April 8, 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 – March

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 March 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 March 20, 2025. The monitoring data summary through March 2025 from Landfill Fire Control, Inc. (LFCI) is attached.

The 2024 Annual Groundwater Report was submitted March 31, 2025.

The Updated Hydrogeological Characterization Report was submitted March 28, 2025.

The Quarterly Methane and Hydrogen Sulfide Monitoring Reports were submitted March 11, 2025.

Gregory Drilling was selected to perform the thermistor and groundwater monitoring well installations, scheduled to begin in April.

Parametrix continued to finalize the RI Work Plan

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.

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

Contact
425 549 3000
dtgrecycle.com

Deliverables for the Upcoming Month:
Deliverables will include:

- Weekly ambient and gas probe data
- April Progress Report
- Final RI Work Plan

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 – March 2025

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

April 6th, 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 – March 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, the month of March has exhibited a levelling off of trends in temperature and gas composition. The past month has seen the rate of cooling level off, with a more significant decrease in the last monitoring event of the month. Temperatures continued to decline slowly in GP-3, T-1, and T-3 through the past month.

The past several months have experienced major atmospheric pressure swings which have caused oxygen rich atmospheric air to cycle into the landfill. The availability of increased O2 has likely initiated a slight increase in thermal activity which is now dying down.

The collected data has indicated that the subsurface smolder is becoming less and less active since the soil cover was applied. Temperature and other parameters have all indicated a decrease in fire activity, but CO has increased approximately 500ppm in the last month. This increase will be monitored closely by LFCI in the next few weeks, as continued upward trends would be a concern.

Per LFCI's fire control plan, monitoring can be reduced to once every two weeks once CO levels drop below 500 ppm and the fire can be declared extinguished after CO concentration is below 200 ppm.

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 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 six months to one year. 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.

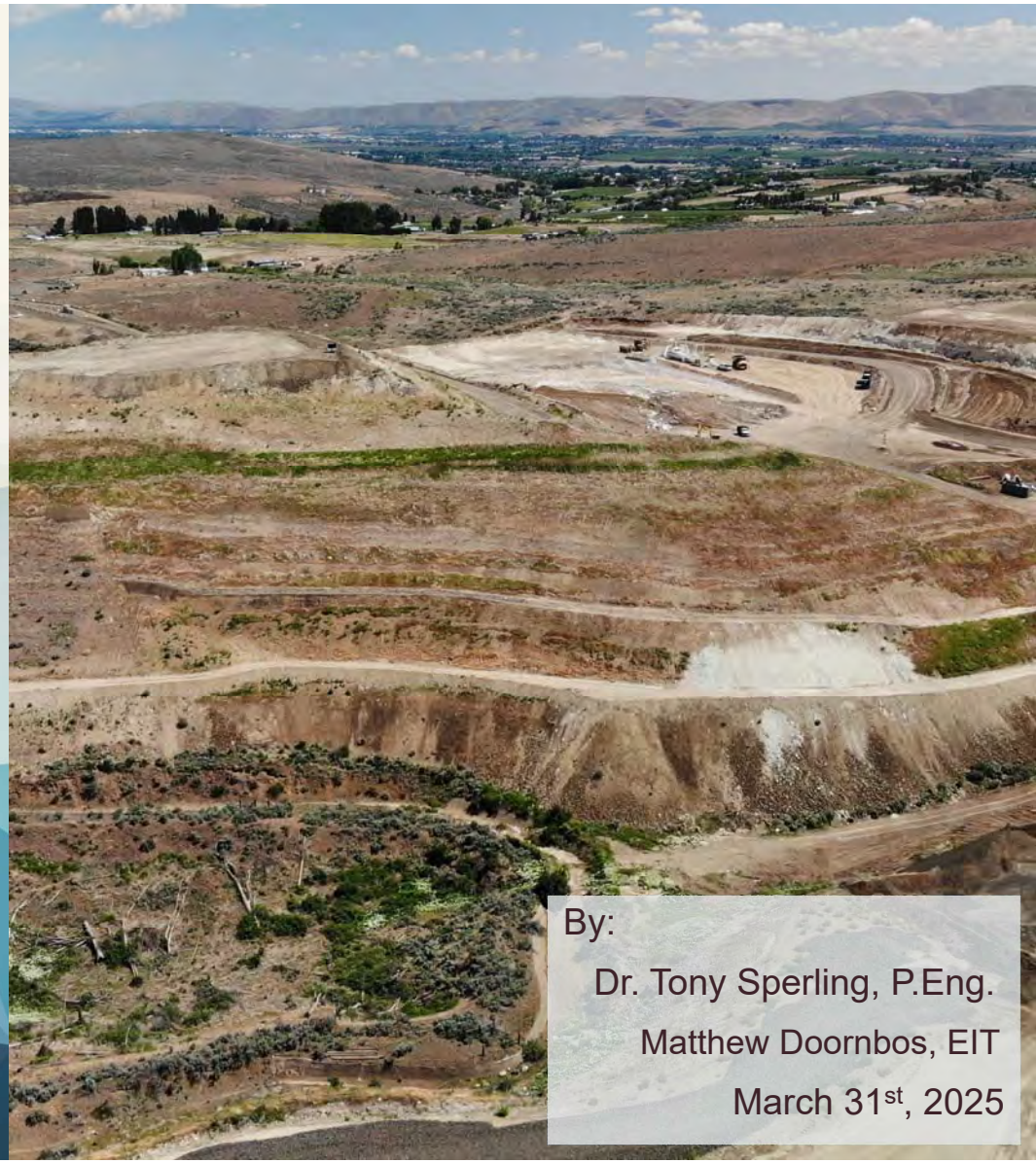
Dr. Tony Sperling, P.Eng.
President

April 6th, 2025

DTG LPL LANDFILL FIRE INVESTIGATIONS AND MITIGATION

Monthly Monitoring Data Review

March 2025



By:

Dr. Tony Sperling, P.Eng.

Matthew Doornbos, EIT

March 31st, 2025

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LANDFILLFIRE.com
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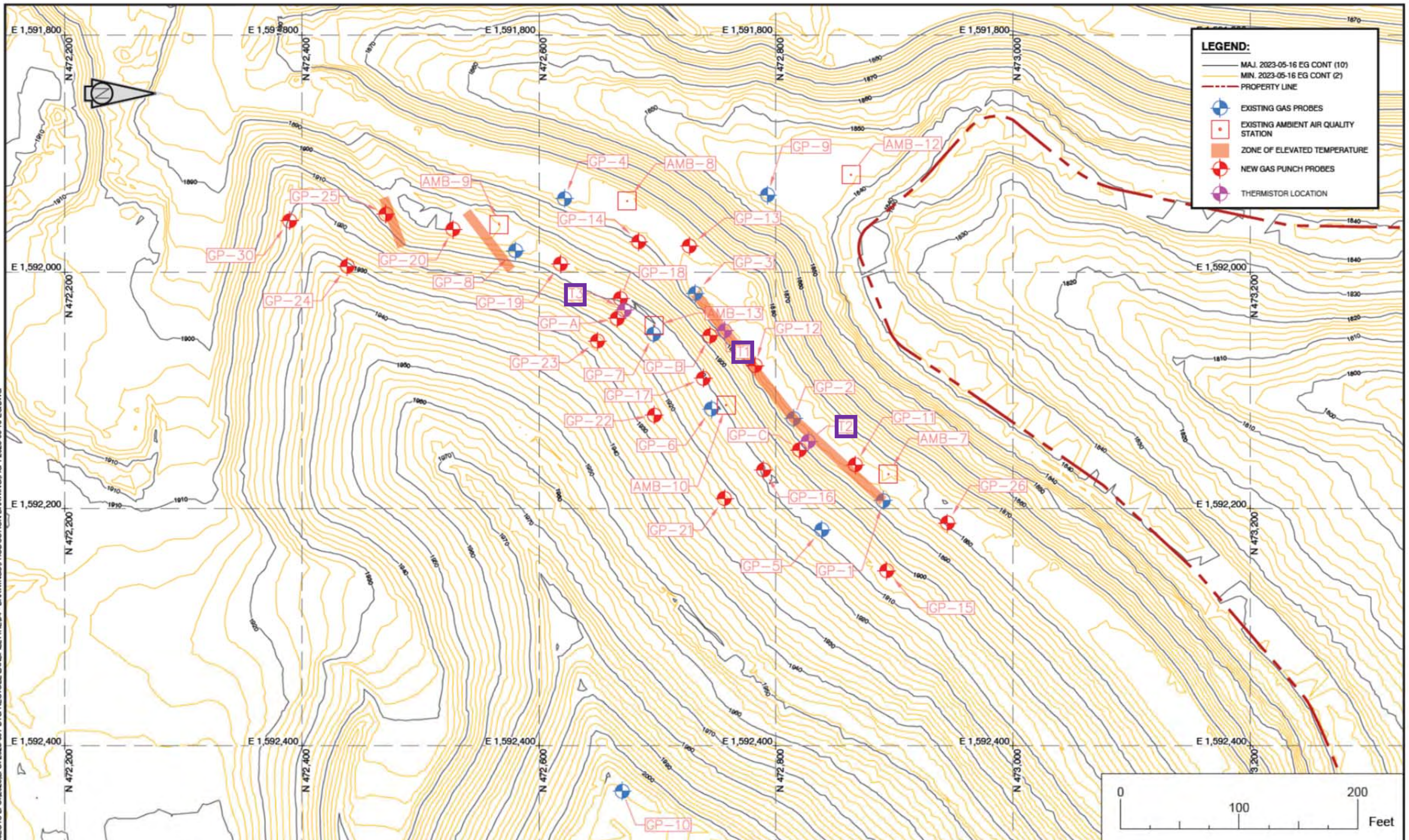

Sperling Hansen Associates

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) 986-7723

SEAL

No.	DATE	REVISIONS	DRAWN	CHK'D	APP'D

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CLIENT:

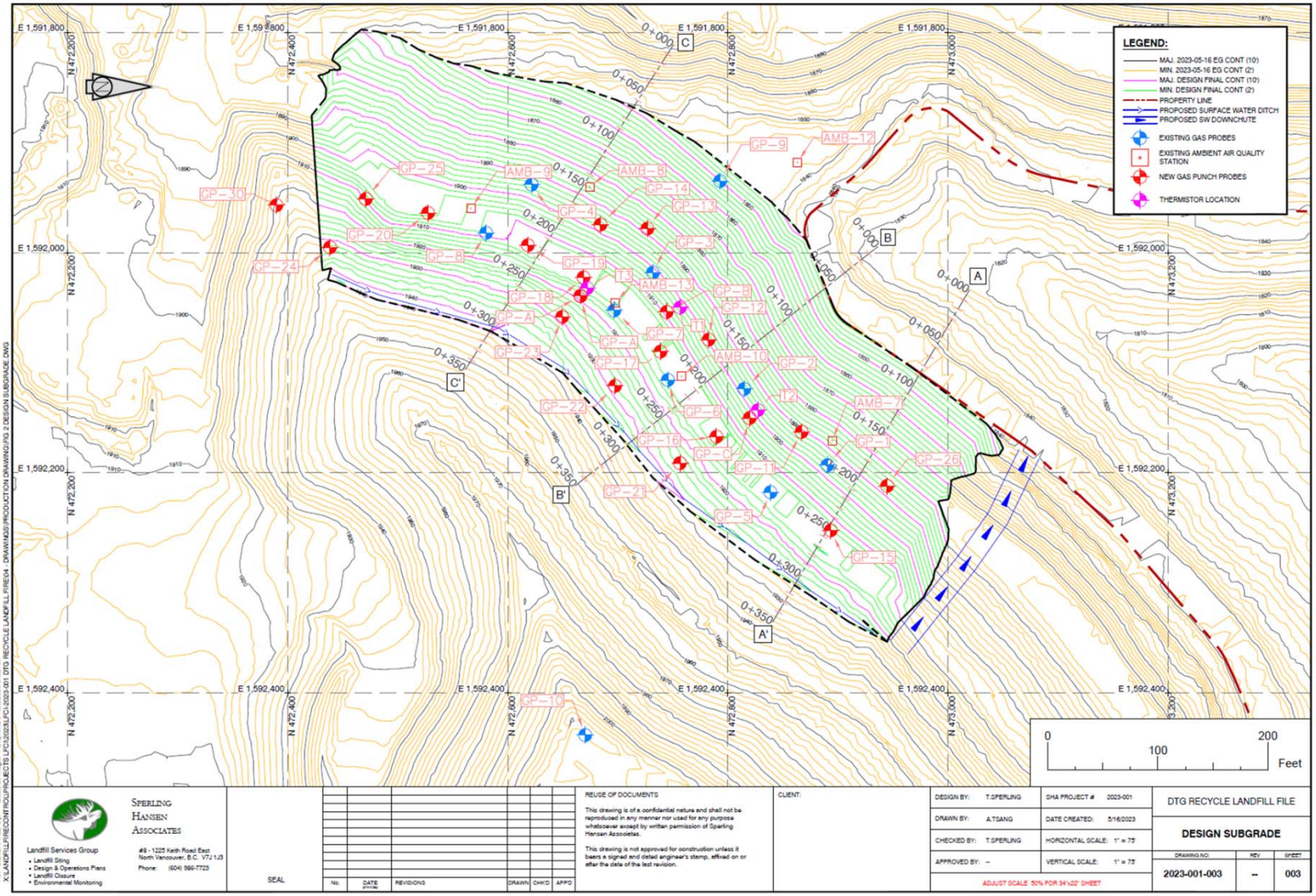
DESIGN BY:	T.SPERLING	SHA PROJECT #	2023-001
DRAWN BY:	A.TSANG	DATE CREATED:	5/16/2023
CHECKED BY:	T.SPERLING	HORIZONTAL SCALE:	1" = 75'
APPROVED BY:	--	VERTICAL SCALE:	1" = 75'

ADJUST SCALE 50% FOR 34"x22" SHEET

DTG RECYCLE LANDFILL FILE

EXISTING TOPOGRAPHY 2023-05-16

DRAWING NO:	REV	SHEET
2023-001-001	--	001



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SPERLING HANSEN ASSOCIATES

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ADJUST SCALE 50% FOR 34"x22" SHEET

DTG RECYCLE LANDFILL FILE

DESIGN SUBGRADE

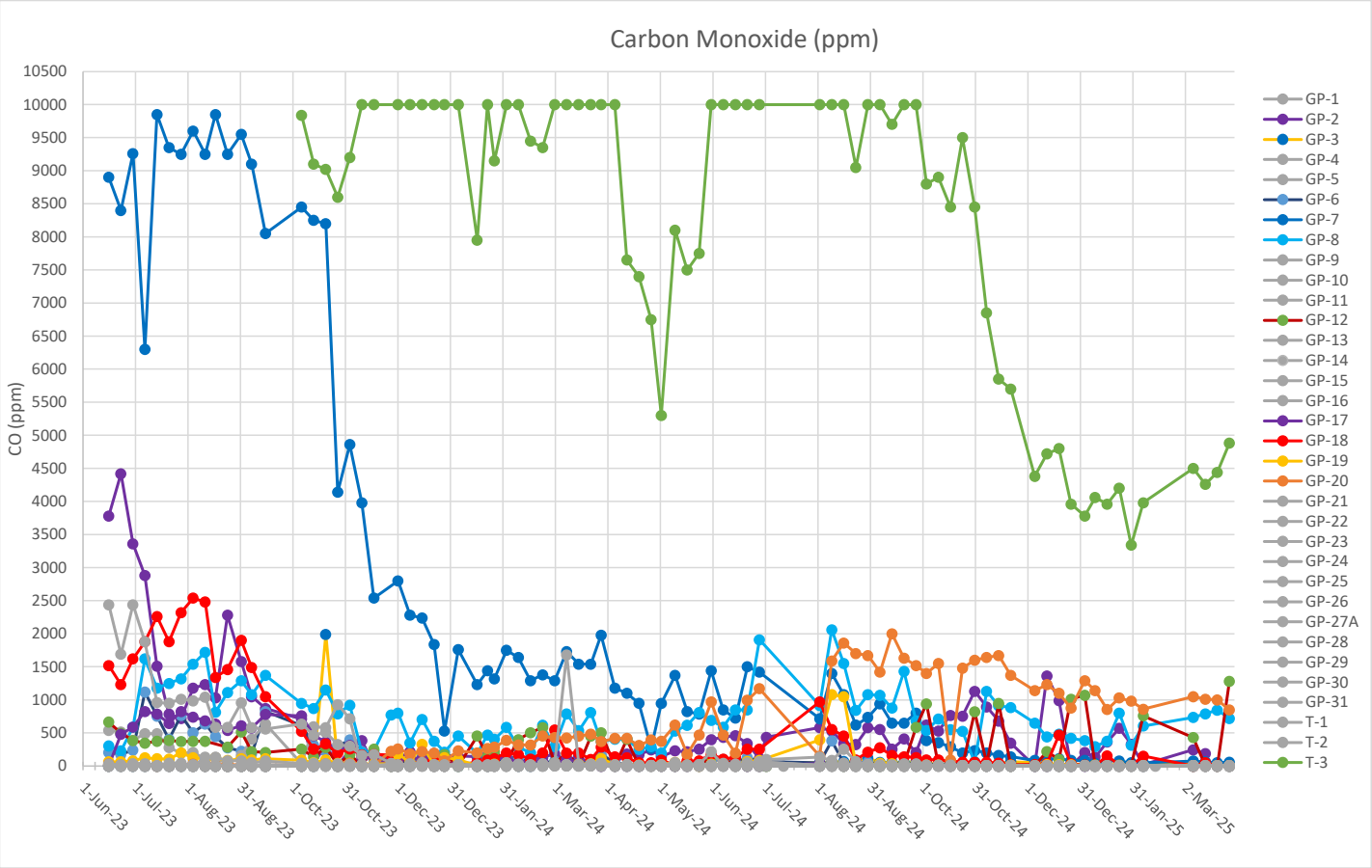
DRAWING NO.	REV	SHEET
2023-001-003	--	003

Carbon Monoxide

March saw large pressure swings between the monitoring events.

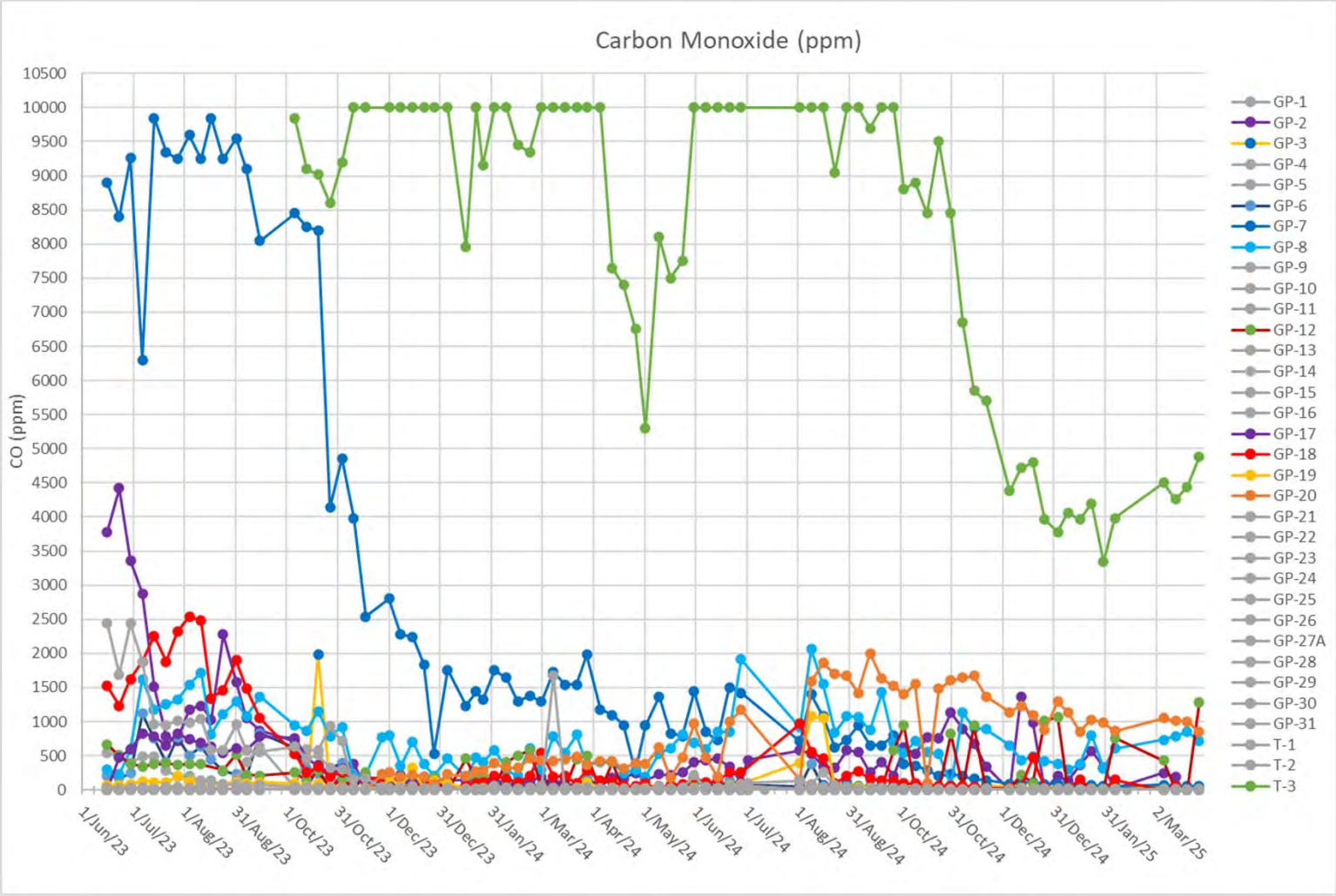
The Draeger monitoring instrument was in for recalibration with LFCI for the month of February, but measurements resumed the week of March 4.

March saw an increase of around 500ppm and 1,000ppm in T-3 and GP-12, with the other wells remaining stable.

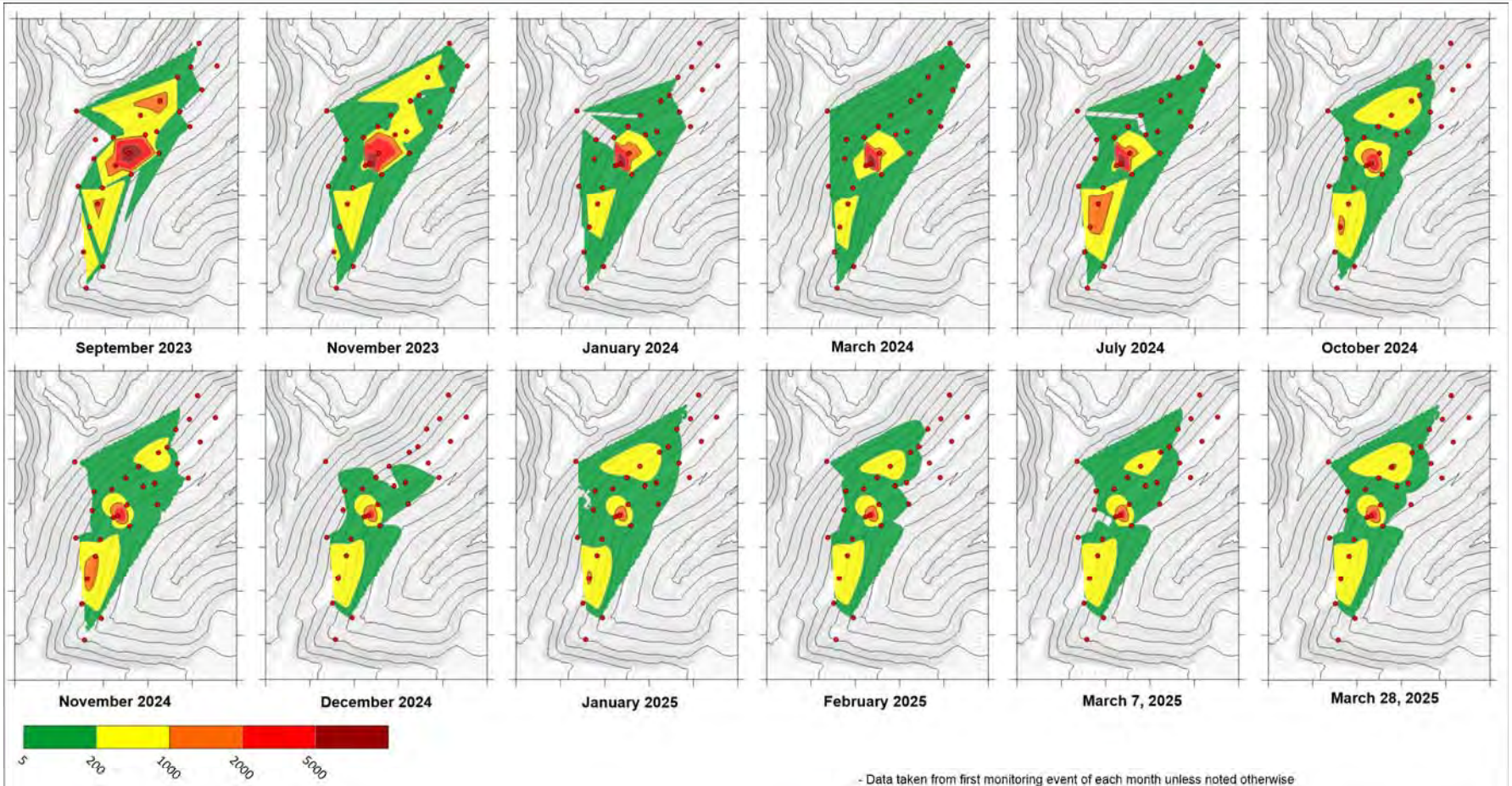


CO Adjusted for H2 Gas

Adjusted CO measurements had decreased significantly from August 2024 to January 2025, but now March has seen some increase in the CO, even when adjusted for hydrogen gas interference in T-3 and a spike in GP-12.



CO Levels by Individual Wells



- Data taken from first monitoring event of each month unless noted otherwise
- Data was linearly 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

No.	DATE yr/m/day	REVISIONS	DRAWN	CHK'D	APP'D
1	2025/03/31	ISSUED FOR REVIEW	MD	TS	TS

DESIGN BY:	T. SPERLING
DRAWN BY:	M. DOORNBOS
DATE CREATED:	2025/03/31
SHA PROJECT #	LFCI-2023-001

DTG RECYCLE LANDFILL FIRE

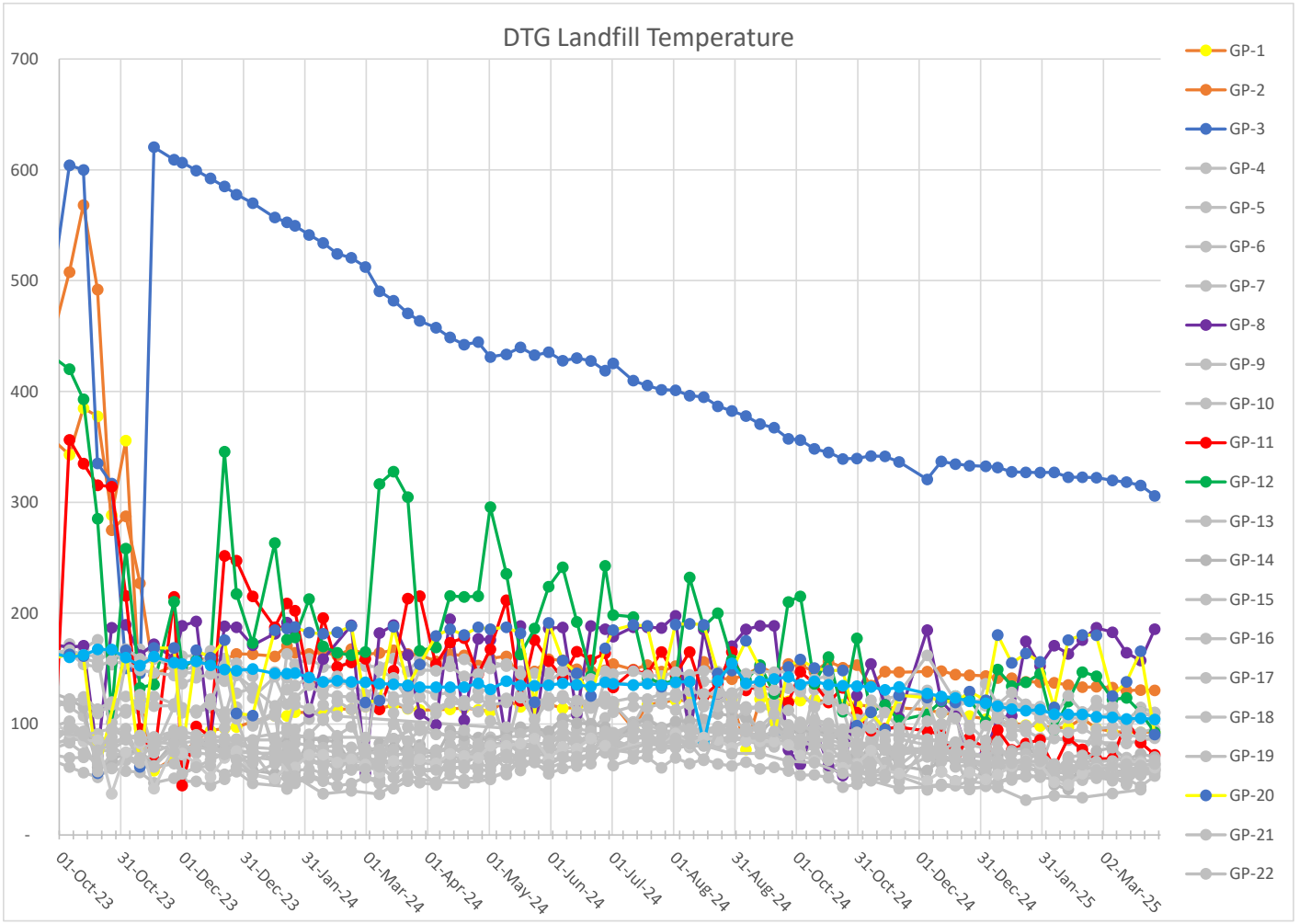
MONTHLY MONITORING SUMMARY SPATIAL MAPS - CO

DRAWING NO.	REV	SHEET
LFCI-2023-001-03-CO	1	1

Temperature (F)

February saw temperatures in GP-3 continue to decrease at a slow rate, with the last monitoring event in March seeing a decrease.

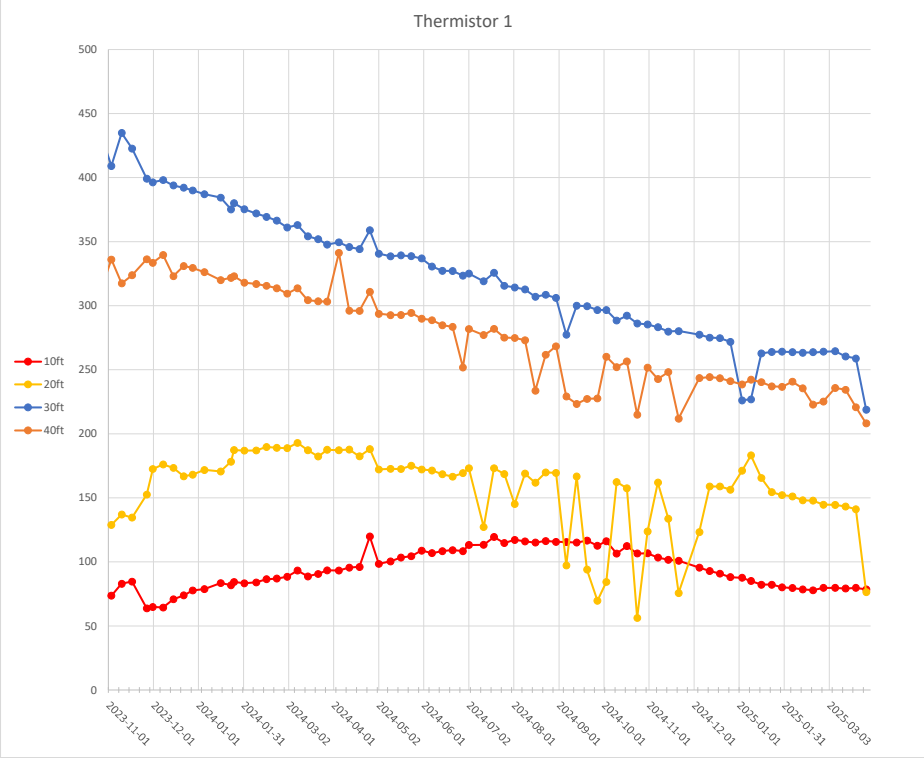
GP-8 has remained somewhat higher (200F) while GP-20 has decreased from last month (100F).

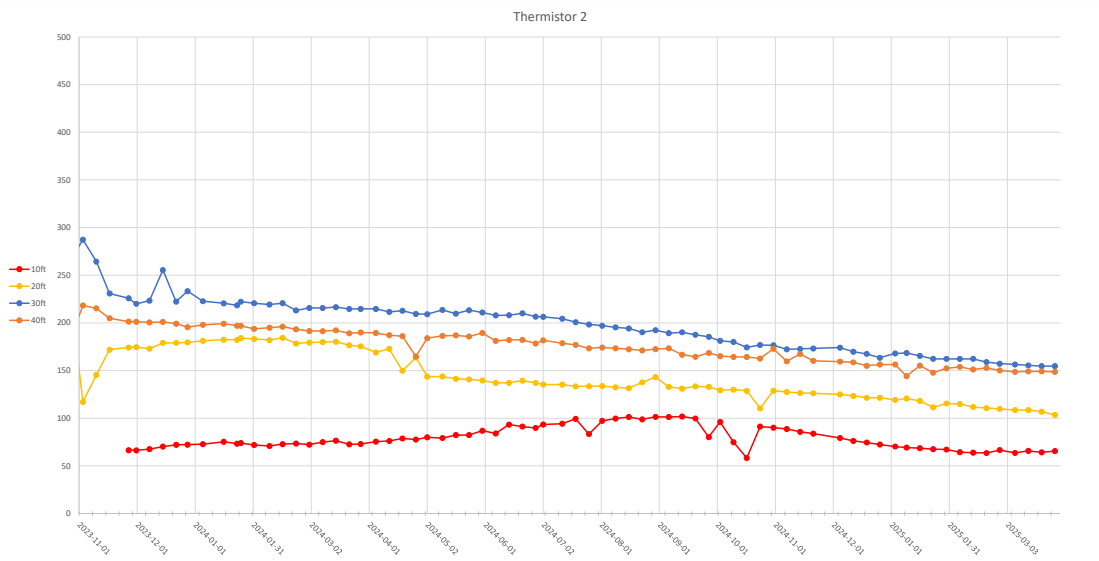


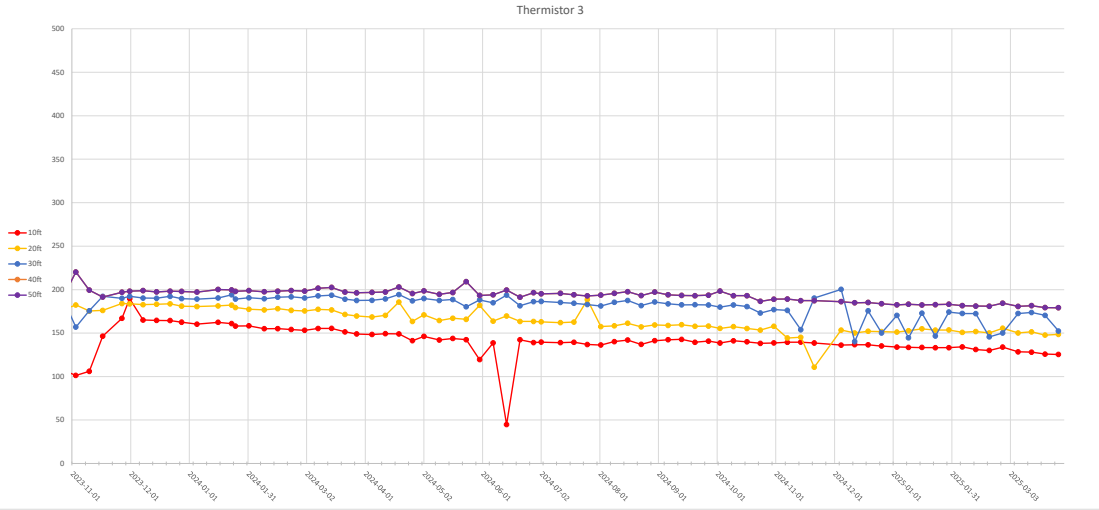
Thermistor Temperatures

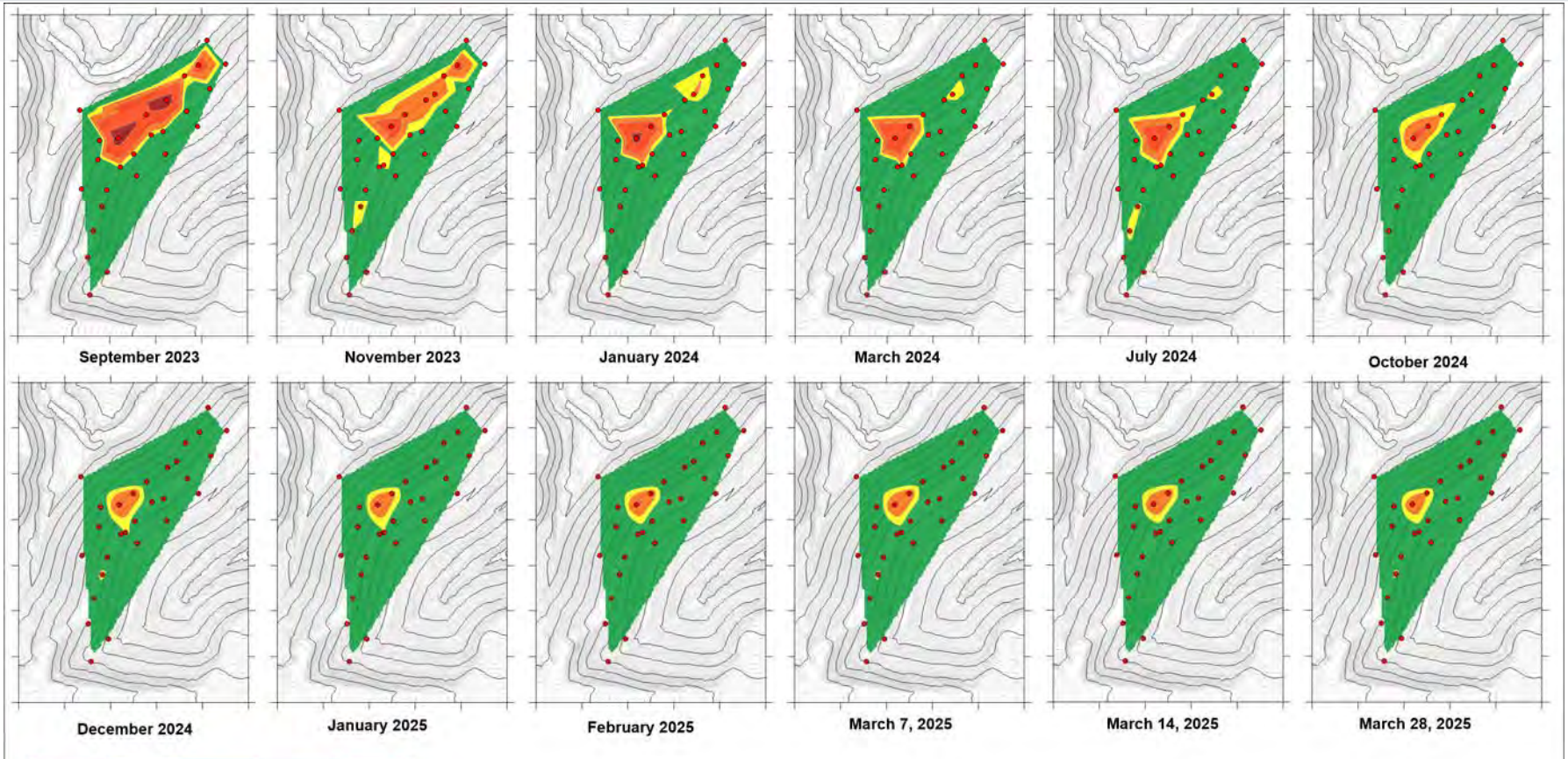
Thermistor temperatures are mostly stable, with downward trend in T-1 and T-2, and the levelling trend in T-3 continuing. Noted that the deeper measurement of 20ft below surface is cooler than measurements at 10ft depth but oscillations indicate there is an issue with the temperature readings at 20 ft. on T-1. Consideration should be given to installing a dedicated thermistor.

The last monitoring event saw a significant decrease in deep temperatures in T-1, the previous projection of 2 years to achieve the desired base temperatures may need to be updated.









- 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 F
- Ground contours are of existing ground at beginning of project, with design contours added for after addition of fill

No.	DATE yr/m/day	REVISIONS	DRAWN	CHK'D	APP'D
1	2025/03/31	ISSUED FOR REVIEW	MD	TS	TS

DESIGN BY:	T. SPERLING
DRAWN BY:	M. DOORNBOS
DATE CREATED:	2025/03/31
SHA PROJECT #	LFCI-2023-001

DTG RECYCLE LANDFILL FIRE

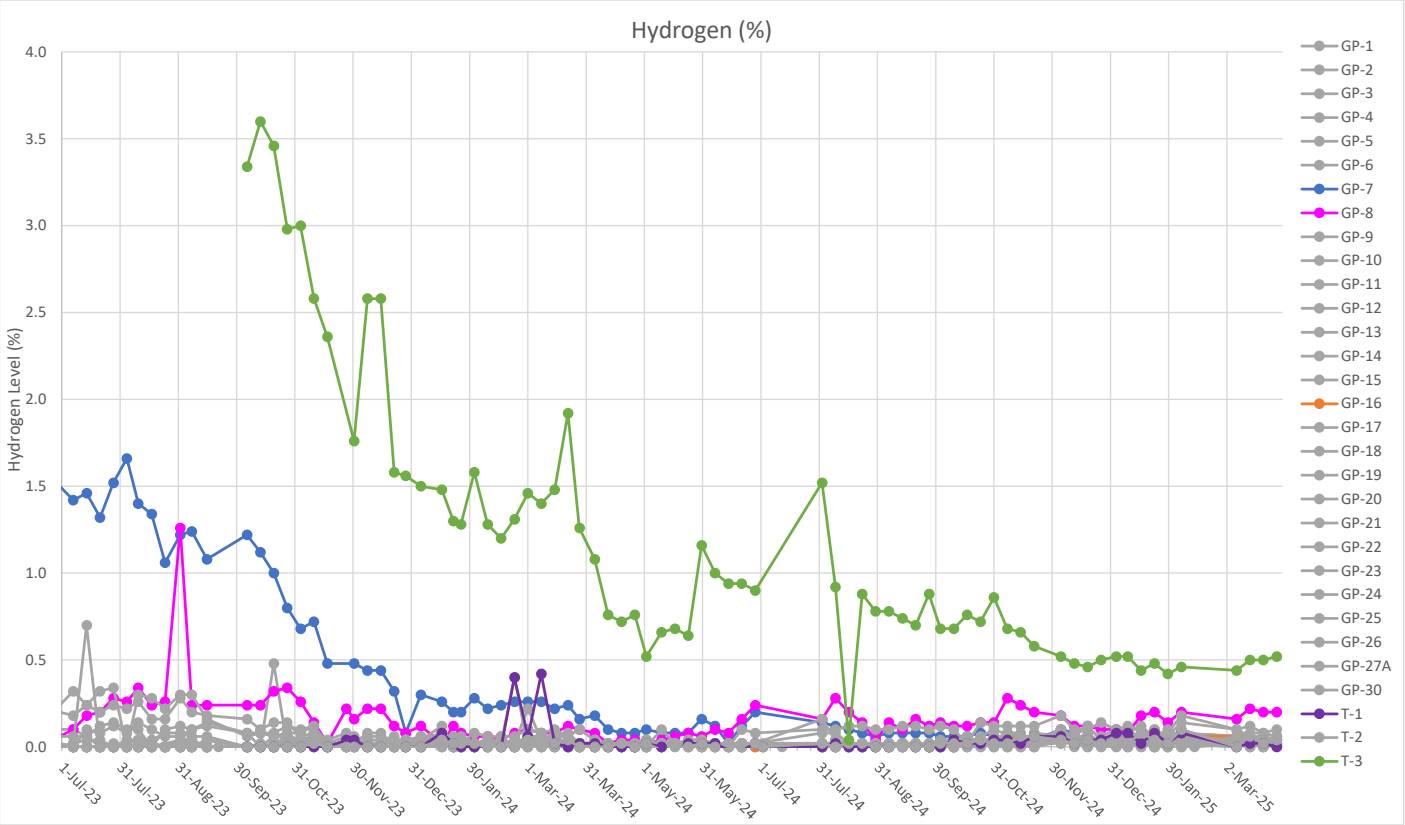
MONTHLY MONITORING SUMMARY SPATIAL MAPS - TEMPERATURE

DRAWING NO.	REV	SHEET
LFCI-2023-001-03-TEMP	1	1

Hydrogen

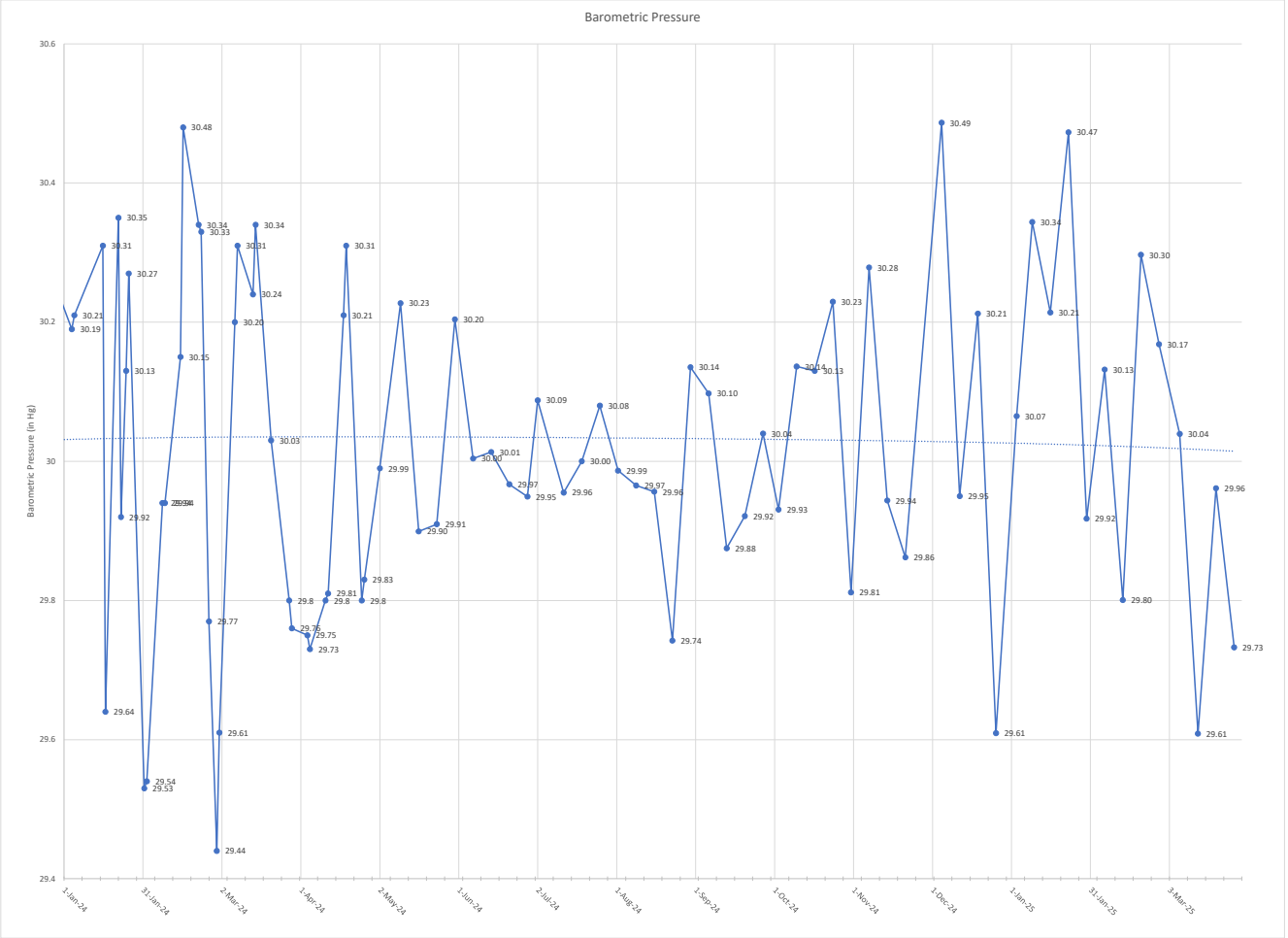
Hydrogen has increased a small amount from 0.4% to 0.5% in T-3 over the month of March.

Hydrogen remains very low in all other wells. Production of H_2 is often observed with smoldering waste. LFCI believes that the level of H_2 dropping continues to indicate that the fire is less active.



Barometric Pressure

The site observed large swings in the barometric pressure over the month of March. Overall pressure seems to be slowly declining as we move into the Australian fall and winter.

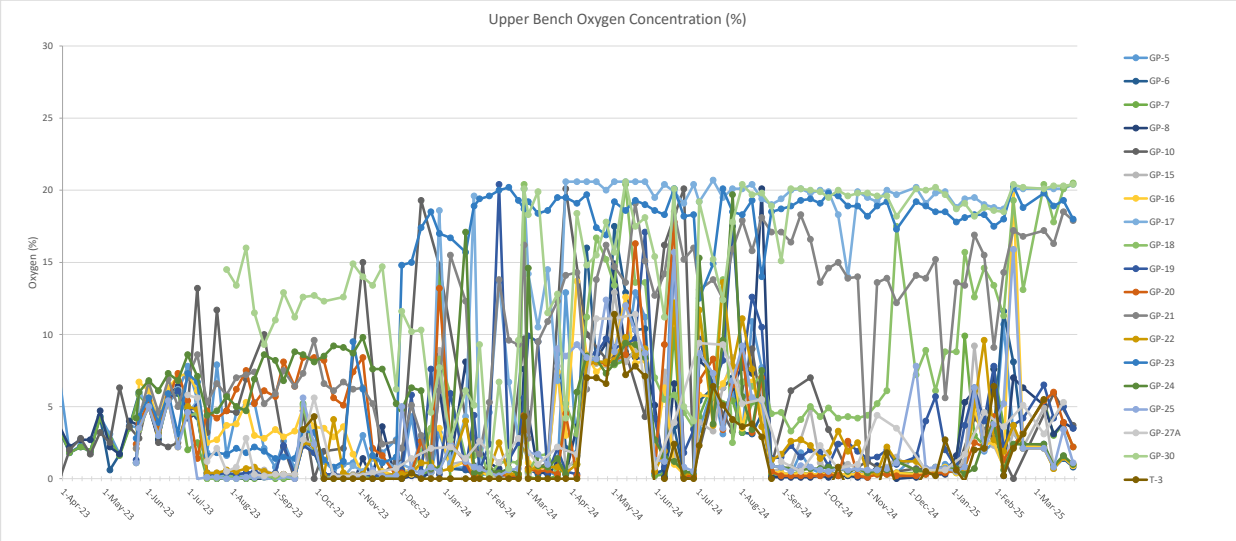


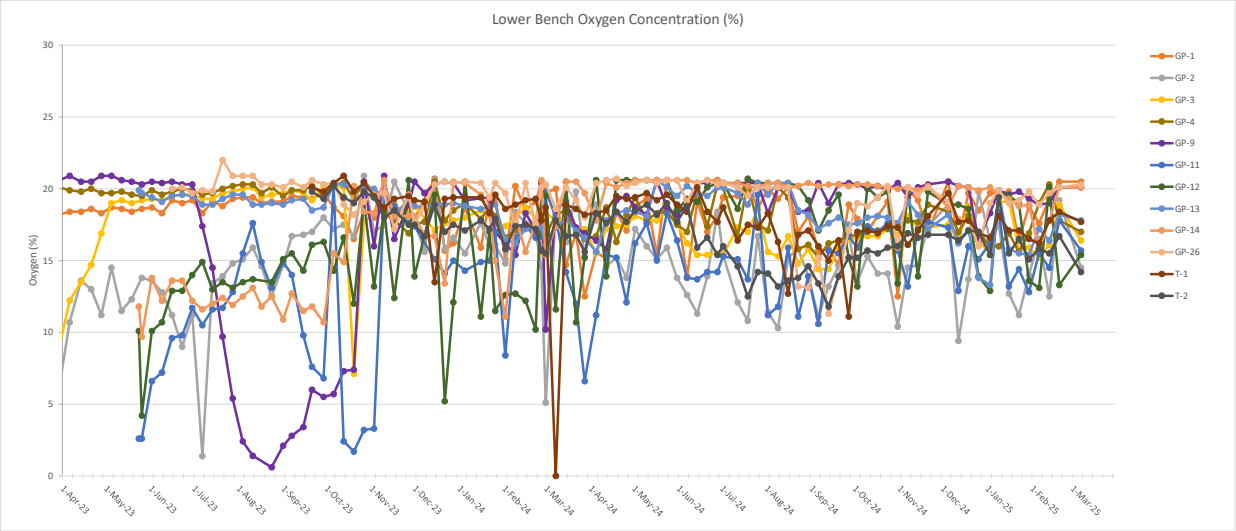
Oxygen

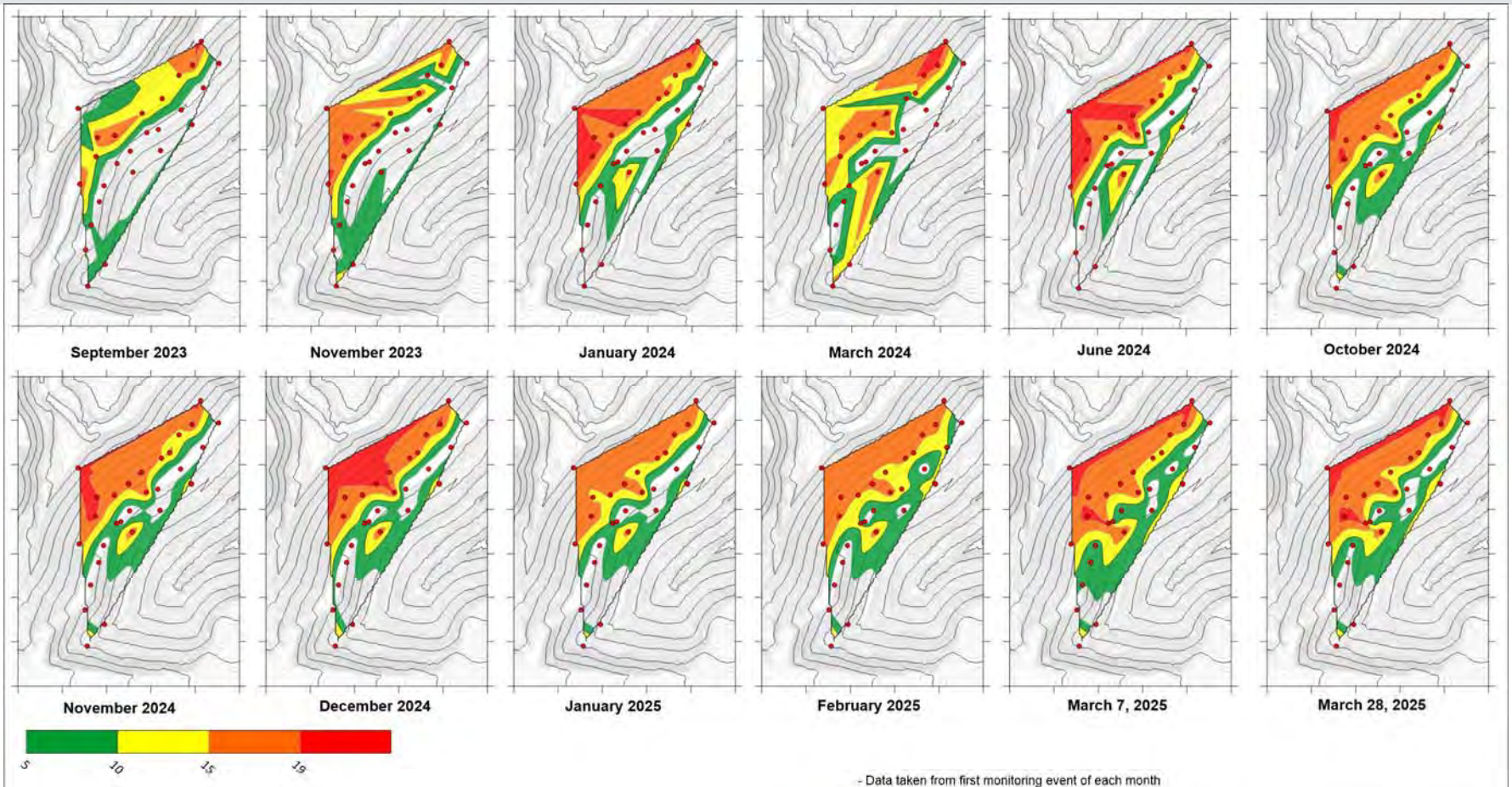
The oldest portion of the landfill is likely relatively inert and biologically inactive, producing very little methane. As a result, the pore space is full of atmospheric air, leading to the generally high oxygen concentrations.

Some GPs likely susceptible to swings in pressure – LFCI believes this is causing the spikes.

Noted that higher levels of oxygen in GP-9 at landfill toe (>20%) are causing the spatial maps to be somewhat skewed, indicating air intrusion throughout the toe of the landfill. This is likely not a true portrayal of O2 levels within the fill; however, there has been an increase in concentrations in the upper bench over the past few months.







- Data taken from first monitoring event of each month
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- Datapoints (probe locations) represented in red
- O2 levels are measured in % composition
- Ground contours are of existing ground at beginning of project, with design contours added for after addition of fill

No.	DATE yr/m/day	REVISIONS	DRAWN	CHK'D	APP'D
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DESIGN BY:	T. SPERLING
DRAWN BY:	M. DOORNBOS
DATE CREATED:	2025/03/31
SHA PROJECT #	LFCI-2023-001

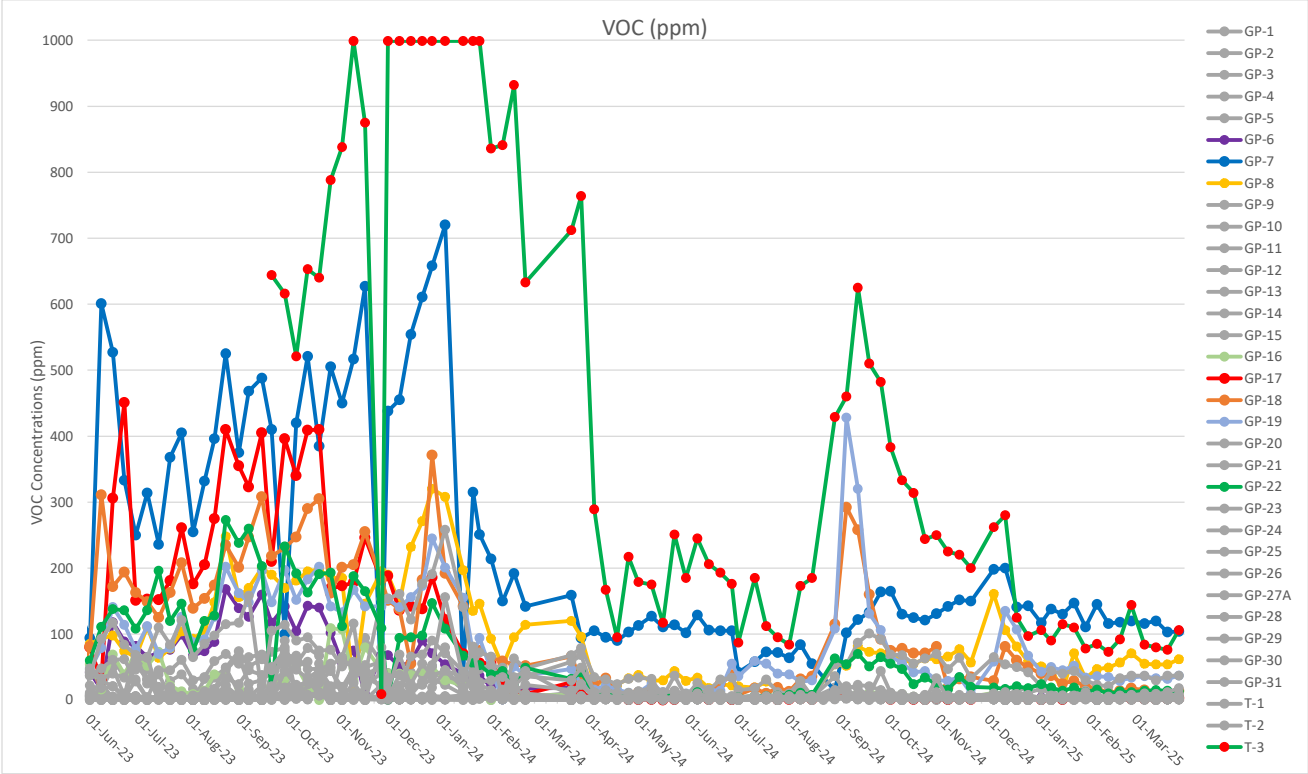
DTG RECYCLE LANDFILL FIRE

MONTHLY MONITORING SUMMARY SPATIAL MAPS - O2

DRAWING NO.	REV	SHEET
LFCI-2023-001-03-O2	1	1

Volatile Organic Compounds

Through March, VOC levels continued to be stable with the highest concentrations in GP-7 and T-3 around 100ppm.

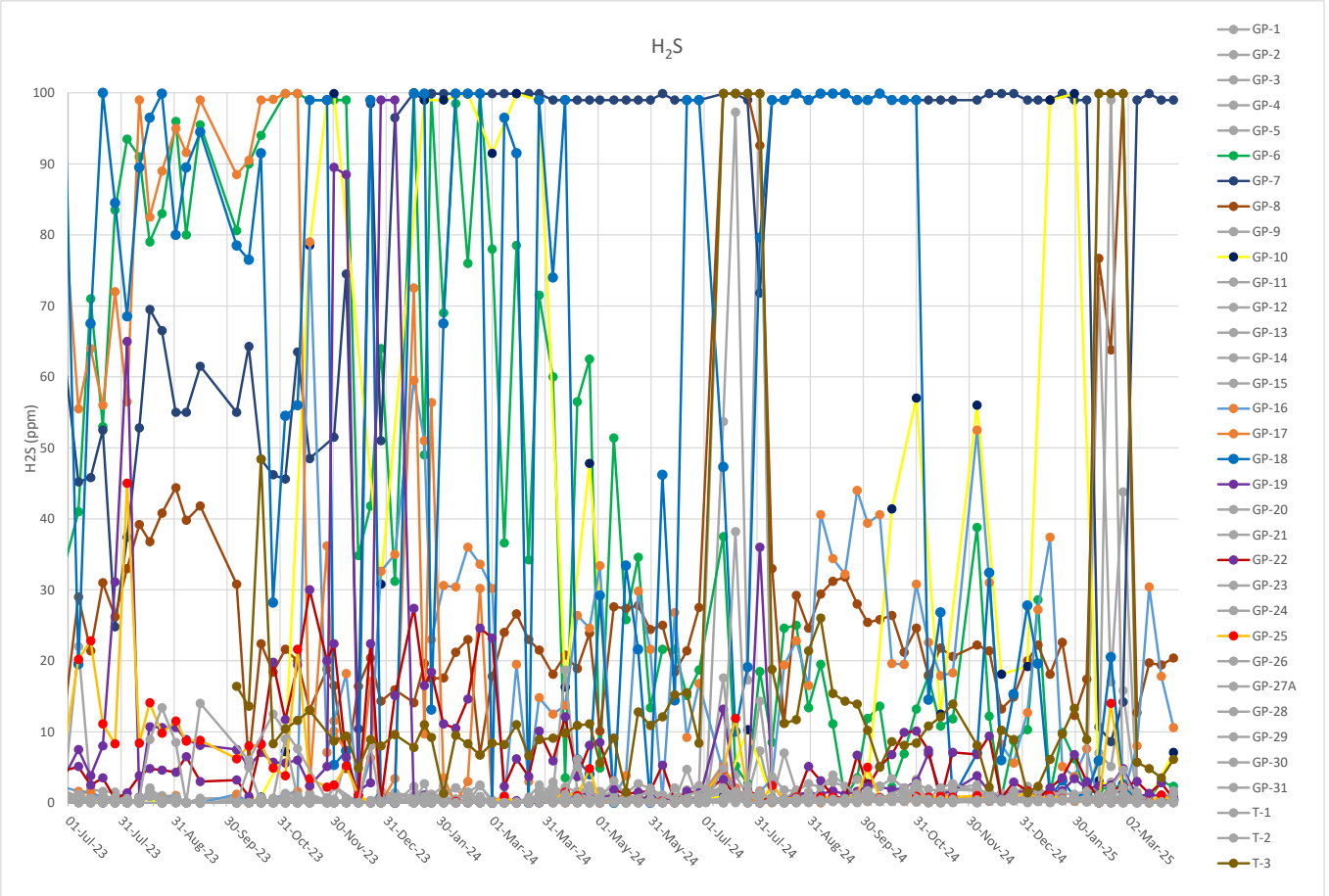


Hydrogen Sulfide

H_2S data continues to be noisy, likely affected by atmospheric pressure fluctuation.

Most locations are low, but GP-7 remains high as it has historically.

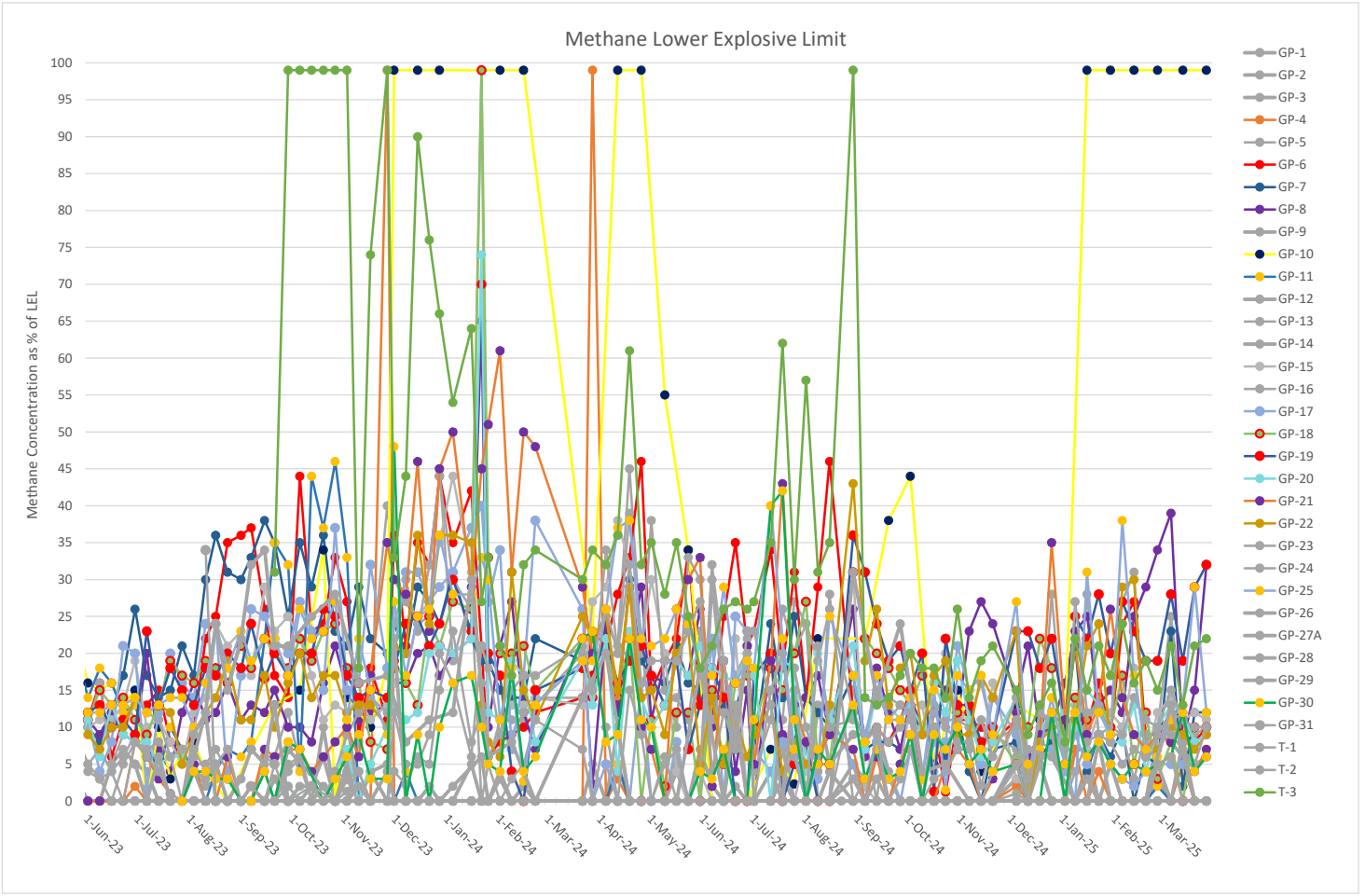
As mentioned previously, it is possible that the H_2S sensor is being impacted by CO cross interference. With CO concentration decreasing, reported H2S concentration is dropping as well.



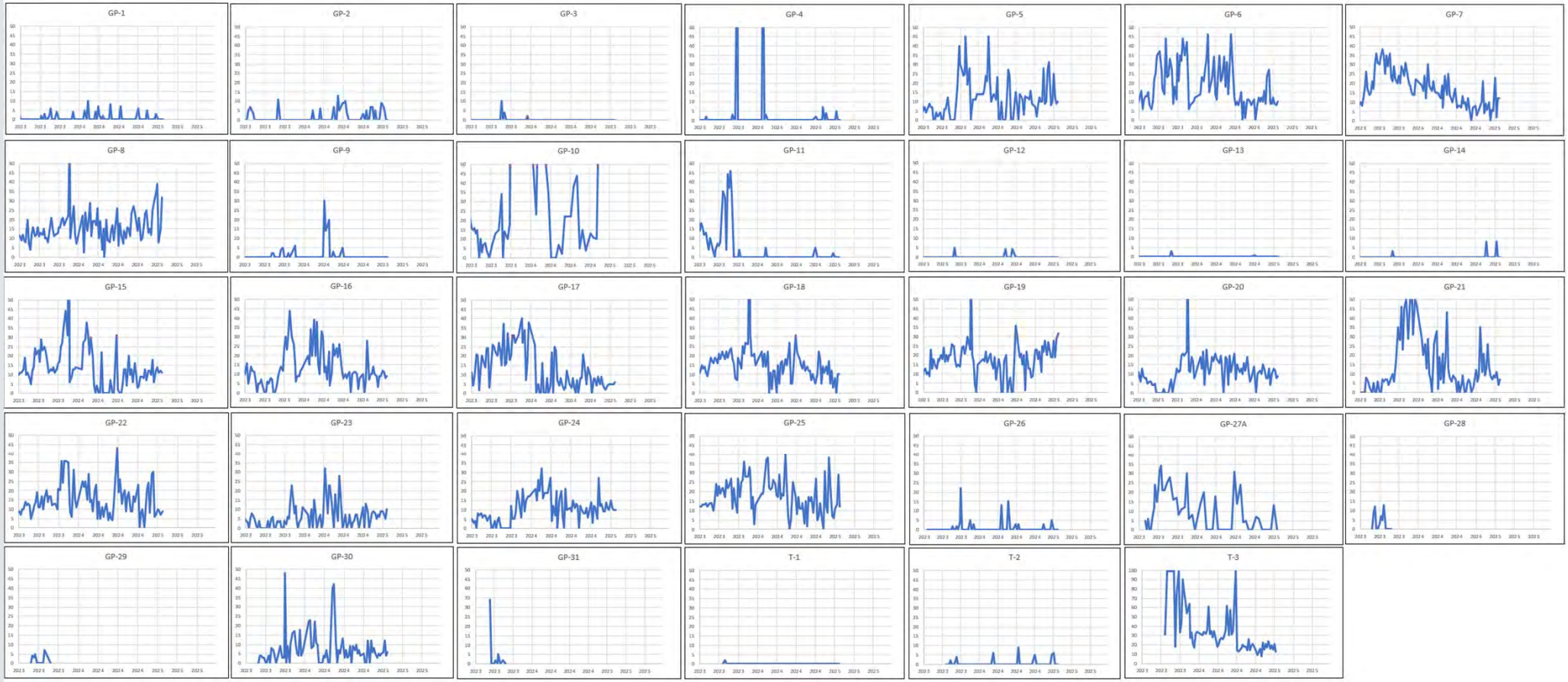
Lower Explosive Limit

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

Overall stability of LEL within the past month, somewhat higher than previous measurements but remaining low other than GP-10.



LEL for individual GP

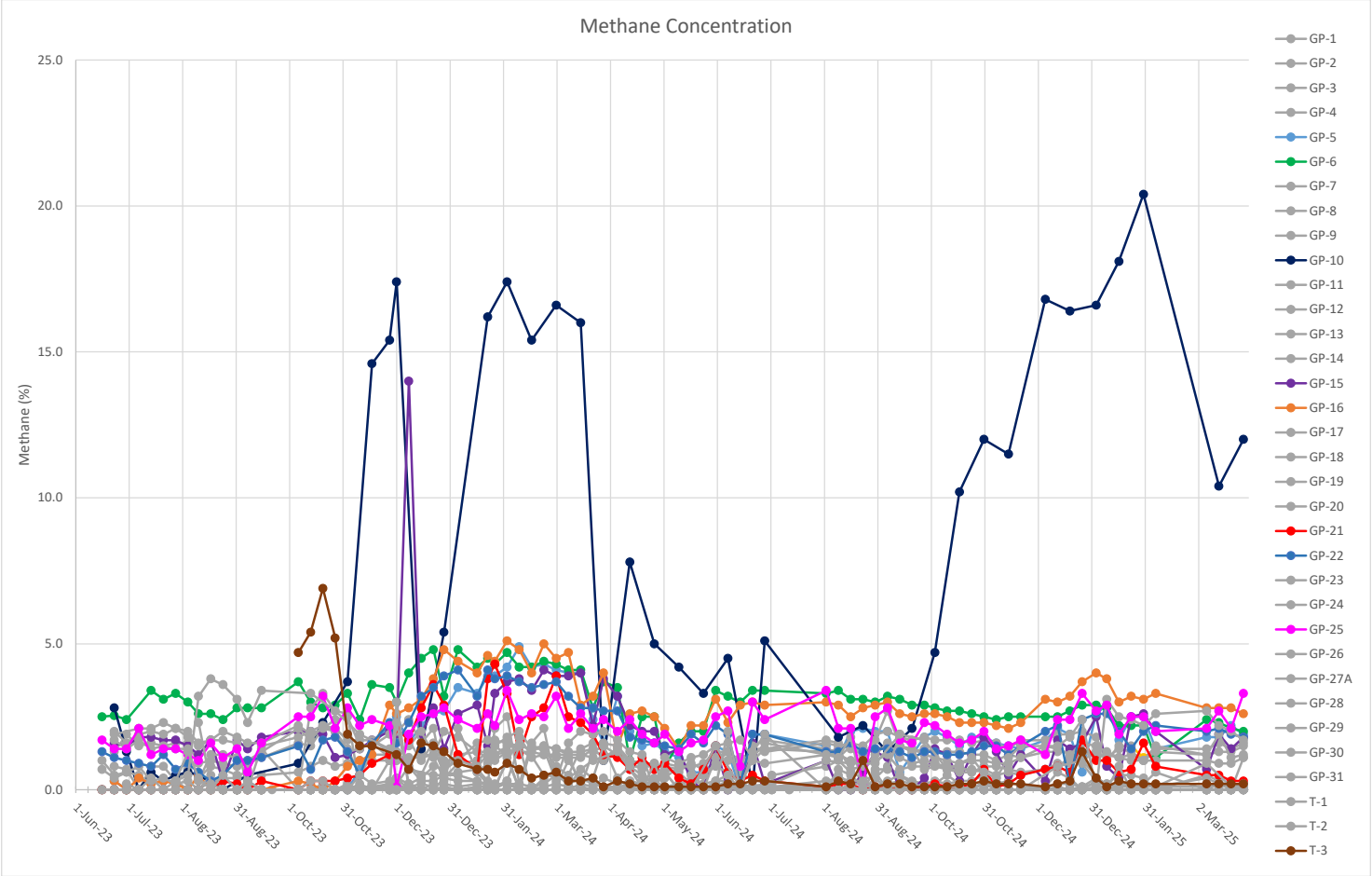


Methane

Methane levels for most wells are converging between 0 and 4% indicating that landfill is not biologically active.

Only well GP-10 is indicating higher methane - high concentrations are typically observed at this well as it is affected by more recently placed waste that is still in process of decomposition.

Bi-weekly measurements in March of GP-10 showed a decrease in methane concentration from around 20% down to 10%.




LANDFILLFIRE.com
GP-10
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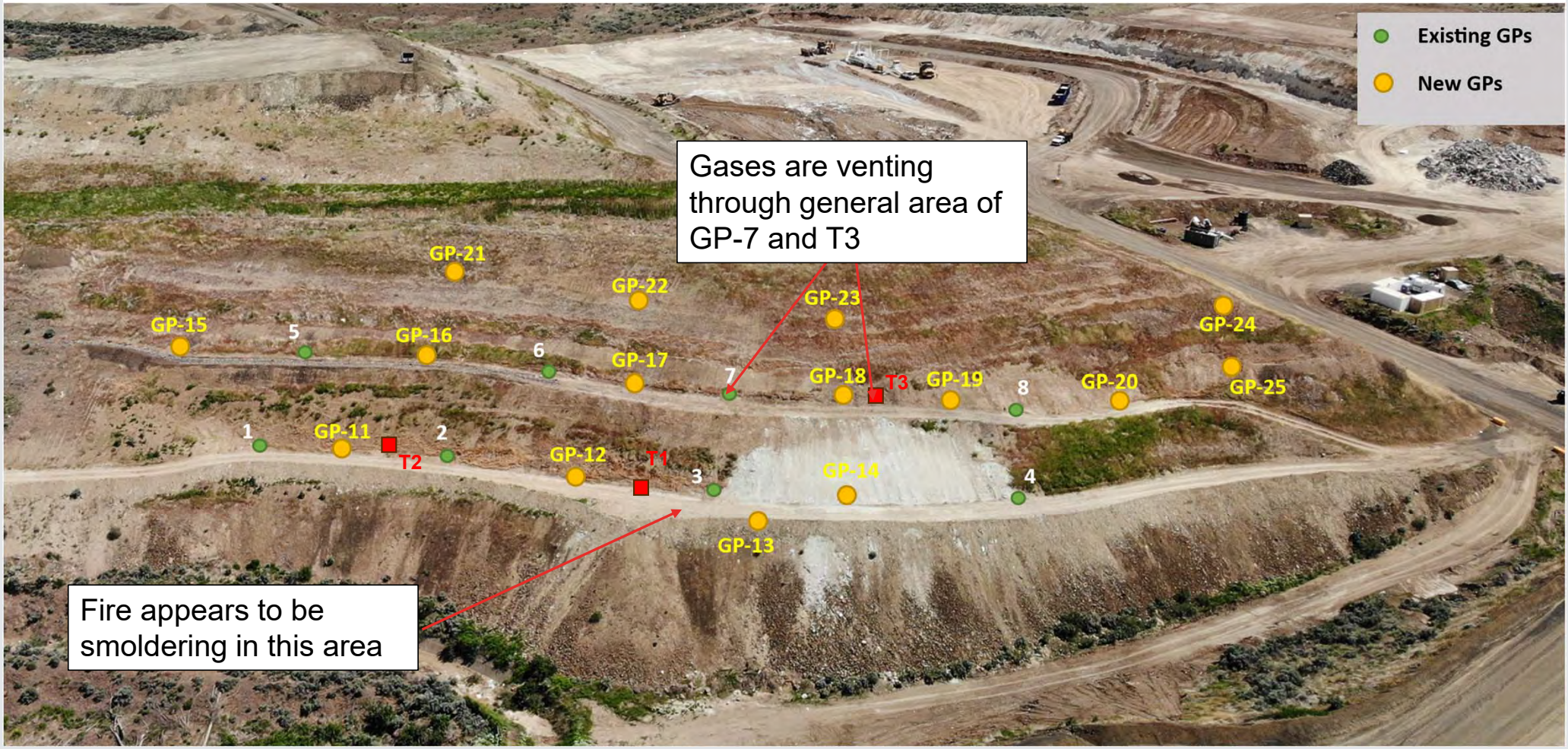
Existing GPs
New GPs

Fire Path


Existing GPs
New GPs
Gases are venting through general area of GP-7 and T3
Fire appears to be smoldering in this area
GP-21
GP-22
GP-23
GP-15
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GP-16
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GP-17
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GP-18
T3
GP-19
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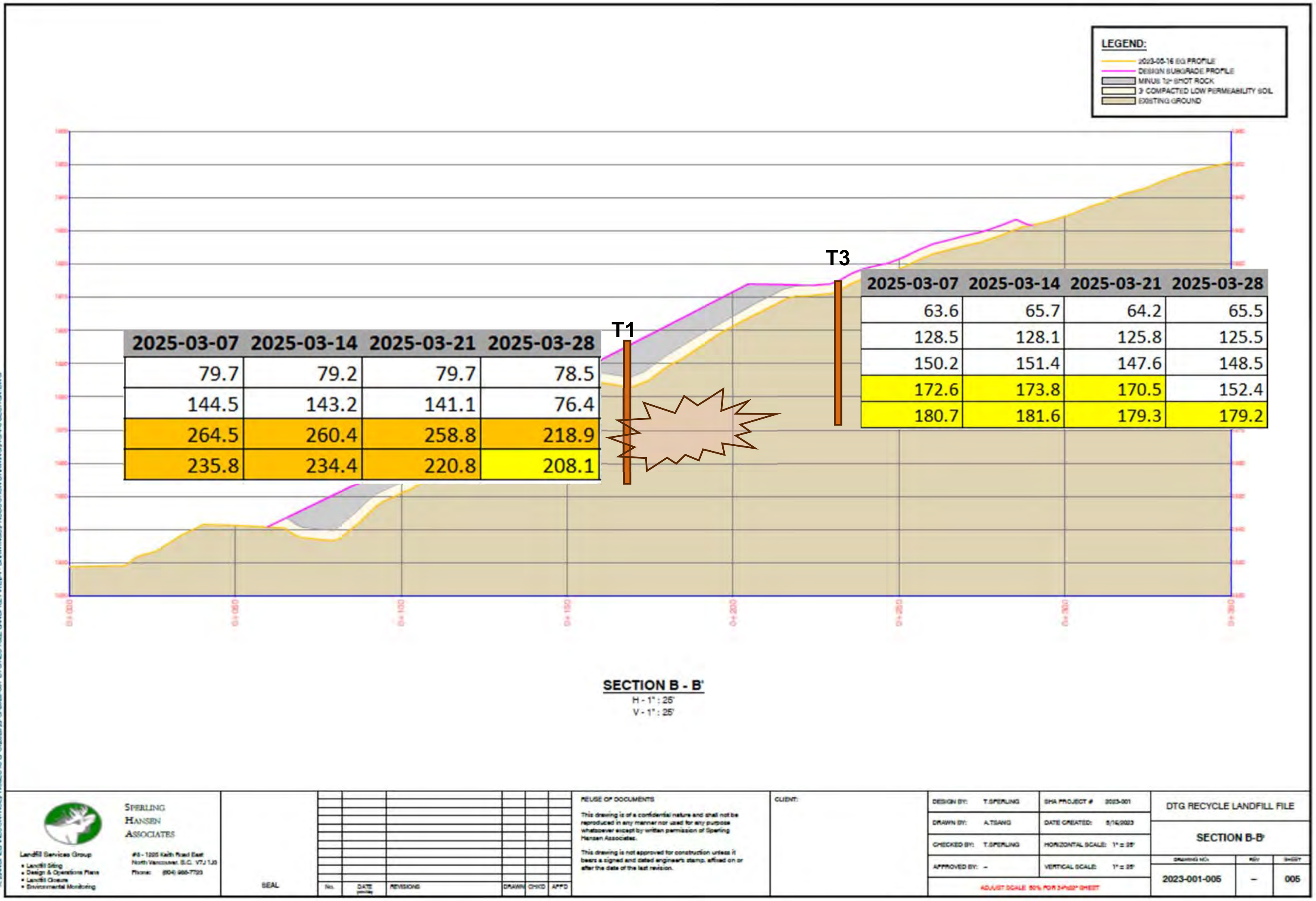

T1

2025-03-07	2025-03-14	2025-03-21	2025-03-28
79.7	79.2	79.7	78.5
144.5	143.2	141.1	76.4
264.5	260.4	258.8	218.9
235.8	234.4	220.8	208.1

T3

2025-03-07	2025-03-14	2025-03-21	2025-03-28
63.6	65.7	64.2	65.5
128.5	128.1	125.8	125.5
150.2	151.4	147.6	148.5
172.6	173.8	170.5	152.4
180.7	181.6	179.3	179.2

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 since Dec. 2024 as have gas concentrations. Seasonal warming may be contributing to slowing the cooling trend.

Temperature has dropped significantly all around to Dec. 2024 when the trend has shifted to a steady condition, with minimal changes occurring. In March, temperatures in all high wells have decreased, with a significant decrease on the last monitoring event. The plan view mapping shows cooling trend across the entire area.

There has been a very significant cooling trend occurring in the high temperature wells in the last week of sampling that is outside normal trends, suggesting that the rate of smouldering has started to decrease. In particular, temperatures in well T-1 have dropped 40F between monitoring events. This drop is significant. The rate of cooling in GP-3 has also accelerated.

In LFCI experience, CO has been best indicator of suppression at other landfill sites. CO in T-3 has risen slightly since it's dramatic decrease in November-December of 2024. All other wells are reporting low CO levels.

High O2 continues to fluctuate - this is likely due to large atmospheric pressure swings and pervious waste mass allowing entry of ambient air. Large pressure swings this winter have introduced additional oxygen into the waste mass.

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 T-3 and GP-12.