June 4, 2026
File No. 01204123.21 Task 22

MEMORANDUM

TO: Stephen Dutz, SCAQMD

FROM: Stipe Markotic, Quincy Laris, Ray Huff

SUBJECT: **Chiquita Canyon Landfill Air Monitoring – Elevated Methane at MS-02 Analysis**

SCS Engineers (SCS) has prepared this memorandum to provide the South Coast Air Quality Management District (SCAQMD) with a review and analysis of elevated methane readings at monitoring station MS-02. Since late September/early October 2025, the typical range for methane concentrations detected at MS-02 has increased above previous background levels at this station. SCS conducted a review of monitoring data as well as operational data in order to determine the cause, if any, of this shift in data patterns. SCS reviewed Surface Emissions Monitoring (SEM) data, Sniffer methane drone data, wind direction, and operational changes from the period of July 2025 through February 2026. This timeframe was selected to capture baseline reading trends both before and after the change in concentrations.

Air Monitoring Data Review

As shown in **Attachment 1**, prior to late-September/early-October 2025, the frequency of readings lower than 4 ppm was higher. Starting in late-September/early-October 2025, a decrease in the frequency of readings lower than 4 ppm indicated an upward trend in methane concentrations at MS-02. Note that this same trend was not identified at other on-site monitoring stations. Based on the change in methane concentrations illustrated in **Attachment 1**, SCS replaced the methane module for MS-02 in February 2026. In collaboration with Aeroqual, the device manufacturer, it was determined that the unit was reading accurately, as confirmed by the consistent elevated readings from the new methane sensor. Therefore, we have concluded that the data is valid.

SEM Data Review

Based on the location of MS-02, SEM grids 221 through 253 were chosen for review due to their proximity to MS-02 (refer to **Attachment 2**). Between July 2025 and February 2026, there were a total of 74 Instantaneous SEM exceedances recorded, and 44 Integrated SEM exceedances recorded for methane. **Attachment 3** presents the respective data for the methane SEM exceedances (Note that Instantaneous SEM data is collected at least monthly and Integrated data is collected at least quarterly).

Based on Instantaneous SEM data, Grids 222, 223, 227, 228, 241, and 249 each had 3 instantaneous SEM hits from July 2025 through February 2026, with Grids 222, 223, 227, and 228

located closest to the reaction area; and Grids 241 and 248 located closest to Leachate Tank Farm #7. August of 2025 had the most frequent number of grid exceedances (13 grids with a total of 35 exceedances). Based on Integrated SEM data, there was an increase in methane surface emissions detected in January of 2026, specifically over the southern portion of the southwest area of the Landfill, where Leachate Tank farm #7 was located. This coincides with the movement of Tank farm #7 in September/October of 2025, which is discussed in the **Site Operations and Conditions Review** section below.

Sniffer Methane Drone Data Review

A review was conducted of sniffer methane drone data for the southwestern portion of the site and is included in **Attachment 1**. As shown in **Attachment 1**, there were a maximum number of three peak hits (e.g., greater than 200 ppmv) for the drone flights conducted in the Tank Farm #7 area prior to October 2025. After October 2025, the maximum peak hits rose to a high of 6 hits detected in January and February 2026. This increase of Sniffer drone methane exceedances after the September/October 2025 time frame suggests elevated surface emissions in the southwest area, specifically near the former Tank Farm #7 (See **Attachment 4)**.

Wind Direction Data

As shown in **Attachment 5**, the predominant wind direction prior to early October 2025 was from the west-southwest, switching to from the east based on diurnal wind patterns in southern California. This indicates that air monitoring data from the southwest portion of the site is more accurate in regard to origin of a methane plume from the site than data from prior to mid-October 2025.

Site Operations Review

SCS also conducted interviews with on-site personnel at the Landfill regarding site activities in the timeframe identified for this study. SCS was informed that, from approximately mid-September through mid-October 2025, Leachate Tank Farm #7 was moved from its location in the southwest portion of the site (Refer to **Attachment 4**), to its new location, adjacent to the northeast. In addition, SCS was informed that significant erosion from recent rain events has occurred in this former area for Tank Farm # 7. Since the rain events, Chiquita has addressed the erosion through slope maintenance activities.

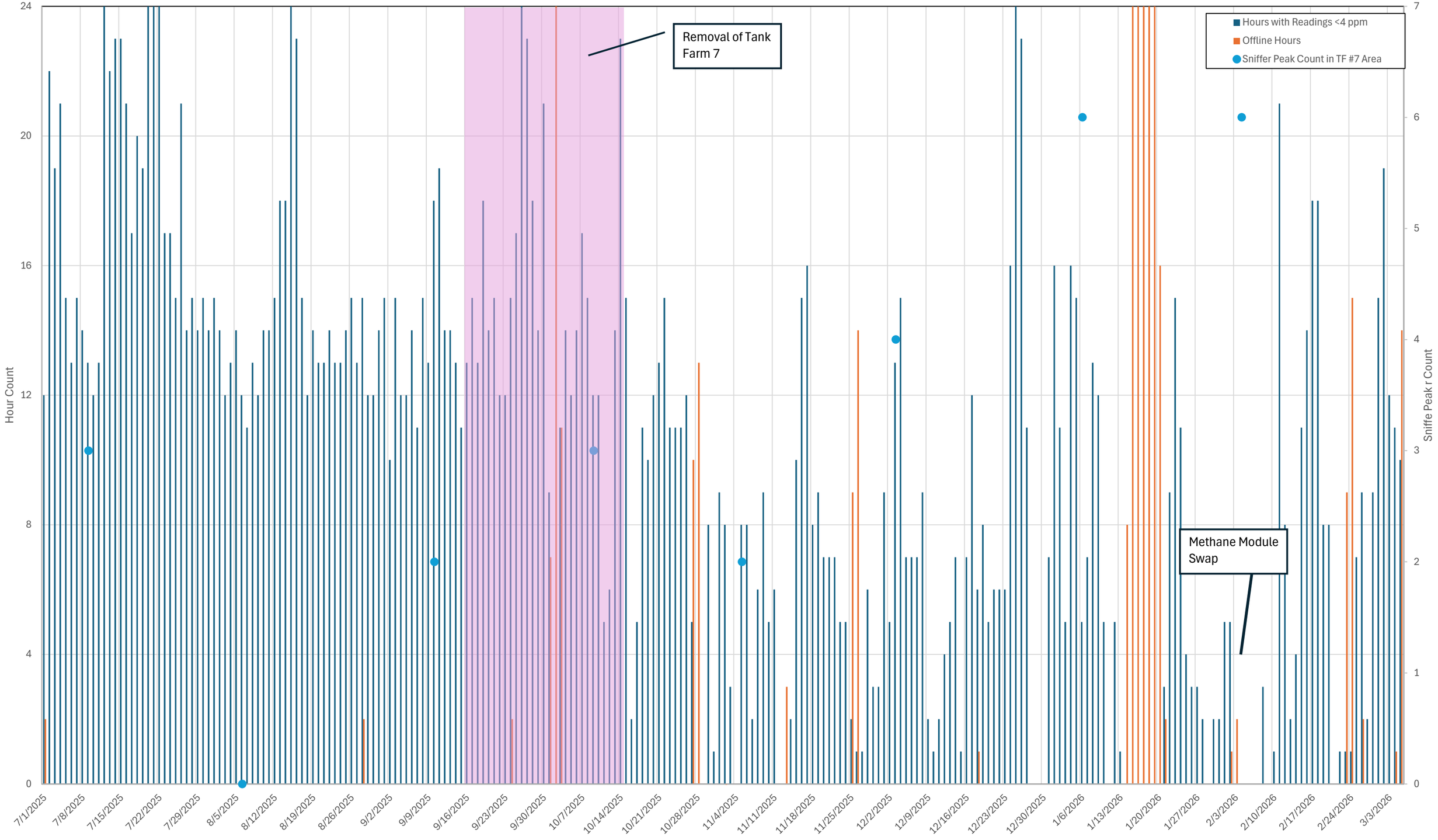
Conclusion

Based on the SEM, Sniffer Drone, Air Monitoring, and Operational Data reviewed, it is estimated that the increase of methane concentrations detected at MS-02 is based on operational and site condition changes, specifically the relocation of Tank Farm #7 and erosion from recent rain events in the southwest area of the site. With less soil cover in this area, it is likely that surface emissions increased due to the removal of surface weighting (e.g., tank farm tanks) and surface disturbance from construction activity. Chiquita has addressed the erosion associated with these operational and site condition changes through slope maintenance activities.

ATTACHMENT 1

MS-02 Readings <4 ppm July 2025 through March, 2026

Figure 1. MS-02 Readings <4 ppm
July 2025 through March 5, 2026



ATTACHMENT 2

Methane SEM Exceedances for SW Area

Instantaneous Methane SEM Exceedances for SW Area

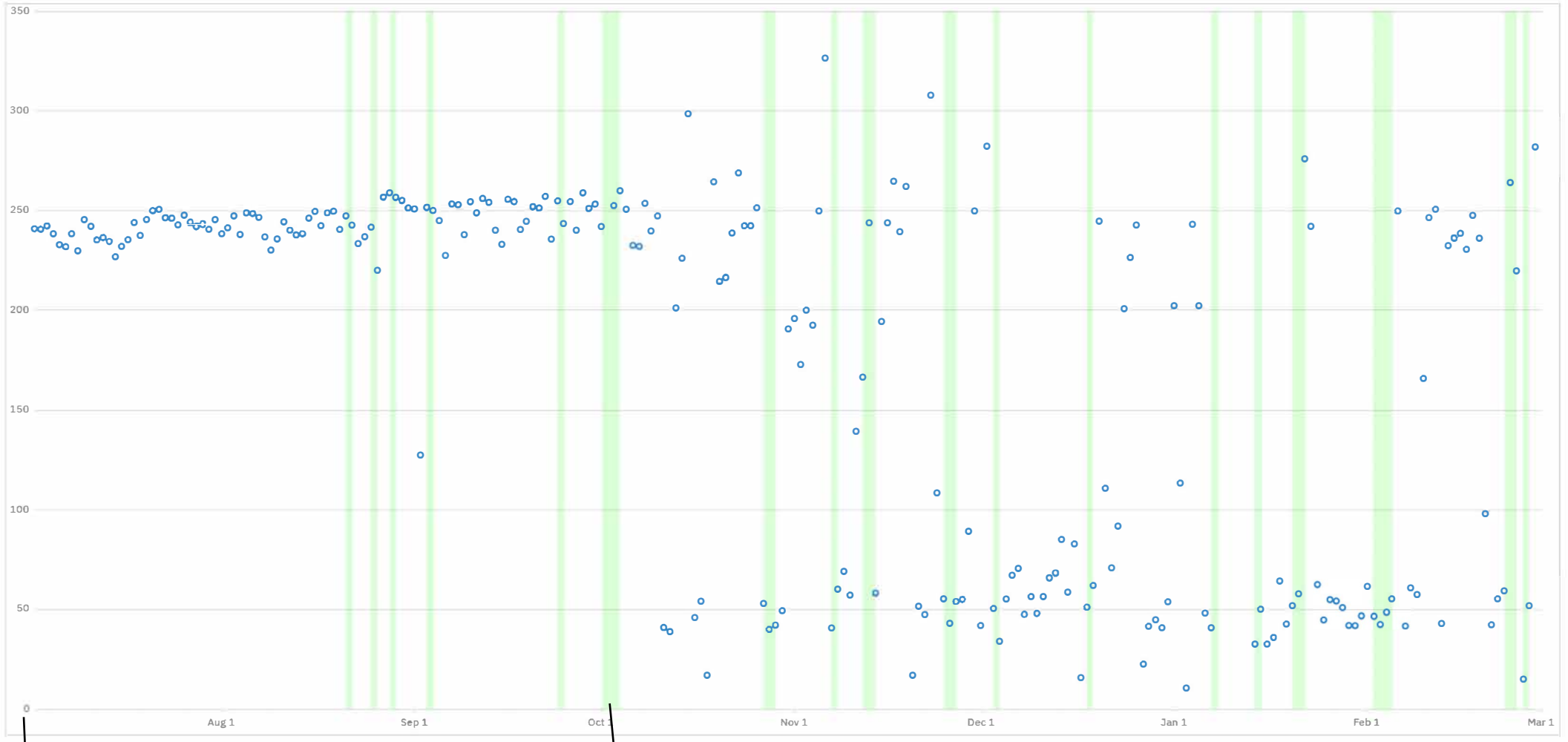
Month	# of Exceedances (>500 ppm)	Grid #																																Max Concentration (ppmv)
		221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	
Jul-25	4									X									X								X			X					2,200 (Grid 229)
Aug-25	35	X	X					X		X	X			X			X	X			X	X	X	X		X									4,235 (Grid 227)
Sep-25	10							X	X			X								X			X					X	X	X					4,151 (Grid 247)
Oct-25	6		X	X							X								X										X						1,542 (Grid 248)
Nov-25	7								X												X			X		X	X								10,000 (Grid 245)
Dec-25	3			X																X		X													1,408 (Grid 223)
Jan-26	6		X	X			X															X								X					4,631 (Grid 249)
Feb-26	3							X	X																X										1,371 (Grid 228)
Total	**74**	**1**	**3**	**3**	**0**	**0**	**1**	**3**	**3**	**2**	**2**	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**2**	**2**	**2**	**3**	**2**	**2**	**1**	**2**	**2**	**1**	**2**	**3**	**0**	**0**	**0**	**0**	

Integrated Methane SEM Exceedances for SW Area

Month	# of Exceedances (>25 ppm)	Grid #																																				Max Concentration (ppmv)
		221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	
Jul-25	14		X									X	X	X							X	X	X	X			X	X	X		X				128 (Grid 241)
Oct-25	6									X	X	X		X					X	X															61.72 (Grid 233)
Dec-25	3														X	X	X																			45.65 (Grid 236)
Jan-26	21	X	X							X				X	X	X	X	X			X	X	X	X	X	X	X	X	X	X		X	X	183 (Grid 243)
Total	**44**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**2**	**1**	**3**	**2**	**2**	**2**	**1**	**1**	**1**	**2**	**2**	**2**	**2**	**1**	**1**	**2**	**2**	**2**	**1**	**2**	**0**	**1**	**1**	

ATTACHMENT 3

SEM Grids

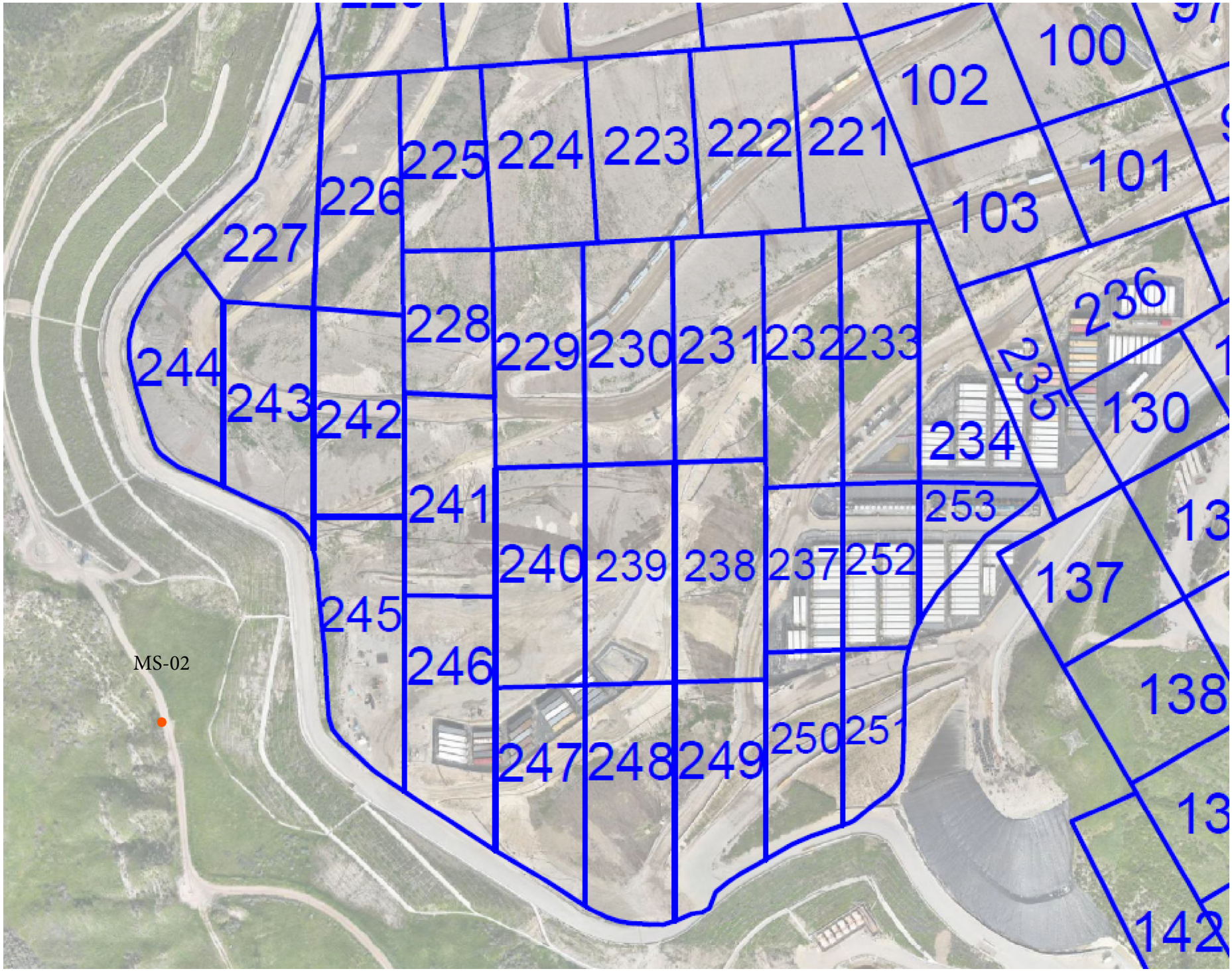


Angle of wind direction (from)

Instrument Service Mode
(Green Area)

ATTACHMENT 4

Site Map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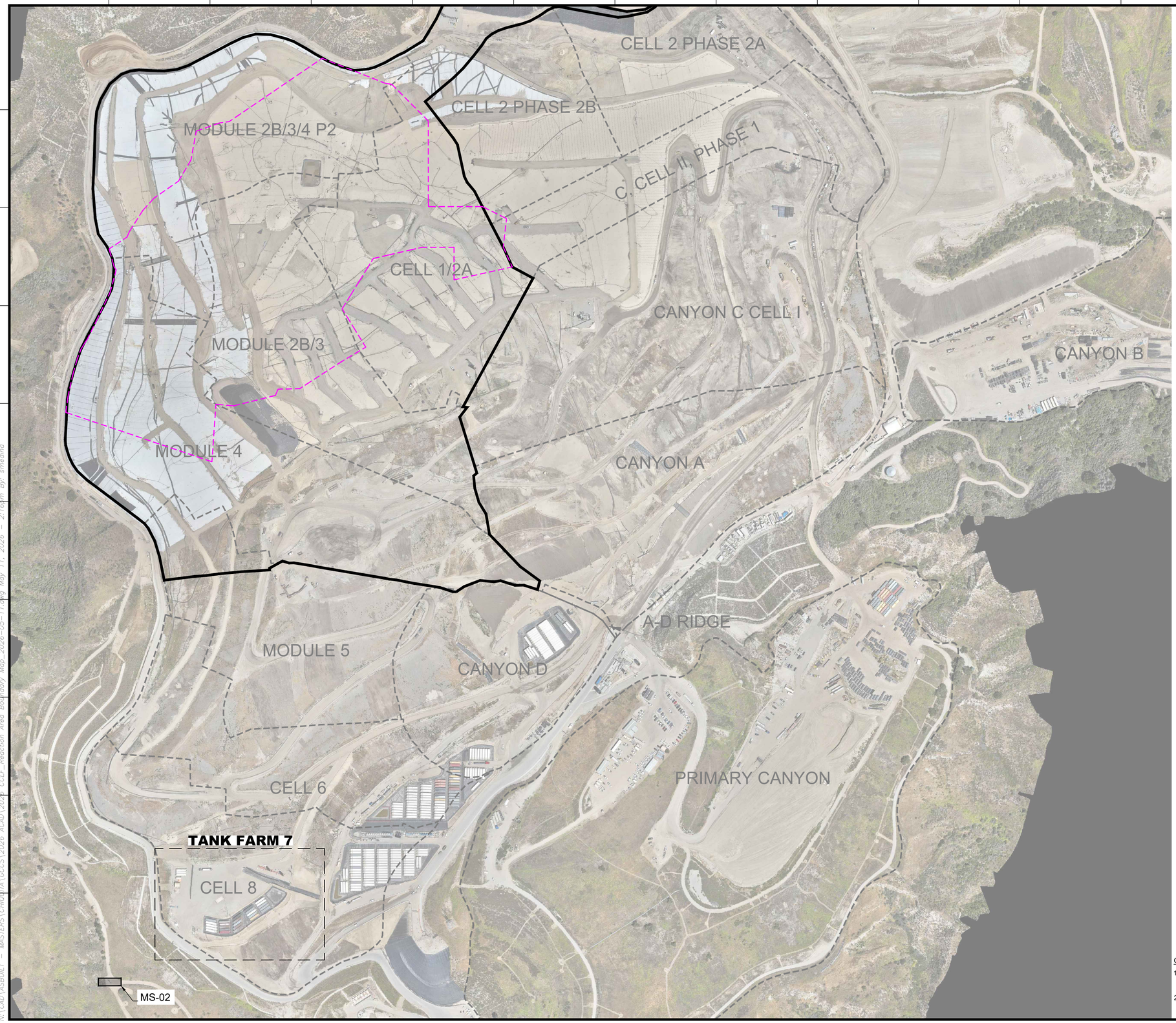
MS-02

ATTACHMENT 5

Wind Information at MS-02



N

GRAPHIC SCALE

200 100 0 200 400 600

SCALE: 1"=200'

LEGEND

- EXISTING CELL LIMITS (APPROXIMATE)
- REACTION AREA BOUNDARY (APPROXIMATE) - BASED ON DATA REVIEW
- REACTION AREA BOUNDARY - CONDITION 9A

GENERAL DRAWING NOTES:

1. EXISTING TOPOGRAPHIC SURVEY INFORMATION SHOWN WAS PROVIDED BY PROPELLOR. AERIAL PHOTOGRAPHY DATED MAY 06, 2026.
2. NORTH ARROW SHOWN HERE IS REFERENCE TO THE CALIFORNIA STATE PLANE ZONE V COORDINATE SYSTEM, NAD 83.

NO.	REVISION	DATE

SHEET TITLE: REACTION AREA BOUNDARY - SITE MAP

PROJECT TITLE: CHIQUITA CANYON LANDFILL CASTAIC, CALIFORNIA

CLIENT: CHIQUITA CANYON LANDFILL CASTAIC, CALIFORNIA

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DSN. BY: - | CHK. BY: - | APP. BY: -

DATE: 05/11/2026

SCALE: AS SHOWN

SHEET: 1