The Dalles Air Sampling for PAHs

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State of Oregon Department of Environmental Quality

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Revision date: 03/03/2017

Starting in June 2016, DEQ deployed three monitors to collect air samples in the vicinity of AmeriTies West, LLC in The Dalles, Oregon. Samples were analyzed for polycyclic aromatic hydrocarbons (PAHs) likely associated with tie treatment processes. This report is a summary of the monitoring results including analysis of corresponding AmeriTies production data, wind data, and public complaint information.

In general monitoring results indicated the presence of naphthalene and other PAHs in the air in the area monitored. At times these chemicals were present at levels of concern. Given that the highest levels were detected at the Wasco County Building location, the source of these PAHs is likely the AmeriTies facility.

Key Findings

- Both naphthalene and total PAH concentrations were found above their respective lifetime annual average benchmarks. The Agency for Toxic Substances and Disease Registry (ATSDR) in conjunction with the Oregon Health Authority (OHA) will be completing an in-depth public health consultation to determine whether long-term air exposures are harmful to the community.
- Naphthalene concentrations were found below its respective 24 hour health screening level set by OHA.
- Samples from the Wasco County Building location were consistently higher, in both naphthalene and total PAHs than the other locations.
- Samples from the Cherry Heights location were consistently lowest in all compounds.
- Sampling included days when complaints were logged with DEQ.
- AmeriTies production levels (average, minimum and maximum) on sample and non-sample days were similar.
- Overall tie production levels were not significantly different on sample days versus non-sample days, and there was no obvious correlation between the number of complaints and the volume of tie production.
- Total PAH concentrations correlate to daily temperature. Concentrations decrease as daily maximum temperatures decrease.

Background

On February 1, 2015, the DEQ's Nuisance Strategy was triggered due to the number and description of odor complaints DEQ received concerning AmeriTies West, LLC. As a result, DEQ staff conducted odor surveys in The Dalles, OR and documented that creosote-type odors are often present in the community. DEQ also collected air samples to determine the levels of polycyclic aromatic hydrocarbons (PAHs) east of city center in response to odor and air quality concerns related to tie treatment plant operations associated with AmeriTies West, LLC. The sampling objective was to determine if emissions associated with the tie treatment plant facility are present above human health risk-based concentrations or, in the case where risk-based concentrations are below naturally occurring background concentrations, if emissions exceed background levels.

Air Sampling

Starting in June 2016, DEQ staff deployed three polyurethane foam samplers (PUFs) to collect air samples in the vicinity of AmeriTies West, LLC. Samples were analyzed for PAHs likely associated with

tie treatment plant facilities. DEQ also collected wind speed and direction data in the area to help identify the potential source of any pollutants. Data from this project may also be used to estimate the area of distribution of air emissions from the facility(s). Oregon Health Authority (OHA) and the Agency for Toxic Substances and Disease Registry (ATSDR) will utilize the data generated from this project as part of an OHA and ATSDR Health Consultation.

The study boundaries for this sampling were determined using the wind speed and direction from the Columbia Gorge Airport, the known emission points for PAHs from AmeriTies West, LLC, and complaint location information. Monitoring locations were selected based on consultation with managers, air quality modelers and air monitoring specialists, permission from land and business owners and distance from the facility.

Polycyclic Aromatic Hydrocarbons (PAHs)

PAHs are a class of over 100 different chemicals that occur naturally in coal, crude oil and gasoline, however they can also be produced during the incomplete combustion of coal, oil, gas, wood, garbage and other organic substances like tobacco and charbroiled meat. Among other chemical compounds, PAHs are found in creosote which has long been used as a wood preservative to protect railroad ties, utility poles, and other products from environmental and biological degradation. Generally, PAHs do not pose health risks in the short term unless extremely high concentrations are observed, but many of them can increase lifetime cancer risk with prolonged exposure. Exposure to PAHs can occur by breathing contaminated air from sources such as vehicle exhaust, cigarette smoke, wood smoke and wildfires or fumes from asphalt roads.

Oregon air toxics lifetime annual benchmarks are based on concentration levels that would result in a cancer risk of one-in-a-million based on a lifetime of exposure. For non-carcinogens, the benchmarks are levels a person could breathe for a lifetime without any cancer related health effects. The lifetime annual ambient benchmark concentrations for 52 air toxics of concern in Oregon are based on consensus recommendations from the Air Toxics Scientific Advisory Committee, a panel of experts that provides advice on the state air toxics program that is scientifically and technically sound, independent and balanced. The benchmarks are based on concentration levels that are protective of our most sensitive individuals. These benchmarks provide consistent health-based goals, as DEQ develops strategies to reduce air toxics.

Analysis

Initially, three monitoring stations were set up to measure air quality and meteorological data: Cherry Heights (4 km from AmeriTies), City Park (0.9 km), and Wasco County Building (0.6 km). All three stations collected one 24 hour air quality sample every three days from June 2, 2016 through August 1, 2016. In order to adequately assess air contaminants throughout The Dalles, the decision was made to move the City Park monitor to two additional locations, east and west of City Park. On August 4, 2016, this sensor was moved to Old Dufur Road (0.75 km) where it collected samples from August 4, 2016 through September 6, 2016. On September 24, 2016, the monitor was relocated from Old Dufur Road to Clark Street (1.5 km). The monitor began collecting data on September 24 and continued through November 18. Samples were continually collected at the Cherry Heights and Wasco County Building locations until November 19. Samplers were scheduled to collect a sample every three days, however equipment maintenance, holidays and logistical factors led to occasional diversions from the regular sampling schedule.

Naphthalene

DEQ analyzed samples for 21 PAHs commonly associated with tie treatment facilities. Of these, naphthalene is the only individual compound with a specific established DEQ benchmark. Figures 1, 2 and 3 show the concentration of naphthalene recorded at each station during the sampling period compared to the State of Oregon 24-hr health screening level of 200 µg/m^3 at standard temperature and pressure (STP). Concentrations above the ambient benchmark concentration (0.03 µg/m^3) were detected in individual samples at each of the five monitoring locations during the sampling period, however no samples showed concentrations that were close to the 24-hr health screening level (200 µg/m^3). The lowest average concentrations occurred at the Cherry Heights location, while the highest average concentration occurred at the Wasco County Building location. The concentrations detected at the Wasco County Building location were significantly higher than the concentrations detected at all other monitoring locations. Concentrations at the Old Dufur Road monitoring location were also significantly higher than those detected at the Cherry Heights location. A table with all the PAH sampling results is provided in Appendix A.

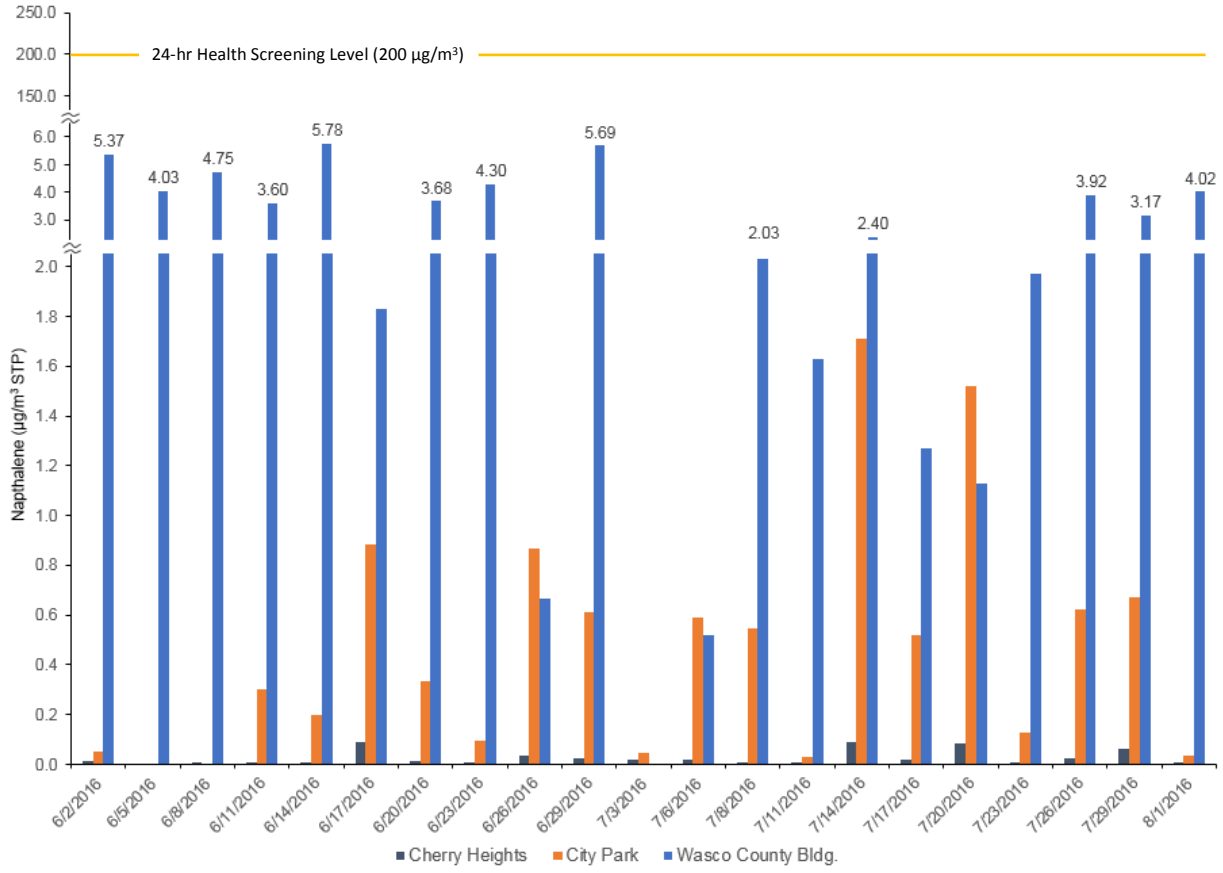

Figure 1. Naphthalene concentration (µg/m^3 STP) from June 2-August 1, 2016. Monitoring locations are represented by the vertical bars. The yellow line indicates the DEQ 24-hr health screening level for naphthalene (200 µg/m^3 STP). A break (≈) in the y-axis was included to show the maximum values at the Wasco County Building location on the same chart as the other monitoring locations. This figure depicts the monitoring timeframe for the sampling at City Park.

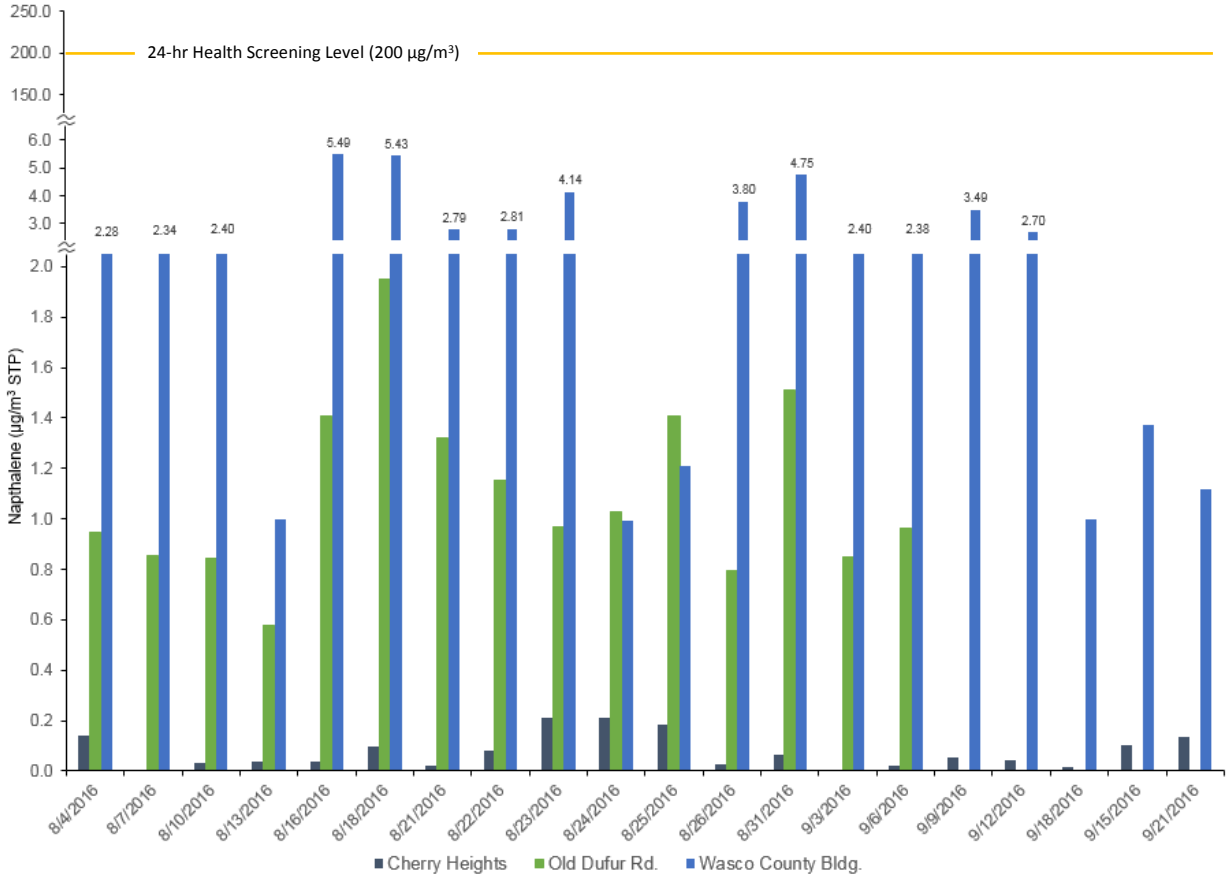

Figure 2. Naphthalene concentration (µg/m^3 STP) from August 4-September 21, 2016. Monitoring locations are represented by the vertical bars. The yellow line indicates the DEQ 24-hr health screening level for naphthalene (200 µg/m^3 STP). A break (≈) in the y-axis was included to show the maximum values at the Wasco County Building location on the same chart as the other monitoring locations. This figure depicts the monitoring timeframe for the sampling at Old Dufur Road.

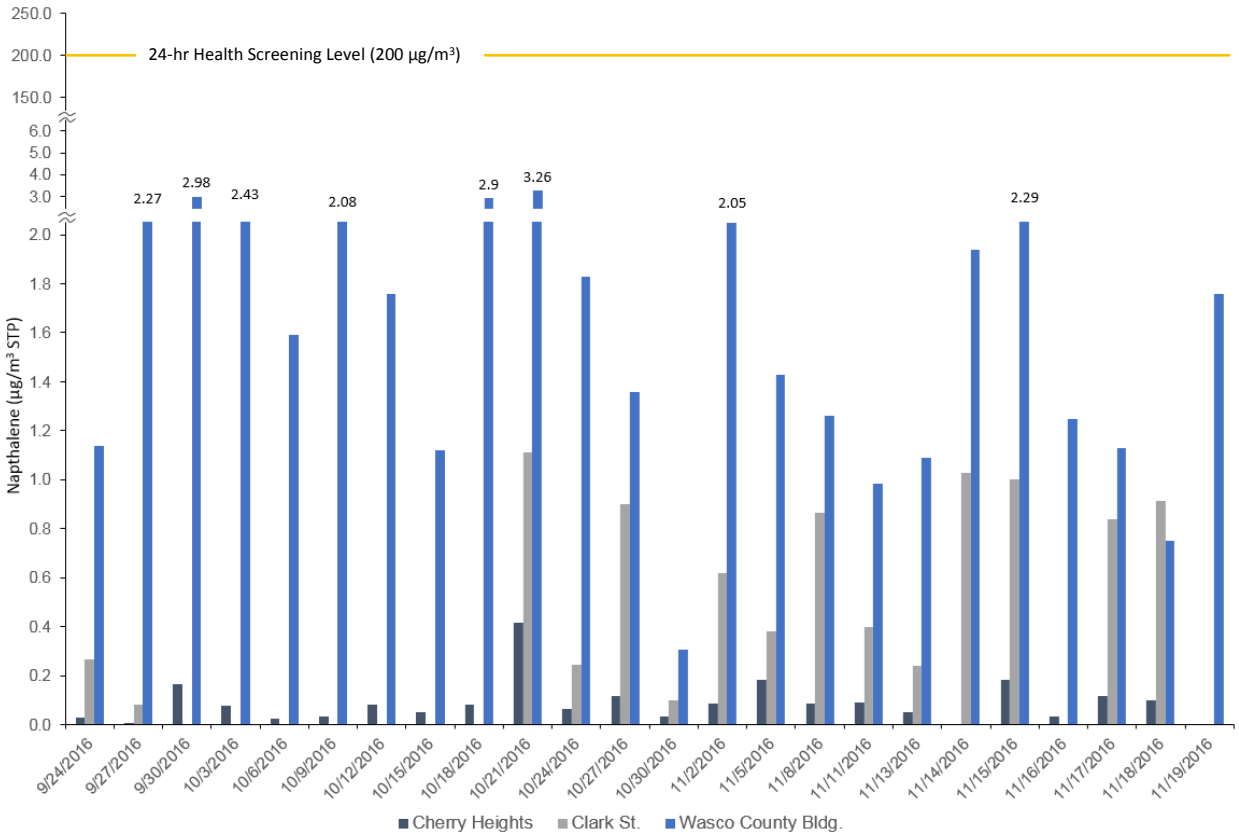

Figure 3. Naphthalene concentration (µg/m³ STP) from September 24-November 19, 2016. Monitoring locations are represented by the vertical bars. The Clark St. sampling data includes data from a temporary sampling location that recorded two readings in September before being moved to a more suitable location in October. The yellow line indicates the DEQ 24-hr health screening level for naphthalene (200 µg/m³ STP). A break (≈) in the y-axis was included to show the maximum values at the Wasco County Building location on the same chart as the other monitoring locations. This figure depicts the monitoring timeframe for the sampling at Clark Street.

These differences can also be seen in Table 1 which contains the minimum, maximum, average and standard deviation of naphthalene concentrations detected at each of the monitoring locations as well as a measure of lifetime exposure. This measure indicates that while the Cherry Heights location had the lowest average concentration of the monitoring locations, it was still more than twice the benchmark while the average concentration at the Wasco County Building location was nearly 80 times above the DEQ benchmark.

Table 1. Concentration of naphthalene samples (µg/m³ STP) per monitoring location over the sampling period (June 2-November 19, 2016). One sample was comprised of concentration levels measured over a 24-hour period. Impact factor indicates the ratio of average naphthalene detected to the benchmark. An impact factor of one means that the average detection was equal to the benchmark. Lifetime annual average benchmark = 0.03 µg/m³ STP.

	All units in µg/m³				
	Cherry Heights	**City Park**	**Clark St.**	**Old Dufur Rd.**	**Wasco County Bldg.**
Minimum Detected Amount	0.00609	0.031	0.0798	0.576	0.304
Maximum Detected Amount	0.414	1.71	1.11	1.95	5.78
Average[1]	**0.0639**	**0.465**	**0.599**	**1.035**	**2.373**
Standard Deviation[1]	0.0705	0.469	0.368	0.426	1.448
Impact Factor	**2.13**	**15.5**	**20.0**	**34.5**	**79.1**

[1]Calculated using ProUCL 5, Kaplan Meier Method with non-detects

Concentration of PAHs using Toxicity Equivalent Factors

Each individual compound within the PAH category varies in toxicity therefore it is helpful to compare the toxicity of individual compounds to the toxicity of one of the most toxic compounds in the PAH category, benzo(a)pyrene. This is done using a toxicity equivalent factor (TEF). Each of the less toxic PAH compounds are then given a TEF value between 0 and 1 that indicates the toxicity of that compound relative to benzo(a)pyrene, which is assigned a TEF value of 1.

While most of the individual PAH compounds do not have individual benchmarks, DEQ does have an established benchmark for the total concentration of PAHs using TEF values in order to quantitatively assess the risk of PAHs.

In order to calculate the total PAH concentration using TEFs, the concentration of each compound is multiplied by its own TEF value to yield a new adjusted concentration. Then each of these adjusted concentrations are added together and compared to the lifetime annual average benchmark of 0.0009 µg/m^3. Figures 4 through 6 show the total concentration of PAHs using TEFs per day. Naphthalene is the only individual PAH compound with its own established benchmark, therefore it is considered separately and does not have a TEF conversion value.

PAHs that are not easily compared to benzo(a)pyrene do not have TEF conversions and are reported separately (Figures 7-9).

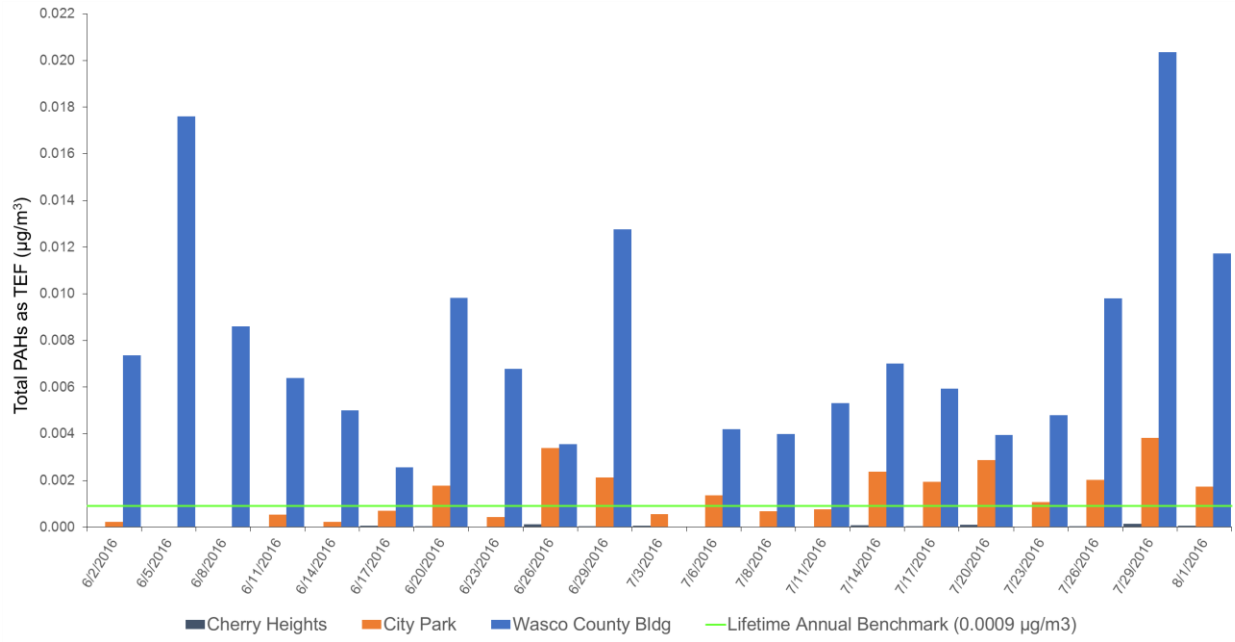

Figure 4. Total PAH concentration (with TEF conversions) from June 2-August 1, 2016. Monitoring locations are represented by the vertical bars. The green line indicates the DEQ lifetime annual average benchmark for total PAHs as TEF (0.0009 µg/m^3). This figure depicts the time period for sampling at City Park.

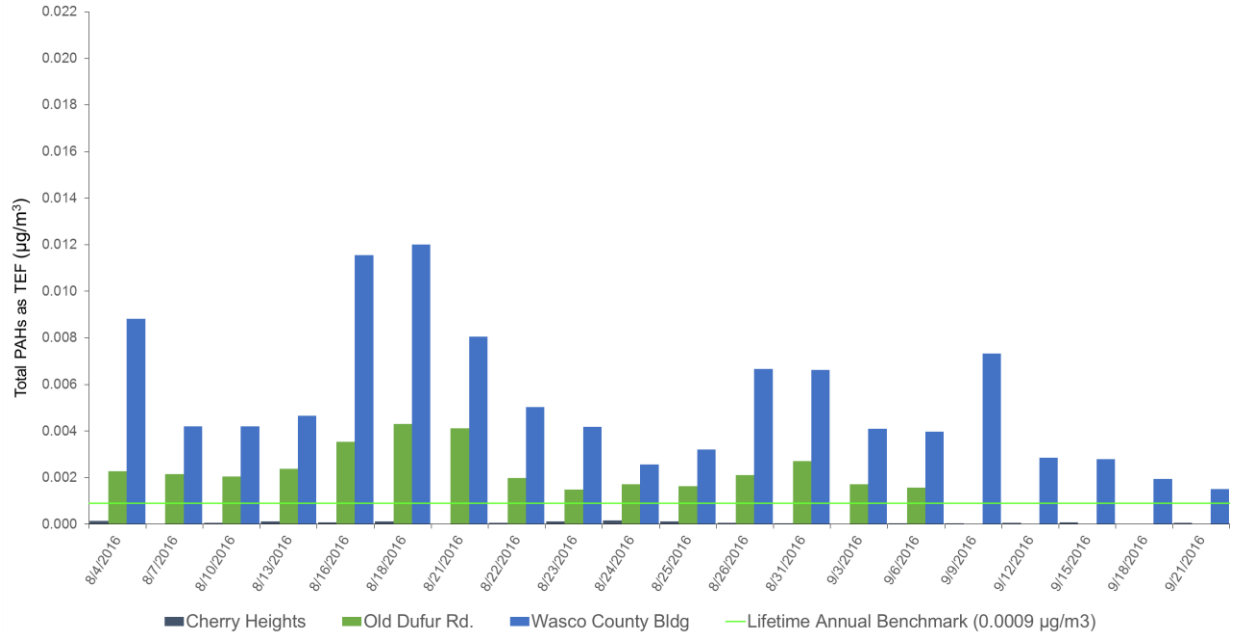

Figure 5. Total PAH concentration (with TEF conversions) from August 4-September 21, 2016. Monitoring locations are represented by the vertical bars. The green line indicates the DEQ lifetime annual average benchmark for total PAHs as TEF (0.0009 µg/m^3). This figure depicts the time period for sampling at Old Dufur Road.

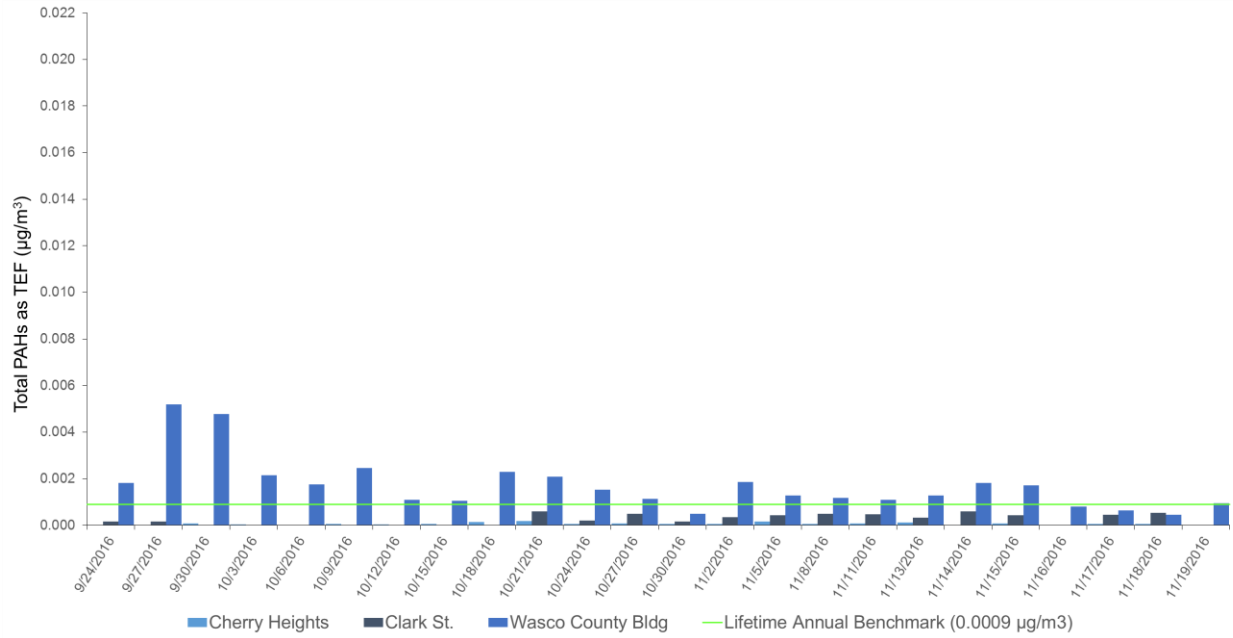

Figure 6. Total PAH concentration (with TEF conversions) from September 24-November 19, 2016. Monitoring locations are represented by the vertical bars. The Clark St. sampling data includes data from a temporary sampling location that recorded two readings in September before being moved to a more suitable location in October. The green line indicates the DEQ lifetime annual average benchmark for total PAHs as TEF (0.0009 µg/m^3). This figure depicts the time period for sampling at Clark Street.

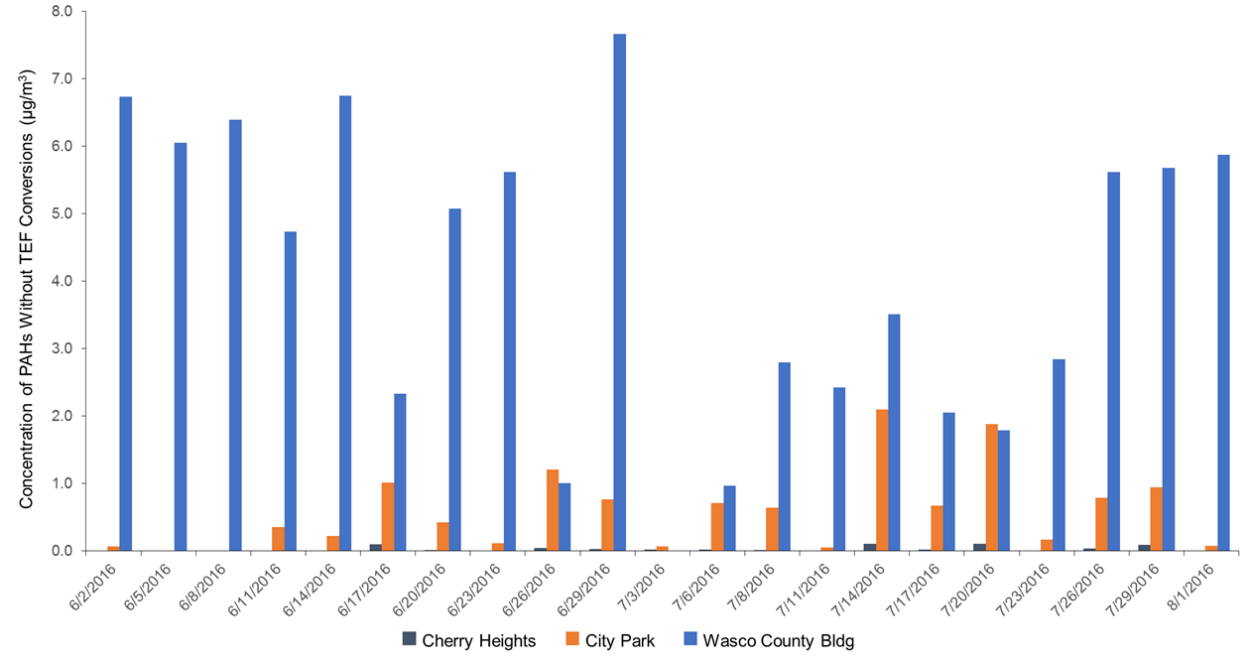

Figure 7. Concentration of PAHs from June 2-August 1, 2016 for PAH compounds where toxicity equivalent factor conversions do not exist. Monitoring locations are represented by the vertical bars. This figure depicts the time period for sampling at the City Park.

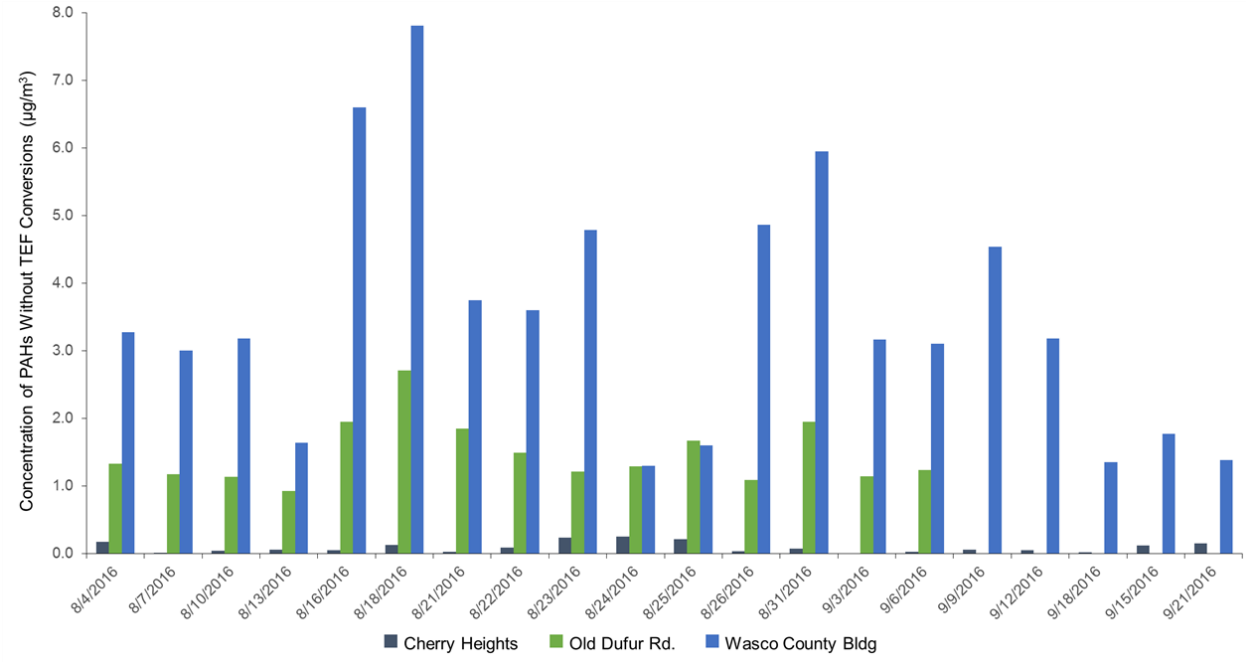

Figure 8. Concentration of PAHs from August 4-September 21, 2016 for PAH compounds where toxicity equivalent factor conversions do not exist. Monitoring locations are represented by the vertical bars. This figure depicts the time period for sampling at Old Dufur Road.

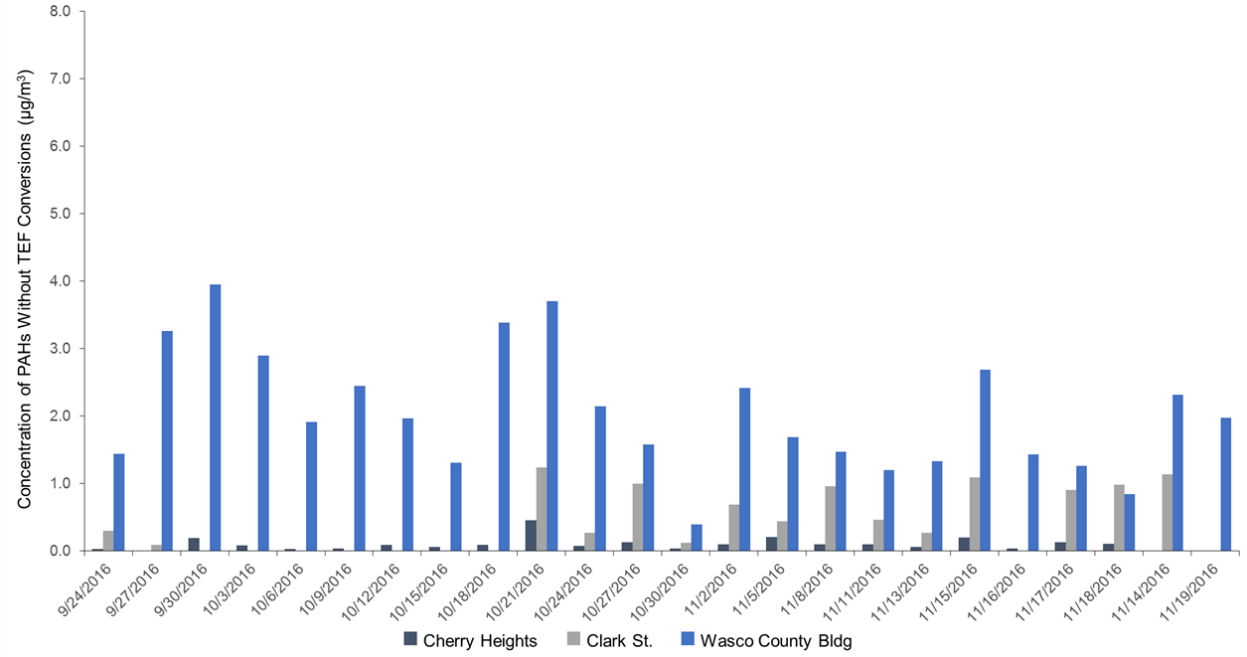

Figure 9. Concentration of PAHs from September 24-November 19, 2016 for PAH compounds where toxicity equivalent factor conversions do not exist. Monitoring locations are represented by the vertical bars. The Clark St. sampling data includes data from a temporary sampling location that recorded two readings in September before being moved to a more suitable location in October. This figure depicts the time period for sampling at Clark Street.

Table 2 contains the minimum, maximum, average and standard deviation of Total PAH concentrations as TEF detected at each monitoring location as well as a measure of lifetime exposure. As in Table 1, the average concentration at the Wasco County Building location was significantly higher than the average concentrations at any of the other monitoring locations. Additionally, there is evidence that suggests the results from this location can be explained by maximum daily temperature (Figure 10). The correlation between these two variables was significant and results of a linear regression indicated that 53% of the change in total PAH concentration can be explained by changes in maximum daily temperature (Figure 10). There is also a correlation between naphthalene concentrations and maximum daily temperature. This relates to the amount of PAHs that off-gas from the treated ties and is less likely linked to other sources of the PAHs at the facility.

Table 2. Total concentration of PAHs (with TEF conversions) per monitoring location over the sampling period (June 2-November 19, 2016). One sample was comprised of concentration levels measured over a 24-hour period. Impact factor indicates the ratio of average concentration of PAHs (with TEF conversions) detected to the DEQ lifetime annual average benchmark (0.0009 µg/m³ STP). An impact factor of one means that the average detection was equal to the DEQ lifetime annual average benchmark. TEF = Toxicity Equivalent Factor.

	All units in µg/m³				
	Cherry Heights	City Park	Clark St.	Old Dufur Rd.	Wasco County Bldg.
Minimum Detected	0.0000	0.0002	0.0002	0.0015	0.0004
Maximum Detected	0.0002	0.0038	0.0006	0.0043	0.0204
Average	**0.0001**	**0.0015**	**0.0004**	**0.0024**	**0.0048**
Standard Deviation	0.0000	0.0010	0.0002	0.0009	0.0040
Impact Factor	**0.1**	**1.7**	**0.4**	**2.7**	**5.3**

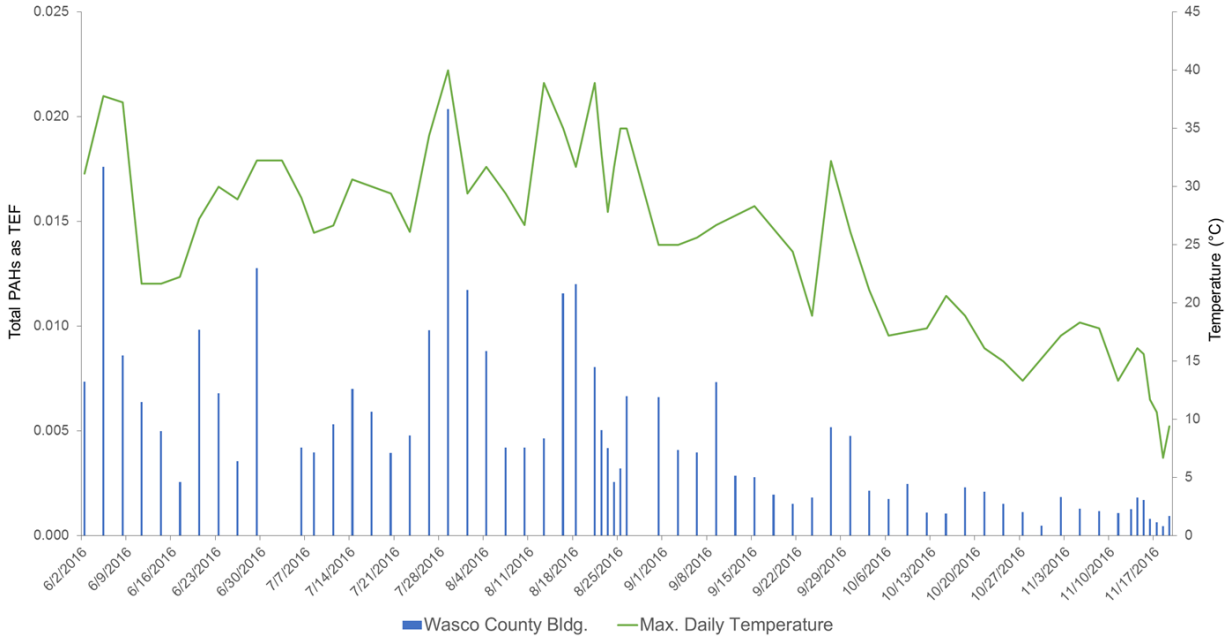

Figure 10. Total PAHs as TEF from the Wasco County Building monitoring location and daily maximum temperature (°C) by date.

AmeriTies Production

In effort to correlate odor complaints with AmeriTies operations, daily tie production numbers obtained from AmeriTies were plotted along with the daily complaints received by DEQ (Figures 11 through 14). Regression analysis of these two datasets did not show a significant relationship. Daily production records prior to and during the sampling period were assessed to determine if production volume and timing were being influenced by the presence of air quality samplers (Tables 3 and 4). Data show that weekly processing rates were representative throughout the testing period.

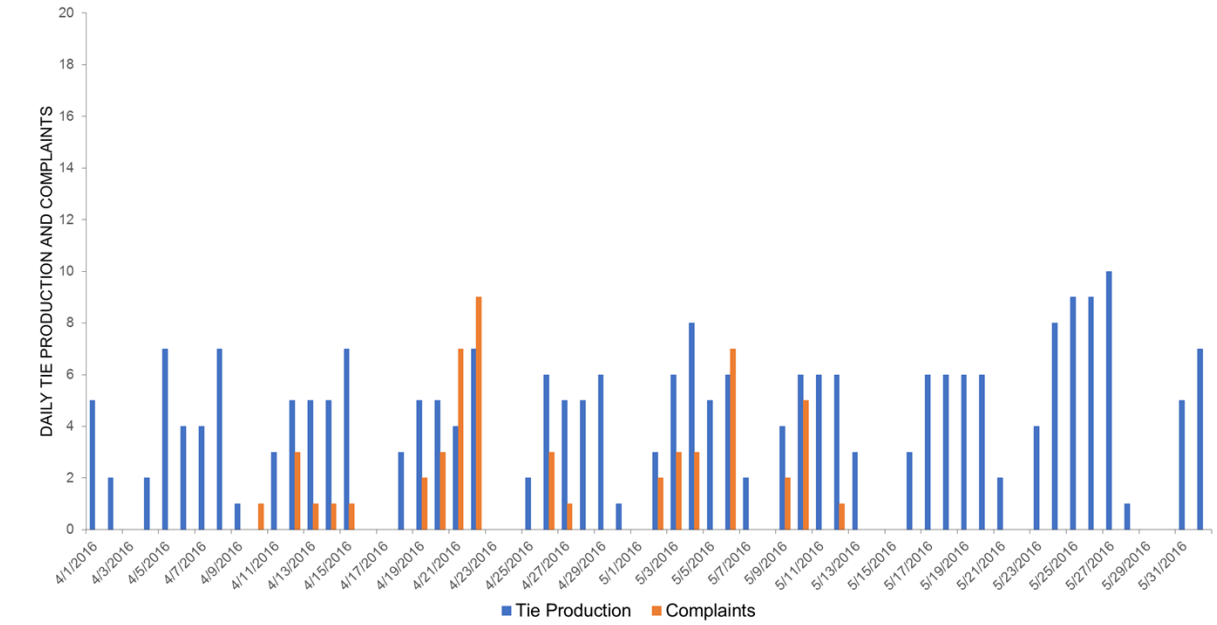

Figure 11. Comparison of tie production (blue bars) and number of odor complaints (orange bars) by day from April 1 through May 31, 2016.

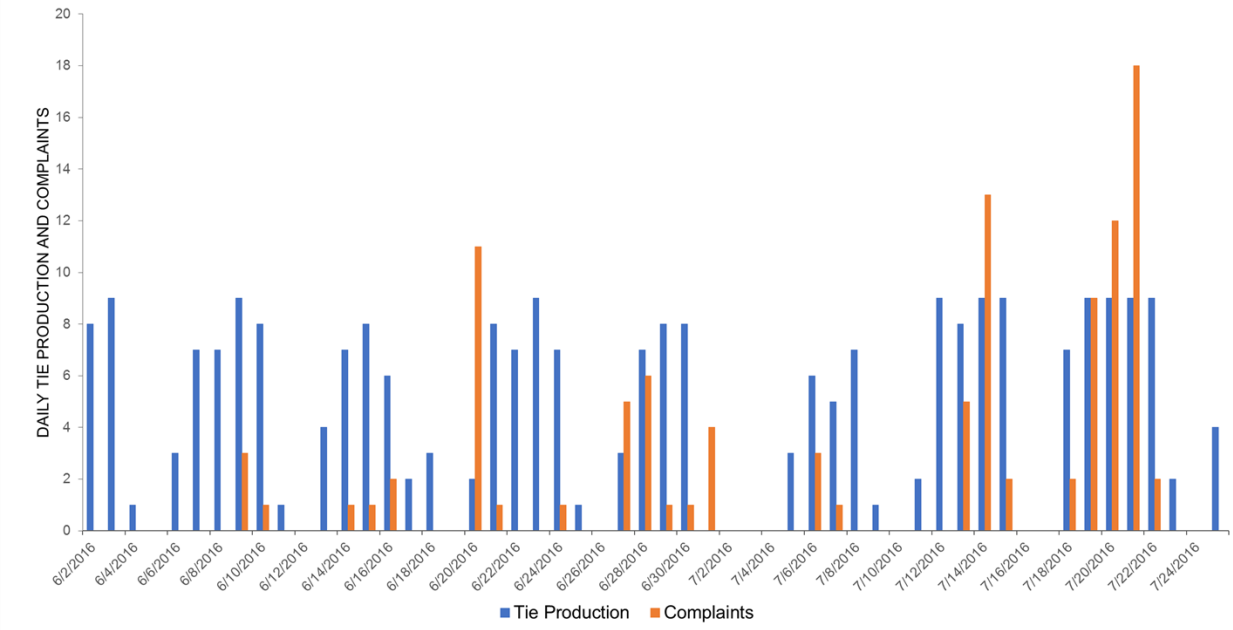

Figure 12. Comparison of tie production (blue bars) and number of odor complaints (orange bars) by day from June 2 through July 24, 2016.

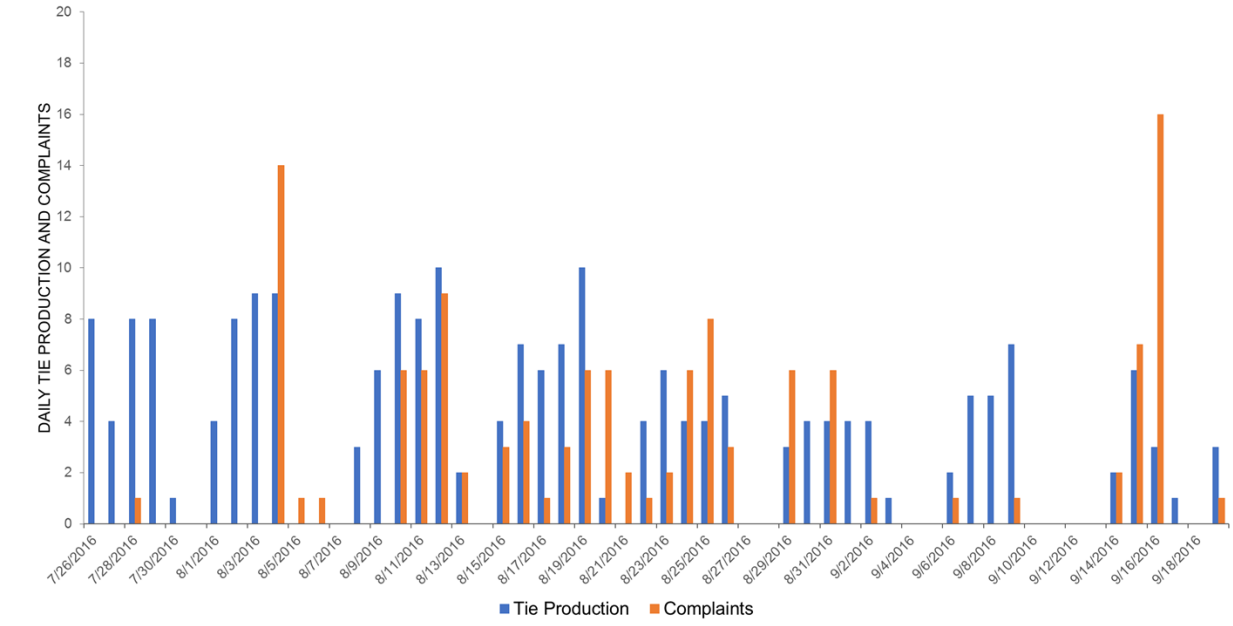

Figure 13. Comparison of tie production (blue bars) and number of odor complaints (orange bars) by day from July 25 through September 19, 2016.

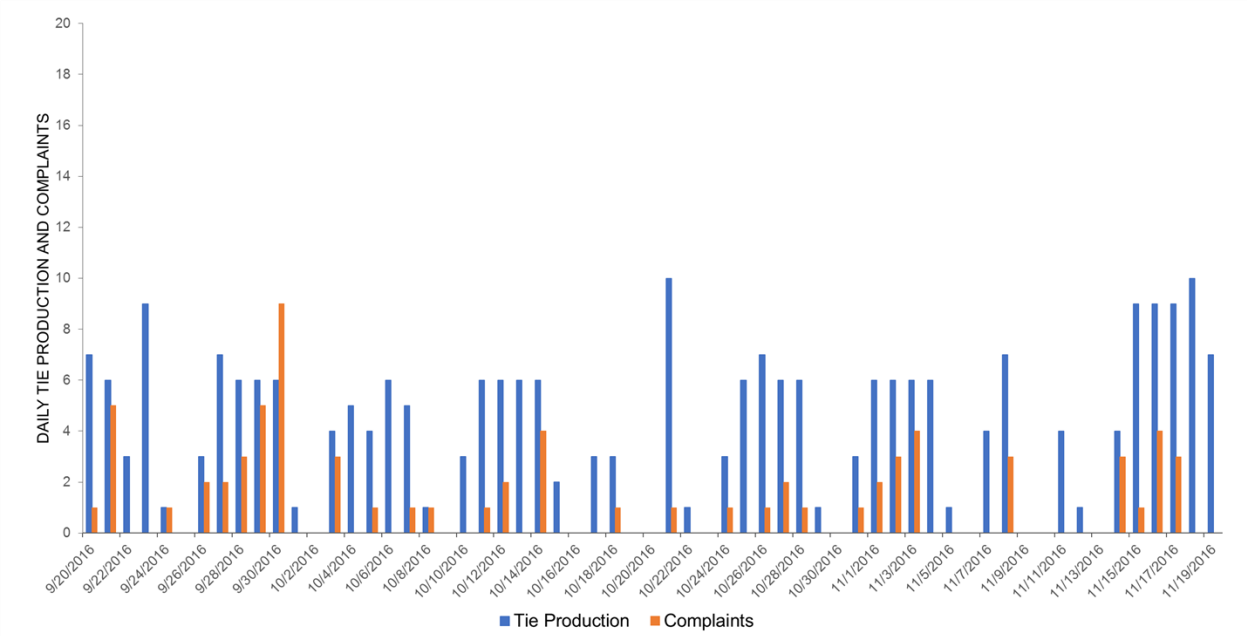

Figure 14. Comparison of tie production (blue bars) and number of odor complaints (orange bars) by day from September 20 through November 19, 2016.

Table 3. Production records for AmeriTies prior to the start of air quality sampling. Production values are measured in non-standard units called "Charges". One Charge is equal to a full load of railroad ties that is treated and processed. No production occurred on Sundays therefore calculations were made using data from Monday through Saturday.

Before Sampling Period (4/1/16 - 6/1/16)							
	All Production Days, n = 53	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Min. Production	0	0	5	4	4	3	0
Max. Production	10	4	8	9	9	10	2
Avg. Production	4.6	2.7	6.0	6.1	5.5	6.3	1.0

Table 4. Production records for AmeriTies during the air quality sampling period. Production values are measured in non-standard units called "Charges". One Charge is equal to a full load of railroad ties that is treated and processed. No production occurred on Sundays therefore calculations were made using data from Monday through Saturday.

During Sampling Period (6/216 - 11/19/16)								
	Sample Days, n = 59	Non-sample Days, n = 89	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Min. Production	0	0	0	2	2	3	0	0
Max. Production	10	10	7	9	9	9	10	7
Avg. Production	5.5	4.9	3.3	6.4	6.4	6.8	6.4	1.3

Wind Data

During the sampling period, a meteorological station was set up between the City Park monitoring location and the AmeriTies facility to measure wind speed and wind direction. Some wind data was not available at the beginning of the sampling period due to the timing of equipment installation. Where wind data was available, a monthly wind rose was produced and compared to citizen complaint records to evaluate if prevailing winds influenced the number of citizen complaints received.

Wind directions and speeds vary throughout the day and seasonally. Wind direction supports the data showing the high concentrations observed at the Wasco County location especially for June, July and August (Figures 15-17). Prevailing winds changed in September, October and November as concentration decreased at the Wasco County Building location (Figures 18-20). Also, during periods of calm winds (less than two miles per hour) the effect on PAH odors and where these effects occur are not easily depicted. Figure 21 depicts wind data from August 4, 2016, during which wind speed was calm and a high volume of complaints were received. This supports the community information that odors are noticeable during calm wind days.

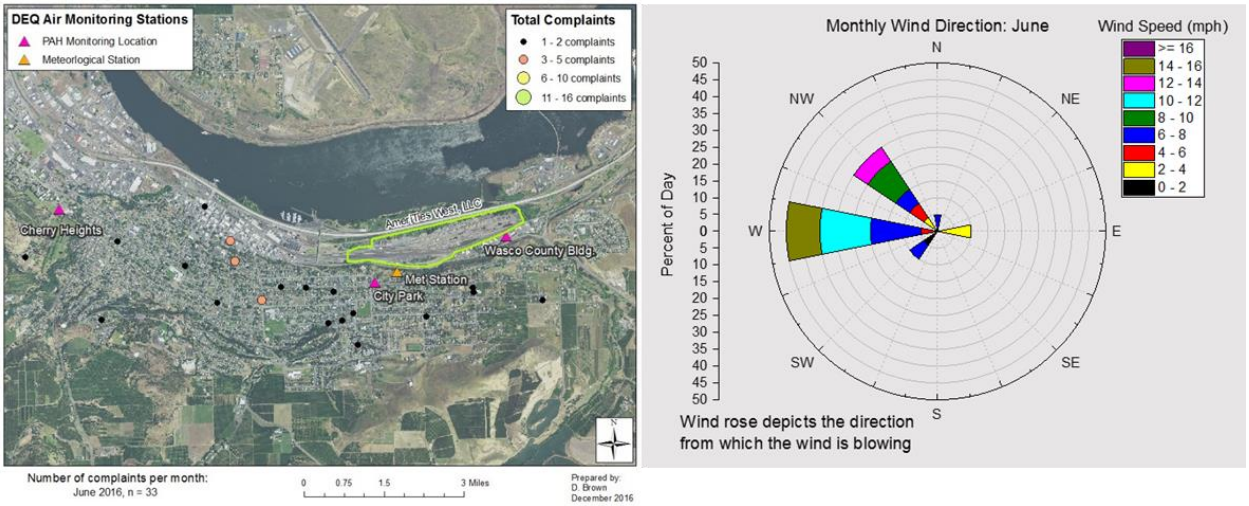

Figure 15. Monthly summary of complaint location and wind speed and direction data for June 2016.

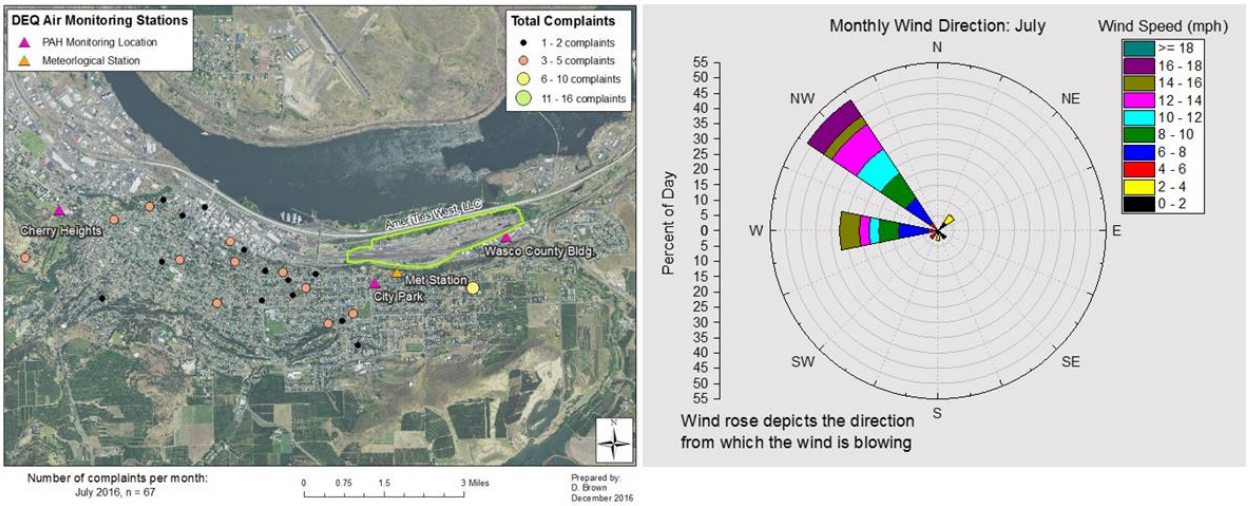

Figure 16. Monthly summary of complaint location and wind speed and direction data for July 2016.

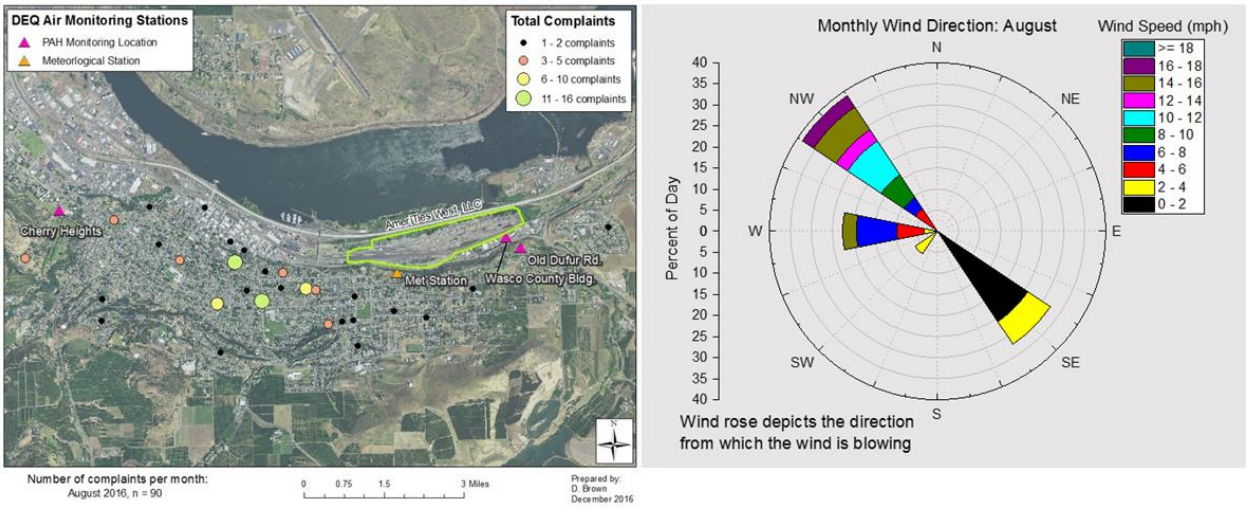

Figure 17. Monthly summary of complaint location and wind speed and direction data for August 2016.

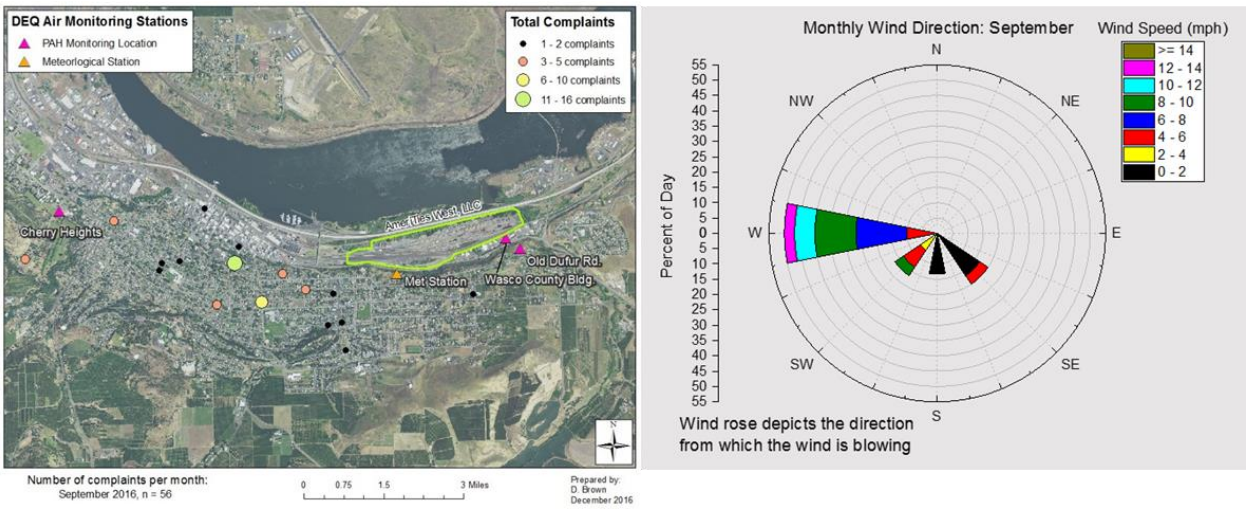

Figure 18. Monthly summary of complaint location and wind speed and direction data for September 2016.

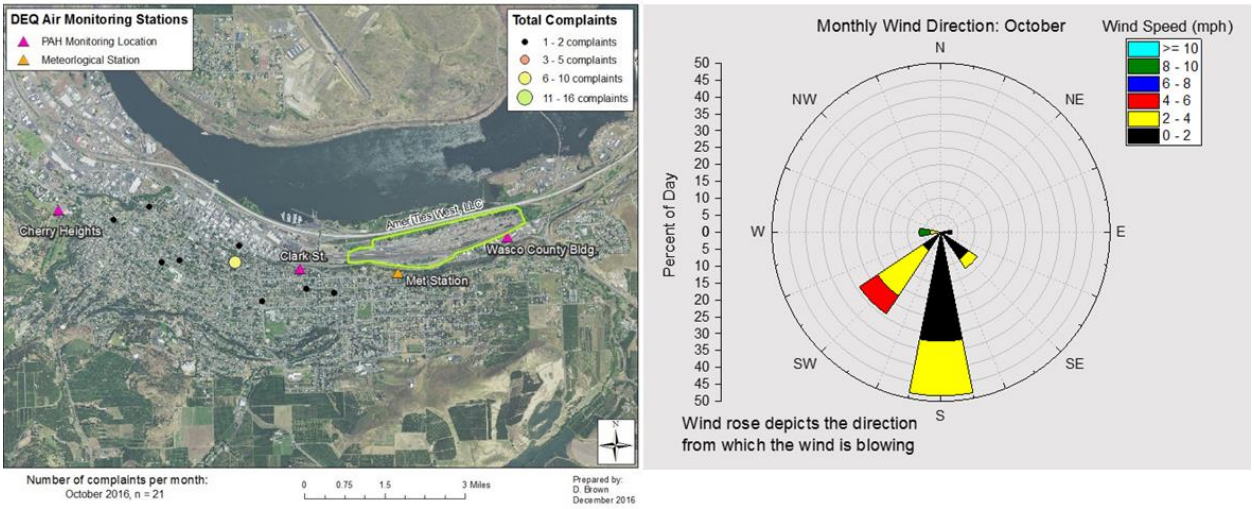

Figure 19. Monthly summary of complaint location and wind speed and direction data for October 2016.

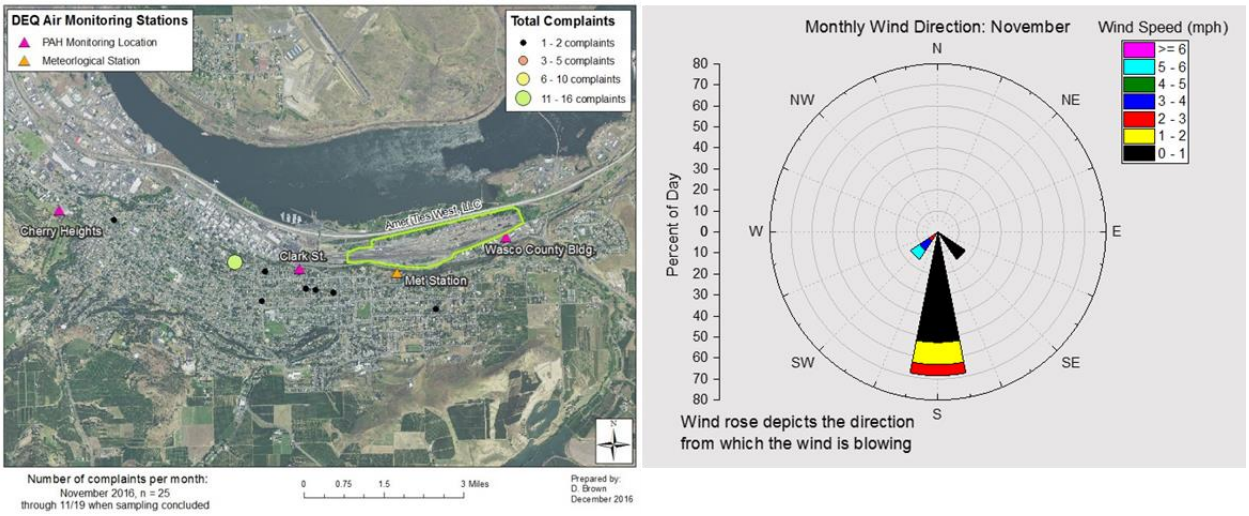

Figure 20. Monthly summary of complaint location and wind speed and direction data for November 2016.

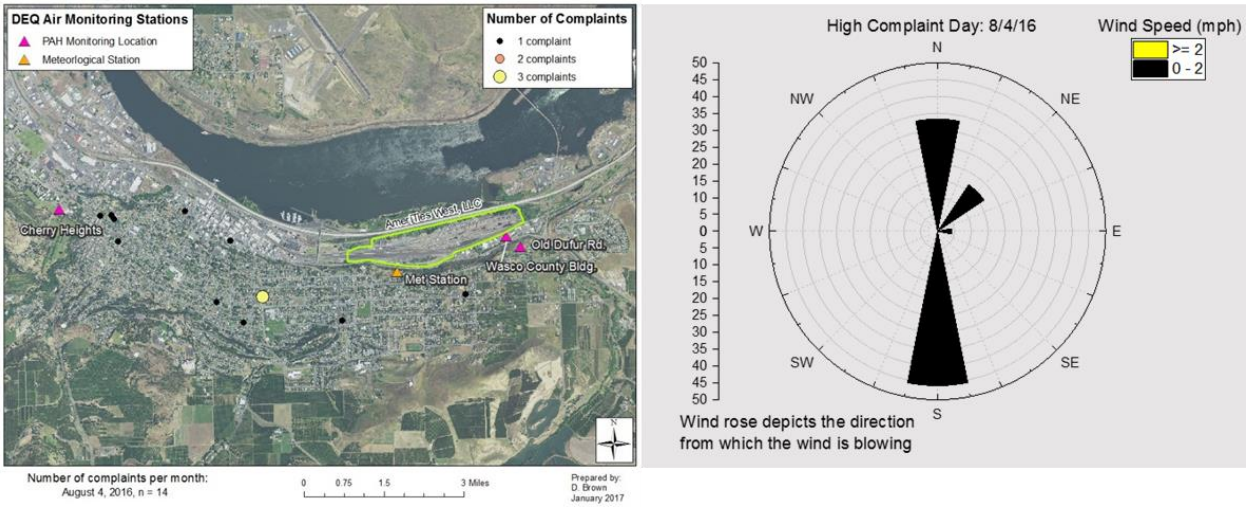

Figure 21. Daily summary of complaint location as well as wind speed and direction data for August 4, 2016.

Conclusions

The sampling objective was to determine if emissions associated with AmeriTies were present above human health risk-based concentrations or exceeded background levels. Both naphthalene and total TEF values (for PAHs where conversions exist) were found above their respective lifetime annual average benchmarks throughout the study area. In both cases, average concentrations over the entire sampling period were significantly higher at the Wasco County Building location, which also was the location closest to the facility. This is also supported by the prevailing wind direction. In addition, concentrations of total PAHs, at least near the facility, appeared to be directly influenced by daily maximum temperature. This is likely related to off-gassing from the treated ties and not to other sources within the facility. In addition:

- Analysis did not show a strong correlation between the public complaints (nearly 300 complaints during the six month sampling period) received and the number of ties treated per day.
- No correlation was found between level of tie production and either naphthalene or total PAH concentrations in the air samples.
- Production levels on sampling days were comparable to production levels on days when no samples were collected.
- Wind speed and direction correlate with detected PAH concentrations at the Wasco County Building location.

Next Steps

As part of the Mutual Agreement and Order with DEQ, AmeriTies has agreed to change the formulation of the preservative that is used to treat the railroad ties produced at the facility in The Dalles. This changeover occurred in the beginning of December, 2016. DEQ staff are currently establishing a sampling plan to monitor emissions following this change. This sampling will need to take into account the change in formulation as well as the information gathered during this study. Depending on wind patterns and temperatures, monitoring locations and time periods need to be strategically selected in order to accurately reflect the conditions present.

Appendix A: Sampling Results

State of Oregon Department of Environmental Quality

	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Coronene	Dibenzo(a,h)anthracene	Dibenzofuran	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Total PAHs as TEF
TEF	0.001	0.001	0.0005	0.005	1	0.1	—	0.02	0.05	0.03	—	1.1	—	—	0.05	0.001	0.1	—	—	0.0005	0.001	—
ABC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	—	—	—	0.00090000
Cherry Heights Sample Results (µg/m³ STP)																						
6/2/2016	**0.0031**	**0.0006**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0025**	**0.0004**	ND	**0.0019**	ND	**0.0142**	ND	**0.0029**	ND	**0.00000702**
6/5/2016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6/6/2016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6/8/2016	**0.0026**	**0.0004**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0023**	**0.0005**	ND	**0.0018**	ND	**0.0101**	ND	**0.0025**	ND	**0.00000613**
6/11/2016	**0.0016**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0014**	ND	ND	**0.0011**	ND	**0.0105**	ND	**0.0017**	ND	**0.00000354**
6/14/2016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0009**	ND	ND	**0.0008**	ND	**0.0089**	ND	**0.0012**	ND	**0.00000146**
6/17/2016	**0.0164**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0118**	**0.0007**	**0.0006**	**0.0079**	ND	**0.0901**	ND	**0.0066**	ND	**0.00005810**
6/20/2016	**0.0034**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0043**	**0.0006**	**0.0006**	**0.0031**	ND	**0.0130**	ND	**0.0040**	ND	**0.00003950**
6/23/2016	**0.0010**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0011**	ND	ND	**0.0010**	ND	**0.0063**	ND	**0.0016**	ND	**0.00000283**
6/26/2016	**0.0157**	ND	**0.0006**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0118**	ND	**0.0017**	**0.0104**	ND	**0.0356**	ND	**0.0124**	**0.0008**	**0.00011840**
6/29/2016	**0.0064**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0060**	ND	**0.0004**	**0.0052**	ND	**0.0222**	ND	**0.0040**	ND	**0.00003405**
7/3/2016	**0.0024**	**0.0008**	**0.0005**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.0042**	**0.0004**	**0.0005**	**0.0036**	ND	**0.0175**	ND	**0.0040**	**0.0004**	**0.00004692**
7/6/2016	**0.0046**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0044**	**0.0005**	ND	**0.0037**	ND	**0.0206**	ND	**0.0036**	ND	**0.00001007**
7/8/2016	**0.0035**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0030**	**0.0004**	ND	**0.0026**	ND	**0.0097**	ND	**0.0030**	ND	**0.00000752**
7/11/2016	**0.0019**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0015**	ND	ND	**0.0014**	ND	**0.0082**	ND	**0.0020**	ND	**0.00000430**
7/14/2016	**0.0172**	ND	**0.0004**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0146**	**0.0006**	**0.0010**	**0.0102**	ND	**0.0909**	ND	**0.0078**	**0.0006**	**0.00008014**
7/17/2016	**0.0053**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0054**	**0.0006**	**0.0006**	**0.0044**	ND	**0.0180**	ND	**0.0044**	ND	**0.00004048**
7/20/2016	**0.0267**	ND	**0.0006**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0225**	**0.0011**	**0.0011**	**0.0146**	ND	**0.0861**	ND	**0.0100**	**0.0006**	**0.00010315**
7/23/2016	**0.0018**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0017**	ND	ND	**0.0015**	ND	**0.0075**	ND	**0.0019**	ND	**0.00000417**
7/26/2016	**0.0094**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0064**	**0.0006**	**0.0005**	**0.0055**	ND	**0.0269**	ND	**0.0051**	ND	**0.00004098**
7/28/2016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7/29/2016	**0.0211**	ND	**0.0005**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0259**	ND	**0.0017**	**0.0218**	ND	**0.0648**	ND	**0.0164**	**0.0011**	**0.00013888**
8/1/2016	**0.0018**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0027**	**0.0007**	**0.0009**	**0.0028**	ND	**0.0064**	ND	**0.0041**	**0.0005**	**0.00005021**

Data Quality Key
Data met all QC and method criteria
Results estimated. Either below quantitation limit or because of issues during sampling or analysis
Data of unacceptable quality

Abbreviation Key
TEF = EPA Toxicity Equivalency Factor
ABC = DEQ Ambient Benchmark Criteria
ND = Non-detect

STP = Standard temperature and pressure

	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Coronene	Dibenzo(a,h)anthracene	Dibenzofuran	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Total PAHs as TEF
TEF	0.001	0.001	0.0005	0.005	1	0.1	—	0.02	0.05	0.03	—	1.1	—	—	0.05	0.001	0.1	—	—	0.0005	0.001	—
ABC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	—	—	—	0.0009
Cherry Heights Sample Results (µg/m^3 STP)																						
8/4/2016	**0.0326**	**0.0006**	**0.0009**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0291**	**0.0018**	**0.0014**	**0.0235**	ND	**0.1410**	ND	**0.0159**	**0.0009**	**0.00013598**
8/7/2016	**0.0016**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0018**	**0.0005**	**0.0005**	**0.0017**	ND	**0.0068**	ND	**0.0021**	ND	**0.00002782**
8/10/2016	**0.0073**	ND	**0.0005**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0066**	**0.0009**	**0.0009**	**0.0051**	ND	**0.0315**	ND	**0.0049**	**0.0006**	**0.00005861**
8/13/2016	**0.0117**	ND	ND	ND	ND	ND	ND	ND	**0.0005**	ND	ND	ND	**0.0165**	**0.0014**	**0.0015**	**0.0142**	ND	**0.0393**	ND	**0.0117**	**0.0010**	**0.00013070**
8/16/2016	**0.0107**	ND	**0.0006**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0127**	**0.0012**	**0.0012**	**0.0105**	ND	**0.0401**	ND	**0.0086**	**0.0008**	**0.00008609**
8/18/2016	**0.0216**	**0.0006**	**0.0004**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0232**	**0.0018**	**0.0013**	**0.0171**	ND	**0.1000**	ND	**0.0161**	**0.0010**	**0.00011398**
8/21/2016	**0.0047**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0035**	**0.0005**	ND	**0.0028**	ND	**0.0224**	ND	**0.0030**	ND	**0.00000900**
8/22/2016	**0.0130**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0092**	**0.0006**	**0.0007**	**0.0065**	ND	**0.0790**	ND	**0.0050**	ND	**0.00005549**
8/23/2016	**0.0287**	ND	**0.0007**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0270**	**0.0014**	**0.0014**	**0.0181**	ND	**0.2110**	ND	**0.0126**	**0.0006**	**0.00012300**
8/24/2016	**0.0353**	**0.0004**	**0.0008**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0363**	**0.0018**	**0.0019**	**0.0238**	ND	**0.2110**	ND	**0.0176**	**0.0008**	**0.00016654**
8/25/2016	**0.0208**	ND	**0.0005**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0253**	**0.0013**	**0.0014**	**0.0166**	ND	**0.1860**	ND	**0.0118**	**0.0006**	**0.00011360**
8/26/2016	**0.0041**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0090**	**0.0009**	**0.0011**	**0.0059**	ND	**0.0265**	ND	**0.0067**	**0.0005**	**0.00006628**
8/27/2016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8/31/2016	**0.0106**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0087**	**0.0005**	**0.0006**	**0.0061**	ND	**0.0669**	ND	**0.0047**	ND	**0.00004858**
9/3/2016	**0.0011**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0011**	ND	ND	**0.0011**	ND	**0.0061**	ND	**0.0014**	ND	**0.00000283**
9/6/2016	**0.0062**	ND	**0.0005**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0044**	**0.0005**	**0.0005**	**0.0034**	ND	**0.0194**	ND	**0.0038**	ND	**0.00003773**
9/9/2016	**0.0076**	ND	**0.0005**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0071**	**0.0005**	**0.0007**	**0.0052**	ND	**0.0524**	ND	**0.0047**	ND	**0.00004792**
9/12/2016	**0.0089**	ND	**0.0005**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0087**	**0.0006**	**0.0007**	**0.0066**	ND	**0.0419**	ND	**0.0057**	ND	**0.00005404**
9/15/2016	**0.0159**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0164**	**0.00095**	**0.00116**	**0.0114**	ND	**0.105**	ND	**0.00878**	ND	**0.00008969**
9/18/2016	**0.0034**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0040**	**0.0004**	**0.0004**	**0.0032**	ND	**0.0159**	ND	**0.0035**	ND	**0.00002879**
9/21/2016	**0.0152**	ND	**0.00039**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0147**	**0.00069**	**0.00069**	**0.00987**	ND	**0.137**	ND	**0.00648**	ND	**0.00006301**

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TEF	0.001	0.001	0.0005	0.005	1	0.1	—	0.02	0.05	0.03	—	1.1	—	—	0.05	0.001	0.1	—	—	0.0005	0.001	—
ABC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	—	—	—	0.0009
Cherry Heights Sample Results (µg/m³ STP)																						
9/24/2016	**0.00488**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.00538**	ND	ND	**0.0038**	ND	**0.0274**	ND	**0.00331**	ND	**0.00001034**
9/27/2016	**0.00135**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.00182**	ND	ND	**0.00163**	ND	**0.00756**	ND	**0.00211**	ND	**0.00000404**
9/30/2016	**0.0248**	ND	**0.00065**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0246**	**0.00088**	**0.00081**	**0.0155**	ND	**0.167**	ND	**0.00892**	ND	**0.00008559**
10/3/2016	**0.00864**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.00758**	**0.00039**	**0.00043**	**0.00496**	ND	**0.0786**	ND	**0.00359**	ND	**0.00003690**
10/6/2016	**0.00295**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.00407**	ND	ND	**0.0024**	ND	**0.0251**	ND	**0.00269**	ND	**0.00000670**
10/9/2016	**0.00906**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.00634**	**0.00042**	**0.00083**	**0.00421**	ND	**0.032**	ND	**0.00481**	ND	**0.00005718**
10/12/2016	**0.0106**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.00934**	ND	**0.00052**	**0.00603**	ND	**0.0833**	ND	**0.00388**	ND	**0.00004457**
10/15/2016	**0.0105**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.00924**	**0.00046**	**0.00091**	**0.00596**	ND	**0.052**	ND	**0.0059**	**0.00048**	**0.00006539**
10/18/2016	**0.00674**	**0.00076**	**0.0008**	ND	ND	ND	ND	ND	ND	**0.00038**	ND	ND	**0.00822**	**0.00038**	**0.00138**	**0.00535**	**0.00041**	**0.0824**	ND	**0.00673**	**0.00094**	**0.00013896**
10/21/2016	**0.0507**	**0.001**	**0.0013**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0418**	**0.00142**	**0.00198**	**0.0268**	ND	**0.414**	ND	**0.016**	**0.00093**	**0.00018708**
10/24/2016	**0.00713**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.00781**	ND	**0.00085**	**0.00491**	ND	**0.0653**	ND	**0.00496**	**0.00049**	**0.00005751**
10/27/2016	**0.0183**	**0.00049**	**0.00055**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0143**	**0.00055**	**0.00104**	**0.00869**	ND	**0.117**	ND	**0.00754**	**0.00067**	**0.00008420**
10/30/2016	**0.0075**	**0.00056**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.00703**	ND	**0.00076**	**0.0042**	ND	**0.0329**	ND	**0.00431**	**0.00039**	**0.00005281**
11/2/2016	**0.013**	**0.00047**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0112**	**0.00045**	**0.00081**	**0.0063**	ND	**0.0848**	ND	**0.0053**	**0.0004**	**0.00006332**
11/5/2016	**0.0299**	**0.0032**	**0.00076**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0241**	**0.0008**	**0.00137**	**0.0147**	**0.00042**	**0.184**	ND	**0.0101**	**0.00074**	**0.00016447**
11/8/2016	**0.00925**	**0.00045**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.011**	**0.00042**	**0.00065**	**0.00649**	ND	**0.0855**	ND	**0.00459**	ND	**0.00005099**
11/11/2016	**0.0147**	**0.00105**	**0.00068**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0115**	**0.00063**	**0.00115**	**0.00779**	ND	**0.0885**	ND	**0.00767**	**0.00066**	**0.00008588**
11/13/2016	**0.00688**	**0.00133**	**0.00061**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.00846**	**0.00042**	**0.00126**	**0.0054**	**0.00041**	**0.0495**	ND	**0.00696**	**0.00085**	**0.00012225**
11/14/2016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11/15/2016	**0.0268**	**0.00042**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0149**	**0.00043**	**0.00066**	**0.00935**	ND	**0.183**	ND	**0.00534**	**0.00039**	**0.00007263**
11/16/2016	**0.00386**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0035**	ND	ND	**0.00208**	ND	**0.0348**	ND	**0.00203**	ND	**0.00000696**
11/17/2016	**0.0149**	**0.00062**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0102**	ND	**0.00057**	**0.00592**	ND	**0.117**	ND	**0.00382**	**0.00039**	**0.00005224**
11/18/2016	**0.0128**	**0.00069**	**0.00042**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.01**	ND	**0.0009**	**0.0059**	ND	**0.0976**	ND	**0.00471**	**0.00064**	**0.00006760**

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TEF	0.001	0.001	0.0005	0.005	1	0.1	—	0.02	0.05	0.03	—	1.1	—	—	0.05	0.001	0.1	—	—	0.0005	0.001	—
ABC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	—	—	—	0.0009
City Park Sample Results (µg/m³ STP)																						
6/2/2016	**0.0149**	ND	**0.0006**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0127**	**0.0012**	**0.0042**	**0.0095**	ND	**0.0517**	ND	**0.0177**	**0.0017**	**0.000245**
6/5/2016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6/8/2016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6/11/2016	**0.0998**	**0.0011**	**0.0014**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0523**	**0.0027**	**0.0077**	**0.0353**	ND	**0.3010**	ND	**0.0368**	**0.0031**	**0.000541**
6/14/2016	**0.0459**	**0.0006**	**0.0009**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0226**	**0.0012**	**0.0031**	**0.0145**	ND	**0.1970**	ND	**0.0156**	**0.0012**	**0.000223**
6/17/2016	**0.2420**	**0.0017**	**0.0020**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.1270**	**0.0041**	**0.0068**	**0.0795**	ND	**0.8820**	ND	**0.0549**	**0.0025**	**0.000696**
6/20/2016	**0.1500**	**0.0017**	**0.0060**	ND	ND	ND	ND	ND	ND	**0.0005**	ND	ND	**0.0892**	**0.0063**	**0.0294**	**0.0674**	ND	**0.3320**	ND	**0.1020**	**0.0126**	**0.00177**
6/23/2016	**0.0340**	**0.0005**	**0.0019**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0185**	**0.0019**	**0.0073**	**0.0135**	ND	**0.0975**	ND	**0.0265**	**0.0026**	**0.000429**
6/26/2016	**0.5310**	**0.0042**	**0.0162**	ND	ND	ND	ND	ND	ND	**0.0007**	ND	ND	**0.3190**	**0.0177**	**0.0484**	**0.2420**	ND	**0.8680**	ND	**0.2560**	**0.0228**	**0.003378**
6/29/2016	**0.2650**	**0.0027**	**0.0087**	ND	ND	ND	ND	ND	ND	**0.0006**	ND	ND	**0.1420**	**0.0081**	**0.0333**	**0.1010**	ND	**0.6120**	ND	**0.1230**	**0.0160**	**0.002134**
7/3/2016	**0.0270**	**0.0009**	**0.0022**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0198**	**0.0021**	**0.0098**	**0.0181**	ND	**0.0474**	ND	**0.0330**	**0.0041**	**0.000558**
7/6/2016	**0.2390**	**0.0025**	**0.0058**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.1200**	**0.0058**	**0.0196**	**0.0838**	ND	**0.5890**	ND	**0.0884**	**0.0100**	**0.001362**
7/8/2016	**0.1830**	**0.0013**	**0.0030**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0971**	**0.0037**	**0.0078**	**0.0638**	ND	**0.5440**	ND	**0.0528**	**0.0030**	**0.000668**
7/11/2016	**0.0218**	ND	**0.0021**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0161**	**0.0026**	**0.0141**	**0.0143**	ND	**0.0310**	ND	**0.0414**	**0.0065**	**0.000769**
7/14/2016	**0.7070**	**0.0039**	**0.0092**	ND	ND	ND	ND	ND	ND	**0.0007**	ND	ND	**0.3800**	**0.0106**	**0.0261**	**0.2480**	ND	**1.7100**	ND	**0.1570**	**0.0134**	**0.00238**
7/17/2016	**0.2440**	**0.0016**	**0.0068**	ND	ND	ND	ND	ND	ND	**0.0005**	ND	ND	**0.1430**	**0.0082**	**0.0297**	**0.1090**	ND	**0.5190**	ND	**0.1200**	**0.0150**	**0.001932**
7/20/2016	**0.6370**	**0.0035**	**0.0097**	ND	ND	ND	ND	ND	ND	**0.0006**	ND	ND	**0.3500**	**0.0118**	**0.0371**	**0.2400**	ND	**1.5200**	ND	**0.1910**	**0.0179**	**0.002873**
7/23/2016	**0.0557**	**0.0005**	**0.0027**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0377**	**0.0038**	**0.0189**	**0.0300**	ND	**0.1290**	ND	**0.0606**	**0.0082**	**0.001071**
7/26/2016	**0.2860**	**0.0019**	**0.0074**	ND	ND	ND	ND	ND	ND	**0.0005**	ND	ND	**0.1550**	**0.0088**	**0.0302**	**0.1160**	ND	**0.6240**	ND	**0.1290**	**0.0153**	**0.002013**
7/29/2016	**0.3580**	**0.0032**	**0.0124**	**0.0006**	ND	ND	ND	ND	ND	**0.0019**	ND	ND	**0.2620**	**0.0155**	**0.0606**	**0.1980**	ND	**0.6700**	ND	**0.2640**	**0.0356**	**0.003823**
8/1/2016	**0.0329**	**0.0005**	**0.0049**	ND	ND	ND	ND	ND	ND	**0.0008**	ND	ND	**0.0306**	**0.0058**	**0.0318**	**0.0293**	ND	**0.0374**	ND	**0.0934**	**0.0162**	**0.001741**

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	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Coronene	Dibenzo(a,h)anthracene	Dibenzofuran	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Total PAHs as TEF
TEF	0.001	0.001	0.0005	0.005	1	0.1	—	0.02	0.05	0.03	—	1.1	—	—	0.05	0.001	0.1	—	—	0.0005	0.001	—
ABC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	—	—	—	0.0009
Old Dufur Rd. Sample Results (µg/m³ STP)																						
8/4/2016	**0.5760**	**0.0021**	**0.0071**	ND	ND	ND	ND	ND	**0.0004**	**0.0006**	ND	ND	**0.3700**	**0.0107**	**0.0229**	**0.2960**	ND	**0.9450**	ND	**0.3940**	**0.0151**	**0.002273**
8/7/2016	**0.5630**	**0.0030**	**0.0154**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.3000**	**0.0176**	**0.0242**	**0.2290**	ND	**0.8530**	ND	**0.2670**	**0.0136**	**0.00216**
8/10/2016	**0.4930**	**0.0034**	**0.0161**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2730**	**0.0178**	**0.0245**	**0.2030**	ND	**0.8410**	ND	**0.2150**	**0.0145**	**0.002054**
8/13/2016	**0.5230**	**0.0040**	**0.0141**	ND	ND	ND	ND	ND	ND	**0.0005**	ND	ND	**0.3300**	**0.0174**	**0.0281**	**0.2570**	ND	**0.5760**	ND	**0.3010**	**0.0185**	**0.002381**
8/16/2016	**0.9950**	**0.0053**	**0.0196**	ND	ND	ND	ND	ND	ND	**0.0006**	ND	ND	**0.5150**	**0.0259**	**0.0379**	**0.3910**	ND	**1.4100**	ND	**0.4230**	**0.0228**	**0.003548**
8/18/2016	**1.1700**	**0.0074**	**0.0203**	ND	ND	ND	ND	ND	ND	**0.0009**	ND	ND	**0.7310**	**0.0315**	**0.0445**	**0.5310**	ND	**1.9500**	ND	**0.6080**	**0.0298**	**0.004305**
8/21/2016	**0.8140**	**0.0042**	**0.0279**	ND	ND	ND	ND	ND	ND	**0.0005**	ND	ND	**0.5000**	**0.0283**	**0.0521**	**0.4330**	ND	**1.3200**	ND	**0.4090**	**0.0257**	**0.004116**
8/22/2016	**0.5140**	**0.0030**	**0.0108**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.3240**	**0.0149**	**0.0221**	**0.2420**	ND	**1.1500**	ND	**0.2030**	**0.0096**	**0.00198**
8/23/2016	**0.3580**	**0.0019**	**0.0053**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2410**	**0.0097**	**0.0172**	**0.1840**	ND	**0.9660**	ND	**0.1650**	**0.0074**	**0.001496**
8/24/2016	**0.3260**	**0.0024**	**0.0056**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2450**	**0.0127**	**0.0220**	**0.1850**	ND	**1.0300**	ND	**0.1690**	**0.0091**	**0.00171**
8/25/2016	**0.3520**	**0.0026**	**0.0041**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2460**	**0.0110**	**0.0203**	**0.1810**	ND	**1.4100**	ND	**0.1530**	**0.0083**	**0.001637**
8/26/2016	**0.3580**	**0.0026**	**0.0074**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2870**	**0.0136**	**0.0285**	**0.2160**	ND	**0.7920**	ND	**0.2080**	**0.0119**	**0.002121**
8/27/2016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8/31/2016	**0.7730**	**0.0042**	**0.0225**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.4210**	**0.0217**	**0.0286**	**0.3290**	ND	**1.5100**	ND	**0.2750**	**0.0168**	**0.002702**
9/3/2016	**0.4480**	**0.0027**	**0.0119**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2800**	**0.0153**	**0.0189**	**0.2220**	ND	**0.8480**	ND	**0.1910**	**0.0087**	**0.001728**
9/6/2016	**0.4390**	**0.0043**	**0.0093**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2580**	**0.0127**	**0.0169**	**0.2010**	ND	**0.9620**	ND	**0.1620**	**0.0077**	**0.001583**

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	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Coronene	Dibenzo(a,h)anthracene	Dibenzofuran	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Total PAHs as TEF
TEF	0.001	0.001	0.0005	0.005	1	0.1	—	0.02	0.05	0.03	—	1.1	—	—	0.05	0.001	0.1	—	—	0.0005	0.001	—
ABC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	—	—	—	0.0009
Clark St. Sample Results (µg/m^3 STP)																						
9/24/2016*	**0.0452**	**0.0004**	**0.0007**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0324**	**0.0013**	**0.0018**	**0.0221**	ND	**0.2650**	ND	**0.0147**	**0.0007**	**0.0002**
9/27/2016*	**0.0179**	ND	**0.0007**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0124**	**0.0011**	**0.0026**	**0.0097**	ND	**0.0798**	ND	**0.0131**	**0.0010**	**0.0002**
10/6/2016*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10/14/2016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10/21/2016	**0.2090**	**0.0022**	**0.0044**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.1220**	**0.0038**	**0.0054**	**0.0780**	ND	**1.1100**	ND	**0.0422**	**0.0027**	**0.0006**
10/24/2016	**0.0344**	**0.0005**	**0.0011**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0234**	**0.0011**	**0.0029**	**0.0155**	ND	**0.2450**	ND	**0.0144**	**0.0014**	**0.0002**
10/27/2016	**0.1710**	**0.0024**	**0.0034**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0975**	**0.0030**	**0.0049**	**0.0630**	ND	**0.8990**	ND	**0.0345**	**0.0029**	**0.0005**
10/30/2016	**0.0299**	**0.0014**	**0.0009**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0208**	**0.0010**	**0.0021**	**0.0132**	ND	**0.1010**	ND	**0.0126**	**0.0012**	**0.0002**
11/2/2016	**0.1070**	**0.0019**	**0.0022**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0637**	**0.0022**	**0.0037**	**0.0406**	ND	**0.6200**	ND	**0.0237**	**0.0022**	**0.0004**
11/5/2016	**0.0898**	**0.0050**	**0.0021**	ND	ND	**0.0004**	ND	ND	ND	**0.0004**	ND	ND	**0.0605**	**0.0023**	**0.0039**	**0.0372**	**0.0005**	**0.3790**	ND	**0.0271**	**0.0021**	**0.0004**
11/8/2016	**0.1280**	**0.0037**	**0.0030**	ND	ND	ND	ND	ND	ND	**0.0005**	ND	ND	**0.0931**	**0.0033**	**0.0048**	**0.0559**	**0.0004**	**0.8630**	ND	**0.0349**	**0.0025**	**0.0005**
11/11/2016	**0.0996**	**0.0027**	**0.0034**	ND	ND	ND	ND	ND	ND	**0.0005**	ND	ND	**0.0579**	**0.0029**	**0.0057**	**0.0407**	ND	**0.4000**	ND	**0.0343**	**0.0032**	**0.0005**
11/13/2016	**0.0476**	**0.0030**	**0.0015**	ND	ND	**0.0004**	ND	ND	ND	**0.0005**	ND	ND	**0.0304**	**0.0013**	**0.0030**	**0.0198**	**0.0005**	**0.2380**	ND	**0.0166**	**0.0018**	**0.0003**
11/14/2016	**0.2050**	**0.0025**	**0.0025**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.1090**	**0.0036**	**0.0057**	**0.0674**	ND	**1.0300**	ND	**0.0405**	**0.0031**	**0.0006**
11/15/2016	**0.1770**	**0.0020**	**0.0031**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.0891**	**0.0025**	**0.0035**	**0.0513**	ND	**1.0000**	ND	**0.0281**	**0.0020**	**0.0004**
11/16/2016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11/17/2016	**0.1210**	**0.0039**	**0.0026**	**0.0005**	ND	**0.0004**	ND	ND	ND	**0.0007**	ND	ND	**0.0665**	**0.0019**	**0.0031**	**0.0395**	**0.0005**	**0.8370**	ND	**0.0223**	**0.0020**	**0.0004**
11/18/2016	**0.1390**	**0.0028**	**0.0033**	**0.0005**	ND	**0.0005**	ND	ND	**0.0004**	**0.0007**	ND	ND	**0.0721**	**0.0021**	**0.0039**	**0.0440**	**0.0005**	**0.9120**	ND	**0.0259**	**0.0025**	**0.0005**

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* = Samples collected at the Eight and Harris sampling location before monitoring equipment was moved to the Clark St. sampling location.

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	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Coronene	Dibenzo(a,h)anthracene	Dibenzofuran	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Total PAHs as TEF
TEF	0.001	0.001	0.0005	0.005	1	0.1	—	0.02	0.05	0.03	—	1.1	—	—	0.05	0.001	0.1	—	—	0.0005	0.001	—
ABC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	—	—	—	0.0009
Wasco County Planning Building Sample Results (µg/m^3 STP)																						
6/2/2016	**2.5400**	**0.0095**	**0.0400**	ND	ND	**0.0006**	ND	ND	ND	**0.0010**	ND	ND	**1.3100**	**0.0540**	**0.0669**	**0.9220**	**0.0004**	**5.3700**	ND	**0.7030**	**0.0329**	**0.007352**
6/5/2016	**3.6300**	**0.0060**	**0.0850**	**0.0012**	ND	ND	ND	ND	ND	**0.0030**	ND	ND	**1.9200**	**0.1020**	**0.2280**	**1.5500**	ND	**4.0300**	ND	**1.5400**	**0.1080**	**0.017603**
6/8/2016	**2.9900**	**0.0117**	**0.0436**	**0.0005**	ND	**0.0006**	ND	ND	ND	**0.0012**	ND	ND	**1.5800**	**0.0642**	**0.0765**	**1.1700**	**0.0004**	**4.7500**	ND	**0.8280**	**0.0382**	**0.00861**
6/11/2016	**1.9800**	**0.0068**	**0.0308**	ND	ND	ND	ND	ND	ND	**0.0006**	ND	ND	**1.0900**	**0.0456**	**0.0642**	**0.8200**	ND	**3.6000**	ND	**0.6170**	**0.0311**	**0.00639**
6/14/2016	**1.9400**	**0.0079**	**0.0288**	**0.0004**	ND	**0.0007**	**0.0004**	ND	ND	**0.0012**	ND	ND	**0.9340**	**0.0356**	**0.0405**	**0.6380**	**0.0005**	**5.7800**	ND	**0.3860**	**0.0198**	**0.004991**
6/17/2016	**0.7940**	**0.0042**	**0.0115**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.4820**	**0.0176**	**0.0258**	**0.3290**	ND	**1.8300**	ND	**0.2460**	**0.0106**	**0.002557**
6/20/2016	**2.6800**	**0.0080**	**0.0458**	ND	ND	ND	ND	ND	ND	**0.0012**	ND	ND	**1.3300**	**0.0665**	**0.1110**	**1.0300**	ND	**3.6800**	ND	**0.8990**	**0.0524**	**0.00983**
6/23/2016	**2.5100**	**0.0102**	**0.0495**	ND	ND	ND	ND	ND	ND	**0.0009**	ND	ND	**1.2700**	**0.0456**	**0.0585**	**0.9660**	ND	**4.3000**	ND	**0.5930**	**0.0277**	**0.006787**
6/26/2016	**0.4930**	**0.0034**	**0.0121**	ND	ND	ND	ND	ND	ND	**0.0008**	ND	ND	**0.3220**	**0.0192**	**0.0522**	**0.2520**	ND	**0.6640**	ND	**0.2760**	**0.0262**	**0.003554**
6/29/2016	**4.1100**	**0.0273**	**0.1070**	**0.0007**	ND	ND	ND	ND	ND	**0.0017**	ND	ND	**1.8900**	**0.0875**	**0.1290**	**1.4400**	ND	**5.6900**	ND	**1.1300**	**0.0681**	**0.012767**
7/3/2016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7/6/2016	**0.6860**	**0.0065**	**0.0380**	ND	ND	ND	ND	ND	ND	**0.0010**	ND	ND	**0.4120**	**0.0369**	**0.0571**	**0.3530**	ND	**0.5180**	ND	**0.4100**	**0.0433**	**0.004198**
7/8/2016	**1.3400**	**0.0059**	**0.0235**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.7390**	**0.0303**	**0.0371**	**0.5360**	ND	**2.0300**	ND	**0.3950**	**0.0190**	**0.003977**
7/11/2016	**1.3300**	**0.0063**	**0.0382**	ND	ND	**0.0005**	ND	ND	ND	**0.0011**	ND	ND	**0.7490**	**0.0449**	**0.0589**	**0.6130**	ND	**1.6300**	ND	**0.5630**	**0.0438**	**0.005316**
7/14/2016	**1.9000**	**0.0070**	**0.0440**	ND	ND	**0.0004**	ND	ND	ND	**0.0013**	ND	ND	**1.0600**	**0.0520**	**0.0749**	**0.8380**	ND	**2.4000**	ND	**0.7050**	**0.0548**	**0.007**
7/17/2016	**1.2800**	**0.0050**	**0.0358**	ND	ND	ND	ND	ND	ND	**0.0010**	ND	ND	**0.7420**	**0.0444**	**0.0720**	**0.6320**	ND	**1.2700**	ND	**0.6260**	**0.0469**	**0.005924**
7/20/2016	**0.9900**	**0.0051**	**0.0307**	ND	ND	ND	ND	ND	ND	**0.0009**	ND	ND	**0.6260**	**0.0352**	**0.0431**	**0.5020**	ND	**1.1300**	ND	**0.4470**	**0.0378**	**0.003955**
7/23/2016	**1.4600**	**0.0074**	**0.0346**	ND	ND	ND	ND	ND	ND	**0.0008**	ND	ND	**0.8290**	**0.0424**	**0.0464**	**0.6510**	ND	**1.9700**	ND	**0.5460**	**0.0391**	**0.00479**
7/26/2016	**3.2300**	**0.0113**	**0.0581**	**0.0006**	ND	**0.0004**	ND	ND	ND	**0.0016**	ND	ND	**1.6200**	**0.0768**	**0.0915**	**1.2800**	ND	**3.9200**	ND	**1.0600**	**0.0536**	**0.0098**
7/29/2016	**3.4400**	**0.0115**	**0.1140**	**0.0014**	ND	ND	ND	ND	ND	**0.0034**	ND	ND	**2.3800**	**0.1310**	**0.2720**	**1.9500**	ND	**3.1700**	ND	**2.0800**	**0.1490**	**0.020355**
8/1/2016	**2.8600**	**0.0154**	**0.0886**	**0.0009**	ND	**0.0007**	ND	ND	**0.0005**	**0.0019**	ND	ND	**1.7600**	**0.0921**	**0.1330**	**1.3400**	ND	**4.0200**	ND	**1.2000**	**0.0742**	**0.011735**

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State of Oregon **Department of Environmental Quality**

	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Coronene	Dibenzo(a,h)anthracene	Dibenzofuran	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Total PAHs as TEF
TEF	0.001	0.001	0.0005	0.005	1	0.1	—	0.02	0.05	0.03	—	1.1	—	—	0.05	0.001	0.1	—	—	0.0005	0.001	—
ABC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	—	—	—	0.0009
Wasco County Planning Building Sample Results (µg/m^3 STP)																						
8/4/2016	**1.5900**	**0.0086**	**0.0417**	**0.0007**	ND	ND	ND	ND	ND	**0.0017**	ND	ND	**0.9430**	**0.0500**	**0.1190**	**0.7230**	ND	**2.2800**	ND	**0.8510**	**0.0492**	**0.00882**
8/7/2016	**1.1900**	**0.0076**	**0.0254**	ND	ND	ND	ND	ND	ND	**0.0008**	ND	ND	**0.6280**	**0.0328**	**0.0443**	**0.4680**	ND	**2.3400**	ND	**0.5190**	**0.0308**	**0.004208**
8/10/2016	**1.2200**	**0.0077**	**0.0296**	ND	ND	ND	ND	ND	**0.0004**	**0.0007**	ND	ND	**0.7480**	**0.0306**	**0.0410**	**0.5710**	ND	**2.4000**	ND	**0.5380**	**0.0278**	**0.004203**
8/13/2016	**1.0400**	**0.0059**	**0.0280**	**0.0005**	ND	ND	ND	ND	ND	**0.0011**	ND	ND	**0.6080**	**0.0304**	**0.0544**	**0.4780**	ND	**0.9990**	ND	**0.6400**	**0.0371**	**0.00465**
8/16/2016	**4.6000**	**0.0099**	**0.0496**	**0.0006**	ND	ND	ND	ND	ND	**0.0014**	ND	ND	**1.0500**	**0.0604**	**0.1110**	**0.8040**	ND	**5.4900**	ND	**0.9460**	**0.0518**	**0.011559**
8/18/2016	**3.6100**	**0.0128**	**0.0616**	**0.0008**	ND	ND	ND	ND	ND	**0.0019**	ND	ND	**2.3000**	**0.0820**	**0.1340**	**0.9490**	ND	**5.4300**	ND	**1.1200**	**0.0751**	**0.011999**
8/21/2016	**1.7500**	**0.0100**	**0.0494**	**0.0005**	ND	**0.0005**	ND	ND	ND	**0.0015**	ND	ND	**0.9020**	**0.0581**	**0.0963**	**0.9040**	ND	**2.7900**	ND	**0.7880**	**0.0493**	**0.008047**
8/22/2016	**1.1600**	**0.0072**	**0.0339**	ND	ND	ND	ND	ND	ND	**0.0006**	ND	ND	**0.7510**	**0.0386**	**0.0595**	**0.5920**	ND	**2.8100**	ND	**0.4870**	**0.0279**	**0.00504**
8/23/2016	**0.9570**	**0.0062**	**0.0208**	ND	ND	ND	ND	ND	ND	**0.0006**	ND	ND	**0.6180**	**0.0290**	**0.0504**	**0.4550**	ND	**4.1400**	ND	**0.3930**	**0.0228**	**0.004187**
8/24/2016	**0.3970**	**0.0030**	**0.0097**	ND	ND	ND	ND	ND	ND	**0.0006**	ND	ND	**0.2920**	**0.0157**	**0.0357**	**0.2220**	ND	**0.9910**	ND	**0.2290**	**0.0156**	**0.002559**
8/25/2016	**0.4850**	**0.0042**	**0.0119**	ND	ND	ND	ND	ND	ND	**0.0007**	ND	ND	**0.3740**	**0.0184**	**0.0452**	**0.2660**	ND	**1.2100**	ND	**0.2790**	**0.0201**	**0.003202**
8/26/2016	**1.6500**	**0.0104**	**0.0264**	ND	ND	ND	ND	ND	ND	**0.0010**	ND	ND	**1.0200**	**0.0426**	**0.0773**	**0.7420**	ND	**3.8000**	ND	**0.6430**	**0.0343**	**0.006665**
8/27/2016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8/31/2016	**2.3200**	**0.0137**	**0.0594**	ND	ND	ND	ND	ND	ND	**0.0009**	ND	ND	**1.1400**	**0.0558**	**0.0599**	**0.8420**	ND	**4.7500**	ND	**0.7200**	**0.0259**	**0.006615**
9/3/2016	**1.1300**	**0.0066**	**0.0298**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.7270**	**0.0361**	**0.0433**	**0.5460**	ND	**2.4000**	ND	**0.4350**	**0.0193**	**0.004099**
9/6/2016	**1.1400**	**0.0107**	**0.0256**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.6970**	**0.0307**	**0.0430**	**0.4450**	ND	**2.3800**	ND	**0.3880**	**0.0191**	**0.003984**
9/9/2016	**0.8290**	**0.0061**	**0.0192**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.4800**	**0.0252**	**0.0432**	**0.3710**	ND	**1.7800**	ND	**0.3530**	**0.0196**	**0.003585**
9/12/2016	**0.3570**	**0.0035**	**0.0080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2270**	**0.0110**	**0.0162**	**0.1720**	ND	**1.3100**	ND	**0.1380**	**0.0068**	**0.001422**
9/15/2016	**0.5480**	**0.0043**	**0.0164**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.3810**	**0.0214**	**0.0360**	**0.2970**	ND	**1.3700**	ND	**0.2530**	**0.0143**	**0.002798**
9/18/2016	**0.5270**	**0.0038**	**0.0110**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.3440**	**0.0165**	**0.0204**	**0.2720**	ND	**0.9960**	ND	**0.2270**	**0.0087**	**0.001951**
9/21/2016	**0.4260**	**0.0027**	**0.0076**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2530**	**0.0113**	**0.0164**	**0.1900**	ND	**1.1200**	ND	**0.1380**	**0.0064**	**0.001518**

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	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(e)pyrene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Coronene	Dibenzo(a,h)anthracene	Dibenzofuran	Dibenzothiophene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	Total PAHs as TEF
TEF	0.001	0.001	0.0005	0.005	1	0.1	—	0.02	0.05	0.03	—	1.1	—	—	0.05	0.001	0.1	—	—	0.0005	0.001	—
ABC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	—	—	—	0.0009
Wasco County Planning Building Sample Results (µg/m^3 STP)																						
9/24/2016	**0.4410**	**0.0034**	**0.0105**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2850**	**0.0150**	**0.0211**	**0.2150**	ND	**1.1400**	ND	**0.1730**	**0.0083**	**0.001815**
9/27/2016	**1.4700**	**0.0075**	**0.0356**	ND	ND	ND	ND	ND	ND	**0.0007**	ND	ND	**0.9460**	**0.0435**	**0.0534**	**0.7300**	ND	**2.2700**	ND	**0.4840**	**0.0253**	**0.005182**
9/30/2016	**1.5100**	**0.0069**	**0.0277**	ND	ND	ND	ND	ND	ND	**0.0005**	ND	ND	**0.9360**	**0.0375**	**0.0456**	**0.6800**	ND	**2.9800**	ND	**0.4860**	**0.0189**	**0.004766**
10/3/2016	**0.7800**	**0.0049**	**0.0112**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.4530**	**0.0167**	**0.0187**	**0.3100**	ND	**2.4300**	ND	**0.2090**	**0.0072**	**0.002147**
10/6/2016	**0.5290**	**0.0036**	**0.0107**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.3120**	**0.0134**	**0.0179**	**0.2230**	ND	**1.5900**	ND	**0.1720**	**0.0068**	**0.001749**
10/9/2016	**0.9130**	**0.0046**	**0.0112**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.3520**	**0.0168**	**0.0237**	**0.2480**	ND	**2.0800**	ND	**0.1880**	**0.0091**	**0.002459**
10/12/2016	**0.3610**	**0.0034**	**0.0071**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2010**	**0.0083**	**0.0109**	**0.1380**	ND	**1.7600**	ND	**0.0933**	**0.0047**	**0.001102**
10/15/2016	**0.3290**	**0.0031**	**0.0051**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.1810**	**0.0080**	**0.0112**	**0.1200**	ND	**1.1200**	ND	**0.0841**	**0.0045**	**0.001061**
10/18/2016	**0.9580**	**0.0061**	**0.0133**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.4660**	**0.0169**	**0.0180**	**0.3110**	ND	**2.9000**	ND	**0.1910**	**0.0081**	**0.002297**
10/21/2016	**0.9360**	**0.0060**	**0.0111**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.4260**	**0.0145**	**0.0154**	**0.2750**	ND	**3.2600**	ND	**0.1650**	**0.0068**	**0.002094**
10/24/2016	**0.5380**	**0.0037**	**0.0080**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.3030**	**0.0108**	**0.0140**	**0.2010**	ND	**1.8300**	ND	**0.1320**	**0.0063**	**0.001519**
10/27/2016	**0.3990**	**0.0043**	**0.0053**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2150**	**0.0086**	**0.0109**	**0.1290**	ND	**1.3600**	ND	**0.0929**	**0.0047**	**0.001131**
10/30/2016	**0.1500**	**0.0020**	**0.0026**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0843**	**0.0042**	**0.0049**	**0.0589**	ND	**0.3040**	ND	**0.0468**	**0.0025**	**0.000484**
11/2/2016	**0.7190**	**0.0067**	**0.0096**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.3490**	**0.0149**	**0.0162**	**0.2270**	ND	**2.0500**	ND	**0.1500**	**0.0069**	**0.001849**
11/5/2016	**0.4590**	**0.0081**	**0.0069**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.2460**	**0.0098**	**0.0109**	**0.1610**	**0.0004**	**1.4300**	ND	**0.1060**	**0.0050**	**0.001289**
11/8/2016	**0.3270**	**0.0050**	**0.0066**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.2040**	**0.0105**	**0.0127**	**0.1470**	ND	**1.2600**	ND	**0.1090**	**0.0057**	**0.001177**
11/11/2016	**0.3740**	**0.0055**	**0.0061**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.2020**	**0.0090**	**0.0101**	**0.1360**	ND	**0.9860**	ND	**0.0939**	**0.0051**	**0.001088**
11/13/2016	**0.4290**	**0.0073**	**0.0063**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.2290**	**0.0099**	**0.0113**	**0.1560**	**0.0004**	**1.0900**	ND	**0.1070**	**0.0056**	**0.001275**
11/14/2016	**0.6810**	**0.0062**	**0.0094**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.3600**	**0.0150**	**0.0161**	**0.2400**	ND	**1.9400**	ND	**0.1600**	**0.0079**	**0.001825**
11/15/2016	**0.7620**	**0.0069**	**0.0079**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.3890**	**0.0135**	**0.0121**	**0.2520**	ND	**2.2900**	ND	**0.1390**	**0.0060**	**0.001705**
11/16/2016	**0.3410**	**0.0036**	**0.0036**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.1760**	**0.0057**	**0.0060**	**0.1120**	ND	**1.2500**	ND	**0.0628**	**0.0031**	**0.000795**
11/17/2016	**0.2350**	**0.0049**	**0.0039**	ND	ND	ND	ND	ND	ND	**0.0004**	ND	ND	**0.1250**	**0.0050**	**0.0054**	**0.0813**	ND	**1.1300**	ND	**0.0542**	**0.0028**	**0.000635**

11/18/2016	**0.1850**	**0.0025**	**0.0023**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0956**	**0.0031**	**0.0037**	**0.0572**	ND	**0.7490**	ND	**0.0345**	**0.0019**	**0.000450**
11/19/2016	**0.4270**	**0.0070**	**0.0065**	ND	ND	ND	ND	ND	ND	**0.0005**	ND	ND	**0.2070**	**0.0067**	**0.0065**	**0.1330**	ND	**1.7600**	ND	**0.0701**	**0.0033**	**0.000947**

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