

## TRANSMITTAL LETTER

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<b>To:</b> Michael Schmoller Project Manager Wisconsin Department of Natural Resources South Central Region 3911 Fish Hatchery Road Fitchburg, WI 53711	<b>Date:</b> August 29, 2017 <b>Project No:</b> 266431 Phase 4 <b>Project Name:</b> Madison-Kipp Corporation Groundwater and Soil Vapor Extraction and Treatment Systems BRRTS No. 02-13-558625 Facility ID No. 113125320
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**Via**  Mail     Courier     Overnight     Pick-up     Hand Delivered

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- Shop Drawings     Prints     Plans     Specifications  
 Copy of Letter     Change Order     Permits     Report

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1	08/29/2017	Operations, Monitoring, and Maintenance Semi-Annual Report for the period January 1, 2017 – June 30, 2017

- For your approval     For your review and comment     Returned for corrections  
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Enclosed is a hard copy of the Operations, Monitoring, and Maintenance Semi-Annual Report for the period of January 1, 2017 through June 30, 2017 for the Madison-Kipp Corporation. The file has been uploaded to the WDNR FTP site.

Please contact me at 608-826-3665 if you have any questions.

Sincerely,



Andrew Stehn  
Project Engineer

cc: Alina Satkoski – Madison-Kipp Corporation (electronic)



# **Operations, Monitoring, and Maintenance Semi-Annual Report**

**January 1, 2017 – June 30, 2017**

*Madison-Kipp Corporation  
Groundwater and Soil Vapor Extraction and Treatment Systems  
Facility ID No. 113125320, BRRTS No. 02-13-558625*

**August 2017**

A handwritten signature in black ink that reads 'Andrew Stehn'.

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Andrew Stehn, E.I.T.  
Project Engineer

A handwritten signature in black ink that reads 'Katherine A. Vater'.

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Katherine A. Vater, P.E.  
Project Manager

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# Section 1

## Introduction

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TRC Environmental Corp. (TRC), on behalf of Madison-Kipp Corp. (MKC), is reporting on the operation, monitoring, and maintenance (OM&M) of the groundwater and soil vapor extraction treatment systems at MKC's facility at 201 Waubesa Street, Madison, Wisconsin (Site).

### 1.1 Site Description

The Site is located in the southwest quarter of Section 5, Township 7 North, Range 10 East in Dane County, Wisconsin. The Site Location Map is shown on Figure 1. The Site is approximately 7.5 acres in area, with a 130,000 square foot building occupying much of the Site. The building has a basement and a second floor over part of the footprint. There is a second 6,000 square foot building in the northeast corner of the property, housing the Groundwater Extraction Treatment System (GETS) and storage. The remainder of the Site is predominately paved in asphalt for driveways and parking lots. The Site is zoned M-1 (industrial/manufacturing), and is currently operated as a metal die casting facility.

The Site is surrounded by a mix of commercial, industrial, and residential land use. The Site is bounded by the Capital City Bike Trail to the north, residences to the east, Atwood Avenue to the south, and Waubesa Street to the west. The Goodman Community Center is located to the north across the Capital City Bike Trail. Residences are located adjacent to the east and west sides of the Site. Commercial properties are located to the south.

The Site is located on the northeastern end of the Madison Isthmus, which is a narrow strip of land separating Lake Mendota and Lake Monona. The Site is approximately 1,500 feet north of Lake Monona and approximately 6,800 feet east of Lake Mendota. The topography of the Site is flat, with an elevation ranging from approximately 870 to 880 feet above mean sea level. The Site and surrounding areas are serviced by municipal water supply and sewer systems.

### 1.2 Site Background

Environmental investigation and remediation activities have been on-going at the Site since 1994. Investigation activities included defining the extent of tetrachloroethene (PCE) and, beginning in 2012, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs) and Resource Conservation and Recovery Act metals (RCRA Metals) in soil and/or groundwater. A complete summary of the project background, including the on-site and off-site investigations, is included in the 2015 Annual Report submitted to the Wisconsin

Department of Natural Resources (WDNR) on April 12, 2016 by Arcadis U.S., Inc. (Arcadis, 2016) and in previous reports referenced therein.

Active remediation systems at the Site include a Soil Vapor Extraction System (SVE) and a Groundwater Extraction Treatment System (GETS). The SVE system began permanent continuous operation in May 2013 and has been operating since then. In 2015, Arcadis completed the installation of the GETS at the Site and conducted testing from July 2015 start-up through December 2015. During the start-up period, the system was operated at its 45 gallon per minute (gpm) capacity, but was occasionally offline for system optimization and equipment repairs/modification. The GETS has operated full-time since January 2016.

### 1.3 Offsite Sub-slab Depressurization System Inspections

MKC currently completes annual inspections of off-site sub-slab depressurization systems installed at five properties along Marquette Street. Annual inspections were completed at the five properties during the 2017 calendar year.

### 1.4 Purpose and Scope

On-going OM&M activities are completed to monitor the status of soil gas and groundwater conditions at the Site and to ensure the treatment systems are operating as designed and in compliance with regulatory standards. OM&M activities include: GETS operation and monthly/quarterly Discharge Monitoring Reports, SVE operation, and quarterly/semi-annual Site groundwater monitoring. The purpose of this Semi-Annual Report is to provide documentation of OM&M activities performed between January 1 and June 30, 2017. An Annual Report for the second-half of 2017, including annual Site soil gas monitoring, will be prepared in early 2018.

This Semi-Annual Report describes:

- GETS OM&M,
- SVE OM&M,
- Groundwater Monitoring, and
- Conclusions and Recommendations.

# Section 2

## GETS OM&M

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MKC is operating a GETS system for extraction and treatment of PCE-impacted groundwater. The system was installed in 2015 and is described in detail in Groundwater Extraction and Treatment System (GETS) Construction Documentation Report (Arcadis, 2015c).

### 2.1 System Operation

Over the period of January 1 through June 30, 2017, the GETS was generally operated at 45 gpm. The extraction and transfer pumps for the GETS contain variable speed frequency drives that fluctuate based on liquid levels in the equalization and mixing tank along with the air stripper liquid level. At times the flow will fluctuate above and below the design rate over a few days' time, however, the overall weekly to monthly flow rate is generally consistent.

In addition, the flow rate was adjusted occasionally to 40 gpm while repairs were made to the SVE system. The vapors extracted from the SVE system are combined with vapors generated from the air stripper for the GETS operation and treated by two 2,000 pound activated carbon vessels installed in series. To ensure proper operation of the air stripper, a booster blower is installed downstream of the stripper to overcome back pressure from the SVE system. At times when the SVE system shuts down, the water level in the air stripper increases due to lack of back pressure downstream of the blower. The booster blower during this time can pull water from the top portion of the air stripper into the vapor phase carbon vessels.

Intermittently during the reporting period while the SVE system was down, the extraction pump was operated at 40 gpm to keep water from being extracted from the upper portion of the air stripper. Once the SVE system was repaired the flow was adjusted back to 45 gpm. In total during this reporting period, the GETS was operated at 40 gpm for approximately 18 days.

The GETS system was occasionally shut down due to routine maintenance and repairs. During this reporting period the following GETS repairs and maintenance tasks were completed:

- the pressure transducer (LT-121) located on the mixing tank (T-101) was repaired;
- the sequestrate metering pump was repaired;
- minor shut downs occurred due to system faults related to air bubbles in the peroxide feed line, the pump was primed and the system was restarted;

- valve seals were repaired on select valves between the effluent discharge point on the activated carbon lag vessel and the effluent stack; and
- the air stripper unit was cleaned.

The location of the extraction well (GWE-1) for the GETS is identified on Figure 2. MKC personnel complete weekly monitoring of the GETS and an operations summary table is included in Table 1.

A total of approximately 11,206,390 gallons of groundwater were treated between January 1, 2017 and June 30, 2017. During this reporting period approximately 147 pounds of VOCs were removed. From the start of the system through the end of June 2017, approximately 500 pounds of VOCs have been removed through operation of the GETS. A trend plot depicting the cumulative VOCs removed over time since the start-up of the GETS system is included in Trend Plot A.1 of Appendix A. In addition, the trend plot showing PCE concentration verses time for the groundwater extraction well (GWE-1) is include in Trend Plot A.2 of Appendix A. Additional system operation information is noted in the attached Remediation Site Operation, Maintenance, Monitoring, and Optimization Report Form 4400-194 in Appendix B.

## 2.2 Monthly Discharge Monitoring Reports

MKC submits monthly Discharge Monitoring Reports (DMRs) required for the system operation and discharge permit (Wisconsin Pollution Discharge Elimination System (WPDES) Permit number WI-0046566-6). The DMRs for January through June 2017 were submitted to the WDNR on February 7, 2017, March 10, 2017, April 4, 2017, May 11, 2017, June 9, 2017, and July 12, 2017 with their respective laboratory analytical reports. A copy of the last submittal from the June 2017 monitoring event is included in Appendix C. There were no exceedances of the permit limits during the first half of 2017.

For performance monitoring and permit compliance, MKC personnel collect samples of the extracted groundwater (GETS influent) and treated groundwater (GETS effluent) on a monthly basis. Table 2 provides the influent and effluent laboratory analytical results for this reporting period. On March 14, 2017, Madison-Kipp submitted a request to decrease sampling for select parameters from monthly to quarterly (TRC, 2017a). The WDNR approved this request via email on April 27, 2017. Approval was provided to reduce the sampling of oil and grease, biological oxygen demand, total suspended solids, chloride, and select polycyclic aromatic hydrocarbons from monthly monitoring to quarterly. On June 23, 2017, the WDNR clarified that benzo(a)pyrene will also be included in the parameters to be sampled quarterly. Volatile organic compounds (VOCs) and visual monitoring for sodium permanganate will continue to be monitored on a monthly basis. Based on the March 2017 WDNR approvals, MKC began

implementing the new DMR sampling program in May of 2017. The additional WDNR approval obtained in June 2017 along with the March 2017 approvals will be followed going forward for future monitoring of the system.

## 2.3 Monthly Vapor Sampling

The SVE system and GETS produce gases which are combined and treated with granular activated carbon (GAC) for removal of vapor-phase volatile organic compounds (VOCs). The GAC influent and GAC effluent gas are sampled on a monthly basis for performance and compliance monitoring. An analytical summary table with influent and effluent results are included in Table 3 and the laboratory analytical reports are included in Appendix D. The influent and effluent concentration of total VOCs compared to time, is provided in Trend Plot A.3 in Appendix A. An emission rate was calculated based on the effluent analytical results and combined system flow rate; and results were compared to NR 445 and NR 406. No regulatory standards for effluent emissions from the combined systems were exceeded. Tables 4 through 8 include a summary of the monthly emission rates for total VOCs, PCE, trichloroethene (TCE), cis-1,2, dichloroethene (cis-1,2-DCE), and vinyl chloride (VC) for this reporting period.

TRC completed an assessment of the influent and effluent concentrations of VOCs to evaluate the GAC component of the treatment system. The evaluation concluded that the activated carbon is approaching the end of its life as PCE continues to be reduced effectively but breakdown products (e.g. TCE, cis-1,2-DCE, and VC) are not being reduced as effectively, although they are still reduced to below applicable standards. During this evaluation, loading rates for total VOCs, PCE, TCE, cis-1,2-DCE, and VC were calculated based on the influent results (pre-carbon treatment). Currently, with the GETS and SVE systems in operation together, the gas concentrations measured pre-carbon treatment are below the established NR 445 and NR 406 regulatory standards. A summary of these calculations are included in Table 9 through 13. Depending on the future operation of the SVE system and emissions from the GETS only, the GAC will continue to be evaluated and potentially removed from the system if no longer required based on emissions.



# Section 3

## SVE OM&M

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MKC is operating an SVE system for extraction and treatment of shallow soil vapor on the east-northeast portion of the Site. The system began permanent operation in May 2013 and has been in operation since.

### 3.1 System Operation

The SVE system was operated on a continuous basis during this reporting period, with the exception of occasional maintenance shut-downs to complete general maintenance and repairs. During this reporting period, the transfer pump and level switches for the system vapor liquid separator required repairs to ensure continued operation of the SVE system. Repairs to both components were required intermittently between January and March 2017 and toward the end of June 2017.

Weekly system operation readings are obtained by MKC personnel and a summary of the operational parameters are included in Table 14. VOCs were monitored in the gas removed from each soil vapor extraction well on a monthly basis using a Photoionization Detector (PID). Readings were generally reported less than one parts per million (ppm) during this reporting period with the exception of select monitoring events. Slight increases in VOCs were observed at times at extraction well SVE-3 and SVE-4. However, concentrations remained low with readings ranging between 1.0 and 2.7 ppm.

### 3.2 Monthly Vapor Sampling

The treatment and sampling of the gases removed from the SVE are described in Section 2.3. The SVE influent (consisting of combined gas extracted from nine SVE wells) was monitored in September and December of 2016 and in March and May of 2017 to determine the removal rates of VOCs from the system. This was completed as an initial step to phasing out the SVE system from site operations. A concentration versus time trend plot for the combined influent is included in Appendix E for reference. In review of the historical data along with the 2016 and 2017 monitoring, there appears to be episodic valleys that occur followed by increases in total VOC concentrations. The influent concentrations of VOCs have fluctuated since 2013 but over the last year concentrations have remained fairly low with removal rates ranging between 0.0002 to 0.002 pounds per hour of removal. This removal rate may be biased slightly high as the total VOC summation includes the concentrations of all detected parameters and half the detection limit for all parameters reported below the detection limit. Based on the data

collected between September 2016 and May 2017 the current removal rate of the system ranges between 1.8 to 21 pounds per year but on average would equate to approximately 7 pounds per year as very low concentrations are observed more frequently throughout the year. A table summarizing the SVE combined influent concentrations and loading rates between 2016 and 2017 is included in Appendix E.

The soil gas monitoring completed on an annual basis, which was last completed in July 2016, was reviewed to determine if phasing out the SVE system would have an effect on soil gas migration at the site. The results through 2016 were included in the 2016 Operations, Monitoring, and Maintenance Semi-annual Report (TRC, 2017b). Overall, results collected from the vapor probes currently in the annual monitoring program indicate that PCE, TCE, and cis-1,2 DCE are present at the site. However, VP-102 is the only location where residential exceedences for deep soil gas have been reported in recent years. No exceedences of chlorinated VOCs for non-residential deep soil gas have been reported. Soil vapor extraction well SVE-2 is located in close proximity to VP-102 (approximately 15 feet – Figure E-1 of Appendix E). PID readings collected on a monthly basis from this extraction well have not indicated significant VOC concentrations over the last two years and generally have been observed at concentrations less than one part per million (ppm). The only concentrations recorded above one ppm were observed in April and October of 2016 (1.6 and 6.2 ppm, respectively).

Additional system operation information is noted in the attached Remediation Site Operation, Maintenance, Monitoring, and Optimization Report Form 4400-194 in Appendix B.

# Section 4

## Groundwater Monitoring

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Water level gauging and groundwater sampling at the Site for the first half of the 2017 calendar year was conducted as described in the 2016 Operations, Monitoring, and Maintenance Semi-annual Report (TRC, 2017b) and as summarized in Table 15. On March 7, 2017, TRC on behalf of MKC requested a modification to the performance monitoring program outlined in the Proposed Modification to Performance Monitoring Plan letter (TRC, 2017c). The WDNR concurrence was provided on March 30, 2017 to reduce performance monitoring from quarterly to semi-annual. Based on the timing of the request and approval, the January and April monitoring events were completed. However performance monitoring for the remainder of the 2017 calendar year and going forward will be completed as outlined in the letter (TRC, 2017c) and as summarized in Table 16.

### 4.1 Monitoring Well Network and Sampling Program

The Site contains 42 monitoring wells, 4 multi-port wells, and one operational groundwater extraction well. The wells are installed in unconsolidated units and/or bedrock and their locations are shown on Figure 2. The Site's near-surface geology consists of two unconsolidated units consisting of fill material and glacially-derived deposits, which overlie three bedrock formations (Lone Rock, Wonewoc, and Eau Claire). Further information on the site geology is included in the 2014 Annual Report (Arcadis, 2015a) and in previous reports referenced therein.

Groundwater in 14 monitoring wells and 2 multi-port well intervals was sampled for field and chemical analysis in January and April 2017 per the requirements provided in the GETS Performance Monitoring Plan (Arcadis, 2015b). As part of the monitoring program, GWE-1 was sampled in accordance with the monthly permit compliance. These monitoring wells were sampled to evaluate the effectiveness of the GETS operation which was installed to remove VOCs from the groundwater and provide hydraulic containment to minimize off-site migration.

### 4.2 Groundwater Flow Conditions

Water levels in 42 Site monitoring wells and 20 multi-port well intervals were gauged on January 18, 2017 and April 10, 2017. The groundwater elevations are summarized in Table 17, and the April 2017 water table map and potentiometric surface maps for the Lower Lone Rock formation and Upper Wonewoc formation are shown on Figures 3 through 5. Overall, the groundwater elevations and the direction of groundwater flow in 2017 are generally consistent

with historical observations. The extraction well (GWE-1) has a local influence on flow within the Lower Lone Rock and Upper Wonewoc formations, as shown in Figures 4 and 5.

Groundwater flow at the water table coverages toward the site from the north and west with some possible influence from GWE-1. The groundwater flows within the Lower Lone Rock and Upper Wonewoc were easterly with influence towards the groundwater extraction well, GWE-1.

### 4.3 Groundwater Sampling Results

Groundwater samples from the monitoring wells and associated quality control samples were analyzed for VOCs and geochemical field parameters. The results from the groundwater sampling to date are included in Table 18 and the laboratory analytical reports for the January and April 2017 monitoring events are included in Appendix F. Figure 6 includes the results for the April 2017 monitoring event.

Isoconcentration maps for PCE were created for the Lower Lone Rock and Upper Wonewoc, Figures 7 and 8, respectively. The contours are based on the data set collected during the April monitoring event. October 2016 data was used in conjunction with April 2017 data for interpretation as noted on Figures 7 and 8.

Based on the laboratory analytical results for the January and April monitoring events, groundwater quality within the majority of the monitored wells was consistent with historical results. Monitoring wells within close proximity to GWE-1 continue to show a decrease in PCE and breakdown products TCE and cis-1,2-DCE concentrations compared to historical results. However, select wells did show some variation from the previous year's monitoring, as summarized below.

- Monitoring well MW-9D2 showed a decrease in PCE from the previous monitoring events with a reported concentration of 5.5 µg/L as of April 2017 compared to 58 µg/L in April 2016 and 61 µg/L reported in October of 2016.
- During the January 2017 monitoring event, site monitoring well MW-6D showed an increase in benzene from the previous 2016 monitoring events with a concentration of 2,100 µg/L reported. However, this concentration is within historical reported detections for this well where benzene ranged from 2,100 µg/L to 3,900 µg/L between 2009 and 2011. Results from the April 2017 monitoring event showed a decrease in benzene to 1700 µg/L, which is comparable to results reported during the latter part of 2016. Chlorinated VOCs concentrations at MW-6D were comparable to 2016 concentrations.
- Of the wells monitored during the January and April 2017 monitoring events, MW-5D contained the highest reported detection for PCE in January. However, in April the

concentration had decreased significantly from 3,500 µg/L to 190 µg/L. The concentration over time for MW-5D is depicted in Trend Plot A.4 of Appendix A. During the first reporting period for the 2016 groundwater monitoring, MW-17 contained the highest PCE concentration of the wells sampled. A trend plot (A.5) for this well is also included in Appendix A and indicates an overall decrease from the 2016 monitoring.

Continued sampling will provide further information in reference to the effectiveness of the GETS and Site wide groundwater quality. A more extensive round of groundwater monitoring is planned for October 2017 as indicated in Table 16.



# Section 5

## Conclusions and Recommendations

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### 5.1 Conclusions

The OM&M activities for the SVE and GETS were completed as required at the Site during this reporting period. Both systems operated continuously throughout this reporting period, with the exception of routine maintenance, minor repairs for the GETS, and vapor-liquid separator pump and switch repairs for the SVE system.

Site groundwater monitoring was completed in January and April 2017. As additional monitoring events are completed, further data and concentration verses time analyses will be completed to continue to evaluate the effectiveness of the GETS. As of July 2017, the GETS will have been operated for approximately two years with system troubleshooting being completed during the first six months of operation, and regular operation beginning in approximately January 2016.

The operation of the SVE system continues to be assessed to determine the effectiveness of the system. The system has been in permanent continuous operation for over four years. System influent monitoring indicates that concentrations have decreased since the initial start-up of the permanent system (May 2013). However, episodic valleys followed by increases in VOC concentrations have been observed since startup. During the second part of 2016 and first part of 2017, MKC conducted quarterly monitoring of the SVE system influent and results indicate that the VOC removal rate per year is low, based on average removal rates, indicating that the system may no longer be required because significant mass removal is no longer being achieved. In evaluation of the soil gas monitoring completed at the site, VP-102 is the only well that currently contains exceedences of the residential deep soil gas vapor action levels and no vapor probes currently in the sampling program contain exceedences of the non-residential vapor action levels. Based on the diminishing removal rates for VOCs, MKC and TRC recommend that system operation be phased out over the next year, pending further evaluation to be completed during the second portion of the 2017 calendar year.

The GAC component of the GETS and SVE air treatment system was evaluated and based on current influent concentrations (pre-carbon treatment), the GAC treatment of vapors may not be required. TRC compared the influent and effluent results over the past few months and the current carbon within the adsorption system is potentially reaching the end of its intended life. MKC will further evaluate, as described below, and present recommendations regarding the necessity, or not, of the GAC component of the treatment system.

Continued evaluation of the gases generated by the SVE and GETS will be completed for the remainder of 2017, including continued sampling of the influent and effluent from each of the systems, and the addition of sampling the influent gas from the GETS to evaluate how the SVE operation (including volume, concentration, and pressure) influences the combined pre-GAC vapor from both systems. If concentrations of VOCs from exclusively the GETS influent samples requires the adsorption system, a change out in the carbon will be considered. However, timing of the carbon change out evaluation will also be based on the SVE system operation and monitoring data as well.

Overall groundwater monitoring indicates that the groundwater quality at the Site is consistent with historical results with the exception of select monitoring wells within the influence of the groundwater extraction well, where groundwater quality is improving (for example MW-3D2 has decreased from 2,200 µg/L reported in October of 2015 to 2.3 B µg/L in April 2017). The GETS is operating as intended to remove chlorinated VOCs from the groundwater beneath the Site.

## 5.2 Recommendations

Based on the results of the January through June 2017 OM&M, the following work is planned for the remainder of the 2017 calendar year:

- GETS operation;
- SVE operation and potential phase out;
- Activated Carbon Treatment System Evaluation;
- Compliance monitoring;
- Groundwater monitoring (October 2017);
- Soil-Gas monitoring (July 2017); and
- Annual report preparation.

Recommended changes to Site OM&M program for the remainder of 2017:

- TRC recommends that the SVE system to be phased out of use at the site. Based on the system evaluation to date, TRC recommends that the influent gas from the SVE system be monitored in September 2017 to verify that the total VOC concentrations being removed remains low and that an episodic increase does not occur as previously seen. Assuming this is verified and that removal rates remain low, MKC and TRC recommend adjusting the system to operation of only soil vapor extraction well SVE-2, which is in close proximity to VP-102. The soil gas recovered from extraction well SVE-2 will be monitored after one month of operation to determine if the SVE system is recovering vapors from this area. Over the same period, VP-102 will also be sampled and results from the July 2017 soil gas

monitoring and this one additional sample will be evaluated. During this modified operation of the SVE, TRC will assess the radius of influent of extraction well SVE-2 as well. Following these modifications and pending the results, TRC and MKC will evaluate the potential shutdown of the entire system and follow up with the WDNR with further recommendations. Modifications to the SVE system operation will be completed following WDNR concurrence. Note that any adjustments to the SVE system may require slight adjustments to the GETS operation during this time due to the interrelated operation of the vapor-phase carbon treatment and associated blowers.

- TRC recommends that the influent gas (pre-carbon treatment) from the GETS (not combined with the SVE) be monitored for the remainder of the 2017 calendar year. This monitoring will be completed in conjunction with the combined influent and effluent monitoring currently being completed on a monthly basis. Sampling is proposed to start in September 2017.

No additional Site OM&M program changes are planned for the remainder of 2017 although the following monitoring and operational parameters are being considered for the 2018 Site OM&M program.

- Assuming consistent GETS operations:
  - The treatment of gases produced through the GETS air stripping process will continue to be evaluated to determine if the carbon adsorption system can be removed from the GETS.
  - Review the required sampling frequency for the influent and effluent air emissions.
- Evaluation of the annual soil gas sampling program will also be completed pending the SVE system evaluation and potential phase out/shutdown process.

## Section 6 References

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Arcadis U.S., Inc. 2015a. *2014 Annual Report, Madison-Kipp Corporation, 201 Waubesa Street, Madison, Wisconsin.* March 2015.

Arcadis U.S., Inc. 2015b. *GETS Performance Monitoring Plan, Madison-Kipp Corporation, 201 Waubesa Street, Madison, Wisconsin.* July 2015.

Arcadis U.S., Inc. 2015c. *Groundwater Extraction and Treatment System (GETS) Construction Documentation Report, Madison-Kipp Corporation, 201 Waubesa Street, Madison, Wisconsin.* November 19, 2015.

Arcadis U.S., Inc. 2016. *2015 Annual Report, Madison-Kipp Corporation, 201 Waubesa Street, Madison, Wisconsin.* April 12, 2016.

TRC Environmental Corporation. 2017a. *WPDES Discharge Monitoring Report – Request for Change to Groundwater Extraction and Treatment System Monitoring Frequency, 201 Waubesa Street, Madison, Wisconsin.* March 14, 2017.

TRC Environmental Corporation. 2017b. *Operations, Monitoring, and Maintenance Semi-annual Report, 201 Waubesa Street, Madison, Wisconsin.* March 7, 2017.

TRC Environmental Corporation. 2017c. *Proposed Modification to Performance Monitoring Plan, 201 Waubesa Street, Madison, Wisconsin.* March 7, 2017.

Table 1  
 Summary of Groundwater Extraction System Operation and Mass Removal  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE		GROUNDWATER DISCHARGED THIS PERIOD (gal)	CUMULATIVE GROUNDWATER DISCHARGED (gal) <sup>(1)</sup>	AVERAGE DISCHARGE FLOW RATE <sup>(2),(5)</sup> (gpd)	AVERAGE DISCHARGE FLOW RATE <sup>(2),(5)</sup> (gpm)	INFLUENT SAMPLE RESULTS <sup>(3)</sup>	EFFLUENT SAMPLE RESULTS <sup>(3)</sup>	CUMULATIVE VOCs REMOVED <sup>(1),(4)</sup> (pounds)	COMMENTS
						VOCs (µg/L)	VOCs (µg/L)		
1/18/2016	1/18/2016 9:00	--	--	--	--	2,555	69.7	61	Flow data not recorded during this monitoring event.
1/27/2016	1/27/2016 13:20	666,450	5,350,050	--	--	NS	NS	75	
2/1/2016	2/1/2016 9:15	--	--	--	--	NS	NS	75	Flow data not recorded during this monitoring event.
2/8/2016	2/8/2016 8:00	--	--	--	--	2,300	68.4	75	
2/15/2016	2/15/2016 9:45	1,178,785	6,528,835	62,533	43	NS	NS	97	
2/23/2016	2/23/2016 12:15	453,980	6,982,815	56,018	39	NS	NS	110	
3/3/2016	3/3/2016 8:30	531,175	7,513,990	60,062	42	NS	NS	120	
3/7/2016	3/7/2016 14:00	190,490	7,704,480	45,042	31	2,500	65.3	120	
3/14/2016	3/14/2016 7:30	433,705	8,138,185	64,452	45	NS	NS	130	
3/21/2016	3/21/2016 8:00	388,195	8,526,380	55,292	38	NS	NS	140	
3/28/2016	3/28/2016 13:15	326,345	8,852,725	45,208	31	NS	NS	140	
4/6/2016	4/6/2016 9:40	565,330	9,418,055	63,874	44	2,000	58.21	150	
4/11/2016	4/11/2016 10:50	327,170	9,745,225	64,804	45	NS	NS	160	
4/18/2016	4/18/2016 7:15	429,400	10,174,625	62,680	44	NS	NS	160	
4/26/2016	4/26/2016 7:45	472,575	10,647,200	58,918	41	NS	NS	170	
5/4/2016	5/4/2016 7:50	--	--	--	--	1,700	60.9	170	
5/11/2016	5/11/2016 10:45	635,230	11,282,430	41,999	29	NS	NS	180	
5/20/2016	5/20/2016 12:00	468,230	11,750,660	51,726	36	NS	NS	190	
5/24/2016	5/24/2016 7:10	246,075	11,996,735	64,780	45	NS	NS	190	
6/1/2016	6/1/2016 9:30	511,105	12,507,840	63,121	44	NS	NS	200	
6/7/2016	6/7/2016 7:15	380,890	12,888,730	64,489	45	1,500	57.4	200	
6/14/2016	6/14/2016 7:45	--	--	--	--	NS	NS	200	HMI screen frozen no reading obtained.
6/21/2016	6/21/2016 7:30	842,590	13,731,320	60,140	42	NS	NS	210	
6/27/2016	6/27/2016 7:45	389,565	14,120,885	64,815	45	NS	NS	220	
7/6/2016	7/6/2016 8:00	--	--	--	--	NS	NS	220	Data not recorded during this monitoring event.
7/15/2016	7/15/2016 15:00	1,182,265	15,303,150	64,597	45	NS	NS	230	
7/20/2016	7/20/2016 8:55	123,630	15,426,780	26,046	18	1600	63.3	230	
7/27/2016	7/27/2016 7:15	449,060	15,875,840	64,794	45	NS	NS	240	
8/1/2016	8/1/2016 14:40	343,730	16,219,570	64,744	45	NS	NS	240	
8/8/2016	8/8/2016 7:45	434,195	16,653,765	64,691	45	1200	61.2	250	
8/15/2016	8/15/2016 9:40	459,545	17,113,310	64,909	45	NS	NS	250	
8/26/2016	8/26/2016 8:15	498,840	17,612,150	45,594	32	NS	NS	260	
8/30/2016	8/30/2016 8:45	168,360	17,780,510	41,872	29	NS	NS	260	
9/9/2016	9/9/2016 12:50	634,280	18,414,790	62,367	43	1600	67.2	270	
9/12/2016	9/12/2016 10:15	185,810	18,600,600	64,242	45	NS	NS	270	
9/20/2016	9/20/2016 7:30	511,500	19,112,100	64,867	45	NS	NS	270	
9/26/2016	9/26/2016 13:00	403,245	19,515,345	64,735	45	NS	NS	280	
10/3/2016	10/3/2016 9:30	443,180	19,958,525	64,658	45	NS	NS	280	
10/10/2016	10/10/2016 7:30	437,200	20,395,725	63,210	44	1600	54.8	290	
10/17/2016	10/17/2016 10:45	446,078	20,841,803	62,516	43	NS	NS	300	
10/24/2016	10/24/2016 10:45	452,453	21,294,256	64,636	45	NS	NS	300	
11/1/2016	11/1/2016 8:50	506,599	21,800,855	63,963	44	NS	NS	310	
11/7/2016	11/7/2016 10:00	--	--	--	--	1600	66.7	310	Meter reading recorded not consistent with previous collected data.
11/14/2016	11/14/2016 9:15	835,124	22,635,979	64,155	45	NS	NS	320	
11/21/2016	11/21/2016 7:00	--	--	--	--	NS	NS	320	Meter reading recorded not consistent with previous collected data.
11/28/2016	--	--	--	--	--	NS	NS	320	System readings were not collected due to operational issues.
12/7/2016	12/7/2016 11:20	1,243,258	23,879,237	53,851	37	1700	52.5	340	
12/13/2016	12/13/2016 9:37	382,715	24,261,952	64,555	45	NS	NS	340	
12/19/2016	12/19/2016 13:00	397,035	24,658,987	64,653	45	NS	NS	350	
1/3/2017	1/3/2017 8:38	944,964	25,603,951	63,771	44	NS	NS	360	



Table 1  
 Summary of Groundwater Extraction System Operation and Mass Removal  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE		GROUNDWATER DISCHARGED THIS PERIOD (gal)	CUMULATIVE GROUNDWATER DISCHARGED (gal) <sup>(1)</sup>	AVERAGE DISCHARGE FLOW RATE <sup>(2),(5)</sup> (gpd)	AVERAGE DISCHARGE FLOW RATE <sup>(2),(5)</sup> (gpm)	INFLUENT SAMPLE RESULTS <sup>(3)</sup>	EFFLUENT SAMPLE RESULTS <sup>(3)</sup>	CUMULATIVE VOCs REMOVED <sup>(1),(4)</sup> (pounds)	COMMENTS
						VOCs (µg/L)	VOCs (µg/L)		
1/9/2017	1/9/2017 10:51	394,587	25,998,538	64,768	45	NS	NS	370	
1/12/2017	1/12/2017 6:05	--	--	--	--	1300.68	40.5	370	Meter reading recorded not consistent with previously collected data.
1/18/2017	1/18/2017 9:47	421,197	26,419,735	47,032	33	NS	NS	370	
1/23/2017	1/23/2017 10:42	307,663	26,727,398	61,066	42	NS	NS	370	
2/1/2017	2/1/2017 9:16	486,760	27,214,158	54,446	38	NS	NS	380	
2/3/2017	2/3/2017 13:34	150,647	27,364,805	69,131	48	NS	NS	380	
2/6/2017	2/6/2017 10:33	146,526	27,511,331	50,978	35	NS	NS	380	
2/8/2017	2/8/2017 9:21	131,514	27,642,845	67,443	47	1500	54.9	380	
2/14/2017	2/14/2017 8:30	352,504	27,995,349	59,100	41	NS	NS	390	
2/20/2017	2/20/2017 8:34	388,540	28,383,889	64,727	45	NS	NS	390	
2/27/2017	2/27/2017 12:19	463,373	28,847,262	64,751	45	NS	NS	400	
3/6/2017	3/6/2017 10:52	449,356	29,296,618	64,753	45	NS	NS	400	
3/7/2017	3/7/2017 7:15	57,496	29,354,114	67,698	47	1423	55.7	400	
3/14/2017	3/14/2017 8:58	452,518	29,806,632	63,992	44	NS	NS	410	
3/20/2017	3/20/2017 9:02	383,484	30,190,116	63,884	44	NS	NS	410	
3/27/2017	3/27/2017 8:46	452,348	30,642,464	64,724	45	NS	NS	420	
4/4/2017	4/4/2017 7:30	514,456	31,156,920	64,734	45	NS	NS	420	
4/6/2017	4/6/2017 7:15	149,260	31,306,180	75,021	52	1602.5	51.68	430	
4/10/2017	4/10/2017 10:44	247,792	31,553,972	59,779	42	NS	NS	430	
4/18/2017	4/18/2017 8:56	512,951	32,066,923	64,726	45	NS	NS	440	
4/24/2017	4/24/2017 11:00	393,893	32,460,816	64,720	45	NS	NS	440	
5/5/2017	5/5/2017 7:00	709,794	33,170,610	65,519	45	NS	NS	450	Samples collected on 5/10/2017
5/8/2017	5/8/2017 10:16	180,186	33,350,796	57,455	40	1702.3	46.45	450	
5/17/2017	5/17/2017 8:22	577,297	33,928,093	64,713	45	NS	NS	460	
5/22/2017	5/22/2017 7:41	321,721	34,249,814	64,713	45	NS	NS	470	
6/1/2017	6/1/2017 9:15	651,253	34,901,067	64,703	45	NS	NS	470	
6/5/2017	6/5/2017 12:30	267,544	35,168,611	64,696	45	NS	NS	480	
6/7/2017	6/7/2017 11:45	86,214	35,254,825	43,791	30	2256	66.7	480	
6/13/2017	6/13/2017 13:04	291,476	35,546,301	48,139	33	NS	NS	480	
6/20/2017	--	446,376	35,992,677	--	--	NS	NS	490	The time of reading was not recorded during this monitoring event.
6/26/2017	6/26/2017 10:56	388,950	36,381,627	30,125	21	NS	NS	500	

**Notes:**

The total gallons treated and VOCs removed by the GETS prior to January 2016 is further discussed in the 2015 Annual Report (ARCADIS, April, 2016).  
 The GETS was shutdown between January 1 and 14, 2016 for groundwater extraction pump repairs. The system was restarted on January 14, 2016.  
 Between January 14, 2016 through June 30, 2016 the GETS periodically shut down for peroxide tank change out, sequesterant drum change out, peroxide dedicated tank installation, and routine maintenance.  
 Between July 1, 2016 through December 31, 2016 the GETS was periodically shutdown for transfer pump replacement, meter pump resetting, and routine maintenance.  
 -- = Field reading recorded is not consistent with previous collected data and not used for calculations or system issues did not allow a reading to be obtained.  
 VOCs = Volatile Organic Compounds  
 WDNR = Wisconsin Department of Natural Resources  
 WPDES = Wisconsin Pollution Discharge Elimination System  
 DMR = Discharge Monitoring Report  
 GETS - Groundwater Extraction and Treatment System

Updated By: B. Wachholz 6/27/2017  
 Checked By: L. Auner 6/27/2017

**Footnotes:**

1. The cumulative groundwater treated through December 31, 2015 was 4,683,600 gallons and cumulative VOCs removed through December 31, 2015 was 61 pounds, as reported in the 2015 Annual Report (ARCADIS, April 2016).
2. The GETS standard operation is 45 gpm. The average discharge flow rate calculations noted take into account system down time and are based on volume of groundwater extracted and time elapsed between monitoring events.
3. Analytical laboratory reports were submitted to the WDNR each month during this reporting period with the WPDES DMR submittal (Permit WI-0046566-6).
4. Compliance sampling is completed on a monthly basis. For weeks where samples were not collected the previously obtained sampling data was used for cumulative VOCs calculations.
5. The extraction and transfer pumps for the GETS contain variable speed frequency drives that fluctuate based on liquid levels in the equalization and mixing tank along with the air stripper liquid level. At times the flow will fluctuate and readings collected over a few days time may reflect bias results for the overall system operation.





Table 3  
 Combined SVE and GETS Gas Analytical Data - January 1, 2016 - June 30, 2017  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

SAMPLE DATE	1/18/2016		2/8/2016		3/7/2016		4/6/2016		5/4/2016		6/7/2016		7/20/2016		8/8/2016		9/9/2016	
	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT
Vinyl Chloride	<7.2	<b>1.9</b>	<3.7	<2.2	<2.2	<b>2.2</b>	<16	<b>3.4</b>	<14	<2.0	<16	<2.2	<20	<7.8	<16	<3.3	<7.2	<5.2
1,1-Dichloroethene	<7.2	<1.6	<3.7	<2.2	<2.2	<1.3	<16	<b>1.8</b>	<14	<2.0	<16	<2.2	<20	<7.8	<16	<3.3	<7.2	<5.2
cis-1,2-Dichloroethene	<b>640</b>	<b>220</b>	<b>220</b>	<b>130</b>	<b>150</b>	<b>460</b>	<b>480</b>	<b>360</b>	<b>530</b>	<b>430</b>	<b>440</b>	<b>450</b>	<b>530</b>	<b>1900</b>	<b>600</b>	<b>1100</b>	<b>350</b>	<b>1300</b>
Benzene	<7.2	<b>1.8</b>	<3.7	<2.2	<2.2	<1.3	<16	<1.3	<14	<2.0	<16	<2.2	<20	<7.8	<16	<3.3	<7.2	<5.2
Trichloroethene	<b>370</b>	<b>20</b>	<b>130</b>	<b>23</b>	<b>78</b>	<b>13</b>	<b>400</b>	<b>15</b>	<b>340</b>	<b>16</b>	<b>400</b>	<b>17</b>	<b>440</b>	<b>48</b>	<b>550</b>	<b>39</b>	<b>390</b>	<b>32</b>
Toluene	<7.2	<1.6	<b>25</b>	<2.2	<2.2	<1.3	<16	<b>3</b>	<14	<2.0	<16	<b>18</b>	<20	<7.8	<16	<3.3	<7.2	<5.2
Tetrachloroethene	<b>2400</b>	<b>340</b>	<b>1100</b>	<b>340</b>	<b>690</b>	<b>140</b>	<b>4100</b>	<b>200</b>	<b>3100</b>	<b>180</b>	<b>3700</b>	<b>180</b>	<b>3500</b>	<b>130</b>	<b>3900</b>	<b>160</b>	<b>2000</b>	<b>140</b>
Ethyl Benzene	<7.2	<1.6	<3.7	<2.2	<2.2	<1.3	<16	<b>15</b>	<14	<2.0	<16	<2.2	<20	<7.8	<16	<3.3	<7.2	<5.2
m,p-Xylene	<7.2	<1.6	<3.7	<2.2	<2.2	<1.3	<b>28</b>	<b>72</b>	<14	<b>2.2</b>	<16	<b>2.4</b>	<20	<7.8	<16	<3.3	<7.2	<5.2
o-Xylene	<7.2	<1.6	<3.7	<2.2	<2.2	<1.3	<16	<b>32</b>	<14	<2.0	<16	<2.2	<20	<7.8	<16	<3.3	<7.2	<5.2
1,3,5-Trimethylbenzene	<7.2	<1.6	<3.7	<2.2	<b>8.9</b>	<1.3	<16	<b>3.8</b>	<14	<2.0	<16	<2.2	<20	<7.8	<16	<3.3	<7.2	<5.2
1,2,4-Trimethylbenzene	<7.2	<1.6	<3.7	<2.2	<b>42</b>	<b>7.8</b>	<16	<b>9.1</b>	<14	<2.0	<16	<2.2	<20	<7.8	<16	<3.3	<7.2	<5.2

**Notes:**

All concentrations in this table are reported in ppbv unless otherwise noted.

All samples were analyzed using Method TO-15 and the analytes shown in the table are from the VOC analyte list. Only analytes that were detected in at least one sample are shown in the table. A complete list of constituents analyzed are included in the laboratory analytical reports.

< = Constituent not detected above noted laboratory method detection limit.

**Bold** = Constituent detected above laboratory detection limit.

SVE = Soil vapor extraction

GETS = Groundwater extraction and treatment system

ppbv = parts per billion by volume

VOCs = Volatile Organic Compounds

Table 3  
 Combined SVE and GETS Gas Analytical Data - January 1, 2016 - June 30, 2017  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

SAMPLE DATE	10/10/2016		11/7/2016		12/7/2016		1/17/2017		2/8/2017		3/7/2017		4/6/2017		5/5/2017		6/7/2017	
	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT	INFLUENT	EFFLUENT
Vinyl Chloride	<2.7	<1.3	<12	<2.4	<5.7	<2.0	<11	<b>3.8</b>	<23	<b>2.8</b>	<6.0	<b>3.3</b>	<8.4	<b>2.9</b>	<2.5	<2.4	<13	<b>3.0</b>
1,1-Dichloroethene	<2.7	<1.3	<12	<2.4	<5.7	<2.0	<11	<1.7	<23	<1.1	<6.0	<1.6	<8.4	<1.2	<2.5	<2.4	<13	<1.6
cis-1,2-Dichloroethene	<b>230</b>	<b>160</b>	<b>570</b>	<b>710</b>	<b>640</b>	<b>500</b>	<b>1100</b>	<b>670</b>	<b>1100</b>	<b>460</b>	<b>700</b>	<b>510</b>	<b>680</b>	<b>500</b>	<b>260</b>	<b>420</b>	<b>610</b>	<b>240</b>
Benzene	<2.7	<1.3	<12	<2.4	<5.7	<2.0	<11	<1.7	<23	<1.1	<6.0	<1.6	<8.4	<1.2	<2.5	<2.4	<13	<1.6
Trichloroethene	<b>130</b>	<b>35</b>	<b>470</b>	<b>110</b>	<b>460</b>	<b>130</b>	<b>880</b>	<b>300</b>	<b>1000</b>	<b>340</b>	<b>440</b>	<b>210</b>	<b>420</b>	<b>410</b>	<b>240</b>	<b>400</b>	<b>520</b>	<b>200</b>
Toluene	<2.7	<b>4.0</b>	<b>13</b>	<b>6.5</b>	<5.7	<b>3.5</b>	<11	<b>14</b>	<23	<b>3.9</b>	<6.0	<b>8.8</b>	<8.4	<b>6.6</b>	<b>4.5</b>	<b>5.9</b>	<13	<1.6
Tetrachloroethene	<b>1000</b>	<b>350</b>	<b>3100</b>	<b>150</b>	<b>1800</b>	<b>230</b>	<b>3200</b>	<b>210</b>	<b>5300</b>	<b>300</b>	<b>1400</b>	<b>280</b>	<b>2200</b>	<b>140</b>	<b>810</b>	<b>230</b>	<b>2500</b>	<b>240</b>
Ethyl Benzene	<2.7	<1.3	<12	<2.4	<5.7	<2.0	<11	<1.7	<23	<1.1	<6.0	<1.6	<8.4	<1.2	<2.5	<2.4	<13	<1.6
m,p-Xylene	<2.7	<b>1.8</b>	<12	<b>6.8</b>	<5.7	<b>2.0 J</b>	<11	<b>2.4</b>	<23	<b>2.2</b>	<6.0	<b>4.2</b>	<8.4	<b>2.2</b>	<2.5	<2.4	<13	<1.6
o-Xylene	<2.7	<1.3	<12	<2.4	<5.7	<2.0	<11	<1.7	<23	<1.1	<6.0	<1.6	<8.4	<1.2	<2.5	<2.4	<13	<1.6
1,3,5-Trimethylbenzene	<2.7	<1.3	<12	<2.4	<5.7	<2.0	<11	<1.7	<23	<1.1	<6.0	<1.6	<8.4	<1.2	<2.5	<2.4	<13	<1.6
1,2,4-Trimethylbenzene	<2.7	<1.3	<12	<2.4	<5.7	<2.0	<11	<1.7	<23	<1.1	<6.0	<1.6	<8.4	<1.2	<2.5	<2.4	<13	<1.6

**Notes:**

All concentrations in this table are reported in ppbv unless otherwise noted.

All samples were analyzed using Method TO-15 and the analytes shown in the table are from the VOC analyte list. Only analytes that were detected in at least one sample are shown in the table. A complete list of constituents analyzed are included in the laboratory analytical reports.

< = Constituent not detected above noted laboratory method detection limit.

**Bold** = Constituent detected above laboratory detection limit.

SVE = Soil vapor extraction

GETS = Groundwater extraction and treatment system

ppbv = parts per billion by volume

VOCs = Volatile Organic Compounds

Updated by: L. Auner 7/26/2017

Checked by: B. Perk 7/26/2017



Table 4  
 Estimate of GAC Effluent Emissions - Total Volatile Organic Compounds  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE	TOTAL VOC CONCENTRATION <sup>(1)(2)</sup>	SYSTEM FLOW RATE <sup>(3)</sup>	EMISSION RATE <sup>(4)</sup>
	µg/m <sup>3</sup>	CFM	lb/hr
1/18/2016	3500	389.4	5.2E-03
2/8/2016	3300	362.2	4.5E-03
3/7/2016	3100	364.1	4.2E-03
4/6/2016	3700	363.8	5.0E-03
5/4/2016	3300	361.0	4.5E-03
6/7/2016	3500	354.9	4.7E-03
7/20/2016	9900	359.6	1.3E-02
8/8/2016	6400	354.1	8.5E-03
9/9/2016	7100	346.9	9.2E-03
10/10/2016	3500	361.1	4.7E-03
11/7/2016	4900	357.8	6.5E-03
12/7/2016	4600	366.9	6.3E-03
1/17/2017	6000	376.7	8.4E-03
2/8/2017	5800	375.3	8.2E-03
3/7/2017	5400	355.8	7.2E-03
4/6/2017	5400	352.6	7.1E-03
5/5/2017	5800	353.8	7.7E-03
6/7/2017	3900	358.1	5.3E-03
<b>Average Emission Rate<sup>(5)</sup> =</b>			<b>6.7E-03</b>
<b>NR 406 Emission Threshold =</b>			<b>5.7</b>
			<b>lb/hr</b>
			<b>lb/hr</b>

**Notes:**

VOCs = Volatile Organic Compounds  
 SVE = Soil Vapor Extraction  
 GETS = Groundwater extraction and treatment system.  
 CFM = cubic feet per minute  
 µg/m<sup>3</sup> = micrograms per cubic meters  
 lb/hr = pounds per hour

Updated by: L. Auner 7/26/2017  
 Checked by: B. Perk 7/26/2017

**Footnotes:**

- As of 7/14/2015 the vapors recovered from the SVE system and the GETS operation were combined and are treated through a vapor-phase activated carbon system. An influent and effluent vapor sample is collected each month and analyzed using Method TO-15. The total VOC concentration listed is representative of the effluent sample collected post treatment of the SVE and GETS operations.
- Total VOC concentrations were calculated based on analytes reported above and below the method reporting limit. For detected analytes, the reported concentrations were used. For all other analytes detected below the method reporting limit, half of the reporting limit was used.
- The system flow rate is a combined air flow rate from both the GETS and SVE system and is measured using flow meter FIT-201 which measures total flow from the activated carbon system.
- Emission rates were calculated based on the product of the monthly concentration and monthly system flow rate.
- Average Emission Rate is an average based on samples collected between January 2016 and June 2017.

Table 5  
 Estimate of GAC Effluent Gas Emissions for Tetrachloroethene  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE	TOTAL PCE CONCENTRATION <sup>(1)(2)</sup>	SYSTEM FLOW RATE <sup>(3)</sup>	EMISSION RATE <sup>(4)</sup>	PERCENT OF NR 445 EMISSION THRESHOLD
	µg/m <sup>3</sup>	CFM	lb/hr	%
1/18/2016	2300	389.4	3.4E-03	9.5E-03
2/8/2016	2300	362.2	3.1E-03	8.8E-03
3/7/2016	980	364.1	1.3E-03	3.8E-03
4/6/2016	1400	363.8	1.9E-03	5.4E-03
5/4/2016	1200	361.0	1.6E-03	4.6E-03
6/7/2016	1200	354.9	1.6E-03	4.5E-03
7/20/2016	890	359.6	1.2E-03	3.4E-03
8/8/2016	1100	354.1	1.5E-03	4.1E-03
9/9/2016	950	346.9	1.2E-03	3.5E-03
10/10/2016	2400	361.1	3.2E-03	9.2E-03
11/7/2016	1000	357.8	1.3E-03	3.8E-03
12/7/2016	1500	366.9	2.1E-03	5.8E-03
1/17/2017	1400	376.7	2.0E-03	5.6E-03
2/8/2017	2000	375.3	2.8E-03	7.9E-03
3/7/2017	1900	355.8	2.5E-03	7.2E-03
4/6/2017	930	352.6	1.2E-03	3.5E-03
5/5/2017	1600	353.8	2.1E-03	6.0E-03
6/7/2017	1600	358.1	2.1E-03	6.1E-03
<b>Average Emission Rate<sup>(5)</sup> =</b>			<b>2.0E-03</b>	<b>lb/hr</b>
<b>NR 445 Emission Threshold =</b>			<b>35.4</b>	<b>lb/hr</b>

**Notes:**

PCE = Tetrachloroethene  
 SVE = Soil Vapor Extraction  
 GETS = Groundwater extraction and treatment system.  
 CFM = cubic feet per minute  
 µg/m<sup>3</sup> = micrograms per cubic meters  
 lb/hr = pounds per hour

Updated by: L. Auner 7/26/2017  
 Checked by: B. Perk 7/26/2017

**Footnotes:**

- As of 7/14/2015 the vapors recovered from the SVE system and the GETS operation were combined and are treated through a vapor-phase activated carbon system. An influent and effluent vapor sample is collected each month and analyzed using Method TO-15. The PCE concentration listed is representative of the effluent sample collected post treatment of the SVE and GETS operations.
- The PCE concentration reported in the effluent sample was used for emission calculations. If the concentration was reported below the method reporting limit, half of the reporting limit was used for calculations.
- The system flow rate is a combined air flow rate from both the GETS and SVE system and is measured using flow meter FIT-201 which measures total flow from the activated carbon system.
- Emission rates were calculated based on the product of the monthly concentration and monthly system flow rate.
- Average Emission Rate is an average based on samples collected between January 2016 and June 2017.

Table 6  
 Estimate of GAC Effluent Gas Emissions for Trichloroethene  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE	TCE CONCENTRATION <sup>(1)(2)</sup>	SYSTEM FLOW RATE <sup>(3)</sup>	EMISSION RATE <sup>(4)</sup>	PERCENT OF NR 445 EMISSION THRESHOLD
	µg/m <sup>3</sup>	CFM	lb/hr	%
1/18/2016	110	389.4	1.6E-04	2.9E-04
2/8/2016	120	362.2	1.6E-04	2.9E-04
3/7/2016	71	364.1	9.7E-05	1.7E-04
4/6/2016	81	363.8	1.1E-04	2.0E-04
5/4/2016	85	361.0	1.1E-04	2.0E-04
6/7/2016	91	354.9	1.2E-04	2.2E-04
7/20/2016	260	359.6	3.5E-04	6.2E-04
8/8/2016	210	354.1	2.8E-04	5.0E-04
9/9/2016	170	346.9	2.2E-04	3.9E-04
10/10/2016	190	361.1	2.6E-04	4.6E-04
11/7/2016	600	357.8	8.0E-04	1.4E-03
12/7/2016	700	366.9	9.6E-04	1.7E-03
1/17/2017	1600	376.7	2.3E-03	4.0E-03
2/8/2017	1800	375.3	2.5E-03	4.5E-03
3/7/2017	1200	355.8	1.6E-03	2.9E-03
4/6/2017	2200	352.6	2.9E-03	5.2E-03
5/5/2017	2100	353.8	2.8E-03	5.0E-03
6/7/2017	1100	358.1	1.5E-03	2.6E-03
<b>Average Emission Rate<sup>(5)</sup> =</b>			<b>9.6E-04</b>	<b>lb/hr</b>
<b>NR 445 Emission Threshold =</b>			<b>56.1</b>	<b>lb/hr</b>

**Notes:**

TCE = Trichloroethene  
 SVE = Soil Vapor Extraction  
 GETS = Groundwater extraction and treatment system.  
 CFM = cubic feet per minute  
 µg/m<sup>3</sup> = micrograms per cubic meters  
 lb/hr = pounds per hour

Updated by: L. Auner 7/26/2017  
 Checked by: B. Perk 7/26/2017

**Footnotes:**

- As of 7/14/2015 the vapors recovered from the SVE system and the GETS operation were combined and are treated through a vapor-phase activated carbon system. An influent and effluent vapor sample is collected each month and analyzed using Method TO-15. The TCE concentration listed is representative of the effluent sample collected post treatment of the SVE and GETS operations.
- The TCE concentration reported in the effluent sample was used for emission calculations. If the concentration was reported below the method reporting limit, half of the reporting limit was used for calculations.
- The system flow rate is a combined air flow rate from both the GETS and SVE system and is measured using flow meter FIT-201 which measures total flow from the activated carbon system.
- Emission rates were calculated based on the product of the monthly concentration and monthly system flow rate.
- Average Emission Rate is an average based on samples collected between January 2016 and June 2017.

Table 7  
 Estimate of GAC Effluent Gas Emissions for Cis-1,2-Dichloroethene  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE	CIS-1,2-DCE CONCENTRATION <sup>(1)(2)</sup>	SYSTEM FLOW RATE <sup>(3)</sup>	EMISSION RATE <sup>(4)</sup>	PERCENT OF NR 445 EMISSION THRESHOLD
	µg/m <sup>3</sup>	CFM	lb/hr	%
1/18/2016	860	389.4	1.3E-03	7.6E-04
2/8/2016	530	362.2	7.2E-04	4.3E-04
3/7/2016	1800	364.1	2.5E-03	1.5E-03
4/6/2016	1400	363.8	1.9E-03	1.1E-03
5/4/2016	1700	361.0	2.3E-03	1.4E-03
6/7/2016	1800	354.9	2.4E-03	1.4E-03
7/20/2016	7400	359.6	1.0E-02	6.0E-03
8/8/2016	4500	354.1	6.0E-03	3.6E-03
9/9/2016	5100	346.9	6.6E-03	4.0E-03
10/10/2016	620	361.1	8.4E-04	5.1E-04
11/7/2016	2800	357.8	3.8E-03	2.3E-03
12/7/2016	2000	366.9	2.7E-03	1.7E-03
1/17/2016	2600	376.7	3.7E-03	2.2E-03
2/8/2017	1800	375.3	2.5E-03	1.5E-03
3/7/2017	2000	355.8	2.7E-03	1.6E-03
4/6/2017	2000	352.6	2.6E-03	1.6E-03
5/5/2017	1700	353.8	2.3E-03	1.4E-03
6/7/2017	960	358.1	1.3E-03	7.8E-04
<b>Average Emission Rate<sup>(5)</sup> =</b>			<b>3.1E-03</b>	<b>lb/hr</b>
<b>NR 445 Emission Threshold =</b>			<b>166</b>	<b>lb/hr</b>

**Notes:**

cis-1,2-DCE = cis-1,2-Dichloroethene  
 SVE = Soil Vapor Extraction  
 GETS = Groundwater extraction and treatment system.  
 CFM = cubic feet per minute  
 µg/m<sup>3</sup> = micrograms per cubic meters  
 lb/hr = pounds per hour

Updated by: L. Auner 7/26/2017  
 Checked by: B. Perk 7/26/2017

**Footnotes:**

- As of 7/14/2015 the vapors recovered from the SVE system and the GETS operation were combined and are treated through a vapor-phase activated carbon system. An influent and effluent vapor sample is collected each month and analyzed using Method TO-15. The Cis,1,2-DCE concentration listed is representative of the effluent sample collected post treatment of the SVE and GETS operations.
- The cis-1,2-DCE concentration reported in the effluent sample was used for emission calculations. If the concentration was reported below the method reporting limit, half of the reporting limit was used for calculations.
- The system flow rate is a combined air flow rate from both the GETS and SVE system and is measured using flow meter FIT-201 which measures total flow from the activated carbon system.
- Emission rates were calculated based on the product of the monthly concentration and monthly system flow rate.
- Average Emission Rate is an average based on samples collected between January 2016 and June 2017.

Table 8  
 Estimate of GAC Effluent Gas Emissions for Vinyl Chloride  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE	VINYL CHLORIDE CONCENTRATION <sup>(1)(2)</sup>	SYSTEM FLOW RATE <sup>(3)</sup>	EMISSION RATE <sup>(4)</sup>	EMISSION RATE <sup>(4)</sup>	PERCENT OF NR 445 EMISSION THRESHOLD
	µg/m <sup>3</sup>	CFM	lb/hr	lb/yr	%
1/18/2016	5.0	389.4	7.3E-06	6.4E-02	7.7E-03
2/8/2016	2.9	362.2	3.9E-06	3.4E-02	4.2E-03
3/7/2016	5.7	364.1	7.8E-06	6.8E-02	8.2E-03
4/6/2016	8.8	363.8	1.2E-05	1.1E-01	1.3E-02
5/4/2016	2.6	361	3.5E-06	3.1E-02	3.7E-03
6/7/2016	2.85	354.9	3.79E-06	3.32E-02	4.00E-03
7/20/2016	10.00	359.6	1.35E-05	1.18E-01	1.42E-02
8/8/2016	4.20	354.1	5.57E-06	4.88E-02	5.88E-03
9/9/2016	6.50	346.9	8.45E-06	7.40E-02	8.91E-03
10/10/2016	1.65	361.1	2.23E-06	1.95E-02	2.36E-03
11/7/2016	3.05	357.8	4.09E-06	3.58E-02	4.31E-03
12/7/2016	2.6	366.9	3.57E-06	3.13E-02	3.77E-03
1/17/2016	9.8	376.7	1.38E-05	1.21E-01	1.46E-02
2/8/2017	7.2	375.3	1.01E-05	8.87E-02	1.07E-02
3/7/2017	8.4	355.8	1.12E-05	9.81E-02	1.18E-02
4/6/2017	7.3	352.6	9.64E-06	8.45E-02	1.02E-02
5/5/2017	3.1	353.8	4.11E-06	3.60E-02	4.34E-03
6/7/2017	7.6	358.1	1.02E-05	8.93E-02	1.08E-02
<b>Average Emission Rate<sup>(5)</sup> =</b>				<b>6.6E-02</b>	<b>lb/yr</b>
<b>NR 445 Emission Threshold =</b>			<b>--</b>	<b>830</b>	<b>lb/yr</b>

**Notes:**

VC = Vinyl Chloride  
 SVE = Soil Vapor Extraction  
 GETS = Groundwater extraction and treatment system.  
 CFM = cubic feet per minute  
 µg/m<sup>3</sup> = micrograms per cubic meters  
 lb/hr = pounds per hour  
 lb/yr = pounds per year

Updated by: L. Auner 7/26/2017  
 Checked by: B. Perk 7/26/2017

**Footnotes:**

- As of 7/14/2015 the vapors recovered from the SVE system and the GETS operation were combined and are treated through a vapor-phase activated carbon system. An influent and effluent vapor sample is collected each month and analyzed using Method TO-15. The VC concentration listed is representative of the effluent sample collected post treatment of the SVE and GETS operations.
- The VC concentration reported in the effluent sample was used for emission calculations. If the concentration was reported below the method reporting limit, half of the reporting limit was used for calculations.
- The system flow rate is a combined air flow rate from both the GETS and SVE system and is measured using flow meter FIT-201 which measures total flow from the activated carbon system.
- Emission rates were calculated based on the product of the monthly concentration and monthly system flow rate.
- Average Emission Rate is an average based on samples collected between January 2016 and June 2017.

Table 9  
 Estimate of GAC Influent Gas Rate - Total Volatile Organic Compounds  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE	TOTAL VOC CONCENTRATION <sup>(1)(2)</sup>	SYSTEM FLOW RATE <sup>(3)</sup>	EMISSION RATE <sup>(4)</sup>
	µg/m <sup>3</sup>	CFM	lb/hr
1/18/2016	21700	389.4	3.2E-02
2/8/2016	9600	362.2	1.3E-02
3/7/2016	6300	364.1	8.6E-03
4/6/2016	34800	363.8	4.7E-02
5/4/2016	27300	361.0	3.7E-02
6/7/2016	31700	354.9	4.2E-02
7/20/2016	32000	359.6	4.3E-02
8/8/2016	34200	354.1	4.5E-02
9/9/2016	17700	346.9	2.3E-02
10/10/2016	9100	361.1	1.2E-02
11/7/2016	27900	357.8	3.7E-02
12/7/2016	18000	366.9	2.5E-02
1/17/2017	33100	376.7	4.7E-02
2/8/2017	50300	375.3	7.1E-02
3/7/2017	15400	355.8	2.1E-02
4/6/2017	21400	352.6	2.8E-02
5/5/2017	8200	353.8	1.1E-02
6/7/2017	24400	358.1	3.3E-02
<b>Average Emission Rate<sup>(5)</sup> =</b>			<b>3.2E-02</b>
<b>NR 406 Emission Threshold =</b>			<b>5.7</b>
			<b>lb/hr</b>
			<b>lb/hr</b>

**Notes:**

VOCs = Volatile Organic Compounds  
 SVE = Soil Vapor Extraction  
 GETS = Groundwater extraction and treatment system.  
 CFM = cubic feet per minute  
 µg/m<sup>3</sup> = micrograms per cubic meters  
 lb/hr = pounds per hour

Created by: L. Auner 7/27/2017  
 Checked by: B. Perk 08/10/2017

**Footnotes:**

- As of 7/14/2015 the vapors recovered from the SVE system and the GETS operation were combined and are treated through a vapor-phase activated carbon system. An influent and effluent vapor sample is collected each month and analyzed using Method TO-15. The total VOC concentration listed is representative of the influent sample collected pre treatment of the SVE and GETS operations.
- Total VOC concentrations were calculated based on analytes reported above and below the method reporting limit. For detected analytes, the reported concentrations were used. For all other analytes detected below the method reporting limit, half of the reporting limit was used.
- The system flow rate is a combined air flow rate from both the GETS and SVE system and is measured using flow meter FIT-201 which measures total flow from the activated carbon system.
- Emission rates were calculated based on the product of the monthly concentration and monthly system flow rate.
- Average Emission Rate is an average based on samples collected between January 2016 and June 2017.

Table 10  
 Estimate of GAC Influent Gas Rate for Tetrachloroethene  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE	TOTAL PCE CONCENTRATION <sup>(1)(2)</sup>	SYSTEM FLOW RATE <sup>(3)</sup>	EMISSION RATE <sup>(4)</sup>	PERCENT OF NR 445 EMISSION THRESHOLD
	µg/m <sup>3</sup>	CFM	lb/hr	%
1/18/2016	16000	389.4	2.3E-02	6.6E-02
2/8/2016	7300	362.2	9.9E-03	2.8E-02
3/7/2016	4700	364.1	6.4E-03	1.8E-02
4/6/2016	28000	363.8	3.8E-02	1.08E-01
5/4/2016	21000	361.0	2.8E-02	8.0E-02
6/7/2016	25000	354.9	3.3E-02	9.4E-02
7/20/2016	24000	359.6	3.2E-02	9.1E-02
8/8/2016	26000	354.1	3.4E-02	9.7E-02
9/9/2016	13000	346.9	1.7E-02	4.8E-02
10/10/2016	7000	361.1	9.5E-03	2.7E-02
11/7/2016	21000	357.8	2.8E-02	8.0E-02
12/7/2016	12000	366.9	1.6E-02	4.7E-02
1/17/2017	22000	376.7	3.1E-02	8.8E-02
2/8/2017	36000	375.3	5.1E-02	1.43E-01
3/7/2017	9300	355.8	1.2E-02	3.5E-02
4/6/2017	15000	352.6	2.0E-02	5.6E-02
5/5/2017	5500	353.8	7.3E-03	2.1E-02
6/7/2017	17000	358.1	2.3E-02	6.4E-02
<b>Average Emission Rate<sup>(5)</sup> =</b>			<b>2.3E-02</b>	<b>lb/hr</b>
<b>NR 445 Emission Threshold =</b>			<b>35.4</b>	<b>lb/hr</b>

**Notes:**

PCE = Tetrachloroethene  
 SVE = Soil Vapor Extraction  
 GETS = Groundwater extraction and treatment system.  
 CFM = cubic feet per minute  
 µg/m<sup>3</sup> = micrograms per cubic meters  
 lb/hr = pounds per hour

Created by: L. Auner 7/27/2017  
 Checked by: B. Perk 8/10/2017

**Footnotes:**

- As of 7/14/2015 the vapors recovered from the SVE system and the GETS operation were combined and are treated through a vapor-phase activated carbon system. An influent and effluent vapor sample is collected each month and analyzed using Method TO-15. The PCE concentration listed is representative of the influent sample collected pre treatment of the SVE and GETS operations.
- The PCE concentration reported in the influent sample was used for emission calculations. If the concentration was reported below the method reporting limit, half of the reporting limit was used for calculations.
- The system flow rate is a combined air flow rate from both the GETS and SVE system and is measured using flow meter FIT-201 which measures total flow from the activated carbon system.
- Emission rates were calculated based on the product of the monthly concentration and monthly system flow rate.
- Average Emission Rate is an average based on samples collected between January 2016 and June 2017.

Table 11  
 Estimate of GAC Influent Gas Rate for Trichloroethene  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE	TCE CONCENTRATION <sup>(1)(2)</sup>	SYSTEM FLOW RATE <sup>(3)</sup>	EMISSION RATE <sup>(4)</sup>	PERCENT OF NR 445 EMISSION THRESHOLD
	µg/m <sup>3</sup>	CFM	lb/hr	%
1/18/2016	2000	389.4	2.9E-03	5.2E-03
2/8/2016	710	362.2	9.6E-04	1.7E-03
3/7/2016	420	364.1	5.7E-04	1.0E-03
4/6/2016	2200	363.8	3.0E-03	5.3E-03
5/4/2016	1800	361.0	2.4E-03	4.3E-03
6/7/2016	2200	354.9	2.9E-03	5.2E-03
7/20/2016	2400	359.6	3.2E-03	5.8E-03
8/8/2016	3000	354.1	4.0E-03	7.1E-03
9/9/2016	2100	346.9	2.7E-03	4.9E-03
10/10/2016	720	361.1	9.7E-04	1.7E-03
11/7/2016	2500	357.8	3.4E-03	6.0E-03
12/7/2016	2400	366.9	3.3E-03	5.9E-03
1/17/2017	4700	376.7	6.6E-03	1.2E-02
2/8/2017	5700	375.3	8.0E-03	1.4E-02
3/7/2017	2300	355.8	3.1E-03	5.5E-03
4/6/2017	2300	352.6	3.0E-03	5.4E-03
5/5/2017	1300	353.8	1.7E-03	3.1E-03
6/7/2017	2800	358.1	3.8E-03	6.7E-03
<b>Average Emission Rate<sup>(5)</sup> =</b>			<b>3.2E-03</b>	<b>lb/hr</b>
<b>NR 445 Emission Threshold =</b>			<b>56.1</b>	<b>lb/hr</b>

**Notes:**

TCE = Trichloroethene  
 SVE = Soil Vapor Extraction  
 GETS = Groundwater extraction and treatment system.  
 CFM = cubic feet per minute  
 µg/m<sup>3</sup> = micrograms per cubic meters  
 lb/hr = pounds per hour

Created by: L. Auner 7/27/2017  
 Checked by: B. Perk 8/10/2017

**Footnotes:**

- As of 7/14/2015 the vapors recovered from the SVE system and the GETS operation were combined and are treated through a vapor-phase activated carbon system. An influent and effluent vapor sample is collected each month and analyzed using Method TO-15. The TCE concentration listed is representative of the influent sample collected pre treatment of the SVE and GETS operations.
- The TCE concentration reported in the influent sample was used for emission calculations. If the concentration was reported below the method reporting limit, half of the reporting limit was used for calculations.
- The system flow rate is a combined air flow rate from both the GETS and SVE system and is measured using flow meter FIT-201 which measures total flow from the activated carbon system.
- Emission rates were calculated based on the product of the monthly concentration and monthly system flow rate.
- Average Emission Rate is an average based on samples collected between January 2016 and June 2017.



Table 12  
 Estimate of GAC Influent Gas Rate for Cis-1,2-Dichloroethene  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE	CIS-1,2-DCE CONCENTRATION <sup>(1)(2)</sup>	SYSTEM FLOW RATE <sup>(3)</sup>	EMISSION RATE <sup>(4)</sup>	PERCENT OF NR 445 EMISSION THRESHOLD
	µg/m <sup>3</sup>	CFM	lb/hr	%
1/18/2016	2500	389.4	3.6E-03	2.2E-03
2/8/2016	880	362.2	1.2E-03	7.2E-04
3/7/2016	610	364.1	8.3E-04	5.0E-04
4/6/2016	1900	363.8	2.6E-03	1.6E-03
5/4/2016	2100	361.0	2.8E-03	1.7E-03
6/7/2016	1800	354.9	2.4E-03	1.4E-03
7/20/2016	2100	359.6	2.8E-03	1.7E-03
8/8/2016	2400	354.1	3.2E-03	1.9E-03
9/9/2016	1400	346.9	1.8E-03	1.1E-03
10/10/2016	910	361.1	1.2E-03	7.4E-04
11/7/2016	2300	357.8	3.1E-03	1.9E-03
12/7/2016	2600	366.9	3.6E-03	2.2E-03
1/17/2017	4500	376.7	6.3E-03	3.8E-03
2/8/2017	4600	375.3	6.5E-03	3.9E-03
3/7/2017	2800	355.8	3.7E-03	2.2E-03
4/6/2017	2700	352.6	3.6E-03	2.1E-03
5/5/2017	1000	353.8	1.3E-03	8.0E-04
6/7/2017	2400	358.1	3.2E-03	1.9E-03
<b>Average Emission Rate<sup>(5)</sup> =</b>			<b>3.1E-03</b>	<b>lb/hr</b>
<b>NR 445 Emission Threshold =</b>			<b>166</b>	<b>lb/hr</b>

**Notes:**

cis-1,2-DCE = cis-1,2-Dichloroethene  
 SVE = Soil Vapor Extraction  
 GETS = Groundwater extraction and treatment system.  
 CFM = cubic feet per minute  
 µg/m<sup>3</sup> = micrograms per cubic meters  
 lb/hr = pounds per hour

Created by: L. Auner 7/27/2017  
 Checked by: B. Perk 8/10/2017

**Footnotes:**

- As of 7/14/2015 the vapors recovered from the SVE system and the GETS operation were combined and are treated through a vapor-phase activated carbon system. An influent and effluent vapor sample is collected each month and analyzed using Method TO-15. The Cis,1,2-DCE concentration listed is representative of the influent sample collected pre treatment of the SVE and GETS operations.
- The cis-1,2-DCE concentration reported in the influent sample was used for emission calculations. If the concentration was reported below the method reporting limit, half of the reporting limit was used for calculations.
- The system flow rate is a combined air flow rate from both the GETS and SVE system and is measured using flow meter FIT-201 which measures total flow from the activated carbon system.
- Emission rates were calculated based on the product of the monthly concentration and monthly system flow rate.
- Average Emission Rate is an average based on samples collected between January 2016 and June 2017.

Table 13  
 Estimate of GAC Influent Gas Rate for Vinyl Chloride  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE	VINYL CHLORIDE CONCENTRATION <sup>(1)(2)</sup>	SYSTEM FLOW RATE <sup>(3)</sup>	EMISSION RATE <sup>(4)</sup>	EMISSION RATE <sup>(4)</sup>	PERCENT OF NR 445 EMISSION THRESHOLD
	µg/m <sup>3</sup>	CFM	lb/hr	lb/yr	%
1/18/2016	9.0	389.4	1.3E-05	1.1E-01	1.4E-02
2/8/2016	4.7	362.2	6.4E-06	5.6E-02	6.7E-03
3/7/2016	2.8	364.1	3.8E-06	3.3E-02	4.0E-03
4/6/2016	20.0	363.8	2.7E-05	2.4E-01	2.9E-02
5/4/2016	18.0	361	2.4E-05	2.1E-01	2.6E-02
6/7/2016	20.5	354.9	2.7E-05	2.39E-01	2.88E-02
7/20/2016	26.0	359.6	3.5E-05	3.07E-01	3.70E-02
8/8/2016	20.5	354.1	2.7E-05	2.38E-01	2.87E-02
9/9/2016	9.0	346.9	1.2E-05	1.02E-01	1.23E-02
10/10/2016	3.4	361.1	4.6E-06	4.03E-02	4.85E-03
11/7/2016	15.5	357.8	2.1E-05	1.82E-01	2.19E-02
12/7/2016	7.0	366.9	9.6E-06	8.43E-02	1.02E-02
1/17/2016	14.0	376.7	2.0E-05	1.73E-01	2.08E-02
2/8/2017	30.0	375.3	4.2E-05	3.69E-01	4.45E-02
3/7/2017	7.5	355.8	1.0E-05	8.76E-02	1.05E-02
4/6/2017	10.5	352.6	1.4E-05	1.21E-01	1.46E-02
5/5/2017	3.2	353.8	4.2E-06	3.71E-02	4.48E-03
6/7/2017	16.5	358.1	2.2E-05	1.94E-01	2.34E-02
<b>Average Emission Rate<sup>(5)</sup> =</b>				<b>1.6E-01</b>	<b>lb/yr</b>
<b>NR 445 Emission Threshold =</b>				<b>--</b>	<b>830</b>
				<b>lb/yr</b>	

**Notes:**

VC = Vinyl Chloride  
 SVE = Soil Vapor Extraction  
 GETS = Groundwater extraction and treatment system.  
 CFM = cubic feet per minute  
 µg/m<sup>3</sup> = micrograms per cubic meters  
 lb/hr = pounds per hour  
 lb/yr = pounds per year

Created by: L. Auner 7/27/2017  
 Checked by: B. Perk 8/10/2017

**Footnotes:**

- As of 7/14/2015 the vapors recovered from the SVE system and the GETS operation were combined and are treated through a vapor-phase activated carbon system. An influent and effluent vapor sample is collected each month and analyzed using Method TO-15. The VC concentration listed is representative of the influent sample collected pre treatment of the SVE and GETS operations.
- The VC concentration reported in the influent sample was used for emission calculations. If the concentration was reported below the method reporting limit, half of the reporting limit was used for calculations.
- The system flow rate is a combined air flow rate from both the GETS and SVE system and is measured using flow meter FIT-201 which measures total flow from the activated carbon system.
- Emission rates were calculated based on the product of the monthly concentration and monthly system flow rate.
- Average Emission Rate is an average based on samples collected between January 2016 and June 2017.

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-1	1/18/2016	-74.8	18.2	0.0
SVE-1	1/27/2016	-68.0	15.0	--
SVE-1	2/1/2016	-68.0	18.4	--
SVE-1	2/8/2016	-81.6	18.1	0.3
SVE-1	2/15/2016	-74.8	14.9	--
SVE-1	2/23/2016	-74.8	18.2	--
SVE-1	3/3/2016	-74.8	18.2	--
SVE-1	3/7/2016	-74.8	18.2	0.0
SVE-1	3/14/2016	-74.8	18.2	--
SVE-1	3/21/2016	-81.6	14.7	--
SVE-1	3/28/2016	-81.6	18.1	--
SVE-1	4/6/2016 - 4/7/2016	-81.6	18.1	3.2
SVE-1	4/11/2016	-74.8	18.2	--
SVE-1	4/18/2016	-68.0	15.0	--
SVE-1	4/26/2016	-68.0	15.0	--
SVE-1	5/4/2016	-74.8	14.9	0.1
SVE-1	5/11/2016	-81.6	14.7	--
SVE-1	5/20/2016	-74.8	14.9	--
SVE-1	5/24/2016	-74.8	14.9	--
SVE-1	6/1/2016	-81.6	14.7	--
SVE-1	6/7/2016	-74.8	14.9	0.0
SVE-1	6/14/2016	-74.8	14.9	--
SVE-1	6/21/2016	-74.8	14.9	--
SVE-1	6/27/2016	-81.6	14.7	--
SVE-1	7/6/2016	-81.6	14.7	--
SVE-1	7/15/2016	-74.8	14.9	--
SVE-1	7/20/2016	-74.8	14.9	0.0
SVE-1	7/27/2016	-81.6	14.7	--
SVE-1	8/1/2016	-74.8	14.9	--
SVE-1	8/8/2016	-74.8	18.2	0.2
SVE-1	8/15/2016	-81.6	14.7	--
SVE-1	8/26/2016	-81.6	14.7	--
SVE-1	8/30/2016	-81.6	27.6	--
SVE-1	9/9/2016	-81.6	14.7	0.0
SVE-1	9/12/2016	-81.6	14.7	--
SVE-1	9/20/2016	-81.6	14.7	--
SVE-1	9/27/2016	-81.6	14.7	--
SVE-1	10/6/2016	-81.6	14.7	--
SVE-1	10/10/2016	-81.6	14.7	24.5
SVE-1	10/21/2016	-81.6	14.7	--
SVE-1	10/25/2016	-81.6	14.7	--
SVE-1	11/1/2016	-81.6	33.0	--
SVE-1	11/7/2016	-81.6	14.7	0.0
SVE-1	11/18/2016	-74.8	14.9	--
SVE-1	11/21/2016	-74.8	14.9	--
SVE-1	11/28/2016	-	-	-
SVE-1	12/7/2016	-95.2	14.4	0.0
SVE-1	12/16/2016	-81.6	14.7	--
SVE-1	12/21/2016	-74.8	21.1	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-1	1/4/2017	-74.8	14.9	--
SVE-1	1/13/2017	-74.8	16.3	--
SVE-1	1/18/2017	-81.6	14.7	0.0
SVE-1	1/23/2017	-69.3	15.0	--
SVE-1	2/8/2017	-88.4	17.9	0.0
SVE-1	2/13/2017	-74.8	14.9	--
SVE-1	2/20/2017	-74.8	14.9	--
SVE-1	2/27/2017	-74.8	14.9	--
SVE-1	3/6/2017	-74.8	14.9	--
SVE-1	3/7/2017	-102.0	17.5	0.6
SVE-1	3/14/2017	-74.8	14.9	--
SVE-1	3/20/2017	-72.1	15.0	--
SVE-1	3/27/2017	-74.8	14.9	--
SVE-1	4/4/2017	-74.8	14.9	--
SVE-1	4/6/2017	-102.0	14.3	0.1
SVE-1	4/12/2017	-95.2	14.4	--
SVE-1	4/20/2017	-95.2	17.7	--
SVE-1	4/25/2017	-88.4	20.6	--
SVE-1	5/5/2017	-102.0	14.3	0.0
SVE-1	5/9/2017	-95.2	14.4	--
SVE-1	5/17/2017	-88.4	14.6	--
SVE-1	5/22/2017	-95.2	14.4	--
SVE-1	6/7/2017	-81.6	18.1	0.2
SVE-1	6/14/2017	-81.6	18.1	--
SVE-1	6/21/2017	-95.2	14.4	--
SVE-1	6/26/2017	-95.2	14.4	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-2	1/18/2016	-68.0	28.1	0.0
SVE-2	1/27/2016	-61.2	24.0	--
SVE-2	2/1/2016	-61.2	26.3	--
SVE-2	2/8/2016	-68.0	26.1	0.2
SVE-2	2/15/2016	-68.0	26.1	--
SVE-2	2/23/2016	-68.0	28.1	--
SVE-2	3/3/2016	-68.0	28.1	--
SVE-2	3/7/2016	-68.0	28.1	0.2
SVE-2	3/14/2016	-68.0	26.1	--
SVE-2	3/21/2016	-68.0	33.6	--
SVE-2	3/28/2016	-68.0	31.9	--
SVE-2	4/6/2016 - 4/7/2016	-68.0	26.1	1.6
SVE-2	4/11/2016	-68.0	28.1	--
SVE-2	4/18/2016	-61.2	34.0	--
SVE-2	4/26/2016	-54.4	24.3	--
SVE-2	5/4/2016	-68.0	33.6	0.1
SVE-2	5/11/2016	-74.8	33.3	--
SVE-2	5/20/2016	-68.0	35.3	--
SVE-2	5/24/2016	-68.0	23.8	--
SVE-2	6/1/2016	-81.6	31.3	--
SVE-2	6/7/2016	-68.0	33.6	0.0
SVE-2	6/14/2016	-68.0	30.1	--
SVE-2	6/21/2016	-68.0	31.9	--
SVE-2	6/27/2016	-81.6	23.3	--
SVE-2	7/6/2016	-68.0	23.8	--
SVE-2	7/15/2016	-68.0	28.1	--
SVE-2	7/20/2016	-68.0	28.1	0.0
SVE-2	7/27/2016	-74.8	31.6	--
SVE-2	8/1/2016	-68.0	26.1	--
SVE-2	8/8/2016	-68.0	0.0	0.3
SVE-2	8/15/2016	-68.0	_(1)	--
SVE-2	8/26/2016	-81.6	23.3	--
SVE-2	8/30/2016	-74.8	23.5	--
SVE-2	9/9/2016	-74.8	23.5	0.0
SVE-2	9/12/2016	-74.8	23.5	--
SVE-2	9/20/2016	-74.8	23.5	--
SVE-2	9/27/2016	-81.6	23.3	--
SVE-2	10/6/2016	-68.0	28.1	--
SVE-2	10/10/2016	-74.8	24.0	6.7
SVE-2	10/21/2016	-74.8	25.8	--
SVE-2	10/25/2016	-74.8	27.9	--
SVE-2	11/1/2016	-81.6	23.3	--
SVE-2	11/7/2016	-81.6	25.5	0.3
SVE-2	11/18/2016	-68.0	23.8	--
SVE-2	11/21/2016	-68.0	28.1	--
SVE-2	11/28/2016	-	-	-
SVE-2	12/7/2016	-88.4	25.3	0.0
SVE-2	12/16/2016	-68.0	28.1	--
SVE-2	12/21/2016	-68.0	26.1	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-2	1/4/2017	-68.0	23.8	--
SVE-2	1/13/2017	-68.0	24.7	--
SVE-2	1/18/2017	-74.8	23.5	0.0
SVE-2	1/23/2017	-69.3	23.7	--
SVE-2	2/8/2017	-81.6	25.5	0.0
SVE-2	2/13/2017	-68.0	24.7	--
SVE-2	2/20/2017	-68.0	23.8	--
SVE-2	2/27/2017	-74.8	23.5	--
SVE-2	3/6/2017	-72.1	23.6	--
SVE-2	3/7/2017	-95.2	20.4	0.9
SVE-2	3/14/2017	-70.7	23.7	--
SVE-2	3/20/2017	-70.7	23.7	--
SVE-2	3/27/2017	-69.3	23.7	--
SVE-2	4/4/2017	-74.8	23.5	--
SVE-2	4/6/2017	-95.2	20.4	0.2
SVE-2	4/12/2017	-88.4	20.6	--
SVE-2	4/20/2017	-95.2	22.8	--
SVE-2	4/25/2017	-81.6	25.5	--
SVE-2	5/5/2017	-95.2	0.0	0.0
SVE-2	5/9/2017	-95.2	0.0	--
SVE-2	5/17/2017	-81.6	14.7	--
SVE-2	5/22/2017	-88.4	17.9	--
SVE-2	6/7/2017	-68.0	18.4	0.2
SVE-2	6/14/2017	-68.0	15.0	--
SVE-2	6/21/2017	-81.6	0.0	--
SVE-2	6/26/2017	-88.4	0.0	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-3	1/18/2016	-74.8	14.9	0.0
SVE-3	1/27/2016	-68.0	15.0	--
SVE-3	2/1/2016	-68.0	18.4	--
SVE-3	2/8/2016	-81.6	14.7	1.3
SVE-3	2/15/2016	-81.6	20.8	--
SVE-3	2/23/2016	-74.8	14.9	--
SVE-3	3/3/2016	-74.8	14.9	--
SVE-3	3/7/2016	-74.8	14.9	1.0
SVE-3	3/14/2016	-74.8	18.2	--
SVE-3	3/21/2016	-81.6	14.7	--
SVE-3	3/28/2016	-81.6	20.8	--
SVE-3	4/6/2016 - 4/7/2016	-81.6	10.4	9.0
SVE-3	4/11/2016	-81.6	14.7	--
SVE-3	4/18/2016	-68.0	15.0	--
SVE-3	4/26/2016	-74.8	14.9	--
SVE-3	5/4/2016	-81.6	14.7	2.4
SVE-3	5/11/2016	-81.6	10.4	--
SVE-3	5/20/2016	-81.6	14.7	--
SVE-3	5/24/2016	-81.6	18.1	--
SVE-3	6/1/2016	-88.4	10.3	--
SVE-3	6/7/2016	-81.6	14.7	0.7
SVE-3	6/14/2016	-81.6	18.1	--
SVE-3	6/21/2016	-81.6	18.1	--
SVE-3	6/27/2016	-81.6	14.7	--
SVE-3	7/6/2016	-81.6	14.7	--
SVE-3	7/15/2016	-81.6	20.8	--
SVE-3	7/20/2016	-74.8	18.2	0.0
SVE-3	7/27/2016	-81.6	10.4	--
SVE-3	8/1/2016	-81.6	14.7	--
SVE-3	8/8/2016	-81.6	14.7	0.4
SVE-3	8/15/2016	-81.6	14.7	--
SVE-3	8/26/2016	-81.6	14.7	--
SVE-3	8/30/2016	-81.6	10.4	--
SVE-3	9/9/2016	-88.4	10.3	0.1
SVE-3	9/12/2016	-81.6	10.4	--
SVE-3	9/20/2016	-81.6	14.7	--
SVE-3	9/27/2016	-88.4	10.3	--
SVE-3	10/6/2016	-81.6	10.4	--
SVE-3	10/10/2016	-85.0	14.7	2.9
SVE-3	10/21/2016	-81.6	14.7	--
SVE-3	10/25/2016	-81.6	14.7	--
SVE-3	11/1/2016	-88.4	0	--
SVE-3	11/7/2016	-88.4	14.6	1.8
SVE-3	11/18/2016	-74.8	14.9	--
SVE-3	11/21/2016	-81.6	14.7	--
SVE-3	11/28/2016	-	-	-
SVE-3	12/7/2016	-95.2	6.5	0.6
SVE-3	12/16/2016	-81.6	18.1	--
SVE-3	12/21/2016	-81.6	18.1	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-3	1/4/2017	-74.8	14.9	--
SVE-3	1/13/2017	-74.8	14.9	--
SVE-3	1/18/2017	-88.4	10.3	0.7
SVE-3	1/23/2017	-70.7	15.0	--
SVE-3	2/8/2017	-88.4	10.3	0.0
SVE-3	2/13/2017	-74.8	14.9	--
SVE-3	2/20/2017	-74.8	14.9	--
SVE-3	2/27/2017	-74.8	14.9	--
SVE-3	3/6/2017	-74.8	14.9	--
SVE-3	3/7/2017	-102.0	10.1	2.1
SVE-3	3/14/2017	-74.8	14.9	--
SVE-3	3/20/2017	-74.8	14.9	--
SVE-3	3/27/2017	-74.8	14.9	--
SVE-3	4/4/2017	-77.5	14.8	--
SVE-3	4/6/2017	-108.8	10.0	1.3
SVE-3	4/12/2017	-95.2	10.2	--
SVE-3	4/20/2017	-102.0	10.1	--
SVE-3	4/25/2017	-95.2	10.2	--
SVE-3	5/5/2017	-102.0	17.5	0.0
SVE-3	5/9/2017	102.0	0.0	--
SVE-3	5/17/2017	-95.2	14.4	--
SVE-3	5/22/2017	-95.2	0.0	--
SVE-3	6/7/2017	-81.6	18.1	0.4
SVE-3	6/14/2017	-81.6	18.1	--
SVE-3	6/21/2017	-95.2	10.2	--
SVE-3	6/26/2017	-95.2	0.0	--



Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-4	1/18/2016	-68.0	21.3	0.5
SVE-4	1/27/2016	-68.0	21.3	--
SVE-4	2/1/2016	-68.0	21.3	--
SVE-4	2/8/2016	-68.0	21.3	1.7
SVE-4	2/15/2016	-74.8	18.2	--
SVE-4	2/23/2016	-68.0	23.8	--
SVE-4	3/3/2016	-68.0	21.3	--
SVE-4	3/7/2016	-68.0	23.8	1.0
SVE-4	3/14/2016	-68.0	21.3	--
SVE-4	3/21/2016	-74.8	23.5	--
SVE-4	3/28/2016	-74.8	25.8	--
SVE-4	4/6/2016 - 4/7/2016	-68.0	26.1	3.2
SVE-4	4/11/2016	-68.0	26.1	--
SVE-4	4/18/2016	-68.0	23.8	--
SVE-4	4/26/2016	-68.0	23.8	--
SVE-4	5/4/2016	-74.8	23.5	5.3
SVE-4	5/11/2016	-74.8	23.5	--
SVE-4	5/20/2016	-74.8	23.5	--
SVE-4	5/24/2016	-68.0	23.8	--
SVE-4	6/1/2016	-81.6	25.5	--
SVE-4	6/7/2016	-74.8	23.5	1.8
SVE-4	6/14/2016	-68.0	23.8	--
SVE-4	6/21/2016	-68.0	23.8	--
SVE-4	6/27/2016	-74.8	23.5	--
SVE-4	7/6/2016	-74.8	23.5	--
SVE-4	7/15/2016	-68.0	23.8	--
SVE-4	7/20/2016	-68.0	21.3	0.0
SVE-4	7/27/2016	-74.8	23.5	--
SVE-4	8/1/2016	-68.0	23.8	--
SVE-4	8/8/2016	-68.0	23.8	0.4
SVE-4	8/15/2016	-68.0	23.8	--
SVE-4	8/26/2016	-74.8	23.5	--
SVE-4	8/30/2016	-74.8	23.5	--
SVE-4	9/9/2016	-74.8	23.5	1.2
SVE-4	9/12/2016	-74.8	23.5	--
SVE-4	9/20/2016	-74.8	25.8	--
SVE-4	9/27/2016	-81.6	23.3	--
SVE-4	10/6/2016	-74.8	23.5	--
SVE-4	10/10/2016	-88.4	23.1	18.9
SVE-4	10/21/2016	-74.8	23.5	--
SVE-4	10/25/2016	-74.8	23.5	--
SVE-4	11/1/2016	-81.6	23.3	--
SVE-4	11/7/2016	-74.8	25.8	7.7
SVE-4	11/18/2016	-68.0	23.8	--
SVE-4	11/21/2016	-68.0	23.8	--
SVE-4	11/28/2016	-	-	-
SVE-4	12/7/2016	-102.0	26.7	2.0
SVE-4	12/16/2016	-68.0	26.1	--
SVE-4	12/21/2016	-68.0	21.3	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-4	1/4/2017	-68.0	23.8	--
SVE-4	1/13/2017	-68.0	23.3	--
SVE-4	1/18/2017	-74.8	23.5	1.1
SVE-4	1/23/2017	-69.3	23.7	--
SVE-4	2/8/2017	-81.6	23.3	0.0
SVE-4	2/13/2017	-68.0	23.8	--
SVE-4	2/20/2017	-68.0	23.8	--
SVE-4	2/27/2017	-74.8	23.5	--
SVE-4	3/6/2017	-74.8	23.5	--
SVE-4	3/7/2017	-95.2	20.4	2.7
SVE-4	3/14/2017	-74.8	23.5	--
SVE-4	3/20/2017	-70.7	23.7	--
SVE-4	3/27/2017	-74.8	23.5	--
SVE-4	4/4/2017	-74.8	24.0	--
SVE-4	4/6/2017	-95.2	25.0	1.0
SVE-4	4/12/2017	-88.4	23.1	--
SVE-4	4/20/2017	-95.2	22.8	--
SVE-4	4/25/2017	-81.6	23.3	--
SVE-4	5/5/2017	-88.4	20.6	0.0
SVE-4	5/9/2017	-95.2	20.4	--
SVE-4	5/17/2017	-81.6	20.8	--
SVE-4	5/22/2017	-88.4	20.6	--
SVE-4	6/7/2017	-68.0	23.8	0.3
SVE-4	6/14/2017	-68.0	23.8	--
SVE-4	6/21/2017	-81.6	23.3	--
SVE-4	6/26/2017	-81.6	23.3	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-5	1/18/2016	-74.8	23.5	0.0
SVE-5	1/27/2016	-68.0	23.8	--
SVE-5	2/1/2016	-68.0	21.3	--
SVE-5	2/8/2016	-81.6	23.3	0.8
SVE-5	2/15/2016	-81.6	23.3	--
SVE-5	2/23/2016	-74.8	21.1	--
SVE-5	3/3/2016	-74.8	21.1	--
SVE-5	3/7/2016	-74.8	21.1	0.3
SVE-5	3/14/2016	-74.8	21.1	--
SVE-5	3/21/2016	-81.6	20.8	--
SVE-5	3/28/2016	-81.6	23.3	--
SVE-5	4/6/2016 - 4/7/2016	-81.6	23.3	6.5
SVE-5	4/11/2016	-74.8	23.5	--
SVE-5	4/18/2016	-68.0	21.3	--
SVE-5	4/26/2016	-68.0	23.8	--
SVE-5	5/4/2016	-81.6	23.3	0.5
SVE-5	5/11/2016	-81.6	23.3	--
SVE-5	5/20/2016	-81.6	23.3	--
SVE-5	5/24/2016	-74.8	21.1	--
SVE-5	6/1/2016	-81.6	23.3	--
SVE-5	6/7/2016	-81.6	23.3	0.8
SVE-5	6/14/2016	-81.6	23.3	--
SVE-5	6/21/2016	-74.8	23.5	--
SVE-5	6/27/2016	-81.6	25.5	--
SVE-5	7/6/2016	-68.0	26.1	--
SVE-5	7/15/2016	-74.8	23.5	--
SVE-5	7/20/2016	-74.8	23.5	0.0
SVE-5	7/27/2016	-81.6	23.3	--
SVE-5	8/1/2016	-74.8	23.5	--
SVE-5	8/8/2016	-74.8	23.5	0.3
SVE-5	8/15/2016	-81.6	23.3	--
SVE-5	8/26/2016	-81.6	23.3	--
SVE-5	8/30/2016	-81.6	25.5	--
SVE-5	9/9/2016	-81.6	25.5	0.0
SVE-5	9/12/2016	-81.6	25.5	--
SVE-5	9/20/2016	-81.6	25.5	--
SVE-5	9/27/2016	-88.4	25.3	--
SVE-5	10/6/2016	-81.6	23.3	--
SVE-5	10/10/2016	-81.6	23.3	31.7
SVE-5	10/21/2016	-81.6	25.5	--
SVE-5	10/25/2016	-81.6	25.5	--
SVE-5	11/1/2016	-81.6	25.5	--
SVE-5	11/7/2016	-81.6	25.5	1.1
SVE-5	11/18/2016	-74.8	23.5	--
SVE-5	11/21/2016	-81.6	23.3	--
SVE-5	11/28/2016	-	-	-
SVE-5	12/7/2016	-95.2	27.0	0.2
SVE-5	12/16/2016	-81.6	25.5	--
SVE-5	12/21/2016	-74.8	27.9	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-5	1/4/2017	-74.8	23.5	--
SVE-5	1/13/2017	-74.8	24.0	--
SVE-5	1/18/2017	-81.6	23.3	0.0
SVE-5	1/23/2017	-69.3	23.7	--
SVE-5	2/8/2017	-88.4	25.3	0.0
SVE-5	2/13/2017	-74.8	24.5	--
SVE-5	2/20/2017	-74.8	23.5	--
SVE-5	2/27/2017	-70.7	25.9	--
SVE-5	3/6/2017	-74.8	23.5	--
SVE-5	3/7/2017	-102.0	24.7	0.7
SVE-5	3/14/2017	-70.7	23.7	--
SVE-5	3/20/2017	-74.8	24.5	--
SVE-5	3/27/2017	-74.8	23.5	--
SVE-5	4/4/2017	-74.8	23.5	--
SVE-5	4/6/2017	-102.0	24.7	0.0
SVE-5	4/12/2017	-95.2	25.0	--
SVE-5	4/20/2017	-95.2	27.0	--
SVE-5	4/25/2017	-95.2	25.0	--
SVE-5	5/5/2017	-95.2	27.0	0.0
SVE-5	5/9/2017	-95.2	25.0	--
SVE-5	5/17/2017	-88.4	25.3	--
SVE-5	5/22/2017	-95.2	25.0	--
SVE-5	6/7/2017	-81.6	27.6	0.2
SVE-5	6/14/2017	-74.8	27.9	--
SVE-5	6/21/2017	-88.4	27.3	--
SVE-5	6/26/2017	-95.2	27.0	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-6	1/18/2016	-68.0	31.9	0.0
SVE-6	1/27/2016	-68.0	31.9	--
SVE-6	2/1/2016	-68.0	31.9	--
SVE-6	2/8/2016	-74.8	34.9	0.3
SVE-6	2/15/2016	-68.0	31.9	--
SVE-6	2/23/2016	-68.0	33.6	--
SVE-6	3/3/2016	-68.0	31.9	--
SVE-6	3/7/2016	-68.0	23.8	0.1
SVE-6	3/14/2016	-68.0	23.8	--
SVE-6	3/21/2016	-74.8	25.8	--
SVE-6	3/28/2016	-74.8	23.5	--
SVE-6	4/6/2016 - 4/7/2016	-68.0	23.8	5.7
SVE-6	4/11/2016	-68.0	26.1	--
SVE-6	4/18/2016	-61.2	24.0	--
SVE-6	4/26/2016	-68.0	23.8	--
SVE-6	5/4/2016	-74.8	23.5	0.2
SVE-6	5/11/2016	-74.8	23.5	--
SVE-6	5/20/2016	-68.0	23.8	--
SVE-6	5/24/2016	-68.0	23.8	--
SVE-6	6/1/2016	-81.6	25.5	--
SVE-6	6/7/2016	-74.8	23.5	0.3
SVE-6	6/14/2016	-68.0	23.8	--
SVE-6	6/21/2016	-68.0	23.8	--
SVE-6	6/27/2016	-74.8	25.8	--
SVE-6	7/6/2016	-74.8	24.9	--
SVE-6	7/15/2016	-68.0	23.8	--
SVE-6	7/20/2016	-68.0	23.8	0.0
SVE-6	7/27/2016	-74.8	23.5	--
SVE-6	8/1/2016	-68.0	23.8	--
SVE-6	8/8/2016	-68.0	23.8	0.3
SVE-6	8/15/2016	-74.8	23.5	--
SVE-6	8/26/2016	-81.6	25.5	--
SVE-6	8/30/2016	-74.8	25.8	--
SVE-6	9/9/2016	-74.8	23.5	0.0
SVE-6	9/12/2016	-74.8	23.5	--
SVE-6	9/20/2016	-74.8	25.8	--
SVE-6	9/27/2016	-81.6	25.5	--
SVE-6	10/6/2016	-74.8	25.8	--
SVE-6	10/10/2016	-74.8	25.8	19.4
SVE-6	10/21/2016	-74.8	25.8	--
SVE-6	10/25/2016	-74.8	25.8	--
SVE-6	11/1/2016	-81.6	25.5	--
SVE-6	11/7/2016	-74.8	25.8	3.7
SVE-6	11/18/2016	-68.0	26.1	--
SVE-6	11/21/2016	-68.0	26.1	--
SVE-6	11/28/2016	-	-	-
SVE-6	12/7/2016	-88.4	29.2	0.1
SVE-6	12/16/2016	-68.0	30.1	--
SVE-6	12/21/2016	-68.0	31.9	--
SVE-6	1/4/2017	-68.0	26.1	--
SVE-6	1/13/2017	-68.0	33.6	--

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 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
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WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-6	1/18/2017	-74.8	36.5	0.0
SVE-6	1/23/2017	-69.3	28.1	--
SVE-6	2/8/2017	-81.6	39.0	0.0
SVE-6	2/13/2017	-68.0	41.2	--
SVE-6	2/20/2017	-68.0	26.1	--
SVE-6	2/27/2017	-72.1	23.6	--
SVE-6	3/6/2017	-74.8	25.8	--
SVE-6	3/7/2017	-95.2	28.9	0.9
SVE-6	3/14/2017	-70.7	25.9	--
SVE-6	3/20/2017	-70.7	33.5	--
SVE-6	3/27/2017	-76.1	25.7	--
SVE-6	4/4/2017	-73.4	23.6	--
SVE-6	4/6/2017	-95.2	25.0	0.0
SVE-6	4/12/2017	-88.4	29.2	--
SVE-6	4/20/2017	-88.4	25.3	--
SVE-6	4/25/2017	-88.4	29.2	--
SVE-6	5/5/2017	-88.4	30.9	0.0
SVE-6	5/9/2017	-88.4	29.2	--
SVE-6	5/17/2017	-81.6	27.6	--
SVE-6	5/22/2017	-81.6	27.6	--
SVE-6	6/7/2017	-68.0	31.9	0.2
SVE-6	6/14/2017	-68.0	28.1	--
SVE-6	6/21/2017	-81.6	29.5	--
SVE-6	6/26/2017	-81.6	29.5	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-7	1/18/2016	-68.0	21.3	0.0
SVE-7	1/27/2016	-68.0	21.3	--
SVE-7	2/1/2016	-68.0	21.3	--
SVE-7	2/8/2016	-81.6	18.1	0.3
SVE-7	2/15/2016	-81.6	18.1	--
SVE-7	2/23/2016	-74.8	21.1	--
SVE-7	3/3/2016	-68.0	21.3	--
SVE-7	3/7/2016	-68.0	21.3	0.0
SVE-7	3/14/2016	-68.0	21.3	--
SVE-7	3/21/2016	-81.6	20.8	--
SVE-7	3/28/2016	-81.6	20.8	--
SVE-7	4/6/2016 - 4/7/2016	-74.8	21.1	3.2
SVE-7	4/11/2016	-68.0	21.3	--
SVE-7	4/18/2016	-68.0	18.4	--
SVE-7	4/26/2016	-68.0	18.4	--
SVE-7	5/4/2016	-81.6	18.1	0.0
SVE-7	5/11/2016	-81.6	18.1	--
SVE-7	5/20/2016	-81.6	18.1	--
SVE-7	5/24/2016	-81.6	18.1	--
SVE-7	6/1/2016	-81.6	18.1	--
SVE-7	6/7/2016	-81.6	14.7	0.1
SVE-7	6/14/2016	-74.8	18.2	--
SVE-7	6/21/2016	-74.8	18.2	--
SVE-7	6/27/2016	-81.6	18.1	--
SVE-7	7/6/2016	-81.6	18.1	--
SVE-7	7/15/2016	-74.8	18.2	--
SVE-7	7/20/2016	-74.8	18.2	0.3
SVE-7	7/27/2016	-81.6	20.8	--
SVE-7	8/1/2016	-74.8	21.1	--
SVE-7	8/8/2016	-74.8	21.1	0.3
SVE-7	8/15/2016	-74.8	21.1	--
SVE-7	8/26/2016	-81.6	20.8	--
SVE-7	8/30/2016	-81.6	18.1	--
SVE-7	9/9/2016	-81.6	20.8	0.0
SVE-7	9/12/2016	-81.6	20.8	--
SVE-7	9/20/2016	-81.6	20.8	--
SVE-7	9/27/2016	-81.6	20.8	--
SVE-7	10/6/2016	-74.8	21.1	--
SVE-7	10/10/2016	-81.6	20.8	30.5
SVE-7	10/21/2016	-81.6	20.8	--
SVE-7	10/25/2016	-81.6	20.8	--
SVE-7	11/1/2016	-81.6	20.8	--
SVE-7	11/7/2016	-81.6	20.8	0.0
SVE-7	11/18/2016	-68.0	21.3	--
SVE-7	11/21/2016	-74.8	21.1	--
SVE-7	11/28/2016	-	-	-
SVE-7	12/7/2016	-88.4	20.6	0.0
SVE-7	12/16/2016	-68.0	23.8	--
SVE-7	12/21/2016	-68.0	21.3	--
SVE-7	1/4/2017	-68.0	21.3	--
SVE-7	1/13/2017	-68.0	21.3	--

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WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-7	1/18/2017	-81.6	20.8	0.0
SVE-7	1/23/2017	-69.3	21.2	--
SVE-7	2/8/2017	-88.4	20.6	0.0
SVE-7	2/13/2017	-68.0	23.8	--
SVE-7	2/20/2017	-68.0	23.8	--
SVE-7	2/27/2017	-72.1	23.6	--
SVE-7	3/6/2017	-74.8	21.1	--
SVE-7	3/7/2017	-102.0	20.2	0.2
SVE-7	3/14/2017	-74.8	21.1	--
SVE-7	3/20/2017	-70.7	23.7	--
SVE-7	3/27/2017	-74.8	21.1	--
SVE-7	4/4/2017	-74.8	21.1	--
SVE-7	4/6/2017	-102.0	20.2	0.0
SVE-7	4/12/2017	-95.2	20.4	--
SVE-7	4/20/2017	-95.2	20.4	--
SVE-7	4/25/2017	-88.4	17.9	--
SVE-7	5/5/2017	-95.2	20.4	0.0
SVE-7	5/9/2017	-95.2	20.4	--
SVE-7	5/17/2017	-88.4	17.9	--
SVE-7	5/22/2017	-88.4	17.9	--
SVE-7	6/7/2017	-74.8	18.2	0.2
SVE-7	6/14/2017	-74.8	21.1	--
SVE-7	6/21/2017	-88.4	20.6	--
SVE-7	6/26/2017	-95.2	20.4	--



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WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-8	1/18/2016	-68.0	26.1	0.0
SVE-8	1/27/2016	-68.0	23.8	--
SVE-8	2/1/2016	-68.0	18.4	--
SVE-8	2/8/2016	-74.8	18.2	0.2
SVE-8	2/15/2016	-68.0	21.3	--
SVE-8	2/23/2016	-68.0	15.0	--
SVE-8	3/3/2016	-68.0	18.4	--
SVE-8	3/7/2016	-68.0	18.4	0.0
SVE-8	3/14/2016	-68.0	21.3	--
SVE-8	3/21/2016	-74.8	21.1	--
SVE-8	3/28/2016	-81.6	23.3	--
SVE-8	4/6/2016 - 4/7/2016	-74.8	23.5	2.4
SVE-8	4/11/2016	-74.8	23.5	--
SVE-8	4/18/2016	-68.0	18.4	--
SVE-8	4/26/2016	-68.0	18.4	--
SVE-8	5/4/2016	-74.8	21.1	0.0
SVE-8	5/11/2016	-81.6	20.8	--
SVE-8	5/20/2016	-74.8	21.1	--
SVE-8	5/24/2016	-68.0	21.3	--
SVE-8	6/1/2016	-81.6	20.8	--
SVE-8	6/7/2016	-74.8	21.1	0.0
SVE-8	6/14/2016	-74.8	21.1	--
SVE-8	6/21/2016	-74.8	21.1	--
SVE-8	6/27/2016	-81.6	23.3	--
SVE-8	7/6/2016	-74.8	23.5	--
SVE-8	7/15/2016	-68.0	23.8	--
SVE-8	7/20/2016	-68.0	23.8	0.0
SVE-8	7/27/2016	-74.8	23.5	--
SVE-8	8/1/2016	-68.0	23.8	--
SVE-8	8/8/2016	-68.0	23.8	0.2
SVE-8	8/15/2016	-74.8	25.8	--
SVE-8	8/26/2016	-81.6	27.6	--
SVE-8	8/30/2016	-81.6	27.6	--
SVE-8	9/9/2016	-81.6	27.6	0.0
SVE-8	9/12/2016	-81.6	27.6	--
SVE-8	9/20/2016	-81.6	27.6	--
SVE-8	9/27/2016	-88.4	27.3	--
SVE-8	10/6/2016	-74.8	27.9	--
SVE-8	10/10/2016	-81.6	27.6	33.9
SVE-8	10/21/2016	-81.6	27.6	--
SVE-8	10/25/2016	-74.8	29.8	--
SVE-8	11/1/2016	-81.6	27.6	--
SVE-8	11/7/2016	-81.6	29.5	0.0
SVE-8	11/18/2016	-68.0	30.1	--
SVE-8	11/21/2016	-74.8	29.8	--
SVE-8	11/28/2016	-	-	-
SVE-8	12/7/2016	-88.4	30.9	0.1
SVE-8	12/16/2016	-68.0	30.1	--
SVE-8	12/21/2016	-68.0	30.1	--
SVE-8	1/4/2017	-68.0	21.3	--
SVE-8	1/13/2017	-68.0	30.1	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-8	1/18/2017	-81.6	23.3	0.0
SVE-8	1/23/2017	-69.3	30.0	--
SVE-8	2/8/2017	-88.4	20.6	0.0
SVE-8	2/13/2017	-68.0	30.1	--
SVE-8	2/20/2017	-68.0	23.8	--
SVE-8	2/27/2017	-74.8	25.8	--
SVE-8	3/6/2017	-74.8	29.8	--
SVE-8	3/7/2017	-95.2	27.0	0.1
SVE-8	3/14/2017	-74.8	29.8	--
SVE-8	3/20/2017	-72.1	29.9	--
SVE-8	3/27/2017	-74.8	29.8	--
SVE-8	4/4/2017	-74.8	29.8	--
SVE-8	4/6/2017	-95.2	28.9	0.0
SVE-8	4/12/2017	-95.2	27.0	--
SVE-8	4/20/2017	-95.2	27.0	--
SVE-8	4/25/2017	-95.2	27.0	--
SVE-8	5/5/2017	-95.2	28.9	0.0
SVE-8	5/9/2017	-95.2	28.9	--
SVE-8	5/17/2017	-81.6	25.5	--
SVE-8	5/22/2017	-88.4	27.3	--
SVE-8	6/7/2017	-74.8	25.8	0.2
SVE-8	6/14/2017	-74.8	25.8	--
SVE-8	6/21/2017	-88.4	25.3	--
SVE-8	6/26/2017	-81.6	27.6	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H2O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-9	1/18/2016	NR	20.2	0.1
SVE-9	1/27/2016	NR	23.3	--
SVE-9	2/1/2016	-68.0	23.8	--
SVE-9	2/8/2016	-68.0	18.4	0.4
SVE-9	2/15/2016	-61.2	24.0	--
SVE-9	2/23/2016	-74.8	18.2	--
SVE-9	3/3/2016	-54.4	18.8	--
SVE-9	3/7/2016	-81.6	14.7	0.2
SVE-9	3/14/2016	-68.0	18.4	--
SVE-9	3/21/2016	-68.0	18.4	--
SVE-9	3/28/2016	-68.0	18.4	--
SVE-9	4/6/2016 - 4/7/2016	-68.0	18.4	2.4
SVE-9	4/11/2016	-74.8	18.2	--
SVE-9	4/18/2016	-54.4	18.8	--
SVE-9	4/26/2016	-54.4	18.8	--
SVE-9	5/4/2016	-68.0	18.4	0.3
SVE-9	5/11/2016	-68.0	18.4	--
SVE-9	5/20/2016	-74.8	18.2	--
SVE-9	5/24/2016	-68.0	18.4	--
SVE-9	6/1/2016	-74.8	18.2	--
SVE-9	6/7/2016	-54.4	15.3	0.2
SVE-9	6/14/2016	-61.2	18.6	--
SVE-9	6/21/2016	-54.4	18.8	--
SVE-9	6/27/2016	-68.0	18.4	--
SVE-9	7/6/2016	-68.0	18.4	--
SVE-9	7/15/2016	-54.4	18.8	--
SVE-9	7/20/2016	-54.4	18.8	0.0
SVE-9	7/27/2016	-81.6	18.1	--
SVE-9	8/1/2016	-68.0	18.4	--
SVE-9	8/8/2016	-54.4	21.7	0.3
SVE-9	8/15/2016	-54.4	18.8	--
SVE-9	8/26/2016	-54.4	18.8	--
SVE-9	8/30/2016	-68.0	18.4	--
SVE-9	9/9/2016	-54.4	18.8	0.0
SVE-9	9/12/2016	-68.0	21.3	--
SVE-9	9/20/2016	-74.8	18.2	--
SVE-9	9/27/2016	-74.8	18.2	--
SVE-9	10/6/2016	-54.4	18.8	--
SVE-9	10/10/2016	-47.6	21.9	16.2
SVE-9	10/21/2016	-61.2	21.5	--
SVE-9	10/25/2016	-54.4	18.8	--
SVE-9	11/1/2016	-74.8	21.1	--
SVE-9	11/7/2016	-74.8	18.2	--
SVE-9	11/18/2016	-81.6	18.1	--
SVE-9	11/21/2016	-54.4	21.7	--

Table 14  
 Summary of SVE Operations - January 1, 2016 - June 30, 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL ID	DATE	VACUUM (in H <sub>2</sub> O)	FLOW RATE (cfm)	VOCs - PID (ppm)
SVE-9	11/28/2016	-	-	-
SVE-9	12/7/2016	-54.4	15.3	0.1
SVE-9	12/16/2016	-54.4	21.7	--
SVE-9	12/21/2016	-61.2	21.5	--
SVE-9	1/4/2017	-81.6	18.1	--
SVE-9	1/13/2017	-81.6	23.3	--
SVE-9	1/18/2017	-68.0	26.1	0.5
SVE-9	1/23/2017	-69.3	18.4	--
SVE-9	2/8/2017	-54.4	21.7	0.0
SVE-9	2/13/2017	-68.0	23.8	--
SVE-9	2/20/2017	-81.6	23.3	--
SVE-9	2/27/2017	-81.6	18.1	--
SVE-9	3/6/2017	-81.6	18.1	--
SVE-9	3/7/2017	-88.4	20.6	0.8
SVE-9	3/14/2017	-54.4	18.8	--
SVE-9	3/20/2017	-108.8	17.3	--
SVE-9	3/27/2017	-81.6	18.1	--
SVE-9	4/4/2017	-108.8	18.9	--
SVE-9	4/6/2017	-81.6	18.1	0.2
SVE-9	4/12/2017	-68.0	21.3	--
SVE-9	4/20/2017	-95.2	20.4	--
SVE-9	4/25/2017	-108.8	20.0	--
SVE-9	5/5/2017	-88.4	23.1	0.0
SVE-9	5/9/2017	-68.0	23.8	--
SVE-9	5/17/2017	-81.6	20.8	--
SVE-9	5/22/2017	-74.8	23.5	--
SVE-9	6/7/2017	-81.6	23.3	0.2
SVE-9	6/14/2017	-54.4	24.3	--
SVE-9	6/21/2017	-68.0	23.8	--
SVE-9	6/26/2017	-68.0	23.8	--

**Notes:**

System operation data before January 2016 was previously reported.

Photoionization Detector (PID) did not calibrate on April 6, 2016.

NR = No reading recorded during system inspection.

- = data not collected due to operational issues

-- = not monitored

cfm = cubic feet per minute

GETS = Groundwater Extraction System

in H<sub>2</sub>O = Inches of water column

ppm = parts per million

SVE = Soil Vapor Extraction

VOCs = Volatile Organic Compounds

PID = Photoionization Detector

**Footnotes:**

<sup>(1)</sup> SVE-2 differential pressure gauge not working during 8/15/16 sampling event.

Table 15  
 WDNR-Approved Performance Monitoring Plan - 2016  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL/ POINT ID	BEDROCK UNIT	SCREENED INTERVAL (ft bgs)	QUARTERLY GAUGING	QUARTERLY VOC SAMPLING <sup>(1)</sup>	OCTOBER VOC SAMPLING <sup>(1)</sup>	PUMP TYPE
GWE-1*	Lone Rock/ Wonewoc	55-175	x	x	x	NA
MW-1	Unconsolidated	14-24	x		x	Peristaltic
MW-2S	Unconsolidated	19-29	x			NA
MW-2D	Upper Lone Rock	39-44	x	x	x	Peristaltic
MW-3S	Unconsolidated	19-29	x		x	Peristaltic
MW-3D	Upper Lone Rock	48-53	x	x	x	Peristaltic
MW-3D2	Lower Lone Rock	76-81	x	x	x	Peristaltic
MW-3D3	Lower Wonewoc/ Upper Eau Claire	214-224	x		x	GeoSub
MW-4D	Lower Lone Rock	65-70	x			NA
MW-4D2	Lower Lone Rock	91-96	x	x	x	Bladder
MW-5S	Upper Lone Rock	34-44	x		x	Peristaltic
MW-5D	Lower Lone Rock	75-80	x	x	x	Peristaltic
MW-5D2	Lower Wonewoc	166-171	x	x	x	Bladder
MW-5D3	Lower Wonewoc/ Upper Eau Claire	225-235	x	x	x	GeoSub
MW-6S	Unconsolidated/ Upper Lone Rock	32-42	x		x	Bladder
MW-6D	Lower Lone Rock	66-71	x	x	x	Bladder
MW-7	Unconsolidated	25-35	x			NA
MW-8	Unconsolidated	24-34	x			NA
MW-9D	Upper Lone Rock	44-49	x		x	Peristaltic
MW-9D2	Lower Lone Rock	64-69	x	x	x	Peristaltic
MW-10S	Unconsolidated	11-21	x			NA
MW-11S	Unconsolidated	24-34	x			NA
MW-12S	Unconsolidated	3-13	x			NA
MW-17	Upper Wonewoc	160-170	x	x	x	Bladder
MW-18S	Unconsolidated	20-30	x			NA
MW-21D2	Upper Wonewoc	110-170	x			NA
MW-22S	Unconsolidated	25-35	x		x	Peristaltic
MW-22D	Upper Lone Rock	45-50	x	x	x	Bladder
MW-23S	Unconsolidated	25-35	x		x	Peristaltic
MW-23D	Upper Lone Rock	45-50	x	x	x	Bladder
MW-24	Upper Lone Rock	30-40	x			NA
MW-25D	Upper Wonewoc	120-130	x		x	Bladder
MW-25D2	Upper Wonewoc	160-170	x	x	x	Bladder
MW-26S	Unconsolidated	6.8-16.8	x			NA
MW-27D	Lower Wonewoc	130-140	x	x	x	Bladder
MW-27D2	Lower Wonewoc	170-180	x		x	Bladder
MP-13 Port 1	Lower Wonewoc	163-167	x		x	Westbay
MP-13 Port 2	Lower Wonewoc	135-139	x		x	Westbay
MP-13 Port 3	Upper Wonewoc	121-125	x		x	Westbay
MP-13 Port 4	Upper Wonewoc	102-106	x		x	Westbay
MP-13 Port 5	Lower Lone Rock	81-85	x		x	Westbay
MP-13 Port 6	Lower Lone Rock	67-71	x		x	Westbay
MP-13 Port 7	Upper Lone Rock	44-48	x		x	Westbay
MP-14 Port 1	Lower Wonewoc	170-178	x		x	Westbay

Table 15  
 WDNR-Approved Performance Monitoring Plan - 2016  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL/ POINT ID	BEDROCK UNIT	SCREENED INTERVAL (ft bgs)	QUARTERLY GAUGING	QUARTERLY VOC SAMPLING <sup>(1)</sup>	OCTOBER VOC SAMPLING <sup>(1)</sup>	PUMP TYPE
MP-14 Port 2	Lower Wonewoc	135-140	x	x	x	Westbay
MP-14 Port 3	Upper Wonewoc	100-105	x		x	Westbay
MP-14 Port 4	Lower Lone Rock	70-75	x			NA
MP-15 Port 1	Lower Wonewoc	177-187	x		x	Westbay
MP-15 Port 2	Lower Wonewoc	142-146	x		x	Westbay
MP-15 Port 3	Lower Wonewoc	120-125	x		x	Westbay
MP-15 Port 4	Upper Wonewoc	100-105	x		x	Westbay
MP-15 Port 5	Upper Wonewoc	88-92	x		x	Westbay
MP-16 Port 1	Lower Wonewoc	175-179	x		x	Westbay
MP-16 Port 2	Lower Wonewoc	140-144	x	x	x	Westbay
MP-16 Port 3	Upper Wonewoc	106-116	x		x	Westbay
MP-16 Port 4	Lower Lone Rock	80-84	x			NA
<b>Total Sample Points:</b>			<b>56</b>	<b>17</b>	<b>43</b>	

Notes:

\* = The GWE-1 influent sample results from the month of the sampling event will be used.

Footnotes:

1. Quarterly sampling for 2016 consists of monitoring in January, April, July and October. Additional wells are sampled during the October monitoring event as indicated.

Created By: W. Braga (8/9/2016)

Checked By: A. Stehn (8/11/2016)

Table 16  
 WDNR Approved Performance Monitoring Plan - 2017  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL/ POINT ID	BEDROCK UNIT	SCREENED INTERVAL (ft bgs)	APRIL & OCTOBER GAUGING	APRIL VOC SAMPLING	OCTOBER VOC SAMPLING	PUMP TYPE
GWE-1*	Lone Rock/ Wonewoc	55-175	x	x	x	NA
MW-1	Unconsolidated	14-24	x		x	Peristaltic
MW-2S	Unconsolidated	19-29	x			NA
MW-2D	Upper Lone Rock	39-44	x	x	x	Peristaltic
MW-3S	Unconsolidated	19-29	x		x	Peristaltic
MW-3D	Upper Lone Rock	48-53	x	x	x	Peristaltic
MW-3D2	Lower Lone Rock	76-81	x	x	x	Peristaltic
MW-3D3	Lower Wonewoc/ Upper Eau Claire	214-224	x		x	GeoSub
MW-4S**	Unconsolidated/ Upper Lone Rock	35-50	x			NA
MW-4D	Lower Lone Rock	65-70	x			NA
MW-4D2	Lower Lone Rock	91-96	x	x	x	Bladder
MW-5S	Upper Lone Rock	34-44	x		x	Peristaltic
MW-5D	Lower Lone Rock	75-80	x	x	x	Peristaltic
MW-5D2	Lower Wonewoc	166-171	x	x	x	Bladder
MW-5D3	Lower Wonewoc/ Upper Eau Claire	225-235	x	x	x	GeoSub
MW-6S	Unconsolidated/ Upper Lone Rock	32-42	x		x	Bladder
MW-6D	Lower Lone Rock	66-71	x	x	x	Bladder
MW-7	Unconsolidated	25-35	x			NA
MW-8	Unconsolidated	24-34	x			NA
MW-9D	Upper Lone Rock	44-49	x		x	Peristaltic
MW-9D2	Lower Lone Rock	64-69	x	x	x	Peristaltic
MW-10S	Unconsolidated	11-21	x			NA
MW-11S	Unconsolidated	24-34	x			NA
MW-12S	Unconsolidated	3-13	x			NA
MW-17	Upper Wonewoc	160-170	x	x	x	Bladder
MW-18S	Unconsolidated	20-30	x			NA
MW-21D2	Upper Wonewoc	110-170	x			NA
MW-22S	Unconsolidated	25-35	x		x	Peristaltic
MW-22D	Upper Lone Rock	45-50	x	x	x	Bladder
MW-23S	Unconsolidated	25-35	x		x	Peristaltic
MW-23D	Upper Lone Rock	45-50	x	x	x	Bladder
MW-24	Upper Lone Rock	30-40	x			NA
MW-25D	Upper Wonewoc	120-130	x		x	Bladder
MW-25D2	Upper Wonewoc	160-170	x	x	x	Bladder
MW-26S	Unconsolidated	6.8-16.8	x			NA
MW-27D	Lower Wonewoc	130-140	x	x	x	Bladder
MW-27D2	Lower Wonewoc	170-180	x		x	Bladder
MW-28**	Lower Lone Rock	28-38	x			NA
MP-13 Port 1	Lower Wonewoc	163-167	x		x	Westbay
MP-13 Port 2	Lower Wonewoc	135-139	x		x	Westbay
MP-13 Port 3	Upper Wonewoc	121-125	x		x	Westbay
MP-13 Port 4	Upper Wonewoc	102-106	x		x	Westbay
MP-13 Port 5	Lower Lone Rock	81-85	x		x	Westbay
MP-13 Port 6	Lower Lone Rock	67-71	x		x	Westbay
MP-13 Port 7	Upper Lone Rock	44-48	x		x	Westbay

Table 16  
 WDNR Approved Performance Monitoring Plan - 2017  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL/ POINT ID	BEDROCK UNIT	SCREENED INTERVAL (ft bgs)	APRIL & OCTOBER GAUGING	APRIL VOC SAMPLING	OCTOBER VOC SAMPLING	PUMP TYPE
MP-14 Port 1	Lower Wonewoc	170-178	x		x	Westbay
MP-14 Port 2	Lower Wonewoc	135-140	x	x	x	Westbay
MP-14 Port 3	Upper Wonewoc	100-105	x		x	Westbay
MP-14 Port 4	Lower Lone Rock	70-75	x			NA
MP-15 Port 1	Lower Wonewoc	177-187	x		x	Westbay
MP-15 Port 2	Lower Wonewoc	142-146	x		x	Westbay
MP-15 Port 3	Lower Wonewoc	120-125	x		x	Westbay
MP-15 Port 4	Upper Wonewoc	100-105	x		x	Westbay
MP-15 Port 5	Upper Wonewoc	88-92	x		x	Westbay
MP-16 Port 1	Lower Wonewoc	175-179	x		x	Westbay
MP-16 Port 2	Lower Wonewoc	140-144	x	x	x	Westbay
MP-16 Port 3	Upper Wonewoc	106-116	x		x	Westbay
MP-16 Port 4	Lower Lone Rock	80-84	x			NA
<b>Total Sample Points:</b>			<b>58</b>	<b>17</b>	<b>43</b>	

Notes:

\* = The GWE-1 influent sample results from the month of the sampling event will be used.

\*\* = MW-4S and MW-28 will be gauged during each semi-annual event.

Created By: K. Vater 2/17/17

Checked By: A. Stehn 2/20/17



Table 17  
Summary of Groundwater Elevations - January 2017 and April 2017  
Madison Kipp Corporation  
201 Waubesa Street  
Madison, Wisconsin

WELL/BORING	LITHOLOGY	SCREEN INTERVAL (feet bls)	GROUND ELEVATION (feet amsl)	TOP OF CASING ELEVATION (feet amsl)	DATE	DEPTH TO WATER (feet btoc)	GROUNDWATER ELEVATION (feet amsl)
MW-1	Unconsolidated	14-24	861.71	861.08	1/18/17	11.67	849.41
					4/10/17	9.78	851.30
MW-2D	Upper Lone Rock	39-44	866.50	868.74	1/18/17	20.61	848.13
					4/10/17	19.51	849.23
MW-2S	Unconsolidated	19-29	866.34	868.94	1/18/17	20.25	848.69
					4/10/17	19.11	849.83
MW-3D	Upper Lone Rock	48-53	867.68	867.25	1/18/17	20.49	846.76
					4/10/17	19.42	847.83
MW-3D2	Lower Lone Rock	76-81	867.58	867.39	1/18/17	21.31	846.08
					4/10/17	20.82	846.57
MW-3D3	Lower Wonewoc/Upper Eau Claire	214-224	867.61	867.35	1/18/17	22.73	844.62
					4/10/17	22.04	845.31
MW-3S	Unconsolidated	19-29	867.87	867.41	1/18/17	19.36	848.05
					4/10/17	18.39	849.02
MW-4D	Lower Lone Rock	65-70	881.18	880.38	1/18/17	31.88	848.50
					4/10/17	31.06	849.32
MW-4D2	Lower Lone Rock	91-96	880.36	880.20	1/18/17	31.00	849.20
					4/10/17	31.17	849.03
MW-4S	Unconsolidated/ Upper Lone Rock	35-50	880.81	880.31	1/18/17	29.97	850.34
					4/10/17	29.41	850.90
MW-5D	Lower Lone Rock	75-80	872.58	872.10	1/18/17	24.81	847.29
					4/10/17	23.83	848.27
MW-5D2	Lower Wonewoc	165.8-170.8	872.59	872.20	1/18/17	27.53	844.67
					4/10/17	26.73	845.47
MW-5D3	Lower Wonewoc/Upper Eau Claire	225-235	872.34	871.89	1/18/17	26.99	844.90
					4/10/17	26.26	845.63
MW-5S	Upper Lone Rock	34-44	872.56	872.14	1/18/17	24.22	847.92
					4/10/17	23.17	848.97
MW-6D	Lower Lone Rock	65.5-70.5	877.11	876.69	1/18/17	28.78	847.91
					4/10/17	27.96	848.73
MW-6S	Unconsolidated/ Upper Lone Rock	31.4-41.4	877.20	876.69	1/18/17	28.01	848.68
					4/10/17	27.51	849.18

Table 17  
Summary of Groundwater Elevations - January 2017 and April 2017  
Madison Kipp Corporation  
201 Waubesa Street  
Madison, Wisconsin

WELL/BORING	LITHOLOGY	SCREEN INTERVAL (feet bls)	GROUND ELEVATION (feet amsl)	TOP OF CASING ELEVATION (feet amsl)	DATE	DEPTH TO WATER (feet btoc)	GROUNDWATER ELEVATION (feet amsl)
MW-7	Unconsolidated	25-35	870.91	870.42	1/18/17	22.18	848.24
					4/10/17	21.55	848.87
MW-8	Unconsolidated	24-34	867.69	866.78	1/18/17	18.68	848.10
					4/10/17	17.36	849.42
MW-9D	Upper Lone Rock	44-49	855.80	855.47	1/18/17	8.58	846.89
					4/10/17	7.59	847.88
MW-9D2	Lower Lone Rock	64-69	855.89	855.48	1/18/17	8.76	846.72
					4/10/17	7.81	847.67
MW-10S	Unconsolidated	11-21	864.88	864.42	1/18/17	15.73	848.69
					4/10/17	14.60	849.82
MW-11S	Unconsolidated	24-34	874.10	873.47	1/18/17	25.35	848.12
					4/10/17	24.47	849.00
MW-12S	Unconsolidated	3-13	859.78	859.41	1/18/17	5.74	853.67
					4/10/17	3.92	855.49
MW-17	Upper Wonewoc	160-170	877.26	876.65	1/18/17	31.15	845.50
					4/10/17	30.92	845.73
MW-18S	Unconsolidated	20-30	867.89	867.24	1/18/17	19.12	848.12
					4/10/17	18.28	848.96
MW-19D	Lower Lone Rock	60-90	867.44	866.75	1/18/17	21.14	845.61
					4/10/17	20.08	846.67
MW-19D2	Upper Wonewoc	110-140	867.44	866.71	1/18/17	22.77	843.94
					4/10/17	21.99	844.72
MW-20D	Lower Lone Rock	60-90	867.36	866.96	1/18/17	21.03	845.93
					4/10/17	19.91	847.05
MW-20D2	Lower Lone Rock	110-140	867.36	867.04	1/18/17	22.96	844.08
					4/10/17	22.21	844.83
MW-21D	Lower Lone Rock	60-90	867.77	867.49	1/18/17	21.11	846.38
					4/10/17	20.06	847.43
MW-21D2	Upper Wonewoc	110-170	867.77	867.46	1/18/17	23.09	844.37
					4/10/17	22.34	845.12
MW-22D	Upper Lone Rock	45-50	874.45	874.15	1/18/17	26.11	848.04
					4/10/17	25.18	848.97
MW-22S	Unconsolidated	25-35	874.45	874.12	1/18/17	25.88	848.24
					4/10/17	25.12	849.00

Table 17  
Summary of Groundwater Elevations - January 2017 and April 2017  
Madison Kipp Corporation  
201 Waubesa Street  
Madison, Wisconsin

WELL/BORING	LITHOLOGY	SCREEN INTERVAL (feet bls)	GROUND ELEVATION (feet amsl)	TOP OF CASING ELEVATION (feet amsl)	DATE	DEPTH TO WATER (feet btoc)	GROUNDWATER ELEVATION (feet amsl)
MW-23D	Upper Lone Rock	45-50	874.55	874.27	1/18/17	25.71	848.56
					4/10/17	25.20	849.07
MW-23S	Unconsolidated	25-35	874.55	874.20	1/18/17	25.32	848.88
					4/10/17	24.61	849.59
MW-24	Upper Lone Rock	30-40	876.66	876.41	1/18/17	27.89	848.52
					4/10/17	27.56	848.85
MW-25D	Upper Wonewoc	120-130	886.97	886.69	1/18/17	41.47	845.22
					4/10/17	40.80	845.89
MW-25D2	Upper Wonewoc	160-170	886.97	886.68	1/18/17	41.78	844.90
					4/10/17	41.16	845.52
MW-26S	Unconsolidated	6.85-16.85	857.51	856.61	1/18/17	7.51	849.10
					4/10/17	5.75	850.86
MW-27D	Lower Wonewoc	130-140	862.96	862.65	1/18/17	16.58	846.07
					4/10/17	15.89	846.76
MW-27D2	Lower Wonewoc	170-180	862.96	862.59	1/18/17	17.61	844.98
					4/10/17	15.85	846.74
MW-28	Lower Lone Rock	28-38	874.30	874.05	1/18/17	25.74	848.31
					4/10/17	24.94	849.11
MP-13	Upper Lone Rock	44-48	864.49	863.99	1/18/17	16.57	847.42
					4/10/17	15.40	848.59
MP-13	Lower Lone Rock	67-71	864.49	863.99	1/18/17	18.35	845.64
					4/10/17	17.29	846.70
MP-13	Lower Lone Rock	81-85	864.49	863.99	1/18/17	18.90	845.09
					4/10/17	17.86	846.13
MP-13	Upper Wonewoc	102-106	864.49	863.99	1/18/17	19.67	844.32
					4/10/17	18.70	845.29
MP-13	Upper Wonewoc	121-125	864.49	863.99	1/18/17	19.64	844.35
					4/10/17	18.76	845.23
MP-13	Lower Wonewoc	135-139	864.49	863.99	1/18/17	19.68	844.31
					4/10/17	18.81	845.18
MP-13	Lower Wonewoc	163-167	864.49	863.99	1/18/17	19.36	844.63
					4/10/17	18.57	845.42
MP-14	Lower Lone Rock	70-75	866.88	867.28	1/18/17	18.15	849.13
					4/10/17	16.84	850.44

Table 17  
 Summary of Groundwater Elevations - January 2017 and April 2017  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

WELL/BORING	LITHOLOGY	SCREEN INTERVAL (feet bls)	GROUND ELEVATION (feet amsl)	TOP OF CASING ELEVATION (feet amsl)	DATE	DEPTH TO WATER (feet btoc)	GROUNDWATER ELEVATION (feet amsl)
MP-14	Upper Wonewoc	100-105	866.88	867.28	1/18/17	20.82	846.46
					4/10/17	19.85	847.43
MP-14	Lower Wonewoc	135-140	866.88	867.28	1/18/17	21.24	846.04
					4/10/17	20.31	846.97
MP-14	Lower Wonewoc	170-178	866.88	867.28	1/18/17	21.49	845.79
					4/10/17	19.34	847.94
MP-15	Upper Wonewoc	88-92	855.98	855.50	1/18/17	9.34	846.16
					4/10/17	8.58	846.92
MP-15	Upper Wonewoc	100-105	855.98	855.50	1/18/17	9.28	846.22
					4/10/17	8.54	846.96
MP-15	Lower Wonewoc	120-125	855.98	855.50	1/18/17	9.31	846.19
					4/10/17	8.55	846.95
MP-15	Lower Wonewoc	142-146	855.98	855.50	1/18/17	9.45	846.05
					4/10/17	8.76	846.74
MP-15	Lower Wonewoc	177-187	855.98	855.50	1/18/17	9.51	845.99
					4/10/17	8.84	846.66
MP-16	Lower Lone Rock	80-84	870.68	870.17	1/18/17	22.82	847.35
					4/10/17	21.89	848.28
MP-16	Upper Wonewoc	106-116	870.68	870.17	1/18/17	24.57	845.60
					4/10/17	23.84	846.33
MP-16	Lower Wonewoc	140-144	870.68	870.17	1/18/17	24.75	845.42
					4/10/17	23.99	846.18
MP-16	Lower Wonewoc	175-179	870.68	870.17	1/18/17	25.01	845.16
					4/10/17	24.34	845.83

**Notes:**

Data included in this table was collected on January 18 and April 10, 2017. Historical groundwater elevations were provided in previous reports and are not included here.

amsl = above mean sea level

bls = below land surface

btoc = below top of casing

NM = Not Measured

Prepared by: P. Popp 5/10/2017

Checked by: B. Perk 8/10/2017



Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION	ENFORCEMENT STANDARD	MW-2S 19 - 29 ft 04/08/2010	MW-2S 19 - 29 ft 03/30/2011	MW-2S 19 - 29 ft 04/11/2012	MW-2S 19 - 29 ft 01/14/2013	MW-2S 19 - 29 ft 04/20/2013	MW-2S 19 - 29 ft 07/18/2013	MW-2S 19 - 29 ft 10/10/2013	MW-2S 19 - 29 ft 04/17/2014	MW-2S 19 - 29 ft 10/16/2014
<b>VOCs</b>												
1,1,1,2-Tetrachloroethane	7		70	< 0.25	< 0.25	< 0.31	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
1,1,1-Trichloroethane	40		200	< 0.5	< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20
1,1,2-Trichloroethane	0.5		5	< 0.25	< 0.25	< 0.3	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
1,1-Dichloroethene	0.7		7	< 0.5	< 0.5	< 0.29	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31
1,2,4-Trimethylbenzene	96		480	< 0.2	< 0.2	< 0.22	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
1,2-Dibromoethane	0.005		0.05	< 0.2	< 0.2	< 0.45	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36
1,2-Dichlorobenzene	60		600	< 0.2	< 0.2	< 0.21	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27
1,2-Dichloropropane	0.5		5	< 0.5	< 0.5	< 0.36	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
1,2,3-Trichlorobenzene	NE		NE	< 0.25	< 0.25	< 0.36	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24
1,2,4-Trichlorobenzene	14		70	< 0.25	< 0.25	< 0.22	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31
1,3,5-Trimethylbenzene	96		480	< 0.2	< 0.2	< 0.23	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18
2-Butanone	800		4000	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NE		NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	50		500	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	1800		9000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5		5	< 0.2	< 0.2	< 0.12	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074
Bromodichloromethane	0.06		0.6	< 0.2	< 0.2	< 0.23	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
Bromoform	0.44		4.4	< 0.2	< 0.2	< 0.45	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
Bromomethane	1		10	< 0.5	< 0.5	< 0.49	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31
Carbon disulfide	200		1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0.5		5	< 0.8	< 0.8	< 0.28	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26
Chloroform	0.6		6	< 0.2	< 0.2	< 0.25	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
Chloromethane	3		30	< 0.3	< 0.3	< 0.24	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18
cis-1,2-Dichloroethene	7		70	< 0.5	< 0.5	< 0.22	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Dichlorodifluoromethane	200		1000	< 0.5	< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
Ethylbenzene	140		700	< 0.5	< 0.5	< 0.14	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Isopropylbenzene	NE		NE	< 0.2	< 0.2	< 0.21	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
m,p-Xylene	400		2000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	12		60	< 0.5	< 0.5	< 0.28	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24
Methylene chloride	0.5		5	< 1	< 1	<b>8.6</b>	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68
Naphthalene	10		100	< 0.25	< 0.25	< 0.24	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
n-Butylbenzene	NE		NE	< 0.2	< 0.2	< 0.21	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
n-Hexane	120		600	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	NE		NE	< 0.5	< 0.5	< 0.19	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
o-Xylene	400		2000	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	NE		NE	< 0.2	< 0.2	< 0.24	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
sec-Butylbenzene	NE		NE	< 0.25	< 0.25	< 0.19	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
Styrene	10		100	< 0.5	< 0.5	< 0.26	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10
tert-Butylbenzene	NE		NE	< 0.2	< 0.2	< 0.24	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
Tetrachloroethene	0.5		5	<b>1.6</b>	<b>1.3</b>	<b>1.2</b>	<b>1.3</b>	<b>1.3</b>	<b>0.81 J</b>	<b>1.1</b>	<b>1.3</b>	<b>1</b>
Toluene	160		800	< 0.5	< 0.5	< 0.15	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
trans-1,2-Dichloroethene	20		100	< 0.5	< 0.5	< 0.27	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Trichloroethene	0.5		5	< 0.2	< 0.2	< 0.18	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Vinyl chloride	0.02		0.2	< 0.2	< 0.2	< 0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10
Xylenes, Total	400		2000	< 0.5	< 0.5	< 0.3	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068
<b>Total PCBs</b>												
Aroclor-1016	0.003		0.03	NA	NA	NA	< 0.17	NA	NA	NA	NA	NA
Aroclor-1232	0.003		0.03	NA	NA	NA	< 0.091	NA	NA	NA	NA	NA
Aroclor-1242	0.003		0.03	NA	NA	NA	< 0.13	NA	NA	NA	NA	NA
Total Detected PCBs	NE		NE	NA	NA	NA	ND	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>												
Aroclor-1016	0.003		0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003		0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003		0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE		NE	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes on Page 50.









Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION	ENFORCEMENT STANDARD	MW-3D2 76 - 81 ft 12/31/2009	MW-3D2 76 - 81 ft 04/07/2010	MW-3D2 76 - 81 ft 07/01/2010	MW-3D2 76 - 81 ft 10/01/2010	MW-3D2 76 - 81 ft 03/30/2011	MW-3D2 76 - 81 ft 04/12/2012	MW-3D2 <sup>3</sup> 76 - 81 ft 04/12/2012	MW-3D2 76 - 81 ft 11/30/2012	MW-3D2 <sup>3</sup> 76 - 81 ft 11/30/2012	MW-3D2 76 - 81 ft 01/16/2013	MW-3D2 <sup>3</sup> 76 - 81 ft 01/16/2013	MW-3D2 76 - 81 ft 02/12/2013	MW-3D2 <sup>3</sup> 76 - 81 ft 02/12/2013	MW-3D2 <sup>1</sup> 76 - 81 ft 03/13/2013	MW-3D2 <sup>1</sup> 76 - 81 ft 04/16/2013	MW-3D2 <sup>3</sup> 76 - 81 ft 04/16/2013	MW-3D2 76 - 81 ft 07/16/2013	MW-3D2 <sup>3</sup> 76 - 81 ft 07/16/2013
<b>VOCS</b>																					
1,1,1,2-Tetrachloroethane	7	70		< 6.3	< 13	< 13	< 0.25	< 13	< 1.6	< 1.6	< 1.3	< 1.3	< 0.5	< 0.5	< 0.25	< 0.5	< 0.25	< 0.25	< 0.5	< 0.25	< 0.5
1,1,1-Trichloroethane	40	200		< 13	< 25	< 25	< 0.5	< 25	< 1.3	< 1.3	< 1	< 1	< 0.4	< 0.4	< 0.2	< 0.4	< 0.2	< 0.2	< 0.4	< 0.2	< 0.4
1,1,2-Trichloroethane	0.5	5		< 6.3	< 13	< 13	< 0.25	< 13	< 1.5	< 1.5	< 1.4	< 1.4	< 0.56	< 0.56	< 0.28	< 0.56	< 0.28	< 0.28	< 0.56	< 0.28	< 0.56
1,1-Dichloroethene	0.7	7		< 13	< 25	< 25	< 0.5	< 25	< 1.5	< 1.5	< 1.6	< 1.6	< 0.62	< 0.62	< 0.31	< 0.62	< 0.31	< 0.31	< 0.62	< 0.31	< 0.62
1,2,4-Trimethylbenzene	96	480		< 5	< 10	< 10	< 0.2	< 10	< 1.1	< 1.1	< 0.7	< 0.7	< 0.28	< 0.28	< 0.14	< 0.28	< 0.14	< 0.14	< 0.28	< 0.14	< 0.28
1,2-Dibromoethane	0.005	0.05		< 5	< 10	< 10	< 0.2	< 10	< 2.3	< 2.3	< 1.8	< 1.8	< 0.72	< 0.72	< 0.36	< 0.72	< 0.36	< 0.36	< 0.72	< 0.36	< 0.72
1,2-Dichlorobenzene	60	600		< 5	< 10	< 10	< 0.2	< 10	< 1.1	< 1.1	< 1.4	< 1.4	< 0.54	< 0.54	< 0.27	< 0.54	< 0.27	< 0.27	< 0.54	< 0.27	< 0.54
1,2-Dichloropropane	0.5	5		< 13	< 25	< 25	< 0.5	< 25	< 1.8	< 1.8	< 1	< 1	< 0.4	< 0.4	< 0.2	< 0.4	< 0.2	< 0.2	< 0.4	< 0.2	< 0.4
1,2,3-Trichlorobenzene	NE	NE		< 6.3	< 13	< 13	< 0.25	< 13	< 1.8	< 1.8	< 1.2	< 1.2	< 0.48	< 0.48	< 0.24	< 0.48	< 0.24	< 0.24	< 0.48	< 0.24	< 0.48
1,2,4-Trichlorobenzene	14	70		< 6.3	< 13	< 13	< 0.25	< 13	< 1.1	< 1.1	< 1.6	< 1.6	< 0.62	< 0.62	< 0.31	< 0.62	< 0.31	< 0.31	< 0.62	< 0.31	< 0.62
1,3,5-Trimethylbenzene	96	480		< 5	< 10	< 10	< 0.2	< 10	< 1.2	< 1.2	< 0.9	< 0.9	< 0.36	< 0.36	< 0.18	< 0.36	< 0.18	< 0.18	< 0.36	< 0.18	< 0.36
2-Butanone	800	4000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	50	500		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	1800	9000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	5		< 5	< 10	< 10	< 0.2	< 10	< 0.6	< 0.6	< 0.37	< 0.37	< 0.15	< 0.15	< 0.074	< 0.15	< 0.074	< 0.074	< 0.15	< 0.074	< 0.15
Bromodichloromethane	0.06	0.6		< 5	< 10	< 10	< 0.2	< 10	< 1.2	< 1.2	< 0.85	< 0.85	< 0.34	< 0.34	< 0.17	< 0.34	< 0.17	< 0.17	< 0.34	< 0.17	< 0.34
Bromoform	0.44	4.4		< 5	< 10	< 10	< 0.2	< 10	< 2.3	< 2.3	< 1.4	< 1.4	< 0.56	< 0.56	< 0.28	< 0.56	< 0.28	< 0.28	< 0.56	< 0.28	< 0.56
Bromomethane	1	10		< 13	< 25	< 25	< 0.5	< 25	< 2.5	< 2.5	< 1.6	< 1.6	< 0.62	< 0.62	< 0.31	< 0.62	< 0.31	< 0.31	< 0.62	< 0.31	< 0.62
Carbon disulfide	200	1000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0.5	5		< 20	< 40	< 40	< 0.8	< 40	< 1.4	< 1.4	< 1.3	< 1.3	< 0.52	< 0.52	< 0.26	< 0.52	< 0.26	< 0.26	< 0.52	< 0.26	< 0.52
Chloroform	0.6	6		< 5	< 10	< 10	0.37	< 10	< 1.3	< 1.3	< 1	< 1	< 0.4	< 0.4	< 0.2	< 0.4	< 0.2	< 0.2	< 0.4	< 0.2	< 0.4
Chloromethane	3	30		< 7.5	< 15	< 15	< 0.3	< 15	< 1.2	< 1.2	< 0.9	< 0.9	< 0.36	< 0.36	< 0.18	< 0.36	< 0.18	< 0.18	< 0.36	< 0.18	< 0.36
cis-1,2-Dichloroethene	7	70		<b>520</b>	<b>510</b>	<b>460</b>	<b>400</b>	<b>440</b>	<b>440</b>	<b>440</b>	<b>420</b>	<b>400</b>	<b>320</b>	<b>300</b>	<b>250</b>	<b>260</b>	<b>100</b>	<b>45</b>	<b>0.24</b>	<b>10</b>	<b>11</b>
Dichlorodifluoromethane	200	1000		< 13	< 25	< 25	< 0.5	< 25	< 1.3	< 1.3	< 1	< 1	< 0.4	< 0.4	< 0.2	< 0.4	< 0.2	< 0.2	< 0.4	< 0.2	< 0.4
Ethylbenzene	140	700		< 13	< 25	< 25	< 0.5	< 25	< 0.7	< 0.7	< 0.65	< 0.65	< 0.26	< 0.26	< 0.13	< 0.26	< 0.13	< 0.13	< 0.26	< 0.13	< 0.26
Isopropylbenzene	NE	NE		< 5	< 10	< 10	< 0.2	< 10	< 1.1	< 1.1	< 0.7	< 0.7	< 0.28	< 0.28	< 0.14	< 0.28	< 0.14	< 0.14	< 0.28	< 0.14	< 0.28
m,p-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	12	60		< 13	< 25	< 25	< 0.5	< 25	< 1.4	< 1.4	< 1.2	< 1.2	< 0.48	< 0.48	< 0.24	< 0.48	< 0.24	< 0.24	< 0.48	< 0.24	< 0.48
Methylene chloride	0.5	5		< 25	< 50	< 50	< 1	< 50	< 3.2	< 3.2	< 3.4	< 3.4	< 1.4	< 1.4	<b>7.3</b>	< 1.4	< 0.68	< 0.68	< 1.4	< 0.68	< 1.4
Naphthalene	10	100		< 6.3	< 13	<b>240</b>	< 0.25	<b>13</b>	< 1.2	< 1.2	< 0.8	< 0.8	< 0.32	< 0.32	< 0.16	< 0.32	< 0.16	< 0.16	< 0.32	< 0.16	< 0.32
n-Butylbenzene	NE	NE		< 5	< 10	< 10	< 0.2	< 10	< 1.1	< 1.1	< 0.65	< 0.65	< 0.26	< 0.26	< 0.13	< 0.26	< 0.13	< 0.13	< 0.26	< 0.13	< 0.26
n-Hexane	120	600		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	NE	NE		< 13	< 25	< 25	< 0.5	< 25	< 0.95	< 0.95	< 0.65	< 0.65	< 0.26	< 0.26	< 0.13	< 0.26	< 0.13	< 0.13	< 0.26	< 0.13	< 0.26
o-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	NE	NE		< 5	< 10	< 10	< 0.2	< 10	< 1.2	< 1.2	< 0.85	< 0.85	< 0.34	< 0.34	< 0.17	< 0.34	< 0.17	< 0.17	< 0.34	< 0.17	< 0.34
sec-Butylbenzene	NE	NE		< 6.3	< 13	< 13	< 0.25	< 13	< 0.95	< 0.95	< 0.75	< 0.75	< 0.3	< 0.3	< 0.15	< 0.3	< 0.15	< 0.15	< 0.3	< 0.15	< 0.3
Styrene	10	100		< 13	< 25	< 25	< 0.5	< 25	< 1.3	< 1.3	< 0.5	< 0.5	< 0.2	< 0.2	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2
tert-Butylbenzene	NE	NE		< 5	< 10	< 10	< 0.2	< 10	< 1.2	< 1.2	< 0.7	< 0.7	< 0.28	< 0.28	< 0.14	< 0.28	< 0.14	< 0.14	< 0.28	< 0.14	< 0.28
Tetrachloroethene	0.5	5		<b>4900</b>	<b>4400</b>	<b>3900</b>	<b>3900</b>	<b>3800</b>	<b>2600</b>	<b>2600</b>	<b>2800</b>	<b>2800</b>	<b>1200</b>	<b>1100</b>	<b>1700</b>	<b>1700</b>	<b>800</b>	<b>850</b>	<b>710</b>	<b>440</b>	<b>840</b>
Toluene	160	800		< 13	< 25	< 25	< 0.5	< 25	< 0.75	< 0.75	< 0.55	< 0.55	< 0.22	< 0.22	< 0.11	< 0.22	< 0.11	< 0.11	< 0.22	< 0.11	< 0.22
trans-1,2-Dichloroethene	20	100		< 13	< 25	< 25	7.0	< 25	6.4	5.8	5.6	5.6	4.9	4.5	3.2	3.5	0.62 J	< 0.25	< 0.5	< 0.25	< 0.5
Trichloroethene	0.5	5		<b>280</b>	<b>240</b>	<b>240</b>	<b>240</b>	<b>230</b>	<b>190</b>	<b>190</b>	<b>190</b>	<b>190</b>	<b>110</b>	<b>120</b>	<b>120</b>	<b>120</b>	<b>50</b>	<b>24</b>	< 0.38	<b>8.7</b>	<b>12</b>
Vinyl chloride	0.02	0.2		< 5	< 10	< 10	<b>0.65</b>	< 10	< 0.65	< 0.65	< 0.5	< 0.5	< 0.2	< 0.2	<b>0.22 J</b>	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2
Xylenes, Total	400	2000		< 13	< 25	< 25	< 0.5	< 25	< 1.5	< 1.5	< 0.34	< 0.34	< 0.14	< 0.14	< 0.068	< 0.14	< 0.068	< 0.068	< 0.14	< 0.068	< 0.14
<b>Total PCBs</b>																					
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.093	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.13	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE																				

Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION	ENFORCEMENT STANDARD	MW-3D2 76 - 81 ft 10/10/2013	MW-3D2 <sup>3</sup> 76 - 81 ft 10/10/2013	MW-3D2 76 - 81 ft 04/16/2014	MW-3D2 <sup>3</sup> 76 - 81 ft 04/16/2014	MW-3D2 76 - 81 ft 10/23/2014	MW-3D2 <sup>3</sup> 76 - 81 ft 10/23/2014	MW-3D2 76 - 81 ft 04/14/2015	MW-3D2 <sup>3</sup> 76 - 81 ft 04/14/2015	MW-3D2 76 - 81 ft 10/22/2015	MW-3D2 <sup>3</sup> 76 - 81 ft 10/22/2015	MW-3D2 76 - 81 ft 01/25/2016	MW-3D2 <sup>3</sup> 76 - 81 ft 01/25/2016	MW-3D2 76 - 81 ft 04/22/2016	MW-3D2 76 - 81 ft 07/20/2016	MW-3D2 <sup>3</sup> 76 - 81 ft 07/20/2016	MW-3D2 76 - 81 ft 10/13/2016	MW-3D2 <sup>3</sup> 76 - 81 ft 10/13/2016	MW-3D2 76 - 81 ft 1/19/2017	MW-3D2 76 - 81 ft 04/12/2017
<b>VOCs</b>																						
1,1,1,2-Tetrachloroethane	7	70		< 0.25	< 0.25	< 1.3	< 1.3	< 0.50	< 0.50	< 1.3	< 1.3	< 4.6	< 4.6	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
1,1,1-Trichloroethane	40	200		< 0.2	< 0.2	< 1.0	< 1.0	< 0.40	< 0.40	< 1.0	< 1.0	< 3.8	< 3.8	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1,2-Trichloroethane	0.5	5		< 0.28	< 0.28	< 1.4	< 1.4	< 0.56	< 0.56	< 1.4	< 1.4	< 3.5	< 3.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethane	0.7	7		< 0.31	< 0.31	< 1.6	< 1.6	< 0.62	< 0.62	< 1.6	< 1.6	< 3.9	< 3.9	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
1,2,4-Trimethylbenzene	96	480		< 0.14	< 0.14	< 0.70	< 0.70	< 0.28	< 0.28	< 0.70	< 0.70	< 3.6	< 3.6	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060
1,2-Dibromoethane	0.005	0.05		< 0.36	< 0.36	< 1.8	< 1.8	< 0.72	< 0.72	< 1.8	< 1.8	< 3.9	< 3.9	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
1,2-Dichlorobenzene	60	600		< 0.27	< 0.27	< 1.4	< 1.4	< 0.54	< 0.54	< 1.4	< 1.4	< 3.3	< 3.3	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076
1,2-Dichloropropane	0.5	5		< 0.2	< 0.2	< 1.0	< 1.0	< 0.40	< 0.40	< 1.0	< 1.0	< 4.3	< 4.3	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichlorobenzene	NE	NE		< 0.24	< 0.24	< 1.2	< 1.2	< 0.48	< 0.48	< 1.2	< 1.2	< 4.6	< 4.6	< 0.045	< 0.045	< 0.045	< 0.045	< 0.045	< 0.045	< 0.045	< 0.045	< 0.045
1,2,4-Trichlorobenzene	14	70		< 0.31	< 0.31	< 1.6	< 1.6	< 0.62	< 0.62	< 1.6	< 1.6	< 3.4	< 3.4	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077
1,3,5-Trimethylbenzene	96	480		< 0.18	< 0.18	< 0.90	< 0.90	< 0.36	< 0.36	< 0.90	< 0.90	< 2.5	< 2.5	< 0.075	< 0.075	< 0.075	< 0.075	< 0.075	< 0.075	< 0.075	< 0.075	< 0.075
2-Butanone	800	4000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2-Hexanone	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.95	< 0.95	< 0.95	< 0.95	< 0.95	< 0.95	< 0.95	< 0.95	< 0.95
4-Methyl-2-pentanone	50	500		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	2.0 J	< 0.77
Acetone	1800	9000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	14 BJ
Benzene	0.5	5		< 0.074	< 0.074	< 0.37	< 0.37	< 0.15	< 0.15	< 0.37	< 0.37	< 1.5	< 1.5	< 0.089	< 0.089	< 0.089	< 0.089	< 0.089	< 0.089	< 0.089	< 0.089	< 0.089
Bromodichloromethane	0.06	0.6		< 0.17	< 0.17	< 0.85	< 0.85	< 0.34	< 0.34	< 0.85	< 0.85	< 3.7	< 3.7	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077
Bromoform	0.44	4.4		< 0.28	< 0.28	< 1.4	< 1.4	< 0.56	< 0.56	< 1.4	< 1.4	< 4.8	< 4.8	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088
Bromomethane	1	10		< 0.31	< 0.31	< 1.6	< 1.6	< 0.62	< 0.62	< 1.6	< 1.6	< 8.0	< 8.0	< 0.59	< 0.59	< 0.59	< 0.59	< 0.59	< 0.59	< 0.59	< 0.59	< 0.59
Carbon disulfide	200	1000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.053	< 0.053	< 0.053	< 0.053	< 0.053	0.14 J	0.35 J	< 0.053	0.22 J
Carbon tetrachloride	0.5	5		< 0.26	< 0.26	< 1.3	< 1.3	< 0.52	< 0.52	< 1.3	< 1.3	< 3.8	< 3.8	< 0.038	< 0.038	< 0.038	< 0.038	< 0.038	< 0.038	< 0.038	< 0.038	< 0.038
Chloroform	0.6	6		< 0.2	< 0.2	< 1.0	< 1.0	< 0.40	< 0.40	< 1.0	< 1.0	< 3.7	< 3.7	< 0.062	< 0.062	< 0.062	< 0.062	< 0.062	< 0.062	< 0.062	< 0.062	< 0.062
Chloromethane	3	30		< 0.18	< 0.18	< 0.90	< 0.90	< 0.36	< 0.36	< 0.90	< 0.90	< 3.2	< 3.2	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	0.75 BJ	0.63 J	0.52 BJ
cis-1,2-Dichloroethene	7	70		21	20	210	220	230	240	270	230	230	220	2.5	2.5	0.84	3.0	3.6	15	17	30	2.1
Dichlorodifluoromethane	200	1000		< 0.2	< 0.2	< 1.0	< 1.0	< 0.40	< 0.40	< 1.0	< 1.0	< 5.4	< 5.4	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
Ethylbenzene	140	700		< 0.13	< 0.13	< 0.65	< 0.65	< 0.26	< 0.26	< 0.65	< 0.65	< 1.8	< 1.8	< 0.054	< 0.054	< 0.054	< 0.054	< 0.054	< 0.054	< 0.054	< 0.054	< 0.054
Isopropylbenzene	NE	NE		< 0.14	< 0.14	< 0.70	< 0.70	< 0.28	< 0.28	< 0.70	< 0.70	< 3.9	< 3.9	< 0.081	< 0.081	< 0.081	< 0.081	< 0.081	< 0.081	< 0.081	< 0.081	< 0.081
m,p-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.057	< 0.057	< 0.057	< 0.057	< 0.057	< 0.057	< 0.057	< 0.057	< 0.057
Methyl tert-butyl ether	12	60		< 0.24	< 0.24	< 1.2	< 1.2	< 0.48	< 0.48	< 1.2	< 1.2	< 3.9	< 3.9	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
Methylene chloride	0.5	5		< 0.68	< 0.68	< 3.4	< 3.4	< 1.4	< 1.4	< 3.4	< 3.4	< 16	< 16	0.31 J	0.19 J	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	0.68 BJ	< 0.14
Naphthalene	10	100		< 0.16	< 0.16	< 0.80	< 0.80	< 0.32	< 0.32	< 0.80	< 0.80	< 3.4	< 3.4	< 0.088	< 0.088	< 0.088	0.11 BJ	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088
n-Butylbenzene	NE	NE		< 0.13	< 0.13	< 0.65	< 0.65	< 0.26	< 0.26	< 0.65	< 0.65	< 3.9	< 3.9	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
n-Hexane	120	600		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21
n-Propylbenzene	NE	NE		< 0.13	< 0.13	< 0.65	< 0.65	< 0.26	< 0.26	< 0.65	< 0.65	< 4.1	< 4.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
o-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.058	< 0.058	< 0.058	< 0.058	< 0.058	< 0.058	< 0.058	< 0.058	< 0.058
p-Isopropyltoluene	NE	NE		< 0.17	< 0.17	< 0.85	< 0.85	< 0.34	< 0.34	< 0.85	< 0.85	< 3.6	< 3.6	< 0.085	< 0.085	< 0.085	< 0.085	< 0.085	< 0.085	< 0.085	< 0.085	< 0.085
sec-Butylbenzene	NE	NE		< 0.15	< 0.15	< 0.75	< 0.75	< 0.30	< 0.30	< 0.75	< 0.75	< 4.0	< 4.0	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Styrene	10	100		< 0.1	< 0.1	< 0.50	< 0.50	< 0.20	< 0.20	< 0.50	< 0.50	< 3.9	< 3.9	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065
tert-Butylbenzene	NE	NE		< 0.14	< 0.14	< 0.70	< 0.70	< 0.28	< 0.28	< 0.70	< 0.70	< 4.0	< 4.0	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Tetrachloroethene	0.5	5		150	150	1800	1700	1700	1700	1800	1800	2200	2200	12	13	7.4	18	19	20	18	14	2.3 B
Toluene	160	800		< 0.11	< 0.11	< 0.55	< 0.55	< 0.22	< 0.22	< 0.55	< 0.55	< 1.5	< 1.5	< 0.053	< 0.053	< 0.053	< 0.053	< 0.053	< 0.053	< 0.053	0.11 BJ	< 0.053
trans-1,2-Dichloroethene	20	100		0.52 J	< 0.25	3.1 J	3.9 J	3.0	3.3	4.6 J	< 1.3	< 3.5	< 3.5	< 0.11	0.11 J	< 0.11	0.13 J	0.13 J	0.22 J	0.17 J	0.22 J	< 0.11
Trichloroethene	0.5	5		9.8	9.9	120	130	140	140	160	140	130	130	2.4								

Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION	ENFORCEMENT STANDARD	MW-3D3 214 - 224 ft 07/24/2012	MW-3D3 <sup>3</sup> 214 - 224 ft 07/24/2012	MW-3D3 214 - 224 ft 11/27/2012	MW-3D3 214 - 224 ft 01/18/2013	MW-3D3 214 - 224 ft 02/15/2013	MW-3D3 214 - 224 ft 03/13/2013	MW-3D3 214 - 224 ft 04/19/2013	MW-3D3 214 - 224 ft 07/16/2013	MW-3D3 214 - 224 ft 10/07/2013	MW-3D3 214 - 224 ft 04/16/2014	MW-3D3 214 - 224 ft 10/16/2014	MW-3D3 214 - 224 ft 04/13/2015	MW-3D3 214 - 224 ft 10/19/2015	MW-3D3 214 - 224 ft 10/13/2016	
<b>VOCs</b>																		
1,1,1,2-Tetrachloroethane	7	70		< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.46	< 0.11
1,1,1-Trichloroethane	40	200		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.38	< 0.10
1,1,2-Trichloroethane	0.5	5		< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.35	< 0.10
1,1-Dichloroethane	0.7	7		< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.39	< 0.14
1,2,4-Trimethylbenzene	96	480		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.36	< 0.060
1,2-Dibromoethane	0.005	0.05		< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.39	< 0.13
1,2-Dichlorobenzene	60	600		< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.33	< 0.076
1,2-Dichloropropane	0.5	5		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.43	< 0.10
1,2,3-Trichlorobenzene	NE	NE		< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.46	< 0.045
1,2,4-Trichlorobenzene	14	70		< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.34	< 0.077
1,3,5-Trimethylbenzene	96	480		< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.25	< 0.075
2-Butanone	800	4000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 3.0
2-Hexanone	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.95
4-Methyl-2-pentanone	50	500		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.77
Acetone	1800	9000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 3.4
Benzene	0.5	5		< 0.074	< 0.074	< 0.074	0.30 J	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.15	< 0.089
Bromodichloromethane	0.06	0.6		< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.37	< 0.077
Bromoform	0.44	4.4		< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.48	< 0.088
Bromomethane	1	10		< 0.31	< 0.31	< 0.31	< 0.31	< 0.31 *	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.80	< 0.59
Carbon disulfide	200	1000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.053
Carbon tetrachloride	0.5	5		< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.38	< 0.038
Chloroform	0.6	6		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.37	< 0.062
Chloromethane	3	30		< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.32	0.79 BJ
cis-1,2-Dichloroethene	7	70		2.2	2.2	6.8	15	7.7	6.2	4.0	1.2	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.41	< 0.11
Dichlorodifluoromethane	200	1000		< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.54	< 0.11
Ethylbenzene	140	700		< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.18	< 0.054
Isopropylbenzene	NE	NE		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.39	< 0.081
m,p-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.057
Methyl tert-butyl ether	12	60		< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.39	< 0.14
Methylene chloride	0.5	5		< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 1.6	< 0.14
Naphthalene	10	100		< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.34	< 0.088
n-Butylbenzene	NE	NE		< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.39	< 0.14
n-Hexane	120	600		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.21
n-Propylbenzene	NE	NE		< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.41	< 0.10
o-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.058
p-Isopropyltoluene	NE	NE		< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.36	< 0.085
sec-Butylbenzene	NE	NE		< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.40	< 0.13
Styrene	10	100		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.39	< 0.065
tert-Butylbenzene	NE	NE		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.40	< 0.12
Tetrachloroethene	0.5	5		6.6	6.6	1.7	1.3	0.72 J	0.95 J	0.63 J	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.37	0.49 J
Toluene	160	800		< 0.11	< 0.11	< 0.11	0.21 J	< 0.11	< 0.11	0.53	2.8	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.15	0.10 J
trans-1,2-Dichloroethene	20	100		< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.35	< 0.11
Trichloroethene	0.5	5		1.1	1.2	1.1	0.40 J	< 0.19	< 0.19	< 0.19	0.31 J	0.5	< 0.19	< 0.19	< 0.19	< 0.19	< 0.16	< 0.062
Vinyl chloride	0.02	0.2		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.16
Xylenes, Total	400	2000		< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.22	< 0.058
<b>Total PCBs</b>																		
Aroclor-1016	0.003	0.03		NA	NA	NA	< 0.18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03		NA	NA	NA	< 0.096	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03		NA	NA	NA	< 0.14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>																		
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION	ENFORCEMENT STANDARD	MW-4S 35 - 50 ft 04/08/2010	MW-4S <sup>3</sup> 35 - 50 ft 04/08/2010	MW-4S 35 - 50 ft 03/30/2011	MW-4S 35 - 50 ft 04/10/2012	MW-4S 35 - 50 ft 01/15/2013	MW-4S 35 - 50 ft 04/18/2013	MW-4S 35 - 50 ft 07/18/2013	MW-4S 35 - 50 ft 10/08/2013	MW-4S 35 - 50 ft 04/17/2014	MW-4S 35 - 50 ft 10/17/2014
<b>VOCs</b>													
1,1,1,2-Tetrachloroethane	7		70	< 0.25	< 0.25	< 0.25	< 0.31	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
1,1,1-Trichloroethane	40		200	< 0.5	< 0.5	< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20
1,1,2-Trichloroethane	0.5		5	< 0.25	< 0.25	< 0.25	< 0.3	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
1,1-Dichloroethene	0.7		7	< 0.5	< 0.5	< 0.5	< 0.29	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31
1,2,4-Trimethylbenzene	96		480	< 0.2	< 0.2	< 0.2	< 0.22	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
1,2-Dibromoethane	0.005		0.05	< 0.2	< 0.2	< 0.2	< 0.45	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36
1,2-Dichlorobenzene	60		600	< 0.2	< 0.2	< 0.2	< 0.21	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27
1,2-Dichloropropane	0.5		5	< 0.5	< 0.5	< 0.5	< 0.36	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
1,2,3-Trichlorobenzene	NE		NE	< 0.25	< 0.25	< 0.25	< 0.36	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24
1,2,4-Trichlorobenzene	14		70	< 0.25	< 0.25	< 0.25	< 0.22	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31
1,3,5-Trimethylbenzene	96		480	< 0.2	< 0.2	< 0.2	< 0.23	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18
2-Butanone	800		4000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NE		NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	50		500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	1800		9000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5		5	< 0.2	< 0.2	< 0.2	< 0.12	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074
Bromodichloromethane	0.06		0.6	< 0.2	< 0.2	< 0.2	< 0.23	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
Bromoform	0.44		4.4	< 0.2	< 0.2	< 0.2	< 0.45	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
Bromomethane	1		10	< 0.5	< 0.5	< 0.5	< 0.49	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31 *
Carbon disulfide	200		1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0.5		5	< 0.8	< 0.8	< 0.8	< 0.28	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26
Chloroform	0.6		6	< 0.2	< 0.2	< 0.2	< 0.25	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
Chloromethane	3		30	< 0.3	< 0.3	< 0.3	< 0.24	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18
cis-1,2-Dichloroethene	7		70	< 0.5	< 0.5	< 0.5	< 0.22	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Dichlorodifluoromethane	200		1000	< 0.5	< 0.5	< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
Ethylbenzene	140		700	< 0.5	< 0.5	< 0.5	< 0.14	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Isopropylbenzene	NE		NE	< 0.2	< 0.2	< 0.2	< 0.21	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
m,p-Xylene	400		2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	12		60	< 0.5	< 0.5	< 0.5	< 0.28	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24 *
Methylene chloride	0.5		5	< 1	< 1	< 1	< 0.63	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68
Naphthalene	10		100	1.4	1.4	< 0.25	< 0.24	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
n-Butylbenzene	NE		NE	< 0.2	< 0.2	< 0.2	< 0.21	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
n-Hexane	120		600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	NE		NE	< 0.5	< 0.5	< 0.5	< 0.19	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
o-Xylene	400		2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	NE		NE	< 0.2	< 0.2	< 0.2	< 0.24	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
sec-Butylbenzene	NE		NE	< 0.25	< 0.25	< 0.25	< 0.19	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
Styrene	10		100	< 0.5	< 0.5	< 0.5	< 0.26	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10
tert-Butylbenzene	NE		NE	< 0.2	< 0.2	< 0.2	< 0.24	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
Tetrachloroethene	0.5		5	<b>1.5</b>	<b>1.7</b>	<b>1.6</b>	<b>0.96 J</b>	<b>1.4</b>	<b>1.8</b>	<b>0.90 J</b>	<b>1.2</b>	<b>1.9</b>	<b>1.4</b>
Toluene	160		800	< 0.5	< 0.5	< 0.5	0.20 J	< 0.11	< 0.11	0.26 J	< 0.11	< 0.11	< 0.11
trans-1,2-Dichloroethene	20		100	< 0.5	< 0.5	< 0.5	< 0.27	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Trichloroethene	0.5		5	< 0.2	< 0.2	< 0.2	< 0.18	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Vinyl chloride	0.02		0.2	< 0.2	< 0.2	< 0.2	< 0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10
Xylenes, Total	400		2000	< 0.5	< 0.5	< 0.5	< 0.3	< 0.068	< 0.068	0.28 J	< 0.068	< 0.068	< 0.068
<b>Total PCBs</b>													
Aroclor-1016	0.003		0.03	NA	NA	NA	NA	< 0.17	NA	NA	NA	NA	NA
Aroclor-1232	0.003		0.03	NA	NA	NA	NA	< 0.091	NA	NA	NA	NA	NA
Aroclor-1242	0.003		0.03	NA	NA	NA	NA	< 0.13	NA	NA	NA	NA	NA
Total Detected PCBs	NE		NE	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>													
Aroclor-1016	0.003		0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003		0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003		0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE		NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION	ENFORCEMENT STANDARD	MW-4D 65 - 70 ft 04/08/2010	MW-4D 65 - 70 ft 03/30/2011	MW-4D 65 - 70 ft 04/10/2012	MW-4D 65 - 70 ft 01/16/2013	MW-4D 65 - 70 ft 04/18/2013	MW-4D 65 - 70 ft 07/17/2013	MW-4D 65 - 70 ft 10/08/2013	MW-4D 65 - 70 ft 04/17/2014	MW-4D 65 - 70 ft 10/17/2014
<b>VOCs</b>												
1,1,1,2-Tetrachloroethane	7		70	< 0.25	< 0.25	< 0.31	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
1,1,1-Trichloroethane	40		200	< 0.5	< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20
1,1,2-Trichloroethane	0.5		5	< 0.25	< 0.25	< 0.3	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
1,1-Dichloroethene	0.7		7	< 0.5	< 0.5	< 0.29	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31
1,2,4-Trimethylbenzene	96		480	< 0.2	< 0.2	< 0.22	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
1,2-Dibromoethane	0.005		0.05	< 0.2	< 0.2	< 0.45	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36
1,2-Dichlorobenzene	60		600	< 0.2	< 0.2	< 0.21	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27
1,2-Dichloropropane	0.5		5	< 0.5	< 0.5	< 0.36	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
1,2,3-Trichlorobenzene	NE		NE	< 0.25	< 0.25	< 0.36	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24
1,2,4-Trichlorobenzene	14		70	< 0.25	< 0.25	< 0.22	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31
1,3,5-Trimethylbenzene	96		480	< 0.2	< 0.2	< 0.23	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18
2-Butanone	800		4000	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NE		NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	50		500	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	1800		9000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5		5	< 0.2	< 0.2	< 0.12	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074
Bromodichloromethane	0.06		0.6	< 0.2	< 0.2	< 0.23	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
Bromoform	0.44		4.4	< 0.2	< 0.2	< 0.45	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
Bromomethane	1		10	< 0.5	< 0.5	< 0.49	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31 *
Carbon disulfide	200		1000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0.5		5	< 0.8	< 0.8	< 0.28	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26
Chloroform	0.6		6	< 0.2	< 0.2	< 0.25	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
Chloromethane	3		30	< 0.3	< 0.3	< 0.24	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18
cis-1,2-Dichloroethene	7		70	< 0.5	< 0.5	< 0.22	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Dichlorodifluoromethane	200		1000	< 0.5	< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
Ethylbenzene	140		700	< 0.5	< 0.5	< 0.14	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Isopropylbenzene	NE		NE	< 0.2	< 0.2	< 0.21	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
m,p-Xylene	400		2000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	12		60	< 0.5	< 0.5	< 0.28	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24 *
Methylene chloride	0.5		5	< 1	< 1	< 0.63	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68
Naphthalene	10		100	< 0.25	< 0.25	< 0.24	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
n-Butylbenzene	NE		NE	< 0.2	< 0.2	< 0.21	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
n-Hexane	120		600	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	NE		NE	< 0.5	< 0.5	< 0.19	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
o-Xylene	400		2000	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	NE		NE	< 0.2	< 0.2	< 0.24	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
sec-Butylbenzene	NE		NE	< 0.25	< 0.25	< 0.19	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
Styrene	10		100	< 0.5	< 0.5	< 0.26	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10
tert-Butylbenzene	NE		NE	< 0.2	< 0.2	< 0.24	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
Tetrachloroethene	0.5		5	<b>0.9</b>	<b>0.7</b>	< 0.22	< 0.17	<b>0.51 J</b>	< 0.17	< 0.17	<b>0.58 J</b>	< 0.17
Toluene	160		800	< 0.5	< 0.5	< 0.15	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
trans-1,2-Dichloroethene	20		100	< 0.5	< 0.5	< 0.27	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Trichloroethene	0.5		5	< 0.2	< 0.2	< 0.18	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19
Vinyl chloride	0.02		0.2	< 0.2	< 0.2	< 0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10
Xylenes, Total	400		2000	< 0.5	< 0.5	< 0.3	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068
<b>Total PCBs</b>												
Aroclor-1016	0.003		0.03	NA	NA	NA	< 0.17	NA	NA	NA	NA	NA
Aroclor-1232	0.003		0.03	NA	NA	NA	< 0.093	NA	NA	NA	NA	NA
Aroclor-1242	0.003		0.03	NA	NA	NA	< 0.13	NA	NA	NA	NA	NA
Total Detected PCBs	NE		NE	NA	NA	NA	ND	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>												
Aroclor-1016	0.003		0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003		0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003		0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE		NE	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes on Page 50.

Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION	ENFORCEMENT STANDARD	MW-4D2 91 - 96 ft 03/30/2011	MW-4D2 91 - 96 ft 04/10/2012	MW-4D2 91 - 96 ft 01/16/2013	MW-4D2 91 - 96 ft 04/18/2013	MW-4D2 91 - 96 ft 07/18/2013	MW-4D2 91 - 96 ft 10/07/2013	MW-4D2 91 - 96 ft 04/17/2014	MW-4D2 91 - 96 ft 10/17/2014	MW-4D2 91 - 96 ft 10/21/2015	MW-4D2 91 - 96 ft 01/22/2016	MW-4D2 91 - 96 ft 04/20/2016	MW-4D2 91 - 96 ft 07/19/2016	MW-4D2 <sup>3</sup> 91 - 96 ft 07/19/2016	MW-4D2 91 - 96 ft 10/12/2016	MW-4D2 91 - 96 ft 1/19/2017	MW-4D2 91 - 96 ft 04/11/2017
<b>VOCs</b>																			
1,1,1,2-Tetrachloroethane	7	70	< 0.25	< 0.31	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.46	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
1,1,1-Trichloroethane	40	200	< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.38	< 0.10	0.13 J	0.17 J	0.18 J	0.27 J	0.24 J	0.30 J
1,1,2-Trichloroethane	0.5	5	< 0.25	< 0.3	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.35	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethane	0.7	7	< 0.5	< 0.29	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.39	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
1,2,4-Trimethylbenzene	96	480	< 0.2	< 0.22	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.36	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060
1,2-Dibromoethane	0.005	0.05	< 0.2	< 0.45	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.39	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
1,2-Dichlorobenzene	60	600	< 0.2	< 0.21	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.33	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076
1,2-Dichloropropane	0.5	5	< 0.5	< 0.36	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.43	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichlorobenzene	NE	NE	< 0.25	< 0.36	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.46	< 0.045	< 0.045	< 0.045	< 0.045	< 0.045	< 0.045	< 0.045
1,2,4-Trichlorobenzene	14	70	< 0.25	< 0.22	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.34	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077
1,3,5-Trimethylbenzene	96	480	< 0.2	< 0.23	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.25	< 0.075	< 0.075	< 0.075	< 0.075	< 0.075	< 0.075	< 0.075
2-Butanone	800	4000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
2-Hexanone	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.95	< 0.95	< 0.95	< 0.95	< 0.95	< 0.95	< 0.95
4-Methyl-2-pentanone	50	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77
Acetone	1800	9000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Benzene	0.5	5	< 0.2	< 0.12	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.15	< 0.089	< 0.089	< 0.089	< 0.089	0.34 J	< 0.089	< 0.089
Bromodichloromethane	0.06	0.6	< 0.2	< 0.23	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.37	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077
Bromoform	0.44	4.4	< 0.2	< 0.45	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.48	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088
Bromomethane	1	10	< 0.5	< 0.49	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31 *	< 0.80	< 0.59	< 0.59	< 0.59	< 0.59	< 0.59	< 0.59	< 0.59
Carbon disulfide	200	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.053	< 0.053	< 0.053	< 0.053	< 0.053	< 0.053	< 0.053
Carbon tetrachloride	0.5	5	< 0.8	< 0.28	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.38	< 0.038	< 0.038	< 0.038	< 0.038	< 0.038	< 0.038	< 0.038
Chloroform	0.6	6	< 0.2	< 0.25	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.37	< 0.062	< 0.062	< 0.062	< 0.062	< 0.062	< 0.062	< 0.062
Chloromethane	3	30	< 0.3	< 0.24	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.32	< 0.16	< 0.16	0.20 J	0.18 J	0.52 BJ	0.26 BJ	< 0.16
cis-1,2-Dichloroethene	7	70	< 0.5	< 0.22	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.41	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
Dichlorodifluoromethane	200	1000	< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.54	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
Ethylbenzene	140	700	< 0.5	< 0.14	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	0.40 J	< 0.054	< 0.054	< 0.054	< 0.054	< 0.054	< 0.054	< 0.054
Isopropylbenzene	NE	NE	< 0.2	< 0.21	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.39	< 0.081	< 0.081	< 0.081	< 0.081	< 0.081	< 0.081	< 0.081
m,p-Xylene	400	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.057	< 0.057	< 0.057	< 0.057	< 0.057	< 0.057	< 0.057
Methyl tert-butyl ether	12	60	< 0.5	< 0.28	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24 *	< 0.24 *	< 0.39	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
Methylene chloride	0.5	5	< 1	< 0.63	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 1.6	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
Naphthalene	10	100	< 0.25	< 0.24	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.34	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088
n-Butylbenzene	NE	NE	< 0.2	< 0.21	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.39	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
n-Hexane	120	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21
n-Propylbenzene	NE	NE	< 0.5	< 0.19	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.41	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
o-Xylene	400	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.058	< 0.058	< 0.058	< 0.058	< 0.058	< 0.058	< 0.058
p-Isopropyltoluene	NE	NE	< 0.2	< 0.24	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.36	< 0.085	< 0.085	< 0.085	< 0.085	< 0.085	< 0.085	< 0.085
sec-Butylbenzene	NE	NE	< 0.25	< 0.19	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.40	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Styrene	10	100	< 0.5	< 0.26	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.39	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065	< 0.065
tert-Butylbenzene	NE	NE	< 0.2	< 0.24	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.40	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12
Tetrachloroethene	0.5	5	<b>1.9</b>	<b>0.73 J</b>	<b>1.2</b>	<b>0.92 J</b>	<b>1.2</b>	<b>0.84 J</b>	<b>1.5</b>	<b>1</b>	<b>1</b>	0.48 J	<b>0.8</b>	<b>0.76</b>	0.45 J	<b>0.55</b>	<b>0.65</b>	0.38 BJ	0.46 BJ
Toluene	160	800	< 0.5	0.40 J	< 0.11	0.45 J	0.39 J	< 0.11	< 0.11	< 0.11	< 0.11	< 0.15	< 0.053	< 0.053	< 0.053	< 0.053	0.13 J	0.11 BJ	< 0.053
trans-1,2-Dichloroethene	20	100	< 0.5	< 0.27	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.35	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
Trichloroethene	0.5	5	< 0.2	< 0.18	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.16	< 0.062	< 0.062	< 0.062	< 0.062	< 0.062	< 0.062	< 0.062
Vinyl chloride	0.02	0.2	< 0.2	< 0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.20	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Xylenes, Total	400	2000	< 0.5	< 0.3	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	1.8	< 0.058	< 0.058	< 0.058	< 0.058	< 0.058	< 0.12	< 0.12
<b>Total PCBs</b>																			
Aroclor-1016	0.003	0.03	NA	NA	< 0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03	NA	NA	< 0.087	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03	NA	NA	< 0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE	NA	NA	ND	NA	NA	NA	NA										

Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION	ENFORCEMENT STANDARD	MW-5S 34 - 44 ft 04/07/2010	MW-5S 34 - 44 ft 10/01/2010	MW-5S 34 - 44 ft 04/12/2012	MW-5S <sup>3</sup> 34 - 44 ft 04/12/2012	MW-5S 34 - 44 ft 11/28/2012	MW-5S 34 - 44 ft 01/17/2013	MW-5S 34 - 44 ft 02/13/2013	MW-5S 34 - 44 ft 04/19/2013	MW-5S 34 - 44 ft 07/18/2013	MW-5S 34 - 44 ft 10/04/2013	MW-5S 34 - 44 ft 04/15/2014	MW-5S 34 - 44 ft 10/21/2014	MW-5S 34 - 44 ft 04/13/2015	MW-5S 34 - 44 ft 10/21/2015	MW-5S 34 - 44 ft 10/12/2016	
<b>VOCs</b>																			
1,1,1,2-Tetrachloroethane	7	70		< 0.25	< 0.25	< 0.31	< 0.31	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.46	< 0.22
1,1,1-Trichloroethane	40	200		< 0.5	< 0.5	< 0.26	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.38	< 0.20
1,1,2-Trichloroethane	0.5	5		< 0.25	< 0.25	< 0.3	< 0.3	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.35	< 0.20
1,1-Dichloroethene	0.7	7		< 0.5	< 0.5	< 0.29	< 0.29	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.39	< 0.28
1,2,4-Trimethylbenzene	96	480		< 0.2	< 0.2	< 0.22	< 0.22	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.36	< 0.12
1,2-Dibromoethane	0.005	0.05		< 0.2	< 0.2	< 0.45	< 0.45	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.39	< 0.26
1,2-Dichlorobenzene	60	600		< 0.2	< 0.2	< 0.21	< 0.21	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.33	< 0.15
1,2-Dichloropropane	0.5	5		< 0.5	< 0.5	< 0.36	< 0.36	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.43	< 0.20
1,2,3-Trichlorobenzene	NE	NE		< 0.25	< 0.25	< 0.36	< 0.36	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.46	< 0.090
1,2,4-Trichlorobenzene	14	70		< 0.25	< 0.25	< 0.22	< 0.22	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.34	< 0.15
1,3,5-Trimethylbenzene	96	480		< 0.2	< 0.2	< 0.23	< 0.23	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.25	< 0.15
2-Butanone	800	4000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 6.0
2-Hexanone	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.9
4-Methyl-2-pentanone	50	500		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.5
Acetone	1800	9000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 6.8
Benzene	0.5	5		< 0.2	< 0.2	< 0.12	0.40 J	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.15	< 0.18
Bromodichloromethane	0.06	0.6		< 0.2	< 0.2	< 0.23	< 0.23	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.37	< 0.15
Bromoform	0.44	4.4		< 0.2	< 0.2	< 0.45	< 0.45	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.48	< 0.18
Bromomethane	1	10		< 0.5	< 0.5	< 0.49	< 0.49	< 0.31	0.73 J	< 0.31 *	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.80	< 1.2
Carbon disulfide	200	1000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.11
Carbon tetrachloride	0.5	5		< 0.8	< 0.8	1.2	< 0.28	1.1	< 0.26	1.4	1.1	1.3	1.3	< 0.26	0.79 J	< 0.26	1	< 0.076	
Chloroform	0.6	6		< 0.2	0.55	0.84 J	0.88 J	0.79 J	0.79 J	< 0.2	< 0.2	< 0.2	0.61 J	< 0.20	< 0.20	< 0.20	< 0.20	< 0.37	< 0.12
Chloromethane	3	30		< 0.3	< 0.3	< 0.24	< 0.24	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.32	1.2 BJ
cis-1,2-Dichloroethene	7	70		1.4	10	13	14	4.2	3.8	2.7	2.0	2.9	2.9	< 0.12	< 0.12	< 0.12	< 0.12	< 0.41	< 0.22
Dichlorodifluoromethane	200	1000		< 0.5	< 0.5	< 0.26	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.20	< 0.54	< 0.22
Ethylbenzene	140	700		< 0.5	< 0.5	< 0.14	< 0.14	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.18	< 0.11
Isopropylbenzene	NE	NE		< 0.2	< 0.2	< 0.21	< 0.21	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.39	< 0.16
m,p-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.11
Methyl tert-butyl ether	12	60		< 0.5	< 0.5	< 0.28	< 0.28	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.39	< 0.28
Methylene chloride	0.5	5		< 1	< 1	< 0.63	< 0.63	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 1.6	< 0.28
Naphthalene	10	100		1.4	< 0.25	< 0.24	< 0.24	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.34	< 0.18
n-Butylbenzene	NE	NE		< 0.2	< 0.2	< 0.21	< 0.21	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.39	< 0.28
n-Hexane	120	600		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.42
n-Propylbenzene	NE	NE		< 0.5	< 0.5	< 0.19	< 0.19	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.41	< 0.20
o-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.12
p-Isopropyltoluene	NE	NE		< 0.2	< 0.2	< 0.24	< 0.24	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.36	< 0.17
sec-Butylbenzene	NE	NE		< 0.25	< 0.25	< 0.19	< 0.19	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.40	< 0.26
Styrene	10	100		< 0.5	< 0.5	< 0.26	< 0.26	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.39	< 0.13
tert-Butylbenzene	NE	NE		< 0.2	< 0.2	< 0.24	< 0.24	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.40	< 0.24
Tetrachloroethene	0.5	5		41	670	360	370	240	260	210	130	190	170	47	75	100	110	58	
Toluene	160	800		< 0.5	< 0.5	< 0.15	< 0.15	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.15	0.22 J
trans-1,2-Dichloroethene	20	100		< 0.5	0.50	< 0.27	< 0.27	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.35	< 0.22
Trichloroethene	0.5	5		1	13	9.8	10	4.7	4.4	3.8	2.8	3	2.9	< 0.19	1.2	0.99	0.79	< 0.12	
Vinyl chloride	0.02	0.2		< 0.2	< 0.2	< 0.13	< 0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.20	< 0.32
Xylenes, Total	400	2000		< 0.5	< 0.5	< 0.3	< 0.3	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.22	< 0.12
<b>Total PCBs</b>																			
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03		NA	NA	NA	NA	NA	< 0.091	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03		NA	NA	NA	NA	NA	< 0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>																			
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes on Page 50.



Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	MW-5D 75 - 80 ft	MW-5D <sup>3</sup> 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D <sup>3</sup> 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D <sup>3</sup> 75 - 80 ft	MW-5D 75 - 80 ft	MW-5D 75 - 80 ft		
SAMPLE DATE				04/07/2010	04/07/2010	04/12/2012	11/28/2012	01/17/2013	02/13/2013	04/19/2013	07/18/2013	10/04/2013	04/15/2014	10/21/2014	04/13/2015	10/19/2015	01/21/2016	04/21/2016	04/21/2016	07/18/2016	10/12/2016	10/12/2016	11/18/2017	04/12/2017
<b>VOCs</b>																								
1,1,1,2-Tetrachloroethane	7	70	< 5	< 5	< 0.31	< 1.3	< 0.5	< 0.5	< 0.5	< 1.3	< 1.3	< 0.25	< 0.25	< 0.25	< 0.46	< 0.11	< 0.11	< 0.11	< 0.11	0.51	< 11	< 11	< 0.55	
1,1,1-Trichloroethane	40	200	< 10	< 10	< 0.26	< 1	< 0.4	< 0.4	< 0.4	< 1	< 1	< 0.20	< 0.20	< 0.20	< 0.38	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 0.50
1,1,2-Trichloroethane	0.5	5	< 5	< 5	< 0.3	< 1.4	< 0.56	< 0.56	< 0.56	< 1.4	< 1.4	< 0.28	< 0.28	< 0.28	< 0.35	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 0.50
1,1-Dichloroethane	0.7	7	< 10	< 10	< 0.29	< 1.6	< 0.62	< 0.62	< 0.62	< 1.6	< 1.6	< 0.31	< 0.31	< 0.31	< 0.39	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 14	< 14	< 0.70
1,2,4-Trimethylbenzene	96	480	< 4	< 4	< 0.22	< 0.7	< 0.28	< 0.28	< 0.28	< 0.7	< 0.7	< 0.14	< 0.14	< 0.14	< 0.36	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 6.0	< 6.0	< 0.30
1,2-Dibromoethane	0.005	0.05	< 4	< 4	< 0.45	< 1.8	< 0.72	< 0.72	< 0.72	< 1.8	< 1.8	< 0.36	< 0.36	< 0.36	< 0.39	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 13	< 13	< 0.65
1,2-Dichlorobenzene	60	600	< 4	< 4	< 0.21	< 1.4	< 0.54	< 0.54	< 0.54	< 1.4	< 1.4	< 0.27	< 0.27	< 0.27	< 0.33	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076	< 0.076	< 7.6	< 7.6	< 0.38
1,2-Dichloropropane	0.5	5	< 10	< 10	< 0.36	< 1	< 0.4	< 0.4	< 0.4	< 1	< 1	< 0.20	< 0.20	< 0.20	< 0.43	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 0.50
1,2,3-Trichlorobenzene	NE	NE	< 5	< 5	< 0.36	< 1.2	< 0.48	< 0.48	< 0.48	< 1.2	< 1.2	< 0.24	< 0.24	< 0.24	< 0.46	< 0.045	< 0.045	< 0.045	< 0.045	0.23 BJ	< 0.045	< 4.5	< 4.5	< 0.23
1,2,4-Trichlorobenzene	14	70	< 5	< 5	< 0.22	< 1.6	< 0.62	< 0.62	< 0.62	< 1.6	< 1.6	< 0.31	< 0.31	< 0.31	< 0.34	< 0.077	< 0.077	< 0.077	0.13 BJ	< 0.077	< 7.7	< 7.7	< 0.39	
1,3,5-Trimethylbenzene	96	480	< 4	< 4	< 0.23	< 0.9	< 0.36	< 0.36	< 0.36	< 0.9	< 0.9	< 0.18	< 0.18	< 0.18	< 0.25	< 0.075	< 0.075	< 0.075	< 0.075	< 0.075	< 7.5	< 7.5	< 0.38	
2-Butanone	800	4000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 300	< 300	< 15
2-Hexanone	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.95	< 0.95	< 0.95	< 0.95	< 0.95	< 0.95	< 95	< 95	< 4.8
4-Methyl-2-pentanone	50	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 0.77	< 77	< 77	< 3.9
Acetone	1800	9000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 340	< 340	< 17
Benzene	0.5	5	< 4	< 4	0.29 J	1.1 J	1.2	1	0.88 J	1.5 J	2.8	0.30 J	0.22 J	< 0.074	< 0.15	< 0.089	< 0.089	< 0.089	< 0.089	< 0.089	5.7	< 8.9	9.0 J	< 0.45
Bromodichloromethane	0.06	0.6	< 4	< 4	< 0.23	< 0.85	< 0.34	< 0.34	< 0.34	< 0.85	< 0.85	< 0.17	< 0.17	< 0.17	< 0.37	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 0.077	< 7.7	< 7.7	< 0.39
Bromoform	0.44	4.4	< 4	< 4	< 0.45	< 1.4	< 0.56	< 0.56	< 0.56	< 1.4	< 1.4	< 0.28	< 0.28	< 0.28	< 0.48	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088	< 0.088	< 8.8	< 8.8	< 0.44
Bromomethane	1	10	< 10	< 10	< 0.49	< 1.6	< 0.62	< 0.62	< 0.62	< 1.6	< 1.6	< 0.31	< 0.31	< 0.31	< 0.80	< 0.59	< 0.59	< 0.59	< 0.59	< 0.59	< 0.59	< 59	< 59	< 3.0
Carbon disulfide	200	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.053	< 0.053	0.11 J	< 0.053	< 0.053	< 5.3	15 J	0.70 J	
Carbon tetrachloride	0.5	5	< 16	< 16	< 0.28	< 1.3	< 0.52	< 0.52	< 0.52	< 1.3	< 1.3	< 0.26	< 0.26	< 0.26	< 0.38	< 0.038	< 0.038	< 0.038	< 0.038	< 0.038	< 3.8	< 3.8	< 0.19	
Chloroform	0.6	6	< 4	< 4	< 0.25	< 1	1.0 J	< 0.4	< 0.4	< 1	< 1	< 0.20	< 0.20	< 0.20	< 0.37	< 0.062	< 0.062	< 0.062	< 0.062	1	< 6.2	11 BJ	< 0.31	
Chloromethane	3	30	< 6	< 6	< 0.24	< 0.9	< 0.36	< 0.36	< 0.36	< 0.9	< 0.9	< 0.18	< 0.18	< 0.18	< 0.32	< 0.16	< 0.16	< 0.16	< 0.16	0.57 BJ	100 J	< 16	< 0.80	
cis-1,2-Dichloroethene	7	70	48	48	26	93	110	94	100	120	140	77	100	190	10	0.94	11	13	3.0	210	270	230	13	
Dichlorodifluoromethane	200	1000	< 10	< 10	< 0.26	< 1	< 0.4	< 0.4	< 0.4	< 1	< 1	< 0.20	< 0.20	< 0.20	< 0.54	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 11	< 11	< 0.55	
Ethylbenzene	140	700	< 10	< 10	< 0.14	< 0.65	< 0.26	< 0.26	< 0.26	< 0.65	< 0.65	< 0.13	< 0.13	< 0.13	< 0.18	< 0.054	< 0.054	< 0.054	< 0.054	< 0.054	< 5.4	< 5.4	< 0.27	
Isopropylbenzene	NE	NE	< 4	< 4	< 0.21	< 0.7	< 0.28	< 0.28	< 0.28	< 0.7	< 0.7	< 0.14	< 0.14	< 0.14	< 0.39	< 0.081	< 0.081	< 0.081	< 0.081	< 0.081	< 8.1	< 8.1	< 0.41	
m,p-Xylene	400	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.057	< 0.057	< 0.057	< 0.057	< 0.057	< 5.7	8.0 BJ	< 0.29	
Methyl tert-butyl ether	12	60	< 10	< 10	< 0.28	< 1.2	< 0.48	< 0.48	< 0.48	< 1.2	< 1.2	< 0.24	< 0.24	< 0.24	< 0.39	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 14	< 14	< 0.70	
Methylene chloride	0.5	5	< 20	< 20	< 0.63	< 3.4	< 1.4	< 1.4	< 1.4	< 3.4	< 3.4	< 0.68	< 0.68	< 0.68	< 1.6	0.18 J	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 14	18 BJ	1.3 J
Naphthalene	10	100	< 5	< 5	< 0.24	< 0.8	< 0.32	< 0.32	< 0.32	< 0.8	< 0.8	< 0.16	< 0.16	< 0.16	< 0.34	< 0.088	< 0.088	< 0.088	0.22 BJ	< 0.088	< 8.8	< 8.8	< 0.44	
n-Butylbenzene	NE	NE	< 4	< 4	< 0.21	< 0.65	< 0.26	< 0.26	< 0.26	< 0.65	< 0.65	< 0.13	< 0.13	< 0.13	< 0.39	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 14	< 14	< 0.70	
n-Hexane	120	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	< 21	< 21	< 1.1
n-Propylbenzene	NE	NE	< 10	< 10	< 0.19	< 0.65	< 0.26	< 0.26	< 0.26	< 0.65	< 0.65	< 0.13	< 0.13	< 0.13	< 0.41	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 10	< 10	< 0.50	
o-Xylene	400	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.058	< 0.058	< 0.058	< 0.058	< 0.058	< 5.8	< 5.8	< 0.29	
p-Isopropyltoluene	NE	NE	< 4	< 4	< 0.24	< 0.85	< 0.34	< 0.34	< 0.34	< 0.85	< 0.85	< 0.17	< 0.17	< 0.17	< 0.36	< 0.085	< 0.085	< 0.085	< 0.085	< 0.085	< 8.5	< 8.5	< 0.43	
sec-Butylbenzene	NE	NE	< 5	< 5	< 0.19	< 0.75	< 0.3	< 0.3	< 0.3	< 0.75	< 0.75	< 0.15	< 0.15	< 0.15	< 0.40	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 13	< 13	< 0.65	
Styrene	10	100	< 10	< 10	< 0.26	< 0.5	< 0.2	< 0.2	< 0.2	< 0.5	< 0.5	< 0.10	< 0.10	< 0.10	< 0.39	< 0.065	< 0.065	< 0.065	< 0.065	0.24 J	< 0.065	< 6.5	< 0.33	
tert-Butylbenzene	NE	NE	< 4	< 4	< 0.24	< 0.7	< 0.28	< 0.28	< 0.28	< 0.7	< 0.7	< 0.14	< 0.14	< 0.14	< 0.40	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 12	< 12	< 0.60	
Tetrachloroethene	0.5	5	1100	890	400	2000	1800	1700	1200	2000	2000	< 0.17	8.4	66	110	10	7.5	7.1	8.2	3600	4100	3500	190	
Toluene	160	800	< 10	< 10																				

Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	MW-5D2 165.8 - 170.8 ft 01/17/2013	MW-5D2 165.8 - 170.8 ft 02/13/2013	MW-5D2 165.8 - 170.8 ft 04/19/2013	MW-5D2 165.8 - 170.8 ft 07/18/2013	MW-5D2 165.8 - 170.8 ft 10/09/2013	MW-5D2 165.8 - 170.8 ft 04/15/2014	MW-5D2 165.8 - 170.8 ft 10/21/2014	MW-5D2 165.8 - 170.8 ft 04/15/2015	MW-5D2 165.8 - 170.8 ft 10/22/2015	MW-5D2 165.8 - 170.8 ft 01/21/2016	MW-5D2 <sup>3</sup> 165.8 - 170.8 ft 01/21/2016	MW-5D2 165.8 - 170.8 ft 04/21/2016	MW-5D2 165.8 - 170.8 ft 07/18/2016	MW-5D2 165.8 - 170.8 ft 10/12/2016	MW-5D2 165.8 - 170.8 ft 1/20/2017	MW-5D2 165.8 - 170.8 ft 04/12/2017
<b>VOCs</b>																			
	1,1,1,2-Tetrachloroethane	7	70	< 0.25	< 0.25	< 0.25	< 0.5	< 0.25	< 0.50	< 0.25	< 0.50	< 0.92	< 1.1	< 1.1	< 4.4	< 1.1	< 2.2	< 2.2	< 2.2
	1,1,1-Trichloroethane	40	200	< 0.2	< 0.2	< 0.2	< 0.4	< 0.2	< 0.40	< 0.20	< 0.40	< 0.76	< 1.0	< 1.0	< 4.0	< 1.0	< 2.0	< 2.0	< 2.0
	1,1,2-Trichloroethane	0.5	5	< 0.28	< 0.28	< 0.28	< 0.56	< 0.28	< 0.56	< 0.28	< 0.56	< 0.70	< 1.0	< 1.0	< 4.0	< 1.0	< 2.0	< 2.0	< 2.0
	1,1-Dichloroethene	0.7	7	< 0.31	< 0.31	< 0.31	< 0.62	< 0.31	< 0.62	< 0.31	< 0.62	< 0.78	< 1.4	< 1.4	< 5.6	< 1.4	< 2.8	< 2.8	< 2.8
	1,2,4-Trimethylbenzene	96	480	< 0.14	< 0.14	< 0.14	< 0.28	< 0.14	< 0.28	< 0.14	< 0.28	< 0.72	< 0.60	< 0.60	< 2.4	< 0.60	< 1.2	< 1.2	< 1.2
	1,2-Dibromoethane	0.005	0.05	< 0.36	< 0.36	< 0.36	< 0.72	< 0.36	< 0.72	< 0.36	< 0.72	< 0.77	< 1.3	< 1.3	< 5.2	< 1.3	< 2.6	< 2.6	< 2.6
	1,2-Dichlorobenzene	60	600	< 0.27	< 0.27	< 0.27	< 0.54	< 0.27	< 0.54	< 0.27	< 0.54	< 0.67	< 0.76	< 0.76	< 3.0	< 0.76	< 1.5	< 1.5	< 1.5
	1,2-Dichloropropane	0.5	5	< 0.2	< 0.2	< 0.2	< 0.4	< 0.2	< 0.40	< 0.20	< 0.40	< 0.86	< 1.0	< 1.0	< 4.0	< 1.0	< 2.0	< 2.0	< 2.0
	1,2,3-Trichlorobenzene	NE	NE	< 0.24	< 0.24	< 0.24	< 0.48	< 0.24	< 0.48	< 0.24	< 0.48	< 0.92	< 0.45	< 0.45	7.2 BJ	< 0.45	< 0.90	< 0.90	< 0.90
	1,2,4-Trichlorobenzene	14	70	< 0.31	< 0.31	< 0.31	< 0.62	< 0.31	< 0.62	< 0.31	< 0.62	< 0.68	< 0.77	< 0.77	5.2 J	< 0.77	< 1.5	< 1.5	< 1.5
	1,3,5-Trimethylbenzene	96	480	< 0.18	< 0.18	< 0.18	< 0.36	< 0.18	< 0.36	< 0.18	< 0.36	< 0.51	< 0.75	< 0.75	< 3.0	< 0.75	< 1.5	< 1.5	< 1.5
	2-Butanone	800	4000	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 30	< 30	< 120	< 30	< 60	< 60	< 60
	2-Hexanone	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 9.5	< 9.5	< 38	< 9.5	< 19	< 19	< 19
	4-Methyl-2-pentanone	50	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 7.7	< 7.7	< 31	< 7.7	< 15	< 15	< 15
	Acetone	1800	9000	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 34	< 34	< 140	< 34	< 68	< 68	< 68
	Benzene	0.5	5	< 0.074	< 0.074	< 0.074	< 0.15	< 0.074	< 0.15	< 0.074	< 0.15	< 0.29	< 0.89	< 0.89	< 3.6	< 0.89	< 1.8	< 1.8	< 1.8
	Bromodichloromethane	0.06	0.6	< 0.17	< 0.17	< 0.17	< 0.34	< 0.17	< 0.34	< 0.17	< 0.34	< 0.74	< 0.77	< 0.77	< 3.1	< 0.77	< 1.5	< 1.5	< 1.5
	Bromoform	0.44	4.4	< 0.28	< 0.28	< 0.28	< 0.56	< 0.28	< 0.56	< 0.28	< 0.56	< 0.97	< 0.88	< 0.88	< 3.5	< 0.88	< 1.8	< 1.8	< 1.8
	Bromomethane	1	10	< 0.31	< 0.31 *	< 0.31	< 0.62	< 0.31	< 0.62	< 0.31	< 0.62	< 1.6	< 5.9	< 5.9	< 24	< 5.9	< 12	< 12	< 12
	Carbon disulfide	200	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.53	< 0.53	< 2.1	< 0.53	< 1.1	< 1.1	< 1.1
	Carbon tetrachloride	0.5	5	< 0.26	< 0.26	< 0.26	< 0.52	< 0.26	< 0.52	< 0.26	< 0.52	< 0.77	< 0.38	< 0.38	< 1.5	< 0.38	< 0.76	< 0.76	< 0.76
	Chloroform	0.6	6	< 0.2	< 0.2	< 0.2	< 0.4	< 0.2	< 0.40	< 0.20	< 0.40	< 0.74	< 0.62	< 0.62	< 2.5	< 0.62	< 1.2	< 1.2	<b>2.2 J</b>
	Chloromethane	3	30	< 0.18	< 0.18	< 0.18	< 0.36	< 0.18	< 0.36	< 0.18	< 0.36	< 0.64	< 1.6	< 1.6	< 6.4	< 1.6	<b>11 BJ</b>	<b>5.8 BJ</b>	< 3.2
	cis-1,2-Dichloroethene	7	70	6.6	<b>9.2</b>	4.7	3.6	1.5	< 0.24	0.79 J	3.6	2.1	2.9	1.4 J	2.1	6.1	< 2.2	< 2.2	2.2 J
	Dichlorodifluoromethane	200	1000	< 0.2	< 0.2	< 0.2	< 0.4	< 0.2	< 0.40	< 0.20	< 0.40	< 1.1	< 1.1	< 1.1	< 4.4	< 1.1	< 2.2	< 2.2	< 2.2
	Ethylbenzene	140	700	< 0.13	< 0.13	< 0.13	< 0.26	< 0.13	< 0.26	< 0.13	< 0.26	< 0.37	< 0.54	< 0.54	< 2.2	< 0.54	< 1.1	< 1.1	< 1.1
	Isopropylbenzene	NE	NE	< 0.14	< 0.14	< 0.14	< 0.28	< 0.14	< 0.28	< 0.14	< 0.28	< 0.77	< 0.81	< 0.81	< 3.2	< 0.81	< 1.6	< 1.6	< 1.6
	m,p-Xylene	400	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.57	< 0.57	< 2.3	< 0.57	< 1.1	1.6 BJ	< 1.1
	Methyl tert-butyl ether	12	60	< 0.24	< 0.24	< 0.24	< 0.48	<u>&lt; 0.24</u>	< 0.48	< 0.24	< 0.48	< 0.79	< 1.4	< 1.4	< 5.6	< 1.4	< 2.8	< 2.8	< 2.8
	Methylene chloride	0.5	5	< 0.68	< 0.68	< 0.68	< 1.4	<b>5.7</b>	< 1.4	< 0.68	< 1.4	< 3.3	< 1.4	< 1.4	< 5.6	< 1.4	< 2.8	<b>3.4 BJ</b>	< 2.8
	Naphthalene	10	100	< 0.16	< 0.16	< 0.16	< 0.32	< 0.16	< 0.32	< 0.16	< 0.32	< 0.67	< 0.88	< 0.88	<b>12 BJ</b>	< 0.88	< 1.8	< 1.8	< 1.8
	n-Butylbenzene	NE	NE	< 0.13	< 0.13	< 0.13	< 0.26	< 0.13	< 0.26	< 0.13	< 0.26	< 0.78	< 1.4	< 1.4	< 5.6	< 1.4	< 2.8	< 2.8	< 2.8
	n-Hexane	120	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2.1	< 2.1	< 8.4	< 2.1	< 4.2	< 4.2	< 4.2
	n-Propylbenzene	NE	NE	< 0.13	< 0.13	< 0.13	< 0.26	< 0.13	< 0.26	< 0.13	< 0.26	< 0.83	< 1.0	< 1.0	< 4.0	< 1.0	< 2.0	< 2.0	< 2.0
	o-Xylene	400	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.58	< 0.58	< 2.3	< 0.58	< 1.2	1.4 BJ	< 1.2
	p-Isopropyltoluene	NE	NE	< 0.17	< 0.17	< 0.17	< 0.34	< 0.17	< 0.34	< 0.17	< 0.34	< 0.72	< 0.85	< 0.85	< 3.4	< 0.85	< 1.7	< 1.7	< 1.7
	sec-Butylbenzene	NE	NE	< 0.15	< 0.15	< 0.15	< 0.3	< 0.15	< 0.30	< 0.15	< 0.30	< 0.80	< 1.3	< 1.3	< 5.2	< 1.3	< 2.6	< 2.6	< 2.6
	Styrene	10	100	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.20	< 0.10	< 0.20	< 0.77	< 0.65	< 0.65	< 2.6	< 0.65	< 1.3	< 1.3	< 1.3
	tert-Butylbenzene	NE	NE	< 0.14	< 0.14	< 0.14	< 0.28	< 0.14	< 0.28	< 0.14	< 0.28	< 0.80	< 1.2	< 1.2	< 4.8	< 1.2	< 2.4	< 2.4	< 2.4
	Tetrachloroethene	0.5	5	<b>650</b>	<b>650</b>	<b>640</b>	<b>710</b>	<b>110</b>	<b>520</b>	<b>47</b>	<b>700</b>	<b>640</b>	<b>380</b>	<b>380</b>	<b>160</b>	<b>970</b>	<b>550</b>	<b>570</b>	<b>670</b>
	Toluene	160	800	0.70	0.22 J	0.35 J	2.4	0.43 J	< 0.22	< 0.11	< 0.22	< 0.30	< 0.53	< 0.53	< 2.1	< 0.53	< 1.1	3.2 BJ	< 1.1
	trans-1,2-Dichloroethene	20	100	< 0.25	< 0.25	< 0.25	< 0.5	< 0.25	< 0.50	< 0.25	< 0.50	< 0.70	< 1.1	< 1.1	< 4.4	< 1.1	< 2.2	< 2.2	< 2.2
	Trichloroethene	0.5	5	<b>9.5</b>	<b>8.4</b>	<b>7.4</b>	<b>8.1</b>	<b>6.1</b>	<b>7.1</b>	<b>2.2</b>	<b>8.2</b>	<b>9.1</b>	<b>4.7 J</b>	<b>5.5</b>	< 2.5	<b>13</b>	<b>8.4 J</b>	<b>6.6 BJ</b>	<b>7.8 J</b>
	Vinyl chloride	0.02	0.2	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.20	< 0.10	< 0.20	< 0.41	< 1.6	< 1.6	< 6.4	< 1.6	< 3.2	< 3.2	< 3.2
	Xylenes, Total	400	2000	< 0.068	< 0.068	< 0.068	< 0.14	< 0.068	< 0.14	< 0.068	< 0.14	< 0.44	< 0.58	< 0.58	< 2.3	< 0.58	< 1.2	3.0 BJ	< 2.3
<b>Total PCBs</b>																			
	Aroclor-1016	0.003	0.03	< 0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1232	0.003	0.03	< 0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1242	0.003	0.03	< 0.14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total Detected PCBs	NE	NE	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>																			
	Aroclor-1016	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1232	0.003	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Aroclor-1242	0.003	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Total Detected PCBs	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes on Page 50.



Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID SCREEN INTERVAL (feet bgs) SAMPLE DATE	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	MW-6S 31.4 - 41.4 ft 12/31/2009	MW-6S 31.4 - 41.4 ft 04/07/2010	MW-6S 31.4 - 41.4 ft 07/01/2010	MW-6S 31.4 - 41.4 ft 10/01/2010	MW-6S 31.4 - 41.4 ft 12/28/2010	MW-6S 31.4 - 41.4 ft 04/11/2012	MW-6S 31.4 - 41.4 ft 01/17/2013	MW-6S 31.4 - 41.4 ft 04/20/2013	MW-6S 31.4 - 41.4 ft 07/18/2013	MW-6S 31.4 - 41.4 ft 10/07/2013	MW-6S 31.4 - 41.4 ft 04/17/2014	MW-6S 31.4 - 41.4 ft 10/16/2014	MW-6S 31.4 - 41.4 ft 04/14/2015	MW-6S 31.4 - 41.4 ft 10/22/2015	MW-6S 31.4 - 41.4 ft 10/12/2016
<b>VOCS</b>																	
1,1,1,2-Tetrachloroethane	7	70	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.31	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.46	< 0.11
1,1,1-Trichloroethane	40	200	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.38	< 0.10
1,1,2-Trichloroethane	0.5	5	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.3	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.35	< 0.10
1,1-Dichloroethane	0.7	7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.29	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.39	< 0.14
1,2,4-Trimethylbenzene	96	480	4.3	3.3	1.3	2.2	3.2	4.8	12	0.92 J	< 0.14	1.4	2.0	0.96 J	1.4	1.3	0.83
1,2-Dibromoethane	0.005	0.05	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.45	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.39	< 0.13
1,2-Dichlorobenzene	60	600	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.21	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.33	< 0.076
1,2-Dichloropropane	0.5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.36	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.43	< 0.10
1,2,3-Trichlorobenzene	NE	NE	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.36	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.46	< 0.045
1,2,4-Trichlorobenzene	14	70	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.22	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.34	< 0.077
1,3,5-Trimethylbenzene	96	480	0.92	7.3	0.27	4.6	0.39	1.5	3.4	< 0.18	< 0.18	< 0.18	0.73 J	< 0.18	1.1	1.7	0.45 J
2-Butanone	800	4000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 3.0
2-Hexanone	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.95
4-Methyl-2-pentanone	50	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.77
Acetone	1800	9000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 3.4
Benzene	0.5	5	<b>7.6</b>	<b>7.9</b>	<b>5</b>	<b>5.3</b>	<b>5</b>	<b>4.1</b>	<b>9.3</b>	<b>1.9</b>	0.34 J	<b>2.6</b>	<b>2.8</b>	<b>2.1</b>	<b>3.3</b>	<b>3.8</b>	<b>2.9</b>
Bromodichloromethane	0.06	0.6	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.23	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	<b>1.2</b>	< 0.077
Bromoform	0.44	4.4	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.45	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.48	< 0.088
Bromomethane	1	10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.49	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.80	< 0.59
Carbon disulfide	200	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.053
Carbon tetrachloride	0.5	5	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.28	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.38	< 0.038
Chloroform	0.6	6	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.25	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.37	< 0.062
Chloromethane	3	30	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.24	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.32	0.62 BJ
cis-1,2-Dichloroethene	7	70	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.22	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.41	< 0.11
Dichlorodifluoromethane	200	1000	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.54	< 0.11
Ethylbenzene	140	700	23	14	6.0	13	15	9.8	40	0.18 J	< 0.13	8.0	7.5	3.5	6.4	7.1	2.0
Isopropylbenzene	NE	NE	12	9.4	5.3	7.5	6.4	4.1	12	< 0.14	< 0.14	4.1	3.2	2.6	2.9	3.7	1.4
m,p-Xylene	400	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.78 J
Methyl tert-butyl ether	12	60	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.28	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.39	< 0.14
Methylene chloride	0.5	5	< 1	< 1	< 1	< 1	< 1	<b>8.3</b>	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	<b>9.4 cn</b>	< 0.14
Naphthalene	10	100	<b>26</b>	<b>14</b>	6.4	<b>10</b>	<b>16</b>	<b>19</b>	<b>43</b>	< 0.16	< 0.16	3.8	4.2	1.9	6.6	9.8	2.0 J
n-Butylbenzene	NE	NE	1.6	1.6	0.92	1.2	0.86	< 0.21	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.39	< 0.14
n-Hexane	120	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.21
n-Propylbenzene	NE	NE	4.9	3.7	1.9	3.3	3.0	1.8	6.8	< 0.13	< 0.13	1.3	1.5	< 0.13	1.2	1.5	0.46 J
o-Xylene	400	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.17 J
p-Isopropyltoluene	NE	NE	1.7	1.6	0.72	1.1	0.83	< 0.24	2.4	< 0.17	< 0.17	< 0.17	0.56 J	< 0.17	< 0.17	0.95 J	0.35 J
sec-Butylbenzene	NE	NE	1.9	1.8	1.5	1.5	1.0	0.56 J	1.8	< 0.15	< 0.15	< 0.15	0.82 J	< 0.15	< 0.15	0.86 J	0.38 J
Styrene	10	100	0.53	0.51	< 0.5	< 0.5	1.1	< 0.26	0.64 J	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.39	< 0.065
tert-Butylbenzene	NE	NE	0.27	0.31	0.22	0.24	< 0.2	< 0.24	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.40	< 0.12
Tetrachloroethene	0.5	5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.22	< 0.17	<b>0.53 J</b>	< 0.17	< 0.17	<b>0.66 J</b>	< 0.17	< 0.17	< 0.37	<b>0.6</b>
Toluene	160	800	3.3	3.3	1.2	1.8	2.0	2.5	6.3	0.82	< 0.11	1.1	0.82	< 0.11	1.9	2.4	<b>0.75</b>
trans-1,2-Dichloroethene	20	100	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.27	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.35	< 0.11
Trichloroethene	0.5	5	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.18	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.16	< 0.062
Vinyl chloride	0.02	0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.20	< 0.16
Xylenes, Total	400	2000	9.6	8.2	2.6	4.5	6.4	7.8	25	1.8	< 0.068	3.3	2.8	1.9	3.3	3.7	0.95
<b>Total PCBs</b>																	
Aroclor-1016	0.003	0.03	NA	NA	NA	NA	NA	NA	< 0.17	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03	NA	NA	NA	NA	NA	NA	< 0.094	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03	NA	NA	NA	NA	NA	NA	< 0.13	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>																	
Aroclor-1016	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION	ENFORCEMENT STANDARD	MW-6D 65.5 - 70.5 ft 12/31/2009	MW-6D 65.5 - 70.5 ft 04/07/2010	MW-6D 65.5 - 70.5 ft 07/01/2010	MW-6D 65.5 - 70.5 ft 10/01/2010	MW-6D 65.5 - 70.5 ft 12/28/2010	MW-6D 65.5 - 70.5 ft 03/31/2011	MW-6D 65.5 - 70.5 ft 04/12/2012	MW-6D 65.5 - 70.5 ft 01/16/2013	MW-6D <sup>3</sup> 65.5 - 70.5 ft 01/16/2013	MW-6D 65.5 - 70.5 ft 04/20/2013	MW-6D <sup>3</sup> 65.5 - 70.5 ft 04/20/2013	MW-6D 65.5 - 70.5 ft 07/18/2013	MW-6D <sup>3</sup> 65.5 - 70.5 ft 07/18/2013	MW-6D 65.5 - 70.5 ft 10/07/2013
<b>VOCs</b>																	
1,1,1,2-Tetrachloroethane	7	70		< 13	< 20	< 13	< 0.25	< 2.5	< 10	< 0.62	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.25
1,1,1-Trichloroethane	40	200		< 25	< 40	< 25	< 0.5	< 5	< 20	< 0.52	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.2
1,1,2-Trichloroethane	0.5	5		< 13	< 20	< 13	< 0.25	< 2.5	< 10	< 0.6	< 0.56	< 0.56	< 0.56	< 0.56	< 0.56	< 0.56	< 0.28
1,1-Dichloroethene	0.7	7		< 25	< 40	< 25	< 0.5	< 5	< 20	< 0.58	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.31
1,2,4-Trimethylbenzene	96	480		<b>330</b>	<b>130</b>	<b>130</b>	<b>160</b>	<b>180</b>	74	19	23	25	11	6.1	16	17	41
1,2-Dibromoethane	0.005	0.05		<b>15</b>	< 16	< 10	<b>11</b>	<b>9.7</b>	< 8	< 0.9	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.36
1,2-Dichlorobenzene	60	600		< 10	< 16	< 10	< 0.2	< 2	< 8	< 0.42	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.27
1,2-Dichloropropane	0.5	5		< 25	< 40	< 25	<b>7.2</b>	<b>6</b>	< 20	< 0.72	< 0.4	< 0.4	<b>1.9 J</b>	<b>1.7 J</b>	< 0.4	< 0.4	< 0.2
1,2,3-Trichlorobenzene	NE	NE		< 13	< 20	< 13	< 0.25	< 2.5	< 10	< 0.72	< 0.48	< 0.48	< 0.48	< 0.48	< 0.48	< 0.48	< 0.24
1,2,4-Trichlorobenzene	14	70		< 13	< 20	< 13	< 0.25	< 2.5	< 10	< 0.44	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.31
1,3,5-Trimethylbenzene	96	480		23	< 16	< 10	13	13	< 8	< 0.46	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	0.71 J
2-Butanone	800	4000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	50	500		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	1800	9000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	5		<b>3900</b>	<b>3200</b>	<b>2900</b>	< 0.2	<b>2900</b>	<b>2100</b>	<b>1500</b>	<b>1300</b>	<b>1400</b>	<b>600</b>	<b>500</b>	<b>810</b>	<b>800</b>	<b>1000</b>
Bromodichloromethane	0.06	0.6		< 10	< 16	< 10	< 0.2	< 2	< 8	< 0.46	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.17
Bromoform	0.44	4.4		< 10	< 16	< 10	< 0.2	< 2	< 8	< 0.9	< 0.56	< 0.56	< 0.56	< 0.56	< 0.56	< 0.56	< 0.28
Bromomethane	1	10		< 25	< 40	< 25	< 0.5	< 5	< 20	< 0.98	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.31
Carbon disulfide	200	1000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0.5	5		< 40	< 64	< 40	< 0.8	< 8	< 32	< 0.56	< 0.52	< 0.52	< 0.52	< 0.52	< 0.52	< 0.52	< 0.26
Chloroform	0.6	6		< 10	< 16	< 10	< 0.2	< 2	< 8	<b>3.6</b>	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.2
Chloromethane	3	30		< 15	< 24	< 15	< 0.3	< 3	< 12	< 0.48	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.18
cis-1,2-Dichloroethene	7	70		< 25	< 40	< 25	1.4	< 5	< 20	< 0.44	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	0.89 J
Dichlorodifluoromethane	200	1000		< 25	< 40	< 25	< 0.5	< 5	< 20	< 0.52	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.2
Ethylbenzene	140	700		47	< 40	26	39	35	< 20	8.7	7.5	7.9	3.5	2.8	7.1	7.9	8.1
Isopropylbenzene	NE	NE		54	43	32	45	40	35	23	30	32	16	12	27	30	29
m,p-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	12	60		< 25	< 40	< 25	< 0.5	< 5	< 20	< 0.56	< 0.48	< 0.48	< 0.48	< 0.48	< 0.48	< 0.48	< 0.24
Methylene chloride	0.5	5		< 50	< 80	< 50	< 1	< 10	< 40	< 1.3	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 0.68
Naphthalene	10	100		<b>380</b>	<b>280</b>	<b>370</b>	<b>370</b>	<b>360</b>	<b>190</b>	<b>110</b>	<b>54</b>	<b>58</b>	3.9	2.8	<b>50</b>	<b>64</b>	<b>72</b>
n-Butylbenzene	NE	NE		12	< 16	< 10	10	7.9	< 8	< 0.42	< 0.26	< 0.26	< 0.26	< 0.26	5.0	6.3	< 0.13
n-Hexane	120	600		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	NE	NE		49	< 40	27	36	31	21	11	13	14	5.4	3.6	12	13	14
o-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	NE	NE		< 10	< 16	< 10	6.5	5.1	< 8	2.6	3.8	3.9	1.7 J	1.2 J	3.2	3.6	3.4
sec-Butylbenzene	NE	NE		< 13	< 20	< 13	4.7	4.2	< 10	2.2	3.4	3.8	2.0	1.3 J	3.2	3.6	3.2
Styrene	10	100		< 25	< 40	< 25	3.5	<b>12</b>	< 20	< 0.52	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	1.0
tert-Butylbenzene	NE	NE		< 10	< 16	< 10	< 0.2	< 2	< 8	< 0.48	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.14
Tetrachloroethene	0.5	5		<b>36</b>	<b>45</b>	<b>27</b>	<b>30</b>	<b>26</b>	<b>28</b>	<b>20</b>	<b>25</b>	<b>26</b>	<b>22</b>	<b>17</b>	<b>23</b>	<b>25</b>	<b>17</b>
Toluene	160	800		130	100	88	120	120	58	36	31	31	9.4	7.8	24	27	38
trans-1,2-Dichloroethene	20	100		< 25	< 40	< 25	< 0.5	< 5	< 20	< 0.54	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.25
Trichloroethene	0.5	5		< 10	< 16	< 10	<b>4.5</b>	<b>4.5</b>	< 8	<b>3.9</b>	<b>11</b>	<b>11</b>	<b>13</b>	<b>11</b>	<b>12</b>	< 0.38	<b>18</b>
Vinyl chloride	0.02	0.2		< 10	< 16	< 10	< 0.2	< 2	< 8	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.1
Xylenes, Total	400	2000		<b>630</b>	320	250	<b>450</b>	<b>400</b>	130	40	40	41	12	8.3	34	39	63
<b>Total PCBs</b>																	
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	< 0.17	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	< 0.094	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	< 0.13	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>																	
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 18  
Groundwater Analytical Results Summary  
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WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	MW-7 24 - 35 ft 08/26/2011	MW-7 24 - 35 ft 04/10/2012	MW-7 24 - 35 ft 01/14/2013	MW-7 24 - 35 ft 04/16/2013	MW-7 24 - 35 ft 07/17/2013	MW-7 24 - 35 ft 10/03/2013	MW-8 24 - 34 ft 08/26/2011	MW-8 24 - 34 ft 04/10/2012	MW-8 24 - 34 ft 01/15/2013	MW-8 24 - 34 ft 04/16/2013	MW-8 24 - 34 ft 07/17/2013	MW-8 24 - 34 ft 10/03/2013
<b>VOCS</b>															
1,1,1,2-Tetrachloroethane	7	70		< 0.25	< 0.31	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.31	< 0.25	< 0.25	< 0.25	< 0.25
1,1,1-Trichloroethane	40	200		< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2
1,1,2-Trichloroethane	0.5	5		< 0.25	< 0.3	< 0.28	< 0.28	< 0.28	< 0.28	< 0.25	< 0.3	< 0.28	< 0.28	< 0.28	< 0.28
1,1-Dichloroethene	0.7	7		< 0.5	< 0.29	< 0.31	< 0.31	< 0.31	< 0.31	< 0.5	< 0.29	< 0.31	< 0.31	< 0.31	< 0.31
1,2,4-Trimethylbenzene	96	480		< 0.2	< 0.22	< 0.14	< 0.14	< 0.14	< 0.14	< 0.2	< 0.22	< 0.14	< 0.14	< 0.14	< 0.14
1,2-Dibromoethane	0.005	0.05		< 0.2	< 0.45	< 0.36	< 0.36	< 0.36	< 0.36	< 0.2	< 0.45	< 0.36	< 0.36	< 0.36	< 0.36
1,2-Dichlorobenzene	60	600		< 0.2	< 0.21	< 0.27	< 0.27	< 0.27	< 0.27	< 0.2	< 0.21	< 0.27	< 0.27	< 0.27	< 0.27
1,2-Dichloropropane	0.5	5		< 0.5	< 0.36	< 0.2	< 0.2	< 0.2	< 0.2	< 0.5	< 0.36	< 0.2	< 0.2	< 0.2	< 0.2
1,2,3-Trichlorobenzene	NE	NE		< 0.25	< 0.36	< 0.24	< 0.24	< 0.24	< 0.24	< 0.25	< 0.36	< 0.24	< 0.24	< 0.24	< 0.24
1,2,4-Trichlorobenzene	14	70		< 0.25	< 0.22	< 0.31	< 0.31	< 0.31	< 0.31	< 0.25	< 0.22	< 0.31	< 0.31	< 0.31	< 0.31
1,3,5-Trimethylbenzene	96	480		< 0.2	< 0.23	< 0.18	< 0.18	< 0.18	< 0.18	< 0.2	< 0.23	< 0.18	< 0.18	< 0.18	< 0.18
2-Butanone	800	4000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	50	500		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	1800	9000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	5		< 0.2	< 0.12	< 0.074	< 0.074	< 0.074	< 0.074	< 0.2	< 0.12	< 0.074	< 0.074	< 0.074	< 0.074
Bromodichloromethane	0.06	0.6		< 0.2	< 0.23	< 0.17	< 0.17	< 0.17	< 0.17	< 0.2	< 0.23	< 0.17	< 0.17	< 0.17	< 0.17
Bromoform	0.44	4.4		< 0.2	< 0.45	< 0.28	< 0.28	< 0.28	< 0.28	< 0.2	< 0.45	< 0.28	< 0.28	< 0.28	< 0.28
Bromomethane	1	10		< 0.5	< 0.49	< 0.31	< 0.31	< 0.31	< 0.31	< 0.5	< 0.49	< 0.31	< 0.31	< 0.31	< 0.31
Carbon disulfide	200	1000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0.5	5		< 0.8	< 0.28	< 0.26	< 0.26	< 0.26	< 0.26	< 0.8	< 0.28	< 0.26	< 0.26	< 0.26	< 0.26
Chloroform	0.6	6		< 0.2	< 0.25	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.25	< 0.2	< 0.2	< 0.2	< 0.2
Chloromethane	3	30		< 0.3	< 0.24	< 0.18	< 0.18	< 0.18	< 0.18	< 0.3	< 0.24	< 0.18	< 0.18	< 0.18	< 0.18
cis-1,2-Dichloroethene	7	70		< 0.5	< 0.22	< 0.12	< 0.12	< 0.12	< 0.12	< 0.5	< 0.22	< 0.12	< 0.12	< 0.12	< 0.12
Dichlorodifluoromethane	200	1000		< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.5	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2
Ethylbenzene	140	700		< 0.5	< 0.14	< 0.13	< 0.13	< 0.13	< 0.13	< 0.5	< 0.14	< 0.13	< 0.13	< 0.13	< 0.13
Isopropylbenzene	NE	NE		< 0.2	< 0.21	< 0.14	< 0.14	< 0.14	< 0.14	< 0.2	< 0.21	< 0.14	< 0.14	< 0.14	< 0.14
m,p-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	12	60		< 0.5	< 0.28	< 0.24	< 0.24	< 0.24	< 0.24	< 0.5	< 0.28	< 0.24	< 0.24	< 0.24	< 0.24
Methylene chloride	0.5	5		< 1	< 0.63	< 0.68	< 0.68	< 0.68	< 0.68	< 1	< 0.63	< 0.68	< 0.68	< 0.68	< 0.68
Naphthalene	10	100		< 0.25	< 0.24	< 0.16	< 0.16	< 0.16	< 0.16	< 0.25	< 0.24	< 0.16	< 0.16	< 0.16	< 0.16
n-Butylbenzene	NE	NE		< 0.2	< 0.21	< 0.13	< 0.13	< 0.13	< 0.13	< 0.2	< 0.21	< 0.13	< 0.13	< 0.13	< 0.13
n-Hexane	120	600		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	NE	NE		< 0.5	< 0.19	< 0.13	< 0.13	< 0.13	< 0.13	< 0.5	< 0.19	< 0.13	< 0.13	< 0.13	< 0.13
o-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	NE	NE		< 0.2	< 0.24	< 0.17	< 0.17	< 0.17	< 0.17	< 0.2	< 0.24	< 0.17	< 0.17	< 0.17	< 0.17
sec-Butylbenzene	NE	NE		< 0.25	< 0.19	< 0.15	< 0.15	< 0.15	< 0.15	< 0.25	< 0.19	< 0.15	< 0.15	< 0.15	< 0.15
Styrene	10	100		< 0.5	< 0.26	< 0.1	< 0.1	< 0.1	< 0.1	< 0.5	< 0.26	< 0.1	< 0.1	< 0.1	< 0.1
tert-Butylbenzene	NE	NE		< 0.2	< 0.24	< 0.14	< 0.14	< 0.14	< 0.14	< 0.2	< 0.24	< 0.14	< 0.14	< 0.14	< 0.14
Tetrachloroethene	0.5	5		< 0.5	< 0.22	< 0.17	< 0.17	< 0.17	< 0.17	< 0.5	< 0.22	< 0.17	< 0.17	< 0.17	< 0.17
Toluene	160	800		< 0.5	< 0.15	< 0.11	< 0.11	< 0.11	< 0.11	< 0.5	< 0.15	< 0.11	< 0.11	< 0.11	< 0.11
trans-1,2-Dichloroethene	20	100		< 0.5	< 0.27	< 0.25	< 0.25	< 0.25	< 0.25	< 0.5	< 0.27	< 0.25	< 0.25	< 0.25	< 0.25
Trichloroethene	0.5	5		< 0.2	< 0.18	< 0.19	< 0.19	< 0.19	< 0.19	< 0.2	< 0.18	< 0.19	< 0.19	< 0.19	< 0.19
Vinyl chloride	0.02	0.2		< 0.2	< 0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.13	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes, Total	400	2000		< 0.5	< 0.3	< 0.068	< 0.068	< 0.068	< 0.068	< 0.5	< 0.3	< 0.068	< 0.068	< 0.068	< 0.068
<b>Total PCBs</b>															
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>															
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	MW-9D 44 - 49 ft 09/09/2011	MW-9D 44 - 49 ft 04/11/2012	MW-9D <sup>3</sup> 44 - 49 ft 04/11/2012	MW-9D 44 - 49 ft 01/15/2013	MW-9D 44 - 49 ft 04/18/2013	MW-9D 44 - 49 ft 07/18/2013	MW-9D 44 - 49 ft 10/04/2013	MW-9D 44 - 49 ft 04/16/2014	MW-9D 44 - 49 ft 10/14/2014	MW-9D 44 - 49 ft 04/09/2015	MW-9D 44 - 49 ft 10/20/2015	MW-9D 44 - 49 ft 10/13/2016
<b>VOCS</b>															
1,1,1,2-Tetrachloroethane	7	70		< 0.25	< 0.31	< 0.31	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.46	< 0.11
1,1,1-Trichloroethane	40	200		< 0.5	< 0.26	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.38	< 0.10
1,1,2-Trichloroethane	0.5	5		< 0.25	< 0.3	< 0.3	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.35	< 0.10
1,1-Dichloroethene	0.7	7		< 0.5	< 0.29	< 0.29	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.39	< 0.14
1,2,4-Trimethylbenzene	96	480		< 0.2	< 0.22	< 0.22	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.36	< 0.060
1,2-Dibromoethane	0.005	0.05		< 0.2	< 0.45	< 0.45	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.39	< 0.13
1,2-Dichlorobenzene	60	600		< 0.2	< 0.21	< 0.21	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.33	< 0.076
1,2-Dichloropropane	0.5	5		< 0.5	< 0.36	< 0.36	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.43	< 0.10
1,2,3-Trichlorobenzene	NE	NE		< 0.25	< 0.36	< 0.36	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.46	< 0.045
1,2,4-Trichlorobenzene	14	70		< 0.25	< 0.22	< 0.22	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.34	< 0.077
1,3,5-Trimethylbenzene	96	480		< 0.2	< 0.23	< 0.23	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.25	< 0.075
2-Butanone	800	4000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 3.0
2-Hexanone	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.95
4-Methyl-2-pentanone	50	500		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 7.7
Acetone	1800	9000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 3.4
Benzene	0.5	5		< 0.2	< 0.12	< 0.12	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.15	< 0.089
Bromodichloromethane	0.06	0.6		< 0.2	< 0.23	< 0.23	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.37	< 0.077
Bromoform	0.44	4.4		< 0.2	< 0.45	< 0.45	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.48	< 0.088
Bromomethane	1	10		< 0.5	< 0.49	< 0.49	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31 *	< 0.31	< 0.80	< 0.59
Carbon disulfide	200	1000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.16 J
Carbon tetrachloride	0.5	5		< 0.8	< 0.28	< 0.28	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.38	< 0.038
Chloroform	0.6	6		< 0.2	< 0.25	< 0.25	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.37	< 0.062
Chloromethane	3	30		< 0.3	< 0.24	< 0.24	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.32	0.63 BJ
cis-1,2-Dichloroethene	7	70		< 0.5	< 0.22	< 0.22	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.41	< 0.11
Dichlorodifluoromethane	200	1000		< 0.5	< 0.26	< 0.26	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.54	< 0.11
Ethylbenzene	140	700		< 0.5	< 0.14	< 0.14	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.18	< 0.054
Isopropylbenzene	NE	NE		< 0.2	< 0.21	< 0.21	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.39	< 0.081
m,p-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.057
Methyl tert-butyl ether	12	60		< 0.5	< 0.28	< 0.28	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.39	< 0.14
Methylene chloride	0.5	5		< 1	9	< 0.63	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 1.6	< 0.14
Naphthalene	10	100		< 0.25	< 0.24	< 0.24	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.34	< 0.088
n-Butylbenzene	NE	NE		< 0.2	< 0.21	< 0.21	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.39	< 0.14
n-Hexane	120	600		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.21
n-Propylbenzene	NE	NE		< 0.5	< 0.19	< 0.19	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.41	< 0.10
o-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.058
p-Isopropyltoluene	NE	NE		< 0.2	< 0.24	< 0.24	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.36	< 0.085
sec-Butylbenzene	NE	NE		< 0.25	< 0.19	< 0.19	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.40	< 0.13
Styrene	10	100		< 0.5	< 0.26	< 0.26	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.39	< 0.065
tert-Butylbenzene	NE	NE		< 0.2	< 0.24	< 0.24	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.40	< 0.12
Tetrachloroethene	0.5	5		< 0.5	< 0.22	< 0.22	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.37	0.20 J
Toluene	160	800		< 0.5	< 0.15	< 0.15	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.15	< 0.053
trans-1,2-Dichloroethene	20	100		< 0.5	< 0.27	< 0.27	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.35	< 0.11
Trichloroethene	0.5	5		< 0.2	< 0.18	< 0.18	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.16	< 0.062
Vinyl chloride	0.02	0.2		< 0.2	< 0.13	< 0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.20	< 0.16
Xylenes, Total	400	2000		< 0.5	< 0.3	< 0.3	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.22	< 0.058
<b>Total PCBs</b>															
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>															
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
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WELL ID	MP-13	MP-13	MP-13	MP-13	MP-13	MP-13	MP-13	MP-13	MP-13	MP-13	MP-13	MP-13	
SCREEN INTERVAL (feet bgs)	44 - 48 ft	44 - 48 ft	44 - 48 ft	44 - 48 ft	44 - 48 ft	44 - 48 ft	44 - 48 ft	44 - 48 ft	44 - 48 ft	44 - 48 ft	44 - 48 ft	44 - 48 ft	
SAMPLE DATE	12/06/2012	01/19/2013	02/21/2013	04/17/2013	07/22/2013	10/07/2013	04/16/2014	10/14/2014	04/14/2015	10/16/2015	10/10/2016		
<b>VOCS</b>													
1,1,1,2-Tetrachloroethane	7	70	< 0.25	< 0.25	< 0.25	< 0.5	< 0.25	< 0.25	< 0.50	< 0.50	< 0.50	< 0.46	< 1.1
1,1,1-Trichloroethane	40	200	< 0.2	< 0.2	< 0.2	< 0.4	< 0.2	< 0.2	< 0.40	< 0.40	< 0.40	< 0.38	< 1.0
1,1,2-Trichloroethane	0.5	5	< 0.28	< 0.28	< 0.28	< 0.56	< 0.28	< 0.28	< 0.56	< 0.56	< 0.56	< 0.35	< 1.0
1,1-Dichloroethene	0.7	7	<b>0.92 J</b>	<b>1.1</b>	<b>0.88 J</b>	< 0.62	<b>0.85 J</b>	<b>1.1</b>	<b>1.3 J</b>	< 0.62	<b>1.4 J</b>	<b>0.73 J</b>	< 1.4
1,2,4-Trimethylbenzene	96	480	< 0.14	< 0.14	< 0.14	< 0.28	< 0.14	< 0.14	< 0.28	< 0.28	< 0.28	< 0.36	< 0.60
1,2-Dibromoethane	0.005	0.05	< 0.36	< 0.36	< 0.36	< 0.72	< 0.36	< 0.36	< 0.72	< 0.72	< 0.72	< 0.39	< 1.3
1,2-Dichlorobenzene	60	600	< 0.27	< 0.27	< 0.27	< 0.54	< 0.27	< 0.27	< 0.54	< 0.54	< 0.54	< 0.33	< 0.76
1,2-Dichloropropane	0.5	5	< 0.2	< 0.2	< 0.2	< 0.4	< 0.2	< 0.2	< 0.40	< 0.40	< 0.40	< 0.43	< 1.0
1,2,3-Trichlorobenzene	NE	NE	< 0.24	< 0.24	< 0.24	< 0.48	< 0.24	< 0.24	< 0.48	< 0.48	< 0.48	< 0.46	< 0.45
1,2,4-Trichlorobenzene	14	70	< 0.31	< 0.31	< 0.31	< 0.62	< 0.31	< 0.31	< 0.62	< 0.62	< 0.62	< 0.34	< 0.77
1,3,5-Trimethylbenzene	96	480	< 0.18	< 0.18	< 0.18	< 0.36	< 0.18	< 0.18	< 0.36	< 0.36	< 0.36	< 0.25	< 0.75
2-Butanone	800	4000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 30
2-Hexanone	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 9.5
4-Methyl-2-pentanone	50	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 7.7
Acetone	1800	9000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 34
Benzene	0.5	5	0.34 J	0.38 J	0.32 J	0.38 J	0.34 J	0.46 J	< 0.15	< 0.15	< 0.15	< 0.15	< 0.89
Bromodichloromethane	0.06	0.6	< 0.17	< 0.17	< 0.17	< 0.34	< 0.17	< 0.17	< 0.34	< 0.34	< 0.34	< 0.37	< 0.77
Bromoform	0.44	4.4	< 0.28	< 0.28	< 0.28	< 0.56	< 0.28	< 0.28	< 0.56	< 0.56	< 0.56	< 0.48	< 0.88
Bromomethane	1	10	< 0.31	< 0.31	< 0.31	< 0.62	< 0.31	< 0.31	< 0.62	< 0.62 *	< 0.62	< 0.80	< 5.9
Carbon disulfide	200	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.53
Carbon tetrachloride	0.5	5	< 0.26	< 0.26	< 0.26	< 0.52	< 0.26	< 0.26	< 0.52	< 0.52	< 0.52	< 0.38	< 0.38
Chloroform	0.6	6	< 0.2	< 0.2	< 0.2	< 0.4	< 0.2	< 0.2	< 0.40	< 0.40	< 0.40	< 0.37	< 0.62
Chloromethane	3	30	< 0.18	< 0.18	< 0.18	< 0.36	< 0.18	< 0.18	< 0.36	< 0.36	< 0.36	< 0.32	<b>4.3 BJ</b>
cis-1,2-Dichloroethene	7	70	<b>540</b>	<b>450</b>	<b>460</b>	<b>460</b>	<b>430</b>	<b>480</b>	<b>450</b>	<b>440</b>	<b>360</b>	<b>220</b>	<b>97</b>
Dichlorodifluoromethane	200	1000	< 0.2	< 0.2	< 0.2	< 0.4	< 0.2	< 0.2	< 0.40	< 0.40	< 0.40	< 0.54	< 1.1
Ethylbenzene	140	700	< 0.13	< 0.13	< 0.13	< 0.26	< 0.13	< 0.13	< 0.26	< 0.26	< 0.26	< 0.18	< 0.54
Isopropylbenzene	NE	NE	< 0.14	< 0.14	< 0.14	< 0.28	< 0.14	< 0.14	< 0.28	< 0.28	< 0.28	< 0.39	< 0.81
m,p-Xylene	400	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.57
Methyl tert-butyl ether	12	60	< 0.24	< 0.24	< 0.24	< 0.48	< 0.24	< 0.24	< 0.48	< 0.48	< 0.48	< 0.39	< 1.4
Methylene chloride	0.5	5	< 0.68	< 0.68	< 0.68	< 1.4	< 0.68	< 0.68	< 1.4	< 1.4	< 1.4	< 1.6	< 1.4
Naphthalene	10	100	< 0.16	< 0.16	< 0.16	< 0.32	< 0.16	< 0.16	< 0.32	< 0.32	< 0.32	< 0.34	< 0.88
n-Butylbenzene	NE	NE	< 0.13	< 0.13	< 0.13	< 0.26	< 0.13	< 0.13	< 0.26	< 0.26	< 0.26	< 0.39	< 1.4
n-Hexane	120	600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2.1
n-Propylbenzene	NE	NE	< 0.13	< 0.13	< 0.13	< 0.26	< 0.13	< 0.13	< 0.26	< 0.26	< 0.26	< 0.41	< 1.0
o-Xylene	400	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.58
p-Isopropyltoluene	NE	NE	< 0.17	< 0.17	< 0.17	< 0.34	< 0.17	< 0.17	< 0.34	< 0.34	< 0.34	< 0.36	< 0.85
sec-Butylbenzene	NE	NE	< 0.15	< 0.15	< 0.15	< 0.3	< 0.15	< 0.15	< 0.30	< 0.30	< 0.30	< 0.40	< 1.3
Styrene	10	100	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.20	< 0.20	< 0.20	< 0.39	< 0.65
tert-Butylbenzene	NE	NE	< 0.14	< 0.14	< 0.14	< 0.28	< 0.14	< 0.14	< 0.28	< 0.28	< 0.28	< 0.40	< 1.2
Tetrachloroethene	0.5	5	<b>640</b>	<b>760</b>	<b>630</b>	<b>680</b>	<b>720</b>	<b>800</b>	<b>750</b>	<b>750</b>	<b>580</b>	<b>360</b>	<b>240</b>
Toluene	160	800	< 0.11	< 0.11	< 0.11	< 0.22	< 0.11	< 0.11	< 0.22	< 0.22	< 0.22	< 0.15	< 0.53
trans-1,2-Dichloroethene	20	100	7.3	6.7	6.1	6.9	6.9	8.4	8.5	7.7	8.4	4.0	< 1.1
Trichloroethene	0.5	5	<b>230</b>	<b>200</b>	<b>220</b>	<b>230</b>	<b>220</b>	<b>290</b>	<b>300</b>	<b>260</b>	<b>320</b>	<b>170</b>	<b>93</b>
Vinyl chloride	0.02	0.2	<b>15</b>	<b>17</b>	<b>17</b>	<b>13</b>	<b>13</b>	<b>17</b>	<b>14</b>	<b>16</b>	<b>16</b>	<b>8.6</b>	<b>3.7 J</b>
Xylenes, Total	400	2000	< 0.068	< 0.068	< 0.068	< 0.14	< 0.068	< 0.068	< 0.14	< 0.14	< 0.14	< 0.22	< 0.58
<b>Total PCBs</b>													
Aroclor-1016	0.003	0.03	< 0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03	< 0.085	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03	< 0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>													
Aroclor-1016	0.003	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
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WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	MP-13 67 - 71 ft 12/06/2012	MP-13 67 - 71 ft 01/19/2013	MP-13 67 - 71 ft 02/21/2013	MP-13 67 - 71 ft 04/17/2013	MP-13 67 - 71 ft 07/22/2013	MP-13 67 - 71 ft 10/07/2013	MP-13 67 - 71 ft 04/16/2014	MP-13 67 - 71 ft 10/14/2014	MP-13 67 - 71 ft 04/14/2015	MP-13 67 - 71 ft 10/16/2015	MP-13 67 - 71 ft 10/10/2016
<b>VOCs</b>														
1,1,1,2-Tetrachloroethane	7	70		< 1.3	< 1.3	< 1.3	< 2.5	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 0.92	< 1.1
1,1,1-Trichloroethane	40	200		< 1	< 1	< 1	< 2	< 1	< 1	< 1.0	< 1.0	< 1.0	< 0.76	< 1.0
1,1,2-Trichloroethane	0.5	5		< 1.4	< 1.4	< 1.4	< 2.8	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 0.70	< 1.0
1,1-Dichloroethene	0.7	7		<b>2.8 J</b>	<b>3.1 J</b>	< 1.6	< 3.1	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 0.78	< 1.4
1,2,4-Trimethylbenzene	96	480		< 0.7	< 0.7	< 0.7	< 1.4	< 0.7	< 0.7	< 0.70	< 0.70	< 0.70	< 0.72	< 0.60
1,2-Dibromoethane	0.005	0.05		< 1.8	< 1.8	< 1.8	< 3.6	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 0.77	< 1.3
1,2-Dichlorobenzene	60	600		< 1.4	< 1.4	< 1.4	< 2.7	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 0.67	< 0.76
1,2-Dichloropropane	0.5	5		< 1	< 1	< 1	< 2	< 1	< 1	< 1.0	< 1.0	< 1.0	< 0.86	< 1.0
1,2,3-Trichlorobenzene	NE	NE		< 1.2	< 1.2	< 1.2	< 2.4	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 0.92	< 0.45
1,2,4-Trichlorobenzene	14	70		< 1.6	< 1.6	< 1.6	< 3.1	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 0.68	< 0.77
1,3,5-Trimethylbenzene	96	480		< 0.9	< 0.9	< 0.9	< 1.8	< 0.9	< 0.9	< 0.90	< 0.90	< 0.90	< 0.51	< 0.75
2-Butanone	800	4000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 30
2-Hexanone	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 9.5
4-Methyl-2-pentanone	50	500		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 7.7
Acetone	1800	9000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 34
Benzene	0.5	5		< 0.37	<b>1.1 J</b>	< 0.37	< 0.74	< 0.37	< 0.37	< 0.37	< 0.37	< 0.37	< 0.29	< 0.89
Bromodichloromethane	0.06	0.6		< 0.85	< 0.85	< 0.85	< 1.7	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 0.74	< 0.77
Bromoform	0.44	4.4		< 1.4	< 1.4	< 1.4	< 2.8	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 0.97	< 0.88
Bromomethane	1	10		< 1.6	< 1.6	< 1.6	< 3.1	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 5.9
Carbon disulfide	200	1000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.53
Carbon tetrachloride	0.5	5		< 1.3	< 1.3	< 1.3	< 2.6	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 0.77	< 0.38
Chloroform	0.6	6		< 1	< 1	< 1	< 2	< 1	< 1	< 1.0	< 1.0	< 1.0	< 0.74	< 0.62
Chloromethane	3	30		< 0.9	< 0.9	< 0.9	< 1.8	< 0.9	< 0.9	< 0.90	< 0.90	< 0.90	< 0.64	<b>4.7 BJ</b>
cis-1,2-Dichloroethene	7	70		<b>3500</b>	<b>3100</b>	<b>2900</b>	<b>3200</b>	<b>2300</b>	<b>1500</b>	<b>1300</b>	<b>810</b>	<b>710</b>	<b>470</b>	<b>89</b>
Dichlorodifluoromethane	200	1000		< 1	< 1	< 1	< 2	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.1	< 1.1
Ethylbenzene	140	700		< 0.65	< 0.65	< 0.65	< 1.3	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.37	< 0.54
Isopropylbenzene	NE	NE		< 0.7	< 0.7	< 0.7	< 1.4	< 0.7	< 0.7	< 0.70	< 0.70	< 0.70	< 0.77	< 0.81
m,p-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.57
Methyl tert-butyl ether	12	60		< 1.2	< 1.2	< 1.2	< 2.4	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 0.79	< 1.4
Methylene chloride	0.5	5		< 3.4	< 3.4	< 3.4	< 6.8	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.3	< 1.4
Naphthalene	10	100		< 0.8	< 0.8	< 0.8	< 1.6	< 0.8	< 0.8	< 0.80	< 0.80	< 0.80	< 0.67	< 0.88
n-Butylbenzene	NE	NE		< 0.65	< 0.65	< 0.65	< 1.3	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.78	< 1.4
n-Hexane	120	600		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2.1
n-Propylbenzene	NE	NE		< 0.65	< 0.65	< 0.65	< 1.3	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.83	< 1.0
o-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.58
p-Isopropyltoluene	NE	NE		< 0.85	< 0.85	< 0.85	< 1.7	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 0.72	< 0.85
sec-Butylbenzene	NE	NE		< 0.75	< 0.75	< 0.75	< 1.5	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.80	< 1.3
Styrene	10	100		< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.77	< 0.65
tert-Butylbenzene	NE	NE		< 0.7	< 0.7	< 0.7	< 1.4	< 0.7	< 0.7	< 0.70	< 0.70	< 0.70	< 0.80	< 1.2
Tetrachloroethene	0.5	5		<b>3800</b>	<b>4300</b>	<b>2900</b>	<b>3800</b>	<b>2800</b>	<b>2000</b>	<b>1600</b>	<b>1600</b>	<b>1200</b>	<b>970</b>	<b>270</b>
Toluene	160	800		< 0.55	< 0.55	< 0.55	< 1.1	< 0.55	< 0.55	< 0.55	< 0.55	< 0.55	< 0.30	< 0.53
trans-1,2-Dichloroethene	20	100		<b>60</b>	<b>56</b>	<b>48</b>	<b>52</b>	<b>37</b>	<b>27</b>	<b>23</b>	<b>12</b>	<b>11</b>	< 0.70	< 1.1
Trichloroethene	0.5	5		<b>1100</b>	<b>1000</b>	<b>800</b>	<b>940</b>	<b>630</b>	<b>510</b>	<b>440</b>	<b>260</b>	<b>270</b>	<b>180</b>	<b>55</b>
Vinyl chloride	0.02	0.2		<b>150</b>	<b>180</b>	<b>140</b>	<b>130</b>	<b>110</b>	<b>92</b>	<b>83</b>	<b>45</b>	<b>50</b>	< 0.41	<b>3.2 J</b>
Xylenes, Total	400	2000		< 0.34	< 0.34	< 0.34	< 0.68	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.44	< 0.58
<b>Total PCBs</b>														
Aroclor-1016	0.003	0.03		< 0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03		< 0.085	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03		< 0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>														
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	MP-13 102 - 106 ft 12/04/2012	MP-13 102 - 106 ft 01/18/2013	MP-13 102 - 106 ft 02/21/2013	MP-13 102 - 106 ft 04/17/2013	MP-13 102 - 106 ft 07/22/2013	MP-13 102 - 106 ft 10/07/2013	MP-13 102 - 106 ft 04/16/2014	MP-13 102 - 106 ft 10/14/2014	MP-13 102 - 106 ft 04/14/2015	MP-13 102 - 106 ft 10/16/2015	MP-13 102 - 106 ft 10/10/2016
<b>VOCS</b>														
1,1,1,2-Tetrachloroethane	7	70		< 1.3	< 0.5	< 0.5	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 4.6
1,1,1-Trichloroethane	40	200		< 1	< 0.4	< 0.4	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 3.8
1,1,2-Trichloroethane	0.5	5		< 1.4	< 0.56	< 0.56	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 3.5
1,1-Dichloroethene	0.7	7		< 1.6	< 0.62	< 0.62	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 3.9
1,2,4-Trimethylbenzene	96	480		< 0.7	< 0.28	< 0.28	< 0.7	< 0.7	< 0.7	< 0.70	< 0.70	< 0.70	< 0.70	< 3.6
1,2-Dibromoethane	0.005	0.05		< 1.8	< 0.72	< 0.72	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 3.9
1,2-Dichlorobenzene	60	600		< 1.4	< 0.54	< 0.54	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 3.3
1,2-Dichloropropane	0.5	5		< 1	< 0.4	< 0.4	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 4.3
1,2,3-Trichlorobenzene	NE	NE		< 1.2	< 0.48	< 0.48	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 4.6
1,2,4-Trichlorobenzene	14	70		< 1.6	< 0.62	< 0.62	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 3.4
1,3,5-Trimethylbenzene	96	480		< 0.9	< 0.36	< 0.36	< 0.9	< 0.9	< 0.9	< 0.90	< 0.90	< 0.90	< 0.90	< 2.5
2-Butanone	800	4000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 60
2-Hexanone	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 19
4-Methyl-2-pentanone	50	500		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 15
Acetone	1800	9000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 68
Benzene	0.5	5		< 0.37	< 0.15	< 0.15	< 0.37	< 0.37	< 0.37	< 0.37	< 0.37	< 0.37	< 0.37	< 1.5
Bromodichloromethane	0.06	0.6		< 0.85	< 0.34	< 0.34	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 3.7
Bromoform	0.44	4.4		< 1.4	< 0.56	< 0.56	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 4.8
Bromomethane	1	10		< 1.6	< 0.62	< 0.62	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 8.0
Carbon disulfide	200	1000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.1
Carbon tetrachloride	0.5	5		< 1.3	< 0.52	< 0.52	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 3.8
Chloroform	0.6	6		< 1	< 0.4	< 0.4	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 3.7
Chloromethane	3	30		< 0.9	< 0.36	< 0.36	< 0.9	< 0.9	< 0.9	< 0.90	< 0.90	< 0.90	< 0.90	9.8 BJ
cis-1,2-Dichloroethene	7	70		<b>1100</b>	<b>690</b>	<b>520</b>	<b>720</b>	<b>660</b>	<b>600</b>	<b>770</b>	<b>730</b>	<b>980</b>	<b>1100</b>	<b>200</b>
Dichlorodifluoromethane	200	1000		< 1	< 0.4	< 0.4	< 1	< 1	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 5.4
Ethylbenzene	140	700		< 0.65	< 0.26	< 0.26	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 1.8
Isopropylbenzene	NE	NE		< 0.7	< 0.28	< 0.28	< 0.7	< 0.7	< 0.7	< 0.70	< 0.70	< 0.70	< 0.70	< 3.9
m,p-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.1
Methyl tert-butyl ether	12	60		< 1.2	< 0.48	< 0.48	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 3.9
Methylene chloride	0.5	5		< 3.4	< 1.4	< 1.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4	< 16
Naphthalene	10	100		< 0.8	< 0.32	< 0.32	< 0.8	< 0.8	< 0.8	< 0.80	< 0.80	< 0.80	< 0.80	< 3.4
n-Butylbenzene	NE	NE		< 0.65	< 0.26	< 0.26	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 3.9
n-Hexane	120	600		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 4.2
n-Propylbenzene	NE	NE		< 0.65	< 0.26	< 0.26	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 0.65	< 4.1
o-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.2
p-Isopropyltoluene	NE	NE		< 0.85	< 0.34	< 0.34	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 3.6
sec-Butylbenzene	NE	NE		< 0.75	< 0.3	< 0.3	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 4.0
Styrene	10	100		< 0.5	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 3.9
tert-Butylbenzene	NE	NE		< 0.7	< 0.28	< 0.28	< 0.7	< 0.7	< 0.7	< 0.70	< 0.70	< 0.70	< 0.70	< 4.0
Tetrachloroethene	0.5	5		<b>1800</b>	<b>1100</b>	<b>670</b>	<b>1400</b>	<b>1500</b>	<b>1900</b>	<b>1600</b>	<b>2000</b>	<b>2100</b>	<b>4600</b>	<b>870</b>
Toluene	160	800		< 0.55	< 0.22	< 0.22	< 0.55	< 0.55	< 0.55	< 0.55	< 0.55	< 0.55	< 0.55	< 1.1
trans-1,2-Dichloroethene	20	100		15	9.5	4.8	6.6	6.0	7.0	9.8	8.1	13	< 3.5	3.2 J
Trichloroethene	0.5	5		<b>440</b>	<b>330</b>	<b>270</b>	<b>500</b>	<b>450</b>	<b>490</b>	<b>580</b>	<b>530</b>	<b>680</b>	<b>930</b>	<b>230</b>
Vinyl chloride	0.02	0.2		<b>33</b>	<b>23</b>	<b>13</b>	<b>20</b>	<b>19</b>	<b>20</b>	<b>23</b>	<b>22</b>	<b>41</b>	<b>44</b>	< 3.2
Xylenes, Total	400	2000		< 0.34	< 0.14	< 0.14	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 2.2
<b>Total PCBs</b>														
Aroclor-1016	0.003	0.03		< 0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03		< 0.083	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03		< 0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>														
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	MP-13 121 - 125 ft 12/04/2012	MP-13 <sup>3</sup> 121 - 125 ft 12/04/2012	MP-13 121 - 125 ft 01/18/2013	MP-13 121 - 125 ft 04/17/2013	MP-13 121 - 125 ft 07/22/2013	MP-13 121 - 125 ft 10/07/2013	MP-13 121 - 125 ft 04/16/2014	MP-13 121 - 125 ft 10/14/2014	MP-13 121 - 125 ft 04/14/2015	MP-13 121 - 125 ft 10/16/2015	MP-13 121 - 125 ft 10/10/2016
<b>VOCs</b>														
1,1,1,2-Tetrachloroethane	7	70		< 0.5	< 1.3	< 1.3	< 5	< 2.5	1.1	< 5.0	< 2.5	< 2.5	< 9.2	< 11
1,1,1-Trichloroethane	40	200		< 0.4	< 1	< 1	< 4	< 2	< 0.2	< 4.0	< 2.0	< 2.0	< 7.6	< 10
1,1,2-Trichloroethane	0.5	5		< 0.56	< 1.4	< 1.4	< 5.6	< 2.8	< 0.28	< 5.6	< 2.8	< 2.8	< 7.0	< 10
1,1-Dichloroethene	0.7	7		< 0.62	< 1.6	< 1.6	< 6.2	< 3.1	< 0.31	< 6.2	< 3.1	< 3.1	< 7.8	< 14
1,2,4-Trimethylbenzene	96	480		< 0.28	< 0.7	< 0.7	< 2.8	< 1.4	< 0.14	< 2.8	< 1.4	< 1.4	< 7.2	< 6.0
1,2-Dibromoethane	0.005	0.05		< 0.72	< 1.8	< 1.8	< 7.2	< 3.6	< 0.36	< 7.2	< 3.6	< 3.6	< 7.7	< 13
1,2-Dichlorobenzene	60	600		< 0.54	< 1.4	< 1.4	< 5.4	< 2.7	< 0.27	< 5.4	< 2.7	< 2.7	< 6.7	< 7.6
1,2-Dichloropropane	0.5	5		< 0.4	< 1	< 1	< 4	< 2	< 0.2	< 4.0	< 2.0	< 2.0	< 8.6	< 10
1,2,3-Trichlorobenzene	NE	NE		< 0.48	< 1.2	< 1.2	< 4.8	< 2.4	< 0.24	< 4.8	< 2.4	< 2.4	< 9.2	< 4.5
1,2,4-Trichlorobenzene	14	70		< 0.62	< 1.6	< 1.6	< 6.2	< 3.1	< 0.31	< 6.2	< 3.1	< 3.1	< 6.8	< 7.7
1,3,5-Trimethylbenzene	96	480		< 0.36	< 0.9	< 0.9	< 3.6	< 1.8	< 0.18	< 3.6	< 1.8	< 1.8	< 5.1	< 7.5
2-Butanone	800	4000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 300
2-Hexanone	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 95
4-Methyl-2-pentanone	50	500		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 77
Acetone	1800	9000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 340
Benzene	0.5	5		< 0.15	< 0.37	< 0.37	< 1.5	< 0.74	0.29 J	< 1.5	< 0.74	< 0.74	< 2.9	< 8.9
Bromodichloromethane	0.06	0.6		< 0.34	< 0.85	< 0.85	< 3.4	< 1.7	< 0.17	< 3.4	< 1.7	< 1.7	< 7.4	< 7.7
Bromoform	0.44	4.4		< 0.56	< 1.4	< 1.4	< 5.6	< 2.8	< 0.28	< 5.6	< 2.8	< 2.8	< 9.7	< 8.8
Bromomethane	1	10		< 0.62	< 1.6	< 1.6	< 6.2	< 3.1	< 0.31	< 6.2	< 3.1	< 3.1	< 16	< 59
Carbon disulfide	200	1000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.3
Carbon tetrachloride	0.5	5		< 0.52	< 1.3	< 1.3	< 5.2	< 2.6	< 0.26	< 5.2	< 2.6	< 2.6	< 7.7	< 3.8
Chloroform	0.6	6		< 0.4	< 1	< 1	< 4	< 2	< 0.2	< 4.0	< 2.0	< 2.0	< 7.4	< 6.2
Chloromethane	3	30		< 0.36	< 0.9	< 0.9	< 3.6	< 1.8	< 0.18	< 3.6	< 1.8	< 1.8	< 6.4	<b>49 BJ</b>
cis-1,2-Dichloroethene	7	70		<b>910</b>	<b>970</b>	<b>1000</b>	<b>930</b>	<b>760</b>	<b>650</b>	<b>720</b>	<b>630</b>	<b>690</b>	<b>820</b>	<b>200</b>
Dichlorodifluoromethane	200	1000		< 0.4	< 1	< 1	< 4	< 2	< 0.2	< 4.0	< 2.0	< 2.0	< 11	< 11
Ethylbenzene	140	700		< 0.26	< 0.65	< 0.65	< 2.6	< 1.3	< 0.13	< 2.6	< 1.3	< 1.3	< 3.7	< 5.4
Isopropylbenzene	NE	NE		< 0.28	< 0.7	< 0.7	< 2.8	< 1.4	< 0.14	< 2.8	< 1.4	< 1.4	< 7.7	< 8.1
m,p-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.7
Methyl tert-butyl ether	12	60		< 0.48	< 1.2	< 1.2	< 4.8	< 2.4	< 0.24	< 4.8	< 2.4	< 2.4	< 7.9	< 14
Methylene chloride	0.5	5		< 1.4	< 3.4	< 3.4	< 14	< 6.8	< 0.68	< 14	< 6.8	< 6.8	< 33	< 14
Naphthalene	10	100		< 0.32	< 0.8	< 0.8	< 3.2	< 1.6	< 0.16	< 3.2	< 1.6	< 1.6	< 6.7	< 8.8
n-Butylbenzene	NE	NE		< 0.26	< 0.65	< 0.65	< 2.6	< 1.3	< 0.13	< 2.6	< 1.3	< 1.3	< 7.8	< 14
n-Hexane	120	600		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 21
n-Propylbenzene	NE	NE		< 0.26	< 0.65	< 0.65	< 2.6	< 1.3	< 0.13	< 2.6	< 1.3	< 1.3	< 8.3	< 10
o-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.8
p-Isopropyltoluene	NE	NE		< 0.34	< 0.85	< 0.85	< 3.4	< 1.7	< 0.17	< 3.4	< 1.7	< 1.7	< 7.2	< 8.5
sec-Butylbenzene	NE	NE		< 0.3	< 0.75	< 0.75	< 3	< 1.5	< 0.15	< 3.0	< 1.5	< 1.5	< 8.0	< 13
Styrene	10	100		< 0.2	< 0.5	< 0.5	< 2	< 1	< 0.1	< 2.0	< 1.0	< 1.0	< 7.7	< 6.5
tert-Butylbenzene	NE	NE		< 0.28	< 0.7	< 0.7	< 2.8	< 1.4	< 0.14	< 2.8	< 1.4	< 1.4	< 8.0	< 12
Tetrachloroethene	0.5	5		<b>1500</b>	<b>1500</b>	<b>2600</b>	<b>7000</b>	<b>6300</b>	<b>6500</b>	<b>6700</b>	<b>4800</b>	<b>4300</b>	<b>12000</b>	<b>3100</b>
Toluene	160	800		< 0.22	< 0.55	< 0.55	< 2.2	< 1.1	< 0.11	< 2.2	< 1.1	< 1.1	< 3.0	9.0 J
trans-1,2-Dichloroethene	20	100		12	15	17	12 J	12	9.7	10 J	6.7 J	< 2.5	< 7.0	< 11
Trichloroethene	0.5	5		<b>340</b>	<b>370</b>	<b>460</b>	<b>600</b>	<b>510</b>	<b>550</b>	<b>710</b>	<b>520</b>	<b>640</b>	<b>1100</b>	<b>450</b>
Vinyl chloride	0.02	0.2		<b>36</b>	<b>37</b>	<b>54</b>	<b>13</b>	<b>9.3</b>	<b>8.1</b>	<b>6.2 J</b>	< 1.0	<b>11</b>	< 4.1	< 16
Xylenes, Total	400	2000		< 0.14	< 0.34	< 0.34	< 1.4	< 0.68	< 0.068	< 1.4	< 0.68	< 0.68	< 4.4	< 5.8
<b>Total PCBs</b>														
Aroclor-1016	0.003	0.03		< 0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03		< 0.084	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03		< 0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>														
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	MP-16 175 - 179 ft 01/22/2013	MP-16 175 - 179 ft 04/16/2013	MP-16 175 - 179 ft 07/23/2013	MP-16 175 - 179 ft 10/09/2013	MP-16 175 - 179 ft 04/15/2014	MP-16 175 - 179 ft 10/16/2014	MP-16 175 - 179 ft 04/13/2015	MP-16 175 - 179 ft 10/15/2015	MP-16 175 - 179 ft 10/11/2016
<b>VOCS</b>												
1,1,1,2-Tetrachloroethane	7	70		< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.46	< 0.11
1,1,1-Trichloroethane	40	200		< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.38	< 0.10
1,1,2-Trichloroethane	0.5	5		< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.35	< 0.10
1,1-Dichloroethene	0.7	7		< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.39	< 0.14
1,2,4-Trimethylbenzene	96	480		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.36	< 0.060
1,2-Dibromoethane	0.005	0.05		< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.39	< 0.13
1,2-Dichlorobenzene	60	600		< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.33	< 0.076
1,2-Dichloropropane	0.5	5		< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.43	< 0.10
1,2,3-Trichlorobenzene	NE	NE		< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.46	< 0.045
1,2,4-Trichlorobenzene	14	70		< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.34	< 0.077
1,3,5-Trimethylbenzene	96	480		< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.25	< 0.075
2-Butanone	800	4000		NA	NA	NA	NA	NA	NA	NA	NA	< 3.0
2-Hexanone	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	< 0.95
4-Methyl-2-pentanone	50	500		NA	NA	NA	NA	NA	NA	NA	NA	< 0.77
Acetone	1800	9000		NA	NA	NA	NA	NA	NA	NA	NA	< 3.4
Benzene	0.5	5		< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.15	< 0.089
Bromodichloromethane	0.06	0.6		< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.37	< 0.077
Bromoform	0.44	4.4		< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.48	< 0.088
Bromomethane	1	10		< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.80	< 0.59
Carbon disulfide	200	1000		NA	NA	NA	NA	NA	NA	NA	NA	< 0.053
Carbon tetrachloride	0.5	5		< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.38	< 0.038
Chloroform	0.6	6		< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20	< 0.20	< 0.37	< 0.062
Chloromethane	3	30		< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.32	< 0.16
cis-1,2-Dichloroethene	7	70		1.9	0.99 J	< 0.12	< 0.12	< 0.12	< 0.12	< 0.12	< 0.41	< 0.11
Dichlorodifluoromethane	200	1000		< 0.2	< 0.2	< 0.2 *	< 0.2	< 0.20	< 0.20	< 0.20	< 0.54	< 0.11
Ethylbenzene	140	700		< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.18	< 0.054
Isopropylbenzene	NE	NE		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.39	< 0.081
m,p-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	< 0.057
Methyl tert-butyl ether	12	60		< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.39	< 0.14
Methylene chloride	0.5	5		< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 1.6	< 0.14
Naphthalene	10	100		< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.34	< 0.088
n-Butylbenzene	NE	NE		< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.39	< 0.14
n-Hexane	120	600		NA	NA	NA	NA	NA	NA	NA	NA	< 0.21
n-Propylbenzene	NE	NE		< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.41	< 0.10
o-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	< 0.058
p-Isopropyltoluene	NE	NE		< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.36	< 0.085
sec-Butylbenzene	NE	NE		< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.40	< 0.13
Styrene	10	100		< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.39	< 0.065
tert-Butylbenzene	NE	NE		< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.40	< 0.12
Tetrachloroethene	0.5	5		<b>13</b>	<b>6.7</b>	<b>2.2</b>	<b>3.7</b>	<b>3.8</b>	<b>4.8</b>	<b>4.2</b>	<b>2.7</b>	<b>3.1</b>
Toluene	160	800		< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.15	0.080 J
trans-1,2-Dichloroethene	20	100		< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.35	< 0.11
Trichloroethene	0.5	5		<b>2.2</b>	<b>1.2</b>	0.42 J	<b>0.98</b>	<b>0.87</b>	<b>0.98</b>	<b>0.69</b>	0.42 J	<b>0.54</b>
Vinyl chloride	0.02	0.2		< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10	< 0.10	< 0.20	< 0.16
Xylenes, Total	400	2000		< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.22	< 0.058
<b>Total PCBs</b>												
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Dissolved PCBs</b>												
Aroclor-1016	0.003	0.03		NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1232	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1242	0.003	0.003		NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Detected PCBs	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

WELL ID	SCREEN INTERVAL (feet bgs)	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	MW-22D 45 - 50 ft 01/15/2013	MW-22D <sup>3</sup> 45 - 50 ft 01/15/2013	MW-22D 45 - 50 ft 03/08/2013	MW-22D 45 - 50 ft 04/19/2013	MW-22D <sup>3</sup> 45 - 50 ft 04/19/2013	MW-22D 45 - 50 ft 07/16/2013	MW-22D <sup>3</sup> 45 - 50 ft 07/16/2013	MW-22D 45 - 50 ft 10/10/2013	MW-22D <sup>3</sup> 45 - 50 ft 10/10/2013	MW-22D 45 - 50 ft 04/18/2014	MW-22D <sup>3</sup> 45 - 50 ft 04/18/2014
<b>VOCs</b>														
1,1,1,2-Tetrachloroethane	7	70		< 0.25	< 0.25	NA	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
1,1,1-Trichloroethane	40	200		< 0.2	< 0.2	NA	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
1,1,2-Trichloroethane	0.5	5		< 0.28	< 0.28	NA	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
1,1-Dichloroethene	0.7	7		< 0.31	< 0.31	NA	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31
1,2,4-Trimethylbenzene	96	480		< 0.14	< 0.14	NA	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
1,2-Dibromoethane	0.005	0.05		< 0.36	< 0.36	NA	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36
1,2-Dichlorobenzene	60	600		< 0.27	< 0.27	NA	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27	< 0.27
1,2-Dichloropropane	0.5	5		< 0.2	< 0.2	NA	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
1,2,3-Trichlorobenzene	NE	NE		< 0.24	< 0.24	NA	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24
1,2,4-Trichlorobenzene	14	70		< 0.31	< 0.31	NA	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31
1,3,5-Trimethylbenzene	96	480		< 0.18	< 0.18	NA	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18
2-Butanone	800	4000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NE	NE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	50	500		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	1800	9000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	0.5	5		< 0.074	< 0.074	NA	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074	< 0.074
Bromodichloromethane	0.06	0.6		< 0.17	< 0.17	NA	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
Bromoform	0.44	4.4		< 0.28	< 0.28	NA	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28	< 0.28
Bromomethane	1	10		< 0.31	< 0.31	NA	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31
Carbon disulfide	200	1000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	0.5	5		< 0.26	< 0.26	NA	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26
Chloroform	0.6	6		< 0.2	< 0.2	NA	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
Chloromethane	3	30		0.47 J	< 0.18	NA	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18
cis-1,2-Dichloroethene	7	70		3.6	3.3	NA	4.9	4.9	3.7	3.7	< 0.12	4.0	2.6	2.5
Dichlorodifluoromethane	200	1000		< 0.2	< 0.2	NA	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.20	< 0.20
Ethylbenzene	140	700		< 0.13	< 0.13	NA	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
Isopropylbenzene	NE	NE		< 0.14	< 0.14	NA	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
m,p-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	12	60		< 0.24	< 0.24	NA	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24
Methylene chloride	0.5	5		< 0.68	< 0.68	NA	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68	< 0.68
Naphthalene	10	100		< 0.16	< 0.16	NA	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
n-Butylbenzene	NE	NE		< 0.13	< 0.13	NA	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
n-Hexane	120	600		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	NE	NE		< 0.13	< 0.13	NA	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13
o-Xylene	400	2000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropyltoluene	NE	NE		< 0.17	< 0.17	NA	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17
sec-Butylbenzene	NE	NE		< 0.15	< 0.15	NA	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
Styrene	10	100		< 0.1	< 0.1	NA	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.10	< 0.10
tert-Butylbenzene	NE	NE		< 0.14	< 0.14	NA	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14
Tetrachloroethene	0.5	5		<b>520</b>	<b>470</b>	NA	<b>450</b>	<b>430</b>	<b>270</b>	<b>310</b>	<b>190</b>	<b>190</b>	<b>430</b>	<b>450</b>
Toluene	160	800		< 0.11	< 0.11	NA	< 0.11	< 0.11	0.37 J	0.38 J	< 0.11	< 0.11	< 0.11	< 0.11
trans-1,2-Dichloroethene	20	100		< 0.25	< 0.25	NA	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Trichloroethene	0.5	5		<b>5.8</b>	<b>6</b>	NA	<b>5.8</b>	<b>5.7</b>	<b>5</b>	<b>5.3</b>	<b>4.9</b>	<b>5.3</b>	<b>6.8</b>	<b>6.7</b>
Vinyl chloride	0.02	0.2		< 0.1	< 0.1	NA	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<b>0.92</b>	< 0.10	< 0.10
Xylenes, Total	400	2000		< 0.068	< 0.068	NA	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068	< 0.068
<b>Total PCBs</b>														
Aroclor-1016	0.003	0.03		<b>2.4</b>	NA	< 0.033	< 0.064	NA	< 0.063	NA	< 0.063	NA	< 0.065	NA
Aroclor-1232	0.003	0.03		< 0.092	NA	<b>2.6</b>	< 0.19	NA	< 0.19	NA	<b>3.3</b>	NA	< 0.19	NA
Aroclor-1242	0.003	0.03		< 0.13	NA	< 0.1	< 0.19	NA	<b>0.97</b>	NA	< 0.19	NA	< 0.19	NA
Total Detected PCBs	NE	NE		2.4	NA	2.6	ND	NA	0.97	NA	3.3	NA	ND	NA
<b>Dissolved PCBs</b>														
Aroclor-1016	0.003	0.03		NA	NA	< 0.033	< 0.064	NA	< 0.064	NA	< 0.065	NA	< 0.066	NA
Aroclor-1232	0.003	0.003		NA	NA	< 0.1	< 0.19	NA	< 0.19	NA	< 0.19	NA	< 0.20	NA
Aroclor-1242	0.003	0.003		NA	NA	< 0.1	< 0.19	NA	< 0.19	NA	< 0.19	NA	< 0.20	NA
Total Detected PCBs	NE	NE		NA	NA	ND	ND	NA	ND	NA	ND	NA	ND	NA

Notes on Page 50.

















Table 18  
Groundwater Analytical Results Summary  
Madison-Kipp Corporation  
Madison, Wisconsin

**Footnotes:**

- 1 - Indicates that the sample was quenched prior to analysis.
- 2 - Indicates that the sample was not quenched prior to analysis.
- 3 - Indicates the result of a field duplicate.

Updated By: Peggy Popp 05/10/2017  
Checked By: Ben Wachholz 05/23/2017

**General Notes:**

All concentrations noted in this table are reported in micrograms per liter (µg/L) unless otherwise noted.

Analytes shown in the table are from VOC and PCB analyte lists. Only analytes that were detected in at least one sample are shown in the table. A complete list of constituents analyzed are included in the laboratory analytical reports.

**100** = NR 140 Wis. Adm. Code Preventive Action Limit Exceedance

**100** = NR 140 Wis. Adm. Code Enforcement Standard Exceedance

< = Constituent not detected above noted laboratory method detection limit.

\* = Data is suspect and not used in evaluation. (Note from historical data through 2015, provided by Arcadis)

B = Compound was found in the blank and sample.

bgs = Below Ground Surface.

cn = Laboratory Contaminant.

E = Estimated concentration, exceeds instrumental calibration range.

ID = Identification.

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

J+ = Results may be biased high because of high continuing calibration verification (CCV)

NA = Not Analyzed.

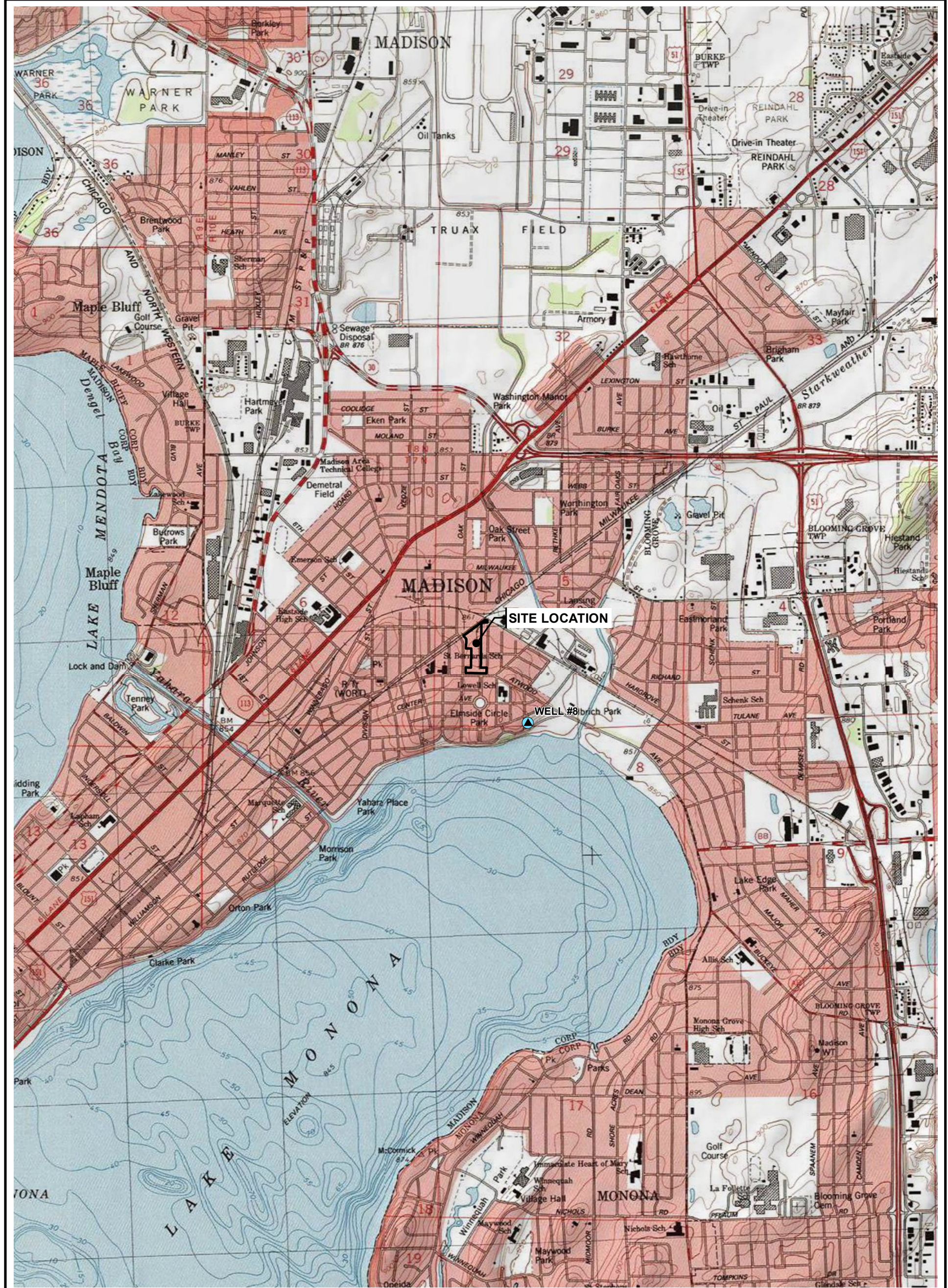
ND = Not Detected.

NE = Not Established.



PCBs = Polychlorinated biphenyls.

VOCs = Volatile Organic Compounds.





**LEGEND**

-  SITE PROPERTY BOUNDARY
-  MUNICIPAL SUPPLY WELL

BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES, "USA TOPO MAPS" WEB BASEMAP SERVICE LAYER.



708 Heartland Trail  
 Suite 3000  
 Madison, WI 53717  
 Phone: 608.826.3600

PROJECT:

**MADISON-KIPP CORPORATION**  
 201 WAUBESA STREET  
 MADISON, WISCONSIN

TITLE:

**SITE LOCATION MAP**

DRAWN BY:

B DEEGAN

CHECKED BY:

A STEHN

APPROVED BY:

K VATER

DATE:

AUGUST 2017

PROJ. NO.:

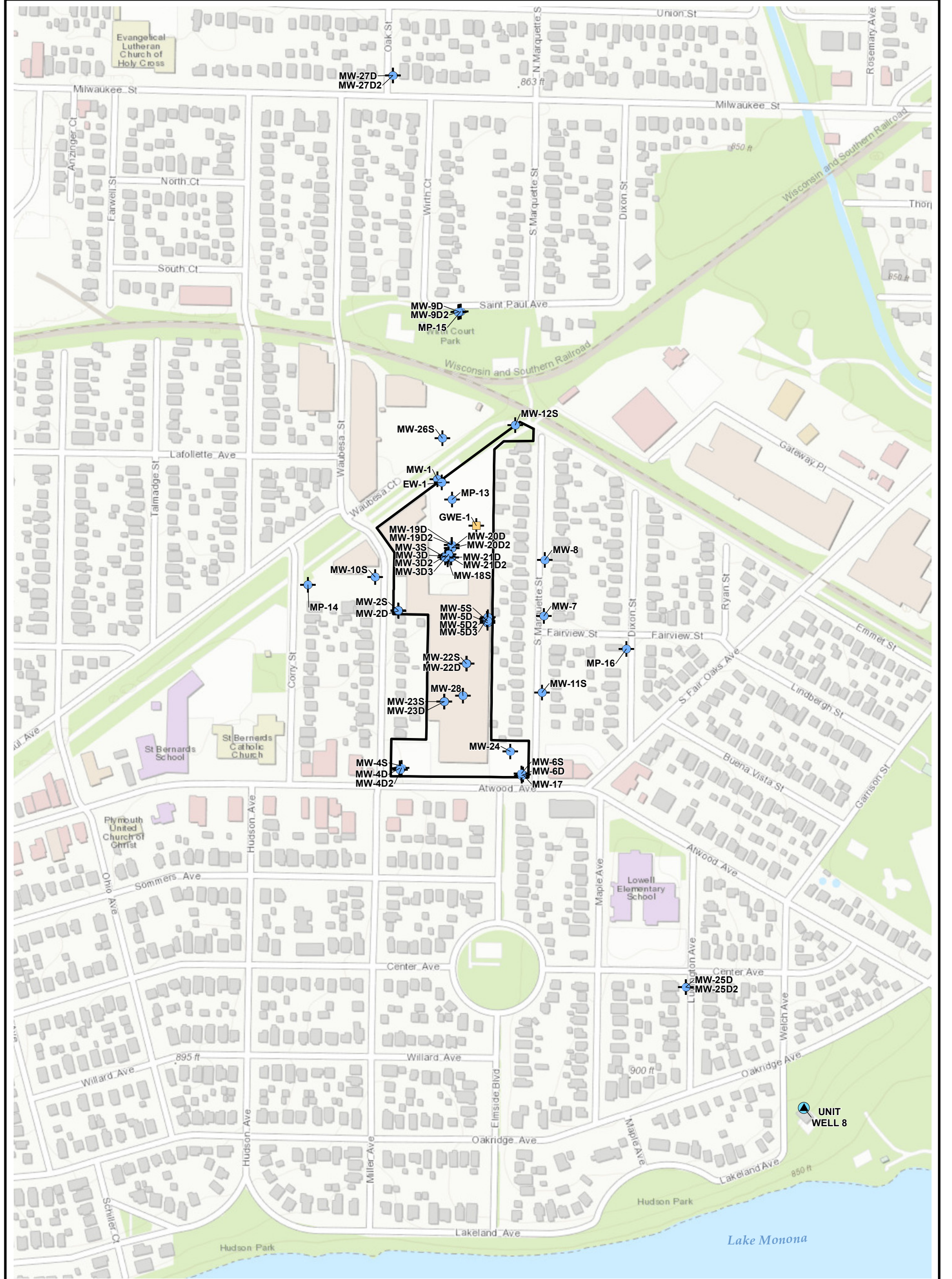
266431.0004

FILE:

266431-2017S1-001.mxd

**FIGURE 1**

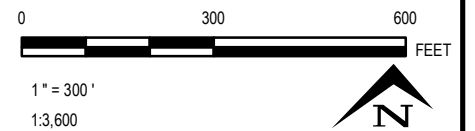




**LEGEND**

- SITE PROPERTY BOUNDARY
- + MONITORING WELL
- + GROUNDWATER EXTRACTION WELL
- MUNICIPAL SUPPLY WELL

BASE MAP FROM ESRI, "WORLD TOPOGRAPHIC MAP" WEB BASEMAP SERVICE LAYER.



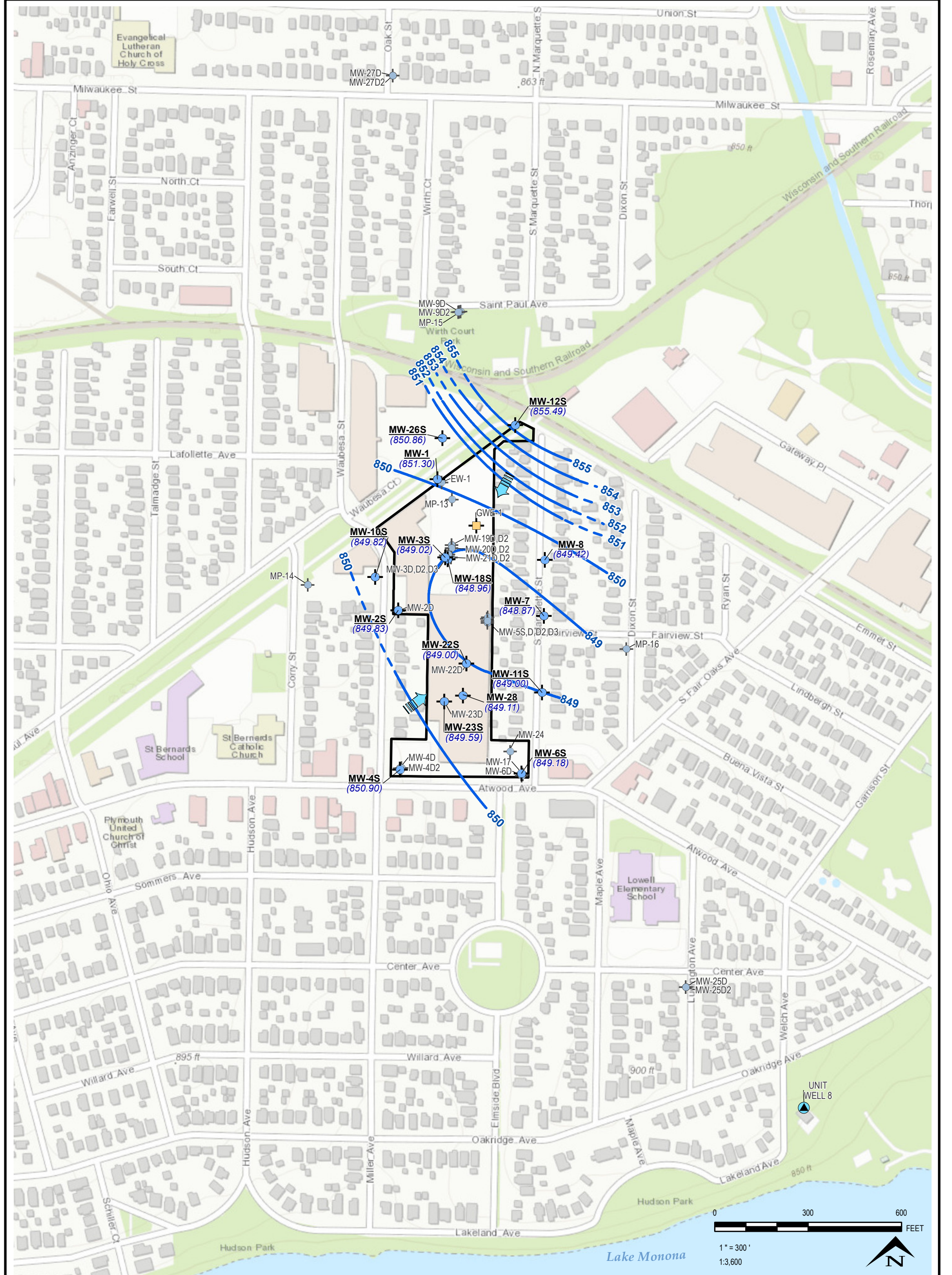

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 Suite 3000  
 Madison, WI 53717  
 Phone: 608.826.3600

PROJECT:	<b>MADISON-KIPP CORPORATION</b> 201 WAUBESA STREET MADISON, WISCONSIN
TITLE:	<b>WELL LOCATIONS MAP</b>

DRAWN BY:	B DEEGAN
CHECKED BY:	A STEHN
APPROVED BY:	K VATER
DATE:	AUGUST 2017
PROJ. NO.:	266431.0004
FILE:	266431-2017S1-002.mxd

**FIGURE 2**





**LEGEND**

- SITE PROPERTY BOUNDARY
- GROUNDWATER EXTRACTION WELL
- MONITORING WELL
- MUNICIPAL SUPPLY WELL

- GROUNDWATER ELEVATION CONTOUR (1' INTERVAL, DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

**NOTES**

1. BASE MAP FROM ESRI, "WORLD TOPOGRAPHIC MAP", WEB BASEMAP SERVICE LAYER.
2. GROUNDWATER ELEVATIONS MEASURED APRIL 10, 2017. WELLS SHOWN IN GRAY ARE NOT PART OF THIS GROUNDWATER UNIT.
3. MW-1 NOT USED FOR CONTOURING.



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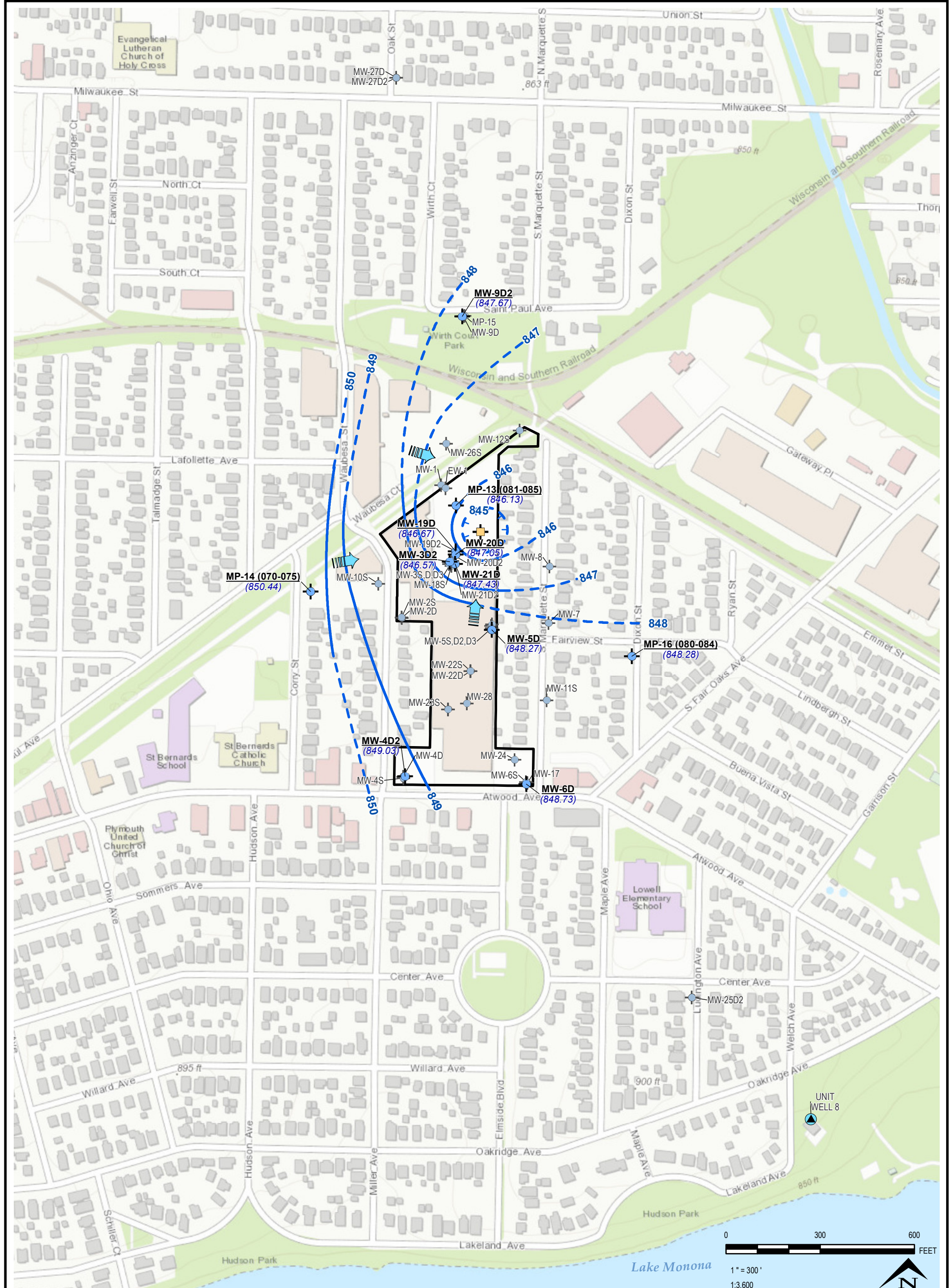
PROJECT: **MADISON-KIPP CORPORATION**  
 201 WAUBESA STREET  
 MADISON, WISCONSIN

TITLE: **WATER TABLE ELEVATIONS**  
 APRIL 2017

DRAWN BY:	B DEEGAN
CHECKED BY:	L AUNER
APPROVED BY:	T OCONNELL
DATE:	AUGUST 2017
PROJ. NO.:	266431
FILE:	266431-2017S1-004.mxd

**FIGURE 3**





**LEGEND**

- SITE PROPERTY
- GROUNDWATER EXTRACTION
- MONITORING WELL
- MUNICIPAL SUPPLY WELL

- INWARD GRADIENT
- GROUNDWATER ELEVATION CONTOUR (1' FT INTERVAL, DASHED WHERE INFERRED)
- GROUNDWATER FLOW

**NOTES**

1. BASE MAP FROM ESRI, "WORLD TOPOGRAPHIC MAP", WEB BASEMAP SERVICE LAYER.
2. GROUNDWATER ELEVATIONS MEASURED APRIL 10, 2017. WELLS SHOWN IN GRAY ARE NOT PART OF THIS GROUNDWATER UNIT.
3. MW-20D AND MW-21D NOT USED FOR CONTOURING.



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 Madison, WI 53717  
 Phone: 608.826.3600

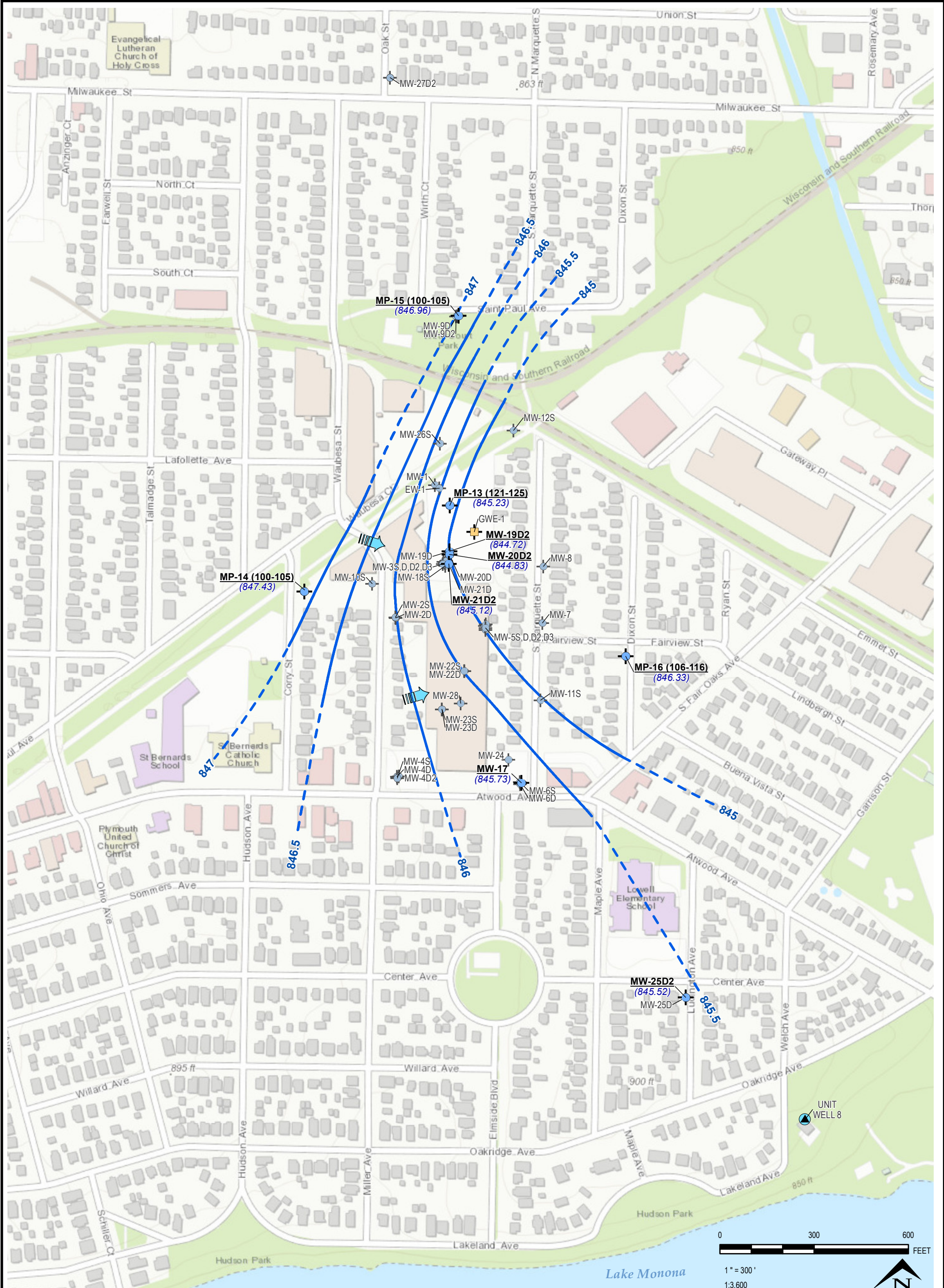
PROJECT: **MADISON-KIPP CORPORATION**  
 201 WAUBESA STREET  
 MADISON, WISCONSIN

TITLE: **LOWER LONE ROCK FORMATION**  
**POTENTIOMETRIC SURFACE**  
**APRIL 2017**

DRAWN BY:	BDEEGAN
CHECKED BY:	L AUNER
APPROVED BY:	T OCONNELL
DATE:	AUGUST 2017
PROJ. NO.:	266431
FILE:	266431-2017S1-005.mxd

**FIGURE 4**





**LEGEND**

- SITE PROPERTY BOUNDARY
- GROUNDWATER EXTRACTION WELL
- MONITORING WELL
- MUNICIPAL SUPPLY WELL

- GROUNDWATER ELEVATION CONTOUR (0.5' FT INTERVAL, DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

**NOTES**

1. BASE MAP FROM ESRI, "WORLD TOPOGRAPHIC MAP", WEB BASEMAP SERVICE LAYER.
2. GROUNDWATER ELEVATIONS MEASURED APRIL 10, 2017. WELLS SHOWN IN GRAY ARE NOT PART OF THIS GROUNDWATER UNIT.
3. MP-16 (106-116) NOT USED FOR CONTOURING.



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 Madison, WI 53717  
 Phone: 608.826.3600

PROJECT:

**MADISON-KIPP CORPORATION**  
 201 WAUBESA STREET  
 MADISON, WISCONSIN

TITLE:

**UPPER WONEWOC FORMATION  
 POTENTIOMETRIC SURFACE  
 APRIL 2017**

DRAWN BY: B DEEGAN

CHECKED BY: L AUNER

APPROVED BY: T OCONNELL

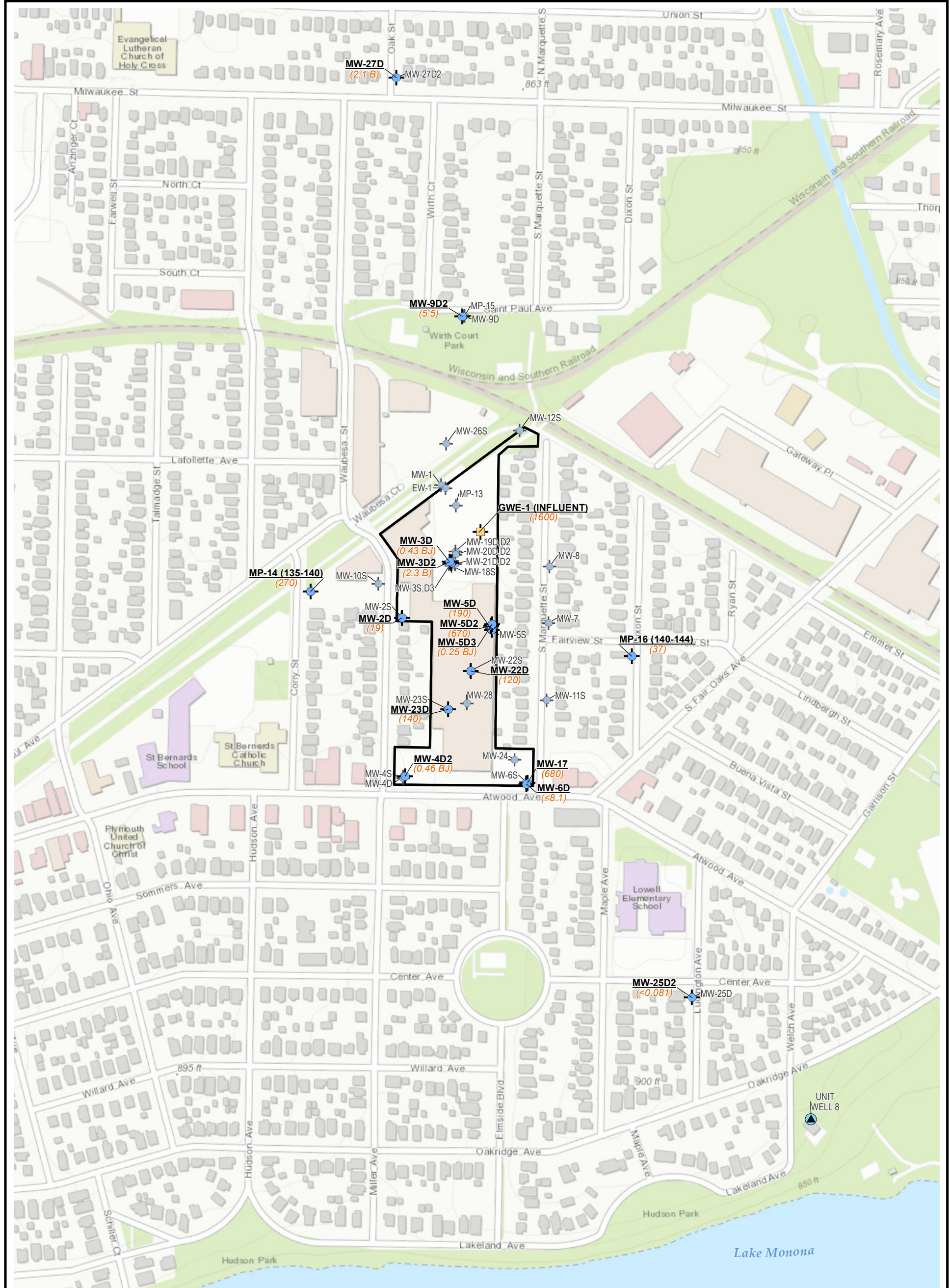
DATE: AUGUST 2017

PROJ. NO.: 266431

FILE: 266431-2017S1-006.mxd

**FIGURE 5**



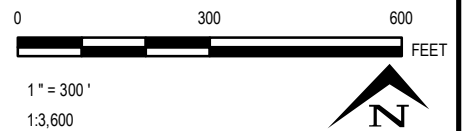


**LEGEND**

- SITE PROPERTY BOUNDARY
- GROUNDWATER EXTRACTION WELL
- MONITORING WELL
- MUNICIPAL SUPPLY WELL

**NOTES**

1. BASE MAP FROM ESRI, "WORLD TOPOGRAPHIC MAP", WEB BASEMAP SERVICE LAYER.
2. WELLS SAMPLED 4/10/2017 - 4/12/2017. WELLS SHOWN IN GRAY WERE NOT SAMPLED DURING THE APRIL MONITORING EVENT.
3. GWE-1(INFLUENT) WAS SAMPLED ON 4/6/2017.
4. "B" = COMPOUND FOUND IN THE BLAND SAMPLE. "J" = ESTIMATED CONCENTRATION ABOVE THE ADJUSTED METHOD DETECTION LIMIT AND BELOW REPORTING LIMIT.




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 Madison, WI 53717  
 Phone: 608.826.3600

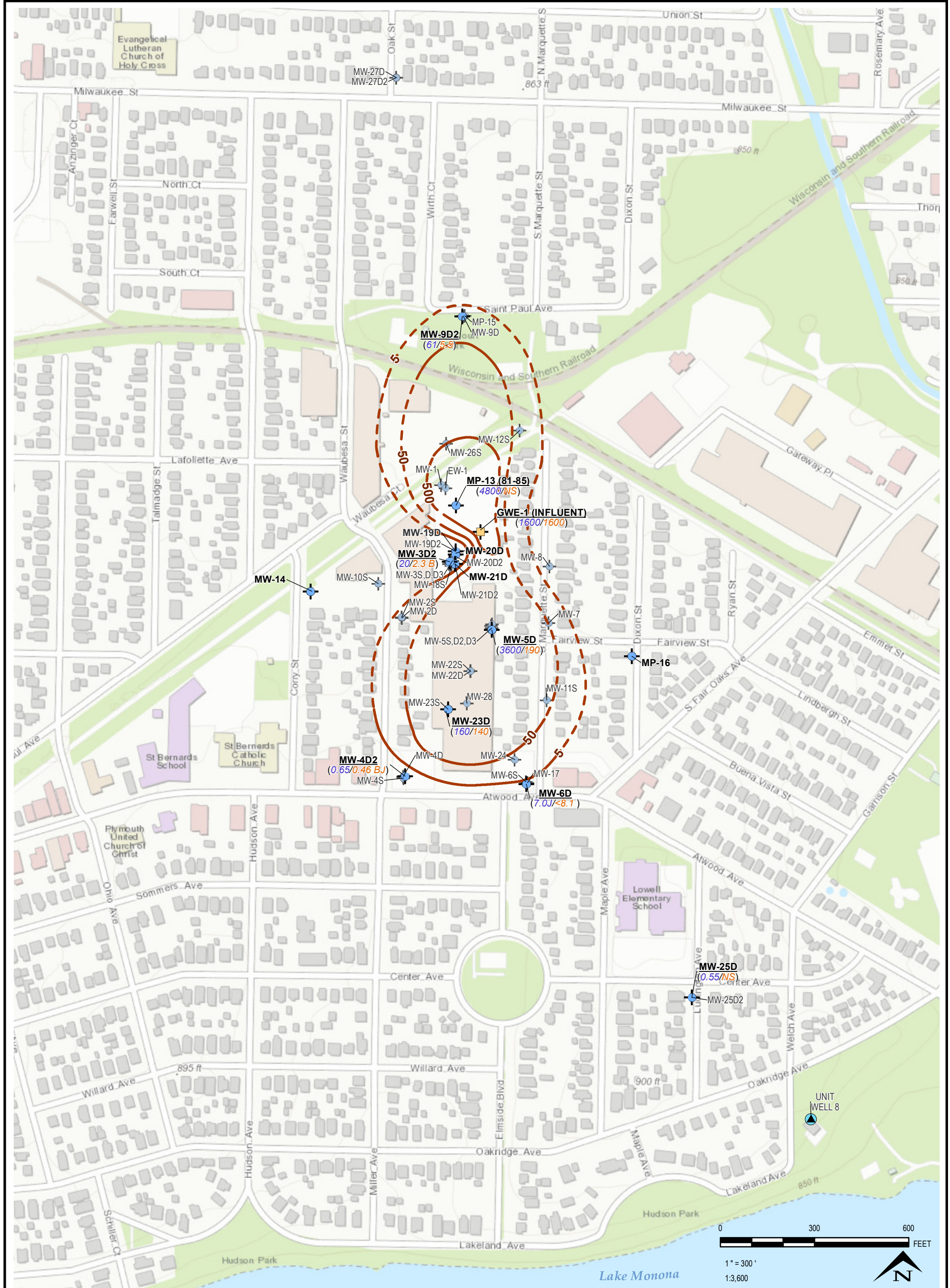
PROJECT: **MADISON-KIPP CORPORATION**  
**201 WAUBESA STREET**  
**MADISON, WISCONSIN**

TITLE: **TETRACHLOROETHENE (PCE) CONCENTRATIONS**  
**APRIL 2017**

DRAWN BY: B DEEGAN  
 CHECKED BY: L AUNER  
 APPROVED BY: T OCONNELL  
 DATE: AUGUST 2017  
 PROJ. NO.: 266431  
 FILE: 266431-2017S1-007.mxd

**FIGURE 8**





**LEGEND**

- SITE PROPERTY BOUNDARY
- GROUNDWATER EXTRACTION WELL
- MONITORING WELL
- MUNICIPAL SUPPLY WELL

- (0.97J) PCE CONCENTRATION - OCT. 2016 [µg/L]
- (7.5) PCE CONCENTRATION - APRIL 2017 [µg/L]
- PCE ISOCONCENTRATION CONTOUR (µg/L, DASHED WHERE INFERRED)

**NOTES**

1. BASE MAP FROM ESRI, "WORLD TOPOGRAPHIC MAP", WEB BASEMAP SERVICE LAYER.
2. WELLS SAMPLED 4/10/2017 - 4/12/2017. "NS" = NOT SAMPLED. WELLS SHOWN IN GRAY ARE NOT PART OF THIS GROUNDWATER UNIT.
3. "B"=COMPOUND FOUND IN THE BLANK SAMPLE. "J"=ESTIMATED CONCENTRATION ABOVE THE ADJUSTED METHOD DETECTION LIMIT AND BELOW REPORTING LIMIT.
4. PCE CONTOURS ARE BASED ON APRIL 2017 DATA AND SELECT OCTOBER 2016 DATA WHERE APRIL 2017 DATA WERE NOT AVAILABLE.
5. THE LOWER LONE ROCK FORMATION IS INTERPRETED TO BE FROM APPROXIMATELY 65 - 100 FEET BELOW GROUND SURFACE (818 - 781 FEET ABOVE MEAN SEA LEVEL).
6. MP-14, MP-16, MW-19D, MW-20D AND MW-21D ARE LOCATED IN THIS UNIT BUT WERE NOT SAMPLED IN OCT. 2016 OR APRIL 2017.
7. GWE-1(INFLUENT) WAS SAMPLED ON 4/6/2017.



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 Suite 3000  
 Madison, WI 53717  
 Phone: 608.826.3600

PROJECT:

**MADISON-KIPP CORPORATION**  
**201 WAUBESA STREET**  
**MADISON, WISCONSIN**

TITLE:

**LOWER LONE ROCK FORMATION**  
**TETRACHLOROETHENE (PCE) ISOCONCENTRATIONS**  
**APRIL 2017**

DRAWN BY:

B DEEGAN

CHECKED BY:

L AUNER

APPROVED BY:

T OCONNELL

DATE:

AUGUST 2017

PROJ. NO.:

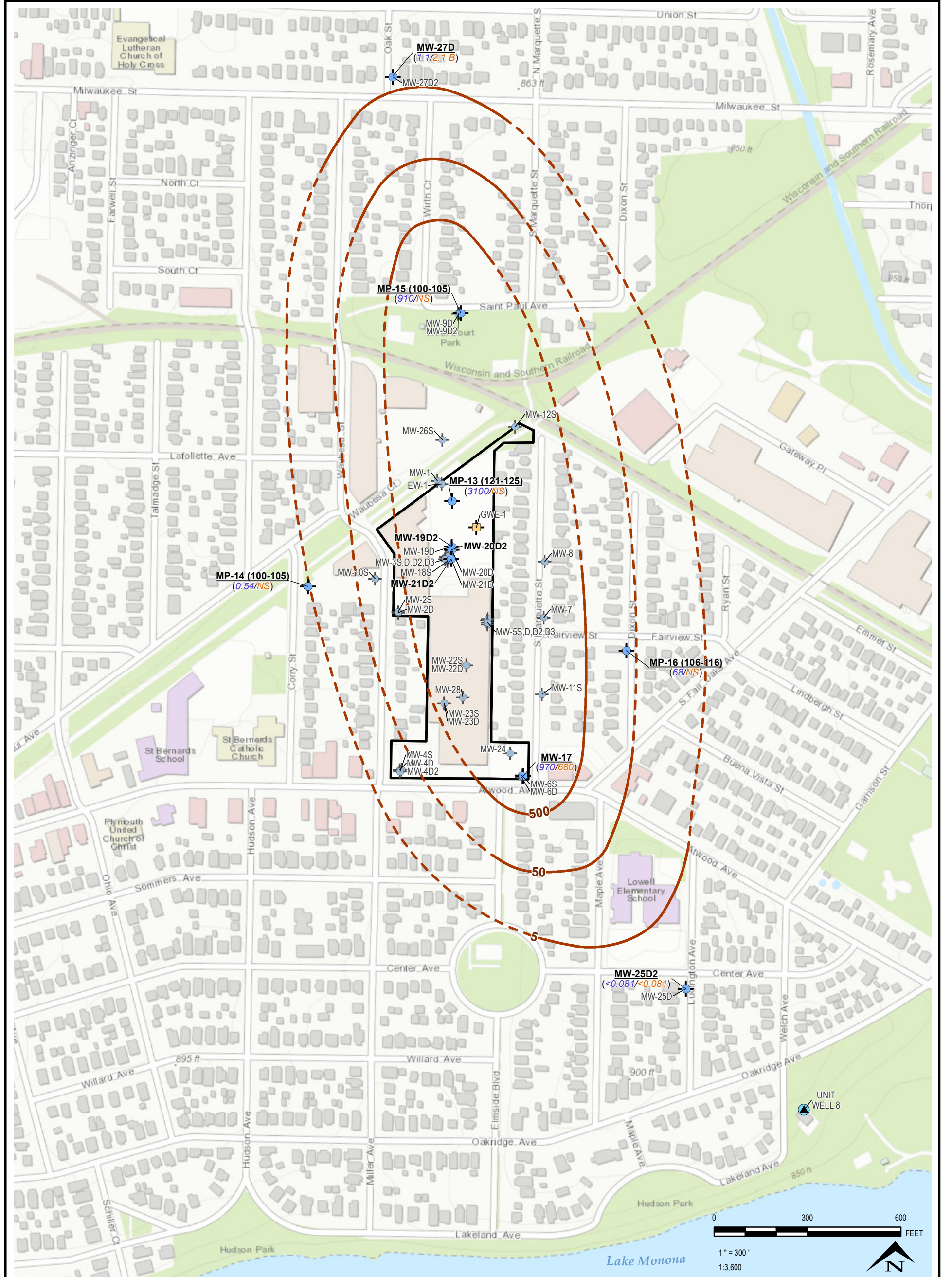
266431

FILE:

266431-2017S1-008.mxd

**FIGURE 7**





**LEGEND**

- SITE PROPERTY BOUNDARY
- GROUNDWATER EXTRACTION WELL
- MONITORING WELL
- MUNICIPAL SUPPLY WELL
- (0.97J) PCE CONCENTRATION - OCT. 2016 [µg/L]
- (7.5) PCE CONCENTRATION - APRIL 2017 [µg/L]
- PCE ISOCONCENTRATION CONTOUR (µg/L, DASHED WHERE INFERRED)

**NOTES**

1. BASE MAP FROM ESRI, "WORLD TOPOGRAPHIC MAP", WEB BASEMAP SERVICE LAYER.
2. WELLS SAMPLED 4/10/2017 - 4/12/2017. "NS" = NOT SAMPLED. WELLS SHOWN IN GRAY ARE NOT PART OF THIS GROUNDWATER UNIT.
3. "B"=COMPOUND FOUND IN THE BLANK AND SAMPLE.
4. PCE CONTOURS ARE BASED ON APRIL 2017 DATA AND SELECT OCTOBER 2016 DATA WHERE APRIL 2017 DATA WERE NOT AVAILABLE.
5. THE UPPER WONEWOC FORMATION IS INTERPRETED TO BE FROM APPROXIMATELY 87 - 139 FEET BELOW GROUND SURFACE (767 - 690 FEET ABOVE MEAN SEA LEVEL).
6. MW-19D2, MW-20D2, AND MW-21D2 ARE LOCATED IN THIS UNIT BUT WERE NOT SAMPLED IN OCT. 2016 OR APRIL 2017.



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 Madison, WI 53717  
 Phone: 608.826.3600

PROJECT:

**MADISON-KIPP CORPORATION**  
 201 WAUBESA STREET  
 MADISON, WISCONSIN

TITLE:

**UPPER WONEWOC FORMATION**  
**TETRACHLOROETHENE (PCE) ISOCONCENTRATIONS**  
**APRIL 2017**

DRAWN BY:

B DEEGAN

CHECKED BY:

L AUNER

APPROVED BY:

T OCONNELL

DATE:

AUGUST 2017

PROJ. NO.:

266431

FILE:

266431-2017S1-009.mxd

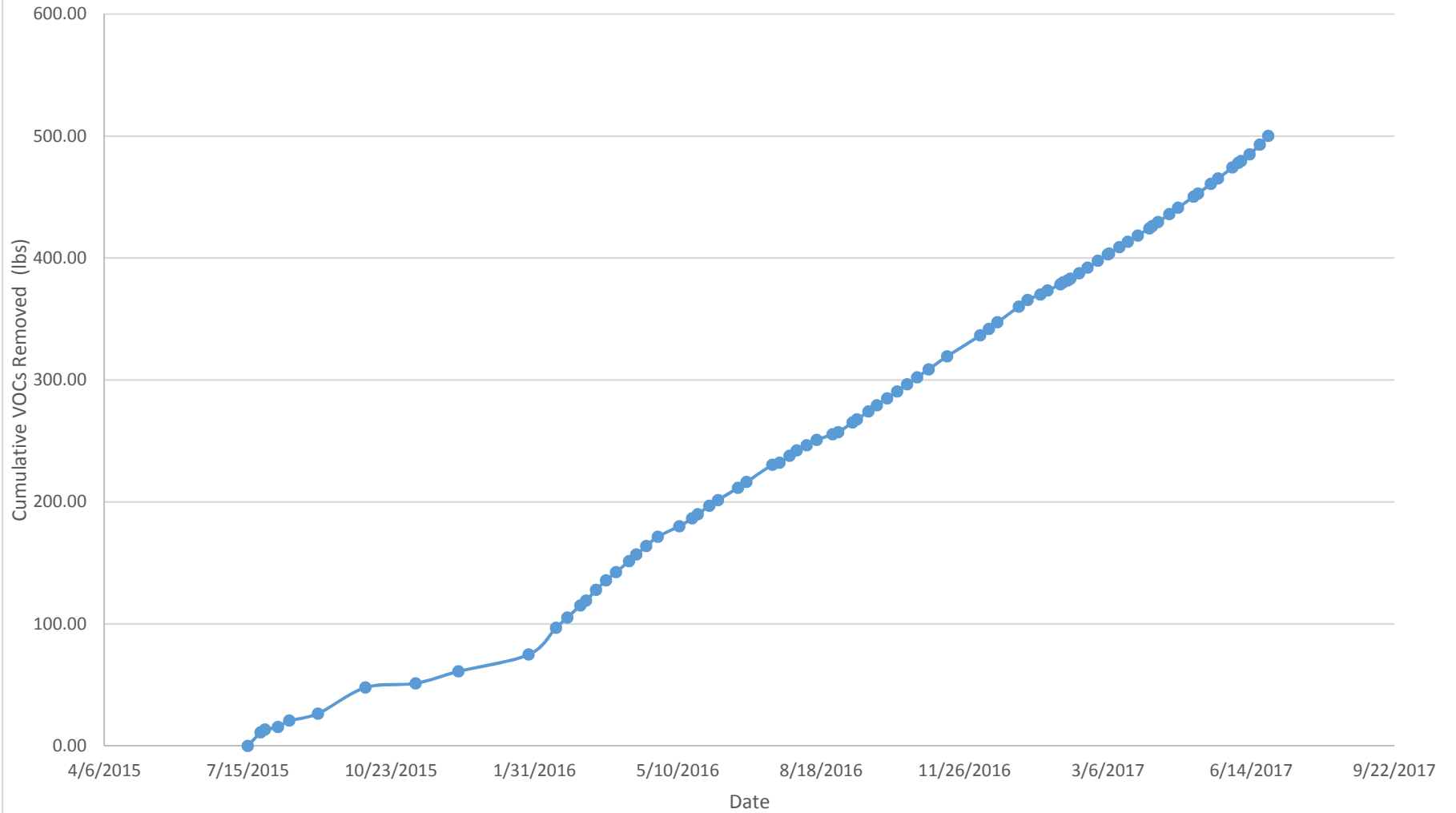
**FIGURE 8**

# Appendix A Trend Plots

---

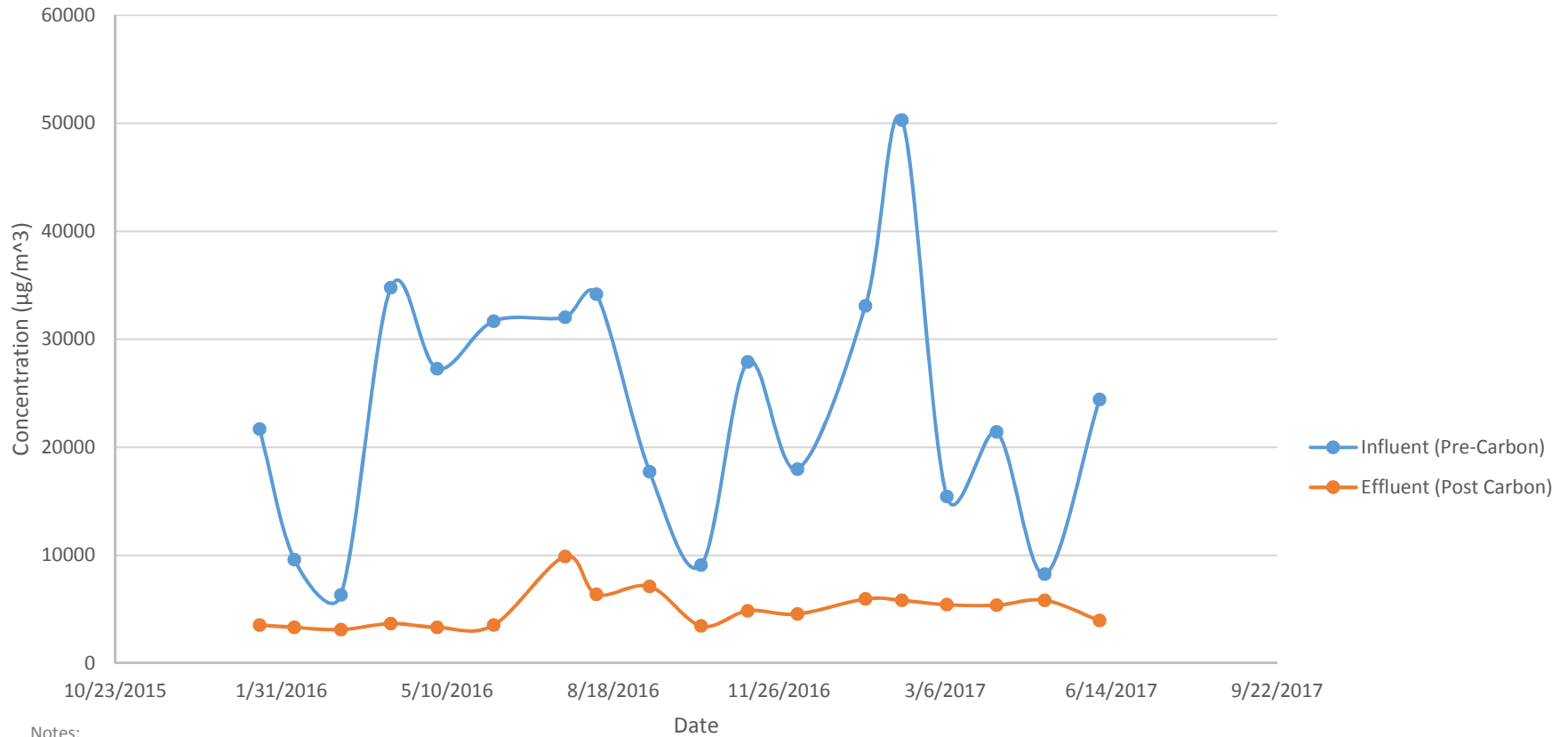


Trend Plot A.1  
Groundwater Extraction System Operation  
Cumulative Volatile Organic Compounds (VOCs) Removed  
Madison Kipp Corporation  
201 Waubesa Street  
Madison, Wisconsin





Trend Plot A.3  
 GETS and SVE Combined Total VOC Gas Concentration - Pre and Post Carbon Adsorption Treatment  
 Madison Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin



Notes:

SVE = Soil Vapor Extraction

GETS = Groundwater Extraction and Treatment System

µg/m³ = micrograms per cubic meter

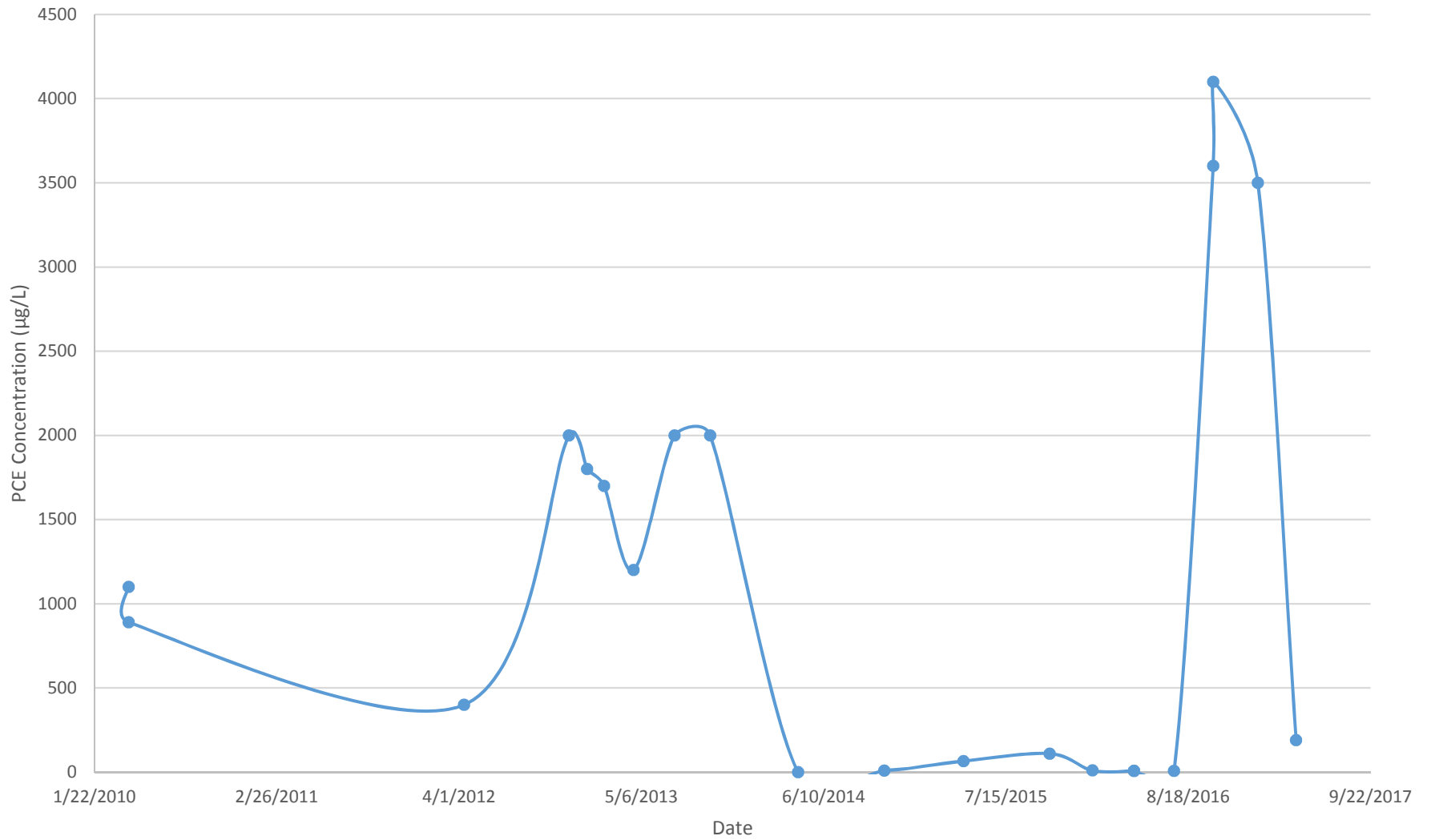
VOCs = Volatile Organic Compounds

Footnotes:

1. Total VOC concentrations were calculated based on analytes reported above and below the method reporting limit. For detected analytes, the reported concentrations were used. For all other analytes detected below the method reporting limit, half of the reporting limit was used.
2. Total VOC concentration may be biased high due to the number analytes detected below the method reporting limit.

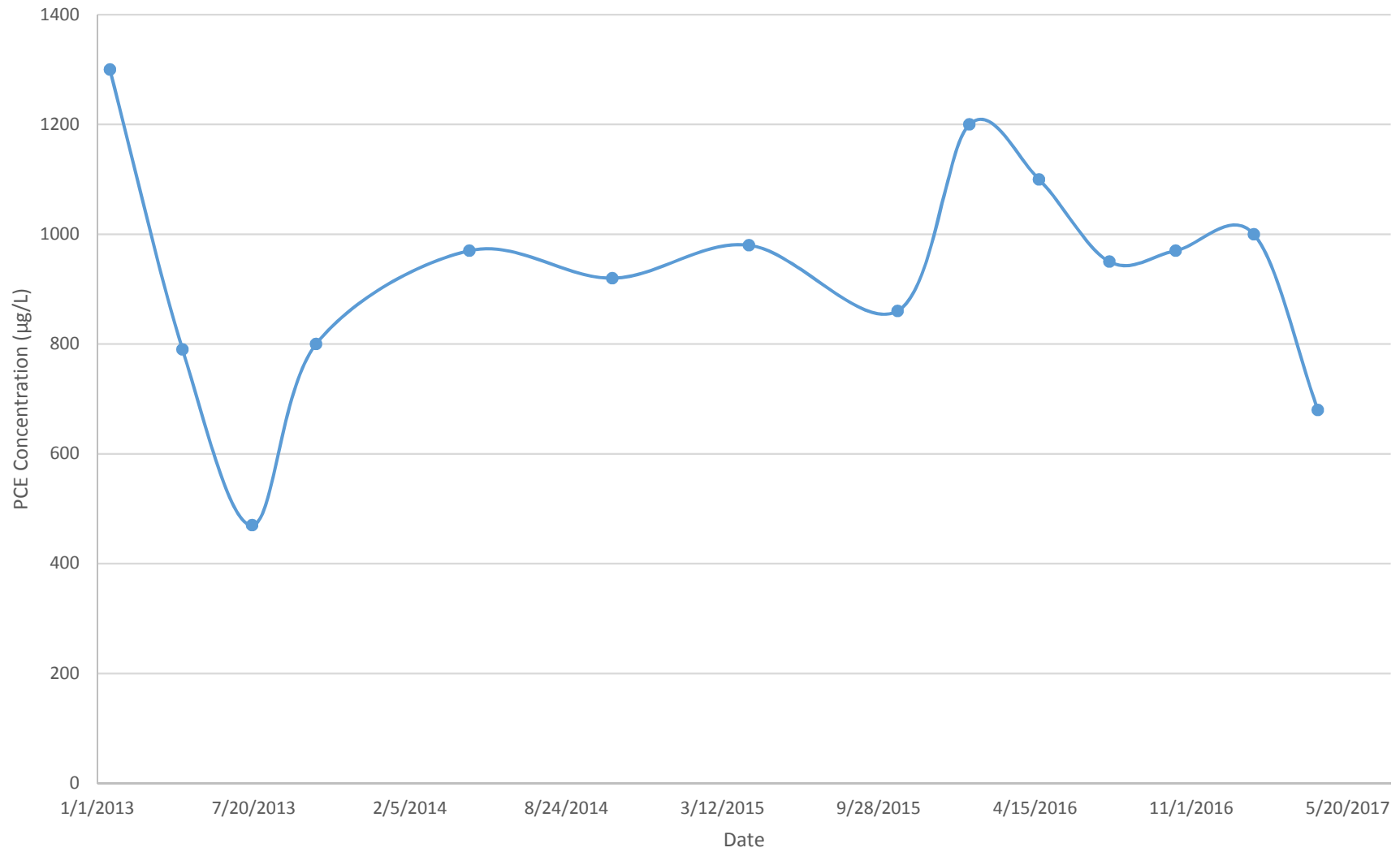
Trend Plot A.4  
MW-5D

Madison Kipp Corporation  
201 Waubesa Street  
Madison, Wisconsin



Trend Plot A.5  
MW-17

Madison Kipp Corporation  
201 Waubesa Street  
Madison, Wisconsin



# Appendix B Remediation Site Operation, Maintenance, Monitoring, and Optimization Report Form 4400-194

---

**GENERAL INSTRUCTIONS, PURPOSE AND APPLICABILITY OF THIS FORM:** Completion of this form is required under s. NR 724.13(3), Wis. Adm. Code. A narrative report or letter containing the equivalent information required in this form may be submitted in lieu of the actual form. Failure to submit this form as required is a violation of s. NR 724.13(3), Wis. Adm. Code, and is subject to the penalties in s. 292.99, Wis. Stats. This form must be submitted every six months for soil or groundwater remediation projects that report operation and maintenance progress in accordance with s. NR 724.13(3), Wis. Adm. Code.

Note: Long-term monitoring results submitted in accordance with s. NR 724.17(3), Wis. Adm. Code are required to be submitted within 10 business days of receiving sampling results and are not required to be submitted using this form. However, portions of this form require monitoring data summary information that may be based on information previously submitted in accordance with s. NR 724.17(3), Wis. Adm. Code.

Note: Responsible parties should check with the State Project Manager assigned to the site to determine if this form is required to be submitted at sites responded to under the Federal Comprehensive Environmental Response and Compensation Act (commonly known as Superfund) or an equivalent State lead Superfund response.

Note: Responsible parties should check with the State Project Manager assigned to the site to determine if any of the information required in this form may be omitted or changed and obtain prior written approval for any omissions or changes.

Submittal of this form is not a substitute for reporting required by Department programs such as Waste Water or Air Management. Personally identifiable information on this form is not intended to be used for any other purpose than tracking progress of the remediation by the Bureau for Remediation and Redevelopment.

Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31-19.39, Wis. Stats.). Unless otherwise noted, all citations refer to Wisconsin Administrative Code.

Note: There is a separate semi-annual report required under s. NR 700.11(1), Wis. Adm. Code. Reporting under that provision is through an internet-based form:

<http://dnr.wi.gov/topic/Brownfields/documents/regs/NR700progreport.pdf>

**Section GI - General Site Information**

**A. General Information**

1. Site name

Madison-Kipp Corporation

2. Reporting period from: 01/01/2017 To: 06/30/2017 Days in period: 181

3. Regulatory agency (enter DNR, DATCP and/or other) 4. BRRTS ID No. (2 digit program-2 digit county-6 digit site specific)  
 DNR 02-13-558625

5. Site location

Region	County	Address					
South Central Region	Dane	201 Waubesa Street					
Municipality name <input checked="" type="radio"/> City <input type="radio"/> Town <input type="radio"/> Village	Township	Range	<input checked="" type="radio"/> E <input type="radio"/> W	Section	¼	¼ ¼	
Madison	07 N	10		5	SW	NW	

6. Responsible party 7. Consultant

Name	<input type="checkbox"/> Select if the following information has changed since the last submittal					
Alina Satkoski	Company name					
Mailing address	TRC					
201 Waubesa Street, Madison, WI 53704	Mailing address				Phone number	
Phone number	708 Heartland Trail, Suite 3000, Madison, WI 53717				(608) 826-3600	
(608) 242-5200						

8. Contaminants  
 VOCs, Metals, PCBs

9. Soil types (USCS or USDA)  
 CL, SP, GP

10. Hydraulic conductivity(cm/sec): 0.08 - 13.2 11. Average linear velocity of groundwater (ft/yr) 0.5 - 12.9

12. If soil is treated ex situ, is the treatment location off site?  Yes  No

If yes, give location: Region \_\_\_\_\_ County \_\_\_\_\_

Municipality name <input type="radio"/> City <input type="radio"/> Town <input type="radio"/> Village	Township	Range	<input type="radio"/> E <input type="radio"/> W	Section	¼	¼ ¼
	N					

Site name: Madison-Kipp Corporation

Reporting period from: 01/01/2017 To: 06/30/2017

Days in period: 181

## Remediation Site Operation, Maintenance, Monitoring & Optimization Report

Form 4400-194 (R 11/14)

Page 2 of 28

### B. Remediation Method

Only submit sections that apply to an individual site. Check all that apply:

- Groundwater extraction (submit a completed Section GW-1).
- Free product recovery (submit a completed Section GW-1).
- In situ air sparging (submit a completed Section GW-2).
- Groundwater natural attenuation (submit a completed Section GW-3).
- Other groundwater remediation method (submit a completed Section GW-4).
- Soil venting (including soil vapor extraction building venting and bioventing submit a completed Section IS-1).
- Soil natural attenuation (submit a completed Section IS-2).
- Other in situ soil remediation method (submit a completed Section IS-3).
- Biopiles (submit a completed Section ES-1).
- Landspreading/thinspreading of petroleum contaminated soil (submit a completed Section ES-2).
- Other ex situ remediation method (submit a completed Section ES-3).
- Site is a landfill (submit a completed Section LF-1).

### C. General Effectiveness Evaluation for All Active Systems

If the remediation is active (not natural attenuation), complete this subsection.

1. Is the system operating at design rates and specifications?  Yes  No

If the answer is no, explain whether or not modifications are necessary to achieve the goal that was previously established in design.

2. Are modifications to the system warranted to improve effectiveness  Yes  No

If yes, explain:

3. Is natural attenuation an effective low cost option at this time?  Yes  No

4. Is closure sampling warranted at this time?  Yes  No

5. Are there any modifications that can be made to the remediation to improve cost effectiveness?  Yes  No

If yes, explain:

The onsite soil vapor extraction system is being evaluated for potential shut down.

### D. Economic and Cost Data to Date

1. Total investigation cost: \_\_\_\_\_ **Cost Not Included**

2. Implementation costs (design, capital and installation costs, excluding investigation costs): \_\_\_\_\_

3. Total costs during the previous reporting period: \_\_\_\_\_

4. Total costs during this reporting period: \_\_\_\_\_

5. Total anticipated costs for the next reporting period: \_\_\_\_\_

6. Are any unusual or one-time costs listed in the reporting periods covered by D.3., D.4. or D.5. above?  Yes  No

If yes, explain:

7. If closure is anticipated within 12 months, estimated costs for project closeout: \_\_\_\_\_


Site name: Madison-Kipp Corporation  
 Reporting period from: 01/01/2017 To: 06/30/2017  
 Days in period: 181

**E. Name(s), Signature(s) and Date of Person(s) Submitting Form**

Legibly print name, date and sign. Only persons qualified to submit reports under ch. NR 712 Wis. Adm. Code are to sign this form for sites with any ongoing active remediation, monitoring or an investigation. Other persons may sign this form for sites with no response activities during the six month reporting period.

**Registered Professional Engineers:**

I hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Print name	Title
Katherine Vater	Project Manager
Signature	Date
	8/28/17

**Hydrogeologists:**

I hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.


Print name	Title
Signature	Date

**Scientists:**

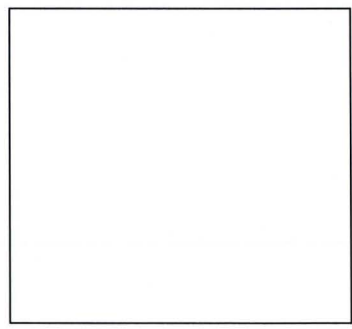
I hereby certify that I am a scientist as that term is defined in s. NR 712.03(3), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Print name	Title
Signature	Date

**Other Persons:**

Print name	Title
Andrew Stehn	Project Engineer
Signature	Date
	08/28/17

**Professional Seal(s), if applicable:**



Site name: Madison-Kipp Corporation

Reporting period from: 01/01/2017 To: 06/30/2017

Days in period: 181

# Remediation Site Operation, Maintenance, Monitoring & Optimization Report

Form 4400-194 (R 11/14)

Page 4 of 28

## Section GW-1, Groundwater Pump and Treat Systems and Free Product Recovery Systems

### A. Groundwater Extraction System Operation:

1. Total number of groundwater extraction wells or trenches available: 1 and the number in use during period: 1

2. Number of days of operation (only list the number of days the system actually operated, if unknown explain:

173 days

3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If < 80%, explain:

96%

4. Quantity of groundwater extracted during this time period: 11,206,390 gallons

5. Average groundwater extraction rate: 45 gpm

6. Quantity of dissolved phase contaminants removed during this time period in pounds: 147 lbs

### B. Free Product Recovery System Operation

1. Is free product (nonaqueous phase liquid) being recovered at this site?  Yes  No

If yes, explain:

2. Quantity of free product extracted during this time period (enter none if none): \_\_\_\_\_ gallons

3. Average free product extraction rate: \_\_\_\_\_ gpm

### C. System Effectiveness Evaluation

1. Is a contaminated groundwater plume fully contained in the capture zone?  Yes  No

If no, explain:

The groundwater extraction and treatment system was designed to facilitate the removal of volatile organic compound (VOC) mass in addition to providing hydraulic containment of VOCs in groundwater in order to minimize off-site VOC migration.

2. If free product is present, is the free product fully contained in capture zone?  Yes  No

If no, explain:

3. If free product is present in any wells at the site, but free product was not recovered during reporting period, explain:

4. If free product is not present, determine the single contaminant that requires the greatest percent reduction to achieve ch. NR 140 ES and PAL. Perform this calculation for all contaminants that were present at the site that have ch. NR 140 standards. Use the highest contaminant concentration measured in any sampling points during reporting period. If free product is present, write "FREE PRODUCT" in C.4.a.

a. Contaminant: Tetrachloroethene

b. Percent reduction necessary to reach ch. NR 140 ES and PAL: 99 %

c. Maximum contaminant concentration level in any monitoring well of that contaminant: 3,500 µg/L

d. Maximum contaminant concentration level in any extraction well of that contaminant: 2,200 µg/L



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- e. If the maximum concentration in a monitoring well is more than one order of magnitude above the concentration measured in an extraction well, explain why the extracted groundwater contamination levels are significantly less than the levels at other locations within the aquifer.

Not Applicable

### D. Additional Attachments

Attach the following to this form:

- Most recent report to the DNR Wastewater Program, if applicable. [Appendix C](#)
- Groundwater contour map with capture zone indicated. [Figures 3-5](#)
- Groundwater contaminant distribution map (may be combined with contour map). [Figures 6-8](#)
- Graph of cumulative contaminant removal, if both free product recovery and ground water extraction are used, provide separate graphs.
- Time versus groundwater contaminant concentration graphs for the contaminant listed in C.4.a. (above), as follows:
  - Graph of contaminant concentrations versus time for each extraction well in use during the period. [Appendix A; Graph A.2](#)
  - Graph of contaminant concentrations versus time for the monitoring well with the greatest level of contamination. [Appendix A; Graph A.4 and A.5](#)
- Groundwater contaminant chemistry table. [Table 18](#)
- Groundwater elevations table. [Table 17](#)
- System operational data table. [Table 1](#)

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### Section GW-2, In Situ Air Sparging Systems

N/A

#### A. In Situ Air Sparging System Operation

1. Number of air injection wells at the site and the number actually in use during the period: \_\_\_\_\_
2. Number of days of operation (only list the number of days the system actually operated, if unknown explain): \_\_\_\_\_
3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If < 80%, explain: \_\_\_\_\_

#### B. System Effectiveness Evaluation

1. If free product is not present, determine the single contaminant that requires the greatest percent reduction to achieve ch. NR 140 ES and PAL. Perform this calculation for all contaminants that were present at the site that have ch. NR 140 standards. Use the highest contaminant concentration measured in any sampling points during reporting period. If free product is present, write "FREE PRODUCT" in B.1.a.
  - a. Contaminant: \_\_\_\_\_
  - b. Percent reduction necessary to reach ch. NR 140 ES and PAL: \_\_\_\_\_ %
  - c. Maximum contaminant concentration level in any monitoring well: \_\_\_\_\_ µg/L
2. Is there any evidence that air is short circuiting through natural or man-made pathways?  Yes  No  
If yes, explain: \_\_\_\_\_
3. Is the size of the plume:  Increasing  Stabalized  Decreasing ?  
If increasing, explain: \_\_\_\_\_

#### C. Additional Attachments

Attach the following to this form:

- Groundwater contour map.
- Groundwater contaminant distribution map (may be combined with contour map).
- When contaminants are aerobically biodegradable, attach a dissolved oxygen in groundwater map (dissolved oxygen may be combined with the contaminant data on a single map).
- Site map with all air injection wells and groundwater monitoring points.
- Graph of contaminant concentrations versus time for the contaminant listed in B.1.a. (above) for the monitoring point with the greatest level of contamination.
- Groundwater contaminant chemistry table.
- Groundwater elevations table.
- System operational data table.

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## Section GW-3, Natural Attenuation (Passive Bioremediation) in Groundwater

N/A

### A. Effectiveness Evaluation

1. If free product is not present, determine the single contaminant that requires the greatest percent reduction to achieve ch. NR 140 ES and PAL. Perform this calculation for all contaminants that were present at the site that have ch. NR 140 standards. Use the highest contaminant concentration measured in any sampling points during reporting period. If free product is present, write "FREE PRODUCT" in A.1.a

a. Contaminant: \_\_\_\_\_

b. Percent reduction necessary to reach ch. NR 140 ES and PAL: \_\_\_\_\_ %

c. Maximum contaminant concentration level in any monitoring well of that contaminant: \_\_\_\_\_  $\mu\text{g/L}$

2. Aquifer parameters:

a. Hydraulic conductivity: \_\_\_\_\_ cm/sec

b. Groundwater average linear velocity: \_\_\_\_\_ ft/yr

3. Is there a downgradient monitoring well that meets ch. NR 140 standards?  Yes  No

4. Based on water chemistry results, is the plume:  Expanding  Stabalized  Contracting ?

5. If the answer in 4. (above) is "expanding," is natural attenuation still the best option?  Yes  No

If yes, explain:

6. Biodegradation parameters:

a. Upgradient (or other site specific background) DO level: \_\_\_\_\_  $\mu\text{g/L}$

b. DO levels in the part of the plume that is most heavily contaminated \_\_\_\_\_  $\mu\text{g/L}$

7. Is site closure a viable option within 12 months from the date of this form?  Yes  No

8. Are there any modifications that can improve cost effectiveness?  Yes  No

If yes, explain:

9. Have groundwater table fluctuations changed the contaminant level trends over time?  Yes  No

If yes, explain:

10. Has the direction of groundwater flow changed during the reporting period?  Yes  No

If yes, approximate change in degrees: \_\_\_\_\_

### B. Additional Attachments

Attach the following:

- Groundwater contour map.
- Groundwater contaminant distribution map (may be combined with contour map).
- When contaminants are aerobically biodegradable, attach a dissolved oxygen in groundwater map (dissolved oxygen may be combined with the contaminant data on a single map).
- Graph of contaminant concentrations versus time for the contaminant listed in A.1.a. (above) for the monitoring point with the greatest level of contamination.

Note: This is the minimum required graph; however, it is recommended that multiple time versus contamination concentration graphs as described in the instructions on page 24 for Natural Attenuation of Groundwater be submitted.

- Graph of contaminant concentrations versus distance.
- Groundwater contaminant chemistry table.
- Groundwater biological parameters.
- Groundwater elevations table.

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### Section GW-4, Other Groundwater Remediation Methods

N/A

#### A. Effectiveness Evaluation

1. If free product is not present, determine the single contaminant that requires the greatest percent reduction to achieve ch. NR 140 ES and PAL. Perform this calculation for all contaminants that were present at the site that have ch. NR 140 standards. Use the highest contaminant concentration measured in any sampling points during reporting period. If free product is present, write "FREE PRODUCT" in A.1.a.

a. Contaminant: \_\_\_\_\_

b. Percent reduction necessary: \_\_\_\_\_ %

c. Maximum contaminant concentration level in any monitoring well: \_\_\_\_\_ µg/L

2. Is the size of the plume:  Increasing  Stabalized  Decreasing ?

3. Describe the method used to remediate groundwater at the site:

4. List any additional information required by the DNR for this method for this site:

#### B. Additional Attachments

Attach the following:

- Groundwater contour map.
- Groundwater contaminant distribution map (may be combined with contour map).
- When contaminants are aerobically biodegradable, attach a dissolved oxygen in groundwater map (dissolved oxygen may be combined with the contaminant data on a single map).
- Graph of contaminant concentrations versus time for the contaminant listed in A.1.a. (above) for the monitoring point with the greatest level of contamination.
- Groundwater contaminant chemistry table.
- Groundwater elevations table.
- Any other attachments required by the DNR for this remediation method.

**Section IS-1, Soil Venting (Including Soil Vapor Extraction, Building Venting and Bioventing)**

**A. Soil Venting Operation**

**Note:** This form is not required for building vapor mitigation systems that are installed proactively to protect building occupants/users and are not considered part of ongoing active soil remediation.

1. Number of air extraction wells available and number of wells actually in use during the period: 9
2. Number of days of operation (only list the number of days the system actually operated, if unknown explain):  
160 days
3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If < 80%, explain:  
88%
4. Average depth to groundwater: 20.33 gpm

**B. Building Basement/Subslab Venting System Operation**

1. Number of venting points available and number of points actually in use during the period: \_\_\_\_\_
2. Number of days of operation (only list the number of days the system actually operated, if unknown explain): \_\_\_\_\_
3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If < 80%, explain: \_\_\_\_\_

**C. Effectiveness Evaluation**

1. Average contaminant removal rate for the entire system: 0.007 pounds per day
2. Average contaminant removal rate per well or venting point: 0.0007 pounds per day
3. If the average contaminant removal rate is less than one pound per day for the entire system, or if the average contaminant removal rate per well is less than one tenth of a pound per day, evaluate the following:
  - a. If contaminants are aerobically biodegradable and confirmation borings have not been drilled in:
    - i. Oxygen levels in extracted air: \_\_\_\_\_ percent
    - ii. Methane levels in extracted air (ppm<sub>v</sub>) If over 10 ppm<sub>v</sub>, explain:  
\_\_\_\_\_
    - iii. If methane is not present above 10 ppm<sub>v</sub> and if oxygen is greater than 20 percent in extracted air, you should either:
      - o Drill confirmation borings during the next reporting period, if the entire site should be considered for closure.
      - o Or, perform an in situ respirometry test in a zone of high contamination. Do not perform the test in an air extraction well, use a gas probe or water table well. If a zero order rate of decay based on oxygen depletion is less than 2 mg/kg per day, then you should drill confirmation borings, if the entire site should be considered for closure. If the rate of decay is between 2 and 10 mg/kg, operate for one more reporting period before evaluating further. If the zero order rate of decay is greater than 10 mg/kg total hydrocarbons, continue operating the system in a manner than maximizes aerobic biodegradation.
  - b. If contaminants are not aerobically biodegradable and confirmation borings have not been recently drilled during the past year, you should drill confirmation borings during the next reporting period if the entire site should be considered for closure.
  - c. If soil borings were drilled during the past year and soil contamination remains above acceptable levels, explain if the system effectiveness can be increased and/or if other options need to be considered to achieve cleanup criteria.

Please note that removal rates noted above are approximated based on operational data from two monitoring events. The extracted gas from the SVE system and the GETS are combined and monitored on a monthly basis. Total removal of VOCs from the SVE and GETS equated to 131 lbs of VOCs during this reporting period.

**D. Additional Attachments**

Attach the following to this form:

- Well and soil sample location map indicating all air extraction wells. If forced air injection wells are also in use, identify those wells. Appendix E - Figure E-1
- If water table monitoring wells are present at the site, a map of well locations. Figure 2 and 3
- Time versus vapor phase contaminant concentration graph. Appendix A - Graph A.3 depicts concentration versus time for the combined GETS and SVE vapor.
- Time versus cumulative contaminant removal graph. Not Applicable. SVE and GETS vapor is combined and sampled.
- Groundwater elevations table, if water table wells are present at the site; also list screen lengths and elevations. Table 17
- Table of soil contaminant chemistry data. N/A
- Soil gas data, if gas probes are used to monitor subsurface conditions in locations other than where air is extracted.
- System operational data table. Table 14

Soil gas sampling completed in July 2017 and not included in this report. See Operations, Monitoring, and Maintenance Semi-annual Report submitted by TRC to the WDNR on March 7, 2017

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### Section IS-2, Natural Attenuation (Passive Bioremediation) in Soil

N/A

#### A. Effectiveness Evaluation

1. Soil gas information in the soil that is most contaminated from a permanently installed gas probe(s) or water table monitoring well(s).

a. Hydrocarbon levels: \_\_\_\_\_ ppm, with an FID

b. Oxygen levels: \_\_\_\_\_ percent

c. Carbon dioxide levels(specify ppm or percent): \_\_\_\_\_

d. Methane levels: \_\_\_\_\_ ppm

2. Soil gas information in background (uncontaminated soil) from permanently installed gas probe(s) or water table monitoring well(s):

a. Hydrocarbon levels: \_\_\_\_\_ ppm, with an FID

b. Oxygen levels: \_\_\_\_\_ percent

c. Carbon dioxide levels(specify ppm or percent): \_\_\_\_\_

d. Methane levels: \_\_\_\_\_ ppm

3. List the results of the single boring that had the highest levels of soil contamination during the last round of soil sampling, and the date those samples were collected. Since soil borings are only drilled periodically, list the most recent data even if the data is prior to this reporting period. Since this data is used to assess progress based on the most recent soil sampling event, do not list data from prior sampling events.

a. Total hydrocarbons (Specify if GRO and/or DRO): \_\_\_\_\_ µg/kg

b. Specific compounds (µg/kg):

i. Benzene: \_\_\_\_\_ µg/kg

ii. 1,2 Dichloroethane: \_\_\_\_\_ µg/kg

iii. Ethylbenzene: \_\_\_\_\_ µg/kg

iv. Toluene: \_\_\_\_\_ µg/kg

v. Total xylenes: \_\_\_\_\_ µg/kg

4. Is there any evidence that contaminants are leaching into groundwater?  Yes  No

If the answer is yes and if groundwater quality is not being monitored, explain:

5. Is site closure a viable option within 12 months from the date of this form?  Yes  No

6. Are there any modifications that can be made to the remediation to improve cost effectiveness?  Yes  No

If yes, explain:

#### B. Additional Attachments

Attach the following to this form:

- Well and soil sample location map.
- Cross sections showing the water table, soil sampling locations, screened intervals for gas probes or water table wells, geologic contacts, and any former excavation boundaries.
- Graphs of contaminant concentrations, oxygen, carbon dioxide and methane levels over time.
- Groundwater elevations table, if water table wells are present at the site.
- Table of soil contaminant chemistry.
- Table of soil gas readings.

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### Section IS-3, Other In Situ Soil Remediation Methods

N/A

#### A. Effectiveness Evaluation

1. Describe the method used to remediate soil at the site:

2. List all information required by the DNR for this remediation method for this site:

#### B. Additional Attachments

Attach the following to this form:

- Any other attachments required by the DNR for this remediation method.

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### Section ES-1, Ex Situ Soil Treatment Using Biopiles

N/A

#### A. Effectiveness Evaluation

1. Volume of soil in the biopile (if multiple biopiles, list number of piles and total volume):

---

2. Monitoring used to assess progress and verify optimal conditions for biodegradation.

a. Vapor phase measurements of gases (average of all readings from most recent sampling event):

i. VOCs by FID: \_\_\_\_\_ ppm

ii. Oxygen: \_\_\_\_\_ percent

iii. Carbon dioxide: \_\_\_\_\_ percent

iv. Methane: \_\_\_\_\_ ppm

b. Soil temperature: \_\_\_\_\_ °F

c. Soil moisture sensors, if used: \_\_\_\_\_ percent

3. Treatment amendments added to the soil during construction:

a. Artificial nutrients, excluding manure.

i. Types and total pounds added:

---

ii. Nitrogen and phosphorous content of the added amendment: \_\_\_\_\_ percent

b. Manure: \_\_\_\_\_ total pounds

c. Natural organic materials (straw, wood chips, etc.)(type and total pounds):

---

4. Forced air biopiles only answer the following:

a. Total air flow rate of the ventilation system: \_\_\_\_\_ scfm

b. Average contaminant removal rate: \_\_\_\_\_ pounds per day

c. Average biodegradation rate based on oxygen utilization: \_\_\_\_\_ pounds per day

5. If soil samples have been taken to monitor progress, list results. Only list the most recent results. If none collected enter NA.

a. Total hydrocarbons. Specify if GRO and/or DRO: \_\_\_\_\_ µg/kg

b. Specific compounds (µg/kg):

i. Benzene: \_\_\_\_\_ µg/kg

ii. 1,2 Dichloroethane: \_\_\_\_\_ µg/kg

iii. Ethylbenzene: \_\_\_\_\_ µg/kg

iv. Toluene: \_\_\_\_\_ µg/kg

v. Total xylenes: \_\_\_\_\_ µg/kg

#### B. Additional Attachments

Attach the following to this form:

- Figure showing the construction details of the biopile and any sampling locations within the biopile.
- Table of soil contaminant chemistry data.
- Table of operational data.



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### Section ES-2, Ex Situ Soil Treatment Using Landspreading/Thinspreading

N/A

#### A. Effectiveness Evaluation

1. Method used:  landspreading  thinspreading

**Note:** For purposes of this form, "landspreading" is the placement of contaminated soil on native topsoil, incorporation of that soil into the native soil and planting crops or other plants on it. The term "thinspreading" refers to placing contaminated soil on an impervious base for aeration.

2. Was any progress monitoring using field screening on soil conducted during this reporting period?  Yes  No

3. If the answer to A.2. (above) is yes:

i. List monitoring method:

ii. List monitoring results:

4. Is there any evidence of soil erosion at the landspreading/thinspreading location?  Yes  No

5. Spreading thickness: \_\_\_\_\_ inches

6. Type of crop planted (if thinspreading with no crop planted, so state):

7. Confirmation sampling date: \_\_\_\_\_ Anticipated confirmation sampling date: \_\_\_\_\_

8. Most recent soil sample results, if soil samples for laboratory analysis have been collected to monitor progress. Only list the highest result of the most recent sampling round. If no samples have been collected, enter NA.

a. Total hydrocarbons. Specify if GRO and/or DRO: \_\_\_\_\_  $\mu\text{g}/\text{kg}$

b. Specific compounds ( $\mu\text{g}/\text{kg}$ ):

i. Benzene: \_\_\_\_\_  $\mu\text{g}/\text{kg}$

ii. 1,2 Dichloroethane: \_\_\_\_\_  $\mu\text{g}/\text{kg}$

iii. Ethylbenzene: \_\_\_\_\_  $\mu\text{g}/\text{kg}$

iv. Toluene: \_\_\_\_\_  $\mu\text{g}/\text{kg}$

v. Total xylenes: \_\_\_\_\_  $\mu\text{g}/\text{kg}$

#### B. Additional Attachments

Attach the following to this form:

- Map of the landspreading/thinspreading area. If soil samples have been collected, specify locations of samples and dates of sampling.
- Table of soil contaminant chemistry data.
- Table of any field screening results with dates of sample collection.

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### Section ES-3, Landfills

N/A

**Note:** Reporting forms or reporting requirements in a Department approved Operation and Maintenance Plan for a landfill may take the place of this form.

Specific Inspection Items	Potential Problem Areas	Status	Notes
Perimeter Security Fencing	Broken or missing wood slats, torn chain link fabric, barbed wire, other - list		
Entrance Gate and Locking Mechanism	Lock broken/missing, mechanism inoperative.		
Monitoring Wells and Wellhead Covers	Signs of tampering, casing damaged, lock missing.		
Final Cover Vegetation	Bare spots, stressed vegetation, deep rooted vegetation.		
Final Cover Slope (explain below)	Gullies, lack of vegetation, subsidence, ponding.		
Evidence of Burrowing Animals	Damage to final cover, evidence of waste.		
Stormwater Drainage Channels	Gullies, erosion, debris, culvert blocked.		
Passive Landfill Gas Venting System	Damaged or blocked vent risers, stressed vegetation.		
Active Landfill Gas Extraction System	Damaged or blocked piping, cleanouts, other blower flare, knockouts, etc.		
Leachate Collection System	Pumps, connection piping, collection system piping, extraction wells, collection tanks, tanker truck loading system or sanitary sewer discharge piping.		
Access Road Cover Mowing; Tall Vegetation Removal	Ponding, rutting, erosion, cracked or damaged pavement. Mowing and tall vegetation removal done to specified vegetation.		

Summary of Deficiencies and/or Corrective Actions:

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### **B. Additional Attachments**

N/A

Attach the following to this form:

- Any photographs documenting problems and maintenance activities.
- Maps, drawings showing site features requiring maintenance.
- Records for leachate pumping/discharge/hauling.
- Records for active gas extraction volumes.

**Section INS- 1, Section by Section Instructions and Information**

**Specific Section by Section Instructions for This Form.** The site name and reporting period is listed on every page. Then if the pages are inadvertently separated, that information can be used to determine which pages form the report.

**General Site Information**

- A.1. List the name as it appears on the DNR tracking system. If the person filling out the form does not know what the name on the tracking system is, use the name that the DNR used in the most recent correspondence.
- A.2. The reporting period should be either from January 1 to June 30 or July 1 to December 31 for active systems. For passive systems, use a calendar year basis. If however the report covers a newly installed system, list the actual startup date instead of January 1 or July 1. For new passive systems, use the first date that monitoring data is available as the date of startup.
- A.3. Enter all regulatory agencies that regulate the site.
- A.4. This form is a DNR form. For that reason, list the DNR site number. If there are other agencies regulating the site, listing identification numbers for other agencies is also recommended, but not mandatory, unless specified by those other agencies.
- A.5. If the information listed for the site location is not sufficient information for a person to use to drive to a site (example: no street address in a rural area), also include a map that is sufficient for a person to use to drive to the site. A U.S. G.S. topographic map that shows the site location may be used.
- A.8. List the contaminants that have at one time exceeded the PALs or Table Values in ch. NR 720. If GRO and/or DRO exceed the ch. NR 720 standards, also list GRO and/or DRO. Do not list other contaminants that have never exceeded state standards at the site. If more room is necessary, write "SEE ATTACHED SHEETS" and list all contaminants on a separate sheet.
- A.9. List the predominant soil types that are contaminated. If there is both contaminated soil and groundwater at the site, list soil types both above and below the water table. If only some soil is contaminated, do not list the soil types that are uncontaminated. If the site soils meet soil cleanup criteria, but groundwater is contaminated, so state that. Specify if the USCS or USDA system is used for soil descriptions. This line specifies soil because the vast majority of contaminated sites do not have contaminated bedrock. If bedrock is contaminated, also list that bedrock type.
- A.10. If the groundwater meets ch. NR 140 standards, enter "NA - NO NR 140 EXCEEDANCES". Otherwise, list the estimated hydraulic conductivity and the method used to estimate it (bail-down tests, calculations based on grain size, pumping test, etc.) If the hydraulic conductivity has not been determined, state when the tests are to be conducted. When a number of test results are available, list the range of results and the geometric mean. If however some results have a low level of accuracy and some results have a high level of accuracy, you should only list the most accurate results. See the Section on aquifer testing in the *Guidance on Design, Installation and Operation of Ground Water Extraction and Product Recovery Systems* for more information.
- A.11. If the groundwater meets ch. NR 140 standards, enter "NA - NO NR 140 EXCEEDANCES". Otherwise, enter groundwater average linear velocity as a function of hydraulic conductivity, effective porosity and the groundwater gradient. You should use the geometric mean from A.11. (above) and the most representative value for the gradient at the site. Estimate the effective porosity based on soil types and geologic origin of the soil. If there are reasons to believe that the average liner velocity estimate is less than the actual rate at the site, so state that reason. Secondary porosity effects, flow through submerged utility trenches, widespread contaminant distribution in low permeability soils, etc., are reasons to assume that the actual migration rate is much greater than the predicted average linear velocity. In such cases, you should explain the reasoning for doubting the predicted average linear velocity.
- A.12. If the information listed for the soil treatment location is not sufficient information for a person to use to drive to a site, also include a map that is sufficient for a person to use to drive to the site. A U.S.G.S. topographic map or a plat map that shows the site location may be used.

- B. Check all methods used at a site. For example, if groundwater extraction, free product recovery and soil venting are used, check all three methods and submit the additional pages for those methods. If dual-phase or bioslurping are used, these methods extract both air and groundwater, check boxes for and attach additional pages for both soil venting and pump and treat.
- C. Remediation systems that use any form of enhancement are considered "active" and sites where there are no enhancements of any kind are considered "passive" forms of remediation. For purposes of these forms, natural attenuation (also called naturally occurring bioremediation) is "passive" and all other remediation methods are "active" methods.
- C.1. Design flow rates refers to flow rates such as gallons per minute extracted by a ground water extraction system, standard cubic feet per minute extracted by a soil venting system, standard cubic feet per minute injected by an in situ air sparging system, etc. If the actual flow rate is within 80 percent of the rate predicted in the design, consider that as meeting the design specification.
- D. The cost data in this section is used by DNR staff to evaluate whether or not the selected remedy is the most cost effective remedy and whether or not system modifications may be warranted to improve efficiency and/or cost effectiveness. Responsible parties and consultants are encouraged to submit cost information so that DNR staff may assist responsible parties and consultants accomplish environmental cleanups in the most cost effective manner.

Total costs for past costs are all costs to date. This information is for all costs that were incurred to investigate and/or remediate the site. These costs include but are not limited to: consulting labor and supplies, laboratory testing, transportation, equipment, etc. If the consultant does not pass all costs through the consulting firm, the consultant will need to contact their client for other non-consulting costs to determine total costs. Exceptions include costs for attorney fees, accounting, claim assistance in preparing claims to state reimbursement funds, or other indirect expenses that are not essential to remediating the site.

- D.2. The initial implementation costs are all costs that are incurred to start implementing a remedy at a site. Costs for the investigation however are excluded because those costs are incurred prior to remedy selection. Since costs for treatability and/or pilot testing are used to procure data for remedial design and are specific to different remediation methods, these costs should be included in implementation costs and not investigation costs. Startup or shakedown costs are also considered implementation costs and should not be considered operation and maintenance costs.
- D.3. Costs for implementation or investigation should not be repeated here or they will be double counted.
- D.4. Costs for implementation or investigation should not be repeated here or they will be double counted.
- D.5. Costs for implementation or investigation should not be repeated here or they will be double counted.
- D.6. Examples of one-time or unusual costs include the following:
  - o Replacing a burned out motor on a pump.
  - o Replacement of a well that was destroyed by a snowplow.
  - o Confirmation sampling to determine if the site meets closeout criteria. This type of cost is considered an unusual cost because this type of sampling is not conducted during most reporting periods.
- D.7. This estimate of costs is for all costs to close out a site minus the salvage value of any remediation equipment. Pertinent costs include items such as well abandonment, equipment removal from the site, consulting costs associated with these items, etc. Do not include any costs that will not be paid by a state reimbursement fund, such as repaving.

**Section GW-1, Groundwater Extraction and Product Recovery**

- A.1. List two numbers, the total number of extraction wells at the site and the number that were in actual use during the period. If all wells were in use, state that on the form.
- A.2. The number of days of operation are the number of days that the system was actually operated. If the system was shut down for reasons such as: repairs were necessary, piping froze, shut down to provide time for subsurface conditions to equilibrate before sampling, etc., do not list those days as being in operation.
- A.3. System utilization is a measure of the amount of time that the system operated relative to the amount of time that it could have operated.
- A.5. The average is for the entire site, not per well or trench. For purposes of determining the average ground water extraction rate, calculate the average based on the total volume of groundwater extracted divided by the time of the reporting period. For example, if the system operated at 10 gallons per minute for one month, the amount of water extracted would be approximately 432,000 gallons. If the reporting period was six months long, then the time period is approximately 260,000 minutes. Therefore, the average flow rate over six months is 432,000 divided by 260,000 minutes for an average flow rate of 1.67 gallons per minute (gpm).
- A.6. Calculate the total dissolved contaminants removed in pounds. If the estimate is a sum of BTEX and not based on a total hydrocarbon test (GRO and/or DRO), so state that on the form.
- B.3. The average should be based on the entire site over the entire reporting period. See instructions above for A.5. List the free product recovery rate as gallons per day (gpd), not gallons per minute (gpm).
- C.1. To answer this question, a thorough evaluation of water levels and chemical analyses in all monitoring points at the site is necessary.
- C.2. If the capture zone has not been determined mathematically, it will need to be determined to answer this question. See the *Guidance on Design, Installation and Operation of Ground Water Extraction and Product Recovery Systems* for and any recent update or errata sheets for more information on plume capture.
- C.4. When free product is present, line C.4.a. should state "FREE PRODUCT" and lines C.4.b. through C.4.d. are left blank. Otherwise, complete the following calculations.  
There typically are several compounds at most contaminated sites that exceed the standards in ch. NR 140. The purpose of this question is to focus on the single contaminant that requires the most treatment to achieve groundwater quality standards on a percent reduction basis. For example, the most recent round of sampling at an example site demonstrated the highest levels of contaminants were 1,000 µg/L benzene and 1,000 µg/L toluene in the most heavily contaminated monitoring well. The ES and PAL for benzene is 5 µg/L and 0.5 µg/L (respectively) and for toluene the ES and PAL is 343 µg/L and 68.6 µg/L (ES and PAL data as of August 1995). Therefore the percent reduction to meet the ES and PAL for benzene is 99.5 and 99.95 percent and for toluene it is 65.7 and 93.14 percent. For that reason, the single contaminant that is most critical to reaching state groundwater standards is benzene. Therefore benzene is entered on line a. In this example, 99.5 and 99.95 percent is entered on line b. In this example, 1,000 µg/L is entered on line c. In this example, benzene is the driving factor, therefore enter the maximum benzene level in the single most heavily contaminated extraction well during the most recent sampling period on line d.
- D. See the generic discussion at the end of the instructions (below) for figures, graphs and tables, starting on page INS-2.

**Section GW-2, In Situ Air Sparging**

- B.1. See instructions for Section GW-1, Item C.4.
- C. See the generic discussion at the end of the instructions (below) for figures, graphs and tables, starting on page INS-2.

**Section GW-3, Natural Attenuation in Groundwater**

- A.1. See instructions for Section GW-1, Item C.4.
- A.2.a. List the estimated hydraulic conductivity that was listed on line A.11 in Section GI-1.
- A.2.b. List the groundwater average linear velocity that was listed on line A.12 in Section GI-1.
- A.3. Assess the monitoring well network to determine if there is a down gradient well that has not been impacted by the contaminants. Consider the possibility of a submerged (or diving) plume in that assessment. If all evidence indicates that the plume does not extend to the farthest "clean" downgradient well, indicate "YES" on the form. Otherwise indicate "NO" on the form. If there are not plans to install such a well, explain.
- A.4. Based on the contaminant distribution, evaluate whether or not the plume is expanding, stabilized, or contracting. When making this determination, consider the contaminant that requires the greatest percent reduction to achieve ch. NR 140 standards.
- A.5. If the plume is expanding and a justification is necessary, add additional sheets justifying why natural attenuation is still the appropriate remedy. If it is not, further describe in the explanation the plans to use a different remedy.
- A.6.a. Enter the upgradient dissolved oxygen (DO) level(s). If however there are contaminants measured in the upgradient well, it is not a true background measurement. In that case enter "UNKNOWN" on the form.
- A.6.b. Enter the range of DO values measured in wells within the plume.
- B. See the generic discussion at the end of the instructions (below) for figures, graphs and tables, starting on page INS-2.

**Section GW-4, Other Groundwater Remediation Methods**

- A.1. See instructions for Section GW-1, Item C.4.
- A.2. Self explanatory.
- A.3-4. Enter the information specified by the DNR for this method at this site.

**Section IS-1, Soil Venting (Including both Soil Vapor Extraction and Bioventing)**

- B.3. This subsection is used as a trigger for determining if the system requires an evaluation for future activities, such as improvements, converting the site to monitoring for natural attenuation, closure, etc. If an in situ respiration test must be performed, see Hinchee, R.E. and Ong, S.K. 1992. A Rapid In Situ Respiration Test for Measuring Aerobic Biodegradation Rates of Hydrocarbons in Soil. *Journal of the Air and Waste Management Association*. Volume 42, Number 10. Pages 1305 to 1312 for general procedures. For a discussion of methane monitoring, see the instructions for Section IS-2, item A.1.d., below. If the contaminant extraction rate in B.3. is greater than the trigger levels, leave lines B.3.a.i. and B.3.a.ii. blank.
- C. See the generic discussion at the end of the instructions (below) for figures, graphs and tables, starting on page INS-2.

**Section IS-2, Natural Attenuation in Soil**

- A.1. This data is used to assess subsurface conditions based on soil gas data. Whenever possible, a permanently installed gas probe should be used. If at all possible, the gas probe should be located in the part of the site that is most heavily contaminated, since that is the part of the site that is likely to take the longest amount of time to meet ch. NR 720 standards. Water table wells that have screen exposed above the water table are also good measuring points. When installing permanent gas probes, you should install the screen deep enough that a true measure of the most heavily contaminated soil is possible, but install the screen shallow enough to assure that it is not submerged by groundwater table fluctuations. In some situations where the depth of contamination is variable, consideration should be given to using nested gas probes instead of only using probes at a single depth. Measuring points that should not be used include temporary gas probes because these points are less repeatable from one monitoring event to the next. Also, if there has been an active soil venting system in use at the site, the air extraction wells should not be used because these wells are in locations that have had much more aggressive treatment than the rest of the site.
- A.1.a. A flame ionization detector (FID) is specified instead of a photo ionization detector (PID) because PIDs often read inaccurately in moist oxygen deficient/carbon dioxide rich atmospheres. Also, PIDs do not detect some petroleum compounds.
- A.1.d. Methane readings are used to measure for anaerobic conditions. When the original product that is lost is a refined petroleum product (not crude oil), there should not be any methane within the product. Methane however may be produced under very anaerobic conditions. Any method may be used for measuring methane provided that the detection limit is less than a few ppm<sub>v</sub>. One convenient method is to use an FID that is equipped with a granular activated carbon filter to filter out non-methane components. Some instrument manufacturers make these filters available as options. In some cases an FID will flame out due to an oxygen deficiency. Some instrument manufacturers offer a dilution device as an accessory that is designed to prevent flameouts and also raises the upper limit of measurement to 10,000 ppm<sub>v</sub> or higher. If the meter "pegs" at 10,000 ppm<sub>v</sub> (or one percent), enter ">10,000 ppm<sub>v</sub>."
- A.2. The background monitoring point is predominantly used to measure natural oxygen and carbon dioxide levels in soil over time. For this reason, the background monitoring point should be reasonably close to the site, but not so close that the conditions are no longer representative. Considerable variations over time can occur, this background point should be measured during every sample event. Considerations for determining if a background point is representative include:
  - o If an on-site background point has minor levels of VOCs in it due to gas phase diffusion, that is acceptable, but if the levels are high, it may not be representative of true background conditions.
  - o Background oxygen and carbon dioxide levels vary with soil type and natural organic carbon content. For this reason, if at all possible, the soil types should be identical within the screened interval of all gas probes.
  - o The same depths should be used for all gas probes to allow comparison from one location to the next. If the depth to water varies greatly across the site, a certain amount of confusion in the data is likely. In this case, use professional judgement to provide the best data possible at a reasonable cost.
- A.3. Enter this data for petroleum fuel sites. For other sites, provide the data that is most appropriate for the situation.
- B. Cross sections are self explanatory, see the generic discussion at the end of the instructions (below) for other attachments.

**Section IS-3, Other In Situ Soil Treatment Methods**

- A.2. Enter the information specified by the DNR for this method at this site.



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### **Section ES-1, Ex Situ Soil Treatment Using Biopiles**

- A.3.a. The term "artificial nutrients" essentially means agricultural fertilizers or any other fertilizer products.
- A.3.a.i. The types of fertilizers that are added should be listed here by chemical names, not by vendor trade names.
- A.3.a.ii. List nitrogen content as N, list phosphorous content as phosphoric acid (P<sub>2</sub>O<sub>5</sub>). Note: Fertilizer ratings are based not on actual content of N, P and K, but on nitrogen (as N), phosphorous (as P<sub>2</sub>O<sub>5</sub>) and potassium (as K<sub>2</sub>O).
- A.4.c. See example calculations at the end of this set of instructions.
- A.5. Enter this data for petroleum fuel sites. For other sites, provide the data that is most appropriate for the situation.
- B. The figure is self explanatory. See the generic discussion at the end of the instructions (below) for instructions for the tables.

### **Section ES-2, Ex Situ Soil Treatment Using Landspreading/Thinspreading**

- B. A map to scale of the landspreading location including and landmarks or benchmarks. When samples have been collected, the distances to any landmarks or benchmarks should be indicated.

### **Section ES-3, Other Ex Situ Soil Treatment Methods**

- A.2. Enter the information specified by the DNR for this method at this site.

**Section INS- 2, Figures, Graphs and Tables**

When figures and graphs are specified, they should at a minimum contain the following information, or an explanation as to why the information is not necessary.

**Maps.** All maps should include the applicable information specified in s. NR 724.11(6), Wis. Adm. Code. In most cases, all information can be combined into a single map. There are times that a single map will have so much data that it is essentially unreadable. The consultant should use professional judgement when determining if a single map or multiple maps best portray the information necessary.

- Groundwater Contour Map Guidelines.

- List groundwater elevations for each measuring point on the map.
- Use the most recent data available.
- For water table maps, do not use data from deeper piezometers. If piezometer data is shown, use a different symbol for the piezometers than used for water table wells.
- If any wells are dry, indicate that on the map.
- If free product is present at site, shade the area where free product is estimated to be present.
- If groundwater is extracted with a pump and treat system, also denote plume capture zone.
- If in situ air sparging or soil venting is in use, specify on the map if the system was operating or shut down during the water level measurements. See the Subsection on water table maps in the *Guidance on Design, Installation and Operation of Ground Water Extraction and Product Recovery Systems* for more information on this topic.

- Groundwater Contaminant Distribution Map Guidelines.

- Only contaminants that exceed the ch. NR 140 ES or PAL should be shown on the map. When contaminants are above the PAL or ES at some data points and below the PAL or ES at other data points, list the data for all locations to portray which areas of the site meet ch. NR 140 groundwater quality standards.
- If a well is not sampled due to the presence of free product indicate "FREE PRODUCT" at those data points.
- If more than five contaminants exceed ch. NR 140 ES, only the five contaminants that require the greatest percent reduction to achieve ch. NR 140 ES or PAL should be shown on the map.
- Drawing isoconcentration lines is optional, unless specified for the site on a site specific basis.
- If the contamination has crossed the property line, that property line should be clearly denoted on the map.
- If in situ air sparging is used, water samples from ch. NR 141 type monitoring wells may not represent aquifer water quality as a whole. For that reason, groundwater data should be obtained from driven probes with no filter pack. If there are no driven probes and conventional ch. NR 141 monitoring wells are used, shut down the air injection system at least two weeks prior to collecting groundwater samples. See the *Guidance on Design, Installation and Operation of In Situ Air Sparging Systems* and the August 1995 update sheets for more information on this topic.

- Dissolved Oxygen Map Guidelines.

- Dissolved oxygen data may be shown on the contaminant concentration graphs or on a separate graph.
- Dissolved oxygen maps are optional for ground water extraction and product recovery systems.
- When in situ air sparging is used, monitoring points may not represent aquifer water quality as a whole. For that reason, groundwater data should be obtained from driven probes with no filter pack. If there are no driven probes and conventional ch. NR 141 monitoring wells are used, shut down the air injection system at least two weeks prior to collecting groundwater samples for DO. See the *Guidance on Design, Installation and Operation of In Situ Air Sparging Systems* and the August 1995 update sheets for more information on this topic.

- Well and Soil Sample Location Map Guidelines. Well and sample location maps for all methods should clearly indicate the location(s) of the release or the area where soil contamination historically has been highest. Also, if part of the contamination has been excavated, the pit boundaries.

The recommended documentation for each remedial method is as follows:

- Groundwater Extraction and Product Recovery - separate well location maps should not be provided, instead the wells should be indicated on the groundwater contour and contaminant distribution maps.
- In Situ Air Sparging - the map should indicate all air injection wells, soil venting extraction wells, and all groundwater monitoring points.

**Maps (Continued).**

- Natural Attenuation in Groundwater - separate well location maps should not be provided, instead the wells should be indicated on the groundwater contour maps.
- Soil Venting - indicate all air extraction wells. If any gas probes are used to assess subsurface conditions in either contaminated zones or background locations, also indicate those data points with a different symbol. If soil samples have been collected recently to track progress, indicate those locations with the date of sampling noted on the map.
- Natural Attenuation in Soil - show all monitoring points. Indicate which data points are background measuring points. If soil samples have been collected recently to track progress, indicate those locations with the date of sampling noted on the map. If the site was previously treated by soil venting, the locations of former air extraction wells should also be shown since these are areas where aggressive treatment has been applied. Also show area(s) of paved and unpaved ground surface. If pavement is significantly broken to allow significant water infiltration and air diffusion, map that area as broken pavement.

**Graphs.** All graphs that show time versus contaminant concentration or cumulative contaminant removal should be based on total time, not only operation time. All graphs that denote cumulative removal should use pounds of contaminant removed. Graphs should accurately show the time period(s) when the system was not operating. Plot time on the X axis, concentration or cumulative removal data on the Y axis.

- Time Versus Cumulative Removal. The recommended documentation for each remedial method is as follows:
  - Groundwater Extraction and Product Recovery - separate graphs should be used for free product recovery and dissolved phase recovery. A single graph for each phase is adequate, per well graphs are only necessary when specified by the Department on a site specific basis.
  - In Situ Air Sparging - no graph is necessary (removal data is shown on the graphs for the soil venting system).
  - Natural Attenuation in Groundwater - no graph is necessary.
  - Soil Venting - provide a graph of cumulative removal for total VOCs for the total system.
  - Natural Attenuation in Soil - no graph is necessary.
  - Ex Situ Soil Treatment Using Biopiles - Provide two graphs, one showing cumulative removal of total VOCs and a second graph showing total contaminant biodegradation over time.
  - Ex Situ Soil Treatment Using Landspreading/Thinspreading - no graphs are needed.
- Time Versus Contamination Concentration Graphs. Create graphs with contamination level on the y axis (semilog scale) and time on the x axis (linear scale). If free product is present, time versus contamination concentration graphs are not necessary.

The recommended documentation for each remedial method is as follows:

- Groundwater Extraction and Product Recovery - graph the contaminant level over time for the groundwater that is extracted by the extraction system. List all compounds that exceed ch. NR 140 ES or PAL. If over five contaminants exceed ch. NR 140 ES or PAL, only list the five contaminants that exceed ch. NR 140 standards by the greatest percent.
- In Situ Air Sparging - provide a graph for the single monitoring well that is most heavily contaminated. If over five contaminants exceed ch. NR 140 ES or PAL, only list the five contaminants that exceed ch. NR 140 standards by the greatest percent.
- Natural Attenuation in Groundwater - provide a graph for all monitoring wells that contain any compounds that exceed ch. NR 140 standards. If over five contaminants exceed ch. NR 140 ES or PAL, only list the five contaminants that exceed ch. NR 140 standards by the greatest percent.
- Soil Venting - provide a graph of contaminant concentration over time for the entire system for total VOCs. If any gas probes are used to assess subsurface conditions in either contaminated zones, also provide a graph with the data from the most heavily contaminated gas probe.
- Natural Attenuation in Soil - provide a graph of contaminant concentration over time for total vapor phase VOCs as measured with an FID, oxygen, carbon dioxide and methane in an gas probe.
- Ex Situ Soil Treatment Using Biopiles - no graph is necessary.
- Ex Situ Soil Treatment Using Landspreading/Thinspreading - no graphs are needed.

**Graphs (Continued).**

- Graph of Contaminant Concentrations Versus Distance. If free product is present, a graph of contaminant concentrations versus distance is not necessary.

The recommended documentation for each remedial method is as follows:

- Groundwater Extraction and Product Recovery - no graph is necessary.
- In Situ Air Sparging and Natural Attenuation in Groundwater - plot a graph with distance (on the x axis, linear scale) and contaminant concentrations (y axis, log scale) from the upgradient measurement point to the farthest downgradient data point along the centerline of the plume. List the same contaminants as shown on the Time Versus Contaminant Concentration Graphs. Clearly show the source area on the graph. If free product has been present, label the data points that previously contained free product. For in situ air sparging, see comments above about samples collected from conventional monitoring wells with filter packs versus driven probes.

**Tables.** Whenever possible, data over the life of the project should be listed.

The recommended documentation for each type of table is as follows:

- Groundwater Contaminant Chemistry Data.

List:

- Contamination levels for all contaminants that exceed ch. NR 140 standards.
- Dissolved oxygen levels if applicable.
- Other biological parameters, if applicable (nitrogen, phosphorous, manganese, sulphate, iron, dissolved methane, redox potential, pH, microbial population size, etc.). See instructions for page GW-3 for more information on these parameters. Also, list the dates the samples were collected and the standard methods used to analyze the samples.

- Groundwater Biological Parameters.

For natural attenuation in groundwater only, these measurements should be listed (if known) to provide information on biodegradation. This table is not necessary for free product extraction, groundwater extraction or in situ air sparging.

Provide a table that includes any results of tests conducted for dissolved oxygen, nitrate, manganese, iron, sulphate, methane, redox potential, heterotrophic and/or hydrocarbon degrading microorganism populations. Identify on the table if the monitoring locations are upgradient, side gradient, downgradient, or within the plume, dates of sampling, and the analytical methods used for those parameters. Include all data for the life of the project. Since some of these tests are only conducted once, or periodically - enter "NS" in the table for not sampled for any parameters that were not sampled during a particular round of sampling.

When asked to list the standard methods, list the method if a standard method exists. There are however some tests (for example dissolved methane) where there are no official standard laboratory or field methods. In this case the laboratory will have to create their own standard procedures. In these cases list the name of the laboratory and that laboratory's name for that test.

Specific considerations for each parameter are as follows:

- Dissolved oxygen (mg/L). The most efficient mechanism for natural or enhanced biodegradation of petroleum compounds is aerobic biodegradation.
- Nitrate (mg/L as N). Nitrate ( $\text{NO}_3^{-1}$ ) is a potential electron acceptor for denitrification and also serves as a nutrient for heterotrophic microbial populations to enhance aerobic biodegradation. Decreasing nitrate levels from background wells to wells within the plume are an indication of either aerobic or anaerobic biodegradation.
- Manganese as  $\text{Mn}^{+2}$  (mg/L). Manganese as  $\text{Mn}^{+4}$  is converted to soluble manganese as  $\text{Mn}^{+2}$  under anaerobic biodegradation. For this reason, total manganese analysis is not appropriate, only soluble manganese as  $\text{Mn}^{+2}$ . When the levels of soluble manganese are higher in wells within the plume than in background wells, that is an indication of anaerobic biodegradation.
- Iron as  $\text{Fe}^{+2}$  (mg/L). Iron as  $\text{Fe}^{+3}$  is converted to soluble iron as  $\text{Fe}^{+2}$  under anaerobic biodegradation. For this reason, total iron analysis is not appropriate, only soluble iron as  $\text{Fe}^{+2}$ . When the levels of soluble iron are higher in wells within the plume than in background wells, that is an indication of anaerobic biodegradation.

**Tables (Continued).**

- Dissolved sulphate ( $\text{SO}_4^{-2}$ , mg/L). Sulphate ( $\text{SO}_4^{-2}$ ) is a potential electron acceptor. Decreasing sulphate levels from background wells to wells within the plume are an indication of anaerobic biodegradation.
- Dissolved methane (mg/L). Methane is produced under anaerobic conditions. Since background methane levels can usually be assumed to be zero, in most cases only measurements within the plume are used. Exceptions are when the natural soils have very high levels of TOC (for example peat), background methane levels are also warranted. When the contaminant is crude oil instead of a refined petroleum product, methane measurements may however cause erratic results. Significant amounts of methane may be created when other electron acceptors ( $\text{NO}_3^{-1}$ ,  $\text{Mn}^{+4}$ ,  $\text{Fe}^{+3}$  and  $\text{SO}_4^{-2}$ ) are exhausted. For this reason, significant levels of methane are indicative of very very anaerobic conditions.
- Redox potential (millivolts, include + or - sign). Redox potential is another measure of the level of aerobic/anaerobic conditions, however it is a much more sensitive measurement than DO at very low levels of DO.
- Heterotrophic and hydrocarbon degrading microorganism populations (CFU/mL). Heterotrophic and specific hydrocarbon degrader population sizes should be listed for both background locations and locations within the plume, if there is information available. There is disagreement by many of the experts within the field as to the merits of sampling for this parameter. Refer to other DNR guidance documents on natural attenuation (or passive bioremediation) for more information on this topic.

- Soil Gas Data.

The recommended documentation for each remedial method is as follows:

- When natural attenuation in soil is used, provide a graph of all soil gas readings over time for every data point.
- When soil venting is used, if a gas probe is used to assess subsurface conditions over time in a location where air is not extracted, provide that data in a table.

- System Operational Data.

The recommended documentation for each remedial method is as follows:

- Groundwater Extraction and Product Recovery:
  - o Well by well flow rates in gpm for each extraction well. If a well is off line, list flow rate as "ZERO." Clearly denote on the table periods of system shutdown.
- In Situ Air Sparging:
  - o Air pressure and injection flow rates in scfm for each well. If a well is off line, list flow rate as "ZERO." Clearly denote on the table periods of system shutdown.
- Natural Attenuation in Groundwater - no table needed.
- Soil Venting:
  - o Vacuum readings and extraction rates in scfm for each well. If a well is off line, list flow rate as "ZERO." Clearly denote on the table periods of system shutdown.
  - o Air concentrations in ppm<sub>v</sub> or in mg/L for total VOCs.
  - o Total system contaminants removed in pounds and the pounds per day removal rate.
- Natural Attenuation in Soil - no table needed.

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### Tables (Continued).

- Ex Situ Soil Treatment Using Biopiles:
  - o If forced air ventilation is used:
    - System extraction rates in scfm.
    - Air concentrations in ppm<sub>v</sub> for total VOCs.
    - Total system contaminants removed in pounds and the pounds per day removal rate.
    - Temperature.
  - o If passive ventilation is used, a table of temperatures.
- Ex Situ Soil Treatment Using Landspreading/Thinspreading - no table is needed.

### Acronyms and Abbreviations:

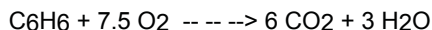
CFU/mL	colony forming units per milliliter
cm/sec	centimeters per second
DATCP	Department of Agriculture, Trade and Consumer Protection
DCOM	Department of Commerce
DNR	Department of Natural Resources
DO	Dissolved Oxygen
DRO	Diesel Range Organics
ES	Enforcement Standards in NR 140
FID	Flame Ionization Detector
ft/yr	feet per year
gpd	gallons per day
gpm	gallons per minute
GRO	Gasoline Range Organics
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
NR	prefix for rules established by the DNR
P.E.	Registered Professional Engineer
P.G.	Registered Professional Geologist
PAL	Preventative Action Limit in NR 140
PECFA	the state sponsored cleanup fund for certain petroleum contaminated sites
ppmv	parts per million by volume (vapor phase only)
scfm	standard cubic feet per minute
TOC	Total Organic Carbon
USCS	Unified Soil Classification System
USDA	United States Department of Agriculture
µg/kg	micrograms per kilogram
µg/mL	micrograms per milliliter
VOC	Volatile Organic Compounds
Y/N	Yes or No

**Section INS-3, Example Calculations for Determining the Biodegradation Rate on Forced Air Biopiles**

Important Note: This page uses a nonproportional font and characters that are unique to WordPerfect. If the user received this document electronically, this page may need to be converted to a different font for the formulas to print correctly. The original font used for this page was prestige elite with 16.67 characters per inch.

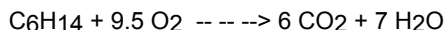
Assumptions:

- The measurements at the stack are as follows:
  - Average flow rate is 20 scfm.
  - Average oxygen level extracted from biopile is 14.0 percent by volume.
  - Average carbon dioxide level extracted from biopile is 3.5 percent by volume or 35,000 ppmv.
- Atmospheric air contains 21 percent oxygen by volume and 400 ppmv (or 0.04 percent) carbon dioxide. (Note: On each site visit, the consultant should check atmospheric air to assure that the instrument is spanned correctly.)
- Atmospheric air weight 0.0763 pounds per cubic foot at standard temperature and pressure (Gibbs, 1971).
- Average molecular weight of air is 28.97 (Gibbs, 1971) which is rounded off to 29, molecular weight of O2 is 32, molecular weight of CO2 is 44.
- For every pound of contaminants biodegraded, 3.3 pounds of oxygen is utilized and up to 3.2 pounds of carbon dioxide is generated.
  - The stoichiometry of aerobic benzene biodegradation can be described as follows:



Based on this, benzene biodegradation requires that 3.07 pounds of oxygen are utilized to fully oxidize one pound of benzene, assuming no electron acceptors other than oxygen are used. Assuming no biomass is produced and no geochemical reactions consume carbon dioxide, 3.38 pounds of carbon dioxide is generated from one pound of benzene.

- The stoichiometry of aerobic hexane biodegradation can be described as follows:



Based on the above assumptions, hexane biodegradation requires 3.52 pounds of oxygen and generates up to 3.06 pounds of carbon dioxide.

Other hydrocarbons also require a similar ratio of oxygen for aerobic biodegradation. For purposes of this guidance it is assumed that a pound of petroleum contamination requires 3.3 pounds of oxygen and generates up to 3.2 pounds of carbon dioxide and 1.1 pounds of water in the biodegradation reaction.

Calculations:

Oxygen utilization rate:

$$(0.21 - 0.14) * \frac{32 \text{ pounds}}{29 \text{ ft}^3} * 0.0763 \frac{\text{ft}^3}{\text{min}} * 20 \frac{\text{min}}{\text{hour}} * 60 \frac{\text{hour}}{\text{hour}} = 7.07$$

Carbon dioxide production rate:

$$(0.035 - 0.0004) * \frac{44 \text{ pounds}}{29 \text{ ft}^3} * 0.0763 \frac{\text{ft}^3}{\text{min}} * 20 \frac{\text{min}}{\text{hour}} * 60 \frac{\text{hour}}{\text{hour}} = 4.81$$

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Calculations (Continued):

Biodegradation rate based on oxygen:

$$7.07 / 3.3 = 2.1 \text{ pounds per hour}$$

Biodegradation rate based on carbon dioxide:

$$4.81 / 3.2 = 1.5 \text{ pounds per hour}$$

Since the biodegradation rate is based on oxygen utilization and/or carbon dioxide generation, it is a measure of the overall biodegradation rate of all carbon sources, including natural organic carbon and any organic materials that were added. For this reason, the biodegradation rate is not specific to hydrocarbons and it is likely that the measured biodegradation rate will overestimate the rate of contaminant reduction.

Commonly the measured biodegradation rate based on carbon dioxide generation is less than the rate estimated with oxygen. Because of geochemical interferences and biomass formation, estimates based on carbon dioxide measurements are often low. If however the biodegradation rate estimate based on carbon dioxide is significantly greater than the estimate based on oxygen, it is likely that there is a measurement or calculation error. In this way, the carbon dioxide measurements can be used to double check the oxygen measurements and calculations.



# Appendix C

## June 2017 WPDES DMR Submittal

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July 12, 2017

Emily James  
Wisconsin Department of Natural Resources  
South Central Region  
3911 Fish Hatchery Rd.  
Fitchburg, WI 53711

Subject: Discharge Monitoring Report - Groundwater Extraction and Treatment System,  
Madison-Kipp Corporation, 201 Waubesa Street, Madison, Wisconsin

Dear Ms. James,

The Groundwater Extraction and Treatment System (GETS) ran for the month of June with the exception of maintenance activities. This letter summarizes the activities completed in June 2017 as part of the GETS at the Madison-Kipp Corporation (MKC) site under the Wisconsin Pollution Discharge Elimination System (WPDES) Permit WI-0046566-6.

On June 23, 2017, Wisconsin Department of Natural Resources (WNDR) clarified that benzo(a)pyrene is included in the parameters to be sampled quarterly, per Madison-Kipp's request to decrease sampling for select parameters from monthly to quarterly on March 14, 2017. Please note that sodium permanganate was added to the revised Discharge Monitoring Report (DMR) form along with additional footnotes for clarity. Per the revised DMR form and criteria for the monthly and quarterly monitoring, compliance samples were collected for oil and grease, biological oxygen demand, total suspended solids, chloride, select polycyclic aromatic hydrocarbons, volatile organic compounds, and visual monitoring for sodium permanganate on June 7, 2017. The compliance sample results were below the WPDES discharge limits. The Discharge Monitoring Report is included as Attachment A and laboratory reports are included as Attachment B.

During this reporting period the air stripper trays were cleaned and compliance monitoring was completed following. The GETS flow rate was operated at 40 gallons per minute (gpm) between June 27 and June 30, 2017 to avoid water extraction into the vapor phase activated carbon



vessels while repairs to the soil vapor extraction (SVE) were completed. If you have any questions or need additional information, please contact me at [asatkoski@madison-kipp.com](mailto:asatkoski@madison-kipp.com) or (608) 242-5200.

Alina Satkoski

A handwritten signature in blue ink that reads "Alina Satkoski".

Madison-Kipp Corporation

Attachment A Discharge Monitoring Report Form

Attachment B Laboratory Reports

Copies:

Andrew Stehn - TRC (electronic)

Mike Schmoller - WDNR (electronic)

Wendy Weihemuller - WDNR (electronic)

George Parrino - Madison Department of Health (electronic)



FOOTNOTES:

- (1) Total BTEX is the sum of the benzene, ethylbenzene, toluene and xylene concentrations. If all compounds were below their corresponding laboratory detection limits, then the highest detection limit of the BTEX compounds was noted.
- (2) PAH group of 10 (Polynuclear Aromatic Hydrocarbons) include the sum of the following individual compounds: benzo(a)anthracene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene. If all compounds were below their corresponding laboratory detection limits, then the highest detection limit of the PAH group compounds was noted.
- (3) Madison-Kipp/TRC will conduct visual monitoring for this compound.
- (4) No effluent limit is established, refer to section 4 of the permit.
- (5) Compound was found in the blank and in the sample.
- (6) Estimated value. Analyte detected at a level less than the reporting limit and greater than or equal to the detection limit.
- (7) Matrix Spike and/or Matrix Spike Duplicate Recovery is outside acceptance limits.
- (8) Between June 27 and June 30, the GETS extraction well was operated at 40 gpm.

DIRECTIONS:

- ☞ For "Outfall # and Description" enter the number of the outfall you are reporting (001 or 002, etc.) and the source of wastewater, (petroleum contact, tank bottom water, scrap and waste storage area oily water, or secondary containment). Copy and use a new form for each outfall.
- ☞ Monitoring for a given parameter depends on if the discharge is to surface water or groundwater, and petroleum category.
- ☞ The value entered must be the highest value of all samples analyzed for that day.
- ☞ For each quarter, indicate the month monitoring occurred next to "Month"
- ☞ Include as separate attachments to this form the annual reports for (a) waste oil and solids removed, and (b) tank bottom water disposal.

RETURN REPORT BY: **February 15, of the year following completion of monitoring**

RETURN TO: **ATTN: Nicholas Bertolas**  
**Department of Natural Resources**  
**3911 Fish Hatchery Rd.**  
**Fitchburg, WI 53711**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment, (40 CFR 122.5). I also certify that the values being submitted are the actual values found in the samples; no values have been modified or changed in any manner. Wherever I believe a value being reported is inaccurate, I have added an explanation indicating the reasons why the value is inaccurate.



7-12-2017

Signature of Person Completing Form

Date



7-12-2017

Signature of Principal Exec. or Authorized Agent

Date

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-129281-1

Client Project/Site: MadisonKipp - GETS/SVE

For:

Madison-Kipp Corporation

201 Waubesa Street

Madison, Wisconsin 53704

Attn: Alina Satkoski



Authorized for release by:

6/12/2017 5:39:05 PM

Sandie Fredrick, Project Manager II

(920)261-1660

[sandie.fredrick@testamericainc.com](mailto:sandie.fredrick@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

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**Job ID: 500-129281-1**

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**Laboratory: TestAmerica Chicago**

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**Narrative**

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**Job Narrative  
500-129281-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 6/8/2017 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 8.2° C.

**Receipt Exceptions**

The following samples was received at the laboratory outside the required temperature criteria: Influent (500-129281-1), Effluent (500-129281-2) and Trip Blank (500-129281-3). 8.2.

**GC/MS VOA**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Detection Summary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

## Client Sample ID: Influent

Lab Sample ID: 500-129281-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	11		5.0	2.0	ug/L	5		624	Total/NA
Trichloroethene	45		2.5	0.82	ug/L	5		624	Total/NA
Tetrachloroethene - DL	2200		50	19	ug/L	50		624	Total/NA
HEM (Oil & Grease)	3.0	J	5.6	1.5	mg/L	1		1664B	Total/NA
Chloride	130		5.0	4.3	mg/L	25		300.0	Total/NA

## Client Sample ID: Effluent

Lab Sample ID: 500-129281-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	26		1.0	0.41	ug/L	1		624	Total/NA
Tetrachloroethene	31		1.0	0.37	ug/L	1		624	Total/NA
Trichloroethene	9.7		0.50	0.16	ug/L	1		624	Total/NA
HEM (Oil & Grease)	2.6	J	5.3	1.4	mg/L	1		1664B	Total/NA
Chloride	190		10	8.5	mg/L	50		300.0	Total/NA
Total Suspended Solids	3.5	J	5.0	1.9	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: Trip Blank

Lab Sample ID: 500-129281-3

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

# Method Summary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL CHI
1664B	HEM and SGT-HEM	1664B	TAL CHI
300.0	Anions, Ion Chromatography	MCAWW	TAL CHI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI

#### Protocol References:

1664B = 1664B

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

#### Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# Sample Summary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-129281-1	Influent	Water	06/07/17 10:00	06/08/17 09:50
500-129281-2	Effluent	Water	06/07/17 10:10	06/08/17 09:50
500-129281-3	Trip Blank	Water	06/07/17 00:00	06/08/17 09:50

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# Client Sample Results

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

## Client Sample ID: Influent

Date Collected: 06/07/17 10:00

Date Received: 06/08/17 09:50

## Lab Sample ID: 500-129281-1

Matrix: Water

### Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.73		2.5	0.73	ug/L			06/10/17 00:33	5
Bromoform	<2.2		5.0	2.2	ug/L			06/10/17 00:33	5
Carbon tetrachloride	<1.9		5.0	1.9	ug/L			06/10/17 00:33	5
Chloroform	<1.9		10	1.9	ug/L			06/10/17 00:33	5
<b>cis-1,2-Dichloroethene</b>	<b>11</b>		5.0	2.0	ug/L			06/10/17 00:33	5
Dichlorobromomethane	<1.9		5.0	1.9	ug/L			06/10/17 00:33	5
1,2-Dichloroethane	<2.0		5.0	2.0	ug/L			06/10/17 00:33	5
1,1-Dichloroethene	<2.0		5.0	2.0	ug/L			06/10/17 00:33	5
Ethylbenzene	<0.92		2.5	0.92	ug/L			06/10/17 00:33	5
Methyl bromide	<3.2		10	3.2	ug/L			06/10/17 00:33	5
Methyl chloride	<1.6		5.0	1.6	ug/L			06/10/17 00:33	5
Methyl tert-butyl ether	<2.0		5.0	2.0	ug/L			06/10/17 00:33	5
1,1,2,2-Tetrachloroethane	<2.0		5.0	2.0	ug/L			06/10/17 00:33	5
Toluene	<0.76		2.5	0.76	ug/L			06/10/17 00:33	5
trans-1,2-Dichloroethene	<1.7		5.0	1.7	ug/L			06/10/17 00:33	5
1,1,1-Trichloroethane	<1.9		5.0	1.9	ug/L			06/10/17 00:33	5
1,1,2-Trichloroethane	<1.8		5.0	1.8	ug/L			06/10/17 00:33	5
<b>Trichloroethene</b>	<b>45</b>		2.5	0.82	ug/L			06/10/17 00:33	5
Vinyl chloride	<1.0		2.5	1.0	ug/L			06/10/17 00:33	5
Xylenes, Total	<2.0		5.0	2.0	ug/L			06/10/17 00:33	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		71 - 120		06/10/17 00:33	5
1,2-Dichloroethane-d4 (Surr)	94		71 - 127		06/10/17 00:33	5
Toluene-d8 (Surr)	103		75 - 120		06/10/17 00:33	5

### Method: 624 - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Tetrachloroethene</b>	<b>2200</b>		50	19	ug/L			06/10/17 00:59	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		71 - 120		06/10/17 00:59	50
1,2-Dichloroethane-d4 (Surr)	96		71 - 127		06/10/17 00:59	50
Toluene-d8 (Surr)	104		75 - 120		06/10/17 00:59	50

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>HEM (Oil &amp; Grease)</b>	<b>3.0</b>	<b>J</b>	5.6	1.5	mg/L		06/09/17 11:15	06/09/17 14:48	1
<b>Chloride</b>	<b>130</b>		5.0	4.3	mg/L			06/12/17 13:27	25
Total Suspended Solids	<1.9		5.0	1.9	mg/L			06/08/17 11:49	1

# Client Sample Results

Client: Madison-Kipp Corporation  
 Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

**Client Sample ID: Effluent**

**Date Collected: 06/07/17 10:10**

**Date Received: 06/08/17 09:50**

**Lab Sample ID: 500-129281-2**

**Matrix: Water**

## Method: 624 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			06/10/17 00:06	1
Bromoform	<0.45		1.0	0.45	ug/L			06/10/17 00:06	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/10/17 00:06	1
Chloroform	<0.37		2.0	0.37	ug/L			06/10/17 00:06	1
<b>cis-1,2-Dichloroethene</b>	<b>26</b>		1.0	0.41	ug/L			06/10/17 00:06	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/10/17 00:06	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/10/17 00:06	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/10/17 00:06	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/10/17 00:06	1
Methyl bromide	<0.65		2.0	0.65	ug/L			06/10/17 00:06	1
Methyl chloride	<0.32		1.0	0.32	ug/L			06/10/17 00:06	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/10/17 00:06	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/10/17 00:06	1
<b>Tetrachloroethene</b>	<b>31</b>		1.0	0.37	ug/L			06/10/17 00:06	1
Toluene	<0.15		0.50	0.15	ug/L			06/10/17 00:06	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/10/17 00:06	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/10/17 00:06	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/10/17 00:06	1
<b>Trichloroethene</b>	<b>9.7</b>		0.50	0.16	ug/L			06/10/17 00:06	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/10/17 00:06	1
Xylenes, Total	<0.40		1.0	0.40	ug/L			06/10/17 00:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		71 - 120		06/10/17 00:06	1
1,2-Dichloroethane-d4 (Surr)	96		71 - 127		06/10/17 00:06	1
Toluene-d8 (Surr)	100		75 - 120		06/10/17 00:06	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>HEM (Oil &amp; Grease)</b>	<b>2.6</b>	<b>J</b>	5.3	1.4	mg/L		06/09/17 11:15	06/09/17 14:53	1
<b>Chloride</b>	<b>190</b>		10	8.5	mg/L			06/12/17 15:21	50
<b>Total Suspended Solids</b>	<b>3.5</b>	<b>J</b>	5.0	1.9	mg/L			06/08/17 11:52	1

# Client Sample Results

Client: Madison-Kipp Corporation  
 Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-129281-3**

**Date Collected: 06/07/17 00:00**

**Matrix: Water**

**Date Received: 06/08/17 09:50**

**Method: 624 - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			06/09/17 23:40	1
Bromoform	<0.45		1.0	0.45	ug/L			06/09/17 23:40	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/09/17 23:40	1
Chloroform	<0.37		2.0	0.37	ug/L			06/09/17 23:40	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/09/17 23:40	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/09/17 23:40	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/09/17 23:40	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/09/17 23:40	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/09/17 23:40	1
Methyl bromide	<0.65		2.0	0.65	ug/L			06/09/17 23:40	1
Methyl chloride	<0.32		1.0	0.32	ug/L			06/09/17 23:40	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/09/17 23:40	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/09/17 23:40	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/09/17 23:40	1
Toluene	<0.15		0.50	0.15	ug/L			06/09/17 23:40	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/09/17 23:40	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/09/17 23:40	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/09/17 23:40	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/09/17 23:40	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/09/17 23:40	1
Xylenes, Total	<0.40		1.0	0.40	ug/L			06/09/17 23:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		71 - 120		06/09/17 23:40	1
1,2-Dichloroethane-d4 (Surr)	92		71 - 127		06/09/17 23:40	1
Toluene-d8 (Surr)	100		75 - 120		06/09/17 23:40	1

# Definitions/Glossary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

## Qualifiers

### General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



# QC Association Summary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

## GC/MS VOA

### Analysis Batch: 388904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-129281-1	Influent	Total/NA	Water	624	
500-129281-1 - DL	Influent	Total/NA	Water	624	
500-129281-2	Effluent	Total/NA	Water	624	
500-129281-3	Trip Blank	Total/NA	Water	624	
MB 500-388904/31	Method Blank	Total/NA	Water	624	
LCS 500-388904/29	Lab Control Sample	Total/NA	Water	624	
500-129281-2 MS	Effluent	Total/NA	Water	624	
500-129281-2 MSD	Effluent	Total/NA	Water	624	

## General Chemistry

### Analysis Batch: 388705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-129281-1	Influent	Total/NA	Water	SM 2540D	
500-129281-2	Effluent	Total/NA	Water	SM 2540D	
MB 500-388705/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-388705/2	Lab Control Sample	Total/NA	Water	SM 2540D	
500-129281-1 DU	Influent	Total/NA	Water	SM 2540D	

### Prep Batch: 388828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-129281-1	Influent	Total/NA	Water	1664B	
500-129281-2	Effluent	Total/NA	Water	1664B	
MB 500-388828/1-A	Method Blank	Total/NA	Water	1664B	
LCS 500-388828/2-A	Lab Control Sample	Total/NA	Water	1664B	

### Analysis Batch: 388860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-129281-1	Influent	Total/NA	Water	1664B	388828
500-129281-2	Effluent	Total/NA	Water	1664B	388828
MB 500-388828/1-A	Method Blank	Total/NA	Water	1664B	388828
LCS 500-388828/2-A	Lab Control Sample	Total/NA	Water	1664B	388828

### Analysis Batch: 389154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-129281-1	Influent	Total/NA	Water	300.0	
500-129281-2	Effluent	Total/NA	Water	300.0	
MB 500-389154/3	Method Blank	Total/NA	Water	300.0	
LCS 500-389154/4	Lab Control Sample	Total/NA	Water	300.0	

# Surrogate Summary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

**Method: 624 - Volatile Organic Compounds (GC/MS)**

**Matrix: Water**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	12DCE	TOL
		(71-120)	(71-127)	(75-120)
500-129281-1	Influent	96	94	103
500-129281-1 - DL	Influent	98	96	104
500-129281-2	Effluent	97	96	100
500-129281-2 MS	Effluent	95	93	101
500-129281-2 MSD	Effluent	96	93	102
500-129281-3	Trip Blank	99	92	100
LCS 500-388904/29	Lab Control Sample	95	95	102
MB 500-388904/31	Method Blank	99	94	104

### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

12DCE = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

# QC Sample Results

Client: Madison-Kipp Corporation  
 Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

## Method: 624 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 500-388904/31**

**Matrix: Water**

**Analysis Batch: 388904**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			06/09/17 21:28	1
Bromoform	<0.45		1.0	0.45	ug/L			06/09/17 21:28	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/09/17 21:28	1
Chloroform	<0.37		2.0	0.37	ug/L			06/09/17 21:28	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/09/17 21:28	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/09/17 21:28	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/09/17 21:28	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/09/17 21:28	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/09/17 21:28	1
Methyl bromide	<0.65		2.0	0.65	ug/L			06/09/17 21:28	1
Methyl chloride	<0.32		1.0	0.32	ug/L			06/09/17 21:28	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/09/17 21:28	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/09/17 21:28	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/09/17 21:28	1
Toluene	<0.15		0.50	0.15	ug/L			06/09/17 21:28	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/09/17 21:28	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/09/17 21:28	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/09/17 21:28	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/09/17 21:28	1
Vinyl chloride	<0.20		0.50	0.20	ug/L			06/09/17 21:28	1
Xylenes, Total	<0.40		1.0	0.40	ug/L			06/09/17 21:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		71 - 120		06/09/17 21:28	1
1,2-Dichloroethane-d4 (Surr)	94		71 - 127		06/09/17 21:28	1
Toluene-d8 (Surr)	104		75 - 120		06/09/17 21:28	1

**Lab Sample ID: LCS 500-388904/29**

**Matrix: Water**

**Analysis Batch: 388904**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	48.7		ug/L		97	37 - 151
Bromoform	50.0	48.3		ug/L		97	45 - 169
Carbon tetrachloride	50.0	43.0		ug/L		86	70 - 140
Chloroform	50.0	46.0		ug/L		92	51 - 138
cis-1,2-Dichloroethene	50.0	46.8		ug/L		94	70 - 130
Dichlorobromomethane	50.0	47.1		ug/L		94	35 - 155
1,2-Dichloroethane	50.0	48.0		ug/L		96	49 - 155
1,1-Dichloroethene	50.0	43.5		ug/L		87	10 - 234
Ethylbenzene	50.0	48.7		ug/L		97	37 - 162
Methyl bromide	50.0	40.9		ug/L		82	10 - 242
Methyl chloride	50.0	32.4		ug/L		65	10 - 273
m&p-Xylene	50.0	46.2		ug/L		92	
o-Xylene	50.0	47.3		ug/L		95	
1,1,2,2-Tetrachloroethane	50.0	49.5		ug/L		99	46 - 157
Tetrachloroethene	50.0	49.4		ug/L		99	64 - 148
Toluene	50.0	46.0		ug/L		92	47 - 150

TestAmerica Chicago

# QC Sample Results

Client: Madison-Kipp Corporation  
 Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

## Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 500-388904/29**

**Matrix: Water**

**Analysis Batch: 388904**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	50.0	45.4		ug/L		91	54 - 156
1,1,1-Trichloroethane	50.0	44.6		ug/L		89	52 - 162
1,1,2-Trichloroethane	50.0	49.7		ug/L		99	52 - 150
Trichloroethene	50.0	45.4		ug/L		91	71 - 157
Vinyl chloride	50.0	33.5		ug/L		67	10 - 251

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		71 - 120
1,2-Dichloroethane-d4 (Surr)	95		71 - 127
Toluene-d8 (Surr)	102		75 - 120

**Lab Sample ID: 500-129281-2 MS**

**Matrix: Water**

**Analysis Batch: 388904**

**Client Sample ID: Effluent**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.15		50.0	45.3		ug/L		91	37 - 151
Bromoform	<0.45		50.0	43.0		ug/L		86	45 - 169
Carbon tetrachloride	<0.38		50.0	41.3		ug/L		83	70 - 140
Chloroform	<0.37		50.0	43.3		ug/L		87	51 - 138
cis-1,2-Dichloroethene	26		50.0	69.6		ug/L		87	70 - 130
Dichlorobromomethane	<0.37		50.0	43.7		ug/L		87	35 - 155
1,2-Dichloroethane	<0.39		50.0	44.1		ug/L		88	49 - 155
1,1-Dichloroethene	<0.39		50.0	42.3		ug/L		85	10 - 234
Ethylbenzene	<0.18		50.0	45.6		ug/L		91	37 - 162
Methyl bromide	<0.65		50.0	38.5		ug/L		77	10 - 242
Methyl chloride	<0.32		50.0	32.2		ug/L		64	10 - 273
m&p-Xylene	<0.40		50.0	42.9		ug/L		86	
o-Xylene	<0.22		50.0	44.8		ug/L		90	
1,1,1,2-Tetrachloroethane	<0.40		50.0	46.1		ug/L		92	46 - 157
Tetrachloroethene	31		50.0	76.2		ug/L		91	64 - 148
Toluene	<0.15		50.0	42.3		ug/L		85	47 - 150
trans-1,2-Dichloroethene	<0.35		50.0	43.4		ug/L		87	54 - 156
1,1,1-Trichloroethane	<0.38		50.0	42.3		ug/L		85	52 - 162
1,1,2-Trichloroethane	<0.35		50.0	45.9		ug/L		92	52 - 150
Trichloroethene	9.7		50.0	51.5		ug/L		84	71 - 157
Vinyl chloride	<0.20		50.0	34.7		ug/L		69	10 - 251

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		71 - 120
1,2-Dichloroethane-d4 (Surr)	93		71 - 127
Toluene-d8 (Surr)	101		75 - 120

TestAmerica Chicago

# QC Sample Results

Client: Madison-Kipp Corporation  
 Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

## Method: 624 - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 500-129281-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 388904**

**Client Sample ID: Effluent**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.15		50.0	45.9		ug/L		92	37 - 151	1	20
Bromoform	<0.45		50.0	44.1		ug/L		88	45 - 169	3	20
Carbon tetrachloride	<0.38		50.0	41.8		ug/L		84	70 - 140	1	20
Chloroform	<0.37		50.0	43.2		ug/L		86	51 - 138	0	20
cis-1,2-Dichloroethene	26		50.0	71.2		ug/L		90	70 - 130	2	20
Dichlorobromomethane	<0.37		50.0	43.7		ug/L		87	35 - 155	0	20
1,2-Dichloroethane	<0.39		50.0	43.6		ug/L		87	49 - 155	1	20
1,1-Dichloroethene	<0.39		50.0	41.8		ug/L		84	10 - 234	1	20
Ethylbenzene	<0.18		50.0	45.7		ug/L		91	37 - 162	0	20
Methyl bromide	<0.65		50.0	36.1		ug/L		72	10 - 242	7	20
Methyl chloride	<0.32		50.0	31.8		ug/L		64	10 - 273	1	20
m&p-Xylene	<0.40		50.0	43.4		ug/L		87		1	
o-Xylene	<0.22		50.0	44.3		ug/L		89		1	
1,1,2,2-Tetrachloroethane	<0.40		50.0	45.6		ug/L		91	46 - 157	1	20
Tetrachloroethene	31		50.0	76.7		ug/L		92	64 - 148	1	20
Toluene	<0.15		50.0	42.1		ug/L		84	47 - 150	0	20
trans-1,2-Dichloroethene	<0.35		50.0	43.8		ug/L		88	54 - 156	1	20
1,1,1-Trichloroethane	<0.38		50.0	43.2		ug/L		86	52 - 162	2	20
1,1,2-Trichloroethane	<0.35		50.0	45.3		ug/L		91	52 - 150	1	20
Trichloroethene	9.7		50.0	53.0		ug/L		87	71 - 157	3	20
Vinyl chloride	<0.20		50.0	32.7		ug/L		65	10 - 251	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		71 - 120
1,2-Dichloroethane-d4 (Surr)	93		71 - 127
Toluene-d8 (Surr)	102		75 - 120

## Method: 1664B - HEM and SGT-HEM

**Lab Sample ID: MB 500-388828/1-A**  
**Matrix: Water**  
**Analysis Batch: 388860**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 388828**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	<1.3		5.0	1.3	mg/L		06/09/17 11:15	06/09/17 13:40	1

**Lab Sample ID: LCS 500-388828/2-A**  
**Matrix: Water**  
**Analysis Batch: 388860**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 388828**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM (Oil & Grease)	40.0	36.10		mg/L		90	78 - 114

TestAmerica Chicago

# QC Sample Results

Client: Madison-Kipp Corporation  
 Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 500-389154/3  
 Matrix: Water  
 Analysis Batch: 389154

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.17		0.20	0.17	mg/L			06/12/17 13:02	1

Lab Sample ID: LCS 500-389154/4  
 Matrix: Water  
 Analysis Batch: 389154

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	3.00	3.09		mg/L		103	90 - 110

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-388705/1  
 Matrix: Water  
 Analysis Batch: 388705

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<1.9		5.0	1.9	mg/L			06/08/17 11:20	1

Lab Sample ID: LCS 500-388705/2  
 Matrix: Water  
 Analysis Batch: 388705

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	194		mg/L		97	80 - 120

Lab Sample ID: 500-129281-1 DU  
 Matrix: Water  
 Analysis Batch: 388705

Client Sample ID: Influent  
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Suspended Solids	<1.9		3.00	J	mg/L		NC	5

# Lab Chronicle

Client: Madison-Kipp Corporation  
 Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

## Client Sample ID: Influent

Date Collected: 06/07/17 10:00

Date Received: 06/08/17 09:50

## Lab Sample ID: 500-129281-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		5	388904	06/10/17 00:33	JMP	TAL CHI
Total/NA	Analysis	624	DL	50	388904	06/10/17 00:59	JMP	TAL CHI
Total/NA	Prep	1664B			388828	06/09/17 11:15	MTB	TAL CHI
Total/NA	Analysis	1664B		1	388860	06/09/17 14:48	MTB	TAL CHI
Total/NA	Analysis	300.0		25	389154	06/12/17 13:27	EAT	TAL CHI
Total/NA	Analysis	SM 2540D		1	388705		SMO	TAL CHI
						(Start) 06/08/17 11:49		
						(End) 06/08/17 11:50		

## Client Sample ID: Effluent

Date Collected: 06/07/17 10:10

Date Received: 06/08/17 09:50

## Lab Sample ID: 500-129281-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	388904	06/10/17 00:06	JMP	TAL CHI
Total/NA	Prep	1664B			388828	06/09/17 11:15	MTB	TAL CHI
Total/NA	Analysis	1664B		1	388860	06/09/17 14:53	MTB	TAL CHI
Total/NA	Analysis	300.0		50	389154	06/12/17 15:21	EAT	TAL CHI
Total/NA	Analysis	SM 2540D		1	388705		SMO	TAL CHI
						(Start) 06/08/17 11:52		
						(End) 06/08/17 11:53		

## Client Sample ID: Trip Blank

Date Collected: 06/07/17 00:00

Date Received: 06/08/17 09:50

## Lab Sample ID: 500-129281-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	388904	06/09/17 23:40	JMP	TAL CHI

### Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# Accreditation/Certification Summary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-1

## Laboratory: TestAmerica Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-17

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING


2417 Bond Street, University Park, IL 60484  
Phone: 708.534.5200 Fax: 708.534.5211

Report To (optional)  
Contact: Alina Satkowski  
Company: +  
Address: Andy Stehn  
Address:  
Phone:  
Fax:  
E-Mail:

Bill To (optional)  
Contact: Accounts Payable  
Company: MKC  
Address:  
Address:  
Phone:  
Fax:  
PO#/Reference# 106985

## Chain of Custody Record

Lab Job #: 500-129281  
Chain of Custody Number: \_\_\_\_\_  
Page 1 of 1  
Temperature °C of Cooler: 8.178.2

Client		Client Project #		Preservative		Parameter														
<u>MKC</u>																				
Project Name				Project Location/State				Lab Project #				Lab PM				Preservative Key				
<u>GETS</u>				<u>Madison, WI</u>								<u>Sandic Fredrick</u>				 Cool to 4° Cool to 4° Cool to 4° Zn, Cool to 4° O4 to 4° 3 2F				
Sampler				Lab Project #				Lab PM				Matrix				500-129281 COC				
<u>A. Satkowski</u>												<u>BOD TSS/ Chloride</u>								
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix	BOD TSS/ Chloride	VOCs	PATS	Oil + Grease	Comments									
			Date	Time																
<u>1</u>		<u>Influent</u>	<u>6/17/17</u>	<u>1000g</u>	<u>9</u>	<u>W</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>for VOCs + PATS see attached analytical list</u>									
<u>2</u>		<u>Effluent</u>	<u>6/17/17</u>	<u>1010g</u>	<u>9</u>	<u>W</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>										
<u>3</u>		<u>Trip Blank</u>	<u>-</u>	<u>-</u>	<u>2</u>	<u>W</u>				<u>X</u>										

Turnaround Time Required (Business Days)

1 Day  2 Days  5 Days  7 Days  10 Days  15 Days  Other

Requested Due Date \_\_\_\_\_

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By <u>Alina Satkowski</u>	Company <u>MKC</u>	Date <u>6/17/17</u>	Time <u>16:00</u>	Received By <u>Andy Stehn</u>	Company <u>MKC</u>	Date <u>06/08/17</u>	Time <u>0950</u>
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier \_\_\_\_\_  
Shipped Ex Priority  
Hand Delivered \_\_\_\_\_

Matrix Key  
 WW - Wastewater SE - Sediment  
 W - Water SO - Soil  
 S - Soil L - Leachate  
 SL - Sludge WI - Wipe  
 MS - Miscellaneous DW - Drinking Water  
 OL - Oil O - Other  
 A - Air

Client Comments

Lab Comments:

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Parameter	Method
<b>VOCs</b>	
Bromoform	624
Carbon Tetrachloride	624
Dichlorobromomethane	624
1,2-Dichloroethane	624
1,1-Dichloroethylene	624
Methyl Bromide	624
Methyl Chloride	624
1,1,2,2-Tetrachloroethane	624
Tetrachloroethylene	624
1,1,2-Trichloroethane	624
1,1,1-Trichloroethane	624
Trichloroethylene	624
Vinyl Chloride	624
Cis-1,2-Dichloroethene	624
Trans-1,2-Dichloroethene	624
<b>TSS</b>	
Suspended Solids, Total	2540D
<b>BTEX</b>	
Benzene	624
Toluene	
Ethylbenzene	
Xylenes	

<b>PAHs (Group of 10)</b>	
Benzo(a)anthracene	625 SIM
Benzo(b)fluoranthene	
Benzo(g,h,i)perylene	
Benzo(k)fluoranthene	
Chrysene	
Dibenzo(a,h)anthracene	
Fluoranthene	
Indeno(1,2,3-cd)pyrene	
Phenanthrene	
Pyrene	
<b>PAHs</b>	
Benzo(a)pyrene	625 SIM
Naphthalene	
<b>Oil and Grease</b>	
Oil and Grease	1664
<b>BOD<sub>5</sub></b>	
BOD <sub>5</sub>	5210B
<b>Anions</b>	
Chloride	300

ORIGIN ID: JOTA (708) 534-5200  
ALINA SATKOSKI  
MADISON-KIPP CORPORATION  
201 WAUBESA STREET

MADISON, WI 53704  
UNITED STATES US

SHIP DATE: 06/08  
ACTWGT: 50  
CAD: 33264/CHFE3011

0151  
06.08  
A

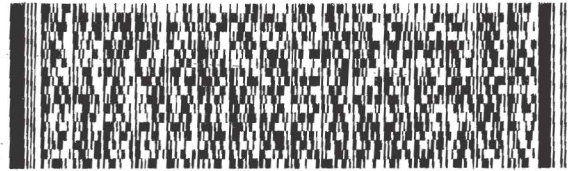
TO **SAMPLE LOGIN**  
**TESTAMERICA LABS**  
**2417 BOND ST**

**UNIVERSITY PARK IL 60466**

(708) 534-6200  
DEPT: PM

REF: S500-50849DM

RMA: 



**FedEx**  
Express



JT61216101007W

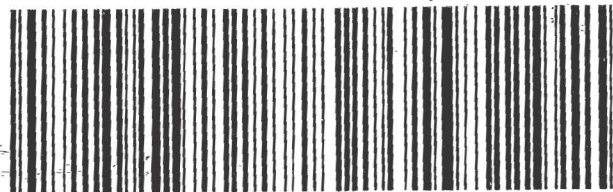
**FedEx**

TRK# 6514 8435 0151  
0221

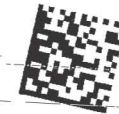
**THU - 08 JUN 10:30A**  
**PRIORITY OVERNIGHT**

**79 JOTA**

**60466**  
IL-US **ORD**



W1917910 06/07 546J1/A502/53C1



500-129281 Waybill

## Login Sample Receipt Checklist

Client: Madison-Kipp Corporation

Job Number: 500-129281-1

**Login Number: 129281**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Sanchez, Ariel M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	8.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Chicago

2417 Bond Street

University Park, IL 60484

Tel: (708)534-5200

TestAmerica Job ID: 500-129281-2

Client Project/Site: MadisonKipp - GETS/SVE

For:

Madison-Kipp Corporation

201 Waubesa Street

Madison, Wisconsin 53704

Attn: Alina Satkoski



Authorized for release by:

6/13/2017 3:39:33 PM

Sandie Fredrick, Project Manager II

(920)261-1660

[sandie.fredrick@testamericainc.com](mailto:sandie.fredrick@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

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**Job ID: 500-129281-2**

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**Laboratory: TestAmerica Chicago**

---

**Narrative**

**Job Narrative  
500-129281-2**

**Comments**

No additional comments.

**Receipt**

The samples were received on 6/8/2017 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 8.2° C.

**GC/MS Semi VOA**

Method(s) 625 SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 490-436467 and analytical batch 490-436769.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**General Chemistry**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.





# Detection Summary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

## Client Sample ID: Influent

Lab Sample ID: 500-129281-1

No Detections.

## Client Sample ID: Effluent

Lab Sample ID: 500-129281-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.14		0.10	0.050	ug/L	1		625 SIM	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Chicago

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# Method Summary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

Method	Method Description	Protocol	Laboratory
625 SIM	Semivolatile Organic Compounds GC/MS (SIM)	40CFR136A	TAL NSH
SM 5210B	BOD, 5-Day	SM	TAL CHI

#### Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

#### Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

# Sample Summary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-129281-1	Influent	Water	06/07/17 10:00	06/08/17 09:50
500-129281-2	Effluent	Water	06/07/17 10:10	06/08/17 09:50

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# Client Sample Results

Client: Madison-Kipp Corporation  
 Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

**Client Sample ID: Influent**

**Date Collected: 06/07/17 10:00**

**Date Received: 06/08/17 09:50**

**Lab Sample ID: 500-129281-1**

**Matrix: Water**

**Method: 625 SIM - Semivolatile Organic Compounds GC/MS (SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 02:16	1
Benzo[a]pyrene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 02:16	1
Benzo[b]fluoranthene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 02:16	1
Benzo[g,h,i]perylene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:16	1
Benzo[k]fluoranthene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:16	1
Chrysene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:16	1
Dibenz(a,h)anthracene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 02:16	1
Fluoranthene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:16	1
Indeno[1,2,3-cd]pyrene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 02:16	1
Naphthalene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:16	1
Phenanthrene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:16	1
Pyrene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	61		27 - 120	06/10/17 13:48	06/13/17 02:16	1
Terphenyl-d14	59		13 - 120	06/10/17 13:48	06/13/17 02:16	1
2-Fluorobiphenyl (Surr)	52		10 - 120	06/10/17 13:48	06/13/17 02:16	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			06/08/17 17:00	1

# Client Sample Results

Client: Madison-Kipp Corporation  
 Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

**Client Sample ID: Effluent**

**Date Collected: 06/07/17 10:10**

**Date Received: 06/08/17 09:50**

**Lab Sample ID: 500-129281-2**

**Matrix: Water**

**Method: 625 SIM - Semivolatile Organic Compounds GC/MS (SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 02:36	1
Benzo[a]pyrene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 02:36	1
Benzo[b]fluoranthene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 02:36	1
Benzo[g,h,i]perylene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:36	1
Benzo[k]fluoranthene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:36	1
Chrysene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:36	1
Dibenz(a,h)anthracene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 02:36	1
Fluoranthene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:36	1
Indeno[1,2,3-cd]pyrene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 02:36	1
<b>Naphthalene</b>	<b>0.14</b>		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:36	1
Phenanthrene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:36	1
Pyrene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 02:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	61		27 - 120	06/10/17 13:48	06/13/17 02:36	1
Terphenyl-d14	74		13 - 120	06/10/17 13:48	06/13/17 02:36	1
2-Fluorobiphenyl (Surr)	51		10 - 120	06/10/17 13:48	06/13/17 02:36	1

**General Chemistry**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			06/08/17 17:20	1

# Definitions/Glossary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# QC Association Summary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

## GC/MS Semi VOA

### Prep Batch: 436467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-129281-1	Influent	Total/NA	Water	625	
500-129281-2	Effluent	Total/NA	Water	625	
MB 490-436467/1-A	Method Blank	Total/NA	Water	625	
LCS 490-436467/2-A	Lab Control Sample	Total/NA	Water	625	
LCSD 490-436467/3-A	Lab Control Sample Dup	Total/NA	Water	625	

### Analysis Batch: 436769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-129281-1	Influent	Total/NA	Water	625 SIM	436467
500-129281-2	Effluent	Total/NA	Water	625 SIM	436467
MB 490-436467/1-A	Method Blank	Total/NA	Water	625 SIM	436467
LCS 490-436467/2-A	Lab Control Sample	Total/NA	Water	625 SIM	436467
LCSD 490-436467/3-A	Lab Control Sample Dup	Total/NA	Water	625 SIM	436467

## General Chemistry

### Analysis Batch: 388643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-129281-1	Influent	Total/NA	Water	SM 5210B	
500-129281-2	Effluent	Total/NA	Water	SM 5210B	
USB 500-388643/1	Method Blank	Total/NA	Water	SM 5210B	
LCS 500-388643/2	Lab Control Sample	Total/NA	Water	SM 5210B	

# Surrogate Summary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

## Method: 625 SIM - Semivolatile Organic Compounds GC/MS (SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NBZ	TPH	FBP
		(27-120)	(13-120)	(10-120)
500-129281-1	Influent	61	59	52
500-129281-2	Effluent	61	74	51
LCS 490-436467/2-A	Lab Control Sample	72	71	65
LCSD 490-436467/3-A	Lab Control Sample Dup	77	74	69
MB 490-436467/1-A	Method Blank	70	84	69

#### Surrogate Legend

NBZ = Nitrobenzene-d5

TPH = Terphenyl-d14

FBP = 2-Fluorobiphenyl (Surr)



# QC Sample Results

Client: Madison-Kipp Corporation  
 Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

## Method: 625 SIM - Semivolatile Organic Compounds GC/MS (SIM)

**Lab Sample ID: MB 490-436467/1-A**  
**Matrix: Water**  
**Analysis Batch: 436769**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 436467**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 01:14	1
Benzo[a]pyrene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 01:14	1
Benzo[b]fluoranthene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 01:14	1
Benzo[g,h,i]perylene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 01:14	1
Benzo[k]fluoranthene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 01:14	1
Chrysene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 01:14	1
Dibenz(a,h)anthracene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 01:14	1
Fluoranthene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 01:14	1
Indeno[1,2,3-cd]pyrene	<0.025		0.050	0.025	ug/L		06/10/17 13:48	06/13/17 01:14	1
Naphthalene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 01:14	1
Phenanthrene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 01:14	1
Pyrene	<0.050		0.10	0.050	ug/L		06/10/17 13:48	06/13/17 01:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	70		27 - 120	06/10/17 13:48	06/13/17 01:14	1
Terphenyl-d14	84		13 - 120	06/10/17 13:48	06/13/17 01:14	1
2-Fluorobiphenyl (Surr)	69		10 - 120	06/10/17 13:48	06/13/17 01:14	1

**Lab Sample ID: LCS 490-436467/2-A**  
**Matrix: Water**  
**Analysis Batch: 436769**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 436467**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Benzo[a]anthracene	4.00	2.80		ug/L		70	33 - 143
Benzo[a]pyrene	4.00	2.34		ug/L		59	17 - 163
Benzo[b]fluoranthene	4.00	2.45		ug/L		61	24 - 159
Benzo[g,h,i]perylene	4.00	2.08		ug/L		52	10 - 219
Benzo[k]fluoranthene	4.00	2.68		ug/L		67	11 - 162
Chrysene	4.00	2.72		ug/L		68	17 - 168
Dibenz(a,h)anthracene	4.00	2.27		ug/L		57	10 - 227
Fluoranthene	4.00	2.60		ug/L		65	26 - 137
Indeno[1,2,3-cd]pyrene	4.00	2.13		ug/L		53	10 - 171
Naphthalene	4.00	2.33		ug/L		58	21 - 133
Phenanthrene	4.00	2.67		ug/L		67	54 - 120
Pyrene	4.00	2.86		ug/L		72	52 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	72		27 - 120
Terphenyl-d14	71		13 - 120
2-Fluorobiphenyl (Surr)	65		10 - 120

**Lab Sample ID: LCSD 490-436467/3-A**  
**Matrix: Water**  
**Analysis Batch: 436769**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 436467**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Benzo[a]anthracene	4.00	2.85		ug/L		71	33 - 143	2	30

TestAmerica Chicago

# QC Sample Results

Client: Madison-Kipp Corporation  
 Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

## Method: 625 SIM - Semivolatile Organic Compounds GC/MS (SIM) (Continued)

**Lab Sample ID: LCSD 490-436467/3-A**  
**Matrix: Water**  
**Analysis Batch: 436769**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 436467**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[a]pyrene	4.00	2.48		ug/L		62	17 - 163	6	30
Benzo[b]fluoranthene	4.00	2.49		ug/L		62	24 - 159	2	30
Benzo[g,h,i]perylene	4.00	2.08		ug/L		52	10 - 219	0	30
Benzo[k]fluoranthene	4.00	2.67		ug/L		67	11 - 162	0	30
Chrysene	4.00	2.93		ug/L		73	17 - 168	8	30
Dibenz(a,h)anthracene	4.00	2.29		ug/L		57	10 - 227	1	30
Fluoranthene	4.00	2.73		ug/L		68	26 - 137	5	30
Indeno[1,2,3-cd]pyrene	4.00	2.12		ug/L		53	10 - 171	0	30
Naphthalene	4.00	2.62		ug/L		65	21 - 133	12	30
Phenanthrene	4.00	2.88		ug/L		72	54 - 120	8	30
Pyrene	4.00	2.97		ug/L		74	52 - 115	4	30

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Nitrobenzene-d5	77		27 - 120
Terphenyl-d14	74		13 - 120
2-Fluorobiphenyl (Surr)	69		10 - 120

## Method: SM 5210B - BOD, 5-Day

**Lab Sample ID: USB 500-388643/1**  
**Matrix: Water**  
**Analysis Batch: 388643**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			06/08/17 12:01	1

**Lab Sample ID: LCS 500-388643/2**  
**Matrix: Water**  
**Analysis Batch: 388643**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	226		mg/L		114	85 - 115

# Lab Chronicle

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

## Client Sample ID: Influent

Date Collected: 06/07/17 10:00

Date Received: 06/08/17 09:50

## Lab Sample ID: 500-129281-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			436467	06/10/17 13:48	SAT	TAL NSH
Total/NA	Analysis	625 SIM		1	436769	06/13/17 02:16	T1C	TAL NSH
Total/NA	Analysis	SM 5210B		1	388643		SSN	TAL CHI
					(Start)	06/08/17 17:00		
					(End)	06/08/17 17:20		

## Client Sample ID: Effluent

Date Collected: 06/07/17 10:10

Date Received: 06/08/17 09:50

## Lab Sample ID: 500-129281-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	625			436467	06/10/17 13:48	SAT	TAL NSH
Total/NA	Analysis	625 SIM		1	436769	06/13/17 02:36	T1C	TAL NSH
Total/NA	Analysis	SM 5210B		1	388643		SSN	TAL CHI
					(Start)	06/08/17 17:20		
					(End)	06/08/17 17:40		

### Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

# Accreditation/Certification Summary

Client: Madison-Kipp Corporation  
Project/Site: MadisonKipp - GETS/SVE

TestAmerica Job ID: 500-129281-2

## Laboratory: TestAmerica Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-17

## Laboratory: TestAmerica Nashville

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	998020430	08-31-17

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# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484  
Phone: 708.534.5200 Fax: 708.534.5211


Report To (optional)  
Contact: Alina Satkowski  
Company: +  
Address: Andy Stehn  
Address:  
Phone:  
Fax:  
E-Mail:

Bill To (optional)  
Contact: Accounts Payable  
Company: MKC  
Address:  
Address:  
Phone:  
Fax:  
PO#/Reference# 106985

## Chain of Custody Record

Lab Job #: 500-129281  
Chain of Custody Number: \_\_\_\_\_  
Page 1 of 1  
Temperature °C of Cooler: 8.178.2

Client		Client Project #		Preservative		Parameter														
<u>MKC</u>																				
Project Name		Lab Project #		Matrix																
<u>GETS</u>																				
Project Location/State		Lab PM																		
<u>Madison, WI</u>		<u>Sandic Fredrick</u>																		
Sampler																				
<u>A. Satkowski</u>																				
Lab ID	MS/MSD	Sample ID	Sampling		# of Containers	Matrix	BOD/ TSS/ Chloride	VOCs	PATS	Oil + Grease										
			Date	Time							Comments									
<u>1</u>		<u>Influent</u>	<u>6/17/17</u>	<u>1000g</u>	<u>9</u>	<u>W</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>for VOCs + PATS see attached analytical list</u>									
<u>2</u>		<u>Effluent</u>	<u>6/17/17</u>	<u>1010g</u>	<u>9</u>	<u>W</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>										
<u>3</u>		<u>Trip Blank</u>	<u>-</u>	<u>-</u>	<u>2</u>	<u>W</u>	<u>X</u>													



500-129281 COC

Preservative Key  
 Cool to 4°  
 Cool to 4°  
 Cool to 4°  
 Zn, Cool to 4°  
 O4  
 to 4°

Turnaround Time Required (Business Days)

1 Day  2 Days  5 Days  7 Days  10 Days  15 Days  Other

Sample Disposal

Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By <u>Alina Satkowski</u>	Company <u>MKC</u>	Date <u>6/17/17</u>	Time <u>16:00</u>	Received By <u>Steve Sandic</u>	Company <u>TRMT</u>	Date <u>06/08/17</u>	Time <u>0950</u>
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier: \_\_\_\_\_  
 Shipped: Ex Priority  
 Hand Delivered: \_\_\_\_\_

- Matrix Key
- WW - Wastewater
  - W - Water
  - S - Soil
  - SL - Sludge
  - MS - Miscellaneous
  - OL - Oil
  - A - Air
  - SE - Sediment
  - SO - Soil
  - L - Leachate
  - WI - Wipe
  - DW - Drinking Water
  - O - Other

Client Comments:

Lab Comments:

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Parameter	Method
<b>VOCs</b>	
Bromoform	624
Carbon Tetrachloride	624
Dichlorobromomethane	624
1,2-Dichloroethane	624
1,1-Dichloroethylene	624
Methyl Bromide	624
Methyl Chloride	624
1,1,2,2-Tetrachloroethane	624
Tetrachloroethylene	624
1,1,2-Trichloroethane	624
1,1,1-Trichloroethane	624
Trichloroethylene	624
Vinyl Chloride	624
Cis-1,2-Dichloroethene	624
Trans-1,2-Dichloroethene	624
<b>TSS</b>	
Suspended Solids, Total	2540D
<b>BTEX</b>	
Benzene	624
Toluene	
Ethylbenzene	
Xylenes	

<b>PAHs (Group of 10)</b>	
Benzo(a)anthracene	625 SIM
Benzo(b)fluoranthene	
Benzo(g,h,i)perylene	
Benzo(k)fluoranthene	
Chrysene	
Dibenzo(a,h)anthracene	
Fluoranthene	
Indeno(1,2,3-cd)pyrene	
Phenanthrene	
Pyrene	
<b>PAHs</b>	
Benzo(a)pyrene	625 SIM
Naphthalene	
<b>Oil and Grease</b>	
Oil and Grease	1664
<b>BOD<sub>5</sub></b>	
BOD <sub>5</sub>	5210B
<b>Anions</b>	
Chloride	300

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ORIGIN ID: JOTA (708) 534-5200  
ALINA SATKOSKI  
MADISON-KIPP CORPORATION  
201 WAUBESA STREET

MADISON, WI 53704  
UNITED STATES US

SHIP DATE:  
ACTWGT: 50  
CAD: 33264/CHFE3011

06.08  
0151  
A

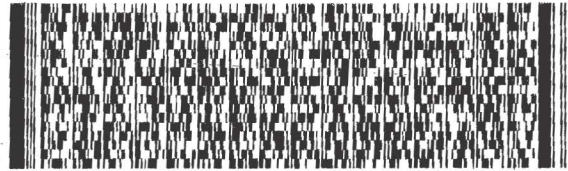
TO **SAMPLE LOGIN**  
**TESTAMERICA LABS**  
**2417 BOND ST**

**UNIVERSITY PARK IL 60466**

(708) 534-6200  
DEPT: PM

REF: S500-60849DM

RMA: 



**FedEx**  
Express



540CL/8734/727F

J161216101007W

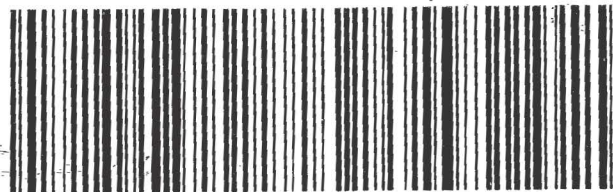
**FedEx**

TRK# 6514 8435 0151  
0221

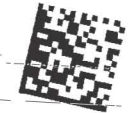
**THU - 08 JUN 10:30A**  
**PRIORITY OVERNIGHT**

**79 JOTA**

**60466**  
IL-US **ORD**



W1917910 06/07 546J1/A502/53C1



500-129281 Waybill





## COOLER RECEIPT FORM

Cooler Received/Opened On 6/9/2017 @ 1010

Time Samples Removed From Cooler \_\_\_\_\_ Time Samples Placed in Storage \_\_\_\_\_ (2 Hour Window)

1. Tracking # 6837 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID 160656843 pH Strip Lot \_\_\_\_\_ Chlorine Strip Lot \_\_\_\_\_

2. Temperature of rep. sample or temp blank when opened: 0.9 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO... NA

4. Were custody seals on outside of cooler?  YES...NO...NA

If yes, how many and where: 1 front

5. Were the seals intact, signed, and dated correctly?  YES...NO...NA

6. Were custody papers inside cooler?  YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) KG

7. Were custody seals on containers: YES  NO and Intact YES...NO... NA

Were these signed and dated correctly? YES...NO... NA

8. Packing mat'l used?  Bubblewrap  Plastic bag  Peanuts  Vermiculite  Foam Insert  Paper  Other None

9. Cooling process:  Ice  Ice-pack  Ice (direct contact)  Dry ice  Other None

10. Did all containers arrive in good condition (unbroken)?  YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)?  YES...NO...NA

12. Did all container labels and tags agree with custody papers?  YES...NO...NA

13a. Were VOA vials received?  YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES... NO...NA

14. Was there a Trip Blank in this cooler? YES... NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) es

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES... NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO... NA

16. Was residual chlorine present? YES...NO... NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) es

17. Were custody papers properly filled out (ink, signed, etc)?  YES...NO...NA

18. Did you sign the custody papers in the appropriate place?  YES...NO...NA

19. Were correct containers used for the analysis requested?  YES...NO...NA

20. Was sufficient amount of sample sent in each container?  YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) es

I certify that I attached a label with the unique LIMS number to each container (initial) es

21. Were there Non-Conformance issues at login? YES... NO... Was a NCM generated? YES... NO...# es

**TestAmerica Chicago**

2417 Bond Street  
 University Park, IL 60484  
 Phone (708) 534-5200 Fax (708) 534-5211

**Chain of Custody Record**

**500-129281**



<b>Client Information (Sub Contract Lab)</b>		Sampler:		Lab PM: Fredrick, Sandie J		JC No: J0-88858.1													
Client Contact:		Phone:		E-Mail: sandie.fredrick@testamericainc.com   Wisconsin		Page: Page 1 of 1													
Shipping/Receiving		Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State Program - Wisconsin		Job #: 500-129281-2													
Address: 2960 Foster Creighton Drive, City: Nashville State, Zip: TN, 37204 Phone: 615-726-0177(Tel) 615-726-3404(Fax) Email:		Due Date Requested: 6/13/2017 TAT Requested (days):		<b>Analysis Requested</b>		Preservation Codes: A - HCL                      M - Hexane B - NaOH                    N - None C - Zn Acetate              O - AsNaO2 D - Nitric Acid              P - Na2O4S E - NaHSO4                  Q - Na2SO3 F - MeOH                     R - Na2S2O3 G - Amchlor                S - H2SO4 H - Ascorbic Acid          T - TSP Dodecahydrate I - Ice                         U - Acetone J - DI Water                 V - MCAA K - EDTA                    W - pH 4-5 L - EDA                      Z - other (specify)													
Project Name: MadisonKipp - GETS/SVE Site:		PO #: WO #: Project #: 50009145 SSOW#:																	
<b>Sample Identification - Client ID (Lab ID)</b>		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		625_SIM/625_Prep_LVI (MOD) Single compound		Total Number of Containers		Special Instructions/Note:	
Influent (500-129281-1)		6/7/17		10:00 Central		Water				X						2			
Effluent (500-129281-2)		6/7/17		10:10 Central		Water				X						2			
Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.																			
<b>Possible Hazard Identification</b>										<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b>									
Unconfirmed										<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Deliverable Requested: I, II, III, IV, Other (specify)										Primary Deliverable Rank: 2									
Empty Kit Relinquished by:										Special Instructions/QC Requirements:									
Relinquished by: <i>[Signature]</i>										Date/Time: 6/18/17 10:15									
Relinquished by: <i>[Signature]</i>										Date/Time: 6-9-17 10:10									
Relinquished by:										Date/Time:									
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No										Custody Seal No.:									
Cooler Temperature(s) °C and Other Remarks:										0.9									

## Login Sample Receipt Checklist

Client: Madison-Kipp Corporation

Job Number: 500-129281-2

**Login Number: 129281**

**List Source: TestAmerica Chicago**

**List Number: 1**

**Creator: Sanchez, Ariel M**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	8.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# Login Sample Receipt Checklist

Client: Madison-Kipp Corporation

Job Number: 500-129281-2

**Login Number: 129281**

**List Number: 2**

**Creator: Stewart, Eric S**

**List Source: TestAmerica Nashville**

**List Creation: 06/09/17 12:55 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# Appendix D

## Monthly SVE/GETS Influent and Effluent Vapor Laboratory Analytical Results

---

1/24/2017

Ms. Alina Satkoski  
Madison-Kipp Corporation  
201 Waubesa Street

Madison WI 53704

Project Name: GETS/ SVE

Project #:

Workorder #: 1701253

Dear Ms. Alina Satkoski

The following report includes the data for the above referenced project for sample(s) received on 1/19/2017 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott

Project Manager



**WORK ORDER #: 1701253**

Work Order Summary

<b>CLIENT:</b>	Ms. Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, WI 53704	<b>BILL TO:</b>	Ms. Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, WI 53704
<b>PHONE:</b>	608-244-3511	<b>P.O. #</b>	107418
<b>FAX:</b>		<b>PROJECT #</b>	GETS/ SVE
<b>DATE RECEIVED:</b>	01/19/2017	<b>CONTACT:</b>	Ausha Scott
<b>DATE COMPLETED:</b>	01/24/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	Effluent	TO-15	0.4 "Hg	14.9 psi
02A	Influent	TO-15	7.8 "Hg	15.3 psi
03A	Lab Blank	TO-15	NA	NA
04A	CCV	TO-15	NA	NA
05A	LCS	TO-15	NA	NA
05AA	LCSD	TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 01/24/17

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**EPA Method TO-15**  
**Madison-Kipp Corporation**  
**Workorder# 1701253**

Two 1 Liter Summa Canister samples were received on January 19, 2017. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

Dilution was performed on samples Effluent and Influent due to the presence of high level target species.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



**Summary of Detected Compounds  
EPA METHOD TO-15 GC/MS FULL SCAN**

**Client Sample ID: Effluent**

**Lab ID#: 1701253-01A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Vinyl Chloride	1.7	3.8	4.3	9.8
cis-1,2-Dichloroethene	1.7	670	6.7	2600
Trichloroethene	1.7	300	9.1	1600
Toluene	1.7	14	6.4	51
Tetrachloroethene	1.7	210	12	1400
m,p-Xylene	1.7	2.4	7.4	10

**Client Sample ID: Influent**

**Lab ID#: 1701253-02A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
cis-1,2-Dichloroethene	11	1100	44	4500
Trichloroethene	11	880	59	4700
Tetrachloroethene	11	3200	75	22000



Air Toxics

Client Sample ID: Effluent

Lab ID#: 1701253-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17012322	Date of Collection:	1/17/17 2:50:00 PM
Dil. Factor:	3.40	Date of Analysis:	1/23/17 11:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.7	Not Detected	8.4	Not Detected
Freon 114	1.7	Not Detected	12	Not Detected
Chloromethane	17	Not Detected	35	Not Detected
Vinyl Chloride	1.7	3.8	4.3	9.8
Bromomethane	17	Not Detected	66	Not Detected
Chloroethane	6.8	Not Detected	18	Not Detected
Freon 11	1.7	Not Detected	9.6	Not Detected
Freon 113	1.7	Not Detected	13	Not Detected
1,1-Dichloroethene	1.7	Not Detected	6.7	Not Detected
Methylene Chloride	17	Not Detected	59	Not Detected
Methyl tert-butyl ether	6.8	Not Detected	24	Not Detected
1,1-Dichloroethane	1.7	Not Detected	6.9	Not Detected
cis-1,2-Dichloroethene	1.7	670	6.7	2600
Chloroform	1.7	Not Detected	8.3	Not Detected
1,1,1-Trichloroethane	1.7	Not Detected	9.3	Not Detected
Carbon Tetrachloride	1.7	Not Detected	11	Not Detected
Benzene	1.7	Not Detected	5.4	Not Detected
1,2-Dichloroethane	1.7	Not Detected	6.9	Not Detected
Trichloroethene	1.7	300	9.1	1600
1,2-Dichloropropane	1.7	Not Detected	7.8	Not Detected
cis-1,3-Dichloropropene	1.7	Not Detected	7.7	Not Detected
Toluene	1.7	14	6.4	51
trans-1,3-Dichloropropene	1.7	Not Detected	7.7	Not Detected
1,1,2-Trichloroethane	1.7	Not Detected	9.3	Not Detected
Tetrachloroethene	1.7	210	12	1400
1,2-Dibromoethane (EDB)	1.7	Not Detected	13	Not Detected
Chlorobenzene	1.7	Not Detected	7.8	Not Detected
Ethyl Benzene	1.7	Not Detected	7.4	Not Detected
m,p-Xylene	1.7	2.4	7.4	10
o-Xylene	1.7	Not Detected	7.4	Not Detected
Styrene	1.7	Not Detected	7.2	Not Detected
1,1,2,2-Tetrachloroethane	1.7	Not Detected	12	Not Detected
1,3,5-Trimethylbenzene	1.7	Not Detected	8.4	Not Detected
1,2,4-Trimethylbenzene	1.7	Not Detected	8.4	Not Detected
1,3-Dichlorobenzene	1.7	Not Detected	10	Not Detected
1,4-Dichlorobenzene	1.7	Not Detected	10	Not Detected
alpha-Chlorotoluene	1.7	Not Detected	8.8	Not Detected
1,2-Dichlorobenzene	1.7	Not Detected	10	Not Detected
1,2,4-Trichlorobenzene	6.8	Not Detected	50	Not Detected
Hexachlorobutadiene	6.8	Not Detected	72	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Effluent

Lab ID#: 1701253-01A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17012322	Date of Collection: 1/17/17 2:50:00 PM
Dil. Factor:	3.40	Date of Analysis: 1/23/17 11:52 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	88	70-130



Air Toxics

Client Sample ID: Influent

Lab ID#: 1701253-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17012323	Date of Collection:	1/17/17 2:55:00 PM
Dil. Factor:	22.1	Date of Analysis:	1/24/17 12:18 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	11	Not Detected	55	Not Detected
Freon 114	11	Not Detected	77	Not Detected
Chloromethane	110	Not Detected	230	Not Detected
Vinyl Chloride	11	Not Detected	28	Not Detected
Bromomethane	110	Not Detected	430	Not Detected
Chloroethane	44	Not Detected	120	Not Detected
Freon 11	11	Not Detected	62	Not Detected
Freon 113	11	Not Detected	85	Not Detected
1,1-Dichloroethene	11	Not Detected	44	Not Detected
Methylene Chloride	110	Not Detected	380	Not Detected
Methyl tert-butyl ether	44	Not Detected	160	Not Detected
1,1-Dichloroethane	11	Not Detected	45	Not Detected
cis-1,2-Dichloroethene	11	1100	44	4500
Chloroform	11	Not Detected	54	Not Detected
1,1,1-Trichloroethane	11	Not Detected	60	Not Detected
Carbon Tetrachloride	11	Not Detected	70	Not Detected
Benzene	11	Not Detected	35	Not Detected
1,2-Dichloroethane	11	Not Detected	45	Not Detected
Trichloroethene	11	880	59	4700
1,2-Dichloropropane	11	Not Detected	51	Not Detected
cis-1,3-Dichloropropene	11	Not Detected	50	Not Detected
Toluene	11	Not Detected	42	Not Detected
trans-1,3-Dichloropropene	11	Not Detected	50	Not Detected
1,1,2-Trichloroethane	11	Not Detected	60	Not Detected
Tetrachloroethene	11	3200	75	22000
1,2-Dibromoethane (EDB)	11	Not Detected	85	Not Detected
Chlorobenzene	11	Not Detected	51	Not Detected
Ethyl Benzene	11	Not Detected	48	Not Detected
m,p-Xylene	11	Not Detected	48	Not Detected
o-Xylene	11	Not Detected	48	Not Detected
Styrene	11	Not Detected	47	Not Detected
1,1,2,2-Tetrachloroethane	11	Not Detected	76	Not Detected
1,3,5-Trimethylbenzene	11	Not Detected	54	Not Detected
1,2,4-Trimethylbenzene	11	Not Detected	54	Not Detected
1,3-Dichlorobenzene	11	Not Detected	66	Not Detected
1,4-Dichlorobenzene	11	Not Detected	66	Not Detected
alpha-Chlorotoluene	11	Not Detected	57	Not Detected
1,2-Dichlorobenzene	11	Not Detected	66	Not Detected
1,2,4-Trichlorobenzene	44	Not Detected	330	Not Detected
Hexachlorobutadiene	44	Not Detected	470	Not Detected

Container Type: 1 Liter Summa Canister

**Client Sample ID: Influent**

**Lab ID#: 1701253-02A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>17012323</b>	<b>Date of Collection: 1/17/17 2:55:00 PM</b>
<b>Dil. Factor:</b>	<b>22.1</b>	<b>Date of Analysis: 1/24/17 12:18 AM</b>

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	87	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1701253-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17012307	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/23/17 03:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	2.0	Not Detected	7.2	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1701253-03A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17012307	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/23/17 03:08 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	90	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1701253-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17012302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/23/17 10:47 AM

Compound	%Recovery
Freon 12	104
Freon 114	102
Chloromethane	116
Vinyl Chloride	112
Bromomethane	109
Chloroethane	108
Freon 11	103
Freon 113	97
1,1-Dichloroethene	106
Methylene Chloride	113
Methyl tert-butyl ether	106
1,1-Dichloroethane	112
cis-1,2-Dichloroethene	108
Chloroform	109
1,1,1-Trichloroethane	102
Carbon Tetrachloride	102
Benzene	102
1,2-Dichloroethane	108
Trichloroethene	105
1,2-Dichloropropane	110
cis-1,3-Dichloropropene	111
Toluene	107
trans-1,3-Dichloropropene	109
1,1,2-Trichloroethane	107
Tetrachloroethene	100
1,2-Dibromoethane (EDB)	107
Chlorobenzene	102
Ethyl Benzene	105
m,p-Xylene	107
o-Xylene	109
Styrene	112
1,1,2,2-Tetrachloroethane	109
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	111
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	105
alpha-Chlorotoluene	113
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	98
Hexachlorobutadiene	94

Container Type: NA - Not Applicable





Air Toxics

Client Sample ID: CCV

Lab ID#: 1701253-04A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17012302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/23/17 10:47 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1701253-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17012303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/23/17 11:14 AM

Compound	%Recovery	Method Limits
Freon 12	103	70-130
Freon 114	103	70-130
Chloromethane	117	70-130
Vinyl Chloride	114	70-130
Bromomethane	110	70-130
Chloroethane	112	70-130
Freon 11	102	70-130
Freon 113	96	70-130
1,1-Dichloroethene	104	70-130
Methylene Chloride	111	70-130
Methyl tert-butyl ether	104	70-130
1,1-Dichloroethane	110	70-130
cis-1,2-Dichloroethene	100	70-130
Chloroform	107	70-130
1,1,1-Trichloroethane	101	70-130
Carbon Tetrachloride	102	70-130
Benzene	101	70-130
1,2-Dichloroethane	107	70-130
Trichloroethene	106	70-130
1,2-Dichloropropane	112	70-130
cis-1,3-Dichloropropene	118	70-130
Toluene	108	70-130
trans-1,3-Dichloropropene	110	70-130
1,1,2-Trichloroethane	108	70-130
Tetrachloroethene	101	70-130
1,2-Dibromoethane (EDB)	107	70-130
Chlorobenzene	102	70-130
Ethyl Benzene	106	70-130
m,p-Xylene	108	70-130
o-Xylene	111	70-130
Styrene	114	70-130
1,1,2,2-Tetrachloroethane	109	70-130
1,3,5-Trimethylbenzene	109	70-130
1,2,4-Trimethylbenzene	113	70-130
1,3-Dichlorobenzene	105	70-130
1,4-Dichlorobenzene	108	70-130
alpha-Chlorotoluene	117	70-130
1,2-Dichlorobenzene	104	70-130
1,2,4-Trichlorobenzene	95	70-130
Hexachlorobutadiene	94	70-130

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1701253-05A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17012303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/23/17 11:14 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1701253-05AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17012304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/23/17 11:41 AM

Compound	%Recovery	Method Limits
Freon 12	104	70-130
Freon 114	101	70-130
Chloromethane	120	70-130
Vinyl Chloride	116	70-130
Bromomethane	112	70-130
Chloroethane	111	70-130
Freon 11	104	70-130
Freon 113	97	70-130
1,1-Dichloroethene	105	70-130
Methylene Chloride	112	70-130
Methyl tert-butyl ether	106	70-130
1,1-Dichloroethane	110	70-130
cis-1,2-Dichloroethene	99	70-130
Chloroform	109	70-130
1,1,1-Trichloroethane	103	70-130
Carbon Tetrachloride	103	70-130
Benzene	100	70-130
1,2-Dichloroethane	104	70-130
Trichloroethene	106	70-130
1,2-Dichloropropane	110	70-130
cis-1,3-Dichloropropene	118	70-130
Toluene	106	70-130
trans-1,3-Dichloropropene	109	70-130
1,1,2-Trichloroethane	107	70-130
Tetrachloroethene	99	70-130
1,2-Dibromoethane (EDB)	106	70-130
Chlorobenzene	101	70-130
Ethyl Benzene	104	70-130
m,p-Xylene	107	70-130
o-Xylene	108	70-130
Styrene	112	70-130
1,1,2,2-Tetrachloroethane	107	70-130
1,3,5-Trimethylbenzene	107	70-130
1,2,4-Trimethylbenzene	112	70-130
1,3-Dichlorobenzene	103	70-130
1,4-Dichlorobenzene	107	70-130
alpha-Chlorotoluene	116	70-130
1,2-Dichlorobenzene	101	70-130
1,2,4-Trichlorobenzene	98	70-130
Hexachlorobutadiene	95	70-130

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1701253-05AA

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17012304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/23/17 11:41 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager: Alina Sotkieski
Collected by: (Print and Sign) Scherika
Company: MKC
Address: 201 Waukesha St. City: Madison State: WI Zip: 53705

Project Info:
P.O. #: 107418
Project Name: GETS/SUE

Turn Around Time:
Normal (checked)
Rush
Lab Use Only:
Pressurized by:
Date:
Pressurization Gas: N2 He

Table with columns: Lab I.D., Field Sample I.D. (Location), Can #, Date of Collection, Time of Collection, Analyses Requested, Canister Pressure/Vacuum (Initial, Final, Receipt, Final (psi)).

Relinquished by: (signature) Date/Time 11/17/17 15:00
Received by: (signature) Date/Time 1/19/17 1040
Notes:

Lab Use Only:
Shipper Name: Fed Ex
Air Bill #:
Temp (°C): NA
Condition: Good
Custody Seals Intact? Yes No (None)
Work Order #: 1701253

2/23/2017

Ms. Alina Satkoski  
Madison-Kipp Corporation  
201 Waubesa Street

Madison WI 53704

Project Name: GETS/ SVE

Project #:

Workorder #: 1702162

Dear Ms. Alina Satkoski

The following report includes the data for the above referenced project for sample(s) received on 2/10/2017 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott

Project Manager

**WORK ORDER #: 1702162**

Work Order Summary

<b>CLIENT:</b>	Ms. Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, WI 53704	<b>BILL TO:</b>	Ms. Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, WI 53704
<b>PHONE:</b>	608-244-3511	<b>P.O. #</b>	107418
<b>FAX:</b>		<b>PROJECT #</b>	GETS/ SVE
<b>DATE RECEIVED:</b>	02/10/2017	<b>CONTACT:</b>	Ausha Scott
<b>DATE COMPLETED:</b>	02/22/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	Effluent	TO-15	3.0 "Hg	15 psi
02A	Influent	TO-15	4.0 "Hg	15 psi
03A	Lab Blank	TO-15	NA	NA
04A	CCV	TO-15	NA	NA
05A	LCS	TO-15	NA	NA
05AA	LCSD	TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 02/23/17

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

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**LABORATORY NARRATIVE**  
**EPA Method TO-15**  
**Madison-Kipp Corporation**  
**Workorder# 1702162**

Two 1 Liter Summa Canister samples were received on February 10, 2017. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

Dilution was performed on sample Influent due to the presence of high level target species.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds  
EPA METHOD TO-15 GC/MS FULL SCAN**

**Client Sample ID: Effluent**

**Lab ID#: 1702162-01A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Vinyl Chloride	1.1	2.8	2.9	7.2
cis-1,2-Dichloroethene	1.1	460	4.4	1800
Trichloroethene	1.1	340	6.0	1800
Toluene	1.1	3.9	4.2	15
Tetrachloroethene	1.1	300	7.6	2000
m,p-Xylene	1.1	2.2	4.9	9.4

**Client Sample ID: Influent**

**Lab ID#: 1702162-02A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
cis-1,2-Dichloroethene	23	1100	92	4600
Trichloroethene	23	1000	120	5700
Tetrachloroethene	23	5300	160	36000



Air Toxics

Client Sample ID: Effluent

Lab ID#: 1702162-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021613	Date of Collection:	2/8/17 10:35:00 AM
Dil. Factor:	2.24	Date of Analysis:	2/16/17 07:39 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	Not Detected	5.5	Not Detected
Freon 114	1.1	Not Detected	7.8	Not Detected
Chloromethane	11	Not Detected	23	Not Detected
Vinyl Chloride	1.1	2.8	2.9	7.2
Bromomethane	11	Not Detected	43	Not Detected
Chloroethane	4.5	Not Detected	12	Not Detected
Freon 11	1.1	Not Detected	6.3	Not Detected
Freon 113	1.1	Not Detected	8.6	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Methylene Chloride	11	Not Detected	39	Not Detected
Methyl tert-butyl ether	4.5	Not Detected	16	Not Detected
1,1-Dichloroethane	1.1	Not Detected	4.5	Not Detected
cis-1,2-Dichloroethene	1.1	460	4.4	1800
Chloroform	1.1	Not Detected	5.5	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.1	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.0	Not Detected
Benzene	1.1	Not Detected	3.6	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.5	Not Detected
Trichloroethene	1.1	340	6.0	1800
1,2-Dichloropropane	1.1	Not Detected	5.2	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.1	Not Detected
Toluene	1.1	3.9	4.2	15
trans-1,3-Dichloropropene	1.1	Not Detected	5.1	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.1	Not Detected
Tetrachloroethene	1.1	300	7.6	2000
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.6	Not Detected
Chlorobenzene	1.1	Not Detected	5.2	Not Detected
Ethyl Benzene	1.1	Not Detected	4.9	Not Detected
m,p-Xylene	1.1	2.2	4.9	9.4
o-Xylene	1.1	Not Detected	4.9	Not Detected
Styrene	1.1	Not Detected	4.8	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.7	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.5	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.5	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.7	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.7	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.8	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.7	Not Detected
1,2,4-Trichlorobenzene	4.5	Not Detected	33	Not Detected
Hexachlorobutadiene	4.5	Not Detected	48	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Effluent

Lab ID#: 1702162-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021613	Date of Collection: 2/8/17 10:35:00 AM
Dil. Factor:	2.24	Date of Analysis: 2/16/17 07:39 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: Influent

Lab ID#: 1702162-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021614	Date of Collection:	2/8/17 10:40:00 AM
Dil. Factor:	46.6	Date of Analysis:	2/16/17 08:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	23	Not Detected	120	Not Detected
Freon 114	23	Not Detected	160	Not Detected
Chloromethane	230	Not Detected	480	Not Detected
Vinyl Chloride	23	Not Detected	60	Not Detected
Bromomethane	230	Not Detected	900	Not Detected
Chloroethane	93	Not Detected	240	Not Detected
Freon 11	23	Not Detected	130	Not Detected
Freon 113	23	Not Detected	180	Not Detected
1,1-Dichloroethene	23	Not Detected	92	Not Detected
Methylene Chloride	230	Not Detected	810	Not Detected
Methyl tert-butyl ether	93	Not Detected	340	Not Detected
1,1-Dichloroethane	23	Not Detected	94	Not Detected
cis-1,2-Dichloroethene	23	1100	92	4600
Chloroform	23	Not Detected	110	Not Detected
1,1,1-Trichloroethane	23	Not Detected	130	Not Detected
Carbon Tetrachloride	23	Not Detected	150	Not Detected
Benzene	23	Not Detected	74	Not Detected
1,2-Dichloroethane	23	Not Detected	94	Not Detected
Trichloroethene	23	1000	120	5700
1,2-Dichloropropane	23	Not Detected	110	Not Detected
cis-1,3-Dichloropropene	23	Not Detected	100	Not Detected
Toluene	23	Not Detected	88	Not Detected
trans-1,3-Dichloropropene	23	Not Detected	100	Not Detected
1,1,2-Trichloroethane	23	Not Detected	130	Not Detected
Tetrachloroethene	23	5300	160	36000
1,2-Dibromoethane (EDB)	23	Not Detected	180	Not Detected
Chlorobenzene	23	Not Detected	110	Not Detected
Ethyl Benzene	23	Not Detected	100	Not Detected
m,p-Xylene	23	Not Detected	100	Not Detected
o-Xylene	23	Not Detected	100	Not Detected
Styrene	23	Not Detected	99	Not Detected
1,1,2,2-Tetrachloroethane	23	Not Detected	160	Not Detected
1,3,5-Trimethylbenzene	23	Not Detected	110	Not Detected
1,2,4-Trimethylbenzene	23	Not Detected	110	Not Detected
1,3-Dichlorobenzene	23	Not Detected	140	Not Detected
1,4-Dichlorobenzene	23	Not Detected	140	Not Detected
alpha-Chlorotoluene	23	Not Detected	120	Not Detected
1,2-Dichlorobenzene	23	Not Detected	140	Not Detected
1,2,4-Trichlorobenzene	93	Not Detected	690	Not Detected
Hexachlorobutadiene	93	Not Detected	990	Not Detected

Container Type: 1 Liter Summa Canister

**Client Sample ID: Influent**

**Lab ID#: 1702162-02A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>17021614</b>	<b>Date of Collection: 2/8/17 10:40:00 AM</b>
<b>Dil. Factor:</b>	<b>46.6</b>	<b>Date of Analysis: 2/16/17 08:05 PM</b>

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1702162-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021607	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/16/17 02:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	2.0	Not Detected	7.2	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1702162-03A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17021607	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/16/17 02:59 PM

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	94	70-130





Air Toxics

Client Sample ID: CCV

Lab ID#: 1702162-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/16/17 09:49 AM

Compound	%Recovery
Freon 12	97
Freon 114	94
Chloromethane	95
Vinyl Chloride	119
Bromomethane	100
Chloroethane	113
Freon 11	97
Freon 113	91
1,1-Dichloroethene	100
Methylene Chloride	121
Methyl tert-butyl ether	107
1,1-Dichloroethane	120
cis-1,2-Dichloroethene	112
Chloroform	112
1,1,1-Trichloroethane	103
Carbon Tetrachloride	101
Benzene	100
1,2-Dichloroethane	112
Trichloroethene	110
1,2-Dichloropropane	122
cis-1,3-Dichloropropene	118
Toluene	112
trans-1,3-Dichloropropene	111
1,1,2-Trichloroethane	107
Tetrachloroethene	100
1,2-Dibromoethane (EDB)	108
Chlorobenzene	103
Ethyl Benzene	107
m,p-Xylene	106
o-Xylene	108
Styrene	110
1,1,2,2-Tetrachloroethane	111
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	103
1,3-Dichlorobenzene	104
1,4-Dichlorobenzene	106
alpha-Chlorotoluene	110
1,2-Dichlorobenzene	103
1,2,4-Trichlorobenzene	103
Hexachlorobutadiene	103

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: CCV

Lab ID#: 1702162-04A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17021602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/16/17 09:49 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	105	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1702162-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/16/17 10:18 AM

Compound	%Recovery	Method Limits
Freon 12	100	70-130
Freon 114	97	70-130
Chloromethane	71	70-130
Vinyl Chloride	124	70-130
Bromomethane	103	70-130
Chloroethane	119	70-130
Freon 11	98	70-130
Freon 113	92	70-130
1,1-Dichloroethene	103	70-130
Methylene Chloride	121	70-130
Methyl tert-butyl ether	108	70-130
1,1-Dichloroethane	120	70-130
cis-1,2-Dichloroethene	104	70-130
Chloroform	114	70-130
1,1,1-Trichloroethane	104	70-130
Carbon Tetrachloride	103	70-130
Benzene	100	70-130
1,2-Dichloroethane	108	70-130
Trichloroethene	112	70-130
1,2-Dichloropropane	120	70-130
cis-1,3-Dichloropropene	124	70-130
Toluene	111	70-130
trans-1,3-Dichloropropene	111	70-130
1,1,2-Trichloroethane	110	70-130
Tetrachloroethene	100	70-130
1,2-Dibromoethane (EDB)	109	70-130
Chlorobenzene	104	70-130
Ethyl Benzene	110	70-130
m,p-Xylene	107	70-130
o-Xylene	111	70-130
Styrene	112	70-130
1,1,2,2-Tetrachloroethane	108	70-130
1,3,5-Trimethylbenzene	106	70-130
1,2,4-Trimethylbenzene	106	70-130
1,3-Dichlorobenzene	104	70-130
1,4-Dichlorobenzene	107	70-130
alpha-Chlorotoluene	115	70-130
1,2-Dichlorobenzene	103	70-130
1,2,4-Trichlorobenzene	105	70-130
Hexachlorobutadiene	105	70-130

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1702162-05A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17021603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/16/17 10:18 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: LCS D

Lab ID#: 1702162-05AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17021604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/16/17 10:46 AM

Compound	%Recovery	Method Limits
Freon 12	97	70-130
Freon 114	95	70-130
Chloromethane	66 Q	70-130
Vinyl Chloride	121	70-130
Bromomethane	101	70-130
Chloroethane	118	70-130
Freon 11	97	70-130
Freon 113	90	70-130
1,1-Dichloroethene	100	70-130
Methylene Chloride	120	70-130
Methyl tert-butyl ether	108	70-130
1,1-Dichloroethane	119	70-130
cis-1,2-Dichloroethene	103	70-130
Chloroform	112	70-130
1,1,1-Trichloroethane	102	70-130
Carbon Tetrachloride	102	70-130
Benzene	99	70-130
1,2-Dichloroethane	108	70-130
Trichloroethene	113	70-130
1,2-Dichloropropane	121	70-130
cis-1,3-Dichloropropene	125	70-130
Toluene	111	70-130
trans-1,3-Dichloropropene	112	70-130
1,1,2-Trichloroethane	108	70-130
Tetrachloroethene	100	70-130
1,2-Dibromoethane (EDB)	109	70-130
Chlorobenzene	104	70-130
Ethyl Benzene	109	70-130
m,p-Xylene	106	70-130
o-Xylene	109	70-130
Styrene	110	70-130
1,1,2,2-Tetrachloroethane	107	70-130
1,3,5-Trimethylbenzene	106	70-130
1,2,4-Trimethylbenzene	108	70-130
1,3-Dichlorobenzene	104	70-130
1,4-Dichlorobenzene	107	70-130
alpha-Chlorotoluene	115	70-130
1,2-Dichlorobenzene	103	70-130
1,2,4-Trichlorobenzene	106	70-130
Hexachlorobutadiene	107	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1702162-05AA

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17021604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/16/17 10:46 AM

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	107	70-130
1,2-Dichloroethane-d4	104	70-130
4-Bromofluorobenzene	99	70-130

**Sample Transportation Notice**

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B  
FOLSOM, CA 95630-4719  
(916) 985-1000 FAX (916) 985-1020

Project Manager Ahina Sathkoti  
 Collected by: (Print and Sign) John Kaelke  
 Company MCK Email \_\_\_\_\_  
 Address 201 Waukesha St, City Madison State WZ Zip 53704  
 Phone \_\_\_\_\_ Fax \_\_\_\_\_

<b>Project Info:</b> P.O. # <u>107418</u> Project # _____ Project Name <u>GETS/SVE</u>	<b>Turn Around Time:</b> <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush specify _____	Lab Use Only Pressurized by: _____ Date: _____ Pressurization Gas: N <sub>2</sub> He
-------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum			
						Initial	Final	Receipt	Final (psi)
01A	Effluent	1L2603	2/8/17	10 <sup>35</sup>	TO-15	-28	-25		
02A	Influent	1L2622	2/8/17	10 <sup>40</sup>	TO-15	-29	-35		

Relinquished by: (signature) <u>[Signature]</u> Date/Time <u>2/8/17 10:00</u>	Received by: (signature) <u>[Signature]</u> Date/Time <u>2/10/17 10:15</u>	Notes:
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	<u>Fed Ex</u>		<u>N/A</u>	<u>good</u>	Yes No <u>None</u>	<u>1702162</u>

3/21/2017

Ms. Alina Satkoski  
Madison-Kipp Corporation  
201 Waubesa Street

Madison WI 53704

Project Name: GETS/SVE

Project #:

Workorder #: 1703233

Dear Ms. Alina Satkoski

The following report includes the data for the above referenced project for sample(s) received on 3/14/2017 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott

Project Manager



**WORK ORDER #: 1703233**

Work Order Summary

<b>CLIENT:</b>	Ms. Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, WI 53704	<b>BILL TO:</b>	Ms. Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, WI 53704
<b>PHONE:</b>	608-244-3511	<b>P.O. #</b>	107418
<b>FAX:</b>		<b>PROJECT #</b>	GETS/SVE
<b>DATE RECEIVED:</b>	03/14/2017	<b>CONTACT:</b>	Ausha Scott
<b>DATE COMPLETED:</b>	03/21/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	Effluent	TO-15	4.3 "Hg	14.7 psi
02A	Influent	TO-15	4.5 "Hg	15.3 psi
03A	Combined Influent	TO-15	7.8 "Hg	15.1 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY:   
 Technical Director

DATE: 03/21/17

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE**  
**EPA Method TO-15**  
**Madison-Kipp Corporation**  
**Workorder# 1703233**

Three 1 Liter Summa Canister samples were received on March 14, 2017. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

Dilution was performed on samples Effluent and Influent due to the presence of high level target species.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: Effluent**

**Lab ID#: 1703233-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.6	3.3	4.0	8.4
cis-1,2-Dichloroethene	1.6	510	6.2	2000
Trichloroethene	1.6	210	8.4	1200
Toluene	1.6	8.8	5.8	33
Tetrachloroethene	1.6	280	10	1900
m,p-Xylene	1.6	4.2	6.8	18

**Client Sample ID: Influent**

**Lab ID#: 1703233-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	6.0	700	24	2800
Trichloroethene	6.0	440	32	2300
Tetrachloroethene	6.0	1400	41	9300

**Client Sample ID: Combined Influent** SVE ONLY INFLUENT SAMPLE - AMS 3/28/17

**Lab ID#: 1703233-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	1.4	1.9	5.4	7.5
Trichloroethene	1.4	1.7	7.4	9.0
Tetrachloroethene	1.4	6.6	9.3	45



Air Toxics

Client Sample ID: Effluent

Lab ID#: 1703233-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3031615	Date of Collection:	3/7/17 9:45:00 AM
Dil. Factor:	3.11	Date of Analysis:	3/16/17 05:16 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	Not Detected	7.7	Not Detected
Freon 114	1.6	Not Detected	11	Not Detected
Chloromethane	16	Not Detected	32	Not Detected
Vinyl Chloride	1.6	3.3	4.0	8.4
Bromomethane	16	Not Detected	60	Not Detected
Chloroethane	6.2	Not Detected	16	Not Detected
Freon 11	1.6	Not Detected	8.7	Not Detected
Freon 113	1.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Methylene Chloride	16	Not Detected	54	Not Detected
Methyl tert-butyl ether	6.2	Not Detected	22	Not Detected
1,1-Dichloroethane	1.6	Not Detected	6.3	Not Detected
cis-1,2-Dichloroethene	1.6	510	6.2	2000
Chloroform	1.6	Not Detected	7.6	Not Detected
1,1,1-Trichloroethane	1.6	Not Detected	8.5	Not Detected
Carbon Tetrachloride	1.6	Not Detected	9.8	Not Detected
Benzene	1.6	Not Detected	5.0	Not Detected
1,2-Dichloroethane	1.6	Not Detected	6.3	Not Detected
Trichloroethene	1.6	210	8.4	1200
1,2-Dichloropropane	1.6	Not Detected	7.2	Not Detected
cis-1,3-Dichloropropene	1.6	Not Detected	7.0	Not Detected
Toluene	1.6	8.8	5.8	33
trans-1,3-Dichloropropene	1.6	Not Detected	7.0	Not Detected
1,1,2-Trichloroethane	1.6	Not Detected	8.5	Not Detected
Tetrachloroethene	1.6	280	10	1900
1,2-Dibromoethane (EDB)	1.6	Not Detected	12	Not Detected
Chlorobenzene	1.6	Not Detected	7.2	Not Detected
Ethyl Benzene	1.6	Not Detected	6.8	Not Detected
m,p-Xylene	1.6	4.2	6.8	18
o-Xylene	1.6	Not Detected	6.8	Not Detected
Styrene	1.6	Not Detected	6.6	Not Detected
1,1,2,2-Tetrachloroethane	1.6	Not Detected	11	Not Detected
1,3,5-Trimethylbenzene	1.6	Not Detected	7.6	Not Detected
1,2,4-Trimethylbenzene	1.6	Not Detected	7.6	Not Detected
1,3-Dichlorobenzene	1.6	Not Detected	9.3	Not Detected
1,4-Dichlorobenzene	1.6	Not Detected	9.3	Not Detected
alpha-Chlorotoluene	1.6	Not Detected	8.0	Not Detected
1,2-Dichlorobenzene	1.6	Not Detected	9.3	Not Detected
1,2,4-Trichlorobenzene	6.2	Not Detected	46	Not Detected
Hexachlorobutadiene	6.2	Not Detected	66	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Effluent

Lab ID#: 1703233-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3031615	Date of Collection: 3/7/17 9:45:00 AM
Dil. Factor:	3.11	Date of Analysis: 3/16/17 05:16 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: Influent

Lab ID#: 1703233-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3031624	Date of Collection:	3/7/17 10:10:00 AM
Dil. Factor:	12.0	Date of Analysis:	3/16/17 10:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	6.0	Not Detected	30	Not Detected
Freon 114	6.0	Not Detected	42	Not Detected
Chloromethane	60	Not Detected	120	Not Detected
Vinyl Chloride	6.0	Not Detected	15	Not Detected
Bromomethane	60	Not Detected	230	Not Detected
Chloroethane	24	Not Detected	63	Not Detected
Freon 11	6.0	Not Detected	34	Not Detected
Freon 113	6.0	Not Detected	46	Not Detected
1,1-Dichloroethene	6.0	Not Detected	24	Not Detected
Methylene Chloride	60	Not Detected	210	Not Detected
Methyl tert-butyl ether	24	Not Detected	86	Not Detected
1,1-Dichloroethane	6.0	Not Detected	24	Not Detected
cis-1,2-Dichloroethene	6.0	700	24	2800
Chloroform	6.0	Not Detected	29	Not Detected
1,1,1-Trichloroethane	6.0	Not Detected	33	Not Detected
Carbon Tetrachloride	6.0	Not Detected	38	Not Detected
Benzene	6.0	Not Detected	19	Not Detected
1,2-Dichloroethane	6.0	Not Detected	24	Not Detected
Trichloroethene	6.0	440	32	2300
1,2-Dichloropropane	6.0	Not Detected	28	Not Detected
cis-1,3-Dichloropropene	6.0	Not Detected	27	Not Detected
Toluene	6.0	Not Detected	23	Not Detected
trans-1,3-Dichloropropene	6.0	Not Detected	27	Not Detected
1,1,2-Trichloroethane	6.0	Not Detected	33	Not Detected
Tetrachloroethene	6.0	1400	41	9300
1,2-Dibromoethane (EDB)	6.0	Not Detected	46	Not Detected
Chlorobenzene	6.0	Not Detected	28	Not Detected
Ethyl Benzene	6.0	Not Detected	26	Not Detected
m,p-Xylene	6.0	Not Detected	26	Not Detected
o-Xylene	6.0	Not Detected	26	Not Detected
Styrene	6.0	Not Detected	26	Not Detected
1,1,2,2-Tetrachloroethane	6.0	Not Detected	41	Not Detected
1,3,5-Trimethylbenzene	6.0	Not Detected	29	Not Detected
1,2,4-Trimethylbenzene	6.0	Not Detected	29	Not Detected
1,3-Dichlorobenzene	6.0	Not Detected	36	Not Detected
1,4-Dichlorobenzene	6.0	Not Detected	36	Not Detected
alpha-Chlorotoluene	6.0	Not Detected	31	Not Detected
1,2-Dichlorobenzene	6.0	Not Detected	36	Not Detected
1,2,4-Trichlorobenzene	24	Not Detected	180	Not Detected
Hexachlorobutadiene	24	Not Detected	260	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Influent

Lab ID#: 1703233-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3031624	Date of Collection: 3/7/17 10:10:00 AM
Dil. Factor:	12.0	Date of Analysis: 3/16/17 10:19 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: Combined Influent SVE ONLY INFLUENT SAMPLE - AMS 3/28/17

Lab ID#: 1703233-03A

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>3031614</b>	<b>Date of Collection:</b>	<b>3/7/17 10:20:00 AM</b>
<b>Dil. Factor:</b>	<b>2.74</b>	<b>Date of Analysis:</b>	<b>3/16/17 04:25 PM</b>

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.4	Not Detected	6.8	Not Detected
Freon 114	1.4	Not Detected	9.6	Not Detected
Chloromethane	14	Not Detected	28	Not Detected
Vinyl Chloride	1.4	Not Detected	3.5	Not Detected
Bromomethane	14	Not Detected	53	Not Detected
Chloroethane	5.5	Not Detected	14	Not Detected
Freon 11	1.4	Not Detected	7.7	Not Detected
Freon 113	1.4	Not Detected	10	Not Detected
1,1-Dichloroethene	1.4	Not Detected	5.4	Not Detected
Methylene Chloride	14	Not Detected	48	Not Detected
Methyl tert-butyl ether	5.5	Not Detected	20	Not Detected
1,1-Dichloroethane	1.4	Not Detected	5.5	Not Detected
cis-1,2-Dichloroethene	1.4	1.9	5.4	7.5
Chloroform	1.4	Not Detected	6.7	Not Detected
1,1,1-Trichloroethane	1.4	Not Detected	7.5	Not Detected
Carbon Tetrachloride	1.4	Not Detected	8.6	Not Detected
Benzene	1.4	Not Detected	4.4	Not Detected
1,2-Dichloroethane	1.4	Not Detected	5.5	Not Detected
Trichloroethene	1.4	1.7	7.4	9.0
1,2-Dichloropropane	1.4	Not Detected	6.3	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.2	Not Detected
Toluene	1.4	Not Detected	5.2	Not Detected
trans-1,3-Dichloropropene	1.4	Not Detected	6.2	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.5	Not Detected
Tetrachloroethene	1.4	6.6	9.3	45
1,2-Dibromoethane (EDB)	1.4	Not Detected	10	Not Detected
Chlorobenzene	1.4	Not Detected	6.3	Not Detected
Ethyl Benzene	1.4	Not Detected	5.9	Not Detected
m,p-Xylene	1.4	Not Detected	5.9	Not Detected
o-Xylene	1.4	Not Detected	5.9	Not Detected
Styrene	1.4	Not Detected	5.8	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.4	Not Detected
1,3,5-Trimethylbenzene	1.4	Not Detected	6.7	Not Detected
1,2,4-Trimethylbenzene	1.4	Not Detected	6.7	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.2	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.2	Not Detected
alpha-Chlorotoluene	1.4	Not Detected	7.1	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.2	Not Detected
1,2,4-Trichlorobenzene	5.5	Not Detected	41	Not Detected
Hexachlorobutadiene	5.5	Not Detected	58	Not Detected

Container Type: 1 Liter Summa Canister





Air Toxics

Client Sample ID: Combined Influent

Lab ID#: 1703233-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3031614	Date of Collection: 3/7/17 10:20:00 AM
Dil. Factor:	2.74	Date of Analysis: 3/16/17 04:25 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1703233-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3031605	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/16/17 10:56 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	2.0	Not Detected	7.2	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1703233-04A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	3031605	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/16/17 10:56 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1703233-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3031602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/16/17 08:32 AM

Compound	%Recovery
Freon 12	103
Freon 114	102
Chloromethane	87
Vinyl Chloride	102
Bromomethane	90
Chloroethane	97
Freon 11	97
Freon 113	99
1,1-Dichloroethene	100
Methylene Chloride	98
Methyl tert-butyl ether	94
1,1-Dichloroethane	101
cis-1,2-Dichloroethene	103
Chloroform	101
1,1,1-Trichloroethane	97
Carbon Tetrachloride	98
Benzene	104
1,2-Dichloroethane	101
Trichloroethene	105
1,2-Dichloropropane	100
cis-1,3-Dichloropropene	100
Toluene	102
trans-1,3-Dichloropropene	97
1,1,2-Trichloroethane	98
Tetrachloroethene	101
1,2-Dibromoethane (EDB)	101
Chlorobenzene	100
Ethyl Benzene	100
m,p-Xylene	99
o-Xylene	98
Styrene	100
1,1,2,2-Tetrachloroethane	97
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	98
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	92
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	97
Hexachlorobutadiene	100

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: CCV

Lab ID#: 1703233-05A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	3031602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/16/17 08:32 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: LCS

Lab ID#: 1703233-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3031603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/16/17 08:56 AM

Compound	%Recovery	Method Limits
Freon 12	102	70-130
Freon 114	103	70-130
Chloromethane	88	70-130
Vinyl Chloride	104	70-130
Bromomethane	90	70-130
Chloroethane	97	70-130
Freon 11	96	70-130
Freon 113	97	70-130
1,1-Dichloroethene	100	70-130
Methylene Chloride	97	70-130
Methyl tert-butyl ether	92	70-130
1,1-Dichloroethane	99	70-130
cis-1,2-Dichloroethene	92	70-130
Chloroform	100	70-130
1,1,1-Trichloroethane	96	70-130
Carbon Tetrachloride	96	70-130
Benzene	101	70-130
1,2-Dichloroethane	98	70-130
Trichloroethene	93	70-130
1,2-Dichloropropane	99	70-130
cis-1,3-Dichloropropene	106	70-130
Toluene	101	70-130
trans-1,3-Dichloropropene	98	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	99	70-130
1,2-Dibromoethane (EDB)	101	70-130
Chlorobenzene	100	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	100	70-130
o-Xylene	100	70-130
Styrene	102	70-130
1,1,2,2-Tetrachloroethane	100	70-130
1,3,5-Trimethylbenzene	100	70-130
1,2,4-Trimethylbenzene	99	70-130
1,3-Dichlorobenzene	98	70-130
1,4-Dichlorobenzene	99	70-130
alpha-Chlorotoluene	95	70-130
1,2-Dichlorobenzene	97	70-130
1,2,4-Trichlorobenzene	95	70-130
Hexachlorobutadiene	98	70-130

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1703233-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3031603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/16/17 08:56 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1703233-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3031604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/16/17 09:20 AM

Compound	%Recovery	Method Limits
Freon 12	99	70-130
Freon 114	101	70-130
Chloromethane	84	70-130
Vinyl Chloride	102	70-130
Bromomethane	86	70-130
Chloroethane	97	70-130
Freon 11	94	70-130
Freon 113	96	70-130
1,1-Dichloroethene	96	70-130
Methylene Chloride	94	70-130
Methyl tert-butyl ether	90	70-130
1,1-Dichloroethane	97	70-130
cis-1,2-Dichloroethene	89	70-130
Chloroform	98	70-130
1,1,1-Trichloroethane	94	70-130
Carbon Tetrachloride	96	70-130
Benzene	101	70-130
1,2-Dichloroethane	98	70-130
Trichloroethene	92	70-130
1,2-Dichloropropane	99	70-130
cis-1,3-Dichloropropene	104	70-130
Toluene	101	70-130
trans-1,3-Dichloropropene	96	70-130
1,1,2-Trichloroethane	98	70-130
Tetrachloroethene	98	70-130
1,2-Dibromoethane (EDB)	98	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	98	70-130
m,p-Xylene	98	70-130
o-Xylene	97	70-130
Styrene	100	70-130
1,1,2,2-Tetrachloroethane	97	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	97	70-130
1,4-Dichlorobenzene	98	70-130
alpha-Chlorotoluene	94	70-130
1,2-Dichlorobenzene	97	70-130
1,2,4-Trichlorobenzene	97	70-130
Hexachlorobutadiene	99	70-130

Container Type: NA - Not Applicable





Air Toxics

Client Sample ID: LCSD

Lab ID#: 1703233-06AA

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	3031604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/16/17 09:20 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

**Sample Transportation Notice**

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B  
FOLSOM, CA 95630-4719  
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Alina Satkoski  
 Collected by: (Print and Sign) John Roelke  
 Company MFC Email \_\_\_\_\_  
 Address 201 Waukena City Madison State WV Zip 26109  
 Phone 6062425200 Fax \_\_\_\_\_

**Project Info:**  
 P.O. # 107418  
 Project # \_\_\_\_\_  
 Project Name GETS/SVE

**Turn Around Time:**  
 Normal  
 Rush  
specify  
 Lab Use Only  
 Pressurized by: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Pressurization Gas: \_\_\_\_\_  
 N<sub>2</sub> He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum			
						Initial	Final	Receipt	Final (psi)
01A	Effluent	122433	3/7/17	9 <sup>45</sup>	TO-15	-26	-35		
02A	Influent	122775	3/7/17	10 <sup>10</sup>	TO-15	-28	-35		
03A	Combined Influent	40860	3/7/17	10 <sup>20</sup>	TO-15	-28	-35		

Relinquished by: (signature) <u>[Signature]</u> Date/Time <u>3/7/17 1400</u>	Received by: (signature) <u>[Signature]</u> Date/Time <u>3/14/17 1345</u>	Notes: <u>Report to Alina Satkoski &amp; Andy Stehn</u>
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	<u>FedEx</u>		<u>NA</u>	<u>Good</u>	Yes No <u>None</u>	<u>1703233</u>

4/24/2017

Ms. Alina Satkoski  
Madison-Kipp Corporation  
201 Waubesa Street

Madison WI 53704

Project Name:  
Project #:  
Workorder #: 1704199

Dear Ms. Alina Satkoski

The following report includes the data for the above referenced project for sample(s) received on 4/12/2017 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott  
Project Manager

**WORK ORDER #: 1704199**

Work Order Summary

<b>CLIENT:</b>	Ms. Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, WI 53704	<b>BILL TO:</b>	Ms. Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, WI 53704
<b>PHONE:</b>	608-244-3511	<b>P.O. #</b>	107418
<b>FAX:</b>		<b>PROJECT #</b>	
<b>DATE RECEIVED:</b>	04/12/2017	<b>CONTACT:</b>	Ausha Scott
<b>DATE COMPLETED:</b>	04/24/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	Influent	TO-15	5.7 "Hg	15.2 psi
02A	Effluent	TO-15	5.3 "Hg	14.9 psi
03A	Lab Blank	TO-15	NA	NA
04A	CCV	TO-15	NA	NA
05A	LCS	TO-15	NA	NA
05AA	LCSD	TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 04/24/17

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE**  
**EPA Method TO-15**  
**Madison-Kipp Corporation**  
**Workorder# 1704199**

Two 1 Liter Summa Canister samples were received on April 12, 2017. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

**Receiving Notes**

The Chain of Custody (COC) information for sample Influent and Effluent did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the samples.

**Analytical Notes**

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

Dilution was performed on sample Influent due to the presence of high level target species.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds  
EPA METHOD TO-15 GC/MS FULL SCAN**

**Client Sample ID: Influent**

**Lab ID#: 1704199-01A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
cis-1,2-Dichloroethene	8.4	680	33	2700
Trichloroethene	8.4	420	45	2300
Tetrachloroethene	8.4	2200	57	15000

**Client Sample ID: Effluent**

**Lab ID#: 1704199-02A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Vinyl Chloride	1.2	2.9	3.1	7.3
cis-1,2-Dichloroethene	1.2	500	4.8	2000
Trichloroethene	1.2	410	6.6	2200
Toluene	1.2	6.6	4.6	25
Tetrachloroethene	1.2	140	8.3	930
m,p-Xylene	1.2	2.2	5.3	9.5



Air Toxics

Client Sample ID: Influent

Lab ID#: 1704199-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3041818	Date of Collection:	4/6/17 7:45:00 AM
Dil. Factor:	16.7	Date of Analysis:	4/18/17 06:41 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	8.4	Not Detected	41	Not Detected
Freon 114	8.4	Not Detected	58	Not Detected
Chloromethane	84	Not Detected UJ	170	Not Detected UJ
Vinyl Chloride	8.4	Not Detected	21	Not Detected
Bromomethane	84	Not Detected	320	Not Detected
Chloroethane	33	Not Detected	88	Not Detected
Freon 11	8.4	Not Detected	47	Not Detected
Freon 113	8.4	Not Detected	64	Not Detected
1,1-Dichloroethene	8.4	Not Detected	33	Not Detected
Methylene Chloride	84	Not Detected UJ	290	Not Detected UJ
Methyl tert-butyl ether	33	Not Detected	120	Not Detected
1,1-Dichloroethane	8.4	Not Detected	34	Not Detected
cis-1,2-Dichloroethene	8.4	680	33	2700
Chloroform	8.4	Not Detected	41	Not Detected
1,1,1-Trichloroethane	8.4	Not Detected	46	Not Detected
Carbon Tetrachloride	8.4	Not Detected	52	Not Detected
Benzene	8.4	Not Detected	27	Not Detected
1,2-Dichloroethane	8.4	Not Detected	34	Not Detected
Trichloroethene	8.4	420	45	2300
1,2-Dichloropropane	8.4	Not Detected	38	Not Detected
cis-1,3-Dichloropropene	8.4	Not Detected	38	Not Detected
Toluene	8.4	Not Detected	31	Not Detected
trans-1,3-Dichloropropene	8.4	Not Detected	38	Not Detected
1,1,2-Trichloroethane	8.4	Not Detected	46	Not Detected
Tetrachloroethene	8.4	2200	57	15000
1,2-Dibromoethane (EDB)	8.4	Not Detected	64	Not Detected
Chlorobenzene	8.4	Not Detected	38	Not Detected
Ethyl Benzene	8.4	Not Detected	36	Not Detected
m,p-Xylene	8.4	Not Detected	36	Not Detected
o-Xylene	8.4	Not Detected	36	Not Detected
Styrene	8.4	Not Detected	36	Not Detected
1,1,2,2-Tetrachloroethane	8.4	Not Detected	57	Not Detected
1,3,5-Trimethylbenzene	8.4	Not Detected	41	Not Detected
1,2,4-Trimethylbenzene	8.4	Not Detected	41	Not Detected
1,3-Dichlorobenzene	8.4	Not Detected	50	Not Detected
1,4-Dichlorobenzene	8.4	Not Detected	50	Not Detected
alpha-Chlorotoluene	8.4	Not Detected	43	Not Detected
1,2-Dichlorobenzene	8.4	Not Detected	50	Not Detected
1,2,4-Trichlorobenzene	33	Not Detected	250	Not Detected
Hexachlorobutadiene	33	Not Detected	360	Not Detected



Air Toxics

Client Sample ID: Influent

Lab ID#: 1704199-01A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	3041818	Date of Collection:	4/6/17 7:45:00 AM
Dil. Factor:	16.7	Date of Analysis:	4/18/17 06:41 PM

UJ = Analyte associated with low bias in the CCV.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	102	70-130





Air Toxics

Client Sample ID: Effluent

Lab ID#: 1704199-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3041817	Date of Collection:	4/6/17 8:00:00 AM
Dil. Factor:	2.44	Date of Analysis:	4/18/17 06:17 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.0	Not Detected
Freon 114	1.2	Not Detected	8.5	Not Detected
Chloromethane	12	Not Detected UJ	25	Not Detected UJ
Vinyl Chloride	1.2	2.9	3.1	7.3
Bromomethane	12	Not Detected	47	Not Detected
Chloroethane	4.9	Not Detected	13	Not Detected
Freon 11	1.2	Not Detected	6.8	Not Detected
Freon 113	1.2	Not Detected	9.4	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.8	Not Detected
Methylene Chloride	12	Not Detected UJ	42	Not Detected UJ
Methyl tert-butyl ether	4.9	Not Detected	18	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
cis-1,2-Dichloroethene	1.2	500	4.8	2000
Chloroform	1.2	Not Detected	6.0	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.7	Not Detected
Benzene	1.2	Not Detected	3.9	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	410	6.6	2200
1,2-Dichloropropane	1.2	Not Detected	5.6	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.5	Not Detected
Toluene	1.2	6.6	4.6	25
trans-1,3-Dichloropropene	1.2	Not Detected	5.5	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	140	8.3	930
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.4	Not Detected
Chlorobenzene	1.2	Not Detected	5.6	Not Detected
Ethyl Benzene	1.2	Not Detected	5.3	Not Detected
m,p-Xylene	1.2	2.2	5.3	9.5
o-Xylene	1.2	Not Detected	5.3	Not Detected
Styrene	1.2	Not Detected	5.2	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.4	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	6.0	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	6.0	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.3	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.3	Not Detected
1,2,4-Trichlorobenzene	4.9	Not Detected	36	Not Detected
Hexachlorobutadiene	4.9	Not Detected	52	Not Detected



Air Toxics

Client Sample ID: Effluent

Lab ID#: 1704199-02A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	3041817	Date of Collection:	4/6/17 8:00:00 AM
Dil. Factor:	2.44	Date of Analysis:	4/18/17 06:17 PM

UJ = Analyte associated with low bias in the CCV.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130
1,2-Dichloroethane-d4	83	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1704199-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3041808	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/18/17 01:32 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected UJ	10	Not Detected UJ
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Methylene Chloride	5.0	Not Detected UJ	17	Not Detected UJ
Methyl tert-butyl ether	2.0	Not Detected	7.2	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1704199-03A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	3041808	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/18/17 01:32 PM

UJ = Analyte associated with low bias in the CCV.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	80	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1704199-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3041807	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/18/17 12:38 PM

Compound	%Recovery
Freon 12	77
Freon 114	83
Chloromethane	68 Q
Vinyl Chloride	76
Bromomethane	86
Chloroethane	79
Freon 11	74
Freon 113	82
1,1-Dichloroethene	80
Methylene Chloride	67 Q
Methyl tert-butyl ether	81
1,1-Dichloroethane	83
cis-1,2-Dichloroethene	96
Chloroform	86
1,1,1-Trichloroethane	85
Carbon Tetrachloride	89
Benzene	87
1,2-Dichloroethane	74
Trichloroethene	92
1,2-Dichloropropane	92
cis-1,3-Dichloropropene	101
Toluene	97
trans-1,3-Dichloropropene	87
1,1,2-Trichloroethane	93
Tetrachloroethene	96
1,2-Dibromoethane (EDB)	93
Chlorobenzene	94
Ethyl Benzene	97
m,p-Xylene	97
o-Xylene	100
Styrene	104
1,1,2,2-Tetrachloroethane	98
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	103
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	108
1,2-Dichlorobenzene	101
1,2,4-Trichlorobenzene	110
Hexachlorobutadiene	106

**Client Sample ID: CCV**

**Lab ID#: 1704199-04A**

**EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>3041807</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 4/18/17 12:38 PM

Q = Exceeds Quality Control limits.

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	81	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: LCS

Lab ID#: 1704199-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3041803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/18/17 10:20 AM

Compound	%Recovery	Method Limits
Freon 12	75	70-130
Freon 114	85	70-130
Chloromethane	54 Q	70-130
Vinyl Chloride	77	70-130
Bromomethane	83	70-130
Chloroethane	79	70-130
Freon 11	75	70-130
Freon 113	79	70-130
1,1-Dichloroethene	78	70-130
Methylene Chloride	68 Q	70-130
Methyl tert-butyl ether	76	70-130
1,1-Dichloroethane	82	70-130
cis-1,2-Dichloroethene	97	70-130
Chloroform	86	70-130
1,1,1-Trichloroethane	82	70-130
Carbon Tetrachloride	87	70-130
Benzene	89	70-130
1,2-Dichloroethane	76	70-130
Trichloroethene	88	70-130
1,2-Dichloropropane	98	70-130
cis-1,3-Dichloropropene	111	70-130
Toluene	102	70-130
trans-1,3-Dichloropropene	90	70-130
1,1,2-Trichloroethane	96	70-130
Tetrachloroethene	97	70-130
1,2-Dibromoethane (EDB)	96	70-130
Chlorobenzene	97	70-130
Ethyl Benzene	101	70-130
m,p-Xylene	101	70-130
o-Xylene	102	70-130
Styrene	108	70-130
1,1,2,2-Tetrachloroethane	98	70-130
1,3,5-Trimethylbenzene	102	70-130
1,2,4-Trimethylbenzene	105	70-130
1,3-Dichlorobenzene	101	70-130
1,4-Dichlorobenzene	103	70-130
alpha-Chlorotoluene	108	70-130
1,2-Dichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	115	70-130
Hexachlorobutadiene	113	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1704199-05A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	3041803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/18/17 10:20 AM

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	107	70-130
1,2-Dichloroethane-d4	80	70-130
4-Bromofluorobenzene	103	70-130



Client Sample ID: LCSD

Lab ID#: 1704199-05AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	3041804	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/18/17 10:44 AM

Compound	%Recovery	Method Limits
Freon 12	76	70-130
Freon 114	85	70-130
Chloromethane	54 Q	70-130
Vinyl Chloride	78	70-130
Bromomethane	81	70-130
Chloroethane	79	70-130
Freon 11	76	70-130
Freon 113	80	70-130
1,1-Dichloroethene	81	70-130
Methylene Chloride	70	70-130
Methyl tert-butyl ether	77	70-130
1,1-Dichloroethane	83	70-130
cis-1,2-Dichloroethene	97	70-130
Chloroform	86	70-130
1,1,1-Trichloroethane	84	70-130
Carbon Tetrachloride	87	70-130
Benzene	88	70-130
1,2-Dichloroethane	76	70-130
Trichloroethene	96	70-130
1,2-Dichloropropane	96	70-130
cis-1,3-Dichloropropene	112	70-130
Toluene	100	70-130
trans-1,3-Dichloropropene	90	70-130
1,1,2-Trichloroethane	96	70-130
Tetrachloroethene	97	70-130
1,2-Dibromoethane (EDB)	97	70-130
Chlorobenzene	96	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	100	70-130
o-Xylene	102	70-130
Styrene	108	70-130
1,1,2,2-Tetrachloroethane	98	70-130
1,3,5-Trimethylbenzene	103	70-130
1,2,4-Trimethylbenzene	105	70-130
1,3-Dichlorobenzene	100	70-130
1,4-Dichlorobenzene	104	70-130
alpha-Chlorotoluene	110	70-130
1,2-Dichlorobenzene	102	70-130
1,2,4-Trichlorobenzene	117	70-130
Hexachlorobutadiene	116	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1704199-05AA

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	3041804	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/18/17 10:44 AM

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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Page 1 of 1

Project Manager Alina Satkoski
Collected by: (Print and Sign) Alina Satkoski
Company MKC
Address 201 Waubesa St city Madison State WI Zip 53704
Phone 608 242 5200 Fax

Project Info: P.O. # 107418
Turn Around Time: [X] Normal [ ] Rush
Lab Use Only: Pressurized by, Date, Pressurization Gas: N2 He

Table with columns: Lab I.D., Field Sample I.D. (Location), Can #, Date of Collection, Time of Collection, Analyses Requested, Canister Pressure/Vacuum (Initial, Final, Receipt, Final (psi)).

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Notes:

Lab Use Only: Shipper Name, Air Bill #, Temp (°C), Condition, Custody Seals Intact?, Work Order #

5/22/2017

Ms. Alina Satkoski  
Madison-Kipp Corporation  
201 Waubesa Street

Madison WI 53704

Project Name: GETS/SVE

Project #:

Workorder #: 1705244

Dear Ms. Alina Satkoski

The following report includes the data for the above referenced project for sample(s) received on 5/11/2017 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott  
Project Manager

**WORK ORDER #: 1705244**

Work Order Summary

<b>CLIENT:</b>	Ms. Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, WI 53704	<b>BILL TO:</b>	Ms. Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, WI 53704
<b>PHONE:</b>	608-244-3511	<b>P.O. #</b>	107418
<b>FAX:</b>		<b>PROJECT #</b>	GETS/SVE
<b>DATE RECEIVED:</b>	05/11/2017	<b>CONTACT:</b>	Ausha Scott
<b>DATE COMPLETED:</b>	05/22/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	Combined Influent	TO-15	6.0 "Hg	15 psi
02A	Combined Effluent	TO-15	5.0 "Hg	15 psi
03A	SVE Influent	TO-15	6.5 "Hg	15 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 05/22/17

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.  
 Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

**LABORATORY NARRATIVE**  
**EPA Method TO-15**  
**Madison-Kipp Corporation**  
**Workorder# 1705244**

Three 1 Liter Summa Canister samples were received on May 11, 2017. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

Dilution was performed on samples Combined Influent and Combined Effluent due to the presence of high level target species.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

**Client Sample ID: Combined Influent**

**Lab ID#: 1705244-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	2.5	260	10	1000
Trichloroethene	2.5	240	14	1300
Toluene	2.5	4.5	9.5	17
Tetrachloroethene	2.5	810	17	5500

**Client Sample ID: Combined Effluent**

**Lab ID#: 1705244-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	2.4	420	9.6	1700
Trichloroethene	2.4	400	13	2100
Toluene	2.4	5.9	9.1	22
Tetrachloroethene	2.4	230	16	1600

**Client Sample ID: SVE Influent**

**Lab ID#: 1705244-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	1.3	7.7	5.1	30
Trichloroethene	1.3	12	6.9	64
Tetrachloroethene	1.3	25	8.8	170



Air Toxics

Client Sample ID: Combined Influent

Lab ID#: 1705244-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051715	Date of Collection:	5/5/17 7:40:00 AM
Dil. Factor:	5.05	Date of Analysis:	5/17/17 06:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	2.5	Not Detected	12	Not Detected
Freon 114	2.5	Not Detected	18	Not Detected
Chloromethane	25	Not Detected	52	Not Detected
Vinyl Chloride	2.5	Not Detected	6.4	Not Detected
Bromomethane	25	Not Detected	98	Not Detected
Chloroethane	10	Not Detected	27	Not Detected
Freon 11	2.5	Not Detected	14	Not Detected
Freon 113	2.5	Not Detected	19	Not Detected
1,1-Dichloroethene	2.5	Not Detected	10	Not Detected
Methylene Chloride	25	Not Detected	88	Not Detected
Methyl tert-butyl ether	10	Not Detected	36	Not Detected
1,1-Dichloroethane	2.5	Not Detected	10	Not Detected
cis-1,2-Dichloroethene	2.5	260	10	1000
Chloroform	2.5	Not Detected	12	Not Detected
1,1,1-Trichloroethane	2.5	Not Detected	14	Not Detected
Carbon Tetrachloride	2.5	Not Detected	16	Not Detected
Benzene	2.5	Not Detected	8.1	Not Detected
1,2-Dichloroethane	2.5	Not Detected	10	Not Detected
Trichloroethene	2.5	240	14	1300
1,2-Dichloropropane	2.5	Not Detected	12	Not Detected
cis-1,3-Dichloropropene	2.5	Not Detected	11	Not Detected
Toluene	2.5	4.5	9.5	17
trans-1,3-Dichloropropene	2.5	Not Detected	11	Not Detected
1,1,2-Trichloroethane	2.5	Not Detected	14	Not Detected
Tetrachloroethene	2.5	810	17	5500
1,2-Dibromoethane (EDB)	2.5	Not Detected	19	Not Detected
Chlorobenzene	2.5	Not Detected	12	Not Detected
Ethyl Benzene	2.5	Not Detected	11	Not Detected
m,p-Xylene	2.5	Not Detected	11	Not Detected
o-Xylene	2.5	Not Detected	11	Not Detected
Styrene	2.5	Not Detected	11	Not Detected
1,1,2,2-Tetrachloroethane	2.5	Not Detected	17	Not Detected
1,3,5-Trimethylbenzene	2.5	Not Detected	12	Not Detected
1,2,4-Trimethylbenzene	2.5	Not Detected	12	Not Detected
1,3-Dichlorobenzene	2.5	Not Detected	15	Not Detected
1,4-Dichlorobenzene	2.5	Not Detected	15	Not Detected
alpha-Chlorotoluene	2.5	Not Detected	13	Not Detected
1,2-Dichlorobenzene	2.5	Not Detected	15	Not Detected
1,2,4-Trichlorobenzene	10	Not Detected	75	Not Detected
Hexachlorobutadiene	10	Not Detected	110	Not Detected

Container Type: 1 Liter Summa Canister





Air Toxics

Client Sample ID: Combined Influent

Lab ID#: 1705244-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051715	Date of Collection: 5/5/17 7:40:00 AM
Dil. Factor:	5.05	Date of Analysis: 5/17/17 06:00 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: Combined Effluent

Lab ID#: 1705244-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051716	Date of Collection:	5/5/17 7:35:00 AM
Dil. Factor:	4.85	Date of Analysis:	5/17/17 06:27 PM

Compound	Rot. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	2.4	Not Detected	12	Not Detected
Freon 114	2.4	Not Detected	17	Not Detected
Chloromethane	24	Not Detected	50	Not Detected
Vinyl Chloride	2.4	Not Detected	6.2	Not Detected
Bromomethane	24	Not Detected	94	Not Detected
Chloroethane	9.7	Not Detected	26	Not Detected
Freon 11	2.4	Not Detected	14	Not Detected
Freon 113	2.4	Not Detected	18	Not Detected
1,1-Dichloroethene	2.4	Not Detected	9.6	Not Detected
Methylene Chloride	24	Not Detected	84	Not Detected
Methyl tert-butyl ether	9.7	Not Detected	35	Not Detected
1,1-Dichloroethane	2.4	Not Detected	9.8	Not Detected
cis-1,2-Dichloroethene	2.4	420	9.6	1700
Chloroform	2.4	Not Detected	12	Not Detected
1,1,1-Trichloroethane	2.4	Not Detected	13	Not Detected
Carbon Tetrachloride	2.4	Not Detected	15	Not Detected
Benzene	2.4	Not Detected	7.7	Not Detected
1,2-Dichloroethane	2.4	Not Detected	9.8	Not Detected
Trichloroethene	2.4	400	13	2100
1,2-Dichloropropane	2.4	Not Detected	11	Not Detected
cis-1,3-Dichloropropene	2.4	Not Detected	11	Not Detected
Toluene	2.4	5.9	9.1	22
trans-1,3-Dichloropropene	2.4	Not Detected	11	Not Detected
1,1,2-Trichloroethane	2.4	Not Detected	13	Not Detected
Tetrachloroethene	2.4	230	16	1600
1,2-Dibromoethane (EDB)	2.4	Not Detected	19	Not Detected
Chlorobenzene	2.4	Not Detected	11	Not Detected
Ethyl Benzene	2.4	Not Detected	10	Not Detected
m,p-Xylene	2.4	Not Detected	10	Not Detected
o-Xylene	2.4	Not Detected	10	Not Detected
Styrene	2.4	Not Detected	10	Not Detected
1,1,2,2-Tetrachloroethane	2.4	Not Detected	17	Not Detected
1,3,5-Trimethylbenzene	2.4	Not Detected	12	Not Detected
1,2,4-Trimethylbenzene	2.4	Not Detected	12	Not Detected
1,3-Dichlorobenzene	2.4	Not Detected	14	Not Detected
1,4-Dichlorobenzene	2.4	Not Detected	14	Not Detected
alpha-Chlorotoluene	2.4	Not Detected	12	Not Detected
1,2-Dichlorobenzene	2.4	Not Detected	14	Not Detected
1,2,4-Trichlorobenzene	9.7	Not Detected	72	Not Detected
Hexachlorobutadiene	9.7	Not Detected	100	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Combined Effluent

Lab ID#: 1705244-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051716	Date of Collection: 5/5/17 7:35:00 AM
Dil. Factor:	4.85	Date of Analysis: 5/17/17 06:27 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: SVE Influent

Lab ID#: 1705244-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051717	Date of Collection:	5/5/17
Dil. Factor:	2.58	Date of Analysis:	5/17/17 06:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.4	Not Detected
Freon 114	1.3	Not Detected	9.0	Not Detected
Chloromethane	13	Not Detected	27	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
Bromomethane	13	Not Detected	50	Not Detected
Chloroethane	5.2	Not Detected	14	Not Detected
Freon 11	1.3	Not Detected	7.2	Not Detected
Freon 113	1.3	Not Detected	9.9	Not Detected
1,1-Dichloroethene	1.3	Not Detected	5.1	Not Detected
Methylene Chloride	13	Not Detected	45	Not Detected
Methyl tert-butyl ether	5.2	Not Detected	19	Not Detected
1,1-Dichloroethane	1.3	Not Detected	5.2	Not Detected
cis-1,2-Dichloroethene	1.3	7.7	5.1	30
Chloroform	1.3	Not Detected	6.3	Not Detected
1,1,1-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.1	Not Detected
Benzene	1.3	Not Detected	4.1	Not Detected
1,2-Dichloroethane	1.3	Not Detected	5.2	Not Detected
Trichloroethene	1.3	12	6.9	64
1,2-Dichloropropane	1.3	Not Detected	6.0	Not Detected
cis-1,3-Dichloropropene	1.3	Not Detected	5.8	Not Detected
Toluene	1.3	Not Detected	4.9	Not Detected
trans-1,3-Dichloropropene	1.3	Not Detected	5.8	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Tetrachloroethene	1.3	25	8.8	170
1,2-Dibromoethane (EDB)	1.3	Not Detected	9.9	Not Detected
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
Ethyl Benzene	1.3	Not Detected	5.6	Not Detected
m,p-Xylene	1.3	Not Detected	5.6	Not Detected
o-Xylene	1.3	Not Detected	5.6	Not Detected
Styrene	1.3	Not Detected	5.5	Not Detected
1,1,2,2-Tetrachloroethane	1.3	Not Detected	8.8	Not Detected
1,3,5-Trimethylbenzene	1.3	Not Detected	6.3	Not Detected
1,2,4-Trimethylbenzene	1.3	Not Detected	6.3	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
alpha-Chlorotoluene	1.3	Not Detected	6.7	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2,4-Trichlorobenzene	5.2	Not Detected	38	Not Detected
Hexachlorobutadiene	5.2	Not Detected	55	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: SVE Influent

Lab ID#: 1705244-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051717	Date of Collection:	5/5/17
Dil. Factor:	2.58	Date of Analysis:	5/17/17 06:55 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1705244-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051706	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/17/17 12:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	2.0	Not Detected	7.2	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1705244-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051706	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/17/17 12:22 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1705244-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/17/17 10:19 AM

Compound	%Recovery
Freon 12	90
Freon 114	88
Chloromethane	101
Vinyl Chloride	89
Bromomethane	91
Chloroethane	95
Freon 11	90
Freon 113	91
1,1-Dichloroethene	84
Methylene Chloride	92
Methyl tert-butyl ether	96
1,1-Dichloroethane	91
cis-1,2-Dichloroethene	94
Chloroform	92
1,1,1-Trichloroethane	91
Carbon Tetrachloride	92
Benzene	97
1,2-Dichloroethane	93
Trichloroethene	90
1,2-Dichloropropane	92
cis-1,3-Dichloropropene	93
Toluene	96
trans-1,3-Dichloropropene	95
1,1,2-Trichloroethane	94
Tetrachloroethene	96
1,2-Dibromoethane (EDB)	96
Chlorobenzene	95
Ethyl Benzene	104
m,p-Xylene	107
o-Xylene	104
Styrene	110
1,1,2,2-Tetrachloroethane	92
1,3,5-Trimethylbenzene	113
1,2,4-Trimethylbenzene	108
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	99
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	101

Container Type: NA - Not Applicable





Air Toxics

Client Sample ID: CCV

Lab ID#: 1705244-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/17/17 10:19 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: LCS

Lab ID#: 1705244-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/17/17 10:46 AM

Compound	%Recovery	Method Limits
Freon 12	90	70-130
Freon 114	91	70-130
Chloromethane	103	70-130
Vinyl Chloride	94	70-130
Bromomethane	95	70-130
Chloroethane	95	70-130
Freon 11	90	70-130
Freon 113	92	70-130
1,1-Dichloroethene	85	70-130
Methylene Chloride	87	70-130
Methyl tert-butyl ether	94	70-130
1,1-Dichloroethane	85	70-130
cis-1,2-Dichloroethene	82	70-130
Chloroform	87	70-130
1,1,1-Trichloroethane	92	70-130
Carbon Tetrachloride	92	70-130
Benzene	92	70-130
1,2-Dichloroethane	86	70-130
Trichloroethene	88	70-130
1,2-Dichloropropane	90	70-130
cis-1,3-Dichloropropene	98	70-130
Toluene	95	70-130
trans-1,3-Dichloropropene	94	70-130
1,1,2-Trichloroethane	94	70-130
Tetrachloroethene	96	70-130
1,2-Dibromoethane (EDB)	95	70-130
Chlorobenzene	96	70-130
Ethyl Benzene	109	70-130
m,p-Xylene	111	70-130
o-Xylene	112	70-130
Styrene	115	70-130
1,1,2,2-Tetrachloroethane	94	70-130
1,3,5-Trimethylbenzene	122	70-130
1,2,4-Trimethylbenzene	117	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	107	70-130
alpha-Chlorotoluene	108	70-130
1,2-Dichlorobenzene	103	70-130
1,2,4-Trichlorobenzene	93	70-130
Hexachlorobutadiene	92	70-130

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1705244-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/17/17 10:46 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	103	70-130

Client Sample ID: LCSD

Lab ID#: 1705244-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/17/17 11:13 AM

Compound	%Recovery	Method Limits
Freon 12	89	70-130
Freon 114	90	70-130
Chloromethane	105	70-130
Vinyl Chloride	94	70-130
Bromomethane	96	70-130
Chloroethane	95	70-130
Freon 11	90	70-130
Freon 113	90	70-130
1,1-Dichloroethene	86	70-130
Methylene Chloride	88	70-130
Methyl tert-butyl ether	96	70-130
1,1-Dichloroethane	86	70-130
cis-1,2-Dichloroethene	82	70-130
Chloroform	89	70-130
1,1,1-Trichloroethane	92	70-130
Carbon Tetrachloride	93	70-130
Benzene	93	70-130
1,2-Dichloroethane	87	70-130
Trichloroethene	90	70-130
1,2-Dichloropropane	90	70-130
cis-1,3-Dichloropropene	100	70-130
Toluene	96	70-130
trans-1,3-Dichloropropene	95	70-130
1,1,2-Trichloroethane	94	70-130
Tetrachloroethene	96	70-130
1,2-Dibromoethane (EDB)	96	70-130
Chlorobenzene	96	70-130
Ethyl Benzene	107	70-130
m,p-Xylene	110	70-130
o-Xylene	110	70-130
Styrene	114	70-130
1,1,2,2-Tetrachloroethane	94	70-130
1,3,5-Trimethylbenzene	121	70-130
1,2,4-Trimethylbenzene	118	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	107	70-130
alpha-Chlorotoluene	108	70-130
1,2-Dichlorobenzene	103	70-130
1,2,4-Trichlorobenzene	104	70-130
Hexachlorobutadiene	101	70-130

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1705244-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17051704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/17/17 11:13 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Sample Transportation Notice

Requiring signature on this document indicates that sample is being shipped in compliance with applicable local, state, federal, and international laws, regulations and ordinances of any kind. Air toxics limited assumes no liability with respect to the collection, handling or shipping of these samples. Manufacturing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action of any kind, related to the collection, handling, or shipping of samples. O.D.T. Hotline (800) 467-6922

180 BLUE RAVINE ROAD, SUITE B  
FOLSOM, CA 95630-4719  
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Aime Satkoski

Collected by: (print and sign) Aime Satkoski

Company MDC Email \_\_\_\_\_

Address 201 WASHINGTON AVE SUITE 200 state VT zip 553704

Phone 802-242-5200 Fax \_\_\_\_\_

Project Info:

P.O. # 107418

Project # \_\_\_\_\_

Project Name GETS/WE

Turn Around Time:

Normal

Rush

Presubmitted by: \_\_\_\_\_ Date: \_\_\_\_\_

Pressurization Gas: \_\_\_\_\_

Species: \_\_\_\_\_

Canister Pressure/Vacuum

Initial \_\_\_\_\_ Final \_\_\_\_\_

Receipt \_\_\_\_\_ Final \_\_\_\_\_

Field ID	Field Sample ID (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Initial	Final	Receipt	Final
	Combined Influent	112451	5/5/17	7:40	TD-15	-28	-7		
	Combined Effluent	11995	5/5/17	7:35	TD-15	-25	-6.5		
	SVE Influent	11568	5/5/17		TD-15	-25	-7		
Relinquished by: (signature) _____ Date/Time _____ Received by: (signature) _____ Date/Time _____ Heliinquished by: (signature) _____ Date/Time _____ Received by: (signature) _____ Date/Time _____ Picked up by: (signature) _____ Date/Time _____ Received by: (signature) _____ Date/Time _____									
Notes: _____									
Lab Shipper Name: _____ All Bill #: _____ Temp (C): _____ Condition: _____ Custody Seals Intact? _____ Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> None <input type="checkbox"/> Work Order #: _____ Use Only: <u>VPS</u> <u>NA</u> <u>Good</u> <u>Yes</u> <u>No</u> <u>None</u> <u>1705244</u>									

6/26/2017

Ms. Alina Satkoski  
Madison-Kipp Corporation  
201 Waubesa Street

Madison WI 53704

Project Name: GETS/ SVE

Project #:

Workorder #: 1706276

Dear Ms. Alina Satkoski

The following report includes the data for the above referenced project for sample(s) received on 6/14/2017 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott

Project Manager

**WORK ORDER #: 1706276**

Work Order Summary

<b>CLIENT:</b>	Ms. Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, WI 53704	<b>BILL TO:</b>	Ms. Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, WI 53704
<b>PHONE:</b>	608-244-3511	<b>P.O. #</b>	107418
<b>FAX:</b>		<b>PROJECT #</b>	GETS/ SVE
<b>DATE RECEIVED:</b>	06/14/2017	<b>CONTACT:</b>	Ausha Scott
<b>DATE COMPLETED:</b>	06/26/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	Influent	TO-15	6.5 "Hg	15 psi
02A	Effluent	TO-15	11.5 "Hg	15 psi
03A	Lab Blank	TO-15	NA	NA
03B	Lab Blank	TO-15	NA	NA
04A	CCV	TO-15	NA	NA
04B	CCV	TO-15	NA	NA
05A	LCS	TO-15	NA	NA
05AA	LCSD	TO-15	NA	NA
05B	LCS	TO-15	NA	NA
05BB	LCSD	TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 06/26/17

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards



**LABORATORY NARRATIVE**  
**EPA Method TO-15**  
**Madison-Kipp Corporation**  
**Workorder# 1706276**

Two 1 Liter Summa Canister samples were received on June 14, 2017. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

Dilution was performed on sample Influent due to the presence of high level target species.

**Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds  
EPA METHOD TO-15 GC/MS FULL SCAN**

**Client Sample ID: Influent**

**Lab ID#: 1706276-01A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
cis-1,2-Dichloroethene	13	610	51	2400
Trichloroethene	13	520	69	2800
Tetrachloroethene	13	2500	88	17000

**Client Sample ID: Effluent**

**Lab ID#: 1706276-02A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Vinyl Chloride	1.6	3.0	4.2	7.6
cis-1,2-Dichloroethene	1.6	240	6.5	960
Trichloroethene	1.6	200	8.8	1100
Tetrachloroethene	1.6	240	11	1600



Air Toxics

Client Sample ID: Influent

Lab ID#: 1706276-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061609	Date of Collection:	6/7/17 12:45:00 PM
Dil. Factor:	25.8	Date of Analysis:	6/16/17 09:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	13	Not Detected	64	Not Detected
Freon 114	13	Not Detected	90	Not Detected
Chloromethane	130	Not Detected	270	Not Detected
Vinyl Chloride	13	Not Detected	33	Not Detected
Bromomethane	130	Not Detected	500	Not Detected
Chloroethane	52	Not Detected	140	Not Detected
Freon 11	13	Not Detected	72	Not Detected
Freon 113	13	Not Detected	99	Not Detected
1,1-Dichloroethene	13	Not Detected	51	Not Detected
Methylene Chloride	130	Not Detected	450	Not Detected
Methyl tert-butyl ether	52	Not Detected	190	Not Detected
1,1-Dichloroethane	13	Not Detected	52	Not Detected
cis-1,2-Dichloroethene	13	610	51	2400
Chloroform	13	Not Detected	63	Not Detected
1,1,1-Trichloroethane	13	Not Detected	70	Not Detected
Carbon Tetrachloride	13	Not Detected	81	Not Detected
Benzene	13	Not Detected	41	Not Detected
1,2-Dichloroethane	13	Not Detected	52	Not Detected
Trichloroethene	13	520	69	2800
1,2-Dichloropropane	13	Not Detected	60	Not Detected
cis-1,3-Dichloropropene	13	Not Detected	58	Not Detected
Toluene	13	Not Detected	49	Not Detected
trans-1,3-Dichloropropene	13	Not Detected	58	Not Detected
1,1,2-Trichloroethane	13	Not Detected	70	Not Detected
Tetrachloroethene	13	2500	88	17000
1,2-Dibromoethane (EDB)	13	Not Detected	99	Not Detected
Chlorobenzene	13	Not Detected	59	Not Detected
Ethyl Benzene	13	Not Detected	56	Not Detected
m,p-Xylene	13	Not Detected	56	Not Detected
o-Xylene	13	Not Detected	56	Not Detected
Styrene	13	Not Detected	55	Not Detected
1,1,2,2-Tetrachloroethane	13	Not Detected	88	Not Detected
1,3,5-Trimethylbenzene	13	Not Detected	63	Not Detected
1,2,4-Trimethylbenzene	13	Not Detected	63	Not Detected
1,3-Dichlorobenzene	13	Not Detected	78	Not Detected
1,4-Dichlorobenzene	13	Not Detected	78	Not Detected
alpha-Chlorotoluene	13	Not Detected	67	Not Detected
1,2-Dichlorobenzene	13	Not Detected	78	Not Detected
1,2,4-Trichlorobenzene	52	Not Detected	380	Not Detected
Hexachlorobutadiene	52	Not Detected	550	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Influent

Lab ID#: 1706276-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061609	Date of Collection: 6/7/17 12:45:00 PM
Dil. Factor:	25.8	Date of Analysis: 6/16/17 09:19 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: Effluent

Lab ID#: 1706276-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061530	Date of Collection:	6/7/17 12:50:00 PM
Dil. Factor:	3.28	Date of Analysis:	6/16/17 04:59 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.6	Not Detected	8.1	Not Detected
Freon 114	1.6	Not Detected	11	Not Detected
Chloromethane	16	Not Detected	34	Not Detected
Vinyl Chloride	1.6	3.0	4.2	7.6
Bromomethane	16	Not Detected	64	Not Detected
Chloroethane	6.6	Not Detected	17	Not Detected
Freon 11	1.6	Not Detected	9.2	Not Detected
Freon 113	1.6	Not Detected	12	Not Detected
1,1-Dichloroethene	1.6	Not Detected	6.5	Not Detected
Methylene Chloride	16	Not Detected	57	Not Detected
Methyl tert-butyl ether	6.6	Not Detected	24	Not Detected
1,1-Dichloroethane	1.6	Not Detected	6.6	Not Detected
cis-1,2-Dichloroethene	1.6	240	6.5	960
Chloroform	1.6	Not Detected	8.0	Not Detected
1,1,1-Trichloroethane	1.6	Not Detected	8.9	Not Detected
Carbon Tetrachloride	1.6	Not Detected	10	Not Detected
Benzene	1.6	Not Detected	5.2	Not Detected
1,2-Dichloroethane	1.6	Not Detected	6.6	Not Detected
Trichloroethene	1.6	200	8.8	1100
1,2-Dichloropropane	1.6	Not Detected	7.6	Not Detected
cis-1,3-Dichloropropene	1.6	Not Detected	7.4	Not Detected
Toluene	1.6	Not Detected	6.2	Not Detected
trans-1,3-Dichloropropene	1.6	Not Detected	7.4	Not Detected
1,1,2-Trichloroethane	1.6	Not Detected	8.9	Not Detected
Tetrachloroethene	1.6	240	11	1600
1,2-Dibromoethane (EDB)	1.6	Not Detected	13	Not Detected
Chlorobenzene	1.6	Not Detected	7.6	Not Detected
Ethyl Benzene	1.6	Not Detected	7.1	Not Detected
m,p-Xylene	1.6	Not Detected	7.1	Not Detected
o-Xylene	1.6	Not Detected	7.1	Not Detected
Styrene	1.6	Not Detected	7.0	Not Detected
1,1,2,2-Tetrachloroethane	1.6	Not Detected	11	Not Detected
1,3,5-Trimethylbenzene	1.6	Not Detected	8.1	Not Detected
1,2,4-Trimethylbenzene	1.6	Not Detected	8.1	Not Detected
1,3-Dichlorobenzene	1.6	Not Detected	9.9	Not Detected
1,4-Dichlorobenzene	1.6	Not Detected	9.9	Not Detected
alpha-Chlorotoluene	1.6	Not Detected	8.5	Not Detected
1,2-Dichlorobenzene	1.6	Not Detected	9.9	Not Detected
1,2,4-Trichlorobenzene	6.6	Not Detected	49	Not Detected
Hexachlorobutadiene	6.6	Not Detected	70	Not Detected

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Effluent

Lab ID#: 1706276-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061530	Date of Collection: 6/7/17 12:50:00 PM
Dil. Factor:	3.28	Date of Analysis: 6/16/17 04:59 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1706276-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061508	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/15/17 02:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	2.0	Not Detected	7.2	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1706276-03A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17061508	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/15/17 02:09 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	100	70-130





Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1706276-03B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061607	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/16/17 07:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	2.0	Not Detected	7.2	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1706276-03B

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17061607	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 07:20 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	87	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1706276-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/15/17 10:15 AM

Compound	%Recovery
Freon 12	90
Freon 114	100
Chloromethane	81
Vinyl Chloride	99
Bromomethane	98
Chloroethane	100
Freon 11	97
Freon 113	99
1,1-Dichloroethene	95
Methylene Chloride	94
Methyl tert-butyl ether	92
1,1-Dichloroethane	95
cis-1,2-Dichloroethene	95
Chloroform	99
1,1,1-Trichloroethane	97
Carbon Tetrachloride	97
Benzene	100
1,2-Dichloroethane	96
Trichloroethene	103
1,2-Dichloropropane	99
cis-1,3-Dichloropropene	103
Toluene	104
trans-1,3-Dichloropropene	98
1,1,2-Trichloroethane	103
Tetrachloroethene	102
1,2-Dibromoethane (EDB)	103
Chlorobenzene	100
Ethyl Benzene	99
m,p-Xylene	98
o-Xylene	98
Styrene	96
1,1,2,2-Tetrachloroethane	99
1,3,5-Trimethylbenzene	97
1,2,4-Trimethylbenzene	97
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	98
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	105
Hexachlorobutadiene	103

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: CCV

Lab ID#: 1706276-04A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17061502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/15/17 10:15 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1706276-04B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 04:29 PM

Compound	%Recovery
Freon 12	92
Freon 114	94
Chloromethane	100
Vinyl Chloride	94
Bromomethane	93
Chloroethane	94
Freon 11	92
Freon 113	93
1,1-Dichloroethene	89
Methylene Chloride	88
Methyl tert-butyl ether	88
1,1-Dichloroethane	90
cis-1,2-Dichloroethene	90
Chloroform	93
1,1,1-Trichloroethane	92
Carbon Tetrachloride	93
Benzene	94
1,2-Dichloroethane	90
Trichloroethene	97
1,2-Dichloropropane	94
cis-1,3-Dichloropropene	97
Toluene	98
trans-1,3-Dichloropropene	92
1,1,2-Trichloroethane	97
Tetrachloroethene	96
1,2-Dibromoethane (EDB)	96
Chlorobenzene	95
Ethyl Benzene	94
m,p-Xylene	94
o-Xylene	92
Styrene	92
1,1,2,2-Tetrachloroethane	96
1,3,5-Trimethylbenzene	92
1,2,4-Trimethylbenzene	93
1,3-Dichlorobenzene	94
1,4-Dichlorobenzene	93
alpha-Chlorotoluene	92
1,2-Dichlorobenzene	93
1,2,4-Trichlorobenzene	96
Hexachlorobutadiene	94

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: CCV

Lab ID#: 1706276-04B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 04:29 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1706276-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/15/17 10:41 AM

Compound	%Recovery	Method Limits
Freon 12	95	70-130
Freon 114	100	70-130
Chloromethane	103	70-130
Vinyl Chloride	100	70-130
Bromomethane	99	70-130
Chloroethane	99	70-130
Freon 11	95	70-130
Freon 113	96	70-130
1,1-Dichloroethene	92	70-130
Methylene Chloride	90	70-130
Methyl tert-butyl ether	90	70-130
1,1-Dichloroethane	92	70-130
cis-1,2-Dichloroethene	86	70-130
Chloroform	95	70-130
1,1,1-Trichloroethane	94	70-130
Carbon Tetrachloride	94	70-130
Benzene	97	70-130
1,2-Dichloroethane	91	70-130
Trichloroethene	102	70-130
1,2-Dichloropropane	96	70-130
cis-1,3-Dichloropropene	106	70-130
Toluene	100	70-130
trans-1,3-Dichloropropene	95	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	98	70-130
1,2-Dibromoethane (EDB)	99	70-130
Chlorobenzene	97	70-130
Ethyl Benzene	96	70-130
m,p-Xylene	96	70-130
o-Xylene	96	70-130
Styrene	92	70-130
1,1,2,2-Tetrachloroethane	98	70-130
1,3,5-Trimethylbenzene	95	70-130
1,2,4-Trimethylbenzene	95	70-130
1,3-Dichlorobenzene	95	70-130
1,4-Dichlorobenzene	98	70-130
alpha-Chlorotoluene	96	70-130
1,2-Dichlorobenzene	94	70-130
1,2,4-Trichlorobenzene	104	70-130
Hexachlorobutadiene	103	70-130

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1706276-05A

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17061503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/15/17 10:41 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	97	70-130



Client Sample ID: LCSD

Lab ID#: 1706276-05AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/15/17 11:08 AM

Compound	%Recovery	Method Limits
Freon 12	92	70-130
Freon 114	98	70-130
Chloromethane	97	70-130
Vinyl Chloride	98	70-130
Bromomethane	97	70-130
Chloroethane	98	70-130
Freon 11	94	70-130
Freon 113	93	70-130
1,1-Dichloroethene	91	70-130
Methylene Chloride	89	70-130
Methyl tert-butyl ether	88	70-130
1,1-Dichloroethane	90	70-130
cis-1,2-Dichloroethene	85	70-130
Chloroform	93	70-130
1,1,1-Trichloroethane	92	70-130
Carbon Tetrachloride	92	70-130
Benzene	96	70-130
1,2-Dichloroethane	90	70-130
Trichloroethene	101	70-130
1,2-Dichloropropane	98	70-130
cis-1,3-Dichloropropene	106	70-130
Toluene	100	70-130
trans-1,3-Dichloropropene	95	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	97	70-130
1,2-Dibromoethane (EDB)	99	70-130
Chlorobenzene	97	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	96	70-130
o-Xylene	94	70-130
Styrene	91	70-130
1,1,2,2-Tetrachloroethane	96	70-130
1,3,5-Trimethylbenzene	95	70-130
1,2,4-Trimethylbenzene	95	70-130
1,3-Dichlorobenzene	95	70-130
1,4-Dichlorobenzene	97	70-130
alpha-Chlorotoluene	96	70-130
1,2-Dichlorobenzene	95	70-130
1,2,4-Trichlorobenzene	104	70-130
Hexachlorobutadiene	104	70-130

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1706276-05AA

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17061504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/15/17 11:08 AM

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: LCS

Lab ID#: 1706276-05B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 04:55 PM

Compound	%Recovery	Method Limits
Freon 12	92	70-130
Freon 114	97	70-130
Chloromethane	99	70-130
Vinyl Chloride	97	70-130
Bromomethane	96	70-130
Chloroethane	98	70-130
Freon 11	92	70-130
Freon 113	92	70-130
1,1-Dichloroethene	90	70-130
Methylene Chloride	89	70-130
Methyl tert-butyl ether	87	70-130
1,1-Dichloroethane	89	70-130
cis-1,2-Dichloroethene	84	70-130
Chloroform	93	70-130
1,1,1-Trichloroethane	91	70-130
Carbon Tetrachloride	92	70-130
Benzene	96	70-130
1,2-Dichloroethane	90	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	97	70-130
cis-1,3-Dichloropropene	106	70-130
Toluene	100	70-130
trans-1,3-Dichloropropene	95	70-130
1,1,2-Trichloroethane	98	70-130
Tetrachloroethene	97	70-130
1,2-Dibromoethane (EDB)	98	70-130
Chlorobenzene	97	70-130
Ethyl Benzene	95	70-130
m,p-Xylene	94	70-130
o-Xylene	93	70-130
Styrene	91	70-130
1,1,2,2-Tetrachloroethane	96	70-130
1,3,5-Trimethylbenzene	93	70-130
1,2,4-Trimethylbenzene	94	70-130
1,3-Dichlorobenzene	95	70-130
1,4-Dichlorobenzene	96	70-130
alpha-Chlorotoluene	96	70-130
1,2-Dichlorobenzene	94	70-130
1,2,4-Trichlorobenzene	95	70-130
Hexachlorobutadiene	94	70-130

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1706276-05B

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17061603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 04:55 PM

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	90	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1706276-05BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17061604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 05:22 PM

Compound	%Recovery	Method Limits
Freon 12	95	70-130
Freon 114	100	70-130
Chloromethane	99	70-130
Vinyl Chloride	100	70-130
Bromomethane	98	70-130
Chloroethane	101	70-130
Freon 11	96	70-130
Freon 113	95	70-130
1,1-Dichloroethene	91	70-130
Methylene Chloride	90	70-130
Methyl tert-butyl ether	90	70-130
1,1-Dichloroethane	91	70-130
cis-1,2-Dichloroethene	85	70-130
Chloroform	95	70-130
1,1,1-Trichloroethane	94	70-130
Carbon Tetrachloride	94	70-130
Benzene	98	70-130
1,2-Dichloroethane	93	70-130
Trichloroethene	102	70-130
1,2-Dichloropropane	99	70-130
cis-1,3-Dichloropropene	107	70-130
Toluene	101	70-130
trans-1,3-Dichloropropene	96	70-130
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	98	70-130
1,2-Dibromoethane (EDB)	99	70-130
Chlorobenzene	97	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	95	70-130
o-Xylene	94	70-130
Styrene	92	70-130
1,1,2,2-Tetrachloroethane	97	70-130
1,3,5-Trimethylbenzene	94	70-130
1,2,4-Trimethylbenzene	95	70-130
1,3-Dichlorobenzene	97	70-130
1,4-Dichlorobenzene	97	70-130
alpha-Chlorotoluene	97	70-130
1,2-Dichlorobenzene	97	70-130
1,2,4-Trichlorobenzene	103	70-130
Hexachlorobutadiene	102	70-130

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1706276-05BB

**EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	17061604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 05:22 PM

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	101	70-130



**Sample Transportation Notice**

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B  
FOLSOM, CA 95630-4719  
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Alina Satkoski  
 Collected by: (Print and Sign) Alina Satkoski Alina Datkoski  
 Company MKC Email asa@koski@madison-wi.com  
 Address 201 Wauwesa City Madison State WI Zip 53704  
 Phone 608 242 5200 Fax \_\_\_\_\_

<b>Project Info:</b> P.O. # <u>107418</u> P.P. COM Project # _____ Project Name <u>GRADUVE</u>	<b>Turn Around Time:</b> <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush <small>specify</small>	<small>Lab Use Only</small> Pressurized by: _____ Date: _____ Pressurization Gas: _____ N <sub>2</sub> He
------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum			
						Initial	Final	Receipt	Final (psi)
<u>01A</u>	<u>Influent</u>	<u>3204</u>	<u>6/7/17</u>	<u>1245</u>	<u>TO-15</u>	<u>-27</u>	<u>-6</u>		
<u>02A</u>	<u>Effluent</u>	<u>3853</u>	<u>6/7/17</u>	<u>1250</u>	<u>TO-15</u>	<u>-23</u>	<u>-4</u>		

Relinquished by: (signature) <u>Alina Datkoski</u> Date/Time <u>6/7/17 11:00</u>	Received by: (signature) <u>Christina Augustin</u> Date/Time <u>6/14/17 12:05</u>	<b>Notes:</b>
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	

<b>Lab Use Only</b>	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	<u>UPS</u>		<u>NA</u>	<u>Good</u>	Yes No <u>None</u>	<u>1706276</u>

# Appendix E

## Soil Vapor Extraction Influent Summary Data

---



Table 1  
 Estimate of SVE System Removal - Total Volatile Organic Compounds  
 Madison-Kipp Corporation  
 201 Waubesa Street  
 Madison, Wisconsin

DATE	TOTAL VOC CONCENTRATION <sup>(1)</sup>	SYSTEM FLOW RATE	REMOVAL RATE	REMOVAL RATE	REMOVAL RATE
	µg/m <sup>3</sup>	CFM	lb/hr	lb/day	lb/year
9/9/2016	3367.6	188.4	2.38E-03	5.70E-02	21
12/7/2016	652.1	195.9	4.78E-04	1.15E-02	4.2
3/7/2017	296.0	189.7	2.10E-04	5.05E-03	1.8
5/5/2017	486.0	182.6	3.32E-04	7.98E-03	2.9
Average			8.49E-04	2.04E-02	7.4

**Notes:**

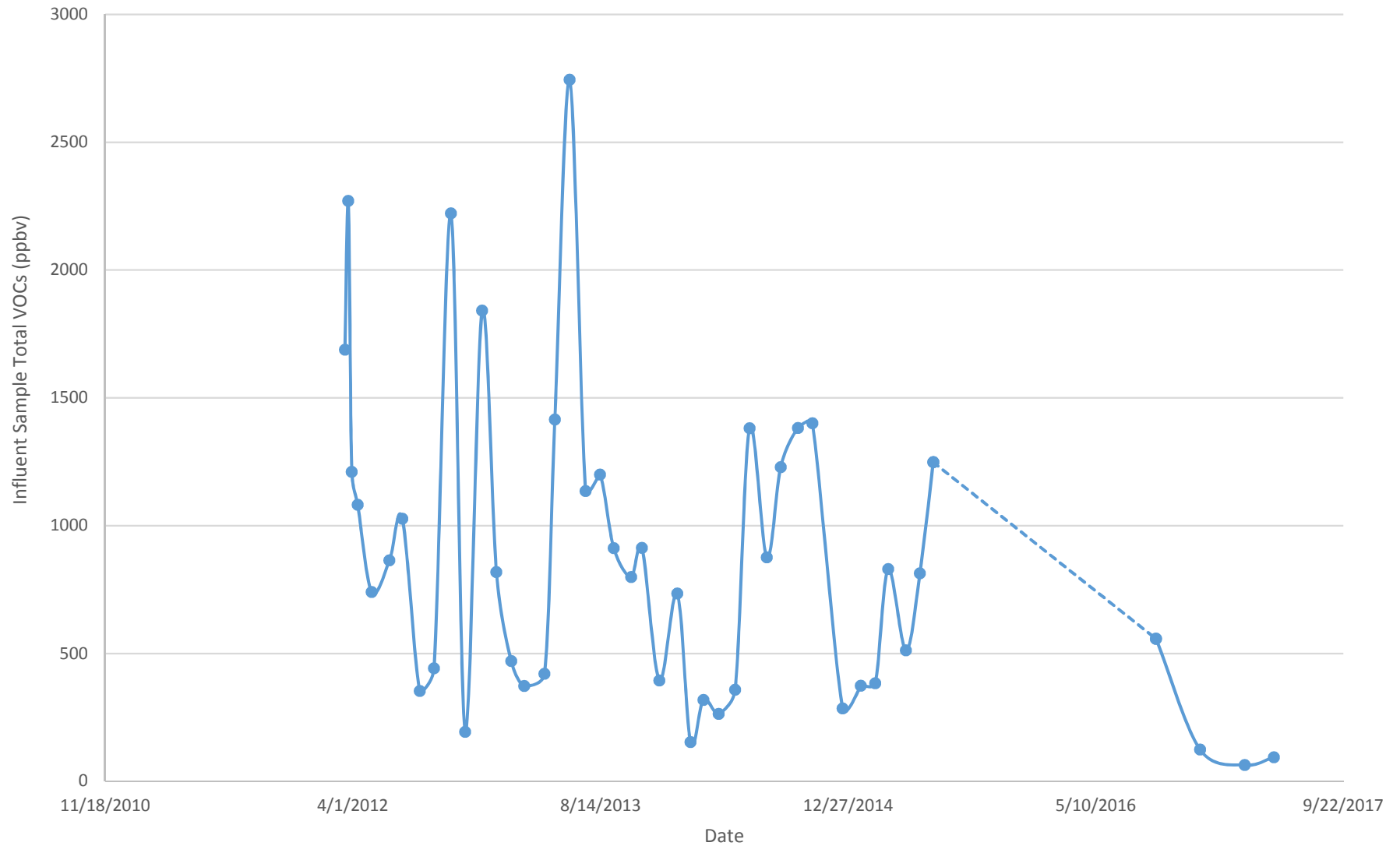
VOCs = Volatile Organic Compounds  
 SVE = Soil Vapor Extraction  
 GETS = Groundwater extraction and treatment system.  
 CFM = cubic feet per minute  
 µg/m<sup>3</sup> = micrograms per cubic meters  
 lb/hr = pounds per hour

Created By: B. Perk 08/16/2017  
 Checked By: K. Barber 08/16/2017

**Footnotes:**

- Total VOC concentrations were calculated based on analytes reported above and below the method reporting limit. For detected analytes, the reported concentrations were used. For all other analytes detected below the method reporting limit, half of the reporting limit was used.

### SVE System Influent Total VOC Results



Note: The influent data from November 2014 did not correlate with the effluent data or with the data collected during the previous or subsequent months and was not included in this summary.

----- Dashed Where Inferred

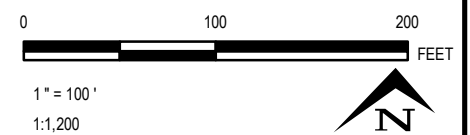




BASE MAP FROM ESRI, "WORLD IMAGERY" WEB BASEMAP SERVICE LAYER.  
 PARCELS FROM WI SCO.

**LEGEND**

- SITE PROPERTY BOUNDARY
- SOIL EXTRACTION WELL
- VAPOR MONITORING POINT
- VAPOR MONITORING POINT (LOST)




708 Heartland Trail  
 Suite 3000  
 Madison, WI 53717  
 Phone: 608.826.3600

PROJECT:	<b>MADISON-KIPP CORPORATION 201 WAUBESA STREET MADISON, WISCONSIN</b>
TITLE:	<b>SOIL VAPOR EXTRACTION WELL AND VAPOR MONITORING POINT LOCATION MAP</b>

DRAWN BY:	B DEEGAN
CHECKED BY:	A STEHN
APPROVED BY:	K VATER
DATE:	AUGUST 2017
PROJ. NO.:	266431
FILE:	266431-010.mxd
<b>FIGURE E-1</b>	



# Appendix F

## Quarterly Groundwater Monitoring Laboratory Analytical Reports

---



2525 Advance Road  
Madison, WI 53718  
608.221.8700 Phone  
608.221.4889 Fax

February 03, 2017

Andrew Stehn  
TRC Environmental Corporation, Inc.  
708 Heartland Trail, Ste 3000  
Madison, WI 53717  
RE: Madison Kipp Corp. Quarterly Sampling

Enclosed are the analytical results for the samples received by the laboratory on 01/23/2017.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. These results are in compliance with the 2009 NELAC Standards and the appropriate agencies listed below, unless otherwise noted in the case narrative. This analytical report should be reproduced in its entirety.

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

Sincerely,

Jessica Esser  
Project Manager

**Certification List**

Certification List			Expires
DODELAP	DOD ELAP Accreditation (A2LA)	3269.01	03/31/2018
ILEPA	Illinois Secondary NELAP Accreditation	003174	04/30/2017
KDHE	Kansas Secondary NELAP Accreditation	E-10384	04/30/2017
LELAP	Louisiana Primary NELAP Accreditation	04165	06/30/2017
NJDEP	New Jersey Secondary NELAP Accreditation	WI004	06/30/2017
ODEQ	Oklahoma Department of Environmental Quality Accreditation	2016-083	08/31/2017
PADEP	Pennsylvania Secondary NELAP Accreditation	68-02962	05/31/2017
TCEQ	Texas Secondary NELAP Accreditation	T104704504-16-7	11/30/2017
WADOE	Washington Secondary NELAP Accreditation	C1028	05/05/2017
WDNR	Wisconsin Certification under NR 149	113289110	08/31/2017



2525 Advance Road  
 Madison, WI 53718  
 608.221.8700 Phone  
 608.221.4889 Fax

TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2D	A170401-01	Water	01/19/2017	01/23/2017
MW-3D	A170401-02	Water	01/19/2017	01/23/2017
MW-3D2	A170401-03	Water	01/19/2017	01/23/2017
MW-4D2	A170401-04	Water	01/19/2017	01/23/2017
MW-5D	A170401-05	Water	01/18/2017	01/23/2017
MW-5D2	A170401-06	Water	01/20/2017	01/23/2017
MW-5D3	A170401-07	Water	01/19/2017	01/23/2017
MW-6D	A170401-08	Water	01/20/2017	01/23/2017
MW-9D2	A170401-09	Water	01/19/2017	01/23/2017
MW-17	A170401-10	Water	01/20/2017	01/23/2017
MW-22D	A170401-11	Water	01/20/2017	01/23/2017
MW-23D	A170401-12	Water	01/20/2017	01/23/2017
MW-25D2	A170401-13	Water	01/19/2017	01/23/2017
MW-27D	A170401-14	Water	01/19/2017	01/23/2017
MP-14 Port 2 135-140	A170401-15	Water	01/18/2017	01/23/2017
MP-16 Port 2 140-144	A170401-16	Water	01/18/2017	01/23/2017
DUP-01	A170401-17	Water	01/19/2017	01/23/2017
DUP-02	A170401-18	Water	01/20/2017	01/23/2017
FB-01	A170401-19	Water	01/20/2017	01/23/2017
Pour Blank	A170401-20	Water	01/20/2017	01/23/2017



2525 Advance Road  
Madison, WI 53718  
608.221.8700 Phone  
608.221.4889 Fax

TRC Environmental Corporation, Inc.  
708 Heartland Trail, Ste 3000  
Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
Project Number: 266431.0000.0000.000001  
Project Manager: Andrew Stehn

**CASE NARRATIVE**

**Sample Receipt Information:**

20 samples were received on 01/23/2017. Samples were received at 2.4 degrees Celsius. Samples were received in acceptable condition.

Please see the chain of custody (COC) document at the end of this report for additional information.

**Continuing Calibration Verification (CCV):**

The LC footnote on samples A170401-07, A170401-09, A170401-11 and A170401-17 through A170401-20 states that there was a low CCV recovery for 2,2-dichloropropane. The lower control limit is 70% and the lowest recovery was 43.6%.

The HC footnote on samples A170401-07, A170401-09, A170401-11, A170401-17, A170401-19 and A170401-20 states that there were high CCV recoveries for acetone, chloroform, methyl-t-butyl ether and/or methylene chloride. The upper control limits are 120% and 130%. The highest recoveries were 151%, 136%, 147% and 134%, respectively. Where samples were less than the reporting limit for these analytes, no further action is required.

**Additional Comments:**

Post-analysis pH measurement of samples A170401-02, A170401-08 and A170401-11 indicates insufficient VOA sample preservation.



2525 Advance Road  
 Madison, WI 53718  
 608.221.8700 Phone  
 608.221.4889 Fax

TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-2D**  
**A170401-01 (Water)**

**Date Sampled**  
**01/19/2017 13:19**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
---------	--------	--------------------	-----------------------	-------	----------	----------	----------	--------	------------

**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
<b>Chloromethane</b>	<b>0.33</b>	0.16	2.0	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	J, B





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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-2D**  
**A170401-01 (Water)**

**Date Sampled**  
**01/19/2017 13:19**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

cis-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
<b>Methylene chloride</b>	<b>0.82</b>	0.14	2.0	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	J
Naphthalene	ND	0.088	5.0	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
<b>Tetrachloroethene</b>	<b>22</b>	0.081	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
<b>Toluene</b>	<b>0.090</b>	0.053	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	J, B
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
<b>Trichloroethene</b>	<b>0.12</b>	0.062	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	J
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	01/26/2017	01/27/2017 14:40	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			116 %	68.9-141		01/26/2017	01/27/2017 14:40	EPA 8260B	
<i>Surrogate: Toluene-d8</i>			104 %	73.3-114		01/26/2017	01/27/2017 14:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>			100 %	72.2-114		01/26/2017	01/27/2017 14:40	EPA 8260B	



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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-3D**  
**A170401-02 (Water)**

**Date Sampled**  
**01/19/2017 16:11**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

**CN**

1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
<b>Acetone</b>	<b>33</b>	3.4	20	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
<b>Benzene</b>	<b>0.36</b>	0.089	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	J
Bromobenzene	ND	0.084	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
<b>Carbon disulfide</b>	<b>0.39</b>	0.053	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	J
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
<b>Chloroform</b>	<b>0.19</b>	0.062	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	J, B
<b>Chloromethane</b>	<b>0.30</b>	0.16	2.0	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	J, B



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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-3D**  
**A170401-02 (Water)**

**Date Sampled**  
**01/19/2017 16:11**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

**CN**

<b>cis-1,2-Dichloroethene</b>	<b>7.3</b>	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
<b>Methylene chloride</b>	<b>0.45</b>	0.14	2.0	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	J
Naphthalene	ND	0.088	5.0	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
<b>Tetrachloroethene</b>	<b>5.4</b>	0.081	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
<b>Toluene</b>	<b>0.44</b>	0.053	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	J, B
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
<b>Trichloroethene</b>	<b>11</b>	0.062	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	01/26/2017	01/27/2017 15:14	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			<i>114 %</i>	<i>68.9-141</i>		<i>01/26/2017</i>	<i>01/27/2017 15:14</i>	<i>EPA 8260B</i>	
<i>Surrogate: Toluene-d8</i>			<i>104 %</i>	<i>73.3-114</i>		<i>01/26/2017</i>	<i>01/27/2017 15:14</i>	<i>EPA 8260B</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>97.1 %</i>	<i>72.2-114</i>		<i>01/26/2017</i>	<i>01/27/2017 15:14</i>	<i>EPA 8260B</i>	



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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-3D2**  
**A170401-03 (Water)**

**Date Sampled**  
**01/19/2017 15:27**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	M
2-Butanone	ND	3.0	20	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
<b>4-Methyl-2-pentanone</b>	<b>2.0</b>	0.77	20	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	J
Acetone	ND	3.4	20	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	M
Bromochloromethane	ND	0.31	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	M
Bromodichloromethane	ND	0.077	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
<b>Carbon disulfide</b>	<b>0.22</b>	0.053	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	J
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
<b>Chloromethane</b>	<b>0.52</b>	0.16	2.0	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	J, B



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-3D2**  
**A170401-03 (Water)**

**Date Sampled**  
**01/19/2017 15:27**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

<b>cis-1,2-Dichloroethene</b>	<b>30</b>	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
<b>Methylene chloride</b>	<b>0.68</b>	0.14	2.0	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	J
Naphthalene	ND	0.088	5.0	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	M
n-Hexane	ND	0.21	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
<b>Tetrachloroethene</b>	<b>14</b>	0.081	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	M, X
Tetrahydrofuran	ND	1.2	10	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
<b>Toluene</b>	<b>0.11</b>	0.053	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	J, B
<b>trans-1,2-Dichloroethene</b>	<b>0.22</b>	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	J
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
<b>Trichloroethene</b>	<b>19</b>	0.062	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	M, X
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	01/26/2017	01/30/2017 14:53	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			127 %	68.9-141		01/26/2017	01/30/2017 14:53	EPA 8260B	
<i>Surrogate: Toluene-d8</i>			106 %	73.3-114		01/26/2017	01/30/2017 14:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>			100 %	72.2-114		01/26/2017	01/30/2017 14:53	EPA 8260B	



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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-4D2**  
**A170401-04 (Water)**

**Date Sampled**  
**01/19/2017 14:08**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
<b>1,1,1-Trichloroethane</b>	<b>0.24</b>	0.10	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	J
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
<b>Chloromethane</b>	<b>0.26</b>	0.16	2.0	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	J, B



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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-4D2**  
**A170401-04 (Water)**

**Date Sampled**  
**01/19/2017 14:08**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

cis-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Naphthalene	ND	0.088	5.0	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
<b>Tetrachloroethene</b>	<b>0.38</b>	0.081	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	J
Tetrahydrofuran	ND	1.2	10	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
<b>Toluene</b>	<b>0.11</b>	0.053	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	J, B
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Trichloroethene	ND	0.062	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	01/26/2017	01/27/2017 11:31	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	01/26/2017	01/26/2017 17:51	EPA 8260B	
Surrogate: Dibromofluoromethane			103 %	68.9-141		01/26/2017	01/27/2017 11:31	EPA 8260B	
Surrogate: Toluene-d8			100 %	73.3-114		01/26/2017	01/27/2017 11:31	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			98.3 %	72.2-114		01/26/2017	01/27/2017 11:31	EPA 8260B	





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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-5D**  
**A170401-05 (Water)**

**Date Sampled**  
**01/18/2017 16:47**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

1,1,1,2-Tetrachloroethane	ND	11	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,1,1-Trichloroethane	ND	10	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	9.9	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,1,2-Trichloroethane	ND	10	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	13	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,1-Dichloroethane	ND	12	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,1-Dichloroethene	ND	14	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,1-Dichloropropene	ND	11	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,2,3-Trichlorobenzene	ND	4.5	200	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,2,3-Trichloropropane	ND	15	100	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,2,4-Trichlorobenzene	ND	7.7	200	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,2,4-Trimethylbenzene	ND	6.0	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	25	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	13	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,2-Dichlorobenzene	ND	7.6	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,2-Dichloroethane	ND	7.8	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,2-Dichloropropane	ND	10	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,3,5-Trimethylbenzene	ND	7.5	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,3-Dichlorobenzene	ND	9.6	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,3-Dichloropropane	ND	11	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
1,4-Dichlorobenzene	ND	7.0	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
2,2-Dichloropropane	ND	14	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
2-Butanone	ND	300	2000	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
2-Chlorotoluene	ND	7.5	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
2-Hexanone	ND	95	2000	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
4-Chlorotoluene	ND	7.3	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
4-Methyl-2-pentanone	ND	77	2000	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Acetone	ND	340	2000	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
<b>Benzene</b>	<b>9.0</b>	8.9	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	J, D
Bromobenzene	ND	8.4	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Bromochloromethane	ND	31	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Bromodichloromethane	ND	7.7	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Bromoform	ND	8.8	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Bromomethane	ND	59	500	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
<b>Carbon disulfide</b>	<b>15</b>	5.3	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	J, D
Carbon tetrachloride	ND	3.8	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Chlorobenzene	ND	7.3	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Chloroethane	ND	25	500	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
<b>Chloroform</b>	<b>11</b>	6.2	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	J, D, B
Chloromethane	ND	16	200	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	





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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-5D**  
**A170401-05 (Water)**

**Date Sampled**  
**01/18/2017 16:47**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

<b>cis-1,2-Dichloroethene</b>	<b>230</b>	11	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	D
cis-1,3-Dichloropropene	ND	6.1	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Dibromochloromethane	ND	9.1	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Dibromomethane	ND	14	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Dichlorodifluoromethane	ND	11	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Diisopropyl Ether	ND	15	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Ethylbenzene	ND	5.4	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Hexachlorobutadiene	ND	13	200	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Isopropylbenzene	ND	8.1	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
<b>m,p-Xylene</b>	<b>8.0</b>	5.7	100	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	J, D, B
Methyl t-Butyl Ether	ND	14	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
<b>Methylene chloride</b>	<b>18</b>	14	200	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	J, D
Naphthalene	ND	8.8	500	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
n-Butyl Benzene	ND	14	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
n-Hexane	ND	21	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
n-Propyl Benzene	ND	10	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
o-Xylene	ND	5.8	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
p-Isopropyltoluene	ND	8.5	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
sec-Butyl Benzene	ND	13	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Styrene	ND	6.5	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
tert-Butylbenzene	ND	12	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
<b>Tetrachloroethene</b>	<b>3500</b>	8.1	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	D
Tetrahydrofuran	ND	120	1000	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
<b>Toluene</b>	<b>16</b>	5.3	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	J, D, B
trans-1,2-Dichloroethene	ND	11	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
trans-1,3-Dichloropropene	ND	9.6	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
<b>Trichloroethene</b>	<b>120</b>	6.2	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	D
Trichlorofluoromethane	ND	13	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Vinyl chloride	ND	16	50	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
Xylenes, total	ND	12	150	ug/L	100	01/26/2017	01/27/2017 12:35	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			<i>116 %</i>	<i>68.9-141</i>		<i>01/26/2017</i>	<i>01/27/2017 12:35</i>	<i>EPA 8260B</i>	
<i>Surrogate: Toluene-d8</i>			<i>103 %</i>	<i>73.3-114</i>		<i>01/26/2017</i>	<i>01/27/2017 12:35</i>	<i>EPA 8260B</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>97.2 %</i>	<i>72.2-114</i>		<i>01/26/2017</i>	<i>01/27/2017 12:35</i>	<i>EPA 8260B</i>	



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TRC Environmental Corporation, Inc.  
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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-5D2**  
**A170401-06 (Water)**

**Date Sampled**  
**01/20/2017 09:17**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	2.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,1,1-Trichloroethane	ND	2.0	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	2.0	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,1,2-Trichloroethane	ND	2.0	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	2.6	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,1-Dichloroethane	ND	2.4	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,1-Dichloroethene	ND	2.8	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,1-Dichloropropene	ND	2.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.90	40	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,2,3-Trichloropropane	ND	3.0	20	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,2,4-Trichlorobenzene	ND	1.5	40	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,2,4-Trimethylbenzene	ND	1.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	5.0	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	2.6	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,2-Dichlorobenzene	ND	1.5	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,2-Dichloroethane	ND	1.6	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,2-Dichloropropane	ND	2.0	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,3,5-Trimethylbenzene	ND	1.5	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,3-Dichlorobenzene	ND	1.9	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,3-Dichloropropane	ND	2.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
1,4-Dichlorobenzene	ND	1.4	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
2,2-Dichloropropane	ND	2.8	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
2-Butanone	ND	60	400	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
2-Chlorotoluene	ND	1.5	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
2-Hexanone	ND	19	400	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
4-Chlorotoluene	ND	1.5	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
4-Methyl-2-pentanone	ND	15	400	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Acetone	ND	68	400	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Benzene	ND	1.8	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Bromobenzene	ND	1.7	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Bromochloromethane	ND	6.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Bromodichloromethane	ND	1.5	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Bromoform	ND	1.8	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Bromomethane	ND	12	100	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Carbon disulfide	ND	1.1	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Carbon tetrachloride	ND	0.76	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Chlorobenzene	ND	1.5	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Chloroethane	ND	5.0	100	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Chloroform	ND	1.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
<b>Chloromethane</b>	<b>5.8</b>	3.2	40	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	J, D, B



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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-5D2**  
**A170401-06 (Water)**

**Date Sampled**  
**01/20/2017 09:17**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

cis-1,2-Dichloroethene	ND	2.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
cis-1,3-Dichloropropene	ND	1.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Dibromochloromethane	ND	1.8	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Dibromomethane	ND	2.8	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Dichlorodifluoromethane	ND	2.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Diisopropyl Ether	ND	3.0	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Ethylbenzene	ND	1.1	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Hexachlorobutadiene	ND	2.6	40	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Isopropylbenzene	ND	1.6	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
<b>m,p-Xylene</b>	<b>1.6</b>	1.1	20	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	J, D, B
Methyl t-Butyl Ether	ND	2.8	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
<b>Methylene chloride</b>	<b>3.4</b>	2.8	40	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	J, D
Naphthalene	ND	1.8	100	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
n-Butyl Benzene	ND	2.8	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
n-Hexane	ND	4.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
n-Propyl Benzene	ND	2.0	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
<b>o-Xylene</b>	<b>1.4</b>	1.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	J, D, B
p-Isopropyltoluene	ND	1.7	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
sec-Butyl Benzene	ND	2.6	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Styrene	ND	1.3	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
tert-Butylbenzene	ND	2.4	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
<b>Tetrachloroethene</b>	<b>570</b>	1.6	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	D
Tetrahydrofuran	ND	24	200	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
<b>Toluene</b>	<b>3.2</b>	1.1	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	J, D, B
trans-1,2-Dichloroethene	ND	2.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
trans-1,3-Dichloropropene	ND	1.9	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
<b>Trichloroethene</b>	<b>6.6</b>	1.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	J, D
Trichlorofluoromethane	ND	2.6	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
Vinyl chloride	ND	3.2	10	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	
<b>Xylenes, total</b>	<b>3.0</b>	2.3	30	ug/L	20	01/26/2017	01/27/2017 13:06	EPA 8260B	J, D, B
<i>Surrogate: Dibromofluoromethane</i>			116 %	68.9-141		01/26/2017	01/27/2017 13:06	EPA 8260B	
<i>Surrogate: Toluene-d8</i>			101 %	73.3-114		01/26/2017	01/27/2017 13:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>			97.0 %	72.2-114		01/26/2017	01/27/2017 13:06	EPA 8260B	



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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-5D3**  
**A170401-07 (Water)**

**Date Sampled**  
**01/19/2017 16:20**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	LC
2-Butanone	ND	3.0	20	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
<b>Acetone</b>	<b>9.6</b>	3.4	20	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	HC, J
<b>Benzene</b>	<b>0.15</b>	0.089	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	J
Bromobenzene	ND	0.084	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
<b>Chloromethane</b>	<b>0.37</b>	0.16	2.0	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	J, B



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-5D3**  
**A170401-07 (Water)**

**Date Sampled**  
**01/19/2017 16:20**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

cis-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
<b>Methylene chloride</b>	<b>0.17</b>	0.14	2.0	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	HC, J
Naphthalene	ND	0.088	5.0	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Tetrachloroethene	ND	0.081	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
<b>Toluene</b>	<b>0.17</b>	0.053	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	J, B
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
<b>Trichloroethene</b>	<b>0.16</b>	0.062	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	J
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	01/26/2017	01/31/2017 11:48	EPA 8260B	
Surrogate: Dibromofluoromethane			128 %	68.9-141		01/26/2017	01/31/2017 11:48	EPA 8260B	
Surrogate: Toluene-d8			104 %	73.3-114		01/26/2017	01/31/2017 11:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			99.5 %	72.2-114		01/26/2017	01/31/2017 11:48	EPA 8260B	



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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-6D**  
**A170401-08 (Water)**

**Date Sampled**  
**01/20/2017 12:41**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

<b>Volatile Organic Compounds by Method 8260 - Purge and Trap</b>								<b>Preparation Batch: A701082</b>	<b>CN</b>
1,1,1,2-Tetrachloroethane	ND	11	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,1,1-Trichloroethane	ND	10	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	9.9	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,1,2-Trichloroethane	ND	10	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	13	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,1-Dichloroethane	ND	12	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,1-Dichloroethene	ND	14	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,1-Dichloropropene	ND	11	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,2,3-Trichlorobenzene	ND	4.5	200	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,2,3-Trichloropropane	ND	15	100	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,2,4-Trichlorobenzene	ND	7.7	200	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
<b>1,2,4-Trimethylbenzene</b>	<b>110</b>	6.0	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	D
1,2-Dibromo-3-chloropropane	ND	25	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	13	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,2-Dichlorobenzene	ND	7.6	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,2-Dichloroethane	ND	7.8	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,2-Dichloropropane	ND	10	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,3,5-Trimethylbenzene	ND	7.5	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,3-Dichlorobenzene	ND	9.6	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,3-Dichloropropane	ND	11	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
1,4-Dichlorobenzene	ND	7.0	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
2,2-Dichloropropane	ND	14	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
2-Butanone	ND	300	2000	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
2-Chlorotoluene	ND	7.5	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
2-Hexanone	ND	95	2000	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
4-Chlorotoluene	ND	7.3	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
4-Methyl-2-pentanone	ND	77	2000	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Acetone	ND	340	2000	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
<b>Benzene</b>	<b>2100</b>	8.9	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	D
Bromobenzene	ND	8.4	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Bromochloromethane	ND	31	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Bromodichloromethane	ND	7.7	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Bromoform	ND	8.8	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Bromomethane	ND	59	500	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Carbon disulfide	ND	5.3	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Carbon tetrachloride	ND	3.8	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Chlorobenzene	ND	7.3	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Chloroethane	ND	25	500	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Chloroform	ND	6.2	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
<b>Chloromethane</b>	<b>28</b>	16	200	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	J, D, B



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TRC Environmental Corporation, Inc.  
708 Heartland Trail, Ste 3000  
Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
Project Number: 266431.0000.0000.000001  
Project Manager: Andrew Stehn

**MW-6D**  
**A170401-08 (Water)**

**Date Sampled**  
**01/20/2017 12:41**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

<b>Volatile Organic Compounds by Method 8260 - Purge and Trap</b>								<b>Preparation Batch: A701082</b>	<b>CN</b>
cis-1,2-Dichloroethene	ND	11	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
cis-1,3-Dichloropropene	ND	6.1	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Dibromochloromethane	ND	9.1	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Dibromomethane	ND	14	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Dichlorodifluoromethane	ND	11	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Diisopropyl Ether	ND	15	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
<b>Ethylbenzene</b>	<b>21</b>	5.4	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	J, D
Hexachlorobutadiene	ND	13	200	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
<b>Isopropylbenzene</b>	<b>29</b>	8.1	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	J, D
<b>m,p-Xylene</b>	<b>110</b>	5.7	100	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	D, B
Methyl t-Butyl Ether	ND	14	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Methylene chloride	ND	14	200	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
<b>Naphthalene</b>	<b>140</b>	8.8	500	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	J, D
n-Butyl Benzene	ND	14	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
n-Hexane	ND	21	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
<b>n-Propyl Benzene</b>	<b>23</b>	10	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	J, D
<b>o-Xylene</b>	<b>13</b>	5.8	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	J, D, B
p-Isopropyltoluene	ND	8.5	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
sec-Butyl Benzene	ND	13	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Styrene	ND	6.5	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
tert-Butylbenzene	ND	12	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Tetrachloroethene	ND	8.1	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Tetrahydrofuran	ND	120	1000	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
<b>Toluene</b>	<b>120</b>	5.3	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	D, B
trans-1,2-Dichloroethene	ND	11	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
trans-1,3-Dichloropropene	ND	9.6	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
<b>Trichloroethene</b>	<b>23</b>	6.2	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	J, D
Trichlorofluoromethane	ND	13	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
Vinyl chloride	ND	16	50	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	
<b>Xylenes, total</b>	<b>120</b>	12	150	ug/L	100	01/26/2017	01/27/2017 13:38	EPA 8260B	J, D, B
Surrogate: Dibromofluoromethane			112 %	68.9-141		01/26/2017	01/27/2017 13:38	EPA 8260B	
Surrogate: Toluene-d8			102 %	73.3-114		01/26/2017	01/27/2017 13:38	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			97.6 %	72.2-114		01/26/2017	01/27/2017 13:38	EPA 8260B	





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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-9D2**  
**A170401-09 (Water)**

**Date Sampled**  
**01/19/2017 11:46**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	LC
2-Butanone	ND	3.0	20	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
<b>Chloromethane</b>	<b>0.49</b>	0.16	2.0	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	J, B





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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-9D2**  
**A170401-09 (Water)**

**Date Sampled**  
**01/19/2017 11:46**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

<b>cis-1,2-Dichloroethene</b>	<b>1.0</b>	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
<b>Methyl t-Butyl Ether</b>	<b>2.9</b>	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	HC
<b>Methylene chloride</b>	<b>1.4</b>	0.14	2.0	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	HC, J
Naphthalene	ND	0.088	5.0	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
<b>Tetrachloroethene</b>	<b>2.6</b>	0.081	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
<b>Toluene</b>	<b>0.15</b>	0.053	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	J, B
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
<b>Trichloroethene</b>	<b>0.95</b>	0.062	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	01/26/2017	01/31/2017 12:21	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			125 %	68.9-141		01/26/2017	01/31/2017 12:21	EPA 8260B	
<i>Surrogate: Toluene-d8</i>			107 %	73.3-114		01/26/2017	01/31/2017 12:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>			102 %	72.2-114		01/26/2017	01/31/2017 12:21	EPA 8260B	



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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-17**  
**A170401-10 (Water)**

**Date Sampled**  
**01/20/2017 11:18**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	5.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,1,1-Trichloroethane	ND	5.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	5.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,1,2-Trichloroethane	ND	5.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	6.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,1-Dichloroethane	ND	6.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,1-Dichloroethene	ND	7.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,1-Dichloropropene	ND	5.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,2,3-Trichlorobenzene	ND	2.3	100	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,2,3-Trichloropropane	ND	7.5	50	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,2,4-Trichlorobenzene	ND	3.9	100	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,2,4-Trimethylbenzene	ND	3.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	13	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	6.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,2-Dichlorobenzene	ND	3.8	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,2-Dichloroethane	ND	3.9	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,2-Dichloropropane	ND	5.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,3,5-Trimethylbenzene	ND	3.8	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,3-Dichlorobenzene	ND	4.8	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,3-Dichloropropane	ND	5.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
1,4-Dichlorobenzene	ND	3.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
2,2-Dichloropropane	ND	7.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
2-Butanone	ND	150	1000	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
2-Chlorotoluene	ND	3.8	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
2-Hexanone	ND	48	1000	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
4-Chlorotoluene	ND	3.7	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
4-Methyl-2-pentanone	ND	39	1000	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Acetone	ND	170	1000	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Benzene	ND	4.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Bromobenzene	ND	4.2	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Bromochloromethane	ND	16	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Bromodichloromethane	ND	3.9	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Bromoform	ND	4.4	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Bromomethane	ND	30	250	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Carbon disulfide	ND	2.7	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Carbon tetrachloride	ND	1.9	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Chlorobenzene	ND	3.7	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Chloroethane	ND	13	250	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
<b>Chloroform</b>	<b>6.5</b>	3.1	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	D, J, B
Chloromethane	ND	8.0	100	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-17**  
**A170401-10 (Water)**

**Date Sampled**  
**01/20/2017 11:18**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

cis-1,2-Dichloroethene	ND	5.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
cis-1,3-Dichloropropene	ND	3.1	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Dibromochloromethane	ND	4.6	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Dibromomethane	ND	7.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Dichlorodifluoromethane	ND	5.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Diisopropyl Ether	ND	7.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Ethylbenzene	ND	2.7	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Hexachlorobutadiene	ND	6.5	100	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Isopropylbenzene	ND	4.1	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
m,p-Xylene	ND	2.9	50	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Methyl t-Butyl Ether	ND	7.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Methylene chloride	ND	7.0	100	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Naphthalene	ND	4.4	250	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
n-Butyl Benzene	ND	7.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
n-Hexane	ND	11	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
n-Propyl Benzene	ND	5.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
o-Xylene	ND	2.9	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
p-Isopropyltoluene	ND	4.3	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
sec-Butyl Benzene	ND	6.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Styrene	ND	3.3	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
tert-Butylbenzene	ND	6.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
<b>Tetrachloroethene</b>	<b>1000</b>	4.1	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	D
Tetrahydrofuran	ND	60	500	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
<b>Toluene</b>	<b>7.0</b>	2.7	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	D, J, B
trans-1,2-Dichloroethene	ND	5.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
trans-1,3-Dichloropropene	ND	4.8	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
<b>Trichloroethene</b>	<b>59</b>	3.1	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	D
Trichlorofluoromethane	ND	6.5	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Vinyl chloride	ND	8.0	25	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Xylenes, total	ND	5.8	75	ug/L	50	01/26/2017	01/30/2017 12:42	EPA 8260B	
Surrogate: Dibromofluoromethane			98.2 %	68.9-141		01/26/2017	01/30/2017 12:42	EPA 8260B	
Surrogate: Toluene-d8			105 %	73.3-114		01/26/2017	01/30/2017 12:42	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			102 %	72.2-114		01/26/2017	01/30/2017 12:42	EPA 8260B	



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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-22D**  
**A170401-11 (Water)**

**Date Sampled**  
**01/20/2017 15:51**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

**CN**

1,1,1,2-Tetrachloroethane	ND	0.55	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,1,1-Trichloroethane	ND	0.50	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.50	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,1,2-Trichloroethane	ND	0.50	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.65	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,1-Dichloroethane	ND	0.60	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,1-Dichloroethene	ND	0.70	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,1-Dichloropropene	ND	0.55	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.23	10	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,2,3-Trichloropropane	ND	0.75	5.0	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.39	10	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.30	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	1.3	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.65	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,2-Dichlorobenzene	ND	0.38	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,2-Dichloroethane	ND	0.39	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,2-Dichloropropane	ND	0.50	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.38	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,3-Dichlorobenzene	ND	0.48	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,3-Dichloropropane	ND	0.55	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
1,4-Dichlorobenzene	ND	0.35	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
2,2-Dichloropropane	ND	0.70	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	LC
2-Butanone	ND	15	100	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
2-Chlorotoluene	ND	0.38	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
2-Hexanone	ND	4.8	100	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
4-Chlorotoluene	ND	0.37	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
4-Methyl-2-pentanone	ND	3.9	100	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Acetone	ND	17	100	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Benzene	ND	0.45	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Bromobenzene	ND	0.42	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Bromochloromethane	ND	1.6	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Bromodichloromethane	ND	0.39	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Bromoform	ND	0.44	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Bromomethane	ND	3.0	25	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Carbon disulfide	ND	0.27	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Carbon tetrachloride	ND	0.19	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Chlorobenzene	ND	0.37	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Chloroethane	ND	1.3	25	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
<b>Chloroform</b>	<b>0.40</b>	0.31	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	HC, D, J, B
Chloromethane	ND	0.80	10	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	



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TRC Environmental Corporation, Inc.  
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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-22D**  
**A170401-11 (Water)**

**Date Sampled**  
**01/20/2017 15:51**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

<b>Volatile Organic Compounds by Method 8260 - Purge and Trap</b>							<b>Preparation Batch: A701082</b>		<b>CN</b>
<b>cis-1,2-Dichloroethene</b>	<b>14</b>	0.55	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	D
cis-1,3-Dichloropropene	ND	0.31	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Dibromochloromethane	ND	0.46	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Dibromomethane	ND	0.70	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Dichlorodifluoromethane	ND	0.55	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Diisopropyl Ether	ND	0.75	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Ethylbenzene	ND	0.27	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Hexachlorobutadiene	ND	0.65	10	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Isopropylbenzene	ND	0.41	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
m,p-Xylene	ND	0.29	5.0	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Methyl t-Butyl Ether	ND	0.70	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
<b>Methylene chloride</b>	<b>1.3</b>	0.70	10	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	HC, D, J
Naphthalene	ND	0.44	25	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
n-Butyl Benzene	ND	0.70	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
n-Hexane	ND	1.1	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
n-Propyl Benzene	ND	0.50	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
o-Xylene	ND	0.29	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
p-Isopropyltoluene	ND	0.43	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
sec-Butyl Benzene	ND	0.65	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Styrene	ND	0.33	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
tert-Butylbenzene	ND	0.60	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
<b>Tetrachloroethene</b>	<b>120</b>	0.41	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	D
Tetrahydrofuran	ND	6.0	50	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
<b>Toluene</b>	<b>0.50</b>	0.27	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	D, J, B
<b>trans-1,2-Dichloroethene</b>	<b>0.70</b>	0.55	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	D, J
trans-1,3-Dichloropropene	ND	0.48	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
<b>Trichloroethene</b>	<b>5.2</b>	0.31	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	D
Trichlorofluoromethane	ND	0.65	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
<b>Vinyl chloride</b>	<b>4.3</b>	0.80	2.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	D
Xylenes, total	ND	0.58	7.5	ug/L	5	01/26/2017	01/31/2017 13:56	EPA 8260B	
Surrogate: Dibromofluoromethane			122 %	68.9-141		01/26/2017	01/31/2017 13:56	EPA 8260B	
Surrogate: Toluene-d8			106 %	73.3-114		01/26/2017	01/31/2017 13:56	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			104 %	72.2-114		01/26/2017	01/31/2017 13:56	EPA 8260B	



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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-23D**  
**A170401-12 (Water)**

**Date Sampled**  
**01/20/2017 14:03**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,1,1-Trichloroethane	ND	1.0	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.99	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,1,2-Trichloroethane	ND	1.0	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	1.3	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,1-Dichloroethane	ND	1.2	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,1-Dichloroethene	ND	1.4	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,1-Dichloropropene	ND	1.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.45	20	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,2,3-Trichloropropane	ND	1.5	10	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.77	20	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.60	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	2.5	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	1.3	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,2-Dichlorobenzene	ND	0.76	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,2-Dichloroethane	ND	0.78	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,2-Dichloropropane	ND	1.0	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.75	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,3-Dichlorobenzene	ND	0.96	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,3-Dichloropropane	ND	1.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
1,4-Dichlorobenzene	ND	0.70	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
2,2-Dichloropropane	ND	1.4	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
2-Butanone	ND	30	200	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
2-Chlorotoluene	ND	0.75	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
2-Hexanone	ND	9.5	200	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
4-Chlorotoluene	ND	0.73	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
4-Methyl-2-pentanone	ND	7.7	200	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Acetone	ND	34	200	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Benzene	ND	0.89	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Bromobenzene	ND	0.84	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Bromochloromethane	ND	3.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
<b>Bromodichloromethane</b>	<b>1.1</b>	0.77	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	D, J, B
Bromoform	ND	0.88	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Bromomethane	ND	5.9	50	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
<b>Carbon disulfide</b>	<b>1.4</b>	0.53	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	D, J
Carbon tetrachloride	ND	0.38	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Chlorobenzene	ND	0.73	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Chloroethane	ND	2.5	50	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
<b>Chloroform</b>	<b>1.1</b>	0.62	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	J, D, B
<b>Chloromethane</b>	<b>3.2</b>	1.6	20	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	J, D, B



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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-23D**  
**A170401-12 (Water)**

**Date Sampled**  
**01/20/2017 14:03**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

cis-1,2-Dichloroethene	ND	1.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.61	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Dibromochloromethane	ND	0.91	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Dibromomethane	ND	1.4	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Dichlorodifluoromethane	ND	1.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Diisopropyl Ether	ND	1.5	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Ethylbenzene	ND	0.54	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Hexachlorobutadiene	ND	1.3	20	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Isopropylbenzene	ND	0.81	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
m,p-Xylene	ND	0.57	10	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Methyl t-Butyl Ether	ND	1.4	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
<b>Methylene chloride</b>	<b>1.8</b>	1.4	20	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	J, D
Naphthalene	ND	0.88	50	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
n-Butyl Benzene	ND	1.4	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
n-Hexane	ND	2.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
n-Propyl Benzene	ND	1.0	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
o-Xylene	ND	0.58	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
p-Isopropyltoluene	ND	0.85	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
sec-Butyl Benzene	ND	1.3	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Styrene	ND	0.65	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
tert-Butylbenzene	ND	1.2	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
<b>Tetrachloroethene</b>	<b>140</b>	0.81	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	D
Tetrahydrofuran	ND	12	100	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
<b>Toluene</b>	<b>1.6</b>	0.53	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	J, D, B
trans-1,2-Dichloroethene	ND	1.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.96	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Trichloroethene	ND	0.62	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Trichlorofluoromethane	ND	1.3	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Vinyl chloride	ND	1.6	5.0	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Xylenes, total	ND	1.2	15	ug/L	10	01/26/2017	01/30/2017 13:16	EPA 8260B	
Surrogate: Dibromofluoromethane			131 %	68.9-141		01/26/2017	01/30/2017 13:16	EPA 8260B	
Surrogate: Toluene-d8			106 %	73.3-114		01/26/2017	01/30/2017 13:16	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			101 %	72.2-114		01/26/2017	01/30/2017 13:16	EPA 8260B	





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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-25D2**  
**A170401-13 (Water)**

**Date Sampled**  
**01/19/2017 09:22**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	





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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-25D2**  
**A170401-13 (Water)**

**Date Sampled**  
**01/19/2017 09:22**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

cis-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
<b>Methylene chloride</b>	<b>0.14</b>	0.14	2.0	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	J
Naphthalene	ND	0.088	5.0	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
<b>Tetrachloroethene</b>	<b>0.090</b>	0.081	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	J
Tetrahydrofuran	ND	1.2	10	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Toluene	ND	0.053	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Trichloroethene	ND	0.062	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	01/26/2017	01/30/2017 11:37	EPA 8260B	
Surrogate: Dibromofluoromethane			103 %	68.9-141		01/26/2017	01/30/2017 11:37	EPA 8260B	
Surrogate: Toluene-d8			105 %	73.3-114		01/26/2017	01/30/2017 11:37	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			104 %	72.2-114		01/26/2017	01/30/2017 11:37	EPA 8260B	



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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-27D**  
**A170401-14 (Water)**

**Date Sampled**  
**01/19/2017 11:33**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	



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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MW-27D**  
**A170401-14 (Water)**

**Date Sampled**  
**01/19/2017 11:33**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

<b>cis-1,2-Dichloroethene</b>	<b>0.99</b>	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
<b>Methyl t-Butyl Ether</b>	<b>0.42</b>	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	J
<b>Methylene chloride</b>	<b>0.16</b>	0.14	2.0	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	J
Naphthalene	ND	0.088	5.0	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
<b>Tetrachloroethene</b>	<b>1.9</b>	0.081	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
<b>Toluene</b>	<b>0.060</b>	0.053	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	J, B
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
<b>Trichloroethene</b>	<b>1.7</b>	0.062	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	01/26/2017	01/30/2017 12:08	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			99.6 %	68.9-141		01/26/2017	01/30/2017 12:08	EPA 8260B	
<i>Surrogate: Toluene-d8</i>			104 %	73.3-114		01/26/2017	01/30/2017 12:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>			103 %	72.2-114		01/26/2017	01/30/2017 12:08	EPA 8260B	



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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MP-14 Port 2 135-140**

**Date Sampled**

**A170401-15 (Water)**

**01/18/2017 14:59**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,1,1-Trichloroethane	ND	1.0	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.99	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,1,2-Trichloroethane	ND	1.0	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	1.3	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,1-Dichloroethane	ND	1.2	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,1-Dichloroethene	ND	1.4	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,1-Dichloropropene	ND	1.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.45	20	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,2,3-Trichloropropane	ND	1.5	10	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.77	20	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.60	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	2.5	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	1.3	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,2-Dichlorobenzene	ND	0.76	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,2-Dichloroethane	ND	0.78	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,2-Dichloropropane	ND	1.0	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.75	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,3-Dichlorobenzene	ND	0.96	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,3-Dichloropropane	ND	1.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
1,4-Dichlorobenzene	ND	0.70	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
2,2-Dichloropropane	ND	1.4	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
2-Butanone	ND	30	200	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
2-Chlorotoluene	ND	0.75	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
2-Hexanone	ND	9.5	200	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
4-Chlorotoluene	ND	0.73	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
4-Methyl-2-pentanone	ND	7.7	200	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Acetone	ND	34	200	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Benzene	ND	0.89	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Bromobenzene	ND	0.84	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Bromochloromethane	ND	3.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
<b>Bromodichloromethane</b>	<b>0.80</b>	0.77	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	J, D, B
Bromoform	ND	0.88	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Bromomethane	ND	5.9	50	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Carbon disulfide	ND	0.53	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Carbon tetrachloride	ND	0.38	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Chlorobenzene	ND	0.73	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Chloroethane	ND	2.5	50	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Chloroform	ND	0.62	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Chloromethane	ND	1.6	20	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	



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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MP-14 Port 2 135-140**

Date Sampled  
**01/18/2017 14:59**

**A170401-15 (Water)**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

<b>cis-1,2-Dichloroethene</b>	<b>12</b>	1.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	D
cis-1,3-Dichloropropene	ND	0.61	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Dibromochloromethane	ND	0.91	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Dibromomethane	ND	1.4	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Dichlorodifluoromethane	ND	1.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Diisopropyl Ether	ND	1.5	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Ethylbenzene	ND	0.54	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Hexachlorobutadiene	ND	1.3	20	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Isopropylbenzene	ND	0.81	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
m,p-Xylene	ND	0.57	10	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Methyl t-Butyl Ether	ND	1.4	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Methylene chloride	ND	1.4	20	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Naphthalene	ND	0.88	50	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
n-Butyl Benzene	ND	1.4	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
n-Hexane	ND	2.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
n-Propyl Benzene	ND	1.0	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
o-Xylene	ND	0.58	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
p-Isopropyltoluene	ND	0.85	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
sec-Butyl Benzene	ND	1.3	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Styrene	ND	0.65	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
tert-Butylbenzene	ND	1.2	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
<b>Tetrachloroethene</b>	<b>230</b>	0.81	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	D
Tetrahydrofuran	ND	12	100	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
<b>Toluene</b>	<b>1.5</b>	0.53	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	J, D, B
trans-1,2-Dichloroethene	ND	1.1	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.96	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
<b>Trichloroethene</b>	<b>21</b>	0.62	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	D
Trichlorofluoromethane	ND	1.3	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Vinyl chloride	ND	1.6	5.0	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
Xylenes, total	ND	1.2	15	ug/L	10	01/26/2017	01/30/2017 13:50	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			<i>125 %</i>	<i>68.9-141</i>		<i>01/26/2017</i>	<i>01/30/2017 13:50</i>	<i>EPA 8260B</i>	
<i>Surrogate: Toluene-d8</i>			<i>107 %</i>	<i>73.3-114</i>		<i>01/26/2017</i>	<i>01/30/2017 13:50</i>	<i>EPA 8260B</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>101 %</i>	<i>72.2-114</i>		<i>01/26/2017</i>	<i>01/30/2017 13:50</i>	<i>EPA 8260B</i>	



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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MP-16 Port 2 140-144**  
**A170401-16 (Water)**

**Date Sampled**  
**01/18/2017 13:49**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
<b>Chloromethane</b>	<b>0.55</b>	<b>0.16</b>	<b>2.0</b>	<b>ug/L</b>	<b>1</b>	<b>01/26/2017</b>	<b>01/30/2017 14:21</b>	<b>EPA 8260B</b>	<b>J, B</b>



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**MP-16 Port 2 140-144**  
**A170401-16 (Water)**

Date Sampled  
 01/18/2017 13:49

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

<b>cis-1,2-Dichloroethene</b>	<b>1.5</b>	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
<b>Methylene chloride</b>	<b>0.27</b>	0.14	2.0	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	J
Naphthalene	ND	0.088	5.0	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
<b>Tetrachloroethene</b>	<b>26</b>	0.081	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
<b>Toluene</b>	<b>0.14</b>	0.053	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	J, B
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
<b>Trichloroethene</b>	<b>5.2</b>	0.062	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	01/26/2017	01/30/2017 14:21	EPA 8260B	

Surrogate: Dibromofluoromethane

126 % 68.9-141

01/26/2017 01/30/2017 14:21

EPA 8260B

Surrogate: Toluene-d8

105 % 73.3-114

01/26/2017 01/30/2017 14:21

EPA 8260B

Surrogate: 4-Bromofluorobenzene

104 % 72.2-114

01/26/2017 01/30/2017 14:21

EPA 8260B





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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**DUP-01**  
**A170401-17 (Water)**

**Date Sampled**  
**01/19/2017 00:00**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	LC
2-Butanone	ND	3.0	20	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	





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TRC Environmental Corporation, Inc.  
708 Heartland Trail, Ste 3000  
Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
Project Number: 266431.0000.0000.000001  
Project Manager: Andrew Stehn

**DUP-01**

**A170401-17 (Water)**

**Date Sampled**  
**01/19/2017 00:00**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

<b>cis-1,2-Dichloroethene</b>	<b>1.1</b>	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
<b>Methyl t-Butyl Ether</b>	<b>0.38</b>	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	HC, J
Methylene chloride	ND	0.14	2.0	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Naphthalene	ND	0.088	5.0	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
<b>Tetrachloroethene</b>	<b>2.3</b>	0.081	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
<b>Toluene</b>	<b>0.11</b>	0.053	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	J, B
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
<b>Trichloroethene</b>	<b>2.1</b>	0.062	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	01/26/2017	01/31/2017 17:12	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			98.7 %	68.9-141		01/26/2017	01/31/2017 17:12	EPA 8260B	
<i>Surrogate: Toluene-d8</i>			107 %	73.3-114		01/26/2017	01/31/2017 17:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>			103 %	72.2-114		01/26/2017	01/31/2017 17:12	EPA 8260B	



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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**DUP-02**  
**A170401-18 (Water)**

**Date Sampled**  
**01/20/2017 00:00**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	5.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,1,1-Trichloroethane	ND	5.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	5.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,1,2-Trichloroethane	ND	5.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	6.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,1-Dichloroethane	ND	6.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,1-Dichloroethene	ND	7.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,1-Dichloropropene	ND	5.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,2,3-Trichlorobenzene	ND	2.3	100	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,2,3-Trichloropropane	ND	7.5	50	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,2,4-Trichlorobenzene	ND	3.9	100	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
<b>1,2,4-Trimethylbenzene</b>	<b>110</b>	3.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	D
1,2-Dibromo-3-chloropropane	ND	13	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	6.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,2-Dichlorobenzene	ND	3.8	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,2-Dichloroethane	ND	3.9	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,2-Dichloropropane	ND	5.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,3,5-Trimethylbenzene	ND	3.8	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,3-Dichlorobenzene	ND	4.8	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,3-Dichloropropane	ND	5.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
1,4-Dichlorobenzene	ND	3.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
2,2-Dichloropropane	ND	7.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	LC
2-Butanone	ND	150	1000	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
2-Chlorotoluene	ND	3.8	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
2-Hexanone	ND	48	1000	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
4-Chlorotoluene	ND	3.7	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
4-Methyl-2-pentanone	ND	39	1000	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Acetone	ND	170	1000	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
<b>Benzene</b>	<b>2200</b>	4.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	D
Bromobenzene	ND	4.2	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Bromochloromethane	ND	16	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Bromodichloromethane	ND	3.9	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Bromoform	ND	4.4	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Bromomethane	ND	30	250	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Carbon disulfide	ND	2.7	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Carbon tetrachloride	ND	1.9	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Chlorobenzene	ND	3.7	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Chloroethane	ND	13	250	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Chloroform	ND	3.1	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
<b>Chloromethane</b>	<b>9.5</b>	8.0	100	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	J, D, B



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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**DUP-02**  
**A170401-18 (Water)**

**Date Sampled**  
**01/20/2017 00:00**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

cis-1,2-Dichloroethene	ND	5.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
cis-1,3-Dichloropropene	ND	3.1	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Dibromochloromethane	ND	4.6	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Dibromomethane	ND	7.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Dichlorodifluoromethane	ND	5.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Diisopropyl Ether	ND	7.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
<b>Ethylbenzene</b>	<b>20</b>	2.7	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	J, D
Hexachlorobutadiene	ND	6.5	100	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
<b>Isopropylbenzene</b>	<b>31</b>	4.1	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	D
<b>m,p-Xylene</b>	<b>110</b>	2.9	50	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	D, B
Methyl t-Butyl Ether	ND	7.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Methylene chloride	ND	7.0	100	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
<b>Naphthalene</b>	<b>140</b>	4.4	250	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	J, D
n-Butyl Benzene	ND	7.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
n-Hexane	ND	11	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
<b>n-Propyl Benzene</b>	<b>21</b>	5.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	J, D
<b>o-Xylene</b>	<b>11</b>	2.9	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	J, B, D
p-Isopropyltoluene	ND	4.3	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
sec-Butyl Benzene	ND	6.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Styrene	ND	3.3	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
tert-Butylbenzene	ND	6.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Tetrachloroethene	ND	4.1	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Tetrahydrofuran	ND	60	500	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
<b>Toluene</b>	<b>110</b>	2.7	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	B, D
trans-1,2-Dichloroethene	ND	5.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
trans-1,3-Dichloropropene	ND	4.8	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
<b>Trichloroethene</b>	<b>20</b>	3.1	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	J, D
Trichlorofluoromethane	ND	6.5	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
Vinyl chloride	ND	8.0	25	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	
<b>Xylenes, total</b>	<b>120</b>	5.8	75	ug/L	50	01/26/2017	01/31/2017 15:03	EPA 8260B	B, D
Surrogate: Dibromofluoromethane			126 %	68.9-141		01/26/2017	01/31/2017 15:03	EPA 8260B	
Surrogate: Toluene-d8			108 %	73.3-114		01/26/2017	01/31/2017 15:03	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			101 %	72.2-114		01/26/2017	01/31/2017 15:03	EPA 8260B	



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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**FB-01**  
**A170401-19 (Water)**

**Date Sampled**  
**01/20/2017 15:45**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
<b>1,2,4-Trimethylbenzene</b>	<b>0.37</b>	0.060	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	J
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	LC
2-Butanone	ND	3.0	20	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
<b>Benzene</b>	<b>0.36</b>	0.089	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	J
Bromobenzene	ND	0.084	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**FB-01**  
**A170401-19 (Water)**

**Date Sampled**  
**01/20/2017 15:45**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

<b>cis-1,2-Dichloroethene</b>	<b>0.44</b>	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	J
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
<b>Isopropylbenzene</b>	<b>0.090</b>	0.081	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	J
<b>m,p-Xylene</b>	<b>0.26</b>	0.057	1.0	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	J, B
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
<b>Methylene chloride</b>	<b>0.14</b>	0.14	2.0	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	HC, J
<b>Naphthalene</b>	<b>0.47</b>	0.088	5.0	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	J
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
<b>o-Xylene</b>	<b>0.080</b>	0.058	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	J, B
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
<b>Tetrachloroethene</b>	<b>1.4</b>	0.081	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
<b>Toluene</b>	<b>0.21</b>	0.053	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	J, B
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
<b>Trichloroethene</b>	<b>0.40</b>	0.062	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	J
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	
<b>Xylenes, total</b>	<b>0.34</b>	0.12	1.5	ug/L	1	01/26/2017	01/31/2017 10:44	EPA 8260B	J, B
Surrogate: Dibromofluoromethane			103 %	68.9-141		01/26/2017	01/31/2017 10:44	EPA 8260B	
Surrogate: Toluene-d8			107 %	73.3-114		01/26/2017	01/31/2017 10:44	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			106 %	72.2-114		01/26/2017	01/31/2017 10:44	EPA 8260B	



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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**Pour Blank**  
**A170401-20 (Water)**

**Date Sampled**  
**01/20/2017 16:30**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	LC
2-Butanone	ND	3.0	20	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
<b>Bromodichloromethane</b>	<b>0.10</b>	0.077	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	J, B
Bromoform	ND	0.088	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
<b>Chloroform</b>	<b>0.11</b>	0.062	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	HC, J, B
<b>Chloromethane</b>	<b>0.20</b>	0.16	2.0	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	J, B



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**Pour Blank**  
**A170401-20 (Water)**

**Date Sampled**  
**01/20/2017 16:30**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A701082**

cis-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
<b>Methylene chloride</b>	<b>0.20</b>	0.14	2.0	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	HC, J
Naphthalene	ND	0.088	5.0	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Tetrachloroethene	ND	0.081	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
<b>Toluene</b>	<b>0.20</b>	0.053	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	J, B
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Trichloroethene	ND	0.062	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	01/26/2017	01/31/2017 11:15	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			103 %	68.9-141		01/26/2017	01/31/2017 11:15	EPA 8260B	
<i>Surrogate: Toluene-d8</i>			106 %	73.3-114		01/26/2017	01/31/2017 11:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>			103 %	72.2-114		01/26/2017	01/31/2017 11:15	EPA 8260B	





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Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**  
**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A701082 - EPA 5030B**

**Blank (A701082-BLK1)**

Prepared: 01/26/2017 Analyzed: 01/27/2017 11:00

1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							
1,1,1-Trichloroethane	ND	0.50	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							
1,1,2-Trichloroethane	ND	0.50	ug/L							
1,1,2-Trichlorotrifluoroethane	ND	0.50	ug/L							
1,1-Dichloroethane	ND	0.50	ug/L							
1,1-Dichloroethene	ND	0.50	ug/L							
1,1-Dichloropropene	ND	0.50	ug/L							
1,2,3-Trichlorobenzene	ND	2.0	ug/L							
1,2,3-Trichloropropane	ND	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	2.0	ug/L							
1,2,4-Trimethylbenzene	ND	0.50	ug/L							
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L							
1,2-Dibromoethane (EDB)	ND	0.50	ug/L							
1,2-Dichlorobenzene	ND	0.50	ug/L							
1,2-Dichloroethane	ND	0.50	ug/L							
1,2-Dichloropropane	ND	0.50	ug/L							
1,3,5-Trimethylbenzene	ND	0.50	ug/L							
1,3-Dichlorobenzene	ND	0.50	ug/L							
1,3-Dichloropropane	ND	0.50	ug/L							
1,4-Dichlorobenzene	ND	0.50	ug/L							
2,2-Dichloropropane	ND	0.50	ug/L							
2-Butanone	ND	20	ug/L							
2-Chlorotoluene	ND	0.50	ug/L							
2-Hexanone	ND	20	ug/L							
4-Chlorotoluene	ND	0.50	ug/L							
4-Methyl-2-pentanone	ND	20	ug/L							
Acetone	ND	20	ug/L							
Benzene	ND	0.50	ug/L							
Bromobenzene	ND	0.50	ug/L							
Bromochloromethane	ND	0.50	ug/L							
Bromodichloromethane	0.080	0.50	ug/L							J
Bromoform	ND	0.50	ug/L							
Bromomethane	ND	5.0	ug/L							
Carbon disulfide	ND	0.50	ug/L							
Carbon tetrachloride	ND	0.50	ug/L							
Chlorobenzene	ND	0.50	ug/L							
Chloroethane	ND	5.0	ug/L							
Chloroform	0.080	0.50	ug/L							J
Chloromethane	0.21	2.0	ug/L							J
cis-1,2-Dichloroethene	ND	0.50	ug/L							
cis-1,3-Dichloropropene	ND	0.50	ug/L							
Dibromochloromethane	ND	0.50	ug/L							
Dibromomethane	ND	0.50	ug/L							





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 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**

**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A701082 - EPA 5030B**

**Blank (A701082-BLK1)**

Prepared: 01/26/2017 Analyzed: 01/27/2017 11:00

Dichlorodifluoromethane	ND	0.50	ug/L							
Diisopropyl Ether	ND	0.50	ug/L							
Ethylbenzene	ND	0.50	ug/L							
Hexachlorobutadiene	ND	2.0	ug/L							
Isopropylbenzene	ND	0.50	ug/L							
m,p-Xylene	0.090	1.0	ug/L							J
Methyl t-Butyl Ether	ND	0.50	ug/L							
Methylene chloride	ND	2.0	ug/L							
Naphthalene	ND	5.0	ug/L							
n-Butyl Benzene	ND	0.50	ug/L							
n-Hexane	ND	0.50	ug/L							
n-Propyl Benzene	ND	0.50	ug/L							
o-Xylene	0.060	0.50	ug/L							J
p-Isopropyltoluene	ND	0.50	ug/L							
sec-Butyl Benzene	ND	0.50	ug/L							
Styrene	ND	0.50	ug/L							
tert-Butylbenzene	ND	0.50	ug/L							
Tetrachloroethene	ND	0.50	ug/L							
Tetrahydrofuran	ND	10	ug/L							
Toluene	0.14	0.50	ug/L							J
trans-1,2-Dichloroethene	ND	0.50	ug/L							
trans-1,3-Dichloropropene	ND	0.50	ug/L							
Trichloroethene	ND	0.50	ug/L							
Trichlorofluoromethane	ND	0.50	ug/L							
Vinyl chloride	ND	0.50	ug/L							
Xylenes, total	0.15	1.5	ug/L							J
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Surrogate: Dibromofluoromethane	9.84		ug/L	10.00		98.4	68.9-141			
Surrogate: Toluene-d8	10.2		ug/L	10.00		102	73.3-114			
Surrogate: 4-Bromofluorobenzene	10.0		ug/L	10.00		100	72.2-114			

**LCS (A701082-BS1)**

Prepared: 01/26/2017 Analyzed: 01/27/2017 15:45

1,1,1,2-Tetrachloroethane	5.26	0.50	ug/L	5.000		105	75.8-136			
1,1,1-Trichloroethane	5.62	0.50	ug/L	5.000		112	66.1-164			
1,1,2,2-Tetrachloroethane	5.40	0.50	ug/L	5.000		108	61.8-138			
1,1,2-Trichloroethane	5.55	0.50	ug/L	5.000		111	76.7-127			
1,1,2-Trichlorotrifluoroethane	5.34	0.50	ug/L	5.000		107	55.6-199			
1,1-Dichloroethane	5.89	0.50	ug/L	5.000		118	69.1-153			
1,1-Dichloroethene	5.63	0.50	ug/L	5.000		113	51.2-180			
1,1-Dichloropropene	5.56	0.50	ug/L	5.000		111	77.3-125			
1,2,3-Trichlorobenzene	5.31	2.0	ug/L	5.000		106	74-122			
1,2,3-Trichloropropane	5.54	1.0	ug/L	5.000		111	69.8-140			
1,2,4-Trichlorobenzene	5.01	2.0	ug/L	5.000		100	73.3-120			
1,2,4-Trimethylbenzene	5.30	0.50	ug/L	5.000		106	86.6-121			
1,2-Dibromo-3-chloropropane	5.63	0.50	ug/L	5.000		113	42.9-137			
1,2-Dibromoethane (EDB)	5.27	0.50	ug/L	5.000		105	75.2-124			



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 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**  
**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A701082 - EPA 5030B**

**LCS (A701082-BS1)**

Prepared: 01/26/2017 Analyzed: 01/27/2017 15:45

1,2-Dichlorobenzene	5.36	0.50	ug/L	5.000		107	88.3-115			
1,2-Dichloroethane	6.02	0.50	ug/L	5.000		120	69.2-160			
1,2-Dichloropropane	5.31	0.50	ug/L	5.000		106	73.1-128			
1,3,5-Trimethylbenzene	5.25	0.50	ug/L	5.000		105	87.3-122			
1,3-Dichlorobenzene	5.21	0.50	ug/L	5.000		104	90.7-114			
1,3-Dichloropropane	5.20	0.50	ug/L	5.000		104	76.8-125			
1,4-Dichlorobenzene	5.18	0.50	ug/L	5.000		104	88.9-112			
2,2-Dichloropropane	4.44	0.50	ug/L	5.000		88.8	70.2-147			
2-Butanone	62.3	20	ug/L	50.00		125	39.5-160			
2-Chlorotoluene	4.79	0.50	ug/L	5.000		95.8	87.3-118			
2-Hexanone	54.5	20	ug/L	50.00		109	30.4-168			
4-Chlorotoluene	5.13	0.50	ug/L	5.000		103	87.6-120			
4-Methyl-2-pentanone	55.3	20	ug/L	50.00		111	38.8-166			
Acetone	65.1	20	ug/L	50.00		130	30.1-197			
Benzene	5.72	0.50	ug/L	5.000		114	68.2-135			
Bromobenzene	5.32	0.50	ug/L	5.000		106	84.4-112			
Bromochloromethane	6.50	0.50	ug/L	5.000		130	76.7-138			
Bromodichloromethane	5.17	0.50	ug/L	5.000		103	77.2-140			B
Bromoform	5.32	0.50	ug/L	5.000		106	60-142			
Bromomethane	5.44	5.0	ug/L	5.000		109	52.3-196			
Carbon disulfide	5.43	0.50	ug/L	5.000		109	20.2-197			
Carbon tetrachloride	5.37	0.50	ug/L	5.000		107	61.2-157			
Chlorobenzene	5.22	0.50	ug/L	5.000		104	88.7-113			
Chloroethane	5.57	5.0	ug/L	5.000		111	43.1-196			
Chloroform	5.73	0.50	ug/L	5.000		115	68.7-161			B
Chloromethane	5.45	2.0	ug/L	5.000		109	37.7-187			B
cis-1,2-Dichloroethene	5.97	0.50	ug/L	5.000		119	76.1-127			
cis-1,3-Dichloropropene	4.79	0.50	ug/L	5.000		95.8	65.5-122			
Dibromochloromethane	5.31	0.50	ug/L	5.000		106	74.8-135			
Dibromomethane	5.51	0.50	ug/L	5.000		110	75-140			
Dichlorodifluoromethane	5.00	0.50	ug/L	5.000		100	68.8-164			
Diisopropyl Ether	5.98	0.50	ug/L	5.000		120	62.1-134			
Ethylbenzene	4.92	0.50	ug/L	5.000		98.4	86-119			
Hexachlorobutadiene	4.98	2.0	ug/L	5.000		99.6	54.7-158			
Isopropylbenzene	5.09	0.50	ug/L	5.000		102	86.3-118			
m,p-Xylene	9.95	1.0	ug/L	10.00		99.5	87.1-118			B
Methyl t-Butyl Ether	5.98	0.50	ug/L	5.000		120	58.1-138			
Methylene chloride	5.81	2.0	ug/L	5.000		116	63.5-153			
Naphthalene	5.45	5.0	ug/L	5.000		109	39.3-132			
n-Butyl Benzene	4.77	0.50	ug/L	5.000		95.4	84.7-121			
n-Hexane	5.19	0.50	ug/L	5.000		104	49.5-147			
n-Propyl Benzene	5.05	0.50	ug/L	5.000		101	84.2-124			
o-Xylene	5.12	0.50	ug/L	5.000		102	82.8-114			B
p-Isopropyltoluene	5.04	0.50	ug/L	5.000		101	88.1-116			
sec-Butyl Benzene	5.11	0.50	ug/L	5.000		102	85.3-121			



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 Project Manager: Andrew Stehn

**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**

**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A701082 - EPA 5030B**

**LCS (A701082-BS1)**

Prepared: 01/26/2017 Analyzed: 01/27/2017 15:45

Styrene	5.32	0.50	ug/L	5.000		106	84.7-120			
tert-Butylbenzene	5.25	0.50	ug/L	5.000		105	76.2-123			
Tetrachloroethene	4.83	0.50	ug/L	5.000		96.6	79.3-122			
Tetrahydrofuran	31.8	10	ug/L	25.00		127	27.8-152			
Toluene	5.00	0.50	ug/L	5.000		100	82.7-117			B
trans-1,2-Dichloroethene	5.95	0.50	ug/L	5.000		119	72.3-135			
trans-1,3-Dichloropropene	4.75	0.50	ug/L	5.000		95.0	72.5-122			
Trichloroethene	5.15	0.50	ug/L	5.000		103	77-126			
Trichlorofluoromethane	5.42	0.50	ug/L	5.000		108	56-195			
Vinyl chloride	5.04	0.50	ug/L	5.000		101	52.3-186			
<i>Surrogate: Dibromofluoromethane</i>	5.97		ug/L	5.000		119	68.9-141			
<i>Surrogate: Toluene-d8</i>	5.31		ug/L	5.000		106	73.3-114			
<i>Surrogate: 4-Bromofluorobenzene</i>	5.10		ug/L	5.000		102	72.2-114			

**Matrix Spike (A701082-MS1)**

Source: A170401-03

Prepared: 01/26/2017 Analyzed: 01/30/2017 15:27

1,1,1,2-Tetrachloroethane	5.71	0.50	ug/L	5.000	ND	114	77.8-137			
1,1,1-Trichloroethane	6.26	0.50	ug/L	5.000	ND	125	66.3-167			
1,1,2,2-Tetrachloroethane	5.84	0.50	ug/L	5.000	ND	117	61.3-138			
1,1,2-Trichloroethane	6.38	0.50	ug/L	5.000	ND	128	75.4-132			
1,1,2-Trichlorotrifluoroethane	5.68	0.50	ug/L	5.000	ND	114	57.7-198			
1,1-Dichloroethane	6.36	0.50	ug/L	5.000	ND	127	66.9-154			
1,1-Dichloroethene	5.62	0.50	ug/L	5.000	ND	112	50.1-187			
1,1-Dichloropropene	5.33	0.50	ug/L	5.000	ND	107	74.1-127			
1,2,3-Trichlorobenzene	5.60	2.0	ug/L	5.000	ND	112	75.4-122			
1,2,3-Trichloropropane	5.88	1.0	ug/L	5.000	ND	118	68.4-141			
1,2,4-Trichlorobenzene	4.86	2.0	ug/L	5.000	ND	97.2	72.1-121			
1,2,4-Trimethylbenzene	5.22	0.50	ug/L	5.000	ND	104	86.5-121			
1,2-Dibromo-3-chloropropane	6.20	0.50	ug/L	5.000	ND	124	49.9-130			
1,2-Dibromoethane (EDB)	5.48	0.50	ug/L	5.000	ND	110	74.4-124			
1,2-Dichlorobenzene	5.58	0.50	ug/L	5.000	ND	112	88.5-114			
1,2-Dichloroethane	7.08	0.50	ug/L	5.000	ND	142	72.6-161			
1,2-Dichloropropane	5.72	0.50	ug/L	5.000	ND	114	84.7-119			
1,3,5-Trimethylbenzene	5.23	0.50	ug/L	5.000	ND	105	87.3-122			
1,3-Dichlorobenzene	5.25	0.50	ug/L	5.000	ND	105	90.1-115			
1,3-Dichloropropane	5.56	0.50	ug/L	5.000	ND	111	76.6-126			
1,4-Dichlorobenzene	5.32	0.50	ug/L	5.000	ND	106	87.6-113			
2,2-Dichloropropane	2.60	0.50	ug/L	5.000	ND	52.0	72.3-145			M
2-Butanone	71.7	20	ug/L	50.00	ND	143	32.2-170			
2-Chlorotoluene	5.35	0.50	ug/L	5.000	ND	107	87.9-117			
2-Hexanone	56.1	20	ug/L	50.00	ND	112	30.2-168			
4-Chlorotoluene	5.15	0.50	ug/L	5.000	ND	103	87.5-120			
4-Methyl-2-pentanone	61.4	20	ug/L	50.00	2.04	119	39.1-168			
Acetone	78.1	20	ug/L	50.00	ND	156	31.2-199			
Benzene	6.18	0.50	ug/L	5.000	ND	124	67.8-136			
Bromobenzene	5.55	0.50	ug/L	5.000	ND	111	84.5-111			



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**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**

**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A701082 - EPA 5030B**

Matrix Spike (A701082-MS1)	Source: A170401-03		Prepared: 01/26/2017 Analyzed: 01/30/2017 15:27							
Bromochloromethane	6.97	0.50	ug/L	5.000	ND	139	80.9-134			M
Bromodichloromethane	5.54	0.50	ug/L	5.000	ND	111	76.1-144			B
Bromoform	5.73	0.50	ug/L	5.000	ND	115	60.2-142			
Bromomethane	5.16	5.0	ug/L	5.000	ND	103	50.3-198			
Carbon disulfide	5.69	0.50	ug/L	5.000	0.220	109	35.6-196			
Carbon tetrachloride	5.91	0.50	ug/L	5.000	ND	118	69.7-152			
Chlorobenzene	5.22	0.50	ug/L	5.000	ND	104	89.3-113			
Chloroethane	6.13	5.0	ug/L	5.000	ND	123	50.2-198			
Chloroform	6.35	0.50	ug/L	5.000	ND	127	66.2-164			B
Chloromethane	5.63	2.0	ug/L	5.000	0.520	102	46.5-179			B
cis-1,2-Dichloroethene	36.3	0.50	ug/L	5.000	29.9	127	67.5-137			
cis-1,3-Dichloropropene	4.18	0.50	ug/L	5.000	ND	83.6	63.3-123			
Dibromochloromethane	5.58	0.50	ug/L	5.000	ND	112	76-133			
Dibromomethane	5.95	0.50	ug/L	5.000	ND	119	78.2-139			
Dichlorodifluoromethane	5.40	0.50	ug/L	5.000	ND	108	70.6-150			
Diisopropyl Ether	6.27	0.50	ug/L	5.000	ND	125	57.3-137			
Ethylbenzene	4.98	0.50	ug/L	5.000	ND	99.6	87.3-118			
Hexachlorobutadiene	4.87	2.0	ug/L	5.000	ND	97.4	55.4-161			
Isopropylbenzene	5.02	0.50	ug/L	5.000	ND	100	89-115			
m,p-Xylene	10.0	1.0	ug/L	10.00	ND	100	88.4-117			B
Methyl t-Butyl Ether	6.80	0.50	ug/L	5.000	ND	136	54.4-145			
Methylene chloride	6.87	2.0	ug/L	5.000	0.680	124	59.2-154			
Naphthalene	5.83	5.0	ug/L	5.000	ND	117	43.3-129			
n-Butyl Benzene	4.42	0.50	ug/L	5.000	ND	88.4	85.9-119			
n-Hexane	5.21	0.50	ug/L	5.000	ND	104	44.3-150			
n-Propyl Benzene	5.02	0.50	ug/L	5.000	ND	100	83.7-124			
o-Xylene	5.13	0.50	ug/L	5.000	ND	103	83.9-112			B
p-Isopropyltoluene	4.95	0.50	ug/L	5.000	ND	99.0	89.6-114			
sec-Butyl Benzene	5.14	0.50	ug/L	5.000	ND	103	85.5-120			
Styrene	5.01	0.50	ug/L	5.000	ND	100	79.7-123			
tert-Butylbenzene	5.47	0.50	ug/L	5.000	ND	109	78.6-120			
Tetrachloroethene	18.2	0.50	ug/L	5.000	13.6	91.2	78.8-123			
Tetrahydrofuran	34.6	10	ug/L	25.00	ND	139	24.7-155			
Toluene	5.24	0.50	ug/L	5.000	0.110	103	81-118			B
trans-1,2-Dichloroethene	6.15	0.50	ug/L	5.000	0.220	119	65.3-141			
trans-1,3-Dichloropropene	3.86	0.50	ug/L	5.000	ND	77.2	73.7-120			
Trichloroethene	23.8	0.50	ug/L	5.000	19.2	92.2	77.1-123			
Trichlorofluoromethane	5.88	0.50	ug/L	5.000	ND	118	44.8-199			
Vinyl chloride	5.55	0.50	ug/L	5.000	ND	111	49.8-180			
Surrogate: Dibromofluoromethane	6.52		ug/L	5.000		130	68.9-141			
Surrogate: Toluene-d8	5.49		ug/L	5.000		110	73.3-114			
Surrogate: 4-Bromofluorobenzene	5.30		ug/L	5.000		106	72.2-114			



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**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A701082 - EPA 5030B**

Matrix Spike Dup (A701082-MSD1)	Source: A170401-03		Prepared: 01/26/2017 Analyzed: 01/30/2017 15:59							
1,1,1,2-Tetrachloroethane	5.53	0.50	ug/L	5.000	ND	111	77.8-137	3.20	20	
1,1,1-Trichloroethane	5.97	0.50	ug/L	5.000	ND	119	66.3-167	4.74	20	
1,1,2,2-Tetrachloroethane	6.11	0.50	ug/L	5.000	ND	122	61.3-138	4.52	20	
1,1,2-Trichloroethane	6.38	0.50	ug/L	5.000	ND	128	75.4-132	0.00	20	
1,1,2-Trichlorotrifluoroethane	5.38	0.50	ug/L	5.000	ND	108	57.7-198	5.42	20	
1,1-Dichloroethane	6.22	0.50	ug/L	5.000	ND	124	66.9-154	2.23	20	
1,1-Dichloroethene	5.51	0.50	ug/L	5.000	ND	110	50.1-187	1.98	20	
1,1-Dichloropropene	5.20	0.50	ug/L	5.000	ND	104	74.1-127	2.47	20	
1,2,3-Trichlorobenzene	5.50	2.0	ug/L	5.000	ND	110	75.4-122	1.80	20	
1,2,3-Trichloropropane	5.84	1.0	ug/L	5.000	ND	117	68.4-141	0.683	20	
1,2,4-Trichlorobenzene	4.77	2.0	ug/L	5.000	ND	95.4	72.1-121	1.87	20	
1,2,4-Trimethylbenzene	5.03	0.50	ug/L	5.000	ND	101	86.5-121	3.71	20	
1,2-Dibromo-3-chloropropane	6.51	0.50	ug/L	5.000	ND	130	49.9-130	4.88	20	
1,2-Dibromoethane (EDB)	5.40	0.50	ug/L	5.000	ND	108	74.4-124	1.47	20	
1,2-Dichlorobenzene	5.52	0.50	ug/L	5.000	ND	110	88.5-114	1.08	20	
1,2-Dichloroethane	7.14	0.50	ug/L	5.000	ND	143	72.6-161	0.844	20	
1,2-Dichloropropane	5.62	0.50	ug/L	5.000	ND	112	84.7-119	1.76	20	
1,3,5-Trimethylbenzene	4.97	0.50	ug/L	5.000	ND	99.4	87.3-122	5.10	20	
1,3-Dichlorobenzene	5.15	0.50	ug/L	5.000	ND	103	90.1-115	1.92	20	
1,3-Dichloropropane	5.51	0.50	ug/L	5.000	ND	110	76.6-126	0.903	20	
1,4-Dichlorobenzene	5.16	0.50	ug/L	5.000	ND	103	87.6-113	3.05	20	
2,2-Dichloropropane	2.52	0.50	ug/L	5.000	ND	50.4	72.3-145	3.12	20	M
2-Butanone	74.5	20	ug/L	50.00	ND	149	32.2-170	3.78	20	
2-Chlorotoluene	5.15	0.50	ug/L	5.000	ND	103	87.9-117	3.81	20	
2-Hexanone	57.3	20	ug/L	50.00	ND	115	30.2-168	2.12	20	
4-Chlorotoluene	5.05	0.50	ug/L	5.000	ND	101	87.5-120	1.96	20	
4-Methyl-2-pentanone	62.1	20	ug/L	50.00	2.04	120	39.1-168	1.06	20	
Acetone	79.4	20	ug/L	50.00	ND	159	31.2-199	1.61	20	
Benzene	6.05	0.50	ug/L	5.000	ND	121	67.8-136	2.13	20	
Bromobenzene	5.61	0.50	ug/L	5.000	ND	112	84.5-111	1.08	20	M
Bromochloromethane	6.91	0.50	ug/L	5.000	ND	138	80.9-134	0.865	20	M
Bromodichloromethane	5.57	0.50	ug/L	5.000	ND	111	76.1-144	0.540	20	B
Bromoform	5.58	0.50	ug/L	5.000	ND	112	60.2-142	2.65	20	
Bromomethane	4.73	5.0	ug/L	5.000	ND	94.6	50.3-198	8.70	20	J
Carbon disulfide	5.34	0.50	ug/L	5.000	0.220	102	35.6-196	6.61	20	
Carbon tetrachloride	5.56	0.50	ug/L	5.000	ND	111	69.7-152	6.10	20	
Chlorobenzene	5.12	0.50	ug/L	5.000	ND	102	89.3-113	1.93	20	
Chloroethane	5.54	5.0	ug/L	5.000	ND	111	50.2-198	10.1	20	
Chloroform	6.10	0.50	ug/L	5.000	ND	122	66.2-164	4.02	20	B
Chloromethane	5.23	2.0	ug/L	5.000	0.520	94.2	46.5-179	8.15	20	B
cis-1,2-Dichloroethene	36.0	0.50	ug/L	5.000	29.9	121	67.5-137	5.01	20	
cis-1,3-Dichloropropene	4.23	0.50	ug/L	5.000	ND	84.6	63.3-123	1.19	20	
Dibromochloromethane	5.44	0.50	ug/L	5.000	ND	109	76-133	2.54	20	
Dibromomethane	5.96	0.50	ug/L	5.000	ND	119	78.2-139	0.168	20	
Dichlorodifluoromethane	5.11	0.50	ug/L	5.000	ND	102	70.6-150	5.52	20	



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
 Project Number: 266431.0000.0000.000001  
 Project Manager: Andrew Stehn

**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**  
**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A701082 - EPA 5030B**

<b>Matrix Spike Dup (A701082-MSD1)</b>	<b>Source: A170401-03</b>		<b>Prepared: 01/26/2017 Analyzed: 01/30/2017 15:59</b>							
Diisopropyl Ether	6.40	0.50	ug/L	5.000	ND	128	57.3-137	2.05	20	
Ethylbenzene	4.69	0.50	ug/L	5.000	ND	93.8	87.3-118	6.00	20	
Hexachlorobutadiene	4.44	2.0	ug/L	5.000	ND	88.8	55.4-161	9.24	20	
Isopropylbenzene	4.87	0.50	ug/L	5.000	ND	97.4	89-115	3.03	20	
m,p-Xylene	9.51	1.0	ug/L	10.00	ND	95.1	88.4-117	5.32	20	B
Methyl t-Butyl Ether	6.84	0.50	ug/L	5.000	ND	137	54.4-145	0.587	20	
Methylene chloride	6.61	2.0	ug/L	5.000	0.680	119	59.2-154	4.29	20	
Naphthalene	6.14	5.0	ug/L	5.000	ND	123	43.3-129	5.18	20	
n-Butyl Benzene	4.14	0.50	ug/L	5.000	ND	82.8	85.9-119	6.54	20	M
n-Hexane	4.82	0.50	ug/L	5.000	ND	96.4	44.3-150	7.78	20	
n-Propyl Benzene	4.75	0.50	ug/L	5.000	ND	95.0	83.7-124	5.53	20	
o-Xylene	5.09	0.50	ug/L	5.000	ND	102	83.9-112	0.783	20	B
p-Isopropyltoluene	4.65	0.50	ug/L	5.000	ND	93.0	89.6-114	6.25	20	
sec-Butyl Benzene	4.83	0.50	ug/L	5.000	ND	96.6	85.5-120	6.22	20	
Styrene	4.92	0.50	ug/L	5.000	ND	98.4	79.7-123	1.81	20	
tert-Butylbenzene	5.22	0.50	ug/L	5.000	ND	104	78.6-120	4.68	20	
Tetrachloroethene	17.2	0.50	ug/L	5.000	13.6	71.6	78.8-123	24.1	20	M, X
Tetrahydrofuran	36.3	10	ug/L	25.00	ND	145	24.7-155	4.54	20	
Toluene	4.94	0.50	ug/L	5.000	0.110	96.6	81-118	6.02	20	B
trans-1,2-Dichloroethene	5.82	0.50	ug/L	5.000	0.220	112	65.3-141	5.72	20	
trans-1,3-Dichloropropene	3.83	0.50	ug/L	5.000	ND	76.6	73.7-120	0.780	20	
Trichloroethene	22.8	0.50	ug/L	5.000	19.2	71.8	77.1-123	24.9	20	M, X
Trichlorofluoromethane	5.50	0.50	ug/L	5.000	ND	110	44.8-199	6.68	20	
Vinyl chloride	5.12	0.50	ug/L	5.000	ND	102	49.8-180	8.06	20	
<i>Surrogate: Dibromofluoromethane</i>	<i>6.55</i>		<i>ug/L</i>	<i>5.000</i>		<i>131</i>	<i>68.9-141</i>			
<i>Surrogate: Toluene-d8</i>	<i>5.25</i>		<i>ug/L</i>	<i>5.000</i>		<i>105</i>	<i>73.3-114</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>5.17</i>		<i>ug/L</i>	<i>5.000</i>		<i>103</i>	<i>72.2-114</i>			

TRC Environmental Corporation, Inc.  
708 Heartland Trail, Ste 3000  
Madison WI, 53717

Project: Madison Kipp Corp. Quarterly Sampling  
Project Number: 266431.0000.0000.000001  
Project Manager: Andrew Stehn

### Notes and Definitions

- X Precision for the matrix spike duplicate, laboratory control sample duplicate or lab duplicate was outside of control limits.
- M The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory control limits.
- LC Results may be biased low because of low continuing calibration verification (CCV).
- J Analyte was detected but is below the reporting limit. The concentration is estimated.
- HC Results may be biased high because of high continuing calibration verification (CCV).
- D Data reported from a dilution
- CN See the case narrative.
- B Analyte is also detected in the associated method blank.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. If the word 'dry' does not appear after the units, results are reported on an as-is basis.
- RPD Relative Percent Difference



**Pace Analytical - ECCS Division**  
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# CHAIN OF CUSTODY

No. 6498

Page: of:

Project Number: 266431,0000,0000,0000 PO Number: 103978				Lab Work Order #: <b>A170401</b>				Report To: <b>A. Stehn / P. Papp</b>							
Project Name: <b>Madison Kipp Corp. Quarterly Sampling</b>				Preservation Codes				Company: <b>TRC Env.</b>							
Project Location (City, State): <b>Madison, WI</b>				Analyses Requested				Address 1:							
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix: <b>VOCs</b>				Address 2:							
If Rush, Report Due Date:								E-mail Address:							
Sampled By (Print): <b>Wesley Braga</b>				Total # of Containers				Invoice To:							
Sample Description				Collection		Matrix				Company:					
				Date	Time					Address 1:					
										Address 2:					
										Comments		Lab ID	Lab Receipt Time		
<b>MW-2D</b>				11/19/17	1319	W	3	X				01			
<b>MW-3D</b>				11/19/17	1611	W	3	X				02			
<b>MW-3D2</b>				11/19/17	1527	W	9	X			<b>MS/MSD</b>	03			
<b>MW-4D2</b>				11/19/17	1408	W	3	X				04			
<b>MW-5D</b>				11/18/17	1647	W	3	X				05			
<b>MW-5D2</b>				11/20/17	0917	W	3	X				06			
<b>MW-5D3</b>				11/19/17	1620	W	3	X				07			
<b>MW-6D</b>				11/20/17	1241	W	3	X				08			
<b>MW-9D2</b>				11/19/17	1146	W	3	X				09			
<b>MW-17</b>				11/20/17	1118	W	3	X				10			
<b>Preservation Codes</b> A=None B=HCL C=H <sub>2</sub> SO <sub>4</sub> D=HNO <sub>3</sub> E=EnCore F=Methanol G=NaOH O=Other (Indicate)		<b>Other Comments:</b>		Relinquished By: <i>Wesley Braga</i> Relinquished By:		Date: 1/23/17 Date:		Time: 0900 Time:		Received By: <i>Jessica...</i> Received By:		Date: 01-23-17 Date:		Time: 0900 Time:	
<b>Matrix Codes</b> A=Air S=Soil W=Water O=Other		<input checked="" type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <b>Walk-In</b>		Receipt Temp: <b>2.4°C</b>		Thermometer #/ Exp. Date: <b>160142274 01-21-18</b>		Temp Blank: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N					





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# CHAIN OF CUSTODY

No. 6499

Page: of:

Project Number: 266431.0000.0000.0000 PO Number: 103978				Lab Work Order #: A170401				Report To: A. Stehn / P. Paep											
Project Name: Madison Kipp Corp. Quarterly Sampling				Preservation Codes				Company: TRC											
Project Location (City, State): Madison, WI				Analyses Requested: B				Address 1:											
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix: VOCs Total # of Containers: 3				Address 2:											
If Rush, Report Due Date:								E-mail Address:											
Sampled By (Print): Wesley Braga								Invoice To:											
								Company:											
Sample Description				Collection		Date		Time		Matrix		Total # of Containers		VOCs		Comments		Lab ID	Lab Receipt Time
				Date														Time	
MW-22D				11/20/16		1551		W		3		X				11			
MW-23D				11/20/16		1403		W		3		X				12			
MW-25D2				11/19/16		0922		W		3		X				13			
MW-27D				11/19/16		1133		W		3		X				14			
MP-14 Port 2 135-140				11/18/16		1459		W		3		X				15			
MP-16 Port 2 140-144				11/18/16		1349		W		3		X				16			
Dup-01				11/19/16		-		W		3		X				17			
DUP-02				1/20/16		-		W		3		X				18			
FB-01				1/20/16		1545		W		3		X				19			
Pour Blank				1/20/16		1630		W		2		X				20			
<b>Preservation Codes</b> A=None B=HCL C=H <sub>2</sub> SO <sub>4</sub> D=HNO <sub>3</sub> E=EnCore F=Methanol G=NaOH O=Other (Indicate)  <b>Matrix Codes</b> A=Air S=Soil W=Water O=Other				<b>Other Comments:</b> Relinquished By: <i>Wesley Braga</i> Relinquished By:				Date: 1/23/17		Time: 0900		Received By: <i>[Signature]</i>		Date: 01-23-17		Time: 0900			
								Date:		Time:		Received By:		Date:		Time:			
				Custody Seal: <input checked="" type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: Walk-In		Receipt Temp: 2.4°C		Thermometer #/ Exp. Date: 160142274 01-21-18		Temp Blank: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N					



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April 24, 2017

Andrew Stehn  
TRC Environmental Corporation, Inc.  
708 Heartland Trail, Ste 3000  
Madison, WI 53717  
RE: Madison Kipp Corp. Semi-Annual Sampling

Enclosed are the analytical results for the samples received by the laboratory on 04/13/2017.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. These results are in compliance with the 2009 NELAC Standards and the appropriate agencies listed below, unless otherwise noted in the case narrative. This analytical report should be reproduced in its entirety.

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

Sincerely,

Jessica Esser  
Project Manager

**Certification List**

Certification List			Expires
DODELAP	DOD ELAP Accreditation (A2LA)	3269.01	03/31/2018
ILEPA	Illinois Secondary NELAP Accreditation	003174	04/30/2018
KDHE	Kansas Secondary NELAP Accreditation	E-10384	04/30/2017
LELAP	Louisiana Primary NELAP Accreditation	04165	06/30/2017
NJDEP	New Jersey Secondary NELAP Accreditation	WI004	06/30/2017
ODEQ	Oklahoma Department of Environmental Quality Accreditation	2016-083	08/31/2017
PADEP	Pennsylvania Secondary NELAP Accreditation	68-02962	05/31/2017
TCEQ	Texas Secondary NELAP Accreditation	T104704504-16-7	11/30/2017
WADOE	Washington Secondary NELAP Accreditation	C1028	05/05/2017
WDNR	Wisconsin Certification under NR 149	113289110	08/31/2017



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2D	A171512-01	Water	04/12/2017	04/13/2017
MW-3D	A171512-02	Water	04/12/2017	04/13/2017
MW-3D2	A171512-03	Water	04/12/2017	04/13/2017
MW-4D2	A171512-04	Water	04/11/2017	04/13/2017
MW-5D	A171512-05	Water	04/12/2017	04/13/2017
MW-5D2	A171512-06	Water	04/12/2017	04/13/2017
MW-5D3	A171512-07	Water	04/12/2017	04/13/2017
MW-6D	A171512-08	Water	04/11/2017	04/13/2017
MW-9D2	A171512-09	Water	04/12/2017	04/13/2017
MW-17	A171512-10	Water	04/12/2017	04/13/2017
MW-22D	A171512-11	Water	04/11/2017	04/13/2017
MW-23D	A171512-12	Water	04/11/2017	04/13/2017
MW-25D2	A171512-13	Water	04/12/2017	04/13/2017
MW-27D	A171512-14	Water	04/11/2017	04/13/2017
MP-14 Port 2 (135-140)	A171512-15	Water	04/10/2017	04/13/2017
MP-16 Port 2 (140-144)	A171512-16	Water	04/10/2017	04/13/2017
DUP-01	A171512-17	Water	04/11/2017	04/13/2017
DUP-02	A171512-18	Water	04/11/2017	04/13/2017
FB-01	A171512-19	Water	04/12/2017	04/13/2017
Trip Blank	A171512-20	Water	04/13/2017	04/13/2017



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TRC Environmental Corporation, Inc.  
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Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
Project Number: 266431  
Project Manager: Andrew Stehn

**CASE NARRATIVE**

**Sample Receipt Information:**

20 samples were received on 04/13/2017. Samples were received at 0.0 degrees Celsius.

One vial for sample A171512-02 had a discrepancy between the sample description on the chain of custody (COC) and the sample description on the container. Per the client, the COC sample description is correct.

Please see the COC document at the end of this report for additional information.

**Continuing Calibration Verification (CCV):**

CCV indicates a potential high bias for chloromethane and vinyl chloride for samples A171512-01 through A171512-12 and A171512-14 through A171512-20. The upper control limits are 130% and 120% and the highest recoveries were 145% and 130%, respectively. Any detections are footnoted with an HC. For the samples where results were less than the reporting limit no further action is required.

CCV also indicates a potential high bias for 1,2-dichloroethane, bromomethane, dichlorodifluoromethane and trichlorofluoromethane for samples A171512-01 through A171512-12 and A171512-14 through A171512-20. Samples were less than the reporting limit for these analytes so no further action is required.



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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-2D**  
**A171512-01 (Water)**

**Date Sampled**  
**04/12/2017 09:11**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
<b>Acetone</b>	<b>15</b>	3.4	20	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	J
Benzene	ND	0.089	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
<b>Chloromethane</b>	<b>0.30</b>	0.16	2.0	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	HC, J



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-2D**  
**A171512-01 (Water)**

**Date Sampled**  
**04/12/2017 09:11**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Naphthalene	ND	0.088	5.0	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
<b>Tetrachloroethene</b>	<b>19</b>	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Toluene	ND	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
<b>Trichloroethene</b>	<b>0.12</b>	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	J
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/14/2017 21:43	EPA 8260B	
Surrogate: Dibromofluoromethane			106 %	68.9-141		04/14/2017	04/14/2017 21:43	EPA 8260B	
Surrogate: Toluene-d8			96.8 %	73.3-114		04/14/2017	04/14/2017 21:43	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			96.7 %	72.2-114		04/14/2017	04/14/2017 21:43	EPA 8260B	



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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-3D**  
**A171512-02 (Water)**

**Date Sampled**  
**04/12/2017 10:35**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
<b>Acetone</b>	<b>18</b>	3.4	20	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	J
<b>Benzene</b>	<b>0.34</b>	0.089	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	J
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
<b>Carbon disulfide</b>	<b>0.14</b>	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	J
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
<b>Chloromethane</b>	<b>0.18</b>	0.16	2.0	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	HC, J



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Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-3D**  
**A171512-02 (Water)**

**Date Sampled**  
**04/12/2017 10:35**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	<b>10</b>	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Naphthalene	ND	0.088	5.0	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
<b>n-Hexane</b>	<b>0.21</b>	0.21	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	J
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
<b>Tetrachloroethene</b>	<b>0.43</b>	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	J
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
<b>Toluene</b>	<b>0.10</b>	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	J
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
<b>Trichloroethene</b>	<b>4.4</b>	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/14/2017 22:12	EPA 8260B	
Surrogate: Dibromofluoromethane			105 %	68.9-141		04/14/2017	04/14/2017 22:12	EPA 8260B	
Surrogate: Toluene-d8			98.4 %	73.3-114		04/14/2017	04/14/2017 22:12	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			98.6 %	72.2-114		04/14/2017	04/14/2017 22:12	EPA 8260B	





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Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-3D2**  
**A171512-03 (Water)**

**Date Sampled**  
**04/12/2017 10:49**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
<b>Acetone</b>	<b>14</b>	3.4	20	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	J
Benzene	ND	0.089	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-3D2**  
**A171512-03 (Water)**

**Date Sampled**  
**04/12/2017 10:49**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

<b>cis-1,2-Dichloroethene</b>	<b>2.1</b>	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Naphthalene	ND	0.088	5.0	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
<b>Tetrachloroethene</b>	<b>2.3</b>	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Toluene	ND	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
<b>Trichloroethene</b>	<b>4.4</b>	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/14/2017 22:42	EPA 8260B	
Surrogate: Dibromofluoromethane			108 %	68.9-141		04/14/2017	04/14/2017 22:42	EPA 8260B	
Surrogate: Toluene-d8			97.7 %	73.3-114		04/14/2017	04/14/2017 22:42	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			97.7 %	72.2-114		04/14/2017	04/14/2017 22:42	EPA 8260B	



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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-4D2**  
**A171512-04 (Water)**

**Date Sampled**  
**04/11/2017 13:54**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
<b>1,1,1-Trichloroethane</b>	<b>0.30</b>	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	J
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	



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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-4D2**  
**A171512-04 (Water)**

**Date Sampled**  
**04/11/2017 13:54**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Naphthalene	ND	0.088	5.0	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
<b>Tetrachloroethene</b>	<b>0.46</b>	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	J
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Toluene	ND	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Trichloroethene	ND	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/14/2017 23:12	EPA 8260B	
Surrogate: Dibromofluoromethane			107 %	68.9-141		04/14/2017	04/14/2017 23:12	EPA 8260B	
Surrogate: Toluene-d8			99.2 %	73.3-114		04/14/2017	04/14/2017 23:12	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			97.8 %	72.2-114		04/14/2017	04/14/2017 23:12	EPA 8260B	



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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-5D**  
**A171512-05 (Water)**

**Date Sampled**  
**04/12/2017 15:09**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.55	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,1,1-Trichloroethane	ND	0.50	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.50	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,1,2-Trichloroethane	ND	0.50	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.65	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,1-Dichloroethane	ND	0.60	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,1-Dichloroethene	ND	0.70	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,1-Dichloropropene	ND	0.55	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.23	10	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,2,3-Trichloropropane	ND	0.75	5.0	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.39	10	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.30	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	1.3	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.65	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,2-Dichlorobenzene	ND	0.38	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,2-Dichloroethane	ND	0.39	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,2-Dichloropropane	ND	0.50	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.38	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,3-Dichlorobenzene	ND	0.48	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,3-Dichloropropane	ND	0.55	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
1,4-Dichlorobenzene	ND	0.35	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
2,2-Dichloropropane	ND	0.70	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
2-Butanone	ND	15	100	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
2-Chlorotoluene	ND	0.38	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
2-Hexanone	ND	4.8	100	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
4-Chlorotoluene	ND	0.37	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
4-Methyl-2-pentanone	ND	3.9	100	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Acetone	ND	17	100	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Benzene	ND	0.45	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Bromobenzene	ND	0.42	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Bromochloromethane	ND	1.6	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Bromodichloromethane	ND	0.39	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Bromoform	ND	0.44	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Bromomethane	ND	3.0	25	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
<b>Carbon disulfide</b>	<b>0.70</b>	0.27	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	J, D
Carbon tetrachloride	ND	0.19	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Chlorobenzene	ND	0.37	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Chloroethane	ND	1.3	25	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Chloroform	ND	0.31	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Chloromethane	ND	0.80	10	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-5D**  
**A171512-05 (Water)**

**Date Sampled**  
**04/12/2017 15:09**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

<b>cis-1,2-Dichloroethene</b>	<b>13</b>	0.55	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	D
cis-1,3-Dichloropropene	ND	0.31	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Dibromochloromethane	ND	0.46	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Dibromomethane	ND	0.70	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Dichlorodifluoromethane	ND	0.55	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Diisopropyl Ether	ND	0.75	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Ethylbenzene	ND	0.27	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Hexachlorobutadiene	ND	0.65	10	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Isopropylbenzene	ND	0.41	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
m,p-Xylene	ND	0.29	5.0	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Methyl t-Butyl Ether	ND	0.70	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
<b>Methylene chloride</b>	<b>1.3</b>	0.70	10	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	J, D
Naphthalene	ND	0.44	25	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
n-Butyl Benzene	ND	0.70	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
n-Hexane	ND	1.1	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
n-Propyl Benzene	ND	0.50	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
o-Xylene	ND	0.29	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
p-Isopropyltoluene	ND	0.43	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
sec-Butyl Benzene	ND	0.65	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Styrene	ND	0.33	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
tert-Butylbenzene	ND	0.60	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
<b>Tetrachloroethene</b>	<b>190</b>	0.41	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	D
Tetrahydrofuran	ND	6.0	50	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Toluene	ND	0.27	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.55	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.48	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
<b>Trichloroethene</b>	<b>9.1</b>	0.31	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	D
Trichlorofluoromethane	ND	0.65	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Vinyl chloride	ND	0.80	2.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
Xylenes, total	ND	0.58	7.5	ug/L	5	04/14/2017	04/17/2017 11:02	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			115 %	68.9-141		04/14/2017	04/17/2017 11:02	EPA 8260B	
<i>Surrogate: Toluene-d8</i>			102 %	73.3-114		04/14/2017	04/17/2017 11:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>			102 %	72.2-114		04/14/2017	04/17/2017 11:02	EPA 8260B	



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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-5D2**  
**A171512-06 (Water)**

**Date Sampled**  
**04/12/2017 16:52**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	2.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,1,1-Trichloroethane	ND	2.0	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	2.0	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,1,2-Trichloroethane	ND	2.0	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	2.6	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,1-Dichloroethane	ND	2.4	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,1-Dichloroethene	ND	2.8	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,1-Dichloropropene	ND	2.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.90	40	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,2,3-Trichloropropane	ND	3.0	20	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,2,4-Trichlorobenzene	ND	1.5	40	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,2,4-Trimethylbenzene	ND	1.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	5.0	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	2.6	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,2-Dichlorobenzene	ND	1.5	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,2-Dichloroethane	ND	1.6	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,2-Dichloropropane	ND	2.0	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,3,5-Trimethylbenzene	ND	1.5	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,3-Dichlorobenzene	ND	1.9	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,3-Dichloropropane	ND	2.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
1,4-Dichlorobenzene	ND	1.4	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
2,2-Dichloropropane	ND	2.8	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
2-Butanone	ND	60	400	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
2-Chlorotoluene	ND	1.5	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
2-Hexanone	ND	19	400	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
4-Chlorotoluene	ND	1.5	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
4-Methyl-2-pentanone	ND	15	400	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Acetone	ND	68	400	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Benzene	ND	1.8	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Bromobenzene	ND	1.7	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Bromochloromethane	ND	6.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Bromodichloromethane	ND	1.5	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Bromoform	ND	1.8	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Bromomethane	ND	12	100	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Carbon disulfide	ND	1.1	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Carbon tetrachloride	ND	0.76	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Chlorobenzene	ND	1.5	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Chloroethane	ND	5.0	100	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
<b>Chloroform</b>	<b>2.2</b>	1.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	J, D
Chloromethane	ND	3.2	40	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	





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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-5D2**  
**A171512-06 (Water)**

**Date Sampled**  
**04/12/2017 16:52**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	2.2	2.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	J, D
cis-1,3-Dichloropropene	ND	1.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Dibromochloromethane	ND	1.8	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Dibromomethane	ND	2.8	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Dichlorodifluoromethane	ND	2.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Diisopropyl Ether	ND	3.0	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Ethylbenzene	ND	1.1	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Hexachlorobutadiene	ND	2.6	40	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Isopropylbenzene	ND	1.6	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
m,p-Xylene	ND	1.1	20	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Methyl t-Butyl Ether	ND	2.8	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Methylene chloride	ND	2.8	40	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Naphthalene	ND	1.8	100	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
n-Butyl Benzene	ND	2.8	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
n-Hexane	ND	4.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
n-Propyl Benzene	ND	2.0	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
o-Xylene	ND	1.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
p-Isopropyltoluene	ND	1.7	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
sec-Butyl Benzene	ND	2.6	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Styrene	ND	1.3	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
tert-Butylbenzene	ND	2.4	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
<b>Tetrachloroethene</b>	<b>670</b>	1.6	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	D
Tetrahydrofuran	ND	24	200	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Toluene	ND	1.1	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	2.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
trans-1,3-Dichloropropene	ND	1.9	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
<b>Trichloroethene</b>	<b>7.8</b>	1.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	J, D
Trichlorofluoromethane	ND	2.6	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Vinyl chloride	ND	3.2	10	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Xylenes, total	ND	2.3	30	ug/L	20	04/14/2017	04/14/2017 16:46	EPA 8260B	
Surrogate: Dibromofluoromethane			108 %	68.9-141		04/14/2017	04/14/2017 16:46	EPA 8260B	
Surrogate: Toluene-d8			101 %	73.3-114		04/14/2017	04/14/2017 16:46	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			101 %	72.2-114		04/14/2017	04/14/2017 16:46	EPA 8260B	





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Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-5D3**  
**A171512-07 (Water)**

**Date Sampled**  
**04/12/2017 15:26**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
<b>Acetone</b>	<b>15</b>	3.4	20	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	J
Benzene	ND	0.089	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-5D3**  
**A171512-07 (Water)**

**Date Sampled**  
**04/12/2017 15:26**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
<b>Naphthalene</b>	<b>0.36</b>	0.088	5.0	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	J
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
<b>Tetrachloroethene</b>	<b>0.25</b>	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	J
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Toluene	ND	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
<b>Trichloroethene</b>	<b>0.18</b>	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	J
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/14/2017 23:41	EPA 8260B	
Surrogate: Dibromofluoromethane			106 %	68.9-141		04/14/2017	04/14/2017 23:41	EPA 8260B	
Surrogate: Toluene-d8			97.2 %	73.3-114		04/14/2017	04/14/2017 23:41	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			98.3 %	72.2-114		04/14/2017	04/14/2017 23:41	EPA 8260B	



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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-6D**  
**A171512-08 (Water)**

**Date Sampled**  
**04/11/2017 15:08**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	11	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,1,1-Trichloroethane	ND	10	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	9.9	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,1,2-Trichloroethane	ND	10	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	13	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,1-Dichloroethane	ND	12	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,1-Dichloroethene	ND	14	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,1-Dichloropropene	ND	11	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,2,3-Trichlorobenzene	ND	4.5	200	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,2,3-Trichloropropane	ND	15	100	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,2,4-Trichlorobenzene	ND	7.7	200	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
<b>1,2,4-Trimethylbenzene</b>	<b>96</b>	6.0	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	D
1,2-Dibromo-3-chloropropane	ND	25	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	13	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,2-Dichlorobenzene	ND	7.6	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,2-Dichloroethane	ND	7.8	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,2-Dichloropropane	ND	10	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,3,5-Trimethylbenzene	ND	7.5	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,3-Dichlorobenzene	ND	9.6	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,3-Dichloropropane	ND	11	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
1,4-Dichlorobenzene	ND	7.0	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
2,2-Dichloropropane	ND	14	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
2-Butanone	ND	300	2000	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
2-Chlorotoluene	ND	7.5	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
2-Hexanone	ND	95	2000	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
4-Chlorotoluene	ND	7.3	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
4-Methyl-2-pentanone	ND	77	2000	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Acetone	ND	340	2000	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
<b>Benzene</b>	<b>1700</b>	8.9	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	D
Bromobenzene	ND	8.4	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Bromochloromethane	ND	31	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Bromodichloromethane	ND	7.7	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Bromoform	ND	8.8	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Bromomethane	ND	59	500	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Carbon disulfide	ND	5.3	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Carbon tetrachloride	ND	3.8	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Chlorobenzene	ND	7.3	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Chloroethane	ND	25	500	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Chloroform	ND	6.2	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Chloromethane	ND	16	200	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	



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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-6D**  
**A171512-08 (Water)**

**Date Sampled**  
**04/11/2017 15:08**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	ND	11	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
cis-1,3-Dichloropropene	ND	6.1	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Dibromochloromethane	ND	9.1	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Dibromomethane	ND	14	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Dichlorodifluoromethane	ND	11	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Diisopropyl Ether	ND	15	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
<b>Ethylbenzene</b>	<b>23</b>	5.4	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	J, D
Hexachlorobutadiene	ND	13	200	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
<b>Isopropylbenzene</b>	<b>33</b>	8.1	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	J, D
<b>m,p-Xylene</b>	<b>73</b>	5.7	100	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	J, D
Methyl t-Butyl Ether	ND	14	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Methylene chloride	ND	14	200	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
<b>Naphthalene</b>	<b>81</b>	8.8	500	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	J, D
n-Butyl Benzene	ND	14	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
n-Hexane	ND	21	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
<b>n-Propyl Benzene</b>	<b>24</b>	10	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	J, D
<b>o-Xylene</b>	<b>9.0</b>	5.8	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	J, D
p-Isopropyltoluene	ND	8.5	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
sec-Butyl Benzene	ND	13	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Styrene	ND	6.5	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
tert-Butylbenzene	ND	12	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Tetrachloroethene	ND	8.1	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Tetrahydrofuran	ND	120	1000	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
<b>Toluene</b>	<b>100</b>	5.3	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	D
trans-1,2-Dichloroethene	ND	11	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
trans-1,3-Dichloropropene	ND	9.6	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
<b>Trichloroethene</b>	<b>23</b>	6.2	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	J, D
Trichlorofluoromethane	ND	13	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
Vinyl chloride	ND	16	50	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	
<b>Xylenes, total</b>	<b>82</b>	12	150	ug/L	100	04/14/2017	04/14/2017 17:44	EPA 8260B	J, D
Surrogate: Dibromofluoromethane			106 %	68.9-141		04/14/2017	04/14/2017 17:44	EPA 8260B	
Surrogate: Toluene-d8			96.9 %	73.3-114		04/14/2017	04/14/2017 17:44	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			98.4 %	72.2-114		04/14/2017	04/14/2017 17:44	EPA 8260B	



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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-9D2**  
**A171512-09 (Water)**

**Date Sampled**  
**04/12/2017 09:07**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	



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 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-9D2**  
**A171512-09 (Water)**

**Date Sampled**  
**04/12/2017 09:07**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	1.5	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
<b>Methyl t-Butyl Ether</b>	<b>2.4</b>	<b>0.14</b>	<b>0.50</b>	<b>ug/L</b>	<b>1</b>	<b>04/14/2017</b>	<b>04/15/2017 04:36</b>	<b>EPA 8260B</b>	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Naphthalene	ND	0.088	5.0	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
<b>Tetrachloroethene</b>	<b>5.5</b>	<b>0.081</b>	<b>0.50</b>	<b>ug/L</b>	<b>1</b>	<b>04/14/2017</b>	<b>04/15/2017 04:36</b>	<b>EPA 8260B</b>	
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Toluene	ND	0.053	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
<b>Trichloroethene</b>	<b>1.7</b>	<b>0.062</b>	<b>0.50</b>	<b>ug/L</b>	<b>1</b>	<b>04/14/2017</b>	<b>04/15/2017 04:36</b>	<b>EPA 8260B</b>	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/15/2017 04:36	EPA 8260B	
Surrogate: Dibromofluoromethane			109 %	68.9-141		04/14/2017	04/15/2017 04:36	EPA 8260B	
Surrogate: Toluene-d8			96.4 %	73.3-114		04/14/2017	04/15/2017 04:36	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			97.7 %	72.2-114		04/14/2017	04/15/2017 04:36	EPA 8260B	





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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-17**  
**A171512-10 (Water)**

**Date Sampled**  
**04/12/2017 13:33**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	5.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,1,1-Trichloroethane	ND	5.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	5.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,1,2-Trichloroethane	ND	5.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	6.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,1-Dichloroethane	ND	6.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,1-Dichloroethene	ND	7.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,1-Dichloropropene	ND	5.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,2,3-Trichlorobenzene	ND	2.3	100	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,2,3-Trichloropropane	ND	7.5	50	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,2,4-Trichlorobenzene	ND	3.9	100	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,2,4-Trimethylbenzene	ND	3.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	13	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	6.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,2-Dichlorobenzene	ND	3.8	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,2-Dichloroethane	ND	3.9	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,2-Dichloropropane	ND	5.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,3,5-Trimethylbenzene	ND	3.8	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,3-Dichlorobenzene	ND	4.8	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,3-Dichloropropane	ND	5.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
1,4-Dichlorobenzene	ND	3.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
2,2-Dichloropropane	ND	7.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
2-Butanone	ND	150	1000	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
2-Chlorotoluene	ND	3.8	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
2-Hexanone	ND	48	1000	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
4-Chlorotoluene	ND	3.7	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
4-Methyl-2-pentanone	ND	39	1000	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Acetone	ND	170	1000	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Benzene	ND	4.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Bromobenzene	ND	4.2	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Bromochloromethane	ND	16	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Bromodichloromethane	ND	3.9	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Bromoform	ND	4.4	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Bromomethane	ND	30	250	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
<b>Carbon disulfide</b>	<b>18</b>	2.7	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	J, D
Carbon tetrachloride	ND	1.9	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Chlorobenzene	ND	3.7	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Chloroethane	ND	13	250	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
<b>Chloroform</b>	<b>13</b>	3.1	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	J, D
<b>Chloromethane</b>	<b>22</b>	8.0	100	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	HC, J, D



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 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-17**  
**A171512-10 (Water)**

**Date Sampled**  
**04/12/2017 13:33**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	ND	5.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
cis-1,3-Dichloropropene	ND	3.1	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Dibromochloromethane	ND	4.6	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Dibromomethane	ND	7.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Dichlorodifluoromethane	ND	5.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Diisopropyl Ether	ND	7.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Ethylbenzene	ND	2.7	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Hexachlorobutadiene	ND	6.5	100	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Isopropylbenzene	ND	4.1	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
m,p-Xylene	ND	2.9	50	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Methyl t-Butyl Ether	ND	7.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Methylene chloride	ND	7.0	100	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Naphthalene	ND	4.4	250	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
n-Butyl Benzene	ND	7.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
n-Hexane	ND	11	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
n-Propyl Benzene	ND	5.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
o-Xylene	ND	2.9	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
p-Isopropyltoluene	ND	4.3	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
sec-Butyl Benzene	ND	6.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Styrene	ND	3.3	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
tert-Butylbenzene	ND	6.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
<b>Tetrachloroethene</b>	<b>680</b>	4.1	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	D
Tetrahydrofuran	ND	60	500	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
<b>Toluene</b>	<b>6.5</b>	2.7	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	J, D
trans-1,2-Dichloroethene	ND	5.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
trans-1,3-Dichloropropene	ND	4.8	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
<b>Trichloroethene</b>	<b>52</b>	3.1	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	D
Trichlorofluoromethane	ND	6.5	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Vinyl chloride	ND	8.0	25	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Xylenes, total	ND	5.8	75	ug/L	50	04/14/2017	04/14/2017 17:15	EPA 8260B	
Surrogate: Dibromofluoromethane			101 %	68.9-141		04/14/2017	04/14/2017 17:15	EPA 8260B	
Surrogate: Toluene-d8			95.0 %	73.3-114		04/14/2017	04/14/2017 17:15	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			95.9 %	72.2-114		04/14/2017	04/14/2017 17:15	EPA 8260B	





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Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-22D**  
**A171512-11 (Water)**

**Date Sampled**  
**04/11/2017 11:59**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.55	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,1,1-Trichloroethane	ND	0.50	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.50	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,1,2-Trichloroethane	ND	0.50	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.65	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,1-Dichloroethane	ND	0.60	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,1-Dichloroethene	ND	0.70	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,1-Dichloropropene	ND	0.55	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.23	10	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,2,3-Trichloropropane	ND	0.75	5.0	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.39	10	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.30	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	1.3	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.65	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,2-Dichlorobenzene	ND	0.38	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,2-Dichloroethane	ND	0.39	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,2-Dichloropropane	ND	0.50	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.38	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,3-Dichlorobenzene	ND	0.48	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,3-Dichloropropane	ND	0.55	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
1,4-Dichlorobenzene	ND	0.35	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
2,2-Dichloropropane	ND	0.70	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
2-Butanone	ND	15	100	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
2-Chlorotoluene	ND	0.38	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
2-Hexanone	ND	4.8	100	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
4-Chlorotoluene	ND	0.37	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
4-Methyl-2-pentanone	ND	3.9	100	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
<b>Acetone</b>	<b>38</b>	17	100	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	J, D
<b>Benzene</b>	<b>0.80</b>	0.45	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	J, D
Bromobenzene	ND	0.42	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Bromochloromethane	ND	1.6	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Bromodichloromethane	ND	0.39	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Bromoform	ND	0.44	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Bromomethane	ND	3.0	25	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
<b>Carbon disulfide</b>	<b>2.3</b>	0.27	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	J, D
Carbon tetrachloride	ND	0.19	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Chlorobenzene	ND	0.37	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Chloroethane	ND	1.3	25	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
<b>Chloroform</b>	<b>1.1</b>	0.31	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	J, D
<b>Chloromethane</b>	<b>2.8</b>	0.80	10	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	HC, J, D



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Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-22D**  
**A171512-11 (Water)**

**Date Sampled**  
**04/11/2017 11:59**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
<b>cis-1,2-Dichloroethene</b>	<b>26</b>	0.55	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	D
cis-1,3-Dichloropropene	ND	0.31	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Dibromochloromethane	ND	0.46	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Dibromomethane	ND	0.70	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Dichlorodifluoromethane	ND	0.55	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Diisopropyl Ether	ND	0.75	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Ethylbenzene	ND	0.27	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Hexachlorobutadiene	ND	0.65	10	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Isopropylbenzene	ND	0.41	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
m,p-Xylene	ND	0.29	5.0	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Methyl t-Butyl Ether	ND	0.70	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Methylene chloride	ND	0.70	10	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
<b>Naphthalene</b>	<b>1.6</b>	0.44	25	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	J, D
n-Butyl Benzene	ND	0.70	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
n-Hexane	ND	1.1	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
n-Propyl Benzene	ND	0.50	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
o-Xylene	ND	0.29	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
p-Isopropyltoluene	ND	0.43	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
sec-Butyl Benzene	ND	0.65	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
Styrene	ND	0.33	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
tert-Butylbenzene	ND	0.60	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
<b>Tetrachloroethene</b>	<b>120</b>	0.41	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	D
Tetrahydrofuran	ND	6.0	50	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
<b>Toluene</b>	<b>0.80</b>	0.27	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	J, D
<b>trans-1,2-Dichloroethene</b>	<b>1.3</b>	0.55	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	J, D
trans-1,3-Dichloropropene	ND	0.48	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
<b>Trichloroethene</b>	<b>6.3</b>	0.31	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	D
Trichlorofluoromethane	ND	0.65	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
<b>Vinyl chloride</b>	<b>6.5</b>	0.80	2.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	HC, D
Xylenes, total	ND	0.58	7.5	ug/L	5	04/14/2017	04/15/2017 05:37	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			118 %	68.9-141		04/14/2017	04/15/2017 05:37	EPA 8260B	
<i>Surrogate: Toluene-d8</i>			101 %	73.3-114		04/14/2017	04/15/2017 05:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>			101 %	72.2-114		04/14/2017	04/15/2017 05:37	EPA 8260B	



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-23D**  
**A171512-12 (Water)**

**Date Sampled**  
**04/11/2017 10:40**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,1,1-Trichloroethane	ND	1.0	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.99	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,1,2-Trichloroethane	ND	1.0	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	1.3	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,1-Dichloroethane	ND	1.2	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,1-Dichloroethene	ND	1.4	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,1-Dichloropropene	ND	1.1	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.45	20	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,2,3-Trichloropropane	ND	1.5	10	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.77	20	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.60	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	2.5	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	1.3	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,2-Dichlorobenzene	ND	0.76	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,2-Dichloroethane	ND	0.78	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,2-Dichloropropane	ND	1.0	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.75	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,3-Dichlorobenzene	ND	0.96	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,3-Dichloropropane	ND	1.1	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
1,4-Dichlorobenzene	ND	0.70	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
2,2-Dichloropropane	ND	1.4	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
2-Butanone	ND	30	200	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
2-Chlorotoluene	ND	0.75	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
2-Hexanone	ND	9.5	200	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
4-Chlorotoluene	ND	0.73	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
4-Methyl-2-pentanone	ND	7.7	200	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Acetone	ND	34	200	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Benzene	ND	0.89	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Bromobenzene	ND	0.84	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Bromochloromethane	ND	3.1	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Bromodichloromethane	ND	0.77	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Bromoform	ND	0.88	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Bromomethane	ND	5.9	50	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Carbon disulfide	ND	0.53	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Carbon tetrachloride	ND	0.38	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Chlorobenzene	ND	0.73	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Chloroethane	ND	2.5	50	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
<b>Chloroform</b>	<b>1.1</b>	0.62	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	J, D
Chloromethane	ND	1.6	20	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	



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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-23D**  
**A171512-12 (Water)**

**Date Sampled**  
**04/11/2017 10:40**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	ND	1.1	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.61	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Dibromochloromethane	ND	0.91	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Dibromomethane	ND	1.4	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Dichlorodifluoromethane	ND	1.1	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Diisopropyl Ether	ND	1.5	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Ethylbenzene	ND	0.54	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Hexachlorobutadiene	ND	1.3	20	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Isopropylbenzene	ND	0.81	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
m,p-Xylene	ND	0.57	10	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Methyl t-Butyl Ether	ND	1.4	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Methylene chloride	ND	1.4	20	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Naphthalene	ND	0.88	50	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
n-Butyl Benzene	ND	1.4	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
n-Hexane	ND	2.1	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
n-Propyl Benzene	ND	1.0	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
o-Xylene	ND	0.58	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
p-Isopropyltoluene	ND	0.85	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
sec-Butyl Benzene	ND	1.3	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Styrene	ND	0.65	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
tert-Butylbenzene	ND	1.2	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
<b>Tetrachloroethene</b>	<b>140</b>	0.81	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	D
Tetrahydrofuran	ND	12	100	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Toluene	ND	0.53	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.1	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.96	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Trichloroethene	ND	0.62	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Trichlorofluoromethane	ND	1.3	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Vinyl chloride	ND	1.6	5.0	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Xylenes, total	ND	1.2	15	ug/L	10	04/14/2017	04/14/2017 16:16	EPA 8260B	
Surrogate: Dibromofluoromethane			109 %	68.9-141		04/14/2017	04/14/2017 16:16	EPA 8260B	
Surrogate: Toluene-d8			98.6 %	73.3-114		04/14/2017	04/14/2017 16:16	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			99.8 %	72.2-114		04/14/2017	04/14/2017 16:16	EPA 8260B	



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Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-25D2**  
**A171512-13 (Water)**

**Date Sampled**  
**04/12/2017 12:19**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
<b>Carbon disulfide</b>	<b>0.44</b>	0.053	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	J
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
<b>Chloroform</b>	<b>0.12</b>	0.062	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	J
<b>Chloromethane</b>	<b>0.64</b>	0.16	2.0	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	J



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Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-25D2**  
**A171512-13 (Water)**

**Date Sampled**  
**04/12/2017 12:19**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
<b>Naphthalene</b>	<b>0.31</b>	0.088	5.0	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	J
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Tetrachloroethene	ND	0.081	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
<b>Toluene</b>	<b>0.16</b>	0.053	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	J
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Trichloroethene	ND	0.062	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/18/2017 16:49	EPA 8260B	
Surrogate: Dibromofluoromethane			99.4 %	68.9-141		04/14/2017	04/18/2017 16:49	EPA 8260B	
Surrogate: Toluene-d8			94.7 %	73.3-114		04/14/2017	04/18/2017 16:49	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			94.5 %	72.2-114		04/14/2017	04/18/2017 16:49	EPA 8260B	





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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-27D**  
**A171512-14 (Water)**

**Date Sampled**  
**04/11/2017 16:42**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	



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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MW-27D**  
**A171512-14 (Water)**

**Date Sampled**  
**04/11/2017 16:42**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

<b>cis-1,2-Dichloroethene</b>	<b>1.2</b>	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
<b>Methyl t-Butyl Ether</b>	<b>0.51</b>	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Naphthalene	ND	0.088	5.0	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	M
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
<b>Tetrachloroethene</b>	<b>2.1</b>	0.081	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Toluene	ND	0.053	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
<b>trans-1,2-Dichloroethene</b>	<b>0.13</b>	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	J
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
<b>Trichloroethene</b>	<b>2.1</b>	0.062	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/15/2017 00:11	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			<i>106 %</i>	<i>68.9-141</i>		<i>04/14/2017</i>	<i>04/15/2017 00:11</i>	<i>EPA 8260B</i>	
<i>Surrogate: Toluene-d8</i>			<i>98.9 %</i>	<i>73.3-114</i>		<i>04/14/2017</i>	<i>04/15/2017 00:11</i>	<i>EPA 8260B</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>98.6 %</i>	<i>72.2-114</i>		<i>04/14/2017</i>	<i>04/15/2017 00:11</i>	<i>EPA 8260B</i>	





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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MP-14 Port 2 (135-140)**  
**A171512-15 (Water)**

**Date Sampled**  
**04/10/2017 14:03**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	



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Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MP-14 Port 2 (135-140)**  
**A171512-15 (Water)**

**Date Sampled**  
**04/10/2017 14:03**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

<b>cis-1,2-Dichloroethene</b>	<b>12</b>	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Naphthalene	ND	0.088	5.0	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
<b>Tetrachloroethene</b>	<b>270</b>	4.1	25	ug/L	50	04/14/2017	04/17/2017 09:34	EPA 8260B	D
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Toluene	ND	0.053	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
<b>trans-1,2-Dichloroethene</b>	<b>0.18</b>	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	J
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
<b>Trichloroethene</b>	<b>25</b>	0.062	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/15/2017 03:37	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>			105 %	68.9-141		04/14/2017	04/15/2017 03:37	EPA 8260B	
<i>Surrogate: Toluene-d8</i>			97.2 %	73.3-114		04/14/2017	04/15/2017 03:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>			98.9 %	72.2-114		04/14/2017	04/15/2017 03:37	EPA 8260B	



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MP-16 Port 2 (140-144)**  
**A171512-16 (Water)**

**Date Sampled**  
**04/10/2017 11:58**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Acetone	ND	3.4	20	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	



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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**MP-16 Port 2 (140-144)**  
**A171512-16 (Water)**

**Date Sampled**  
**04/10/2017 11:58**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

<b>cis-1,2-Dichloroethene</b>	<b>1.5</b>	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Naphthalene	ND	0.088	5.0	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
<b>Tetrachloroethene</b>	<b>37</b>	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Toluene	ND	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
<b>Trichloroethene</b>	<b>6.4</b>	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/14/2017 18:45	EPA 8260B	
Surrogate: Dibromofluoromethane			105 %	68.9-141		04/14/2017	04/14/2017 18:45	EPA 8260B	
Surrogate: Toluene-d8			99.2 %	73.3-114		04/14/2017	04/14/2017 18:45	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			99.7 %	72.2-114		04/14/2017	04/14/2017 18:45	EPA 8260B	



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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**DUP-01**  
**A171512-17 (Water)**

**Date Sampled**  
**04/11/2017 00:00**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
<b>Acetone</b>	<b>9.6</b>	3.4	20	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	J
Benzene	ND	0.089	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	



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Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**DUP-01**  
**A171512-17 (Water)**

**Date Sampled**  
**04/11/2017 00:00**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Naphthalene	ND	0.088	5.0	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
<b>Tetrachloroethene</b>	<b>140</b>	0.41	2.5	ug/L	5	04/14/2017	04/17/2017 10:33	EPA 8260B	D
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Toluene	ND	0.053	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
<b>Trichloroethene</b>	<b>0.16</b>	0.062	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	J
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/15/2017 03:08	EPA 8260B	
Surrogate: Dibromofluoromethane			105 %	68.9-141		04/14/2017	04/15/2017 03:08	EPA 8260B	
Surrogate: Toluene-d8			98.5 %	73.3-114		04/14/2017	04/15/2017 03:08	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			97.9 %	72.2-114		04/14/2017	04/15/2017 03:08	EPA 8260B	





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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**DUP-02**  
**A171512-18 (Water)**

**Date Sampled**  
**04/11/2017 00:00**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,1,1-Trichloroethane	ND	1.0	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.99	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,1,2-Trichloroethane	ND	1.0	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	1.3	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,1-Dichloroethane	ND	1.2	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,1-Dichloroethene	ND	1.4	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,1-Dichloropropene	ND	1.1	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.45	20	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,2,3-Trichloropropane	ND	1.5	10	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.77	20	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
<b>1,2,4-Trimethylbenzene</b>	<b>110</b>	0.60	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	D
1,2-Dibromo-3-chloropropane	ND	2.5	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	1.3	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,2-Dichlorobenzene	ND	0.76	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,2-Dichloroethane	ND	0.78	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,2-Dichloropropane	ND	1.0	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.75	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,3-Dichlorobenzene	ND	0.96	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,3-Dichloropropane	ND	1.1	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
1,4-Dichlorobenzene	ND	0.70	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
2,2-Dichloropropane	ND	1.4	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
2-Butanone	ND	30	200	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
2-Chlorotoluene	ND	0.75	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
2-Hexanone	ND	9.5	200	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
4-Chlorotoluene	ND	0.73	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
4-Methyl-2-pentanone	ND	7.7	200	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Acetone	ND	34	200	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
<b>Benzene</b>	<b>1700</b>	8.9	50	ug/L	100	04/14/2017	04/17/2017 09:02	EPA 8260B	D
Bromobenzene	ND	0.84	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Bromochloromethane	ND	3.1	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Bromodichloromethane	ND	0.77	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Bromoform	ND	0.88	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Bromomethane	ND	5.9	50	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Carbon disulfide	ND	0.53	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Carbon tetrachloride	ND	0.38	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Chlorobenzene	ND	0.73	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Chloroethane	ND	2.5	50	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Chloroform	ND	0.62	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Chloromethane	ND	1.6	20	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	



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TRC Environmental Corporation, Inc.  
708 Heartland Trail, Ste 3000  
Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
Project Number: 266431  
Project Manager: Andrew Stehn

**DUP-02**  
**A171512-18 (Water)**

**Date Sampled**  
**04/11/2017 00:00**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
<b>cis-1,2-Dichloroethene</b>	<b>7.3</b>	1.1	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	D
cis-1,3-Dichloropropene	ND	0.61	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Dibromochloromethane	ND	0.91	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Dibromomethane	ND	1.4	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Dichlorodifluoromethane	ND	1.1	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Diisopropyl Ether	ND	1.5	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
<b>Ethylbenzene</b>	<b>22</b>	0.54	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	D
Hexachlorobutadiene	ND	1.3	20	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
<b>Isopropylbenzene</b>	<b>34</b>	0.81	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	D
<b>m,p-Xylene</b>	<b>80</b>	0.57	10	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	D
Methyl t-Butyl Ether	ND	1.4	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Methylene chloride	ND	1.4	20	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
<b>Naphthalene</b>	<b>110</b>	0.88	50	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	D
<b>n-Butyl Benzene</b>	<b>6.3</b>	1.4	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	D
n-Hexane	ND	2.1	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
<b>n-Propyl Benzene</b>	<b>24</b>	1.0	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	D
<b>o-Xylene</b>	<b>8.7</b>	0.58	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	D
p-Isopropyltoluene	ND	0.85	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
sec-Butyl Benzene	ND	1.3	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Styrene	ND	0.65	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
tert-Butylbenzene	ND	1.2	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
<b>Tetrachloroethene</b>	<b>0.90</b>	0.81	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	J, D
Tetrahydrofuran	ND	12	100	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
<b>Toluene</b>	<b>110</b>	0.53	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	D
<b>trans-1,2-Dichloroethene</b>	<b>1.8</b>	1.1	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	J, D
trans-1,3-Dichloropropene	ND	0.96	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
<b>Trichloroethene</b>	<b>26</b>	0.62	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	D
Trichlorofluoromethane	ND	1.3	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
Vinyl chloride	ND	1.6	5.0	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	
<b>Xylenes, total</b>	<b>89</b>	1.2	15	ug/L	10	04/14/2017	04/15/2017 05:08	EPA 8260B	D

Surrogate: Dibromofluoromethane  
Surrogate: Toluene-d8  
Surrogate: 4-Bromofluorobenzene

109 % 68.9-141 04/14/2017 04/15/2017 05:08 EPA 8260B  
102 % 73.3-114 04/14/2017 04/15/2017 05:08 EPA 8260B  
105 % 72.2-114 04/14/2017 04/15/2017 05:08 EPA 8260B





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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**FB-01**  
**A171512-19 (Water)**

**Date Sampled**  
**04/12/2017 17:12**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
<b>Acetone</b>	<b>20</b>	3.4	20	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Benzene	ND	0.089	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	



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Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**FB-01**  
**A171512-19 (Water)**

**Date Sampled**  
**04/12/2017 17:12**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
<b>Naphthalene</b>	<b>0.10</b>	0.088	5.0	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	J
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
<b>Tetrachloroethene</b>	<b>0.89</b>	0.081	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Toluene	ND	0.053	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Trichloroethene	ND	0.062	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/15/2017 02:38	EPA 8260B	
Surrogate: Dibromofluoromethane			107 %	68.9-141		04/14/2017	04/15/2017 02:38	EPA 8260B	
Surrogate: Toluene-d8			97.9 %	73.3-114		04/14/2017	04/15/2017 02:38	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			97.5 %	72.2-114		04/14/2017	04/15/2017 02:38	EPA 8260B	



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TRC Environmental Corporation, Inc.  
 708 Heartland Trail, Ste 3000  
 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**Trip Blank**  
**A171512-20 (Water)**

**Date Sampled**  
**04/13/2017 00:00**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,1,1,2-Tetrachloroethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,1,1-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.099	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,1,2-Trichloroethane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,1-Dichloroethane	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,1-Dichloroethene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,1-Dichloropropene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.045	2.0	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,2,3-Trichloropropane	ND	0.15	1.0	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.077	2.0	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.060	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	0.25	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,2-Dichlorobenzene	ND	0.076	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,2-Dichloroethane	ND	0.078	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,2-Dichloropropane	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,3-Dichlorobenzene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,3-Dichloropropane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
1,4-Dichlorobenzene	ND	0.070	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
2,2-Dichloropropane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
2-Butanone	ND	3.0	20	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
2-Chlorotoluene	ND	0.075	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
2-Hexanone	ND	0.95	20	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
4-Chlorotoluene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
4-Methyl-2-pentanone	ND	0.77	20	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
<b>Acetone</b>	<b>18</b>	3.4	20	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	J
Benzene	ND	0.089	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Bromobenzene	ND	0.084	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Bromochloromethane	ND	0.31	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Bromodichloromethane	ND	0.077	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Bromoform	ND	0.088	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Bromomethane	ND	0.59	5.0	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Carbon disulfide	ND	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Carbon tetrachloride	ND	0.038	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Chlorobenzene	ND	0.073	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Chloroethane	ND	0.25	5.0	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Chloroform	ND	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Chloromethane	ND	0.16	2.0	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	



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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**Trip Blank**  
**A171512-20 (Water)**

**Date Sampled**  
**04/13/2017 00:00**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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**Pace Analytical - Madison**

**Volatile Organic Compounds by Method 8260 - Purge and Trap**

**Preparation Batch: A704045**

cis-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
cis-1,3-Dichloropropene	ND	0.061	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Dibromochloromethane	ND	0.091	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Dibromomethane	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Dichlorodifluoromethane	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Diisopropyl Ether	ND	0.15	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Ethylbenzene	ND	0.054	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Hexachlorobutadiene	ND	0.13	2.0	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Isopropylbenzene	ND	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
m,p-Xylene	ND	0.057	1.0	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Methyl t-Butyl Ether	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Methylene chloride	ND	0.14	2.0	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Naphthalene	ND	0.088	5.0	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
n-Butyl Benzene	ND	0.14	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
n-Hexane	ND	0.21	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
n-Propyl Benzene	ND	0.10	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
o-Xylene	ND	0.058	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
p-Isopropyltoluene	ND	0.085	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
sec-Butyl Benzene	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Styrene	ND	0.065	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
tert-Butylbenzene	ND	0.12	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Tetrachloroethene	ND	0.081	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Tetrahydrofuran	ND	1.2	10	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Toluene	ND	0.053	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.11	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.096	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Trichloroethene	ND	0.062	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Trichlorofluoromethane	ND	0.13	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Vinyl chloride	ND	0.16	0.50	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Xylenes, total	ND	0.12	1.5	ug/L	1	04/14/2017	04/14/2017 20:44	EPA 8260B	
Surrogate: Dibromofluoromethane			106 %	68.9-141		04/14/2017	04/14/2017 20:44	EPA 8260B	
Surrogate: Toluene-d8			97.4 %	73.3-114		04/14/2017	04/14/2017 20:44	EPA 8260B	
Surrogate: 4-Bromofluorobenzene			99.3 %	72.2-114		04/14/2017	04/14/2017 20:44	EPA 8260B	



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Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**  
**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A704045 - EPA 5030B**

**Blank (A704045-BLK1)**

Prepared: 04/14/2017 Analyzed: 04/14/2017 21:13

1,1,1,2-Tetrachloroethane	ND	0.50	ug/L							
1,1,1-Trichloroethane	ND	0.50	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							
1,1,2-Trichloroethane	ND	0.50	ug/L							
1,1,2-Trichlorotrifluoroethane	ND	0.50	ug/L							
1,1-Dichloroethane	ND	0.50	ug/L							
1,1-Dichloroethene	ND	0.50	ug/L							
1,1-Dichloropropene	ND	0.50	ug/L							
1,2,3-Trichlorobenzene	ND	2.0	ug/L							
1,2,3-Trichloropropane	ND	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	2.0	ug/L							
1,2,4-Trimethylbenzene	ND	0.50	ug/L							
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L							
1,2-Dibromoethane (EDB)	ND	0.50	ug/L							
1,2-Dichlorobenzene	ND	0.50	ug/L							
1,2-Dichloroethane	ND	0.50	ug/L							
1,2-Dichloropropane	ND	0.50	ug/L							
1,3,5-Trimethylbenzene	ND	0.50	ug/L							
1,3-Dichlorobenzene	ND	0.50	ug/L							
1,3-Dichloropropane	ND	0.50	ug/L							
1,4-Dichlorobenzene	ND	0.50	ug/L							
2,2-Dichloropropane	ND	0.50	ug/L							
2-Butanone	ND	20	ug/L							
2-Chlorotoluene	ND	0.50	ug/L							
2-Hexanone	ND	20	ug/L							
4-Chlorotoluene	ND	0.50	ug/L							
4-Methyl-2-pentanone	ND	20	ug/L							
Acetone	ND	20	ug/L							
Benzene	ND	0.50	ug/L							
Bromobenzene	ND	0.50	ug/L							
Bromochloromethane	ND	0.50	ug/L							
Bromodichloromethane	ND	0.50	ug/L							
Bromoform	ND	0.50	ug/L							
Bromomethane	ND	5.0	ug/L							
Carbon disulfide	ND	0.50	ug/L							
Carbon tetrachloride	ND	0.50	ug/L							
Chlorobenzene	ND	0.50	ug/L							
Chloroethane	ND	5.0	ug/L							
Chloroform	ND	0.50	ug/L							
Chloromethane	ND	2.0	ug/L							
cis-1,2-Dichloroethene	ND	0.50	ug/L							
cis-1,3-Dichloropropene	ND	0.50	ug/L							
Dibromochloromethane	ND	0.50	ug/L							
Dibromomethane	ND	0.50	ug/L							



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**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**

**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A704045 - EPA 5030B**

**Blank (A704045-BLK1)**

Prepared: 04/14/2017 Analyzed: 04/14/2017 21:13

Dichlorodifluoromethane	ND	0.50	ug/L							
Diisopropyl Ether	ND	0.50	ug/L							
Ethylbenzene	ND	0.50	ug/L							
Hexachlorobutadiene	ND	2.0	ug/L							
Isopropylbenzene	ND	0.50	ug/L							
m,p-Xylene	ND	1.0	ug/L							
Methyl t-Butyl Ether	ND	0.50	ug/L							
Methylene chloride	ND	2.0	ug/L							
Naphthalene	ND	5.0	ug/L							
n-Butyl Benzene	ND	0.50	ug/L							
n-Hexane	ND	0.50	ug/L							
n-Propyl Benzene	ND	0.50	ug/L							
o-Xylene	ND	0.50	ug/L							
p-Isopropyltoluene	ND	0.50	ug/L							
sec-Butyl Benzene	ND	0.50	ug/L							
Styrene	ND	0.50	ug/L							
tert-Butylbenzene	ND	0.50	ug/L							
Tetrachloroethene	ND	0.50	ug/L							
Tetrahydrofuran	ND	10	ug/L							
Toluene	ND	0.50	ug/L							
trans-1,2-Dichloroethene	ND	0.50	ug/L							
trans-1,3-Dichloropropene	ND	0.50	ug/L							
Trichloroethene	ND	0.50	ug/L							
Trichlorofluoromethane	ND	0.50	ug/L							
Vinyl chloride	ND	0.50	ug/L							
Xylenes, total	ND	1.5	ug/L							
<i>Surrogate: Dibromofluoromethane</i>	10.7		ug/L	10.00		107	68.9-141			
<i>Surrogate: Toluene-d8</i>	9.80		ug/L	10.00		98.0	73.3-114			
<i>Surrogate: 4-Bromofluorobenzene</i>	9.73		ug/L	10.00		97.3	72.2-114			

**LCS (A704045-BS1)**

Prepared: 04/14/2017 Analyzed: 04/14/2017 19:15

1,1,1,2-Tetrachloroethane	5.17	0.50	ug/L	5.000		103	75.8-136			
1,1,1-Trichloroethane	6.29	0.50	ug/L	5.000		126	66.1-164			
1,1,2,2-Tetrachloroethane	5.46	0.50	ug/L	5.000		109	61.8-138			
1,1,2-Trichloroethane	5.50	0.50	ug/L	5.000		110	76.7-127			
1,1,2-Trichlorotrifluoroethane	5.59	0.50	ug/L	5.000		112	55.6-199			
1,1-Dichloroethane	6.21	0.50	ug/L	5.000		124	69.1-153			
1,1-Dichloroethene	5.29	0.50	ug/L	5.000		106	51.2-180			
1,1-Dichloropropene	5.56	0.50	ug/L	5.000		111	77.3-125			
1,2,3-Trichlorobenzene	4.90	2.0	ug/L	5.000		98.0	74-122			
1,2,3-Trichloropropane	5.67	1.0	ug/L	5.000		113	69.8-140			
1,2,4-Trichlorobenzene	4.75	2.0	ug/L	5.000		95.0	73.3-120			
1,2,4-Trimethylbenzene	5.26	0.50	ug/L	5.000		105	86.6-121			
1,2-Dibromo-3-chloropropane	5.01	0.50	ug/L	5.000		100	42.9-137			
1,2-Dibromoethane (EDB)	5.33	0.50	ug/L	5.000		107	75.2-124			



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 Project Number: 266431  
 Project Manager: Andrew Stehn

**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**

**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A704045 - EPA 5030B**

**LCS (A704045-BS1)**

Prepared: 04/14/2017 Analyzed: 04/14/2017 19:15

1,2-Dichlorobenzene	5.19	0.50	ug/L	5.000		104	88.3-115			
1,2-Dichloroethane	6.95	0.50	ug/L	5.000		139	69.2-160			
1,2-Dichloropropane	5.53	0.50	ug/L	5.000		111	73.1-128			
1,3,5-Trimethylbenzene	5.29	0.50	ug/L	5.000		106	87.3-122			
1,3-Dichlorobenzene	5.08	0.50	ug/L	5.000		102	90.7-114			
1,3-Dichloropropane	5.68	0.50	ug/L	5.000		114	76.8-125			
1,4-Dichlorobenzene	5.11	0.50	ug/L	5.000		102	88.9-112			
2,2-Dichloropropane	6.10	0.50	ug/L	5.000		122	70.2-147			
2-Butanone	60.1	20	ug/L	50.00		120	39.5-160			
2-Chlorotoluene	5.37	0.50	ug/L	5.000		107	87.3-118			
2-Hexanone	56.6	20	ug/L	50.00		113	30.4-168			
4-Chlorotoluene	5.42	0.50	ug/L	5.000		108	87.6-120			
4-Methyl-2-pentanone	57.4	20	ug/L	50.00		115	38.8-166			
Acetone	59.6	20	ug/L	50.00		119	30.1-197			
Benzene	5.73	0.50	ug/L	5.000		115	68.2-135			
Bromobenzene	4.90	0.50	ug/L	5.000		98.0	84.4-112			
Bromochloromethane	5.38	0.50	ug/L	5.000		108	76.7-138			
Bromodichloromethane	5.68	0.50	ug/L	5.000		114	77.2-140			
Bromoform	5.01	0.50	ug/L	5.000		100	60-142			
Bromomethane	7.34	5.0	ug/L	5.000		147	52.3-196			
Carbon disulfide	6.34	0.50	ug/L	5.000		127	20.2-197			
Carbon tetrachloride	5.77	0.50	ug/L	5.000		115	61.2-157			
Chlorobenzene	5.17	0.50	ug/L	5.000		103	88.7-113			
Chloroethane	6.62	5.0	ug/L	5.000		132	43.1-196			
Chloroform	5.77	0.50	ug/L	5.000		115	68.7-161			
Chloromethane	7.14	2.0	ug/L	5.000		143	37.7-187			
cis-1,2-Dichloroethene	5.61	0.50	ug/L	5.000		112	76.1-127			
cis-1,3-Dichloropropene	5.40	0.50	ug/L	5.000		108	65.5-122			
Dibromochloromethane	5.10	0.50	ug/L	5.000		102	74.8-135			
Dibromomethane	5.66	0.50	ug/L	5.000		113	75-140			
Dichlorodifluoromethane	7.31	0.50	ug/L	5.000		146	68.8-164			
Diisopropyl Ether	5.67	0.50	ug/L	5.000		113	62.1-134			
Ethylbenzene	5.41	0.50	ug/L	5.000		108	86-119			
Hexachlorobutadiene	5.17	2.0	ug/L	5.000		103	54.7-158			
Isopropylbenzene	5.41	0.50	ug/L	5.000		108	86.3-118			
m,p-Xylene	10.6	1.0	ug/L	10.00		106	87.1-118			
Methyl t-Butyl Ether	6.03	0.50	ug/L	5.000		121	58.1-138			
Methylene chloride	6.03	2.0	ug/L	5.000		121	63.5-153			
Naphthalene	4.75	5.0	ug/L	5.000		95.0	39.3-132			
n-Butyl Benzene	5.39	0.50	ug/L	5.000		108	84.7-121			
n-Hexane	6.13	0.50	ug/L	5.000		123	49.5-147			
n-Propyl Benzene	5.28	0.50	ug/L	5.000		106	84.2-124			
o-Xylene	5.18	0.50	ug/L	5.000		104	82.8-114			
p-Isopropyltoluene	5.10	0.50	ug/L	5.000		102	88.1-116			
sec-Butyl Benzene	5.22	0.50	ug/L	5.000		104	85.3-121			

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TRC Environmental Corporation, Inc.  
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 Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
 Project Number: 266431  
 Project Manager: Andrew Stehn

**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**  
**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A704045 - EPA 5030B**

<b>LCS (A704045-BS1)</b>		Prepared: 04/14/2017 Analyzed: 04/14/2017 19:15								
Styrene	5.18	0.50	ug/L	5.000		104	84.7-120			
tert-Butylbenzene	5.23	0.50	ug/L	5.000		105	76.2-123			
Tetrachloroethene	5.15	0.50	ug/L	5.000		103	79.3-122			
Tetrahydrofuran	30.3	10	ug/L	25.00		121	27.8-152			
Toluene	5.29	0.50	ug/L	5.000		106	82.7-117			
trans-1,2-Dichloroethene	5.60	0.50	ug/L	5.000		112	72.3-135			
trans-1,3-Dichloropropene	5.54	0.50	ug/L	5.000		111	72.5-122			
Trichloroethene	5.58	0.50	ug/L	5.000		112	77-126			
Trichlorofluoromethane	7.15	0.50	ug/L	5.000		143	56-195			
Vinyl chloride	6.90	0.50	ug/L	5.000		138	52.3-186			
<i>Surrogate: Dibromofluoromethane</i>	5.89		ug/L	5.000		118	68.9-141			
<i>Surrogate: Toluene-d8</i>	5.32		ug/L	5.000		106	73.3-114			
<i>Surrogate: 4-Bromofluorobenzene</i>	5.38		ug/L	5.000		108	72.2-114			

<b>Matrix Spike (A704045-MS1)</b>		Source: A171512-14 Prepared: 04/14/2017 Analyzed: 04/15/2017 00:40								
1,1,1,2-Tetrachloroethane	4.94	0.50	ug/L	5.000	ND	98.8	77.8-137			
1,1,1-Trichloroethane	6.19	0.50	ug/L	5.000	ND	124	66.3-167			
1,1,2,2-Tetrachloroethane	5.18	0.50	ug/L	5.000	ND	104	61.3-138			
1,1,2-Trichloroethane	5.24	0.50	ug/L	5.000	ND	105	75.4-132			
1,1,2-Trichlorotrifluoroethane	5.36	0.50	ug/L	5.000	ND	107	57.7-198			
1,1-Dichloroethane	5.98	0.50	ug/L	5.000	ND	120	66.9-154			
1,1-Dichloroethene	5.03	0.50	ug/L	5.000	ND	101	50.1-187			
1,1-Dichloropropene	5.31	0.50	ug/L	5.000	ND	106	74.1-127			
1,2,3-Trichlorobenzene	4.83	2.0	ug/L	5.000	ND	96.6	75.4-122			
1,2,3-Trichloropropane	5.48	1.0	ug/L	5.000	ND	110	68.4-141			
1,2,4-Trichlorobenzene	4.69	2.0	ug/L	5.000	ND	93.8	72.1-121			
1,2,4-Trimethylbenzene	4.77	0.50	ug/L	5.000	ND	95.4	86.5-121			
1,2-Dibromo-3-chloropropane	4.71	0.50	ug/L	5.000	ND	94.2	49.9-130			
1,2-Dibromoethane (EDB)	5.04	0.50	ug/L	5.000	ND	101	74.4-124			
1,2-Dichlorobenzene	5.05	0.50	ug/L	5.000	ND	101	88.5-114			
1,2-Dichloroethane	6.73	0.50	ug/L	5.000	ND	135	72.6-161			
1,2-Dichloropropane	5.32	0.50	ug/L	5.000	ND	106	84.7-119			
1,3,5-Trimethylbenzene	4.93	0.50	ug/L	5.000	ND	98.6	87.3-122			
1,3-Dichlorobenzene	4.98	0.50	ug/L	5.000	ND	99.6	90.1-115			
1,3-Dichloropropane	5.32	0.50	ug/L	5.000	ND	106	76.6-126			
1,4-Dichlorobenzene	4.95	0.50	ug/L	5.000	ND	99.0	87.6-113			
2,2-Dichloropropane	5.80	0.50	ug/L	5.000	ND	116	72.3-145			
2-Butanone	52.8	20	ug/L	50.00	ND	106	32.2-170			
2-Chlorotoluene	5.34	0.50	ug/L	5.000	ND	107	87.9-117			
2-Hexanone	50.4	20	ug/L	50.00	ND	101	30.2-168			
4-Chlorotoluene	5.28	0.50	ug/L	5.000	ND	106	87.5-120			
4-Methyl-2-pentanone	51.9	20	ug/L	50.00	ND	104	39.1-168			
Acetone	54.0	20	ug/L	50.00	ND	108	31.2-199			
Benzene	5.58	0.50	ug/L	5.000	ND	112	67.8-136			
Bromobenzene	4.97	0.50	ug/L	5.000	ND	99.4	84.5-111			





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 Project Number: 266431  
 Project Manager: Andrew Stehn

**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**  
**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A704045 - EPA 5030B**

<b>Matrix Spike (A704045-MS1)</b>	<b>Source: A171512-14</b>			<b>Prepared: 04/14/2017 Analyzed: 04/15/2017 00:40</b>						
Bromochloromethane	5.34	0.50	ug/L	5.000	ND	107	80.9-134			
Bromodichloromethane	5.50	0.50	ug/L	5.000	ND	110	76.1-144			
Bromoform	4.45	0.50	ug/L	5.000	ND	89.0	60.2-142			
Bromomethane	6.46	5.0	ug/L	5.000	ND	129	50.3-198			
Carbon disulfide	6.15	0.50	ug/L	5.000	ND	123	35.6-196			
Carbon tetrachloride	5.73	0.50	ug/L	5.000	ND	115	69.7-152			
Chlorobenzene	5.00	0.50	ug/L	5.000	ND	100	89.3-113			
Chloroethane	6.19	5.0	ug/L	5.000	ND	124	50.2-198			
Chloroform	5.56	0.50	ug/L	5.000	ND	111	66.2-164			
Chloromethane	6.21	2.0	ug/L	5.000	ND	124	46.5-179			
cis-1,2-Dichloroethene	6.63	0.50	ug/L	5.000	1.23	108	67.5-137			
cis-1,3-Dichloropropene	5.23	0.50	ug/L	5.000	ND	105	63.3-123			
Dibromochloromethane	4.88	0.50	ug/L	5.000	ND	97.6	76-133			
Dibromomethane	5.58	0.50	ug/L	5.000	ND	112	78.2-139			
Dichlorodifluoromethane	7.20	0.50	ug/L	5.000	ND	144	70.6-150			
Diisopropyl Ether	5.47	0.50	ug/L	5.000	ND	109	57.3-137			
Ethylbenzene	5.21	0.50	ug/L	5.000	ND	104	87.3-118			
Hexachlorobutadiene	4.76	2.0	ug/L	5.000	ND	95.2	55.4-161			
Isopropylbenzene	5.16	0.50	ug/L	5.000	ND	103	89-115			
m,p-Xylene	9.87	1.0	ug/L	10.00	ND	98.7	88.4-117			
Methyl t-Butyl Ether	6.41	0.50	ug/L	5.000	0.510	118	54.4-145			
Methylene chloride	5.86	2.0	ug/L	5.000	ND	117	59.2-154			
Naphthalene	4.67	5.0	ug/L	5.000	ND	93.4	43.3-129			J
n-Butyl Benzene	5.34	0.50	ug/L	5.000	ND	107	85.9-119			
n-Hexane	5.92	0.50	ug/L	5.000	ND	118	44.3-150			
n-Propyl Benzene	5.16	0.50	ug/L	5.000	ND	103	83.7-124			
o-Xylene	4.79	0.50	ug/L	5.000	ND	95.8	83.9-112			
p-Isopropyltoluene	5.00	0.50	ug/L	5.000	ND	100	89.6-114			
sec-Butyl Benzene	5.19	0.50	ug/L	5.000	ND	104	85.5-120			
Styrene	4.16	0.50	ug/L	5.000	ND	83.2	79.7-123			
tert-Butylbenzene	5.13	0.50	ug/L	5.000	ND	103	78.6-120			
Tetrachloroethene	6.77	0.50	ug/L	5.000	2.14	92.6	78.8-123			
Tetrahydrofuran	27.6	10	ug/L	25.00	ND	110	24.7-155			
Toluene	5.13	0.50	ug/L	5.000	ND	103	81-118			
trans-1,2-Dichloroethene	5.64	0.50	ug/L	5.000	0.130	110	65.3-141			
trans-1,3-Dichloropropene	5.53	0.50	ug/L	5.000	ND	111	73.7-120			
Trichloroethene	7.25	0.50	ug/L	5.000	2.07	104	77.1-123			
Trichlorofluoromethane	6.50	0.50	ug/L	5.000	ND	130	44.8-199			
Vinyl chloride	6.37	0.50	ug/L	5.000	ND	127	49.8-180			
<i>Surrogate: Dibromofluoromethane</i>	<i>5.66</i>		<i>ug/L</i>	<i>5.000</i>		<i>113</i>	<i>68.9-141</i>			
<i>Surrogate: Toluene-d8</i>	<i>5.21</i>		<i>ug/L</i>	<i>5.000</i>		<i>104</i>	<i>73.3-114</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>5.27</i>		<i>ug/L</i>	<i>5.000</i>		<i>105</i>	<i>72.2-114</i>			



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Project Number: 266431  
Project Manager: Andrew Stehn

**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**

**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A704045 - EPA 5030B**

**Matrix Spike Dup (A704045-MSD1)**

**Source: A171512-14**

Prepared: 04/14/2017 Analyzed: 04/15/2017 01:10

1,1,1,2-Tetrachloroethane	4.89	0.50	ug/L	5.000	ND	97.8	77.8-137	1.02	20	
1,1,1-Trichloroethane	6.00	0.50	ug/L	5.000	ND	120	66.3-167	3.12	20	
1,1,2,2-Tetrachloroethane	5.56	0.50	ug/L	5.000	ND	111	61.3-138	7.08	20	
1,1,2-Trichloroethane	5.23	0.50	ug/L	5.000	ND	105	75.4-132	0.191	20	
1,1,2-Trichlorotrifluoroethane	5.22	0.50	ug/L	5.000	ND	104	57.7-198	2.65	20	
1,1-Dichloroethane	5.96	0.50	ug/L	5.000	ND	119	66.9-154	0.335	20	
1,1-Dichloroethene	5.11	0.50	ug/L	5.000	ND	102	50.1-187	1.58	20	
1,1-Dichloropropene	5.15	0.50	ug/L	5.000	ND	103	74.1-127	3.06	20	
1,2,3-Trichlorobenzene	4.75	2.0	ug/L	5.000	ND	95.0	75.4-122	1.67	20	
1,2,3-Trichloropropane	5.80	1.0	ug/L	5.000	ND	116	68.4-141	5.67	20	
1,2,4-Trichlorobenzene	4.63	2.0	ug/L	5.000	ND	92.6	72.1-121	1.29	20	
1,2,4-Trimethylbenzene	4.48	0.50	ug/L	5.000	ND	89.6	86.5-121	6.27	20	
1,2-Dibromo-3-chloropropane	4.88	0.50	ug/L	5.000	ND	97.6	49.9-130	3.55	20	
1,2-Dibromoethane (EDB)	5.21	0.50	ug/L	5.000	ND	104	74.4-124	3.32	20	
1,2-Dichlorobenzene	5.06	0.50	ug/L	5.000	ND	101	88.5-114	0.198	20	
1,2-Dichloroethane	6.67	0.50	ug/L	5.000	ND	133	72.6-161	0.896	20	
1,2-Dichloropropane	5.30	0.50	ug/L	5.000	ND	106	84.7-119	0.377	20	
1,3,5-Trimethylbenzene	4.68	0.50	ug/L	5.000	ND	93.6	87.3-122	5.20	20	
1,3-Dichlorobenzene	5.03	0.50	ug/L	5.000	ND	101	90.1-115	0.999	20	
1,3-Dichloropropane	5.42	0.50	ug/L	5.000	ND	108	76.6-126	1.86	20	
1,4-Dichlorobenzene	4.92	0.50	ug/L	5.000	ND	98.4	87.6-113	0.608	20	
2,2-Dichloropropane	5.56	0.50	ug/L	5.000	ND	111	72.3-145	4.23	20	
2-Butanone	56.9	20	ug/L	50.00	ND	114	32.2-170	7.40	20	
2-Chlorotoluene	5.59	0.50	ug/L	5.000	ND	112	87.9-117	4.57	20	
2-Hexanone	54.7	20	ug/L	50.00	ND	109	30.2-168	8.28	20	
4-Chlorotoluene	5.31	0.50	ug/L	5.000	ND	106	87.5-120	0.567	20	
4-Methyl-2-pentanone	55.5	20	ug/L	50.00	ND	111	39.1-168	6.61	20	
Acetone	63.5	20	ug/L	50.00	ND	127	31.2-199	16.1	20	
Benzene	5.44	0.50	ug/L	5.000	ND	109	67.8-136	2.54	20	
Bromobenzene	4.90	0.50	ug/L	5.000	ND	98.0	84.5-111	1.42	20	
Bromochloromethane	5.17	0.50	ug/L	5.000	ND	103	80.9-134	3.24	20	
Bromodichloromethane	5.46	0.50	ug/L	5.000	ND	109	76.1-144	0.730	20	
Bromoform	4.61	0.50	ug/L	5.000	ND	92.2	60.2-142	3.53	20	
Bromomethane	6.82	5.0	ug/L	5.000	ND	136	50.3-198	5.42	20	
Carbon disulfide	5.99	0.50	ug/L	5.000	ND	120	35.6-196	2.64	20	
Carbon tetrachloride	5.52	0.50	ug/L	5.000	ND	110	69.7-152	3.73	20	
Chlorobenzene	4.93	0.50	ug/L	5.000	ND	98.6	89.3-113	1.41	20	
Chloroethane	6.19	5.0	ug/L	5.000	ND	124	50.2-198	0.00	20	
Chloroform	5.40	0.50	ug/L	5.000	ND	108	66.2-164	2.92	20	
Chloromethane	6.21	2.0	ug/L	5.000	ND	124	46.5-179	0.00	20	
cis-1,2-Dichloroethene	6.43	0.50	ug/L	5.000	1.23	104	67.5-137	3.77	20	
cis-1,3-Dichloropropene	5.05	0.50	ug/L	5.000	ND	101	63.3-123	3.50	20	
Dibromochloromethane	4.84	0.50	ug/L	5.000	ND	96.8	76-133	0.823	20	
Dibromomethane	5.48	0.50	ug/L	5.000	ND	110	78.2-139	1.81	20	
Dichlorodifluoromethane	6.94	0.50	ug/L	5.000	ND	139	70.6-150	3.68	20	



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 Project Manager: Andrew Stehn

**Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control**  
**Pace Analytical - Madison**

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch A704045 - EPA 5030B**

<b>Matrix Spike Dup (A704045-MSD1)</b>	<b>Source: A171512-14</b>		<b>Prepared: 04/14/2017 Analyzed: 04/15/2017 01:10</b>							
Diisopropyl Ether	5.41	0.50	ug/L	5.000	ND	108	57.3-137	1.10	20	
Ethylbenzene	5.09	0.50	ug/L	5.000	ND	102	87.3-118	2.33	20	
Hexachlorobutadiene	4.69	2.0	ug/L	5.000	ND	93.8	55.4-161	1.48	20	
Isopropylbenzene	5.03	0.50	ug/L	5.000	ND	101	89-115	2.55	20	
m,p-Xylene	9.62	1.0	ug/L	10.00	ND	96.2	88.4-117	2.57	20	
Methyl t-Butyl Ether	6.32	0.50	ug/L	5.000	0.510	116	54.4-145	1.54	20	
Methylene chloride	5.60	2.0	ug/L	5.000	ND	112	59.2-154	4.54	20	
Naphthalene	4.51	5.0	ug/L	5.000	ND	90.2	43.3-129	3.49	20	J
n-Butyl Benzene	5.15	0.50	ug/L	5.000	ND	103	85.9-119	3.62	20	
n-Hexane	5.79	0.50	ug/L	5.000	ND	116	44.3-150	2.22	20	
n-Propyl Benzene	5.13	0.50	ug/L	5.000	ND	103	83.7-124	0.583	20	
o-Xylene	4.80	0.50	ug/L	5.000	ND	96.0	83.9-112	0.209	20	
p-Isopropyltoluene	4.87	0.50	ug/L	5.000	ND	97.4	89.6-114	2.63	20	
sec-Butyl Benzene	5.05	0.50	ug/L	5.000	ND	101	85.5-120	2.73	20	
Styrene	3.66	0.50	ug/L	5.000	ND	73.2	79.7-123	12.8	20	M
tert-Butylbenzene	5.03	0.50	ug/L	5.000	ND	101	78.6-120	1.97	20	
Tetrachloroethene	6.58	0.50	ug/L	5.000	2.14	88.8	78.8-123	4.19	20	
Tetrahydrofuran	30.3	10	ug/L	25.00	ND	121	24.7-155	9.47	20	
Toluene	5.07	0.50	ug/L	5.000	ND	101	81-118	1.18	20	
trans-1,2-Dichloroethene	5.40	0.50	ug/L	5.000	0.130	105	65.3-141	4.45	20	
trans-1,3-Dichloropropene	5.46	0.50	ug/L	5.000	ND	109	73.7-120	1.27	20	
Trichloroethene	7.02	0.50	ug/L	5.000	2.07	99.0	77.1-123	4.54	20	
Trichlorofluoromethane	6.61	0.50	ug/L	5.000	ND	132	44.8-199	1.68	20	
Vinyl chloride	6.05	0.50	ug/L	5.000	ND	121	49.8-180	5.15	20	
<i>Surrogate: Dibromofluoromethane</i>	<i>5.50</i>		<i>ug/L</i>	<i>5.000</i>		<i>110</i>	<i>68.9-141</i>			
<i>Surrogate: Toluene-d8</i>	<i>5.07</i>		<i>ug/L</i>	<i>5.000</i>		<i>101</i>	<i>73.3-114</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>5.17</i>		<i>ug/L</i>	<i>5.000</i>		<i>103</i>	<i>72.2-114</i>			



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Madison, WI 53718  
608.221.8700 Phone  
608.221.4889 Fax

TRC Environmental Corporation, Inc.  
708 Heartland Trail, Ste 3000  
Madison WI, 53717

Project: Madison Kipp Corp. Semi-Annual Sampling  
Project Number: 266431  
Project Manager: Andrew Stehn

### Notes and Definitions

- M The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory control limits.
- J Analyte was detected but is below the reporting limit. The concentration is estimated.
- HC Results may be biased high because of high continuing calibration verification (CCV).
- D Data reported from a dilution
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. If the word 'dry' does not appear after the units, results are reported on an as-is basis.
- RPD Relative Percent Difference



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# CHAIN OF CUSTODY

No. 7311

Page: 1 of 2

Project Number: <u>266431</u> PO Number: <u>163978</u>				Lab Work Order #: <u>A171512</u>				Report To: <u>A. Stehn / P. Popp</u>																											
Project Name: <u>MKC Semi-Annual Sampling</u>				Preservation Codes				Company: <u>TRC Env.</u>																											
Project Location (City, State): <u>Madison, WI</u>				Analyses Requested				Address 1:																											
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> </tr> <tr> <td style="text-align:center;">B</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>																B												Address 2:			
B																																			
If Rush, Report Due Date:				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> </tr> <tr> <td style="text-align:center;">VOCs</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>																VOCs												E-mail Address:			
VOCs																																			
Sampled By (Print): <u>Wesley Braga</u>				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> </tr> <tr> <td style="text-align:center;">Matrix</td> <td style="text-align:center;">Total # of Containers</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>																Matrix	Total # of Containers											Invoice To:			
Matrix	Total # of Containers																																		
Sample Description				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> </tr> <tr> <td style="text-align:center;">Date</td> <td style="text-align:center;">Time</td> <td style="text-align:center;">Matrix</td> <td style="text-align:center;">Total # of Containers</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>																Date	Time	Matrix	Total # of Containers									Company:			
Date	Time	Matrix	Total # of Containers																																
								Address 1:																											
								Address 2:																											
								Comments																											
								Lab ID																											
								Lab Receipt Time																											
<u>MW-2D</u>				<u>4/12/17 0911</u>				<u>GW 3 X</u>				<u>01</u>																							
<u>MW-3D</u>				<u>4/12/17 1035</u>				<u>GW 3 X</u>				<u>1 vial number "MW-9D"</u> <u>02</u>																							
<u>MW-3D2</u>				<u>4/12/17 1049</u>				<u>GW 3 X</u>				<u>03</u>																							
<u>MW-4D2</u>				<u>4/11/17 1354</u>				<u>GW 3 X</u>				<u>04</u>																							
<u>MW-5D</u>				<u>4/12/17 1509</u>				<u>GW 3 X</u>				<u>05</u>																							
<u>MW-5D2</u>				<u>4/12/17 1652</u>				<u>GW 3 X</u>				<u>06</u>																							
<u>MW-5D3</u>				<u>4/12/17 1526</u>				<u>GW 3 X</u>				<u>07</u>																							
<u>MW-6D</u>				<u>4/11/17 1508</u>				<u>GW 3 X</u>				<u>08</u>																							
<u>MW-9D2</u>				<u>4/12/17 0907</u>				<u>GW 3 X</u>				<u>09</u>																							
<u>MW-17</u>				<u>4/12/17 1333</u>				<u>GW 3 X</u>				<u>10</u>																							
<b>Preservation Codes</b> A=None B=HCL C=H <sub>2</sub> SO <sub>4</sub> D=HNO <sub>3</sub> E=EnCore F=Methanol G=NaOH O=Other (Indicate)				<b>Other Comments:</b>				Relinquished By: <u>Wesley Braga</u>				Date: <u>4/13/17</u> Time: <u>0850</u>																							
								Relinquished By:				Date:				Time:																			
<b>Matrix Codes</b> A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Drop-off</u>				Receipt Temp: <u>0.0</u>																							
								Thermometer #/ Exp. Date: <u>160142274 01/21/18</u>				Temp Blank: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N																							
								Received By: <u>[Signature]</u>				Date: <u>04/13/17</u> Time: <u>0945</u>																							
								Received By:				Date:																							



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# CHAIN OF CUSTODY

No. 7310

Page: 2 of 2

Project Number: 266431				PO Number: 103978				Lab Work Order #: A171512				Report To: A. Stehn / P. Popp											
Project Name: MLC Semi-Annual Sampling								Preservation Codes				Company: TRC Env.											
Project Location (City, State): Madison, WI								Analyses Requested				Address 1:											
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix				Total # of Containers				Address 2:											
If Rush, Report Due Date:												VOCs				E-mail Address:							
Sampled By (Print): Wesley Braga																Invoice To:							
Sample Description				Collection		Matrix				Total # of Containers				Comments				Lab ID		Lab Receipt Time			
				Date	Time													ID		Time			
MW-22D				4/11/17	1159	GW	3	X								11							
MW-23D				4/11/17	1040	GW	3	X								12							
MW-25D2				4/12/17	1219	GW	3	X								13							
MW-27D				4/11/17	1642	GW	9	X					MS/MSD			14							
MP-14 Port 2 (135-140)				4/10/17	1403	GW	3	X								15							
MP-16 Port 2 (140-144)				4/10/17	1158	GW	3	X								16							
DUP-01				4/11/17	-	GW	3	X								17							
DUP-02				4/11/17	-	GW	3	X								18							
FB-01				4/12/17	1712	W	3	X								19							
Trip Blank				-	-	W	1	X								20							
<b>Preservation Codes</b> A=None B=HCL C=H <sub>2</sub> SO <sub>4</sub> D=HNO <sub>3</sub> E=EnCore F=Methanol G=NaOH O=Other (Indicate) <b>Matrix Codes</b> A=Air S=Soil W=Water O=Other				<b>Other Comments:</b>				Relinquished By: Wesley Braga				Date: 4/13/17		Time: 0850		Received By: [Signature]				Date: 04/13/17		Time: 0945	
								Relinquished By:				Date:		Time:		Received By:				Date:		Time:	
								Custody Seal: <input type="checkbox"/> NA <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: Drop off		Receipt Temp: 0-0		Thermometer #/ Exp. Date: 160142274 01/21/18				Temp Blank: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N			