

Air Monitoring Summary Tables

The table below summarize monitoring data collected on using EPA's Viper wireless remote monitoring system.

Project Name: Doral Florida Facility Fire

**From: 2/15/23
9:00 AM**

**To: 2/16/23
8:59 AM**



Station 1 - South Fenceline							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE 1	VOC	Yes	1072	1	0 - 1150 ppb	1.1 ppb	1000 ppb
	CO	No	1072	1	0 - 11 ppm	0 ppm	83 ppm
	H ₂ S	No	1072	0	0 - 0 ppm	0 ppm	0.51 ppm
	LEL	No	1072	1072	2 - 3 %	2.7 %	10 %
	Cl ₂	No	1072	0	0 - 0 ppm	0 ppm	0.5 ppm
DustTrak 1	PM-2.5	See PM2.5 Action Level Sheet	523	512	0 - 33 µg/m3	9.7 µg/m3	See PM2.5 Action Level Sheet

Station 2 - Southeast Corner of Stack							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE 2	VOC	No	1072	136	0 - 321 ppb	17 ppb	1000 ppb
	CO	No	1072	0	0 - 0 ppm	0 ppm	83 ppm
	H ₂ S	No	1072	0	0 - 0 ppm	0 ppm	0.51 ppm
	LEL	No	1072	1072	2 - 4 %	3.4 %	10 %
	Cl ₂	No	1072	0	0 - 0 ppm	0 ppm	0.5 ppm

Station 3 - West Fenceline							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE 3	VOC	No	1069	150	0 - 238 ppb	4.4 ppb	1000 ppb
	CO	No	1069	45	0 - 3 ppm	0.1 ppm	83 ppm
	H ₂ S	No	1069	0	0 - 0 ppm	0 ppm	0.51 ppm
	LEL	No	1069	0	0 - 0 %	0 %	10 %
	Cl ₂	Yes	1069	643	0 - 0.5 ppm	0.1 ppm	0.5 ppm
DustTrak 3	PM-2.5	See PM2.5 Action Level Sheet	1438	1437	0 - 976 µg/m3	138.5 µg/m3	See PM2.5 Action Level Sheet

Station 4 - North Fenceline							
Instrument	Analyte	Action Level Exceedance?	Number of Readings	Number of Detections	Concentration Range	Period Average	Action Level
AreaRAE 4	VOC	Yes	1072	36	0 - 1932 ppb	5.2 ppb	1000 ppb
	CO	No	1072	197	0 - 18 ppm	1 ppm	83 ppm
	H ₂ S	No	1072	0	0 - 0 ppm	0 ppm	0.51 ppm
	LEL	No	1072	0	0 - 0 %	0 %	10 %
	Cl ₂	No	1072	0	0 - 0 ppm	0 ppm	0.5 ppm
DustTrak 4	PM-2.5	See PM2.5 Action Level Sheet	19696	19694	0 - 122 µg/m3	6.2 µg/m3	See PM2.5 Action Level Sheet

Notes:

%	Percent
<	Less than
>	Greater than
AEGL	Acute Exposure Guideline Levels for Airborne Chemicals
C/m	Counts (ionization events) per minute
mg/m ³	milligrams per cubic meter
min	Minute
PAC	Protective Action Criteria
PEL	Permissible exposure limit
ppb	Parts per billion
ppm	Parts per million
PM	Particulate matter
SOG	Standard Operating Guidelines
SPM	Single Point Monitor
TEEL	Temporary Emergency Exposure Limit
TLV	Threshold limit value
µg/m ³	Micrograms per cubic meter
µrem/h	Microrem per hour
α	Alpha radiation (Ludlum 2241-2 can measure α under specific configuration)
β	Beta radiation (Ludlum 2241-2 can measure β under specific configuration)
γ	Gamma-wave radiation

Analyte	Definition	Action Level Reference
VOC	Volatile Organic Compounds	TEEL-0,15 minute TWA for Benzene
CO	Carbon Monoxide	AEGL-2 1hr
H2S	Hydrogen Sulfide	AEGL-1 1hr
O2	Oxygen	29 CFR 1910.146, Confined Spaces
LEL	Lower Explosive Limit	29 CFR 1910.146, Confined Spaces
NH3	Ammonia	AEGL-1 1hr
SO2	Sulfur Dioxide	AEGL-1 1hr
Cl2	Chlorine	AEGL-1 1hr
HCN	Hydrogen Cyanide	AEGL-1 1hr
NO	Nitric Oxide	PAC-1 (compare Cl2 and H2S PAC-1 to AEGL-1)
γ	Gamma-wave Radiation	Lowest 3x median (background) for RAEs in period
PM-2.5	Particulate Matter <2.5 microns	
α/β/γ	Alpha, Beta and Gamma Radiation	Lowest 3x median (background) for Ludlums in period

DATA REVIEW

Station 1 – South Fenceline
 PM2.5 no elevated concentrations. The 24-hour average for this location was 9.7 µg/m³ which corresponds to a “Good” level of health concern for PM2.5 (see Community Action Threshold Levels table, attached)

H2S and Cl2 remained at zero. CO had a single measurement of 11ppm and VOC had a single measurement of 9ppm, neither were sustained or repeated.

Station 2 – Southeast Corner of Stack
 PM2.5 instrument was removed from this location to conduct downwind monitoring during the day. There is no 24-hour data of PM2.5 for this location.

H2s, Cl2, and CO remained at zero. VOC had a sustained rise and fall from 7pm to 10pm with a maximum concentration of 0.341ppm (action level for VOC is 1ppm).

Station 3 – West Fenceline
 PM2.5 elevated concentrations from 11am-12pm, 2pm-7pm, and 10pm-3am. During the evening and overnight there were two sustained measurements above 300 µg/m³ lasting 60 minutes each. Highest concentrations occurred around 7pm and 10pm-1am with conditions clearing after 3am. The 24-hour average for this location was 138.5 µg/m³ which corresponds to a “Unhealthy” level of health concern

H2S remained at zero. A persistent Cl2 reading from 0.1 to 0.5ppm occurred again 9am-11am and 7pm-9am. This is possibly due to sensor drift; it does correspond to increases in relative humidity. CO was measured with 30-minute sustained concentrations from 2-3ppm occurring twice between 8pm-10pm. Low detections of VOCs were observed, mostly below 0.1ppm, at 6pm, 10pm and 1am.

Station 4 – North Fenceline
 PM2.5 was mostly at or below 10 µg/m³ for the entire period. Brief peaks of 30-50 µg/m³ began at 8am with a short maximum above 100 µg/m³. The 24-hour average for this location was 6.2 µg/m³.

H2S and Cl2 remained at zero. Frequent but non-sustained detections of CO occurred throughout the monitoring period, mostly below 10ppm. The 24-hour average of CO for this location was 1 ppm.

PM_{2.5} (Particulate Matter ≤ 2.5 microns) Community Action Threshold Levels

1-Hour Average (µg/m ³)	24-Hour Average (µg/m ³)	Level of Health Concern	Meaning	Action
0.0 - 40.0	0.0-12.0	Good	Air Quality is considered satisfactory, and air pollution poses little or no risk.	Implement communication plan.
40.1 - 80.0	12.1 - 35.4	Moderate	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.	Issue public announcement about health effects. Stay out of areas with visible smoke.
80.1 - 175.0	35.5 - 55.4	Unhealthy for Sensitive Groups	Members of sensitive groups may experience health effects. The general public is not likely to be affected.	Recommend evacuation or shelter-in-place for sensitive populations.
175.1 - 300.0	55.5 - 150.4	Unhealthy	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.	Consider closing schools and cancelling outdoor events. Recommend shelter-in-place for affected neighborhoods.
300.1 - 500.0	150.5 - 250.4	Very Unhealthy	Health warnings of emergency conditions. The entire population is more likely to be affected.	Consider closing schools and cancel all outdoor events. Recommend shelter-in-place and/or evacuation for affected neighborhoods.
> 500.0	> 250.5	Hazardous	Health alert: everyone may experience more serious health effects.	Recommend closing schools & cancel outdoor events. Recommend closing workplaces and evacuating affected neighborhoods.