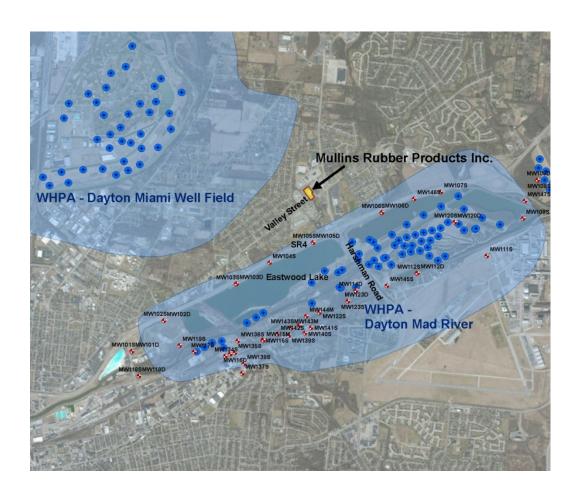


Mullins Rubber Products, Inc. Site Reassessment Report



Division of Environmental Response and Revitalization (DERR) Federal Site Reassessment April 2015

SITE REASSESSMENT REPORT

For

Mullins Rubber Products, Inc. Riverside, Montgomery County, Ohio U.S. EPA ID: OHN000510489

OHIO ENVIRONMENTAL PROTECTION AGENCY
Division of Environmental Response and Revitalization
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April 2015

MULLINS RUBBER PRODUCTS, INC. Riverside, Montgomery County, Ohio U.S. EPA ID: OHN000510489

SITE REASSESSMENT APPROVAL FORM

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1.0 EXECUTIVE SUMMARY

The Ohio Environmental Protection Agency (Ohio EPA) Division of Environmental Response and Revitalization (DERR) entered into a cooperative agreement with the United States Environmental Protection Agency (U.S. EPA) Region V to conduct a Site Reassessment (SR) of the Mullins Rubber Products, Inc. (MRP) site, located in Riverside, Montgomery County, Ohio. The purpose of this report is to summarize the pre-remedial site assessment and U.S. EPA removal action work completed to date and to present analytical data documenting releases of volatile organic compounds (VOCs) to soil and groundwater at the MRP site.

On May 9, 2013, Ohio EPA requested assistance from U.S. EPA Region V Removal and Emergency Response Program regarding VOC contamination at Mullins Rubber Products. Site assessment work conducted by Ohio EPA in July 2013 identified migration of contaminated groundwater that may present potential hazards posed to nearby residences and businesses from subsurface migration of solvent vapors into indoor air. Chemicals of concern included tetrachloroethylene (PCE) and trichloroethylene (TCE). Further assessment conducted by Ohio EPA and U.S. EPA's Removal and Emergency Response Program in July 2013 confirmed that a time-critical removal action was necessary.

The U.S. EPA removal action, known as the Valley Pike VOC Site, was initiated in December 2013. The removal action included sampling residences for vapor intrusion and installing mitigation systems at residences exceeding Ohio Department of Health (ODH) screening levels for PCE and/or TCE. As of January 20, 2015, approximately 302 residences have been sampled for vapor intrusion (sub-slab or indoor air). Eighty-three residences exceeded the ODH screening level for PCE and/or TCE. Vapor intrusion mitigation systems have been installed at 75 residences to date.

During the week of March 24, 2014, U.S. EPA Removal and Emergency Response Program conducted a groundwater investigation in the residential neighborhood to the west of the MRP site. Fourteen temporary monitoring wells were installed to a depth of approximately 40 feet. The temporary wells were purged, sampled for VOCs, and removed. The lab analytical results indicated PCE was detected at two locations in the neighborhood at concentrations of 290 μ g/L and 45.6 μ g/L, respectively. Lower concentrations of TCE were also detected at several locations. Based on the March 2014 groundwater sampling results, U.S. EPA expanded the area of investigation for vapor intrusion further west to Prince Albert Boulevard.

During September and October 2014, U.S. EPA Removal and Emergency Response Program conducted a Contaminant Source Area Investigation. The investigation focused on Mullins Rubber Products, a suspected source of PCE

and TCE contamination at the Valley Pike VOC Site. Ohio EPA assisted U.S. EPA and the START contractor, Tetra Tech, with the investigation. The investigation included collection of sub-slab vapor samples from beneath the Mullins Rubber Products building, installation of eight new monitoring wells, collection of groundwater samples from new and existing monitoring wells, and collection of soil samples based on field screening.

Sub-slab vapor samples collected from inside the Mullins Rubber Products main building in September 2014 had high levels of PCE and TCE. The highest detection of PCE was 3,550,000 $\mu g/m^3$ in a sub-slab sample collected near the degreaser.

Significant detections of PCE and TCE were also found in soil samples collected adjacent to the main building on the west side of the MRP property in October 2014. The highest detections of PCE and TCE at this location were 2,040,000 μ g/kg and 411,000 μ g/kg, respectively, in a soil sample collected at 24-26 feet below ground surface (bgs). The sampling results indicated significant VOC soil contamination at depth at MRP.

October 2014 groundwater sampling results indicated high concentrations of PCE and lower, but still above MCL, concentrations of TCE in monitoring wells at and downgradient of MRP. The highest detection of PCE was 19,300 μ g/L at a monitoring well located next to the main building on the west side of the MRP property. The next two highest detections of PCE were 2,500 μ g/L at a monitoring well located approximately 50 feet west of MRP, and 1,600 μ g/L at a monitoring well located 900 feet west of MRP on Hypathia Avenue in the residential neighborhood. Groundwater samples from upgradient locations along the north and east sides of the MRP property had either no detections or low levels of VOCs.

Of the various locations that have been sampled in the Valley Pike VOC site area, the highest concentrations of PCE and TCE in soil, groundwater, and subslab vapor have been detected in samples collected on the MRP property, adjacent to and immediately southwest/downgradient of the MRP vapor degreaser and dry well areas (Tetra Tech 2015).

Groundwater sampling results indicate that the VOC plume extends to at least Broadmead Boulevard, which is approximately 3,300 feet west of MRP. The VOC plume is also a potential threat to downgradient public water supply wells. MRP is located approximately 1,300 feet north of the Dayton Mad River Well Field wellhead protection area (WHPA) area five-year time of travel delineation and 1,500 feet southeast of the Dayton Miami Well Field WHPA area five-year time of travel delineation, which provide potable water to approximately 236,000 and 184,000 residents, respectively. These well fields draw water from the Great Miami Buried Valley Aquifer, a federally designated sole source aquifer. The closest production well is PW-06, located approximately 2,650 feet south of MRP in the Mad River Well Field.

The Ohio Department of Health has determined that a completed exposure pathway exists through vapor intrusion from groundwater to indoor air in the residential neighborhood downgradient of MRP. However, vapor intrusion is not currently a valid pathway for scoring under the CERCLA site assessment Hazard Ranking System. In November 2014, U.S. EPA expanded the area of investigation for the removal action to include the residential area between Hypathia Ave (east), Forest Home Ave (north), Warrendale Ave (south), and Sagamore Ave (west). Vapor intrusion sampling and mitigation activities are ongoing.

2.0 SITE BACKGROUND

2.1 Site Description

Mullins Rubber Products, Inc. is an active manufacturing facility located at 2949 Valley Pike in Riverside, Montgomery County, Ohio. See Figure 1, Site Location Map, located in Appendix A. MRP is located in a mixed industrial and residential area of Riverside. MRP is bordered to the west by Paul's Garage and Towing Inc., and to the east by a single residence and Harshman Self Storage. Old Dominion Freight Lines, Inc., is immediately north of the MRP facility. On the south side of Valley Pike, slightly west of MRP, is a mobile home park. A single family residential plat begins along Hypathia Avenue, approximately 500 feet west of MRP.

The MRP facility sits on a single parcel (Parcel I39002030048) and is comprised of 3.675 acres. Most of the parcel is covered with buildings and asphalt or concrete. There is a small grassy area in the front parking area and a vegetative swale across the northern fence line.

The primary product manufactured at MRP is molded heavy-duty truck/trailer suspension bushings. Currently, there is one main building and several storage sheds at MRP. There are four production wells on the MRP property. The active deep production well formerly produced about 300 gallons per minute for 8 hours a day. This non-contact cooling water previously discharged into a series of dry wells. MRP installed a closed loop chiller system in 2012 which eliminates the need to discharge non-contact cooling water to dry wells. Currently, the production well is only used infrequently to "top off" the closed loop system. There are two deep production wells on stand-by. A fourth shallow (50 foot depth) former production well is damaged and is no longer used but remains in place. This well was sampled and surveyed in the same manner as were the monitoring wells and is referred to as Old PW in this report. All production wells are located on the east side of the MRP property (Ohio EPA 2012).

Until the chiller system was operational, there were a series of five dry wells on the northern portion of the property which were used to return the non-contact cooling water to the shallow sand and gravel formation. The five dry wells were interconnected and terminated at the man-made depression located at the northeast corner of the MRP property. The dry wells were considered Class V injection wells under the Ohio Underground Injection Control (UIC) Program. Permits were not issued, but the wells were registered with Ohio EPA. The dry wells received cooling water from the degreasing tanks along with storm water runoff. The 2010 Site Inspection (SI) sampling found that the water from the deep, active production well was contaminated with VOCs. Under UIC rules, MRP was required to find an alternative to disposal through the dry wells. Due to installation of the chiller system, the dry wells no longer receive water from cooling the degreasing tanks. Several dry wells have been removed. Storm water runoff still enters the shallow aquifer through the depression in the northeast corner of the MRP property. Runoff during significant rainfall or snow melt causes mounding in the shallow aquifer (Ohio EPA 2012).

MRP is located approximately 1,300 feet north of the Dayton Mad River Well Field WHPA five-year time of travel delineation and 1,500 feet southeast of the Dayton Miami Well Field WHPA five-year time of travel delineation (Figure 1). These well fields draw water from the Great Miami Buried Valley Aquifer, a federally designated sole source aquifer. The closest production well is PW-06, approximately 2,650 feet south of the facility in the Mad River Well Field. The nearest Dayton Mad River early warning monitoring wells, MW-105S and MW-105D, are located approximately 1,500 feet south of the site (Figure 1). The population served by the Dayton Mad River Well Field and Dayton Miami Well Field is approximately 236,000 and 184,000, respectively. Appendix B includes information on public water systems and census data.

2.2 Site History

MRP began operations in 1942 as the Mullins Tire and Rubber Company. The primary operation at that time was retreading used tires. Other names the company used during its history include The Yellow Front Tire Shop and Bill Mullins Co. Inc.

In 1955, the business expanded from tires into molding different types of rubber products. Beginning in the mid-1960s, the company focused on molding heavy-duty truck trailer suspension bushings, the product line that continues today.

MRP is required to report halogenated solvent usage annually to the Regional Air Pollution Control Agency (RAPCA). After an anonymous source alleged the company was under-reporting the amount of solvents used, the Ohio EPA and RAPCA performed an unannounced inspection on May 14, 2001.

RAPCA and Ohio EPA determined that MRP had under-reported their TCE usage, kept false records and knowingly reported false data from 1995 to 2000. From 1995 to 1999, the combined emissions permit limit was 10,000 pounds per year. Actual emissions were calculated and ranged from 17,679 pounds in 1996

to 38,556 pounds in 1997.

In January 2004, a seven-count criminal indictment was filed against MRP by the U.S. Attorney's Office in Dayton, Ohio. Later the same year, William R. Mullins, President of MRP, pled guilty to making false statements when reporting airborne discharges of TCE and failing to submit a Title V air permit by the October 1996 deadline. Mr. Mullins was fined, sentenced to home confinement followed by probation, and ordered to perform 100 hours of community service.

MRP now holds a Clean Air Act Title V operating permit that was issued January 16, 2008. TCE usage limit is a facility-wide rolling 12 month limit of 15.54 tons.

2.3 Previous Investigations

In October 2008, Ohio EPA conducted a Pre-CERCLIS Screening Assessment of Mullins Rubber Products. Ohio EPA then completed a Preliminary Assessment in April 2010. It was determined that past practices at the Mullins facility, including environmental violations, had potentially released TCE into soil and groundwater.

A Site Inspection of Mullins Rubber Products was conducted in November 2010. Six groundwater grab samples were collected using direct-push technology. The active deep production well was also sampled, along with dry well number DW-2, which received cooling water from the degreasing tanks. Sample results indicated significant levels of PCE and lower levels of TCE in groundwater. The PCE and TCE detections ranged from 58 μ g/L to 156 μ g/L and 2.2 μ g/L to 11 μ g/L, respectively.

An Expanded Site Inspection (ESI) was conducted in December 2011. Three Geoprobe pre-packed monitoring wells were installed and designated as MW-1, MW-2, and MW-3. The monitoring well locations are shown on Figure 2. The well in the northwest corner (MW-1) did not reach the main shallow aquifer, making it unsuitable for water level measurements. ESI samples documented PCE and TCE in both shallow and deep aquifers but contamination was highest in MW-3, a shallow well located at the southwest corner of MRP property. PCE was detected at a concentration of 300 μ g/L in MW-3 during this sampling event. Higher concentrations of PCE in the shallow aquifer pointed to a shallow rather than a deep source of PCE (Ohio EPA 2012).

A Supplemental Expanded Site Inspection (SESI) was conducted in March 2013. The primary objective of the SESI was to determine whether PCE, TCE, or other VOCs detected in deep and shallow groundwater samples were emanating from the MRP facility or from another off-property source(s). The SESI included installation of eighteen soil borings and four monitoring wells, MW-1R, MW-4, MW-5, and MW-6. These monitoring well locations are also shown on Figure 2, along with additional monitoring wells which were subsequently installed during Removal Site Assessment work.

SESI groundwater sampling results indicated significant concentrations of PCE and lower, but still above MCL, concentrations of TCE at locations along the west and southwest portions of the MRP property. Samples from locations along the north and east sides of the MRP property had either no detections or low levels of VOCs. The highest concentration of PCE, 14,000 μ g/L, was detected in a boring located about 40 feet west of the MRP property line on the Paul's Garage and Towing Inc. property. PCE was also detected at MW-4 on Hypathia Avenue at a concentration of 1,500 μ g/L, indicating that the VOC plume had moved into the residential neighborhood west of MRP (Ohio EPA 2013).

On May 9, 2013, Ohio EPA requested that U.S. EPA conduct a Time-Critical Removal (TCR) Action Assessment to determine if groundwater contaminated with VOCs was resulting in vapor intrusion into occupied structures. At the request of the U.S. EPA On-Scene Coordinator (OSC), Ohio EPA conducted a geoprobe investigation of the area west of MRP as part of the removal action assessment.

Ohio EPA mobilized its Geoprobe[®] and mobile laboratory in July 2013 to collect the additional samples requested by the OSC. The Geoprobe[®] was used to collect soil cores, soil gas, and groundwater samples from ten locations in the residential neighborhood west of MRP. The Ohio EPA mobile laboratory gas chromatograph was used to provide screening level data for samples collected. Based on mobile laboratory screening data, the U.S. EPA START contractors collected soil gas and groundwater samples for fixed laboratory analysis. The U.S. EPA contractor also collected sub-slab vapor samples and indoor air samples from several residences in the area of concern (Ohio EPA 2013).

Based on the removal action assessment sampling results, the ODH concluded that a completed exposure pathway exists for vapor intrusion in the residential neighborhood west of MRP. In December 2013, U.S. EPA initiated a removal action known as the Valley Pike VOC Site. The on-going removal action includes sampling residences for vapor Intrusion and installing mitigation systems at residences exceeding ODH screening levels for PCE and/or TCE. A summary of the removal action work completed to date is provided in Section 3.3.

2.4 Geology and Hydrogeology

Regional Geology & Hydrogeology

Regional geology consists of unconsolidated glacial deposits overlying consolidated bedrock. Most of the bedrock in the Dayton area consists of Ordovician shale with thin inter-bedded limestone. The unconsolidated deposits are glacial sediments consisting of fine-grained clay-rich tills and sand and gravel outwash deposits. The sand and gravel deposits produce high yields of groundwater throughout the region. The clay-rich tills have low permeability and yield little water. In the Mad River valley, the outwash deposits are generally

separated into upper and lower zones by a thick till layer which can be locally continuous but is discontinuous regionally (Norris and Speiker 1966). Ohio EPA review of regional well logs indicates that the till layer is not present at some locations within the valley near MRP. The absence of the clay-rich till layer provides localized interconnection between the upper and lower sand and gravel outwash deposits. Soil boring logs from previous investigations at MRP and vicinity indicate significant differences in lithology between one boring and another over short distances.

MRP is located over the Mad River buried valley aquifer system, one of the most productive aquifers in North America. It is part of the U.S. EPA designated Great Miami Buried Valley Sole Source Aquifer System. The groundwater resources map for Montgomery County indicates that regionally extensive, thick permeable deposits of sand and gravel occur in this area. The aquifer is comprised of sand and gravel outwash deposits ranging in thickness from 120 to 250 feet. In some locations, inter-bedded clay, silt, and clay-rich till aquitards at varying depths separate the aquifer into an upper and lower zone (Norris and Speiker 1966). One such clay-rich till aquitard is present in some areas beneath MRP but is not continuous.

The natural groundwater flow direction in the uppermost aquifer is southwest (Tetra Tech 2015).

Site-Specific Geology & Hydrogeology

Unconsolidated glacial outwash deposits vary significantly over short distances at the MRP site. All three federal site assessment efforts experienced difficulty in the use of direct-push drilling and sampling technology. Borings along the western MRP property line encountered shallow, hard clay-rich till above the sand and gravel shallow aquifer. At the northwest corner of the property where MW-1 and MW-1R are located, the hard clay-rich till extends from about fifteen feet bgs to thirty feet bgs. The clay-rich till terminates at thirty-two feet bgs where the shallow sand and gravel aquifer is encountered. Other borings along the west property line also encountered the clay-rich till but the till thins between MW-1R and MW-3 at the southwest corner of the MRP property. The clay and till layers do not act as continuous confining units throughout the area (Tetra Tech 2015).

Along the eastern side of the MRP property the shallow till is missing. Instead, this area is underlain by course sand and gravel deposits with large cobbles. This is the reason that the depression at the northeast corner of the MRP property is so effective in allowing runoff to sink into the shallow aquifer. At MW-4 on Hypathia Avenue, a thin clay layer was encountered between thirteen and sixteen feet bgs. The rest of the deposits were sand and gravel. More information on site geology, including boring logs, well construction diagrams, and geologic cross sections, is provided in the Tetra Tech Contaminant Source Area Investigation Report, Appendix C.

Groundwater elevation contours were determined based on October 2014 water level measurements from MW-1R, MW-2, Old PW, MW-3, MW-4, MW-5, MW-6, and MW-EPA-7 through MW-EPA-14. MW-1 was not used for flow determination because it is only partially screened in the shallow sand and gravel aquifer. A groundwater elevation contour map is provided in the Tetra Tech Contaminant Source Area Investigation Report, Appendix C. The natural groundwater flow direction in the uppermost aquifer is southwest (Tetra Tech 2015).

3.0 SAMPLING LOCATIONS & DISCUSSION OF RESULTS FROM EPA REMOVAL ASSESSMENT WORK

3.1 March 2014 Groundwater Sampling

During the week of March 24, 2014, U.S. EPA Removal and Emergency Response Program conducted a groundwater investigation in the residential neighborhood to the west of the MRP site. The purpose of the investigation was to determine the extent of VOC contamination in groundwater beneath the neighborhood and to identify areas for future vapor intrusion sampling. U.S. EPA used its contractor, EQM, to hire a drilling firm to install the wells. Fourteen temporary monitoring wells were installed to a depth of approximately 40 feet using a direct-push drill rig with augering capability. The temporary wells, designated as GP-1 through GP-14, were purged, sampled for VOCs, and removed. Due to equipment and schedule issues, groundwater samples were collected using hand bailers and a peristaltic pump. Therefore, the VOC sampling results from this event were screening level only and likely biased low.

The groundwater samples were shipped to Pace Analytical Services, Inc. laboratory for VOC analysis by Method 8260. PCE was detected at two locations, GP-4 and GP-9, at concentrations of 290 μ g/L and 45.6 μ g/L, respectively. Lower concentrations of TCE were detected at GP-4, GP-5, GP-6, GP-8, and GP-9. The highest detection of TCE was 12.4 μ g/L at GP-9. The U.S. EPA maximum contaminant level (MCL) for PCE and TCE is 5 μ g/L. PCE and TCE were not detected at temporary well locations GP-2, GP-3, GP-7, GP-10, GP-11, GP-12, GP-13, and GP-14. GP-1 was a dry hole and a groundwater sample could not be collected.

Significant groundwater sampling results from the March 2014 sampling event are provided in Table 1. The temporary well locations and sampling results for PCE and TCE are shown on Figure 3. The lab analytical report is provided in Appendix D.

Table 1 March 2014 Significant Groundwater Sampling Screening Results (concentrations in μg/L)							
	GP-4	GP-5	GP-6	GP-8	GP-9		
PCE	290*	ND	ND	ND	45.6*		
TCE	5.7*	4.3 2.6 5.3* 12.					

Note: "ND" indicates below detection limit

Based on the March 2014 groundwater sampling results, U.S. EPA expanded the area of investigation for vapor intrusion further west to Prince Albert Boulevard. A summary of the U.S. EPA removal action work is provided in Section 3.3.

3.2 Contaminant Source Area Investigation

During September and October 2014, U.S. EPA conducted a Contaminant Source Area Investigation. The investigation focused on Mullins Rubber Products, a suspected source of PCE and TCE contamination at the Valley Pike VOC Site. Ohio EPA assisted U.S. EPA and the START contractor, Tetra Tech, with the investigation. The investigation included collection of sub-slab vapor samples from beneath the Mullins Rubber Products building, installation of eight new monitoring wells, collection of groundwater samples from new and existing monitoring wells, and collection of soil samples based on field screening. The sampling events and results are summarized below. More detailed information is provided in the Tetra Tech Contaminant Source Area Investigation Report, Appendix C.

3.2.1 Mullins Rubber Products Sub-Slab Sampling

During September 27-28, 2014, U.S. EPA conducted a sub-slab vapor investigation at the MRP site. Six sub-slab vapor probes were installed in the concrete floor inside the main production building. Sub-slab vapor samples were collected over a 24-hour period using SUMMA canisters. The SUMMA canisters were shipped to Pace Analytical Services, Inc. and analyzed for VOCs by Method TO-15. The lab analytical results indicated significant concentrations of PCE and TCE in soil vapor beneath the concrete floor of the Mullins Rubber

indicates parameter at or above MCL

building. The sub-slab sampling results for PCE and TCE are provided in Table 2. The lab analytical report is provided in Appendix C. The sub-slab vapor probe locations and sampling results are shown on Figure 4.

The highest detection of PCE was 3,550,000 µg/m³ in a sub-slab vapor sample collected at location VP-EPA-4 near the solvent degreaser. This indicates a PCE source likely exists in soil beneath the production building.

Table 2 Mullins Rubber Products Sub-Slab Vapor Sampling Results September 2014

(concentrations in µg/m³)

	VP-EPA-1	VP-EPA-2	VP-EPA-3	VP-EPA-4	VP-EPA-5	VP-EPA-6
PCE	44.1	141	61.7	3,550,000	65,000	8,380
TCE	104	894	199	25,500	44,400	2,170

Note: Sample locations are shown on Figure 4

3.2.2 October 2014 Groundwater and Soil Sampling

U.S. EPA installed eight monitoring wells in October 2014. U.S. EPA used its START contractor, Tetra Tech, to provide a rotosonic drill rig and a track mounted direct-push rig to install the wells. The locations of the new monitoring wells are shown on Figure 2. MW-EPA-7, MW-EPA-8, and MW-EPA-14 were installed to monitor groundwater quality at and downgradient of MRP. MW-EPA-9, MW-EPA-10, MW-EPA-11, MW-EPA-12 and MW-EPA-13 serve as upgradient sampling locations (Figure 2). Appendix C, Tetra Tech Contaminant Source Area Investigation Report, contains boring logs, well construction diagrams, and other information compiled by Tetra Tech staff during the October 2014 sampling event.

Soil samples were collected at selected monitoring well boring locations based on field observations and screening with a photoionization detector. The soil samples were collected using Encore™ samplers. The soil sample locations and depths are shown on Figure 5. The soil samples were shipped to Pace Analytical Services and analyzed for VOCs by Method 8260.

Significant soil sampling results from the October 2014 sampling event are provided in Table 3 and shown on Figure 5. The lab analytical reports for the soil samples are included in Appendix C. Significant detections of PCE and TCE

occurred in soil samples collected at MW-EPA-8, located next to the main building on the west side of the MRP property. The highest detections of PCE and TCE at this location were 2,040,000 μ g/kg and 411,000 μ g/kg, respectively, in a soil sample collected at 24-26 feet bgs. The sampling results indicate significant VOC soil contamination at depth at MRP.

Table 3 October 2014 Significant Soil Sampling Results							
Location	Media	Parameter	Results	Units			
MW-EPA-7	Soil (8-10 ft bgs)	PCE	43	μg/kg			
		TCE	ND	μg/kg			
MW-EPA-8	Soil (13-15 ft bgs)	PCE	32	μg/kg			
		TCE	ND	μg/kg			
	Soil (20-22 ft bgs)	PCE	17,100	μg/kg			
	-	TCE	2,600	μg/kg			
	Soil (24-26 ft bgs)	PCE	2,040,000	μg/kg			
		TCE	411,000	μg/kg			
MW-EPA-14	Soil (18-20 ft bgs)	PCE	14	μg/kg			
		TCE	ND	μg/kg			

Note: "ND" indicates below detection limit

bgs: below ground surface

Groundwater samples were collected from the eight newly installed monitoring wells, six existing monitoring wells, and a former production well at MRP, identified as Old PW. The existing monitoring wells included ESI wells MW-1, MW-2, MW-3 and SESI wells MW-1R, MW-4 and MW-5. The well locations are shown on Figure 2. The groundwater samples were collected using low-flow sampling techniques. Samples were sent by the START contractor to Pace Analytical Services for analysis by Method 8260.

Significant groundwater sampling results from the October 2014 sampling event are provided in Table 4 and shown on Figure 2. The lab analytical reports for the groundwater samples are included in Appendix C. PCE was detected at concentrations above the MCL in groundwater samples collected from monitoring wells MW-2, MW-3, MW-4, MW-EPA-8, MW-EPA-10, MW-EPA-14 and the former production well at MRP. The groundwater sampling results indicate high concentrations of PCE and lower, but still above MCL, concentrations of TCE in monitoring wells at and downgradient of MRP. Samples from locations along the north and east sides of the MRP property had either no detections or low levels of VOCs. The natural groundwater flow direction in the uppermost aquifer is southwest (Tetra Tech 2015).

The highest detection of PCE was at MW-EPA-8 (19,300 μ g/L), located next to the main building on the west side of the MRP property. The next two highest detections of PCE were at MW-EPA-14 (2,500 μ g/L), located approximately 50 feet west and downgradient of MRP, and MW-4 (1,600 μ g/L), located about 900 feet west of MRP on Hypathia Avenue in the residential neighborhood. The only upgradient detection of PCE was 34 μ g/L at MW-EPA-10, located about 60 feet east of the MRP property boundary. PCE was not detected at upgradient monitoring well locations MW-EPA-9, MW-EPA-11, MW-EPA-12 and MW-EPA-13. The upgradient PCE detection at MW-EPA-10 may be the result of groundwater mounding at MPR from past discharges to dry wells, or from storm water flow to the recharge basin where contaminated non-contact cooling water formerly discharged to the shallow aquifer. The only detection of TCE was 24 μ g/L at MW-4. The MCL for PCE and TCE is 5 μ g/L. PCE and TCE were not detected at MW-1, MW-1R, MW-5, MW-6, MW-EPA-9, MW-EPA-11, MW-EPA-12, or MW-EPA-13.

The groundwater sampling results indicate that MRP is the likely source of the groundwater contamination that has migrated beneath the residential neighborhood west of MRP.

Table 4 October 2014 Significant Groundwater Sampling Results						
Location	Media	Parameter	Results	Units		
MW-2	Groundwater	PCE	9.3*	μg/L		
		TCE	ND	μg/L		
MW-3	Groundwater	PCE	65*	μg/L		
		TCE	ND	μg/L		
MW-4	Groundwater	PCE	1,600*	μg/L		
		TCE	24*	μg/L		
MW-EPA-8	Groundwater	PCE	19,300*	μg/L		
		TCE	ND	μg/L		
MW-EPA-10	Groundwater	PCE	34*	μg/L		
		TCE	ND	μg/L		
MW-EPA-14	Groundwater	PCE	2,500*	μg/L		
		TCE	ND	μg/L		
Old PW	Groundwater	PCE	28*	μg/L		
		TCE	ND	μg/L		

3.3 U.S. EPA Time-Critical Removal Action Summary

The U.S. EPA removal action, known as the Valley Pike VOC Site, was initiated in December 2013. The removal action included sampling residences for vapor intrusion and installing mitigation systems at residences exceeding ODH screening levels for PCE and/or TCE. In November 2014, U.S. EPA expanded the area of investigation to include the residential area between Hypathia Ave (east), Forest Home Ave (north), Warrendale Ave (south), and Sagamore Ave (west).

As of January 20, 2015, approximately 302 residences have been sampled for vapor intrusion (sub-slab or indoor air). Eighty-three residences exceeded the ODH screening level for PCE and/or TCE. Vapor intrusion mitigation systems have been installed at 75 residences to date (EPA 2015). See Figure 6, Removal Action Summary Map, located in Appendix A. Vapor intrusion sampling and mitigation activities are on-going.

4.0 MIGRATION PATHWAYS

4.1 Soil Exposure Pathway

The soil exposure pathway has not been fully evaluated but may pose a threat to on-site workers via vapor intrusion and potential direct contact by a utility worker or construction worker. A limited number of subsurface soil samples were collected by U.S. EPA during the October 2014 sampling event. PCE and TCE exceeded their respective U.S. EPA Regional Screening Levels of 100,000 μ g/kg and 6,000 μ g/kg for industrial soil in one sample collected at MW-EPA-8, located next to the main building on the west side of the MRP property. PCE and TCE were detected at 2,040,000 μ g/kg and 411,000 μ g/kg, respectively, in a soil sample collected at 24-26 feet bgs at this location. Due to the depth of this soil sample, it is unlikely to pose a direct contact threat at this location. However, the high concentrations of PCE and TCE in subsurface soil indicate that a source is likely located beneath the slab of the main building at MRP.

4.2 Groundwater Pathway

The groundwater pathway is the main pathway of concern. There are four community drinking water systems within the four-mile radius target distance. MRP is located approximately 1,350 feet from the Dayton Mad River Well Field wellhead protection area and 1,600 feet from the Dayton Miami Well Field wellhead protection area. The closest production well is approximately 2,650 feet from MRP in the Dayton Mad River Well Field.

Dayton's two well fields have a total of 162 production wells and serve a population of 420,000. According to Dayton, each well serves approximately the same percentage of the population. Therefore, each well serves approximately

2600 individuals. Appendix B includes information on public water systems and census data.

The Dayton Mad River Well Field, located 0.36 miles southwest of MRP, is the water system most likely to be impacted by releases of VOCs from MRP. During the 2011 ESI, samples were collected from nine Dayton Mad River Well Field production wells located generally down-gradient of MRP. PCE and TCE were detected in five of the wells at concentrations below their respective MCL of 5 $\mu g/L$.

Groundwater sampling conducted in March 2014 indicates that the VOC plume extends to at least Broadmead Boulevard, which is approximately 3,300 feet west of MRP. PCE was detected at two locations, GP-4 and GP-9, at concentrations of 290 μ g/L and 45.6 μ g/L, respectively. The highest detection of TCE during the March 2014 sampling event was 12.4 μ g/L at GP-9. U.S. EPA expanded the area of investigation for vapor intrusion further west to Prince Albert Boulevard based on the March 2014 groundwater sample results.

The October 2014 groundwater sampling results indicate high concentrations of PCE and lower, but still above MCL, concentrations of TCE in monitoring wells at and downgradient of MRP. The highest detection of PCE was 19,300 μ g/L at MW-EPA-8, located next to the main building on the west side of the MRP property. The next two highest detections of PCE were at MW-EPA-14 (2,500 μ g/L), located approximately 50 feet west and downgradient of MRP, and MW-4 (1,600 μ g/L), located about 900 feet west of MRP on Hypathia Avenue in the residential neighborhood.

The VOC plume is a potential threat to downgradient public water supply wells. The ODH has also determined that a completed exposure pathway exists through vapor intrusion from groundwater to indoor air in the residential neighborhood downgradient of MRP. However, vapor intrusion is not a current pathway under the Hazard Ranking System.

4.3 Surface Water Pathway

The surface water pathway was not evaluated during the SR. However, Eastwood Lake and the Mad River are potential end points for storm water discharges from MRP.

4.4 Air Pathway

The air pathway was not evaluated during the SR. Vapor intrusion is not a current pathway under the Hazard Ranking System. However, the ODH has determined that a completed exposure pathway exists for vapor intrusion at the Valley Pike VOC Site. In December 2013, U.S. EPA initiated a removal action that includes sampling residences for vapor Intrusion and installing mitigation systems at residences exceeding ODH screening levels for PCE and/or TCE.

5.0 SUMMARY

Mullins Rubber Products is a rubber products manufacturing facility that has been active since 1942. The company uses TCE in its manufacturing processes. No past or current use of PCE has been reported by the company. In 2004, William R. Mullins, the company president, pled guilty to four counts of making false statements when reporting airborne discharges of TCE. Mr. Mullins also pled guilty to one count of failing to submit a Title V air permit by the October 1996 deadline.

During September and October 2014, U.S. EPA conducted a Contaminant Source Area Investigation. The investigation focused on Mullins Rubber Products, a suspected source of PCE and TCE contamination at the U.S. EPA removal action known as the Valley Pike VOC Site.

Sub-slab vapor samples collected from inside the Mullins Rubber Products main building in September 2014 had high levels of PCE and TCE. The highest detection of PCE was 3,550,000 μ g/m³ in a sub-slab sample collected near the degreaser. The sub-slab vapor sampling results indicate a source of PCE likely exists in soil beneath the MRP building.

Significant detections of PCE and TCE occurred in soil samples collected adjacent to the main building on the west side of the MRP property in October 2014. The highest detections of PCE and TCE at this location were 2,040,000 μ g/kg and 411,000 μ g/kg, respectively, in a soil sample collected at 24-26 feet bgs. Due to the depth of this soil sample, it is unlikely to pose a direct contact threat. However, the high concentrations of PCE and TCE in subsurface soil indicate that a source is likely located beneath the slab of the main building at MRP.

Groundwater sampling conducted by U.S. EPA in October 2014 indicates high concentrations of PCE and lower, but still above MCL, concentrations of TCE in monitoring wells at and downgradient of MRP. The highest detection of PCE was 19,300 μ g/L at a monitoring well located next to the main building on the west side of the MRP property. The next two highest detections of PCE were 2,500 μ g/L at a monitoring well located approximately 50 feet west of MRP, and 1,600 μ g/L at a monitoring well located 900 feet west of MRP on Hypathia Avenue in the residential neighborhood.

Of the various locations that have been sampled in the Valley Pike VOC site area, the highest concentrations of PCE and TCE in soil, groundwater, and subslab vapor have been detected in samples collected on the MRP property, adjacent to and immediately southwest/downgradient of the MRP vapor degreaser and dry well areas (Tetra Tech 2015).

MRP is located approximately 1,300 feet north of the Dayton Mad River Well

Field WHPA area five-year time of travel delineation and 1,500 feet southeast of the Dayton Miami Well Field WHPA area five-year time of travel delineation. These well fields draw water from a federally designated sole source aquifer. The closest production well is PW-06, approximately 2,650 feet south of MRP in the Mad River Well Field. Five Dayton production wells located southwest of MRP had detections of PCE or TCE at concentrations below MCLs during a 2011 ESI sampling event.

Groundwater sampling conducted in 2014 indicates that the VOC plume extends to at least Broadmead Boulevard, which is approximately 3,300 feet west of MRP. The VOC plume is a potential threat to downgradient public water supply wells. ODH has also determined that a completed exposure pathway exists through vapor intrusion from groundwater to indoor air in the residential neighborhood downgradient of MRP. However, vapor intrusion is not currently a valid pathway for scoring under the CERCLA site assessment Hazard Ranking System.

The U.S. EPA removal action, known as the Valley Pike VOC Site, was initiated in December 2013. The removal action included sampling residences for vapor Intrusion and installing mitigation systems at residences exceeding ODH screening levels for PCE and/or TCE. Based on the 2014 groundwater sampling results, U.S. EPA expanded the area of investigation for vapor intrusion to include the residential area between Hypathia Ave (east), Forest Home Ave (north), Warrendale Ave (south), and Sagamore Ave (west).

As of January 20, 2015, approximately 302 residences have been sampled for vapor intrusion (sub-slab or Indoor air). Eighty-three residences exceeded the ODH screening level for PCE and/or TCE. Vapor intrusion mitigation systems have been installed at 75 residences to date (EPA 2015). Vapor intrusion sampling and mitigation activities are on-going.

6.0 REFERENCES

Norris, S.E., Speiker, A.M. 1966. Ground-Water Resources Of The Dayton Area, Ohio. U.S. Geological Survey Water-Supply Paper # 1808. 167 pp. http://pubs.usgs.gov/wsp/1808/report.pdf

Ohio Environmental Protection Agency (Ohio EPA). 2012. Expanded Site Inspection Report. Mullins Rubber Products, Riverside, Ohio.

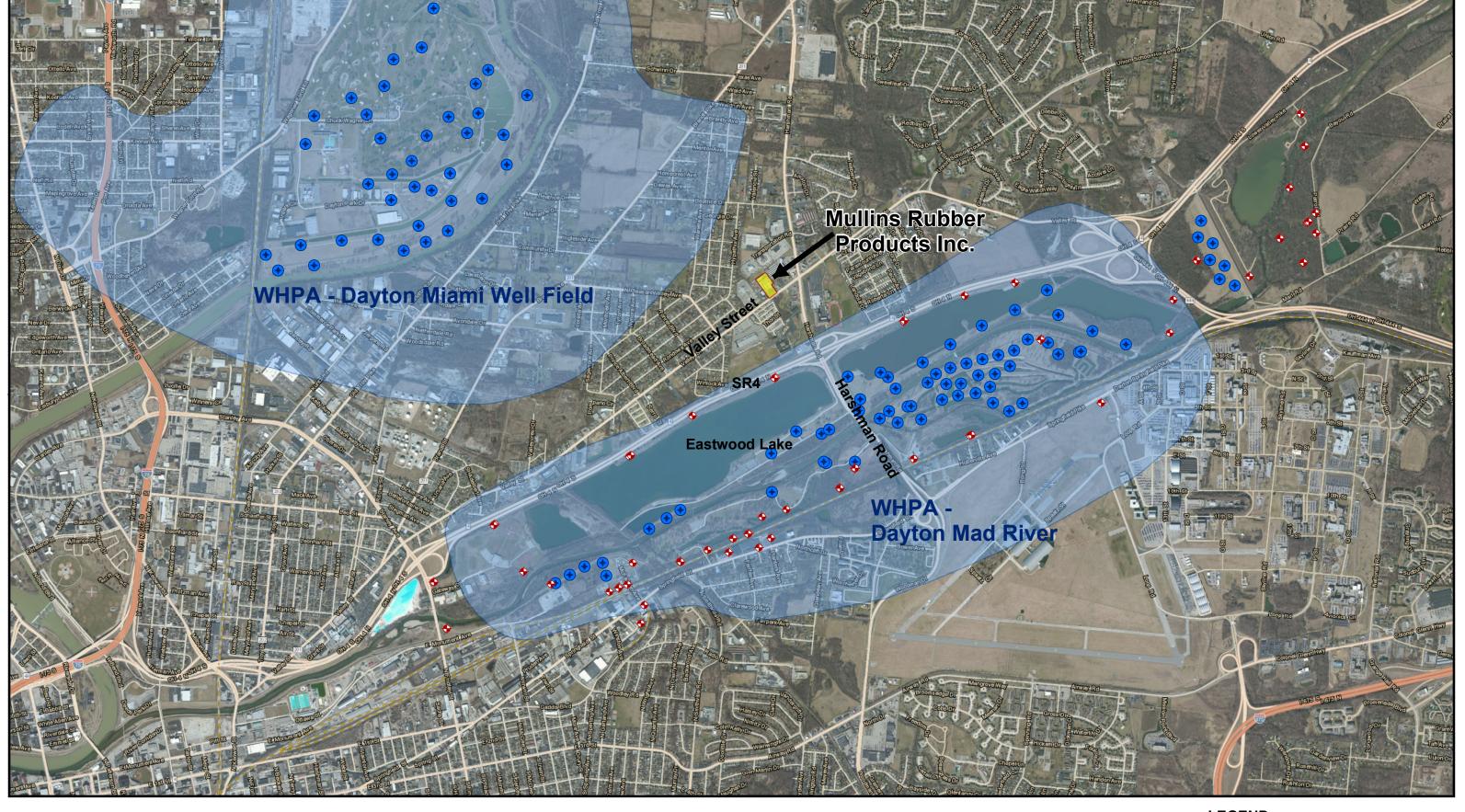
Ohio Environmental Protection Agency (Ohio EPA). 2013. Supplemental Expanded Site Inspection Report. Mullins Rubber Products, Riverside, Ohio.

Tetra Tech, Inc. (Tetra Tech). 2015. Contaminant Source Area Investigation Report for the Valley Pike VOC Site. Riverside, Montgomery County, Ohio.

United States Environmental Protection Agency (EPA). 2015. Pollution/Situation Report for Valley Pike VOC Site.

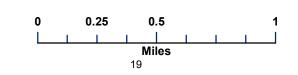
Appendix A

Figures





Mullins Rubber Products, Inc. Site Reassessment





LEGEND



Dayton Mad River Early Warning Monitoring Wells

Dayton Public Water Production Wells

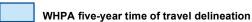






Figure 2. Monitoring Well Locations and October 2014 Sampling Results

hioEPA

Mullins Rubber Products, Inc. Site Reassessment



LEGEND

Monitoring Well Location

Mullins Rubber Products, Inc.

ND = Not Detected



Figure 3. March 2014 Groundwater Sampling Results

Mullins Rubber Products, Inc.

Site Reassessment

0 500 1,000 Feet

LEGEND Temporary Well Location

ND = Not Detected NS = Not Sampled



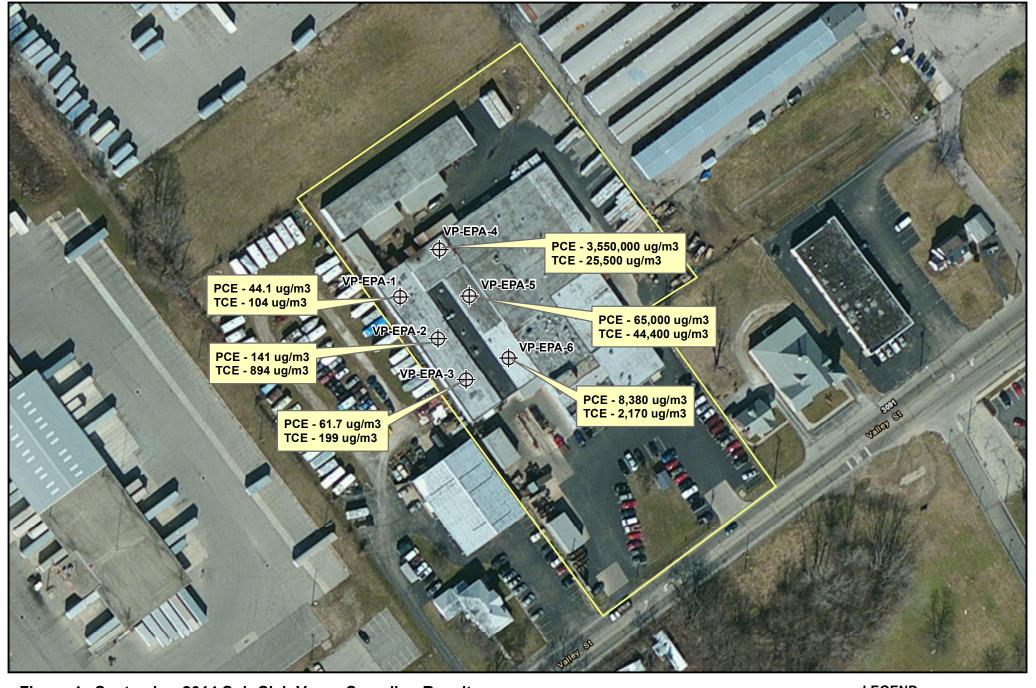


Figure 4. September 2014 Sub-Slab Vapor Sampling Results

Mullins Rubber Products, Inc.

Site Reassessment

O

125

LEGEND

Sub-Slab Vapor Probe Location

Mullins Rubber Products, Inc.

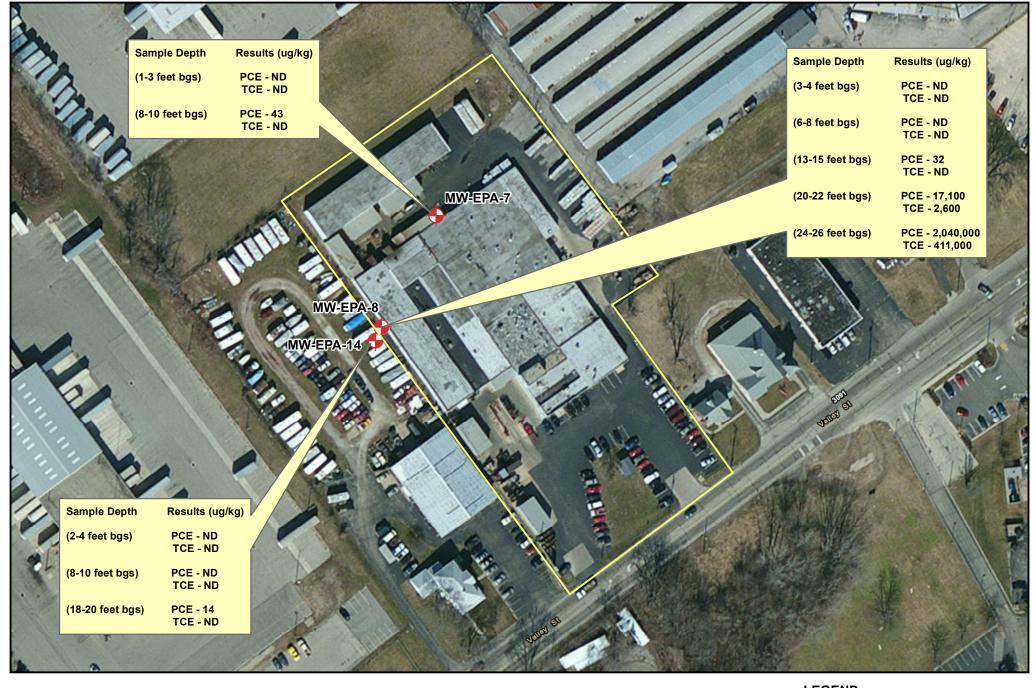
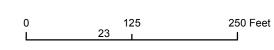


Figure 5. October 2014 Soil Sampling Locations and Results **Mullins Rubber Products, Inc. Site Reassessment**

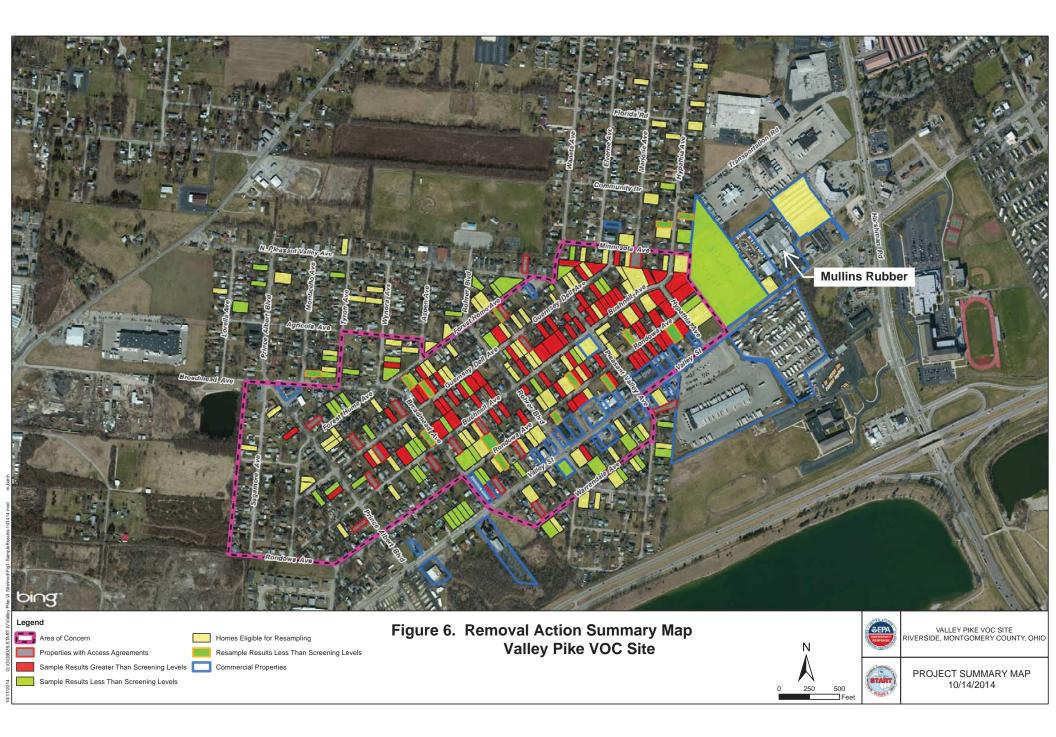




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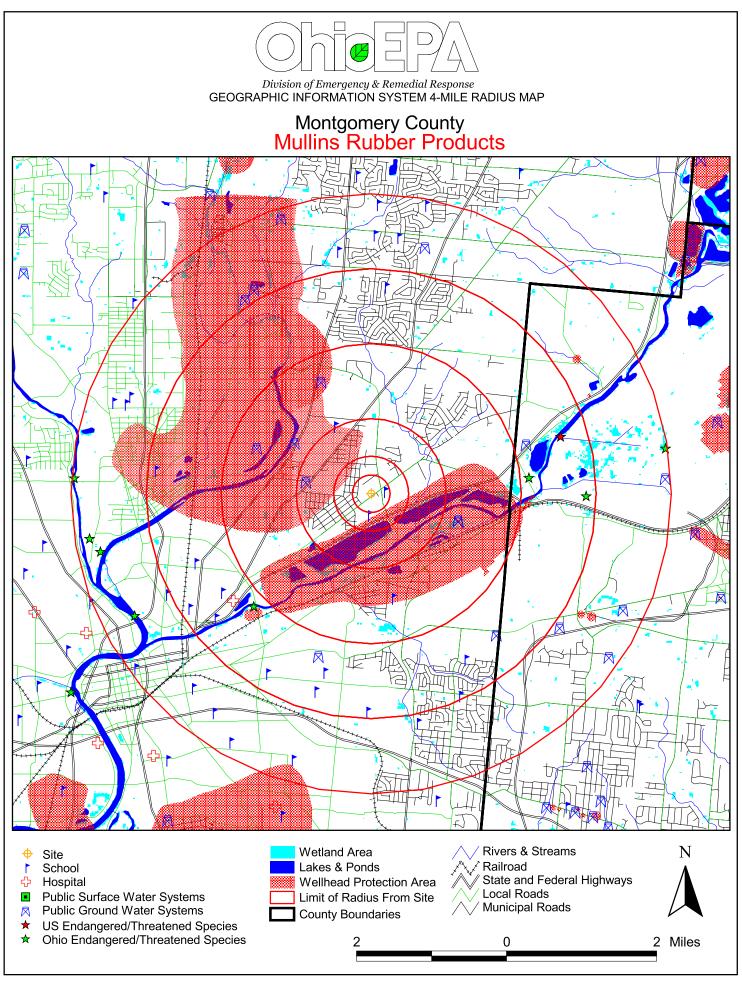


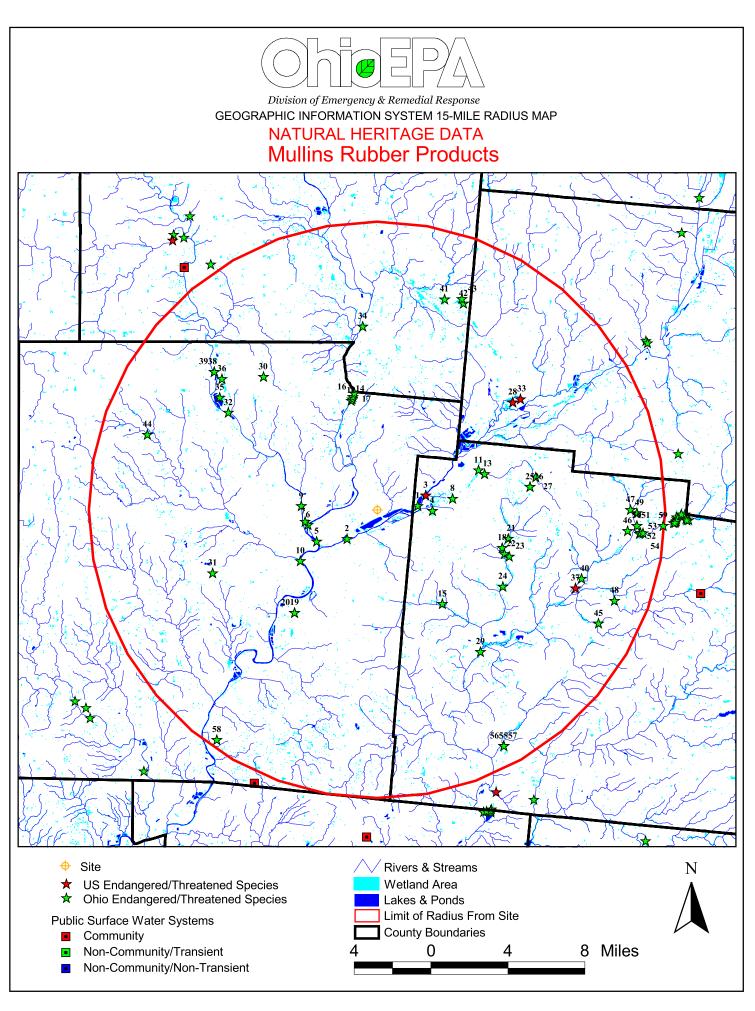
ND = Not Detected



Appendix B

GIS Maps and Tables





Mullins Rubber Products Ground Water Systems

ID	PWS_ID	SYS_TYPE	NAME	ADDRESS	CITY	STATE	DISTANCE	POPULATION
1	5746012	Non-Community/Transient	FIRST FREE WILL BAPTIST	1661 BRANDT PIKE	DAYTON	ОН	0.8855	150
2	5700722	Community	DAYTON, CITY OF-OTTAWA P	3210 CHUCK WAGNER LANE	DAYTON	ОН	1.2163	236,000
4	5702012	Community	HUBER HEIGHTS-PLANT #1	P.O. BOX 24099	HUBER HEIGHTS	ОН	1.2213	29,250
5	5734812	Non-Community/Transient	HUNGARIAN E & R CHURCH	4457 TROY PIKE	DAYTON	ОН	1.6236	250
6	5700712	Community	DAYTON, CITY OF-MIAMI PL	3210 CHUCK WAGNER LANE	DAYTON	ОН	1.6421	184,000
7	2943512	Non-Community/Transient	DAYTON GYMNASTIC CLUB PA	4301 STATE ROUTE 4	DAYTON	ОН	2.1597	300
8	5745612	Non-Community/Transient	BLESSED HOPE BAPTIST CH.	4461 FISHBURG ROAD	HUBER HEIGHTS	ОН	2.2948	50
9	5736012	Non-Community/Transient	ORBIT INN/ANIMAL CASTLE	6030 AIRWAY ROAD	DAYTON	ОН	2.5237	45
10	5737112	Non-Community/Transient	VOITURE 40-8, 34	4214 POWELL ROAD	DAYTON	ОН	3.0740	30
11	2944912	Non-Community/Transient	W.O. WRIGHT'S	3979 COLONEL GLENN HWY.	FAIRBORN	ОН	3.0856	75
12	5731212	Non-Community/Transient	CAPT JOHN C. POST LODGE	4275 POWELL ROAD	DAYTON	ОН	3.1229	200
13	2902712	Community	HUBER HEIGHTS-PLANT #3	P.O. BOX 24099	HUBER HEIGHTS	ОН	3.3449	400
14	2956203	Non-Community/Non-Transient	GREENE COUNTY - FAIRBORN	1122 BEAVER VALLEY ROAD	BEAVERCREEK	ОН	3.7010	130
15	5746312	Non-Community/Transient	FELLOWSHIP ALLIANCE CHAP	4585 CHAMBERSBURG ROAD	HUBER HEIGHTS	ОН	3.8483	35
16	2951112	Non-Community/Transient	SUBMARINE HOUSE	3899 GERMANY LANE	BEAVERCREEK	ОН	3.8514	80
17	2955012	Non-Community/Transient	WPAFB MARKSMANSHIP FACIL	88 ABW/EM 5490 PEARSON ROAD	WRIGHT-PATTERSON	ОН	3.9212	50

Mullins Rubber Products 2000 Census Data

RADIUS	TOTAL	WHITE	BLACK	INDIAN	ASIAN	HAWAII_PAC	OTHER
3.00 - 4.00	51,544	44,171	5,013	160	846	25	1,329
2.00 - 3.00	37,833	33,713	2,387	121	439	26	1,147
1.00 - 2.00	15,323	12,505	1,858	48	371	9	532
0.50 - 1.00	3,991	3,586	255	10	50	2	88
0.25 - 0.50	1,297	1,214	47	4	10	0	23
0.00 - 0.25	423	406	7	2	1	0	6
TOTALS	110,411	95,595	9,567	345	1,717	62	3,125

Mullins Rubber Products Natural Heritage Data

ID	STATUS	DISTANCE	SCIENTIFIC NAME	COMMON NAME
1	State Endangered	2.1065	SISTRURUS CATENATUS	EASTERN MASSASAUGA
2	State Endangered	2.1735	GOMPHUS EXTERNUS	PLAINS CLUBTAIL
3	Federally Endangered	2.6325	MYOTIS SODALIS	INDIANA BAT
4	State Endangered	2.8599	SISTRURUS CATENATUS	EASTERN MASSASAUGA
5	State Threatened	3.5509	UNIOMERUS TETRALASMUS	PONDHORN
6	State Threatened	3.6966	DESCURAINIA PINNATA	TANSY MUSTARD
7	State Endangered	3.8067	PENSTEMON LAEVIGATUS	SMOOTH BEARD-TONGUE
8	State Endangered	3.9671	PAPAIPEMA BEERIANA	BEER'S NOCTUID
9	State Endangered	3.9719	EPIOBLASMA TRIQUETRA	SNUFFBOX
10	State Threatened	4.7987	NYCTANASSA VIOLACEA	YELLOW-CROWNED NIGHT-HERON
11	State Threatened	5.6567	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER
12	State Threatened	5.8646	VIBURNUM MOLLE	SOFT-LEAVED ARROW-WOOD
13	State Threatened	5.8913	CAREX MESOCHOREA	MIDLAND SEDGE
14	State Threatened	5.9246	PENSTEMON PALLIDUS	DOWNY WHITE BEARD-TONGUE
15	State Threatened	5.9412	CLEMMYS GUTTATA	SPOTTED TURTLE
16	State Threatened	6.0294	VERATRUM WOODII	WOOD'S-HELLEBORE
17	State Threatened	6.2001	VERATRUM WOODII	WOOD'S-HELLEBORE
18	State Threatened	6.7853	CLONOPHIS KIRTLANDII	KIRTLAND'S SNAKE
19	State Endangered	6.8607	MUHLENBERGIA CUSPIDATA	PLAINS MUHLENBERGIA
20	State Threatened	6.8607	DRABA REPTANS	CAROLINA WHITLOW-GRASS
21	State Threatened	6.9703	CLONOPHIS KIRTLANDII	KIRTLAND'S SNAKE
22	State Threatened	7.0020	SELAGINELLA ECLIPES	MIDWEST SPIKE-MOSS
23	State Threatened	7.2828	CLONOPHIS KIRTLANDII	KIRTLAND'S SNAKE
24	State Threatened	7.6510	CLONOPHIS KIRTLANDII	KIRTLAND'S SNAKE
25	State Threatened	8.0425	SELAGINELLA ECLIPES	MIDWEST SPIKE-MOSS
26	State Threatened	8.0425	TRIGLOCHIN MARITIMUM	SEASIDE ARROW-GRASS
27	State Threatened	8.4327	SELAGINELLA ECLIPES	MIDWEST SPIKE-MOSS
28	Federally Threatened	9.0109	PLATANTHERA LEUCOPHAEA	PRAIRIE FRINGED ORCHID
29	State Endangered	9.1189	EPIOBLASMA TRIQUETRA	SNUFFBOX
30	State Threatened	9.1316	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER
31	State Threatened	9.1814	CLONOPHIS KIRTLANDII	KIRTLAND'S SNAKE
32	State Endangered	9.2724	EPIOBLASMA TRIQUETRA	SNUFFBOX
33	Federally Threatened	9.4290	PLATANTHERA LEUCOPHAEA	PRAIRIE FRINGED ORCHID
34	State Threatened	9.5945	VERATRUM WOODII	WOOD'S-HELLEBORE
35	State Threatened	10.0863	LIPOCARPHA MICRANTHA	DWARF BULRUSH
36	State Threatened	10.5890	ARABIS HIRSUTA VAR ADPRESSIPILIS	SOUTHERN HAIRY ROCK CRESS
37	Federally Endangered	11.0910	PLEUROBEMA CLAVA	CLUBSHELL
38	State Endangered	11.1394	VILLOSA FABALIS	RAYED BEAN
39	State Endangered	11.1394	EPIOBLASMA TRIQUETRA	SNUFFBOX
40	State Threatened	11.2074	TRUNCILLA DONACIFORMIS	FAWNSFOOT
41	State Threatened	11.5257	TRIGLOCHIN MARITIMUM	SEASIDE ARROW-GRASS
42	State Threatened	11.6507	UTRICULARIA INTERMEDIA	FLAT-LEAVED BLADDERWORT
43	State Threatened	11.8330	CAREX RETROFLEXA VAR RETROFLEXA	REFLEXED SEDGE
44	State Threatened	12.6069	ORCONECTES SLOANII	SLOAN'S CRAYFISH
45	State Threatened	12.9433	SELAGINELLA ECLIPES	MIDWEST SPIKE-MOSS
46	State Threatened	13.0741	ORYZOPSIS RACEMOSA	MOUNTAIN-RICE
47	State Threatened	13.1795	ASPLENIUM RUTA-MURARIA	WALL-RUE
48	State Threatened	13.2187	EXOGLOSSUM LAURAE	TONGUETIED MINNOW
49	State Threatened	13.5031	TRIPHORA TRIANTHOPHORA	THREE-BIRDS ORCHID

Mullins Rubber Products Natural Heritage Data

ID	STATUS	DISTANCE	SCIENTIFIC NAME	COMMON NAME
50	State Threatened	13.5314	ARABIS HIRSUTA VAR ADPRESSIPILIS	SOUTHERN HAIRY ROCK CRESS
51	State Threatened	13.5314	CAREX RETROFLEXA VAR RETROFLEXA	REFLEXED SEDGE
52	State Threatened	13.7044	EXOGLOSSUM LAURAE	TONGUETIED MINNOW
53	State Threatened	13.7444	CALAMINTHA ARKANSANA	LIMESTONE SAVORY
54	State Threatened	13.8785	MATELEA OBLIQUA	ANGLE-POD
55	State Threatened	13.9284	CLEMMYS GUTTATA	SPOTTED TURTLE
56	State Threatened	13.9284	SELAGINELLA ECLIPES	MIDWEST SPIKE-MOSS
57	State Threatened	13.9284	CALAMINTHA ARKANSANA	LIMESTONE SAVORY
58	State Endangered	14.5847	JUNCUS INTERIOR	INLAND RUSH
59	State Threatened	14.9043	ASPLENIUM RUTA-MURARIA	WALL-RUE

Appendix C

Tetra Tech Contaminant Source Area Investigation Report



7 April 2015

Mr. Steven Renninger On-Scene Coordinator U.S. Environmental Protection Agency Region 5, Emergency Response Branch 26 W Martin Luther King Drive Cincinnati, OH 45268

Subject: Contaminant Source Area Investigation Report for the

Valley Pike VOC Site

Riverside, Montgomery County, Ohio

Superfund Technical Assessment Response Team (START) 4 No. EP-S5-13-01

Technical Direction Document No. S05-0001-1404-011

Document Tracking Number (DTN): 143

Dear Mr. Renninger:

Tetra Tech is submitting the electronic copy of the Contaminant Source Area Investigation Report for the above-referenced project. The attached report summarizes activities completed, data acquired, and results of the source area investigation completed between September and October 2014. If you have any questions regarding this submittal, please call me at (937) 238-6743.

Sincerely,

Lauren Foster

Tetra Tech Project Manager

Enclosure

cc: Kevin Scott, Tetra Tech START IV Program Manager

TDD File

CONTAMINANT SOURCE AREA INVESTIGATION

Valley Pike VOC Site Riverside, Montgomery County, Ohio April 7, 2015



Prepared for:

Steve Renninger – On-Scene Coordinator U.S Environmental Protection Agency Region 5

Prepared by:

Tetra Tech, Inc. 250 West Court Street, 200W Cincinnati, Ohio 45202

Document Tracking Number: 143

Appendix D

March 2014 Groundwater Analytical Results



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

April 07, 2014

Mr. Erik Corbin Environmental Quality Mgmt, IN 1800 Carillon Blvd. Cincinnati, OH 45240

RE: Project: USEPA/Valley Pike

Pace Project No.: 5095417

Dear Mr. Corbin:

Enclosed are the analytical results for sample(s) received by the laboratory on March 29, 2014. 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,

Regina Bedel for

Regina K Bill

Mick Mayse

mick.mayse@pacelabs.com

Project Manager

Enclosures

cc: Accounts Payable, Environmental Quality Mgmt, INC





(614)486-5421

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

CERTIFICATIONS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268 Illinois Certification #: 200074 Indiana Certification #: C-49-06 Kansas Certification #: E-10247 Kentucky UST Certification #: 0042

Louisiana/NELAP Certification #: 04076 Ohio VAP Certification #: CL-0065 Pennsylvania Certification #: 68-04991 West Virginia Certification #: 330



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

SAMPLE SUMMARY

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Lab ID	Sample ID	Matrix	Date Collected	Date Received
5095417001	GP-11	Water	03/27/14 17:05	03/29/14 12:32
5095417002	GP-6	Water	03/27/14 14:30	03/29/14 12:32
5095417003	GP-3	Water	03/28/14 10:00	03/29/14 12:32
5095417004	GP-2	Water	03/28/14 09:45	03/29/14 12:32
5095417005	GP-4	Water	03/28/14 10:20	03/29/14 12:32
5095417006	GP-5	Water	03/28/14 10:35	03/29/14 12:32
5095417007	GP-6B	Water	03/28/14 10:50	03/29/14 12:32
5095417008	GP-7	Water	03/28/14 11:15	03/29/14 12:32
5095417009	GP-8	Water	03/28/14 11:30	03/29/14 12:32
5095417010	GP-9	Water	03/28/14 11:45	03/29/14 12:32
5095417011	GP-10	Water	03/28/14 12:20	03/29/14 12:32
5095417012	TRIP BLANK	Water	03/28/14 14:15	03/29/14 12:32
5095417013	GP-11B	Water	03/28/14 12:35	03/29/14 12:32
5095417014	GP-12	Water	03/28/14 12:50	03/29/14 12:32
5095417015	GP-12D	Water	03/28/14 12:55	03/29/14 12:32
5095417016	GP-13	Water	03/28/14 13:15	03/29/14 12:32
5095417017	GP-14	Water	03/28/14 13:30	03/29/14 12:32



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

SAMPLE ANALYTE COUNT

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Lab ID	Sample ID	Method	Analysts	Analytes Reported
5095417001	GP-11	EPA 5030B/8260	RSW	73
5095417002	GP-6	EPA 5030B/8260	RSW	73
5095417003	GP-3	EPA 5030B/8260	DAE	73
5095417004	GP-2	EPA 5030B/8260	DAE	73
5095417005	GP-4	EPA 5030B/8260	DAE	73
5095417006	GP-5	EPA 5030B/8260	DAE	73
5095417007	GP-6B	EPA 5030B/8260	DAE	73
5095417008	GP-7	EPA 5030B/8260	DAE	73
5095417009	GP-8	EPA 5030B/8260	DAE	73
5095417010	GP-9	EPA 5030B/8260	DAE	73
5095417011	GP-10	EPA 5030B/8260	DAE	73
5095417012	TRIP BLANK	EPA 5030B/8260	DAE	73
5095417013	GP-11B	EPA 5030B/8260	DAE	73
5095417014	GP-12	EPA 5030B/8260	DAE	73
5095417015	GP-12D	EPA 5030B/8260	DAE	73
5095417016	GP-13	EPA 5030B/8260	DAE	73
5095417017	GP-14	EPA 5030B/8260	DAE	73

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Date: 04/07/2014 05:18 PM

Sample: GP-11	Lab ID: 50954170	O1 Collected: 03/27/	14 17:05	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results U	nits Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Low Level	Analytical Method: E	PA 5030B/8260					
Acetone	ND ug/L	20.0	1		04/03/14 13:0	2 67-64-1	
Acrolein	ND ug/L	20.0	1		04/03/14 13:0	2 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/03/14 13:0	2 107-13-1	
Benzene	ND ug/L	1.0	1		04/03/14 13:0	2 71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/03/14 13:0	2 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/03/14 13:0	2 74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/03/14 13:0	2 75-27-4	
Bromoform	ND ug/L	1.0	1		04/03/14 13:0	2 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/03/14 13:0	2 74-83-9	
2-Butanone (MEK)	ND ug/L	20.0	1		04/03/14 13:0	2 78-93-3	
-Butylbenzene	ND ug/L	1.0	1		04/03/14 13:0	2 104-51-8	
ec-Butylbenzene	ND ug/L	1.0	1		04/03/14 13:0	2 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/03/14 13:0	2 98-06-6	
Carbon disulfide	ND ug/L	5.0	1		04/03/14 13:0	2 75-15-0	
Carbon tetrachloride	ND ug/L	1.0	1		04/03/14 13:0		
Chlorobenzene	ND ug/L	1.0	1		04/03/14 13:0		
Chloroethane	ND ug/L	2.0	1		04/03/14 13:0		
Chloroform	ND ug/L	1.0	1		04/03/14 13:0		
Chloromethane	ND ug/L	2.0	1		04/03/14 13:0		
-Chlorotoluene	ND ug/L	1.0	1		04/03/14 13:0		
-Chlorotoluene	ND ug/L	1.0	1		04/03/14 13:0		
Dibromochloromethane	ND ug/L	1.0	1		04/03/14 13:0		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/03/14 13:0		
Dibromomethane	ND ug/L	1.0	1		04/03/14 13:0		
,2-Dichlorobenzene	ND ug/L	1.0	1		04/03/14 13:0		
,3-Dichlorobenzene	ND ug/L	1.0	1		04/03/14 13:0		
,4-Dichlorobenzene	ND ug/L	1.0	1		04/03/14 13:0		
ans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/03/14 13:0		
oichlorodifluoromethane	ND ug/L	2.0	1		04/03/14 13:0		
.1-Dichloroethane	ND ug/L	1.0	1		04/03/14 13:0		
,2-Dichloroethane	•	1.0	1		04/03/14 13:0		
•	ND ug/L	1.0	1		04/03/14 13:0		
,1-Dichloroethene	ND ug/L				04/03/14 13:0		
is-1,2-Dichloroethene	ND ug/L	1.0	1				
ans-1,2-Dichloroethene	ND ug/L	1.0	1		04/03/14 13:0		
,2-Dichloropropane	ND ug/L	1.0	1		04/03/14 13:0		
,3-Dichloropropane	ND ug/L	1.0	1		04/03/14 13:0		
,2-Dichloropropane	ND ug/L	1.0	1		04/03/14 13:0		
,1-Dichloropropene	ND ug/L	1.0	1		04/03/14 13:0		
is-1,3-Dichloropropene	ND ug/L	1.0	1			2 10061-01-5	
ans-1,3-Dichloropropene	ND ug/L	1.0	1			2 10061-02-6	
thylbenzene	ND ug/L	1.0	1		04/03/14 13:0		
thyl methacrylate	ND ug/L	20.0	1		04/03/14 13:0		
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/03/14 13:0		
-Hexane	ND ug/L	5.0	1		04/03/14 13:0		N2
-Hexanone	ND ug/L	20.0	1		04/03/14 13:0		
odomethane	2.5 ug/L	1.0	1		04/03/14 13:0		
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/03/14 13:0	2 98-82-8	



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-11	Lab ID: 5095417001	Collected: 03/27/1	14 17:05	Received: 03/29/14 12:3	32 Matrix: Water	·
Parameters	Results Unit	s Report Limit	DF	Prepared Analyz	ed CAS No.	Qua
8260 MSV Low Level	Analytical Method: EPA	A 5030B/8260				
p-lsopropyltoluene	ND ug/L	1.0	1	04/03/14	13:02 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/03/14	13:02 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/03/14	13:02 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/03/14	13:02 1634-04-4	
Naphthalene	2.5 ug/L	1.0	1	04/03/14	13:02 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/03/14	13:02 103-65-1	
Styrene	ND ug/L	1.0	1	04/03/14	13:02 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/03/14	13:02 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/03/14	13:02 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/03/14	13:02 127-18-4	
Toluene	ND ug/L	1.0	1	04/03/14	13:02 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/03/14	13:02 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/03/14	13:02 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/03/14	13:02 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/03/14	13:02 79-00-5	
Trichloroethene	ND ug/L	1.0	1	04/03/14	13:02 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/03/14	13:02 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/03/14	13:02 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/03/14	13:02 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/03/14	13:02 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/03/14	13:02 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/03/14	13:02 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/03/14	13:02 1330-20-7	
Surrogates	-					
4-Bromofluorobenzene (S)	96 %.	80-114	1	04/03/14	13:02 460-00-4	
Dibromofluoromethane (S)	96 %.	79-116	1	04/03/14	13:02 1868-53-7	
Toluene-d8 (S)	102 %.	81-110	1	04/03/14	13:02 2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Date: 04/07/2014 05:18 PM

Sample: GP-6	Lab ID: 509541700	Ollected: 03/27/	14 14:30	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results Ur	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Low Level	Analytical Method: Ef	PA 5030B/8260					
Acetone	ND ug/L	20.0	1		04/03/14 13:3	5 67-64-1	
Acrolein	ND ug/L	20.0	1		04/03/14 13:3	5 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/03/14 13:3	5 107-13-1	
Benzene	ND ug/L	1.0	1		04/03/14 13:3	5 71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/03/14 13:3	5 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/03/14 13:3	5 74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/03/14 13:3	5 75-27-4	
Bromoform	ND ug/L	1.0	1		04/03/14 13:3	5 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/03/14 13:3	5 74-83-9	
2-Butanone (MEK)	ND ug/L	20.0	1		04/03/14 13:3	5 78-93-3	
-Butylbenzene	ND ug/L	1.0	1		04/03/14 13:3	5 104-51-8	
ec-Butylbenzene	ND ug/L	1.0	1		04/03/14 13:3	5 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/03/14 13:3	5 98-06-6	
Carbon disulfide	ND ug/L	5.0	1		04/03/14 13:3	5 75-15-0	
Carbon tetrachloride	ND ug/L	1.0	1		04/03/14 13:3		
Chlorobenzene	ND ug/L	1.0	1		04/03/14 13:3		
Chloroethane	ND ug/L	2.0	1		04/03/14 13:3		
Chloroform	ND ug/L	1.0	1		04/03/14 13:3		
Chloromethane	ND ug/L	2.0	1		04/03/14 13:3		
-Chlorotoluene	ND ug/L	1.0	1		04/03/14 13:3		
-Chlorotoluene	ND ug/L	1.0	1		04/03/14 13:3		
Dibromochloromethane	ND ug/L	1.0	1		04/03/14 13:3		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/03/14 13:3		
Dibromomethane	ND ug/L	1.0	1		04/03/14 13:3		
,2-Dichlorobenzene	ND ug/L	1.0	1		04/03/14 13:3		
,3-Dichlorobenzene	ND ug/L	1.0	1		04/03/14 13:3		
,4-Dichlorobenzene	ND ug/L	1.0	1		04/03/14 13:3		
ans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/03/14 13:3		
Dichlorodifluoromethane	ND ug/L	2.0	1		04/03/14 13:3		
.1-Dichloroethane	ND ug/L	1.0	1		04/03/14 13:3		
,2-Dichloroethane	ND ug/L	1.0	1		04/03/14 13:3		
•	•	1.0	1		04/03/14 13:3		
,1-Dichloroethene	ND ug/L						
is-1,2-Dichloroethene	ND ug/L	1.0	1		04/03/14 13:3		
ans-1,2-Dichloroethene	ND ug/L	1.0	1		04/03/14 13:3		
,2-Dichloropropane	ND ug/L	1.0	1		04/03/14 13:3		
,3-Dichloropropane	ND ug/L	1.0	1		04/03/14 13:3		
,2-Dichloropropane	ND ug/L	1.0	1		04/03/14 13:3		
,1-Dichloropropene	ND ug/L	1.0	1		04/03/14 13:3		
is-1,3-Dichloropropene	ND ug/L	1.0	1		04/03/14 13:3		
ans-1,3-Dichloropropene	ND ug/L	1.0	1		04/03/14 13:3		
thylbenzene	ND ug/L	1.0	1		04/03/14 13:3		
thyl methacrylate	ND ug/L	20.0	1		04/03/14 13:3		
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/03/14 13:3		
-Hexane	ND ug/L	5.0	1		04/03/14 13:3		N2
-Hexanone	ND ug/L	20.0	1		04/03/14 13:3		
odomethane	ND ug/L	1.0	1		04/03/14 16:3		
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/03/14 13:3	5 98-82-8	



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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-6	Lab ID: 5095417002	Collected: 03/27/1	14:30	Received: 03/29/14 12:32	Matrix: Water	
Parameters	Results Units	Report Limit	DF	Prepared Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA	.5030B/8260				
p-lsopropyltoluene	ND ug/L	1.0	1	04/03/14 13:3	5 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/03/14 13:3	5 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/03/14 13:3	5 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/03/14 13:3	5 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/03/14 13:3	5 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/03/14 13:3	5 103-65-1	
Styrene	ND ug/L	1.0	1	04/03/14 13:3	5 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/03/14 13:3	5 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/03/14 13:3	5 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/03/14 13:3	5 127-18-4	
Toluene	25.4 ug/L	1.0	1	04/03/14 13:3	5 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/03/14 13:3	5 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/03/14 13:3	5 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/03/14 13:3	5 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/03/14 13:3	5 79-00-5	
Trichloroethene	2.6 ug/L	1.0	1	04/03/14 13:3	5 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/03/14 13:3	5 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/03/14 13:3	5 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/03/14 13:3	5 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/03/14 13:3	5 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/03/14 13:3	5 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/03/14 13:3	5 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/03/14 13:3	5 1330-20-7	
Surrogates						
4-Bromofluorobenzene (S)	96 %.	80-114	1	04/03/14 13:3	5 460-00-4	
Dibromofluoromethane (S)	96 %.	79-116	1	04/03/14 13:3	5 1868-53-7	
Toluene-d8 (S)	102 %.	81-110	1	04/03/14 13:3	5 2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-3	Lab ID: 509541700	O3/28/1	14 10:00	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results Un	its Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
260 MSV Low Level	Analytical Method: EF	PA 5030B/8260					
Acetone	ND ug/L	20.0	1		04/05/14 19:25	5 67-64-1	
Acrolein	ND ug/L	20.0	1		04/05/14 19:25	5 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/05/14 19:25	5 107-13-1	
Benzene	ND ug/L	1.0	1		04/05/14 19:25	71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/05/14 19:25	5 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/05/14 19:25	74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/05/14 19:25	5 75-27-4	
Bromoform	ND ug/L	1.0	1		04/05/14 19:25	5 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/05/14 19:25	74-83-9	
-Butanone (MEK)	ND ug/L	20.0	1		04/05/14 19:25	78-93-3	
-Butylbenzene	ND ug/L	1.0	1		04/05/14 19:25	5 104-51-8	
ec-Butylbenzene	ND ug/L	1.0	1		04/05/14 19:25	5 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/05/14 19:25	5 98-06-6	
arbon disulfide	ND ug/L	5.0	1		04/05/14 19:25	5 75-15-0	
Carbon tetrachloride	ND ug/L	1.0	1		04/05/14 19:25		
hlorobenzene	ND ug/L	1.0	1		04/05/14 19:25		
chloroethane	ND ug/L	2.0	1		04/05/14 19:25		
hloroform	ND ug/L	1.0	1		04/05/14 19:25		
hloromethane	ND ug/L	2.0	1		04/05/14 19:25		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 19:25		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 19:25		
ibromochloromethane	ND ug/L	1.0	1		04/05/14 19:25		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/05/14 19:25		
bibromomethane	ND ug/L	1.0	1		04/05/14 19:25		
,2-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 19:25		
,3-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 19:25		
,4-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 19:25		
rans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/05/14 19:25		
vichlorodifluoromethane	ND ug/L	2.0	1		04/05/14 19:25		
,1-Dichloroethane	ND ug/L	1.0	1		04/05/14 19:25		
,2-Dichloroethane	ND ug/L	1.0	1		04/05/14 19:25		
,1-Dichloroethene	ND ug/L	1.0	1		04/05/14 19:25		
is-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 19:25		
ans-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 19:25		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 19:25		
,3-Dichloropropane	ND ug/L	1.0	1		04/05/14 19:25		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 19:25		
,1-Dichloropropene	ND ug/L	1.0	1		04/05/14 19:25		
is-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 19:25		
ans-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 19:25		
thylbenzene	ND ug/L	1.0	1		04/05/14 19:25		
thyl methacrylate	ND ug/L	20.0	1		04/05/14 19:25		
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/05/14 19:25		
-Hexane	ND ug/L	5.0	1		04/05/14 19:25		N2
-nexame -Hexanone	•	20.0	1		04/05/14 19:25		IN∠
	ND ug/L						
odomethane sopropylbenzene (Cumene)	ND ug/L ND ug/L	1.0 1.0	1 1		04/05/14 19:25 04/05/14 19:25		

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-3	Lab ID: 5095417003	Collected: 03/28/1	14 10:00	Received: 03/29/14 12:32	Matrix: Water	
Parameters	Results Units	s Report Limit	DF	Prepared Analyzed	CAS No.	Qua
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-Isopropyltoluene	ND ug/L	1.0	1	04/05/14 19:	25 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/05/14 19:	25 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/05/14 19:	25 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/05/14 19:	25 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/05/14 19:	25 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/05/14 19:	25 103-65-1	
Styrene	ND ug/L	1.0	1	04/05/14 19:	25 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 19:	25 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 19:	25 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/05/14 19:	25 127-18-4	
Toluene	ND ug/L	1.0	1	04/05/14 19:	25 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 19:	25 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 19:	25 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/05/14 19:	25 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/05/14 19:	25 79-00-5	
Trichloroethene	ND ug/L	1.0	1	04/05/14 19:	25 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/05/14 19:	25 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/05/14 19:	25 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 19:	25 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 19:	25 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/05/14 19:	25 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/05/14 19:	25 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/05/14 19:	25 1330-20-7	
Surrogates						
4-Bromofluorobenzene (S)	92 %.	80-114	1	04/05/14 19:	25 460-00-4	
Dibromofluoromethane (S)	100 %.	79-116	1	04/05/14 19:	25 1868-53-7	
Toluene-d8 (S)	99 %.	81-110	1	04/05/14 19:	25 2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Date: 04/07/2014 05:18 PM

Sample: GP-2	Lab ID: 50954170	04 Collected: 03/28/	14 09:45	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results U	nits Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Low Level	Analytical Method: E	PA 5030B/8260					
Acetone	ND ug/L	20.0	1		04/05/14 19:5	9 67-64-1	
Acrolein	ND ug/L	20.0	1		04/05/14 19:5	9 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/05/14 19:5		
Benzene	ND ug/L	1.0	1		04/05/14 19:5	9 71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/05/14 19:5	9 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/05/14 19:5	9 74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/05/14 19:5	9 75-27-4	
Bromoform	ND ug/L	1.0	1		04/05/14 19:5	9 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/05/14 19:5	9 74-83-9	
P-Butanone (MEK)	ND ug/L	20.0	1		04/05/14 19:5	9 78-93-3	
n-Butylbenzene	ND ug/L	1.0	1		04/05/14 19:5	9 104-51-8	
ec-Butylbenzene	ND ug/L	1.0	1		04/05/14 19:5	9 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/05/14 19:5	9 98-06-6	
Carbon disulfide	ND ug/L	5.0	1		04/05/14 19:5		
Carbon tetrachloride	ND ug/L	1.0	1		04/05/14 19:5		
Chlorobenzene	ND ug/L	1.0	1		04/05/14 19:5		
Chloroethane	ND ug/L	2.0	1		04/05/14 19:5		
Chloroform	ND ug/L	1.0	1		04/05/14 19:5		
Chloromethane	ND ug/L	2.0	1		04/05/14 19:5		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 19:5		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 19:5		
Dibromochloromethane	ND ug/L	1.0	1		04/05/14 19:5		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/05/14 19:5		
Dibromomethane	ND ug/L	1.0	1		04/05/14 19:5		
	<u> </u>		1				
,2-Dichlorobenzene	ND ug/L	1.0			04/05/14 19:5		
,3-Dichlorobenzene	ND ug/L	1.0	1 1		04/05/14 19:5		
,4-Dichlorobenzene	ND ug/L	1.0			04/05/14 19:5		
ans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/05/14 19:5		
Dichlorodifluoromethane	ND ug/L	2.0	1		04/05/14 19:5		
,1-Dichloroethane	ND ug/L	1.0	1		04/05/14 19:5		
,2-Dichloroethane	ND ug/L	1.0	1		04/05/14 19:5		
,1-Dichloroethene	ND ug/L	1.0	1		04/05/14 19:5		
is-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 19:5		
ans-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 19:5		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 19:5		
,3-Dichloropropane	ND ug/L	1.0	1		04/05/14 19:5		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 19:5		
,1-Dichloropropene	ND ug/L	1.0	1		04/05/14 19:5		
is-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 19:5	9 10061-01-5	
ans-1,3-Dichloropropene	ND ug/L	1.0	1			9 10061-02-6	
thylbenzene	ND ug/L	1.0	1		04/05/14 19:5	9 100-41-4	
thyl methacrylate	ND ug/L	20.0	1		04/05/14 19:5	9 97-63-2	
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/05/14 19:5	9 87-68-3	
-Hexane	ND ug/L	5.0	1		04/05/14 19:5	9 110-54-3	N2
-Hexanone	ND ug/L	20.0	1		04/05/14 19:5	9 591-78-6	
odomethane	ND ug/L	1.0	1		04/05/14 19:5	9 74-88-4	
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/05/14 19:5	9 98-82-8	



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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-2	Lab ID: 5095417004	Collected: 03/28/1	14 09:45	Received: 03/29/14 12:32	2 Matrix: Water	·
Parameters	Results Units	s Report Limit	DF	Prepared Analyze	d CAS No.	Qua
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-Isopropyltoluene	ND ug/L	1.0	1	04/05/14 1	9:59 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/05/14 1	9:59 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/05/14 1	9:59 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/05/14 1	9:59 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/05/14 1	9:59 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/05/14 1	9:59 103-65-1	
Styrene	ND ug/L	1.0	1	04/05/14 1	9:59 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 1	9:59 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 1	9:59 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/05/14 1	9:59 127-18-4	
Toluene	ND ug/L	1.0	1	04/05/14 1	9:59 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 1	9:59 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 1	9:59 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/05/14 1	9:59 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/05/14 1	9:59 79-00-5	
Trichloroethene	ND ug/L	1.0	1	04/05/14 1	9:59 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/05/14 1	9:59 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/05/14 1	9:59 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 1	9:59 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 1	9:59 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/05/14 19	9:59 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/05/14 19	9:59 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/05/14 19	9:59 1330-20-7	
Surrogates						
4-Bromofluorobenzene (S)	94 %.	80-114	1	04/05/14 1	9:59 460-00-4	
Dibromofluoromethane (S)	100 %.	79-116	1	04/05/14 1	9:59 1868-53-7	
Toluene-d8 (S)	100 %.	81-110	1	04/05/14 19	9:59 2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Date: 04/07/2014 05:18 PM

Sample: GP-4	Lab ID: 50954170	005 Collected: 03/28/	14 10:20	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results U	nits Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Low Level	Analytical Method: E	PA 5030B/8260					
Acetone	ND ug/L	20.0	1		04/05/14 20:3	2 67-64-1	
Acrolein	ND ug/L	20.0	1		04/05/14 20:3	2 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/05/14 20:3	2 107-13-1	
Benzene	ND ug/L	1.0	1		04/05/14 20:3	2 71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/05/14 20:3	2 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/05/14 20:3	2 74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/05/14 20:3	2 75-27-4	
Bromoform	ND ug/L	1.0	1		04/05/14 20:3	2 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/05/14 20:3	2 74-83-9	
2-Butanone (MEK)	ND ug/L	20.0	1		04/05/14 20:3	2 78-93-3	
n-Butylbenzene	ND ug/L	1.0	1		04/05/14 20:3	2 104-51-8	
sec-Butylbenzene	ND ug/L	1.0	1		04/05/14 20:3	2 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/05/14 20:3	2 98-06-6	
Carbon disulfide	ND ug/L	5.0	1		04/05/14 20:3		
Carbon tetrachloride	ND ug/L	1.0	1		04/05/14 20:3		
Chlorobenzene	ND ug/L	1.0	1		04/05/14 20:3		
Chloroethane	ND ug/L	2.0	1		04/05/14 20:3		
Chloroform	ND ug/L	1.0	1		04/05/14 20:3		
Chloromethane	ND ug/L	2.0	1		04/05/14 20:3		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 20:3		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 20:3		
Dibromochloromethane	ND ug/L	1.0	1		04/05/14 20:3		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/05/14 20:3		
Dibromomethane	ND ug/L	1.0	1		04/05/14 20:3		
	~		1				
,2-Dichlorobenzene	ND ug/L	1.0			04/05/14 20:3		
,3-Dichlorobenzene	ND ug/L	1.0	1 1		04/05/14 20:3		
,4-Dichlorobenzene	ND ug/L	1.0			04/05/14 20:3		
rans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/05/14 20:3		
Dichlorodifluoromethane	ND ug/L	2.0	1		04/05/14 20:3		
,1-Dichloroethane	ND ug/L	1.0	1		04/05/14 20:3		
,2-Dichloroethane	ND ug/L	1.0	1		04/05/14 20:3		
,1-Dichloroethene	ND ug/L	1.0	1		04/05/14 20:3		
is-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 20:3		
rans-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 20:3		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 20:3	2 78-87-5	
,3-Dichloropropane	ND ug/L	1.0	1		04/05/14 20:3		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 20:3		
,1-Dichloropropene	ND ug/L	1.0	1		04/05/14 20:3		
is-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 20:3	2 10061-01-5	
rans-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 20:3	2 10061-02-6	
thylbenzene	ND ug/L	1.0	1		04/05/14 20:3	2 100-41-4	
Ethyl methacrylate	ND ug/L	20.0	1		04/05/14 20:3	2 97-63-2	
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/05/14 20:3	2 87-68-3	
n-Hexane	ND ug/L	5.0	1		04/05/14 20:3	2 110-54-3	N2
?-Hexanone	ND ug/L	20.0	1		04/05/14 20:3	2 591-78-6	
odomethane	ND ug/L	1.0	1		04/05/14 20:3	2 74-88-4	
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/05/14 20:3		

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-4	Lab ID: 5095417005	Collected: 03/28/1	14 10:20	Received: 03/29/14 12:33	2 Matrix: Water	
Parameters	Results Units	s Report Limit	DF	Prepared Analyze	ed CAS No.	Qua
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-Isopropyltoluene	ND ug/L	1.0	1	04/05/14 2	0:32 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/05/14 2	0:32 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/05/14 2	0:32 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/05/14 2	0:32 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/05/14 2	0:32 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/05/14 2	0:32 103-65-1	
Styrene	ND ug/L	1.0	1	04/05/14 2	0:32 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 2	0:32 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 2	0:32 79-34-5	
Tetrachloroethene	290 ug/L	10.0	10	04/07/14 1	3:16 127-18-4	
Toluene	19.0 ug/L	1.0	1	04/05/14 2	0:32 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 2	0:32 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 2	0:32 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/05/14 2	0:32 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/05/14 2	0:32 79-00-5	
Trichloroethene	5.7 ug/L	1.0	1	04/05/14 2	0:32 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/05/14 2	0:32 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/05/14 2	0:32 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 2	0:32 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 2	0:32 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/05/14 2	0:32 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/05/14 2	0:32 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/05/14 2	0:32 1330-20-7	
Surrogates						
4-Bromofluorobenzene (S)	93 %.	80-114	1	04/05/14 2	0:32 460-00-4	
Dibromofluoromethane (S)	101 %.	79-116	1	04/05/14 2	0:32 1868-53-7	
Toluene-d8 (S)	97 %.	81-110	1	04/05/14 2	0:32 2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Date: 04/07/2014 05:18 PM

Sample: GP-5	Lab ID: 509	5417006	Collected: 03/28/1	14 10:35	Received: 0	3/29/14 12:32 N	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV Low Level	Analytical Metl	nod: EPA 5	030B/8260					
Acetone	ND ug	/L	20.0	1		04/05/14 21:06		
Acrolein	ND ug	/L	20.0	1		04/05/14 21:06	107-02-8	
Acrylonitrile	ND ug	/L	100	1		04/05/14 21:06	107-13-1	
Benzene	ND ug	/L	1.0	1		04/05/14 21:06	71-43-2	
Bromobenzene	ND ug	/L	1.0	1		04/05/14 21:06	108-86-1	
Bromochloromethane	ND ug	/L	1.0	1		04/05/14 21:06	74-97-5	
Bromodichloromethane	ND ug	/L	1.0	1		04/05/14 21:06	75-27-4	
Bromoform	ND ug	/L	1.0	1		04/05/14 21:06	75-25-2	
Bromomethane	ND ug	/L	5.0	1		04/05/14 21:06	74-83-9	
2-Butanone (MEK)	ND ug	/L	20.0	1		04/05/14 21:06	78-93-3	
n-Butylbenzene	ND ug		1.0	1		04/05/14 21:06	104-51-8	
sec-Butylbenzene	ND ug		1.0	1		04/05/14 21:06	135-98-8	
ert-Butylbenzene	ND ug		1.0	1		04/05/14 21:06	98-06-6	
Carbon disulfide	ND ug		5.0	1		04/05/14 21:06	75-15-0	
Carbon tetrachloride	ND ug		1.0	1		04/05/14 21:06	56-23-5	
Chlorobenzene	ND ug		1.0	1		04/05/14 21:06		
Chloroethane	ND ug		2.0	1		04/05/14 21:06		
Chloroform	ND ug		1.0	1		04/05/14 21:06		
Chloromethane	ND ug		2.0	1		04/05/14 21:06		
2-Chlorotoluene	ND ug		1.0	1		04/05/14 21:06		
1-Chlorotoluene	ND ug		1.0	1		04/05/14 21:06		
Dibromochloromethane	ND ug		1.0	1		04/05/14 21:06		
1,2-Dibromoethane (EDB)	ND ug		1.0	1		04/05/14 21:06		
Dibromomethane	ND ug		1.0	1		04/05/14 21:06		
1,2-Dichlorobenzene	ND ug		1.0	1		04/05/14 21:06		
1,3-Dichlorobenzene	ND ug		1.0	1		04/05/14 21:06		
,,4-Dichlorobenzene	ND ug		1.0	1		04/05/14 21:06		
rans-1,4-Dichloro-2-butene	ND ug		100	1		04/05/14 21:06		
Dichlorodifluoromethane	ND ug		2.0	1		04/05/14 21:06		
1,1-Dichloroethane	ND ug		1.0	1		04/05/14 21:06		
1.2-Dichloroethane	•		1.0	1		04/05/14 21:06		
,	ND ug ND ug		1.0	1				
1,1-Dichloroethene cis-1,2-Dichloroethene	ND ug		1.0	1		04/05/14 21:06 04/05/14 21:06		
·				1				
rans-1,2-Dichloroethene	ND ug		1.0			04/05/14 21:06		
I,2-Dichloropropane	ND ug		1.0	1		04/05/14 21:06		
1,3-Dichloropropane	ND ug		1.0	1		04/05/14 21:06		
2,2-Dichloropropane	ND ug		1.0	1		04/05/14 21:06		
I,1-Dichloropropene	ND ug		1.0	1		04/05/14 21:06		
cis-1,3-Dichloropropene	ND ug		1.0	1		04/05/14 21:06		
rans-1,3-Dichloropropene	ND ug		1.0	1		04/05/14 21:06		
Ethylbenzene	ND ug		1.0	1		04/05/14 21:06		
Ethyl methacrylate	ND ug		20.0	1		04/05/14 21:06		
Hexachloro-1,3-butadiene	ND ug		1.0	1		04/05/14 21:06		
n-Hexane	ND ug		5.0	1		04/05/14 21:06		N2
2-Hexanone	ND ug		20.0	1		04/05/14 21:06		
odomethane	ND ug		1.0	1		04/05/14 21:06		
sopropylbenzene (Cumene)	ND ug	/L	1.0	1		04/05/14 21:06	98-82-8	



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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-5	Lab ID: 5095417006	Collected: 03/28/1	14 10:35	Received: 03/29/14 12:32	Matrix: Water	
Parameters	Results Unit	s Report Limit	DF	Prepared Analyzed	CAS No.	Qua
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-lsopropyltoluene	ND ug/L	1.0	1	04/05/14 21:	06 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/05/14 21:	06 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/05/14 21:	06 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/05/14 21:	06 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/05/14 21:	06 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/05/14 21:	06 103-65-1	
Styrene	ND ug/L	1.0	1	04/05/14 21:	06 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 21:	06 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 21:	06 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/05/14 21:	06 127-18-4	
Toluene	31.5 ug/L	1.0	1	04/05/14 21:	06 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 21:	06 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 21:	06 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/05/14 21:	06 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/05/14 21:	06 79-00-5	
Trichloroethene	4.3 ug/L	1.0	1	04/05/14 21:	06 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/05/14 21:	06 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/05/14 21:	06 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 21:	06 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 21:	06 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/05/14 21:	06 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/05/14 21:	06 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/05/14 21:	06 1330-20-7	
Surrogates						
4-Bromofluorobenzene (S)	93 %.	80-114	1	04/05/14 21:	06 460-00-4	
Dibromofluoromethane (S)	101 %.	79-116	1	04/05/14 21:	06 1868-53-7	
Toluene-d8 (S)	99 %.	81-110	1	04/05/14 21:	06 2037-26-5	

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-6B	Lab ID: 509541700	7 Collected: 03/28/1	4 10:50	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results Uni	ts Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Low Level	Analytical Method: EP	A 5030B/8260					
Acetone	ND ug/L	20.0	1		04/05/14 21:39	9 67-64-1	
Acrolein	ND ug/L	20.0	1		04/05/14 21:39	9 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/05/14 21:39	9 107-13-1	
Benzene	ND ug/L	1.0	1		04/05/14 21:39	71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/05/14 21:39	9 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/05/14 21:39	74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/05/14 21:39	75-27-4	
Bromoform	ND ug/L	1.0	1		04/05/14 21:39	75-25-2	
Bromomethane	ND ug/L	5.0	1		04/05/14 21:39	74-83-9	
P-Butanone (MEK)	ND ug/L	20.0	1		04/05/14 21:39	78-93-3	
n-Butylbenzene	ND ug/L	1.0	1		04/05/14 21:39	9 104-51-8	
ec-Butylbenzene	ND ug/L	1.0	1		04/05/14 21:39	9 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/05/14 21:39		
Carbon disulfide	ND ug/L	5.0	1		04/05/14 21:39		
Carbon tetrachloride	ND ug/L	1.0	1		04/05/14 21:39		
Chlorobenzene	ND ug/L	1.0	1		04/05/14 21:39		
Chloroethane	ND ug/L	2.0	1		04/05/14 21:39		
Chloroform	ND ug/L	1.0	1		04/05/14 21:39		
Chloromethane	ND ug/L	2.0	1		04/05/14 21:39		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 21:39		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 21:39		
bibromochloromethane	ND ug/L	1.0	1		04/05/14 21:39		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/05/14 21:39		
Dibromomethane	ND ug/L	1.0	1		04/05/14 21:39		
,2-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 21:39		
,3-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 21:39		
,4-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 21:39		
rans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/05/14 21:39		
Dichlorodifluoromethane	ND ug/L	2.0	1		04/05/14 21:39		
.1-Dichloroethane	_	1.0	1		04/05/14 21:39		
<i>'</i>	ND ug/L ND ug/L		1				
,2-Dichloroethane	•	1.0	1		04/05/14 21:39 04/05/14 21:39		
,1-Dichloroethene	ND ug/L	1.0	1				
is-1,2-Dichloroethene	ND ug/L	1.0			04/05/14 21:39		
ans-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 21:39		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 21:39		
,3-Dichloropropane	ND ug/L	1.0	1		04/05/14 21:39		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 21:39		
,1-Dichloropropene	ND ug/L	1.0	1		04/05/14 21:39		
is-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 21:39		
ans-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 21:39		
thylbenzene	ND ug/L	1.0	1		04/05/14 21:39		
thyl methacrylate	ND ug/L	20.0	1		04/05/14 21:39		
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/05/14 21:39		
-Hexane	ND ug/L	5.0	1		04/05/14 21:39		N2
-Hexanone	ND ug/L	20.0	1		04/05/14 21:39		
odomethane	ND ug/L	1.0	1		04/05/14 21:39		
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/05/14 21:39	98-82-8	



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-6B	Lab ID: 5095417007	Collected: 03/28/1	4 10:50	Received: 03/29/14 12:32	Matrix: Water	
Parameters	Results Units	Report Limit	DF	Prepared Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-Isopropyltoluene	ND ug/L	1.0	1	04/05/14 21:3	9 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/05/14 21:3	9 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/05/14 21:3	9 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/05/14 21:3	9 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/05/14 21:3	9 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/05/14 21:3	9 103-65-1	
Styrene	ND ug/L	1.0	1	04/05/14 21:3	9 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 21:3	9 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 21:3	9 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/05/14 21:3	9 127-18-4	
Toluene	97.3 ug/L	1.0	1	04/05/14 21:3	9 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 21:3	9 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 21:3	9 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/05/14 21:3	9 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/05/14 21:3	9 79-00-5	
Trichloroethene	ND ug/L	1.0	1	04/05/14 21:3	9 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/05/14 21:3	9 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/05/14 21:3	9 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 21:3	9 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 21:3	9 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/05/14 21:3	9 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/05/14 21:3	9 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/05/14 21:3	9 1330-20-7	
Surrogates						
4-Bromofluorobenzene (S)	91 %.	80-114	1	04/05/14 21:3	9 460-00-4	
Dibromofluoromethane (S)	99 %.	79-116	1	04/05/14 21:3	9 1868-53-7	
Toluene-d8 (S)	98 %.	81-110	1	04/05/14 21:3	9 2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-7	Lab ID: 509541700	8 Collected: 03/28/1	14 11:15	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results Uni	ts Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Low Level	Analytical Method: EP	A 5030B/8260					
Acetone	ND ug/L	20.0	1		04/05/14 22:1	3 67-64-1	
Acrolein	ND ug/L	20.0	1		04/05/14 22:1	3 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/05/14 22:1	3 107-13-1	
Benzene	ND ug/L	1.0	1		04/05/14 22:1	3 71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/05/14 22:1	3 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/05/14 22:1	3 74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/05/14 22:1	3 75-27-4	
Bromoform	ND ug/L	1.0	1		04/05/14 22:1	3 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/05/14 22:1	3 74-83-9	
P-Butanone (MEK)	ND ug/L	20.0	1		04/05/14 22:1	3 78-93-3	
n-Butylbenzene	ND ug/L	1.0	1		04/05/14 22:1	3 104-51-8	
ec-Butylbenzene	ND ug/L	1.0	1		04/05/14 22:1	3 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/05/14 22:1	3 98-06-6	
Carbon disulfide	ND ug/L	5.0	1		04/05/14 22:1		
Carbon tetrachloride	ND ug/L	1.0	1		04/05/14 22:1		
Chlorobenzene	ND ug/L	1.0	1		04/05/14 22:1		
Chloroethane	ND ug/L	2.0	1		04/05/14 22:1		
Chloroform	ND ug/L	1.0	1		04/05/14 22:1		
Chloromethane	ND ug/L	2.0	1		04/05/14 22:1		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 22:1		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 22:1		
Dibromochloromethane	ND ug/L	1.0	1		04/05/14 22:1		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/05/14 22:1		
Dibromomethane	ND ug/L	1.0	1		04/05/14 22:1		
,2-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 22:1		
,3-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 22:1		
,4-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 22:1		
rans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/05/14 22:1		
Dichlorodifluoromethane	•	2.0	1		04/05/14 22:1		
.1-Dichloroethane	ND ug/L	1.0	1		04/05/14 22:1		
•	ND ug/L ND ug/L		1				
,2-Dichloroethane	•	1.0	1		04/05/14 22:1		
,1-Dichloroethene	ND ug/L	1.0	1		04/05/14 22:1		
is-1,2-Dichloroethene	ND ug/L	1.0			04/05/14 22:1 04/05/14 22:1		
ans-1,2-Dichloroethene	ND ug/L	1.0	1				
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 22:1		
,3-Dichloropropane	ND ug/L	1.0	1		04/05/14 22:1		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 22:1		
,1-Dichloropropene	ND ug/L	1.0	1		04/05/14 22:1		
is-1,3-Dichloropropene	ND ug/L	1.0	1			3 10061-01-5	
ans-1,3-Dichloropropene	ND ug/L	1.0	1			3 10061-02-6	
thylbenzene	ND ug/L	1.0	1		04/05/14 22:1		
thyl methacrylate	ND ug/L	20.0	1		04/05/14 22:1		
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/05/14 22:1		
-Hexane	ND ug/L	5.0	1		04/05/14 22:1		N2
2-Hexanone	ND ug/L	20.0	1		04/05/14 22:1		
odomethane	ND ug/L	1.0	1		04/05/14 22:1		
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/05/14 22:1	3 98-82-8	



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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-7	Lab ID: 5095417008	Collected: 03/28/1	14 11:15	Received: 03/29/14 12:	32 Matrix: Water	
Parameters	Results Units	Report Limit	DF	Prepared Analy:	zed CAS No.	Qua
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-Isopropyltoluene	ND ug/L	1.0	1	04/05/14	22:13 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/05/14	22:13 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/05/14	22:13 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/05/14	22:13 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/05/14	22:13 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/05/14	22:13 103-65-1	
Styrene	ND ug/L	1.0	1	04/05/14	22:13 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14	22:13 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14	22:13 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/05/14	22:13 127-18-4	
Toluene	7.2 ug/L	1.0	1	04/05/14	22:13 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/05/14	22:13 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/05/14	22:13 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/05/14	22:13 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/05/14	22:13 79-00-5	
Trichloroethene	ND ug/L	1.0	1	04/05/14	22:13 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/05/14	22:13 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/05/14	22:13 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/05/14	22:13 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/05/14	22:13 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/05/14	22:13 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/05/14	22:13 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/05/14	22:13 1330-20-7	
Surrogates	-					
4-Bromofluorobenzene (S)	91 %.	80-114	1	04/05/14	22:13 460-00-4	
Dibromofluoromethane (S)	102 %.	79-116	1	04/05/14	22:13 1868-53-7	
Toluene-d8 (S)	99 %.	81-110	1	04/05/14	22:13 2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-8	Lab ID: 509541700	9 Collected: 03/28/1	4 11:30	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results Uni	ts Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
260 MSV Low Level	Analytical Method: EP	A 5030B/8260					
Acetone	ND ug/L	20.0	1		04/05/14 22:46	6 67-64-1	
Acrolein	ND ug/L	20.0	1		04/05/14 22:46	5 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/05/14 22:46	6 107-13-1	
Benzene	ND ug/L	1.0	1		04/05/14 22:46	6 71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/05/14 22:46	5 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/05/14 22:46	6 74-97-5	
romodichloromethane	ND ug/L	1.0	1		04/05/14 22:46	5 75-27-4	
Bromoform	ND ug/L	1.0	1		04/05/14 22:46	5 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/05/14 22:46	6 74-83-9	
-Butanone (MEK)	ND ug/L	20.0	1		04/05/14 22:46	78-93-3	
-Butylbenzene	ND ug/L	1.0	1		04/05/14 22:46	6 104-51-8	
ec-Butylbenzene	ND ug/L	1.0	1		04/05/14 22:46	3 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/05/14 22:46	6 98-06-6	
Carbon disulfide	ND ug/L	5.0	1		04/05/14 22:46	6 75-15-0	
arbon tetrachloride	ND ug/L	1.0	1		04/05/14 22:46		
chlorobenzene	ND ug/L	1.0	1		04/05/14 22:46		
Chloroethane	ND ug/L	2.0	1		04/05/14 22:46		
hloroform	ND ug/L	1.0	1		04/05/14 22:46		
hloromethane	ND ug/L	2.0	1		04/05/14 22:46		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 22:46		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 22:46		
ibromochloromethane	ND ug/L	1.0	1		04/05/14 22:46		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/05/14 22:46		
ibromomethane	ND ug/L	1.0	1		04/05/14 22:46		
,2-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 22:46		
,3-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 22:46		
,4-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 22:46		
ans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/05/14 22:46		
ichlorodifluoromethane	ND ug/L	2.0	1		04/05/14 22:46		
,1-Dichloroethane	ND ug/L	1.0	1		04/05/14 22:46		
, 1-Dichloroethane	ND ug/L ND ug/L	1.0	1		04/05/14 22:46		
,1-Dichloroethene	ND ug/L	1.0	1		04/05/14 22:46		
s-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 22:46		
•	· ·	1.0	1		04/05/14 22:46		
ans-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 22:46		
,2-Dichloropropane	ND ug/L						
,3-Dichloropropane	ND ug/L	1.0	1		04/05/14 22:46		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 22:46 04/05/14 22:46		
,1-Dichloropropene	ND ug/L	1.0	1				
s-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 22:46		
ans-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 22:46		
thylbenzene	ND ug/L	1.0	1		04/05/14 22:46		
thyl methacrylate	ND ug/L	20.0	1		04/05/14 22:46		
exachloro-1,3-butadiene	ND ug/L	1.0	1		04/05/14 22:46		
-Hexane	ND ug/L	5.0	1		04/05/14 22:46		N2
-Hexanone	ND ug/L	20.0	1		04/05/14 22:46		
odomethane	ND ug/L	1.0	1		04/05/14 22:46		
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/05/14 22:46	6 98-82-8	



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-8	Lab ID: 5095417009	Collected: 03/28/1	14 11:30	Received: 03/29/14 12:32	Matrix: Water	
Parameters	Results Units	s Report Limit	DF	Prepared Analyze	d CAS No.	Qua
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-Isopropyltoluene	ND ug/L	1.0	1	04/05/14 22	2:46 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/05/14 22	2:46 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/05/14 22	2:46 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/05/14 22	2:46 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/05/14 22	2:46 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/05/14 22	2:46 103-65-1	
Styrene	ND ug/L	1.0	1	04/05/14 22	2:46 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 22	2:46 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 22	2:46 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/05/14 22	2:46 127-18-4	
Toluene	ND ug/L	1.0	1	04/05/14 22	2:46 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 22	2:46 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 22	2:46 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/05/14 22	2:46 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/05/14 22	2:46 79-00-5	
Trichloroethene	5.3 ug/L	1.0	1	04/05/14 22	2:46 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/05/14 22	2:46 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/05/14 22	2:46 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 22	2:46 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 22	2:46 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/05/14 22	2:46 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/05/14 22	2:46 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/05/14 22	2:46 1330-20-7	
Surrogates	-					
4-Bromofluorobenzene (S)	92 %.	80-114	1	04/05/14 22	2:46 460-00-4	
Dibromofluoromethane (S)	101 %.	79-116	1	04/05/14 22	2:46 1868-53-7	
Toluene-d8 (S)	101 %.	81-110	1	04/05/14 22	2:46 2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-9	Lab ID: 50954170	010 Collected: 03/28/1	4 11:45	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results U	nits Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV Low Level	Analytical Method: E	PA 5030B/8260					
Acetone	ND ug/L	20.0	1		04/05/14 23:2	0 67-64-1	
Acrolein	ND ug/L	20.0	1		04/05/14 23:2	0 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/05/14 23:2	0 107-13-1	
Benzene	ND ug/L	1.0	1		04/05/14 23:2	71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/05/14 23:2	0 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/05/14 23:2	74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/05/14 23:2	75-27-4	
Bromoform	ND ug/L	1.0	1		04/05/14 23:2		
Bromomethane	ND ug/L	5.0	1		04/05/14 23:2	74-83-9	
2-Butanone (MEK)	ND ug/L	20.0	1		04/05/14 23:2	78-93-3	
n-Butylbenzene	ND ug/L	1.0	1		04/05/14 23:2		
sec-Butylbenzene	ND ug/L	1.0	1		04/05/14 23:2		
ert-Butylbenzene	ND ug/L	1.0	1		04/05/14 23:2		
Carbon disulfide	ND ug/L	5.0	1		04/05/14 23:2		
Carbon tetrachloride	ND ug/L	1.0	1		04/05/14 23:2		
Chlorobenzene	ND ug/L	1.0	1		04/05/14 23:2		
Chloroethane	ND ug/L	2.0	1		04/05/14 23:2		
Chloroform	ND ug/L	1.0	1		04/05/14 23:2		
Chloromethane	ND ug/L	2.0	1		04/05/14 23:2		
2-Chlorotoluene	ND ug/L	1.0	1		04/05/14 23:2		
I-Chlorotoluene	•	1.0	1		04/05/14 23:2		
Dibromochloromethane	ND ug/L	1.0	1		04/05/14 23:2		
	ND ug/L	1.0	1		04/05/14 23:2		
I,2-Dibromoethane (EDB) Dibromomethane	ND ug/L ND ug/L	1.0	1		04/05/14 23:2		
,2-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 23:20		
1,3-Dichlorobenzene	ND ug/L	1.0	1 1		04/05/14 23:20		
1,4-Dichlorobenzene	ND ug/L	1.0			04/05/14 23:20		
rans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/05/14 23:20		
Dichlorodifluoromethane	ND ug/L	2.0	1		04/05/14 23:20		
1,1-Dichloroethane	ND ug/L	1.0	1		04/05/14 23:20		
1,2-Dichloroethane	ND ug/L	1.0	1		04/05/14 23:2		
I,1-Dichloroethene	ND ug/L	1.0	1		04/05/14 23:2		
cis-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 23:2		
rans-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 23:2		
1,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 23:2	78-87-5	
1,3-Dichloropropane	ND ug/L	1.0	1		04/05/14 23:2		
2,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 23:2		
1,1-Dichloropropene	ND ug/L	1.0	1		04/05/14 23:2		
cis-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 23:2		
rans-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 23:2		
Ethylbenzene	ND ug/L	1.0	1		04/05/14 23:2		
Ethyl methacrylate	ND ug/L	20.0	1		04/05/14 23:2		
Hexachloro-1,3-butadiene	ND ug/L	1.0	1		04/05/14 23:2	87-68-3	
n-Hexane	ND ug/L	5.0	1		04/05/14 23:2	110-54-3	N2
2-Hexanone	ND ug/L	20.0	1		04/05/14 23:2	591-78-6	
odomethane	ND ug/L	1.0	1		04/05/14 23:2	74-88-4	
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/05/14 23:2	98-82-8	



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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-9	Lab ID: 5095417010	Collected: 03/28/1	14 11:45	Received: 03/29/14 12:32	Matrix: Water	
Parameters	Results Units	s Report Limit	DF	Prepared Analyzed	CAS No.	Qua
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-Isopropyltoluene	ND ug/L	1.0	1	04/05/14 23:2	20 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/05/14 23:2	20 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/05/14 23:2	20 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/05/14 23:2	20 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/05/14 23:2	20 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/05/14 23:2	20 103-65-1	
Styrene	ND ug/L	1.0	1	04/05/14 23:2	20 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 23:2	20 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 23:2	20 79-34-5	
Tetrachloroethene	45.6 ug/L	1.0	1	04/05/14 23:2	20 127-18-4	
Toluene	65.0 ug/L	1.0	1	04/05/14 23:2	20 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 23:2	20 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 23:2	20 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/05/14 23:2	20 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/05/14 23:2	20 79-00-5	
Trichloroethene	12.4 ug/L	1.0	1	04/05/14 23:2	20 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/05/14 23:2	20 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/05/14 23:2	20 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 23:2	20 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 23:2	20 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/05/14 23:2	20 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/05/14 23:2	20 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/05/14 23:2	20 1330-20-7	
Surrogates	<u> </u>					
4-Bromofluorobenzene (S)	91 %.	80-114	1	04/05/14 23:2	20 460-00-4	
Dibromofluoromethane (S)	100 %.	79-116	1	04/05/14 23:2	20 1868-53-7	
Toluene-d8 (S)	98 %.	81-110	1	04/05/14 23:2	20 2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Date: 04/07/2014 05:18 PM

Sample: GP-10	Lab ID: 5095417	011 Collected: 03/28/	14 12:20	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results L	Jnits Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Low Level	Analytical Method: I	EPA 5030B/8260					
Acetone	ND ug/L	20.0	1		04/05/14 23:5	3 67-64-1	
Acrolein	ND ug/L	20.0	1		04/05/14 23:5	3 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/05/14 23:5	3 107-13-1	
Benzene	ND ug/L	1.0	1		04/05/14 23:5	3 71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/05/14 23:5	3 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/05/14 23:5	3 74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/05/14 23:5	3 75-27-4	
Bromoform	ND ug/L	1.0	1		04/05/14 23:5	3 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/05/14 23:5	3 74-83-9	
P-Butanone (MEK)	ND ug/L	20.0	1		04/05/14 23:5	3 78-93-3	
n-Butylbenzene	ND ug/L	1.0	1		04/05/14 23:5		
sec-Butylbenzene	ND ug/L	1.0	1		04/05/14 23:5		
ert-Butylbenzene	ND ug/L	1.0	1		04/05/14 23:5		
Carbon disulfide	ND ug/L	5.0	1		04/05/14 23:5		
Carbon tetrachloride	ND ug/L	1.0	1		04/05/14 23:5		
Chlorobenzene	ND ug/L	1.0	1		04/05/14 23:5		
Chloroethane	ND ug/L	2.0	1		04/05/14 23:5		
Chloroform	ND ug/L	1.0	1		04/05/14 23:5		
Chloromethane	ND ug/L	2.0	1		04/05/14 23:5		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 23:5		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 23:5		
Dibromochloromethane	ND ug/L	1.0	1		04/05/14 23:5		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/05/14 23:5		
Dibromomethane	ND ug/L	1.0	1		04/05/14 23:5		
	~		1				
,2-Dichlorobenzene	ND ug/L	1.0			04/05/14 23:5		
,3-Dichlorobenzene	ND ug/L	1.0	1 1		04/05/14 23:5		
,4-Dichlorobenzene	ND ug/L	1.0			04/05/14 23:5		
ans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/05/14 23:5		
Dichlorodifluoromethane	ND ug/L	2.0	1		04/05/14 23:5		
,1-Dichloroethane	ND ug/L	1.0	1		04/05/14 23:5		
,2-Dichloroethane	ND ug/L	1.0	1		04/05/14 23:5		
,1-Dichloroethene	ND ug/L	1.0	1		04/05/14 23:5		
is-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 23:5		
ans-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 23:5		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 23:5		
,3-Dichloropropane	ND ug/L	1.0	1		04/05/14 23:5		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 23:5		
,1-Dichloropropene	ND ug/L	1.0	1		04/05/14 23:5		
is-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 23:5		
ans-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 23:5		
thylbenzene	ND ug/L	1.0	1		04/05/14 23:5		
thyl methacrylate	ND ug/L	20.0	1		04/05/14 23:5	3 97-63-2	
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/05/14 23:5	3 87-68-3	
-Hexane	ND ug/L	5.0	1		04/05/14 23:5	3 110-54-3	N2
-Hexanone	ND ug/L	20.0	1		04/05/14 23:5	3 591-78-6	
odomethane	ND ug/L	1.0	1		04/05/14 23:5	3 74-88-4	
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/05/14 23:5	3 98-82-8	



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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-10	Lab ID: 5095417011	Collected: 03/28/1	14 12:20	Received: 03/29/14	12:32 N	/latrix: Water	
Parameters	Results Unit	ts Report Limit	DF	Prepared A	nalyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA	A 5030B/8260					
p-Isopropyltoluene	ND ug/L	1.0	1	04/05	5/14 23:53	99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/05	5/14 23:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/05	5/14 23:53	108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/05	5/14 23:53	1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/05	5/14 23:53	91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/05	5/14 23:53	103-65-1	
Styrene	ND ug/L	1.0	1	04/05	5/14 23:53	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/05	5/14 23:53	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/05	5/14 23:53	79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/05	5/14 23:53	127-18-4	
Toluene	ND ug/L	1.0	1	04/05	5/14 23:53	108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/05	5/14 23:53	87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/05	5/14 23:53	120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/05	5/14 23:53	71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/05	5/14 23:53	79-00-5	
Trichloroethene	ND ug/L	1.0	1	04/05	5/14 23:53	79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/05	5/14 23:53	75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/05	5/14 23:53	96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/05	5/14 23:53	95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/05	5/14 23:53	108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/05	5/14 23:53	108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/05	5/14 23:53	75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/05	5/14 23:53	1330-20-7	
Surrogates	-						
4-Bromofluorobenzene (S)	92 %.	80-114	1	04/05	5/14 23:53	460-00-4	
Dibromofluoromethane (S)	101 %.	79-116	1	04/05	5/14 23:53	1868-53-7	
Toluene-d8 (S)	101 %.	81-110	1	04/05	5/14 23:53	2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: TRIP BLANK	Lab ID: 5095417	'012 Collected: 03/28/1	4 14:15	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results I	Units Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
260 MSV Low Level	Analytical Method:	EPA 5030B/8260					
acetone	ND ug/L	20.0	1		04/05/14 18:52	2 67-64-1	
Acrolein	ND ug/L	20.0	1		04/05/14 18:52	2 107-02-8	
crylonitrile	ND ug/L	100	1		04/05/14 18:52	2 107-13-1	
Benzene	ND ug/L	1.0	1		04/05/14 18:52	2 71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/05/14 18:52	2 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/05/14 18:52	2 74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/05/14 18:52	2 75-27-4	
Bromoform	ND ug/L	1.0	1		04/05/14 18:52	2 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/05/14 18:52	2 74-83-9	
-Butanone (MEK)	ND ug/L	20.0	1		04/05/14 18:52	2 78-93-3	
-Butylbenzene	ND ug/L	1.0	1		04/05/14 18:52	2 104-51-8	
ec-Butylbenzene	ND ug/L	1.0	1		04/05/14 18:52	2 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/05/14 18:52	2 98-06-6	
Carbon disulfide	ND ug/L	5.0	1		04/05/14 18:52	2 75-15-0	
Carbon tetrachloride	ND ug/L	1.0	1		04/05/14 18:52		
Chlorobenzene	ND ug/L	1.0	1		04/05/14 18:52	2 108-90-7	
Chloroethane	ND ug/L	2.0	1		04/05/14 18:52		
hloroform	ND ug/L	1.0	1		04/05/14 18:52		
Chloromethane	ND ug/L	2.0	1		04/05/14 18:52		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 18:52		
-Chlorotoluene	ND ug/L	1.0	1		04/05/14 18:52		
Dibromochloromethane	ND ug/L	1.0	1		04/05/14 18:52		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/05/14 18:52		
Dibromomethane	ND ug/L	1.0	1		04/05/14 18:52		
,2-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 18:52		
,3-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 18:52		
,4-Dichlorobenzene	ND ug/L	1.0	1		04/05/14 18:52		
rans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/05/14 18:52		
Dichlorodifluoromethane	ND ug/L	2.0	1		04/05/14 18:52		
,1-Dichloroethane	ND ug/L	1.0	1		04/05/14 18:52		
,2-Dichloroethane	ND ug/L	1.0	1		04/05/14 18:52		
,1-Dichloroethene	ND ug/L	1.0	1		04/05/14 18:52		
is-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 18:52		
rans-1,2-Dichloroethene	ND ug/L	1.0	1		04/05/14 18:52		
,2-Dichloropropane	ND ug/L	1.0	1		04/05/14 18:52		
,3-Dichloropropane	ND ug/L	1.0	1		04/05/14 18:52		
,3-Dichloropropane	ND ug/L	1.0	1		04/05/14 18:52		
,1-Dichloropropene	ND ug/L	1.0	1		04/05/14 18:52		
is-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 18:52		
rans-1,3-Dichloropropene	ND ug/L	1.0	1		04/05/14 18:52		
thylbenzene	•	1.0	1		04/05/14 18:52		
,	ND ug/L ND ug/L	20.0	1		04/05/14 18:52		
thyl methacrylate	•						
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/05/14 18:52		NO
-Hexane	ND ug/L	5.0	1		04/05/14 18:52		N2
-Hexanone	ND ug/L	20.0	1		04/05/14 18:52		
odomethane	ND ug/L	1.0	1		04/05/14 18:52	4 74-88-4	

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: TRIP BLANK	Lab ID: 5095417012	Collected: 03/28/1	14:15	Received: 03/29/14 12:32	Matrix: Water	
Parameters	Results Units	Report Limit	DF	Prepared Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-Isopropyltoluene	ND ug/L	1.0	1	04/05/14 18:52	2 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/05/14 18:52	2 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/05/14 18:52	2 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/05/14 18:52	2 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/05/14 18:52	2 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/05/14 18:52	2 103-65-1	
Styrene	ND ug/L	1.0	1	04/05/14 18:52	2 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 18:52	2 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/05/14 18:52	2 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/05/14 18:52	2 127-18-4	
Toluene	ND ug/L	1.0	1	04/05/14 18:52	2 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 18:52	2 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/05/14 18:52	2 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/05/14 18:52	2 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/05/14 18:52	2 79-00-5	
Trichloroethene	ND ug/L	1.0	1	04/05/14 18:52	2 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/05/14 18:52	2 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/05/14 18:52	2 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 18:52	2 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/05/14 18:52	2 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/05/14 18:52	2 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/05/14 18:52	2 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/05/14 18:52	2 1330-20-7	
Surrogates						
4-Bromofluorobenzene (S)	92 %.	80-114	1	04/05/14 18:52	2 460-00-4	
Dibromofluoromethane (S)	100 %.	79-116	1	04/05/14 18:52	2 1868-53-7	
Toluene-d8 (S)	100 %.	81-110	1	04/05/14 18:52	2 2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-11B	Lab ID: 509541701	3 Collected: 03/28/1	14 12:35	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results Un	its Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Low Level	Analytical Method: EF	PA 5030B/8260					
Acetone	ND ug/L	20.0	1		04/06/14 00:27	7 67-64-1	
Acrolein	ND ug/L	20.0	1		04/06/14 00:27	7 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/06/14 00:27	7 107-13-1	
Benzene	ND ug/L	1.0	1		04/06/14 00:27	71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/06/14 00:27	7 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/06/14 00:27	74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/06/14 00:27	7 75-27-4	
Bromoform	ND ug/L	1.0	1		04/06/14 00:27	75-25-2	
Bromomethane	ND ug/L	5.0	1		04/06/14 00:27	74-83-9	
2-Butanone (MEK)	ND ug/L	20.0	1		04/06/14 00:27	78-93-3	
n-Butylbenzene	ND ug/L	1.0	1		04/06/14 00:27	7 104-51-8	
ec-Butylbenzene	ND ug/L	1.0	1		04/06/14 00:27	7 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/06/14 00:27	7 98-06-6	
Carbon disulfide	ND ug/L	5.0	1		04/06/14 00:27	7 75-15-0	
Carbon tetrachloride	ND ug/L	1.0	1		04/06/14 00:27	7 56-23-5	
Chlorobenzene	ND ug/L	1.0	1		04/06/14 00:27	7 108-90-7	
Chloroethane	ND ug/L	2.0	1		04/06/14 00:27	7 75-00-3	
Chloroform	ND ug/L	1.0	1		04/06/14 00:27	7 67-66-3	
hloromethane	ND ug/L	2.0	1		04/06/14 00:27	7 74-87-3	
-Chlorotoluene	ND ug/L	1.0	1		04/06/14 00:27		
-Chlorotoluene	ND ug/L	1.0	1		04/06/14 00:27		
Dibromochloromethane	ND ug/L	1.0	1		04/06/14 00:27		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/06/14 00:27		
Dibromomethane	ND ug/L	1.0	1		04/06/14 00:27		
,2-Dichlorobenzene	ND ug/L	1.0	1		04/06/14 00:27		
,3-Dichlorobenzene	ND ug/L	1.0	1		04/06/14 00:27		
,4-Dichlorobenzene	ND ug/L	1.0	1		04/06/14 00:27		
ans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/06/14 00:27		
Dichlorodifluoromethane	ND ug/L	2.0	1		04/06/14 00:27		
,1-Dichloroethane	ND ug/L	1.0	1		04/06/14 00:27		
,2-Dichloroethane	ND ug/L	1.0	1		04/06/14 00:27		
,1-Dichloroethene	ND ug/L	1.0	1		04/06/14 00:27		
is-1,2-Dichloroethene	ND ug/L	1.0	1		04/06/14 00:27		
ans-1,2-Dichloroethene	ND ug/L	1.0	1		04/06/14 00:27	7 156-60-5	
,2-Dichloropropane	ND ug/L	1.0	1		04/06/14 00:27		
,3-Dichloropropane	ND ug/L	1.0	1		04/06/14 00:27		
,2-Dichloropropane	ND ug/L	1.0	1		04/06/14 00:27		
,1-Dichloropropene	ND ug/L	1.0	1		04/06/14 00:27		
is-1,3-Dichloropropene	ND ug/L	1.0	1		04/06/14 00:27		
ans-1,3-Dichloropropene	ND ug/L	1.0	1		04/06/14 00:27		
thylbenzene	ND ug/L	1.0	1		04/06/14 00:27		
thyl methacrylate	ND ug/L	20.0	1		04/06/14 00:27		
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/06/14 00:27		
-Hexane	ND ug/L	5.0	1		04/06/14 00:27		N2
-Hexanone	ND ug/L	20.0	1		04/06/14 00:27		
odomethane	ND ug/L	1.0	1		04/06/14 00:27		
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/06/14 00:27		

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-11B	Lab ID: 5095417013	Collected: 03/28/1	14 12:35	Received: 03/29/14 12:32	Matrix: Water	
Parameters	Results Unit	s Report Limit	DF	Prepared Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA	A 5030B/8260				
p-lsopropyltoluene	ND ug/L	1.0	1	04/06/14 00:2	27 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/06/14 00:2	27 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/06/14 00:2	27 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/06/14 00:2	27 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/06/14 00:2	27 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/06/14 00:2	27 103-65-1	
Styrene	ND ug/L	1.0	1	04/06/14 00:2	27 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/06/14 00:2	27 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/06/14 00:2	27 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/06/14 00:2	27 127-18-4	
Toluene	ND ug/L	1.0	1	04/06/14 00:2	27 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/06/14 00:2	27 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/06/14 00:2	27 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/06/14 00:2	27 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/06/14 00:2	27 79-00-5	
Trichloroethene	ND ug/L	1.0	1	04/06/14 00:2	27 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/06/14 00:2	27 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/06/14 00:2	27 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/06/14 00:2	27 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/06/14 00:2	27 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/06/14 00:2	27 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/06/14 00:2	27 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/06/14 00:2	27 1330-20-7	
Surrogates	-					
4-Bromofluorobenzene (S)	92 %.	80-114	1	04/06/14 00:2	27 460-00-4	
Dibromofluoromethane (S)	99 %.	79-116	1	04/06/14 00:2	27 1868-53-7	
Toluene-d8 (S)	99 %.	81-110	1	04/06/14 00:2	27 2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Date: 04/07/2014 05:18 PM

Sample: GP-12	Lab ID: 5095417	014 Collected: 03/28/	14 12:50	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results U	Jnits Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Low Level	Analytical Method: I	EPA 5030B/8260					
Acetone	ND ug/L	20.0	1		04/06/14 01:0	1 67-64-1	
Acrolein	ND ug/L	20.0	1		04/06/14 01:0	1 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/06/14 01:0	1 107-13-1	
Benzene	ND ug/L	1.0	1		04/06/14 01:0	1 71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/06/14 01:0	1 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/06/14 01:0	1 74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/06/14 01:0	1 75-27-4	
Bromoform	ND ug/L	1.0	1		04/06/14 01:0	1 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/06/14 01:0	1 74-83-9	
P-Butanone (MEK)	ND ug/L	20.0	1		04/06/14 01:0	1 78-93-3	
n-Butylbenzene	ND ug/L	1.0	1		04/06/14 01:0	1 104-51-8	
ec-Butylbenzene	ND ug/L	1.0	1		04/06/14 01:0	1 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/06/14 01:0	1 98-06-6	
Carbon disulfide	ND ug/L	5.0	1		04/06/14 01:0		
Carbon tetrachloride	ND ug/L	1.0	1		04/06/14 01:0		
Chlorobenzene	ND ug/L	1.0	1		04/06/14 01:0		
Chloroethane	ND ug/L	2.0	1		04/06/14 01:0		
Chloroform	ND ug/L	1.0	1		04/06/14 01:0		
Chloromethane	ND ug/L	2.0	1		04/06/14 01:0		
-Chlorotoluene	ND ug/L	1.0	1		04/06/14 01:0		
-Chlorotoluene	•	1.0	1		04/06/14 01:0		
Dibromochloromethane	ND ug/L	1.0	1		04/06/14 01:0		
	ND ug/L ND ug/L	1.0	1		04/06/14 01:0		
,2-Dibromoethane (EDB)	-		1				
Dibromomethane	ND ug/L	1.0			04/06/14 01:0		
,2-Dichlorobenzene	ND ug/L	1.0	1		04/06/14 01:0		
,3-Dichlorobenzene	ND ug/L	1.0	1		04/06/14 01:0		
,4-Dichlorobenzene	ND ug/L	1.0	1		04/06/14 01:0		
ans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/06/14 01:0		
Dichlorodifluoromethane	ND ug/L	2.0	1		04/06/14 01:0		
,1-Dichloroethane	ND ug/L	1.0	1		04/06/14 01:0		
,2-Dichloroethane	ND ug/L	1.0	1		04/06/14 01:0		
,1-Dichloroethene	ND ug/L	1.0	1		04/06/14 01:0		
is-1,2-Dichloroethene	ND ug/L	1.0	1		04/06/14 01:0		
ans-1,2-Dichloroethene	ND ug/L	1.0	1		04/06/14 01:0		
,2-Dichloropropane	ND ug/L	1.0	1		04/06/14 01:0	1 78-87-5	
,3-Dichloropropane	ND ug/L	1.0	1		04/06/14 01:0		
,2-Dichloropropane	ND ug/L	1.0	1		04/06/14 01:0	1 594-20-7	
,1-Dichloropropene	ND ug/L	1.0	1		04/06/14 01:0	1 563-58-6	
is-1,3-Dichloropropene	ND ug/L	1.0	1		04/06/14 01:0	1 10061-01-5	
ans-1,3-Dichloropropene	ND ug/L	1.0	1		04/06/14 01:0	1 10061-02-6	
thylbenzene	ND ug/L	1.0	1		04/06/14 01:0	1 100-41-4	
Ethyl methacrylate	ND ug/L	20.0	1		04/06/14 01:0	1 97-63-2	
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/06/14 01:0	1 87-68-3	
i-Hexane	ND ug/L	5.0	1		04/06/14 01:0	1 110-54-3	N2
-Hexanone	ND ug/L	20.0	1		04/06/14 01:0		
odomethane	ND ug/L	1.0	1		04/06/14 01:0		
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/06/14 01:0		

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-12	Lab ID: 5095417014	Collected: 03/28/1	14 12:50	Received: 03/29/14 12:32	Matrix: Water	
Parameters	Results Units	Report Limit	DF	Prepared Analyzed	CAS No.	Qua
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-lsopropyltoluene	ND ug/L	1.0	1	04/06/14 01:0	1 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/06/14 01:0	1 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/06/14 01:0	108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/06/14 01:0	1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/06/14 01:0	1 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/06/14 01:0	103-65-1	
Styrene	ND ug/L	1.0	1	04/06/14 01:0	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/06/14 01:0	1 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/06/14 01:0	1 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/06/14 01:0	127-18-4	
Toluene	42.3 ug/L	1.0	1	04/06/14 01:0	108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/06/14 01:0	1 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/06/14 01:0	120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/06/14 01:0	1 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/06/14 01:0	1 79-00-5	
Trichloroethene	ND ug/L	1.0	1	04/06/14 01:0	1 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/06/14 01:0	1 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/06/14 01:0	1 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/06/14 01:0	1 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/06/14 01:0	108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/06/14 01:0	108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/06/14 01:0	1 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/06/14 01:0	1330-20-7	
Surrogates	-					
4-Bromofluorobenzene (S)	92 %.	80-114	1	04/06/14 01:0	1 460-00-4	
Dibromofluoromethane (S)	102 %.	79-116	1	04/06/14 01:0	1868-53-7	
Toluene-d8 (S)	100 %.	81-110	1	04/06/14 01:0	1 2037-26-5	

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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Date: 04/07/2014 05:18 PM

Sample: GP-12D	Lab ID: 50954170	15 Collected: 03/28/	14 12:55	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results U	nits Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Low Level	Analytical Method: E	PA 5030B/8260					
Acetone	ND ug/L	20.0	1		04/06/14 01:34	4 67-64-1	
Acrolein	ND ug/L	20.0	1		04/06/14 01:34	4 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/06/14 01:34	4 107-13-1	
Benzene	ND ug/L	1.0	1		04/06/14 01:34	4 71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/06/14 01:34	4 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/06/14 01:34	4 74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/06/14 01:34	4 75-27-4	
Bromoform	ND ug/L	1.0	1		04/06/14 01:34	4 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/06/14 01:34	4 74-83-9	
2-Butanone (MEK)	ND ug/L	20.0	1		04/06/14 01:34	4 78-93-3	
i-Butylbenzene	ND ug/L	1.0	1		04/06/14 01:34	4 104-51-8	
ec-Butylbenzene	ND ug/L	1.0	1		04/06/14 01:34	4 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/06/14 01:34	4 98-06-6	
Carbon disulfide	ND ug/L	5.0	1		04/06/14 01:34		
Carbon tetrachloride	ND ug/L	1.0	1		04/06/14 01:34		
Chlorobenzene	ND ug/L	1.0	1		04/06/14 01:34		
Chloroethane	ND ug/L	2.0	1		04/06/14 01:34		
Chloroform	ND ug/L	1.0	1		04/06/14 01:34		
Chloromethane	ND ug/L	2.0	1		04/06/14 01:34		
-Chlorotoluene	ND ug/L	1.0	1		04/06/14 01:34		
-Chlorotoluene	ND ug/L	1.0	1		04/06/14 01:3		
Dibromochloromethane	ND ug/L	1.0	1		04/06/14 01:3		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/06/14 01:3		
Dibromomethane	ND ug/L	1.0	1		04/06/14 01:34		
,2-Dichlorobenzene	ND ug/L	1.0	1		04/06/14 01:3		
,3-Dichlorobenzene	ND ug/L	1.0	1		04/06/14 01:3		
,4-Dichlorobenzene	ND ug/L	1.0	1		04/06/14 01:3		
rans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/06/14 01:3		
oichlorodifluoromethane	ND ug/L	2.0	1		04/06/14 01:3		
.1-Dichloroethane	ND ug/L	1.0	1		04/06/14 01:3		
,2-Dichloroethane	ND ug/L	1.0	1		04/06/14 01:3		
•	_	1.0	1		04/06/14 01:3		
,1-Dichloroethene	ND ug/L						
is-1,2-Dichloroethene	ND ug/L	1.0	1		04/06/14 01:34 04/06/14 01:34		
ans-1,2-Dichloroethene	ND ug/L	1.0	1				
,2-Dichloropropane	ND ug/L	1.0	1		04/06/14 01:34		
,3-Dichloropropane	ND ug/L	1.0	1		04/06/14 01:3		
,2-Dichloropropane	ND ug/L	1.0	1		04/06/14 01:3		
,1-Dichloropropene	ND ug/L	1.0	1		04/06/14 01:34		
is-1,3-Dichloropropene	ND ug/L	1.0	1		04/06/14 01:3		
ans-1,3-Dichloropropene	ND ug/L	1.0	1		04/06/14 01:34		
thylbenzene	ND ug/L	1.0	1		04/06/14 01:3		
thyl methacrylate	ND ug/L	20.0	1		04/06/14 01:3		
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/06/14 01:3		
-Hexane	ND ug/L	5.0	1		04/06/14 01:34		N2
-Hexanone	ND ug/L	20.0	1		04/06/14 01:34		
odomethane	ND ug/L	1.0	1		04/06/14 01:34		
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/06/14 01:34	4 98-82-8	



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-12D	Lab ID: 5095417015	Collected: 03/28/1	14 12:55	Received: 03/29/14 12:32	Matrix: Water	
Parameters	Results Units	Report Limit	DF	Prepared Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-lsopropyltoluene	ND ug/L	1.0	1	04/06/14 01:3	4 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/06/14 01:3	4 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/06/14 01:3	4 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/06/14 01:3	4 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/06/14 01:3	4 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/06/14 01:3	4 103-65-1	
Styrene	ND ug/L	1.0	1	04/06/14 01:3	4 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/06/14 01:3	4 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/06/14 01:3	4 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/06/14 01:3	4 127-18-4	
Toluene	36.4 ug/L	1.0	1	04/06/14 01:3	4 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/06/14 01:3	4 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/06/14 01:3	4 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/06/14 01:3	4 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/06/14 01:3	4 79-00-5	
Trichloroethene	ND ug/L	1.0	1	04/06/14 01:3	4 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/06/14 01:3	4 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/06/14 01:3	4 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/06/14 01:3	4 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/06/14 01:3	4 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/06/14 01:3	4 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/06/14 01:3	4 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/06/14 01:3	4 1330-20-7	
Surrogates						
4-Bromofluorobenzene (S)	93 %.	80-114	1	04/06/14 01:3	4 460-00-4	
Dibromofluoromethane (S)	100 %.	79-116	1	04/06/14 01:3	4 1868-53-7	
Toluene-d8 (S)	98 %.	81-110	1	04/06/14 01:3	4 2037-26-5	

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-13	Lab ID: 509541701	6 Collected: 03/28/1	4 13:15	Received:	03/29/14 12:32	Matrix: Water	
Parameters	Results Un	Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Low Level	Analytical Method: EP	A 5030B/8260					
Acetone	ND ug/L	20.0	1		04/06/14 03:08	8 67-64-1	
Acrolein	ND ug/L	20.0	1		04/06/14 03:08	3 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/06/14 03:08	3 107-13-1	
Benzene	ND ug/L	1.0	1		04/06/14 03:08	3 71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/06/14 03:08	3 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/06/14 03:08	3 74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/06/14 03:08	3 75-27-4	
Bromoform	ND ug/L	1.0	1		04/06/14 03:08	3 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/06/14 03:08	3 74-83-9	
P-Butanone (MEK)	ND ug/L	20.0	1		04/06/14 03:08	3 78-93-3	
n-Butylbenzene	ND ug/L	1.0	1		04/06/14 03:08	3 104-51-8	
ec-Butylbenzene	ND ug/L	1.0	1		04/06/14 03:08	3 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/06/14 03:08		
Carbon disulfide	ND ug/L	5.0	1		04/06/14 03:08		
Carbon tetrachloride	ND ug/L	1.0	1		04/06/14 03:08		
Chlorobenzene	ND ug/L	1.0	1		04/06/14 03:08		
Chloroethane	ND ug/L	2.0	1		04/06/14 03:08		
Chloroform	ND ug/L	1.0	1		04/06/14 03:08		
Chloromethane	ND ug/L	2.0	1		04/06/14 03:08		
-Chlorotoluene	ND ug/L	1.0	1		04/06/14 03:08		
-Chlorotoluene	ND ug/L	1.0	1		04/06/14 03:08		
libromochloromethane	ND ug/L	1.0	1		04/06/14 03:08		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/06/14 03:08		
Dibromomethane	•	1.0	1		04/06/14 03:08		
	ND ug/L	1.0	1		04/06/14 03:08		
,2-Dichlorobenzene	ND ug/L		1				
,3-Dichlorobenzene	ND ug/L	1.0	1		04/06/14 03:08		
,4-Dichlorobenzene	ND ug/L	1.0	1		04/06/14 03:08		
ans-1,4-Dichloro-2-butene	ND ug/L	100			04/06/14 03:08		
Dichlorodifluoromethane	ND ug/L	2.0	1		04/06/14 03:08		
,1-Dichloroethane	ND ug/L	1.0	1		04/06/14 03:08		
,2-Dichloroethane	ND ug/L	1.0	1		04/06/14 03:08		
,1-Dichloroethene	ND ug/L	1.0	1		04/06/14 03:08		
is-1,2-Dichloroethene	ND ug/L	1.0	1		04/06/14 03:08		
ans-1,2-Dichloroethene	ND ug/L	1.0	1		04/06/14 03:08		
,2-Dichloropropane	ND ug/L	1.0	1		04/06/14 03:08		
,3-Dichloropropane	ND ug/L	1.0	1		04/06/14 03:08		
,2-Dichloropropane	ND ug/L	1.0	1		04/06/14 03:08		
,1-Dichloropropene	ND ug/L	1.0	1		04/06/14 03:08		
is-1,3-Dichloropropene	ND ug/L	1.0	1		04/06/14 03:08		
ans-1,3-Dichloropropene	ND ug/L	1.0	1		04/06/14 03:08		
thylbenzene	ND ug/L	1.0	1		04/06/14 03:08		
thyl methacrylate	ND ug/L	20.0	1		04/06/14 03:08		
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/06/14 03:08		
-Hexane	ND ug/L	5.0	1		04/06/14 03:08	3 110-54-3	N2
-Hexanone	ND ug/L	20.0	1		04/06/14 03:08	591-78-6	
odomethane	ND ug/L	1.0	1		04/06/14 03:08	3 74-88-4	
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/06/14 03:08	8 98-82-8	



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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-13	Lab ID: 5095417016	Collected: 03/28/1	4 13:15	Received: 03/29/14 12:32	Matrix: Water	
Parameters	Results Unit	s Report Limit	DF	Prepared Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-lsopropyltoluene	ND ug/L	1.0	1	04/06/14 03:08	8 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/06/14 03:08	8 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/06/14 03:0	8 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/06/14 03:0	8 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/06/14 03:0	8 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/06/14 03:0	8 103-65-1	
Styrene	ND ug/L	1.0	1	04/06/14 03:0	8 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/06/14 03:0	8 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/06/14 03:0	8 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/06/14 03:0	8 127-18-4	
Toluene	ND ug/L	1.0	1	04/06/14 03:0	8 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/06/14 03:0	8 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/06/14 03:0	8 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/06/14 03:0	8 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/06/14 03:0	8 79-00-5	
Trichloroethene	ND ug/L	1.0	1	04/06/14 03:0	8 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/06/14 03:0	8 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/06/14 03:0	8 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/06/14 03:0	8 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/06/14 03:0	8 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/06/14 03:0	8 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/06/14 03:0	8 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/06/14 03:0	8 1330-20-7	
Surrogates						
4-Bromofluorobenzene (S)	91 %.	80-114	1	04/06/14 03:08	8 460-00-4	
Dibromofluoromethane (S)	100 %.	79-116	1	04/06/14 03:08	8 1868-53-7	
Toluene-d8 (S)	100 %.	81-110	1	04/06/14 03:08	8 2037-26-5	

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Date: 04/07/2014 05:18 PM

Sample: GP-14	Lab ID: 5095417	017 Collected: 03/28/	14 13:30	Received: 0	03/29/14 12:32	Matrix: Water	
Parameters	Results U	Jnits Report Limit	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV Low Level	Analytical Method: I	EPA 5030B/8260					
Acetone	ND ug/L	20.0	1		04/06/14 04:1	5 67-64-1	
Acrolein	ND ug/L	20.0	1		04/06/14 04:1	5 107-02-8	
Acrylonitrile	ND ug/L	100	1		04/06/14 04:1	5 107-13-1	
Benzene	ND ug/L	1.0	1		04/06/14 04:1	5 71-43-2	
Bromobenzene	ND ug/L	1.0	1		04/06/14 04:1	5 108-86-1	
Bromochloromethane	ND ug/L	1.0	1		04/06/14 04:1	5 74-97-5	
Bromodichloromethane	ND ug/L	1.0	1		04/06/14 04:1	5 75-27-4	
Bromoform	ND ug/L	1.0	1		04/06/14 04:1	5 75-25-2	
Bromomethane	ND ug/L	5.0	1		04/06/14 04:1	5 74-83-9	
2-Butanone (MEK)	ND ug/L	20.0	1		04/06/14 04:1	5 78-93-3	
n-Butylbenzene	ND ug/L	1.0	1		04/06/14 04:1	5 104-51-8	
sec-Butylbenzene	ND ug/L	1.0	1		04/06/14 04:1	5 135-98-8	
ert-Butylbenzene	ND ug/L	1.0	1		04/06/14 04:1	5 98-06-6	
Carbon disulfide	ND ug/L	5.0	1		04/06/14 04:1		
Carbon tetrachloride	ND ug/L	1.0	1		04/06/14 04:1		
Chlorobenzene	ND ug/L	1.0	1		04/06/14 04:1		
Chloroethane	ND ug/L	2.0	1		04/06/14 04:1		
Chloroform	ND ug/L	1.0	1		04/06/14 04:1		
Chloromethane	ND ug/L	2.0	1		04/06/14 04:1		
-Chlorotoluene	ND ug/L	1.0	1		04/06/14 04:1		
-Chlorotoluene	ND ug/L	1.0	1		04/06/14 04:1		
Dibromochloromethane	ND ug/L	1.0	1		04/06/14 04:1		
,2-Dibromoethane (EDB)	ND ug/L	1.0	1		04/06/14 04:1		
Dibromomethane	ND ug/L	1.0	1		04/06/14 04:1		
	~		1				
,2-Dichlorobenzene	ND ug/L	1.0			04/06/14 04:1		
,3-Dichlorobenzene	ND ug/L	1.0	1 1		04/06/14 04:1		
,4-Dichlorobenzene	ND ug/L	1.0			04/06/14 04:1		
rans-1,4-Dichloro-2-butene	ND ug/L	100	1		04/06/14 04:1		
Dichlorodifluoromethane	ND ug/L	2.0	1		04/06/14 04:1		
,1-Dichloroethane	ND ug/L	1.0	1		04/06/14 04:1		
,2-Dichloroethane	ND ug/L	1.0	1		04/06/14 04:1		
,1-Dichloroethene	ND ug/L	1.0	1		04/06/14 04:1		
is-1,2-Dichloroethene	ND ug/L	1.0	1		04/06/14 04:1		
ans-1,2-Dichloroethene	ND ug/L	1.0	1		04/06/14 04:1		
,2-Dichloropropane	ND ug/L	1.0	1		04/06/14 04:1		
,3-Dichloropropane	ND ug/L	1.0	1		04/06/14 04:1		
,2-Dichloropropane	ND ug/L	1.0	1		04/06/14 04:1		
,1-Dichloropropene	ND ug/L	1.0	1		04/06/14 04:1		
is-1,3-Dichloropropene	ND ug/L	1.0	1		04/06/14 04:1	5 10061-01-5	
ans-1,3-Dichloropropene	ND ug/L	1.0	1			5 10061-02-6	
thylbenzene	ND ug/L	1.0	1		04/06/14 04:1	5 100-41-4	
Ethyl methacrylate	ND ug/L	20.0	1		04/06/14 04:1	5 97-63-2	
lexachloro-1,3-butadiene	ND ug/L	1.0	1		04/06/14 04:1	5 87-68-3	
-Hexane	ND ug/L	5.0	1		04/06/14 04:1	5 110-54-3	N2
-Hexanone	ND ug/L	20.0	1		04/06/14 04:1	5 591-78-6	
odomethane	ND ug/L	1.0	1		04/06/14 04:1	5 74-88-4	
sopropylbenzene (Cumene)	ND ug/L	1.0	1		04/06/14 04:1		



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ANALYTICAL RESULTS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Sample: GP-14	Lab ID: 5095417017	Collected: 03/28/1	14 13:30	Received: 03/29/14 12:32	Matrix: Water	
Parameters	Results Unit	s Report Limit	DF	Prepared Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA	5030B/8260				
p-lsopropyltoluene	ND ug/L	1.0	1	04/06/14 04:1	5 99-87-6	
Methylene Chloride	ND ug/L	5.0	1	04/06/14 04:1	5 75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L	20.0	1	04/06/14 04:1	5 108-10-1	
Methyl-tert-butyl ether	ND ug/L	4.0	1	04/06/14 04:1	5 1634-04-4	
Naphthalene	ND ug/L	1.0	1	04/06/14 04:1	5 91-20-3	
n-Propylbenzene	ND ug/L	1.0	1	04/06/14 04:1	5 103-65-1	
Styrene	ND ug/L	1.0	1	04/06/14 04:1	5 100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L	1.0	1	04/06/14 04:1	5 630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L	1.0	1	04/06/14 04:1	5 79-34-5	
Tetrachloroethene	ND ug/L	1.0	1	04/06/14 04:1	5 127-18-4	
Toluene	15.3 ug/L	1.0	1	04/06/14 04:1	5 108-88-3	
1,2,3-Trichlorobenzene	ND ug/L	1.0	1	04/06/14 04:1	5 87-61-6	
1,2,4-Trichlorobenzene	ND ug/L	1.0	1	04/06/14 04:1	5 120-82-1	
1,1,1-Trichloroethane	ND ug/L	1.0	1	04/06/14 04:1	5 71-55-6	
1,1,2-Trichloroethane	ND ug/L	1.0	1	04/06/14 04:1	5 79-00-5	
Trichloroethene	ND ug/L	1.0	1	04/06/14 04:1	5 79-01-6	
Trichlorofluoromethane	ND ug/L	2.0	1	04/06/14 04:1	5 75-69-4	
1,2,3-Trichloropropane	ND ug/L	1.0	1	04/06/14 04:1	5 96-18-4	
1,2,4-Trimethylbenzene	ND ug/L	5.0	1	04/06/14 04:1	5 95-63-6	
1,3,5-Trimethylbenzene	ND ug/L	5.0	1	04/06/14 04:1	5 108-67-8	
Vinyl acetate	ND ug/L	20.0	1	04/06/14 04:1	5 108-05-4	
Vinyl chloride	ND ug/L	1.0	1	04/06/14 04:1	5 75-01-4	
Xylene (Total)	ND ug/L	2.0	1	04/06/14 04:1	5 1330-20-7	
Surrogates						
4-Bromofluorobenzene (S)	93 %.	80-114	1	04/06/14 04:1	5 460-00-4	
Dibromofluoromethane (S)	100 %.	79-116	1	04/06/14 04:1	5 1868-53-7	
Toluene-d8 (S)	100 %.	81-110	1	04/06/14 04:1	5 2037-26-5	



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

QUALITY CONTROL DATA

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

QC Batch: MSV/63206 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Low Level

Associated Lab Samples: 5095417001, 5095417002

METHOD BLANK: 1072781 Matrix: Water

Associated Lab Samples: 5095417001, 5095417002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	04/03/14 07:32	
1,1,1-Trichloroethane	ug/L	ND	1.0	04/03/14 07:32	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/03/14 07:32	
1,1,2-Trichloroethane	ug/L	ND	1.0	04/03/14 07:32	
1,1-Dichloroethane	ug/L	ND	1.0	04/03/14 07:32	
1,1-Dichloroethene	ug/L	ND	1.0	04/03/14 07:32	
1,1-Dichloropropene	ug/L	ND	1.0	04/03/14 07:32	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	04/03/14 07:32	
1,2,3-Trichloropropane	ug/L	ND	1.0	04/03/14 07:32	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	04/03/14 07:32	
1,2,4-Trimethylbenzene	ug/L	ND	5.0	04/03/14 07:32	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	04/03/14 07:32	
1,2-Dichlorobenzene	ug/L	ND	1.0	04/03/14 07:32	
1,2-Dichloroethane	ug/L	ND	1.0	04/03/14 07:32	
1,2-Dichloropropane	ug/L	ND	1.0	04/03/14 07:32	
1,3,5-Trimethylbenzene	ug/L	ND	5.0	04/03/14 07:32	
1,3-Dichlorobenzene	ug/L	ND	1.0	04/03/14 07:32	
1,3-Dichloropropane	ug/L	ND	1.0	04/03/14 07:32	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/03/14 07:32	
2,2-Dichloropropane	ug/L	ND	1.0	04/03/14 07:32	
2-Butanone (MEK)	ug/L	ND	20.0	04/03/14 07:32	
2-Chlorotoluene	ug/L	ND	1.0	04/03/14 07:32	
2-Hexanone	ug/L	ND	20.0	04/03/14 07:32	
1-Chlorotoluene	ug/L	ND	1.0	04/03/14 07:32	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20.0	04/03/14 07:32	
Acetone	ug/L	ND	20.0	04/03/14 07:32	
Acrolein	ug/L	ND	20.0	04/03/14 07:32	
Acrylonitrile	ug/L	ND	100	04/03/14 07:32	
Benzene	ug/L	ND	1.0	04/03/14 07:32	
Bromobenzene	ug/L	ND	1.0	04/03/14 07:32	
Bromochloromethane	ug/L	ND	1.0	04/03/14 07:32	
Bromodichloromethane	ug/L	ND	1.0	04/03/14 07:32	
Bromoform	ug/L	ND	1.0	04/03/14 07:32	
Bromomethane	ug/L	ND	5.0	04/03/14 07:32	
Carbon disulfide	ug/L	ND	5.0	04/03/14 07:32	
Carbon tetrachloride	ug/L	ND	1.0	04/03/14 07:32	
Chlorobenzene	ug/L	ND	1.0	04/03/14 07:32	
Chloroethane	ug/L	ND	2.0	04/03/14 07:32	
Chloroform	ug/L	ND	1.0	04/03/14 07:32	
Chloromethane	ug/L	ND	2.0	04/03/14 07:32	
cis-1,2-Dichloroethene	ug/L	ND ND	1.0	04/03/14 07:32	
cis-1,3-Dichloropropene	ug/L	ND	1.0	04/03/14 07:32	
Dibromochloromethane	ug/L	ND ND	1.0	04/03/14 07:32	

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

QUALITY CONTROL DATA

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

METHOD BLANK: 1072781 Matrix: Water

Associated Lab Samples: 5095417001, 5095417002

		Blank	Reporting			
Parameter	Units	Result	Limit	Analyzed	Qualifiers	
Dibromomethane	ug/L	ND	1.0	04/03/14 07:32		
Dichlorodifluoromethane	ug/L	ND	2.0	04/03/14 07:32		
Ethyl methacrylate	ug/L	ND	20.0	04/03/14 07:32		
Ethylbenzene	ug/L	ND	1.0	04/03/14 07:32		
Hexachloro-1,3-butadiene	ug/L	ND	1.0	04/03/14 07:32		
lodomethane	ug/L	2.3	1.0	04/03/14 07:32		
Isopropylbenzene (Cumene)	ug/L	ND	1.0	04/03/14 07:32		
Methyl-tert-butyl ether	ug/L	ND	4.0	04/03/14 07:32		
Methylene Chloride	ug/L	ND	5.0	04/03/14 07:32		
n-Butylbenzene	ug/L	ND	1.0	04/03/14 07:32		
n-Hexane	ug/L	ND	5.0	04/03/14 07:32	N2	
n-Propylbenzene	ug/L	ND	1.0	04/03/14 07:32		
Naphthalene	ug/L	ND	1.0	04/03/14 07:32		
p-Isopropyltoluene	ug/L	ND	1.0	04/03/14 07:32		
sec-Butylbenzene	ug/L	ND	1.0	04/03/14 07:32		
Styrene	ug/L	ND	1.0	04/03/14 07:32		
tert-Butylbenzene	ug/L	ND	1.0	04/03/14 07:32		
Tetrachloroethene	ug/L	ND	1.0	04/03/14 07:32		
Toluene	ug/L	ND	1.0	04/03/14 07:32		
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/03/14 07:32		
trans-1,3-Dichloropropene	ug/L	ND	1.0	04/03/14 07:32		
trans-1,4-Dichloro-2-butene	ug/L	ND	100	04/03/14 07:32		
Trichloroethene	ug/L	ND	1.0	04/03/14 07:32		
Trichlorofluoromethane	ug/L	ND	2.0	04/03/14 07:32		
Vinyl acetate	ug/L	ND	20.0	04/03/14 07:32		
Vinyl chloride	ug/L	ND	1.0	04/03/14 07:32		
Xylene (Total)	ug/L	ND	2.0	04/03/14 07:32		
4-Bromofluorobenzene (S)	%.	94	80-114	04/03/14 07:32		
Dibromofluoromethane (S)	%.	101	79-116	04/03/14 07:32		
Toluene-d8 (S)	%.	100	81-110	04/03/14 07:32		

LABORATORY CONTROL SAMPLE:	1072782					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	47.6	95	61-135	
1,1,1-Trichloroethane	ug/L	50	57.2	114	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	51.9	104	66-126	
1,1,2-Trichloroethane	ug/L	50	53.0	106	77-130	
1,1-Dichloroethane	ug/L	50	46.2	92	75-130	
1,1-Dichloroethene	ug/L	50	56.9	114	68-127	
1,1-Dichloropropene	ug/L	50	53.2	106	78-130	
1,2,3-Trichlorobenzene	ug/L	50	52.5	105	70-130	
1,2,3-Trichloropropane	ug/L	50	49.7	99	58-142	
1,2,4-Trichlorobenzene	ug/L	50	49.3	99	68-131	
1,2,4-Trimethylbenzene	ug/L	50	50.5	101	69-127	

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

QUALITY CONTROL DATA

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

LABORATORY CONTROL SAMPLE:	1072782					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
I,2-Dibromoethane (EDB)	ug/L	50	58.5	117	76-125	
1,2-Dichlorobenzene	ug/L	50	55.5	111	75-123	
I,2-Dichloroethane	ug/L	50	54.3	109	75-128	
1,2-Dichloropropane	ug/L	50	55.2	110	74-121	
,3,5-Trimethylbenzene	ug/L	50	52.4	105	70-126	
,3-Dichlorobenzene	ug/L	50	56.1	112	74-122	
I,3-Dichloropropane	ug/L	50	55.3	111	74-123	
,4-Dichlorobenzene	ug/L	50	53.0	106	76-120	
,,2-Dichloropropane	ug/L	50	42.3	85	50-137	
2-Butanone (MEK)	ug/L	250	271	108	58-139	
-Chlorotoluene	ug/L	50	53.7	107	74-122	
-Hexanone	ug/L	250	266	106	54-140	
-Chlorotoluene	ug/L	50	55.6	111	77-123	
-Methyl-2-pentanone (MIBK)	ug/L	250	274	110	58-138	
acetone	ug/L	250	306	122	49-150	
Acrolein	ug/L	1000	1230	123	41-200	
Acrylonitrile	ug/L	1000	918	92	63-137	
Benzene	ug/L	50	51.2	102	74-122	
Bromobenzene	ug/L	50	53.4	107	72-127	
Bromochloromethane	ug/L	50	59.2	118	63-132	
romodichloromethane	ug/L	50	51.4	103	62-136	
Bromoform	ug/L	50	39.6	79	44-134	
Bromomethane	ug/L	50 50	89.0	178	22-181	
Carbon disulfide	ug/L	100	125	125	59-132	
Carbon tetrachloride	ug/L	50	49.8	100	56-137	
Chlorobenzene	ug/L	50 50	54.2	108	78-123	
Chloroethane	ug/L	50 50	52.0	104	60-144	
Chloroform	ug/L	50 50	58.1	116	78-126	
Chloromethane		50 50	46.7	93	42-134	
	ug/L	50 50	56.7	113	75-122	
is-1,2-Dichloroethene	ug/L	50 50	46.0	92		
is-1,3-Dichloropropene	ug/L	50 50	46.0 46.1	92 92	64-126	
Dibromochloromethane	ug/L				58-128	
Dibromomethane	ug/L	50 50	57.0	114	73-125	
Dichlorodifluoromethane	ug/L	50	46.3	93	35-181	
thyl methacrylate	ug/L	200	213	107	69-133	
thylbenzene	ug/L	50 50	54.4	109	66-133	
lexachloro-1,3-butadiene	ug/L	50	59.3	119	59-145	
odomethane	ug/L	100	143	143	21-170	
sopropylbenzene (Cumene)	ug/L	50	56.7	113	69-124	
Methyl-tert-butyl ether	ug/L	100	98.6	99	69-122	
Methylene Chloride	ug/L	50	57.8	116	68-132	
-Butylbenzene	ug/L	50	55.8	112	70-126	
-Hexane	ug/L	50	37.1	74	51-125 N2	2
-Propylbenzene	ug/L	50	54.2	108	71-122	
Naphthalene	ug/L	50	52.0	104	68-127	
-Isopropyltoluene	ug/L	50	55.8	112	72-132	
ec-Butylbenzene	ug/L	50	55.5	111	70-128	
Styrene	ug/L	50	60.6	121	74-126	



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

QUALITY CONTROL DATA

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

LABORATORY CONTROL SAMP	LE: 1072782					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
tert-Butylbenzene	ug/L		47.6	95	51-118	
Tetrachloroethene	ug/L	50	52.1	104	69-130	
Toluene	ug/L	50	52.5	105	72-122	
trans-1,2-Dichloroethene	ug/L	50	51.1	102	72-124	
trans-1,3-Dichloropropene	ug/L	50	43.4	87	64-121	
trans-1,4-Dichloro-2-butene	ug/L	200	174	87	56-133	
Trichloroethene	ug/L	50	52.9	106	76-126	
Trichlorofluoromethane	ug/L	50	55.2	110	76-149	
Vinyl acetate	ug/L	200	191	95	45-151	
Vinyl chloride	ug/L	50	49.7	99	59-126	
Xylene (Total)	ug/L	150	169	113	70-124	
4-Bromofluorobenzene (S)	%.			99	80-114	
Dibromofluoromethane (S)	%.			110	79-116	
Toluene-d8 (S)	%.			101	81-110	

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

QUALITY CONTROL DATA

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

QC Batch: MSV/63308 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Low Level

Associated Lab Samples: 5095417003, 5095417004, 5095417005, 5095417006, 5095417007, 5095417008, 5095417009, 5095417010,

5095417011, 5095417012, 5095417013, 5095417014, 5095417015, 5095417016, 5095417017

METHOD BLANK: 1074482 Matrix: Water

Associated Lab Samples: 5095417003, 5095417004, 5095417005, 5095417006, 5095417007, 5095417008, 5095417009, 5095417010,

5095417011, 5095417012, 5095417013, 5095417014, 5095417015, 5095417016, 5095417017

0000	+17011, 3033417012, 3	Blank	Reporting	7010, 0000117010	, 0000111011
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND -	1.0	04/05/14 18:19	
1,1,1-Trichloroethane	ug/L	ND	1.0	04/05/14 18:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/05/14 18:19	
1,1,2-Trichloroethane	ug/L	ND	1.0		
1,1-Dichloroethane	ug/L	ND	1.0	04/05/14 18:19	
1,1-Dichloroethene	ug/L	ND	1.0	04/05/14 18:19	
1,1-Dichloropropene	ug/L	ND	1.0	04/05/14 18:19	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	04/05/14 18:19	
1,2,3-Trichloropropane	ug/L	ND	1.0	04/05/14 18:19	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	04/05/14 18:19	
1,2,4-Trimethylbenzene	ug/L	ND	5.0	04/05/14 18:19	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	04/05/14 18:19	
1,2-Dichlorobenzene	ug/L	ND	1.0	04/05/14 18:19	
1,2-Dichloroethane	ug/L	ND	1.0	04/05/14 18:19	
1,2-Dichloropropane	ug/L	ND	1.0	04/05/14 18:19	
1,3,5-Trimethylbenzene	ug/L	ND	5.0	04/05/14 18:19	
1,3-Dichlorobenzene	ug/L	ND	1.0	04/05/14 18:19	
1,3-Dichloropropane	ug/L	ND	1.0	04/05/14 18:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/05/14 18:19	
2,2-Dichloropropane	ug/L	ND	1.0	04/05/14 18:19	
2-Butanone (MEK)	ug/L	ND	20.0	04/05/14 18:19	
2-Chlorotoluene	ug/L	ND	1.0	04/05/14 18:19	
2-Hexanone	ug/L	ND	20.0	04/05/14 18:19	
4-Chlorotoluene	ug/L	ND	1.0	04/05/14 18:19	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20.0	04/05/14 18:19	
Acetone	ug/L	ND	20.0	04/05/14 18:19	
Acrolein	ug/L	ND	20.0	04/05/14 18:19	
Acrylonitrile	ug/L	ND	100	04/05/14 18:19	
Benzene	ug/L	ND	1.0	04/05/14 18:19	
Bromobenzene	ug/L	ND	1.0	04/05/14 18:19	
Bromochloromethane	ug/L	ND	1.0	04/05/14 18:19	
Bromodichloromethane	ug/L	ND	1.0	04/05/14 18:19	
Bromoform	ug/L	ND	1.0	04/05/14 18:19	
Bromomethane	ug/L	ND	5.0	04/05/14 18:19	
Carbon disulfide	ug/L	ND	5.0	04/05/14 18:19	
Carbon tetrachloride	ug/L	ND	1.0	04/05/14 18:19	
Chlorobenzene	ug/L	ND	1.0	04/05/14 18:19	
Chloroethane	ug/L	ND	2.0	04/05/14 18:19	
Chloroform	ug/L	ND	1.0	04/05/14 18:19	
Chloromethane	ug/L	ND	2.0	04/05/14 18:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/05/14 18:19	

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

QUALITY CONTROL DATA

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

METHOD BLANK: 1074482 Matrix: Water

Associated Lab Samples: 5095417003, 5095417004, 5095417005, 5095417006, 5095417007, 5095417008, 5095417009, 5095417010,

5095417011, 5095417012, 5095417013, 5095417014, 5095417015, 5095417016, 5095417017

		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	ug/L	ND	1.0	04/05/14 18:19	
Dibromochloromethane	ug/L	ND	1.0	04/05/14 18:19	
Dibromomethane	ug/L	ND	1.0	04/05/14 18:19	
Dichlorodifluoromethane	ug/L	ND	2.0	04/05/14 18:19	
Ethyl methacrylate	ug/L	ND	20.0	04/05/14 18:19	
Ethylbenzene	ug/L	ND	1.0	04/05/14 18:19	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	04/05/14 18:19	
Iodomethane	ug/L	ND	1.0	04/05/14 18:19	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	04/05/14 18:19	
Methyl-tert-butyl ether	ug/L	ND	4.0	04/05/14 18:19	
Methylene Chloride	ug/L	ND	5.0	04/05/14 18:19	
n-Butylbenzene	ug/L	ND	1.0	04/05/14 18:19	
n-Hexane	ug/L	ND	5.0	04/05/14 18:19	N2
n-Propylbenzene	ug/L	ND	1.0	04/05/14 18:19	
Naphthalene	ug/L	ND	1.0	04/05/14 18:19	
p-Isopropyltoluene	ug/L	ND	1.0	04/05/14 18:19	
sec-Butylbenzene	ug/L	ND	1.0	04/05/14 18:19	
Styrene	ug/L	ND	1.0	04/05/14 18:19	
tert-Butylbenzene	ug/L	ND	1.0	04/05/14 18:19	
Tetrachloroethene	ug/L	ND	1.0	04/05/14 18:19	
Toluene	ug/L	ND	1.0	04/05/14 18:19	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/05/14 18:19	
trans-1,3-Dichloropropene	ug/L	ND	1.0	04/05/14 18:19	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	04/05/14 18:19	
Trichloroethene	ug/L	ND	1.0	04/05/14 18:19	
Trichlorofluoromethane	ug/L	ND	2.0	04/05/14 18:19	
Vinyl acetate	ug/L	ND	20.0	04/05/14 18:19	
Vinyl chloride	ug/L	ND	1.0	04/05/14 18:19	
Xylene (Total)	ug/L	ND	2.0	04/05/14 18:19	
4-Bromofluorobenzene (S)	%.	94	80-114	04/05/14 18:19	
Dibromofluoromethane (S)	%.	100	79-116	04/05/14 18:19	
Toluene-d8 (S)	%.	101	81-110	04/05/14 18:19	

LABORATORY CONTROL SAMPLE:	1074483					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	46.1	92	61-135	
1,1,1-Trichloroethane	ug/L	50	46.7	93	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	48.3	97	66-126	
1,1,2-Trichloroethane	ug/L	50	48.1	96	77-130	
1,1-Dichloroethane	ug/L	50	46.8	94	75-130	
1,1-Dichloroethene	ug/L	50	38.2	76	68-127	
1,1-Dichloropropene	ug/L	50	42.0	84	78-130	
1,2,3-Trichlorobenzene	ug/L	50	51.9	104	70-130	

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

QUALITY CONTROL DATA

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

LABORATORY CONTROL SAMPLE:	1074483					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifier
1,2,3-Trichloropropane	ug/L	50	47.8	96	58-142	
1,2,4-Trichlorobenzene	ug/L	50	51.0	102	68-131	
1,2,4-Trimethylbenzene	ug/L	50	50.0	100	69-127	
1,2-Dibromoethane (EDB)	ug/L	50	46.8	94	76-125	
1,2-Dichlorobenzene	ug/L	50	48.2	96	75-123	
1,2-Dichloroethane	ug/L	50	45.9	92	75-128	
1,2-Dichloropropane	ug/L	50	47.4	95	74-121	
I,3,5-Trimethylbenzene	ug/L	50	49.5	99	70-126	
,3-Dichlorobenzene	ug/L	50	47.2	94	74-122	
1,3-Dichloropropane	ug/L	50	48.0	96	74-123	
,4-Dichlorobenzene	ug/L	50	45.8	92	76-120	
2,2-Dichloropropane	ug/L	50	47.7	95	50-137	
2-Butanone (MEK)	ug/L	250	257	103	58-139	
2-Chlorotoluene	ug/L	50	46.5	93	74-122	
2-Hexanone	ug/L	250	247	99	54-140	
1-Chlorotoluene	ug/L	50	49.9	100	77-123	
1-Methyl-2-pentanone (MIBK)	ug/L	250	263	105	58-138	
Acetone	ug/L	250	352	141	49-150	
Acrolein	ug/L	1000	520	52	41-200	
Acrylonitrile	ug/L	1000	845	84	63-137	
Benzene	ug/L	50	41.5	83	74-122	
Bromobenzene	ug/L	50	44.1	88	72-127	
Bromochloromethane	ug/L	50 50	45.3	91	63-132	
Bromodichloromethane	ug/L	50 50	44.0	88	62-136	
Bromoform	-	50 50	39.1	78	44-134	
Bromomethane	ug/L ug/L	50 50	36.7	73	22-181	
Carbon disulfide	-	100	84.4	73 84	59-132	
	ug/L	50	41.5			
Carbon tetrachloride	ug/L			83	56-137	
Chlorobenzene	ug/L	50 50	46.3	93	78-123	
Chloroethane	ug/L		51.4	103	60-144	
Chloroform	ug/L	50	45.8	92	78-126	
Chloromethane	ug/L	50	28.7	57	42-134	
cis-1,2-Dichloroethene	ug/L	50	43.6	87	75-122	
cis-1,3-Dichloropropene	ug/L	50	41.9	84	64-126	
Dibromochloromethane	ug/L	50	40.8	82	58-128	
Dibromomethane	ug/L	50	50.0	100	73-125	
Dichlorodifluoromethane	ug/L	50	32.1	64	35-181	
Ethyl methacrylate	ug/L	200	184	92	69-133	
Ethylbenzene	ug/L	50	48.0	96	66-133	
Hexachloro-1,3-butadiene	ug/L	50	53.3	107	59-145	
odomethane	ug/L	100	62.9	63	21-170	
sopropylbenzene (Cumene)	ug/L	50	50.3	101	69-124	
Methyl-tert-butyl ether	ug/L	100	92.8	93	69-122	
Methylene Chloride	ug/L	50	43.3	87	68-132	
n-Butylbenzene	ug/L	50	52.6	105	70-126	
n-Hexane	ug/L	50	44.0	88	51-125 N	N 2
n-Propylbenzene	ug/L	50	47.7	95	71-122	
Naphthalene	ug/L	50	44.6	89	68-127	

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

QUALITY CONTROL DATA

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

LABORATORY CONTROL SAMPI	LE: 1074483					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
p-Isopropyltoluene	ug/L		52.8	106	72-132	
sec-Butylbenzene	ug/L	50	50.1	100	70-128	
Styrene	ug/L	50	51.9	104	74-126	
tert-Butylbenzene	ug/L	50	43.9	88	51-118	
Tetrachloroethene	ug/L	50	43.8	88	69-130	
Toluene	ug/L	50	44.7	89	72-122	
trans-1,2-Dichloroethene	ug/L	50	42.5	85	72-124	
trans-1,3-Dichloropropene	ug/L	50	40.1	80	64-121	
trans-1,4-Dichloro-2-butene	ug/L	200	175	88	56-133	
Trichloroethene	ug/L	50	46.4	93	76-126	
Trichlorofluoromethane	ug/L	50	50.8	102	76-149	
Vinyl acetate	ug/L	200	209	105	45-151	
Vinyl chloride	ug/L	50	34.3	69	59-126	
Xylene (Total)	ug/L	150	147	98	70-124	
4-Bromofluorobenzene (S)	%.			100	80-114	
Dibromofluoromethane (S)	%.			99	79-116	
Toluene-d8 (S)	%.			99	81-110	

SAMPLE DUPLICATE: 1074484						
		5095417016	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		20	
1,1,1-Trichloroethane	ug/L	ND	ND		20	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		20	
1,1,2-Trichloroethane	ug/L	ND	ND		20	
1,1-Dichloroethane	ug/L	ND	ND		20	
1,1-Dichloroethene	ug/L	ND	ND		20	
1,1-Dichloropropene	ug/L	ND	ND		20	
1,2,3-Trichlorobenzene	ug/L	ND	ND		20	
1,2,3-Trichloropropane	ug/L	ND	ND		20	
1,2,4-Trichlorobenzene	ug/L	ND	ND		20	
1,2,4-Trimethylbenzene	ug/L	ND	ND		20	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1,2-Dichlorobenzene	ug/L	ND	ND		20	
1,2-Dichloroethane	ug/L	ND	ND		20	
1,2-Dichloropropane	ug/L	ND	ND		20	
1,3,5-Trimethylbenzene	ug/L	ND	ND		20	
1,3-Dichlorobenzene	ug/L	ND	ND		20	
1,3-Dichloropropane	ug/L	ND	ND		20	
1,4-Dichlorobenzene	ug/L	ND	ND		20	
2,2-Dichloropropane	ug/L	ND	ND		20	
2-Butanone (MEK)	ug/L	ND	ND		20	
2-Chlorotoluene	ug/L	ND	ND		20	
2-Hexanone	ug/L	ND	ND		20	
4-Chlorotoluene	ug/L	ND	ND		20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		20	
Acetone	ug/L	ND	ND		20	

Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

QUALITY CONTROL DATA

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

SAMPLE DUPLICATE: 1074484	Į.	5005447040	Dom			
Parameter	Units	5095417016 Result	Dup Result	RPD	Max RPD	Qualifiers
Acrolein	ug/L	ND ND	ND		20))
Acrylonitrile	ug/L	ND	ND		20)
Benzene	ug/L	ND	ND		20)
Bromobenzene	ug/L	ND	ND		20)
Bromochloromethane	ug/L	ND	ND		20)
Bromodichloromethane	ug/L	ND	ND		20)
Bromoform	ug/L	ND	ND		20)
Bromomethane	ug/L	ND	ND		20)
Carbon disulfide	ug/L	ND	ND		20)
Carbon tetrachloride	ug/L	ND	ND		20	
Chlorobenzene	ug/L	ND	ND		20	
Chloroethane	ug/L	ND	ND		20	
Chloroform	ug/L	ND	ND		20	
Chloromethane	ug/L	ND	ND		20	
is-1,2-Dichloroethene	ug/L	ND	ND		20	
sis-1,3-Dichloropropene	ug/L	ND	ND		20	
Dibromochloromethane	ug/L	ND	ND		20	
Dibromomethane	ug/L	ND	ND ND		20	
Dichlorodifluoromethane	ug/L	ND	ND ND		20	
Ethyl methacrylate	ug/L ug/L	ND ND	ND ND		20	
		ND	ND ND		20	
thylbenzene lexachloro-1,3-butadiene	ug/L	ND ND	ND ND		20	
,	ug/L	ND ND	ND ND		20	
odomethane	ug/L	ND ND				
sopropylbenzene (Cumene)	ug/L	ND ND	ND		20	
Methyl-tert-butyl ether	ug/L	ND ND	ND		20	
Methylene Chloride	ug/L	ND ND	ND		20	
-Butylbenzene	ug/L		ND		20	
-Hexane	ug/L	ND	ND) N2
-Propylbenzene	ug/L	ND	ND		20	
laphthalene	ug/L	ND	ND		20	
-Isopropyltoluene	ug/L	ND	ND		20	
ec-Butylbenzene	ug/L	ND	ND		20	
Styrene	ug/L	ND	ND		20	
ert-Butylbenzene	ug/L	ND	ND		20	
etrachloroethene	ug/L	ND	ND		20	
oluene	ug/L	ND	ND		20	
ans-1,2-Dichloroethene	ug/L	ND	ND		20)
rans-1,3-Dichloropropene	ug/L	ND	ND		20)
rans-1,4-Dichloro-2-butene	ug/L	ND	ND		20)
richloroethene	ug/L	ND	ND		20	
richlorofluoromethane	ug/L	ND	ND		20)
inyl acetate	ug/L	ND	ND		20)
/inyl chloride	ug/L	ND	ND		20)
(ylene (Total)	ug/L	ND	ND		20)
-Bromofluorobenzene (S)	%.	91	95	5		
Dibromofluoromethane (S)	%.	100	98	1		
Toluene-d8 (S)	%.	100	101	1		



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

QUALIFIERS

Project: USEPA/Valley Pike

Pace Project No.: 5095417

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

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.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

ANALYTE QUALIFIERS

Date: 04/07/2014 05:18 PM

N2 The lab does not hold TNI accreditation for this parameter.



Pace Analytical Services, Inc. 7726 Moller Road Indianapolis, IN 46268 (317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USEPA/Valley Pike

Pace Project No.: 5095417

Date: 04/07/2014 05:18 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
5095417001	GP-11	EPA 5030B/8260	MSV/63206	•	
5095417002	GP-6	EPA 5030B/8260	MSV/63206		
5095417003	GP-3	EPA 5030B/8260	MSV/63308		
5095417004	GP-2	EPA 5030B/8260	MSV/63308		
5095417005	GP-4	EPA 5030B/8260	MSV/63308		
5095417006	GP-5	EPA 5030B/8260	MSV/63308		
5095417007	GP-6B	EPA 5030B/8260	MSV/63308		
5095417008	GP-7	EPA 5030B/8260	MSV/63308		
5095417009	GP-8	EPA 5030B/8260	MSV/63308		
5095417010	GP-9	EPA 5030B/8260	MSV/63308		
5095417011	GP-10	EPA 5030B/8260	MSV/63308		
5095417012	TRIP BLANK	EPA 5030B/8260	MSV/63308		
5095417013	GP-11B	EPA 5030B/8260	MSV/63308		
5095417014	GP-12	EPA 5030B/8260	MSV/63308		
5095417015	GP-12D	EPA 5030B/8260	MSV/63308		
5095417016	GP-13	EPA 5030B/8260	MSV/63308		
5095417017	GP-14	EPA 5030B/8260	MSV/63308		

Face Analytical " www.pacelebs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Project No./ Lab I.D. DRINKING WATER (N/A) JHS102 93 -01h 7,238 100-SC / 5 (7x) SAMPLE CONDITIONS 18 740678 3 500 OTHER (N/A) Custody Sealed Cooler GROUND WATER | Ice (Y/N) Received on Residual Chlorine (Y/N) 426.5.4 Temp in °C REGULATORY AGENCY RCRA 2 2 3 3 2 2 2 2 2 Requested Analysis Filtered (Y/N) 墨 STATE: 328년 Site Location NPDES DATE UST L 222 DATE Signed (MIM/DD/YY): ACCEPTED BY / AFFILIATION 40 M LANSE acara t iseT sisyisnA N/A TedIC このに Methanol Preservatives Na₂S₂O₃ HOBN Mich HCI nvoice Information EONH Company Name 14364 Reference:
Pace Project
Manager:
Pace Profile #: [†]OS^zH Section C Unpreserved Attention: Address: Pace Quote M M N # OF CONTAINERS M 3 SAMPLER NAME AND SIGNATURE 3/28/14 SAMPLE TEMP AT COLLECTION PRINT Name of SAMPLER: SIGNATURE of SAMPLER: 3/28 1130 2460 000 1430 1020 1035 000 070 1100 115 1427 nos COMPOSITE END/GRAB 3/28 USEPA/ Wally Pik 3/28 COLLECTED Project Number: 030281.0134 RELINQUISHED BY / AFFILIATION TIME COMPOSITE START A A urchase Order No. DATE Required Project Information Eriz (V 1 J STA 200 S F (G=GRAB C=COMP) SAMPLE TYPE MATRIX CODE Project Name Section B Report To: ORIGINAL Copy To: SAN PARED Matrix Codes Drinking Water Water
Waste Water
Product
Soil/Soild
Oil
Wipe
Air
Tissue
Other DON TO HOUSE 1500 0575 513-825-9728 ecorbin pegmicon E ADDITIONAL COMMENTS (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE 1880 CF. 1 SAMPLE ID Trip Blan Section A Required Client Information: Section D Required Client Information equested Due Date/TAT: 3P-68 50-4 50-5 6-45 01-05 17 V Wd G P. 8 Report Page 50 of 54 Company: # WELL

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

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.

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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Section A Required Clent Information:	Section B Required Project Information:			Sec.	Section C						Page:	-	of 1	
Company: FO M	Report To:	7		Attention:		Matton:	-	ě				174067	6790	
Address: Resident Black	Copy Te:			S	Company Name:	0	Z	4	REGULATORY AGENCY	RY AGEN	1			
CAN'S OH 45240				Address:	:886:				I NPDES	T GRC	GROUND WATER	戸	DRINKING WATER	NTER
Email To: Ecor bin @ 20 m. com	Purchase Order No.:	,		Pace Refer	Pace Quote Reference:				TSU T	T RCRA	. ≤	Ľ	OTHER	
Phone:	Project Name; USEPA	بماليكا	アデ	Pace	Project N	12k N	Ş	4	Site Location	u.				
Requested Dus Date/TAT:	Project Number 🖎 O 3 🛠	281. Ó1	34	Pace	Profile #:				STATE	üi				
								Requested	Requested Analysis Filtered (Y/N)	tered (Y/N)				
Section D Matrix Codes Required Client Information MATRIX / CODE	Se Cl	COLLECTED	TED		ld l	Preservatives	Î N/A							
Drinking Water Water Waster Waste Water Product Product Soll/Solid		COMPOSITE	COMPOSITE END/GRAB								(N/A	V	[]\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	CODE (**			TEMP AT CC	рәлі		tseT als	09 KB			Chlorine (`		-
# W311	MATRIX	DATE TIME	DATE TIME		HNO ³ H ⁵ 2O ⁴	N ^{SS} S ^S O ³ HCI	Methano Other JAnaly :				Residual	G G	Pace Project No / Lab I D	
: GP-11B	WT-65		-20	W	×			×					ک/ ارک	
,	عاسر	3	3/28 1250	M	X			X				1		
3 C P - 12 D	27	. (2)		M	X			×					しらら	
1 CP-13	2	77	- 1	M	X			×					100	
· GY-14	2HG	<u> </u>	3/28 1330		Z		1	X					70-	
9 1						1	<u> </u>							
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6				H										
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ADDITIONAL COMMENTS	RELINQUISH	RELINQUISHED BY / AFFILIATION	DATE		TIME	Acci	PTED BY	ACCEPTED BY / AFFILIATION	DATE			SAMPL	SAMPLE CONDITIONS	$\sqrt{}$
Report below Mel	Both	Den	3/28/14		14264	13h.B.	12	Mod	- 3/28/H	4 HZ60	32	>	1	
							0							
Page														
James Jan S		SAMPLER NAME A	AME AND SIGNATURE	URE							э.	no t	16100	
KA WINEK	ORIGINAL	P.G.	PRINT Name of SAMPLER:	#							uj du	bevle (YY) e	stod sd Cc	(N/X
		SIG	SIGNATURE of SAMPLER:	ER:				DATE Signed (MIM/DD/YY):			Ten	eoe Bol	Seale	lqms2)
*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.	ting Pace's NET 30 day paymen	it terms and agreeing to lat	e charges of 1.5% per n	nonth for an	nvoices no	paid within 30 de	ys.				FALL	Q-020rev.0	F-ALL-Q-020rev.07, 15-May-2007	

Sample Condition Upon Receipt

Face Analytical Client Name	: <u>E</u> 6	QM)	<u> </u>			Project#_	5095417
Courier: Fed Ex UPS USPS Clien	nt 🗆 Co	mmer	cial	Pace (Other		
Tracking #:	F1				A		Date/Time 5035A kits
Custody Seal on Cooler/Box Present:yes)	Seals I	intact: /	yes	no	placed in freezer
Packing Material: Bubble Wrap Bubble	Bags	∏Nor	ne [Other			
Thermometer Used 1234 # ABCDE	Туре	of Ice:	Wet	Blue 1	lone _	Samples on ice,	cooling process has begun
Cooler Temperature 3,2	Ice \	/isible	in San	ple Cont	ainers:	yes no	
(Corrected, if applicable)				Commen	fo:	Date and Ini	tials of person examining
Temp should be above freezing to 6°C			······I		18.	contents:	3/74//40
Chain of Custody Present:	Yes		□n/a				
Chain of Custody Filled Out:	Yes	□No	□n/a		 		
Chain of Custody Relinquished:	Yes	□No	□n/a				
Sampler Name & Signature on COC:	Yes	□No	□n/a				
Short Hold Time Analysis (<72hr):	□Yes	ZNo	□n/a	5.			· · · · · · · · · · · · · · · · · · ·
Rush Turn Around Time Requested:	□Yes	ØN₀	□n/a	6.			
Containers Intact:	Yes	□No	□n/a	7.			
Sample Labels match COC:	□Yes	No	□n/a	8.	`	1	
-Includes date/time/ID/Analysis				S.X VO	As ore U	PRESVED TEE	ture HC1
All containers needing acid/base pres. have been checked?	□Yes	□No	ØN/A	9. (Cir			aOH HCI
exceptions: VOA, coliform, TOC, O&G							
All containers needing preservation are found to be in correcommendation (<2, >9, >12) unless otherwise noted.	mpliance v	vith EPA	`				
Headspace in VOA Vials (>6mm):	□Yes	No	□n/a	10.			
Trip Blank Present:	ZPres	□No	□N/A	11.			
Trip Blank Custody Seals Present	∕ ÓYes	□No	□N⁄A				
Project Manager Review							
Samples Arrived within Hold Time:	Ýes	□No	□n⁄a	12.			
Sufficient Volume:	Yes	□№	□N/A	13.			
Correct Containers Used:	yes	□No	□N⁄A	14.			- Company of the Comp
Client Notification/ Resolution:	7					Field Data Requ	ired? Y / N
Person Contacted:			_Date/1	ſime:			
Comments/ Resolution:							
							
							
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		/	-/-			·	6.) /
Project Manager Review:	114	(*	FIAN	#	·····	Date:	3/29/10
Project Wanager Review:	44/4	1		γ			4-117

Sample Container Count

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Project # 50954[7

Face Analytical"

Sample Line Item	DG9H AG1U WGFU AG0U R 4/6 BP2N BP2U BP2S BP3N	WGFU A		R 4/6	3 BP2N	↓ BP2	U BP	S BPS		EP3	S AG35	3 AG1F	H BP3C	BP1U	J SPST	Degr	BP3U BP3S AG3S AG1H BP3C BP1U SPST D&U pH<2 pH>12	pH>12	Comments	1
-																W.				
																3				
1 (N																			-
4	in											-								
5	3														-					
စ	~																			
7	2																			
8	3																			
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10	8									_										T
88 1	W																			
12	W																			
18	Container Codes	sep																ŀ		ſ
H69G	DG9H 40mL HCL amber voa vial	umber voa		AGOL	J 100m	if unpr	eserve	AGOU 100mL unpreserved amber g	r gl BP1N	1N 1 III	1 liter HNO3 plastic	3 plastic						DG9P	DG9P 40mL TSP amber vial	
AG10	1liter unpreserved amber gla AG1H 1 liter HCL amber glass	erved amb	er gla	AG1F	1 lite	고 라	amber	glass	BP	1S 1 III	BP1S 1 liter H2SO4 plastic	4 plasti	O					DG9S	DG9S 40mL H2SO4 amber vial	
WGFU	1	il jar		AG18	3 1 life	r H2S(24 amk	AG1S 1 liter H2SO4 amber glass	s BP1U	10 1 唯	1 liter unpreserved plastic	served	plastic					DG9T	DG9T 40mL Na Thio amber vial	
8				AG11	7 life	r Na T	hiosulfa	AG1T 1 liter Na Thiosulfate amber		12 1 lit	BP1Z 1 liter NaOH, Zn, Ac	ł, Zn, Aα	O					Dean	DG9U 40mL unpreserved amber vial	\neg
BP2N	500mL HNO3 plastic	3 plastic		AGZN	500m	n HN	03 amt	AG2N 500mL HNO3 amber glass		2A 500	BP2A 500mL NaOH, Asc Acid plastic	H, Asc.	Acid pla	stic					Wipe/Swab	_
BP2U	BP2U 500mL unpreserved plastic AG2S 500mL H2SO4 amber glass	eserved pla	astic	AG25	3 500n	nL H25	304 an	ther ala		20 500	BP20 500ml, NaOH plastic	H plasti	ن					JGFU	JGFU 4oz unpreserved amber wide	

VG9U | 40mL unpreserved clear vial VSG | Headspace septa vial & HCL WGFX 4oz wide jar w/hexane wipe VG9T | 40mL Na Thio. clear vial VG9H 40mL HCL clear vial U Summa Can ZPLC Ziploc Bag DG9B 40mL Na Bisulfate amber vial BP3Z 250mL NaOH, Zn Ac plastic BP1A 1 liter NaOH, Asc Acid plastid DG9M 40mL MeOH clear vial AG2U 500mL unpreserved amber g BP2Z 500mL NaOH, Zn Ac BP3C 250ml. NaOH plastic C Air Cassettes AF Air Filter AG3U 250mL unpreserved amber g AG3S | 250mL H2SO4 glass amber | BG1T | 1 liter Na Thiosulfate clear gl BG1S 1 liter H2SO4 clear glass BG1U 1 liter unpreserved glass BG1H 1 liter HCL clear glass BP3U 250mL unpreserved plastic AG1S 1 liter H2SO4 amber glass BP1U 1 liter unpreserved plastic BP3S 250mL H2SO4 plastic 500mL H2SO4 plastic 250mL HNO3 plastic BP2S BP3N

Page 53 of 54

F-IN-Q-270-rev.04,13Mar2014

Sample Container Count

5	-	
8	7	
,		
L L		
5	3	

4 40 COC PAGE 30C ID#

Project # 509/57/17

Face Analytical

Sample Line

nH <> nH>12											
C BP1U SPST											
BP3U BP3S AG3S AG1H BP3C BP1U SPST											
P2N BP2U BP2S											
-U AGOU R 4/6 B											
DG9H AG1U WGFU AG0U R 4/6 BP2N BP2U BP2S BP3N	2	~	3	~	~						
Item	~~	2	က	4	5	9	2	8	. 6	10	89

DG9H	40mL HCL amber voa vial	AGOL	DG9H 40mL HCL amber voa vial AG0U 100mL unpreserved amber gl BP1N 1 liter HNO3 plastic	BP1N	1 liter HNO3 plastic	DG9P	DG9P 40mL TSP amber vial
AG1U	AG1U 1liter unpreserved amber gla AG1H 1 liter HCL amber glass	IIA AG11	1 liter HCL amber glass	BP1S	BP1S 1 liter H2SO4 plastic	DG9S	DG9S 40ml H2SO4 amber vial
WGFU	WGFU 4oz clear soil jar	AG18	SS	BP1U	BP1U 1 liter unbreserved plastic	DG9T	DG9T 40ml Na Thio amber vial
2	terra core kit	AG11	mber	BP1Z	amber 6 BP1Z 1 liter NaOH, Zn. Ac	DG911	DG911 40ml inpreserved amber vial
BP2N	BP2N 500mL HNO3 plastic	AGZN	lass	BP2A	BP2A 500mL NaOH. Asc Acid plastic	-	Wine/Swah
BP2U	500mL unpreserved plastic	; AG28	glass	BP20	500ml. NaOH plastic	E	IGE 1 Any unpresented emberraide
BP2S	BP2S 500mL H2SO4 plastic	AGZL	AG2U 500mL unpreserved amber of BP2Z 500mL NaOH, Zh Ac	BP2Z	500mL NaOH, Zn Ac	2 =	Simma Can
BP3N	BP3N 250mL HNO3 plastic	AG3L	AG3U 250mL unpreserved amber of	Ą	mber g AF Air Filter	VG9H	VG9H 40ml HCl clear vial

Container Codes

VG9U 40mL unpreserved clear vial VSG Headspace septa vial & HCL WGFX 4oz wide jar w/hexane wipe

ZPLC Ziploc Bag

DG9B 40mL Na Bisulfate amber vial

BP1A 1 liter NaOH, Asc Acid plastid DG9M 40mL MeOH clear vial

BP3Z 250mL NaOH, Zn Ac plastic

C Air Cassettes

AG3S 250mL H2SO4 glass amber BG1T 1 liter Na Thiosulfate clear gl

BP3U 250mL unpreserved plastic | BG1H | 1 liter HCL clear glass

BP3S 250mL H2SO4 plastic

AG1S 1 liter H2SO4 amber glass | BG1U 1 liter unpreserved glass

1 liter unpreserved plastic

BP1U

BG1S 1 liter H2SO4 clear glass

BP3C 250mL NaOH plastic

AG3U | 250mL unpreserved amber g

VG9T | 40mL Na Thio. clear vial VG9H | 40mL HCL clear vial