



June 14, 2024

Alan Noell  
Washington State Department of Ecology  
15700 Dayton Avenue North  
Shoreline, Washington 98133

Subject: Go East Landfill / Alpine Estate Landfill Gas Monitoring Data Update

Dear Mr. Noell:

Since the Landfill Gas Monitoring Readiness at Go East Landfill/Alpine Estates Development Report was finalized in February 2024, we have continued routine landfill gas monitoring at the Go East Landfill/Alpine Estates property and have seen exceedances of 5% methane at most of the perimeter soil gas probes. Per our protocol when there are exceedances of 1% methane at probes, we have been checking the house ventilation trench monitoring stations of nearby homes and we continue to see no detection of methane beneath the Alpine Estates home. Additionally, we've been performing surface monitoring around the perimeter of the landfill and in the area of current home construction. Methane levels have been well below 100 ppm (0.01% methane), which is the indoor air criteria per WAC 173-350-400. See the attached data.

Per the Landfill Gas Monitoring Readiness Report (Herrera 2024), we've performed a number of investigations and contingency measures and have seen fluctuations of methane levels in the probes since we started monitoring in November of 2022. Since removing the soil vapor extraction unit and removing the vacuum extraction from the landfill perimeter collection trench and individual probes in November of 2023 we've seen methane presence rebound at the probes and return to conditions that were observed when monitoring first began at the site in November of 2022. This most recent trend upward is leading us towards additional action to attempt to better control methane presence. The below is an outline of proposed steps we are planning and implementing:

1. Reinstall the portable blower unit as it was previously near GP7 and provide a vacuum on the perimeter trench through sump by GP7. Discharge will be routed through the vent connected to sump by GP7. The portable blower unit operates under 200 scfm and therefore does not require a permit. A new electrical service post with meter and outlets is being installed at the lot adjacent to GP7, lot 30, to provide a power source for the blower unit.
  - a. Once pulling on perimeter trench, monitor methane concentrations at probes and sump. Probe reads will be weekly when barometric pressure is declining.

- b. Compare methane concentration in sump to methane concentrations at probes.
    - c. If methane concentrations at probes do not decline after a month of monitoring (or do not decline significantly), go to Step 2.
  2. Keep blower installed and cap the other two vent pipe connections at the other sumps to increase vacuum influence to perimeter trench.
    - a. Monitor methane concentrations at probes for a month. Take probe reads weekly when barometric pressure is declining.
    - b. Compare methane concentration in sump to methane concentrations at probes.
    - c. If methane concentrations at probes do not decline after a month of monitoring (or do not decline significantly), go to Step 3.
  3. Install larger blower unit and keep the other two vent pipes capped. This would require us to take a gas sample and perform loading analysis to get discharge permit.
    - a. Monitor methane concentrations at probes for a month. Take probe reads weekly when barometric pressure is declining.
    - b. Compare methane concentration in sump to methane concentrations at probes.
    - c. If methane concentrations at probes do not decline after a month of monitoring (or do not decline significantly), go to Step 4.
  4. If perimeter probe methane concentrations have not declined and comparison to methane concentration at sump (in landfill collection trench) suggests methane at probes is not coming from landfill:
    - a. May need to install vertical extraction wells beyond landfill boundary and provide vacuum to them.
    - b. May need to install additional perimeter probes to evaluate extent of methane presence.
      - i. Could install just beyond the former extent of wedge area to determine whether methane observed at existing probes is due to residual gas from previous extents of waste.
  5. If perimeter probe and sump methane concentrations decline, suggests methane at probes is coming from landfill.
    - a. Extract LFG through vertical wells until probes drop below 5%.
    - b. Turn off blower unit and monitor for rebound.
    - c. If rebound occurs, establish more permanent location for blower unit.
    - d. If no rebound, remove equipment.

With the suggested steps outlined above, Herrera hopes to get answers about the source and extent of methane on the Go East Landfill/Alpine Estates property. Herrera understands that the WAC 173-350-400 lower explosive limit of 5% methane is not being met for gases in soil at the landfill boundary. Monitoring of surface emissions and house ventilation trench monitoring stations has shown that the methane observed in the probes is not migrating to the surface or underneath houses. Herrera believes the environmental controls, monitoring, and contingency response measures installed and performed for the Alpines Estates homes provide safeguards against the

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potential threat of persistent methane outside the landfill. The network of house ventilation trench monitoring stations below each of the 96 houses planned for the Alpine Estates development provides a large footprint for monitoring and evaluating landfill gas migration while additional investigations and contingency measures are done to mitigate the presence of landfill gas in the deep soils of the property.

Sincerely,

Herrera Environmental Consultants, Inc.



Tyson Wright, P.E.

Senior Engineer

Enclosure: Landfill gas probe and surface monitoring data

cc: Stacia Bloom, P.E., Century Communities; Megan Bertolacci, Snohomish Health Department

	CH4	CO2	O2	BAL
1/3/2024	18	29.8	0.4	51.7
3/15/2024	18.2	32.5	0	49.3
4/3/2024	20.5	30.3	0	49.2
5/1/2024	17.7	28	0.1	54.2
5/7/2024	10.2	27.4	0.6	61.7
5/15/2024	19.5	30.6	0.4	49.5
5/21/2024	22.1	32.6	0.2	45.1
5/31/2024	20.9	32.2	0.2	46.7
6/7/2024	18.1	31	0.2	50.7

	CH4	CO2	O2	BAL
1/3/2024	8.5	32.8	0	58.7
3/15/2024	10.7	34.1	0	55.2
4/3/2024	11.7	31.5	0	56.8
5/1/2024	12.4	29.4	0	58.2
5/7/2024	13.6	32	0.1	54.4
5/15/2024	11.9	30.7	0	57.4
5/21/2024	12.3	31.3	0	56.4
5/31/2024	11.7	30.6	0.1	57.6
6/7/2024	11.9	30.1	0.1	58

	CH4	CO2	O2	BAL
1/3/2024	1.9	18.7	0	79.4
3/15/2024	Not read due to construction blockage			
4/3/2024	Not read due to construction blockage			
5/1/2024	Not read due to construction blockage			
5/7/2024	Not read due to construction blockage			
5/15/2024	Not read due to construction blockage			
5/21/2024	Not read due to construction blockage			
5/31/2024	Not read due to construction blockage			
6/7/2024	Not read due to construction blockage			

	CH4	CO2	O2	BAL
1/3/2024	21.4	35.3	0	43.3
3/15/2024	27.5	37.3	0	35.2
4/3/2024	30.7	38.5	0	30.7
5/1/2024	30.6	35	0	34.4
5/7/2024	31.8	38.9	0.1	29.2
5/15/2024	30.4	38.5	0	31.1
5/21/2024	31.8	39	0.1	29.1
5/31/2024	30.9	38.6	0	30.5
6/7/2024	31.4	38.5	0.1	30

	CH4	CO2	O2	BAL
1/3/2024	0.3	18.3	0	81.4
3/15/2024	Not read due to construction blockage			
4/3/2024	2.8	16.2	0	81
5/1/2024	4.7	16.9	0	78.5
5/7/2024	5.4	17.8	0.1	76.7
5/15/2024	6.0	17.8	0.1	76.1
5/21/2024	6.4	18	0.1	75.6
5/31/2024	6.8	17.9	0.1	75.2
6/7/2024	7.4	17.5	0.1	75.1

	CH4	CO2	O2	BAL
1/3/2024	0.0	4.7	8.4	86.9
3/15/2024	0.0	5.5	5.9	88.6
4/3/2024	0.2	7.8	6.1	86.1
5/1/2024	0.1	5.6	6.7	87.7
5/7/2024	0.0	7.2	6.3	86.5
5/15/2024	0.4	6.3	7.6	86.1
5/21/2024	0.2	7.9	6.8	85.3
5/31/2024	0.1	8.6	5.3	86.1
6/7/2024	0.2	8.2	6.5	85.3

	CH4	CO2	O2	BAL
1/3/2024	5.7	20.2	0	74.1
3/15/2024	Not read due to construction blockage			
4/3/2024	6.2	17.7	0	76.1
5/1/2024	9.3	18.5	0	72.1
5/7/2024	10.1	19.6	0.1	70.2
5/15/2024	10.9	20.2	0.1	68.8
5/21/2024	11.4	20.9	0.1	67.6
5/31/2024	12.5	21.1	0.1	66.3
6/7/2024	12.3	20.9	0.1	66.7

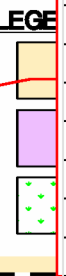
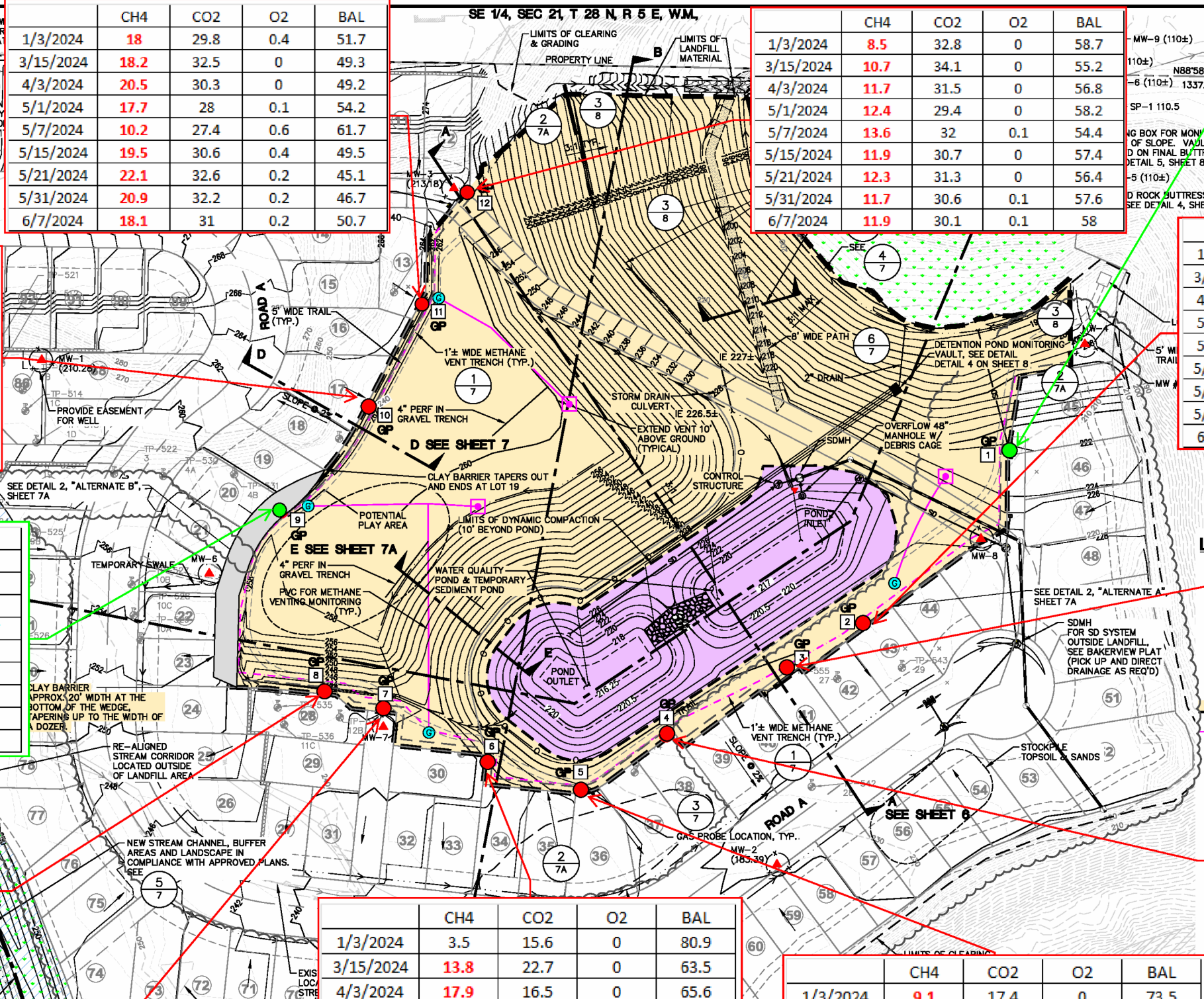
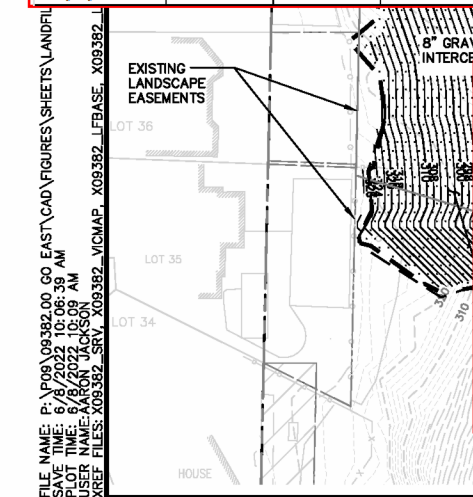
	CH4	CO2	O2	BAL
1/3/2024	3	11.1	0	85.9
3/15/2024	8.2	14.9	0	76.9
4/3/2024	9.3	9.9	0	80.8
5/1/2024	16.2	13.6	0	70.2
5/7/2024	14.8	14	0.1	71.2
5/15/2024	13.9	14.5	0	71.5
5/21/2024	18	16	0.1	66
5/31/2024	16	16.6	0.1	67.3
6/7/2024	16.3	16.4	0.1	67.1

	CH4	CO2	O2	BAL
1/3/2024	1.8	15.7	0	82.5
3/15/2024	10.6	24	0	65.4
4/3/2024	11.6	17.4	0	71
5/1/2024	14.1	17.9	0	68
5/7/2024	15.4	19.2	0.1	65.3
5/15/2024	15.0	19.1	0.1	65.9
5/21/2024	15.4	19.3	0	65.2
5/31/2024	15.4	19.2	0.1	65.3
6/7/2024	15.1	18.6	0.1	66.2

	CH4	CO2	O2	BAL
1/3/2024	3.5	15.6	0	80.9
3/15/2024	13.8	22.7	0	63.5
4/3/2024	17.9	16.5	0	65.6
5/1/2024	19.7	16.7	0	63.6
5/7/2024	21.7	17.6	0.1	60.7
5/15/2024	20.3	17	0	62.8
5/21/2024	18.1	16.4	0	65.5
5/31/2024	18.8	15.9	0	65.3
6/7/2024	17.9	14.9	0	67.2

	CH4	CO2	O2	BAL
1/3/2024	9.1	17.4	0	73.5
3/15/2024	8.4	22	0	69.6
4/3/2024	10.4	15.4	0	74.2
5/1/2024	12.8	16	0	71.2
5/7/2024	14.7	17.3	0.1	67.9
5/15/2024	13.5	16.5	0	70
5/21/2024	13.6	16.5	0	69.9
5/31/2024	14	16.1	0.1	69.9
6/7/2024	13.3	15.3	0.1	71.4

	CH4	CO2	O2	BAL
1/3/2024	8.5	18.2	0	73.3
3/15/2024	14.5	21.7	0	63.8
4/3/2024	16.5	14.3	0	69.2
5/1/2024	18.6	16.7	0	64.7
5/7/2024	16.8	17.5	0.1	65.5
5/15/2024	18.3	18.7	0	63
5/21/2024	20	19.5	0.1	60.4
5/31/2024	19.8	20.7	0.1	59.5
6/7/2024	20.2	19.9	0.1	59.8



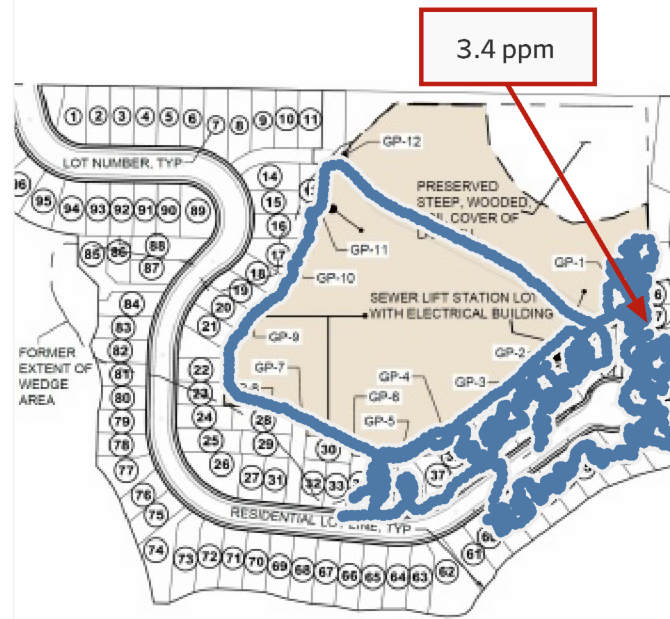
Notes:

- Earlier monitoring data can be found in Landfill Gas Monitoring Readiness Report (Herrera 2024)
- Portable blower unit was shut off and removed from site on November 10, 2023.

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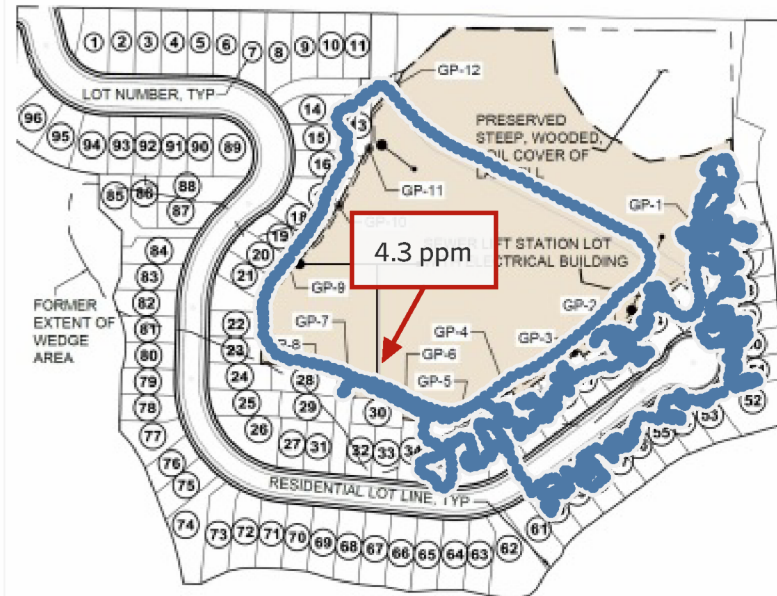
### Surface Monitoring

May 15, 2024



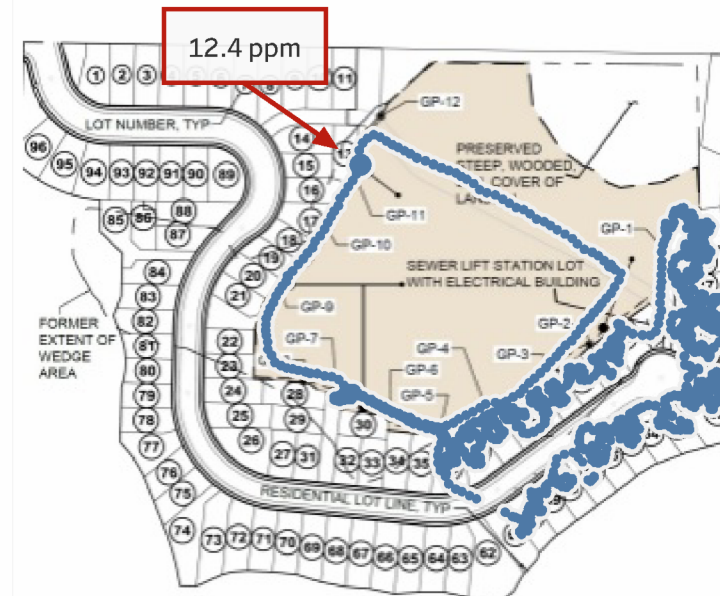
### Surface Monitoring

May 21, 2024



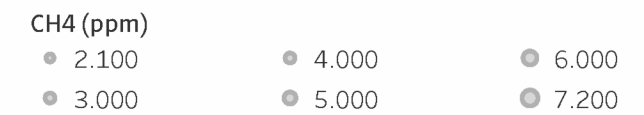
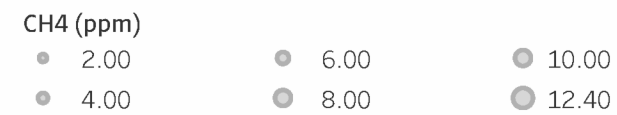
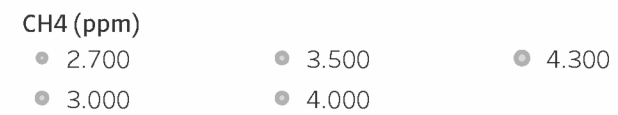
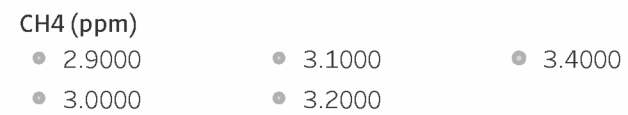
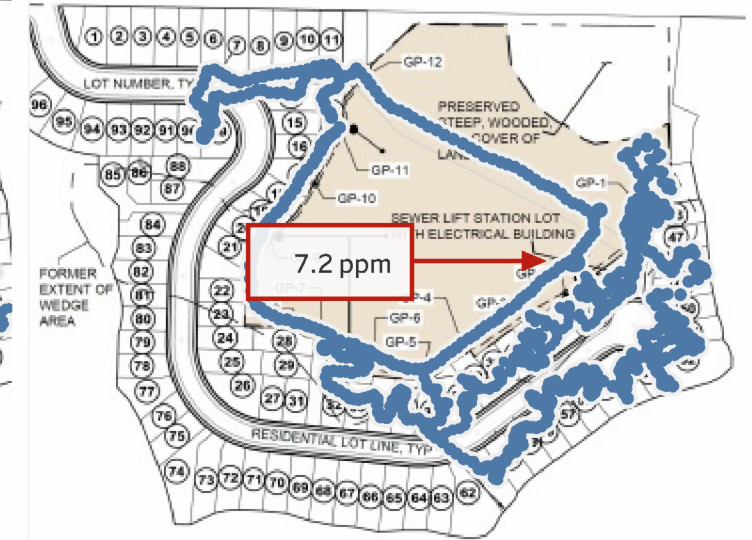
### Surface Monitoring

May 31, 2024



### Surface Monitoring

June 7, 2024



## LFG MONITORING FORM

<b>Facility Name:</b> <u>Alpine Estates</u>	<b>Facility Address:</b> <u>4330 108th St SE, Everett, WA</u>	
<b>Permit Number:</b> <u>SW-027</u>	<b>Time of Sampling:</b> Start <u>1430</u> Finish <u>1555</u>	
<b>Date of Sampling:</b> <u>3/15/2024</u>	<b>Date of Next Full Calibration:</b> <u>N/A, rental</u>	
<b>Gas Meter Type and Serial Number:</b> <u>GEM2000</u>	<b>Last Field Calibration Date:</b> <u>3/15/2024</u>	
	<b>Weather:</b> <u>Sunny, 59°F</u>	<b>Barometric Pressure (inches or mm Hg):</b> <u>30.14 ↓</u>
<b>Monitoring Personnel:</b> <u>Camryn Steiner</u>	<b>Mean Temperature:</b> <u>59°F</u>	
	<b>Weather/Soil Conditions:</b> <u>sunny / wet</u>	
<b>Gas Meter Sample Pump Rate:</b> <u>300 cc/min</u>	<b>Sample Pump Time (sec or min):</b> <u>between 5.7 + 10.2 min</u>	<b>Pore Volume (cc):</b> <u>1812 + 4474</u>

**Results:**

Perimeter Probe No.	Initial Percent LEL	Stabilized Percent LEL	Percent CH <sub>4</sub> (volume)	Percent O <sub>2</sub> (volume)	Percent CO <sub>2</sub> (volume)	H <sub>2</sub> S (ppmV)	NOTES
1	Did not read due to construction blockage						
2	Did not read due to construction blockage						
3	Did not read due to construction blockage						
4	<del>212%</del>	<del>212%</del>	10.6	<del>0.0</del>	<del>24.0</del>	N/A	
5		168%	8.4	0.0	22.0	N/A	
6		276%	13.8	0.0	22.7	N/A	
7		290%	14.5	0.0	21.7	N/A	
8		164%	8.2	0.0	14.9	N/A	
9		0%	0.0	5.9	5.5	N/A	
10		550%	27.5	0.0	37.3	N/A	checked lots 16-19 → 0.0% CH <sub>4</sub>
11		364%	18.2	0.0	32.5	N/A	checked lots 15-16 → 0.0% CH <sub>4</sub>
12		214%	10.7	0.0	34.1	N/A	checked <del>lot</del> lot 15 → 0.0% CH <sub>4</sub>

Note: If needed, attach additional data forms.

**General Comments:**

Followed contingency protocol per Figure C-1 of OMCP for probes w/ methane exceedance

**Certification:**

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. I am aware that there are significant penalties for making any false statement, representation, or certification.

**SIGNATURE:**

*Camryn Steiner*

**TITLE:**

Engineer II

## LFG MONITORING FORM

<b>Facility Name:</b> Go East Landfill	<b>Facility Address:</b> 4330 108th St SE, Everett, WA	
<b>Permit Number:</b> SW-027	<b>Time of Sampling:</b> Start 1030 Finish 1215	
<b>Date of Sampling:</b> 4/3/2024	<b>Date of Next Full Calibration:</b> N/A, rental	
<b>Gas Meter Type and Serial Number:</b> MKV Optimax	<b>Last Field Calibration Date:</b> 4/3/2024	
	<b>Weather:</b> Ramy, high 40s	<b>Barometric Pressure</b> (inches or mm Hg): 29.82 $\uparrow$
<b>Monitoring Personnel:</b> Cammyn Steiner		<b>Mean Temperature:</b> 48°
		<b>Weather/Soil Conditions:</b> Ramy/wet
<b>Gas Meter Sample Pump Rate:</b> 300 cc/min	<b>Sample Pump Time</b> (sec or min): 5.7-10.2 min	<b>Pore Volume (cc):</b> 1812-4474

**Results:**

Perimeter Probe No.	Initial Percent LEL	Stabilized Percent LEL	Percent CH <sub>4</sub> (volume)	Percent O <sub>2</sub> (volume)	Percent CO <sub>2</sub> (volume)	H <sub>2</sub> S (ppmV)	NOTES
1		Not read	due to construction blockage				
2		56	2.8	0	16.2	0	
3		124	6.2	0	17.7	0	
4		232	11.6	0	17.4	3	
5		208	10.4	0	15.4	2	
6		358	17.9	0	16.5	3	
7		330	16.5	0	14.3	26	
8		186	9.3	0	9.9	11	
9		4	0.2	6.1	7.8	0	
10		614	30.7	0	38.5	1	checked lots 16-19 → 0% CH <sub>4</sub>
11		410	20.5	0	30.3	9	checked lots 15-16 → 0% CH <sub>4</sub>
12		237	11.7	0	31.5	1	checked lot 15 → 0% CH <sub>4</sub>

Note: If needed, attach additional data forms.

**General Comments:**

Followed contingency protocol per figure C-1 of AMCP for probe methanone exceedance

**Certification:**

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. I am aware that there are significant penalties for making any false statement, representation, or certification.

**SIGNATURE:**

*Cammyn Steiner*

**TITLE:**

Engineer II

## LFG MONITORING FORM

<b>Facility Name:</b> Go East Landfill	<b>Facility Address:</b> 4330 108th St SE, Everett WA
<b>Permit Number:</b> SW-027	<b>Time of Sampling:</b> Start 1100 Finish 1230
<b>Date of Sampling:</b> 5/1/2024	<b>Date of Next Full Calibration:</b> April 2025
<b>Gas Meter Type and Serial Number:</b> GEMS000	<b>Last Field Calibration Date:</b> 5/1/2024
	<b>Weather:</b> low SO <sub>2</sub> , cloudy
<b>Monitoring Personnel:</b> Cammryn Steiner	<b>Barometric Pressure</b> (inches or mm Hg): 30.19 ↓
	<b>Mean Temperature:</b> 53°
<b>Gas Meter Sample Pump Rate:</b> 300 cc/min	<b>Weather/Soil Conditions:</b> cloudy, wet
	<b>Pore Volume (cc):</b> 1812-4474
<b>Sample Pump Time</b> (sec or min): 5.7-10.2 min	

**Results:**

Perimeter Probe No.	Initial Percent LEL	Stabilized Percent LEL	Percent CH <sub>4</sub> (volume)	Percent O <sub>2</sub> (volume)	Percent CO <sub>2</sub> (volume)	H <sub>2</sub> S (ppmV)	NOTES
1		Not read due to					construction blockage
2		94%	4.7	16.9 ↔ 0		0	
3		186%	9.3	18.5 ↔ 0		0	
4		282%	14.1	0	17.9	3	
5		256%	12.8	0	16	2	
6		394%	19.7	0	16.7	3	
7		372%	18.6	0	16.7	54	
8		324%	16.2	<del>16.2</del> 0	13.6	9	
9		2%	0.1	6.7	5.6	0	
10		612%	30.6	0	35	1	checked lots 16-19 → 0% CH <sub>4</sub>
11		354%	17.7	0.1	28	9	checked lots 15-16 → 0% CH <sub>4</sub>
12		248%	12.4	0	29.4	2	checked lot 15 → 0% CH <sub>4</sub>

Note: If needed, attach additional data forms.

**General Comments:**

Followed contingency protocol per Fig C-1 of CMCP for probes w/ methane exceedances + nearby occupied houses

**Certification:**

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. I am aware that there are significant penalties for making any false statement, representation, or certification.

**SIGNATURE:**

*Cammryn Steiner*

**TITLE:**

Engineer II



## LFG MONITORING FORM

Facility Name: <u>Go East Landfill</u>	Facility Address: <u>4330 108th St SE, Everett, WA</u>	
Permit Number: <u>SW-027</u>	Time of Sampling: Start <u>1110</u> Finish <u>1300</u>	
Date of Sampling: <u>5/1/2024</u>	Date of Next Full Calibration: <u>April 2025</u>	
Gas Meter Type and Serial Number: <u>GEM5000</u>	Last Field Calibration Date: <u>5/1/2024</u>	
	Weather: <u>Sunny, high SOs</u>	Barometric Pressure (inches or mm Hg): <u>30.08</u> $\uparrow$
Monitoring Personnel: <u>Camryn Steiner</u>	Mean Temperature: <u>56°</u>	
	Weather/Soil Conditions: <u>Sunny, wet</u>	
Gas Meter Sample Pump Rate: <u>300 cc/min</u>	Sample Pump Time (sec or min): <u>5.7-10.2min</u>	Pore Volume (cc): <u>1812-4474</u>

**Results:**

Perimeter Probe No.	Initial Percent LEL	Stabilized Percent LEL	Percent CH <sub>4</sub> (volume)	Percent O <sub>2</sub> (volume)	Percent CO <sub>2</sub> (volume)	H <sub>2</sub> S (ppmV)	NOTES
1		<u>Not read due to construction blockage</u>					
2		<del>202</del> <u>108</u>	<u>5.4</u>	<u>0.1</u>	<u>17.8</u>	<u>0</u>	
3		<u>202</u>	<u>10.1</u>	<u>0.1</u>	<u>19.6</u>	<u>0</u>	
4		<u>308</u>	<u>15.4</u>	<u>0.1</u>	<u>17.2</u>	<u>2</u>	
5		<u>294</u>	<u>14.7</u>	<u>0.1</u>	<u>17.3</u>	<u>1</u>	
6		<u>434</u>	<u>21.7</u>	<u>0.1</u>	<u>17.6</u>	<u>2</u>	
7		<u>336</u>	<u>16.8</u>	<u>0.1</u>	<u>17.5</u>	<u>50</u>	
8		<u>296</u>	<u>14.8</u>	<u>0.1</u>	<u>14</u>	<u>7</u>	
9		<u>0</u>	<u>0</u>	<u>6.3</u>	<u>7.2</u>	<u>0</u>	
10		<u>636</u>	<u>31.8</u>	<u>0.1</u>	<u>38.9</u>	<u>0</u>	<u>checked lots 16-19 → 0% CH<sub>4</sub></u>
11		<u>204</u>	<u>10.2</u>	<u>0.6</u>	<u>27.4</u>	<u>1</u>	<u>checked lots 15-16 → 0% CH<sub>4</sub></u>
12		<u>272</u>	<u>13.6</u>	<u>0.1</u>	<u>32</u>	<u>0</u>	<u>checked lot 15 → 0% CH<sub>4</sub></u>

Note: If needed, attach additional data forms.

**General Comments:**

Followed contingency protocol per Figure C-1 of UMCP for probe methane exceedance

**Certification:**

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. I am aware that there are significant penalties for making any false statement, representation, or certification.

SIGNATURE: *Camryn Steiner*

TITLE: Engineer II

## LFG MONITORING FORM

<b>Facility Name:</b> Go East Landfill	<b>Facility Address:</b> 4330 108th St SE, Everett, WA	
<b>Permit Number:</b> SW-027	<b>Time of Sampling:</b> Start 0930 Finish 1045	
<b>Date of Sampling:</b> 5/15/2024	<b>Date of Next Full Calibration:</b> April 2025	
<b>Gas Meter Type and Serial Number:</b> GEM5000	<b>Last Field Calibration Date:</b> 5/1/2024	
	<b>Weather:</b> cloudy, mid 50s	<b>Barometric Pressure</b> (inches or mm Hg): 30.01 ↓ <b>Mean Temperature:</b> 58°
<b>Monitoring Personnel:</b> Cameron Steiner	<b>Weather/Soil Conditions:</b> cloudy/wet	
<b>Gas Meter Sample Pump Rate:</b> 300 cc/min	<b>Sample Pump Time</b> (sec or min): 5.7-10.2 min	<b>Pore Volume (cc):</b> 1812-4474

**Results:**

Perimeter Probe No.	Initial Percent LEL	Stabilized Percent LEL	Percent CH <sub>4</sub> (volume)	Percent O <sub>2</sub> (volume)	Percent CO <sub>2</sub> (volume)	H <sub>2</sub> S (ppmV)	NOTES
1		Not read due	to construction blockage				
2		120	6.9	0.1	17.8	0	
3		218	10.9	0.1	20.2	0	
4		300	15.0	0.1	19.1	2	
5		270	13.5	0	16.5	1	
6		406	20.3	0	17	2	
7		366	18.2	0	18.7	37	
8		278	13.9	0	14.5	8	
9		8	0.4	7.6	6.3	1	
10		608	30.4	0	38.5	0	checked lots 16-19 → 0% CH <sub>4</sub>
11		390	19.5	0.4	30.6	7	checked lots 15-16 → 0% CH <sub>4</sub>
12		238	11.9	0	30.7	1	checked lot 15 → 0% CH <sub>4</sub>

Note: If needed, attach additional data forms.

**General Comments:**

Followed contingency protocol per figure C-1 of CMCP for probes above 1% methane

**Certification:**

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. I am aware that there are significant penalties for making any false statement, representation, or certification.

**SIGNATURE:** *Cameron Steiner*

**TITLE:** Engineer II

## LFG MONITORING FORM

Facility Name: <u>Alpine Estates / Go East Landfill</u>		Facility Address: <u>4330 108th St SE, Everett, WA</u>	
Permit Number: <u>SW-027</u>		Time of Sampling: Start <u>1025</u> Finish <u>1140</u>	
Date of Sampling: <u>5/21/2024</u>		Date of Next Full Calibration: <del>March</del> <u>April 2025</u>	
Gas Meter Type and Serial Number: <u>GEM5000</u>		Last Field Calibration Date: <u>5/1/2024</u>	
		Weather: <u>Rainy, 51°</u>	Barometric Pressure (inches or mm Hg): <u>30.05</u> ↓ Mean Temperature: <u>51°</u>
Monitoring Personnel: <u>Camryn Steiner</u>		Weather/Soil Conditions: <u>rainy / wet</u>	
Gas Meter Sample Pump Rate: <u>300 cc/min</u>		Sample Pump Time (sec or min): <u>5.7 - 10.2 min</u>	Pore Volume (cc): <u>1812 - 4474</u>

**Results:**

Perimeter Probe No.	Initial Percent LEL	Stabilized Percent LEL	Percent CH <sub>4</sub> (volume)	Percent O <sub>2</sub> (volume)	Percent CO <sub>2</sub> (volume)	H <sub>2</sub> S (ppmV)	NOTES
1		<u>Not read due to construction blockage</u>					
2		<u>128</u>	<u>6.4</u>	<u>0.1</u>	<u>18</u>	<u>0</u>	
3		<u>228</u>	<u>11.4</u>	<u>0.1</u>	<u>20.9</u>	<u>0</u>	
4		<u>308</u>	<u>15.4</u>	<u>0</u>	<u>19.3</u>	<u>2</u>	
5		<u>272</u>	<u>13.6</u>	<u>0</u>	<u>16.1</u>	<u>1</u>	
6		<u>362</u>	<u>18.1</u>	<u>0</u>	<u>16.4</u>	<u>1</u>	
7		<u>400</u>	<u>20</u>	<u>0.1</u>	<u>19.5</u>	<u>40</u>	
8		<u>360</u>	<u>18</u>	<u>0.1</u>	<u>16</u>	<u>7</u>	
9		<u>4</u>	<u>0.2</u>	<u>6.8</u>	<u>7.9</u>	<u>1</u>	
10		<u>636</u>	<u>31.8</u>	<u>0.1</u>	<u>39</u>	<u>0</u>	<u>checked lots 16-19 → 0% CH<sub>4</sub></u>
11		<u>442</u>	<u>22.1</u>	<u>0.2</u>	<u>32.6</u>	<u>7</u>	<u>checked lots 15-16 → 0% CH<sub>4</sub></u>
12		<u>246</u>	<u>12.3</u>	<u>0</u>	<u>31.3</u>	<u>1</u>	<u>checked lot 15 → 0% CH<sub>4</sub></u>

Note: If needed, attach additional data forms.

**General Comments:**

followed contingency protocol Fig C-1 of CMLP for methane exceedances + occupied homes

**Certification:**

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. I am aware that there are significant penalties for making any false statement, representation, or certification.

SIGNATURE: Camryn Steiner

TITLE: Engineer II

## LFG MONITORING FORM

<b>Facility Name:</b> Go East Landfill	<b>Facility Address:</b> 4330 108th St SE Everett, WA	
<b>Permit Number:</b> SW-027	<b>Time of Sampling:</b> Start 0930 Finish 1130	
<b>Date of Sampling:</b> 5/31/2024	<b>Date of Next Full Calibration:</b> April 2025	
<b>Gas Meter Type and Serial Number:</b> GEM 5000	<b>Last Field Calibration Date:</b> 5/1/2024	
	<b>Weather:</b> Sunny, High 50s	<b>Barometric Pressure (inches or mm Hg):</b> 29.76 ↓
<b>Monitoring Personnel:</b> Cameron Steiner	<b>Mean Temperature:</b> 58°	
	<b>Weather/Soil Conditions:</b> Sunny, wet	
<b>Gas Meter Sample Pump Rate:</b> 300 cc/min	<b>Sample Pump Time (sec or min):</b> 57-10.2 min	<b>Pore Volume (cc):</b> 1812-4474

**Results:**

Perimeter Probe No.	Initial Percent LEL	Stabilized Percent LEL	Percent CH <sub>4</sub> (volume)	Percent O <sub>2</sub> (volume)	Percent CO <sub>2</sub> (volume)	H <sub>2</sub> S (ppmV)	NOTES
1		Not read due to construction blockage					
2		130	6.8	0.1	17.9	0	
3		250	12.5	0.1	24.1	0	
4		308	15.4	0.1	19.2	3	
5		280	14	0.1	16.1	1	
6		376	18.8	0	15.9	2	
7		396	19.8	0.1	20.7	33	
8		320	16	0.1	16.6	12	
9		2	0.1	5.3	9.6	0	
10		618	30.9	0	38.6	0	checked lots 16-19 → 0% CH <sub>4</sub>
11		418	20.9	0.2	32.2	5	checked lots 15-16 → 0% CH <sub>4</sub>
12		234	11.7	0.1	30.6	1	checked lot 15 → 0% CH <sub>4</sub>

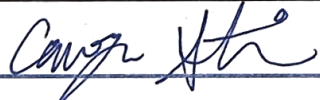
Note: If needed, attach additional data forms.

**General Comments:**

Followed contingency plan Fig C-1 of CMCP for methane exceedances

**Certification:**

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. I am aware that there are significant penalties for making any false statement, representation, or certification.

<b>SIGNATURE:</b> 	<b>TITLE:</b> Engineer II
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## LFG MONITORING FORM

<b>Facility Name:</b> Go East Landfill	<b>Facility Address:</b> 4330 108 <sup>th</sup> St SE, Everett, WA	
<b>Permit Number:</b> SW-027	<b>Time of Sampling:</b> Start 11:40 Finish 12:50	
<b>Date of Sampling:</b> 6/7/2024	<b>Date of Next Full Calibration:</b> April 2025	
<b>Gas Meter Type and Serial Number:</b> GEM5000	<b>Last Field Calibration Date:</b> 5/1/2024	<b>Weather:</b> Sunny, high 60s
	<b>Weather:</b>	
<b>Monitoring Personnel:</b> Camryn Stever		<b>Mean Temperature:</b> 67°
		<b>Weather/Soil Conditions:</b> Sunny, mostly dry
<b>Gas Meter Sample Pump Rate:</b> 300 cc/min	<b>Sample Pump Time (sec or min):</b> 5.7 - 10.2 min	<b>Pore Volume (cc):</b> 1812-4474

**Results:**

Perimeter Probe No.	Initial Percent LEL	Stabilized Percent LEL	Percent CH <sub>4</sub> (volume)	Percent O <sub>2</sub> (volume)	Percent CO <sub>2</sub> (volume)	H <sub>2</sub> S (ppmV)	NOTES	
1		Not read due to construction blockage						
2		148	7.4	0.1	17.5	0		
3		246	12.3	0.1	20.9	0		
4		302	15.1	0.1	18.6	4		
5		266	13.3	0.1	15.3	1		
6		358	17.9	0.0	14.9	2		
7		404	20.2	0.1	17.7	35		
8		326	16.3	0.1	16.4	13		
9		4	0.2	6.5	8.2	0		
10		628	31.4	0.1	38.5	0	checked lots 16-19 → 0% CH <sub>4</sub>	
11		362	18.1	0.2	31.0	7	checked lots 15-16 → 0% CH <sub>4</sub>	
12		238	11.9	0.1	30.1	1	checked lots 15 → 0% CH <sub>4</sub>	

Note: If needed, attach additional data forms.

**General Comments:**

Followed contingency protocol per Figure C-1 of CMCP for probe methane exceedance

**Certification:**

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. I am aware that there are significant penalties for making any false statement, representation, or certification.

<b>SIGNATURE:</b>	<b>TITLE:</b> Engineer II
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