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REMEDIATION SYSTEM RESTART REPORT

Third and Fourth Quarter 2016
August 2016 through December 2016

Phillips 66 Facility No. 255353 (AOC 1396)
600 Westlake Avenue North
Seattle, Washington 98107
Washington State Department of Ecology Facility ID: 46445373
Washington State Department of Ecology Voluntary Cleanup Program No. NW1714
ATC PROJECT NO. Z076000073

Submitted to:
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May 3, 2017

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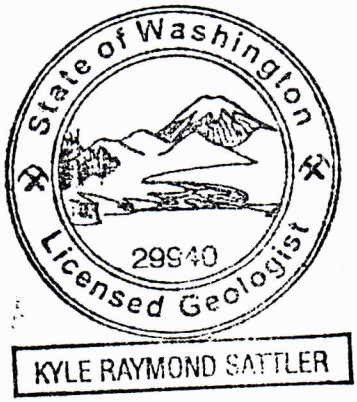

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1.0 INTRODUCTION AND REMEDIATION HISTORY

ATC Group Services LLC (ATC) has prepared this report on behalf of Phillips 66 Company (P66) to document the results of the soil vapor extraction (SVE) and air-sparge (AS) remediation system re-start activities, pulse operation (including operation and maintenance [O&M] activities), and winterization activities that occurred at former Phillips 66 Facility No. 255353 (AOC 1396) in the third and fourth quarters of 2016. The former facility address is 600 Westlake Avenue North, Seattle, Washington. P66 is conducting investigation, cleanup, and monitoring of the former P66 facility (located on the south half of City Block 37) and those properties on or around Block #37 bounded by Westlake Avenue North, Valley Street, Terry Avenue North, and Mercer Street (herein referenced as the Site). P66 is conducting the investigation, cleanup, and monitoring pursuant to a Settlement and Remedial Action Agreement (Settlement Agreement) among ConocoPhillips (now P66), Union Oil Company of California, City Investors XI, LLC (City Investors), and the City of Seattle (City) that was executed in April 2007.

The SVE system consists of two blowers that are capable of extracting soil vapors from a total of 36 vertical wells (19 in Mercer Street, 17 in Terry Avenue) and 16 horizontal wells (7 in Valley Street, 9 in Westlake Avenue). The AS system is capable of supplying compressed air to a total of 62 air sparge wells (27 in Mercer Street, 14 in Valley Street, 21 in Westlake Avenue). The SVE blowers discharge vapors to an off-gas treatment system that uses granular activated carbon (GAC) to reduce air emissions to permitted levels (under Puget Sound Clean Air Agency [PSSCA] permit Registration No. 29548). Recovered water from the SVE moisture separators is also treated with GAC before discharging to the King County sewer system (under Discharge Authorization No. 4262-01, expiration: 6/30/2018). The SVE/AS system equipment summary and SVE/AS well identification are presented in **Table 1**.

The Site is shown relative to surrounding physical features in **Figure 1**. The current layout of the Site and locations of the SVE and AS wells are shown on **Figure 2**. The current layout of the SVE/AS system is shown on **Figure 3**.

2.0 SYSTEM RE-START AND SITE VISIT SUMMARY

Several site visits were conducted that included preparing the system for re-start, monitoring and optimizing its performance, and preparing it for shut-down and winterization. A summary of the site visits conducted between August 3, 2016 and December 30, 2016, is presented below:

System Repairs, A&OI Corrections and Re-Start Activities (August 3, 2016 through August 17, 2016)

Multiple visits were made to the site in order to perform the necessary repairs and maintenance to the SVE/AS system in preparation for system re-start and to ensure compliance with Phillips 66's internal asset and operating integrity program (A&OI). The following visits and tasks were completed during the period from August 3, 2016 through August 17, 2016.

August 3, 2016 – ATC performed initial maintenance and un-mothballing of the SVE/AS system including:

- Un-seized both SVE blowers by hand
- Performed oil changes and lubrication on both SVE blowers
- Attempted to un-seize the AS compressor - unsuccessful
- Uncoupled AS compressor motor and removed compressor
- Pre-start system electrical connections/voltages were checked
- Valve positions on all equipment checked
- Trouble-shoot startup controls with manufacturer (Newterra), discovered blown fuses

The SVE blowers were successfully started in manual mode on August 3, 2016. However, the system could not be started in auto-mode, due to blown electrical fuses. The AS compressor was also seized, and could not be un-seized during the site visit. The AS compressor was uncoupled from the motor for off-site repair. The SVE/AS system was left off upon departure pending repair of the AS compressor and A&OI corrections.

August 4, 2016 – ATC completed additional Phillips 66 A&OI corrections and repairs on the SVE/AS system including the following activities:

- Installed lockable ball valve to isolate residual energy (compressed air pressure) in the sparge manifold and wells from the compressor.
- Labeled all monitoring points, cleaned up and cleared compound of weeds.
- Continued trouble-shooting auto-mode startup controls with manufacturer.

The SVE/AS was left off upon departure pending repair of the AS compressor.

August 5, 2016 – ATC delivered the AS compressor to Beckwith & Kuffel, in Seattle, Washington, for repairs. The SVE/AS remained off pending repair of the AS compressor and additional A&OI corrections.

August 15, 2016 – ATC picked up the repaired AS compressor from Beckwith & Kuffel and re-coupled the compressor to the motor. ATC successfully re-started the AS compressor in manual-mode. The SVE/AS was left off upon departure pending additional A&OI corrections.

August 16, 2016 – ATC completed the following A&OI corrections:

- Installed bleed valve on sparge manifold to release residual energy in the sparge manifold and wells.
- Installed additional signage, including "Authorized Personnel Only and Low Overhead."

- Installed additional caution reflective tape where necessary.

The SVE/AS was re-started and operated for approximately 8 hours in the auto-mode. The SVE/AS system was turned off upon departure pending additional A&OI corrections and permanent re-start.

August 17, 2016 – ATC re-started the SVE/AS system in auto-mode and completed the following A&OI corrections:

- Removed dried residuals in settling tank
- Installed double block valves on vapor-phase carbon influent, intermediate and effluent sampling ports.

O&M:
A partial O&M event was conducted during the August 17, 2016 site visit. The following activities were conducted during the initial partial O&M event: recorded the totalizer reading and SVE/AS system hour meter readings; collected stack temperature, velocity and flowrate vapor data from the SVE system; collected vacuum, temperature and pressure data from both SVE systems (B-701 and B-801); and collected temperature and pressure data from the AS system. The SVE/AS system remained operating upon departure.

Routine O&M, Continued A&OI Corrections and Repairs (August 17, 2016 through November 22, 2016)

August 18, 2016 – Upon arrival, the system was operating. ATC completed the following A&OI corrections:

- Installed brass piping tees on inlet of liquid-phase carbon vessels for pressure gauges
- Closed drain valves and filled liquid-phase carbon vessels with potable water
- Installed double block valves on liquid sampling ports
- Checked operation of sump pump
- Post-start plumbing and piping connections were checked for leaks.
- The system's emergency stop safety shutdown relays were tested.

O&M:
An O&M event was also conducted during the August 18 site visit. The following activities were conducted during the O&M event: recorded the totalizer reading and SVE/AS system hour meter readings; collected stack temperature, velocity and flowrate vapor data from the SVE system; collected vacuum, temperature and pressure data from both SVE systems (B-701 and B-801); collected temperature and pressure data from the AS system. Collected influent, intermediate and effluent petroleum vapor readings from the vapor sampling ports SVE system using a photo-ionization detector (PID); Collected baseline PID readings from all SVE wells; Collected air flow measurements from select AS wells; Collected PSSCA compliance vapor samples from the influent, intermediate, and effluent vapor sampling ports utilizing Tedlar bags and submitted them to PACE Analytical of Minneapolis, MN for analysis of total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method TO-15; Insufficient groundwater was recovered during this O&M visit to collect compliance influent and effluent groundwater samples per DA-4262-01. The SVE/AS system remained operating upon departure.

August 22, 2016 - Upon arrival, the system was operating.

O&M:
During the August 22, 2016 site visit, the following O&M activities were conducted: recorded the totalizer reading and SVE/AS system hour meter readings; collected stack temperature, velocity and flowrate vapor

data from the SVE system; collected vacuum, temperature and pressure data from both SVE systems (B-701 and B-801); collected temperature and pressure data from the AS system. Collected influent, intermediate and effluent petroleum vapor readings from the vapor sampling ports SVE system using a PID; Collected PID readings from select SVE wells; Collected air flow measurements from select AS wells; Collected vapor samples from the influent vapor sampling ports utilizing Tedlar bags and submitted them to PACE Analytical of Minneapolis, MN for analysis of total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method TO-15; Insufficient groundwater was recovered during this O&M visit to collect compliance influent and effluent groundwater samples per DA-4262-01. The SVE/AS system remained operating upon departure.

August 23, 2016 – Upon arrival, the system was operating. However, the air compressor motor for the air sparge system sounded louder than it did during the visit on August 22, and the relief valve was operating intermittently. The air sparge system was shut down during diagnosis. It was determined during the site visit that the AS system was operating correctly, however, the AS system was inadvertently left off upon departure.

August 29, 2016 - Upon arrival, the VE system was operating. The AS system was re-started.

O&M:
During the August 29, 2016 site visit, the following O&M activities were conducted: recorded the totalizer reading and SVE/AS system hour meter readings; collected stack temperature, velocity and flowrate vapor data from the SVE system; collected vacuum, temperature and pressure data from both SVE systems (B-701 and B-801); collected temperature and pressure data from the AS system. Collected influent, intermediate and effluent petroleum vapor readings from the vapor sampling ports SVE system using a PID; Collected PID readings from select SVE wells; Collected air flow measurements from select AS wells; Collected vapor samples from the influent vapor sampling ports utilizing Tedlar bags and submitted them to PACE Analytical of Minneapolis, MN for analysis of total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method TO-15; Insufficient groundwater was recovered during this O&M visit to collect compliance influent and effluent groundwater samples per DA-4262-01. The SVE/AS system remained operating upon departure.

September 19, 2016 – The SVE/AS system was not operating upon arrival. No notification was given by the system's remote Sensaphone® unit. The remote Sensaphone® unit was evaluated on-site and numerous attempts were made to re-start the system in auto-mode, but were unsuccessful. The system could only be re-started in manual mode. The system was not allowed to operate in manual-mode (as system fail safes and shutdowns would not function, potentially damaging system components) and the SVE/AS system remained off upon departure.

September 26, 2016 – ATC reactivated the Sensaphone® telemetry unit service (by powering down and re-energizing the control panel). However, after reactivating the service, phone connection to the unit was still unavailable. ATC contacted Sensaphone® and determined that an upgrade from the existing Cell682 unit to a 3G cell modem was necessary. ATC ordered the upgrade unit for installation at a later date and left the SVE/AS system off upon departure.

October 5, 2016 - ATC completed the following repairs on the SVE/AS system:

- Energized control panel and trouble-shooted system re-start in auto-mode. ATC checked the solenoid fuses and breakers. It was determined sequence of pumps was not in automatic mode preventing the System to operate in auto mode.
- Replaced rotometer internals at the air sparge manifold for air sparge well AS-17 (W-17 located in Westlake Avenue) and installed a new rotometer for air sparge well V-2 (located in Valley Street).

During the October 5, 2016 site visit, it was determined that only the AS system would not continuously operate in auto-mode. Therefore, only the SVE system was re-started in auto-mode, and was operating upon departure. The AS system remained off upon departure for further repairs.

October 6, 2016 - Upon arrival, the SVE system was operating. ATC completed the following repairs on the AS system:

- Re-connected wires to solenoids for repaired rotameters and installed additional hose clamps to rotameter connections.
- Observed insufficient flow from settling tank to liquid-phase carbon units. Checked particle filters, verified filters in operable condition. Checked transfer pump – determined transfer pump not operating per specification.
- Disconnected and removed transfer pump for off-site repair.

O&M:
An O&M event was also conducted during the October 6 site visit. The following activities were conducted during the O&M event: recorded the totalizer reading and SVE/AS system hour meter readings; collected stack temperature, velocity and flowrate vapor data from the SVE system; collected vacuum, temperature and pressure data from both SVE systems (B-701 and B-801). Collected influent, intermediate and effluent petroleum vapor readings from the vapor sampling ports SVE system using a photo-ionization detector (PID); Collected PID readings from select SVE wells; Collected PSSCA compliance vapor samples from the influent, intermediate, and effluent vapor sampling ports utilizing Tedlar bags and submitted them to PACE Analytical of Minneapolis, MN for analysis of total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method TO-15; Insufficient groundwater was recovered during this O&M visit to collect compliance influent and effluent groundwater samples per DA-4262-01. Based on the post-August 17 O&M data, only the SVE system remained operating upon departure. The AS system remained off to evaluate influence on vapor extraction (if any) via the SVE system.

October 7, 2016 - Upon arrival, the SVE system was operating.

O&M:
During the October 7, 2016 site visit, the vacuum for blower B-801 was increased as vacuum gauge reading was zero (0). However, after increasing the vacuum, water was observed in the sight glass of several SVE wells. Therefore, the vacuum was reduced until water was no longer observed in the sight glass of the SVE wells. The AS system remained off upon departure to evaluate influence to hydrocarbon removal during the next O&M event.

October 12, 2016 - Upon arrival, the SVE system was operating. During the October 12, 2016 site visit, ATC re-installed the repaired transfer pump and tested the system. Also, ATC replaced the existing 682CELL modem with the upgrade unit (3G modem), re-started the system, and tested all components. The SVE system remained operating upon departure. The AS system remained off upon departure to evaluate influence to hydrocarbon removal during the next O&M event.

October 21, 2016 - Upon arrival, the SVE system was operating.

O&M:
During the October 21, 2016 site visit, the following O&M activities were conducted: recorded the totalizer reading and SVE/AS system hour meter readings; collected stack temperature, velocity and flowrate vapor data from the SVE system; collected vacuum, temperature and pressure data from both SVE systems (B-701 and B-801). Collected influent, intermediate and effluent petroleum vapor readings from the vapor sampling ports SVE system using a PID; Collected PID readings from select SVE wells (adjusted valves to

45 degrees open); Collected vapor samples from the influent vapor sampling ports utilizing Tedlar bags and submitted them to PACE Analytical of Minneapolis, MN for analysis of total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method TO-15; Insufficient groundwater was recovered during this O&M visit to collect compliance influent and effluent groundwater samples per DA-4262-01. The SVE blower B-801 was shut down upon departure. The SVE blower B-701 remained operating upon departure. The AS system (only the AS wells on Mercer Street) was re-started and remained operating upon departure to concentrate efforts to promote vapor extraction in that region.

November 2, 2016 - Upon arrival, the SVE blower B-701 and the AS system for AS wells on Mercer Street were operating.

O&M:
During the November 2, 2016 site visit, the following O&M activities were conducted: recorded the totalizer reading and SVE/AS system hour meter readings; collected stack temperature, velocity and flowrate vapor data from the SVE system; collected vacuum, temperature and pressure data from SVE system B-701; collected temperature and pressure data from the AS system. Collected influent, intermediate and effluent petroleum vapor readings from the vapor sampling ports SVE system using a PID; Collected PID readings from select SVE wells; Collected air flow measurements from select AS wells; Collected vapor samples from the influent vapor sampling ports utilizing Tedlar bags and submitted them to PACE Analytical of Minneapolis, MN for analysis of total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method TO-15; Insufficient groundwater was recovered during this O&M visit to collect compliance influent and effluent groundwater samples per DA-4262-01. SVE system B-701 remained operating upon departure. The AS system for the AS wells on Mercer Street remained operating upon departure.

November 16, 2016 - Upon arrival, the SVE blower B-701 and the AS system for AS wells on Mercer Street were operating.

O&M:
During the November 16, 2016 site visit, the following O&M activities were conducted: recorded the totalizer reading and SVE/AS system hour meter readings; collected stack temperature, velocity and flowrate vapor data from the SVE system; collected vacuum, temperature and pressure data from SVE system B-701; collected temperature and pressure data from the AS system. Collected influent, intermediate and effluent petroleum vapor readings from the vapor sampling ports SVE system using a PID; Collected PID readings from select SVE wells; Collected air flow measurements from select AS wells; Collected vapor samples from the influent vapor sampling ports utilizing Tedlar bags and submitted them to PACE Analytical of Minneapolis, MN for analysis of total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method TO-15; Insufficient groundwater was recovered during this O&M visit to collect compliance influent and effluent groundwater samples per DA-4262-01. SVE system B-701 remained operating upon departure. The AS system for the AS wells on Mercer Street remained operating upon departure.

November 22, 2016 - Upon arrival, the SVE blower B-701 and the AS system for AS wells on Mercer Street were operating.

O&M:
During the November 22, 2016 site visit, the following O&M activities were conducted: recorded the totalizer reading and SVE/AS system hour meter readings; collected stack temperature, velocity and flowrate vapor data from the SVE system; collected vacuum, temperature and pressure data from SVE system B-701; collected temperature and pressure data from the AS system. Collected influent, intermediate and effluent petroleum vapor readings from the vapor sampling ports SVE system using a

PID; Collected PID readings from select SVE wells; Collected air flow measurements from select AS wells; Collected vapor samples from the influent vapor sampling ports utilizing Tedlar bags and submitted them to PACE Analytical of Minneapolis, MN for analysis of total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method TO-15; Collected DA 4262-01 compliance groundwater samples from the influent and effluent water sampling ports and submitted them to PACE Analytical of Minneapolis, MN for analysis of gasoline-range hydrocarbons by Northwest Method MWTPH-Gx, BTEX by EPA Method 8260B, and Oil & Grease by EPA Method 1664.

Based on a pending required electrical power outage on Block 37, scheduled for December 10, 2016, and the near asymptotic conditions of the system, ATC shut the system down on November 22, 2016. The SVE/AS system was locked and tagged out of service.

3.0 DATA SUMMARY AND EVALUATION

Historical system performance data collected prior to the August 2016 system re-start activities is summarized in the following reports:

- Cardno, *Remediation Progress Report, First Quarter 2014, Phillips 66 Facility 255353, 600 Westlake Avenue North, Seattle, Washington 98107,* July 2, 2014.
- Cardno, *Remediation Progress Report, Second Quarter 2014, Phillips 66 Facility 255353, 600 Westlake Avenue North, Seattle, Washington 98107,* August 22, 2014.
- Cardno, *Remediation Progress Report, Third Quarter 2014, Phillips 66 Facility 255353, 600 Westlake Avenue North, Seattle, Washington 98107,* January 21, 2015.
- Cardno, *Remediation Progress Report, Fourth Quarter 2014, Phillips 66 Facility 255353, 600 Westlake Avenue North, Seattle, Washington 98107,* February 19, 2015.
- Cardno, *Remediation Progress Report, First Quarter 2015, Phillips 66 Facility 255353, 600 Westlake Avenue North, Seattle, Washington 98107,* May 22, 2015.

Cumulative historical system operational and performance data collected prior to the August 2016 SVE/AS system re-start activities is provided in **Tables 1** through **5** of **Appendix A**.

RUNTIME EVALUATION: The cumulative runtimes for the AS and VE systems were 89% and 95%, respectively, during this period. System runtime summaries for the AS and the SVE system are provided in **Tables 2** and **3**, respectively. System downtime during this reporting period was attributed to PLC issues which prevented the AS system from running in "Auto" mode. The AS system was also turned off on August 23 to diagnose loud operation (and inadvertently not restarted) and in September to monitor the effectiveness of the VE system.

GROUNDWATER DEPTH TO WATER AND FLOW DIRECTION EVALUATION: Depths to groundwater measured on December 13, 14 and 16, 2016 (approximately 3 weeks after the system was shut down) ranged from 8.40 below ground surface (bgs) in monitor well MWR-5 to 15.25 feet bgs in monitor well MW-41. The inferred shallow groundwater flow direction is generally towards the north-northeast, at an average gradient of approximately 0.005 foot/foot. Historical groundwater data indicates that the pre-dominant groundwater flow direction is toward the north-northeast (toward South Lake Union located approximately 500 feet north of the Site). The depths to water and groundwater flow direction are likely influenced by the presence of native soil and fill materials on and off-site and the presence of subsurface hydrogeologic barriers installed during the remedial excavation activities completed in 2008. The elevation of the water surface in south Lake Union may also influence the direction of the groundwater flow beneath the site. A summary of the groundwater conditions measured on December 13, 14 and 16, 2016 are summarized in ATC's *Groundwater Monitoring Report (Fourth Quarter 2016)*, dated February 23, 2017.

GROUNDWATER DISSOLVED CONCENTRATION EVALUATION: Laboratory analytical results for groundwater samples collected on December 13, 14 and 15, 2016 indicate that gasoline-range hydrocarbons, and benzene, toluene, ethylbenzene, and total xylenes (BTEX) were either not detected or were detected at concentrations less than the MTCA Method A cleanup levels in all of the samples submitted for analysis, with the exception of gasoline-range hydrocarbons detected in the sample collected from MWR-5, benzene detected in the samples collected from MW-213 and MWR-5, and ethylbenzene and total xylenes detected in the sample collected from MWR-5. These analytical results are generally similar to historical analytical results. Monitor well MW-45 could not be located during the December sampling event, and well MW-54 was inaccessible due to sludge encountered within the wells casing. A summary of the groundwater analytical results collected from the wells on December 13, 14 and 16, 2016 are summarized in ATC's *Groundwater Monitoring Report (Fourth Quarter 2016)*, dated February 23, 2017.

INCIDENTAL GROUNDWATER RECOVERY: The SVE/AS system recovered approximately 329 gallons of water during operation between August 17 and November 22, 2016. Influent and effluent compliance samples per King County DA 4262-01 were collected on November 16, 2016. Sample port locations are shown on **Figure 3**. The samples were submitted to PACE Analytical of Minneapolis, MN for analysis of total petroleum hydrocarbons as gasoline by Northwest Method MWTPH-Gx, BTEX by EPA Method 8260B, and Oil & Grease by EPA Method 1664. Total petroleum hydrocarbons as gasoline, BTEX and oil & grease were not detected above the laboratory's method reporting limits in any of the samples submitted for analysis, and all samples demonstrated compliance with DA 4261-01 limits. The analytical results and established discharge limits per DA 4262-01 are presented in **Table 4**. A copy of the analytical report is presented in **Appendix B**.

VAPOR AND OFFGAS ANALYTICAL AND TREATMENT EVALUATION: PSSCA compliance vapor samples were collected from the influent, intermediate, and effluent vapor sampling ports utilizing Tedlar bags on August 18 and October 6, 2016. Vapor sample port locations are shown on **Figure 3**. The samples were submitted to PACE Analytical of Minneapolis, MN for analysis of gasoline-range hydrocarbons and BTEX by EPA Method TO-15. Copies of the laboratory analytical reports of the vapor samples are provided in **Appendix B**. (Note: The PSCAA permit specifies vapor concentrations as TPH, while the analytical laboratory reports Method TO-15 results as Total Hydrocarbon Concentration as gasoline [THCg]. For reporting purposes, TPH and THCg are assumed to be equivalent).

The vapor analytical results, the PID screening results, and the corresponding mass recovery and emissions rates for each of the three vapor trains are summarized in **Tables 5, 6** and **7**, respectively. The PSCAA permit specifies that a control efficiency of 97% must be demonstrated when total petroleum hydrocarbon (TPH) concentrations at the inlets to the granular activated carbon vessels are 200 ppmv or greater. As shown on **Tables 5**, **6** and **7**, TPH concentrations have never exceeded this threshold; therefore control efficiency is not reported.

As presented in **Tables 5**, **6**, and **7**, the average mass recovery rate for Trains 1, 2, and 3 during this period was 0.20 pound (lb)/day, 0.15 lb/day, and 0.11 lb/day, respectively. The total mass of hydrocarbons recovered in the vapor phase during this period at Trains 1, 2, and 3 were 23.35 lb, 15.61 and 12.9 lbs, respectively. The total mass of hydrocarbons recovered by the VE system was 51.86 lbs for this reporting period. The total cumulative mass of hydrocarbons recovered by the SVE system to date is 3,091 lbs.

SVE PID AND AS FLOW RATE DATA: SVE PID measurements and AS flow rate data for this reporting period are provided in **Tables 8** and **9**, respectively.

4.0 WINTERIZATION ACTIVITIES

On December 16, 2016, ATC visited the site to conduct winterization activities on the SVE/AS system. Upon arrival, the system remained off, and LO/TO was confirmed. During the visit, each SVE manifold valve was opened and the water from above the valve was allowed to drain back to the well and/or underground piping. All water conveyance piping and hoses were detached at the cam lock fittings. A portable leaf blower was used to blow any remaining water from each line. The three water transfer pumps were drained by removing the plug on both the top of the pump head and the bottom. The plugs were stored in the onsite construction box. The AS compressor was filled with vegetable oil to minimize moisture inside the compressor, thereby reducing the potential for the compressor lobes to rust and for the compressor and seize. The two liquid-phase carbon vessels were drained using the valve located on the bottom of each vessel. The sump pump was removed and transported back to the Seattle office for storage. On December 30, 2016, the two cartridge filter housings were removed with the aid of a strap wrench, and the filters were removed. The filters and housings were also stored in the onsite construction box. The remediation compound gate was secured and locked upon departure.

5.0 RECOMMENDATIONS

Groundwater analytical results do not indicate significant "improvement" during the 2016 pulse operation. However, the pulse event did appear to be semi-effective in recovering volatilized hydrocarbons from the subsurface, as evidenced by the TPH mass recovered by the VE system during this reporting period. The total TPH mass recovered during this reporting period (51.85 lbs) was over twice the total TPH mass recovered by the VE system during the previous operating period (21 lbs between January 1 through March 31, 2015). ATC recommends re-starting the SVE/AS system in the late second or early third quarter of 2017, with continued adjustments and balancing, in an effort to mitigate potential rebounding vapor concentrations. The SVE/AS system should be turned off at least one week prior to the following groundwater sampling event to allow groundwater to reach static conditions.

TABLES

TABLE 1
SVE/AS REMEDIATION SYSTEM SUMMARY

Startup Date: 8/17/2016

Permits	Discharge of treated groundwater to King County sewer system under King County
(e.g. NPDES, consumptive use)	Disharge Authorization No. 4262-01, expires 6/30/2018. Discharge treated vapors
	to atmoshere under PSCCA permit Registration No. 29548.
Soil Vapor Extraction	
Mercer Street SVE Well ID's:	19 1-inch diameter vertical SVE wells to approximately 8 feet bgs, designated
	MSVE-1 through MSVE-19
Valley Street SVE Well ID's:	8 1-inch diameter horizontal SVE wells to approximately 8 feet bgs, designated
	VSVE-1 through VSVE-7, and VSVE-9
Terry Avenue North SVE Well ID's:	15 1-inch diameter vertical SVE wells (depths unknown), designated WA-1 through
	WC-3, V-1 through V-9, TSVE-1 through TSVE-8, TSVE-10 through TSVE-12,
	TEFR-1 Air, TEFR-2 Air, TMW-48 Air, and TMW-65 Air
Westlake Avenue North SVE Well ID's:	9 1-inch diameter horizontal SVE wells (depths unknown), designated
	WC1 through WC3, WB1 through WB3, and WA1 through WA3
Screen Interval	Not specified
Design Flow Rate	Total =~ 200 CFM @ 22" Hg; Legs = 30 CFM @ 12" Hg
Off Gas Treatment	Vapor-Phase Granular Activated Carbon
Other	Water from SVE moisture separators treated with Liquid Phase Granular Activated Carbon.
Air Sparging	
Mercer Street AS Well ID's:	27 1-inch diameter AS wells to approximately 21 feet bgs, designated
	MAS-1 through MAS-19
Valley Street AS Well ID's:	14 1-inch diameter AS wells to approximately 18 feet bgs, designated
	VAS-1 through VAS-14
Terry Avenue North AS Well ID's:	No AS wells in Terry Avenue North
Westlake Avenue North AS Well ID's:	21 1-inch diameter AS wells to approximately 25 feet bgs, designated
	AS-1 through AS-21
Screen Interval	Not specified
Design Flow Rate	Not specified
Equipment & Specifications	(2) 10HP Sutorbuilt 5L-RHC Blower, Newterra Vapor Liquid Separator - VLW Series
(i.e. tower, blower, flowmeter,	With Goulds Transfer Pump
pumps) Specify usage, type, mfg,	(6) (2 in-Series) (3 Trains in Parallel)- 1000 lbs Siemens Vent-Scrub- Vaor Phase Adsorbers
and design specifications.	220 Gallon Cylindrical Poly Tank with 1.5 HP Gould Transfer Pump
	(2) 1000 lbs. Siemens Aqua Scrub Liquid Phase Adsorbers (in Series)
	(1) Rietchle Rotary Claw Compressor 10 HP with American Industrial Heat Exchanger
Control Panel	Custom - Newterra
(Brand & List components)	Control panel Nema 4, 480 VAC, 3 phase 4 W, 100 amp service
Surge Protection (MFG & Type)	600V Lightning Arrestor Square D
Other	60"x 60"x 12" Double Door Encl with 3-Point Latch
Telemetry (Mfg)	Sensaphone Cell 682 Autodialer

SYSTEM REPAIR HISTORY	
8/3/2016	Restart of system, change oil and grease Blowers (B-701 & B-801), Sparge compressor shaft froze, remove
	for repair, blower operate in Manual Mode
8/4/2016	Install isolation valve from compressor to sparge manifold, troubleshoot startup issues
8/15/2016	Install repaired sparge compressor (C-2201) startup ok.
10/6/2016	Remove Transfer pump (P-5501) for repair
10/12/2016	Install Transfer pump (P-5501) from repair. Pump startup ok.
12/16/2016	Winterize pumps, blowers, compressor, carbon vessels, and associated piping.

TABLE 2: AIR SPARGING PERFORMANCE SUMMARY

Process Status Code	Arrive	Depart
1	on	on
2	off	on
3	off	off
4	on	off

Facility Name: Former Phillips 66 Facility No. 255353 (AOC 1396)
Ecology Facility ID: 46445373
Ecology VCP No: NW1714
Startup Date: 8/17/2016

Site Visit Date	Days Between Site Visits	Days Since Startup	AS Compressor Hour Meter Reading	AS Compressor Daily Designed Run Time (hours)	Hours of Operation Period	Total Hours of Operation Cumulative	Approved Down Time (hours)[1]	Percent Run Time (period)	Percent Run Time (cumulative)	Process Status
08/17/16	0	0	10,372	24	0.0	0	Start Up	Start Up	Start Up	2
08/18/16	1	1	10,393	24	21.0	21.0	0	88%	88%	1
08/22/16	4	5	10,489	24	96.0	117.0	0	100%	98%	1
08/23/16	1	6	10,514	24	25.0	142.0	0	104%	99%	4
08/29/16	6	12	10,514	24	25.0	142.0	0	17%	49%	2
09/19/16	21	33	10,919	24	405.0	547.0	0	80%	69%	3
09/26/16	7	40	10,919	24	0.0	547.0	168	100%	74%	3
10/05/16	9	49	10,919	24	0.0	547.0	216	100%	79%	3
10/06/16	1	50	10,919	24	0.0	547.0	24	100%	80%	3
10/07/16	1	51	NM	24	--	--	24	--	--	3
10/12/16	5	56	NM	24	--	--	120	--	--	3
10/21/16	9	65	10,919	24	0.0	547.0	216	100%	84%	2
11/02/16	12	77	11,204	24	285.0	832.0	0	99%	87%	1
11/16/16	14	91	11,544	24	340.0	1172.0	0	100%	89%	1
11/22/16	6	97	11,684	24	140.0	1312.0	0	97%	89%	4

Notes:

1. AS system was turned off on August 23 due to noisy compressor and relief valve and in September to evaluate the influence of the SVE system.

TABLE 3: SOIL VAPOR EXTRACTION PERFORMANCE SUMMARY

Process Status Code	Arrive	Depart
1	on	on
2	off	on
3	off	off
4	on	off

Facility Name: Former Phillips 66 Facility No. 255353 (AOC 1396)

Ecology Facility ID#: 46445373

Ecology VCP No: NW1714

Startup Date: 8/17/2016

Standard Temp = 80 °F

Standard Pressure = 14.7

								SVE Blower B-701							SVE Blower B-801						
Site Visit Date	Days Between Site Visits	Days Since Startup	Totalizer (gallons)	System Vacuum (manifold) "WC	System Velocity (ft/min)	System Flow Rate acfm	Corrected System Flow Rate scfm	Hour Meter Reading	Hours of Operation Period	Total Hrs Operation Cumulative	Approved Down Time (hours)	Percent Run Time (period)	Percent Run Time (cumulative)	Process Status	Hour Meter Reading	Hours of Operation Period	Total Hrs Operation Cumulative	Approved Down Time (hours)	Percent Run Time (period)	Percent Run Time (cumulative)	Process Status
08/17/16	0	0	82,300	5	1,829	90	76	10,238	0	0		0%	0%	2	9380		0		0%	0%	3
08/18/16	1	1	82,300	5	3,708	182	153	10,258	20.0	20.0		83%	100%	1	9401	21.0	21.0		88%	100%	2
08/22/16	4	5	82,300	5	4,048	199	167	10,354	96.0	116.0		100%	97%	1	9497	96.0	117.0		100%	98%	1
08/29/16	7	12	82,300	5	4,056	199	167	10,522	168.0	284.0		100%	99%	1	9664	167.0	284.0		99%	99%	2
09/19/16	21	33	82,300	NM	NM	NM	NM	10,929	407.0	691.0		81%	87%	3	10071	407.0	691.0		81%	87%	2
09/26/16	7	40	82,300	NM	NM	NM	NM	10,929	0.0	691.0	168	100%	89%	3	10071	0.0	691.0	168	100%	89%	1
10/05/16	9	49	82,300	NM	NM	NM	NM	10,929	0.0	691.0	216	100%	91%	2	10071	0.0	691.0	216	100%	91%	1
10/06/16	1	50	82,300	18	4,501	221	180	10,949	20.0	711.0		83%	91%	1	10092	21.0	712.0		88%	91%	1
10/07/16	1	51	82,300	NM	NM	NM	NM	NM	--	--		--	--	1	NM	--	--		--	--	1
10/12/16	5	56	82,300	NM	NM	NM	NM	NM	--	--		--	--	1	NM	--	--		--	--	1
10/21/16	9	65	82,372	34	3,359	165	129	11,310	361.0	1,072.0		100%	93%	1	10453	361.0	1,073.0		100%	93%	4
11/02/16	12	77	82,422	20	2,045	100	81	11,597	287.0	1,359.0		100%	94%	1	10454	1.0	1,074.0	288	100%	94%	3
11/16/16	14	91	82,629	20	2,561	126	102	11,936	339.0	1,698.0		100%	95%	1	10454	0.0	1,074.0	336	100%	95%	3
11/22/16	6	97	82,629	22	NM	NM	NM	12,076	140.0	1,838.0		97%	95%	4	10454	0.0	1,074.0	144	100%	96%	3

NM = Not Measured

cfm = ft^3/min = velocity [ft/min] x pipe area [πr^2]; pipe size = 3 inch diameter

scfm = acfm X $((P^{st}-P^{g})/Pst)x(T^{st}/(T^{st}+T^{act})$

TABLE 4: LIQUID PHASE ANALYTICAL SUMMARY

Facility Name: **Former Phillips 66 Facility No. 255353 (AOC 1396)**
Facility Address: **600 Westlake Avenue North, Seattle, WA**
Ecology Facility ID#: **46445373**
Ecology VCP No: **NW1714**

Sample Location	Sample ID	Date	Benzene	Toluene	Ethyl benzene	Total Xylenes	TPH	Oil & Grease
W-INF-WS1	W-INF-WS1	11/16/16	< 1.0	< 1.0	< 1.0	< 3.0	< 100	NS
W-OUT-WC1	W-OUT-WS1	11/16/16	< 1.0	< 1.0	< 1.0	< 3.0	< 100	NS
W-DSCHG	W-DSCHG-1	11/16/16	< 1.0	< 1.0	< 1.0	< 3.0	< 100	< 5,100
W-DSCHG	W-DSCHG-2	11/16/16	NS	NS	NS	NS	NS	< 5,100
W-DSCHG	W-DSCHG-3	11/16/16	NS	NS	NS	NS	NS	< 5,100
KCIW Permit Limits			70	1,400	1,700	2,200	NE	100,000

Notes:
All results reported in micrograms per liter (µg/L).

There are a total of two liquid phase carbon units plumbed in series to treat water. Sample W-INF-WS1 was collected from a sample port located prior to the first liquid phase carbon unit. Sample W-OUT-WC1 was collected from a sample port located between the first and second liquid phase carbon units. Samples W-DSCHG-1, W-DSCHG-2 and W-DSCHG-3 were collected in succession 5 minutes apart from the sample port located after the second (and final) liquid phase carbon unit . The sample port locations are shown on Figure 3.

Permit Limits Established in King County Industrial Waste (KCIW) Discharge Authorization No. 4262-01 (expires 6/30/2018).
NS=Not Sampled
NE=Not Established

TABLE 5: SVE ANALYTICAL SUMMARY

Vapor Train No. 1

Facility Name: Former Phillips 66 Facility No. 255353 (AOC 1396)
Facility Address: 600 Westlake Avenue North, Seattle, WA
Ecology Facility ID#: 46445373
Ecology VCP No: NW1714

If Non-Detect Use MDL "U"
Not Sampled = NS
Analytical Results = µg/m^3

Sample Location	Sample ID	Date	Hour Meter	Flow Rate (scfm)	PID (ppm)	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total VOCs	THCg (ug/m^3)	THCg[1] (ppmv)	Recovery Rate (Influent)/ Emission Rate (Effluent)[2] Rate (lb/day)	Cumulative Mass Recovered / Discharged[3] (lbs)
V-INF-1	Inf-1	08/17/16	10,238	75.5	NM	Not Sampled								
	Inf-1	08/18/16	10,258	153.1	14.2	13.1 U	31.1 U	35.6 U	107.0 U	**186.8**	**8,070**	1.91	0.11	0.09
	Inf-1	08/22/16	10,354	167.1	NM	1.4 U	**6.7**	1.8 U	**9.3**	**19.2**	**3,750**	0.89	0.06	0.32
	Inf-1	08/29/16	10,522	167.4	NM	26.20 U	**57.8**	35.6 U	107.0 U	**226.6**	**15,100**	3.58	0.23	1.91
	Not Sampled	09/19/16	NM	NM	NM	Not Sampled								
	Not Sampled	09/26/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/05/16	NM	NM	NM	Not Sampled								
	Inf-1	10/06/16	10,949	179.8	NM	**51.90**	**130.00**	34.1 U	**220.00**	436.0	**68,600**	16.24	1.11	21.63
	Not Sampled	10/07/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/12/16	NM	NM	NM	Not Sampled								
	Inf-1	10/21/16	11,310	128.7	NM	**1.4**	**55.0**	1.8 U	5.4 U	63.6	**5,550**	1.31	0.06	22.59
	Inf-1	11/02/16	11,597	81.3	NM	14.9 U	35.3 U	40.3 U	121.0 U	211.5	**5,120**	1.21	0.04	23.04
	Inf-1	11/16/16	11,936	101.8	NM	0.82 U	**8.7**	2.2 U	**8.7**	20.4	**1,740**	0.41	0.02	23.26
	Inf-1	11/22/16	12,076	NM	NM	3.4 U	**16.7**	9.2 U	**31.3**	60.6	**1,670**	0.40	0.02	23.35
V-INT-1	Not Sampled	08/17/16	10,238	75.5	NM	Not Sampled								
	Int -1	08/18/16	10,258	153.1	14.2	18.2 U	153.0	49.3 U	148.0 U	368.5	3,990 U	0.94	0.05	NA
	Not Sampled	08/22/16	10,354	167.1	NM	Not Sampled								
	Not Sampled	08/29/16	10,522	167.4	NM	Not Sampled								
	Not Sampled	09/19/16	NM	NM	NM	Not Sampled								
	Not Sampled	09/26/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/05/16	NM	NM	NM	Not Sampled								
	Int -1	10/06/16	10,949	179.8	NM	**19.9**	**192.0**	34.1 U	103.0 U	349.0	**35,400**	8.38	0.57	NA
	Not Sampled	10/07/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/12/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/21/16	11,310	128.7	NM	Not Sampled								
	Not Sampled	11/02/16	11597	81.3	NM	Not Sampled								
	Not Sampled	11/16/16	11,936	101.8	NM	Not Sampled								
	Not Sampled	11/22/16	12,076	NM	NM	Not Sampled								
V-DSCHG-1	Not Sampled	08/17/16	10,238	75.5	NM	Not Sampled								
	Eff-1	08/18/16	10,258	153.1	14.2	12.6 U	29.9	34.1 U	103.0 U	179.6	2,760 U	0.65	0.04	0.03
	Not Sampled	08/22/16	10,354	167.1	NM	Not Sampled								
	Not Sampled	08/29/16	10,522	167.4	NM	Not Sampled								
	Not Sampled	09/19/16	NM	NM	NM	Not Sampled								
	Not Sampled	09/26/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/05/16	NM	NM	NM	Not Sampled								
	Eff-1	10/06/16	10,949	179.8	NM	**16.2**	**133.0**	35.6 U	107.0 U	291.8	**17,700**	4.19	0.29	8.26
	Not Sampled	10/07/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/12/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/21/16	11,310	128.7	NM	Not Sampled								
	Not Sampled	11/02/16	11597	81.3	NM	Not Sampled								
	Not Sampled	11/16/16	11,936	101.8	NM	Not Sampled								
	Not Sampled	11/22/16	12,076	NM	NM	Not Sampled								
PSCAA Threshold Concentration[1]												200		

Notes:

There are three sets (or trains) of two vapor phase carbon units (for a total of six) used to treat extracted vapors. The two carbon units associated with each train are plumbed in series. Samples Inf-1, Int-1 and Eff-1 were collected from sample ports associated with the first train of vapor phase carbon units. The influent sample ports for each train are located prior to the first carbon units. The intermediate sample ports for each train are located between the first and second carbon units. The effluent sample ports for each train are located after the second (and last) carbon units. The sample port locations are shown on Figure 3.

VOCs = Volatile Organic Compounds (Benzene, Toluene, Ethylbenzene and Total Xylenes)

U = Analyte not detected above the referenced laboratory method reporting limit.

1. THCg ppmv = THC (ug/m^3)/42.23 (conversion factor for molar volume @ STP)/M (molucular weight of THC [100]). PSCAA Permit (Registration #29548) requires a minimum control efficiency of 97% when the TPH (THC) influent concentration is greater than or equal to 200 ppmv. None of the THCg concentrations exceed 200 ppmv.

2. Recovery/Emission Rate [lb/day] = Conc [ug/m^3] x Flow Rate [sft^3/min] x (1m^3/35.3ft^3) x (1g/1,000000 ug) x (1lb/454 g) x (1440 min/day)

3. Cumulative Mass Recovered/Discharged [lb/day] = Recovery/Discharge Rate (Influent or Effluent, lbs. per day) x Flow Rate [sft^3/min] - previous Flow Rate [sft^3/min] ÷ 24 hours + previous calculated Cumulative Mass Recovered/Discharged. Influent measurements were used to determine the total mass of hydrocarbons recovered in the vapor phase from Train 1. Total Mass of hydrocarbons recovered by the System as reported in the text of the report also includes the total mass of hydrocarbons recovered from Trains 2 and 3.

TABLE 6: SVE ANALYTICAL SUMMARY
Vapor Train No. 2

Facility Name: Former Phillips 66 Facility No. 255353 (AOC 1396)
Facility Address: 600 Westlake Avenue North, Seattle, WA
Ecology Facility ID#: 46445373
Ecology VCP No: NW1714

If Non-Detect Use MDL "U"
Not Sampled = NS
Analytical Results = µg/m^3

Sample Location	Sample ID	Date	Hour Meter	Flow Rate (scfm)	PID (ppm)	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total VOCs	THCg (ug/m^3)	THCg[1] (ppmv)	Recovery Rate (Influent)/ Emission Rate (Effluent)[2] Rate (lb/day)	Cumulative Mass Recovered / Discharged[3] (lbs)
V-INF-2	Inf-2	08/17/16	10,238	75.5	NM	Not Sampled								
	Inf-2	08/18/16	10,258	153.1	14.2	11.7 U	27.7 U	31.7 U	95.4 U	**166.5**	**3,900**	0.92	0.05	0.04
	Inf-2	08/22/16	10,354	167.1	NM	**1.3**	**5.6**	1.5 U	**7.3**	**15.7**	**3,420**	0.81	0.05	0.25
	Inf-2	08/29/16	10,522	167.4	NM	26.20 U	**60.4**	35.6 U	107.0 U	**229.2**	**19,700**	4.66	0.30	2.32
	Not Sampled	09/19/16	NM	NM	NM	Not Sampled								
	Not Sampled	09/26/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/05/16	NM	NM	NM	Not Sampled								
	Inf-2	10/06/16	10,949	179.8	NM	**48.70**	**185.00**	32.9 U	**181.00**	447.6	**42,100**	9.97	0.68	14.43
	Not Sampled	10/07/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/12/16	NM	NM	NM	Not Sampled								
	Inf-2	10/21/16	11,310	128.7	NM	**1.3**	**146.0**	**7.2**	**34.6**	189.1	**2,510**	0.59	0.03	14.86
	Inf-2	11/02/16	11,597	81.3	NM	14.9 U	35.3 U	40.3 U	121.0 U	211.5	4,750 U	1.12	0.03	15.28
	Inf-2	11/16/16	11,936	101.8	NM	**0.89**	**10.2**	2.2 U	**12.1**	25.4	**1,930**	0.46	0.02	15.53
	Inf-2	11/22/16	12,076	NM	NM	**1.5**	**16.9**	**3.6**	**24.4**	46.4	**1,520**	0.36	0.01	15.61
V-INT-2	Not Sampled	08/17/16	10,238	75.5	NM	Not Sampled								
	Int -2	08/18/16	10,258	153.1	14.2	13.6 U	32.3 U	37.0 U	111.0 U	193.9 U	2,990 U	0.71	0.04	NA
	Not Sampled	08/22/16	10,354	167.1	NM	Not Sampled								
	Not Sampled	08/29/16	10,522	167.4	NM	Not Sampled								
	Not Sampled	09/19/16	NM	NM	NM	Not Sampled								
	Not Sampled	09/26/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/05/16	NM	NM	NM	Not Sampled								
	Int -2	10/06/16	10,949	179.8	NM	**20.7**	**145.0**	35.6 U	107.0 U	308.3	**24,500**	5.80	0.40	NA
	Not Sampled	10/07/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/12/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/21/16	11,310	128.7	NM	Not Sampled								
	Not Sampled	11/02/16	11597	81.3	NM	Not Sampled								
	Not Sampled	11/16/16	11,936	101.8	NM	Not Sampled								
	Not Sampled	11/22/16	12,076	NM	NM	Not Sampled								
V-DSCHG-2	Not Sampled	08/17/16	10,238	75.5	NM	Not Sampled								
	Eff-2	08/18/16	10,258	153.1	14.2	12.2 U	28.8 U	32.9 U	99.1 U	173.0 U	2,660 U	0.63	0.04	0.03
	Not Sampled	08/22/16	10,354	167.1	NM	Not Sampled								
	Not Sampled	08/29/16	10,522	167.4	NM	Not Sampled								
	Not Sampled	09/19/16	NM	NM	NM	Not Sampled								
	Not Sampled	09/26/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/05/16	NM	NM	NM	Not Sampled								
	Eff-2	10/06/16	10,949	179.8	NM	**21.6**	**155.0**	38.5 U	116.0 U	331.1	**20,900**	4.95	0.34	9.75
	Not Sampled	10/07/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/12/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/21/16	11,310	128.7	NM	Not Sampled								
	Not Sampled	11/02/16	11597	81.3	NM	Not Sampled								
	Not Sampled	11/16/16	11,936	101.8	NM	Not Sampled								
	Not Sampled	11/22/16	12,076	NM	NM	Not Sampled								
PSCAA Threshold Concentration[1]												200		

Notes:

There are three sets (or trains) of two vapor phase carbon units (for a total of six) used to treat extracted vapors. The two carbon units associated with each train are plumbed in series. Samples Inf-2, Int-2 and Eff-2 were collected from sample ports associated with the second train of vapor phase carbon units. The influent sample ports for each train are located prior to the first carbon units. The intermediate sample ports for each train are located between the first and second carbon units. The effluent sample ports for each train are located after the second (and last) carbon units. The sample port locations are shown on Figure 3.

VOCs = Volatile Organic Compounds (Benzene, Toluene, Ethylbenzene and Total Xylenes)

U = Analyte not detected above the referenced laboratory method reporting limit.

1. THCg ppmv = THC (ug/m^3)/42.23 (conversion factor for molar volume @ STP)/M (molucular weight of THC [100]). PSCAA Permit (Registration #29548) requires a minimum control efficiency of 97% when the TPH (THC) influent concentration is greater than or equal to 200 ppmv. None of the THCg concentrations exceed 200 ppmv.

2. Recovery/Emission Rate [lb/day] = Conc [ug/m^3] x Flow Rate [sft^3/min] x (1m^3/35.3ft^3) x (1g/1,000000 ug) x (1lb/454 g) x (1440 min/day)

3. Cumulative Mass Recovered/Discharged [lb/day] = Recovery/Discharge Rate (Influent or Effluent, lbs. per day) x Flow Rate [sft^3/min] - previous Flow Rate [sft^3/min] ÷ 24 hours + previous calculated Cumulative Mass Recovered/Discharged. Influent measurements were used to determine the total mass of hydrocarbons recovered in the vapor phase from Train 1. Total Mass of hydrocarbons recovered by the System as reported in the text of the report also includes the total mass of hydrocarbons recovered from Trains 1 and 3.

TABLE 7: SVE ANALYTICAL SUMMARY
Vapor Train No. 3

Facility Name: Former Phillips 66 Facility No. 255353 (AOC 1396)
Facility Address: 600 Westlake Avenue North, Seattle, WA
Ecology Facility ID#: 46445373
Ecology VCP No: NW1714

If Non-Detect Use MDL "U"
Not Sampled = NS
Analytical Results = µg/m^3

Sample Location	Sample ID	Date	Hour Meter	Flow Rate (scfm)	PID (ppm)	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total VOCs	THCg (ug/m^3)	THCg[1] (ppmv)	Recovery Rate (Influent)/ Emission Rate (Effluent)[2] Rate (lb/day)	Cumulative Mass Recovered / Discharged[3] (lbs)
V-INF-3	Inf-3	08/17/16	10,238	75.5	NM	Not Sampled								
	Inf-3	08/18/16	10,258	153.1	14.2	14.2 U	33.7 U	38.5 U	116.0 U	**202.4**	**3,120**	0.74	0.04	0.04
	Inf-3	08/22/16	10,354	167.1	NM	1.1 U	**5.2**	1.5 U	**7.0**	**14.8**	**3,170**	0.75	0.05	0.23
	Inf-3	08/29/16	10,522	167.4	NM	26.20 U	**80.6**	35.6 U	**148.0**	**290.4**	2,880 U	0.68	0.04	0.53
	Not Sampled	09/19/16	NM	NM	NM	Not Sampled								
	Not Sampled	09/26/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/05/16	NM	NM	NM	Not Sampled								
	Inf-3	10/06/16	10,949	179.8	NM	**51.00**	**154.00**	35.6 U	**176.00**	416.6	**39,600**	9.38	0.64	11.91
	Not Sampled	10/07/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/12/16	NM	NM	NM	Not Sampled								
	Inf-3	10/21/16	11,310	128.7	NM	**1.9**	**7.7**	**3.0**	**18.3**	30.9	**1,500**	0.36	0.02	12.17
	Inf-3	11/02/16	11,597	81.3	NM	16.4 U	38.8 U	44.4 U	134.0 U	233.6	5,230 U	1.24	0.04	12.63
	Inf-3	11/16/16	11,936	101.8	NM	0.78 U	**6.7**	2.1 U	**10.8**	20.4	**1,680**	0.40	0.02	12.85
	Inf-3	11/22/16	12,076	NM	NM	**1.4**	**11.1**	**3.1**	**20.7**	36.3	**943**	0.22	0.01	12.90
V-INT-3	Not Sampled	08/17/16	10,238	75.5	NM	Not Sampled								
	Int -3	08/18/16	10,258	153.1	14.2	12.6 U	29.9	34.1 U	103.0 U	179.6	2,760 U	0.65	0.04	NA
	Not Sampled	08/22/16	10,354	167.1	NM	Not Sampled								
	Not Sampled	08/29/16	10,522	167.4	NM	Not Sampled								
	Not Sampled	09/19/16	NM	NM	NM	Not Sampled								
	Not Sampled	09/26/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/05/16	NM	NM	NM	Not Sampled								
	Int -3	10/06/16	10,949	179.8	NM	**68.8**	**304.0**	**44.2**	**215.0**	632.0	**33,400**	7.91	0.54	NA
	Not Sampled	10/07/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/12/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/21/16	11,310	128.7	NM	Not Sampled								
	Not Sampled	11/02/16	11597	81.3	NM	Not Sampled								
	Not Sampled	11/16/16	11,936	101.8	NM	Not Sampled								
	Not Sampled	11/22/16	12,076	NM	NM	Not Sampled								
V-DSCHG-3	Not Sampled	08/17/16	10,238	75.5	NM	Not Sampled								
	Eff-3	08/18/16	10,258	153.1	14.2	13.1 U	31.1	35.6 U	107.0 U	186.8	2,880 U	0.68	0.04	0.03
	Not Sampled	08/22/16	10,354	167.1	NM	Not Sampled								
	Not Sampled	08/29/16	10,522	167.4	NM	Not Sampled								
	Not Sampled	09/19/16	NM	NM	NM	Not Sampled								
	Not Sampled	09/26/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/05/16	NM	NM	NM	Not Sampled								
	Eff-3	10/06/16	10,949	179.8	NM	Not Analyzed Due to Insufficent Sample Volume Upon Receipt at Laboratory								
	Not Sampled	10/07/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/12/16	NM	NM	NM	Not Sampled								
	Not Sampled	10/21/16	11,310	128.7	NM	Not Sampled								
	Not Sampled	11/02/16	11597	81.3	NM	Not Sampled								
	Not Sampled	11/16/16	11,936	101.8	NM	Not Sampled								
	Not Sampled	11/22/16	12,076	NM	NM	Not Sampled								
PSCAA Threshold Concentration[1]												200		

Notes:

There are three sets (or trains) of two vapor phase carbon units (for a total of six) used to treat extracted vapors. The two carbon units associated with each train are plumbed in series. Samples Inf-3, Int-3 and Eff-3 were collected from sample ports associated with the third train of vapor phase carbon units. The influent sample ports for each train are located prior to the first carbon units. The intermediate sample ports for each train are located between the first and second carbon units. The effluent sample ports for each train are located after the second (and last) carbon units. The sample port locations are shown on Figure 3.

VOCs = Volatile Organic Compounds (Benzene, Toluene, Ethylbenzene and Total Xylenes)

U = Analyte not detected above the referenced laboratory method reporting limit.

1. THCg ppmv = THCg (ug/m^3)/42.23 (conversion factor for molar volume @ STP)/M (molucular weight of THC [100]). PSCAA Permit (Registration #29548) requires a minimum control efficiency of 97% when the TPH (THC) influent concentration is greater than or equal to 200 ppmv. None of the THCg concentrations exceed 200 ppmv.

2. Recovery/Emission Rate [lb/day] = Conc [ug/m^3] x Flow Rate [sft^3/min] x (1m^3/35.3ft^3) x (1g/1,000000 ug) x (1lb/454 g) x (1440 min/day)

3. Cumulative Mass Recovered/Discharged [lb/day] = Recovery/Discharge Rate (Influent or Effluent, lbs. per day) x Flow Rate [sft^3/min] - previous Flow Rate [sft^3/min] ÷ 24 hours + previous calculated Cumulative Mass Recovered/Discharged. Influent measurements were used to determine the total mass of hydrocarbons recovered in the vapor phase from Train 1. Total Mass of hydrocarbons recovered by the System as reported in the text of the report also includes the total mass of hydrocarbons recovered from Trains 1 and 2.

Table 8
SVE PID Data Summary
Phillips 66 Facility #255353 (AOC 1396)

Date	Westlake Avenue SVE Wells - PID Readings (ppm)								
	WC1	WC2	WC3	WB3	WB2	WB1	WA3	WA2	WA1
08/18/16	6.4	0.0	0.1	0.0	10.6	0.0	0.3	0.0	0.0
08/22/16	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
08/29/16	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
10/06/16	Closed	Closed	Closed	Closed	1.3	Closed	Closed	Closed	Closed
10/21/2016[1]	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11/02/16	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
11/16/16	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
11/22/2016[2]	0	0	0	0.4	0	0.1	0.1	0	0

Date	Valley Street SVE Wells - PID Readings (ppm)							
	V1	V2	V3	V4	V5	V6	V7	V9
08/18/16	0.6	0.2	1.7	0.2	1.3	0.5	0.4	0.9
08/22/16	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
08/29/16	Closed	Closed	Closed	Closed	0.5	Closed	Closed	0.7
10/06/16	1.1	0.1	0.1	0.1	0.1	1.4	0	0.5
10/21/2016[1]	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1
11/02/16	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
11/16/16	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
11/22/2016[2]	0	0	0.1	0.2	0	0	0	0.1

Date	Mercer Street SVE Wells - PID Readings (ppm)																	
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19
08/18/16	44.6	45.3	10.3	1.4	21	29.2	7.3	8.7	32.9	42.6	29.2	67.9	4.3	3.5	6.8	8.4	22.1	57.2	6.1
08/22/16	0.1	3.1	3.1	Closed	0	15.4	Closed	Closed	0.6	0.2	2.1	7.3	Closed	Closed	Closed	Closed	0.6	0.6	Closed
08/29/16	Closed	Closed	Closed	Closed	Closed	3.3	Closed	0.8	Closed	Closed	0.5	5.5	Closed	Closed	Closed	Closed	0.1	0.1	Closed
10/06/16	0.7	1.7	0.5	3	0.2	0.5	1	0.5	0.9	0	1.7	2.8	1.6	0.6	0.8	0.1	0.2	0.4	0.1
10/21/2016[1]	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.1	Closed	Closed	Closed	0.1	Closed	Closed
11/02/16	0	0	0	0	0	0.1	0.1	0	0.2	0.1	0	0	0	Closed	Closed	Closed	0	Closed	Closed
11/16/16	0	0	0	0	0	0.1	0	0	0	0.1	0	0	0	Closed	Closed	Closed	0	Closed	Closed
11/22/2016[2]	0	0	0	0	0.1	0	0	1.4	1.9	0	0	0	0	0	0.2	0.1	0	0.1	0

Date	Terry Avenue SVE Wells - PID Readings (ppm)														
	TSVE1	TSVE2	TSVE3	TSVE4	TSVE5	TSVE6	TSVE7	TSVE8	MW-65	MW-66	MW-67	MW-68	TEFR1-Air	TEFR2-Air	TMW48-Air
08/18/16	0.3	1.2	3.8	0.7	0.2	0.6	0.3	0.2	0.2	1.7	0.4	0.3	0.0	0.2	0.1
08/22/16	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	0	Closed	Closed	Closed	Closed	Closed
08/29/16	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	0	Closed	Closed	Closed	Closed	Closed
10/06/16	0.1	0	0	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0	0.1	0	0.1	0.1
10/21/2016[1]	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1
11/02/16	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
11/16/16	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
11/22/2016[2]	0.1	0.1	0	0	0.1	0	0	0.2	0.1	0	0	0	0	0.3	0.1

Notes:
1. All SVE wells were adjusted to 45 degrees open
2. All SVE wells were re-opened 100 percent
SVE = Soil Vapor Extraction
PID = Photo Ionization Detector
ppm = parts per million

Table 9
AS Flow Data Summary
Phillips 66 Facility #255353 (AOC 1396)

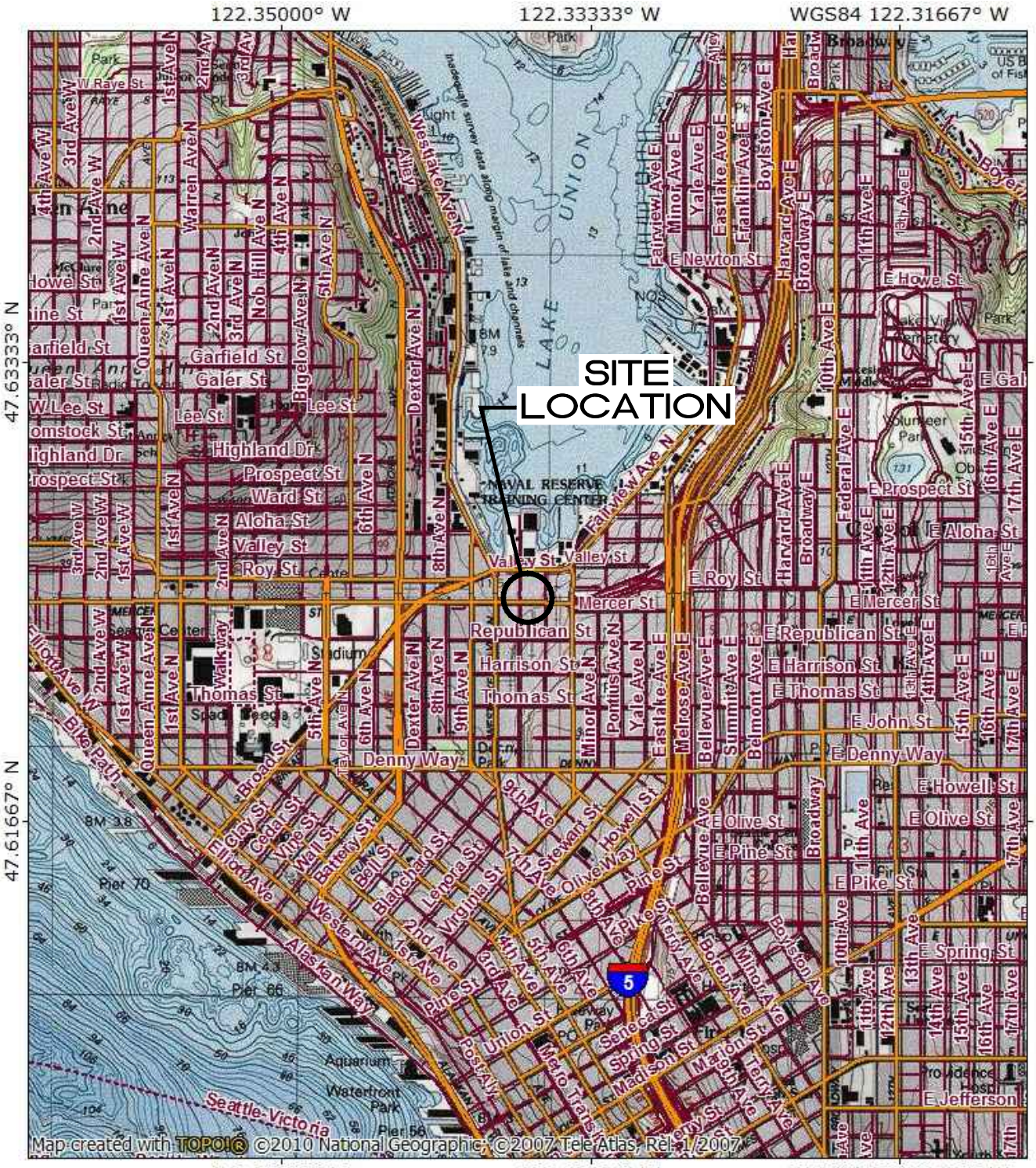
Date	Westlake Avenue AS Wells - Flow Rate Readings (scfm)																				
	W-1	W-2	W-3	W-4	W-5	W-6	W-7	W-8	W-9	W-10	W-11	W-12	W-13	W-14	W-15	W-16	W-17	W-18	W-19	W-20	W-21
08/18/16	+25[1]	4	4	1	2	5	4	5	5	3	2	4	2	4	3	4	Damaged[2]	4	4	6	6
08/22/16	+25[1]	2	2	1	2	+25[1]	3	3	3	2	1	2	NM	2	1	2	Damaged[2]	2	2	2	3
08/29/16	+25[1]	2	2	1	1	+25[1]	4	2	1	1	2	2	NM	2	1	2	Damaged[2]	3	2	2	2
10/06/16	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
10/21/16	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
11/02/16	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
11/16/16	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
11/22/16	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL

Date	Valley Street AS Wells - Flow Rate Readings (scfm)													
	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14
08/18/16	2	Damaged[2]	6	12	5	3	8	5	4	2	8	2	6	6
08/22/16	2	Damaged[2]	5	8	4	2	4	3	2	2	6	4	6	4
08/29/16	2	Damaged[2]	3	+25[1]	2	1	2	2	2	2	6	2	8	4
10/06/16	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
10/21/16	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
11/02/16	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
11/16/16	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
11/22/16	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL

Date	Mercer Street AS Wells - Flow Rate Readings (scfm)																									
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27
08/18/16	16	+25[1]	6	10	8	10	8	10	+25[1]	8	6	8	6	9	6	6	18	8	6	13	3	10	4	8	15	+25	4
08/22/16	14	+25[1]	8	8	8	12	8	8	+25[1]	6	4	11	6	8	8	4	18	6	8	+25[1]	2	8	2	6	16	+25[1]	2
08/29/16	12	+25[1]	8	10	10	12	6	10	+25[1]	6	4	10	8	8	6	4	16	6	6	+25[1]	2	8	2	6	15	+25[1]	2
10/06/16	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
10/21/16	14	+25[1]	10	+25	10	15	7	15	+25[1]	12	10	10	8	8	8	6	18	8	6	+25[1]	4	10	2	8	15	+25[1]	4
11/02/16	12	+25[1]	12	10	12	14	12	12	+25[1]	10	+25[1]	8	8	10	6	6	12	4	4	+25[1]	3	8	4	6	12	+25[1]	2
11/16/16	14	+25[1]	8	12	12	14	10	12	+25[1]	8	6	6	6	8	6	4	16	6	4	+25[1]	2	6	4	4	12	+25[1]	4
11/22/16	12	+25[1]	8	10	+25[1]	12	15	11	+25[1]	8	4	8	6	10	6	6	12	4	4	+25[1]	2	8	2	4	12	+25[1]	2

Notes:
AS = Air Sparge
SCFM = Standard Cubic Feet per Minute
NM - Not Measured
OL = Off Line
1. Rotometer pegged at 25 scfm (not accurate reading - rotometer likely "stuck").
2. Rotometers were repaired/replaced on October 5, 2016.

FIGURES



NATIONAL GEOGRAPHIC

0 .5 1 MILES
1000 0 1000 2000 3000 4000 5000 FEET
1 .5 0 KILOMETERS 1
1000 0 METERS 1000

TN 16° MN

06/20/14

N

SOURCE: USGS TOPO MAP, SEATTLE SOUTH E, WA QUAD, 1983

SITE VICINITY MAP

PHILLIPS 66 FACILITY NO. 255353 (AOC 1396)
600 WESTLAKE AVENUE N
SEATTLE, WA

PROJECT NUMBER: Z076000073		DATE: 5/3/17	FIGURE 1
APPROVED BY: KS		DRAWN BY: BK	

ATC
6347 Seaview Avenue NW
Seattle, Washington 98107
Ph: (206) 781-1449 *** Fax: (206) 781-1543

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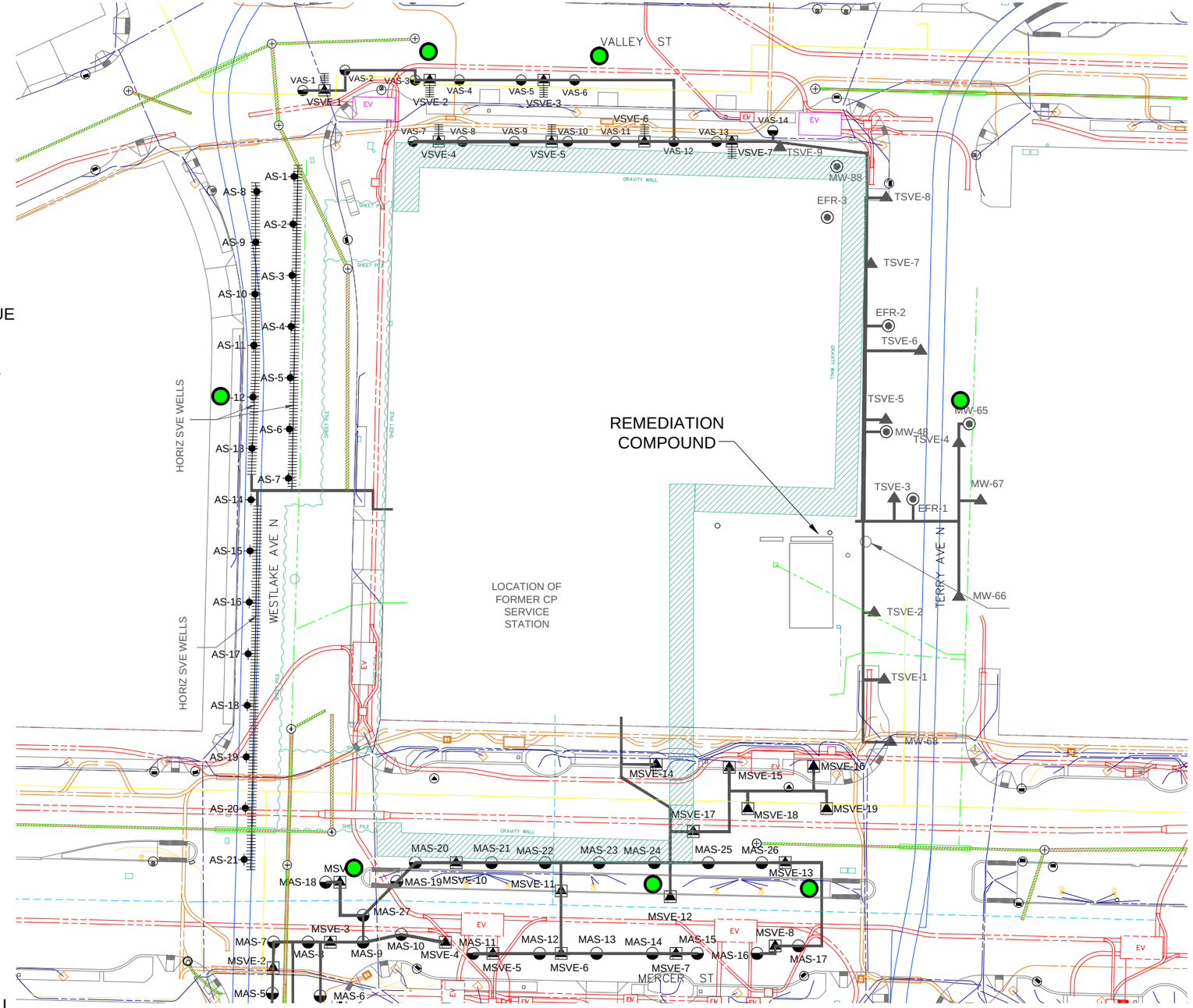
LEGEND:

- LAMP POST LOCATION
- WATER LINE LOCATION
- PROPERTY LINES
- TRENCH ROUTES
- AS-1 — AIR SPARGE WELL ON WESTLAKE AVENUE
- HORIZONTAL SVE WELL
- TSVE-1 — SVE WELLS ON TERRY AVENUE
- MW-67 — MONITORING WELL
- EFR-1 — ENHANCED FLUID RECOVERY WELL
- MAS-1 — AS WELL ON MERCER
- MSVE-7 — SVE WELLS ON MERCER
- VAS-13 — VALLEY STREET AS WELL
- VSVE-7 — VALLEY STREET HORIZONTAL SVE WELL
- ELECTRICAL LINE LOCATION FOR STREET LIGHTS
- SANITARY/ STORM SEWER LOCATION
- STORM SEWER MANHOLE/CATCH BASIN LOCATION
- ELECTRICAL LINE LOCATION (SCL)
- COMMUNICATION LINE LOCATION
- GAS LINE LOCATION
- STREET CAR LINE LOCATION
- SHEET PILE LOCATION
- GRAVITY WALL LOCATION
- PROPOSED MONITORING WELL



N

APPROXIMATE SCALE

0 60 120 Feet

NOTES:

1. LOCATIONS OF SITE FEATURES CONSTRUCTED FOR THE P-66 REMEDIATION SYSTEM (REMEDIATION COMPOUND, ON-SITE TRENCHES, TERRY AVE. TRENCH EXTENSION) HAVE NOT BEEN SURVEYED AND ARE APPROXIMATE.

2. LOCATIONS OF ALL OTHER SITE AND AREA FEATURES ARE BASED ON PLANS SUPPLIED BY SDOT, AND HAVE NOT BEEN VERIFIED BY THE PROJECT ENGINEER.

SITE LAYOUT DIAGRAM

PHILLIPS 66 FACILITY NO. 255353
600 WESTLAKE AVENUE NORTH
SEATTLE, WA

PROJECT NUMBER: Z076000073		DATE: 5/3/17	FIGURE 2
APPROVED BY: KS		DRAWN BY: BK	

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Seattle, Washington 98107
Ph: (206) 781-1449 *** Fax: (206) 781-1543

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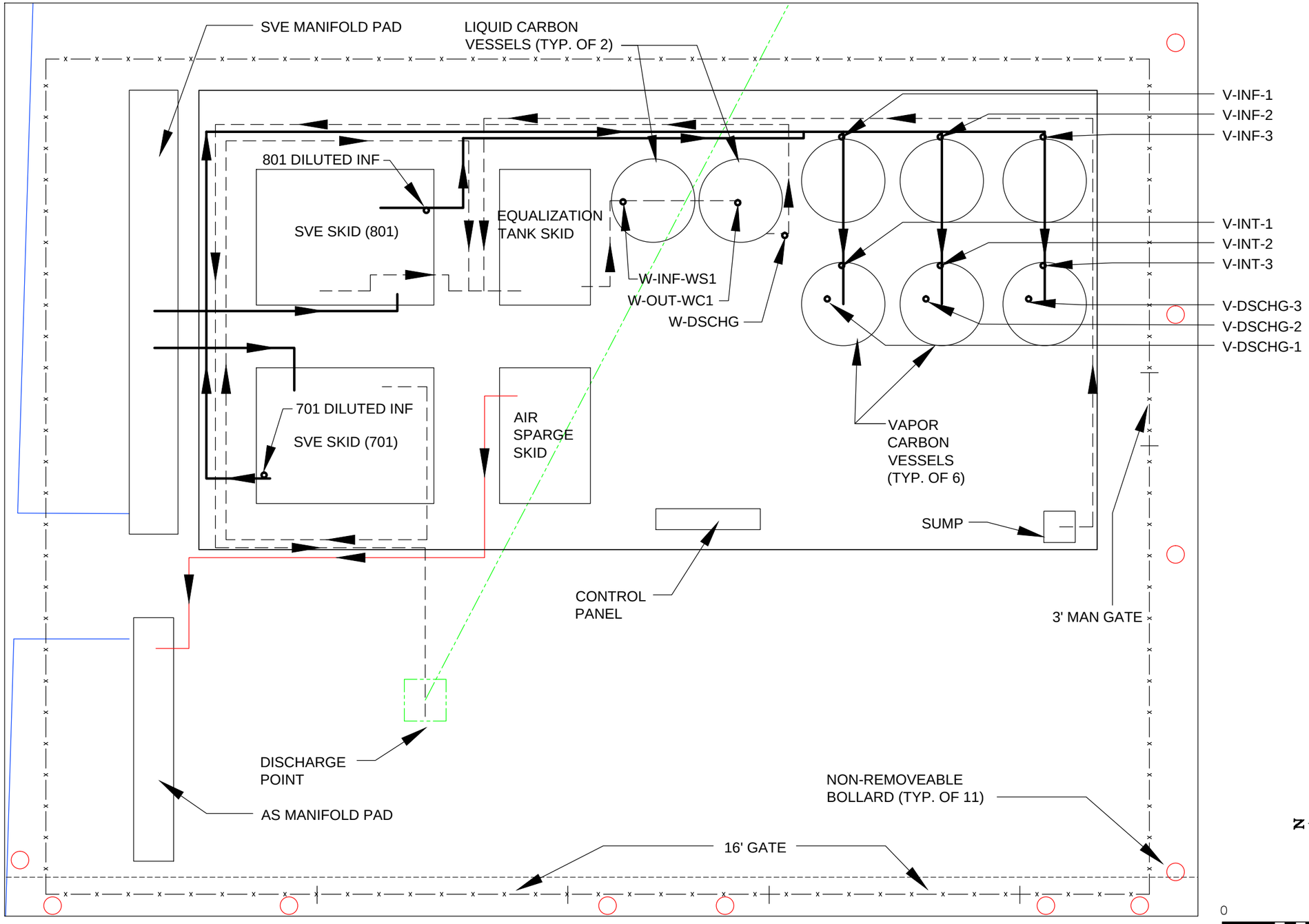
NOTES:

1. LOCATIONS OF SITE FEATURES CONSTRUCTED FOR THE P-66 REMEDIATION SYSTEM (REMEDIATION COMPOUND, ON-SITE TRENCHES) HAVE NOT BEEN SURVEYED AND ARE APPROXIMATE.

2. LOCATIONS OF ALL OTHER SITE AND AREA FEATURES ARE BASED ON PLANS SUPPLIED BY SDOT, AND HAVE NOT BEEN VERIFIED BY THE PROJECT ENGINEER.



LEGEND

- SVE TRENCHING
- SANITARY/ STORM SEWER LOCATION
- AIR SPARGE REMEDIATION PIPING
- COMPOUND FENCE LOCATION
- VAPOR REMEDIATION PIPING
- WATER REMEDIATION PIPING
- SAMPLE POINT
- BOLLARD LOCATION

REMEDIATION SYSTEM LAYOUT

PHILLIPS 66 FACILITY NO. 255353
600 WESTLAKE AVENUE NORTH
SEATTLE, WA

PROJECT NUMBER: Z076000073		DATE: 4/21/17	FIGURE
APPROVED BY: KS		DRAWN BY: BK	3

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APPENDIX A

Cumulative historical system operational and performance data

Table 1. Vapor Phase Analytical Results Summary
PHILLIPS 66 FACILITY #255353 (AOC 1396)

Sample Location	Sample Date	Analytical Vapor Results, Vapor Train 1 (EPA Method TO-15 for VOCs) (µg/m3)						*THCg (ppmv)
		THCg	Benzene	Toluene	Ethylbenzene	m&p Xylenes	o-Xylenes	
V1 Influent	01/27/14	77,100	ND<12.6	121	86	411	81.8	18.3
V1 Intermediate		54,100	ND<21.9	128	ND<59.3	ND<119	ND<59.3	12.8
V1 Effluent		30,500	ND<12.2	ND<12.3	ND<12.4	ND<12.5	ND<12.6	7.2
V1 Influent	02/19/14	158,000	84	598	1,370	9,450	2,150.0	37.4
V1 Intermediate		ND<2040	ND<10.9	ND<25.9	ND<29.6	ND<59.1	ND<29.6	NC
V1 Effluent		7,800	ND<10.9	38	ND<29.6	ND<59.1	ND<29.6	1.8
V1 Influent	03/10/14	181,000	227	2,380	3,110	21,000	9,420.0	42.9
V1 Intermediate		4,560	ND<11.3	27.6	ND<30.6	ND<61.2	ND<30.6	1.1
V1 Effluent		8,660	ND<13.6	40	ND<37.0	ND<73.9	ND<37.0	2.1
V1 Influent	04/16/14	156,000	119	2,050	1,430	9,170	3,630.0	36.9
V1 Intermediate		ND<1220	ND<6.5	32	ND<17.6	ND<35.2	ND<17.6	NC
V1 Effluent		ND<1220	ND<6.5	ND<15.4	ND<17.6	ND<35.2	ND<17.6	NC
V1 Influent	05/08/14	107,000	28	483	745	7,240	2,720.0	25.3
V1 Intermediate		4,120	ND<6.5	ND<15.4	ND<17.6	ND<35.2	ND<17.6	1.0
V1 Effluent		5,110	ND<6.5	ND<15.4	ND<17.6	ND<35.2	ND<17.6	1.2
V1 Influent	06/25/14	55,200	ND<76	309	277	5,840	2,280	13.1
V1 Intermediate		9,600	19.3	231	148	773	38	2.3
V1 Effluent		ND<2040	20.6	36.5	ND<29.6	ND<59.1	ND<29.6	NC
V1 Influent	07/09/14	131,000	ND<58.4	235.0	253	5,360	2,460	31.0
V1 Intermediate		ND<3520	ND<37.6	ND<44.6	ND<51.0	ND<102	ND<51.0	NC
V1 Effluent		9,860	17	29.7	ND<22.3	ND<44.5	ND<22.3	2.3
V1 Influent	08/05/14	33,900	ND<37.6	127	ND<102	1,560	701	8.0
V1 Intermediate		2,630	ND<11.7	ND<27.7	ND<31.7	ND<63.4	ND<79.5	0.6
V1 Effluent		ND<2190	ND<11.7	28.6	ND<31.7	ND<63.4	ND<79.5	NC
V1 Influent	09/04/14	20,500	ND<10.9	51.5	ND<78.6	3,730	1,720	4.9
V1 Intermediate		ND<2040	ND<10.9	88.1	ND<78.6	ND<59.1	ND<29.6	NC
V1 Effluent		ND<2040	ND<10.9	ND<25.9	ND<78.6	ND<59.1	ND<29.6	NC
V1 Influent	10/16/14	16,500	ND<13.1	ND<31.1	ND<35.6	372	246	3.9
V1 Intermediate		ND<2120	ND<11.3	ND<26.8	ND<30.6	ND<61.2	ND<30.6	NC
V1 Effluent		16,800	64.0	84.5	ND<25.5	ND<51.0	ND<25.5	4.0
V1 Influent	11/11/14	ND<1640	ND<8.7	ND<48.3	ND<55.6	ND<119	63.1	NC
V1 Intermediate		ND<1760	ND<9.4	ND<55.4	ND<63.9	ND<128	ND<63.9	NC
V1 Effluent		ND<1760	10.2	ND<55.4	ND<63.9	ND<128	ND<63.9	NC
V1 Influent	12/10/14	6,930	ND<6.0	14.8	ND<16.1	ND<32.3	ND<16.1	1.6
V1 Intermediate		7,240	ND<11.0	ND<26.0	ND<29.7	ND<59.5	ND<29.7	1.7
V1 Effluent		10,700	ND<11.0	ND<26.0	ND<29.7	ND<59.5	ND<29.7	2.5
V1 Influent	01/20/15	ND<2120	ND<11.3	ND<26.8	ND<30.6	ND<61.2	ND<30.6	NC
V1 Intermediate		2,100	ND<10.9	ND<129	ND<29.6	ND<59.1	ND<29.6	0.5
V1 Effluent		2,660	ND<12.6	ND<149	ND<34.2	ND<68.5	ND<34.2	0.6
V1 Influent	02/25/15	ND<1750	ND<9.4	ND<22.2	ND<25.3	ND<50.7	ND<25.3	NC
V1 Intermediate		ND<2060	ND<11.0	ND<26.0	ND<29.7	ND<59.5	ND<29.7	NC
V1 Effluent		ND<2060	ND<11.0	ND<26.0	ND<29.7	ND<59.5	ND<29.7	NC
V1 Influent	03/18/15	1,970	ND<6.1	23.1	ND<82.5	44.4	ND<82.5	0.5
V1 Intermediate		3,310	19.4	342	ND<74.2	ND<29.6	ND<74.2	0.8
V1 Effluent		2,720	ND<3.3	10.2	ND<44.7	ND<17.8	ND<44.7	0.6
PSCAA Threshold Concentration *								200

Table 1. Vapor Phase Analytical Results Summary
PHILLIPS 66 FACILITY #255353 (AOC 1396)

Sample Location	Sample Date	Analytical Vapor Results, Vapor Train 2 (EPA Method TO-15 for VOCs) (µg/m3)						*THCg (ppmv)
		THCg	Benzene	Toluene	Ethylbenzene	m&p Xylenes	o-Xylenes	
V2 Influent	01/27/14	179,000	ND<13.1	750	1,110	5,390	1,530	42.4
V2 Intermediate		62,300	ND<11.3	34.5	ND<30.6	ND<61.2	ND<30.6	14.8
V2 Effluent		32,500	ND<12.6	39.5	ND<34.1	ND<68.3	ND<34.1	7.7
V2 Influent	02/19/14	153,000	88	432	1,030	4,540	1,600	36.2
V2 Intermediate		5,700	ND<10.9	30.7	ND<29.6	ND<59.1	ND<29.6	1.3
V2 Effluent		7,750	ND<10.9	31.4	ND<29.6	ND<59.1	ND<29.6	1.8
V2 Influent	03/10/14	219,000	214	2,230	2,910	19,000	5,800	51.9
V2 Intermediate		9,140	ND<10.9	ND<25.9	ND<29.6	ND<59.1	ND<29.6	2.2
V2 Effluent		6,320	ND<12.2	ND<28.8	ND<32.9	ND<65.8	ND<32.9	1.5
V2 Influent	04/16/14	162,000	85	1,420	988	5,510	2,530	38.4
V2 Intermediate		ND<1220	ND<6.5	22.9	ND<17.6	ND<35.2	ND<17.6	NC
V2 Effluent		ND<1220	ND<6.5	30.3	ND<17.6	ND<35.2	ND<17.6	NC
V2 Influent	05/08/14	103,000	ND<16.2	435	711	8,340	2,660.0	24.4
V2 Intermediate		3,310	ND<6.5	ND<15.4	ND<17.6	ND<35.2	ND<17.6	0.8
V2 Effluent		5,620	ND<6.5	ND<15.4	ND<17.6	ND<35.2	ND<17.6	1.3
V2 Influent	06/25/14	23,200	ND<73.4	ND<174	ND<199	2,820	1,070	5.5
V2 Intermediate		12,900	19.4	143	34	ND<61.2	ND<30.6	3.1
V2 Effluent		ND<2040	12	ND<25.9	ND<29.6	ND<59.1	ND<29.6	NC
V2 Influent	07/09/14	46,000	ND<56.5	154	146	3,040	1,290	10.9
V2 Intermediate		ND<3520	ND<37.6	ND<44.6	ND<51.0	ND<102	ND<51.0	NC
V2 Effluent		6,900	ND<18.8	28.0	ND<25.5	ND<51.0	ND<25.5	1.6
V2 Influent	08/05/14	39,300	ND<22.0	83.7	ND<59.5	1,230	571	9.3
V2 Intermediate		ND<2120	ND<11.3	ND<26.8	ND<30.6	ND<61.2	ND<76.8	NC
V2 Effluent		10,600	ND<11.7	ND<27.7	ND<31.7	ND<63.4	ND<79.5	2.5
V2 Influent	09/04/14	19,500	ND<10.9	39.3	ND<78.6	1,780	910	4.6
V2 Intermediate		ND<2040	ND<10.9	ND<25.9	ND<78.6	ND<59.1	ND<29.6	NC
V2 Effluent		ND<2040	ND<10.9	ND<25.9	ND<78.6	ND<59.1	ND<29.6	NC
V2 Influent	10/16/14	67,800	ND<13.1	ND<31.1	ND<35.6	238	171	16.1
V2 Intermediate		ND<2120	ND<11.3	ND<26.8	ND<30.6	ND<61.2	ND<30.6	NC
V2 Effluent		7,860	ND<9.4	ND<22.3	ND<25.5	ND<51.0	ND<25.5	1.9
V2 Influent	11/11/14	ND<1640	8.2	ND<48.3	ND<55.6	ND<111	58.0	NC
V2 Intermediate		ND<2060	ND<11.0	ND<64.7	ND<74.6	ND<149	ND<74.6	NC
V2 Effluent		ND<2060	ND<11.0	ND<64.7	ND<74.6	ND<149	ND<74.6	NC
V2 Influent	12/10/14	6,210	ND<7.3	ND<17.3	ND<19.8	ND<39.5	ND<19.8	1.5
V2 Intermediate		5,950	ND<11.0	ND<26.0	ND<29.7	ND<59.5	ND<29.7	1.4
V2 Effluent		3,140	ND<11.0	ND<26.0	ND<29.7	ND<59.5	ND<29.7	0.7
V2 Influent	01/20/15	ND<2190	ND<11.7	ND<27.7	ND<31.7	ND<63.4	ND<31.7	NC
V2 Intermediate		ND<1760	ND<9.4	37.4	ND<63.9	ND<51.0	ND<25.5	NC
V2 Effluent		2,360	ND<12.2	ND<143	ND<32.9	ND<65.8	ND<32.9	0.6
V2 Influent	02/25/15	2,940	ND<7.4	ND<17.6	ND<20.2	ND<40.3	32.3	0.7
V2 Intermediate		ND<1980	ND<10.6	ND<25.1	ND<28.7	115	46.7	NC
V2 Effluent		2,530	ND<11.0	ND<26.0	ND<29.7	ND<59.5	ND<29.7	0.6
V2 Influent	03/18/15	2,300	ND<5.8	ND<13.9	ND<79.5	39.7	ND<79.5	0.5
V2 Intermediate		1,500	ND<5.5	15.0	ND<74.2	ND<29.6	ND<74.2	0.4
V2 Effluent		3,470	ND<8.6	29.5	ND<117	ND<46.8	ND<117	0.8
PSCAA Threshold Concentration *								200

Table 1. Vapor Phase Analytical Results Summary
PHILLIPS 66 FACILITY #255353 (AOC 1396)

Sample Location	Sample Date	Analytical Vapor Results, Vapor Train 3 (EPA Method TO-15 for VOCs) (µg/m3)						*THCg (ppmv)
		THCg	Benzene	Toluene	Ethylbenzene	m&p Xylenes	o-Xylenes	
V3 Influent	01/27/14	261,000	184	1,680	2,440	9,530	3,590	61.8
V3 Intermediate		108,000	ND<13.6	39.5	ND<37.0	ND<73.9	ND<37.0	25.6
V3 Effluent		31,800	ND<10.9	ND<25.9	ND<29.6	ND<59.1	ND<29.6	7.5
V3 Influent	02/19/14	165,000	85	456	1,070	4,550	1,650	39.1
V3 Intermediate		2,640	ND<10.9	ND<25.9	ND<29.6	ND<59.1	ND<29.6	0.6
V3 Effluent		3,220	ND<10.9	34.1	ND<29.6	ND<59.1	ND<29.6	0.8
V3 Influent	03/10/14	209,000	204	2,110	2,830	18,400	5,550	49.5
V3 Intermediate		8,010	ND<10.8	27.3	ND<29.5	ND<59.0	ND<29.5	1.9
V3 Effluent		4,980	ND<10.9	ND<25.9	ND<29.6	ND<59.1	ND<29.6	1.2
V3 Influent	04/16/14	167,000	78	1,320	882	6,860	2,290	39.5
V3 Intermediate		ND<1220	ND<6.5	18	ND<17.6	ND<35.2	ND<17.6	NC
V3 Effluent		ND<1220	ND<6.5	30.8	ND<17.6	ND<35.2	ND<17.6	NC
V3 Influent	05/08/14	134,000	33	641	1,060	11,600	3,690.0	31.7
V3 Intermediate		9,300	ND<6.5	ND<15.4	ND<17.6	ND<35.2	ND<17.6	2.2
V3 Effluent		3,970	ND<6.5	ND<15.4	ND<17.6	ND<35.2	ND<17.6	0.9
V3 Influent	06/25/14	ND<28400	ND<152	ND<360	ND<412	3,140	1,130	NC
V3 Intermediate		19,100	24.5	188	130	944	207	4.5
V3 Effluent		ND<2120	ND<11.3	ND<26.8	ND<30.6	ND<61.2	ND<30.6	NC
V3 Influent	07/09/14	83,400	ND<56.5	172	180	3,440	1,540	19.7
V3 Intermediate		ND<2120	ND<22.6	27.9	ND<30.6	ND<61.2	ND<30.6	NC
V3 Effluent		3,540	ND<18.8	22.7	ND<25.5	ND<51.0	ND<25.5	0.8
V3 Influent	08/05/14	35,700	ND<22.0	85.3	ND<59.5	1,140	519	8.5
V3 Intermediate		ND<2460	ND<13.1	ND<31.1	ND<35.6	ND<71.1	ND<89.2	NC
V3 Effluent		5,840	ND<11.3	ND<26.8	ND<30.6	ND<61.2	ND<76.8	1.4
V3 Influent	09/04/14	4,850	ND<10.9	ND<25.9	ND<78.6	1,460	640	1.1
V3 Intermediate		ND<2040	ND<10.9	ND<25.9	ND<78.6	ND<59.1	ND<29.6	NC
V3 Effluent		ND<2040	ND<10.9	ND<25.9	ND<78.6	ND<59.1	ND<29.6	NC
V3 Influent	10/16/14	15,200	ND<13.1	ND<31.1	ND<35.6	241	170	3.7
V3 Intermediate		ND<2550	ND<13.6	ND<32.3	ND<37.0	ND<73.9	ND<37.0	NC
V3 Effluent		ND<1760	ND<9.4	ND<22.3	ND<25.5	ND<51.0	ND<25.5	NC
V3 Influent	11/11/14	ND<1750	ND<9.4	ND<55.2	ND<63.6	ND<127	65.6	NC
V3 Intermediate		ND<1760	ND<9.4	ND<55.4	ND<63.9	ND<128	ND<63.9	NC
V3 Effluent		ND<1540	ND<8.2	ND<48.4	ND<55.8	ND<112	ND<55.8	NC
V3 Influent	12/10/14	6,140	ND<9.4	ND<22.3	ND<25.5	ND<51.0	ND<25.5	1.5
V3 Intermediate		ND<2060	ND<11.0	ND<26.0	ND<29.7	ND<59.5	ND<29.7	NC
V3 Effluent		7,100	ND<11.0	ND<26.0	ND<29.7	ND<59.5	ND<29.7	1.7
V3 Influent	01/20/15	12,100	ND<11.7	ND<27.7	ND<31.7	ND<63.4	ND<31.7	2.9
V3 Intermediate		ND<2270	ND<12.2	ND<28.8	ND<32.9	ND<65.8	ND<32.9	NC
V3 Effluent		ND<2550	ND<13.6	ND<161	ND<37.0	ND<73.9	ND<37.0	NC
V3 Influent	02/25/15	3,340	ND<11.7	ND<27.7	ND<31.7	ND<63.4	ND<31.7	0.8
V3 Intermediate		ND<1980	ND<10.6	ND<25.1	ND<28.7	ND<57.3	ND<28.7	NC
V3 Effluent		ND<1980	ND<10.6	ND<25.1	ND<28.7	ND<57.3	ND<28.7	NC
V3 Influent	03/18/15	2,290	ND<5.7	14.8	ND<76.8	38.3	ND<76.8	0.5
V3 Intermediate		ND<1280	ND<6.8	28.4	ND<92.7	ND<37.0	ND<92.7	NC
V3 Effluent		2,240	ND<5.5	ND<12.9	ND<74.2	ND<29.6	ND<74.2	0.5
PSCAA Threshold Concentration *								200

Notes:
There are three sets (or trains) of two vapor phase carbon units (for a total of six) used to treat extracted vapors. The two carbon units associated with each train are plumbed in series. Samples V1 Influent, V1 Intermediate, and V1 Effluent were collected from sample ports associated with the first train of vapor phase carbon units. Samples V2 Influent, V2 Intermediate, and V2 Effluent were collected from sample ports associated with the second train of vapor phase carbon units. Samples V3 Influent, V3 Intermediate, and V3 Effluent were collected from sample ports associated with the third train of vapor phase carbon units. The influent sample ports for each train are located prior to the first carbon units. The intermediate sample ports for each train are located between the first and second carbon units. The effluent sample ports for each train are located after the second (and last) carbon units. The sample port locations are shown on Figure 2.

NC = Not Calculated due to concentration below laboratory MDL.

* THCg ppm = THCg (µg/m^3) /42.23 (conversion factor for molar volume @ STP)/M (molecular weight of THC [100]). PSCAA Permit (Registration #29548) requires a minimum control efficiency of 97% when the TPH (THC) influent concentration is greater than or equal to 200 ppmv.

Table 2. Liquid Phase Analytical Results Summary
PHILLIPS 66 FACILITY #255353 (AOC 1396)

Sample Location	Sample Date	Analytical Water Results (NWTPH-Gx/8021 for THCg and EPA Method 8260 for VOCs) (µg/L)				
		THCg	Benzene	Toluene	Ethylbenzene	Total Xylenes
W-DSCHG	01/27/14	2,250	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INT		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF		ND (<100)	ND (<1.0)	1.5	ND (<1.0)	8.6
W-DSCHG	02/20/14	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		ND (<100)	ND (<1.0)	ND (<1.0)	1.3	11.4
W-DSCHG	03/10/14	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-DSCHG	04/16/14	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	5.5
W-DSCG	05/08/14	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-DSCHG	06/25/14	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-DSCHG	07/09/14	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-DSCHG	08/13/14	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-DSCHG	09/04/14	*	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		*	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		*	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-DSCHG	10/16/14	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-DSCHG	11/11/14	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-DSCHG	12/10/14	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-DSCHG	01/21/15	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		827	10.2	82.1	11.4	86.2
W-DSCHG	02/25/15	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-DSCHG	03/18/15	ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-OUT-WC1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
W-INF-WS1		ND (<100)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<3.0)
KCIW Permit Limits			70	1,400	1,700	2,200

Notes:
There are a total of two liquid phase carbon units plumbed in series to treat water. Samples W-INF or W-INF-WS1 were collected from a sample port located prior to the first liquid phase carbon unit. Samples W-INT or W-OUT-WC1 were collected from a sample port located between the first and second liquid phase carbon units. Samples W-DSCHG or W-DSCG were collected from the sample port located after the second (and final) liquid phase carbon unit. The sample port locations are shown on Figure 2.

KCIW Permit Maximum Allowable Concentrations:
Benzene – 0.07 mg/L (70 µg/L); Ethylbenzene – 1.7 mg/L (1,700 µg/L); Toluene – 1.4 mg/L (1,400 µg/L); Total Xylenes – 2.2 mg/L (2,200 µg/L).

* THCg analysis was requested, but the laboratory inadvertently neglected to complete the THCg analysis.

Table 3. Remediation System Operational Data Summary
PHILLIPS 66 FACILITY #255353 (AOC 1396)

	SVE System						AS System		Off-gas Treatment System									System Totals		
	Mercer-Westlake Wells			Valley-Terry Wells					VPC-1			VPC-2			VPC-3					
Date	Period Operating Hours	Wells On-line (count)	Applied Vaccum (in. H_2O)	Period Operating Hours	Wells On-line (count)	Applied Vaccum (in. H_2O)	Period Operating Hours	Applied Pressure (psi)	Flow Rate (scfm)	Influent Conc. ($\mu g/m^3$)	Estimated TPHg Removed (lbs.)	Flow Rate (scfm)	Influent Conc. ($\mu g/m^3$)	Estimated TPHg Removed (lbs.)	Flow Rate (scfm)	Influent Conc. ($\mu g/m^3$)	Estimated TPHg Removed (lbs.)	Estimated TPHg Removed (lbs.)	Estimated TPHg Removal Rate (lbs./hr)	Cumulative TPHg Removed (lbs.)
1/3/14	114	28	26	114	23	26	114	6.5	NM	95000	20.41	NM	74950	15.53	NM	54900	10.89	46.84	0.41	154.94
1/6/14	3	28	28	3	23	26	3	6	NM	95000	0.54	NM	74950	0.41	NM	54900	0.29	1.23	0.41	156.17
1/7/14	19	28	18	19	23	25	19	6	503.07	95000	3.40	485.37	74950	2.59	464.73	54900	1.82	7.81	0.41	163.98
1/8/14	28	28	18	28	23	26	28	5	NM	95000	0.00	NM	74950	0.00	NM	54900	0.00	0.00	0.00	163.98
1/9/14	24	28	22	24	23	26	24	8	515.92	95000	9.55	496.37	74950	7.25	496.38	54900	2.45	19.24	0.43	183.22
1/10/14	17	28	22	18	23	27	17	7.5	517.42	95000	3.13	502.21	74950	2.54	528.50	54900	1.96	7.62	0.43	190.84
1/13/14	79	28	22	79	23	26	80	6.5	508.97	95000	14.31	532.16	74950	11.80	548.73	54900	8.91	35.02	0.44	225.87
1/14/14	19	28	22	18	23	27	18	6.5	497.43	95000	3.36	523.97	74950	2.65	553.03	54900	2.05	8.06	0.44	233.92
1/15/14	28	28	23	28	23	27	26	7	512.50	95000	5.11	513.61	74950	4.04	537.68	54900	3.10	12.24	0.44	246.16
1/16/14	19	28	24	19	23	28	19	6	538.21	95000	3.64	533.57	74950	2.85	538.31	54900	2.10	8.59	0.45	254.75
1/17/14	25	28	34	26	23	44	25	6	441.06	95000	3.92	420.97	74950	3.07	464.49	54900	2.48	9.48	0.37	264.23
1/20/14	69	28	33	69	23	44	69	6.5	456.66	95000	11.21	452.21	74950	8.76	455.74	54900	6.47	26.44	0.38	290.67
1/21/14	29	28	46	29	23	53	29	5.5	429.86	95000	4.44	460.09	74950	3.75	466.58	54900	2.78	10.96	0.38	301.63
1/22/14	20	28	42	19	23	33	20	6.5	451.76	95000	3.22	462.40	74950	2.47	500.94	54900	1.96	7.64	0.39	309.27
1/23/14	30	28	40	30	23	32	30	8.5	418.24	95000	4.46	438.07	74950	3.69	471.91	54900	2.91	11.07	0.37	320.34
1/24/14	25	28	41	25	23	32	25	7	432.19	95000	3.84	439.34	74950	3.08	479.91	54900	2.47	9.40	0.38	329.73
1/27/14	66	28	41	66	23	31	66	6.5	431.90	77100	8.23	431.15	179000	19.08	475.41	261000	30.68	57.99	0.88	387.72
1/28/14	25	28	40	25	23	31	25	8	439.45	77100	3.17	441.02	179000	7.39	475.41	261000	11.62	22.18	0.89	409.91
1/29/14	23	28	44	23	23	59	23	8.5	450.89	77100	2.99	406.78	179000	6.27	454.55	261000	10.22	19.49	0.85	429.39
1/30/14	17	28	44	17	23	56	17	7	452.30	77100	2.22	433.34	179000	4.94	444.43	261000	7.39	14.55	0.86	443.94
1/31/14	3	28	46	3	23	47	3	8.5	429.59	77100	0.37	413.24	179000	0.83	414.10	261000	1.21	2.42	0.81	446.36
2/3/14	69	28	40	69	23	46	69	8.7	464.08	77100	9.25	430.25	179000	19.90	463.12	261000	31.24	60.39	0.88	506.75
2/4/14	28	28	46	28	23	48	28	8	399.93	77100	3.23	421.40	179000	7.91	448.73	261000	12.28	23.43	0.84	530.18
2/7/14	69	28	48	69	23	47	69	8	409.47	77100	8.16	424.23	179000	19.63	456.33	261000	30.78	58.57	0.85	588.75
2/11/14	97	28	50	97	23	51	98	6	449.75	77100	12.60	444.32	179000	28.90	451.16	261000	42.78	84.28	0.87	673.02
2/12/14	26	28	47	26	23	51	25	6	438.41	77100	3.29	482.88	179000	8.42	483.94	261000	12.30	24.01	0.92	697.03
2/13/14	19	28	48	19	23	51	20	6	422.95	77100	2.32	412.96	179000	5.26	458.18	261000	8.51	16.09	0.85	713.13
2/17/14	67	28	51	67	23	52	66	7	415.17	77100	8.03	427.60	179000	19.21	449.94	261000	29.47	56.71	0.85	769.84
2/19/14	25	28	49	25	23	49	26	7	432.53	158000	6.40	468.57	153000	6.71	487.13	165000	7.53	20.64	0.83	790.48
2/20/14	22	28	50	22	23	49	21	9	433.97	158000	5.65	458.83	153000	5.78	497.26	165000	6.76	18.20	0.83	808.68
2/25/14	122	28	48	122	23	46	122	10	438.82	158000	31.68	499.65	153000	34.93	493.41	165000	37.20	103.82	0.85	912.50
2/26/14	26	28	49	26	23	53	26	8.5	365.19	158000	5.62	395.49	153000	5.89	411.09	165000	6.61	18.12	0.70	930.62
2/27/14	23	28	50	23	23	63	23	9	359.08	158000	4.89	390.85	153000	5.15	419.23	165000	5.96	16.00	0.70	946.61
3/3/14	97	28	50	97	23	62	97	8	343.96	158000	19.75	381.85	153000	21.23	388.82	165000	23.31	64.28	0.66	1010.90
3/5/14	38	28	50	38	23	67	38	12.2	339.24	158000	7.63	370.37	153000	8.07	374.87	165000	8.80	24.50	0.64	1035.39
3/7/14	48	28	52	48	23	67	48	11.9	417.00	158000	11.85	473.58	153000	13.03	493.58	165000	14.64	39.52	0.82	1074.91
3/10/14	74	28	65	74	23	71	74	11.8	376.48	181000	18.89	415.20	219000	25.20	430.89	209000	24.96	69.05	0.93	1143.96
3/14/14	91	28	70	90	23	73	91	13.4	400.74	181000	24.72	428.35	219000	31.62	463.82	209000	32.68	89.03	0.99	1232.99
3/18/14	99	28	74	100	23	75	99	12.6	410.20	181000	27.53	442.68	219000	36.31	462.90	209000	36.24	100.08	1.00	1333.07
3/20/14	45	28	71	44	23	74	45	12.3	416.64	181000	12.71	438.17	219000	15.81	468.67	209000	16.14	44.67	1.01	1377.74
3/24/14	95	28	75	96	23	77	95	13.4	423.51	181000	27.28	473.84	219000	37.31	495.55	209000	37.24	101.83	1.06	1479.58
4/1/14	194	28	73	194	23	74	194	15.1	399.25	181000	52.51	428.93	219000	68.26	468.17	209000	71.10	191.87	0.99	1671.45
4/11/14	71	28	71	70	23	73	71	15.4	434.40	181000	20.91	478.15	219000	27.46	503.76	209000	27.61	75.97	1.08	1747.42
4/16/14	118	27	72	119	21	74	118	12.5	406.84	156000	28.05	496.74	162000	35.87	501.69	167000	37.34	101.27	0.85	1848.69
4/23/14	168	27	62	168	21	74	168	12.6	406.20	156000	39.88	464.92	162000	47.39	482.21	167000	50.67	137.95	0.82	1986.63
4/30/14	146	27	73	169	21	73	170	12.6	336.33	107000	45.29	351.75	103000	48.72	363.86	134000	65.56	159.58	0.45	2146.21
5/8/14	190	27	73	190	21	75	190	13	319.88	107000	13.08	334.30	103000	13.16	345.68	134000	17.70	43.93	0.43	2190.14
5/12/14	102	27	73	102	21	74	102	13.4	318.18	107000	29.97	333.56	103000	30.11	343.06	134000	40.29	100.37	0.43	2290.51
5/22/14	235	27	74	234	21	74	234	12.5	325.05	107000	13.03	336.54	103000	13.11	358.27	134000	18.16	44.30	0.44	2334.81

Table 3. Remediation System Operational Data Summary
PHILLIPS 66 FACILITY #255353 (AOC 1396)

	SVE System						AS System		Off-gas Treatment System									System Totals		
	Mercer-Westlake Wells			Valley-Terry Wells					VPC-1			VPC-2			VPC-3					
Date	Period Operating Hours	Wells On-line (count)	Applied Vaccum (in. H_2O)	Period Operating Hours	Wells On-line (count)	Applied Vaccum (in. H_2O)	Period Operating Hours	Applied Pressure (psi)	Flow Rate (scfm)	Influent Conc. ($\mu g/m^3$)	Estimated TPHg Removed (lbs.)	Flow Rate (scfm)	Influent Conc. ($\mu g/m^3$)	Estimated TPHg Removed (lbs.)	Flow Rate (scfm)	Influent Conc. ($\mu g/m^3$)	Estimated TPHg Removed (lbs.)	Estimated TPHg Removed (lbs.)	Estimated TPHg Removal Rate (lbs./hr)	Cumulative TPHg Removed (lbs.)
5/27/14	100	27	76	101	21	75	100	12.7	333.45	107000	22.45	376.74	103000	24.42	376.67	134000	31.76	78.63	0.47	2413.44
6/3/14	168	16	77	168	22	68	169	13.3	321.35	107000	21.38	371.88	103000	23.82	371.30	134000	30.94	76.13	0.46	2489.58
6/10/14	166	16	79	166	22	82	165	13.8	323.85	107000	18.69	339.19	103000	18.71	350.53	134000	25.16	62.56	0.44	2552.14
6/16/14	144	16	80	143	22	85	144	12.7	316.85	55200	13.95	348.40	23200	6.48	357.32	28400	8.13	28.57	0.13	2580.71
6/25/14	213	16	78	214	22	85	214	10.7	320.62	55200	0.13	337.27	23200	0.06	354.99	28400	0.08	0.27	0.13	2580.97
7/1/14	2	16	75	2	22	78	2	15.2	315.28	131000	30.17	343.08	46000	11.53	352.97	83400	21.50	63.20	0.32	2644.17
7/9/14	195	16	78	195	22	79	195	10.1	323.83	131000	11.60	376.45	46000	8.95	375.90	83400	16.21	36.76	0.34	2680.93
7/15/14	73	16	71	138	22	75	137	13.2	308.90	131000	22.28	343.61	46000	8.64	357.62	83400	16.31	47.24	0.32	2728.16
7/21/14	147	16	73	146	22	76	147	12	306.32	131000	12.78	343.95	46000	5.04	350.79	83400	9.31	27.13	0.32	2755.29
7/30/14	85	16	71	85	22	70	85	12.2	314.00	33900	5.50	338.85	39300	6.88	352.17	35700	6.50	18.88	0.14	2774.17
8/5/14	138	18	73	138	22	74	138	11.8	312.81	33900	7.31	328.88	39300	8.91	349.19	35700	8.59	24.81	0.13	2798.98
8/13/14	184	18	73	184	22	64	184	12.3	327.24	33900	7.65	343.02	39300	9.29	362.57	35700	8.92	25.86	0.14	2824.84
8/21/14	184	18	73	184	22	64	184	12	311.21	33900	4.82	388.48	39300	6.98	381.94	35700	6.23	18.03	0.15	2842.87
8/26/14	122	18	71	122	22	62	122	14.9	339.72	20500	5.50	439.51	19500	6.77	408.65	4850	1.57	13.84	0.07	2856.71
9/4/14	211	18	82	211	22	73	211	13	338.28	20500	3.79	473.59	19500	5.05	436.07	4850	1.16	10.00	0.07	2866.71
9/10/14	146	18	82	146	22	74	146	12.2	334.25	20500	4.26	462.21	19500	5.60	419.59	4850	1.27	11.13	0.07	2877.84
9/17/14	166	18	81	166	22	77	166	12.9	341.08	20500	3.30	454.77	19500	4.19	413.23	4850	0.95	8.43	0.07	2886.27
9/22/14	126	18	80	126	22	76	126	11.5	328.56	20500	5.63	452.80	19500	7.38	424.43	4850	1.72	14.72	0.07	2900.99
10/3/14	223	18	80	223	22	77	223	14	323.83	16500	6.16	416.06	67800	32.54	395.12	15200	6.93	45.64	0.15	2946.63
10/16/14	308	18	81	308	22	82	308	11	333.97	16500	6.94	426.08	67800	36.36	413.66	15200	7.91	51.21	0.15	2997.84
10/30/14	336	18	79	336	22	83	336	12.4	319.37	820	0.18	371.05	820	0.21	365.29	875	0.22	0.60	0.00	2998.44
11/11/14	181	18	79	181	22	75	181	13.1	310.64	820	0.34	401.50	820	0.44	377.78	875	0.44	1.23	0.00	2999.66
11/26/14	358	15	79	358	19	74	358	9.1	285.03	6930	1.37	337.16	6210	1.45	333.38	6140	1.42	4.24	0.02	3003.90
12/10/14	185	15	90	185	19	80	185	9	286.29	6930	2.19	350.27	6210	2.41	344.49	6140	2.35	6.95	0.02	3010.85
12/23/14	295	15	91	296	19	80	295	12.9	315.04	6930	2.33	334.14	6210	2.60	352.16	6140	2.71	7.65	0.02	3018.50
1/6/15	285	13	90	335	19	76	336	13	331.40	1060	0.44	405.42	1095	0.56	399.64	12100	6.05	7.04	0.02	3025.54
1/20/15	334	13	71	334	19	70	333	12.7	353.11	1060	0.47	301.76	1095	0.41	360.20	12100	5.44	6.32	0.02	3031.86
2/3/15	333	11	76	333	28	68	334	11.5	309.19	1060	0.09	333.62	1095	0.10	357.34	12100	1.23	1.43	0.02	3033.29
2/6/15	76	11	82	76	14	73	75	11.7	320.72	1060	0.12	343.69	1095	0.13	356.96	12100	1.54	1.79	0.02	3035.08
2/10/15	95	15	84	95	14	74	96	14.2	341.44	1060	0.09	351.01	1095	0.10	363.64	12100	1.12	1.31	0.02	3036.39
2/13/15	68	18	75	68	13	78	68	11.9	332.46	1060	0.03	323.87	1095	0.03	351.46	12100	0.32	0.37	0.02	3036.76
2/16/15	20	22	84	20	11	87	20	12.1	331.29	875	0.23	333.00	2940	0.79	341.66	3340	0.92	1.94	0.01	3038.70
2/25/15	214	22	84	215	21	87	214	11	135.72	875	0.08	158.62	2940	0.00	168.13	3340	0.00	0.08	0.00	3038.77
3/4/15	169	8	83	0	0	NM	169	10	144.32	875	0.09	162.42	2940	0.00	164.72	3340	0.00	0.09	0.00	3038.87
3/12/15	196	19	85	0	0	NM	196	9.3	134.97	1970	0.14	167.89	2300	0.00	169.75	2290	0.00	0.14	0.00	3039.01
3/18/15	140	9	100	0	0	NM	139	16.6	148.80	1970	0.13	154.76	2300	0.00	159.31	2290	0.00	0.13	0.00	3039.13
3/24/15	116	9	99	0	0	NM	117	8.5	142.43	1970	0.23	154.86	2300	0.00	159.26	2290	0.00	0.23	0.00	3039.36

Notes:

SVE	=	Soil Vapor Extraction	AS	=	Air Sparge	VPC	=	Vapor Phase Carbon
in. H_2O	=	inches of water	psi	=	pounds per square inch	scfm	=	standard cubic feet per minute
ppm	=	parts per million	($\mu g/m^3$)	=	micrograms per cubic met	TPHg	=	Total Petroleum Hydrocarbons (Gasoline)

Table 4. SVE PID Data Summary
PHILLIPS 66 FACILITY #255353 (AOC 1396)

Date	Westlake SVE Wells - PID Readings (ppm)								
	WC1	WC2	WC3	WB3	WB2	WB1	WA3	WA2	WA1
1/17/2014	6	8.6	3.4	5	10.9	3	0.2	1.2	0.5
1/20/2014	5.4	9	7.1	5.3	4.5	3.7	3.4	5.4	5.1
1/21/2014	1.8	1.7	2.7	2.2	1.6	1.3	1.3	2.3	2
1/27/2014	1	1.2	1.9	1.5	1.4	1.3	1.9	2.7	2.7
1/29/2014	1.5	1.6	2	3.2	1.9	3.2	2.3	5.8	3.3
2/3/2014	1.5	1.6	2	3.2	1.9	3.2	2.3	5.8	3.3
2/12/2014	0.2	0.1	1.7	0.8	0.1	0.1	0	0.1	0
2/19/2014	0.7	0.6	0.7	0.6	0.4	0.4	0.3	0.3	0.4
2/27/2014	0.9	1.2	1.2	1.3	1.3	1.4	1.6	1.8	1.9
3/7/2014	0.6	0.3	0.5	0.4	0.3	0.2	0.3	0.2	0.1
3/20/2014	0.7	0.6	0.5	0.4	0.4	0.4	0.3	0.2	0.3
4/16/2014	69	225	210	135	32	225	64	210	115
6/3/2014	OL	OL	OL	OL	OL	OL	OL	OL	OL
8/5/2014	OL	OL	OL	OL	OL	OL	OL	OL	OL
11/26/2014	OL	OL	OL	OL	OL	OL	OL	OL	OL
1/6/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL
1/28/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL
2/3/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL
2/6/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL
2/10/2015	OL	OL	OL	OL	OL	0	4	0.3	0.1
2/13/2015	0	0.1	6.2	0	4	0	0	0	0
2/16/2015	0	0	0	0	0	OL	OL	OL	OL
3/4/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL
3/12/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL
3/18/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL

Valley SVE Wells - PID Readings (ppm)							
V9	V7	V1	V6	V2	V5	V3	V4
7.8	3.3	2.4	4.3	15.1	38.8	3.3	69.4
4	1.8	2.3	1.6	2.3	35.8	3	2.8
5.3	1.4	2.6	2.3	9	32	2.3	2.9
4.6	1	1.1	0.8	3	42.5	2.4	5.3
3.2	1.2	1.4	2	4.8	35.2	1.4	2.1
1.4	1.2	1.7	1.4	3.3	26.9	1	1.1
0.9	0.8	1.2	1.2	2.2	27.5	1.1	2
0.8	1	0.9	1	1.5	17.3	1.3	1.1
0.7	0.6	0.7	1	1.8	31.3	0.6	0.8
0.7	0.6	0.6	0.9	1.9	31	0.4	0.8
0.6	0.7	0.4	1.5	1.5	51.1	0.5	0.3
0.1	0.1	0.1	0.1	W	81.1	W	0.1
0	0	0.1	0	0	22.8	W	0.1
--	--	--	--	--	22	W	--
--	0	W	--	W	0.1	0.3	0.7
0.2	0.4	OL	0.2	OL	0.2	OL	0.6
0.5	0.6	1	0.2	0.6	0.5	0.6	0.6
0.3	0.2	0.6	OL	0.1	0.2	OL	0.4
0	0	0.4	OL	0	0.2	OL	0.1
OL	0.1	0	OL	0.1	0	OL	0
OL	0.1	OL	OL	0	0	OL	0.1
OL	0	0.2	0	0.1	0	0	0
OL	OL	OL	OL	OL	OL	OL	OL
OL	OL	OL	OL	OL	OL	OL	OL
OL	OL	OL	OL	OL	OL	OL	OL

Date	Mercer SVE Wells - PID Readings (ppm)																	
	M6	M7	M10	M9	M8	M1	M2	M3	M4	M5	M14	M13	M15	M12	M11	M16	M17	M18	M19
1/17/2014	0.1	0.4	0.3	1.2	184	3.5	22.3	0	9.9	10.5	13	13.5	13.7	430	260	31	107	220	200
1/20/2014	5.6	7.2	10.1	16.8	171	2.2	3.5	3.7	1.1	1.2	3.2	3.3	4.3	281	235	29.7	150	184	222
1/21/2014	3.2	3	2.2	1.7	145	6.5	4.1	3.4	2.4	2	2.6	3.1	4.6	184	267	46.2	153	161	226
1/27/2014	3.5	4.8	7.5	16	236	0.9	1.2	1.1	0.7	0.5	1.5	0.6	2.9	100	355	33.8	216	183	240
1/29/2014	2.8	3.7	7.6	13.9	191	0.6	0.9	1.1	0.7	0.7	1.9	0.7	4	40	302	23	193	156	160
2/3/2014	2.8	3.7	7.6	13.9	191	0.6	0.9	1.1	0.7	0.7	1.9	0.7	4	40	302	23	193	156	160
2/12/2014	0	0.1	0	0	98.9	2	2.3	2.5	2.6	3.1	6.1	4.3	8.9	15.5	237	16.9	159	97.5	36.1
2/19/2014	0.4	0.7	0.3	0.3	78.1	1.9	2.1	2.4	2.2	2.6	4	4	7.8	18.1	192	13.5	121	65	25.9
2/27/2014	2.3	2.7	3.8	6	63.9	0.5	0.4	0.3	0.1	0.2	1.6	0.4	1.6	0.2	179	8	139	70	21.5
3/7/2014	0.1	0.3	0.1	0.1	60.5	1.8	1.4	1.1	0.8	0.8	2	0.7	1.4	0.6	178	9.5	134	71.2	21.5
3/20/2014	0.3	0.7	0.2	0.2	58	3.1	1.8	1.4	0.8	0.8	1.6	0.7	1.3	0.6	156	16.1	146	101	14.2
4/16/2014	W	0.4	0.1	2.6	49.3	1.6	0.3	0.2	0.1	0.1	1.1	0.1	0.1	0.1	183	8.3	154	118	8.5
6/3/2014	0.1	0	0.2	0.8	8	0	OL	0.1	0.1	W	1.1	0	OL	0.1	124	12.5	74.5	31	0.8
8/5/2014	--	--	--	--	7.3	--	--	--	--	W	--	--	--	--	74.1	5.1	63.7	13.1	--
11/26/2014	--	--	0.4	0.3	10.4	--	W	--	--	W	--	--	--	W	--	--	--	--	W
1/6/2015	1.9	1	OL	0.7	9	0.8	OL	0.7	1	OL	11	W	0.6	OL	7.4	4.6	9.6	4.5	OL
1/28/2015	2.9	1.4	1.5	2.5	8.9	2.5	0.1	1.3	0.2	0.2	0.4	0.8	0.2	20.5	9.5	2.6	12	3	0.8
2/3/2015	2.5	OL	0.8	2.1	9.3	2.3	OL	OL	OL	OL	OL	1.2	OL	14.9	11.5	4.8	10.7	3.8	OL
2/6/2015	1.9	OL	2.5	2.7	4.8	3	OL	OL	OL	OL	OL	4.5	OL	19.3	3.5	2.3	5.2	2	OL
2/10/2015	2	OL	0.1	0.1	2.1	0	OL	OL	OL	OL	OL	0.1	OL	11.1	4.6	0.1	6.8	0.1	OL
2/13/2015	0.1	OL	0.1	0.1	1	OL	OL	OL	OL	OL	OL	0	OL	10.6	3.8	OL	4	0	OL
2/16/2015	OL	OL	0.1	0	0.1	0	0	0	1	0	0	0	0	7.5	0.1	0	0.1	0	13.2
3/4/2015	OL	OL	0.3	0.2	1.8	OL	OL	OL	0	OL	OL	OL	OL	8.4	3.3	OL	2.1	OL	3.7
3/12/2015	0	0.3	0	0.1	1.6	10.1	0	0	0	0	0	0	0.1	8.2	1.8	1.2	1.1	1	2.4
3/18/2015	OL	OL	OL	0	0.3	0.1	OL	OL	0.5	OL	OL	OL	OL	4.9	0.9	0.1	0	OL	0.8

Date	Terry SVE Wells - PID Readings (ppm)														
	TSVE3	TEFR1 AIR	TMW65 AIR	TSVE4	TSVE11-MW67	TSVE10 - MW66	TSVE2	TSVE1	TSVE7	TSVE12-MW68	TSVE5	TSVE6	TEFR2 AIR	TSVE8	TMW48 AIR
1/17/2014	19.2	9.5	11.8	2.6	4.6	107	4.1	1.7	1.5	1.3	20.1	6.4	0.4	0.3	131
1/20/2014	26.6	10.3	8.5	8.4	11.1	125	10	5.5	3.5	4.7	6.3	5.4	4.5	2	115
1/21/2014	17.1	3.1	4.1	3.4	5.8	115	1.7	1	1.2	1.4	6.5	4.9	3.8	4.5	100
1/27/2014	15.5	5.1	3.1	1.9	3.5	116	4.2	2.2	1.1	1.2	4.7	3.7	1.3	1	113
1/29/2014	14.3	1.1	1.7	2.3	7.2	138	0.5	0.5	0.6	0.7	7.3	3.6	2.9	5.7	97.1
2/3/2014	14.3	1.1	1.7	2.3	7.2	138	0.5	0.5	0.6	0.7	2.4	2.9	2.9	6.2	69.7
2/12/2014	3.6	1	1.1	1.9	7.2	120	0.4	0.5	0.6	0.4	3.4	3.2	2.5	6.2	77.3
2/19/2014	5.6	1	1.2	1.6	3.5	71.3	0.6	0.6	0.6	0.6	2.9	2.2	2.1	2.4	47
2/27/2014	3.4	1	0.9	1.2	4.1	58.7	0.3	0.3	0.3	0.4	0.7	1.2	0.9	1.6	29.8
3/7/2014	3.5	0.9	1	1	4	52.7	0.1	0.1	0.1	0.3	0.6	1.1	0.9	1.7	26.3
3/20/2014	2.8	2.2	1.5	0.9	2.6	44.9	0.9	4.4	0.7	0.7	0.3	0.4	0.2	0.5	18.4
4/16/2014	3.2	1.5	0.8	0.2	2.5	45	1.8	1	0.2	0.3	0.2	0.1	0	0.1	16.1
6/3/2014	0.8	0.5	0.3	0.2	0.6	30.7	1.3	0.4	0.1	0.1	0	0	0.1	0	0.3
8/5/2014	--	--	--	--	--	16.3	--	--	--	--	--	--	--	--	--
11/26/2014	--	--	OL	--	--	--	--	--	--	--	--	--	OL	--	--
1/6/2015	1.9	1.4	1.9	0.3	1	0.5	0	0.5	0.4	1.4	0.3	0.4	OL	0.1	0.1
1/28/2015	1	0.9	1.9	1.8	0.6	0.6	0.7	0.7	0.7	1	0.5	0.8	0.7	0.7	0.3
2/3/2015	OL	0.1	OL	0.2	OL	OL	0.3	0.5	0.3	OL	0.2	0.4	OL	0.7	OL
2/6/2015	OL	0.4	OL	0.3	OL	OL	0.2	0.3	0.4	OL	0	0.1	OL	0.1	OL
2/10/2015	OL	0	OL	0.1	OL	OL	0.1	0	0.1	OL	0.1	0.1	OL	0.1	OL
2/13/2015	OL	OL	OL	0	OL	OL	0	0	0.1	OL	0	0.1	OL	0	OL
2/16/2015	0	0	0	0	0	0	0	0	0.1	OL	0.1	0	0	0	0
3/4/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
3/12/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
3/18/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL

SVE = Soil Vapor Extraction
PID = Photo Ionization Detector
ppm = parts per million
-- = Not Measured
OL = Offline
W = Water in Well

Table 5. AS Flow Data Summary
PHILLIPS 66 FACILITY #255353 (AOC 1396)

Date	Westlake AS Wells - Flow Rate Readings (scfm)																				
	W-1	W-2	W-3	W-4	W-5	W-6	W-7	W-8	W-9	W-10	W-11	W-12	W-13	W-14	W-15	W-16	W-17	W-21	W-20	W-19	W-18
1/23/2014	0	3	0	0	3	0	0	0	0	0	0	0	0	5	0	0	0	0	0	3	0
1/31/2014	2	4	>25	2	3.5	5	<2	<2	4.5	<2	<2	3.5	14.5	6	4	3	7	7.5	7	3	8.5
2/4/2014	2	3	>25	3	3	7	<2	5	4	2	<2	4	11	7	3	3	7	7	7	4	8.5
2/12/2014	<2	5	>25	4	<2	11	6	9	7	<2	2	6	12	7	8	4	7.5	7	8	4	9
2/17/2014	2	6	9	3	2	9	4	8	5	3	3	6	16	8	6	4	8	10	13	4	10
2/26/2014	2	10	9	6	<2	12	7	9.5	9	3	3	6	13	9	6	3	11	14	7.5	4	11
3/3/2014	2	10	10	5	3	12	8	9	4	5	4	7	13.5	10	6	6	10	8	9.5	5	11
3/18/2014	2	11	<2	6	2	16	11	14	9	4	4	<2	15	11	17	8	9	15	10	5	11
5/27/2014	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
7/9/2014	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
11/26/2014	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
2/13/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL
3/4/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL

Date	Mercer AS Wells - Flow Rate Readings (scfm)																								
	M-8	M-20	M-26	M-2	M-27	M-16	M-3	M-9	M-17	M-5	M-19	M-15	M-7	M-10	M-14	M-18	M-6	M-13	M-4	M-22	M-12	M-1	M-23	M-11	M-25	M-24	M-21
1/23/2014	9	0	0	0	0	0	0	0	7.5	0	0	0	6	0	0	1	0	0	5	0	0	0	0	0	0	0	0
1/31/2014	9	3.5	<2	<2	<2	4.5	3	5	7.5	7.5	3.5	6	5	6	>25	<2	<2	<2	5.5	5	<2	11.5	<2	<2	7.5	4	<2
2/4/2014	10	<2	<2	<2	<2	3.5	4	5	7.5	7	3	6	6	7	>25	2	<2	<2	6.5	5	<2	11.5	<2	<2	5.5	>25	7
2/12/2014	10	6	3	<2	<2	4	3.5	5	7	9	4	5.5	7	8	>25	3	<2	<2	8	6	<2	13	<2	<2	8.5	>25	7
2/17/2014	11	12	2	<2	<2	6	3.5	6	8	10	5	7	5	9	8	<2	<2	2	7	8	<2	14	2	<2	5.5	4	<2
2/26/2014	12	12	<2	<2	<2	5	4	8	8.5	11	6	6.5	6	10	9	3	2	3	8	9	3	12	2	<2	9	4	<2
3/3/2014	13	10	<2	<2	<2	5	4.5	7	9	12	5	6.5	7	11	10	4	2	3	11	9	3	13	<2	<2	8	4	2
3/18/2014	13	11	<2	<2	<2	7	5	9	10	13	8	9	8	11	11	7	<2	8	10	12	4	16	3	<2	11	6	8
5/27/2014	14	25	0	0	0	6.5	7	7	10	15	6.5	8	7	25	25	0	16	5	11	11.5	6	16	1	1	25	9	0
7/9/2014	12	25	0	0	0	5	6	7	9	12	7	6	7	20	25	0	13	5	12	10	4	16	1	1	25	7	0
11/26/2014	--	20	--	--	0	--	--	--	--	--	7	--	--	--	--	1	14	--	--	--	--	--	0	--	--	--	1
2/13/2015	11	20	0	10	OL	0	4	11	15	3	OL	6	7	0	8	OL	14	6	11	0	3	11	0	1	25	7	0
3/4/2015	--	--	--	10	OL	0	--	10	18	3	OL	--	--	1	9	OL	--	--	--	0	--	12	--	0	--	--	--

Date	Valley AS Wells - Flow Rate Readings (scfm)													
	V-6	V-7	V-8	V-9	V-10	V-5	V-11	V-4	V-12	V-3	V-13	V-2	V-14	V-1
1/23/2014	0	6	0	0	0	0	0	0	0	0	6	0	0	0
1/31/2014	4	8	6	<2	3	5	7.5	3	4	3.5	7.5	10	8.5	2
2/4/2014	3.5	8	5	<2	4	4	7.5	4	4	4	7	9.5	5	5
2/12/2014	4	8	8	<2	5	6	11	4	5	6	8	10	7	7
2/17/2014	4	6	7	2	6	5	9	5	5	6	8	12	2	4
2/26/2014	8	9	7	3	8	8	13.5	3.5	4	6	9	11	8	10
3/3/2014	10	10	8	2	10	<2	16.5	5	5	9	8	12	9	9
3/18/2014	4	12	7	4	7	<2	21	4	4	12	14	13	<2	7
5/27/2014	1	18	5	3	8	0	17	2	3	8	8	12	0	6
7/9/2014	1	13	4	5	6	0	16	2	2	2	6	12	0	5
11/26/2014	3	7	6	0	5	1	--	3	--	8	4	4	3	--
2/13/2015	3	7	5	0	4	1	0	2	0	7	5	4	5	0
3/4/2015	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL	OL

Notes:
AS = Air Sparge
SCFM = Standard Cubic Feet per Minute
-- = Not Measured
OL = Offline

APPENDIX B
Laboratory Analytical Reports

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

August 31, 2016

Kyle Sattler
ATC Group Services LLC
7070 SW Fir Loop
Suite 100
Portland, OR 97223

RE: Project: P66 Westlake/ Mercer
Pace Project No.: 10359624

Dear Kyle Sattler:
Enclosed are the analytical results for sample(s) received by the laboratory on August 19, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Cody Bishop, ATC Group Services LLC

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: P66 Westlake/ Mercer
Pace Project No.: 10359624

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Pace Analytical Services, Inc.
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Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: P66 Westlake/ Mercer
Pace Project No.: 10359624

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10359624001	**Inf-1**	Air	08/18/16 12:35	08/19/16 09:30
10359624002	**Int-1**	Air	08/18/16 12:40	08/19/16 09:30
10359624003	**Eff-1**	Air	08/18/16 12:45	08/19/16 09:30
10359624004	**Inf-2**	Air	08/18/16 12:55	08/19/16 09:30
10359624005	**Int-2**	Air	08/18/16 12:50	08/19/16 09:30
10359624006	**Eff-2**	Air	08/18/16 12:55	08/19/16 09:30
10359624007	**Inf-3**	Air	08/18/16 13:15	08/19/16 09:30
10359624008	**Int-3**	Air	08/18/16 13:10	08/19/16 09:30
10359624009	**Eff-3**	Air	08/18/16 13:00	08/19/16 09:30
10359624010	**B701-Inf**	Air	08/18/16 14:20	08/19/16 09:30
10359624011	**B801-Inf**	Air	08/18/16 14:30	08/19/16 09:30

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: P66 Westlake/ Mercer
Pace Project No.: 10359624

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10359624001	**Inf-1**	TO-15	NCK	7	PASI-M
10359624002	**Int-1**	TO-15	NCK	7	PASI-M
10359624003	**Eff-1**	TO-15	NCK	7	PASI-M
10359624004	**Inf-2**	TO-15	NCK	7	PASI-M
10359624005	**Int-2**	TO-15	NCK	7	PASI-M
10359624006	**Eff-2**	TO-15	NCK	7	PASI-M
10359624007	**Inf-3**	TO-15	NCK	7	PASI-M
10359624008	**Int-3**	TO-15	NCK	7	PASI-M
10359624009	**Eff-3**	TO-15	NCK	7	PASI-M

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: P66 Westlake/ Mercer
Pace Project No.: 10359624

Sample: Inf-1 **Lab ID: 10359624001** Collected: 08/18/16 12:35 Received: 08/19/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	13.1	40.4		08/23/16 19:25	71-43-2	A4
Ethylbenzene	ND	ug/m3	35.6	40.4		08/23/16 19:25	100-41-4	
THC as Gas	**8070**	ug/m3	2880	40.4		08/23/16 19:25		
Toluene	ND	ug/m3	31.1	40.4		08/23/16 19:25	108-88-3	
Xylene (Total)	ND	ug/m3	107	40.4		08/23/16 19:25	1330-20-7	
m&p-Xylene	ND	ug/m3	71.5	40.4		08/23/16 19:25	179601-23-1	
o-Xylene	ND	ug/m3	35.6	40.4		08/23/16 19:25	95-47-6	

Sample: Int-1 **Lab ID: 10359624002** Collected: 08/18/16 12:40 Received: 08/19/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	18.2	56		08/23/16 19:53	71-43-2	A4
Ethylbenzene	ND	ug/m3	49.3	56		08/23/16 19:53	100-41-4	
THC as Gas	ND	ug/m3	3990	56		08/23/16 19:53		
Toluene	**153**	ug/m3	43.1	56		08/23/16 19:53	108-88-3	
Xylene (Total)	ND	ug/m3	148	56		08/23/16 19:53	1330-20-7	
m&p-Xylene	ND	ug/m3	99.1	56		08/23/16 19:53	179601-23-1	
o-Xylene	ND	ug/m3	49.3	56		08/23/16 19:53	95-47-6	

Sample: Eff-1 **Lab ID: 10359624003** Collected: 08/18/16 12:45 Received: 08/19/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	12.6	38.8		08/23/16 20:21	71-43-2	A4
Ethylbenzene	ND	ug/m3	34.1	38.8		08/23/16 20:21	100-41-4	
THC as Gas	ND	ug/m3	2760	38.8		08/23/16 20:21		
Toluene	ND	ug/m3	29.9	38.8		08/23/16 20:21	108-88-3	
Xylene (Total)	ND	ug/m3	103	38.8		08/23/16 20:21	1330-20-7	
m&p-Xylene	ND	ug/m3	68.7	38.8		08/23/16 20:21	179601-23-1	
o-Xylene	ND	ug/m3	34.1	38.8		08/23/16 20:21	95-47-6	

Sample: Inf-2 **Lab ID: 10359624004** Collected: 08/18/16 12:55 Received: 08/19/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	11.7	36		08/23/16 20:48	71-43-2	A4
Ethylbenzene	ND	ug/m3	31.7	36		08/23/16 20:48	100-41-4	
THC as Gas	**3900**	ug/m3	2560	36		08/23/16 20:48		
Toluene	ND	ug/m3	27.7	36		08/23/16 20:48	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: P66 Westlake/ Mercer
Pace Project No.: 10359624

Sample: Inf-2 **Lab ID: 10359624004** Collected: 08/18/16 12:55 Received: 08/19/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Xylene (Total)	ND	ug/m3	95.4	36		08/23/16 20:48	1330-20-7	
m&p-Xylene	ND	ug/m3	63.7	36		08/23/16 20:48	179601-23-1	
o-Xylene	ND	ug/m3	31.7	36		08/23/16 20:48	95-47-6	

Sample: Int-2 **Lab ID: 10359624005** Collected: 08/18/16 12:50 Received: 08/19/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	13.6	42		08/23/16 21:16	71-43-2	A4
Ethylbenzene	ND	ug/m3	37.0	42		08/23/16 21:16	100-41-4	
THC as Gas	ND	ug/m3	2990	42		08/23/16 21:16		
Toluene	ND	ug/m3	32.3	42		08/23/16 21:16	108-88-3	
Xylene (Total)	ND	ug/m3	111	42		08/23/16 21:16	1330-20-7	
m&p-Xylene	ND	ug/m3	74.3	42		08/23/16 21:16	179601-23-1	
o-Xylene	ND	ug/m3	37.0	42		08/23/16 21:16	95-47-6	

Sample: Eff-2 **Lab ID: 10359624006** Collected: 08/18/16 12:55 Received: 08/19/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	12.2	37.4		08/23/16 21:43	71-43-2	A4
Ethylbenzene	ND	ug/m3	32.9	37.4		08/23/16 21:43	100-41-4	
THC as Gas	ND	ug/m3	2660	37.4		08/23/16 21:43		
Toluene	ND	ug/m3	28.8	37.4		08/23/16 21:43	108-88-3	
Xylene (Total)	ND	ug/m3	99.1	37.4		08/23/16 21:43	1330-20-7	
m&p-Xylene	ND	ug/m3	66.2	37.4		08/23/16 21:43	179601-23-1	
o-Xylene	ND	ug/m3	32.9	37.4		08/23/16 21:43	95-47-6	

Sample: Inf-3 **Lab ID: 10359624007** Collected: 08/18/16 13:15 Received: 08/19/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	14.2	43.8		08/23/16 22:11	71-43-2	A4
Ethylbenzene	ND	ug/m3	38.5	43.8		08/23/16 22:11	100-41-4	
THC as Gas	ND	ug/m3	3120	43.8		08/23/16 22:11		
Toluene	ND	ug/m3	33.7	43.8		08/23/16 22:11	108-88-3	
Xylene (Total)	ND	ug/m3	116	43.8		08/23/16 22:11	1330-20-7	
m&p-Xylene	ND	ug/m3	77.5	43.8		08/23/16 22:11	179601-23-1	
o-Xylene	ND	ug/m3	38.5	43.8		08/23/16 22:11	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
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ANALYTICAL RESULTS

Project: P66 Westlake/ Mercer
Pace Project No.: 10359624

Sample: Int-3 **Lab ID: 10359624008** Collected: 08/18/16 13:10 Received: 08/19/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	12.6	38.8		08/23/16 22:39	71-43-2	A4
Ethylbenzene	ND	ug/m3	34.1	38.8		08/23/16 22:39	100-41-4	
THC as Gas	ND	ug/m3	2760	38.8		08/23/16 22:39		
Toluene	ND	ug/m3	29.9	38.8		08/23/16 22:39	108-88-3	
Xylene (Total)	ND	ug/m3	103	38.8		08/23/16 22:39	1330-20-7	
m&p-Xylene	ND	ug/m3	68.7	38.8		08/23/16 22:39	179601-23-1	
o-Xylene	ND	ug/m3	34.1	38.8		08/23/16 22:39	95-47-6	

Sample: Eff-3 **Lab ID: 10359624009** Collected: 08/18/16 13:00 Received: 08/19/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	13.1	40.4		08/23/16 23:06	71-43-2	A4
Ethylbenzene	ND	ug/m3	35.6	40.4		08/23/16 23:06	100-41-4	
THC as Gas	ND	ug/m3	2880	40.4		08/23/16 23:06		
Toluene	ND	ug/m3	31.1	40.4		08/23/16 23:06	108-88-3	
Xylene (Total)	ND	ug/m3	107	40.4		08/23/16 23:06	1330-20-7	
m&p-Xylene	ND	ug/m3	71.5	40.4		08/23/16 23:06	179601-23-1	
o-Xylene	ND	ug/m3	35.6	40.4		08/23/16 23:06	95-47-6	

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QUALITY CONTROL DATA

Project: P66 Westlake/ Mercer
Pace Project No.: 10359624

QC Batch: 432066 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10359624001, 10359624002, 10359624003, 10359624004, 10359624005, 10359624006, 10359624007, 10359624008, 10359624009

METHOD BLANK: 2349810 Matrix: Air
Associated Lab Samples: 10359624001, 10359624002, 10359624003, 10359624004, 10359624005, 10359624006, 10359624007, 10359624008, 10359624009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/m3	ND	0.32	08/23/16 11:20	
Ethylbenzene	ug/m3	ND	0.88	08/23/16 11:20	
m&p-Xylene	ug/m3	ND	1.8	08/23/16 11:20	
o-Xylene	ug/m3	ND	0.88	08/23/16 11:20	
THC as Gas	ug/m3	ND	71.2	08/23/16 11:20	
Toluene	ug/m3	ND	0.77	08/23/16 11:20	
Xylene (Total)	ug/m3	ND	2.6	08/23/16 11:20	

LABORATORY CONTROL SAMPLE: 2349811

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/m3	32.5	34.3	106	62-141	
Ethylbenzene	ug/m3	44.2	48.9	111	59-149	
m&p-Xylene	ug/m3	88.3	96.9	110	59-146	
o-Xylene	ug/m3	44.2	45.4	103	54-149	
THC as Gas	ug/m3	5130	6200	121	68-145	
Toluene	ug/m3	38.3	40.3	105	61-138	
Xylene (Total)	ug/m3	132	142	107	66-146	

SAMPLE DUPLICATE: 2350921

Parameter	Units	10359847002 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/m3	4.0	4.0	0	25	
Ethylbenzene	ug/m3	6.5	6.5	0	25	
m&p-Xylene	ug/m3	23.9	23.9	0	25	
o-Xylene	ug/m3	8.8	8.8	0	25	
THC as Gas	ug/m3	2810	3020	7	25	
Toluene	ug/m3	23.5	23.5	0	25	
Xylene (Total)	ug/m3	32.7	32.7	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(612)607-1700

QUALIFIERS

Project: P66 Westlake/ Mercer
Pace Project No.: 10359624

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

A4	Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: P66 Westlake/ Mercer
Pace Project No.: 10359624

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10359624001	**Inf-1**	TO-15	432066		
10359624002	**Int-1**	TO-15	432066		
10359624003	**Eff-1**	TO-15	432066		
10359624004	**Inf-2**	TO-15	432066		
10359624005	**Int-2**	TO-15	432066		
10359624006	**Eff-2**	TO-15	432066		
10359624007	**Inf-3**	TO-15	432066		
10359624008	**Int-3**	TO-15	432066		
10359624009	**Eff-3**	TO-15	432066		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

10359624

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	P66_ATC Associates	Report To:	kyle.sattler@atcassociates.com	Attention:	Phillips 66
Address:	6347 Seaview Avenue NW	Copy To:	cody.bishop@atcassociates.com	Company Name:	Phillips 66
	Seattle WA, 98107			Address:	
Email To:	kyle.sattler@atcassociates.com	Purchase Order No.	TBD by Kyle	Pace Quote Reference:	
Phone:	503-684-0525 Fax	Client Project ID:	P66 AOC 1396 Westlake/Mercer	Pace Project Manager:	Jenni Gross
Requested Due Date/TAT:	10 Day (Standard)	Container Order Number:		Pace Profile #:	33332 / 2 (Pace Mnpls)

Regulatory Agency

State / Location: WA / Westlake, Mercer

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
	TS

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): BTEX and THC as Gas by TO-15	Residual Chlorine (Y/N)	
1	Inf-1			8/18/16	1235														✓		001
2	Int-1				1240														✓		002
3	Eff-1				1245														✓		003
4	Inf-2				1255														✓		004
5	Int-2				1250														✓		005
6	Eff-2				1255														✓		006
7	Inf-3				1315														✓		007
8	Int-3				1310														✓		008
9	Eff-3				1305														✓		009
10	B701 - Inf				1420																Hold 010
11	B861 - Inf				1430																Hold 011
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		8/18/16	1435	PACE	8/18/16	1435	[illegible]	N	N	Y
	PACE	8/18/16	1505	Matt Lin / Pace	8-19-16	9:30	AMB	N	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Cody Bishop

SIGNATURE of SAMPLER: [signature]

DATE Signed: 8/18/16

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical	Document Name: Cooler Transfer Check List	Revised Date: 23Apr2013 Page 1 of 1
	Document Number: F-MN-C-120-rev.01	Issuing Authority: Pace Minnesota Quality Office

Cooler Transfer Check List

Client: P66-ATC Associates

Project Manager: Jeni Gross

Profile/Line #: 33232/2

Received with Custody Seal: Yes (No)

Custody Seal Intact: Yes No (NA)

	Temp Read	Corrected Temp	Correction Factor
Temperature C:	29.7	29.8	+ 0.1

IR Gun # (IR1) IR2

☐ Samples on ice, cooling process has begun

Rush/Short Hold: no

Containers Intact: (Yes) No

Re-packed and Re-iced: ✓

Temp Blank Included: Yes (No)

Shipped By/Date: NO 8/14/18

Notes:

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26APR2016 Page 1 of 1
	Document No.: F-MN-A-106-rev.11	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: ATC-WA

Project #: WO#: 10359624

10359624

Courier: ☑ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7021 4575 0184

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** — **Thermom. Used:** ☐ B88A912167504 ☐ B88A0143310098 ☐ 151401163 ☐ 151401164

Temp should be above freezing to 6°C **Correction Factor:** — **Date & Initials of Person Examining Contents:** 8-19-16 MT

Type of ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☑ Yes	☐ No	☐ N/A	6. T-BAG
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☐ Yes	☑ No	☐ N/A	8. Sample 11 "B801-Inf" does not have enough sample
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9. B701-Inf was received flat.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: Air Can (Airbag) Filter TDT Passive				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☒ No

Person Contacted: Kyle Sattler Date/Time: 08/19/16 13:00

Comments/Resolution: Notified Kyle, the two samples listed to be kept on hold (B701 and B801) were received with insufficient volume to analyze. B701 was received flat.

Project Manager Review: JENNI GROSS **Date:** 08/19/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

August 29, 2016

Kyle Sattler
ATC Group Services LLC
7070 SW Fir Loop
Suite 100
Portland, OR 97223

RE: Project: P66 AOC 1396
Pace Project No.: 10359949

Dear Kyle Sattler:
Enclosed are the analytical results for sample(s) received by the laboratory on August 23, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Cody Bishop, ATC Group Services LLC

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: P66 AOC 1396
Pace Project No.: 10359949

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: P66 AOC 1396
Pace Project No.: 10359949

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10359949001	**Inf-1**	Air	08/22/16 12:00	08/23/16 10:15
10359949002	**Inf-2**	Air	08/22/16 12:00	08/23/16 10:15
10359949003	**Inf-3**	Air	08/22/16 12:00	08/23/16 10:15

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SAMPLE ANALYTE COUNT

Project: P66 AOC 1396
Pace Project No.: 10359949

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10359949001	**Inf-1**	TO-15	DR1	7	PASI-M
10359949002	**Inf-2**	TO-15	DR1	7	PASI-M
10359949003	**Inf-3**	TO-15	DR1	7	PASI-M

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ANALYTICAL RESULTS

Project: P66 AOC 1396
Pace Project No.: 10359949

Sample: Inf-1 **Lab ID: 10359949001** Collected: 08/22/16 12:00 Received: 08/23/16 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.4	2.1		08/25/16 19:18	71-43-2	
Ethylbenzene	ND	ug/m3	1.8	2.1		08/25/16 19:18	100-41-4	
THC as Gas	**3750**	ug/m3	150	2.1		08/25/16 19:18		A4
Toluene	**6.7**	ug/m3	1.6	2.1		08/25/16 19:18	108-88-3	
Xylene (Total)	**9.3**	ug/m3	5.6	2.1		08/25/16 19:18	1330-20-7	
m&p-Xylene	ND	ug/m3	9.3	2.1		08/25/16 19:18	179601-23-1	
o-Xylene	**2.3**	ug/m3	1.8	2.1		08/25/16 19:18	95-47-6	

Sample: Inf-2 **Lab ID: 10359949002** Collected: 08/22/16 12:00 Received: 08/23/16 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.3**	ug/m3	1.1	1.74		08/25/16 19:50	71-43-2	
Ethylbenzene	ND	ug/m3	1.5	1.74		08/25/16 19:50	100-41-4	
THC as Gas	**3420**	ug/m3	124	1.74		08/25/16 19:50		A4
Toluene	**5.6**	ug/m3	1.3	1.74		08/25/16 19:50	108-88-3	
Xylene (Total)	**7.3**	ug/m3	4.6	1.74		08/25/16 19:50	1330-20-7	
m&p-Xylene	ND	ug/m3	7.7	1.74		08/25/16 19:50	179601-23-1	
o-Xylene	**1.7**	ug/m3	1.5	1.74		08/25/16 19:50	95-47-6	

Sample: Inf-3 **Lab ID: 10359949003** Collected: 08/22/16 12:00 Received: 08/23/16 10:15 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	1.1	1.68		08/25/16 20:34	71-43-2	
Ethylbenzene	ND	ug/m3	1.5	1.68		08/25/16 20:34	100-41-4	
THC as Gas	**3170**	ug/m3	120	1.68		08/25/16 20:34		A4
Toluene	**5.2**	ug/m3	1.3	1.68		08/25/16 20:34	108-88-3	
Xylene (Total)	**7.0**	ug/m3	4.5	1.68		08/25/16 20:34	1330-20-7	
m&p-Xylene	ND	ug/m3	7.4	1.68		08/25/16 20:34	179601-23-1	
o-Xylene	**1.6**	ug/m3	1.5	1.68		08/25/16 20:34	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: P66 AOC 1396
Pace Project No.: 10359949

QC Batch: 432557 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10359949001, 10359949002, 10359949003

METHOD BLANK: 2352113 Matrix: Air
Associated Lab Samples: 10359949001, 10359949002, 10359949003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/m3	ND	0.65	08/25/16 09:59	
Ethylbenzene	ug/m3	ND	0.88	08/25/16 09:59	
m&p-Xylene	ug/m3	ND	4.4	08/25/16 09:59	
o-Xylene	ug/m3	ND	0.88	08/25/16 09:59	
THC as Gas	ug/m3	ND	71.2	08/25/16 09:59	
Toluene	ug/m3	ND	0.77	08/25/16 09:59	
Xylene (Total)	ug/m3	ND	2.6	08/25/16 09:59	

LABORATORY CONTROL SAMPLE: 2352114

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/m3	32.5	38.1	117	62-141	
Ethylbenzene	ug/m3	44.2	52.2	118	59-149	
m&p-Xylene	ug/m3	88.3	98.9	112	59-146	
o-Xylene	ug/m3	44.2	53.8	122	54-149	
THC as Gas	ug/m3	5130	6540	127	68-145	
Toluene	ug/m3	38.3	45.9	120	61-138	
Xylene (Total)	ug/m3	132	153	115	66-146	

SAMPLE DUPLICATE: 2352784

Parameter	Units	10359990001 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/m3	2.4	2.5	5	25	
Ethylbenzene	ug/m3	ND	1.3J		25	
m&p-Xylene	ug/m3	ND	5.9J		25	
o-Xylene	ug/m3	1.8	1.8	1	25	
THC as Gas	ug/m3	960	1690	55	25	R1
Toluene	ug/m3	5.1	5.1	1	25	
Xylene (Total)	ug/m3	7.6	7.6	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: P66 AOC 1396
Pace Project No.: 10359949

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

A4	Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.
R1	RPD value was outside control limits.

Pace Analytical Services, Inc.
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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: P66 AOC 1396
Pace Project No.: 10359949

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10359949001	**Inf-1**	TO-15	432557		
10359949002	**Inf-2**	TO-15	432557		
10359949003	**Inf-3**	TO-15	432557		

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately. 10359949

Page : 1 1 Of 1 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ATC Group Services	Report To:	Kyle Sattler	Attention:	Phillips66
Address:	6347 Seaview Ave NW	Copy To:	Cody Bishop	Company Name:	
	Seattle, WA 98107			Address:	
Email To:	kyle.sattler@atcassociates.com	Purchase Order No.		Pace Quote Reference:	
Phone:	206-781-1449 Fax:	Client Project ID:	P66 AOC 1396	Pace Project Manager:	
Requested Due Date/TAT:	10 Day (Standard)	Container Order Number:		Pace Profile #:	

Regulatory Agency

State / Location

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Analyses Test: BTEX + TPHg	Residual Chlorine (Y/N)	
1	Inf - 1			8/22/2016	1200				1										1		001
2	Inf - 2			↓					1										1		002
3	Inf - 3								1										1		003
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		8/22/16	1550	Jenni Gross / Pace	8/22/16	15:50	AMB	N	N	Y
	Jenni Gross / Pace	8/22/16	15:55		82316	1215	AMB	N	Y	Y

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Cody Bishop					
SIGNATURE of SAMPLER:		DATE Signed: 8/22/16				

Pace Mnpls

Pace Analytical	Document Name: Cooler Transfer Check List	Revised Date: 23Apr2013 Page 1 of 1
	Document Number: F-MN-C-120-rev.01	Issuing Authority: Pace Minnesota Quality Office

Cooler Transfer Check List

Client: P66-ATC

Project Manager: Jenni Gross

Profile/Line #: 33332/2

Received with Custody Seal: Yes (No)

Custody Seal Intact: Yes No (NA)

	Temp Read	Corrected Temp	Correction Factor
Temperature C:	AmB	AmB	—

IR Gun # IR1 IR2

☐ Samples on ice, cooling process has begun

Rush/Short Hold: 72 HOURS

Containers Intact: (Yes) No

Re-packed and ~~Re-Iced~~: ✓ ae 8/22/16

Temp Blank Included: Yes (No)

Shipped By/Date: ae 8/22/16

Notes: Client to email Chain of Custody.

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26APR2016 Page 1 of 1
	Document No.: F-MN-A-106-rev.11	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: ATC - WA

Project #: WO#: 10359949

10359949

Courier: ☑ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7021 4575 0254

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): X **Corrected Temp (°C):** X **Thermom. Used:** ☐ B88A912167504 ☐ B88A0143310098 ☐ 151401163 ☐ 151401164

Temp should be above freezing to 6°C **Correction Factor:** X **Date & Initials of Person Examining Contents:** 8/23/16

Type of ice Received ☐ Blue ☐ Wet ☒ None

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☒ Yes	☐ No	☐ N/A	6. T-BAG
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: Air Can (Airbag) Filter TDT Passive				11.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☒ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: JENNI GROSS **Date:** 08/23/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

September 07, 2016

Kyle Sattler
ATC Group Services LLC
7070 SW Fir Loop
Suite 100
Portland, OR 97223

RE: Project: AOC 1396
Pace Project No.: 10360829

Dear Kyle Sattler:
Enclosed are the analytical results for sample(s) received by the laboratory on August 30, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Cody Bishop, ATC Group Services LLC

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: AOC 1396
Pace Project No.: 10360829

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: AOC 1396
Pace Project No.: 10360829

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10360829001	**inf-1**	Air	08/29/16 13:00	08/30/16 10:00
10360829002	**inf-2**	Air	08/29/16 13:05	08/30/16 10:00
10360829003	**inf-3**	Air	08/29/16 13:10	08/30/16 10:00

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SAMPLE ANALYTE COUNT

Project: AOC 1396
Pace Project No.: 10360829

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10360829001	**inf-1**	TO-15	NCK	7	PASI-M
10360829002	**inf-2**	TO-15	NCK	7	PASI-M
10360829003	**inf-3**	TO-15	NCK	7	PASI-M

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ANALYTICAL RESULTS

Project: AOC 1396
Pace Project No.: 10360829

Sample: inf-1 **Lab ID: 10360829001** Collected: 08/29/16 13:00 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	26.2	40.4		09/06/16 23:26	71-43-2	
Ethylbenzene	ND	ug/m3	35.6	40.4		09/06/16 23:26	100-41-4	
THC as Gas	**15100**	ug/m3	2880	40.4		09/06/16 23:26		CH,L1
Toluene	**57.8**	ug/m3	31.1	40.4		09/06/16 23:26	108-88-3	
Xylene (Total)	ND	ug/m3	107	40.4		09/06/16 23:26	1330-20-7	
m&p-Xylene	ND	ug/m3	178	40.4		09/06/16 23:26	179601-23-1	
o-Xylene	ND	ug/m3	35.6	40.4		09/06/16 23:26	95-47-6	

Sample: inf-2 **Lab ID: 10360829002** Collected: 08/29/16 13:05 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	26.2	40.4		09/06/16 23:54	71-43-2	
Ethylbenzene	ND	ug/m3	35.6	40.4		09/06/16 23:54	100-41-4	
THC as Gas	**19700**	ug/m3	2880	40.4		09/06/16 23:54		CH,L1
Toluene	**60.4**	ug/m3	31.1	40.4		09/06/16 23:54	108-88-3	
Xylene (Total)	ND	ug/m3	107	40.4		09/06/16 23:54	1330-20-7	
m&p-Xylene	ND	ug/m3	178	40.4		09/06/16 23:54	179601-23-1	
o-Xylene	ND	ug/m3	35.6	40.4		09/06/16 23:54	95-47-6	

Sample: inf-3 **Lab ID: 10360829003** Collected: 08/29/16 13:10 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	26.2	40.4		09/07/16 00:22	71-43-2	
Ethylbenzene	ND	ug/m3	35.6	40.4		09/07/16 00:22	100-41-4	
THC as Gas	ND	ug/m3	2880	40.4		09/07/16 00:22		
Toluene	**80.6**	ug/m3	31.1	40.4		09/07/16 00:22	108-88-3	
Xylene (Total)	**148**	ug/m3	107	40.4		09/07/16 00:22	1330-20-7	
m&p-Xylene	ND	ug/m3	178	40.4		09/07/16 00:22	179601-23-1	
o-Xylene	**36.3**	ug/m3	35.6	40.4		09/07/16 00:22	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: AOC 1396
Pace Project No.: 10360829

QC Batch: 434202 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10360829001, 10360829002, 10360829003

METHOD BLANK: 2361005 Matrix: Air
Associated Lab Samples: 10360829001, 10360829002, 10360829003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/m3	ND	0.65	09/06/16 12:10	
Ethylbenzene	ug/m3	ND	0.88	09/06/16 12:10	
m&p-Xylene	ug/m3	ND	4.4	09/06/16 12:10	
o-Xylene	ug/m3	ND	0.88	09/06/16 12:10	
THC as Gas	ug/m3	ND	71.2	09/06/16 12:10	
Toluene	ug/m3	ND	0.77	09/06/16 12:10	
Xylene (Total)	ug/m3	ND	2.6	09/06/16 12:10	

LABORATORY CONTROL SAMPLE: 2361006

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/m3	32.5	39.4	121	62-141	
Ethylbenzene	ug/m3	44.2	54.7	124	59-149	
m&p-Xylene	ug/m3	88.3	104	118	59-146	
o-Xylene	ug/m3	44.2	51.5	117	54-149	
THC as Gas	ug/m3	5130	7720	151	68-145	CH,L1
Toluene	ug/m3	38.3	43.4	113	61-138	
Xylene (Total)	ug/m3	132	156	118	66-146	

SAMPLE DUPLICATE: 2361551

Parameter	Units	10360771002 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/m3	5.2	5.0	3	25	
Ethylbenzene	ug/m3	16.5	16.9	2	25	
m&p-Xylene	ug/m3	59.6	60.1	1	25	
o-Xylene	ug/m3	24.0	24.4	2	25	
THC as Gas	ug/m3	27300	25800	6	25	CH,L1
Toluene	ug/m3	41.2	42.2	2	25	
Xylene (Total)	ug/m3	83.6	84.6	1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: AOC 1396
Pace Project No.: 10360829

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AOC 1396
Pace Project No.: 10360829

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10360829001	**inf-1**	TO-15	434202		
10360829002	**inf-2**	TO-15	434202		
10360829003	**inf-3**	TO-15	434202		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10360829

Page: of

1720886

Section A Required Client Information:

Company:	ATC
Address:	
Email To:	Kyle.Sattler@atcassociates
Phone:	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Kyle Sattler
Copy To:	Cody Bishop
Purchase Order No.:	
Project Name:	ATC 1396
Project Number:	

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jenn Gross
Pace Profile #:	33332/2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: Wetlake/Mercer WA

Section D Required Client Information

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	RTEX, THC as gas	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	inf-1			8/29/16	1305				1										-		001
2	inf-2			"	1305				1										-		002
3	inf-3			"	1310				1										-		003
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1015		8/29/16	1515	PACE	8/29/16	1515	24.1	N	N	Y
	Jenn Gross / Pace	8/29/16	16:05	Pace	83016	1000	AMB	N	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Cody Bishop

SIGNATURE of SAMPLER: _____ DATE Signed (MM/DD/YY): 8/29/16

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26APR2016 Page 1 of 1
	Document No.: F-MN-A-106-rev.11	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: ATC

Project #: WO# : 10360829

10360829

Courier: ☒ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 4021 4575 0482

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): 0 **Corrected Temp (°C):** 6 **Thermom. Used:** ☐ B88A912167504 ☐ B88A0143310098 ☐ 151401163 ☐ 151401164

Temp should be above freezing to 6°C **Correction Factor:** 6 **Date & Initials of Person Examining Contents:** 8/30/16

Type of ice Received ☐ Blue ☐ Wet ☒ None

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☒ Yes	☐ No	☐ N/A	6. T-BAG
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Media: Air Can (Airbag) Filter TDT Passive				11.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☒ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: JENNI GROSS **Date:** 08/30/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

MN - SHORT HOLD

Pace Analytical	Document Name: Cooler Transfer Check List	Revised Date: 23Apr2013 Page 1 of 1
	Document Number: F-MN-C-120-rev.01	Issuing Authority: Pace Minnesota Quality Office

Cooler Transfer Check List

Client: P66-ATC

Project Manager: Jenni Gross

Profile/Line #: 33332/2

Received with Custody Seal: Yes (No)

Custody Seal Intact: Yes No (NA)

	Temp Read	Corrected Temp	Correction Factor
Temperature C:	24.0	24.1	+0.1

IR Gun # IR1 IR2 (Q281)

☐ Samples on ice, cooling process has begun AMB AIR

Rush/Short Hold: 72 HOUR HOLD

Containers Intact: (Yes) No

Re-packed and Re-iced: OK 8/29/16 ✓

Temp Blank Included: Yes (No)

Shipped By/Date: OK 8/29/16

Notes:

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

October 18, 2016

Kyle Sattler
ATC Group Services LLC
6347 Seaview Ave NW
Seattle, WA 98107

RE: Project: AOC 1396
Pace Project No.: 10365243

Dear Kyle Sattler:
Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: AOC 1396
Pace Project No.: 10365243

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification UST-107
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: AOC 1396
Pace Project No.: 10365243

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10365243001	**Inf-1**	Air	10/06/16 10:25	10/07/16 10:00
10365243002	**Int-1**	Air	10/06/16 10:26	10/07/16 10:00
10365243003	**Eff-1**	Air	10/06/16 10:28	10/07/16 10:00
10365243004	**Inf-2**	Air	10/06/16 10:30	10/07/16 10:00
10365243005	**Int-2**	Air	10/06/16 10:32	10/07/16 10:00
10365243006	**Eff-2**	Air	10/06/16 10:34	10/07/16 10:00
10365243007	**Inf-3**	Air	10/06/16 10:36	10/07/16 10:00
10365243008	**Int-3**	Air	10/06/16 10:38	10/07/16 10:00
10365243009	**Eff-3**	Air	10/06/16 10:40	10/07/16 10:00

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SAMPLE ANALYTE COUNT

Project: AOC 1396
Pace Project No.: 10365243

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10365243001	**Inf-1**	TO-15	MJL	7	PASI-M
10365243002	**Int-1**	TO-15	MJL	7	PASI-M
10365243003	**Eff-1**	TO-15	MJL	7	PASI-M
10365243004	**Inf-2**	TO-15	MJL	7	PASI-M
10365243005	**Int-2**	TO-15	MJL	7	PASI-M
10365243006	**Eff-2**	TO-15	MJL	7	PASI-M
10365243007	**Inf-3**	TO-15	MJL	7	PASI-M
10365243008	**Int-3**	TO-15	MJL	7	PASI-M

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ANALYTICAL RESULTS

Project: AOC 1396
Pace Project No.: 10365243

Sample: Inf-1 **Lab ID: 10365243001** Collected: 10/06/16 10:25 Received: 10/07/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**51.9**	ug/m3	12.6	38.8		10/15/16 16:28	71-43-2	A4
Ethylbenzene	ND	ug/m3	34.1	38.8		10/15/16 16:28	100-41-4	
THC as Gas	**68600**	ug/m3	4030	38.8		10/15/16 16:28		
Toluene	**130**	ug/m3	29.9	38.8		10/15/16 16:28	108-88-3	
Xylene (Total)	**220**	ug/m3	103	38.8		10/15/16 16:28	1330-20-7	
m&p-Xylene	**142**	ug/m3	68.7	38.8		10/15/16 16:28	179601-23-1	
o-Xylene	**77.5**	ug/m3	34.1	38.8		10/15/16 16:28	95-47-6	

Sample: Int-1 **Lab ID: 10365243002** Collected: 10/06/16 10:26 Received: 10/07/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**19.9**	ug/m3	12.6	38.8		10/15/16 16:56	71-43-2	A4
Ethylbenzene	ND	ug/m3	34.1	38.8		10/15/16 16:56	100-41-4	
THC as Gas	**35400**	ug/m3	4030	38.8		10/15/16 16:56		
Toluene	**192**	ug/m3	29.9	38.8		10/15/16 16:56	108-88-3	
Xylene (Total)	ND	ug/m3	103	38.8		10/15/16 16:56	1330-20-7	
m&p-Xylene	ND	ug/m3	68.7	38.8		10/15/16 16:56	179601-23-1	
o-Xylene	ND	ug/m3	34.1	38.8		10/15/16 16:56	95-47-6	

Sample: Eff-1 **Lab ID: 10365243003** Collected: 10/06/16 10:28 Received: 10/07/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**16.2**	ug/m3	13.1	40.4		10/15/16 17:23	71-43-2	A4
Ethylbenzene	ND	ug/m3	35.6	40.4		10/15/16 17:23	100-41-4	
THC as Gas	**17700**	ug/m3	4190	40.4		10/15/16 17:23		
Toluene	**133**	ug/m3	31.1	40.4		10/15/16 17:23	108-88-3	
Xylene (Total)	ND	ug/m3	107	40.4		10/15/16 17:23	1330-20-7	
m&p-Xylene	ND	ug/m3	71.5	40.4		10/15/16 17:23	179601-23-1	
o-Xylene	ND	ug/m3	35.6	40.4		10/15/16 17:23	95-47-6	

Sample: Inf-2 **Lab ID: 10365243004** Collected: 10/06/16 10:30 Received: 10/07/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**48.7**	ug/m3	12.2	37.4		10/15/16 17:51	71-43-2	A4
Ethylbenzene	ND	ug/m3	32.9	37.4		10/15/16 17:51	100-41-4	
THC as Gas	**42100**	ug/m3	3880	37.4		10/15/16 17:51		
Toluene	**185**	ug/m3	28.8	37.4		10/15/16 17:51	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: AOC 1396
Pace Project No.: 10365243

Sample: Inf-2 **Lab ID: 10365243004** Collected: 10/06/16 10:30 Received: 10/07/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Xylene (Total)	**181**	ug/m3	99.1	37.4		10/15/16 17:51	1330-20-7	
m&p-Xylene	**119**	ug/m3	66.2	37.4		10/15/16 17:51	179601-23-1	
o-Xylene	**62.9**	ug/m3	32.9	37.4		10/15/16 17:51	95-47-6	

Sample: Int-2 **Lab ID: 10365243005** Collected: 10/06/16 10:32 Received: 10/07/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**20.7**	ug/m3	13.1	40.4		10/15/16 18:19	71-43-2	A4
Ethylbenzene	ND	ug/m3	35.6	40.4		10/15/16 18:19	100-41-4	
THC as Gas	**24500**	ug/m3	4190	40.4		10/15/16 18:19		
Toluene	**145**	ug/m3	31.1	40.4		10/15/16 18:19	108-88-3	
Xylene (Total)	ND	ug/m3	107	40.4		10/15/16 18:19	1330-20-7	
m&p-Xylene	ND	ug/m3	71.5	40.4		10/15/16 18:19	179601-23-1	
o-Xylene	ND	ug/m3	35.6	40.4		10/15/16 18:19	95-47-6	

Sample: Eff-2 **Lab ID: 10365243006** Collected: 10/06/16 10:34 Received: 10/07/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**21.6**	ug/m3	14.2	43.8		10/15/16 18:46	71-43-2	A4
Ethylbenzene	ND	ug/m3	38.5	43.8		10/15/16 18:46	100-41-4	
THC as Gas	**20900**	ug/m3	4540	43.8		10/15/16 18:46		
Toluene	**155**	ug/m3	33.7	43.8		10/15/16 18:46	108-88-3	
Xylene (Total)	ND	ug/m3	116	43.8		10/15/16 18:46	1330-20-7	
m&p-Xylene	ND	ug/m3	77.5	43.8		10/15/16 18:46	179601-23-1	
o-Xylene	ND	ug/m3	38.5	43.8		10/15/16 18:46	95-47-6	

Sample: Inf-3 **Lab ID: 10365243007** Collected: 10/06/16 10:36 Received: 10/07/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**51.0**	ug/m3	13.1	40.4		10/15/16 19:19	71-43-2	
Ethylbenzene	ND	ug/m3	35.6	40.4		10/15/16 19:19	100-41-4	
THC as Gas	**39600**	ug/m3	4190	40.4		10/15/16 19:19		
Toluene	**154**	ug/m3	31.1	40.4		10/15/16 19:19	108-88-3	
Xylene (Total)	**176**	ug/m3	107	40.4		10/15/16 19:19	1330-20-7	
m&p-Xylene	**115**	ug/m3	71.5	40.4		10/15/16 19:19	179601-23-1	
o-Xylene	**60.8**	ug/m3	35.6	40.4		10/15/16 19:19	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: AOC 1396
Pace Project No.: 10365243

Sample: Int-3 **Lab ID: 10365243008** Collected: 10/06/16 10:38 Received: 10/07/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**68.8**	ug/m3	13.1	40.4		10/15/16 20:23	71-43-2	A4
Ethylbenzene	**44.2**	ug/m3	35.6	40.4		10/15/16 20:23	100-41-4	
THC as Gas	**33400**	ug/m3	4190	40.4		10/15/16 20:23		
Toluene	**304**	ug/m3	31.1	40.4		10/15/16 20:23	108-88-3	
Xylene (Total)	**215**	ug/m3	107	40.4		10/15/16 20:23	1330-20-7	
m&p-Xylene	**159**	ug/m3	71.5	40.4		10/15/16 20:23	179601-23-1	
o-Xylene	**55.9**	ug/m3	35.6	40.4		10/15/16 20:23	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: AOC 1396
Pace Project No.: 10365243

QC Batch: 441266 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10365243001, 10365243002, 10365243003, 10365243004, 10365243005, 10365243006, 10365243007, 10365243008

METHOD BLANK: 2401944 Matrix: Air
Associated Lab Samples: 10365243001, 10365243002, 10365243003, 10365243004, 10365243005, 10365243006, 10365243007, 10365243008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/m3	ND	0.32	10/15/16 09:51	
Ethylbenzene	ug/m3	ND	0.88	10/15/16 09:51	
m&p-Xylene	ug/m3	ND	1.8	10/15/16 09:51	
o-Xylene	ug/m3	ND	0.88	10/15/16 09:51	
THC as Gas	ug/m3	ND	104	10/15/16 09:51	
Toluene	ug/m3	ND	0.77	10/15/16 09:51	
Xylene (Total)	ug/m3	ND	2.6	10/15/16 09:51	

LABORATORY CONTROL SAMPLE: 2401945

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/m3	32.5	35.7	110	62-141	
Ethylbenzene	ug/m3	44.2	46.2	105	59-149	
m&p-Xylene	ug/m3	88.3	92.7	105	59-146	
o-Xylene	ug/m3	44.2	46.0	104	54-149	
THC as Gas	ug/m3	5130	5370	105	68-145	
Toluene	ug/m3	38.3	38.7	101	61-138	
Xylene (Total)	ug/m3	132	139	105	66-146	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: AOC 1396
Pace Project No.: 10365243

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

A4	Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AOC 1396
Pace Project No.: 10365243

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10365243001	**Inf-1**	TO-15	441266		
10365243002	**Int-1**	TO-15	441266		
10365243003	**Eff-1**	TO-15	441266		
10365243004	**Inf-2**	TO-15	441266		
10365243005	**Int-2**	TO-15	441266		
10365243006	**Eff-2**	TO-15	441266		
10365243007	**Inf-3**	TO-15	441266		
10365243008	**Int-3**	TO-15	441266		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

1750870

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: ATC	Report To: Kyle Sattler	Attention:
Address:	Copy To: Cody Bishop	Company Name:
		Address:
Email To: Kyle.Sattler@atcassociates.com	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: AOC 1396	Pace Project Manager: Jenni Gross
Requested Due Date/TAT:	Project Number:	Pace Profile #: 33332/2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: WA

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE)

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information / SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	BTEX 6X by Method TO-15	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Inf-1	AR		10/6/16					1									Y	Y		
2	Int-1								1									Y	Y		
3	Eff-1								1									Y	Y		
4	Inf-2								1									Y	Y		
5	Int-2								1									Y	Y		
6	Eff-2								1									Y	Y		
7	Inf-3								1									Y	Y		
8	Int-3								1									Y	Y		
9	Eff-3								1									Y	Y		
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
		10/6/16	1600	PACE	10/6/16	1600	AMB	—	N	Y
	Jenni Gross / Pace	10/6/16	16:15	Pace	10/7/16	1000	AMB	N	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Cody Bishop

SIGNATURE of SAMPLER: _____ DATE Signed (MM/DD/YY): 10/6/16

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: Cooler Transfer Check List	Revised Date: 23Apr2013 Page 1 of 1
	Document Number: F-MN-C-120-rev.01	Issuing Authority: Pace Minnesota Quality Office

Cooler Transfer Check List

Client: P66-ATC

Project Manager: Jenni Gross

Profile/Line #: 38532/2

Received with Custody Seal: Yes (No)

Custody Seal Intact: Yes No (NA)

	Temp Read	Corrected Temp	Correction Factor
Temperature C:	AMB	—	—

IR Gun # IR1 IR2

☐ Samples on ice, cooling process has begun AIR

Rush/Short Hold: 72 HOUR

Containers Intact: (Yes) No

Re-packed and ~~Re-Iced~~: CSE 10/16/16 ✓

Temp Blank Included: Yes (No)

Shipped By/Date: CSE 10/16/16

Notes:

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26APR2016 Page 1 of 1
	Document No.: F-MN-A-106-rev.11	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: ATC / Pace-WA

Project #: WO# : 10365243

10365243

Courier: ☑ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7021 4575 2246

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** — **Thermom. Used:** ☐ B88A912167504 ☐ B88A0143310098 ☐ 151401163 ☐ 151401164

Temp should be above freezing to 6°C **Correction Factor:** — **Date & Initials of Person Examining Contents:** 10.7.16 MZ

Type of ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☑ Yes	☐ No	☐ N/A	6. T-BAGS
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☐ Yes	☑ No	☐ N/A	8. Eff-3 will not be run due to insufficient volume.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: Air Can (Airbag) Filter TDT Passive				11.
Sample Labels Match COC?	☐ Yes	☑ No	☐ N/A	12. No collection time on COC.

Samples Received:

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☒ No

Person Contacted: Kyle Sattler Date/Time: 10/07/16

Comments/Resolution: Notified Kyle, there is insufficient volume to analyze for sample Eff-3

Project Manager Review: JENNI GROSS **Date:** 10/07/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

November 02, 2016

Kyle Sattler
ATC Group Services LLC
6347 Seaview Ave NW
Seattle, WA 98107

RE: Project: P66 Westlake/ Mercer
Pace Project No.: 10367246

Dear Kyle Sattler:
Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: P66 Westlake/ Mercer
Pace Project No.: 10367246

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification UST-107
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: P66 Westlake/ Mercer
Pace Project No.: 10367246

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10367246001	**Inf-1**	Air	10/21/16 14:15	10/22/16 08:55
10367246002	**Inf-2**	Air	10/21/16 14:15	10/22/16 08:55
10367246003	**Inf-3**	Air	10/21/16 14:15	10/22/16 08:55

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: P66 Westlake/ Mercer
Pace Project No.: 10367246

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10367246001	**Inf-1**	TO-15	NCK	7	PASI-M
10367246002	**Inf-2**	TO-15	NCK	7	PASI-M
10367246003	**Inf-3**	TO-15	NCK	7	PASI-M

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: P66 Westlake/ Mercer
Pace Project No.: 10367246

Sample: Inf-1 **Lab ID: 10367246001** Collected: 10/21/16 14:15 Received: 10/22/16 08:55 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.4**	ug/m3	0.66	2.02		10/27/16 18:59	71-43-2	A4
Ethylbenzene	ND	ug/m3	1.8	2.02		10/27/16 18:59	100-41-4	
THC as Gas	**5550**	ug/m3	210	2.02		10/27/16 18:59		
Toluene	**55.0**	ug/m3	52.3	67.87		10/28/16 12:48	108-88-3	
Xylene (Total)	ND	ug/m3	5.4	2.02		10/27/16 18:59	1330-20-7	
m&p-Xylene	ND	ug/m3	3.6	2.02		10/27/16 18:59	179601-23-1	
o-Xylene	ND	ug/m3	1.8	2.02		10/27/16 18:59	95-47-6	

Sample: Inf-2 **Lab ID: 10367246002** Collected: 10/21/16 14:15 Received: 10/22/16 08:55 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.3**	ug/m3	0.63	1.94		10/27/16 19:26	71-43-2	A4
Ethylbenzene	**7.2**	ug/m3	1.7	1.94		10/27/16 19:26	100-41-4	
THC as Gas	**2510**	ug/m3	201	1.94		10/27/16 19:26		
Toluene	**146**	ug/m3	1.5	1.94		10/27/16 19:26	108-88-3	
Xylene (Total)	**34.6**	ug/m3	5.1	1.94		10/27/16 19:26	1330-20-7	
m&p-Xylene	**25.7**	ug/m3	3.4	1.94		10/27/16 19:26	179601-23-1	
o-Xylene	**8.9**	ug/m3	1.7	1.94		10/27/16 19:26	95-47-6	

Sample: Inf-3 **Lab ID: 10367246003** Collected: 10/21/16 14:15 Received: 10/22/16 08:55 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.9**	ug/m3	0.63	1.94		10/27/16 19:54	71-43-2	A4
Ethylbenzene	**3.0**	ug/m3	1.7	1.94		10/27/16 19:54	100-41-4	
THC as Gas	**1500**	ug/m3	201	1.94		10/27/16 19:54		
Toluene	**7.7**	ug/m3	1.5	1.94		10/27/16 19:54	108-88-3	
Xylene (Total)	**18.3**	ug/m3	5.1	1.94		10/27/16 19:54	1330-20-7	
m&p-Xylene	**14.1**	ug/m3	3.4	1.94		10/27/16 19:54	179601-23-1	
o-Xylene	**4.2**	ug/m3	1.7	1.94		10/27/16 19:54	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: P66 Westlake/ Mercer
Pace Project No.: 10367246

QC Batch: 443699 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10367246001, 10367246002, 10367246003

METHOD BLANK: 2418912 Matrix: Air
Associated Lab Samples: 10367246001, 10367246002, 10367246003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/m3	ND	0.32	10/27/16 10:21	
Ethylbenzene	ug/m3	ND	0.88	10/27/16 10:21	
m&p-Xylene	ug/m3	ND	1.8	10/27/16 10:21	
o-Xylene	ug/m3	ND	0.88	10/27/16 10:21	
THC as Gas	ug/m3	ND	104	10/27/16 10:21	
Toluene	ug/m3	ND	0.77	10/27/16 10:21	
Xylene (Total)	ug/m3	ND	2.6	10/27/16 10:21	

LABORATORY CONTROL SAMPLE: 2418913

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/m3	32.5	33.1	102	62-141	
Ethylbenzene	ug/m3	44.2	47.0	106	59-149	
m&p-Xylene	ug/m3	88.3	93.4	106	59-146	
o-Xylene	ug/m3	44.2	45.3	103	54-149	
THC as Gas	ug/m3	5130	5670	111	68-145	
Toluene	ug/m3	38.3	40.6	106	61-138	
Xylene (Total)	ug/m3	132	139	105	66-146	

SAMPLE DUPLICATE: 2420193

Parameter	Units	60230663001 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/m3	9.7	9.9	2	25	
Ethylbenzene	ug/m3	6.5	6.8	5	25	
m&p-Xylene	ug/m3	26.5	27.9	5	25	
o-Xylene	ug/m3	9.9	10.1	2	25	
THC as Gas	ug/m3	908	861	5	25	
Toluene	ug/m3	31.3	32.5	4	25	
Xylene (Total)	ug/m3	36.4	38.0	4		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: P66 Westlake/ Mercer
Pace Project No.: 10367246

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

A4	Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: P66 Westlake/ Mercer
Pace Project No.: 10367246

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10367246001	**Inf-1**	TO-15	443699		
10367246002	**Inf-2**	TO-15	443699		
10367246003	**Inf-3**	TO-15	443699		

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10367246

Page: of 1720607

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: ATC	Report To: Kyle Sattler	Attention:
Address: 6347 Seaview Ave Seattle, WA	Copy To:	Company Name:
		Address:
Email To: Kyle Sattler	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name:	Pace Project Manager: Jenni Gross
Requested Due Date/TAT: Std	Project Number:	Pace Profile #: 33332/2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

Section D Required Client Information

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: GX/BTEX by TO15	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Inf-1	AR	G	10/21/16	1415				1									Y		001
2	Inf-2	AR	G	10/21/16	1415				1									Y		002
3	Inf-3	AR	G	10/21/16	1415				1									Y		003
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
		10/21/16	1420	PACE	10/21/16	1420	Air	N	N	Y
	Jenny Gross / Pace	10/21/16	15:00	Pace	10/22/16	0855	AMB	N	Y	Y
Westlake/mercer										

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Cody Bishop

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 10/21/16

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace MN - Sat delivery/PO

Pace Analytical	Document Name: Cooler Transfer Check List	Revised Date: 23Apr2013 Page 1 of 1
	Document Number: F-MN-C-120-rev.01	Issuing Authority: Pace Minnesota Quality Office

Cooler Transfer Check List

Client: ATC - P166

Project Manager: Jenni Grass

Profile/Line #: 33332/2

Received with Custody Seal: Yes (No)

Custody Seal Intact: Yes No (NA)

	Temp Read	Corrected Temp	Correction Factor
Temperature C:	—	—	—

IR Gun # IR1 IR2 AMBIENT AIR

☐ Samples on ice, cooling process has begun

Rush/Short Hold: 72 HOURS

Containers Intact: (Yes) No

Re-packed and ~~Re-iced~~: ✓

10/21/16

Temp Blank Included: Yes (No)

Shipped By/Date: 10/21/16 SG

Notes: Transfer or analyze within 72 Hours.

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26APR2016 Page 1 of 1
	Document No.: F-MN-A-106-rev.11	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: A+L - WA

Project #: WO# : 10367246

10367246

Courier: ☑ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7021 4575 2934

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): Y **Corrected Temp (°C):** X **Thermom. Used:** ☐ B88A912167504 ☐ B88A0143310098 ☐ 151401163 ☐ 151401164

Temp should be above freezing to 6°C **Correction Factor:** X **Date & Initials of Person Examining Contents:** 10/23/16

Type of ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☑ Yes	☑ No 10/23/16	☐ N/A	6. T-BAG
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: Air Can (Airbag) Filter TDT Passive				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: JENNI GROSS **Date:** 10/24/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, Inc.
1700 Elm Street – Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: Phillips66_ATC Group Services LLC WA
Phone: (503)684-0525

Lab Project Number: 10367246
Project Name: P66 Westlake/ Mercer

Lab Sample No: 10367246001
Client Sample ID: Inf-1

ProjSampleNum: 10367246001
Matrix: Air

Date Collected: 10/21/16 14:15
Date Received: 10/22/16 8:55

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
Air							
TO-15							
Benzene	0.00043	ppmv	0.0002	0.000077	10/27/16 18:59 NCK	71-43-2	A4
Ethylbenzene	ND	ppmv	0.00041	0.00019	10/27/16 18:59 NCK	100-41-4	
m&p-Xylene	ND	ppmv	0.00082	0.00036	10/27/16 18:59 NCK	179601-23-	
o-Xylene	ND	ppmv	0.00041	0.00016	10/27/16 18:59 NCK	95-47-6	
THC as Gas	1.3	ppmv	0.048	0.017	10/27/16 18:59 NCK		
Toluene	0.014	ppmv	0.014	0.0027	10/28/16 12:48 NCK	108-88-3	
Xylene (Total)	ND	ppmv	0.0012	0.00052	10/27/16 18:59 NCK	1330-20-7	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT

Units Conversion Request

Pace Analytical Services, Inc.
1700 Elm Street – Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: Phillips66_ATC Group Services LLC WA
Phone: (503)684-0525

Lab Project Number: 10367246
Project Name: P66 Westlake/ Mercer

Lab Sample No: 10367246002
Client Sample ID: Inf-2

ProjSampleNum: 10367246002
Matrix: Air

Date Collected: 10/21/16 14:15
Date Received: 10/22/16 8:55

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
Air							
TO-15							
Benzene	0.0004	ppmv	0.00019	0.000074	10/27/16 19:26 NCK	71-43-2	A4
Ethylbenzene	0.0016	ppmv	0.00039	0.00019	10/27/16 19:26 NCK	100-41-4	
m&p-Xylene	0.0058	ppmv	0.00077	0.00034	10/27/16 19:26 NCK	179601-23-	
o-Xylene	0.002	ppmv	0.00039	0.00015	10/27/16 19:26 NCK	95-47-6	
THC as Gas	0.58	ppmv	0.046	0.016	10/27/16 19:26 NCK		
Toluene	0.038	ppmv	0.00039	0.000078	10/27/16 19:26 NCK	108-88-3	
Xylene (Total)	0.0078	ppmv	0.0012	0.0005	10/27/16 19:26 NCK	1330-20-7	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT

Units Conversion Request

Pace Analytical Services, Inc.
1700 Elm Street – Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: Phillips66_ATC Group Services LLC WA
Phone: (503)684-0525

Lab Project Number: 10367246
Project Name: P66 Westlake/ Mercer

Lab Sample No: 10367246003
Client Sample ID: Inf-3

ProjSampleNum: 10367246003
Matrix: Air

Date Collected: 10/21/16 14:15
Date Received: 10/22/16 8:55

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
Air							
TO-15							
Benzene	0.00059	ppmv	0.00019	0.000074	10/27/16 19:54 NCK	71-43-2	A4
Ethylbenzene	0.00068	ppmv	0.00039	0.00019	10/27/16 19:54 NCK	100-41-4	
m&p-Xylene	0.0032	ppmv	0.00077	0.00034	10/27/16 19:54 NCK	179601-23-	
o-Xylene	0.00095	ppmv	0.00039	0.00015	10/27/16 19:54 NCK	95-47-6	
THC as Gas	0.35	ppmv	0.046	0.016	10/27/16 19:54 NCK		
Toluene	0.002	ppmv	0.00039	0.000078	10/27/16 19:54 NCK	108-88-3	
Xylene (Total)	0.0041	ppmv	0.0012	0.0005	10/27/16 19:54 NCK	1330-20-7	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT

Units Conversion Request

Pace Analytical Services, Inc.
1700 Elm Street – Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: Phillips66_ATC Group Services LLC WA
Phone: (503)684-0525

Lab Project Number: 10367246
Project Name: P66 Westlake/ Mercer

PARAMETER FOOTNOTES

ND Not detected at or above adjusted reporting limit

NC Not Calculable

J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

[A4] Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

SUPPLEMENTAL REPORT
Units Conversion Request

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

November 07, 2016

Kyle Sattler
ATC Group Services LLC
6347 Seaview Ave NW
Seattle, WA 98107

RE: Project: AOC 1396
Pace Project No.: 10368526

Dear Kyle Sattler:
Enclosed are the analytical results for sample(s) received by the laboratory on November 03, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: AOC 1396
Pace Project No.: 10368526

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification UST-107
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: AOC 1396
Pace Project No.: 10368526

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10368526001	**INF-1**	Air	11/02/16 13:15	11/03/16 09:45
10368526002	**INF-2**	Air	11/02/16 13:16	11/03/16 09:45
10368526003	**INF-3**	Air	11/02/16 13:17	11/03/16 09:45

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: AOC 1396
Pace Project No.: 10368526

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10368526001	**INF-1**	TO-15	MJL	7	PASI-M
10368526002	**INF-2**	TO-15	MJL	7	PASI-M
10368526003	**INF-3**	TO-15	MJL	7	PASI-M

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: AOC 1396
Pace Project No.: 10368526

Sample: INF-1 **Lab ID: 10368526001** Collected: 11/02/16 13:15 Received: 11/03/16 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	14.9	45.8		11/04/16 16:12	71-43-2	A4
Ethylbenzene	ND	ug/m3	40.3	45.8		11/04/16 16:12	100-41-4	
THC as Gas	**5120**	ug/m3	4750	45.8		11/04/16 16:12		
Toluene	ND	ug/m3	35.3	45.8		11/04/16 16:12	108-88-3	
Xylene (Total)	ND	ug/m3	121	45.8		11/04/16 16:12	1330-20-7	
m&p-Xylene	ND	ug/m3	81.1	45.8		11/04/16 16:12	179601-23-1	
o-Xylene	ND	ug/m3	40.3	45.8		11/04/16 16:12	95-47-6	

Sample: INF-2 **Lab ID: 10368526002** Collected: 11/02/16 13:16 Received: 11/03/16 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	14.9	45.8		11/04/16 16:39	71-43-2	A4
Ethylbenzene	ND	ug/m3	40.3	45.8		11/04/16 16:39	100-41-4	
THC as Gas	ND	ug/m3	4750	45.8		11/04/16 16:39		
Toluene	ND	ug/m3	35.3	45.8		11/04/16 16:39	108-88-3	
Xylene (Total)	ND	ug/m3	121	45.8		11/04/16 16:39	1330-20-7	
m&p-Xylene	ND	ug/m3	81.1	45.8		11/04/16 16:39	179601-23-1	
o-Xylene	ND	ug/m3	40.3	45.8		11/04/16 16:39	95-47-6	

Sample: INF-3 **Lab ID: 10368526003** Collected: 11/02/16 13:17 Received: 11/03/16 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	16.4	50.4		11/04/16 17:07	71-43-2	A4
Ethylbenzene	ND	ug/m3	44.4	50.4		11/04/16 17:07	100-41-4	
THC as Gas	ND	ug/m3	5230	50.4		11/04/16 17:07		
Toluene	ND	ug/m3	38.8	50.4		11/04/16 17:07	108-88-3	
Xylene (Total)	ND	ug/m3	134	50.4		11/04/16 17:07	1330-20-7	
m&p-Xylene	ND	ug/m3	89.2	50.4		11/04/16 17:07	179601-23-1	
o-Xylene	ND	ug/m3	44.4	50.4		11/04/16 17:07	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: AOC 1396
Pace Project No.: 10368526

QC Batch: 445252 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10368526001, 10368526002, 10368526003

METHOD BLANK: 2431698 Matrix: Air
Associated Lab Samples: 10368526001, 10368526002, 10368526003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/m3	ND	0.32	11/04/16 14:40	
Ethylbenzene	ug/m3	ND	0.88	11/04/16 14:40	
m&p-Xylene	ug/m3	ND	1.8	11/04/16 14:40	
o-Xylene	ug/m3	ND	0.88	11/04/16 14:40	
THC as Gas	ug/m3	ND	104	11/04/16 14:40	
Toluene	ug/m3	ND	0.77	11/04/16 14:40	
Xylene (Total)	ug/m3	ND	2.6	11/04/16 14:40	

LABORATORY CONTROL SAMPLE: 2431699

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/m3	34.4	32.9	96	62-141	
Ethylbenzene	ug/m3	47.2	46.6	99	59-149	
m&p-Xylene	ug/m3	47.7	48.7	102	59-146	
o-Xylene	ug/m3	46.8	45.5	97	54-149	
THC as Gas	ug/m3	3940	4860	123	68-145	
Toluene	ug/m3	41	38.9	95	61-138	
Xylene (Total)	ug/m3	94.5	94.2	100	66-146	

SAMPLE DUPLICATE: 2433681

Parameter	Units	10368360002 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/m3	ND	ND		25	
Ethylbenzene	ug/m3	ND	14.1J		25	
m&p-Xylene	ug/m3	ND	48.7J		25	
o-Xylene	ug/m3	ND	19.1J		25	
THC as Gas	ug/m3	ND	1830J		25	
Toluene	ug/m3	99.2	97.7	2	25	
Xylene (Total)	ug/m3	ND	ND			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: AOC 1396
Pace Project No.: 10368526

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

A4	Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AOC 1396
Pace Project No.: 10368526

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10368526001	**INF-1**	TO-15	445252		
10368526002	**INF-2**	TO-15	445252		
10368526003	**INF-3**	TO-15	445252		

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10368526

Page: of 1720608

Section A Required Client Information:

Company: ATC
Address:
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Kyle Sattler
Copy To:
Purchase Order No.:
Project Name: AOC 1396
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Jenni Gross
Pace Profile #: 33332/2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: BTEX	GX	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	INF-1	A	G	11/2/16	1315				1									Y	Y		001
2	INF-2	"	"	"	1316				1									Y	Y		002
3	INF-3	"	"	"	1317				1									Y	Y		003
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
				PACE	11/2/16	1460	Air	N	N	Y
	Jenni Gross/Pace	11/2/16	15:30		11/3/16	0945	Amb	N	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26APR2016 Page 1 of 1
	Document No.: F-MN-A-106-rev.11	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: ATC

Project #: WO# : 10368526

10368526

Courier: ☒ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 702145753437

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): 0 **Corrected Temp (°C):** 0 **Thermom. Used:** ☐ B88A912167504 ☐ B88A0143310098 ☐ 151401163 ☐ 151401164

Temp should be above freezing to 6°C **Correction Factor:** 0 **Date & Initials of Person Examining Contents:** 11/3 16

Type of ice Received ☐ Blue ☐ Wet ☒ None

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☒ Yes	☐ No	☐ N/A	6. T-BAG
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Media: Air Can (Airbag) Filter TDT Passive				11.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: JENNI GROSS **Date:** 11/03/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical	Document Name: Cooler Transfer Check List	Revised Date: 23Apr2013 Page 1 of 1
	Document Number: F-MN-C-120-rev.01	Issuing Authority: Pace Minnesota Quality Office

Cooler Transfer Check List

Client: ATC Group - Plelo

Project Manager: Jenni Gross

Profile/Line #: 33332/2

Received with Custody Seal: Yes (No)

Custody Seal Intact: Yes No (NA)

	Temp Read	Corrected Temp	Correction Factor
Temperature C:	AMB	—	—

IR Gun # **IR1** - Q281 IR2 - 122065284

☐ **Samples on ice, cooling process has begun**

Rush/Short Hold: 72 HOUR HOLD

Containers Intact: (Yes) No

Re-packed and Re-iced: 0ut 11/2/16 ✓

Temp Blank Included: Yes (No)

Shipped By/Date: ~~0ut~~ 11/2/16

Notes:

Ship to: (Pace MN) Pace Davis

Pace Analytical Services, Inc.
1700 Elm Street – Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: ATC Group Services LLC WA_Phillips66
Phone: (503)684-0525

Lab Project Number: 10368526
Project Name: AOC 1396

Lab Sample No: 10368526001
Client Sample ID: INF-1

ProjSampleNum: 10368526001
Matrix: Air

Date Collected: 11/02/16 13:15
Date Received: 11/03/16 9:45

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
Air							
TO-15							
Benzene	ND	ppmv	0.0046	0.0017	11/04/16 16:12 MJL	71-43-2	A4
Ethylbenzene	ND	ppmv	0.0091	0.0044	11/04/16 16:12 MJL	100-41-4	
m&p-Xylene	ND	ppmv	0.018	0.0082	11/04/16 16:12 MJL	179601-23-	
o-Xylene	ND	ppmv	0.0091	0.0036	11/04/16 16:12 MJL	95-47-6	
THC as Gas	1.2	ppmv	1.1	0.38	11/04/16 16:12 MJL		
Toluene	ND	ppmv	0.0092	0.0019	11/04/16 16:12 MJL	108-88-3	
Xylene (Total)	ND	ppmv	0.027	0.012	11/04/16 16:12 MJL	1330-20-7	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT

Units Conversion Request

Pace Analytical Services, Inc.
1700 Elm Street – Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: ATC Group Services LLC WA_Phillips66
Phone: (503)684-0525

Lab Project Number: 10368526
Project Name: AOC 1396

Lab Sample No: 10368526002
Client Sample ID: INF-2

ProjSampleNum: 10368526002
Matrix: Air

Date Collected: 11/02/16 13:16
Date Received: 11/03/16 9:45

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
Air							
TO-15							
Benzene	ND	ppmv	0.0046	0.0017	11/04/16 16:39 MJL	71-43-2	A4
Ethylbenzene	ND	ppmv	0.0091	0.0044	11/04/16 16:39 MJL	100-41-4	
m&p-Xylene	ND	ppmv	0.018	0.0082	11/04/16 16:39 MJL	179601-23-	
o-Xylene	ND	ppmv	0.0091	0.0036	11/04/16 16:39 MJL	95-47-6	
THC as Gas	ND	ppmv	1.1	0.38	11/04/16 16:39 MJL		
Toluene	ND	ppmv	0.0092	0.0019	11/04/16 16:39 MJL	108-88-3	
Xylene (Total)	ND	ppmv	0.027	0.012	11/04/16 16:39 MJL	1330-20-7	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT

Units Conversion Request

Pace Analytical Services, Inc.
1700 Elm Street – Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: ATC Group Services LLC WA_Phillips66
Phone: (503)684-0525

Lab Project Number: 10368526
Project Name: AOC 1396

Lab Sample No: 10368526003
Client Sample ID: INF-3

ProjSampleNum: 10368526003
Matrix: Air

Date Collected: 11/02/16 13:17
Date Received: 11/03/16 9:45

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
Air							
TO-15							
Benzene	ND	ppmv	0.0051	0.0019	11/04/16 17:07 MJL	71-43-2	A4
Ethylbenzene	ND	ppmv	0.01	0.0048	11/04/16 17:07 MJL	100-41-4	
m&p-Xylene	ND	ppmv	0.02	0.009	11/04/16 17:07 MJL	179601-23-	
o-Xylene	ND	ppmv	0.01	0.004	11/04/16 17:07 MJL	95-47-6	
THC as Gas	ND	ppmv	1.2	0.41	11/04/16 17:07 MJL		
Toluene	ND	ppmv	0.01	0.002	11/04/16 17:07 MJL	108-88-3	
Xylene (Total)	ND	ppmv	0.03	0.013	11/04/16 17:07 MJL	1330-20-7	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT

Units Conversion Request

Pace Analytical Services, Inc.
1700 Elm Street – Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: ATC Group Services LLC WA_Phillips66
Phone: (503)684-0525

Lab Project Number: 10368526
Project Name: AOC 1396

PARAMETER FOOTNOTES

ND Not detected at or above adjusted reporting limit

NC Not Calculable

J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

[A4] Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

December 01, 2016

Kyle Sattler
ATC Group Services LLC
6347 Seaview Ave NW
Seattle, WA 98107

RE: Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

Dear Kyle Sattler:
Enclosed are the analytical results for sample(s) received by the laboratory on November 17, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification UST-107
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10370295001	**Inf-1**	Air	11/16/16 12:15	11/17/16 09:30
10370295002	**Inf-2**	Air	11/16/16 12:15	11/17/16 09:30
10370295003	**Inf-3**	Air	11/16/16 12:15	11/17/16 09:30
10370295004	**W-INF-WS1**	Water	11/16/16 11:00	11/17/16 09:30
10370295005	**W-OUT-WS1**	Water	11/16/16 11:05	11/17/16 09:30
10370295006	**W-DSCHG-1**	Water	11/16/16 12:00	11/17/16 09:30
10370295007	**W-DSCHG-2**	Water	11/16/16 12:05	11/17/16 09:30
10370295008	**W-DSCHG-3**	Water	11/16/16 12:10	11/17/16 09:30

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10370295001	**Inf-1**	TO-15	DR1	7	PASI-M
10370295002	**Inf-2**	TO-15	DR1	7	PASI-M
10370295003	**Inf-3**	TO-15	DR1	7	PASI-M
10370295004	**W-INF-WS1**	NWTPH-Gx	KMZ	2	PASI-M
		EPA 8260B	EMC	7	PASI-M
10370295005	**W-OUT-WS1**	NWTPH-Gx	KMZ	2	PASI-M
		EPA 8260B	EMC	7	PASI-M
10370295006	**W-DSCHG-1**	NWTPH-Gx	KMZ	2	PASI-M
		EPA 8260B	EMC	7	PASI-M
		EPA 1664A OG	CJM	1	PASI-M
10370295007	**W-DSCHG-2**	EPA 1664A OG	CJM	1	PASI-M
10370295008	**W-DSCHG-3**	EPA 1664A OG	CJM	1	PASI-M

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ANALYTICAL RESULTS

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

Sample: Inf-1 **Lab ID: 10370295001** Collected: 11/16/16 12:15 Received: 11/17/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.82	2.52		11/17/16 23:09	71-43-2	
Ethylbenzene	ND	ug/m3	2.2	2.52		11/17/16 23:09	100-41-4	
THC as Gas	**1740**	ug/m3	261	2.52		11/17/16 23:09		
Toluene	**8.7**	ug/m3	1.9	2.52		11/17/16 23:09	108-88-3	
Xylene (Total)	**8.7**	ug/m3	6.7	2.52		11/17/16 23:09	1330-20-7	
m&p-Xylene	**6.4**	ug/m3	4.5	2.52		11/17/16 23:09	179601-23-1	
o-Xylene	**2.3**	ug/m3	2.2	2.52		11/17/16 23:09	95-47-6	

Sample: Inf-2 **Lab ID: 10370295002** Collected: 11/16/16 12:15 Received: 11/17/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**0.89**	ug/m3	0.82	2.52		11/17/16 23:37	71-43-2	
Ethylbenzene	ND	ug/m3	2.2	2.52		11/17/16 23:37	100-41-4	
THC as Gas	**1930**	ug/m3	261	2.52		11/17/16 23:37		
Toluene	**10.2**	ug/m3	1.9	2.52		11/17/16 23:37	108-88-3	
Xylene (Total)	**12.1**	ug/m3	6.7	2.52		11/17/16 23:37	1330-20-7	
m&p-Xylene	**8.9**	ug/m3	4.5	2.52		11/17/16 23:37	179601-23-1	
o-Xylene	**3.2**	ug/m3	2.2	2.52		11/17/16 23:37	95-47-6	

Sample: Inf-3 **Lab ID: 10370295003** Collected: 11/16/16 12:15 Received: 11/17/16 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	0.78	2.4		11/18/16 00:03	71-43-2	
Ethylbenzene	ND	ug/m3	2.1	2.4		11/18/16 00:03	100-41-4	
THC as Gas	**1680**	ug/m3	249	2.4		11/18/16 00:03		
Toluene	**6.7**	ug/m3	1.8	2.4		11/18/16 00:03	108-88-3	
Xylene (Total)	**10.8**	ug/m3	6.4	2.4		11/18/16 00:03	1330-20-7	
m&p-Xylene	**7.7**	ug/m3	4.2	2.4		11/18/16 00:03	179601-23-1	
o-Xylene	**3.1**	ug/m3	2.1	2.4		11/18/16 00:03	95-47-6	

Sample: W-INF-WS1 **Lab ID: 10370295004** Collected: 11/16/16 11:00 Received: 11/17/16 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
TPH as Gas	ND	ug/L	100	1		11/24/16 00:33		
Surrogates								
a,a,a-Trifluorotoluene (S)	90	%.	50-150	1		11/24/16 00:33	98-08-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

Sample: W-INF-WS1 **Lab ID: 10370295004** Collected: 11/16/16 11:00 Received: 11/17/16 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		11/30/16 15:24	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		11/30/16 15:24	100-41-4	
Toluene	ND	ug/L	1.0	1		11/30/16 15:24	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		11/30/16 15:24	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	96	%.	75-125	1		11/30/16 15:24	17060-07-0	
Toluene-d8 (S)	104	%.	75-125	1		11/30/16 15:24	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125	1		11/30/16 15:24	460-00-4	

Sample: W-OUT-WS1 **Lab ID: 10370295005** Collected: 11/16/16 11:05 Received: 11/17/16 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
TPH as Gas	ND	ug/L	100	1		11/24/16 03:53		
Surrogates								
a,a,a-Trifluorotoluene (S)	90	%.	50-150	1		11/24/16 03:53	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		11/30/16 15:40	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		11/30/16 15:40	100-41-4	
Toluene	ND	ug/L	1.0	1		11/30/16 15:40	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		11/30/16 15:40	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	95	%.	75-125	1		11/30/16 15:40	17060-07-0	
Toluene-d8 (S)	107	%.	75-125	1		11/30/16 15:40	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	75-125	1		11/30/16 15:40	460-00-4	

Sample: W-DSCHG-1 **Lab ID: 10370295006** Collected: 11/16/16 12:00 Received: 11/17/16 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
TPH as Gas	ND	ug/L	100	1		11/28/16 16:49		
Surrogates								
a,a,a-Trifluorotoluene (S)	90	%.	50-150	1		11/28/16 16:49	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		11/30/16 15:55	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		11/30/16 15:55	100-41-4	
Toluene	ND	ug/L	1.0	1		11/30/16 15:55	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		11/30/16 15:55	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%.	75-125	1		11/30/16 15:55	17060-07-0	
Toluene-d8 (S)	103	%.	75-125	1		11/30/16 15:55	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

Sample: W-DSCHG-1 **Lab ID: 10370295006** Collected: 11/16/16 12:00 Received: 11/17/16 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST	Analytical Method: EPA 8260B							
Surrogates								
4-Bromofluorobenzene (S)	98	%.	75-125	1		11/30/16 15:55	460-00-4	
1664 HEM, Oil and Grease	Analytical Method: EPA 1664A OG							
Oil and Grease	ND	mg/L	5.1	1		11/23/16 10:00		

Sample: W-DSCHG-2 **Lab ID: 10370295007** Collected: 11/16/16 12:05 Received: 11/17/16 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 HEM, Oil and Grease	Analytical Method: EPA 1664A OG							
Oil and Grease	ND	mg/L	5.1	1		11/23/16 10:00		

Sample: W-DSCHG-3 **Lab ID: 10370295008** Collected: 11/16/16 12:10 Received: 11/17/16 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 HEM, Oil and Grease	Analytical Method: EPA 1664A OG							
Oil and Grease	ND	mg/L	5.1	1		11/23/16 10:00		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

QC Batch: 447819 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10370295001, 10370295002, 10370295003

METHOD BLANK: 2451119 Matrix: Air
Associated Lab Samples: 10370295001, 10370295002, 10370295003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/m3	ND	0.32	11/17/16 11:47	
Ethylbenzene	ug/m3	ND	0.88	11/17/16 11:47	
m&p-Xylene	ug/m3	ND	1.8	11/17/16 11:47	
o-Xylene	ug/m3	ND	0.88	11/17/16 11:47	
THC as Gas	ug/m3	ND	104	11/17/16 11:47	
Toluene	ug/m3	ND	0.77	11/17/16 11:47	
Xylene (Total)	ug/m3	ND	2.6	11/17/16 11:47	

LABORATORY CONTROL SAMPLE: 2451120

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/m3	32.5	35.2	108	62-141	
Ethylbenzene	ug/m3	44.1	54.6	124	59-149	
m&p-Xylene	ug/m3	88.3	109	123	59-146	
o-Xylene	ug/m3	44.1	52.9	120	54-149	
THC as Gas	ug/m3	5170	5160	100	68-145	
Toluene	ug/m3	38.3	41.8	109	61-138	
Xylene (Total)	ug/m3	132	161	122	66-146	

SAMPLE DUPLICATE: 2451313

Parameter	Units	10370157005 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/m3	0.95	0.93	3	25	
Ethylbenzene	ug/m3	ND	ND		25	
m&p-Xylene	ug/m3	ND	1.9J		25	
o-Xylene	ug/m3	ND	ND		25	
THC as Gas	ug/m3	909	ND		25	
Toluene	ug/m3	2.9	2.8	3	25	
Xylene (Total)	ug/m3	ND	ND			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

QC Batch: 448722 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Water
Associated Lab Samples: 10370295004, 10370295005

METHOD BLANK: 2456522 Matrix: Water
Associated Lab Samples: 10370295004, 10370295005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	11/23/16 21:53	
a,a,a-Trifluorotoluene (S)	%.	88	50-150	11/23/16 21:53	

METHOD BLANK: 2456523 Matrix: Water
Associated Lab Samples: 10370295004, 10370295005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	11/23/16 22:13	
a,a,a-Trifluorotoluene (S)	%.	87	50-150	11/23/16 22:13	

LABORATORY CONTROL SAMPLE & LCSD: 2456524 2456525

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	927	934	93	93	70-125	1	20	
a,a,a-Trifluorotoluene (S)	%.				95	101	50-150			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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(612)607-1700

QUALITY CONTROL DATA

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

QC Batch: 449006 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Water
Associated Lab Samples: 10370295006

METHOD BLANK: 2458571 Matrix: Water
Associated Lab Samples: 10370295006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	11/28/16 15:08	
a,a,a-Trifluorotoluene (S)	%.	92	50-150	11/28/16 15:08	

METHOD BLANK: 2458572 Matrix: Water
Associated Lab Samples: 10370295006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	11/28/16 16:29	
a,a,a-Trifluorotoluene (S)	%.	90	50-150	11/28/16 16:29	

LABORATORY CONTROL SAMPLE & LCSD: 2458573 2458574

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	1130	969	113	97	70-125	15	20	
a,a,a-Trifluorotoluene (S)	%.				101	102	50-150			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2458580 2458581

Parameter	Units	10370950004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
TPH as Gas	ug/L	30300	50000	100000	82700	84100	105	54	46-149	2	30	
a,a,a-Trifluorotoluene (S)	%.						104	107	50-150			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

QC Batch: 449416 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV UST-WATER
Associated Lab Samples: 10370295004, 10370295005, 10370295006

METHOD BLANK: 2461446 Matrix: Water
Associated Lab Samples: 10370295004, 10370295005, 10370295006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	11/30/16 14:23	
Ethylbenzene	ug/L	ND	1.0	11/30/16 14:23	
Toluene	ug/L	ND	1.0	11/30/16 14:23	
Xylene (Total)	ug/L	ND	3.0	11/30/16 14:23	
1,2-Dichloroethane-d4 (S)	%.	92	75-125	11/30/16 14:23	
4-Bromofluorobenzene (S)	%.	90	75-125	11/30/16 14:23	
Toluene-d8 (S)	%.	107	75-125	11/30/16 14:23	

LABORATORY CONTROL SAMPLE: 2461447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.0	90	75-125	
Ethylbenzene	ug/L	20	19.9	99	75-125	
Toluene	ug/L	20	19.5	97	75-125	
Xylene (Total)	ug/L	60	60.9	102	75-125	
1,2-Dichloroethane-d4 (S)	%.			94	75-125	
4-Bromofluorobenzene (S)	%.			104	75-125	
Toluene-d8 (S)	%.			108	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2461765 2461766

Parameter	Units	10370455004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	20	20	16.1	17.0	81	85	52-147	5	30	
Ethylbenzene	ug/L	ND	20	20	17.9	17.3	90	86	67-149	4	30	
Toluene	ug/L	ND	20	20	17.1	17.1	86	85	69-139	0	30	
Xylene (Total)	ug/L	ND	60	60	54.0	52.2	90	87	70-147	3	30	
1,2-Dichloroethane-d4 (S)	%.						99	96	75-125			
4-Bromofluorobenzene (S)	%.						99	99	75-125			
Toluene-d8 (S)	%.						107	107	75-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

QC Batch: 448021 Analysis Method: EPA 1664A OG
QC Batch Method: EPA 1664A OG Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 10370295006, 10370295007, 10370295008

METHOD BLANK: 2452267 Matrix: Water
Associated Lab Samples: 10370295006, 10370295007, 10370295008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	11/23/16 10:00	

LABORATORY CONTROL SAMPLE: 2452268

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.1	88	78-114	

MATRIX SPIKE SAMPLE: 2452310

Parameter	Units	10370295006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.6	37.0	89	78-114	

SAMPLE DUPLICATE: 2452311

Parameter	Units	10370295007 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 448021

[BE] Batch extracted by solid phase extraction (SPE).

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: P66 AOC 1396 Westlake/Mercer
Pace Project No.: 10370295

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10370295001	**Inf-1**	TO-15	447819		
10370295002	**Inf-2**	TO-15	447819		
10370295003	**Inf-3**	TO-15	447819		
10370295004	**W-INF-WS1**	NWTPH-Gx	448722		
10370295005	**W-OUT-WS1**	NWTPH-Gx	448722		
10370295006	**W-DSCHG-1**	NWTPH-Gx	449006		
10370295004	**W-INF-WS1**	EPA 8260B	449416		
10370295005	**W-OUT-WS1**	EPA 8260B	449416		
10370295006	**W-DSCHG-1**	EPA 8260B	449416		
10370295006	**W-DSCHG-1**	EPA 1664A OG	448021		
10370295007	**W-DSCHG-2**	EPA 1664A OG	448021		
10370295008	**W-DSCHG-3**	EPA 1664A OG	448021		

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10370295

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	P66_ATC Associates	Report To:	kyle.sattler@atcassociates.com	Attention:	Phillips 66
Address:	6347 Seaview Avenue NW	Copy To:	cody.bishop@atcassociates.com	Company Name:	Phillips 66
	Seattle WA, 98107			Address:	
Email To:	kyle.sattler@atcassociates.com	Purchase Order No.	TBD by Kyle	Pace Quote Reference:	
Phone:	503-684-0525 Fax	Client Project ID:	P66 AOC 1396 Westlake/Mercer	Pace Project Manager:	Jenni Gross
Requested Due Date/TAT:	10 Day (Standard)	Container Order Number:		Pace Profile #:	33332 1 (Pace Mnpls)

Regulatory Agency: —

State / Location: WA / Westlake, Mercer

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test	BTEX and THC as Gas by TO-15	Gx/BTEX by 8260	oil + Grease by 1664	Residual Chlorine (Y/N)	
1	Inf-1	AR	G	11/16/16	1215				1										X				001
2	Inf-2				1215				1										X				002
3	Inf-3				1215				1										X				003
4	W-INF-WS1	WT			1100				3				X							X			
5	W-OUT-WC1				1105				3				X							X			
6	W-DSCHG-1				1200				6				X							X	X*		CB
7	~~W-DSCHG-2~~																						
8	W-DSCHG-2				1205				2				X								X*		
9	W-DSCHG-3				1210				2				X								X*		
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
		11/16/16	1300	PACE	11/16/16	1300	5.8	Y	N	Y
	PACE	11/16/16	1700		11/17/16	0930	Amb	N	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Cody Bishop

SIGNATURE of SAMPLER: [signature] DATE Signed: 11/16/16

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26APR2016 Page 1 of 1
	Document No.: F-MN-A-106-rev.11	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: P66 - ATC WA

Project #: WO#: 10370295

10370295

Courier: ☑ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 7021 4575 4102

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☑ No

Temp. (TO17 and TO13 samples only) (°C): **Corrected Temp (°C):** **Thermom. Used:** ☐ B88A912167504 ☐ B88A0143310098 ☐ 151401163 ☐ 151401164

Temp should be above freezing to 6°C **Correction Factor:** **Date & Initials of Person Examining Contents:** 11/17/16

Type of ice Received ☐ Blue ☐ Wet ☑ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: Air Can (Airbag) Filter TDT Passive				11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: JENNI GROSS **Date:** 11/17/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10370295

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	P66_ATC Associates	Report To:	kyle.sattler@atcassociates.com	Attention:	Phillips 66
Address:	6347 Seaview Avenue NW	Copy To:	cody.bishop@atcassociates.com	Company Name:	Phillips 66
	Seattle WA, 98107			Address:	
Email To:	kyle.sattler@atcassociates.com	Purchase Order No.	TBD by Kyle	Pace Quote Reference:	
Phone:	503-684-0525 Fax	Client Project ID:	P66 AOC 1396 Westlake/Mercer	Pace Project Manager:	Jenni Gross
Requested Due Date/TAT:	10 Day (Standard)	Container Order Number:		Pace Profile #:	33332 1 (Pace Mnpls)

Regulatory Agency	
State / Location	WA / Westlake, Mercer

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
	TS

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BTEX and THC as Gas by TO-15	Gx/BTEX by 8260	Oil + Grease by 1664	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	
1	Inf-1	AR	G	11/16/16	1215				1										X						W1
2	Inf-2	"	"	"	1215				1										X						W2
3	Inf-3	"	"	"	1215				1										X						003
4	W-INF-WS1	WT			1100				4				X							X					W4
5	W-OUT-WC1	"			1105				4				X							X					W5
6	W-DSCHG-1	"			1200				5				X							X	X	X			W6
7	~~W-DSCHG-~~																								CO3
8	W-DSCHG-2	"			1205				2				X									X			W7
9	W-DSCHG-3	"			1210				2				X									X			008
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		11/16/16	1300	PACE	11/16/16	1300	5.8	4	N	Y
	PACE	11/16/16	1700	PACE	11-17-16	9:30	1.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Cody Bishop		
SIGNATURE of SAMPLER:		DATE Signed:	11/16/16

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 02Aug2016 Page 1 of 2
	Document No.: **F-MN-L-213-rev.17**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: P66_ ATC Associates

Project #: WO#: 10370295

10370295

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 7021 4575 4098

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No **Optional:** Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☐ Yes ☒ No

Thermometer Used: ☒ 151401163 ☐ 151401164 ☐ B88A912167504 ☐ B88A0143310098 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 1.0 **Cooler Temp Corrected (°C):** 0.9 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A
Temp should be above freezing to 6°C **Correction Factor:** -0.1 **Date and Initials of Person Examining Contents:** BC 11-17-16

USDA Regulated Soil (☒ N/A, water sample)
Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No
Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☐ Yes ☐ Yes	☐ No ☐ No	☒ N/A ☐ N/A	Sample # Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	14.
Trip Blank Present?	☐ Yes	☒ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: JENNI GROSS **Date:** 11/17/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical	Document Name: Cooler Transfer Check List	Revised Date: 23Apr2013 Page 1 of 1
	Document Number: F-MN-C-120-rev.01	Issuing Authority: Pace Minnesota Quality Office

Cooler Transfer Check List

Client: PGG-ATC

Project Manager: Jenni Gross

Profile/Line #: 33332 / 1

Received with Custody Seal: Yes (No)

Custody Seal Intact: Yes No (NA)

	Temp Read	Corrected Temp	Correction Factor
Temperature C:	5.6	5.8	+0.2

IR Gun # IR1 - Q281 IR2 - 122065284

☑ **Samples on ice, cooling process has begun**

Rush/Short Hold: NO

Containers Intact: (Yes) No

Re-packed and Re-Iced: ✓

Temp Blank Included: (Yes) No

Shipped By/Date: MO 11/16/16

Notes:

Ship to: (Pace MN) Pace Davis

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

December 05, 2016

Kyle Sattler
ATC Group Services LLC
6347 Seaview Ave NW
Seattle, WA 98107

RE: Project: P66 Westlake/ Mercer
Pace Project No.: 10371089

Dear Kyle Sattler:
Enclosed are the analytical results for sample(s) received by the laboratory on November 23, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: P66 Westlake/ Mercer
Pace Project No.: 10371089

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification UST-107
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: P66 Westlake/ Mercer
Pace Project No.: 10371089

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10371089001	**INF-1**	Air	11/22/16 08:30	11/23/16 10:00
10371089002	**INF-2**	Air	11/22/16 08:30	11/23/16 10:00
10371089003	**INF-3**	Air	11/22/16 08:30	11/23/16 10:00

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: P66 Westlake/ Mercer
Pace Project No.: 10371089

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10371089001	**INF-1**	TO-15	MJL	7	PASI-M
10371089002	**INF-2**	TO-15	MJL	7	PASI-M
10371089003	**INF-3**	TO-15	MJL	7	PASI-M

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: P66 Westlake/ Mercer
Pace Project No.: 10371089

Sample: INF-1 **Lab ID: 10371089001** Collected: 11/22/16 08:30 Received: 11/23/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	ND	ug/m3	3.4	10.5		12/02/16 21:22	71-43-2	A4
Ethylbenzene	ND	ug/m3	9.2	10.5		12/02/16 21:22	100-41-4	
THC as Gas	**1670**	ug/m3	1090	10.5		12/02/16 21:22		
Toluene	**16.7**	ug/m3	8.1	10.5		12/02/16 21:22	108-88-3	
Xylene (Total)	**31.3**	ug/m3	27.8	10.5		12/02/16 21:22	1330-20-7	
m&p-Xylene	**20.9**	ug/m3	18.6	10.5		12/02/16 21:22	179601-23-1	
o-Xylene	**10.4**	ug/m3	9.2	10.5		12/02/16 21:22	95-47-6	

Sample: INF-2 **Lab ID: 10371089002** Collected: 11/22/16 08:30 Received: 11/23/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.5**	ug/m3	0.68	2.1		12/02/16 20:54	71-43-2	A4
Ethylbenzene	**3.6**	ug/m3	1.8	2.1		12/02/16 20:54	100-41-4	
THC as Gas	**1520**	ug/m3	218	2.1		12/02/16 20:54		
Toluene	**16.9**	ug/m3	1.6	2.1		12/02/16 20:54	108-88-3	
Xylene (Total)	**24.4**	ug/m3	5.6	2.1		12/02/16 20:54	1330-20-7	
m&p-Xylene	**16.7**	ug/m3	3.7	2.1		12/02/16 20:54	179601-23-1	
o-Xylene	**7.7**	ug/m3	1.8	2.1		12/02/16 20:54	95-47-6	

Sample: INF-3 **Lab ID: 10371089003** Collected: 11/22/16 08:30 Received: 11/23/16 10:00 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Benzene	**1.4**	ug/m3	0.66	2.02		12/02/16 20:23	71-43-2	A4
Ethylbenzene	**3.1**	ug/m3	1.8	2.02		12/02/16 20:23	100-41-4	
THC as Gas	**943**	ug/m3	210	2.02		12/02/16 20:23		
Toluene	**11.1**	ug/m3	1.6	2.02		12/02/16 20:23	108-88-3	
Xylene (Total)	**20.7**	ug/m3	5.4	2.02		12/02/16 20:23	1330-20-7	
m&p-Xylene	**14.3**	ug/m3	3.6	2.02		12/02/16 20:23	179601-23-1	
o-Xylene	**6.4**	ug/m3	1.8	2.02		12/02/16 20:23	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: P66 Westlake/ Mercer
Pace Project No.: 10371089

QC Batch: 449996 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10371089001, 10371089002, 10371089003

METHOD BLANK: 2464341 Matrix: Air
Associated Lab Samples: 10371089001, 10371089002, 10371089003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/m3	ND	0.32	12/02/16 14:28	
Ethylbenzene	ug/m3	ND	0.88	12/02/16 14:28	
m&p-Xylene	ug/m3	ND	1.8	12/02/16 14:28	
o-Xylene	ug/m3	ND	0.88	12/02/16 14:28	
THC as Gas	ug/m3	ND	104	12/02/16 14:28	
Toluene	ug/m3	ND	0.77	12/02/16 14:28	
Xylene (Total)	ug/m3	ND	2.6	12/02/16 14:28	

LABORATORY CONTROL SAMPLE: 2464342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/m3	34.7	35.6	102	62-141	
Ethylbenzene	ug/m3	47.7	46.4	97	59-149	
m&p-Xylene	ug/m3	47.7	50.8	107	59-146	
o-Xylene	ug/m3	47.2	46.3	98	54-149	
THC as Gas	ug/m3	3740	4140	111	68-145	
Toluene	ug/m3	41.4	41.4	100	61-138	
Xylene (Total)	ug/m3	94.9	97.1	102	66-146	

SAMPLE DUPLICATE: 2464897

Parameter	Units	10371299001 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/m3	0.36	0.34	4	25	
Ethylbenzene	ug/m3	1.7	1.8	1	25	
m&p-Xylene	ug/m3	ND	ND		25	
o-Xylene	ug/m3	ND	ND		25	
THC as Gas	ug/m3	309	251	21	25	
Toluene	ug/m3	0.43J	.43J		25	
Xylene (Total)	ug/m3	ND	ND			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: P66 Westlake/ Mercer
Pace Project No.: 10371089

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

A4	Sample was transferred from a sampling bag into a Summa Canister within 48 hours of collection.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: P66 Westlake/ Mercer
Pace Project No.: 10371089

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10371089001	**INF-1**	TO-15	449996		
10371089002	**INF-2**	TO-15	449996		
10371089003	**INF-3**	TO-15	449996		

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10371089

Page: of

1750871

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: ATC	Report To: K. Sattler	Attention:
Address: 6347 Seaview Ave. NW	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name:	Pace Project Manager: Jenni Grass
Requested Due Date/TAT: STD 10 DAY	Project Number:	Pace Profile #: 33332/2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: WA

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE)

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test ↓ BTEX by 7615	Gx by 7015	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	INF-1			11/22/16	0830														X	X		001
2	INF-2			11/22/16	0830														X	X		002
3	INF-3			11/22/16	0830														X	X		003
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[illegible] ATC	11/22/16	1330	[illegible] MCE	11/22/16	1330	NV	N	N	Y
	Jenni Grass / Pace	11/22/16	14:40	[illegible] Pace	11/23/16	1000	AMB	N	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical	Document Name: Cooler Transfer Check List	Revised Date: 23Apr2013 Page 1 of 1
	Document Number: F-MN-C-120-rev.01	Issuing Authority: Pace Minnesota Quality Office

Cooler Transfer Check List

Client: ATC

Project Manager: Jenni Gross

Profile/Line #: 33332/2

Received with Custody Seal: Yes (No)

Custody Seal Intact: Yes No (NA)

	Temp Read	Corrected Temp	Correction Factor
Temperature C:			

IR Gun # IR1 - Q281 IR2 - 122065284

☐ **Samples on ice, cooling process has begun**

Rush/Short Hold: NO

Containers Intact: (Yes) No

Re-packed and Re-Iced: ✓

Temp Blank Included: Yes (No)

Shipped By/Date: NO 11-22-16

Notes:

Ship to: (Pace MN) Pace Davis

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26APR2016 Page 1 of 1
	Document No.: F-MN-A-106-rev.11	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: ATC - WA

Project #: WO# : 10371089

10371089

Courier: [X] Fed Ex [ ] UPS [ ] Speedee [ ] Client [ ] Commercial [ ] Pace [ ] Other:

Tracking Number: 7021 4575 4753

Custody Seal on Cooler/Box Present? [X] Yes [ ] No **Seals Intact?** [X] Yes [ ] No

Optional: Proj. Due Date: Proj. Name:

Packing Material: [X] Bubble Wrap [ ] Bubble Bags [ ] Foam [ ] None [ ] Tin Can [ ] Other: **Temp Blank rec:** [ ] Yes [X] No

Temp. (TO17 and TO13 samples only) (°C): **Corrected Temp (°C):** **Thermom. Used:** [ ] B88A912167504 [ ] 151401163 [ ] B88A0143310098 [ ] 151401164

Temp should be above freezing to 6°C **Correction Factor:** **Date & Initials of Person Examining Contents:** 11/23/16

Type of ice Received [ ] Blue [ ] Wet [X] None

				Comments:
Chain of Custody Present?	[X] Yes	[ ] No	[ ] N/A	1.
Chain of Custody Filled Out?	[X] Yes	[ ] No	[ ] N/A	2.
Chain of Custody Relinquished?	[X] Yes	[ ] No	[ ] N/A	3.
Sampler Name and/or Signature on COC?	[ ] Yes	[X] No	[ ] N/A	4.
Samples Arrived within Hold Time?	[X] Yes	[ ] No	[ ] N/A	5.
Short Hold Time Analysis (<72 hr)?	[X] Yes	[ ] No	[ ] N/A	6. T-BAG
Rush Turn Around Time Requested?	[ ] Yes	[X] No	[ ] N/A	7.
Sufficient Volume?	[X] Yes	[ ] No	[ ] N/A	8.
Correct Containers Used?	[X] Yes	[ ] No	[ ] N/A	9.
-Pace Containers Used?	[X] Yes	[ ] No	[ ] N/A	
Containers Intact?	[X] Yes	[ ] No	[ ] N/A	10.
Media: Air Can Airbag Filter TDT Passive				11.
Sample Labels Match COC?	[X] Yes	[ ] No	[ ] N/A	12.

Samples Received:

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** [ ] Yes [ ] No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: JENNI GROSS **Date:** 11/23/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)