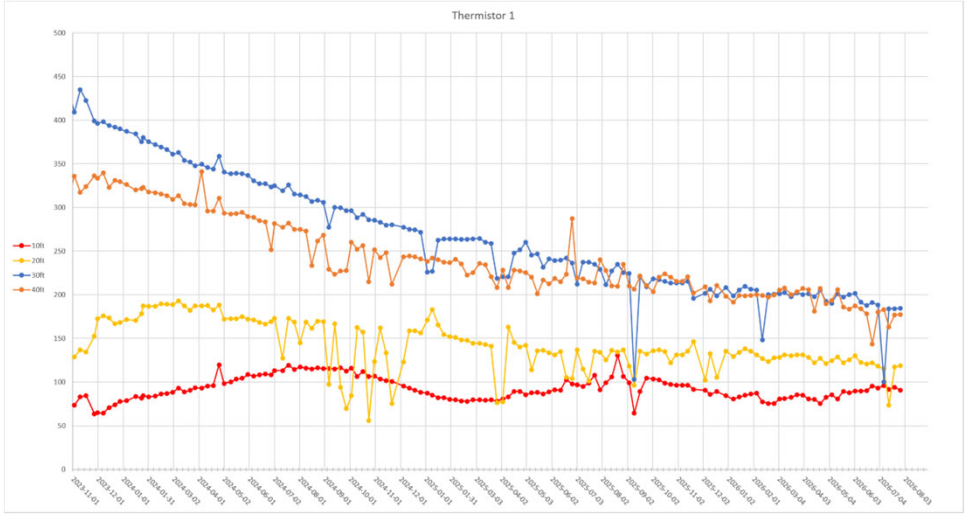
There is a definite decrease in the rate of cooling being observed following an exponential decay curve. This is typical behavior in landfill fire extinguishment as waste is an excellent thermal insulator. It takes a long time for heat built up during a smolder event to dissipate.

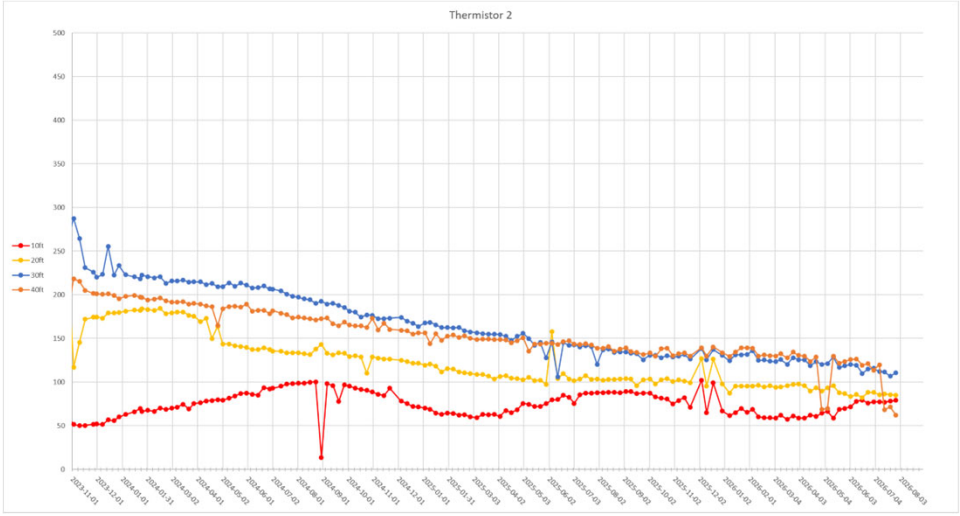


Thermistor Temperatures (T1-T3)

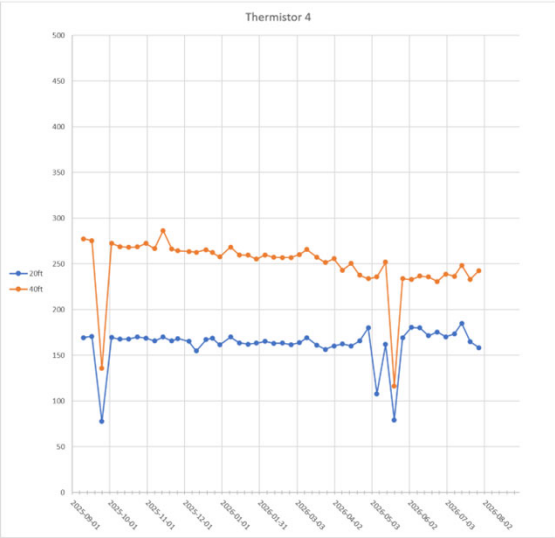
Thermistor temperatures are generally trending downward, but the rate of cooling appears to be slowing in T-1, which was historically the hottest well. T-2 and T-3 temperatures are all trending downward as well. Shallow locations in all three thermistor wells continue to show seasonal warming and cooling trends. With all temperatures in the thermistors dropping below 200F, temperatures are now below the boiling point of water, and in the chemical heating up zone, no longer indicative of exothermic activity.

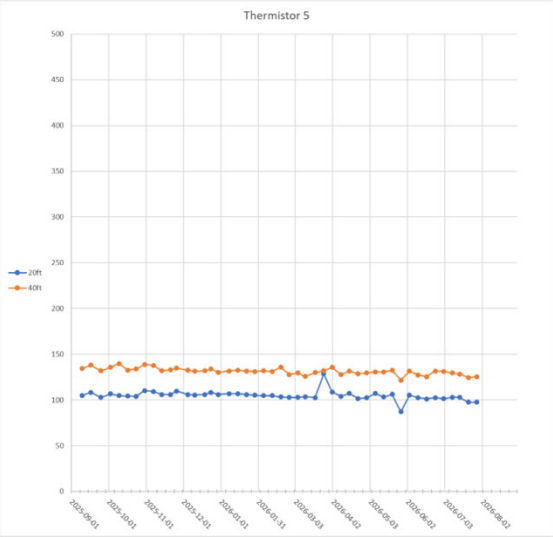






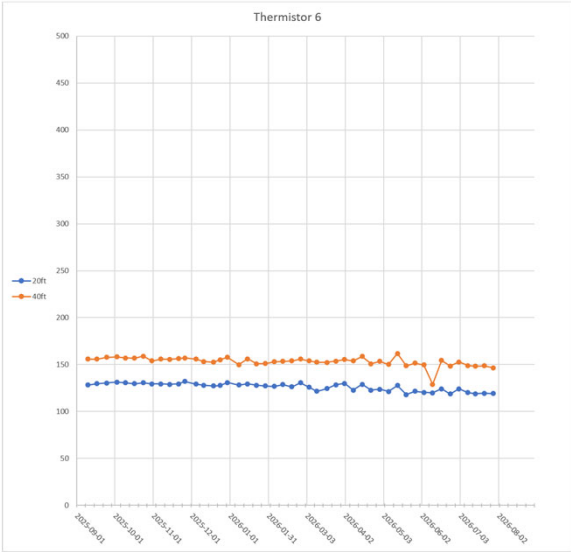
Thermistor Temperatures (T4-T7)

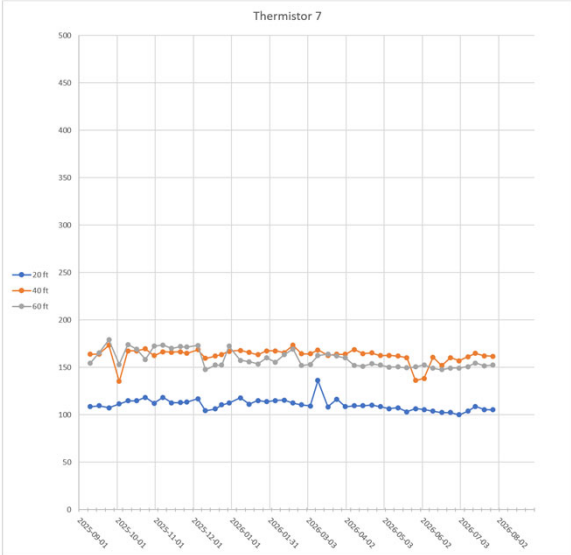




The thermistors installed in 2025 seem to exhibit mostly stable trends, with little fluctuation in temperature seen over the 9 months of monitoring. T-4 has shown a gradual decrease in temperature over time, while other wells remain at the same level (but at cooler temperatures) throughout the monitoring period.

The observed temperatures in the wells of 100 to 150F are normal temperatures of aerobically active landfills and at the low end of temperatures seen across the site. However, T-4 is exhibiting elevated temperatures similar to that seen at the hotspot in GP-3. indicative of nearby smoldering activity.



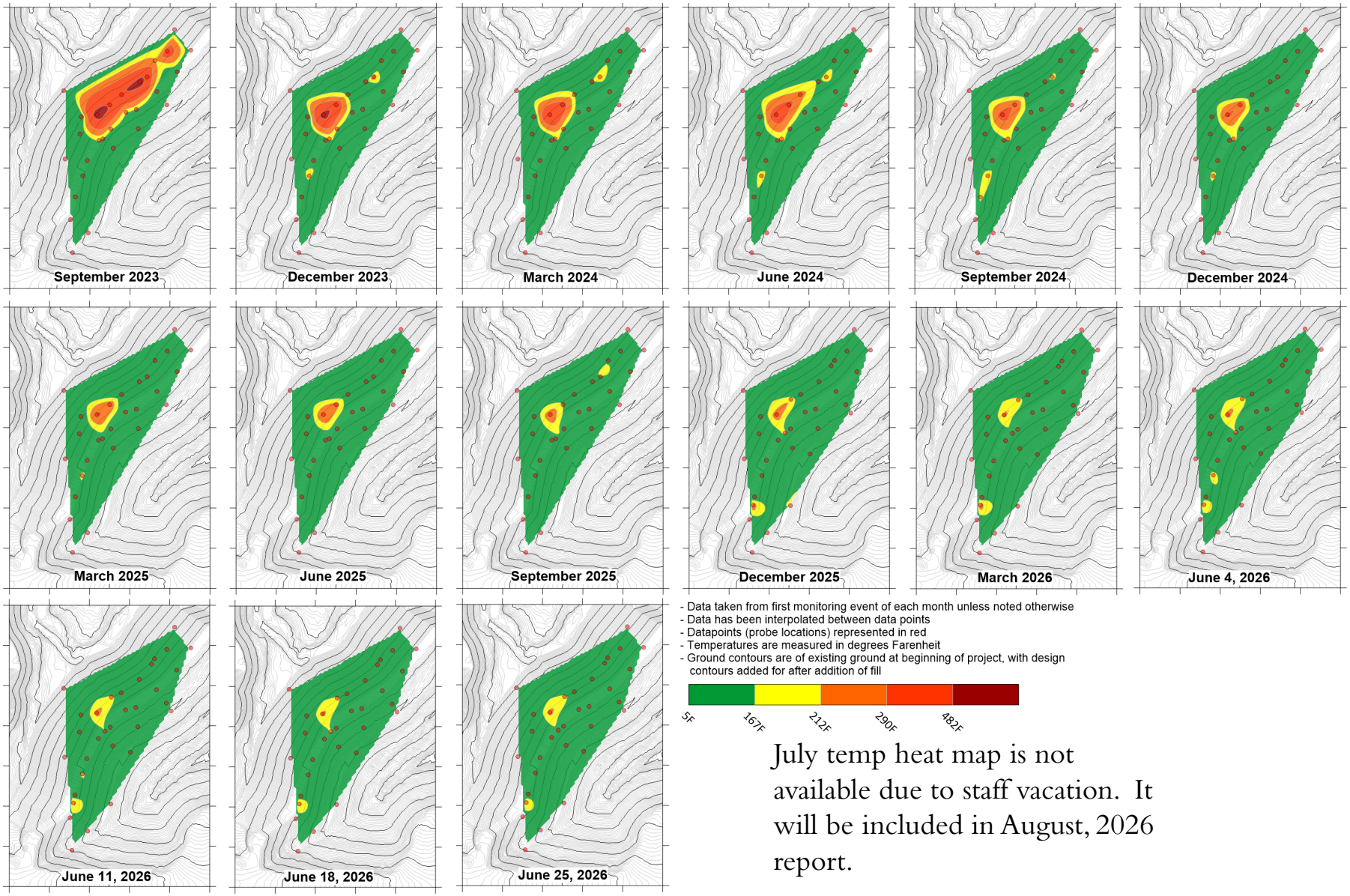


Heat Map Interpretation

The heat map shows that the main fire zone has been cooling over time and that the smolder is being effectively contained. However, a new hot zone has been identified in the southern portion of the site around T-4 and GP-20 since late 2025. During LFCI's initial site inspection active smoke and elevated temperatures were noted in that area, and this area was covered with soil as part of the initial fire response. LFCI has been concerned that the road cuts recently undertaken had opened up an air intrusion pathway which has increased oxygen availability and re-initiated the smolder in that area.

In consultation with DTG staff, LFCI recommended that additional fill be placed against the exposed slopes created during thermistor installation. This recommendation was then implemented and temperatures continued to fall through the February and March monitoring events. Previously, LFCI has recommended that additional oxygen suppression intervention may be necessary – with the unclear/uncertain measurements in late June, this is still to be determined.

Heat map for July, 2026 is not available due to staff vacation. It will be included in August report.

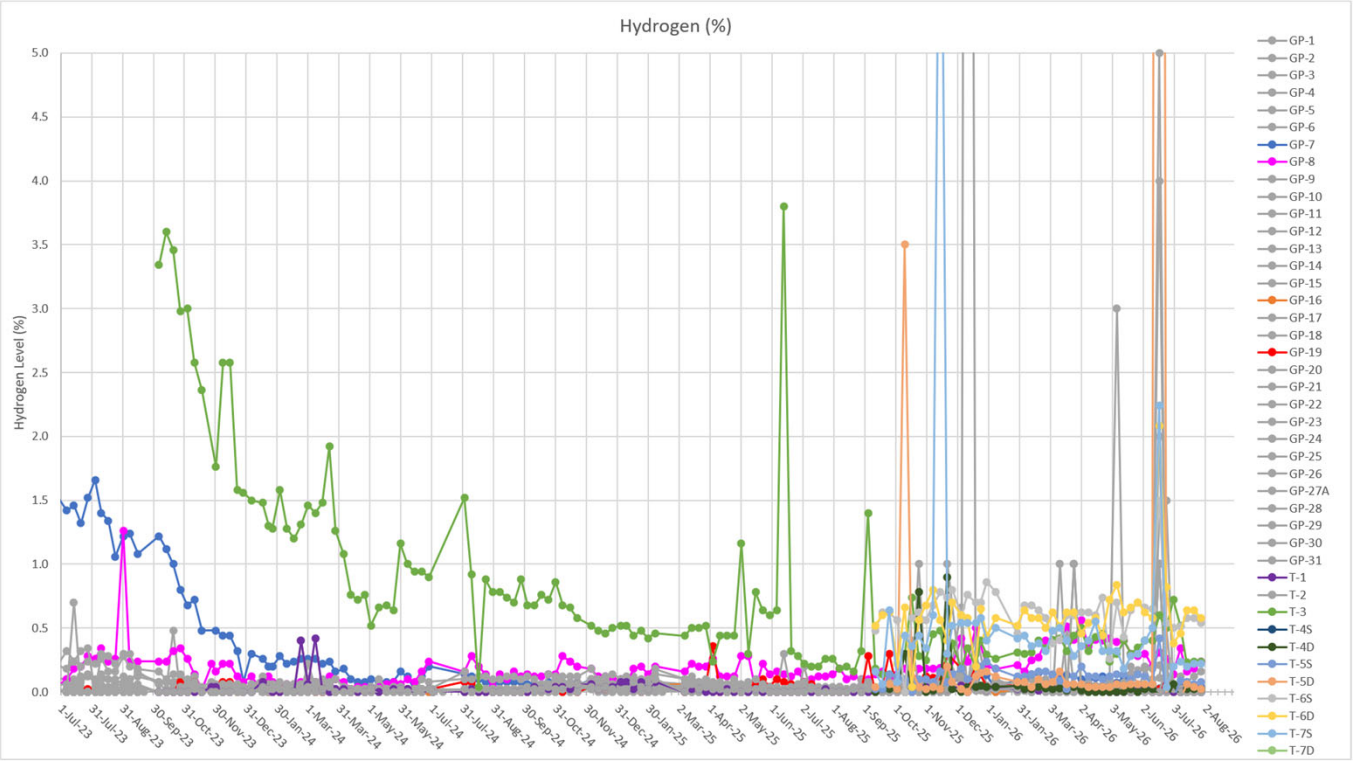


July temp heat map is not available due to staff vacation. It will be included in August, 2026 report.

Hydrogen

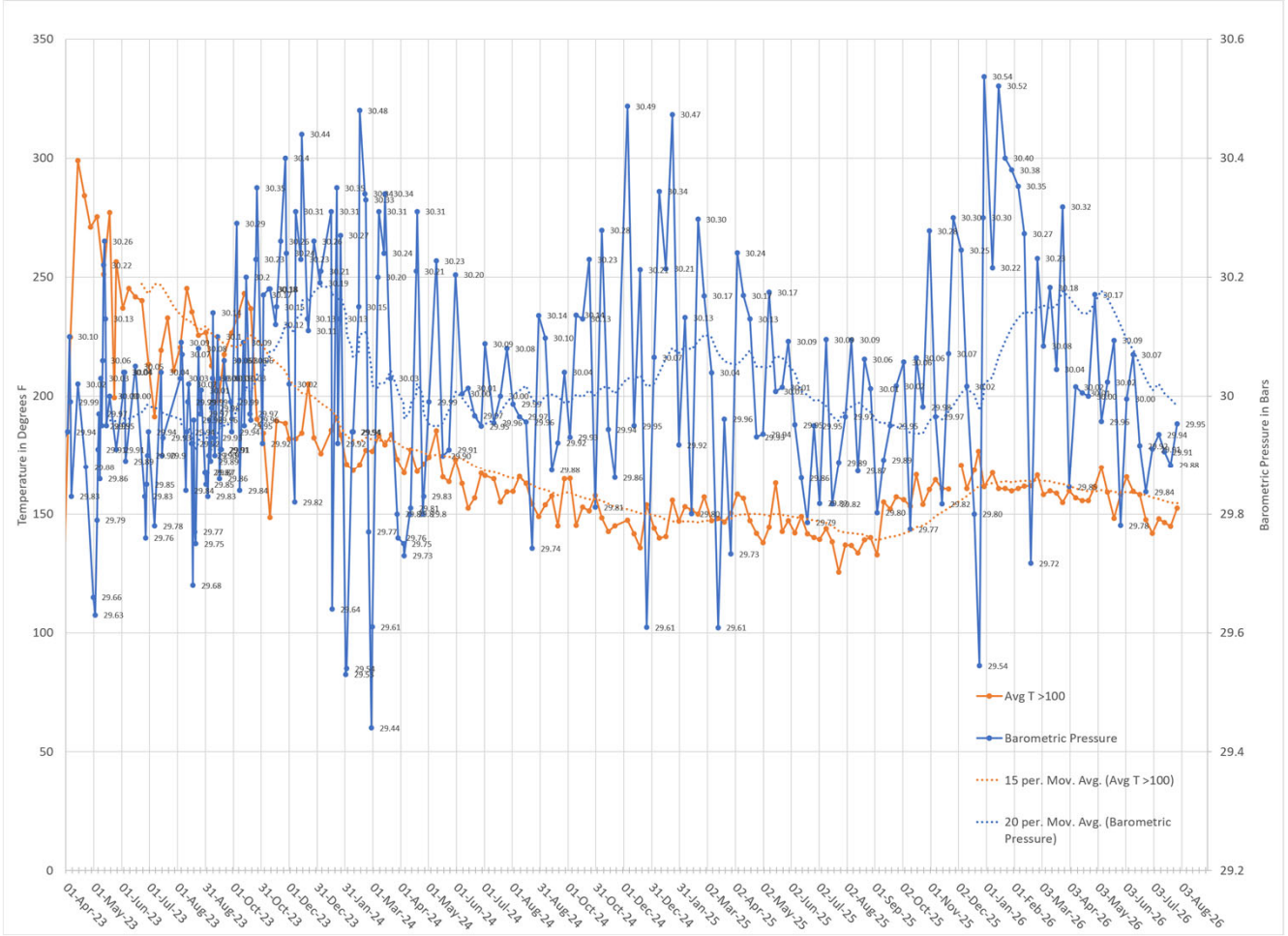
The hydrogen measurements in mid June showed a large spike in H2 levels with a maximum H2 concentration of 30% at T-5D. Since then, H2 levels have declined back to normal levels. As H2 is a common combustion product, the data suggests a flare up of smolder activity near T-5D in mid to late June.

Hydrogen remains very low in all other wells. Hydrogen gas is one of the products of smolder activity, with the data indicating that a low level smolder continues to be active in the area.



Barometric Pressure

As LFCI expected, the high-pressure environment at the site has decreased through April and May and into July, which is expected to result in less oxygen availability.



Oxygen

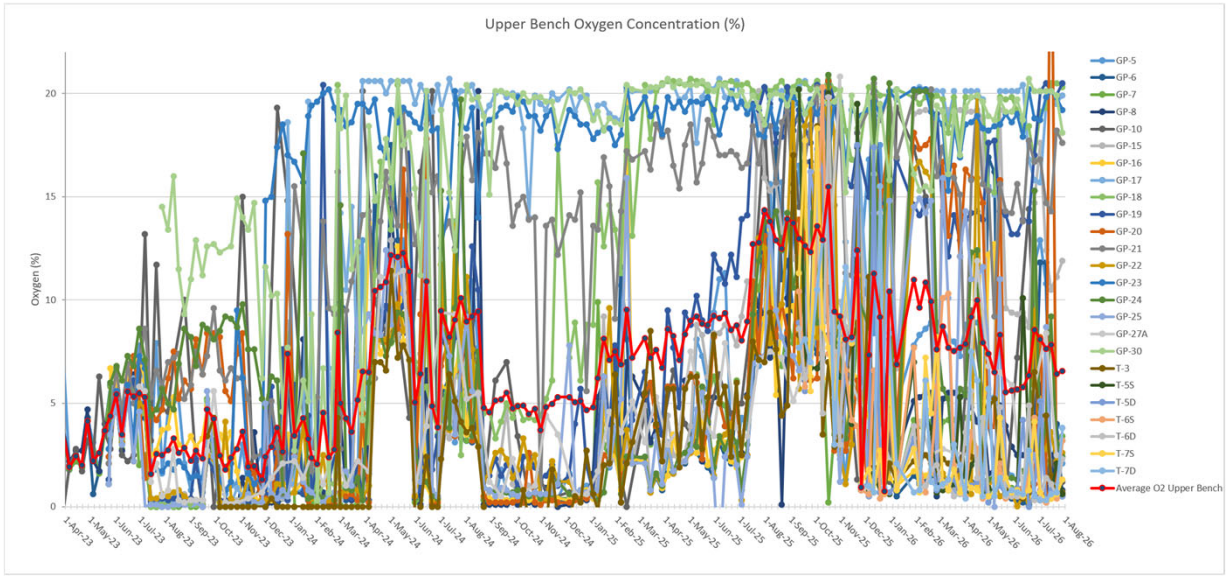
The oldest portion of the landfill is relatively inert and biologically inactive, producing very little methane. As a result, the pore space is full of atmospheric air leading to the generally high oxygen concentrations. The time series plots are difficult to read due to large swings in some of the wells, however in plan view, oxygen levels appear to have on a downward trend since Aug 1, 2025.

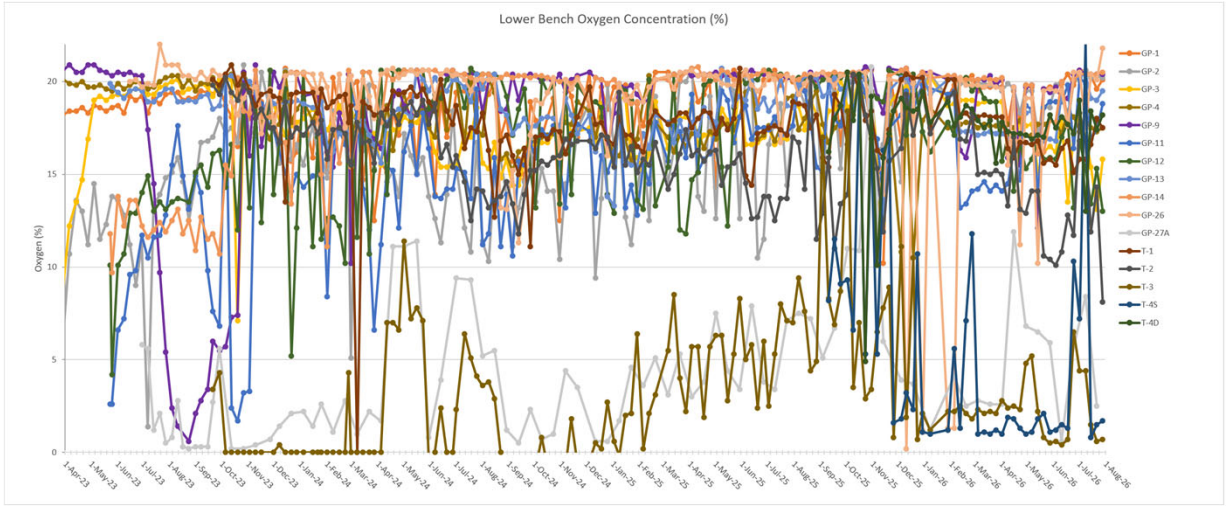
The red line with black markers represents average O2 concentrations in the Upper Bench. Although there is a seasonal oscillation with higher O2 levels in May through August each year, the general seasonal trend has been downward, with August highs in 2024 being 12%, in 2025 being 14%and in 2026 being 7%.

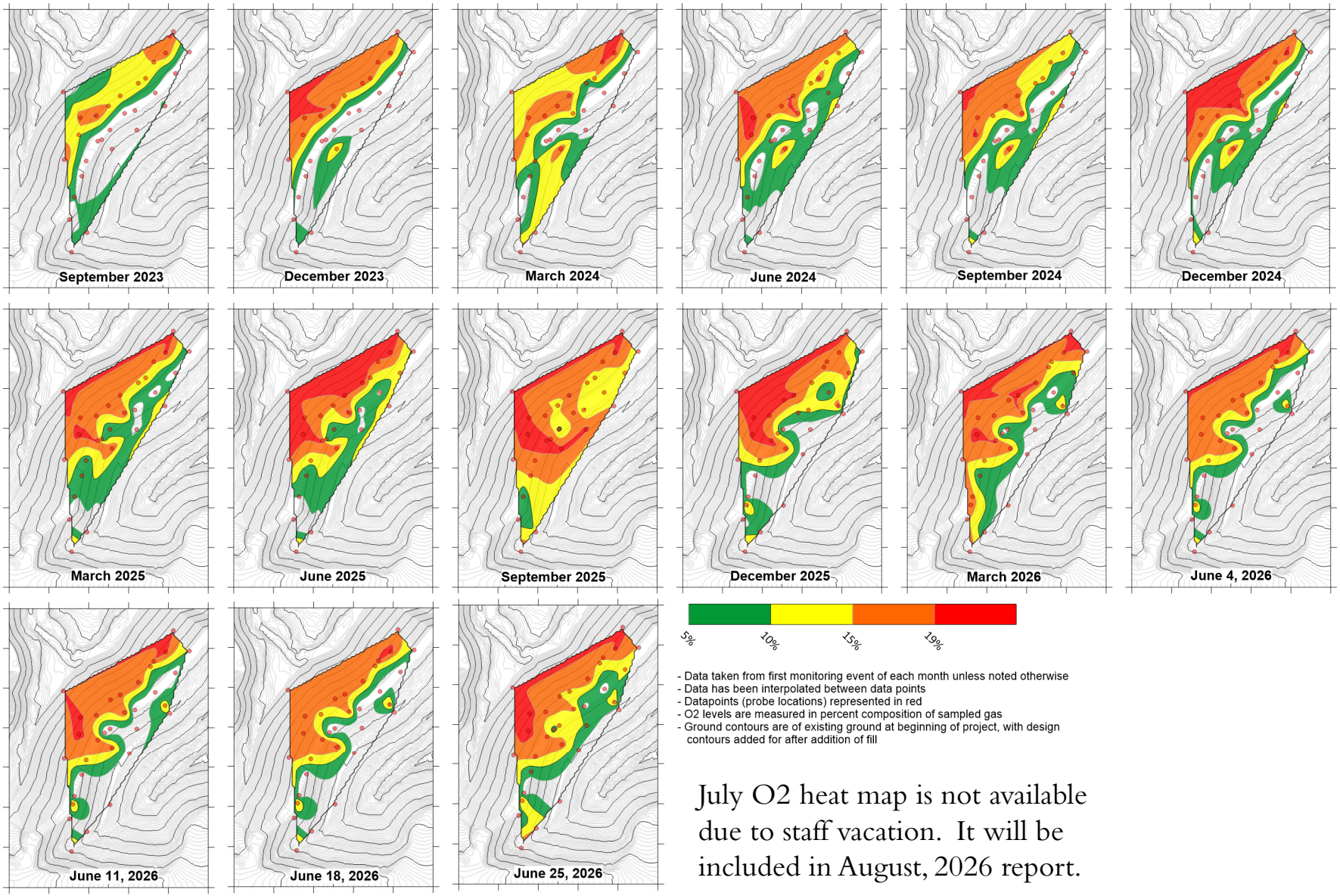
The Lower Bench oxygen levels are also showing a positive downward trend.

There has been a significant air incursion event in early July, 2026, although not as strong as some of the past events, it is still likely responsible for the noted increase in CO at T-6S, T-6D and T-3.

LFCI is of the opinion that at this time, the landfill would benefit from capping of the landfill surface which would completely inhibit oxygen entry during pressure swing cycles.







- 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

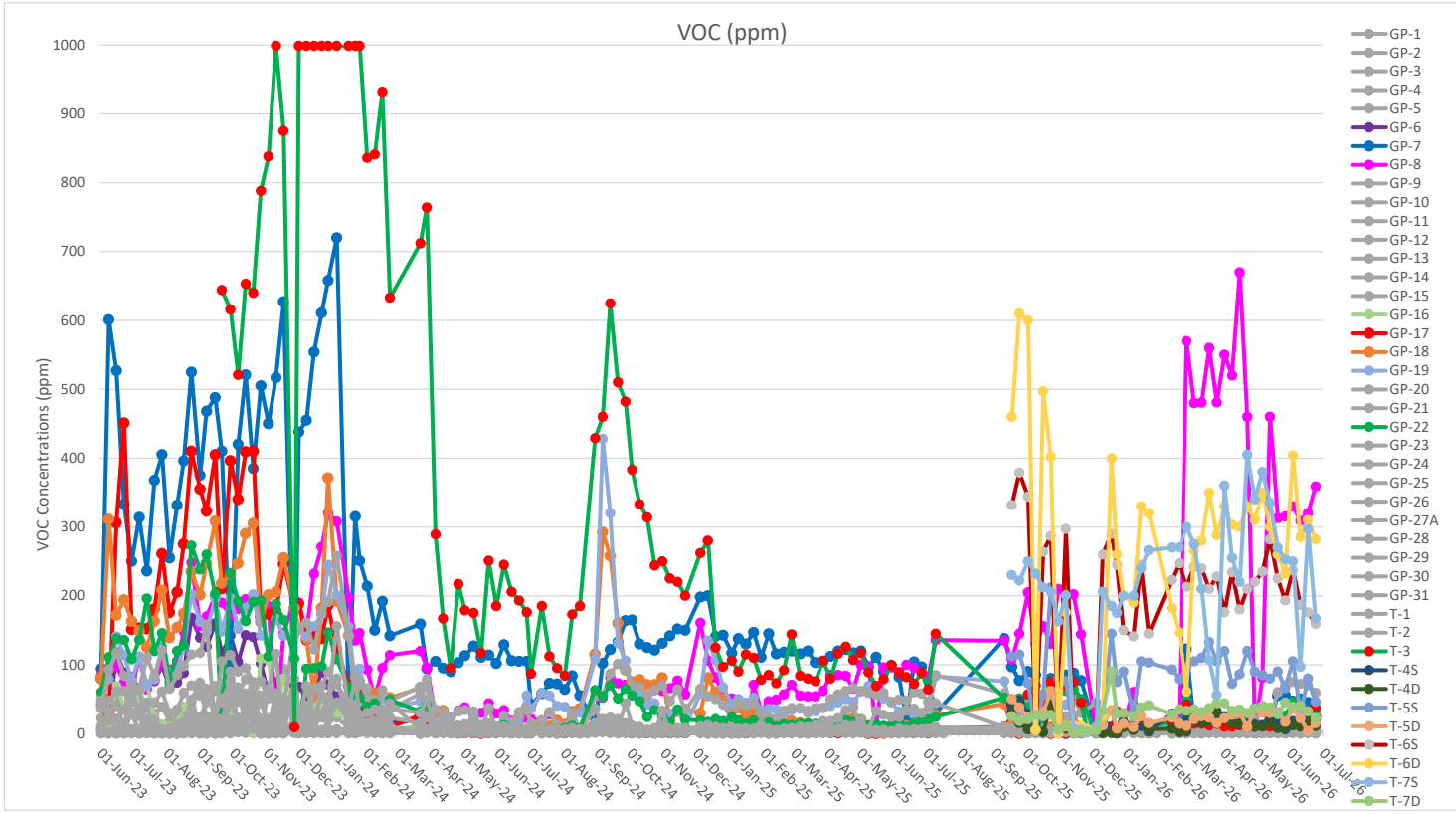
July O2 heat map is not available due to staff vacation. It will be included in August, 2026 report.

Volatile Organic Compounds

GP-8 and T-6D, T-6S and T-7S are the locations showing the highest VOC levels through Julyt with the shallow locations of T-6S and T-7S falling to similar slightly elevated levels of 200 ppm at end of July.

As the deeper portions of T-6 and T-7 are deep in the landfill, they are less impacted by dilution effects of atmospheric air cycling in and out of the landfill during pressure swings. Higher VOC concentrations are being observed at these locations.

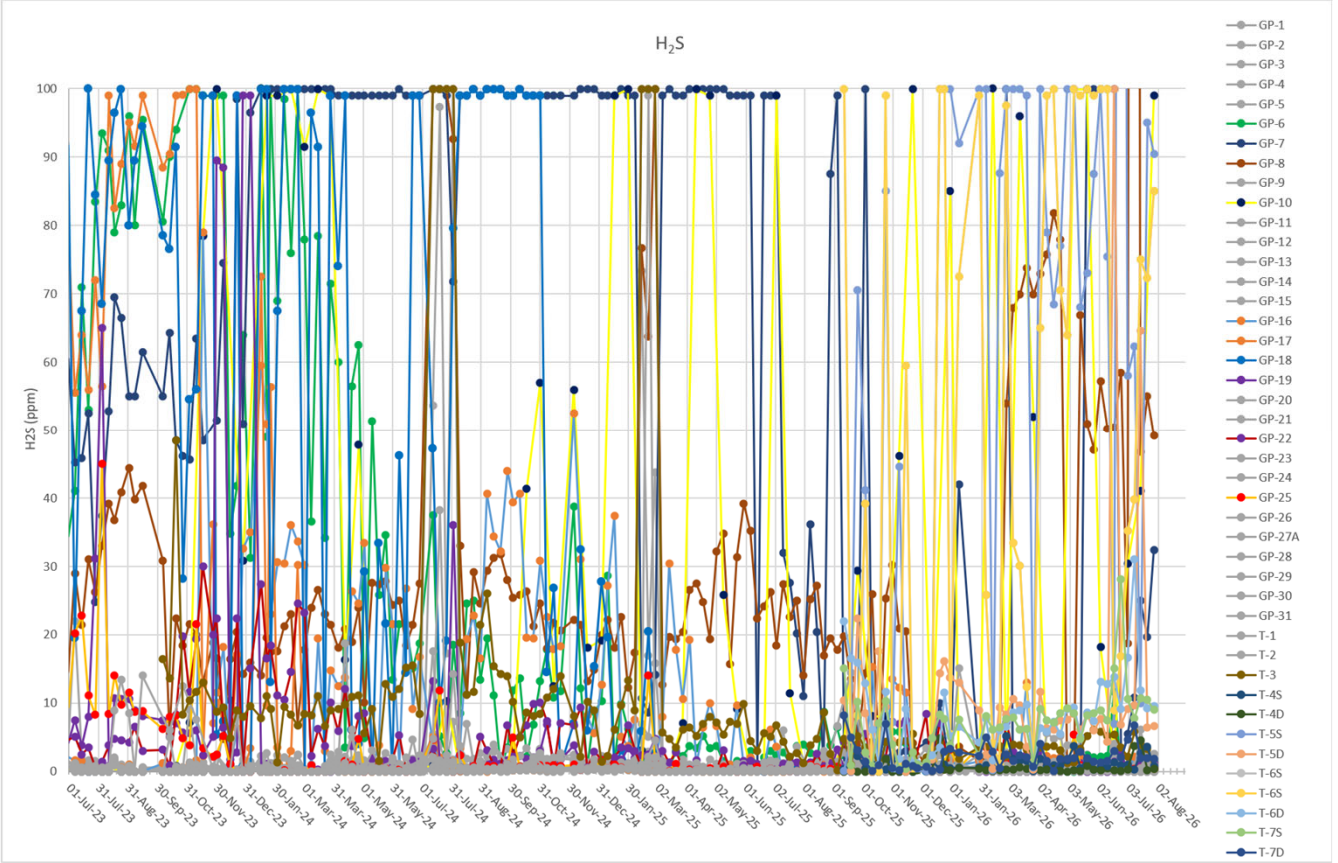
GP-8 was previously high through March and April, but is now dow dropping to 200 ppm..



Hydrogen Sulfide

H_2S data continues to be noisy, likely affected by atmospheric pressure fluctuation. Most locations are low, but some locations such as T-5S and T-6S continue to fluctuate wildly.

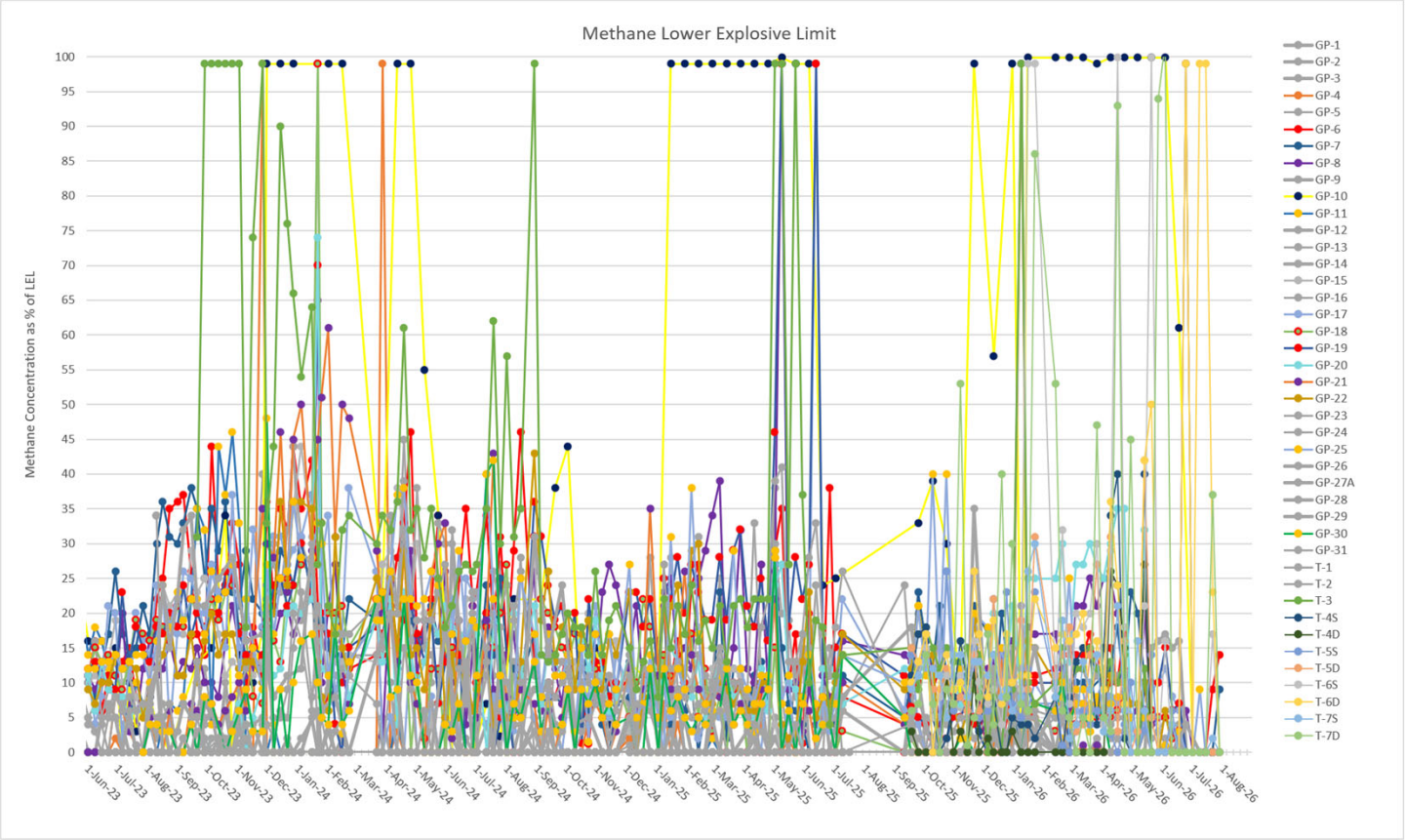
As mentioned previously, it is possible that the H_2S sensors are being impacted by CO cross interference. This seems to be confirmed as overall CO concentrations are decreasing, and the reported H2S concentrations are dropping as well.



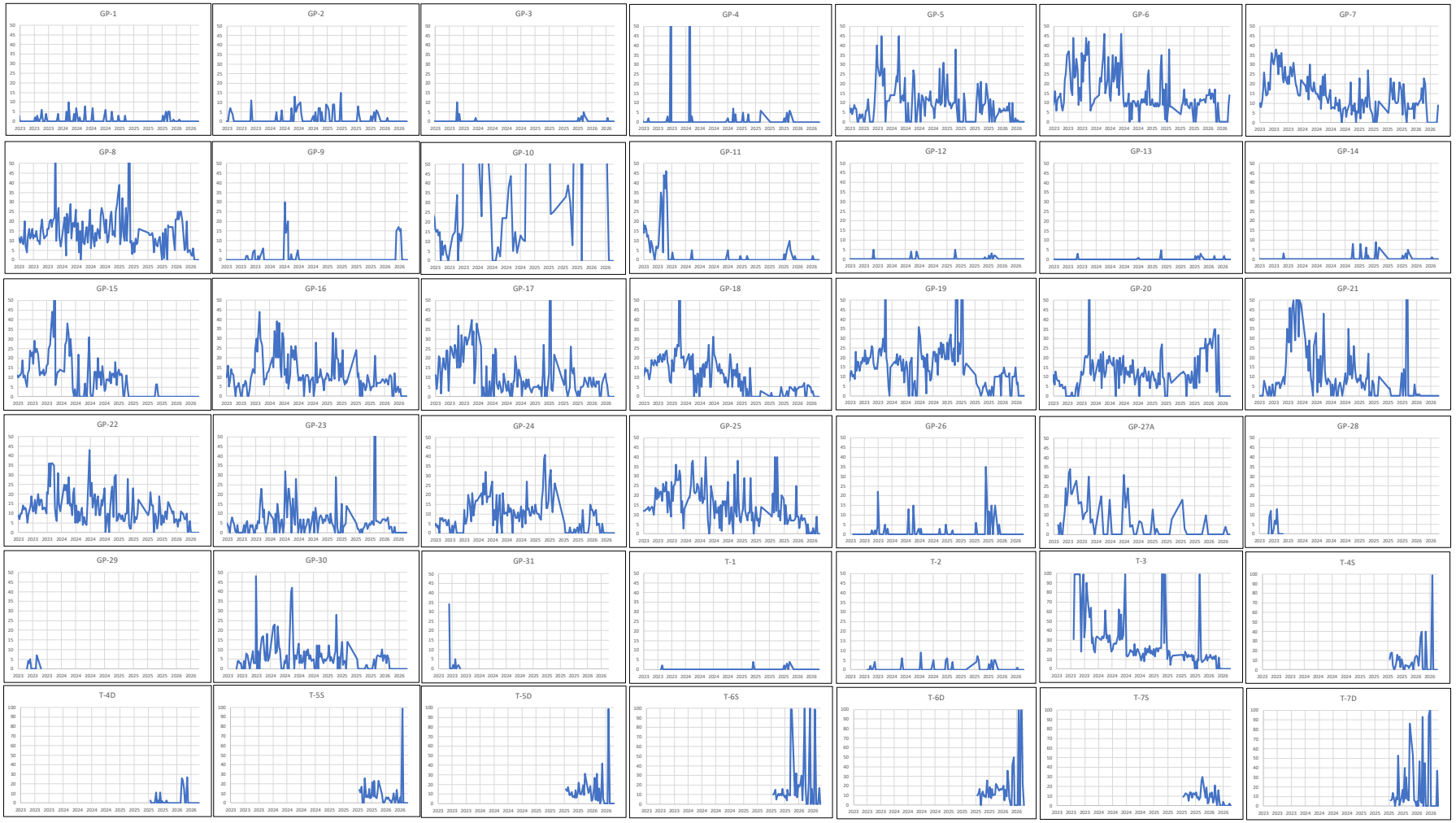
Lower Explosive Limit

Several data points are fluctuating wildly – the direct methane composition is a better indicator of levels within the landfill. Most monitoring points are reporting below 20% of the LEL.

There appears to be a general downward trend in LEL, suggesting that the landfill is becoming biologically inactive (dry tomb).



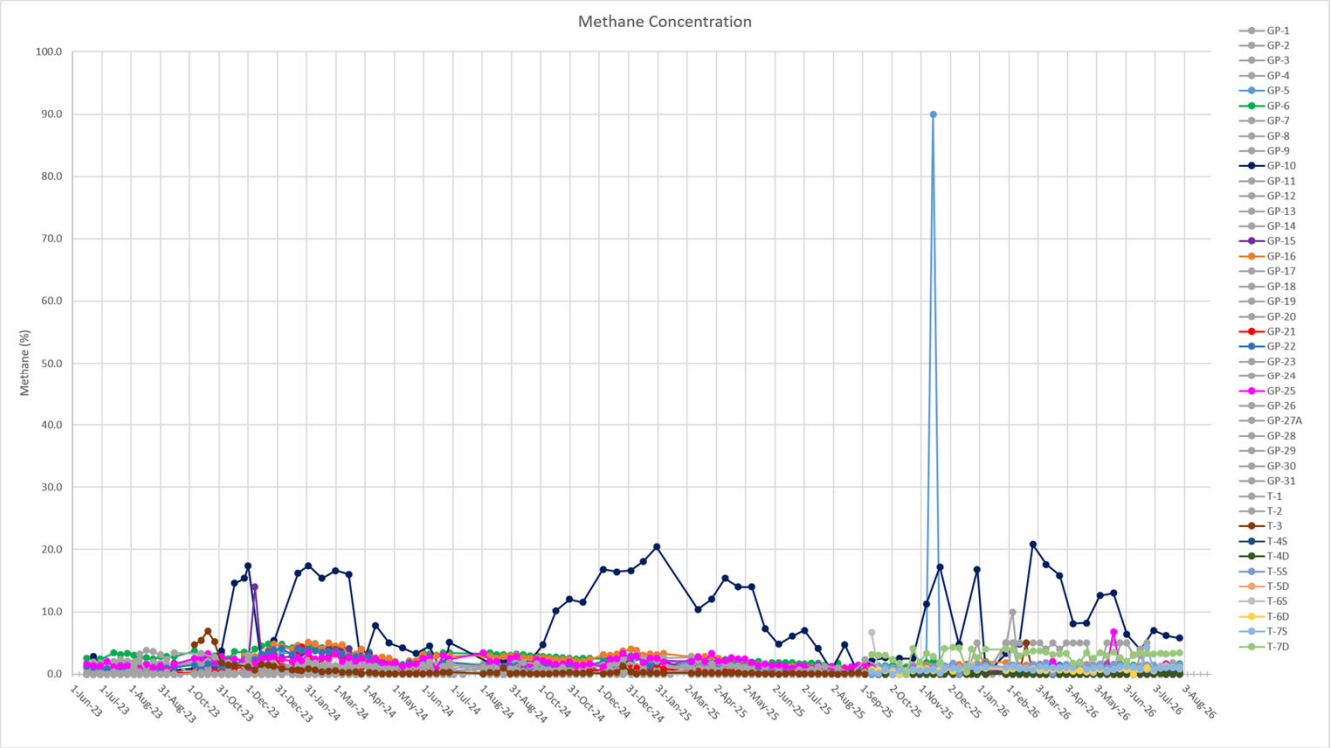
LEL for individual GP

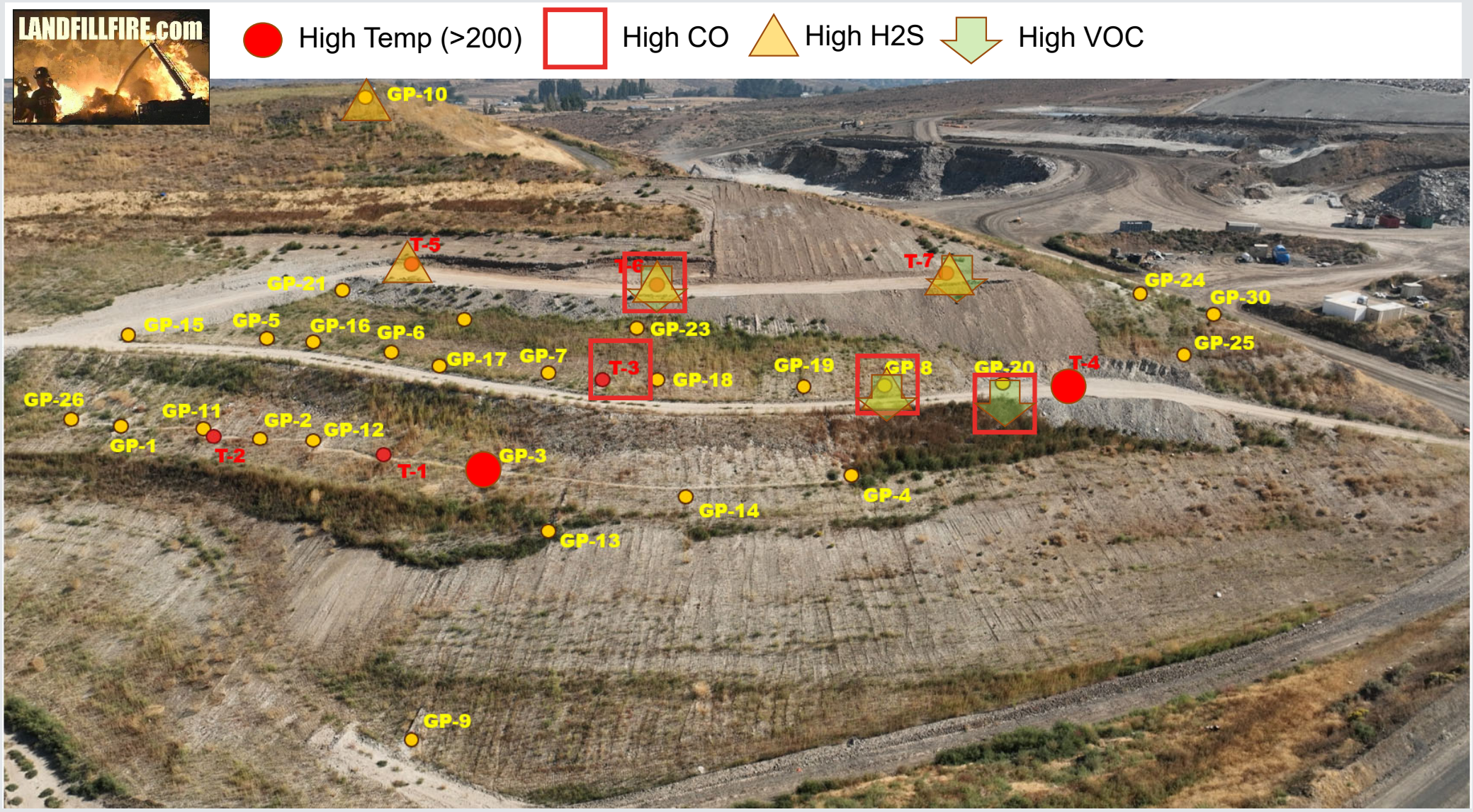


Methane

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 consistently higher methane concentrations.

There appears to be a seasonal fluctuation with high methane levels occurring in Jan of each year in crest monitor GP-10. The cause is unclear, but LFCI believes this is possibly due to freezing or snowpack on the landfill surface preventing methane from escaping. This pattern is appearing again as the new year advances, and it is expected that the methane concentration in this well will remain low over the next few months until the fall.




LANDFILLFIRE.com
High Temp (>200)
High CO
High H2S
High VOC
GP-10
T-5
T-6
T-7
GP-21
GP-24
GP-30
GP-15
GP-5
GP-16
GP-6
GP-23
GP-25
GP-17
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T-3
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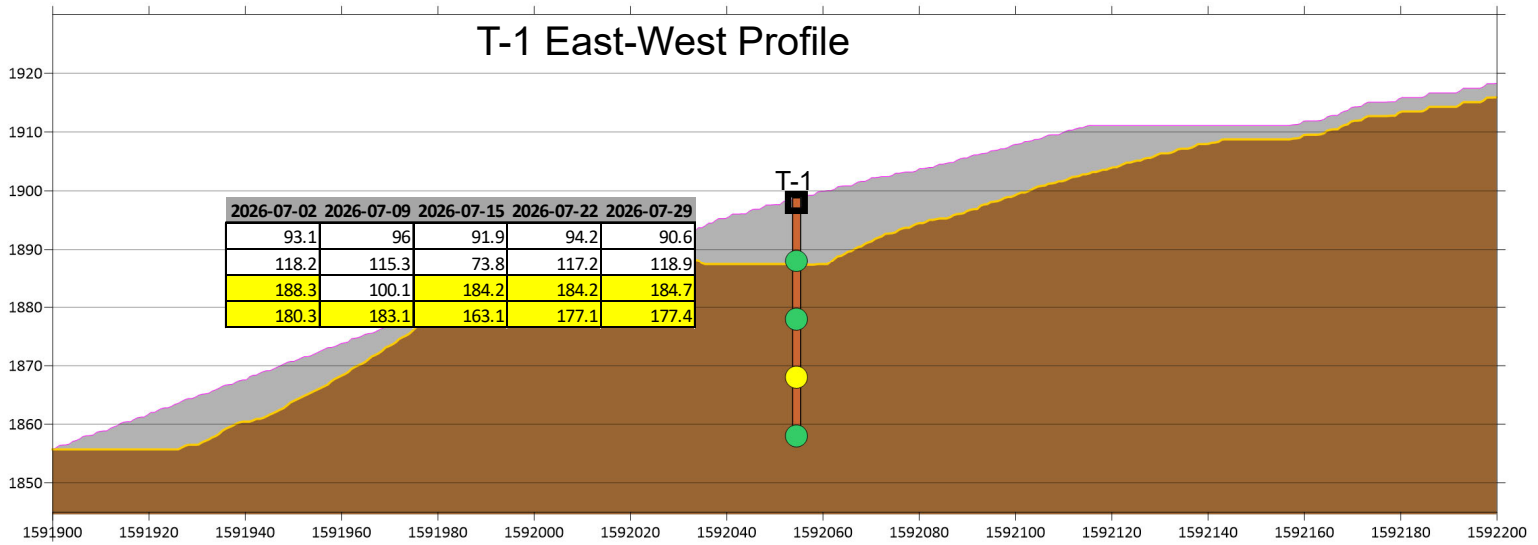
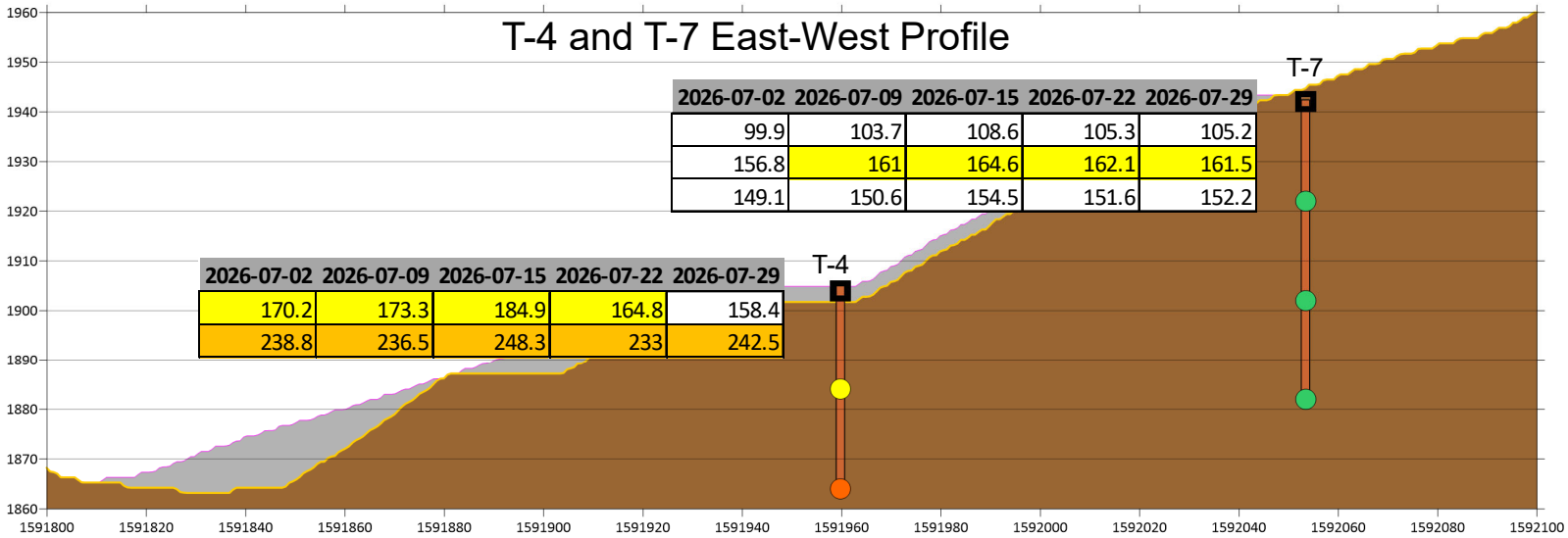
GP-13
GP-9



2026-07-02	2026-07-09	2026-07-15	2026-07-22	2026-07-29
93.1	96	91.9	94.2	90.6
118.2	115.3	73.8	117.2	118.9
188.3	100.1	184.2	184.2	184.7
180.3	183.1	163.1	177.1	177.4



2026-07-02	2026-07-09	2026-07-15	2026-07-22	2026-07-29
99.9	103.7	108.6	105.3	105.2
156.8	161	164.6	162.1	161.5
149.1	150.6	154.5	151.6	152.2

2026-07-02	2026-07-09	2026-07-15	2026-07-22	2026-07-29
170.2	173.3	184.9	164.8	158.4
238.8	236.5	248.3	233	242.5

Data Interpretation

LFCI believes that suppression efforts continue to work, but slowly after the initial decrease in smolder activity. 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 with the temperature graphs indicating that the cooling is following a trend similar to a exponential decay model.

In LFCI's experience, CO has been the best indicator of suppression at other landfill sites and is effective at indicating subsurface smolder activity at this site as well. Currently, the highest CO levels are at T-6D, these spiked up in June-July to 8,000 ppm in both T-6D and T-6S, but are now on a strong downward trend at 4,000 ppm. T-3 also experienced the same spike, suggesting that the gas observed in all three wells was likely originating in from the same hotpsot. LFCI uses a concentration of 1,000 ppm as the primary indicator of active smolder activity. At this time, T-6D, T-7S, T-6S are all elevated above 3,000 ppm, but are currently exhibiting a strong downward trend.

Elevated VOC levels in T-6D, T-6S, T-7S and GP-8 are consistent with elevated CO readings, indicating that that the smolder is most active in the southern area at this time.

Temperature tracking is indicating that the subsurface is cooling over time and size of the hot spots is consistently shrinking, indicating that the smolder is becoming less active over time.

High O2 continues to fluctuate seasonally, but appears to be on a seasonal decreasing trend, with August high O2 levels decreasing year on year.

Based on temperature, CO and VOC readings, LFCI believes that the main smolder around T-1 and GP-3 is less and less active, and main smolder activity is now in the southern quadrant around T-4.