

IEI Plastics Fire  
Parkersburg, WV  
Wood County Commission  
Indoor Air Monitoring Summary  
October 27, 2017

Prepared by  
Center for Toxicology and Environmental Health, L.L.C. (CTEH)  
On Behalf of Wood County Schools



## ***Introduction***

On October 24, 2017, the Center for Toxicology and Environmental Health, LLC (CTEH) was requested by the Wood County Commission to perform indoor air monitoring in multiple buildings in Parkersburg, WV. Real-time indoor air monitoring for indicators of fire smoke impacts was initiated and completed on October 25, 2017. The details of CTEH's monitoring activities and results are presented below.

## ***Real-time Air Monitoring***

Real-time air monitoring was conducted for indicators of fire smoke impacts including volatile organic compounds (VOCs), carbon monoxide (CO), and fire smoke particulate matter (PM<sub>2.5</sub>). These target analytes were measured using handheld instruments including RAESystems® MultiRAE Pro (for VOCs and CO) and TSI DustTrak DRX aerosol/particle monitor for PM<sub>2.5</sub>. PM<sub>2.5</sub> represents all particles in the air with mean diameter less than 2.5 micrometers. Though fire smoke particles typically fall in this range, dust and other normal particles with diameters less than 2.5 micrometers commonly found in indoor air will also be detected. In addition, notations of any unusual odors representative of fire smoke were documented along with the real-time air monitoring readings. All instrumentation was calibrated prior to the monitoring activities per the manufacturer's recommendations.

## ***Results***

The tables below summarize data collected per building or building area. Concentrations represent the reading for each analyte as recorded from the individual instrument at the indicated time and location. Results preceded with a < symbol indicate that the chemical was not detected at or above the instrument's detection limit. Units for VOCs and CO are presented in parts per million (ppm) of air. Units for PM<sub>2.5</sub> are presented in milligrams per cubic meter of air (mg/m<sup>3</sup>).

*Table 1: Family Court Building  
October 25, 2017*

Time	Location Description	Instrument	Analyte	Concentration <sup>1</sup>	Units
3:59:15 PM	Family court building	MultiRAE Plus	VOCs	< 0.1	ppm
4:00:15 PM	Family court building	MultiRAE Pro	CO	< 1	ppm
4:01:15 PM	Family court building	DustTrak DRX	PM <sub>2.5</sub>	0.007	mg/m <sup>3</sup>
4:02:45 PM	Family court/prosecutors building main entrance	MultiRAE Pro	VOCs	< 0.1	ppm
4:03:45 PM	Family court/prosecutors building main entrance	MultiRAE Pro	CO	< 1	ppm
4:04:45 PM	Family court/prosecutors building main entrance	DustTrak DRX	PM <sub>2.5</sub>	0.009	mg/m <sup>3</sup>
4:05:29 PM	Prosecutors office area	MultiRAE Pro	VOCs	< 0.1	ppm
4:06:29 PM	Prosecutors office area	MultiRAE Pro	CO	< 1	ppm
4:07:29 PM	Prosecutors office area	DustTrak DRX	PM <sub>2.5</sub>	0.009	mg/m <sup>3</sup>

<sup>1</sup>Maximum detections preceded by the "<" symbol are considered non-detections at the limit of detection (LoD) value to the right.

*Table 2: Sherriff's Tax Office  
October 25, 2017*

Time	Location Description	Instrument	Analyte	Concentration	Units
4:07:46 PM	Sheriff's Tax Office	MultiRAE Pro	VOCs	< 0.1	ppm
4:08:46 PM	Sheriff's Tax Office	MultiRAE Pro	CO	< 1	ppm
4:09:46 PM	Sheriff's Tax Office	DustTrak DRX	PM <sub>2.5</sub>	0.011	mg/m <sup>3</sup>

<sup>1</sup>Maximum detections preceded by the "<" symbol are considered non-detections at the limit of detection (LoD) value to the right.

*Table 3: Assessors' Personnel Property Offices  
October 25, 2017*

Time	Location Description	Instrument	Analyte	Concentration <sup>1</sup>	Units
4:10:09 PM	Assessors' Personnel Property Offices	MultiRAE Pro	VOCs	< 0.1	ppm
4:11:09 PM	Assessors' Personnel Property Offices	MultiRAE Pro	CO	< 1	ppm
4:12:09 PM	Assessors' Personnel Property Offices	DustTrak DRX	PM <sub>2.5</sub>	0.005	mg/m <sup>3</sup>

<sup>1</sup>Maximum detections preceded by the "<" symbol are considered non-detections at the limit of detection (LoD) value to the right.

*Table 4: Fort Boreman Meeting Room  
October 25, 2017*

Time	Location Description	Instrument	Analyte	Concentration <sup>1</sup>	Units
4:13:45 PM	Fort Boreman Meeting Room	MultiRAE Pro	VOCs	< 0.1	ppm
4:14:33 PM	Fort Boreman Meeting Room	MultiRAE Pro	CO	< 1	ppm
4:15:30 PM	Fort Boreman Meeting Room	DustTrak DRX	PM <sub>2.5</sub>	0.008	mg/m <sup>3</sup>

<sup>1</sup>Maximum detections preceded by the "<" symbol are considered non-detections at the limit of detection (LoD) value to the right.

*Table 5: Courthouse  
October 25, 2017*

Time	Location Description	Instrument	Analyte	Concentration <sup>1</sup>	Units
4:18:05 PM	Courthouse 1st floor by stairs	MultiRAE Pro	VOCs	< 0.1	ppm
4:18:56 PM	Courthouse first floor by stairs	MultiRAE Pro	CO	< 1	ppm
4:19:29 PM	Courthouse first floor by stairs	DustTrak DRX	PM <sub>2.5</sub>	0.007	mg/m <sup>3</sup>
4:22:25 PM	Courthouse 2nd floor	MultiRAE Pro	VOCs	< 0.1	ppm
4:23:00 PM	Courthouse 2nd floor	MultiRAE Pro	CO	< 1	ppm
4:23:28 PM	Courthouse 2nd floor	DustTrak DRX	PM <sub>2.5</sub>	0.005	mg/m <sup>3</sup>
4:24:57 PM	Courthouse assessors' area 3rd floor	MultiRAE Pro	VOCs	< 0.1	ppm
4:25:33 PM	Courthouse assessors' area 3rd floor	MultiRAE Pro	CO	< 1	ppm
4:26:23 PM	Courthouse assessors' area 3rd floor	DustTrak DRX	PM <sub>2.5</sub>	0.003	mg/m <sup>3</sup>
4:27:42 PM	Courthouse 4th floor voters' registration	MultiRAE Pro	VOCs	< 0.1	ppm
4:28:29 PM	Courthouse 4th floor voters' registration	MultiRAE Pro	CO	< 1	ppm
4:29:01 PM	Courthouse 4th floor voters' registration	DustTrak DRX	PM <sub>2.5</sub>	0.003	mg/m <sup>3</sup>

<sup>1</sup>Maximum detections preceded by the "<" symbol are considered non-detections at the limit of detection (LoD) value to the right.

*Table 6: Shaver Building  
October 25, 2017*

Time	Location Description	Instrument	Analyte	Concentration <sup>1</sup>	Units
4:34:04 PM	Shaver Building, Carole Jones office	MultiRAE Pro	VOCs	< 0.1	ppm
4:34:35 PM	Shaver Building, Carole Jones office	MultiRAE Pro	CO	< 1	ppm
4:35:05 PM	Shaver Building, Carole Jones office	DustTrak DRX	PM <sub>2.5</sub>	0.01	mg/m <sup>3</sup>
4:37:23 PM	Shaver Building main entrance	MultiRAE Pro	VOCs	< 0.1	ppm
4:37:46 PM	Shaver Building main entrance	MultiRAE Pro	CO	< 1	ppm
4:38:24 PM	Shaver Building main entrance	DustTrak DRX	PM <sub>2.5</sub>	0.007	mg/m <sup>3</sup>
4:40:11 PM	Shaver Building, Judge Waters courtroom	MultiRAE Pro	VOCs	< 0.1	ppm
4:40:59 PM	Shaver Building, Judge Waters courtroom	MultiRAE Pro	CO	< 1	ppm
4:41:59 PM	Shaver Building, Judge Waters courtroom	DustTrak DRX	PM <sub>2.5</sub>	0.002	mg/m <sup>3</sup>
4:43:22 PM	Shaver Building, Judge Beane courtroom	MultiRAE Pro	VOCs	< 0.1	ppm
4:44:01 PM	Shaver Building, Judge Beane courtroom	MultiRAE Pro	CO	< 1	ppm
4:45:01 PM	Shaver Building, Judge Beane courtroom	DustTrak DRX	PM <sub>2.5</sub>	0.006	mg/m <sup>3</sup>

<sup>1</sup>Maximum detections preceded by the "<" symbol are considered non-detections at the limit of detection (LoD) value to the right.

*Table 7: Justice Building  
October 25, 2017*

Time	Location Description	Instrument	Analyte	Concentration <sup>1</sup>	Units
4:48:16 PM	Justice Building, magistrate back door	MultiRAE Pro	VOCs	< 0.1	ppm
4:49:58 PM	Justice Building, magistrate back door	MultiRAE Pro	CO	< 1	ppm
4:50:58 PM	Justice Building, magistrate back door	DustTrak DRX	PM <sub>2.5</sub>	0.004	mg/m <sup>3</sup>
4:51:48 PM	Justice Building, magistrate front office	MultiRAE Pro	VOCs	< 0.1	ppm
4:52:40 PM	Justice Building, magistrate front office	MultiRAE Pro	CO	< 1	ppm
4:53:40 PM	Justice Building, magistrate front office	DustTrak DRX	PM <sub>2.5</sub>	0.002	mg/m <sup>3</sup>
4:54:10 PM	Justice Building, front lobby	MultiRAE Pro	VOCs	< 0.1	ppm
4:54:33 PM	Justice Building, front lobby	MultiRAE Pro	CO	< 1	ppm
4:55:33 PM	Justice Building, front lobby	DustTrak DRX	PM <sub>2.5</sub>	0.004	mg/m <sup>3</sup>
4:56:30 PM	Justice Building, Chief Deputy Ripple's office	MultiRAE Pro	VOCs	< 0.1	ppm
4:57:41 PM	Justice Building, Chief Deputy Riffle's office	MultiRAE Pro	CO	< 1	ppm
4:58:30 PM	Justice Building, Chief Deputy Ripple's office	DustTrak DRX	PM <sub>2.5</sub>	0.011	mg/m <sup>3</sup>
5:00:04 PM	Justice Building south side entrance	MultiRAE Pro	VOCs	< 0.1	ppm
5:01:12 PM	Justice Building south entrance	MultiRAE Plus	CO	< 1	ppm
5:02:12 PM	Justice Building south entrance	DustTrak DRX	PM <sub>2.5</sub>	0.003	mg/m <sup>3</sup>
5:03:43 PM	Justice Building booking area	MultiRAE Pro	VOCs	< 0.1	ppm
5:04:16 PM	Justice Building booking area	MultiRAE Pro	CO	< 1	ppm
5:05:43 PM	Justice Building booking area	DustTrak DRX	PM <sub>2.5</sub>	0.009	mg/m <sup>3</sup>

<sup>1</sup>Maximum detections preceded by the "<" symbol are considered non-detections at the limit of detection (LoD) value to the right.

### **Conclusion**

The results showed no detections of VOCs or CO at any location. The detections of PM<sub>2.5</sub> in all buildings are typical of the particle levels found in the indoor air of well-maintained and frequently cleaned buildings. No observations of odors indicative of fire smoke were noted at any time during the indoor air monitoring activities. Therefore, there were no findings of fire smoke impacts to the indoor air of any Wood County buildings.

Please contact me if you have any questions or further needs.



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