

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: 2/18/23
7:00 AM**

**To: 2/19/23
7:00 AM**



| Explanation of Readings | | | | | | | |
|--|---|---|--|--|---|-----------------------------|--|
| Instrument | Analyte | Action Level Exceedance? | Number of Readings | Number of Detections | Concentration Range | Period Average | Action Level |
| Air monitoring instrument used to collect measurements | Acronym of contaminant being measured. The acronyms are defined in a table on the next page | A simple calculation of whether any single measurement exceeded the action level on the right. NOTE: This uses instant measurements only, NOT a calculated average over time (ex. 8hr). | The number of measurements recorded in the database. Some instruments log averages over a few minutes while others record readings every second. | A simple filter indicating non-zero measurements | The minimum and maximum measurements recorded over the period | The average over the period | The basis for action levels are provided in a table on the next page |

| Station 1 - South Fenceline | | | | | | | |
|-----------------------------|---------|------------------------------|--------------------|----------------------|---------------------|----------------|------------------------------|
| Instrument | Analyte | Action Level Exceedance? | Number of Readings | Number of Detections | Concentration Range | Period Average | Action Level |
| DustTrak 1 | PM-2.5 | See PM2.5 Action Level Sheet | 1418 | 1418 | 13 - 1390 µg/m3 | 69.6 µg/m3 | See PM2.5 Action Level Sheet |

Station 2 - Southeast Corner of Stack (removed on Feb 18)

| Station 3 - West Fenceline | | | | | | | |
|----------------------------|---------|------------------------------|--------------------|----------------------|---------------------|----------------|------------------------------|
| Instrument | Analyte | Action Level Exceedance? | Number of Readings | Number of Detections | Concentration Range | Period Average | Action Level |
| DustTrak 3 | PM-2.5 | See PM2.5 Action Level Sheet | 1646 | 1645 | 0 - 238 µg/m3 | 17.1 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 |
| DustTrak 4 | PM-2.5 | See PM2.5 Action Level Sheet | 3572 | 3570 | 0 - 40 µg/m3 | 9.7 µg/m3 | See PM2.5 Action Level Sheet |

| Station 5 - NW 97th Ave (12.98 hours only, from 3:50pm on Feb 18 to 7am on Feb 19) | | | | | | | |
|--|---------|------------------------------|--------------------|----------------------|---------------------|----------------|------------------------------|
| Instrument | Analyte | Action Level Exceedance? | Number of Readings | Number of Detections | Concentration Range | Period Average | Action Level |
| DustTrak 5 | PM-2.5 | See PM2.5 Action Level Sheet | 779 | 779 | 0 - 38 µg/m3 | 13.58 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 |
| H ₂ S | Hydrogen Sulfide | AEGL-1 1hr |
| O ₂ | Oxygen | 29 CFR 1910.146, Confined Spaces |
| LEL | Lower Explosive Limit | 29 CFR 1910.146, Confined Spaces |
| NH ₃ | Ammonia | AEGL-1 1hr |
| SO ₂ | Sulfur Dioxide | AEGL-1 1hr |
| Cl ₂ | Chlorine | AEGL-1 1hr |
| HCN | Hydrogen Cyanide | AEGL-1 1hr |
| NO | Nitric Oxide | PAC-1 (compare Cl ₂ and H ₂ S 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
 *****NOTE***** All EPA AreaRAEs for chemical monitoring were removed on Feb 18. AreaRAEs are being maintained at Stations 1 through 4 by the environmental response contractor for the facility operator.

Station 1 – South Fenceline
 PM2.5 concentrations before 8am were near 20 µg/m³. From 8am to 6pm, multiple intermittent peaks were measured with increasing concentration from 476 µg/m³ at 8:30am to 1390 µg/m³ at 10am then tapering off by noon; multiple peaks above 100 µg/m³ and up to 407 µg/m³ were measured from noon to 2:30 pm, and above 100 µg/m³ up to 214 µg/m³ from 2:30pm to 6pm. From 6pm to midnight, concentrations remained below 20 µg/m³, then increased to around 30 µg/m³ for the remainder of the period. From 3am to 4am there was one rise and fall with a peak of 272 µg/m³. The 24-hour average for this location was 69.6 µg/m³ which corresponds to an “Unhealthy” level of health concern. Downwind community air monitoring was conducted during the day on Feb 18 along NW 58th street with 1-hour average readings ranging from 10-26 µg/m³.

Station 2 – Southeast Corner of Stack
 PM2.5 instrument removed from this location during the operational period to perform down-wind community air monitoring. The instrument was moved to Station 5 for the remainder of the period.

Station 3 – West Fenceline
 PM2.5 concentrations began a 33 µg/m³ at 7am then gradually dropped to below 20 µg/m³ by 10:30am and remained mostly below 20 µg/m³ until midnight. There were three brief measurements of 45-87 µg/m³ during the afternoon but none of these were sustained readings. Another single unsustained measurement of 127 µg/m³ occurred at midnight; five minutes later this was followed by a rise and fall lasting one hour with a peak of 50 µg/m³. At 6:30am a series of intermittent peaks from 32-238 µg/m³ were measured across a span of five minutes. The 24-hour average for this location was 17.2 µg/m³ which corresponds to a “Moderate” level of health concern

Station 4 – North Fenceline
 PM2.5 concentrations began at 22 µg/m³ at 7am then gradually dropped to below 15 µg/m³ by 8am and remained mostly below 15 µg/m³ for the remainder of the period. At 11:30 there was a 10 minute span of time which included several intermittent peaks up to 40 µg/m³. The 24-hour average for this location was 9.7 µg/m³ which corresponds to a “Good” level of health concern.

Station 5 – NW 97th Ave
 PM2.5 concentrations remained below 15 µg/m³ from 3:50pm to midnight. Concentrations increased slightly from 15-25 µg/m³ from midnight to 2:30am, then from 15-40 µg/m³ until 4:30am. Concentrations remained below 20 µg/m³ thereafter until 6:30am when a slight rise and fall with a peak of 41 µg/m³ was observed until the remainder of the period. This station only operated for approximately 13 hours so a true 24-hour average cannot be provided.

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. |