

# Air Monitoring Summary Tables

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

**Project Name:** Knoxville College

**Date:** June 23, 2014

**Time:** 9:45 - 15:30



Southwest MLK Building						
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average
AreaRAE (.232)	VOC	No	1337	24	0 - 0.3 ppm	0 ppm
	CO	No	1337	1090	0 - 14.2 ppm	4.13 ppm
	LEL	No	1337	0	0 - 0%	0%
	O2	No	1337	1337	20.1 - 20.9%	20.78%
	H2S	No	1337	0	0 - 0.5 ppm	0.08 ppm
SPM (.144)	HCI	No	345	0	-0.08 - -0.08 ppm	-0.08 ppm
DataRAM (.228)	PM-2.5	No	340	340	10.9 - 36.3 ug/m3	17.83 ug/m3

Northwest MLK Building						
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average
AreaRAE (.137)	VOC	No	353	0	0 - 0 ppm	0 ppm
	CO	No	353	0	0 - 0 ppm	0 ppm
	LEL	No	353	0	0 - 0%	0%
	O2	No	353	353	20.9 - 23.2%	21.91%
	H2S	No	353	0	0 - 0 ppm	0 ppm
SPM (.143)	HCI	No	345	0	0.07 - 0.1 ppm	0.08 ppm
DataRAM (.139)	PM-2.5	No	341	341	13 - 1474.5 ug/m3	24.9 ug/m3

Hotzone						
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average
AreaRAE (.134)	VOC	No	6221	330	0 - 14 ppm	0.11 ppm
	HCN	No	6221	1345	0 - 9.5 ppm	0.59 ppm
	LEL	No	6221	6023	0 - 4.1%	2.73%
	O2	No	6221	6221	20.6 - 20.9%	20.9%
	H2S	No	6221	0	0 - 0.1 ppm	0 ppm
MultiRAE (.230)	VOC	No	345	15	0 - 410 ppb	1.97 ppb
	CO	No	345	0	0 - 0 ppm	0 ppm
	LEL	No	345	0	0 - 0%	0%
	O2	No	345	345	20.9 - 21.3%	20.93%
	H2S	No	345	0	0 - 0 ppm	0 ppm
	Gamma	No	345	345	1 - 13 uR/h	5.14 uR/h

North of Hotzone						
Instrument	Analyte	Period Average Exceedances	Number of Readings	Number of Detections	Concentration Range	Period Average
AreaRAE (.135)	VOC	No	5018	69	0 - 2.7 ppm	0.01 ppm
	CO	No	5018	940	0 - 2.6 ppm	0.46 ppm
	LEL	No	5018	4791	0 - 56.4% *	18.86%
	O2	No	5018	5018	20.5 - 20.9%	20.77%
	H2S	No	5018	0	0 - 0 ppm	0 ppm

South of Hotzone						
Instrument	Analyte	Period Average Exceedances	Number of Readings <sup>a</sup>	Number of Detections <sup>b</sup>	Concentration Range	Period Average
DataRAM (.140)	PM-2.5	No	343	343	9.7 - 28.9 ug/m3	14.28 ug/m3

Notes:

- <sup>a</sup> Values recorded by the instrument
- <sup>b</sup> Values at or above detection limits
- CO Carbon monoxide
- H<sub>2</sub>S Hydrogen sulfide
- LEL Lower explosive limit
- O<sub>2</sub> Oxygen
- PM-2.5 Particulate matter with an average diameter less than 2.5 microns
- ppm Parts per million
- ppb Parts per billion
- ug/m<sup>3</sup> micrograms per cubic meter
- uR/h micro-Roentgens per hour
- VOC Volatile organic compounds

## Detection limits

Analyte	Lower	Upper
CO	1 ppm	500 ppm
H2S	1 ppm	100 ppm
HCI	0.5 ppm	15 ppm
HCN	1 ppm	100 ppm
LEL	1%	100%
O2	0.1%	30%
VOC	0.1 ppm	2,000 ppm
GAMMA	1 uR/hr	20,000 uR/hr
CONC	0.1 ug/m <sup>3</sup>	400,000 ug/m <sup>3</sup>

\*LEL sensor was checked against a MultiRAE Pro and was found to be out of calibration, hence the reason for high LEL values.