

2016 Annual Report
January 1, 2016 through December 31, 2016
Appleton City (Coal Tar), aka Appleton MGP
337 Water Street, Appleton, Wisconsin

We Energies
333 W Everett Street
Milwaukee, WI 53203

April 13, 2017



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Appleton City (Coal Tar), aka Appleton MGP
337 Water Street, Appleton, Wisconsin

Prepared for:

WEC Business Services, LLC
We Energies
333 W Everett Street
Milwaukee, WI 53203



BRIAN G. HENNINGS, PG
Senior Hydrogeologist

"I, BRIAN G. HENNINGS, 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 OF THE 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."



ANDREA N. SALUS, EIT
Environmental Engineer

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EXECUTIVE SUMMARY

Soil gas results collected during 2016 are consistent with previous results collected at the site. All soil gas sampling to date (exterior soil gas, sub-slab screening, and high purge volume sampling) indicates that vapors are not present in significant concentration to make the VI pathway complete for residential, or commercial, users.

Groundwater flow directions are consistent with previous years. Potentiometric surface elevation maps, vertical gradients, and flow velocity calculations have been updated in this report for Hydrogeologic Area 2, which is located across the canal from the former MGP site.

Groundwater data collected during 2016 are consistent with previous data collected at the site. Wells with the highest concentrations of contaminants are located in the lower till unit beneath the in-situ solidification treatment area. Concentration trends in these wells are flat or decreasing. The limits of the groundwater plume have been established. Wells across the canal from the former MGP site (Area 2) have sufficient data that concentration trend plots were created and discussed for the first time in this report. Trends in these wells vary between increasing, flat, and decreasing; and, Area 2 wells have lower concentrations than those observed at the former MGP site (Area 1). Residual dense non-aqueous phase liquid (DNAPL) is measurable in 4 wells screened in either the lower till or upper weathered bedrock units. DNAPL levels are stable and no more than 1 gallon of product has been recovered from wells during quarterly site visits.

The current program of quarterly and semi-annual monitoring is proposed to continue for 2017 for continued monitoring of concentration trends.

1 2016 FIELD ACTIVITIES

Field activities in 2016 included quarterly groundwater monitoring and completion of the soil vapor investigation that had begun in April 2015 at 415 S. Olde Oneida Street (referred to as Building 415 within this report). Two High Purge Volume Sub-Slab (HPVSS) samples were collected in March 2016. The results of the HPVSS samples and completion of the soil vapor investigation were provided to WDNR in a transmittal dated June 6, 2016 (NRT, May 2016).

1.1 SUMMARY OF HIGH PURGE VOLUME SUB-SLAB VAPOR SCREENING

Groundwater containing PVOCs was observed in some of the shallow and deep wells located near Building 415 (Figure 3). The groundwater elevations in these wells were similar to the elevation of the garage floor; therefore, additional investigation of sub-slab conditions was initiated in September 2015 to supplement the evaluation of the vapor intrusion (VI) pathway. A summary of the iterative VI evaluation activities completed in 2015, as well as proposed 2016 site investigation activities, was provided to WDNR in a December 2015 Technical Memorandum dated December 23, 2015 (NRT, December 2015). The HPVSS sampling activities proposed in that technical memorandum were discussed with WDNR on January 15, 2016 where it was determined samples from SS-1 and SS-5 would be appropriate.

HPVSS sampling was completed at two locations, SS-1 and SS-5 (Figure 3). These core holes were reopened and observation ports (1/4-inch core holes through the slab) were drilled at varying distances to determine the radius of influence at each location. Each location was purged to determine a stable radius of influence and surrounding parameters. A leak test with smoke was performed to determine if any leaks were present. After purging, a six-liter Summa™ canister was used to collect soil vapors over approximately 30 minutes. Following sampling, all sample ports were abandoned with hydraulic cement. The results of the sampling were included in the June 6, 2016 transmittal and have been summarized in Section 4 below.

2 GROUNDWATER FLOW

Due to differences in groundwater flow conditions between the former MGP property to the north of the Fox River, and the island of land surrounding Building 415; the two areas have been designated as separate groundwater flow (hydrogeologic) areas (Figure 4). Hydrogeologic Area 1 includes the former MGP property, completed remediation area, and surrounding areas to the north of the Fox River. Hydrogeologic Area 2 includes the island of land south of the Fox River Canal where Building 415 is located.

Area 1 is located entirely upstream of the Middle Appleton Dam and hydroelectric units. Groundwater in Area 1 is monitored in the lower till/weathered bedrock unit (the flow zone below and surrounding the ISS treatment area, referred to as the “lower till” in this report) and the bedrock unit (wells are screened in more competent rock 10-15 feet below the weathered bedrock). Surface water in Area 1 is monitored at staff gauge SG-3. (see conceptual model profiles in Appendix E).

Area 2 is located on an island of land that is part of a collection of dams and hydroelectric units that span the Fox River and are collectively referred to as the Middle Appleton Dam. Building 415 and the areas around the building within Area 2 are effectively an extension of the Middle Appleton Dam spanning the distance between the surface water control gates south of Building 415 and the Hydroelectric Unit between Buildings 415 and 405. Groundwater in Area 2 is monitored in the fill unit (watertable) and the upper weathered bedrock unit that is equivalent to the lower till/weathered bedrock unit present in Area 1. Upstream surface water is monitored from SG-3 (the same as Area 1); downstream surface water is monitored from SG-4 which is the outflow of water from the hydroelectric unit between Buildings 415 and 405. (see conceptual model profiles in Appendix E). Surface water measured from SG-4 represents surface water elevation on the downstream side of the Middle Appleton Dam. Water levels observed at SG-4 are typically 10 feet lower than water levels observed at SG-3.

Summary tables of groundwater conditions provided in this report include: a groundwater elevation table (Table 1); vertical gradient calculations (Table 2); and, horizontal groundwater velocity calculations for Area 2 (Table 3). Piezometric surface maps for Areas 1 and 2 are presented on Figures 5 through 8.

2.1 LOWER TILL GROUNDWATER FLOW AREA 1

Groundwater measurements in Area 1 were taken on a semi-annual basis during the months of April and October 2016. Groundwater elevation readings are summarized in Table 1. Semi-annual piezometric surface maps (Figures 5a and b) were prepared to illustrate groundwater flow. Groundwater elevation readings from shallow wells MW-08, MW-09, and MW-19S are provided for reference on the lower till groundwater figures, but were not included in the contouring because these wells are screened above the lower till. MW-10 is damaged and remains on the figures for reference, though it was not sampled this year.

The lower till piezometric surface maps continue to display two distinct regions of groundwater flow in the lower till:

- A western region, defined by the area between monitoring wells MW-02R, MW-12R, MW-19, MW-20, MW-21, and MW-25
- An eastern region, defined by the area between monitoring wells MW-20, MW-21, MW-22, and MW-24

The western region of the lower till is characterized by variable flow directions and hydraulic gradients. The change in head across the western region remains generally less than 0.5 feet, so the piezometric surfaces were contoured in tenths of a foot, when necessary, to illustrate flow direction. At this contour interval, peaks and troughs continue to occur in the western region without regular pattern or apparent seasonality. The variable flow patterns observed beneath the western portion of the site (including small-scale flow reversals) are likely due to the convergence of upgradient recharge coming from the west and influx from the canal towards the site. Hydraulic gradients in this region continue to be lower than the eastern region. MW-25 has consistently higher groundwater elevations than neighboring wells and flow maps (Figures 5a and b) indicate this well is upgradient of the ISS treatment area.

The eastern region of the lower till is located closer to the Middle Appleton Dam and is characterized by consistent northeasterly flow direction and horizontal hydraulic gradient of approximately 0.0033. Horizontal groundwater flow velocity in this region is estimated to be around 50 feet per year (NRT, April 2015). The more consistent flow direction and gradient is associated with closer proximity to the dam. Groundwater elevation readings collected from MW-24 downgradient of the site indicate the hydraulic gradients observed in the eastern region of the lower till continue toward the Middle Appleton Dam. In April 2016, a change in the usual flow pattern occurred between MW-24 and MW-22 where groundwater flowed in a southwesterly direction from MW-24 back towards the site (Figure 5a). This abnormality in flow only occurred during the April sampling event, and normal flow patterns returned in October 2016 (Figure 5b).

The surface water elevation measurements from SG-3 are consistently higher than the lower till groundwater elevation measurements from the wells on both sides of the canal (e.g., April 2016 MW-22 and PZ-23, Figures 5a and 8b); indicating that the canal is behaving as a losing stream.

2.2 BEDROCK GROUNDWATER FLOW, AREA 1

Bedrock groundwater flow direction continues to be northeasterly, consistent with previous measurements (Figure 6) and similar to the large-scale lower till flow direction. Groundwater elevation measurements were collected from bedrock wells in April and October of 2016.

2.3 WATERTABLE GROUNDWATER FLOW, AREA 2

Soil borings completed during installation of monitoring wells in this area indicate the presence of fill material over weathered bedrock. Watertable wells (MW-23, MW-26, MW-27, and MW-28) monitor shallow groundwater flow and quality in Area 2. Groundwater flow maps were generated using quarterly groundwater data collected in January, April, July, and October 2016. Watertable elevations collected from MW-26 are consistently 3 to 5 feet lower than watertable elevations of the other wells. One exception occurred in October 2016 when the elevation MW-26 was measured approximately 5 feet higher than usual, having a similar elevation to MW-28.

Watertable groundwater flow is influenced by an historic needle dam structure, drains associated with Building 415, and a hydroelectric unit. The needle dam structure, located between wells MW-26 and MW-28 was identified through file searches and confirmed by the property manager (Figure 7a). Drains associated with Building 415 were identified through site visits and sub-slab investigation activities which indicate the presence of drains that redirect groundwater below Building 415 to the downstream side of the hydroelectric unit located between Buildings 415 and 405 (Figures 7a – 7d, and conceptual model profiles, Appendix E). File searches also indicate the infrastructure of the hydroelectric unit located between Buildings 405 and 415 was constructed with a flume that extends deep into the bedrock. The remnant of the needle dam, the western wall of Building 415, and the hydroelectric turbine infrastructure form a structural barrier to shallow groundwater flow indicated by the orange line on Figures 7a – 7d. MW-26 is not believed to be directly connected with wells on the other side of this structural barrier as indicated in Figures 7a-d.

Groundwater flows from southwest to northeast across Area 2 toward Building 415 where it is intercepted by drains and discharged in the Fox River near SG-4 on the downstream side of the hydroelectric unit (Figure 7a). Groundwater elevations observed at MW-26 have been stable around the elevation 712, which is about 8-feet lower than the surface water elevation of the Fox River upstream of the dam (SG-3) and between 1 and 4 feet higher than the surface water elevation of the Fox River downstream of the dam (SG-4). Note that the groundwater elevations at MW-26 remain stable (excluding the October 2016 event discussed above) even though the surface water downstream of the dam changes a few feet between sampling events (Figures 7a – 7d) which suggests that the watertable around MW-26 is not strongly influenced by changes in downstream surface water elevation.

Slug testing was completed at the new well locations in the fill material of Area 2 (MW-26, MW-27, and MW-28) on July 15, 2015 and included in the 2015 Annual Report. Calculated conductivity values ranged from a maximum of 1.0×10^{-2} cm/sec to a minimum of 1.8×10^{-3} cm/sec and a mean value of 5.1×10^{-3} cm/sec, which is within the expected range for sandy fill that was encountered in the area (NRT, April 2015).

Groundwater flow has been consistent from southeast to northeast across Area 2 during the last seven quarters of sampling. Hydraulic gradients have been calculated to be 0.0486, much steeper than those of Area 1, due to the drains below Building 415. Flow velocity in Area 2 was calculated using slug test conductivity values, the hydraulic gradient near MW-27, and an effective porosity of 30% (Maidment, 1993). Groundwater velocity in the fill unit was calculated to be 862 ft/year in Area 2 (Table 3).

Vertical gradients were calculated for all nested wells in Area 2. The vertical gradients are generally downward and range from 2.9×10^{-1} to 8.1×10^{-3} (Table 2) which is consistent for wells located upgradient of a dam. The most frequent exception is well nest 27 where vertical gradients have been consistently and strongly upward at around 2.3×10^{-1} . The upward gradients observed at this location are caused by the close proximity of these wells to the building drains which effectively lower the elevation of the watertable (MW-27) relative to potentiometric head in the upper weathered bedrock below (PZ-27).

2.4 UPPER WEATHERED BEDROCK GROUNDWATER FLOW, AREA 2

Area 2 weathered bedrock monitoring wells are screened in material that is similar in origin to the lower till/weathered bedrock in Area 1 and include PZ-23, PZ-26, PZ-27, and PZ-28 (Figures 8a-d.). Wells are screened in the top 15 feet of weathered bedrock. The building drains and former needle dam structure do not extend into the weathered bedrock and do not influence groundwater flow in this unit as indicated by the different flow directions. The bottom of the well screens ranged in elevation from 703 to 709 feet.

Groundwater flow in the weathered bedrock has been consistent from northwest to southeast across Area 2 during the last seven quarters of sampling (Figures 8a-d.). Groundwater flow in the weathered bedrock is roughly perpendicular to watertable flow in Area 2.

Slug testing was completed at PZ-27 on July 15, 2015. A pneumatic slug was used to complete the tests. Results of the slug testing were analyzed in AQTESOLV where conductivity reports and graphs could be generated (Appendix B). Conductivity was calculated with the Bouwer Rice method and assumed a confined aquifer with a thickness of 50 feet. The range of calculated conductivity values was from a maximum of 1.2×10^{-2} cm/sec to a minimum of 9.4×10^{-3} cm/sec and a mean value of 1.0×10^{-2} cm/sec, which is within the expected range for the weathered bedrock encountered in the area (Appendix B).

Flow velocity through the bedrock in Area 2 was calculated using slug test conductivity values, the hydraulic gradient, and an effective porosity of 15% (Maidment, 1993). Groundwater velocity was calculated to be 5,089 ft/year (Table 3) which is not unreasonable for groundwater flow through fractured/weathered rock.

3 GROUNDWATER QUALITY

Groundwater analytical results are summarized in Tables 4 to 7, presented on Figures 9 to 15, and included in Appendix C. BTEX and naphthalene have been identified as indicators of MGP constituents in groundwater, with benzene being the most frequently detected BTEX compound above the NR140 enforcement standard (ES) at the site. Benzene and naphthalene concentration versus time and concentration versus elevation trend graphs for locations with more than 4 rounds of data are included in Appendix D with trends summarized in Table 8. Arsenic results for Area 1 and Area 2 are discussed in section 3.5 below.

3.1 LOWER TILL GROUNDWATER QUALITY (AREA 1)

Groundwater analytical results from MW-25 (upgradient) and MW-24 (downgradient) define the lateral extents of the groundwater plume in the lower till of Area 1. The continued variable flow pattern in the lower till suggests that neither Mann Kendall nor Mann Whitney statistical analyses may be appropriate for trend analysis. Concentration versus time graphs, concentration versus groundwater level graphs, and isoconcentration contours provide the best means to evaluate concentration trends and plume stability.

Isoconcentration contours are generated using the annual data collected in April of each year for benzene and naphthalene (Figures 9 and 10). The isoconcentration lines fluctuate slightly from year to year but remain in the same general location over time; indicating the plume is stable. Groundwater data from wells MW-24 and MW-25 allow for isoconcentration lines to be drawn that estimate the limits of benzene and naphthalene concentrations in groundwater above enforcement standards (ES) in Area 1. Isoconcentration lines on Figures 9 and 10 indicate the limits of the plume are defined by the monitoring well network.

The graphs of concentrations over time illustrate variable yet relatively stable trends in benzene and naphthalene concentrations at individual well locations. Concentration versus time and concentration versus groundwater elevation trend graphs for benzene and naphthalene in lower till wells were updated and illustrate that concentrations remain relatively stable over time (Appendix D, Table 8). Trends were also calculated using only data collected within the last 5 years to evaluate more recent groundwater trends. Examining both long and short time frames, groundwater trends in Area 1 are either flat or decreasing, with the exception of upgradient well MW-25.

MW-25 provides upgradient definition of groundwater impacts in the lower till. Naphthalene was observed above the ES for the first time in the last round of sampling (October 2016). Benzene observations have been below the ES in 7 of 10 sampling events since the well was completed in 2013. Trend graphs created at MW-25 indicate increasing trends of benzene and naphthalene concentration (Appendix D, Table 8). Benzene concentrations observed at MW-25 have ranged from non-detect (<0.41) to a maximum of 6.7 ug/L with most detections falling between the PAL and the ES. Naphthalene concentrations observed at MW-25 have ranged from non-detect (<0.89 and <0.25) to a maximum of 149 ug/L with most detections falling between the PAL and the ES. This is consistent with the conceptual site model that MW-25 is located at the very upgradient edge of the benzene plume in the lower till. Neither benzene nor naphthalene show a strong correlation with groundwater elevations at MW-25.

3.2 BEDROCK GROUNDWATER QUALITY (AREA 1)

Concentrations of benzene and naphthalene have decreased below ES at all Area 1 bedrock wells except for PZ-22B (Tables 4 and 5). Concentration graphs illustrate concentration trends in the bedrock at individual well locations (Figure 11). Concentration versus time and concentration versus groundwater elevation trend graphs for benzene and naphthalene were also updated and illustrate stable to decreasing trends in all deep bedrock wells (Appendix D, Table 8). The naphthalene trends at wells PZ-20B and PZ-21B appear to be increasing in the short term but the concentrations are much lower than the ES and the long term trends remain flat. Isoconcentration lines were not generated for the bedrock wells due to the presence of benzene and naphthalene detections above the ES being limited to a single well (PZ-22B).

3.3 WATERTABLE GROUNDWATER QUALITY (AREA 2)

Of the four watertable wells in Area 2, MW-28 and MW-23 contain very low to non-detectable concentrations of BTEX and naphthalene (Table 4). MW-26 and MW-27 exceeded the ES for benzene for during 7 quarters of sampling since they were installed in 2015. MW-27 also exceeded the ES for naphthalene during 7 quarters of sampling. Results have been graphed and are presented on Figures 13 and 14. Concentration versus time and concentration versus groundwater elevation trend graphs were created for benzene and naphthalene in wells MW-26 and MW-27. The plots indicate increasing trends in both wells for benzene, as well as an increasing trend for naphthalene in MW-27; however, naphthalene is decreasing at MW-26 (Appendix D, Table 8). Concentration trends of benzene and naphthalene in wells MW-26 and MW-27 are close to stable and are lower than concentrations observed in the lower till wells MW-21 and MW-22 (monitoring the shallowest unit) in Area 1.

3.4 UPPER WEATHERED BEDROCK GROUNDWATER QUALITY (AREA 2)

Bedrock wells PZ-26 and PZ-28 contain measureable amounts of free product (Table 9). No groundwater analysis is completed when product is present. Further discussion of free product (NAPL observations) is provided below in Section 3.6. Remaining bedrock wells in Area 2, PZ-23 and PZ-27, have exceeded the ES for benzene and naphthalene during all sampling events since their installation. Benzene and naphthalene concentrations have been graphed and presented on Figure 15. Trend graphs produced for PZ-23 illustrate flat trends for both benzene and naphthalene (Appendix D, Table 8). The trend graphs produced for PZ-27 after 7 quarters of sampling indicate benzene has an increasing trend while naphthalene is flat (Appendix D, Table 8). Concentrations of benzene and naphthalene in wells PZ-23 and PZ-27 are lower than those observed in lower till wells MW-21 and MW-22 in Area 1.

3.5 ARSENIC IN GROUNDWATER

Annual monitoring of arsenic was completed in Area 1 and Area 2 (Table 6). In Area 1, samples were taken at wells screened in the lower till. The highest arsenic concentrations continue to be observed in the lower till near the center of the site around MW-13R, MW-20, and MW-21, while concentrations at the upstream and downstream monitoring wells (MW-24 and MW-25) remain below the ES (Figure 12). Bedrock wells have been below the ES and are no longer being sampled for arsenic.

All wells in Area 2 were sampled for arsenic with the exception of MW-23, where sampling was discontinued in 2010 after six consecutive samples below the ES. After two rounds of sampling, watertable wells (MW-26, MW-27, and MW-28) have contained detectable concentrations of arsenic ranging above and below the ES (Table 6). Of the lower till/ weathered bedrock wells in Area 2, PZ-23 and PZ-27 have had detections for arsenic (Table 6). PZ-26 and PZ-28 were non-detects in their first round of annual sampling and have not been sampled again due to free product in both wells. Arsenic concentrations in Area 2 are lower than those observed in lower till wells MW-21 and MW-22 in Area 1. Arsenic will continue to be monitored in Areas 1 and 2 to evaluate trends.

3.6 NAPL OBSERVATIONS (AREA 1 AND AREA 2)

In Area 1, NAPL observations and thickness measurements (Table 9) indicate measureable amounts of dense non-aqueous phase liquid (DNAPL) are present in lower till wells MW-20 and MW-21 with a range of thickness from 0.20 to 0.25 feet. Despite the presence of DNAPL, benzene trend plots show flat and decreasing trends, respectively at MW-20 and MW-21, and the naphthalene concentrations trends are also flat.

In Area 2, measureable amounts of DNAPL are present in shallow bedrock wells PZ-26 and PZ-28. The thickness of NAPL measured in Area 2 has ranged from a few tenths of a foot to several feet (Table 9).

NAPL was not observed in rock recovered during installation of wells PZ-26 and PZ-28 indicating that NAPL thicknesses observed in these wells represents accumulation in the well. Conversely, oil droplets and a strong MGP-like odor were noted in the rock recovered from 17-20 feet bgs in PZ-27 of Area 2. This piezometer was constructed from across the zone of NAPL observations (15-20 feet bgs) with filter pack extending up to 15 feet

bgs. Regardless of the well screen and filter pack overlapping with observations of NAPL in this boring location, no measureable NAPL has been observed in PZ-27.

DNAPL recovery was initiated in April 2015 at PZ-26 using small pump and will continue into 2017 to evaluate product accumulation rates between quarterly sampling events (Table 9). The thickness of product measured and the volume of product removed from the well have remained relatively stable since the initial recovery in April 2015 (Table 9). No more than 1 gallon of product has been recovered from the well during quarterly sampling visits.

3.7 LIMIT OF GROUNDWATER IMPACTS

Groundwater flow in the lower till in Area 1 is illustrated on Figures 5a and 5b. Topographic characteristics of the area immediately to the north of Water St. prevent the installation of monitoring wells which may otherwise be used to conclusively define lateral extent in this direction. To visualize groundwater flow outside of the well network north of the ISS area, a conceptual flow model was created for the 2014 Annual Report (Appendix E, Figure 12). Prior to the installation of the series of dams that span the Fox River in Appleton, groundwater would flow from upland areas (bluffs) toward the Fox River and discharge into the river, making the Fox River a gaining stream. Following the placement of the dam, groundwater flow upstream of the dam is locally reversed as increased surface water elevations caused a reversal of the hydraulic gradient and flow away from the canal, inland towards water flowing down from the bluffs (surface water recharge). This changed the river immediately upstream of the dam from a gaining stream (receiving groundwater) to a losing stream (discharging surface water into the ground) adjacent to the former MGP Site. Upland recharge is deflected downstream as it encounters the water flowing in from the river. Consequently, groundwater passing beneath the former MGP Site converges with the upland recharge and flows to the north around the dam (Appendix E, Figure 12). The flow from the upland bluffs creates a naturally occurring hydraulic barrier to further northward groundwater flow and contaminant migration beyond the area where these groundwater flow paths converge.

The information presented in the conceptual model was used to develop a line representing the limit of groundwater impacts (Figure 16). The limit of groundwater impacts (Figure 16) is based on groundwater data collected from site wells and the conceptual model which indicates groundwater flow paths converge between West Water Street and the top of the bluffs. Unclosed benzene contours from Figure 9 are included on this figure with examples of closed contours drawn using the limit of groundwater impacts. Exceedances of other constituents of concern (ethylbenzene, toluene, xylenes, and naphthalene) also occur within the limit of groundwater impacts.

NAPL and groundwater impacts observed in Area 2 are consistent with our conceptual site model (CSM) presented as a series of profiles in Appendix E. The conceptual model includes Area 1 and Area 2, including details of Building 415. Pre-remedial conditions are illustrated on CSM-1 where NAPL deposited in the Fox River (removed during remedial construction, CSM-2) may have been the source for NAPL observed in shallow bedrock of Area 2 (Appendix E). The CSM-3 and CSM-4 illustrate the location of soil vapor probes and the relationship between groundwater and Building 415. Investigation of Building 415 indicates drains are present that lower the water table below the lowest occupied level of the building which allows for sub-slab vapor investigation.

4 SOIL VAPOR QUALITY

As discussed in Section 1.1, a soil vapor investigation was completed between 2015 and 2016 for the Fox River Mills apartment complex, Building 415. Soil vapor samples were collected in April and July of 2015. The Technical Memorandum submitted December 2015 and the 2015 Annual Groundwater Report provides more details regarding these results and the evaluation of the VI pathway (NRT April and December, 2015). HPVSS vapor sampling was completed on March 30th, 2016 (Figure 3). The Technical Memorandum dated May 31, 2016 provides more details regarding these samples and the site reconnaissance done at this time (NRT May, 2016).

All vapor sampling to date (exterior soil gas, sub-slab screening, and high purge volume sampling) suggests that soil vapors are not present in significant concentration to make the VI pathway complete for residential or commercial occupants (Table 10). It is concluded that with the results from the 2015 soil vapor investigation and 2016 HPVSS sampling that the vapor intrusion pathway is incomplete for this off-site property. In the June 6, 2016 transmittal letter for the May 2016 Technical Memorandum, We Energies requested a response from WDNR that SVI (soil vapor intrusion) has been adequately assessed. No response from WDNR has been received.

5 SUMMARY AND PROJECT DIRECTION

Additional site investigation activities were completed in 2016. Data collected from these activities and routine groundwater monitoring indicates the following:

- The vapor intrusion pathway is incomplete. We Energies requests WDNR provide formal acknowledgement that vapor intrusion has been adequately assessed at the site.
- In Area 1, with the exception PZ-22B, concentrations in the deep bedrock have declined below ESs. In the lower till, variable groundwater flow patterns continue to be present in the western portion of the site, though they are only apparent when contoured to tenths of a foot. The extent of the area of variable flow is defined by MW-25. Residual DNAPL is stable in wells MW-20 and MW-21. Concentrations in the lower till wells are variable, but generally flat or decreasing, with the exception of MW-25. Other wells such as MW-12R have experienced periods of increased concentration and then returned to flat or stable trends. We will continue to monitor concentrations at MW-25. This may be indicative of plume behavior at this site. “Hot spots” may appear and disappear within the plume, while the plume remains in the same relative location (as indicated by isoconcentration lines). The presence of a groundwater hydraulic barrier located between West Water Street and the top of the bluffs allows for the limit of groundwater impacts north of the Fox River to be estimated and closed concentration contour lines to be drawn. MW-24 defines the downgradient limit of impacts.
- In Area 2, the presence of NAPL has been observed in wells (PZ-26 and PZ-28) screened in upper weathered bedrock. NAPL measurements are stable and no more than 1 gallon of product has been removed during quarterly sampling events. The other two upper weathered bedrock monitoring wells exceed the ES with flat or increasing trends. Monitoring wells MW-23 and MW-28 have significantly lower (to non-detectable) concentrations. Monitoring wells MW-26 and MW-27 contain concentrations above the ES. Watertable wells exhibit benzene and naphthalene trends that are close to stable. All watertable and upper weathered bedrock wells have lower concentrations than the lower till wells MW-21 and MW-22 in Area 1. These results generally fit our conceptual site model with MGP residual contained within lower till/upper weathered bedrock. The upland and river sources of MGP residuals were removed during remedial construction.

5.1 GROUNDWATER MONITORING PROGRAM

Semi-annual monitoring (Table 11) is proposed to continue for Area 1 monitoring wells (north of the Fox River canal) similar to last year.

Shallow bedrock piezometers and watertable wells located south of the Fox River Canal (Area 2) will continue to be sampled quarterly (Table 11) similar to last year, including the following:

- DNAPL monitoring will continue quarterly at PZ-26 and PZ-28. After each gauging event, free product will be removed from wells with more than 0.5 feet of measureable product. Frequency of DNAPL monitoring and removal will be re-evaluated annually.
- Following completion of quarterly monitoring in 2017, Area 2 wells may move into the semi-annual monitoring schedule following evaluation of concentration trends.
- Arsenic monitoring will continue on an annual basis.

5.2 FUTURE REPORTING

We propose to submit the following documents in 2016:

- A semi-annual progress report will be submitted electronically in July 2017 that will incorporate activities between January 1 and June 30.
- The 2017 Annual Report will be prepared in early 2018 and will include:

- » Summary tables of the groundwater sampling events
- » A completed Operation and Maintenance reporting form 4400-194
- 10-Day notification letters and data summaries will be prepared for the Fox River Mills Apartments as required by regulation following groundwater monitoring events.

REFERENCES

Maidment, D., 1993, *Handbook of Hydrogeology*, section 6.3.1, page 6.9, McGraw-Hill Inc.

NRT, April 2015, *2015 Annual Groundwater Report*, Dated April 8, 2015. Table 3a.

NRT, December 2015, *December 2015 Technical Memorandum*. Dated December 23, 2015.

NRT, May 2016, *Technical Memorandum: Results of High Purge Volume Vapor Sampling and Site Reconnaissance*. Dated May 31, 2016 and transmitted to WDNR on June 6, 2016.



Tables

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
MW-02	727.34	726.01	721.94		02/18/02	721.06	6.28
					05/07/02	721.45	5.89
					08/19/02	720.15	7.19
					9/6/2002	720.78	6.56
					11/12/02	720.84	6.50
					02/20/03	719.78	7.56
					05/22/03	722.15	5.19
					08/01/03	722.96	4.38
Well Abandoned, replaced with MW-2R							
MW-02R	743.93 D	741.41	706.00	43.02	10/19/04	720.26	23.67
					11/30/04	720.43	23.50
					01/11/05	720.62	23.31
					02/08/05	720.36	23.57
					03/08/05	720.47	23.46
					04/18/05	720.56	23.37
					07/05/05	720.35	23.58
					10/17/05	720.32	23.61
					01/10/06	720.45	23.48
					04/19/06	720.64	23.29
					07/19/06	720.27	23.66
					08/28/06	720.31	23.62
					10/24/06	720.27	23.66
					03/08/07	720.35	23.58
					04/25/07	720.43	23.50
					10/08/07	720.45	23.48
					04/07/08	721.16	22.77
					10/20/08	720.43	23.50
					04/20/09	720.65	23.28
					09/15/09	720.51	23.42
					10/07/09	720.45	23.48
					04/06/10	720.56	23.37
					10/04/10	720.72	23.21
					01/18/11	720.60	23.33
					04/11/11	721.58	22.35
					07/13/11	720.63	23.30
					10/03/11	720.62	23.31

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
<i>MW-02R cont.</i>					10/10/11	718.75	25.18
					10/14/11	718.77	25.16
					10/20/11	718.52	25.41
					11/17/11	719.23	24.70
					01/04/12	720.11	23.82
					04/23/12	720.66	23.27
					06/26/12	720.12	23.81
					09/12/12	719.99	23.94
					01/28/13	720.41	23.52
					04/23/13	721.85	22.08
					07/16/13	720.61	23.32
					10/15/13	719.97	23.96
					04/29/14	721.43	22.50
					10/13/14	720.33	23.60
					04/21/15	720.72	23.21
					10/19/15	720.49	23.44
					04/21/16	721.25	22.68
					10/04/16	720.75	23.18
MW-08	726.19	724.51			02/18/03	720.37	5.82
					05/07/02	720.20	5.99
					08/19/02	719.88	6.31
					9/6/2002	719.77	6.42
					11/12/02	719.93	6.26
					02/20/03	719.98	6.21
					05/22/03	721.64	4.55
					08/01/03	720.89	5.30
					10/18/04	720.90	5.29
					12/02/04	720.08	6.11
					01/11/05	719.98	6.21
					02/10/05	720.12	6.07
					03/10/05	719.96	6.23
					04/19/05	720.21	5.98
					07/07/05	719.91	6.28
					10/17/05	719.94	6.25
					01/11/06	720.00	6.19
					04/20/06	720.04	6.15
					07/20/06	719.88	6.31
					08/28/06	719.92	6.27
					10/24/06	719.80	6.39
					03/08/07	719.97	6.22
					04/26/07	720.01	6.18
					10/09/07	720.28	5.91
					04/08/08	721.54	4.65
					10/20/08	719.90	6.29

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
<i>MW-08 cont.</i>					04/20/09	720.11	6.08
					09/15/09	720.08	6.11
					10/08/09	719.94	6.25
					04/07/10	720.33	5.86
					10/05/10	720.27	5.92
					01/18/11	720.10	6.09
					04/12/11	720.78	5.41
					07/13/11	720.01	6.18
					10/03/11	720.28	5.91
					10/10/11	718.88	7.31
					10/14/11	718.91	7.28
					10/20/11	718.41	7.78
					11/17/11	719.71	6.48
					01/04/12	719.57	6.62
					04/23/12	720.14	6.05
					06/26/12	719.70	6.49
					09/12/12	719.62	6.57
					01/28/13	720.01	6.18
					04/23/13	721.37	4.82
					07/16/13	720.31	5.88
					10/15/13	719.60	6.59
					04/29/14	721.06	5.13
					10/13/14	720.03	6.16
					04/21/15	720.34	5.85
					10/19/15	720.15	6.04
					04/21/16	720.80	5.39
					10/04/16	720.50	5.69
MW-09	727.47	725.46			02/18/03	721.00	6.47
					05/07/02	721.17	6.30
					08/19/02	720.60	6.87
					9/6/2002	720.47	7.00
					11/12/02	720.75	6.72
					02/20/03	720.62	6.85
					05/22/03	721.38	6.09
					08/01/03	721.13	6.34
					10/18/04	720.52	6.95
					12/02/04	721.34	6.13
					01/11/05	720.65	6.82
					02/08/05	720.75	6.72
					03/10/05	720.59	6.88
					04/20/05	720.79	6.68
					07/07/05	720.53	6.94
					10/17/05	720.59	6.88
					01/11/06	720.89	6.58

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2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
<i>MW-09 cont.</i>					04/20/06	720.59	6.88
					07/20/06	720.49	6.98
					08/28/06	720.57	6.90
					10/24/06	720.66	6.81
					03/08/07	720.51	6.96
					04/26/07	720.77	6.70
					10/09/07	720.83	6.64
					04/08/08	721.44	6.03
					10/20/08	720.63	6.84
					04/20/09	721.07	6.40
					09/15/09	720.77	6.70
					10/08/09	720.71	6.76
					04/07/10	721.04	6.43
					10/05/10	721.23	6.24
					01/18/11	720.96	6.51
					04/12/11	721.57	5.90
					07/13/11	Not Accessible	
					10/04/11	720.77	6.70
					10/10/11	719.94	7.53
					10/14/11	719.78	7.69
					10/20/11	719.32	8.15
					11/17/11	720.11	7.36
					01/04/12	720.29	7.18
					04/23/12	721.09	6.38
					06/26/12	720.61	6.86
					09/12/12	720.35	7.12
					01/28/13	720.66	6.81
					04/23/13	722.30	5.17
					07/16/13	721.18	6.29
					10/15/13	720.49	6.98
					04/29/14	721.95	5.52
					10/13/14	720.94	6.53
					04/21/15	720.98	6.49
					10/19/15	720.78	6.69
					04/21/16	721.48	5.99
					10/04/16	721.35	6.12
MW-10	740.66	738.96			02/18/02	727.10	13.56
					05/07/02	726.69	13.97
					08/19/02	725.73	14.93
					9/6/2002	725.78	14.88
					11/12/02	726.14	14.52
					02/20/03	726.24	14.42
					05/22/03	725.53	15.13
					08/01/03	724.69	15.97
Well Relocated after WWTP Demolition in 2012							

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
<i>MW-10 cont.</i>					01/28/13	722.72	17.94
					04/23/13	725.14	15.52
					07/16/13	723.72	16.94
					10/15/13	722.52	18.14
					04/29/14	Well Damaged	
					04/21/15	Well Damaged	
					10/19/15	Well Damaged	
					04/21/16	Well Damaged	
					10/04/16	Well Damaged	
MW-12D	727.58	725.68	713.08		02/18/02	720.98	6.60
					05/07/02	721.04	6.54
					08/19/02	720.53	7.05
					09/06/02	720.59	6.99
					11/12/02	720.79	6.79
					02/20/03	720.66	6.92
					05/20/03	721.12	6.46
					08/05/03	717.55	10.03
Well Abandoned, replaced with MW-12R							
MW-12R	728.31 D	725.71	710.71	25.10	10/21/04	720.48	7.83
					11/30/04	720.60	7.71
					01/11/05	720.57	7.74
					02/10/05	720.70	7.61
					03/08/05	720.61	7.70
					04/20/05	720.79	7.52
					07/07/05	720.48	7.83
					10/19/05	720.57	7.74
					01/12/06	720.62	7.69
					04/20/06	720.63	7.68
					07/20/06	720.47	7.84
					08/28/06	720.52	7.79
					10/23/06	720.54	7.77
					03/08/07	720.57	7.74
					04/26/07	720.67	7.64
					10/09/07	720.67	7.64
					04/08/08	721.12	7.19
					10/20/08	719.66	8.65
					04/20/09	720.60	7.71
					09/15/09	719.68	8.63
					10/08/09	720.52	7.79
					04/07/10	720.79	7.52
					10/04/10	720.85	7.46
					01/18/11	720.70	7.61
					04/12/11	721.44	6.87
					07/13/11	720.63	7.68
					10/03/11	720.73	7.58
					10/10/11	719.07	9.24
					10/14/11	719.08	9.23
					10/20/11	718.56	9.75

Table 1 - Groundwater Elevation Summary

2016 Annual Update

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Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
<i>MW-12R cont.</i>					11/17/11	719.42	8.89
					01/04/12	720.08	8.23
					04/24/12	720.63	7.68
					06/26/12	720.12	8.19
					09/12/12	720.17	8.14
					01/28/13	720.53	7.78
					01/28/13	720.53	7.78
					04/23/13	721.74	6.57
					07/16/13	720.62	7.69
					10/15/13	719.87	8.44
					04/29/14	721.33	6.98
					10/13/14	720.54	7.77
					04/21/15	720.77	7.54
					10/20/15	720.64	7.67
					04/21/16	721.17	7.14
					10/04/16	720.99	7.32
PZ-12B	727.41	725.02	694.02	45.89	10/21/04	711.99	15.42
					11/30/04	712.31	15.10
					01/11/05	712.66	14.75
					02/10/05	712.74	14.67
					03/08/05	712.81	14.60
					04/20/05	712.78	14.63
					07/07/05	712.31	15.10
					10/19/05	712.19	15.22
					01/12/06	712.47	14.94
					04/20/06	713.34	14.07
					07/20/06	711.81	15.60
					08/28/06	711.49	15.92
					10/23/06	712.39	15.02
					03/08/07	711.95	15.46
					04/26/07	712.22	15.19
					10/09/07	712.53	14.88
					04/08/08	713.41	14.00
					10/20/08	711.97	15.44
					04/20/09	713.24	14.17
					09/15/09	711.78	15.63
					10/08/09	712.23	15.18
					04/07/10	713.40	14.01
					10/04/10	712.98	14.43
					01/18/11	712.83	14.58
					04/12/11	713.93	13.48
					07/13/11	713.29	14.12
					10/03/11	713.71	13.70

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<i>PZ-12B cont.</i>					10/10/11	713.32	14.09
					10/14/11	713.32	14.09
					10/20/11	712.93	14.48
					11/17/11	713.06	14.35
					01/04/12	713.34	14.07
					04/24/12	713.77	13.64
					06/26/12	713.48	13.93
					09/12/12	712.90	14.51
					04/23/13	714.56	12.85
					07/16/13	713.44	13.97
					10/15/13	712.81	14.60
					04/29/14	714.45	12.96
					10/13/14	713.36	14.05
					04/21/15	713.56	13.85
					10/19/15	713.25	14.16
					04/21/16	714.22	13.19
					10/04/16	713.60	13.81
MW-13D	726.07	723.99	710.57		02/18/02	720.97	5.10
					05/07/02	720.86	5.21
					08/19/02	720.46	5.61
					9/6/2002	720.35	5.72
					11/12/02	720.82	5.25
					02/20/03	720.58	5.49
					05/20/03	720.95	5.12
					08/05/03	717.24	8.83
Well Abandoned, replaced with MW-13R							
MW-13R	726.72	724.22	707.22	25.00	10/20/04	720.20	6.52
					12/02/04	720.68	6.04
					01/12/05	720.42	6.30
					02/09/05	720.62	6.10
					03/10/05	720.49	6.23
					04/19/05	720.68	6.04
					07/06/05	720.29	6.43
					10/19/05	720.35	6.37
					01/10/06	720.59	6.13
					04/19/06	720.69	6.03
					07/19/06	720.44	6.28
					08/28/06	720.44	6.28
					10/24/06	720.30	6.42
					03/08/07	720.47	6.25
					04/25/07	720.37	6.35
					10/08/07	720.55	6.17
					04/08/08	721.08	5.64
					10/20/08	720.05	6.67

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<i>MW-13R cont.</i>					04/20/09	721.24	5.48
					09/15/09	720.63	6.09
					10/07/09	720.33	6.39
					04/06/10	720.60	6.12
					10/04/10	720.79	5.93
					01/18/11	720.67	6.05
					04/11/11	721.24	5.48
					07/13/11	720.63	6.09
					10/03/11	720.69	6.03
					10/10/11	718.41	8.31
					10/14/11	718.44	8.28
					10/20/11	718.08	8.64
					11/17/11	719.06	7.66
					01/04/12	720.13	6.59
					04/23/12	720.65	6.07
					06/26/12	720.09	6.63
					09/13/12	720.13	6.59
					01/28/13	720.47	6.25
					04/23/13	721.55	5.17
					07/16/13	720.58	6.14
					10/15/13	719.84	6.88
					04/29/14	721.22	5.50
					10/13/14	720.43	6.29
					04/21/15	720.66	6.06
					10/20/15	720.49	6.23
					04/21/16	720.87	5.85
					10/04/16	720.81	5.91

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2016 Annual Update

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MW-19S	746.81	744.21	729.71	29.6	10/19/04	722.94	23.87
					12/01/04	723.58	23.23
					01/12/05	724.62	22.19
					02/09/05	724.94	21.87
					03/10/05	720.72	26.09
					04/20/05	726.32	20.49
					07/06/05	724.19	22.62
					10/17/05	723.61	23.20
					01/11/06	725.04	21.77
					04/19/06	Well damaged	
					08/28/06	Well damaged	
					10/23/06	Well damaged	
	743.59	744.10	729.7	29.6	03/08/07	Well under 3-ft of snow	
well surveyed 05/11/07					04/26/07	727.02	16.57
					10/09/07	723.69	19.9
					04/08/08	730.46	13.13
					10/20/08	723.72	19.87
					04/20/09	727.48	16.11
					09/15/09	723.74	19.85
					10/08/09	723.61	19.98
					04/07/10	726.65	16.94
					10/05/10	725.90	17.69
					01/18/11	Not Accessible	
					04/12/11	734.82	8.77
					07/13/11	726.29	17.3
					10/04/11	724.27	19.32
					10/10/11	724.36	19.23
					10/14/11	724.49	19.1
					10/20/11	724.47	19.12
					11/17/11	725.36	18.23
					01/04/12	725.64	17.95
					04/23/12	727.41	16.18
					06/26/12	724.71	18.88
					09/12/12	723.27	20.32
					01/28/13	724.75	18.84
					04/23/13	732.74	10.85
					07/16/13	726.78	16.81
					10/15/13	723.74	19.85
					04/29/14	729.70	13.89
					10/13/14	724.93	18.66
					04/21/15	726.94	16.65
					10/19/15	725.09	18.50
					04/21/16	731.22	12.37
					10/04/16	725.73	17.86

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
MW-19D	746.40	744.09	708.09	45.81	10/19/04	720.16	26.24
					12/01/04	720.37	26.03
					01/11/05	720.26	26.14
					02/09/05	720.35	26.05
					03/10/05	720.42	25.98
					04/20/05	720.54	25.86
					07/06/05	720.13	26.27
					10/17/05	720.25	26.15
					01/11/06	720.38	26.02
					04/19/06	Well damaged	
					07/20/06	n/a	23.22
					08/28/06	n/a	23.45
					10/23/06	n/a	23.11
	743.35	744.10	708.1		03/08/07	Well under 3-ft of snow	
	well surveyed 05/11/07				04/26/07	720.43	22.92
					10/09/07	720.34	23.01
					04/08/08	720.97	22.38
					10/20/08	720.25	23.10
					04/20/09	720.58	22.77
					09/15/09	720.20	23.15
					10/08/09	720.29	23.06
					04/07/10	720.57	22.78
					10/05/10	720.62	22.73
					01/18/11	Well under ice and snow	
					04/12/11	721.43	21.92
					07/13/11	720.52	22.83
					10/04/11	720.59	22.76
					10/10/11	718.85	24.50
					10/14/11	718.91	24.44
					10/20/11	718.58	24.77
					11/17/11	719.24	24.11
					01/04/12	719.90	23.45
					04/23/12	720.56	22.79
					06/26/12	719.97	23.38
					09/12/12	719.93	23.42
					01/28/13	720.28	23.07
					04/23/13	721.77	21.58
					07/16/13	720.48	22.87
					10/15/13	719.78	23.57
					04/29/14	721.32	22.03
					10/13/14	720.25	23.10
					04/21/15	720.60	22.75
					10/19/15	720.37	22.98
					04/21/16	721.22	22.13
					10/04/16	720.70	22.65

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
MW-20	739.06	736.46	710.46	36.1	10/20/04	720.38	18.68
					11/30/04	720.52	18.54
					01/11/05	720.52	18.54
					02/08/05	720.47	18.59
					03/09/05	720.44	18.62
					04/18/05	720.65	18.41
					07/05/05	720.47	18.59
					10/17/05	719.95	19.11
					01/10/06	720.54	18.52
					04/19/06	720.69	18.37
					07/20/06	720.36	18.70
					08/28/06	720.45	18.61
					10/24/06	720.12	18.94
					03/08/07	720.49	18.57
					04/25/07	720.41	18.65
					10/08/07	720.57	18.49
					04/09/08	721.13	17.93
					10/20/08	720.55	18.51
					04/20/09	720.64	18.42
					09/15/09	720.62	18.44
					10/07/09	720.51	18.55
					04/06/10	720.62	18.44
					10/04/10	720.79	18.27
					01/18/11	720.63	18.43
					04/11/11	721.18	17.88
					07/13/11	720.40	18.66
					10/03/11	720.67	18.39
					10/10/11	717.04	22.02
					10/14/11	717.12	21.94
					10/20/11	716.91	22.15
					11/17/11	719.03	20.03
					01/04/12	720.12	18.94
					04/23/12	720.66	18.40
					06/26/12	720.09	18.97
					09/12/12	720.12	18.94
					01/28/13	720.47	18.59
					04/23/13	721.52	17.54
					07/16/13	720.63	18.43
					10/15/13	719.95	19.11
					04/29/14	721.22	17.84
					10/13/14	720.43	18.63
					04/21/15	720.77	18.29
					10/19/15	720.57	18.49
					04/21/16	720.88	18.18
					10/04/16	720.96	18.10

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
PZ-20B	739.31	736.49	692.49	59.32	10/20/04	711.96	27.35
					11/30/04	712.27	27.04
					01/11/05	712.45	26.86
					02/08/05	712.55	26.76
					03/09/05	712.64	26.67
					04/18/05	712.69	26.62
					07/05/05	712.29	27.02
					10/17/05	712.05	27.26
					01/10/06	712.27	27.04
					04/19/06	713.19	26.12
					07/20/06	711.78	27.53
					08/28/06	711.45	27.86
					10/24/06	711.27	28.04
					03/08/07	711.92	27.39
					04/25/07	712.09	27.22
					10/08/07	712.47	26.84
					04/07/08	713.41	25.90
					10/20/08	712.23	27.08
					04/20/09	712.62	26.69
					09/15/09	711.67	27.64
					10/07/09	712.14	27.17
					04/06/10	712.92	26.39
					10/04/10	712.82	26.49
					01/18/11	712.59	26.72
					04/11/11	713.83	25.48
					07/13/11	713.17	26.14
					10/03/11	713.64	25.67
					10/10/11	713.23	26.08
					10/14/11	713.16	26.15
					10/20/11	712.86	26.45
					11/17/11	713.01	26.30
					01/04/12	713.24	26.07
					04/23/12	713.68	25.63
					06/26/12	713.35	25.96
					09/12/12	712.79	26.52
					04/23/13	714.51	24.80
					07/16/13	713.40	25.91
					10/15/13	712.71	26.60
					04/29/14	714.37	24.94
					10/13/14	713.27	26.04
					04/21/15	713.51	25.80
					10/19/15	713.05	26.26
					04/21/16	714.06	25.25
					10/04/16	713.51	25.80

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
MW-21	728.20	726.09	712.09	24.11	10/20/04	720.45	7.75
					12/02/04	720.52	7.68
					01/12/05	720.43	7.77
					02/09/05	720.51	7.69
					03/09/05	720.52	7.68
					04/19/05	720.79	7.41
					07/06/05	720.28	7.92
					10/18/05	720.33	7.87
					01/11/06	720.60	7.60
					04/20/06	720.72	7.48
					07/19/06	720.46	7.74
					08/28/06	720.50	7.70
					10/24/06	720.33	7.87
					03/08/07	720.49	7.71
					04/26/07	720.68	7.52
					10/08/07	720.67	7.53
					04/09/08	721.58	6.62
					10/20/08	720.45	7.75
					04/20/09	720.63	7.57
					09/15/09	720.66	7.54
					10/07/09	720.53	7.67
					04/06/10	720.62	7.58
					10/04/10	720.90	7.30
					01/18/11	720.68	7.52
					04/11/11	721.65	6.55
					07/13/11	720.65	7.55
					10/03/11	720.73	7.47
					10/10/11	716.59	11.61
					10/14/11	716.63	11.57
					10/20/11	716.33	11.87
					11/17/11	719.47	8.73
					01/04/12	720.20	8.00
					04/23/12	720.84	7.36
					06/26/12	720.11	8.09
					09/12/12	720.15	8.05
					01/28/13	720.52	7.68
					04/23/13	721.92	6.28
					07/16/13	720.72	7.48
					10/15/13	719.93	8.27
					04/29/14	721.50	6.70
					07/21/14	720.05	8.15
					10/13/14	720.46	7.74
					04/21/15	720.92	7.28
					10/19/15	720.76	7.44
					04/21/16	721.19	7.01
					10/04/16	721.07	7.13

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
PZ-21B	728.13	725.70	694.20	46.43	10/20/04	711.93	16.20
					12/02/04	712.32	15.81
					01/12/05	712.63	15.50
					02/09/05	712.66	15.47
					03/09/05	712.64	15.49
					04/19/05	712.69	15.44
					07/06/05	712.22	15.91
					10/18/05	712.15	15.98
					01/10/06	712.40	15.73
					04/20/06	713.19	14.94
					07/19/06	711.80	16.33
					08/28/06	711.47	16.66
					10/24/06	711.38	16.75
					03/08/07	711.93	16.20
					04/26/07	712.21	15.92
					10/08/07	712.52	15.61
					04/09/08	713.53	14.60
					10/20/08	712.15	15.98
					04/20/09	712.96	15.17
					09/15/09	711.66	16.47
					10/07/09	712.16	15.97
					04/06/10	712.24	15.89
					10/04/10	712.81	15.32
					01/18/11	712.55	15.58
					04/11/11	713.83	14.30
					07/13/11	713.12	15.01
					10/03/11	713.64	14.49
					10/10/11	713.23	14.90
					10/14/11	713.25	14.88
					10/20/11	712.91	15.22
					11/17/11	713.02	15.11
					01/04/12	713.21	14.92
					04/24/12	713.66	14.47
					06/26/12	713.36	14.77
					09/12/12	712.78	15.35
					04/23/13	714.51	13.62
					07/16/13	713.41	14.72
					10/15/13	712.72	15.41
					04/29/14	714.34	13.79
					10/13/14	713.24	14.89
					04/21/15	713.51	14.62
					10/19/15	713.04	15.09
					04/21/16	714.06	14.07
					10/04/16	713.45	14.68

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
MW-22	728.42	725.88	707.88	25.54	10/18/04	719.34	9.08
					12/01/04	719.50	8.92
					01/11/05	719.51	8.91
					02/08/05	719.45	8.97
					03/09/05	719.45	8.97
					04/19/05	719.85	8.57
					07/06/05	719.35	9.07
					10/18/05	719.33	9.09
					01/10/06	719.51	8.91
					04/19/06	719.80	8.62
					07/19/06	719.38	9.04
					08/28/06	719.39	9.03
					10/24/06	719.19	9.23
					03/08/07	719.23	9.19
					04/25/07	719.40	9.02
					10/09/07	719.64	8.78
					04/09/08	720.36	8.06
					10/20/08	719.50	8.92
					04/20/09	719.82	8.60
					09/15/09	719.58	8.84
					10/07/09	719.79	8.63
					04/06/10	719.79	8.63
					10/04/10	720.01	8.41
					01/18/11	719.67	8.75
					04/11/11	720.69	7.73
					07/13/11	719.84	8.58
					10/03/11	719.78	8.64
					10/10/11	714.51	13.91
					10/14/11	714.50	13.92
					10/20/11	714.54	13.88
					11/17/11	719.10	9.32
					01/04/12	719.33	9.09
					04/23/12	719.95	8.47
					06/26/12	719.30	9.12
					09/13/12	719.18	9.24
					01/28/13	719.40	9.02
					04/23/13	720.76	7.66
					07/16/13	719.77	8.65
					10/15/13	719.25	9.17
					04/29/14	720.37	8.05
					10/13/14	719.51	8.91
					04/21/15	719.76	8.66
					10/19/15	719.44	8.98
					04/21/16	720.08	8.34
					10/04/16	719.83	8.59

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
PZ-22B	727.63	725.02	693.72	46.51	10/18/04	711.82	15.81
					12/01/04	712.10	15.53
					01/11/05	712.21	15.42
					02/08/05	712.32	15.31
					03/09/05	712.40	15.23
					04/19/05	712.53	15.10
					07/06/05	711.95	15.68
					10/18/05	711.79	15.84
					01/10/06	712.11	15.52
					04/19/06	712.85	14.78
					07/19/06	711.58	16.05
					08/28/06	711.23	16.40
					10/24/06	711.23	16.40
					03/08/07	711.69	15.94
					04/25/07	711.90	15.73
					10/09/07	712.25	15.38
					04/09/08	712.77	14.86
					10/20/08	711.90	15.73
					04/20/09	712.59	15.04
					09/15/09	710.91	16.72
					10/07/09	711.82	15.81
					04/06/10	712.55	15.08
					10/04/10	712.37	15.26
					01/18/11	712.15	15.48
					04/11/11	713.39	14.24
					07/13/11	712.67	14.96
					10/03/11	713.29	14.34
					10/10/11	712.88	14.75
					10/14/11	712.87	14.76
					10/20/11	712.55	15.08
					11/17/11	712.76	14.87
					01/04/12	712.80	14.83
					04/23/12	713.31	14.32
					06/26/12	712.95	14.68
					09/12/12	712.41	15.22
					04/23/13	714.24	13.39
					07/16/13	713.15	14.48
					10/15/13	712.40	15.23
					04/29/14	714.05	13.58
					10/13/14	712.92	14.71
					04/21/15	713.29	14.34
					10/19/15	712.65	14.98
					04/21/16	713.78	13.85
					10/04/16	713.22	14.41

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
MW-23	Well Installed 9/15/2008						
	723.65	724.1	712.6	16.05	10/20/08	719.92	3.73
					02/19/09	719.67	3.98
					04/20/09	719.87	3.78
					09/15/09	719.62	4.03
					10/08/09	719.57	4.08
	723.65	724.07	712.6	16.08	11/12/09	719.66	3.99
	Well surveyed 10/9/2009				04/07/10	719.41	4.24
					10/05/10	719.69	3.96
					01/18/11	719.34	4.31
					04/12/11	719.74	3.91
					07/13/11	719.53	4.12
					10/04/11	719.66	3.99
					10/10/11	714.13	9.52
					10/14/11	714.03	9.62
					10/20/11	Not Accessible	
					11/17/11	718.34	5.31
					01/04/12	718.81	4.84
					04/24/12	719.37	4.28
					06/26/12	718.98	4.67
					09/12/12	719.27	4.38
					01/28/13	719.24	4.41
					04/23/13	719.88	3.77
					07/16/13	719.37	4.28
					10/15/13	719.17	4.48
					04/29/14	719.67	3.98
					05/14/14	719.89	3.76
					10/13/14	Not Accessible	
					01/28/15	718.77	4.88
					04/22/15	718.92	4.73
					07/14/15	718.62	5.03
					10/19/15	719.19	4.46
					01/07/16	718.77	4.88
					04/21/16	719.29	4.36
					07/14/16	Not Accessible	
					10/04/16	719.31	4.34

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
PZ-23	Well Installed 10/05/2009						
	723.56	723.94	703.94	24.62	10/08/09	719.56	4.00
					11/12/09	719.59	3.97
					02/02/10	719.28	4.28
					04/07/10	719.30	4.26
					10/05/10	719.59	3.97
					01/18/11	719.17	4.39
					04/12/11	719.67	3.89
					07/13/11	719.39	4.17
					10/04/11	719.50	4.06
					10/10/11	713.78	9.78
					10/14/11	713.76	9.80
					10/20/11	713.67	9.89
					11/17/11	718.14	5.42
					01/04/12	718.68	4.88
					04/24/12	719.18	4.38
					06/26/12	718.84	4.72
					09/12/12	718.96	4.60
					01/29/13	718.90	4.66
					04/23/13	719.88	3.68
					07/17/13	719.19	4.37
					10/15/13	718.67	4.89
					04/29/14	719.42	4.14
					05/12/14	719.64	3.92
					05/14/14	719.62	3.94
					07/21/14	718.78	4.78
					10/13/14	718.92	4.64
					01/28/15	718.67	4.89
					04/22/15	718.61	4.95
					07/14/15	718.23	5.33
					10/20/15	718.46	5.10
					01/07/16	718.21	5.35
					04/21/16	718.58	4.98
					07/14/16	718.34	5.22
					10/04/16	718.64	4.92
MW-24	Well Installed 1/14/2013						
	736.87	734.6	709.31	32.56	01/29/13	718.33	18.54
					04/23/13	720.19	16.68
					07/17/13	718.43	18.44
					10/15/13	718.02	18.85
					04/29/14	719.79	17.08
					10/14/14	718.45	18.42
					04/22/15	719.27	17.60
					10/20/15	718.68	18.19
					04/22/16	720.41	16.46
					10/05/16	719.65	17.22

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
MW-25	Well Installed 1/15/2013						
	730.30	727.73	709.05	26.25	01/28/13	720.89	9.41
					04/23/13	722.83	7.47
					07/16/13	721.32	8.98
					10/15/13	720.44	9.86
					04/29/14	722.36	7.94
					10/14/14	720.69	9.61
					04/21/15	721.28	9.02
					10/20/15	720.72	9.58
					04/21/16	722.19	8.11
					10/05/16	721.21	9.09
MW-26	Well Installed 04/06/2015						
	722.87	723.26	718.26	24.85	04/22/15	712.07	10.80
					07/14/15	712.07	10.80
					10/19/15	712.51	10.36
					01/07/16	712.13	10.74
					04/22/16	712.61	10.26
					07/14/16	711.84	11.03
					10/05/16	#VALUE!	5.31*
PZ-26	Well Installed 04/15/2014						
	723.26	723.28	703.30	24.78	04/29/14	712.84	10.42
					05/12/14	713.01	10.25
					05/14/14	712.95	10.31
					07/21/14	711.88	11.38
					10/14/14	711.71	11.55
					01/28/15	711.96	11.30
					04/21/15	712.62	10.64
					07/14/15	711.96	11.30
					10/19/15	712.19	11.07
					01/07/16	712.24	11.02
					04/21/16	712.27	10.99
					07/14/16	712.57	10.69
					10/05/16	713.60	9.66
MW-27	Well Installed 04/07/2015						
	722.76	723.03	720.03	12.73	04/22/15	715.05	7.71
					07/14/15	715.07	7.69
					10/20/15	715.08	7.68
					01/07/16	715.11	7.65
					04/22/16	715.40	7.36
					07/14/16	715.29	7.47
					10/05/16	715.22	7.54

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
PZ-27	Well Installed 04/07/2015						
	722.69	723.00	704.00	23.69	04/22/15	718.38	4.31
					07/14/15	718.07	4.62
					10/20/15	718.33	4.36
					01/07/16	718.08	4.61
					04/22/16	718.37	4.32
					07/14/16	718.20	4.49
					10/05/16	718.48	4.21
MW-28	Well Installed 04/06/2015						
	722.11	722.48	719.48	14.63	04/22/15	717.16	4.95
					07/14/15	716.06	6.05
					10/20/15	716.48	5.63
					01/07/16	716.52	5.59
					04/22/16	717.25	4.86
					07/14/16	716.43	5.68
					10/05/16	716.80	5.31
PZ-28	Well Installed 04/06/2015						
	722.38	722.66	702.86	24.5	04/22/15	716.23	6.15
					07/14/15	712.90	9.48
					10/19/15	712.82	9.56
					01/07/16	713.09	9.29
					04/21/16	713.15	9.23
					07/14/16	712.78	9.60
					10/05/16	712.72	9.66
SG-3		724.12			04/23/13	721.79	2.33
					07/16/13	720.55	3.57
					10/15/13	719.80	4.32
					04/29/14	721.60	2.52
					05/12/14	721.94	2.18
					05/14/14	721.75	2.37
					07/21/14	720.22	3.90
					10/13/14	720.42	3.70
					01/28/15	720.31	3.81
					04/21/15	720.77	3.35
					07/14/15	720.21	3.91
					10/19/15	720.28	3.84
					01/07/16	720.56	3.56
					04/21/16	721.16	2.96
					07/14/16	720.67	3.45
					10/04/16	721.04	3.08

Table 1 - Groundwater Elevation Summary

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well	TOC ^A Elevation (feet) ^B	Ground Elevation (feet) ^B	Top of Screen Elevation (feet) ^B	Well Depth from TOC (feet)	Monitoring Date	Groundwater Elevation (feet) ^B	Depth to Groundwater (feet)
SG-4		715.36			04/21/15	710.61	4.75
					07/14/15	709.41	5.95
					09/09/15	709.06	6.30
					10/19/15	708.51	6.85
					01/07/16	Not accessible	
					04/21/16	711.25	4.11
					07/14/16	709.62	5.74
					10/04/16	710.01	5.35

[JTB/RH 5/05][PAR/JTB 11/05][PAR/JTB 9/06][R/JG/JTB 10/07][BGH/RMW 6/08][R/JG/BGH 1/09][BGH/R/JG 3/09][RMN/BGH 5/10][AMM/KJB 2/11][KJB/R/JG 05/11]
 [CJM/AMM 1/12][AMM/JJW 5/12][AMM/ANS 7/12][AMM/R/JG 10/12][R/JG/ 3/13][ETO/R/JG 5/13][PMH/NDK 9/13][ETE/NDK 10/13][U-ECK 06/14][U-KLT 1/29/15, C- PMH 2/15]
 [U: KLT 11/12/15, C:PMH 11/18/15] [U: PMH 2/17, C: ANS 2/3/17]

Notes:

A: TOC-Top of Well Casing

B: Elevations relative to National Geodetic Vertical Datum.

C: Well drawdown due to slow recharge rate after well was purged / sampled

D: TOC elevation was found to be incorrectly reported and was updated August 2011 by NRT

The TOC elevation at MW-2R was incorrectly entered on the table, this resulted in approximately 1-foot change in elevation

The error was tracked to a data table which contained a summary of post-construction survey data used to create Table 1

The error was corrected using data from the original post-construction survey drawing

1. MW-19 and MW-19S repaired October 27, 2006; surveyed by Martenson & Eisele May 11, 2007

2. MW-23 surveyed by Martenson & Eisele September 18, 2008.

3. MW-23 and PZ-23 surveyed by Martenson & Eisele October 9, 2009.

4. MW-24 and MW-25 surveyed by Martenson & Eisele January 30, 2013

5. MW-23, PZ-23, MW-26, PZ-26, MW-27, PZ-27, MW-28, PZ-28, SG-3, and SG-4 were all surveyed/resurveyed by Martenson

*Depth to water significantly deviates from normal measurement

Table 2 - Vertical Gradient Table for Area 2 Wells

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Date	MW-23 Groundwater Elevation (ft.)	PZ-23 Groundwater Elevation (ft.)	Head Change (dH)	Dist. Change (dL)	Vertical Hydraulic Gradient (dH/dL)*	
10/08/2009	719.57	719.56	0.01	8.66	1.2E-03	flat
11/12/2009	719.66	719.59	0.07	8.66	8.1E-03	down
04/07/2010	719.41	719.30	0.11	8.66	1.3E-02	down
10/05/2010	719.69	719.59	0.10	8.66	1.2E-02	down
01/18/2011	719.34	719.17	0.17	8.66	2.0E-02	down
04/11/2011	719.74	719.67	0.07	8.66	8.1E-03	down
07/13/2011	719.53	719.39	0.14	8.66	1.6E-02	down
10/04/2011	719.66	719.50	0.16	8.66	1.8E-02	down
10/10/2011	714.13	713.78	0.35	8.66	4.0E-02	down
10/14/2011	714.03	713.76	0.27	8.66	3.1E-02	down
11/17/2011	718.34	718.14	0.20	8.66	2.3E-02	down
01/04/2012	718.81	718.68	0.13	8.66	1.5E-02	down
04/24/2012	719.37	719.18	0.19	8.66	2.2E-02	down
06/26/2012	718.98	718.84	0.14	8.66	1.6E-02	down
09/12/2012	719.27	718.96	0.31	8.66	3.6E-02	down
01/28/2013	719.24	718.90	0.34	8.66	3.9E-02	down
04/23/2013	719.88	719.88	0.00	8.66	0.0E+00	flat
07/16/2013	719.37	719.19	0.18	8.66	2.1E-02	down
10/15/2013	719.17	718.67	0.50	8.66	5.8E-02	down
04/29/2014	719.67	719.42	0.25	8.66	2.9E-02	down
05/14/2014	719.89	719.62	0.27	8.66	3.1E-02	down
10/13/2014	Vertical gradient not calculated--MW-23 not accessible.					
04/22/2015	718.92	718.61	0.31	8.66	3.6E-02	down
07/14/2015	718.62	718.23	0.39	8.66	4.5E-02	down
10/19/2015	719.19	718.46	0.73	8.66	8.4E-02	down
10/28/2015	718.77	718.67	0.10	8.66	1.2E-02	down
01/07/2016	718.77	718.21	0.56	8.66	6.5E-02	down
04/21/2016	719.29	718.58	0.71	8.66	8.2E-02	down
10/04/2016	719.31	718.64	0.67	8.66	7.7E-02	down
Middle of screen elevation (MW-23)						710.1
Middle of screen elevation (PZ-23)						701.4

Table 2 - Vertical Gradient Table for Area 2 Wells

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Date	MW-26 Groundwater Elevation (ft.)	PZ-26 Groundwater Elevation (ft.)	Head Change (dH)	Dist. Change (dL)	Vertical Hydraulic Gradient (dH/dL)*	
04/22/2015	712.07	712.62	-0.55	9.37	-5.9E-02	up
07/14/2015	712.07	711.96	0.11	9.37	1.2E-02	down
10/19/2015	712.51	712.19	0.32	9.59	3.3E-02	down
01/07/2016	712.13	712.24	-0.11	9.39	-1.2E-02	up
04/22/2016	712.61	712.27	0.34	9.63	3.5E-02	down
07/14/2016	711.84	712.57	-0.73	9.25	-7.9E-02	up
10/05/2016	717.56	713.60	3.96	12.46	3.2E-01	down
Middle of screen elevation (MW-26)					713.3	
Middle of screen elevation (PZ-26)					700.8	

Date	MW-27 Groundwater Elevation (ft.)	PZ-27 Groundwater Elevation (ft.)	Head Change (dH)	Dist. Change (dL)	Vertical Hydraulic Gradient (dH/dL)*	
04/22/2015	715.05	718.38	-3.33	13.53	-2.5E-01	up
07/14/2015	715.07	718.07	-3.00	13.53	-2.2E-01	up
10/20/2015	715.08	718.33	-3.25	13.53	-2.4E-01	up
01/07/2016	715.11	718.08	-2.97	13.53	-2.2E-01	up
04/22/2016	715.40	718.37	-2.97	13.53	-2.2E-01	up
07/14/2016	715.29	718.20	-2.91	13.53	-2.2E-01	up
10/05/2016	715.22	718.48	-3.26	13.53	-2.4E-01	up
Middle of screen elevation (MW-27)					715.0	
Middle of screen elevation (PZ-27)					701.5	

Date	MW-28 Groundwater Elevation (ft.)	PZ-28 Groundwater Elevation (ft.)	Head Change (dH)	Dist. Change (dL)	Vertical Hydraulic Gradient (dH/dL)*	
04/22/2015	717.16	716.23	0.93	14.12	6.6E-02	down
07/14/2015	716.06	712.90	3.16	14.12	2.2E-01	down
10/19/2015	716.48	712.82	3.66	14.12	2.6E-01	down
01/07/2016	716.52	713.09	3.43	14.12	2.4E-01	down
04/22/2016	717.25	713.15	4.10	14.12	2.9E-01	down
07/14/2016	716.43	712.78	3.65	14.12	2.6E-01	down
10/05/2016	716.80	712.72	4.08	14.12	2.9E-01	down
Middle of screen elevation (MW-28)					714.5	
Middle of screen elevation (PZ-28)					700.4	

[BGH/RMN 5/10][AMM/KJB 2/11][NDK/BGH 08/11][CJM/AMM 01/12][AMM/JW 5/12][AMM/ANS 7/12][BGH/NDK 10/12][ETO/NDK 5/13][GFF/BGH 02/13][U-AJS 06/14][U-KLT, 1/29/2014, C-PMH 2/15] [U-PMH 11/15 C-KLT 12/8/15] [U: PMH 2/17, C:KJS 2/7/17]

Notes:

1. Distance between wells was calculated from midpoint of each well screen, unless the water level was below the midpoint of the screen, then the midpoint of the saturated screen was used.

*: Vertical gradients less than ±0.0015 are considered flat, and they typically have less than 0.02 foot difference between wells

Table 3 - Watertable and Bedrock Horizontal Groundwater Velocity Calculations (Area 2)
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

$$V = K i / n_e$$

V = Groundwater Velocity i = Hydraulic Gradient (unitless value)
K = Hydraulic Conductivity n_e = Effective Porosity

Fill Material		Date	Elevation	Distance
K =	5325 ft/yr.	Change		Change
i =	0.0486	(ft)		(ft)
n _e =	30 %			
V =	$\frac{5325 * 0.0486}{0.30}$	Apr 2015	1 / 28	0.0357
		Jul 2015	1 / 23	0.0435
		Oct 2015	2 / 42	0.0476
		Jan 2016	2 / 37	0.0541
		April 2016	2 / 40	0.0500
		July 2016*	-- / --	--
		Oct 2016	2 / 33	0.0606
V = 862 feet/year		AVE Gradient 0.0486		

Bedrock		Date	Elevation	Distance
K =	10579 ft/yr.	Change		Change
i =	0.0722	(ft)		(ft)
n _e =	15 %			
V =	$\frac{10579 * 0.0722}{0.15}$	Apr 2015**	-- / --	--
		Jul 2015	2 / 30	0.0667
		Oct 2015	2 / 27	0.0741
		Jan 2016	2 / 30	0.0667
		April 2016	2 / 27	0.0741
		July 2016	2 / 28	0.0714
		Oct 2016	2 / 25	0.0800
V = 5,089 feet/year		AVE Gradient 0.0722		

1. Hydraulic Gradient measurements were made from water table surface contour maps between MW-23 and MW-27
 2. Hydraulic Gradient measurements were made from piezometric surface contour maps between PZ-27 and PZ-28
 3. The hydraulic conductivity values "K" for both the fill material and the bedrock were determined by slug testing performed by NRT in 2015
 4. Porosity percentages are taken from Handbook of Hydrogeology, David R. Maidment
- *MW-23 was not measured and therefore only one groundwater elevation contour could be drawn.
**Month not used due to an outlier water elevation at PZ-28

Table 4 - Groundwater Analytical Results-VOCs
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Volatile Organic Compounds (VOCs-ug/L)													Total VOCs ^{1,5}	
		Benzene	Ethyl benzene	Toluene	Xylene, Total ³	Total BTEX ^{1,4}	Acetone	Carbon Disulfide	Chloro benzene	Chloroform	Chloro methane	Naphthalene ²	Styrene	Trichloro ethene		Vinyl Chloride
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)														
<i>Preventive Action Limit:</i>		0.5	140	160	400	NS	1,800	200	NS	0.6	3	10	10	0.5	0.02	NS
Enforcement Standard:		5	700	800	2,000	NS	9,000	1,000	NS	6	30	100	100	5	0.2	NS
MW-02R	10/19/2004	710	260	12	110	1,092	< 12	< 3.3	< 2.0	< 1.8	< 1.2	--	< 4.3	< 2.4	< 0.90	1,092
	11/30/2004	770	290	10	110	1,180	< 23	< 6.6	< 4.1	< 3.7	< 2.4	--	< 8.6	< 4.8	< 1.8	1,180
	01/11/2005	650	250	11	100	1,011	< 23	< 6.6	< 4.1	< 3.7	< 2.4	--	< 8.6	< 4.8	< 1.8	1,011
	02/08/2005	590	230	9.7	83	912.7	< 23	--	--	< 3.7	< 2.4	--	--	--	--	912.7
	03/08/2005	650	290	13	106	1,059	--	--	--	--	--	--	--	--	--	1,059
	04/18/2005	700	290	15	65	1,070	--	--	--	--	--	--	--	--	--	1,070
	07/05/2005	800	320	20	129	1,269	--	--	--	--	--	--	--	--	--	1,269
	10/17/2005	890	340	33	147	1,410	--	--	--	--	--	--	--	--	--	1,410
	01/10/2006	850	350	30	156	1,386	--	--	--	--	--	--	--	--	--	1,386
	04/19/2006	790	370	41	215	1,416	--	--	--	--	--	--	--	--	--	1,416
	07/19/2006	840	300	51	175	1,366	--	--	--	--	--	--	--	--	--	1,366
	10/24/2006	930	400	57	250	1,637	--	--	--	--	--	--	--	--	--	1,637
	04/25/2007	780	380	34	240	1,434	--	--	--	--	--	--	--	--	--	1,434
	10/08/2007	980	440	< 27	270	1,690	--	--	--	--	--	--	--	--	--	1,690
	04/07/2008	658	372	36.1	285	1,351.1	--	--	--	--	--	2,280	--	--	--	1,351.1
	10/20/2008	618	325	28.3	222.1	1,193.4	--	--	--	--	--	1,500	--	--	--	1,193.4
	04/20/2009	638	305	28.8	217.7	1,189.5	--	--	--	--	--	1,430	--	--	--	2,619.5
	10/07/2009	819	402	28.3	289	1,538.3	--	--	--	--	--	1,460	--	--	--	2,998.3
	04/06/2010	680	298	32.5	220.4	1,230.9	--	--	--	--	--	1,240	--	--	--	2,470.9
	10/04/2010	598	308	36.2	248	1,190.2	--	--	--	--	--	1,340	--	--	--	2,530.2
	01/18/2011	732	365	33.2	242.2	1,372.4	--	--	--	--	--	1,210	--	--	--	2,582.4
	04/11/2011	737	380	53.8	326	1,496.8	--	--	--	--	--	2,070	--	--	--	3,566.8
	07/13/2011	528	196	30.4	91.7	846.1	--	--	--	--	--	1,140	--	--	--	1,986.1
	10/03/2011	602	278	30.4	205.8	1,116.2	--	--	--	--	--	1,150	--	--	--	2,266.2
	01/04/2012	620	282	31.9	218.1	1,152	--	--	--	--	--	1,170	--	--	--	2,322
	01/28/2013	949	301	19.4	168.9	1,438.4	--	--	--	--	--	1,010	--	--	--	2,448.4
	04/23/2013	587	269	37	205.2	1,098.2	--	--	--	--	--	1,240	--	--	--	2,338.2
	07/16/2013	814	369	30.4	235.1	1,448.5	--	--	--	--	--	1,170	--	--	--	2,618.5
	10/15/2013	1,500	493	36.3	349	2,378.3	--	--	--	--	--	1,540	--	--	--	3,918.3
	04/23/2012	568	267	29.4	180.6	1,045	--	--	--	--	--	1,070	--	--	--	2,115
	Dup (QC-1)	04/23/2012	229	104	9.4	74.4	416.8	--	--	--	--	442	--	--	--	858.8
		06/26/2012	831	318	27.3	196.8	1,373.1	--	--	--	--	1,150	--	--	--	2,523.1
	Dup (QC-1)	06/26/2012	847	353	29.4	249	1,478.4	--	--	--	--	1,170	--	--	--	2,648.4
	09/12/2012	984	363	25.6	265	1,637.6	--	--	--	--	1,310	--	--	--	2,947.6	
Dup (QC-1)	09/12/2012	719	375	23.6	274	1,391.6	--	--	--	--	1,220	--	--	--	2,611.6	
	01/28/2013	949	301	19.4	168.9	1,438.3	--	--	--	--	1,010	--	--	--	2,448.3	
	04/23/2013	578	269	37	205.2	1,089.2	--	--	--	--	1,240	--	--	--	2,329.2	
	07/16/2013	814	369	30.4	235.1	1,448.5	--	--	--	--	1,170	--	--	--	2,618.5	
	10/15/2013	1,500	493	36.3	349	2,378.3	--	--	--	--	1,540	--	--	--	3,918.3	
	04/29/2014	736	309	25.1	159.8	1,229.9	--	--	--	--	805	--	--	--	2,034.9	
	10/13/2014	1,040	446	17.1	221	1,724.1	--	--	--	--	1,110	--	--	--	2,834.1	
	04/21/2015	653	361	13.2	203.7	1,230.9	--	--	--	--	668	--	--	--	1,898.9	
	10/19/2015	1,030	433	20.7	251.6	1,735.3	--	--	--	--	855	--	--	--	2,590.3	
	04/21/2016	422	223	28.7	163.5	837.2	--	--	--	--	784	--	--	--	1,621.2	
	10/04/2016	718	304	9.8	162.8	1,194.6	--	--	--	--	621	--	--	--	1,815.6	
MW-08*	07/15/1996	< 0.5	< 0.5	< 0.8	< 1.9	nd	< 1.4	< 0.5	< 0.4	< 0.8	--	--	< 0.6	--	--	nd
	09/09/1997	< 0.4	< 0.4	< 0.32	< 1	nd	< 3.3	< 0.45	< 0.29	< 0.5	--	--	< 0.23	--	--	nd
	10/05/2010	< 0.41	--	--	--	nd	--	--	--	--	--	< 0.89	--	--	--	nd
	01/18/2011	< 0.41	--	--	--	nd	--	--	--	--	--	< 0.89	--	--	--	nd
	04/12/2011	< 0.41	--	--	--	nd	--	--	--	--	--	< 0.89	--	--	--	nd
	07/13/2011	< 0.41	--	--	--	nd	--	--	--	--	--	< 0.89	--	--	--	nd
	10/03/2011	< 0.41	--	--	--	nd	--	--	--	--	--	< 0.89	--	--	--	nd
	01/04/2012	1.8	--	--	--	1.8	--	--	--	--	--	< 0.89	--	--	--	nd
MW-09*	07/15/1996	< 0.5	< 0.5	< 0.8	< 1.9	nd	< 1.4	< 0.5	< 0.4	< 0.8	--	--	< 0.6	--	--	nd
	09/09/1997	< 0.4	< 0.4	< 0.32	< 1	nd	< 3.3	< 0.45	< 0.29	< 0.5	--	--	< 0.23	--	--	nd
MW-10*	07/15/1996	< 0.5	< 0.5	< 0.8	< 1.9	nd	< 1.4	< 0.5	< 0.4	11	--	--	< 0.6	--	--	11
	09/09/1997	< 0.4	< 0.4	< 0.32	< 1	nd	< 3.3	< 0.45	< 0.29	< 0.5	--	--	< 0.23	--	--	nd

Table 4 - Groundwater Analytical Results-VOCs
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Sample Location	Sample Date	Volatile Organic Compounds (VOCs-ug/L)														Total VOCs ^{1,5}	
		Benzene	Ethyl benzene	Toluene	Xylene, Total ³	Total BTEX ^{1,4}	Acetone	Carbon Disulfide	Chloro benzene	Chloroform	Chloro methane	Naphthalene ²	Styrene	Trichloro ethene	Vinyl Chloride		
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
<i>Preventive Action Limit:</i>		0.5	140	160	400	NS	1,800	200	NS	0.6	3	10	10	0.5	0.02	NS	
Enforcement Standard:		5	700	800	2,000	NS	9,000	1,000	NS	6	30	100	100	5	0.2	NS	
MW-12R	10/21/2004	15	66	6.3	61	148.3	4.6	< 0.66	< 0.41	< 0.37	0.59	--	< 0.86	< 0.48	< 0.18	153.49	
	11/30/2004	12	47	3.9	39	101.9	9.8	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	111.7	
	01/13/2005	11	39	3	33	86	6.6	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	92.6	
	02/10/2005	11	43	4	34	92	< 12	--	--	< 1.8	< 1.2	--	--	--	--	92	
	03/08/2005	8.9	37	< 3.4	30	75.9	--	--	--	--	--	--	--	--	--	--	75.9
	04/20/2005	9.4	29	< 3.4	12	50.4	--	--	--	--	--	--	--	--	--	--	50.4
	07/07/2005	7.2	25	< 3.4	11	43.2	--	--	--	--	--	--	--	--	--	--	43.2
	10/19/2005	7	21	< 3.4	9.3	37.3	--	--	--	--	--	--	--	--	--	--	37.3
	01/12/2006	5.9	24	2	17.1	49	--	--	--	--	--	--	--	--	--	--	49
	04/20/2006	9.8	32	3.6	24.9	70.3	--	--	--	--	--	--	--	--	--	--	70.3
	07/20/2006	8.7	25	< 3.4	9	42.7	--	--	--	--	--	--	--	--	--	--	42.7
	10/23/2006	5.4	--	--	--	5.4	--	--	--	--	--	--	--	--	--	--	5.4
	04/26/2007	10	--	--	--	10	--	--	--	--	--	--	--	--	--	--	10
	10/09/2007	5	--	--	--	5	--	--	--	--	--	--	--	--	--	--	5
	04/08/2008	20.8	--	--	--	20.8	--	--	--	--	--	--	--	--	--	--	20.8
	10/20/2008	5.2	--	--	--	5.2	--	--	--	--	--	--	--	--	--	--	5.2
	04/21/2009	26	--	--	--	26	--	--	--	--	--	--	1,130	--	--	--	1,156
	10/08/2009	8.8	--	--	--	8.8	--	--	--	--	--	--	291	--	--	--	299.8
	04/07/2010	27.1	75	9.9	57	169	--	--	--	--	--	--	968	--	--	--	1,137
	10/04/2010	27.2	--	--	--	27.2	--	--	--	--	--	--	790	--	--	--	817.2
	01/18/2011	22.2	--	--	--	22.2	--	--	--	--	--	--	568	--	--	--	590.2
	04/12/2011	56.4	--	--	--	56.4	--	--	--	--	--	--	2,090	--	--	--	2,146.4
	07/13/2011	46.6	89.7	14.3	72.6	223.2	--	--	--	--	--	--	1,790	--	--	--	2,013.2
	Dup (QC-1)	07/13/2011	52.3	99.6	15.1	39.6	206.6	--	--	--	--	--	1,870	--	--	--	2,076.6
	10/03/2011	19.4	--	--	--	19.4	--	--	--	--	--	--	554	--	--	--	573.4
	01/04/2012	30.6	--	--	--	30.6	--	--	--	--	--	--	799	--	--	--	829.6
	04/24/2012	36.4	--	--	--	36.4	--	--	--	--	--	--	885	--	--	--	921.4
	06/26/2012	22.9	--	--	--	22.9	--	--	--	--	--	--	588	--	--	--	610.9
	09/12/2012	19.7	--	--	--	19.7	--	--	--	--	--	--	357	--	--	--	376.7
	01/28/2013	19.6	--	--	--	19.6	--	--	--	--	--	--	453	--	--	--	472.6
	04/24/2013	36.3	--	--	--	36.3	--	--	--	--	--	--	1,350	--	--	--	1,386.3
	07/16/2013	24	--	--	--	24	--	--	--	--	--	--	673	--	--	--	697
10/15/2013	16.3	--	--	--	16.3	--	--	--	--	--	--	402	--	--	--	418.3	
04/29/2014	30.2	68.7	9.6	46	154.5	--	--	--	--	--	--	1,000	--	--	--	1,154.5	
10/13/2014	12.5	28.3	< 5.0	< 10	40.8	--	--	--	--	--	--	515	--	--	--	555.8	
04/21/2015	13.9	44.1	6.2	31.8	96	--	--	--	--	--	--	487	--	--	--	583	
10/20/2015	14.7	43	6.6	34.1	98.4	--	--	--	--	--	--	530	--	--	--	628.4	
04/21/2016	26.7	73.2	10.8	57.2	167.9	--	--	--	--	--	--	961	--	--	--	1,128.9	
10/04/2016	11	43.4	5.9	39.1	99.4	--	--	--	--	--	--	758	--	--	--	857.4	
PZ-12B	10/21/2004	0.99	0.56	< 0.67	< 2.6	1.55	< 2.3	< 0.66	< 0.41	1.4	0.54	--	< 0.86	< 0.48	< 0.18	3.49	
	11/30/2004	0.77	< 0.54	< 0.67	< 2.6	0.77	< 2.3	< 0.66	< 0.41	1.3	< 0.24	--	< 0.86	< 0.48	< 0.18	2.07	
	01/13/2005	0.86	< 0.54	< 0.67	< 2.6	0.86	2.7	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	3.56	
	02/10/2005	0.93	< 0.54	< 0.67	< 1.8	0.93	< 2.3	--	--	< 0.37	< 0.24	--	--	--	--	0.93	
	Dup (QC-1)	02/10/2005	0.93	< 0.54	< 0.67	< 1.8	0.93	< 2.3	--	--	< 0.37	< 0.24	--	--	--	--	0.93
	03/08/2005	0.58	< 0.54	< 0.67	< 1.8	0.58	--	--	--	--	--	--	--	--	--	--	0.58
	04/20/2005	0.86	< 0.54	< 0.67	< 1.8	0.86	--	--	--	--	--	--	--	--	--	--	0.86
	07/07/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	--	nd
	Dup (QC-1)	07/07/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	10/19/2005	0.54	< 0.54	< 0.67	< 1.8	0.54	--	--	--	--	--	--	--	--	--	--	0.54
	01/12/2006	0.68	< 0.54	< 0.67	< 1.8	0.68	--	--	--	--	--	--	--	--	--	--	0.68
	04/20/2006	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	--	nd
	07/20/2006	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	--	nd
	04/26/2007	1.2	--	--	--	1.2	--	--	--	--	--	--	--	--	--	--	1.2
	04/08/2008	1.5	--	--	--	1.5	--	--	--	--	--	--	< 0.74	--	--	--	1.5
	04/21/2009	0.44	--	--	--	0.44	--	--	--	--	--	--	< 2.5	--	--	--	0.44
	04/07/2010	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	--	nd
	04/24/2012	< 0.41	--	--	--	nd	--	--	--	--	--	--	< 0.89	--	--	--	nd
04/24/2013	< 0.50	--	--	--	nd	--	--	--	--	--	--	< 2.5	--	--	--	nd	
04/29/2014	< 0.50	< 2.5	--	--	nd	--	--	--	--	--	--	< 2.5	--	--	--	nd	
04/21/2015	< 0.50	--	--	--	nd	--	--	--	--	--	--	< 2.5	--	--	--	nd	
04/21/2016	< 0.5	--	--	--	nd	--	--	--	--	--	--	< 2.5	--	--	--	nd	

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Sample Location	Sample Date	Volatile Organic Compounds (VOCs-ug/L)													Total VOCs ^{1,5}		
		Benzene	Ethyl benzene	Toluene	Xylene, Total ³	Total BTEX ^{1,4}	Acetone	Carbon Disulfide	Chloro benzene	Chloroform	Chloro methane	Naphthalene ²	Styrene	Trichloro ethene		Vinyl Chloride	
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
<i>Preventive Action Limit:</i>		0.5	140	160	400	NS	1,800	200	NS	0.6	3	10	10	0.5	0.02	NS	
Enforcement Standard:		5	700	800	2,000	NS	9,000	1,000	NS	6	30	100	100	5	0.2	NS	
MW-13R	10/20/2004	2,500	350	54	300	3,204	< 58	< 16	< 10	< 9.2	< 6.0	--	< 22	22	< 4.5	3,226	
	12/02/2004	2,700	410	48	340	3,498	< 58	< 16	< 10	< 9.2	< 6.0	--	< 22	< 12	< 4.5	3,498	
	01/12/2005	3,000	430	42	340	3,812	< 58	< 16	< 10	< 9.2	< 6	--	< 22	< 12	< 4.5	3,812	
	02/09/2005	2,200	350	< 34	258	2,808	< 120	--	--	< 18	< 12	--	--	< 24	< 9	2,808	
	03/10/2005	2,300	360	29	270	2,959	--	--	--	--	--	--	--	--	--	2,959	
	04/19/2005	2,200	310	< 34	237	2,747	--	--	--	--	--	--	--	--	--	2,747	
	07/06/2005	2,200	320	< 34	228	2,748	--	--	--	--	--	--	--	--	--	2,748	
	10/19/2005	2,100	290	17	153	2,560	--	--	--	--	--	--	--	--	--	2,560	
	01/10/2006	2,400	340	42	227	3,009	--	--	--	--	--	--	--	--	--	3,009	
	04/19/2006	3,700	500	160	560	4,920	--	--	--	--	--	--	--	--	--	4,920	
	07/19/2006	3,300	440	100	360	4,200	--	--	--	--	--	--	--	--	--	4,200	
	10/24/2006	1,700	250	28	144	2,122	--	--	--	--	--	--	--	--	--	2,122	
	04/25/2007	3,700	580	240	820	5,340	--	--	--	--	--	--	--	--	--	5,340	
	Dup (QC-1)	04/25/2007	3,600	560	230	780	5,170	--	--	--	--	--	--	--	--	--	5,170
		10/08/2007	2,000	290	29	186	2,505	--	--	--	--	--	--	--	--	--	2,505
		04/08/2008	2,260	362	234	552	3,408	--	--	--	--	--	3,180	--	--	--	3,408
		10/20/2008	1,800	334	29.7	238	2,401.7	--	--	--	--	--	1,850	--	--	--	2,401.7
	04/21/2009	2,020	406	253	643	3,322	--	--	--	--	--	2,930	--	--	--	6,252	
	10/07/2009	2,190	399	34.8	304	2,927.8	--	--	--	--	--	2,120	--	--	--	5,047.8	
	04/06/2010	3,440	492	245	707	4,884	--	--	--	--	--	3,270	--	--	--	8,154	
	10/04/2010	2,710	536	293	759	4,298	--	--	--	--	--	3,890	--	--	--	8,188	
	Dup (QC-1)	01/18/2011	3,920	724	372	1,080	6,096	--	--	--	--	--	4,710	--	--	--	10,806
		01/18/2011	3,680	664	332	981	5,657	--	--	--	--	--	4,840	--	--	--	10,497
		04/11/2011	2,010	504	408	931	3,853	--	--	--	--	--	4,750	--	--	--	8,603
		07/13/2011	3,100	514	441	825	4,880	--	--	--	--	--	5,500	--	--	--	10,380
	10/03/2011	1,970	406	140	516	3,032	--	--	--	--	--	3,440	--	--	--	6,472	
	Dup (QC-1)	01/04/2012	3,150	632	452	1,046	5,280	--	--	--	--	--	4,950	--	--	--	10,230
		01/04/2012	3,070	605	432	1,016	5,123	--	--	--	--	--	4,840	--	--	--	9,963
		04/23/2012	4,240	668	590	1,175	6,673	--	--	--	--	--	6,520	--	--	--	13,193
		06/26/2012	4,710	690	418	1,175	6,993	--	--	--	--	--	4,600	--	--	--	11,593
	09/13/2012	2,640	417	78.2	460	3,595.2	--	--	--	--	--	3,070	--	--	--	6,665.2	
	01/28/2013	4,450	570	477	669	6,166	--	--	--	--	--	5,600	--	--	--	11,766	
Dup (QC-1)	04/23/2013	2,180	511	469	989	4,149	--	--	--	--	--	4,900	--	--	--	9,049	
	04/23/2013	1,200	276	277	523	2,276	--	--	--	--	--	2,760	--	--	--	5,036	
	07/16/2013	3,150	557	496	3,792	7,995	--	--	--	--	--	4,820	--	--	--	12,815	
	10/15/2013	3,230	530	103	589	4,452	--	--	--	--	--	4,250	--	--	--	8,702	
Dup (QC-1)	04/29/2014	1,780	403	381	775	3,339	--	--	--	--	--	4,630	--	--	--	7,969	
	04/29/2014	1,430	435	376	837	3,078	--	--	--	--	--	4,540	--	--	--	7,618	
	10/13/2014	2,740	438	112	341.9	3,631.9	--	--	--	--	--	4,390	--	--	--	8,021.9	
	04/21/2015	1,190	424	280	746	2,640	--	--	--	--	--	4,330	--	--	--	6,970	
	10/20/2015	1,930	463	135	601	3,129	--	--	--	--	--	4,700	--	--	--	7,829	
	04/21/2016	1,090	345	251	553	2,239	--	--	--	--	--	3,240	--	--	--	5,479	
	10/04/2016	1,130	353	107	446	2,036	--	--	--	--	--	4,300	--	--	--	6,336	
	10/19/2004	0.95	< 0.54	< 0.67	< 2.6	0.95	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	0.95	
12/01/2004	0.41	< 0.54	< 0.67	< 2.6	0.41	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	0.41		
01/12/2005	< 0.41	< 0.54	< 0.67	< 2.6	nd	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	nd		
02/09/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	< 2.3	--	--	< 0.37	< 0.24	--	--	--	--	nd		
03/10/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	0.26		
04/20/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	0.051		
07/06/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	1.4		
10/17/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	0.14		
01/11/2006	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	0.56		
Well damaged, scheduled for repair or abandonment	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	04/26/2007	< 0.41	--	--	--	nd	--	--	--	--	--	--	--	--	--	0.48	
	10/09/2007	< 0.41	--	--	--	nd	--	--	--	--	--	--	--	--	--	0.02	
	04/08/2008	< 0.41	--	--	--	nd	--	--	--	--	--	< 0.74	--	--	--	nd	
	10/21/2008	< 0.41	--	--	--	nd	--	--	--	--	--	< 0.89	--	--	--	nd	
	04/21/2009	< 0.41	--	--	--	nd	--	--	--	--	--	< 0.89	--	--	--	nd	
	10/08/2009	< 0.41	--	--	--	nd	--	--	--	--	--	< 0.89	--	--	--	nd	
	04/07/2010	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	< 0.89	--	--	--	nd	

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		Benzene	Ethyl benzene	Toluene	Xylene, Total ³	Total BTEX ^{1,4}	Acetone	Carbon Disulfide	Chloro benzene	Chloroform	Chloro methane	Naphthalene ²	Styrene	Trichloro ethene		Vinyl Chloride	
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
<i>Preventive Action Limit:</i>		0.5	140	160	400	NS	1,800	200	NS	0.6	3	10	10	0.5	0.02	NS	
Enforcement Standard:		5	700	800	2,000	NS	9,000	1,000	NS	6	30	100	100	5	0.2	NS	
MW-19 <i>Dup (QC-1)</i>	10/19/2004	390	72	3.9	36	501.9	11	< 1.6	< 1	< 0.92	< 0.60	--	< 2.2	< 1.2	< 0.45	610.9	
	12/01/2004	390	86	4.3	53	533.3	< 12	< 3.3	< 2.0	< 1.8	< 1.2	--	< 4.3	< 2.4	< 0.9	625.3	
	12/01/2004	420	80	3.6	45	548.6	< 5.8	< 1.6	< 1	< 0.92	< 0.60	--	< 2.2	< 1.2	< 0.45	708.6	
	01/12/2005	370	86	2.8	48	506.8	< 4.6	< 1.3	< 0.82	< 0.74	< 0.48	--	< 1.7	< 0.96	< 0.36	676.8	
	02/09/2005	370	84	3	51	508	< 4.6	--	--	< 0.74	< 0.48	--	--	--	--	678	
	03/10/2005	400	89	3.1	50	542.1	--	--	--	--	--	--	--	--	--	--	652.1
	04/20/2005	440	74	1.9	38.3	554.2	--	--	--	--	--	--	--	--	--	--	635.2
	07/06/2005	440	77	2.3	41.3	560.6	--	--	--	--	--	--	--	--	--	--	660.6
	10/17/2005	430	62	< 3.4	25	517	--	--	--	--	--	--	--	--	--	--	554
	01/11/2006	310	81	2.7	42.5	436.2	--	--	--	--	--	--	--	--	--	--	506.2
Well damaged, scheduled for repair	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	07/20/2006	360	51	< 3.4	18	429	--	--	--	--	--	--	--	--	--	457	
	10/23/2006	320	--	--	--	320	--	--	--	--	--	--	--	--	--	348	
	04/26/2007	250	--	--	--	250	--	--	--	--	--	--	--	--	--	298	
	10/09/2007	210	--	--	--	210	--	--	--	--	--	--	--	--	--	232	
	04/08/2008	153	--	--	--	153	--	--	--	--	--	157	--	--	--	310	
	10/21/2008	521	--	--	--	521	--	--	--	--	--	104	--	--	--	625	
	04/21/2009	635	--	--	--	635	--	--	--	--	--	118	--	--	--	753	
	10/08/2009	648	--	--	--	648	--	--	--	--	--	32.4	--	--	--	680.4	
	04/07/2010	926	55.6	< 3.4	27.5	1,009.1	--	--	--	--	--	73.9	--	--	--	1,083	
	10/05/2010	1,330	--	--	--	1,330	--	--	--	--	--	62	--	--	--	1,392	
	04/12/2011	158	--	--	--	158	--	--	--	--	--	241	--	--	--	399	
	07/13/2011	1,640	--	--	--	1,640	--	--	--	--	--	17.8	--	--	--	1,657.8	
	10/04/2011	820	--	--	--	820	--	--	--	--	--	11.9	--	--	--	831.9	
	01/04/2012	1,010	--	--	--	1,010	--	--	--	--	--	< 8.9	--	--	--	1,010	
	04/23/2012	1,110	--	--	--	1,110	--	--	--	--	--	37.8	--	--	--	1,147.8	
	06/26/2012	977	--	--	--	977	--	--	--	--	--	< 8.9	--	--	--	977	
	09/12/2012	520	--	--	--	520	--	--	--	--	--	5.6	--	--	--	525.6	
	01/28/2013	686	--	--	--	686	--	--	--	--	--	< 8.9	--	--	--	686	
	04/23/2013	173	--	--	--	173	--	--	--	--	--	57	--	--	--	230	
	07/16/2013	1,080	--	--	--	1,080	--	--	--	--	--	< 25.0	--	--	--	1,080	
	10/15/2013	495	--	--	--	495	--	--	--	--	--	32.8	--	--	--	527.8	
	04/29/2014	197	98.2	4.2	47.7	347.1	--	--	--	--	--	30.8	--	--	--	377.9	
	10/13/2014	< 2.5	220	< 2.5	1,279	1,499	--	--	--	--	--	105	--	--	--	1,604	
	04/21/2015	523	47.4	< 2.5	3.1	573.5	--	--	--	--	--	< 12.5	--	--	--	573.5	
	10/19/2015	396	49.5	< 1.2	11.2	456.7	--	--	--	--	--	< 6.2	--	--	--	456.7	
	04/21/2016	116	62.5	3.2	30.4	212.1	--	--	--	--	--	21.4	--	--	--	233.5	
	10/04/2016	303	27.8	< 1.2	7.3	338.1	--	--	--	--	--	< 6.2	--	--	--	338.1	

Table 4 - Groundwater Analytical Results-VOCs
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Volatile Organic Compounds (VOCs-ug/L)													Total VOCs ^{1,5}		
		Benzene	Ethyl benzene	Toluene	Xylene, Total ³	Total BTEX ^{1,4}	Acetone	Carbon Disulfide	Chloro benzene	Chloroform	Chloro methane	Naphthalene ²	Styrene	Trichloro ethene		Vinyl Chloride	
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
<i>Preventive Action Limit:</i>		0.5	140	160	400	NS	1,800	200	NS	0.6	3	10	10	0.5	0.02	NS	
Enforcement Standard:		5	700	800	2,000	NS	9,000	1,000	NS	6	30	100	100	5	0.2	NS	
MW-20	10/20/2004	490	680	170	860	2,200	< 12	< 3.3	< 2.0	< 1.8	< 1.2	--	< 4.3	< 2.4	< 0.90	6,500	
	11/30/2004	1,900	690	370	870	3,830	< 58	< 16	< 10	< 9.2	< 6	--	< 22	< 12	< 4.5	3,830	
	01/11/2005	2,100	640	580	840	4,160	< 58	< 16	< 10	< 9.2	< 6	--	< 22	< 12	< 4.5	8,560	
	02/08/2005	1,500	650	450	860	3,460	< 120	--	--	< 18	< 12	--	--	--	--	8,160	
	03/09/2005	2,000	720	600	880	4,200	< 230	--	--	--	--	--	--	--	--	7,200	
	04/18/2005	2,500	700	850	910	4,960	--	--	--	--	--	--	--	--	--	10,560	
	07/05/2005	890	500	280	550	2,220	--	--	--	--	--	--	--	--	--	6,020	
	10/17/2005	1,300	470	310	510	2,590	--	--	--	--	--	--	--	--	--	6,390	
	01/10/2006	3,700	710	1,200	1,000	6,610	--	--	--	--	--	--	--	--	--	9,610	
	04/19/2006	3,400	660	1,200	1,160	6,420	--	--	--	--	--	--	--	--	--	10,820	
	07/20/2006	3,000	470	1,200	830	5,500	--	--	--	--	--	--	--	--	--	10,300	
	10/24/2006	2,800	610	630	840	4,880	--	--	--	--	--	--	--	--	--	8,180	
	Dup (QC-1)	10/24/2006	2,700	650	700	990	5,040	--	--	--	--	--	--	--	--	--	8,140
		04/25/2007	3,400	880	880	1,120	6,280	--	--	--	--	--	--	--	--	--	10,580
		10/08/2007	3,100	880	800	1,170	5,950	--	--	--	--	--	--	--	--	--	9,250
	Dup (QC-1)	04/07/2008	3,020	779	1,040	1,179	6,018	--	--	--	--	--	6,720	--	--	--	12,738
		10/20/2008	2,740	866	956	1,243	5,805	--	--	--	--	--	7,350	--	--	--	13,155
		04/20/2009	3,280	872	837	1,163	6,152	--	--	--	--	--	6,620	--	--	--	12,772
	Dup (QC-1)	04/20/2009	2,920	771	742	1,020	5,453	--	--	--	--	--	5,670	--	--	--	11,123
		10/07/2009	2,890	878	841	1,139	5,748	--	--	--	--	--	6,290	--	--	--	12,038
		04/06/2010	3,660	1,020	997	1,299	6,976	--	--	--	--	--	7,510	--	--	--	14,486
	Dup (QC-1)	04/06/2010	3,510	982	953	1,260	6,705	--	--	--	--	--	7,300	--	--	--	14,005
		10/04/2010	3,250	957	1,050	1,191	6,448	--	--	--	--	--	6,770	--	--	--	13,218
		10/04/2010	3,150	837	958	987	5,932	--	--	--	--	--	6,660	--	--	--	12,592
	Dup (QC-1)	04/11/2011	3,140	1,020	1,100	1,329	6,589	--	--	--	--	--	8,270	--	--	--	14,859
		10/03/2011	2,500	759	807	1,033	5,099	--	--	--	--	--	6,170	--	--	--	11,269
		10/03/2011	2,500	767	807	956	5,030	--	--	--	--	--	6,000	--	--	--	11,030
	Dup (QC-1)	04/23/2012	2,460	794	899	1,076	5,229	--	--	--	--	--	7,280	--	--	--	12,509
		06/26/2012	2,650	702	846	789	4,987	--	--	--	--	--	5,260	--	--	--	10,247
		09/12/2012	3,000	870	810	1,139	5,819	--	--	--	--	--	6,900	--	--	--	12,719
		01/28/2013	2,950	785	963	584	5,282	--	--	--	--	--	7,760	--	--	--	13,042
		04/23/2013	2,430	823	975	643	4,871	--	--	--	--	--	6,540	--	--	--	11,411
		07/16/2013	2,050	698	872	955	4,575	--	--	--	--	--	5,680	--	--	--	10,255
10/15/2013		2,250	715	795	568	4,328	--	--	--	--	--	5,520	--	--	--	9,848	
04/29/2014		2,470	841	986	1,100	5,397	--	--	--	--	--	7,420	--	--	--	12,817	
10/13/2014		2,810	878	1,150	1,088	5,926	--	--	--	--	--	7,290	--	--	--	13,216	
04/21/2015		2,160	791	971	943	4,865	--	--	--	--	--	6,290	--	--	--	11,155	
10/19/2015		2,180	822	950	1,132	5,084	--	--	--	--	--	7,310	--	--	--	12,394	
04/21/2016		1,780	616	822	853	4,071	--	--	--	--	--	4,730	--	--	--	8,801	
10/04/2016		1,560	537	767	844	3,708	--	--	--	--	--	5,260	--	--	--	8,968	
PZ-20B		10/20/2004	110	15	2.2	21	148.2	< 2.3	< 0.66	< 0.41	< 0.37	0.36	--	< 0.86	< 0.48	< 0.18	148.56
		11/30/2004	100	19	2.3	27	148.3	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	148.3
	01/11/2005	62	15	1.9	21	99.9	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	126.9	
	02/08/2005	47	14	1.7	18.6	81.3	< 2.3	--	--	< 0.37	< 0.24	--	--	--	--	113.3	
	03/09/2005	43	14	1.6	17.2	75.8	--	--	--	--	--	--	--	--	--	91.8	
	04/18/2005	28	7.6	1	8.8	45.4	--	--	--	--	--	--	--	--	--	61.4	
	07/05/2005	18	6.6	< 0.67	7.1	31.7	--	--	--	--	--	--	--	--	--	46.7	
	10/17/2005	14	6.1	< 0.67	5.6	25.7	--	--	--	--	--	--	--	--	--	38.7	
	01/10/2006	15	6	< 0.67	5.8	26.8	--	--	--	--	--	--	--	--	--	35.5	
	04/19/2006	10	3.9	< 0.67	2.6	16.5	--	--	--	--	--	--	--	--	--	30.5	
	07/20/2006	8.4	4	< 0.67	2.2	14.6	--	--	--	--	--	--	--	--	--	24.4	
	04/25/2007	13	--	--	--	13	--	--	--	--	--	--	--	--	--	50	
	04/07/2008	2.8	--	--	--	2.8	--	--	--	--	--	--	23.8	--	--	26.6	
	04/20/2009	1.2	--	--	--	1.2	--	--	--	--	--	--	12.6	--	--	13.8	
	04/06/2010	0.85	< 0.54	< 0.67	< 1.8	0.85	--	--	--	--	--	--	5.3	--	--	6.15	
	04/12/2011	< 0.41	--	--	--	nd	--	--	--	--	--	--	2.4	--	--	2.4	
	04/23/2012	0.47	--	--	--	0.47	--	--	--	--	--	--	1.4	--	--	1.87	
	04/23/2013	0.51	--	--	--	0.51	--	--	--	--	--	--	5.3	--	--	5.81	
	04/29/2014	0.84	--	--	--	0.84	--	--	--	--	--	--	16	--	--	16.84	
	04/21/2015	< 0.50	--	--	--	nd	--	--	--	--	--	--	11.4	--	--	11.4	
04/21/2016	< 0.5	--	--	--	nd	--	--	--	--	--	--	15.9	--	--	15.9		

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2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Volatile Organic Compounds (VOCs-ug/L)													Total VOCs ^{1,5}		
		Benzene	Ethyl benzene	Toluene	Xylene, Total ³	Total BTEX ^{1,4}	Acetone	Carbon Disulfide	Chloro benzene	Chloroform	Chloro methane	Naphthalene ²	Styrene	Trichloro ethene		Vinyl Chloride	
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
<i>Preventive Action Limit:</i>		0.5	140	160	400	NS	1,800	200	NS	0.6	3	10	10	0.5	0.02	NS	
Enforcement Standard:		5	700	800	2,000	NS	9,000	1,000	NS	6	30	100	100	5	0.2	NS	
MW-21	10/20/2004	8,900	1,200	2,400	1,600	14,100	500	< 66	< 41	< 37	< 24	--	< 86	< 48	< 18	21,300	
	12/02/2004	12,000	1,400	3,900	1,900	19,200	< 230	< 66	< 41	< 37	< 24	--	< 86	< 48	< 18	27,300	
	01/12/2005	9,300	1,400	3,600	2,000	16,300	< 230	< 66	< 41	< 37	< 24	--	< 86	< 48	< 18	24,600	
	02/09/2005	9,100	1,300	3,700	1,950	16,050	< 230	--	--	< 37	< 24	--	--	--	--	24,850	
	03/09/2005	8,300	1,400	3,900	1,900	15,500	< 230	--	--	--	--	--	--	--	--	23,800	
	04/19/2005	6,800	1,300	3,400	2,030	13,530	170	--	--	--	--	--	--	--	--	23,700	
	07/06/2005	6,600	1,100	3,100	1,720	12,520	--	--	--	--	--	--	--	--	--	25,520	
	10/18/2005	7,300	1,100	3,000	1,580	12,980	--	--	--	--	--	--	--	--	--	22,580	
	01/11/2006	4,500	850	2,700	1,530	9,580	--	--	--	--	--	--	--	--	--	20,580	
	04/20/2006	3,200	590	1,900	1,230	6,920	--	--	--	--	--	--	--	--	--	15,020	
	07/19/2006	4,300	650	2,200	1,220	8,370	--	--	--	--	--	--	--	--	--	15,070	
	10/24/2006	4,900	700	2,100	1,250	8,950	--	--	--	--	--	--	--	--	--	16,750	
	04/26/2007	3,500	620	2,100	1,340	7,560	--	--	--	--	--	--	--	--	--	17,260	
	10/09/2007	4,300	640	2,400	1,300	8,640	--	--	--	--	--	--	--	--	--	14,940	
	04/09/2008	2,300	434	1,780	1,283	5,797	--	--	--	--	--	9,980	--	--	--	15,777	
	10/21/2008	3,230	625	2,160	1,452	7,467	--	--	--	--	--	10,400	--	--	--	17,867	
	04/20/2009	2,350	322	1,630	923	5,225	--	--	--	--	--	9,120	--	--	--	14,345	
	10/07/2009	3,170	597	1,970	1,379	7,116	--	--	--	--	--	9,910	--	--	--	17,026	
	04/06/2010	2,660	469	1,820	1,207	6,156	--	--	--	--	--	10,800	--	--	--	16,956	
	10/04/2010	2,550	326	1,900	982	5,758	--	--	--	--	--	9,700	--	--	--	15,458	
	04/11/2011	1,480	353	1,380	1,132	4,345	--	--	--	--	--	10,200	--	--	--	14,545	
	10/03/2011	2,030	392	1,460	1,028	4,910	--	--	--	--	--	8,910	--	--	--	13,820	
	04/24/2012	1,280	256	1,240	856	3,632	--	--	--	--	--	9,730	--	--	--	13,362	
	06/26/2012	1,950	275	1,460	804	4,489	--	--	--	--	--	7,710	--	--	--	12,199	
	09/12/2012	2,450	364	1,500	1,003	5,317	--	--	--	--	--	9,180	--	--	--	14,497	
	01/28/2013	2,140	287	1,550	888	4,865	--	--	--	--	--	10,800	--	--	--	15,665	
	04/23/2013	1,240	256	1,180	963	3,639	--	--	--	--	--	9,010	--	--	--	12,649	
	07/16/2013	1,440	244	1,280	800	3,764	--	--	--	--	--	8,200	--	--	--	11,964	
10/15/2013	2,140	334	1,390	1,009	4,873	--	--	--	--	--	9,250	--	--	--	14,123		
Dup (QC-1)	10/15/2013	1,950	308	1,290	938	4,486	--	--	--	--	--	8,620	--	--	--	13,106	
	04/29/2014	1,180	197	1,100	750	3,227	--	--	--	--	--	9,660	--	--	--	12,887	
10/13/2014	2,080	231	1,510	< 544	3,821	--	--	--	--	--	10,400	--	--	--	14,221		
04/21/2015	1,520	272	1,400	765	3,957	--	--	--	--	--	10,300	--	--	--	14,257		
10/19/2015	1,670	308	1,420	986	4,384	--	--	--	--	--	10,700	--	--	--	15,084		
04/21/2016	1,040	225	995	785	3,045	--	--	--	--	--	7,370	--	--	--	10,415		
10/04/2016	1,240	267	1,150	964	3,621	--	--	--	--	--	10,700	--	--	--	14,321		
PZ-21B	10/20/2004	38	10	1.7	12	61.7	< 2.3	< 0.66	< 0.41	< 0.37	0.42	--	< 0.86	< 0.48	< 0.18	62.12	
	10/20/2004	39	9.8	1.7	12	62.5	< 2.3	< 0.66	< 0.41	< 0.37	0.73	--	< 0.86	< 0.48	< 0.18	63.23	
	12/02/2004	32	10	1.7	13	56.7	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	56.7	
	01/12/2005	24	12	1.6	13	50.6	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	50.6	
	02/09/2005	15	7.2	1.1	7.8	31.1	< 2.3	--	--	< 0.37	< 0.24	--	--	--	--	31.1	
	03/09/2005	13	7	0.84	7.4	28.24	--	--	--	--	--	--	--	--	--	28.24	
	04/19/2005	9.7	4.1	< 0.67	4.2	18	--	--	--	--	--	--	--	--	--	18	
	Dup (QC-1)	04/19/2005	9.8	4.3	< 0.67	2.2	16.3	--	--	--	--	--	--	--	--	--	16.3
		07/06/2005	6.4	3.4	< 0.67	1.9	11.7	--	--	--	--	--	--	--	--	--	11.7
	10/18/2005	5.3	2.2	< 0.67	1.4	8.9	--	--	--	--	--	--	--	--	--	8.9	
	01/10/2006	6.2	2.3	< 0.67	3.5	12	--	--	--	--	--	--	--	--	--	12	
	Dup (QC-1)	01/11/2006	6.5	2.4	< 0.67	1.7	10.6	--	--	--	--	--	--	--	--	--	10.6
		04/20/2006	2.2	1.2	< 0.67	0.9	4.3	--	--	--	--	--	--	--	--	--	4.3
	Dup (QC-1)	04/20/2006	2.2	1.2	< 0.67	0.94	4.34	--	--	--	--	--	--	--	--	--	4.34
		07/19/2006	1.5	1.2	< 0.67	< 1.8	2.7	--	--	--	--	--	--	--	--	--	2.7
	Dup (QC-1)	07/19/2006	1.6	1.2	< 0.67	< 1.8	2.8	--	--	--	--	--	--	--	--	--	2.8
		04/26/2007	2.3	--	--	--	2.3	--	--	--	--	--	--	--	--	--	2.3
	04/09/2008	1.3	1.6	< 0.67	0.9	3.8	--	--	--	--	--	52.1	--	--	--	3.8	
	04/20/2009	0.5	--	--	--	0.5	--	--	--	--	--	22.6	--	--	--	23.1	
	04/06/2010	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	24	--	--	--	24	
	04/12/2011	< 0.41	--	--	--	nd	--	--	--	--	--	15.3	--	--	--	15.3	
	04/24/2012	< 0.41	--	--	--	nd	--	--	--	--	--	5.6	--	--	--	5.6	
	04/23/2013	< 0.50	--	--	--	nd	--	--	--	--	--	4.5	--	--	--	4.5	
	04/29/2014	< 0.50	--	--	--	nd	--	--	--	--	--	22.6	--	--	--	22.6	
	04/21/2015	< 0.50	--	--	--	nd	--	--	--	--	--	10.9	--	--	--	10.9	
	04/21/2016	< 0.5	--	--	--	nd	--	--	--	--	--	23.6	--	--	--	23.6	

Table 4 - Groundwater Analytical Results-VOCs
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Sample Location	Sample Date	Volatile Organic Compounds (VOCs-ug/L)													Total VOCs ^{1,5}		
		Benzene	Ethyl benzene	Toluene	Xylene, Total ³	Total BTEX ^{1,4}	Acetone	Carbon Disulfide	Chloro benzene	Chloroform	Chloro methane	Naphthalene ²	Styrene	Trichloro ethene		Vinyl Chloride	
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
<i>Preventive Action Limit:</i>		0.5	140	160	400	NS	1,800	200	NS	0.6	3	10	10	0.5	0.02	NS	
Enforcement Standard:		5	700	800	2,000	NS	9,000	1,000	NS	6	30	100	100	5	0.2	NS	
MW-22	10/18/2004	2,700	480	< 17	190	3,370	< 58	< 16	< 10	< 9.2	< 6.0	--	< 22	< 12	< 4.5	5,970	
	12/01/2004	2,600	440	< 34	160	3,200	< 120	< 33	< 20	< 18	< 12	--	< 43	< 24	< 9	3,790	
	01/11/2005	2,700	480	< 34	170	3,350	< 120	< 33	< 20	< 18	< 12	--	< 43	< 24	< 9	5,450	
	02/08/2005	2,600	480	< 17	158	3,238	< 58	--	--	< 9.2	< 6.0	--	--	--	--	4,838	
	03/09/2005	2,600	510	16	169	3,295	--	--	--	--	--	--	--	--	--	4,495	
	04/19/2005	2,900	490	< 34	160	3,550	--	--	--	--	--	--	--	--	--	5,450	
	07/06/2005	2,900	570	< 34	210	3,680	--	--	--	--	--	--	--	--	--	5,280	
	10/18/2005	3,300	600	< 34	220	4,120	--	--	--	--	--	--	--	--	--	5,920	
	01/10/2006	3,300	680	< 17	250	4,230	--	--	--	--	--	--	--	--	--	5,930	
	04/19/2006	3,400	680	< 34	230	4,310	--	--	--	--	--	--	--	--	--	6,110	
	07/19/2006	3,700	760	< 34	242	4,702	--	--	--	--	--	--	--	--	--	6,502	
	10/24/2006	3,500	690	< 67	100	4,290	--	--	--	--	--	--	--	--	--	6,490	
	04/25/2007	2,900	580	< 17	187	3,667	--	--	--	--	--	--	--	--	--	4,767	
	10/09/2007	3,000	590	< 34	175	3,765	--	--	--	--	--	--	--	--	--	5,065	
	Dup (QC-1)	10/09/2007	2,800	550	< 34	174	3,524	--	--	--	--	--	--	--	--	5,824	
	Dup (QC-1)	04/09/2008	2,300	512	20.2	165.9	2,998.1	--	--	--	--	--	2,370	--	--	--	5,368.1
		04/09/2008	2,460	542	45.4	190.4	3,237.8	--	--	--	--	--	2,680	--	--	--	5,917.8
	Dup (QC-1)	10/21/2008	2,050	543	< 67	< 180	2,593	--	--	--	--	--	3,930	--	--	--	6,523
		10/21/2008	2,150	564	< 33.5	206.2	2,920.2	--	--	--	--	--	2,800	--	--	--	5,720.2
	Dup (QC-1)	04/20/2009	1,980	524	< 13.4	177.7	2,681.7	--	--	--	--	--	2,220	--	--	--	4,901.7
		10/07/2009	1,960	538	< 16.8	162.9	2,660.9	--	--	--	--	--	2,340	--	--	--	5,000.9
		04/06/2010	2,040	532	< 16.8	146.7	2,718.7	--	--	--	--	--	2,290	--	--	--	5,008.7
		10/04/2010	2,190	524	< 16.8	120.4	2,834.4	--	--	--	--	--	2,670	--	--	--	5,504.4
		04/11/2011	1,920	601	< 16.8	160.3	2,681.3	--	--	--	--	--	3,270	--	--	--	5,951.3
		04/11/2011	1,730	535	< 16.8	149.6	2,414.6	--	--	--	--	--	2,650	--	--	--	5,064.6
		10/03/2011	1,970	445	< 16.8	87.9	2,502.9	--	--	--	--	--	2,220	--	--	--	4,722.9
		04/23/2012	1,600	458	< 16.8	33.3	2,091.3	--	--	--	--	--	2,110	--	--	--	4,201.3
		06/26/2012	1,820	474	< 16.8	23	2,317	--	--	--	--	--	1,470	--	--	--	3,787
		09/13/2012	2,070	452	< 16.8	33.1	2,555.1	--	--	--	--	--	1,750	--	--	--	4,305.1
		01/28/2013	2,230	481	< 16.8	25.9	2,736.9	--	--	--	--	--	2,320	--	--	--	5,056.9
		Dup (QC-1)	04/23/2013	1,840	509	< 11.0	47.5	2,396.5	--	--	--	--	--	1,850	--	--	--
	07/16/2013		1,810	524	< 11.0	43.1	2,377.1	--	--	--	--	--	2,400	--	--	--	4,777.1
	07/16/2013		1,670	520	< 8.8	78.5	2,268.5	--	--	--	--	--	2,400	--	--	--	4,668.5
10/15/2013	2,630		574	< 11.0	105.4	3,309.4	--	--	--	--	--	2,890	--	--	--	6,199.4	
04/30/2014	1,860		454	< 12.5	26.5	2,340.5	--	--	--	--	--	2,500	--	--	--	4,840.5	
10/13/2014	2,450		522	< 12.5	< 25	2,972	--	--	--	--	--	3,440	--	--	--	6,412	
Dup (QC-1)	04/21/2015	1,690	444	< 12.5	< 25.0	2,134	--	--	--	--	--	2,170	--	--	--	4,304	
	10/19/2015	1,450	432	< 12.5	35.4	1,917.4	--	--	--	--	--	2,570	--	--	--	4,487.4	
	04/21/2016	1,310	399	< 12.5	32.5	1,741.5	--	--	--	--	--	1,710	--	--	--	3,451.5	
	04/21/2016	1,430	472	< 10	70.1	1,972.1	--	--	--	--	--	2,220	--	--	--	4,192.1	
	10/04/2016	1,380	409	< 12.5	38.1	1,827.1	--	--	--	--	--	2,070	--	--	--	3,897.1	
	PZ-22B	10/18/2004	25	19	2.6	19	65.6	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	65.6
		12/01/2004	35	23	3.1	22	83.1	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	83.1
		01/11/2005	55	26	3.5	25	109.5	3.8	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	113.3
02/08/2005		48	23	< 6.7	12	83	< 23	--	--	< 3.7	< 2.4	--	--	--	--	83	
03/09/2005		59	27	4.3	28	118.3	--	--	--	--	--	--	--	--	--	118.3	
Dup (QC-1)		03/09/2005	53	26	3.9	26	108.9	--	--	--	--	--	--	--	--	108.9	
04/19/2005		41	14	< 6.7	< 18	55	--	--	--	--	--	--	--	--	--	55	
07/06/2005		61	15	< 6.7	< 18	76	--	--	--	--	--	--	--	--	--	76	
10/18/2005		38	12	< 3.4	5.5	55.5	--	--	--	--	--	--	--	--	--	55.5	
Dup (QC-1)		10/18/2005	37	12	< 3.4	5.4	54.4	--	--	--	--	--	--	--	--	54.4	
01/10/2006		34	10	< 3.4	4.8	48.8	--	--	--	--	--	--	--	--	--	48.8	
04/19/2006		36	24	< 6.7	9.2	69.2	--	--	--	--	--	--	--	--	--	69.2	
07/19/2006		22	6.9	< 3.4	< 9.0	28.9	--	--	--	--	--	--	--	--	--	28.9	
04/25/2007		20	--	--	--	20	--	--	--	--	--	--	--	--	--	20	
04/09/2008		10.9	7.9	< 3.4	< 9	18.8	--	--	--	--	--	314	--	--	--	18.8	
04/20/2009		7.4	--	--	--	7.4	--	--	--	--	--	530	--	--	--	537.4	
04/06/2010		6.7	12.1	< 3.4	5.2	24	--	--	--	--	--	--	--	--	--	24	
04/12/2011		6.1	--	--	--	6.1	--	--	--	--	--	816	--	--	--	822.1	
04/23/2012		2.9	--	--	--	2.9	--	--	--	--	--	364	--	--	--	366.9	
04/23/2013		2.8	--	--	--	2.8	--	--	--	--	--	420	--	--	--	422.8	
04/30/2014	5.1	--	--	--	5.1	--	--	--	--	--	530	--	--	--	535.1		
04/21/2015	3.2	--	--	--	3.2	--	--	--	--	--	493	--	--	--	496.2		
04/21/2016	4	--	--	--	4	--	--	--	--	--	481	--	--	--	485		

Table 4 - Groundwater Analytical Results-VOCs

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Volatile Organic Compounds (VOCs-ug/L)														Total VOCs ^{1.5}
		Benzene	Ethyl benzene	Toluene	Xylene, Total ³	Total BTEX ^{1,4}	Acetone	Carbon Disulfide	Chloro benzene	Chloroform	Chloro methane	Naphthalene ²	Styrene	Trichloro ethene	Vinyl Chloride	
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)														
<i>Preventive Action Limit:</i>		0.5	140	160	400	NS	1,800	200	NS	0.6	3	10	10	0.5	0.02	NS
Enforcement Standard:		5	700	800	2,000	NS	9,000	1,000	NS	6	30	100	100	5	0.2	NS
MW-23 Well Installed 9/15/2008 <i>Dup (QC-1)</i>	10/21/2008	< 0.41	< 0.54	0.94	< 1.8	0.94	--	--	--	--	--	3.3	--	--	--	4.24
	02/19/2009	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	1.1	--	--	--	1.1
	04/21/2009	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	1.2	--	--	--	1.2
	10/08/2009	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	< 0.41	< 1.3	< 0.24	0.097	< 0.86	< 0.48	< 0.18	0.097
	10/08/2009	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	< 0.41	< 1.3	< 0.24	1.1	< 0.86	< 0.48	< 0.18	1.1
	11/12/2009	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	< 0.41	< 1.3	< 0.24	< 0.89	< 0.86	< 0.48	< 0.18	nd
	04/07/2010	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	< 0.89	--	--	--	nd
04/24/2012	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	< 0.89	--	--	--	nd	
PZ-23 Well Installed 10/5/2009 <i>Dup (QC-1)</i>	10/08/2009	189	22	< 3.4	33.8	244.8	--	--	< 2.0	< 6.5	< 1.2	537	< 4.3	< 2.4	< 0.90	781.8
	11/12/2009	292	28.6	4.3	38	362.9	--	--	< 2.0	< 6.5	< 1.2	672	< 4.3	< 2.4	< 0.90	1,034.9
	04/07/2010	551	45.3	11.6	49.3	657.2	--	--	--	--	--	895	--	--	--	1,552.2
	10/05/2010	1,090	63	< 6.7	36.1	1,189.1	--	--	--	--	--	1,260	--	--	--	2,449.1
	01/18/2011	655	60.5	< 6.7	13	728.5	--	--	--	--	--	962	--	--	--	1,690.5
	04/12/2011	1,030	88.2	26.7	48.4	1,193.3	--	--	--	--	--	1,190	--	--	--	2,383.3
	07/13/2011	1,160	86.4	< 6.7	12.1	1,258.5	--	--	--	--	--	1,600	--	--	--	2,858.5
	10/04/2011	537	52.1	< 6.7	9.2	598.3	--	--	--	--	--	899	--	--	--	1,497.3
	01/04/2012	1,160	83.3	18.6	20.6	1,263.9	--	--	--	--	--	944	--	--	--	2,207.9
	04/24/2012	1,200	90.3	< 6.7	21.8	1,312.1	--	--	--	--	--	1,070	--	--	--	2,382.1
	06/26/2012	1,110	69.2	< 6.7	11.3	1,190.5	--	--	--	--	--	886	--	--	--	2,076.5
	09/12/2012	934	71.7	< 6.7	16	1,021.7	--	--	--	--	--	957	--	--	--	1,978.7
	01/29/2013	889	52.8	8.2	13.3	963.3	--	--	--	--	--	854	--	--	--	1,817.3
	04/24/2013	1,050	85.5	26.3	46.8	1,208.6	--	--	--	--	--	1,160	--	--	--	2,368.6
	07/16/2013	971	81.3	5	39.1	1,096.4	--	--	--	--	--	1,180	--	--	--	2,276.4
	10/16/2013	806	70.1	< 4.4	34.5	910.6	--	--	--	--	--	1,030	--	--	--	1,940.6
	04/30/2014	893	73.7	18.2	33.3	1,018.2	--	--	--	--	--	1,000	--	--	--	2,018.2
	07/21/2014	952	82.2	5.6	35.6	1,075.4	--	--	--	--	--	1,160	--	--	--	2,235.4
	10/13/2014	931	62.1	< 5.0	< 15.0	993.1	--	--	--	--	--	1,210	--	--	--	2,203.1
	04/22/2015	512	55.9	5.3	23.6	596.8	--	--	--	--	--	619	--	--	--	1,215.8
04/22/2015	452	50.3	5.5	11.1	518.9	--	--	--	--	--	508	--	--	--	1,026.9	
07/14/2015	567	48.4	< 5.0	10.6	626	--	--	--	--	--	488	--	--	--	1,114	
10/20/2015	542	55.4	< 5.0	10.7	608.1	--	--	--	--	--	838	--	--	--	1,446.1	
01/07/2016	840	74.5	8.8	15.8	939.1	--	--	--	--	--	721	--	--	--	1,660.1	
04/21/2016	728	59.1	6.4	10.9	804.4	--	--	--	--	--	488	--	--	--	1,292.4	
07/14/2016	783	75.8	< 5	14.3	873.1	--	--	--	--	--	831	--	--	--	1,704.1	
10/04/2016	693	61.2	< 5	10.1	764.3	--	--	--	--	--	854	--	--	--	1,618.3	
MW-24 Well Installed 1/14/2013 <i>Dup (QC-1)</i>	01/29/2013	2.4	< 0.54	2.7	< 1.8	5.1	--	--	< 0.41	< 1.3	< 0.24	< 0.89	< 0.86	< 0.48	< 0.18	5.1
	04/24/2013	< 0.5	< 0.5	< 0.44	< 0.82	nd	--	--	< 0.36	< 0.69	< 0.39	< 2.5	< 0.35	< 0.43	< 0.18	nd
	07/16/2013	1	< 0.50	< 0.44	< 0.82	1	--	--	--	--	--	< 2.5	--	--	--	1
	10/15/2013	1.4	< 0.50	< 0.44	< 0.82	1.4	--	--	--	--	--	< 2.5	--	--	--	1.4
	04/29/2014	< 0.50	< 0.50	< 0.50	< 1.0	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	10/14/2014	< 0.50	< 0.50	< 0.50	< 1.5	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	04/22/2015	< 0.50	< 0.50	< 0.50	< 1.0	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	10/20/2015	< 0.50	< 0.50	< 0.50	< 1.0	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	04/22/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	10/05/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd
MW-25 Well Installed 1/15/2013 <i>Dup (QC-1)</i>	01/28/2013	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	< 0.41	< 1.3	< 0.24	< 0.89	< 0.86	< 0.48	< 0.18	nd
	04/24/2013	1.1	0.71	< 0.44	< 0.82	1.81	--	--	< 0.36	< 0.69	< 0.39	< 2.5	< 0.35	< 0.47	< 0.18	1.81
	07/16/2013	1	< 0.50	< 0.44	< 0.82	1	--	--	--	--	--	< 2.5	--	--	--	1
	10/15/2013	1.4	< 0.5	< 0.44	< 0.82	1.4	--	--	--	--	--	< 2.5	--	--	--	1.4
	04/29/2014	5.9	9.1	3	14	32	--	--	--	--	--	70.4	--	--	--	102.4
	10/14/2014	3.6	1.7	0.74	< 1.9	6.04	--	--	--	--	--	9.9	--	--	--	15.94
	04/21/2015	2.8	3.9	1.5	5.8	14	--	--	--	--	--	28.6	--	--	--	42.6
	10/20/2015	6.1	6.4	1.9	9.3	23.7	--	--	--	--	--	63.5	--	--	--	87.2
	04/21/2016	2.3	5.2	1.1	6.8	15.4	--	--	--	--	--	68.5	--	--	--	83.9
	10/04/2016	6.7	10.3	2.5	14.6	34.1	--	--	--	--	--	149	--	--	--	183.1
10/04/2016	6.6	10.4	2.6	14.4	34	--	--	--	--	--	149	--	--	--	183	
MW-26	04/22/2015	18.9	2.4	1	3.4	25.7	--	--	--	--	--	19.8	--	--	--	45.5
	07/14/2015	71.1	6.5	0.57	6.1	84.27	--	--	< 0.50	< 2.5	< 0.50	53.1	< 0.50	< 0.33	< 0.18	137.37
	10/19/2015	58.9	5.9	0.75	5.8	71.35	--	--	< 0.50	< 2.5	< 0.50	70.3	< 0.50	< 0.33	< 0.18	141.65
	01/07/2016	58.7	4.7	< 0.5	6	69.4	--	--	--	--	--	45.8	--	--	--	115.2
	04/22/2016	27.1	1.5	< 0.5	1.4	30	--	--	--	--	--	16.7	--	--	--	46.7
	07/14/2016	32.1	< 0.5	< 0.5	1.3	33.4	--	--	--	--	--	15.6	--	--	--	49
10/05/2016	70.2	0.74	< 0.5	4	74.94	--	--	--	--	--	--	--	--	--	74.94	
PZ-26 Well Installed 04/15/2014	04/30/2014	6,890	814	1,020	1,032	9,756	--	--	< 50.0	< 250	< 50.0	6,480	< 15.3	< 33.1	< 17.6	16,236
	05/12/2014	14,700	1,150	2,440	1,493	19,783	--	--	< 50.0	< 250	< 50.0	7,630	< 15.3	< 33.1	< 17.6	27,413

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Sample Location	Sample Date	Volatile Organic Compounds (VOCs-ug/L)													Total VOCs ^{1,5}	
		Benzene	Ethyl benzene	Toluene	Xylene, Total ³	Total BTEX ^{1,4}	Acetone	Carbon Disulfide	Chloro benzene	Chloroform	Chloro methane	Naphthalene ²	Styrene	Trichloro ethene		Vinyl Chloride
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)														
Preventive Action Limit:		0.5	140	160	400	NS	1,800	200	NS	0.6	3	10	10	0.5	0.02	NS
Enforcement Standard:		5	700	800	2,000	NS	9,000	1,000	NS	6	30	100	100	5	0.2	NS
MW-27	04/22/2015	207	47.8	2.1	13.5	270.4	--	--	--	--	382	--	--	--	--	652.4
	07/14/2015	474	91.2	2.2	20.5	587.9	--	--	< 2.0	< 10.0	< 2.0	633	< 2.0	< 1.3	< 0.70	1,220.9
	07/14/2015	436	80.1	< 5.0	9.2	525.3	--	--	< 5.0	< 25.0	< 5.0	615	< 5.0	< 3.3	< 1.8	1,140.3
	10/20/2015	404	63.1	2.1	15.8	485	--	--	< 2.0	< 10.0	< 2.0	691	< 2.0	< 1.3	< 0.70	1,176
	01/07/2016	526	113	3.8	27	669.8	--	--	--	--	--	734	--	--	--	1,403.8
	04/22/2016	556	107	4.1	24	691.1	--	--	--	--	--	605	--	--	--	1,296.1
	07/14/2016	597	115	2.8	26.7	741.5	--	--	--	--	--	894	--	--	--	1,635.5
	Dup (QC-1)	07/14/2016	597	121	< 5	31.8	749.8	--	--	--	--	--	998	--	--	--
	10/05/2016	560	111	< 2.5	22.9	693.9	--	--	--	--	--	1,100	--	--	--	1,793.9
PZ-27	04/22/2015	259	40.4	3.4	19	321.8	--	--	--	--	--	527	--	--	--	848.8
	07/14/2015	439	46.5	2.2	17.9	505.6	--	--	< 2.0	< 10.0	< 2.0	543	< 2.0	< 1.3	< 0.70	1,048.6
	10/20/2015	381	48.2	2.1	20.3	451.6	--	--	< 2.0	< 10.0	< 2.0	812	< 2.0	< 1.3	< 0.70	1,263.6
	10/20/2015	425	39.7	< 5.0	9.1	473.8	--	--	< 5.0	< 25.0	< 5.0	700	< 5.0	< 3.3	< 1.8	1,173.8
	01/07/2016	455	49.1	< 5	12.2	516.3	--	--	--	--	--	598	--	--	--	1,114.3
	04/22/2016	512	47.5	6.3	9.9	575.7	--	--	--	--	--	401	--	--	--	976.7
	07/14/2016	537	52.5	< 5	17.3	606.8	--	--	--	--	--	547	--	--	--	1,153.8
	Dup (QC-1)	10/05/2016	487	53	< 5	11.3	551.3	--	--	--	--	--	687	--	--	--
MW-28	04/22/2015	< 0.50	< 0.50	< 0.50	< 1.0	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	07/14/2015	< 0.50	< 0.50	< 0.50	< 1.0	nd	--	--	< 0.50	< 2.5	< 0.50	< 2.5	< 0.50	< 0.33	< 0.18	nd
	10/20/2015	< 0.50	< 0.50	< 0.50	< 1.0	nd	--	--	< 0.50	< 2.5	< 0.50	< 2.5	< 0.50	< 0.33	< 0.18	nd
	01/07/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	01/07/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	04/22/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	07/14/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	Dup (QC-1)	10/04/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	< 2.5	--	--	--	nd
PZ-28	04/22/2015	4,880	748	721	1,025	7,374	--	--	--	--	--	3,720	--	--	--	11,094
QCFB	02/20/2002	< 0.44	< 0.5	< 0.4	< 1.2	nd	< 3.1	< 0.4	< 0.43	< 0.41	--	--	< 0.37	< 0.49	< 0.17	nd
	05/13/2002	< 0.44	< 0.5	< 0.4	< 1.2	nd	6.5	< 0.4	< 0.43	< 0.41	--	--	< 0.37	< 0.49	< 0.17	6.5
	08/20/2002	< 0.44	< 0.5	< 0.4	< 1.2	nd	3.8	< 0.4	< 0.43	< 0.41	--	--	< 0.37	< 0.49	< 0.17	3.8
	11/14/2002	< 0.25	< 0.53	< 0.84	< 1.9	nd	< 3.3	< 0.5	< 0.58	< 0.45	--	--	< 0.62	< 0.39	< 0.11	nd
	02/20/2003	< 0.25	< 0.53	< 0.84	< 1.9	nd	< 3.3	< 0.5	< 0.58	< 0.45	--	--	< 0.62	< 0.39	< 0.11	nd
	10/19/2004	< 0.41	< 0.54	< 0.67	< 2.6	nd	4.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	4.3
	12/02/2004	< 0.41	< 0.54	< 0.67	< 2.6	nd	3.1	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	3.1
	01/13/2005	< 0.41	< 0.54	< 0.67	< 2.6	nd	3.4	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	3.4
	02/10/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	< 2.3	--	--	< 0.37	< 0.24	--	--	--	--	nd
	03/10/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	0.082
	04/20/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	0.054
	07/07/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	10/19/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	01/12/2006	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	0.019
	04/19/2006	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	2.8
	07/20/2006	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	0.44
	10/24/2006	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	04/26/2007	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	10/09/2007	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	0.021
	04/09/2008	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	< 0.74	--	--	nd
	10/21/2008	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	< 0.89	--	--	nd
	04/21/2009	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	< 0.89	--	--	nd
	10/08/2009	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	< 0.41	< 1.3	< 0.24	< 0.89	< 0.86	< 0.45	< 0.18	nd
	04/07/2010	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	< 0.89	--	--	nd
	10/05/2010	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	< 0.89	--	--	nd
	01/18/2011	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	< 0.89	--	--	nd
	04/12/2011	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	< 0.89	--	--	nd
	07/13/2011	< 0.41	< 0.54	< 0.67	< 1.9	nd	--	--	--	--	--	--	< 0.89	--	--	nd
	10/03/2011	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	< 0.89	--	--	nd
	01/04/2012	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	< 0.89	--	--	nd
	04/24/2012	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	< 0.89	--	--	nd
	06/26/2012	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	< 0.89	--	--	nd
09/13/2012	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	< 0.89	--	--	nd	
01/29/2013	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	< 0.41	< 1.3	< 0.24	< 0.89	< 0.86	< 0.48	< 0.18	nd	

Table 4 - Groundwater Analytical Results-VOCs

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Volatile Organic Compounds (VOCs-ug/L)														Total VOCs ^{1,5}
		Benzene	Ethyl benzene	Toluene	Xylene, Total ³	Total BTEX ^{1,4}	Acetone	Carbon Disulfide	Chloro benzene	Chloroform	Chloro methane	Naphthalene ²	Styrene	Trichloro ethene	Vinyl Chloride	
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)														
<i>Preventive Action Limit:</i>		0.5	140	160	400	NS	1,800	200	NS	0.6	3	10	10	0.5	0.02	NS
Enforcement Standard:		5	700	800	2,000	NS	9,000	1,000	NS	6	30	100	100	5	0.2	NS
QCFB (continued)	04/23/2013	< 0.50	< 0.50	< 0.44	< 0.50	nd	--	--	< 0.36	< 0.69	< 0.39	< 2.5	< 0.35	< 0.43	< 0.18	nd
	07/16/2013	< 0.50	< 0.50	< 0.44	< 0.82	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	10/15/2013	< 0.50	< 0.50	< 0.44	< 0.82	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	04/30/2014	< 0.50	< 0.50	< 0.50	< 1	nd	--	--	< 0.50	< 2.5	< 0.50	--	< 0.15	< 0.33	< 0.18	nd
	10/14/2014	< 0.50	< 0.50	< 0.50	< 1.5	nd	--	--	< 0.50	< 2.5	< 0.50	< 2.5	< 0.05	< 0.33	< 0.18	nd
	04/21/2015	< 0.50	< 0.50	< 0.50	< 1.0	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	07/14/2015	< 0.50	< 0.50	< 0.50	< 1.0	nd	--	--	< 0.50	< 2.5	< 0.50	< 2.5	< 0.50	< 0.33	< 0.18	nd
	10/19/2015	< 0.50	< 0.50	< 0.50	< 1.0	nd	--	--	< 0.50	< 2.5	< 0.50	< 2.5	< 0.50	< 0.33	< 0.18	nd
	01/07/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	04/21/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd
07/14/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd	
10/04/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd	
Trip Blank	02/20/2002	< 0.44	< 0.5	< 0.4	< 1.2	nd	< 3.1	< 0.4	< 0.43	< 0.41	--	--	< 0.37	< 0.49	< 0.17	nd
	05/13/2002	< 0.44	< 0.5	< 0.4	< 1.2	nd	< 3.1	< 0.4	< 0.43	< 0.41	--	--	< 0.37	< 0.49	< 0.17	nd
	08/20/2002	< 0.44	< 0.5	< 0.4	< 1.2	nd	< 3.1	< 0.4	< 0.43	< 0.41	--	--	< 0.37	< 0.49	< 0.17	nd
	11/12/2002	< 0.25	< 0.53	< 0.84	< 1.9	nd	< 3.3	< 0.5	< 0.58	< 0.45	--	--	< 0.62	< 0.39	< 0.11	nd
	02/20/2003	< 0.25	< 0.53	< 0.84	< 1.9	nd	< 3.3	< 0.5	< 0.58	< 0.45	--	--	< 0.62	< 0.39	< 0.11	nd
	10/19/2004	< 0.41	< 0.54	< 0.67	< 2.6	nd	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	nd
	11/30/2004	< 0.41	< 0.54	< 0.67	< 2.6	nd	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	nd
	12/02/2004	< 0.41	< 0.54	< 0.67	< 2.6	nd	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	nd
	01/12/2005	< 0.41	< 0.54	< 0.67	< 2.6	nd	< 2.3	< 0.66	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	nd
	02/09/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	< 2.3	--	--	< 0.37	< 0.24	--	--	< 0.48	< 0.18	nd
	03/09/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	< 2.3	--	--	--	--	--	--	--	--	nd
	04/19/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	< 2.3	--	--	--	--	--	--	--	--	nd
	07/05/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	07/07/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	10/18/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	10/19/2005	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	01/10/2006	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	04/19/2006	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	04/20/2006	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	07/19/2006	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	07/20/2006	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	< 0.41	< 0.37	< 0.24	--	< 0.86	< 0.48	< 0.18	nd
	04/25/2007	< 0.41	< 0.54	< 0.67	< 1.9	nd	--	--	--	--	--	--	--	--	--	nd
	10/08/2007	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	10/09/2007	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	04/07/2008	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	04/08/2008	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	04/09/2008	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	< 0.74	--	--	--	nd
	10/21/2008	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	< 0.89	--	--	--	nd
	10/08/2009	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	< 0.41	< 1.3	< 0.24	< 0.89	< 0.86	< 0.45	< 0.18	nd
	04/07/2010	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	10/04/2010	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	01/18/2011	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	--	--	--	--	nd
	04/11/2011	< 0.41	--	--	--	nd	--	--	--	--	--	< 0.89	--	--	--	nd
	07/13/2011	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	< 0.89	--	--	--	nd
	10/03/2011	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	< 0.89	--	--	--	nd
	01/04/2012	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	< 0.89	--	--	--	nd
	04/24/2012	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	< 0.89	--	--	--	nd
	09/12/2012	< 0.41	< 0.54	< 0.67	< 1.8	nd	--	--	--	--	--	< 0.89	--	--	--	nd
	04/23/2013	< 0.50	--	--	--	nd	--	--	--	--	--	< 2.5	--	--	--	nd
	07/16/2013	< 0.50	< 0.50	< 0.44	< 0.82	nd	--	--	--	--	--	< 2.5	--	--	--	nd
10/15/2013	< 0.50	< 0.50	< 0.44	< 0.82	nd	--	--	--	--	--	< 2.5	--	--	--	nd	
04/30/2014	< 0.50	< 0.50	< 0.50	--	nd	--	--	--	--	--	< 2.5	--	--	--	nd	
10/14/2014	< 0.50	< 0.50	< 0.50	< 1.5	nd	--	--	< 0.50	< 2.5	< 0.50	< 2.5	< 0.05	< 0.33	< 0.18	nd	
04/21/2015	< 0.50	< 0.50	< 0.50	< 1.0	nd	--	--	--	--	--	< 2.5	--	--	--	nd	
07/14/2015	< 0.50	< 0.50	< 0.50	< 1.0	nd	--	--	< 0.50	< 2.5	< 0.50	< 2.5	< 0.50	< 0.33	< 0.18	nd	
10/19/2015	< 0.50	< 0.50	< 0.50	< 1.0	nd	--	--	< 0.50	< 2.5	< 0.50	< 2.5	< 0.50	< 0.33	< 0.18	nd	
01/07/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd	
04/21/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd	
10/04/2016	< 0.5	< 0.5	< 0.5	< 1	nd	--	--	--	--	--	< 2.5	--	--	--	nd	

[JTB/RH 5/05][PAR/JTB 11/05][PAR/JTB 9/06][R/G/JTB 10/07][BGH/RMV 6/08][RMV/KRM 1/09][BGH/RJG 3/09][RMN/BGH 5/10][AMM/KJB 2/11][KJB/RJG 5/11][ndK/BGH 8/11][CJM/AMM 1/12][AMM/JJW 5/12][AMM/ANS 7/12][AMM/RJG 10/12][ETE/RJG 3/13][ETOR/JG 5/13][EPK/ndK 9/13][ETE/ndK 10/13][U-ECK 6/14][KLT 1/30/2015, C-PMH 2/15][U-AJS 12/10/15, C-PMH 12/14/15][Foma/ECK 4/11/16][U-ECK 1/30/17][CJG 1/31/17 U/KJS 2/7/17]



Table 4 - Groundwater Analytical Results-VOCs

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Notes:

Italic Constituent concentrations that attain or exceed a preventive action limit (PAL) are italicized.

BOLD Constituent concentrations that attain or exceed an enforcement standard (ES) are bold.

< : Constituent was not identified above the limit of detection shown.

-- : Analysis was not performed.

Dup (QA/QC): Field Duplicate sample, field identification indicated in parentheses.

µg/L : Micrograms per liter.

*: Laboratory data for wells MW-8, MW-9, and MW-10 were originally presented in the March 25, 2002 URS SI report

nd : all components of total calculation were non-detects

NS : NR 140 groundwater quality standard has not been established.

1) Non-detects were not included in the calculated sums.

2) Naphthalene data 2007 and earlier were analyzed as a SVOC and appear on the SVOCs table.

3) Total Xylenes were calculated by NRT, an OBG Company, as follows:

a. Where no detections were observed, the largest non-detect result is presented as the sum

b. Where detections were observed, the detected results were added together for the total summation.

c. The list of analytes used for the calculation are: Xylene-o and Xylene-m+p.

4) Total BTEX were calculated by NRT, an OBG Company, as follows:

a. Where no detections were observed, the largest non-detect result is presented as the sum

b. Where detections were observed, the detected results were added together for the total summation.

c. The list of analytes used for the calculation are: Benzene, Toluene, Ethylbenzene and Total Xylene

5) Total VOCs were calculated by NRT, an OBG Company, as follows:

a. Where no detections were observed, the total is presented as "nd" (non-detected).

b. Where detections were observed, the detected results were added together for the total summation.

c. Analytes as shown on this VOC table were used for the calculations.

Nitrite + Nitrate, Total was analyzed 2009 to 2016 as "Nitrate as N" (analytic method EPA 300.0)

See lab reports for data qualifiers

NR 140 groundwater quality standard revised effective July 2015. Data prior to this date are also compared to revised 2015 standards.

Table 5 - Groundwater Analytical Results-SVOCs
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Semi-Volatile Organic Compounds (SVOCs-µg/L)																								
		1-Methylnaphthalene	2,4-Dimethylphenol	2-Methylnaphthalene	3 & 4 Methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2ethylhexyl) phthalate	Carbazole	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene ¹	Pentachlorophenol	Phenanthrene	Phenol3	Pyrene
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)																								
Preventive Action Limit:		NS	NS	NS	NS	NS	NS	600	NS	0.02	0.02	NS	NS	0.6	NS	0.02	NS	NS	80	80	NS	10	0.1	NS	400	50
Enforcement Standard:		NS	NS	NS	NS	NS	NS	3,000	NS	0.2	0.2	NS	NS	6	NS	0.2	NS	NS	400	400	NS	100	1	NS	2,000	250
MW-02R	10/19/2004	200	< 29	78	< 23	36	29	< 66	< 62	< 63	< 65	< 85	< 63	< 22	< 25	< 24	< 64	< 20	< 21	< 20	< 56	1,200	< 37	< 21	< 24	< 71
	12/10/2004	260	< 29	86	< 22	46	39	< 65	< 61	< 62	< 64	< 83	< 62	< 21	< 25	< 23	< 63	< 19	< 21	20	< 55	1,400	< 36	24	< 24	< 70
	01/11/2005	290	< 14	70	< 11	40	38	< 32	< 31	< 31	< 32	< 41	< 31	< 11	19	< 12	< 31	< 9.6	< 11	22	< 27	1,000	< 18	19	< 12	< 35
	02/08/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16	--	1,100	--	--	< 12	--
	03/08/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	800	--	--	--	--
	04/18/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	830	--	--	--	--
	07/05/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,000	--	--	--	--
	10/17/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,300	--	--	--	--
	01/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	780	--	--	--	--
	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	760	--	--	--	--
	07/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	--	--	--	--
	10/24/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,400	--	--	--	--
04/25/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,400	--	--	--	--	
10/08/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,600	--	--	--	--	
MW-08**	07/15/1996	--	< 2.7	< 8.5	--	< 8.5	< 0.6	< 1.1	< 1.5	< 0.8	< 0.9	< 1	< 1.7	2.5	< 1.3	< 1	< 0.9	< 0.7	< 2	< 1	< 1.3	< 0.5	--	< 1.1	< 1.1	< 1.6
	09/09/1997	--	< 1.1	< 1.4	--	< 1.4	< 1.6	< 1.2	< 0.63	< 1.4	< 2.4	< 2.1	< 2.6	< 1.3	< 1	< 0.49	< 2.4	< 1	< 0.97	< 1.7	< 2.3	< 2.2	--	< 0.77	< 0.53	< 0.73
MW-09**	07/15/1996	--	< 2.7	< 8.5	--	< 8.5	< 0.6	< 1.1	< 1.5	< 0.8	< 0.9	< 1	< 1.7	8.5	< 1.3	< 1	< 0.9	< 0.7	< 2	< 1	< 1.3	< 0.5	--	< 1.1	< 1.1	< 1.6
	09/09/1997	--	< 1.1	< 1.4	--	< 1.4	< 1.5	< 1.2	< 0.61	< 1.4	< 2.4	< 2	< 2.5	< 1.3	< 1	< 0.47	< 2.4	< 1	< 0.94	< 1.6	< 2.3	< 2.2	--	< 0.74	< 0.52	< 0.71
MW-10**	07/15/1996	--	< 2.7	< 8.5	--	< 8.5	< 0.6	< 1.1	< 1.5	< 0.8	< 0.9	< 1	< 1.7	< 2.1	< 1.3	< 1	< 0.9	< 0.7	< 2	< 1	< 1.3	< 0.5	--	< 1.1	< 1.1	< 1.6
	09/09/1997	--	< 1.1	< 1.4	--	< 1.4	< 1.6	< 1.2	< 0.63	< 1.4	< 2.4	< 2.1	< 2.6	< 1.3	< 1	< 0.49	< 2.4	< 1	< 0.97	< 1.7	< 2.3	< 2.2	--	< 0.77	< 0.53	< 0.73
MW-12R	10/21/2004	420	< 7.2	160	< 5.6	90	29	< 16	< 15	< 15	< 16	< 21	< 16	< 5.4	< 6.2	< 5.8	< 16	8.4	< 5.3	33	< 14	650	< 9	44	< 5.9	< 17
	12/10/2004	440	< 7.3	94	< 5.6	91	37	< 16	< 15	< 16	< 16	< 21	< 16	< 5.4	< 6.3	< 5.9	< 16	8.4	< 5.3	39	< 14	420	< 9.1	49	< 6.0	< 18
	01/13/2005	470	< 7.2	120	< 5.6	89	30	< 16	< 15	< 15	< 16	< 21	< 16	< 5.4	< 6.2	< 5.8	< 16	8	< 5.3	37	< 14	510	< 9	46	< 5.9	< 17
	02/10/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	37	--	--	--	--	< 6.0	--
PZ-12	10/21/2004	< 0.49	< 0.72	< 1.9	< 0.56	3.9	0.95	< 1.6	< 1.5	< 1.5	< 1.6	< 2.1	< 1.6	< 0.54	< 0.62	< 0.58	< 1.6	< 0.48	< 0.53	0.79	< 1.4	< 0.60	2.9	< 0.50	< 0.59	< 1.7
	12/10/2004	3.9	< 0.73	< 1.9	< 0.56	4.1	1.3	< 1.6	< 1.5	< 1.6	< 1.6	< 2.1	< 1.6	< 0.54	< 0.63	< 0.59	< 1.6	< 0.49	< 0.53	1.2	< 1.4	0.95	< 0.91	0.68	< 0.60	< 1.8
	01/13/2005	< 0.49	< 0.72	< 1.9	< 0.56	2	< 0.5	< 1.6	< 1.5	< 1.5	< 1.6	< 2.1	< 1.6	< 0.54	< 0.62	< 0.58	< 1.6	< 0.48	< 0.53	< 0.5	< 1.4	< 0.6	< 0.9	< 0.5	< 0.59	< 1.7
	02/10/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.95	--	1.2	--	--	< 0.60	--
	02/10/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	--	1.2	--	--	< 0.60	--
	03/08/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.18	--	--	--	--
	04/20/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.23	--	--	--	--
	07/07/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2	--	--	--	--
	07/07/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.3	--	--	--	--
	10/19/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.24	--	--	--	--
	01/12/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.15	--	--	--	--
	04/20/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.16	--	--	--	--
	07/20/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.091	--	--	--	--
	04/26/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.42	--	--	--	--

Table 5 - Groundwater Analytical Results-SVOCs
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Semi-Volatile Organic Compounds (SVOCs-µg/L)																									
		1-Methylnaphthalene	2,4-Dimethylphenol	2-Methylnaphthalene	3 & 4 Methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2ethylhexyl) phthalate	Carbazole	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene ¹	Pentachlorophenol	Phenanthrene	Phenol3	Pyrene	
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)																									
Preventive Action Limit:		NS	NS	NS	NS	NS	NS	600	NS	0.02	0.02	NS	NS	0.6	NS	0.02	NS	NS	80	80	NS	10	0.1	NS	400	50	
Enforcement Standard:		NS	NS	NS	NS	NS	NS	3,000	NS	0.2	0.2	NS	NS	6	NS	0.2	NS	NS	400	400	NS	100	1	NS	2,000	250	
MW-13R *	10/20/2004	100	62	< 74	< 22	54	< 20	< 65	< 61	< 62	< 64	< 83	< 62	< 21	29	< 23	< 63	< 19	< 21	< 20	< 55	3,000	< 36	< 20	< 24	< 70	
	12/02/2004	94	< 58	< 150	< 45	49	< 40	< 130	< 120	< 120	< 130	< 170	< 120	< 43	< 50	< 46	< 130	< 39	< 42	< 40	< 110	2,900	< 72	< 40	< 47	< 140	
	01/12/2005	120	< 58	< 150	< 45	56	< 40	< 130	< 120	< 120	< 130	< 170	< 120	< 43	< 50	< 46	< 130	< 39	< 42	< 40	< 110	2,800	< 72	< 40	< 47	< 140	
	02/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 25	--	2,700	--	--	< 30	--	
	03/10/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,200	--	--	--	--
	04/19/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,600	--	--	--	--
	07/06/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,800	--	--	--	--
	10/19/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	870	--	--	--	--
	01/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,800	--	--	--	--
	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,400	--	--	--	--
	07/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,500	--	--	--	--
	10/24/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,600	--	--	--	--
	04/25/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,300	--	--	--	--
10/08/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	--	--	--	--	
MW-19S	10/19/2004	< 0.54	< 0.80	< 2.0	< 0.62	< 0.58	< 0.55	< 1.8	< 1.7	< 1.7	< 1.8	< 2.3	< 1.7	< 0.59	< 0.69	< 0.64	< 1.7	< 0.53	< 0.58	< 0.55	< 1.5	< 0.66	< 1	< 0.56	< 0.65	< 1.9	
	12/01/2004	< 0.5	< 0.73	< 1.9	< 0.56	< 0.53	< 0.5	< 1.6	< 1.5	< 1.6	< 1.6	< 2.1	< 1.6	< 0.54	< 0.63	< 0.59	< 1.6	< 0.49	< 0.53	< 0.5	< 1.4	< 0.6	< 0.91	< 0.51	< 0.6	< 1.8	
	01/12/2005	< 0.91	< 1.3	< 3.4	< 1.0	< 0.98	< 0.92	< 3	< 2.8	< 2.9	< 3	< 3.9	< 2.9	< 1	< 1.2	< 1.1	< 2.9	< 0.9	< 0.98	< 0.92	< 2.5	< 1.1	< 1.7	< 0.94	< 1.1	< 3.2	
	02/08/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.50	--	< 0.60	--	--	< 0.59	--	
	03/10/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.26	--	--	--	--
	04/20/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.051	--	--	--	--
	07/06/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4	--	--	--	--
	10/17/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.14	--	--	--	--
	01/11/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.56	--	--	--	--
	Well damaged, scheduled for repair or abandonment	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Well damaged, scheduled for repair or abandonment	10/23/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/26/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.48	--	--	--	--	
	10/09/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02	--	--	--	--	

Table 5 - Groundwater Analytical Results-SVOCs
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Semi-Volatile Organic Compounds (SVOCs-µg/L)																									
		1-Methylnaphthalene	2,4-Dimethylphenol	2-Methylnaphthalene	3 & 4 Methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2ethylhexyl) phthalate	Carbazole	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene ¹	Pentachlorophenol	Phenanthrene	Phenol3	Pyrene	
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)																									
Preventive Action Limit:		NS	NS	NS	NS	NS	NS	600	NS	0.02	0.02	NS	NS	0.6	NS	0.02	NS	NS	80	80	NS	10	0.1	NS	400	50	
Enforcement Standard:		NS	NS	NS	NS	NS	NS	3,000	NS	0.2	0.2	NS	NS	6	NS	0.2	NS	NS	400	400	NS	100	1	NS	2,000	250	
MW-19 <i>Dup (QC-1)</i>	10/19/2004	96	5.5	< 2.0	< 0.62	15	26	< 1.8	< 1.7	< 1.7	< 1.8	< 2.3	< 1.7	0.94	6.1	< 0.64	< 1.7	0.77	< 0.58	0.89	< 1.5	98	< 1	0.91	0.92	< 1.9	
	12/01/2004	82	2	< 3.7	< 1.1	12	19	< 3.2	< 3.1	< 3.1	< 3.2	< 4.1	< 3.1	< 1.1	4	< 1.2	< 3.1	< 0.96	< 1.1	2.9	< 2.7	92	< 1.8	1.2	< 1.2	< 3.5	
	12/01/2004	150	6.8	< 7.5	< 2.3	22	33	< 6.5	< 6.2	< 6.2	< 6.4	< 8.4	< 6.3	< 2.2	7.1	< 2.3	< 6.3	< 1.9	< 2.1	5.1	< 5.5	160	< 3.6	2.1	< 2.4	< 7	
	01/12/2005	160	2.3	< 3.8	< 1.1	24	33	< 3.3	< 3.1	< 3.2	< 3.2	< 4.2	< 3.2	< 1.1	6.7	< 1.2	< 3.2	1.5	< 1.1	9.2	< 2.8	170	< 1.8	3.1	1.6	< 3.6	
	02/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	< 2.1	--	--	--	--	--	7	--	170	--	--	< 2.4	--	
	03/10/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110	--	--	--	--
	04/20/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	81	--	--	--	--
	07/06/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	--	--	--	--
	10/17/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	37	--	--	--	--
	01/11/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70	--	--	--	--
	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	07/20/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	28	--	--	--	--
	10/23/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	28	--	--	--	--
	04/26/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	--	--	--	--
	10/09/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	22	--	--	--	--
Well damaged, scheduled for repair	01/18/2011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Well not accessible, covered with ice and snow	01/18/2011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-20 <i>Dup (QC-1)</i>	10/20/2004	700	< 29	840	< 23	140	32	< 65	< 62	< 62	< 64	< 84	< 63	< 22	27	< 23	< 63	< 19	< 21	150	< 55	4,300	< 36	64	< 24	< 70	
	12/10/2004	650	340	810	740	110	< 50	< 160	< 150	< 160	< 160	< 210	< 160	< 54	< 63	< 59	< 160	< 49	< 53	< 50	< 140	5,000	< 91	< 51	440	< 180	
	01/11/2005	660	280	720	790	110	< 50	< 160	< 150	< 160	< 160	< 210	< 160	< 54	< 63	< 59	< 160	< 49	< 53	< 50	< 140	4,400	< 91	< 51	390	< 180	
	02/08/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 50	--	4,700	--	--	330	--
	03/09/2005	--	--	--	480	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,000	--	--	260	--
	04/18/2005	--	--	--	650	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,600	--	--	410	--
	07/05/2005	--	--	--	130	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,800	--	--	94	--
	10/17/2005	--	--	--	260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,800	--	--	140	--
	01/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,000	--	--	--	--
	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4,400	--	--	--	--
	07/20/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4,800	--	--	--	--
	10/24/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,300	--	--	--	--
	10/24/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,100	--	--	--	--
	04/25/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4,300	--	--	--	--
	10/08/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,300	--	--	--	--
PZ-20B	10/20/2004	< 0.50	< 0.73	< 1.9	< 0.56	7.4	< 0.50	< 1.6	< 1.5	< 1.6	< 1.6	< 2.1	< 1.6	< 0.54	< 0.63	< 0.59	< 1.6	< 0.49	< 0.53	4.3	< 1.4	< 0.60	< 0.91	< 0.51	2.6	< 1.8	
	12/10/2004	11	0.94	< 1.9	< 0.56	12	1.8	< 1.6	< 1.5	< 1.6	< 1.6	< 2.1	< 1.6	< 0.54	< 0.63	< 0.59	< 1.6	< 0.49	< 0.53	4.1	< 1.4	24	< 0.91	1.8	0.84	< 1.8	
	01/11/2005	12	< 0.73	< 1.9	< 0.56	12	2	< 1.6	< 1.5	< 1.6	< 1.6	< 2.1	< 1.6	< 0.54	< 0.63	< 0.59	< 1.6	< 0.49	< 0.53	4.3	< 1.4	27	< 0.91	2	< 0.6	< 1.8	
	02/08/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.8	--	32	--	--	< 0.59	--
	03/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16	--	--	--	--
	04/18/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16	--	--	--	--
	07/05/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15	--	--	--	--
	10/17/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13	--	--	--	--
	01/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.7	--	--	--	--
	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	--	--	--	--
	07/20/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.8	--	--	--	--
	04/25/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	37	--	--	--	--

Table 5 - Groundwater Analytical Results-SVOCs
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Semi-Volatile Organic Compounds (SVOCs-µg/L)																									
		1-Methylnaphthalene	2,4-Dimethylphenol	2-Methylnaphthalene	3 & 4 Methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2ethylhexyl) phthalate	Carbazole	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene ¹	Pentachlorophenol	Phenanthrene	Phenol3	Pyrene	
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)																									
Preventive Action Limit:		NS	NS	NS	NS	NS	NS	600	NS	0.02	0.02	NS	NS	0.6	NS	0.02	NS	NS	80	80	NS	10	0.1	NS	400	50	
Enforcement Standard:		NS	NS	NS	NS	NS	NS	3,000	NS	0.2	0.2	NS	NS	6	NS	0.2	NS	NS	400	400	NS	100	1	NS	2,000	250	
MW-21	10/20/2004	720	170	870	50	< 42	< 40	< 130	< 120	< 120	< 130	< 170	< 120	< 43	< 50	< 46	< 130	< 39	< 42	290	< 110	6,700	< 72	64	< 47	< 140	
	12/02/2004	680	660	870	1,500	92	150	< 260	< 240	< 250	< 250	< 330	< 250	< 86	< 100	< 93	< 250	< 77	< 84	< 79	< 220	8,100	< 140	< 81	1,100	< 280	
	01/12/2005	890	490	930	2,700	86	170	< 260	< 250	< 250	< 260	< 340	< 250	< 88	< 100	< 95	< 260	< 79	< 86	< 81	< 220	8,300	< 150	< 82	2,100	< 280	
	02/09/2005	--	--	--	1,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70	--	8,800	--	--	1,500	--	
	03/09/2005	--	--	--	1,700	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8,300	--	--	750	--	
	04/19/2005	--	--	--	1,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10,000	--	--	910	--	
	07/06/2005	--	--	--	1,800	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13,000	--	--	1,300	--	
	10/18/2005	--	--	--	1,400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9,600	--	--	770	--	
	01/11/2006	--	--	--	1,400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11,000	--	--	910	--	
	04/20/2006	--	--	--	920	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8,100	--	--	560	--	
	07/19/2006	--	--	--	630	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6,700	--	--	380	--	
	10/24/2006	--	--	--	910	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7,800	--	--	540	--	
	04/26/2007	--	--	--	420	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9,700	--	--	260	--	
	10/09/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6,300	--	--	--	--	
	04/09/2008	--	--	--	366	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	243	--	
	10/21/2008	--	--	--	375	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 322	--	
	04/20/2009	--	--	--	254	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	167	--	
	10/07/2009	--	--	--	344	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	225	--	
	04/06/2010	--	--	--	213	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	150	--	
	10/04/2010	--	--	--	370	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	257	--	
04/11/2011	--	--	--	137	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	98.8	--		
10/03/2011	--	--	--	180	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 205	--		
04/24/2012	--	--	--	160	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	115	--		
PZ-21B	Dup (QC-1)	10/20/2004	0.8	< 0.73	< 1.9	< 0.56	7.1	2.4	< 1.6	< 1.5	< 1.6	< 1.6	< 2.1	< 1.6	< 0.54	< 0.63	< 0.59	< 1.6	< 0.49	< 0.53	4.2	< 1.4	< 0.60	< 0.91	< 0.51	< 0.60	< 1.8
		10/20/2004	1.9	< 0.72	< 1.9	< 0.56	8.2	2.9	< 1.6	< 1.5	< 1.5	< 1.6	< 2.1	< 1.6	< 0.54	< 0.62	< 0.58	< 1.6	< 0.48	< 0.53	4.2	< 1.4	< 0.60	< 0.9	< 0.50	< 0.59	< 1.7
		12/02/2004	6.2	1.7	< 1.9	< 0.56	8.3	2.7	< 1.6	< 1.5	< 1.5	< 1.6	< 2.1	< 1.6	< 0.54	< 0.62	< 0.58	< 1.6	< 0.48	< 0.53	4	< 1.4	31	< 0.9	2.5	< 0.59	< 1.7
	Dup (QC-1)	01/12/2005	17	< 0.73	2	< 0.57	13	3.8	< 1.6	< 1.6	< 1.6	< 1.6	< 2.1	< 1.6	< 0.55	< 0.63	< 0.59	< 1.6	0.61	< 0.54	6.1	< 1.4	46	< 0.92	4.4	< 0.6	< 1.8
		02/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.3	--	36	--	--	< 0.59	--
		03/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19	--	--	--	--
	Dup (QC-1)	04/19/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13	--	--	--	--
		04/19/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	--	--	--	--
		07/06/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	23	--	--	--	--
	Dup (QC-1)	10/18/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10	--	--	--	--
		01/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10	--	--	--	--
		01/11/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11	--	--	--	--
	Dup (QC-1)	04/20/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.7	--	--	--	--
		04/20/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.2	--	--	--	--
		07/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.5	--	--	--	--
Dup (QC-1)	07/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.8	--	--	--	--	
	04/26/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13	--	--	--	--	

Table 5 - Groundwater Analytical Results-SVOCs
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Semi-Volatile Organic Compounds (SVOCs-µg/L)																								
		1-Methylnaphthalene	2,4-Dimethylphenol	2-Methylnaphthalene	3 & 4 Methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2ethylhexyl) phthalate	Carbazole	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene ¹	Pentachlorophenol	Phenanthrene	Phenol3	Pyrene
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)																								
Preventive Action Limit:		NS	NS	NS	NS	NS	NS	600	NS	0.02	0.02	NS	NS	0.6	NS	0.02	NS	NS	80	80	NS	10	0.1	NS	400	50
Enforcement Standard:		NS	NS	NS	NS	NS	NS	3,000	NS	0.2	0.2	NS	NS	6	NS	0.2	NS	NS	400	400	NS	100	1	NS	2,000	250
MW-22	10/18/2004	300	< 29	240	39	120	< 20	< 65	< 61	< 62	< 64	< 83	< 62	< 21	< 25	< 23	< 63	87	< 21	61	< 55	2,600	< 36	61	< 24	< 70
	12/01/2004	210	< 9	24	< 7	68	< 6.2	< 20	< 19	< 19	< 20	< 26	< 19	< 6.7	8.1	< 7.2	< 20	< 6	< 6.6	16	< 17	590	< 11	6.6	< 7.4	< 22
	01/11/2005	300	32	100	< 22	84	< 20	< 65	< 61	< 62	< 64	< 83	< 62	< 21	< 25	< 23	< 63	51	< 21	39	< 55	2,100	< 36	38	< 24	< 70
	02/08/2005	--	--	--	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	46	--	1,600	--	--	< 12	--
	03/09/2005	--	--	--	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,200	--	--	4.3	--
	04/19/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,900	--	--	--	--
	07/06/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,600	--	--	--	--
	10/18/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,800	--	--	--	--
	01/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,700	--	--	--	--
	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,800	--	--	--	--
	07/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,800	--	--	--	--
	10/24/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,200	--	--	--	--
	04/25/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,100	--	--	--	--
10/09/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,300	--	--	--	--	
Dup (QC-1)	10/09/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,300	--	--	--	--	
PZ-22B	10/18/2004	190	< 7.3	< 19	< 5.6	65	< 5.0	< 16	< 15	< 16	< 16	< 21	< 16	< 5.4	< 6.3	< 5.9	< 16	5.1	< 5.3	15	< 14	510	< 9.1	6.2	< 6.0	< 18
	12/01/2004	240	< 29	130	< 22	89	< 20	< 65	< 61	< 62	< 64	< 83	< 62	< 21	25	< 23	< 63	60	< 21	47	< 55	2,000	< 36	46	< 24	< 70
	01/11/2005	350	< 14	< 37	< 11	95	< 9.9	< 32	< 31	< 31	< 32	< 41	< 31	< 11	< 12	< 12	< 31	< 9.6	< 11	23	< 27	700	< 18	< 10	< 12	< 35
	02/08/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	22	--	580	--	--	< 5.9	--
	03/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	570	--	--	--	--
	03/09/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	510	--	--	--	--
	04/19/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	330	--	--	--	--
	07/06/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	490	--	--	--	--
	10/18/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	370	--	--	--	--
	10/18/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	380	--	--	--	--
	01/10/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	190	--	--	--	--
	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	370	--	--	--	--
	07/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	130	--	--	--	--
04/25/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	200	--	--	--	--	

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2016 Annual Update
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Sample Location	Sample Date	Semi-Volatile Organic Compounds (SVOCs-µg/L)																									
		1-Methylnaphthalene	2,4-Dimethylphenol	2-Methylnaphthalene	3 & 4 Methylphenol	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2ethylhexyl) phthalate	Carbazole	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene ¹	Pentachlorophenol	Phenanthrene	Phenol3	Pyrene	
Groundwater Monitoring Wells		Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)																									
Preventive Action Limit:		NS	NS	NS	NS	NS	NS	600	NS	0.02	0.02	NS	NS	0.6	NS	0.02	NS	NS	80	80	NS	10	0.1	NS	400	50	
Enforcement Standard:		NS	NS	NS	NS	NS	NS	3,000	NS	0.2	0.2	NS	NS	6	NS	0.2	NS	NS	400	400	NS	100	1	NS	2,000	250	
QCFB	02/20/2002	< 2.6	< 2.1	< 2	--	< 2.2	< 1.8	< 1.9	< 2.3	< 2.8	< 3	< 3.5	< 2.4	< 4.2	< 1.9	< 2.2	< 3.1	< 1.7	< 2.2	< 2	< 3.5	< 2.7	< 5.2	< 2.2	< 2.5	< 2.4	
	05/13/2002	< 2.7	< 2.2	< 2	--	< 2.3	< 1.9	< 1.9	< 2.4	< 2.8	< 3.1	< 3.6	< 2.5	< 4.3	< 1.9	< 2.3	< 3.2	< 1.7	< 2.2	< 2	< 3.6	< 2.7	< 5.3	< 2.2	< 2.6	< 2.5	
	08/20/2002	< 2.6	< 2.2	< 2	--	< 2.2	< 1.8	< 1.9	< 2.4	< 2.8	< 3	< 3.5	< 2.4	< 4.2	< 1.9	< 2.2	< 3.2	< 1.7	< 2.2	< 2	< 3.5	< 2.7	< 5.2	< 2.2	< 2.6	< 2.5	
	11/14/2002	< 4.2	< 2.9	< 3.9	--	< 4.6	< 4.7	< 2.8	< 1.7	< 1.5	< 2.2	< 2.1	< 2.4	< 1.4	< 1.4	< 1.8	< 2.4	< 4.7	< 1.6	< 4.7	< 1.6	< 3.8	< 0.78	< 2.1	< 1	< 1.8	
	02/20/2003	< 4.2	< 2.9	< 3.9	--	< 4.6	< 4.7	< 2.8	< 1.7	< 1.5	< 2.2	< 2.1	< 2.4	< 1.4	< 1.4	< 1.8	< 2.4	< 4.7	< 1.6	< 4.7	< 1.6	< 3.8	< 0.78	< 2.1	< 1	< 1.8	
	10/19/2004	< 0.49	< 0.72	< 1.9	< 0.56	< 0.53	< 0.50	< 1.6	< 1.5	< 1.5	< 1.6	< 2.1	< 1.6	< 0.54	< 0.62	< 0.58	< 1.6	< 0.48	< 0.53	< 0.50	< 1.4	< 0.60	< 0.9	< 0.50	< 0.59	< 1.7	
	12/02/2004	< 0.49	< 0.72	< 1.9	< 0.56	< 0.53	< 0.50	< 1.6	< 1.5	< 1.5	< 1.6	< 2.1	< 1.6	< 0.54	< 0.62	< 0.58	< 1.6	< 0.48	< 0.53	< 0.50	< 1.4	< 0.60	< 0.9	< 0.50	< 0.59	< 1.7	
	01/13/2005	< 0.49	< 0.72	< 1.9	< 0.56	< 0.53	< 0.5	< 1.6	< 1.5	< 1.5	< 1.6	< 2.1	< 1.6	< 0.54	< 0.62	< 0.58	< 1.6	< 0.48	< 0.53	< 0.50	< 1.4	< 0.60	< 0.9	< 0.5	< 0.59	< 1.7	
	02/10/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.50	--	< 0.60	--	--	0.87	--	
	03/10/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.082	--	--	--	--	--
	04/20/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054	--	--	--	--	--
	07/07/2005	--	--	--	< 0.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 1.3	--	--	< 0.56	--	--
	10/19/2005	--	--	--	< 0.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 1.3	--	--	< 0.56	--	--
	01/12/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.019	--	--	--	--	--
	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.8	--	--	--	--	--
	07/20/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.44	--	--	--	--	--
	10/24/2006	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 1.5	--	--	< 0.63	--	--
	04/26/2007	--	--	--	< 0.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 1.3	--	--	< 0.58	--	--
	10/09/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.021	--	--	--	--	--
	04/09/2008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10/21/2008	--	--	--	< 0.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.98	--	--	
04/21/2009	--	--	--	< 0.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.99	--	--	
10/08/2009	--	--	--	< 0.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.98	--	--	

[JTB/PA 4/05][JTB/RH 5/05][PAR/JTB 11/05][PAR/JTB 9/06][R/JG/JTB 10/07][BGH/RMW 6/08][RMW/KRM 1/09][BGH/RJG 3/09][RMN/BGH 5/10][AMM/KJB 2/11][KJB/RJG 5/11][BGH/BGH 8/11][CJM/AMM 01/12][AMM/JJW 5/12][AMM/ANS 7/12][AMM/RJG 10/12][ETE/RJG 3/13][ETO/RJG 5/13][EPK/NDK 9/13][ETE/NDK 10/13][U-ECK 06/14][U-KLT 1/30/15, C-PMH 2/15][U-AJS 12/10/15, C-PMH 12/14/16][Format ECK 4/11/16][U-ECK 2/1/2017, C: ANS 2/13/17][U-ECK 2/14/17]

Notes:

Italic Constituent concentrations that attain or exceed a preventive action limit (PAL) are *italicized*.

BOLD Constituent concentrations that attain or exceed an enforcement standard (ES) are **bold**.

< : Constituent was not identified above the limit of detection shown.

-- : Analysis was not performed.

Dup (QA/QC): Field Duplicate sample, field identification indicated in parentheses.

µg/L : Micrograms per liter.

*: Laboratory data for wells MW-8, MW-9, and MW-10 were originally presented in the March 25, 2002 URS SI report

NS : NR 140 groundwater quality standard has not been established.

SVOCs: Semi-Volatile Organic Compounds.

1) Naphthalene data 2008 and after were analyzed as a VOC and appear on the VOCs table.

 See lab reports for data qualifiers

NR 140 groundwater quality standard revised effective July 2015. Data prior to this date are also compared to revised 2015 standards.

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Sample Location	Sample Date	Inorganic Compounds (mg/L)													
		Arsenic ¹	Barium ¹	Cadmium, total	Chloride, total	Chromium, total	Cyanide, total	Cyanide, weak acid dissociable	Cyanide, available (Untreated)	Cyanide, available (PbCO ₃ Treated)	Iron, total	Lead, total	Mercury	Selenium, total	Silver, total
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
Groundwater Monitoring Wells															
<i>Preventive Action Limit:</i>		0.001	0.4	0.0005	125	0.01	0.04	NS	0.04	0.04	0.15	0.0015	0.0002	0.01	0.01
Enforcement Standard:		0.01	2	0.005	250	0.1	0.2	NS	0.2	0.2	0.3	0.015	0.002	0.05	0.05
MW-02R	10/19/2004	< 0.0035	0.57	< 0.00030	--	0.00075	--	--	0.071	--	0.68	< 0.0011	< 0.000028	< 0.0048	< 0.00076
	11/30/2004	--	--	--	--	--	--	--	0.082	--	0.47	--	--	--	--
	01/11/2005	--	--	--	--	--	0.6	0.018	0.055	0.013	0.6	--	--	--	--
	02/08/2005	< 0.0035	0.56	--	--	--	0.54	< 0.0053	0.18	0.0065	0.64	--	--	--	--
	03/08/2005	--	--	--	--	--	--	--	--	0.013	0.69	--	--	--	--
	04/18/2005	< 0.0035	0.64	--	--	--	0.51	--	--	0.011	0.78	--	--	--	--
	07/05/2005	--	--	--	--	--	0.6	--	--	0.017	--	--	--	--	--
	10/17/2005	0.00084	0.92	--	--	--	0.62	--	--	0.0079	1	--	--	--	--
	01/10/2006	--	--	--	--	--	0.53	--	--	< 0.0050	--	--	--	--	--
	04/19/2006	0.0013	0.84	--	--	--	0.92	--	--	0.0054	1.2	--	--	--	--
	07/19/2006	--	--	--	--	--	0.8	--	--	0.0136	--	--	--	--	--
	10/24/2006	0.00096	0.96	--	--	--	0.87	--	--	< 0.0050	--	--	--	--	--
	04/25/2007	0.0019	0.9	--	--	--	1.2	--	--	0.00776	--	--	--	--	--
	10/08/2007	--	--	--	--	--	1.3	--	--	0.0085	--	--	--	--	--
	04/07/2008	0.0077	1.12	--	--	--	1.6	--	--	1.2	--	--	--	--	--
	10/20/2008	0.0048	0.895	--	--	--	1	--	--	--	0.89	--	--	--	--
	04/20/2009	0.0082	0.86	--	--	--	1.4	--	--	< 0.002	1.03	--	--	--	--
	10/07/2009	0.006	0.848	--	--	--	1.7	--	--	< 0.002	--	--	--	--	--
	04/06/2010	0.0073	0.812	--	--	--	1.8	--	--	0.003	--	--	--	--	--
	10/04/2010	0.0105	0.588	--	--	--	1.7	--	--	0.0053	--	--	--	--	--
	04/11/2011	0.0089	0.59	--	--	--	0.31	--	--	< 0.002	--	--	--	--	--
	10/03/2011	0.0084	0.415	--	--	--	1.8	--	--	< 0.00030	--	--	--	--	--
	04/23/2012	0.0046	0.462	--	--	--	1.5	--	--	32	--	--	--	--	--
	Dup (QC-1)	04/23/2012	0.0044	0.448	--	--	1.5	--	--	38	--	--	--	--	--
		06/26/2012	--	--	--	--	0.38	--	--	11	--	--	--	--	--
	Dup (QC-1)	06/26/2012	--	--	--	--	1.6	--	--	2.9	--	--	--	--	--
	*** 09/12/2012	0.0039	0.208	--	--	1.8	--	--	0.03	--	--	--	--	--	
Dup (QC-1)	** 09/12/2012	0.0038	0.204	--	--	1.6	--	--	0.14	--	--	--	--	--	
	04/23/2013	0.0063	--	--	--	1.7	--	--	0.002	--	--	--	--	--	
	10/15/2013	--	--	--	--	1.4	--	--	0.0038	--	--	--	--	--	
	04/29/2014	< 0.0072	--	--	--	--	--	--	--	--	--	--	--	--	
	04/21/2015	0.0084	--	--	--	--	--	--	--	--	--	--	--	--	
	04/21/2016	0.003	--	--	--	--	--	--	--	--	--	--	--	--	

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2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Inorganic Compounds (mg/L)													
		Arsenic ¹	Barium ¹	Cadmium, total	Chloride, total	Chromium, total	Cyanide, total	Cyanide, weak acid dissociable	Cyanide, available (Untreated)	Cyanide, available (PbCO ₃ Treated)	Iron, total	Lead, total	Mercury	Selenium, total	Silver, total
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
Groundwater Monitoring Wells															
<i>Preventive Action Limit:</i>		0.001	0.4	0.0005	125	0.01	0.04	NS	0.04	0.04	0.15	0.0015	0.0002	0.01	0.01
Enforcement Standard:		0.01	2	0.005	250	0.1	0.2	NS	0.2	0.2	0.3	0.015	0.002	0.05	0.05
MW-08	10/31/2001	--	--	--	29	--	0.018	< 0.0022	--	--	--	--	--	--	--
	02/20/2002	--	--	--	21	--	0.11	< 0.0022	--	--	--	--	--	--	--
	05/13/2002	--	--	--	22	--	0.14	< 0.0022	--	--	--	--	--	--	--
	08/20/2002	--	--	--	21	--	0.82	< 0.0084	--	--	--	--	--	--	--
	11/14/2002	--	--	--	18	--	0.066	0.006	--	--	--	--	--	--	--
	02/19/2003	--	--	--	19	--	0.072	0.012	--	--	--	--	--	--	--
	05/22/2003	--	--	--	--	--	0.098	< 0.002	--	--	--	--	--	--	--
	08/01/2003	--	--	--	--	--	0.044	< 0.002	--	--	--	--	--	--	--
	10/18/2004	--	--	--	--	--	--	--	0.56	--	--	--	--	--	--
	02/10/2005	--	--	--	--	--	0.086	< 0.0053	0.53	< 0.0053	--	--	--	--	--
	04/19/2005	--	--	--	--	--	0.066	--	--	< 0.0050	--	--	--	--	--
	07/07/2005	--	--	--	--	--	0.071	--	--	< 0.0050	--	--	--	--	--
10/19/2005	--	--	--	--	--	--	--	--	< 0.0050	--	--	--	--	--	
01/11/2006	--	--	--	--	--	0.041	--	--	< 0.0050	--	--	--	--	--	
MW-09	10/31/2001	--	--	--	457	--	0.01	< 0.0022	--	--	--	--	--	--	--
	02/20/2002	--	--	--	486	--	0.0064	< 0.0022	--	--	--	--	--	--	--
	05/13/2002	--	--	--	348	--	0.0047	< 0.0022	--	--	--	--	--	--	--
	08/20/2002	--	--	--	331	--	0.01	< 0.0084	--	--	--	--	--	--	--
	11/14/2002	--	--	--	295	--	0.009	< 0.0027	--	--	--	--	--	--	--
	02/19/2003	--	--	--	273	--	0.0083	0.0075	--	--	--	--	--	--	--
	05/22/2003	--	--	--	--	--	0.008	< 0.002	--	--	--	--	--	--	--
	08/01/2003	--	--	--	--	--	0.005	< 0.002	--	--	--	--	--	--	--
MW-10	10/31/2001	--	--	--	20	--	0.011	< 0.0022	--	--	--	--	--	--	--
	02/20/2002	--	--	--	20	--	0.0086	0.0023	--	--	--	--	--	--	--
	05/13/2002	--	--	--	22	--	0.0078	< 0.0022	--	--	--	--	--	--	--
	08/20/2002	--	--	--	20	--	< 0.0023	< 0.0084	--	--	--	--	--	--	--
	11/14/2002	--	--	--	18	--	0.003	< 0.0027	--	--	--	--	--	--	--
	02/19/2003	--	--	--	21	--	0.01	0.0046	--	--	--	--	--	--	--
	05/22/2003	--	--	--	--	--	0.005	0.002	--	--	--	--	--	--	--
	08/01/2003	--	--	--	--	--	0.003	< 0.002	--	--	--	--	--	--	--

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Sample Location	Sample Date	Inorganic Compounds (mg/L)													
		Arsenic ¹	Barium ¹	Cadmium, total	Chloride, total	Chromium, total	Cyanide, total	Cyanide, weak acid dissociable	Cyanide, available (Untreated)	Cyanide, available (PbCO ₃ Treated)	Iron, total	Lead, total	Mercury	Selenium, total	Silver, total
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
Groundwater Monitoring Wells															
<i>Preventive Action Limit:</i>		0.001	0.4	0.0005	125	0.01	0.04	NS	0.04	0.04	0.15	0.0015	0.0002	0.01	0.01
Enforcement Standard:		0.01	2	0.005	250	0.1	0.2	NS	0.2	0.2	0.3	0.015	0.002	0.05	0.05
MW-12R	10/21/2004	< 0.0035	--	< 0.00030	--	0.00097	--	--	2.3	--	0.19	< 0.0011	< 0.000028	0.0012	< 0.00076
	11/30/2004	--	--	--	--	--	--	--	1.2	--	0.12	--	--	--	--
	01/13/2005	--	--	--	--	--	0.45	0.053	2.1	0.011	0.17	--	--	--	--
	02/10/2005	--	--	--	--	--	0.33	0.044	5.4	0.0088	0.16	--	--	--	--
	03/08/2005	--	--	--	--	--	--	--	--	< 0.0050	0.16	--	--	--	--
	04/20/2005	--	--	--	--	--	0.35	--	--	< 0.0050	0.18	--	--	--	--
	07/07/2005	--	--	--	--	--	0.26	--	--	< 0.0050	--	--	--	--	--
	10/19/2005	--	--	--	--	--	0.19	--	--	< 0.050	0.15	--	--	--	--
	01/12/2006	--	--	--	--	--	0.37	--	--	< 0.0050	--	--	--	--	--
	04/20/2006	--	--	--	--	--	0.31	--	--	< 0.0050	0.27	--	--	--	--
	07/20/2006	--	--	--	--	--	0.3	--	--	< 0.00500	--	--	--	--	--
	10/23/2006	0.00083	--	--	--	--	0.12 H	--	--	< 0.00500	--	--	--	--	--
	04/26/2007	--	--	--	--	--	--	--	--	--	0.24	--	--	--	--
	04/08/2008	0.00097	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/20/2008	--	--	--	--	--	--	--	--	--	0.128	--	--	--	--
	04/21/2009	--	--	--	--	--	--	--	--	--	0.18	--	--	--	--
	10/08/2009	--	--	--	--	--	--	--	--	--	0.116	--	--	--	--
	09/12/2012	0.0014	--	--	--	--	--	--	--	--	--	--	--	--	--
04/24/2013	< 0.0044	--	--	--	--	--	--	--	--	--	--	--	--	--	
04/29/2014	< 0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--	
04/21/2015	< 0.0068	--	--	--	--	--	--	--	--	--	--	--	--	--	
04/21/2016	0.0023	--	--	--	--	--	--	--	--	--	--	--	--	--	
PZ-12B	10/21/2004	< 0.0035	--	< 0.00030	--	0.0012	--	--	< 0.0050	--	0.026	< 0.0011	< 0.000028	0.0014	< 0.00076
	11/30/2004	--	--	--	--	--	--	--	0.032	--	0.035	--	--	--	--
	01/13/2005	--	--	--	--	--	0.0058	< 0.0053	< 0.025	< 0.0050	0.037	--	--	--	--
	02/10/2005	--	--	--	--	--	0.0052	< 0.0053	< 0.0050	< 0.0050	0.043	--	--	--	--
	02/10/2005	--	--	--	--	--	0.0049	< 0.0053 N*	0.037	< 0.0050	0.044	--	--	--	--
	03/08/2005	--	--	--	--	--	--	--	--	< 0.0050	0.031	--	--	--	--
	04/20/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	0.026	--	--	--	--
	07/07/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	--	--	--	--	--
	07/07/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	--	--	--	--	--
	10/19/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	0.098	--	--	--	--
	01/12/2006	--	--	--	--	--	< 0.0037	--	--	< 0.0050	--	--	--	--	--
	04/20/2006	--	--	--	--	--	< 0.0094	--	--	< 0.0050	< 0.05	--	--	--	--
	07/20/2006	--	--	--	--	--	< 0.0094	--	--	0.0058	--	--	--	--	--
	04/26/2007	--	--	--	--	--	--	--	--	--	0.065	--	--	--	--
	04/08/2008	0.00051	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/21/2009	--	--	--	--	--	--	--	--	--	0.0086	--	--	--	--

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		Arsenic ¹	Barium ¹	Cadmium, total	Chloride, total	Chromium, total	Cyanide, total	Cyanide, weak acid dissociable	Cyanide, available (Untreated)	Cyanide, available (PbCO ₃ Treated)	Iron, total	Lead, total	Mercury	Selenium, total	Silver, total
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
Groundwater Monitoring Wells															
<i>Preventive Action Limit:</i>		0.001	0.4	0.0005	125	0.01	0.04	NS	0.04	0.04	0.15	0.0015	0.0002	0.01	0.01
Enforcement Standard:		0.01	2	0.005	250	0.1	0.2	NS	0.2	0.2	0.3	0.015	0.002	0.05	0.05
MW-19S Well damaged, scheduled for repair or abandonment	10/19/2004	< 0.0035	--	< 0.00030	--	0.0077	--	--	< 0.0050	--	5.9	< 0.0011	< 0.000028	< 0.0048	< 0.00076
	12/01/2004	--	--	--	--	--	--	--	< 0.0050	--	9.2	--	--	--	--
	01/12/2005	--	--	--	--	--	0.033	< 0.0053	< 0.010	< 0.0050	5.8	--	--	--	--
	02/09/2005	--	--	--	--	--	0.027	< 0.0053	< 0.0050	< 0.0050	2.6	--	--	--	--
	03/10/2005	--	--	--	--	--	--	--	--	< 0.0050	2	--	--	--	--
	04/20/2005	--	--	--	--	--	0.016	--	--	< 0.0050	2.6	--	--	--	--
	07/06/2005	--	--	--	--	--	0.0095	--	--	< 0.0050	--	--	--	--	--
	10/17/2005	--	--	--	--	--	0.01	--	--	0.018	2.6	--	--	--	--
	01/11/2006	--	--	--	--	--	0.015	--	--	< 0.0050	--	--	--	--	--
	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/26/2007	--	--	--	--	--	--	< 0.006	--	--	< 0.00500	0.28	--	--	--
	10/09/2007	--	--	--	--	--	--	< 0.006	--	--	0.0032	--	--	--	--
	04/08/2008	0.0005	--	--	--	--	0.019	--	--	< 0.002	--	--	--	--	--
	10/21/2008	--	--	--	--	--	0.0096	--	--	--	0.0141	--	--	--	--
	04/21/2009	--	--	--	--	--	0.011	--	--	< 0.002	0.068	--	--	--	--
10/08/2009	--	--	--	--	--	< 0.008	--	--	< 0.002	0.0184	--	--	--	--	
MW-19 Dup (QC-1) Well damaged, scheduled for repair or abandonment	10/19/2004	< 0.0035	--	< 0.00030	--	< 0.00065	--	--	0.33	--	0.72	< 0.0011	< 0.000028	< 0.0048	< 0.00076
	12/01/2004	--	--	--	--	--	--	--	0.37	--	0.73	--	--	--	--
	12/01/2004	--	--	--	--	--	--	--	0.23	--	0.69	--	--	--	--
	01/12/2005	--	--	--	--	--	0.73	0.018	1.2	0.027	0.47	--	--	--	--
	02/09/2005	--	--	--	--	--	0.57	0.018	3.3	0.0051	0.42	--	--	--	--
	03/10/2005	--	--	--	--	--	--	--	--	0.011	0.44	--	--	--	--
	04/20/2005	--	--	--	--	--	0.63	--	--	< 0.0050	0.45	--	--	--	--
	07/06/2005	--	--	--	--	--	0.53	--	--	< 0.0050	--	--	--	--	--
	10/17/2005	--	--	--	--	--	0.46	--	--	0.0057	0.52	--	--	--	--
	01/11/2006	--	--	--	--	--	0.49	--	--	< 0.0050	--	--	--	--	--
	04/19/2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	07/20/2006	--	--	--	--	--	0.6	--	--	< 0.00500	--	--	--	--	--
	10/23/2006	0.00074	--	--	--	--	0.56	--	--	< 0.00500	--	--	--	--	--
	04/26/2007	--	--	--	--	--	--	--	--	--	0.68	--	--	--	--
	04/08/2008	0.0017	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/21/2008	--	--	--	--	--	--	--	--	--	1.36	--	--	--	--
	04/20/2009	--	--	--	--	--	--	--	--	--	0.833	--	--	--	--
	10/08/2009	--	--	--	--	--	--	--	--	--	1.02	--	--	--	--
	09/12/2012	0.0016	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/23/2013	< 0.0044	--	--	--	--	--	--	--	--	--	--	--	--	--
04/29/2014	< 0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--	
04/21/2015	< 0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--	
04/21/2016	0.0013	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table 6 - Groundwater Analytical Results - Inorganics
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Inorganic Compounds (mg/L)														
		Arsenic ¹	Barium ¹	Cadmium, total	Chloride, total	Chromium, total	Cyanide, total	Cyanide, weak acid dissociable	Cyanide, available (Untreated)	Cyanide, available (PbCO ₃ Treated)	Iron, total	Lead, total	Mercury	Selenium, total	Silver, total	
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)																
Groundwater Monitoring Wells																
<i>Preventive Action Limit:</i>		0.001	0.4	0.0005	125	0.01	0.04	NS	0.04	0.04	0.15	0.0015	0.0002	0.01	0.01	
Enforcement Standard:		0.01	2	0.005	250	0.1	0.2	NS	0.2	0.2	0.3	0.015	0.002	0.05	0.05	
MW-20	10/20/2004	0.013	--	< 0.00030	--	0.0012	--	--	1.6	--	0.11	< 0.0011	< 0.000028	0.00081	< 0.00076	
	11/30/2004	--	--	--	--	--	--	--	3.9	--	0.18	--	--	--	--	
	01/11/2005	--	--	--	--	--	0.088	0.011	6.1	0.014	0.16	--	--	--	--	
	02/08/2005	0.1	--	--	--	--	0.12	< 0.0053	3.7	0.012	0.12	--	--	--	--	
	03/09/2005	--	--	--	--	--	--	--	--	2.9	0.14	--	--	--	--	
	04/18/2005	0.17	--	--	--	--	0.17	--	--	< 0.050	0.14	--	--	--	--	
	07/05/2005	--	--	--	--	--	0.044	--	--	< 0.0050	--	--	--	--	--	
	10/17/2005	0.06	--	--	--	--	0.064	--	--	< 0.050	0.17	--	--	--	--	
	01/10/2006	--	--	--	--	--	0.27	--	--	0.013	--	--	--	--	--	
	04/19/2006	0.091	--	--	--	--	0.28	--	--	0.35	0.28	--	--	--	--	
	07/20/2006	--	--	--	--	--	0.24	--	--	< 0.100	--	--	--	--	--	
	10/24/2006	0.13	--	--	--	--	0.22	--	--	0.842	--	--	--	--	--	
	Dup (QC-1)	10/24/2006	0.11	--	--	--	0.24	--	--	< 0.50	--	--	--	--	--	--
		04/25/2007	0.17	--	--	--	0.26	--	--	0.00642	--	--	--	--	--	--
		10/08/2007	--	--	--	--	0.23	--	--	0.093	--	--	--	--	--	--
		04/07/2008	0.136	--	--	--	0.27	--	--	0.031	--	--	--	--	--	--
		10/21/2008	0.152	--	--	--	0.19	--	--	--	0.169	--	--	--	--	--
		04/20/2009	0.119	--	--	--	0.26	--	--	0.04	0.157	--	--	--	--	--
	Dup (QC-1)	04/20/2009	0.121	--	--	--	0.12	--	--	0.19	0.164	--	--	--	--	--
		10/07/2009	0.0939	--	--	--	0.24	--	--	< 0.002	0.147	--	--	--	--	--
		04/06/2010	0.0915	--	--	--	0.35	--	--	0.0079	--	--	--	--	--	--
	Dup (QC-1)	04/06/2010	0.101	--	--	--	0.34	--	--	0.0042	--	--	--	--	--	--
		10/04/2010	0.0287	--	--	--	0.34	--	--	0.065	--	--	--	--	--	--
	Dup (QC-1)	10/04/2010	0.0437	--	--	--	0.34	--	--	0.0047	--	--	--	--	--	--
		04/11/2011	0.103	--	--	--	0.28	--	--	0.0064	--	--	--	--	--	--
		10/03/2011	0.138	--	--	--	0.29	--	--	0.002	--	--	--	--	--	--
	Dup (QC-1)	10/03/2011	0.136	--	--	--	0.28	--	--	0.002	--	--	--	--	--	--
		04/23/2012	--	--	--	--	0.24	--	--	6.8	--	--	--	--	--	--
	06/26/2012	--	--	--	--	0.21	--	--	0.0034	--	--	--	--	--	--	
***	09/12/2012	0.12	--	--	--	0.23	--	--	0.045	--	--	--	--	--	--	
	04/23/2013	0.358	--	--	--	0.27	--	--	0.002	--	--	--	--	--	--	
	10/15/2013	--	--	--	--	0.19 0	0.0022	--	0.002	--	--	--	--	--	--	
	04/29/2014	0.331	--	--	--	--	--	--	--	--	--	--	--	--	--	
	10/13/2014	0.261	--	--	--	--	--	--	--	--	--	--	--	--	--	
	04/21/2015	0.177	--	--	--	--	--	--	--	--	--	--	--	--	--	
	04/21/2016	0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table 6 - Groundwater Analytical Results - Inorganics
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Inorganic Compounds (mg/L)														
		Arsenic ¹	Barium ¹	Cadmium, total	Chloride, total	Chromium, total	Cyanide, total	Cyanide, weak acid dissociable	Cyanide, available (Untreated)	Cyanide, available (PbCO ₃ Treated)	Iron, total	Lead, total	Mercury	Selenium, total	Silver, total	
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)																
Groundwater Monitoring Wells																
<i>Preventive Action Limit:</i>		0.001	0.4	0.0005	125	0.01	0.04	NS	0.04	0.04	0.15	0.0015	0.0002	0.01	0.01	
Enforcement Standard:		0.01	2	0.005	250	0.1	0.2	NS	0.2	0.2	0.3	0.015	0.002	0.05	0.05	
PZ-20B	10/20/2004	< 0.0035	--	< 0.00030	--	0.00092	--	--	1.4	--	0.062	< 0.0011	< 0.000028	< 0.00047	< 0.00076	
	11/30/2004	--	--	--	--	--	--	--	2.5	--	0.026	--	--	--	--	
	01/11/2005	--	--	--	--	--	< 0.0037	< 0.0053	1.1	< 0.0050	< 0.018	--	--	--	--	
	02/08/2005	--	--	--	--	--	< 0.0037	< 0.0053	2.5	< 0.006	< 0.018	--	--	--	--	
	03/09/2005	--	--	--	--	--	--	--	--	< 0.0050	< 0.018	--	--	--	--	
	04/18/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	< 0.018	--	--	--	--	
	07/05/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	--	--	--	--	--	--
	10/17/2005	--	--	--	--	--	0.0054	--	--	< 0.0050	0.1	--	--	--	--	--
	01/10/2006	--	--	--	--	--	< 0.0037	--	--	< 0.0050	--	--	--	--	--	--
	04/19/2006	--	--	--	--	--	< 0.0094	--	--	< 0.0050	< 0.05	--	--	--	--	--
	07/20/2006	--	--	--	--	--	< 0.0094	--	--	< 0.00500	--	--	--	--	--	--
04/07/2008	0.00034	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
04/20/2009	--	--	--	--	--	--	--	--	--	0.0113	--	--	--	--	--	
MW-21	10/20/2004	0.51	--	< 0.00030	--	0.0012	--	--	4.3	--	0.2	< 0.0011	< 0.000028	0.002	< 0.00076	
	12/02/2004	--	--	--	--	--	--	--	9.4	--	0.32	--	--	--	--	
	01/12/2005	--	--	--	--	--	0.6	0.022	17	0.84	0.39	--	--	--	--	
	02/09/2005	0.67	--	--	--	--	0.46	0.053	14	0.63	0.38	--	--	--	--	
	03/09/2005	--	--	--	--	--	--	--	--	3.3	0.35	--	--	--	--	
	04/19/2005	0.51	--	--	--	--	0.33	--	--	1	0.38	--	--	--	--	
	07/06/2005	--	--	--	--	--	0.23	--	--	0.095	--	--	--	--	--	
	10/18/2005	0.4	--	--	--	--	0.22	--	--	0.15	0.77	--	--	--	--	
	01/11/2006	--	--	--	--	--	0.31	--	--	0.012	--	--	--	--	--	--
	04/20/2006	0.48	--	--	--	--	0.29	--	--	0.012	0.7	--	--	--	--	
	07/19/2006	--	--	--	--	--	0.31	--	--	0.0212	--	--	--	--	--	
	10/24/2006	0.37	--	--	--	--	0.32	--	--	0.00882	--	--	--	--	--	
	04/26/2007	0.31	--	--	--	--	0.39	--	--	0.0138	--	--	--	--	--	
	10/09/2007	--	--	--	--	--	0.22	--	--	0.01	--	--	--	--	--	
	04/09/2008	0.238	--	--	--	--	0.36	--	--	0.042	--	--	--	--	--	
	10/21/2008	0.392	--	--	--	--	0.18	--	--	--	0.455	--	--	--	--	
	04/20/2009	0.204	--	--	--	--	0.31	--	--	0.015	0.296	--	--	--	--	
	10/07/2009	0.211	--	--	--	--	0.26	--	--	< 0.002	0.387	--	--	--	--	
04/06/2010	0.237	--	--	--	--	0.43	--	--	0.0044	--	--	--	--	--		
10/04/2010	0.231	--	--	--	--	0.29	--	--	0.006	--	--	--	--	--		
04/11/2011	0.156	--	--	--	--	0.36	--	--	0.024	--	--	--	--	--		

Table 6 - Groundwater Analytical Results - Inorganics
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Inorganic Compounds (mg/L)														
		Arsenic ¹	Barium ¹	Cadmium, total	Chloride, total	Chromium, total	Cyanide, total	Cyanide, weak acid dissociable	Cyanide, available (Untreated)	Cyanide, available (PbCO ₃ Treated)	Iron, total	Lead, total	Mercury	Selenium, total	Silver, total	
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)																
Groundwater Monitoring Wells																
<i>Preventive Action Limit:</i>		0.001	0.4	0.0005	125	0.01	0.04	NS	0.04	0.04	0.15	0.0015	0.0002	0.01	0.01	
Enforcement Standard:		0.01	2	0.005	250	0.1	0.2	NS	0.2	0.2	0.3	0.015	0.002	0.05	0.05	
MW-21 (continued)	10/03/2011	0.271	--	--	--	--	0.26	--	--	0.002	--	--	--	--	--	
	04/24/2012	0.181	--	--	--	--	0.23	--	--	0.038	--	--	--	--	--	
	06/26/2012	--	--	--	--	--	0.25	--	--	0.005	--	--	--	--	--	
	*** 09/12/2012	0.239	--	--	--	--	0.28	--	--	0.011	--	--	--	--	--	
	04/23/2013	0.129	--	--	--	--	0.27	--	--	< 0.002	--	--	--	--	--	
	10/15/2013	--	--	--	--	--	0.23	--	--	< 0.002	--	--	--	--	--	
	10/15/2013	--	--	--	--	--	0.21	< 0.002	--	--	--	--	--	--	--	
	04/29/2014	0.128	--	--	--	--	0.23	--	--	--	--	--	--	--	--	
	10/13/2014	0.4	--	--	--	--	--	--	--	--	--	--	--	--	--	
	04/21/2015	0.166	--	--	--	--	--	--	--	--	--	--	--	--	--	
04/21/2016	0.139	--	--	--	--	--	--	--	--	--	--	--	--	--		
PZ-21B	Dup (QC-1)	10/20/2004	< 0.0035	--	< 0.00030	--	0.0013	--	--	1.4	--	0.062	< 0.0011	< 0.000028	0.00099	0.00097
		10/20/2004	< 0.0035	--	< 0.00030	--	0.0013	--	--	1.6	--	0.065	< 0.0011	< 0.000028	< 0.00047	< 0.00076
		12/02/2004	--	--	--	--	--	--	--	3.2	--	0.021	--	--	--	--
		01/12/2005	--	--	--	--	--	0.0041	< 0.0053	0.79	< 0.0050	< 0.018	--	--	--	--
		02/09/2005	--	--	--	--	--	< 0.0037	< 0.0053	0.86	0.013	< 0.018	--	--	--	--
		03/09/2005	--	--	--	--	--	--	--	--	< 0.0050	< 0.018	--	--	--	--
		04/19/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	< 0.018	--	--	--	--
		04/19/2005	--	--	--	--	--	< 0.0037	--	--	0.0076	< 0.018	--	--	--	--
		07/06/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	--	--	--	--	--
		10/18/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	0.082	--	--	--	--
	Dup (QC-1)	01/10/2006	--	--	--	--	--	< 0.0037	--	--	< 0.0050	--	--	--	--	--
		01/11/2006	--	--	--	--	--	< 0.0037	--	--	< 0.0050	--	--	--	--	--
		04/20/2006	--	--	--	--	--	< 0.0094	--	--	< 0.0050	--	--	--	--	--
		04/20/2006	--	--	--	--	--	< 0.0094	--	--	< 0.0050	--	--	--	--	--
	Dup (QC-1)	07/19/2006	--	--	--	--	--	< 0.0094	--	--	< 0.00500	--	--	--	--	--
		07/19/2006	--	--	--	--	--	< 0.0094	--	--	0.0092	--	--	--	--	--
	Dup (QC-1)	04/26/2007	--	--	--	--	--	--	--	--	--	< 0.050	--	--	--	--
		04/09/2008	0.00022	--	--	--	--	--	--	--	--	--	--	--	--	--
		04/20/2009	--	--	--	--	--	--	--	--	--	< 0.005	--	--	--	--
		04/12/2011	< 0.0013	--	--	--	--	--	--	--	--	--	--	--	--	--

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Sample Location	Sample Date	Inorganic Compounds (mg/L)													
		Arsenic ¹	Barium ¹	Cadmium, total	Chloride, total	Chromium, total	Cyanide, total	Cyanide, weak acid dissociable	Cyanide, available (Untreated)	Cyanide, available (PbCO ₃ Treated)	Iron, total	Lead, total	Mercury	Selenium, total	Silver, total
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
Groundwater Monitoring Wells															
<i>Preventive Action Limit:</i>		0.001	0.4	0.0005	125	0.01	0.04	NS	0.04	0.04	0.15	0.0015	0.0002	0.01	0.01
Enforcement Standard:		0.01	2	0.005	250	0.1	0.2	NS	0.2	0.2	0.3	0.015	0.002	0.05	0.05
MW-22	10/18/2004	0.0044	--	< 0.00030	--	< 0.00065	--	--	0.76	--	0.49	< 0.0011	< 0.000028	< 0.0048	< 0.00076
	12/01/2004	--	--	--	--	--	--	--	0.92	--	0.39	--	--	--	--
	01/11/2005	--	--	--	--	--	0.074	0.012	0.29	< 0.0050	0.43	--	--	--	--
	02/08/2005	0.0072	--	--	--	--	0.094	0.01	0.22	< 0.0050	0.41	--	--	--	--
	03/09/2005	--	--	--	--	--	--	--	--	< 0.0050	0.43	--	--	--	--
	04/19/2005	0.0042	--	--	--	--	0.099 N	--	--	< 0.0050	0.51	--	--	--	--
	07/06/2005	--	--	--	--	--	0.099	--	--	< 0.0050	--	--	--	--	--
	10/18/2005	0.0053	--	--	--	--	0.1	--	--	< 0.0050	0.64	--	--	--	--
	01/10/2006	--	--	--	--	--	0.11	--	--	< 0.0050	--	--	--	--	--
	04/19/2006	0.0077	--	--	--	--	0.1	--	--	< 0.0050	0.52	--	--	--	--
	07/19/2006	--	--	--	--	--	< 0.0094	--	--	0.036	--	--	--	--	--
	10/24/2006	0.012	--	--	--	--	0.097	--	--	< 0.00500	--	--	--	--	--
	04/25/2007	0.011	--	--	--	--	0.1	--	--	< 0.00500	--	--	--	--	--
	10/09/2007	--	--	--	--	--	0.07	--	--	0.0032	--	--	--	--	--
	Dup (QC-1)	10/09/2007	--	--	--	--	0.08	--	--	0.0033	--	--	--	--	--
		04/09/2008	0.0086	--	--	--	0.04	--	--	0.0081	--	--	--	--	--
	Dup (QC-1)	04/09/2008	0.0084	--	--	--	0.04	--	--	< 0.002	--	--	--	--	--
		10/21/2008	0.0088	--	--	--	0.047	--	--	--	0.519	--	--	--	--
		10/21/2008	0.0086	--	--	--	0.051	--	--	--	0.515	--	--	--	--
		04/20/2009	0.0067	--	--	--	0.024	--	--	0.0025	0.451	--	--	--	--
	10/07/2009	0.0076	--	--	--	--	--	--	--	0.532	--	--	--	--	
	04/06/2010	--	--	--	--	0.037	--	--	< 0.002	--	--	--	--	--	
	10/04/2010	0.0111	--	--	--	--	--	--	--	--	--	--	--	--	
	04/11/2011	0.0071	--	--	--	--	--	--	--	--	--	--	--	--	
Dup (QC-1)	04/11/2011	0.0071	--	--	--	--	--	--	--	--	--	--	--	--	
	10/03/2011	0.0118	--	--	--	--	--	--	--	--	--	--	--	--	
	04/23/2012	0.005	--	--	--	--	--	--	--	--	--	--	--	--	
	09/13/2012	0.0056	--	--	--	--	--	--	--	--	--	--	--	--	
	04/24/2013	0.0078	--	--	--	--	--	--	--	--	--	--	--	--	
	04/30/2014	0.0085	--	--	--	--	--	--	--	--	--	--	--	--	
	04/21/2015	0.0098	--	--	--	--	--	--	--	--	--	--	--	--	
	04/21/2016	0.0039	--	--	--	--	--	--	--	--	--	--	--	--	
Dup (QC-1)	04/21/2016	0.0037	--	--	--	--	--	--	--	--	--	--	--	--	

Table 6 - Groundwater Analytical Results - Inorganics
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Inorganic Compounds (mg/L)													
		Arsenic ¹	Barium ¹	Cadmium, total	Chloride, total	Chromium, total	Cyanide, total	Cyanide, weak acid dissociable	Cyanide, available (Untreated)	Cyanide, available (PbCO ₃ Treated)	Iron, total	Lead, total	Mercury	Selenium, total	Silver, total
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
Groundwater Monitoring Wells															
<i>Preventive Action Limit:</i>		0.001	0.4	0.0005	125	0.01	0.04	NS	0.04	0.04	0.15	0.0015	0.0002	0.01	0.01
Enforcement Standard:		0.01	2	0.005	250	0.1	0.2	NS	0.2	0.2	0.3	0.015	0.002	0.05	0.05
PZ-22B <i>Dup (QC-1)</i> <i>Dup (QC-1)</i>	10/18/2004	< 0.0035	--	< 0.00030	--	< 0.00065	--	--	1.2	--	0.057	< 0.0011	< 0.000028	< 0.0048	< 0.00076
	12/01/2004	--	--	--	--	--	--	--	1.8	--	0.042	--	--	--	--
	01/11/2005	--	--	--	--	--	0.0061	< 0.0053	1.1	< 0.0050	< 0.018	--	--	--	--
	02/08/2005	--	--	--	--	--	0.0056	< 0.0053	3.6	< 0.0050	< 0.018	--	--	--	--
	03/09/2005	--	--	--	--	--	--	--	--	< 0.0050	< 0.018	--	--	--	--
	03/09/2005	--	--	--	--	--	--	--	--	0.01	< 0.018	--	--	--	--
	04/19/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	< 0.018	--	--	--	--
	07/06/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	--	--	--	--	--
	10/18/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	0.08	--	--	--	--
	10/18/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	< 0.04	--	--	--	--
	01/10/2006	--	--	--	--	--	< 0.0037	--	--	< 0.0050	--	--	--	--	--
	04/19/2006	--	--	--	--	--	< 0.0094	--	--	< 0.0050	< 0.05	--	--	--	--
	07/19/2006	--	--	--	--	--	< 0.0094	--	--	0.0208	--	--	--	--	--
	04/25/2007	0.00019	--	--	--	--	< 0.0060	--	--	< 0.0050	--	--	--	--	--
	04/09/2008	0.00026	--	--	--	--	--	--	--	--	--	--	--	--	--
04/20/2009	--	--	--	--	--	< 0.0060	--	--	< 0.002	< 0.005	--	--	--	--	
04/12/2011	< 0.0013	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-23 (Well Installed 9/15/2008) <i>Dup (QC-1)</i>	10/21/2008	--	--	--	--	< 0.0060	--	--	--	--	1.53	--	--	--	--
	02/19/2009	0.0045	--	--	--	< 0.0060	--	--	--	--	1.58	--	--	--	--
	04/21/2009	0.0043	--	--	--	< 0.0060	--	--	< 0.002	--	1.33	--	--	--	--
	10/08/2009	0.0056	--	--	--	< 0.0080	--	--	0.0057	--	1.36	--	--	--	--
	10/08/2009	0.0055	--	--	--	< 0.0080	--	--	< 0.002	--	1.39	--	--	--	--
	11/12/2009	0.0038	--	--	--	< 0.0080	--	--	< 0.002	--	--	--	--	--	--
	04/07/2010	0.0039	--	--	--	< 0.0061	--	--	< 0.002	--	--	--	--	--	--
PZ-23 (Well installed 10/5/09) <i>Dup (QC-1)</i>	10/08/2009	0.009	--	--	--	--	0.016	--	--	< 0.002	0.0307	--	--	--	--
	11/12/2009	--	--	--	--	--	0.021	--	--	< 0.002	--	--	--	--	--
	04/07/2010	0.0038	--	--	--	--	0.03	--	--	< 0.002	--	--	--	--	--
	01/18/2011	0.0087	--	--	--	--	--	--	--	--	--	--	--	--	--
	07/13/2011	0.015	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/12/2012	0.0114	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/24/2013	0.0057	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/30/2014	< 0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/22/2015	0.0137	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/22/2015	0.0097	--	--	--	--	--	--	--	--	--	--	--	--	--
04/21/2016	0.0075	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-24	04/24/2013	< 0.0044	--	--	--	--	< 0.0038	< 0.002	--	--	--	--	--	--	--
	04/30/2014	< 0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/22/2015	< 0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/22/2016	< 0.00073	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 6 - Groundwater Analytical Results - Inorganics
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Inorganic Compounds (mg/L)													
		Arsenic ¹	Barium ¹	Cadmium, total	Chloride, total	Chromium, total	Cyanide, total	Cyanide, weak acid dissociable	Cyanide, available (Untreated)	Cyanide, available (PbCO ₃ Treated)	Iron, total	Lead, total	Mercury	Selenium, total	Silver, total
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
Groundwater Monitoring Wells															
<i>Preventive Action Limit:</i>		0.001	0.4	0.0005	125	0.01	0.04	NS	0.04	0.04	0.15	0.0015	0.0002	0.01	0.01
Enforcement Standard:		0.01	2	0.005	250	0.1	0.2	NS	0.2	0.2	0.3	0.015	0.002	0.05	0.05
MW-25	04/24/2013	< 0.0044	--	--	--	--	0.091	--	--	0.003	--	--	--	--	--
	04/30/2014	< 0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/21/2015	< 0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/21/2016	0.0021	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-26	04/22/2015	0.0672	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/22/2016	0.0781	--	--	--	--	--	--	--	--	--	--	--	--	--
PZ-26 (Well installed 04/15/14)	04/30/2014	< 0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-27	04/22/2015	0.0077	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/22/2016	0.0068	--	--	--	--	--	--	--	--	--	--	--	--	--
PZ-27	04/22/2015	< 0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/22/2016	0.0044	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-28	04/22/2015	0.0345	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/22/2016	0.0238	--	--	--	--	--	--	--	--	--	--	--	--	--
PZ-28	04/22/2015	< 0.0072	--	--	--	--	--	--	--	--	--	--	--	--	--
QCFB	02/20/2002	0.0009	--	< 0.00012	--	< 0.0018	< 0.0021	< 0.0022	--	--	0.0028	0.0014	< 0.00018	< 0.0011	< 0.0001
	05/13/2002	0.0008	--	< 0.00012	--	< 0.0011	0.0025	< 0.0022	--	--	< 0.0012	< 0.0007	< 0.00019	< 0.0055	< 0.0001
	08/20/2002	< 0.0008	--	< 0.00012	--	< 0.00021	0.0076	< 0.0084	--	--	0.002	< 0.0007	< 0.00019	< 0.0011	< 0.0001
	11/14/2002	< 0.0008	--	< 0.00012	--	0.00027	< 0.0027	< 0.0027	--	--	0.0029	< 0.0007	< 0.00019	< 0.0015	< 0.0001
	02/20/2003	< 0.0012	--	< 0.00004	--	0.00074	< 0.0014	0.0029	--	--	0.012	< 0.00083	< 0.00019	< 0.0015	< 0.00004
	10/19/2004	< 0.0035	--	< 0.00030	--	< 0.00065	--	--	< 0.0050	--	0.057	< 0.0011	< 0.000028	< 0.0048	< 0.00076
	12/02/2004	--	--	--	--	--	--	--	< 0.0050	--	< 0.018	--	--	--	--
	01/13/2005	--	--	--	--	--	< 0.0037	< 0.0053	< 0.0050	< 0.0050	< 0.018	--	--	--	--
	02/10/2005	< 0.0035	--	--	--	--	< 0.0037	0.0079	< 0.0050	< 0.0050	< 0.018	--	--	--	--
	03/10/2005	--	--	--	--	--	--	--	--	< 0.0050	< 0.018	--	--	--	--
	04/20/2005	< 0.0035	--	--	--	--	< 0.0037	--	--	< 0.0050	< 0.018	--	--	--	--
	07/07/2005	--	--	--	--	--	< 0.0037	--	--	< 0.0050	--	--	--	--	--
	10/19/2005	< 0.00040	--	--	--	--	< 0.0037	--	--	< 0.0050	0.22	--	--	--	--
	01/12/2006	--	--	--	--	--	< 0.0037	--	--	< 0.0050	--	--	--	--	--
	04/19/2006	< 0.00040	--	--	--	--	< 0.0094	--	--	< 0.0050	< 0.05	--	--	--	--
	07/20/2006	--	--	--	--	--	< 0.0094	--	--	< 0.00500	--	--	--	--	--
	10/24/2006	0.32	--	--	--	--	< 0.0094	--	--	< 0.00500	--	--	--	--	--
	04/26/2007	0.0004	--	--	--	--	< 0.006	--	--	< 0.00500	< 0.05	--	--	--	--
	10/09/2007	--	--	--	--	--	< 0.006	--	--	< 0.002	--	--	--	--	--
	04/09/2008	0.00024	--	--	--	--	< 0.006	--	--	< 0.002	--	--	--	--	--
10/21/2008	< 0.00017	--	--	--	--	< 0.006	--	--	--	0.007	--	--	--	--	
04/21/2009	< 0.00017	--	--	--	--	< 0.0060	--	--	< 0.002	< 0.005	--	--	--	--	

Table 6 - Groundwater Analytical Results - Inorganics
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Inorganic Compounds (mg/L)													
		Arsenic ¹	Barium ¹	Cadmium, total	Chloride, total	Chromium, total	Cyanide, total	Cyanide, weak acid dissociable	Cyanide, available (Untreated)	Cyanide, available (PbCO ₃ Treated)	Iron, total	Lead, total	Mercury	Selenium, total	Silver, total
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)															
Groundwater Monitoring Wells															
<i>Preventive Action Limit:</i>		<i>0.001</i>	<i>0.4</i>	<i>0.0005</i>	<i>125</i>	<i>0.01</i>	<i>0.04</i>	NS	<i>0.04</i>	<i>0.04</i>	<i>0.15</i>	<i>0.0015</i>	<i>0.0002</i>	<i>0.01</i>	<i>0.01</i>
Enforcement Standard:		0.01	2	0.005	250	0.1	0.2	NS	0.2	0.2	0.3	0.015	0.002	0.05	0.05
QCFB (continued)	10/08/2009	0.00038	--	--	--	--	< 0.0080	--	--	0.0032	< 0.004	--	--	--	--
	04/07/2010	< 0.0019	--	--	--	--	< 0.0061	--	--	--	--	--	--	--	--
	10/05/2010	< 0.0013	--	--	--	--	< 0.0061	--	--	< 0.002	--	--	--	--	--
	10/03/2011	< 0.002	--	--	--	--	< 0.0061	--	--	< 0.0003	--	--	--	--	--
	04/24/2012	< 0.00019	--	--	--	--	< 0.0061	--	--	0.002	--	--	--	--	--
	06/26/2012	--	--	--	--	--	0.007	--	--	0.0037	--	--	--	--	--
	*** 09/13/2012	< 0.00019	--	--	--	--	< 0.0043	--	--	0.002	--	--	--	--	--
	04/24/2013	< 0.0044	--	--	--	--	< 0.0038	--	--	< 0.002	--	--	--	--	--
	10/15/2013	--	--	--	--	--	0.0056	--	--	< 0.002	--	--	--	--	--

[O-PAH/MJR 4/03][U-PAR/JTB 12/04][JTB/EPK 01/05][JTB/PAR 3/05][JTB/PAR 4/05][JTB/RH 5/05][PAR/JTB 11/05][PAR/JTB 9/06][RJB/JTB 10/07][BGH/RMW 6/08][RMW/KRM 1/09][BGH/RJG 3/09][RMN/BGH 5/10][AMM/KJB 2/11][KJB/RJG 5/11][CJM/AMM 01/12][AMM/ANS 7/12][CAR 9/12][AMM/RJG 10/12][CAR 12/12 cyanide updates][ETO/RJG 5/13][ETE/NDK 10/13][U-ECK 06/14][U-KLT 1/30/15, C-PMH 2/15][U-AJS 12/10/15, C-PMH 12/14/15][Format ECK 4/11/16][U-ECK 2/1/17, C-SGW 2/2/17, C-KJS 2/7/17]

Notes:

- Italic* Constituent concentrations that attain or exceed a preventive action limit (PAL) are italicized.
- BOLD** Constituent concentrations that attain or exceed an enforcement standard (ES) are bold.
- < : Constituent was not identified above the limit of detection shown.
- : Analysis was not performed.
- Dup (QA/QC): Field Duplicate sample, field identification indicated in parentheses.
- mg/L : Milligrams per liter.
- *: Laboratory data for wells MW-8, MW-9, and MW-10 were originally presented in the March 25, 2002 URS SI report
- nd : all components of total calculation were non-detects
- NS : NR 140 groundwater quality standard has not been established.

Red Shading Results within a red shaded cell indicate the result was not valid, and was assigned an "R-flag". Available cyanide reported at concentration greater than total cyanide, which is not valid by definition. The laboratory has indicated or suspects sulfide interference.

- ***: Highest detected result selected for reporting September 2012 cyanide and available cyanide results. Reference 2012 Annual Report dated December 14, 2012 for complete results.
- 1) Arsenic and Barium were initially analyzed for Total concentration. Starting in 2007, Arsenic and Barium were analyzed for Dissolved concentration.

 See lab reports for data qualifiers
 NR 140 groundwater quality standard revised effective July 2015. Data prior to this date are also compared to revised 2015 standards.

Table 7 - Groundwater Analytical Results - RNA Parameters
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Laboratory Parameters (mg/L)						Field Parameters					
		Alkalinity	Iron, dissolved	Manganese, dissolved	Nitrite + Nitrate, total	Sulfate	Methane	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)													
Groundwater Monitoring Wells													
Preventive Action Limit:		NS	0.15	0.025	2	125	NS	NS	NS	NS	NS	NS	
Enforcement Standard:		NS	0.3	0.05	10	250	NS	NS	NS	NS	NS	NS	
MW-02R	10/19/2004	690	0.47	0.19	< 0.031	52	2.1	7.7	16.8	1,364	0.56	135	
	11/30/2004	690	0.43	--	< 0.031	30	1.9	7.5	--	1,249	0.51	56	
	01/11/2005	650	0.53	0.17	0.096	24	1.5	7.6	12.5	1,261	0.46	87	
	02/08/2005	640	0.62	0.2	< 0.031	12	2.2	7.5	12.9	1,314	0.79	87	
	03/08/2005	600	0.67	0.17	< 0.031	5	1.6	7.5	13.5	1,329	0.65	247	
	04/18/2005	610	0.69	0.17	< 0.078	3.3	1.6	7.6	19	992	0.51	297	
	07/05/2005	--	--	--	--	--	--	7.4	18.7	1,376	0.57	218	
	10/17/2005	720	1.1	0.056	< 0.078	6.4	2.4	7.8	17.4	1,397	0.63	337	
	01/10/2006	--	--	--	--	--	--	7.1	11.3	1,433	0.76	9	
	04/19/2006	640	1.1	0.082	< 0.088	3.8	2.8	7.5	13.7	1,430	0.62	-22	
	07/19/2006	--	--	--	--	--	--	7.5	19.2	1,530	0.82	73	
	10/24/2006	710	1.1	0.043	< 0.20	4.4	2.3	7.4	13.7	1,540	0.43	155	
	04/25/2007	630	1.1	0.063	< 0.085	6.6	1.8	7.4	13.4	1,484	0.31	21	
	10/08/2007	740	< 0.026	--	< 0.085	6.4	2.1	7.7	17.4	1,600	0.29	37	
	04/07/2008	574	1.36	0.0646	< 0.085	< 0.51	2.49	7.4	12.3	1,690	0.43	-136	
	10/20/2008	594	0.59	0.0608	< 0.085	39.6	2.39	7.8	14.1	1,960	0.44	-46	
	04/20/2009	609	0.91	0.0616	0.69	104	1.87	8.8	11.7	2,150	0.54	-181	
	10/07/2009	675	0.826	0.0392	< 0.2	41.7	--	7.5	14.3	2,020	0.51	-9	
	04/06/2010	568	1.07	0.085	0.20	127	2.53	7.8	11.9	2,030	0.56	-71	
	10/04/2010	486	0.812	0.0378	0.21	182	2.76	6.4	14.8	2,030	1.14	-63	
	01/18/2011	--	--	--	--	--	--	7.6	11.9	1,930	2.57	-16	
	04/11/2011	427	0.832	0.0275	< 0.20	232	1.75	7.6	13.9	1,810	3.99	-100	
	07/13/2011	--	--	--	--	--	--	7.6	14.4	1,980	2.81	-145	
	10/03/2011	551	0.746	0.0317	< 0.20	192	2.49	7.6	14	2,010	2.49	-46	
	01/04/2012	--	--	--	--	--	--	7.8	12.3	2,000	3.4	-10	
	04/23/2012	504	0.837	0.0507	< 0.20	250	1.47	7.6	15.4	1,880	0.36	-139	
	Dup (QC-1)	04/23/2012	513	0.879	0.0517	< 1.0	251	1.24	7.6	15.4	1,880	0.36	-139
	06/26/2012	--	--	--	--	--	--	7.4	16.1	2,030	0.31	-105	
	Dup (QC-1)	06/26/2012	--	--	--	--	--	7.4	16.1	2,030	0.31	-105	
	09/12/2012	525	0.603	0.0118	0.44	165	2.26	7.7	16.2	2,140	0.3	-110	
Dup (QC-1)	09/12/2012	531	0.628	0.0137	< 1.0	175	2.16	7.7	16.2	2,140	0.3	-110	
01/28/2013	--	--	--	--	--	--	7.7	12.6	1,910	0.64	9		
04/13/2013	481	0.614	0.0331	< 1.5	258	1.49	7.7	12.3	-99	0.67	-99		
07/16/2013	--	--	--	--	--	--	7.6	19.6	2,010	0.51	-73		
10/15/2013	--	--	--	--	--	--	7.6	12.9	2,270	1.11	-48		
04/29/2014	455	0.5	0.0154	< 0.30	329	1.89	7.6	11.2	1,900	0.54	-199		
10/13/2014	--	--	--	--	--	--	7.8	12.6	1,900	3.3	-282		
04/21/2015	536	0.534	0.0031	< 0.75	188	0.708	7.7	11	2,310	1.15	-250		
10/19/2015	--	--	--	--	--	--	8.3	13.4	1,930	0.53	-346		
04/21/2016	475	0.619	0.0089	< 0.15	287	1.01	7.5	12.7	17	0.24	--		
10/04/2016	--	--	--	--	--	--	7.7	13.6	1,530	2.56	-30		
MW-08	10/31/2001	--	--	--	--	45	--	--	--	--	--	--	
	02/20/2002	--	--	--	--	109	--	--	--	--	--	--	
	05/13/2002	--	--	--	--	171	--	--	--	--	--	--	
	08/20/2002	--	--	--	--	99	--	--	--	--	--	--	
	11/14/2002	--	--	--	--	45	--	7.2	12.4	442	0.5	44	
	02/19/2003	--	--	--	--	26	--	7	5.6	733	0.3	118	
	05/22/2003	--	--	--	--	74	--	8	10.9	593	0.5	24	
	08/01/2003	--	--	--	--	100	--	9	15.3	494	0.3	-10	
	10/18/2004	--	--	--	--	--	--	7.2	15.1	657	0.28	28	
	02/08/2005	--	--	--	--	--	--	7.2	6.6	433	0.46	41	
	04/19/2005	--	--	--	--	--	--	7.2	11.5	693	0.5	-33	
	07/07/2005	--	--	--	--	--	--	7.2	15.8	678	0.45	133	
	10/17/2005	--	--	--	--	--	--	10.1	16	750	0.43	87	
	01/11/2006	--	--	--	--	--	--	7	8.9	912	0.52	-23	
	10/05/2010	405	0.442	0.217	< 0.20	76.2	0.0836	5.8	15.6	872	1.21	216	
	01/18/2011	--	--	--	--	--	--	7	7.1	976	2.2	157	
	04/12/2011	--	0.157	0.194	--	--	0.247	7.2	7.7	776	5.09	87	
	07/13/2011	--	--	--	--	--	--	7.1	14.3	721	2.72	60	
	10/03/2011	300	0.0985	0.177	< 0.20	58.3	0.123	7.3	16.5	694	1.68	106	
	01/04/2012	--	--	--	--	--	--	7.9	6.9	809	3.8	45	

Table 7 - Groundwater Analytical Results - RNA Parameters

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We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Laboratory Parameters (mg/L)						Field Parameters				
		Alkalinity	Iron, dissolved	Manganese, dissolved	Nitrite + Nitrate, total	Sulfate	Methane	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)												
Groundwater Monitoring Wells												
Preventive Action Limit:		NS	0.15	0.025	2	125	NS	NS	NS	NS	NS	NS
Enforcement Standard:		NS	0.3	0.05	10	250	NS	NS	NS	NS	NS	NS
MW-09	10/31/2001	--	--	--	--	170	--	--	--	--	--	--
	02/20/2002	--	--	--	--	190	--	--	--	--	--	--
	05/13/2002	--	--	--	--	168	--	--	--	--	--	--
	08/20/2002	--	--	--	--	215	--	--	--	--	--	--
	11/14/2002	--	--	--	--	225	--	7.1	12.7	598	0.3	128
	02/19/2003	--	--	--	--	241	--	6.9	8.9	1,970	0.3	138
	05/22/2003	--	--	--	--	226	--	7.5	10.7	761	0.4	130
	08/01/2003	--	--	--	--	222	--	7.7	13.5	600	0.4	186
MW-10	10/31/2001	--	--	--	--	54	--	--	--	--	--	--
	02/20/2002	--	--	--	--	50	--	--	--	--	--	--
	05/13/2002	--	--	--	--	32	--	--	--	--	--	--
	08/20/2002	--	--	--	--	29	--	--	--	--	--	--
	11/14/2002	--	--	--	--	27	--	8.2	11.1	371	0.4	30
	02/19/2003	--	--	--	--	32	--	7.3	3.6	351	0.5	122
	05/22/2003	--	--	--	--	62	--	8.1	12.1	483	0.4	94
	08/01/2003	--	--	--	--	45	--	7.8	14.2	432	0.3	173
MW-12R	10/21/2004	170	0.13	0.065	0.15	42	0.27	9.2	15.6	365	0.45	-15
	11/30/2004	190	0.14	--	< 0.031	44	0.48	8.8	11.5	592	0.48	--
	01/13/2005	180	0.17	0.049	< 0.087	71	0.63	8.9	9.9	533	0.56	-34
	02/10/2005	170	0.15	0.048	< 0.031	76	0.56	8.8	8.7	480	0.39	-11
	03/08/2005	140	0.14	0.038	< 0.031	74	0.49	8.9	8.1	819	0.96	8
	04/20/2005	130	0.16	0.035	0.17	70	0.43	9.1	10.6	554	0.39	8
	07/07/2005	--	--	--	--	--	--	8.9	14.6	501	0.43	48
	10/19/2005	180	0.18	0.035	< 0.078	26	1.2	12.9	14.1	463	0.37	-91
	01/12/2006	--	--	--	--	--	--	8.5	9.5	696	0.57	-90
	04/20/2006	160	0.28	0.043	< 0.088	140	0.38	8.5	12.8	798	0.48	-74
	07/20/2006	--	--	--	--	--	--	8.7	17	1,016	0.32	-48
	10/23/2006	200	0.078	0.039	< 0.20	69	1.9	8.6	13.4	638	0.33	-18
	04/26/2007	180	--	0.057	< 0.085	190	1.3	8.7	9.3	903	0.43	-26
	10/09/2007	180	< 0.026	--	< 0.085	260	1.2	8.6	14	1,054	0.33	-94
	04/08/2008	279	0.386	0.0836	< 0.085	112	1.04	7.9	9.2	935	0.3	-50
	10/20/2008	253	0.118	0.069	4.1	251	1.23	8.6	14	1,210	0.36	-48
	04/21/2009	335	0.175	0.0833	< 0.085	90.7	1.65	9.3	7.5	1,080	0.35	-88
	10/08/2009	286	0.115	0.0839	0.25	305	--	8.1	13.5	1,298	0.34	-5
	04/07/2010	376	0.199	0.102	< 0.20	190	2.03	8.4	11.2	1,354	0.27	8
	10/04/2010	428	0.14	0.113	< 0.20	226	2.55	6.7	14.7	1,610	0.37	-54
	01/18/2011	--	--	--	--	--	--	7.9	9.7	1,500	0.32	61
	04/12/2011	195	0.3	0.0939	< 0.20	86.4	2	7.8	10.2	1,215	4.4	32
	07/13/2011	--	--	--	--	--	--	7.9	12.7	1,475	3.03	-112
	10/03/2011	351	0.234	0.0859	< 0.20	202	2.75	8	15.1	1,372	1.58	-15
	01/04/2012	--	--	--	--	--	--	8.4	7.7	1,560	3.25	41
	04/24/2012	448	0.24	0.0854	< 0.20	128	2.26	8	10.1	1,470	0.32	-94
	09/12/2012	270	0.156	0.0348	< 0.20	35.4	1.94	8.5	16.5	877	0.32	20
	01/28/2013	--	--	--	--	--	--	9	10	1,000	0.55	31
	04/24/2013	384	0.236	0.0524	< 0.75	21	2.33	8.3	9.7	1,081	0.47	61
	07/16/2013	--	--	--	--	--	--	8.6	17.2	1,183	0.52	-15
10/15/2013	--	--	--	--	--	--	9.2	14.1	780	0.94	45	
04/29/2014	285	0.23	0.0083	< 0.15	107	5.91	8.9	9.1	990	0.44	-161	
10/13/2014	--	--	--	--	--	--	10	13.5	801	0.74	-228	
04/21/2015	222	0.534	0.0025	< 1.5	85.7	4.41	10.2	8.9	1,098	1.08	-162	
10/20/2015	--	--	--	--	--	--	11.2	13.2	748	0.38	-223	
04/21/2016	285	0.273	0.0082	< 0.15	118	4.32	8.7	11.5	1,160	0.22	--	
10/04/2016	--	--	--	--	--	--	10.6	14.8	1,007	0.12	-294	
PZ-12B	10/21/2004	250	0.023	0.12	< 0.031	30	0.45	7.8	14	669	0.61	219
	11/30/2004	250	0.036	--	< 0.031	22	0.85	7.5	11.3	827	4.5	195
	01/13/2005	220	0.036	0.17	< 0.087	10	0.62	7.7	10.8	687	0.61	262
	02/10/2005	220	0.034	0.14	< 0.031	9.6	0.21	7.7	9.5	461	0.62	255
	02/25/2005	220	0.038	0.14	< 0.031	9.7	0.15	--	--	--	--	--
	03/08/2005	210	< 0.018	0.17	0.21	11	0.084	7.6	9.3	549	0.76	284
	04/20/2005	220	0.026	0.16	0.23	9.5	0.19	7.8	11.5	425	1.11	326
	07/07/2005	--	--	--	--	--	--	7.6	13.5	464	0.68	314
	07/07/2005	--	--	--	--	--	--	--	--	--	--	--
	10/19/2005	210	0.13	0.15	< 0.078	3.1	0.76	11.6	12.7	416	0.48	-3

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		Alkalinity	Iron, dissolved	Manganese, dissolved	Nitrite + Nitrate, total	Sulfate	Methane	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)												
Groundwater Monitoring Wells												
Preventive Action Limit:		NS	0.15	0.025	2	125	NS	NS	NS	NS	NS	NS
Enforcement Standard:		NS	0.3	0.05	10	250	NS	NS	NS	NS	NS	NS
PZ-12B (continued)	01/12/2006	--	--	--	--	--	--	7.8	11	437	0.49	-67
	04/20/2006	190	< 0.05	0.18	0.2	20	0.016	7.4	13.5	439	0.85	21
	07/20/2006	--	--	--	--	--	--	7.9	14.7	460	0.41	61
	04/26/2007	220	--	0.24	< 0.085	9.3	0.37	8	10.4	463	0.72	27
	04/08/2008	221	0.156	0.297	0.16	10	0.367	7.5	10.9	485	0.35	11
	04/21/2009	227	< 0.005	0.133	0.21	14.2	0.249	8.9	9.9	499	0.73	66
	04/07/2010	229	0.023	0.106	0.23	14.3	0.0812	8	12	486	1.73	182
	04/24/2012	230	0.179	0.289	< 0.20	25.9	0.153	7.7	11.1	589	0.44	88
	04/24/2013	228	0.154	0.255	< 0.15	10.2	0.491	7.7	10.9	606	0.48	90
	04/29/2014	--	--	--	--	--	--	7.6	10.5	599	1.84	-75
04/21/2015	207	0.0938	0.169	< 0.15	8.4	--	7.6	10.5	571	1.25	-162	
04/21/2016	--	--	--	--	--	--	7.2	12.2	572	0.33	--	
MW-13R	10/20/2004	450	0.5	0.65	< 0.031	210	4.6	7.9	17.1	1,112	0.28	-109
	12/02/2004	470	0.5	0.49	< 0.031	200	4.3	7.6	12.5	1,594	0.35	-81
	01/12/2005	490	0.42	0.31	0.25	220	5.8	7.7	11.7	1,730	0.26	-94
	02/09/2005	480	0.4	0.31	< 0.031	180	3.7	7.7	10.6	1,234	0.38	-79
	03/10/2005	440	0.41	0.25	< 0.031	160	2.6	7.8	7.5	671	0.4	-71
	04/19/2005	400	0.4	0.19	0.31	140	2.3	7.8	12.4	1,121	0.34	-104
	07/06/2005	--	--	--	--	--	--	7.9	14.7	1,457	0.3	0
	10/19/2005	410	0.52	0.13	< 0.078	53	2	12.1	15.3	835	0.37	-104
	01/10/2006	--	--	--	--	--	--	7.6	10.7	1,510	0.48	-152
	04/19/2006	560	0.53	0.13	< 0.088	270	7	7.5	11.5	2,380	0.34	-167
	07/19/2006	--	--	--	--	--	--	7.6	14.9	2,420	0.27	-170
	10/24/2006	350	0.66	0.077	< 0.20	130	3.7	7.7	14.4	1,770	0.26	-86
	04/25/2007	500	0.52	0.085	< 0.085	350	5.5	7.5	10.5	25	0.16	-139
	04/25/2007	500	0.49	0.087	< 0.085	350	6	7.5	10.5	25	0.16	-139
	10/08/2007	430	0.12	--	< 0.085	350	4.4	8	16.9	2,340	0.17	-180
	04/08/2008	206	1.24	0.112	< 4.2	1,030	3.26	7.5	10.1	3,380	0.66	-161
	10/20/2008	427	0.461	0.0751	14	378	4.66	7.7	15.1	2,510	0.31	-98
	04/21/2009	317	0.55	0.0779	< 0.085	1,090	3	8.9	9.4	3,590	0.4	-185
	10/07/2009	586	0.641	0.0719	< 0.20	654	--	7.6	14.2	3,020	0.34	-99
	04/06/2010	395	0.604	0.075	< 0.20	917	3.06	8	11.2	3,180	0.37	-86
	10/04/2010	423	0.746	0.0629	0.22	902	4.14	6.5	15.1	3,270	0.22	-87
	01/18/2011	--	--	--	--	--	--	7.7	9.6	3,020	2.04	-69
	04/11/2011	180	0.626	0.0701	< 4.0	1,180	1.47	7.9	16.7	2,710	3.36	-94
	07/13/2011	--	--	--	--	--	--	7.6	12.8	3,040	2.29	-153
	10/03/2011	315	0.674	0.0616	< 0.20	872	2.32	7.6	16.4	2,840	1.6	-126
	01/04/2012	--	--	--	--	--	--	8.2	11.1	2,640	3.19	-58
	01/04/2012	--	--	--	--	--	--	8.2	11.1	2,640	3.19	-58
	04/23/2012	291	0.582	0.0515	< 2.0	874	2.58	7.8	11.5	2,610	0.15	-154
06/26/2012	--	--	--	--	--	--	7.5	14.6	2,710	0.21	-113	
09/12/2012	277	0.373	0.0457	< 0.20	519	2.04	7.8	14.6	2,070	0.42	-58	
01/28/2013	--	--	--	--	--	--	7.9	10.6	2,630	0.43	-83	
04/23/2013	163	0.718	0.066	< 1.5	1,080	1.65	8.1	8.5	2,730	0.48	-122	
04/23/2013	173	0.704	0.0669	< 1.5	1,070	0.654	8.1	8.5	2,730	0.48	-122	
07/16/2013	--	--	--	--	--	--	7.8	14.7	2,710	0.67	-111	
10/15/2013	--	--	--	--	--	--	7.8	14.1	2,490	1.03	-85	
04/29/2014	176	0.518	0.0488	< 0.30	2,270	1.38	8.1	8.6	2,490	0.55	-262	
04/29/2014	190	0.523	0.0499	< 1.5	1,050	1.05	8.1	8.6	2,490	0.55	-262	
10/13/2014	--	--	--	--	--	--	7.9	13.8	2,280	4.58	-303	
04/21/2015	216	0.522	0.0477	< 1.5	961	0.548	8.2	8.4	2,800	1.8	-287	
10/20/2015	--	--	--	--	--	--	8.6	13.8	2,230	0.48	-345	
04/21/2016	136	0.764	0.052	< 0.15	1,080	1.1	7.6	10.7	2,350	0.2	--	
10/04/2016	--	--	--	--	--	--	8	14.7	2,540	0.21	-327	
MW-19S	10/19/2004	470	4.3	0.52	< 0.031	89	0.34	7.4	18.3	1,293	1.17	375
	12/01/2004	490	1.7	--	< 0.031	85	0.38	7.6	12.3	858	0.99	3.8
	01/12/2005	580	1.2	0.55	< 0.087	120	0.28	7.2	11.3	635	0.92	321
	02/09/2005	540	0.38	0.55	0.17	120	0.053	7.1	11.2	888	1.81	308
	03/10/2005	520	0.54	0.25	0.31	150	0.12	7.2	9.9	627	1.91	127
	04/20/2005	550	0.17	0.41	0.23	120	0.06	7.2	12.6	502	1.69	290
	07/06/2005	--	--	--	--	--	--	7.1	14.5	1,265	1.79	344
	10/17/2005	480	1.1	0.22	< 0.078	98	0.046	7.8	15.4	751	0.72	313

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Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)												
Groundwater Monitoring Wells												
Preventive Action Limit:		NS	0.15	0.025	2	125	NS	NS	NS	NS	NS	NS
Enforcement Standard:		NS	0.3	0.05	10	250	NS	NS	NS	NS	NS	NS
MW-19S (continued) Well damaged, scheduled for repair or abandonment Well damaged, scheduled for repair or abandonment	01/11/2006	--	--	--	--	--	--	7.1	13.1	1,494	1.16	193
	04/19/2006	--	--	--	--	--	--	--	--	--	--	--
	10/24/2006	--	--	--	--	--	--	--	--	--	--	--
	04/26/2007	550	--	0.53	3.5	120	< 0.010	6.9	11.6	1,404	0.49	295
	10/09/2007	570	< 0.026	--	< 0.085	120	0.014	7.4	16.7	1,328	0.55	99
	04/08/2008	475	0.395	0.095	6.2	147	< 2	6.9	11.5	1,520	0.66	197
	10/21/2008	510	0.0051	0.226	< 0.085	143	--	7.2	16.3	1,520	0.62	213
	04/21/2009	482	< 0.005	0.154	5.9	130	< 0.0022	8.2	11.8	1,570	0.35	-65
	10/08/2009	565	0.007	0.0887	0.2	149	--	6.9	15.5	1,417	0.75	239
	04/07/2010	485	0.0039	0.231	8.6	114	< 0.0009	7.3	12.3	1,369	0.35	36
	04/12/2011	354	< 0.0083	0.0861	5.2	170	< 0.0009	7	11.6	1,288	5.49	204
	04/23/2012	481	0.27	0.0363	7	233	0.0008	7.2	15.2	1,233	1.12	-30
	MW-19 <i>Dup (QC-1)</i>	10/19/2004	460	0.6	0.24	< 0.031	300	0.78	7.7	18.7	182	0.8
12/01/2004		480	0.68	--	< 0.031	270	0.84	7.4	9.8	827	0.64	87
12/01/2004		480	0.68	--	< 0.031	270	0.95	--	--	--	--	--
01/12/2005		510	0.41	0.15	0.21	340	0.85	7.6	11.4	674	0.39	77
02/09/2005		530	0.39	0.14	< 0.031	320	0.99	7.5	9.4	924	0.66	24
03/10/2005		510	0.39	0.12	< 0.031	280	0.72	7.5	7.2	617	0.53	-11
04/20/2005		520	0.39	0.96	< 0.078	300	0.78	7.6	13	585	0.51	46
07/06/2005		--	--	--	--	--	--	7.4	15.1	2,000	0.65	106
10/17/2005		470	0.54	0.044	< 0.078	270	1.1	10.7	14.9	1,014	0.56	46
01/11/2006		--	--	--	--	--	--	7.1	10.7	2,140	0.53	-58
04/19/2006		--	--	--	--	--	--	--	--	--	--	--
07/20/2006		--	--	--	--	--	--	7.4	19.4	2,440	0.31	-105
10/23/2006		570	0.36	0.027	< 0.20	250	1.6	7.4	13.6	2,220	0.35	14
04/26/2007		580	--	0.022	< 0.085	290	1.3	7.5	12.9	2,230	0.25	-59
10/09/2007		620	--	--	< 0.085	270	1.4	7.9	15.1	2,340	0.29	-92
04/08/2008		583	1.05	0.0196	< 0.085	440	0.322	7.3	12.1	2,170	0.38	-123
10/21/2008		563	0.771	0.0133	< 0.085	378	--	7.6	15	2,640	0.34	-114
04/21/2009		619	0.651	0.0129	0.085	310	1.81	8.6	12.1	2,440	0.3	-166
10/08/2009		618	1.59	0.0286	< 0.20	392	--	7.3	14.1	2,680	0.33	-62
04/07/2010		597	0.721	0.0083	< 0.20	373	1.73	7.7	14.7	2,550	0.38	-63
10/05/2010	494	0.693	0.0171	0.22	442	1.35	6.2	13.6	2,600	0.55	-51	
Well damaged, scheduled for repair	01/18/2011	--	--	--	--	--	--	--	--	--	--	--
	04/12/2011	398	0.598	0.0163	0.2	500	0.545	7.4	12.9	2,060	5.7	-85
	07/13/2011	--	--	--	--	--	--	7.4	14.8	2,490	2.48	-138
	10/04/2011	528	0.731	0.0113	< 0.20	445	1.34	7.2	14.1	2,690	2.23	-114
	01/04/2012	--	--	--	--	--	--	8	10.4	2,440	3.1	-72
	04/23/2012	498	0.649	0.0063	< 0.20	518	0.76	7.5	15	2,490	0.48	-148
	06/26/2012	--	--	--	--	--	--	7	18.6	2,600	0.37	-100
	09/12/2012	489	0.521	0.0088	0.43	378	1.04	7.5	18.5	2,740	0.42	-108
	01/28/2013	--	--	--	--	--	--	7.4	11.4	2,510	0.8	6
	04/23/2013	473	0.501	0.0135	< 1.5	363	0.492	7.4	12.5	2,040	0.69	-120
	07/16/2013	--	--	--	--	--	--	7.3	18.7	2,710	1.07	-58
	10/15/2013	--	--	--	--	--	--	7.3	14.2	2,650	1.1	-49
	04/29/2014	561	0.344	0.0073	< 0.15	529	1.09	7.4	12.4	2,390	0.54	-228
	10/13/2014	--	--	--	--	--	--	7.4	14.7	2,590	1.56	-256
	04/21/2015	491	0.424	0.0151	< 0.15	389	0.915	7.4	12.4	2,907	0.83	-261
	10/19/2015	--	--	--	--	--	--	8	14.3	2,570	0.69	-314
	04/21/2016	493	0.529	0.0107	< 0.15	612	1.11	7.2	14	2,360	0.35	--
10/04/2016	--	--	--	--	--	--	7.3	14.7	2,530	0.14	-251	
MW-20	10/20/2004	230	0.065	0.21	< 0.031	2.2	2.2	7.9	20.1	872	0.36	12
	11/30/2004	320	0.14	--	< 0.031	58	2.2	8.3	16.7	966	0.46	-23
	01/11/2005	290	0.12	0.097	0.12	140	1.7	9.3	16.8	1,323	0.29	-69
	02/08/2005	280	0.11	0.12	0.21	110	1.4	9.2	14.8	1,203	0.4	-83
	03/09/2005	280	0.11	0.086	0.31	140	1.6	9.5	14.7	1,376	0.3	-103
	04/18/2005	340	0.12	0.09	0.19	170	2.1	9.3	19	1,710	0.24	-98
	07/05/2005	--	--	--	--	--	--	8.6	19.7	841	0.37	-55
	10/17/2005	240	0.17	0.11	< 0.078	69	2.5	12.4	17.9	1,293	0.33	-99
	01/10/2006	--	--	--	--	--	--	9.5	12.1	2,800	0.4	-180
	04/19/2006	210	0.25	0.0093	0.23	420	0.87	9.8	14	3,220	0.41	-223
	07/20/2006	--	--	--	--	--	--	10	18.1	2,730	0.63	-97

Table 7 - Groundwater Analytical Results - RNA Parameters

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We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Laboratory Parameters (mg/L)						Field Parameters				
		Alkalinity	Iron, dissolved	Manganese, dissolved	Nitrite + Nitrate, total	Sulfate	Methane	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Oxidation / Reduction Potential (mV)
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)												
Groundwater Monitoring Wells												
Preventive Action Limit:		NS	0.15	0.025	2	125	NS	NS	NS	NS	NS	NS
Enforcement Standard:		NS	0.3	0.05	10	250	NS	NS	NS	NS	NS	NS
MW-20 (continued)	10/24/2006	250	0.22	0.034	< 0.20	240	1.7	8.7	13.1	2,660	0.29	-106
Dup (QC-1)	10/24/2006	250	0.21	0.034	< 0.20	250	1.9	8.7	13.1	2,660	0.29	-106
	04/25/2007	200	0.2	0.023	< 0.085	460	0.81	9.4	13.7	2,940	0.12	-161
	10/08/2007	210	< 0.026	--	< 0.085	370	0.61	9.6	16.1	3,080	0.15	-191
	04/07/2008	135	0.575	0.0067	< 0.085	655	1.27	9.6	10.3	2,910	0.3	-164
	10/20/2008	140	0.152	0.0069	0.88	580	1.67	9.4	13.3	2,880	0.32	-106
	04/20/2009	158	0.156	0.0097	< 0.085	624	2.56	10.6	11.8	3,160	0.27	-168
Dup (QC-1)	04/20/2009	150	0.158	0.0168	< 0.085	617	2.19	10.6	11.8	3,160	0.27	-168
	10/07/2009	140	0.141	0.0079	< 0.20	623	--	9.2	13.9	2,700	0.58	71
	04/06/2010	123	0.164	0.0078	< 0.20	699	2.51	9.8	12.2	3,080	0.29	11
Dup (QC-1)	04/06/2010	132	0.169	0.0078	< 0.20	703	2.56	9.8	12.2	3,080	0.29	11
	10/04/2010	149	0.15	0.0071	< 0.20	678	0.162	8.3	15.8	2,650	0.4	-76
Dup (QC-1)	10/04/2010	140	0.0983	0.0062	< 0.20	679	2.99	8.3	15.8	2,650	0.4	-76
	04/11/2011	96.1	0.14	0.0052	< 2.0	668	1.67	9.3	15.3	2,250	2.9	-26
	10/03/2011	145	0.123	0.0087	< 0.20	501	2.94	8.9	14.7	2,240	1.87	5
Dup (QC-1)	10/03/2011	129	0.122	0.0086	< 0.20	503	3.82	8.9	14.7	2,240	1.87	5
	04/23/2012	153	0.131	0.0033	< 0.20	576	2.57	9.6	14.2	2,100	0.24	-87
	06/26/2012	--	--	--	--	--	--	9.4	16.3	2,112	0.24	8
	09/12/2012	200	0.112	0.0105	< 0.20	323	5.27	9.1	15.2	1,850	0.36	-21
	01/28/2013	--	--	--	--	--	--	9.5	10.9	2,090	0.47	89
	04/23/2013	106	0.238	0.0034	0.55	560	1.23	10.1	11.5	2,140	0.6	115
	07/16/2013	--	--	--	--	--	--	9.4	17.9	2,220	0.7	98
	10/15/2013	--	--	--	--	--	--	9.3	12.9	2,030	0.91	69
	04/29/2014	84.6	0.309	0.0039	0.26	588	1.95	9.2	11.5	2,200	0.46	-122
	10/13/2014	--	--	--	--	--	--	8.9	13.1	2,030	0.9	-248
	04/21/2015	90.7	0.152	0.0024	< 0.15	511	1.24	9.6	11.5	2,480	0.86	-173
	10/19/2015	--	--	--	--	--	--	10.1	12.7	1,980	5.98	-299
	04/21/2016	95.9	0.135	0.0012	< 0.15	468	0.272	9.8	12.7	1,730	0.27	--
	10/04/2016	--	--	--	--	--	--	10	13.6	1,910	0.31	-143
PZ-20B	10/20/2004	200	0.04	0.081	< 0.031	1.1	0.59	8	13	390	0.51	31
	11/30/2004	220	0.021	--	< 0.031	1.7	1.1	7.7	12.3	389	0.76	128
	01/11/2005	220	< 0.018	0.08	< 0.087	2.3	0.8	7.9	12.7	386	0.65	95
	02/08/2005	200	< 0.018	0.095	< 0.031	9.3	0.25	7.6	11.8	411	0.75	70
	03/09/2005	190	< 0.018	0.09	0.18	14	0.14	7.7	13	411	0.75	71
	04/18/2005	450	< 0.018	0.1	< 0.078	17	0.067	7.9	19.9	415	0.78	100
	07/05/2005	--	--	--	--	--	--	7.8	19.5	399	0.77	101
	10/17/2005	190	0.11	0.097	< 0.078	1.7	1.5	10	17.6	400	0.64	72
	01/10/2006	--	--	--	--	--	--	7.6	11.4	427	0.83	-83
	04/19/2006	170	< 0.05	0.11	< 0.088	23	0.04	7.5	14.1	421	0.84	-18
	07/20/2006	--	--	--	--	--	--	7.8	18.9	460	0.64	-17
	04/25/2007	210	--	0.11	< 0.085	5.1	0.46	7.8	13.3	435	0.49	-18
	04/07/2008	205	0.134	0.136	< 0.085	5.2	0.628	7.7	9.4	429	0.67	-89
	04/20/2009	208	< 0.005	0.15	< 0.085	13.5	0.127	8.9	12	478	0.48	-106
	04/06/2010	209	0.0086	0.159	< 0.20	9.9	0.346	7.8	12.4	466	0.53	76
	04/12/2011	--	--	--	--	--	--	7.6	13.85	404	3.52	50
	04/23/2012	204	0.0285	0.128	< 0.20	4.7	0.135	7.7	14.8	460	0.52	-26
	04/23/2013	208	< 0.014	0.15	< 0.15	2.4	0.746	7.7	11.8	434	0.74	98
	04/29/2014	--	--	--	--	--	--	7.6	11.2	1,900	0.54	-199
	04/21/2015	194	< 0.0129	0.131	< 0.15	3.3	--	7.5	10.2	509	1.7	-147
	04/21/2016	--	--	--	--	--	--	7.4	12.9	413	0.38	--
MW-21	10/20/2004	190	0.14	0.027	< 0.031	75	2.3	8.6	18.1	1,067	0.25	-75
	12/02/2004	490	0.28	0.011	0.96	300	1.3	9.9	14	2,530	0.53	-124
	01/12/2005	700	0.33	0.0022	3.9	99	0.37	10.5	13.4	3,040	0.21	-121
	02/09/2005	730	0.33	0.0011	2.2	450	0.78	10.6	11.5	3,020	0.19	-168
	03/09/2005	920	0.3	0.0013	3.9	410	0.46	10.9	10.1	2,980	0.15	-181
	04/19/2005	620	0.29	0.002	0.76	460	0.41	10.9	13.2	3,520	0.17	-138
	07/06/2005	--	--	--	--	--	--	10.7	15.9	3,870	0.21	-50
	10/18/2005	460	< 0.04	0.00052	0.16	320	0.23	13.7	16.8	4,050	0.22	-129
	01/11/2006	--	--	--	--	--	--	10.7	12.5	3,450	0.6	-134
	04/20/2006	600	0.72	0.017	0.77	520	0.045	11.1	12.6	3,350	0.33	-159
	07/19/2006	--	--	--	--	--	--	11	15.6	3,250	0.08	-47
	10/24/2006	500	0.38	0.00047	< 0.20	340	0.27	10.6	14.8	3,480	0.18	1
	04/26/2007	--	--	--	--	--	--	11.4	9.7	3,200	0.13	-121
	10/09/2007	560	0.2	--	< 0.085	330	0.099	11	14.8	3,330	0.23	-87

Table 7 - Groundwater Analytical Results - RNA Parameters

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Laboratory Parameters (mg/L)						Field Parameters					
		Alkalinity	Iron, dissolved	Manganese, dissolved	Nitrite + Nitrate, total	Sulfate	Methane	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)													
Groundwater Monitoring Wells													
Preventive Action Limit:		NS	0.15	0.025	2	125	NS	NS	NS	NS	NS	NS	
Enforcement Standard:		NS	0.3	0.05	10	250	NS	NS	NS	NS	NS	NS	
MW-21 (continued)	04/09/2008	368	1.25	0.0058	< 4.2	979	0.0411	10.9	8.9	3,240	0.35	-64	
	10/21/2008	375	0.41	< 0.00024	< 0.085	561	0.213	10.9	14	2,960	0.24	-89	
	04/20/2009	294	0.331	0.0071	0.16	894	0.084	12.1	10.9	3,170	0.24	-112	
	10/07/2009	290	0.427	0.0028	< 0.20	648	--	10.5	13.2	3,030	0.3	-23	
	04/06/2010	262	0.365	0.00015	< 0.20	946	0.115	11.2	11	3,270	0.26	12	
	10/04/2010	310	0.505	< 0.00014	< 0.20	653	0.162	9.7	15.6	2,360	0.36	100	
	04/11/2011	143	0.203	0.0012	< 0.20	891	0.0392	10.9	10.9	2,370	2.94	39	
	10/03/2011	156	0.418	< 0.000098	< 0.20	675	0.144	10.5	15.6	2,370	1.58	44	
	04/24/2012	164	0.293	0.0018	< 0.203	646	0.122	11	11.6	1,970	0.26	-21	
	06/26/2012	--	--	--	--	--	--	10.7	15.6	2,170	0.17	28	
	09/12/2012	169	0.436	0.0027	< 0.20	585	0.135	10.7	14.3	2,470	0.42	51	
	01/28/2013	--	--	--	--	--	--	11.6	11.1	2,180	0.45	79	
	04/23/2013	102	0.193	0.0013	9.1	662	0.0576	11.4	9.2	2,270	0.42	104	
	07/16/2013	--	--	--	--	--	--	10.6	16.9	1,860	0.69	29	
	10/15/2013	--	--	--	--	--	--	10.5	13.9	2,230	0.85	-4	
	Dup (QC-1)	10/15/2013	--	--	--	--	--	10.5	13.9	2,230	0.85	-4	
	04/29/2014	126	0.248	< 0.0014	2.2	715	0.0586	10.6	8.6	2,360	0.76	-109	
	10/13/2014	--	--	--	--	--	--	10.4	13.9	1,870	0.82	-248	
	04/21/2015	113	0.33	< 0.0014	< 0.15	682	0.0742	11.2	9.1	2,400	0.58	-227	
	10/19/2015	--	--	--	--	--	--	11.5	14	1,800	5.07	-242	
04/21/2016	97.6	0.22	< 0.098	< 0.15	500	0.0515	10.9	11	1,470	0.33	--		
10/04/2016	--	--	--	--	--	--	11.1	14.9	1,580	0.16	-266		
PZ-21B	10/20/2004	200	0.037	0.085	< 0.031	1	1	8	16.9	376	0.57	20	
	Dup (QC-1)	10/20/2004	380	0.038	0.085	0.14	1	0.96	--	--	--	--	
	12/02/2004	220	0.041	0.091	0.19	1.9	1.2	7.6	10.7	365	0.72	58	
	01/12/2005	210	< 0.018	0.092	< 0.087	4.3	0.8	7.9	12	278	0.42	32	
	02/09/2005	210	< 0.018	0.11	< 0.031	4.3	0.62	7.7	10.9	402	0.64	26	
	03/09/2005	180	< 0.018	0.11	< 0.031	18	0.16	7.7	10.6	404	0.51	9	
	04/19/2005	190	< 0.018	0.13	0.44	18	0.21	7.9	14.9	421	0.62	59	
	Dup (QC-1)	04/19/2005	190	< 0.018	0.13	0.31	17	0.17	7.9	14.9	421	0.62	59
	07/06/2005	--	--	--	--	--	--	7.8	16.1	411	0.53	86	
	10/18/2005	200	0.09	0.13	< 0.078	1.9	2.1	10.7	15	394	0.53	41	
	01/10/2006	--	--	--	--	--	--	7.6	12	426	0.55	-66	
	Dup (QC-1)	01/10/2006	--	--	--	--	--	7.6	12	426	0.55	-66	
	04/12/2011	--	--	--	--	--	--	7.6	13.7	388	3.85	105	
	04/20/2006	170	< 0.05	0.13	< 0.088	22	0.029	7.4	13.7	412	0.68	-16	
	Dup (QC-1)	04/20/2006	170	< 0.05	0.14	< 0.088	22	0.017	7.4	13.7	412	0.68	-16
	07/19/2006	--	--	--	--	--	--	7.8	16.5	415	0.58	19	
	Dup (QC-1)	07/19/2006	--	--	--	--	--	7.8	16.5	415	0.58	19	
	04/26/2007	200	--	0.15	< 0.085	5.7	0.59	8	11.4	442	0.39	-47	
	04/09/2008	202	0.0994	0.1	1.1	5.4	0.362	7.5	10	448	0.5	-37	
	04/20/2009	211	< 0.005	0.164	< 0.085	15.1	0.236	8.9	11.4	483	0.38	-73	
04/06/2010	209	0.0101	0.167	< 0.20	11.2	0.119	7.9	13.5	475	0.43	62		
04/12/2011	190	< 0.0083	0.143	0.28	17.2	0.0512	7.6	13.7	388	3.85	105		
04/24/2012	197	0.0133	0.135	< 0.20	2.9	0.135	7.8	12.5	425	0.37	51		
04/23/2013	205	0.0159	0.161	< 0.15	2.4	0.711	7.8	10.6	434	0.53	136		
04/29/2014	--	--	--	--	--	--	7.6	10.1	426	0.61	-101		
04/21/2015	190	< 0.0129	0.139	< 0.15	4.8	--	7.6	10.9	473	0.48	-153		
04/21/2016	--	--	--	--	--	--	7.3	12.4	415	0.32	--		
MW-22	10/18/2004	420	0.29	0.21	< 0.031	5.7	1.9	7.3	16.9	1,870	0.81	50	
	12/01/2004	500	0.37	--	< 0.031	17	3.8	7.4	19.8	1,110	0.35	12	
	01/11/2005	500	0.39	0.14	0.16	14	3.6	7.5	12.5	2,130	0.37	9	
	02/08/2005	470	0.36	0.12	0.38	20	5.5	7.4	11.8	1,870	0.44	-13	
	03/09/2005	420	0.4	0.1	0.2	12	3.4	7.1	10.4	1,254	0.35	-18	
	04/19/2005	440	0.46	0.11	< 0.078	9.5	4.9	7.6	14.9	740	0.37	37	
	07/06/2005	--	--	--	--	--	--	7.5	15.5	2,020	0.38	53	
	10/18/2005	410	0.66	0.063	< 0.078	4.1	4.5	11.1	15.8	1,044	0.24	-5	
	01/10/2006	--	--	--	--	--	--	7.3	9.8	1,870	0.6	-84	
	04/19/2006	430	0.42	0.051	< 0.088	6	6.4	7.5	13.2	1,990	0.38	-90	
	07/19/2006	--	--	--	--	--	--	7.5	19.2	1,530	0.82	73	
	10/24/2006	420	0.53	0.061	< 0.20	3	5	7.5	13.2	1,980	0.29	16	
	04/25/2007	420	0.33	0.056	< 0.085	8	4.6	7.4	12.6	2,150	0.21	-37	
	10/09/2007	440	< 0.026	--	< 0.085	4.3	4	7.8	14.5	2,210	0.34	-40	
	Dup (QC-1)	10/09/2007	430	< 0.026	--	< 0.085	4.2	3.1	7.8	14.5	2,210	0.34	-40

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2016 Annual Update
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Sample Location	Sample Date	Laboratory Parameters (mg/L)						Field Parameters				
		Alkalinity	Iron, dissolved	Manganese, dissolved	Nitrite + Nitrate, total	Sulfate	Methane	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Oxidation / Reduction Potential (mV)
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)												
Groundwater Monitoring Wells												
Preventive Action Limit:		NS	0.15	0.025	2	125	NS	NS	NS	NS	NS	NS
Enforcement Standard:		NS	0.3	0.05	10	250	NS	NS	NS	NS	NS	NS
MW-22 (continued) <i>Dup (QC-1)</i>	04/09/2008	438	0.822	0.0607	0.98	4.8	2.89	7.2	10.2	2,740	0.32	-52
	04/09/2008	443	0.78	0.05	7.5	4.5	3.4	7.2	10.2	2,740	0.32	-52
	10/21/2008	428	0.469	0.0663	< 0.085	4.2	4.14	7.5	12.1	2,780	0.5	-7
	10/21/2008	427	0.466	0.0655	< 0.085	3.9	4.4	7.5	12.1	2,780	0.5	-7
	04/20/2009	450	0.462	0.0526	< 0.085	4.6	3.9	8.6	10.6	2,950	0.29	-82
	10/07/2009	450	0.551	0.0545	< 0.20	3.2	--	7.3	13	2,790	0.39	72
	04/06/2010	458	0.541	0.0536	< 0.20	3.9	3.33	7.6	12.1	2,790	0.25	59
	10/04/2010	443	0.455	0.0449	< 0.20	3.7	3.75	6.2	14.9	2,770	0.53	99
	04/11/2011	353	0.36	0.0472	< 0.20	5.2	2.33	7.4	12.7	2,520	3.07	43
	04/11/2011	358	0.363	0.0469	< 0.20	5.2	2.22	--	--	--	--	--
	10/03/2011	445	0.329	0.0519	< 0.20	3.5	3.08	7.3	15	2,670	2.13	84
	04/23/2012	439	0.256	0.0412	< 0.20	31.8	2.47	7.3	12.9	2,640	0.7	-20
	06/26/2012	--	--	--	--	--	--	7.1	16.2	2,550	0.55	-21
	09/13/2012	391	0.246	0.0503	0.51	2.7	4.13	7.5	12.9	2,670	0.48	112
	01/28/2013	--	--	--	--	--	--	7.4	11.4	2,420	0.47	105
	04/23/2013	443	0.261	0.0421	< 1.5	3.6	4.62	7.4	10.3	2,430	0.51	97
	07/16/2013	--	--	--	--	--	--	7.3	16.5	2,640	0.91	60
	10/15/2013	--	--	--	--	--	--	7.4	13.5	2,500	0.94	82
	04/29/2014	463	0.291	0.0366	0.34	23.5	5.33	7.3	10.6	2,550	1.07	-123
	10/13/2014	--	--	--	--	--	--	7.3	15.7	2,480	0.56	-152
	04/21/2015	434	0.413	0.0424	< 0.15	3.3	2.3	7.6	10	510	0.51	-184
	10/19/2015	--	--	--	--	--	--	7.7	13.2	2,740	6.01	-220
	04/21/2016	446	0.398	0.0422	< 0.15	3.1	1.4	7	12	2,810	0.3	--
04/21/2016	477	0.376	0.04	< 0.15	3.1	2	7	12	2,810	0.3	--	
10/04/2016	--	--	--	--	--	--	7.3	14	3,040	0.2	-213	
PZ-22B <i>Dup (QC-1)</i>	10/18/2004	220	0.024	0.073	< 0.031	1.3	0.35	7.8	14.3	394	0.34	-29
	12/01/2004	220	0.028	--	< 0.031	1.4	1.6	7.7	12.6	385	0.76	48
	01/11/2005	200	< 0.018	0.072	< 0.087	2	1.1	7.9	12.4	400	0.49	25
	02/08/2005	210	< 0.018	0.077	< 0.031	1.9	0.89	7.7	11.1	410	0.66	2
	03/09/2005	190	< 0.018	0.073	< 0.031	5.9	0.35	7.7	11	421	0.51	-14
	03/09/2005	190	< 0.018	0.075	0.65	5.7	0.39	7.7	11	421	0.51	-14
	04/19/2005	190	< 0.018	0.086	0.26	9	0.24	7.9	13.9	419	0.61	62
	07/06/2005	--	--	--	--	--	--	7.8	15	411	0.56	66
	10/18/2005	190	0.097	0.084	< 0.078	1.5	1.5	10.5	14.7	395	0.49	75
	10/18/2005	200	0.096	< 0.00040	< 0.078	1.4	1.1	--	--	--	--	--
	01/10/2006	--	--	--	--	--	--	7.6	10	421	0.48	-112
	04/19/2006	190	< 0.05	0.086	< 0.088	19	0.16	7.5	13.1	445	0.6	-66
	07/19/2006	--	--	--	--	--	--	7.8	15.3	419	0.51	19
	04/25/2007	200	< 0.050	0.094	< 0.085	5.3	0.59	8	12.3	438	0.37	-55
	04/09/2008	189	0.127	0.154	< 0.085	6.3	0.469	7.5	11.2	309	0.5	-43
	04/20/2009	211 MO	< 0.005	0.1	0.17	11.7	0.36	8.8	11.7	476	0.38	-87
	04/06/2010	214	0.0046	0.104	< 0.20	5.2	0.211	7.8	12.6	459	0.38	75
	04/12/2011	193	< 0.0083	0.101	< 0.20	12	0.14	7.5	13.1	390	3.36	29
	04/23/2012	186	0.0259	0.102	< 0.20	6.8	0.147	7.6	12.9	416	0.43	-51
	04/23/2013	228	< 0.014	0.11	< 0.15	5.6	0.376	7.7	11.2	436	0.53	82
	04/29/2014	--	--	--	--	--	--	7.6	11.7	449	1.41	-263
	04/21/2015	193	< 0.0129	0.096	< 0.15	4.7	--	7.6	10.7	510	0.51	-184
	04/21/2016	--	--	--	--	--	--	7.3	12.4	429	0.35	--
MW-23 Well Installed 9/15/2008 <i>Dup (QC-1)</i>	10/21/2008	238	1.45	0.385	< 0.085	< 0.51	7.21	7.5	16.7	569	0.35	28
	02/19/2009	9,080	1.48	0.408	< 0.085	4.7	4.65	8.1	5.2	579	0.58	49
	04/21/2009	247 MO	1.32	0.439	< 0.085	4.4	4.08	8.6	6	548	0.33	36
	10/08/2009	279	1.42	0.48	< 0.20	2.8	--	7.1	17.3	563	0.52	103
	10/08/2009	278	1.48	0.49	< 0.20	2.8	--	7.1	17.3	563	0.52	103
	11/12/2009	241	1.27	0.461	< 0.20	2.8	--	7.2	14	500	0.36	96
	04/07/2010	250	1.29	0.529	< 0.20	4.2	4.03	7.8	7.5	531	0.39	99
	04/12/2011	230	1.03	0.48	< 0.20	4.5	2.56	7.5	6.5	448	4.2	89
	04/24/2012	237	1.58	0.493	< 0.20	11.9	2.96	7.5	8.5	539	0.39	58
PZ-23 Well Installed 10/5/2009	10/08/2009	238	0.0139	0.25	< 0.20	3	--	7.3	16.4	521	0.39	0.83
	11/12/2009	240	0.855	0.0921	< 0.20	2.1	--	7.4	14.6	533	0.34	169
	04/07/2010	231	1.18	0.0765	< 0.20	3	5.52	7.8	8.4	580	0.45	105
	10/05/2010	242	0.704	0.066	< 0.20	3.3	6.57	6.1	17.4	613	0.67	167
	01/18/2011	230	0.758	0.0643	< 0.20	3.5	--	7.5	7.6	591	2.12	115
	04/12/2011	215	0.77	0.0646	< 0.20	12.6	4.1	7.5	7.9	607	3.66	101
	07/13/2011	232	0.603	0.0666	< 0.20	7.5	2.02	7.3	13.8	633	3	82
	10/04/2011	214	0.749	0.0685	< 0.20	< 2.0	4.22	7.6	17	538	2.27	119
	01/04/2012	228	0.657	0.0705	< 0.20	9.8	5.4	8	10.4	784	3.03	106

Table 7 - Groundwater Analytical Results - RNA Parameters

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We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Laboratory Parameters (mg/L)						Field Parameters					
		Alkalinity	Iron, dissolved	Manganese, dissolved	Nitrite + Nitrate, total	Sulfate	Methane	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Oxidation/Reduction Potential (mV)	
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)													
Groundwater Monitoring Wells													
Preventive Action Limit:		NS	0.15	0.025	2	125	NS	NS	NS	NS	NS	NS	
Enforcement Standard:		NS	0.3	0.05	10	250	NS	NS	NS	NS	NS	NS	
PZ-23 (continued)	04/24/2012	221	0.52	0.061	< 0.20	10.9	3.98	7.6	9	714	0.44	73	
	06/26/2012	200	0.401	0.0598	< 0.20	3.7	6.14	7	16.8	633	0.48	135	
	09/12/2012	229	0.688	0.0645	< 0.20	< 2.0	3.61	7.5	21.2	626	0.47	5	
	01/28/2013	--	--	--	--	--	--	7.5	9.62	627	0.57	95	
	04/24/2013	233	0.568	0.0598	< 0.15	7.7	3.67	7.6	8.2	683	0.47	119	
	07/17/2013	--	--	--	--	--	--	7.4	16.4	635	0.85	90	
	10/15/2013	--	--	--	--	--	--	7.4	16.3	579	1.02	87	
	04/30/2014	231	0.522	0.0626	< 0.15	6.8	3.28	7.5	7.4	638	2.78	96	
	07/21/2014	221	0.518	0.0662	< 0.15	4.8	4.53	7.4	15.5	639	0.72	-98	
	10/14/2014	231	0.494	0.0635	0.15	2.2	6.57	7.4	15.7	577	0.45	-151	
	04/22/2015	222	0.646	0.107	< 0.15	5.3	2.94	7.6	7	693	0.49	-125	
	Dup (QC-1)	04/22/2015	208	0.644	0.105	< 0.15	5.1	2.46	7.6	7	693	0.49	-125
	07/14/2015	235	0.599	0.111	< 0.15	2.8	2.95	7.7	15	412	1	-184	
	10/20/2015	243	0.712	0.101	< 0.15	< 2.0	--	7.7	16.8	511	0.53	-214	
	01/07/2016	227	0.462	0.0827	< 0.15	6.6	3.82	87	11.4	667	3.42	-152	
	04/21/2016	217	0.427	0.099	< 0.15	13	2.91	7.1	9.9	606	0.34	--	
07/14/2016	243	0.362	0.0876	< 0.15	4	2.21	7.2	15.3	601	0.45	--		
10/04/2016	234	0.481	0.0932	< 0.15	< 2	3.03	7.4	17.5	615	0.16	-195		
MW-24	01/29/2013	487	3.47	0.519	< 0.20	107	0.0635	7.2	11	3,220	0.68	115	
	04/24/2013	454	4.25	0.628	< 0.15	106	0.139	7.1	11.7	3,230	0.86	135	
	07/17/2013	542	6.85	0.353	< 0.75	119	0.151	7	17.4	3,650	0.84	108	
	10/15/2013	512	6.4	0.27	< 0.15	117	131	7	12.7	4,220	0.87	111	
	04/29/2014	530	3.38	0.253	< 0.15	122	0.0808	7	11.6	2,950	0.66	-58	
	10/14/2014	--	--	--	--	--	--	6.9	12.9	3,090	1.18	-79	
	04/22/2015	465	2.81	0.128	< 0.15	112	0.0439	7	10	3,880	1.11	-24	
	10/20/2015	504	2.08	0.108	< 0.15	95.1	0.0246	7.2	13.6	2,090	2	-96	
	04/22/2016	442	0.708	0.117	< 0.15	85.4	0.0194	7	11	1,560	0.82	--	
	10/05/2016	473	0.738	0.0938	< 0.15	88.3	< 1.4	7.2	14.7	1,399	1.93	56	
MW-25	01/28/2013	252	0.0609	0.0386	< 0.20	26.7	0.585	8.5	10.8	1,191	0.47	98	
	04/24/2013	222	0.107	0.0624	< 0.15	25	0.541	9.4	9.5	1,129	0.51	164	
	07/16/2013	247	0.0959	0.0444	< 0.15	16.6	0.296	8	17.2	1,174	0.62	39	
	10/15/2013	248	0.17	0.044	< 0.15	23	1,130	8	14	1,208	0.69	49	
	04/29/2014	294	0.085	0.0044	< 0.15	25.7	0.665	10.2	9.2	1,202	1.4	-120	
	10/13/2014	--	--	--	--	--	--	10.1	13.6	1,006	0.46	-184	
	04/21/2015	239	0.113	< 0.0014	< 0.15	42.9	1.36	11.3	9.1	1,424	1.25	-151	
	10/20/2015	316	0.134	0.0011	< 0.15	45.3	1.52	12.6	12.5	1,341	1.77	-158	
	04/21/2016	385	0.0763	0.00017	1	59.9	0.876	11.9	12.2	2,500	0.27	--	
	10/04/2016	425	0.187	0.00024	< 0.15	42.7	0.899	12.6	15.1	3,190	0.16	-321	
Dup (QC-1)	10/04/2016	417	0.198	0.0002	< 0.15	42.8	1.62	12.6	15.1	3,190	0.16	-321	
MW-26	04/22/2015	252	0.0665	0.379	< 0.15	41.4	2.92	7.5	8.1	1,263	0.42	-50	
	07/14/2015	284	0.378	0.317	< 0.15	21.4	2	7.7	15.8	1,046	0.77	-127	
	10/19/2015	284	0.723	0.265	< 0.15	6.7	3.29	7.7	18	733	0.33	-205	
	01/07/2016	319	1.14	0.293	< 0.15	15.4	7.95	8.9	12.2	1,034	1.22	-154	
	04/22/2016	390	1.3	0.269	< 0.15	72.8	1.44	7	9.5	2,200	0.36	--	
	07/14/2016	341	0.942	0.165	< 0.15	28.9	3.58	7.4	15.9	1,397	0.31	--	
	10/05/2016	311	1.09	0.201	< 0.15	13.7	3.09	7.6	18.6	1,139	0.2	-195	
PZ-26	04/30/2014	278	0.018	0.188	< 0.15	6.5	14.9	7.1	9.5	764	1.16	50	
MW-27	04/22/2015	222	0.511	0.105	< 0.15	7	2.03	7.6	7.4	800	0.51	-107	
	07/14/2015	253	0.829	0.124	< 0.15	2.6	3.13	7.6	17.5	821	0.6	-153	
	07/14/2015	253	0.803	0.122	< 0.15	2.6	3.84	7.6	17.5	821	0.6	-153	
	10/20/2015	253	0.978	0.131	< 0.15	< 2.0	--	7.6	17	617	0.44	-185	
	01/07/2016	248	0.837	0.12	< 0.15	4.3	4.28	8.5	10	798	1.32	-134	
	04/22/2016	227	0.704	0.116	< 0.15	9.2	1.64	7.2	8.2	782	0.58	--	
	07/14/2016	252	0.675	0.108	< 0.15	< 2	2.09	7.3	17.2	767	0.4	--	
	07/14/2016	251	0.657	0.108	< 0.15	< 2	3.18	7.3	17.2	767	0.4	--	
Dup (QC-1)	10/05/2016	239	0.75	0.114	< 0.15	< 2	2.75	7.2	18.2	780	0.27	-211	
PZ-27	04/22/2015	229	0.152	0.16	< 0.15	3.1	2.82	7.4	8.4	743	0.5	-58	
	07/14/2015	233	0.681	0.165	< 0.15	2.4	3.38	7.5	16.2	738	0.5	-141	
	10/20/2015	252	1.08	0.144	< 0.15	< 2.0	--	7.6	16	570	0.36	-168	
	10/20/2015	253	1.01	0.139	< 0.15	< 2.0	--	7.6	16	570	0.36	-168	
	01/07/2016	241	0.935	0.123	< 0.15	3.9	3.94	8.7	10.2	656	2.35	-143	
	04/22/2016	220	0.831	0.118	< 0.15	8.8	3.2	7.2	8.9	641	0.31	--	
	07/14/2016	239	0.785	0.0982	< 0.15	2.4	2.98	7.2	15.5	627	0.44	--	
	10/05/2016	233	0.887	0.106	< 0.15	< 2	3.53	7.3	17	653	0.28	-203	

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We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Laboratory Parameters (mg/L)						Field Parameters				
		Alkalinity	Iron, dissolved	Manganese, dissolved	Nitrite + Nitrate, total	Sulfate	Methane	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Oxidation / Reduction Potential (mV)
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)												
Groundwater Monitoring Wells												
Preventive Action Limit:		NS	0.15	0.025	2	125	NS	NS	NS	NS	NS	NS
Enforcement Standard:		NS	0.3	0.05	10	250	NS	NS	NS	NS	NS	NS
MW-28 <i>Dup (QC-1)</i>	04/22/2015	188	0.0646	0.149	< 0.15	12	2.47	8.3	6.4	2,430	0.82	-99
	07/14/2015	210	0.224	0.15	< 0.15	5.3	1.09	8.2	16.7	1,640	0.54	-190
	10/20/2015	233	0.322	0.125	< 0.15	3.7	3.31	8.3	17.9	1,193	0.45	-206
	01/07/2016	212	0.335	0.124	< 0.15	5.4	3.66	9	12.1	1,213	2.41	-182
	01/07/2016	217	0.336	0.123	< 0.15	5.1	4.48	9	12.1	1,213	2.41	-182
	04/22/2016	174	0.197	0.214	< 0.15	19.8	1.92	7.5	8.9	3,240	0.34	--
	07/14/2016	210	0.566	0.19	< 0.15	4.8	1.57	7.8	16.1	1,900	0.34	--
	10/04/2016	219	0.556	0.174	< 0.15	3.9	2.65	7.9	18.9	1,840	0.18	-200
PZ-28	04/22/2015	302	0.224	0.059	< 0.15	4.8	5.48	7.8	7.9	900	0.42	-116
Product in well, not sampled	07/14/2015	--	--	--	--	--	--	--	--	--	--	--
Product in well, not sampled	10/19/2015	--	--	--	--	--	--	--	--	--	--	--
Product in well, not sampled	01/07/2016	--	--	--	--	--	--	--	--	--	--	--
Product in well, not sampled	04/21/2016	--	--	--	--	--	--	--	--	--	--	--
Product in well, not sampled	07/14/2016	--	--	--	--	--	--	--	--	--	--	--
Product in well, not sampled	10/05/2016	--	--	--	--	--	--	--	--	--	--	--
QCFB	02/20/2002	--	--	< 0.00042	0.44	--	--	--	--	--	--	--
	05/13/2002	--	--	< 0.00035	0.1	--	--	--	--	--	--	--
	08/20/2002	--	--	< 0.00035	0.31	--	--	--	--	--	--	--
	11/14/2002	--	--	< 0.00035	0.27	--	--	--	--	--	--	--
	02/20/2003	--	--	< 0.00045	< 0.135	--	--	--	--	--	--	--
	10/19/2004	< 8.3	< 0.018	0.0013	< 0.031	< 0.36	< 0.01	--	--	--	--	--
	12/01/2004	--	--	--	--	--	--	8.7	3.4	1	9.1	26
	12/02/2004	< 8.3	< 0.018	0.0012	< 0.031	< 0.36	< 0.010	--	--	--	--	--
	01/13/2005	< 8.3	< 0.018	< 0.00028	< 0.087	< 0.4	< 0.010	9.3	4.8	3	9.62	82
	02/10/2005	< 8.3	< 0.018	< 0.00028	< 0.031	< 0.36	< 0.01	8.7	4	2	12.7	137
	03/10/2005	< 8.3	< 0.018	< 0.00028	< 0.031	< 0.36	< 0.010	8.4	24.7	3	8.74	62
	04/20/2005	< 6.3	< 0.018	< 0.00028	0.18	< 0.83	< 0.010	8.7	19.3	2	8.4	176
	07/07/2005	--	--	--	--	--	--	8.1	23.8	2	6.1	73
	10/19/2005	< 6.3	< 0.04	0.00097	< 0.078	< 0.83	< 0.01	11.2	16.6	1	6.33	40
	01/12/2006	--	--	--	--	--	--	9	6.8	1	8.17	70
	04/19/2006	< 9.7	< 0.05	< 0.00022	< 0.088	< 0.77	< 0.01	5.9	17.2	1	7.6	211
	07/20/2006	--	--	--	--	--	--	8.1	26.9	2	6.35	25
	10/24/2006	< 9.7	< 50	< 0.22	< 0.20	< 0.77	< 10	9.1	11.4	1	6.23	132
	04/26/2007	--	--	--	--	--	--	9.3	12.8	1	7.14	125
	10/09/2007	< 0	< 0.026	--	< 0.085	< 0.51	< 10	9.7	28.6	2	5.36	124
	04/09/2008	< 0	0.009	0.00055	< 0.085	< 0.51	< 2	8.1	11.4	3	8.23	107
	10/21/2008	< 10	0.0076	0.00035	< 0.085	< 0.51	< 0.002	8.7	16.5	1	8.7	42
	04/21/2009	< 10	< 0.005	< 0.00024	< 0.085	< 0.51	< 0.002	9.5	11.7	2	7.35	-52
	10/08/2009	< 10	< 0.0062	< 0.000074	< 0.20	2	--	7.5	15.3	1	7.81	159
	04/07/2010	< 10	0.0042	0.00012	< 0.20	< 0.20	--	7.6	13.7	1	8.6	141
	10/05/2010	< 10	< 0.0083	< 0.00014	< 0.20	< 0.20	< 0.00093	6.2	17	2	8.05	250
	01/18/2011	< 10	< 0.0083	< 0.00014	< 0.20	< 0.20	--	7.5	11.2	4	9.94	157
	04/12/2011	6,360	< 0.0083	< 0.00014	< 0.20	< 0.20	< 0.00093	7.8	6.2	2	11.05	136
	07/13/2011	< 10	< 0.0033	< 0.000098	< 0.20	< 0.20	< 0.00093	8.6	25	2	7.58	-54
	10/03/2011	< 10	< 0.0033	< 0.000098	< 0.20	< 0.20	< 0.00064	7.8	29.1	2	6.1	149
	01/04/2012	< 10	< 0.0033	< 0.000098	< 0.20	< 0.20	< 0.00064	9.3	16.1	0.5	8.02	112
	04/24/2012	< 10	0.0197	< 0.00032	< 0.20	< 0.20	< 0.00064	7.4	17.9	4	6.8	105
06/26/2012	< 10	< 0.0226	< 0.00014	< 0.20	< 0.20	< 0.00064	--	--	--	--	--	
09/13/2012	< 10	0.0142	0.00063	< 0.20	< 0.20	< 0.00064	5.5	21.5	7	8.01	202	
01/29/2013	< 8.6	< 0.0226	0.0002	< 0.20	< 0.20	< 0.00064	6.1	6.2	3	9	116	
04/24/2013	8.7	< 0.014	< 0.0006	< 0.15	< 0.20	< 0.00064	7.7	13.2	4	7.6	161	
07/16/2013	< 8.6	< 0.014	0.0016	< 0.15	< 0.20	< 0.00064	7.2	27.4	3	7.6	150	
10/15/2013	< 8.6	0.00078	< 0.00011	< 0.15	< 0.20	< 0.64	7.2	19.4	3	7.9	148	
04/30/2014	< 7.5	< 0.0129	< 0.0014	< 0.15	< 0.20	< 0.0014	7.3	13.4	4	5.68	74	

Table 7 - Groundwater Analytical Results - RNA Parameters

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Sample Location	Sample Date	Laboratory Parameters (mg/L)						Field Parameters				
		Alkalinity	Iron, dissolved	Manganese, dissolved	Nitrite + Nitrate, total	Sulfate	Methane	pH (standard units)	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Oxidation / Reduction Potential (mV)
Wisconsin Groundwater Quality Standards (Wisconsin Administrative Code NR 140, July 2015)												
Groundwater Monitoring Wells												
Preventive Action Limit:		NS	<i>0.15</i>	<i>0.025</i>	<i>2</i>	<i>125</i>	NS	NS	NS	NS	NS	NS
Enforcement Standard:		NS	0.3	0.05	10	250	NS	NS	NS	NS	NS	NS
QCFB (continued)	04/21/2015	< 7.5	< 0.0129	< 0.0014	< 0.15	< 2.0	< 0.0014	7.1	24.5	5	3.45	-150
	07/14/2015	< 7.5	< 0.010	< 0.00018	< 0.15	< 2.0	< 0.0014	8.6	18	5	9.8	--
	10/19/2015	< 7.5	< 0.0137	< 0.00024	< 0.15	< 2.0	< 0.0014	7.9	19.5	5	15.25	-95
	01/07/2016	< 7.5	< 0.0137	< 0.00024	< 0.15	< 2	< 0.0014	8.5	6.1	3	2.66	--
	04/21/2016	< 7	< 0.0066	< 0.00011	< 0.15	< 2	< 0.0014	7.7	18.7	16	6.74	--
	07/14/2016	< 7	< 0.01	< 0.00018	< 0.15	< 2	< 0.0014	7.9	27.5	32	7.21	--
	10/04/2016	< 7	0.018	0.00019	< 0.15	< 2	< 0.0014	9.5	21.1	2	5.71	-117

[PAR/UTB 11/05][PAR/UTB 9/06][RJG/UTB 10/07][RMW/BGH 6/08][RJG/RMW 1/09][BGHRJG 3/09][RMN/BGH 5/10][AMMKJB 2/11][KJB/RJG 5/11][BGH/BGH 8/11]
 [CJ/MAMM 01/12][AMM/JW 5/12][AMM/ANS 7/12][AMM/RJG 10/12][ETE/RJG 3/13][ETOR/RJG 5/13][PMH/NDK 9/13][ETE/NDK 10/13][U-ECK 6/14][U-KLT 1/30/15, C-PMH 2/15][U-AJS, C-PMH12/14/15][Format ECK 4/11/16][U-ECK 2/2/17, C-SGW 2/2/17, C-KJS 2/7/17]

Notes:

Italic Constituent concentrations that attain or exceed a preventive action limit (PAL) are italicized.
BOLD Constituent concentrations that attain or exceed an enforcement standard (ES) are bold.

< : Constituent was not identified above the limit of detection shown.
 -- : Analysis was not performed.

Dup (QA/QC): Field Duplicate sample, field identification indicated in parentheses.

mg/L : Milligrams per liter.

*: Laboratory data for wells MW-8, MW-9, and MW-10 were originally presented in the March 25, 2002 URS SI report

nd : all components of total calculation were non-detects

NS : NR 140 groundwater quality standard has not been established.

°C : Degrees Celsius.

µmhos/cm : Micromhos per centimeter.

mV : Millivolts.

mg/L : Milligrams per liter.

Nitrite + Nitrate, Total was analyzed 2009 to 2016 as "Nitrate as N" (analytic method EPA 300.0)

See lab reports for data qualifiers

NR 140 groundwater quality standard revised effective July 2015. Data prior to this date are also compared to revised 2015 standards.



Table 8 - Groundwater Concentration Trends Summary - Benzene and Naphthalene
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Area	Well Location	Well	Benzene vs. Time				Naphthalene vs. Time				Benzene vs. Groundwater Elevation		Naphthalene vs. Groundwater Elevation	
			All Data R ² (coefficient of determination)	All Data General Trend	Last 5 Years R ² (coefficient of determination)	Last 5 Years General Trend	All Data R ² (coefficient of determination)	All Data General Trend	Last 5 Years R ² (coefficient of determination)	Last 5 Years General Trend	All Data R ²	Last 5 Years R ²	All Data R ²	Last 5 Years R ²
Area 1	Lower Till	MW-02R	0.0002	Flat	0.0068	Flat	0.0324	Flat	0.5574	Decreasing	0.2514	0.2924	0.00008	0.0031
		MW-12R	0.3068	Increasing	0.3925	Decreasing	0.2787	Increasing	0.0536	Flat	0.1572	0.1317	0.1758	0.4411
		MW-13R	0.0373	Flat	0.4672	Decreasing	0.5098	Increasing	0.0849	Flat	0.0997	0.2197	0.0632	0.0158
		MW-19	0.0152	Flat	0.1623	Decreasing	0.4212	Decreasing	0.0512	Decreasing	0.0552	0.0594	0.0486	0.2628
		MW-20	0.0335	Flat	0.5921	Decreasing	0.3845	Flat	0.1678	Flat	0.0231	0.0379	0.1589	0.0412
		MW-21	0.8292	Decreasing	0.1580	Flat	0.0557	Flat	0.0181	Flat	0.3165	0.6228	0.0177	0.0089
		MW-22	0.6596	Flat	0.2258	Flat	0.2061	Flat	0.0077	Flat	0.2006	0.0895	0.0656	0.0227
		MW-24	0.4119	Decreasing*	0.4119	Decreasing*	ND	ND	ND	ND	0.4293	0.4293	NA	NA
	MW-25	0.5904	Increasing	0.5904	Increasing	0.8106	Increasing	0.8106	Increasing	0.00009	0.00009	0.0282	0.0282	
	Bedrock	PZ-20B	0.8349	Decreasing	0.1380	Flat*	0.0259	Flat	0.7668	Increasing	0.6174	0.2864	0.0142	0.1085
PZ-21B		0.7206	Decreasing	ND	ND	0.0023	Flat	0.1922	Increasing	0.4157	NA	0.0248	0.0007	
PZ-22B		0.8698	Decreasing	0.0426	Flat	0.0019	Flat	0.0884	Flat	0.6175	0.0017	0.0376	0.0313	
Area 2	Water Table	MW-26	0.0439	Increasing	0.0439	Increasing	0.1841	Decreasing	0.1841	Decreasing	0.0021	0.0021	0.0464	0.0464
		MW-27	0.6155	Increasing	0.6155	Increasing	0.7314	Increasing	0.7314	Increasing	0.3834	0.3834	0.1426	0.1426
	Upper Weathered Bedrock	PZ-23	0.0208	Flat	0.2229	Flat	0.0998	Flat	0.3681	Decreasing	0.0004	0.1714	0.2268	0.4620
		PZ-27	0.6453	Increasing	0.6453	Increasing	0.0005	Flat	0.0005	Flat	0.0444	0.0444	0.0089	0.0089

[O: EDP 2/16/17, C/U: ANS 2/17/17, C: EDP 2/21/17]

Notes:

ND = all data is non-detect

NA = not applicable, contaminant vs. groundwater R² listed as NA if all data is ND

1. Non-detect results were included in the regression plots using the full reporting limit (e.g., <0.41 = 0.41)

2. If > or equal to 50% of the data used for trend analysis is non-detect, the trend is marked with an *.

3. If -0.0001 < trendline slope < 0.0001 general trend is considered Flat

4. If trendline slope < or equals to -0.0001 general trend is considered Decreasing

5. If trendline slope > or equals to 0.0001 general trend is considered Increasing

6. Data from last five years includes any data collected from the beginning of 2011 through the end of 2016. If all data for a given well was only collected during the last five years only "All Data" is listed on the table.

Table 9 - NAPL Observations

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Location	Date	NAPL Thickness ¹ (ft)	NAPL Recovered After Measurement (gal.)	Method of NAPL Observation				
				Visual inspection of purge water and groundwater sample	Visual inspection of tubing used for sample collection	Oil / Water Interface Probe (surface reading)	Oil / Water Interface Probe (bottom reading)	Bailer sent to bottom of well
MW-02R	04/23/2012	0.00	--	--	--	--	--	--
	04/23/2013	0.00	--	--	--	--	--	--
	04/29/2014	0.00	--	--	--	--	--	--
	04/21/2015	0.00	--	--	--	--	--	--
	04/21/2016	0.00	--	--	--	--	--	--
	10/04/2016	0.00	--	--	--	--	--	--
MW-12R	10/14/2011	--	--	--	--	ND,N	ND,N	--
	04/23/2012	0.00	--	--	--	--	--	--
	04/24/2013	0.00	--	--	--	--	--	--
	04/29/2014	0.00	--	--	--	--	--	--
	04/21/2015	0.00	--	--	--	--	--	--
	04/21/2016	0.00	--	--	--	--	--	--
	10/04/2016	0.00	--	--	--	--	--	--
PZ-12B	10/14/2011	--	--	--	--	ND,N	ND,N	--
	04/21/2016	0.00	--	--	--	--	--	--
MW-13R	04/23/2012	0.00	--	--	--	--	--	--
	04/23/2013	0.00	--	--	--	--	--	--
	04/29/2014	0.00	--	--	--	--	--	--
	04/21/2015	0.00	--	--	--	--	--	--
	04/21/2016	0.00	--	--	--	--	--	--
	10/04/2016	0.00	--	--	--	--	--	--
MW-19	04/23/2012	0.00	--	--	--	--	--	--
	04/23/2013	0.00	--	--	--	--	--	--
	04/29/2014	0.00	--	--	--	--	--	--
	04/21/2015	0.00	--	--	--	--	--	--
	04/21/2016	0.00	--	--	--	--	--	--
	10/04/2016	0.00	--	--	--	--	--	--
MW-20	10/14/2011	--	--	--	--	ND,N	ND,N	--
	04/23/2012	0.20	--	--	--	--	--	--
	06/26/2012	0.20	--	--	--	--	--	--
	09/12/2012	0.10	--	--	--	--	--	--
	01/28/2013	0.20	--	--	--	--	--	--
	04/23/2013	0.10	--	--	--	--	--	--
	07/16/2013	0.10	--	--	--	--	--	--
	10/15/2013	0.05	--	--	--	--	--	--
	04/29/2014	0.10	--	--	--	--	--	--
	04/29/2014	0.00	--	--	--	--	--	--
	04/21/2015	0.00	--	--	--	--	--	--
	10/19/2015	0.15	--	--	--	--	--	--
	04/21/2016	0.20	--	--	--	--	--	--
	10/04/2016	0.00	--	--	--	--	--	--
PZ-20B	04/21/2016	0.00	--	--	--	--	--	--

Table 9 - NAPL Observations

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Location	Date	NAPL Thickness ¹ (ft)	NAPL Recovered After Measurement (gal.)	Method of NAPL Observation				
				Visual inspection of purge water and groundwater sample	Visual inspection of tubing used for sample collection	Oil / Water Interface Probe (surface reading)	Oil / Water Interface Probe (bottom reading)	Bailer sent to bottom of well
MW-21	10/14/2011	--	--	--	--	ND,N	less than 1-foot	--
	10/20/2011	--	--	--	--	oil present, no meas.	--	--
	04/23/2012	0.25	--	--	--	--	--	--
	06/26/2012	0.25	--	--	--	--	--	--
	09/12/2012	0.35	--	--	--	--	--	--
	01/28/2013	0.20	--	--	--	--	--	--
	04/23/2013	0.25	--	--	--	--	--	--
	07/06/2013	0.20	--	--	--	--	--	--
	07/16/2013	0.20	--	--	--	--	--	--
	10/15/2013	0.25	--	--	--	--	--	--
	04/29/2014	0.38	--	--	--	--	--	--
	10/13/2014	0.35	--	--	--	--	--	--
	04/21/2015	0.25	--	--	--	--	--	--
	10/19/2015	0.25	--	--	--	--	--	--
04/21/2016	0.25	--	--	--	--	--	--	
10/04/2016	0.25	--	--	--	--	--	--	
PZ-21B	10/14/2011	--	--	--	--	ND,N	ND,N	--
	04/21/2016	0.00	--	--	--	--	--	--
MW-22	10/14/2011	--	--	--	--	ND,N	ND,N	--
	04/23/2012	0.00	--	--	--	--	--	--
	04/23/2013	0.00	--	--	--	--	--	--
	04/29/2014	0.00	--	--	--	--	--	--
	04/21/2015	0.00	--	--	--	--	--	--
	04/21/2016	0.00	--	--	--	--	--	--
10/04/2016	0.00	--	--	--	--	--	--	
PZ-22B	10/14/2011	--	--	--	--	ND,N	ND,N	--
	04/21/2016	0.00	--	--	--	--	--	--
MW-23	04/23/2012	0.00	--	--	--	--	--	--
	01/07/2016	0.00	--	--	--	--	--	--
PZ-23	10/08/2009	--	--	N	N	--	--	--
	11/12/2009	--	--	N	N	--	--	--
	02/02/2010	--	--	--	--	ND, N	ND, N	N
	04/07/2010	--	--	N	N	ND, N	ND, N	--
	10/05/2010	--	--	N	N	ND, N	ND, N	--
	01/18/2011	--	--	N	N	--	--	--
	04/11/2011	--	--	N	N	ND, N	ND, N	--
	07/13/2011	--	--	N	N	ND, N	ND, N	--
	10/04/2011	--	--	N	N	ND, N	ND, N	--
	10/14/2011	--	--	--	--	ND, N	ND, N	--
	01/04/2012	--	--	--	--	ND, N	ND, N	--
	04/23/2012	0.00	--	--	--	--	--	--
	06/26/2012	0.00	--	--	--	--	--	--
	09/12/2012	0.00	--	--	--	--	--	--
	04/24/2013	0.00	--	--	--	--	--	--
	04/29/2014	0.00	--	--	--	--	--	--
	04/21/2015	0.00	--	--	--	--	--	--
	01/07/2016	0.00	--	--	--	--	--	--
04/21/2016	0.00	--	--	--	--	--	--	
07/14/2016	0.00	--	--	--	--	--	--	
10/04/2016	0.00	--	--	--	--	--	--	

Table 9 - NAPL Observations
2016 Annual Update
We Energies Appleton Former Manufactured Gas Plant Site

Location	Date	NAPL Thickness ¹ (ft)	NAPL Recovered After Measurement (gal.)	Method of NAPL Observation				
				Visual inspection of purge water and groundwater sample	Visual inspection of tubing used for sample collection	Oil / Water Interface Probe (surface reading)	Oil / Water Interface Probe (bottom reading)	Bailer sent to bottom of well
MW-24	01/29/2013	0.00	--	--	--	--	--	--
	04/24/2013	0.00	--	--	--	--	--	--
	04/21/2016	0.00	--	--	--	--	--	--
	10/05/2016	0.00	--	--	--	--	--	--
MW-25	01/28/2013	0.00	--	--	--	--	--	--
	04/24/2013	0.00	--	--	--	--	--	--
	04/21/2016	0.00	--	--	--	--	--	--
	10/04/2016	0.00	--	--	--	--	--	--
MW-26	04/21/2015	0.00	--	--	--	--	--	--
	07/14/2015	0.00	--	--	--	--	--	--
	10/19/2015	0.00	--	--	--	--	--	--
	01/07/2016	0.00	--	--	--	--	--	--
	04/22/2016	0.00	--	--	--	--	--	--
	07/14/2016	0.00	--	--	--	--	--	--
	10/05/2016	0.00	--	--	--	--	--	--
PZ-26	04/29/2014	0.30	--	--	--	--	--	--
	07/21/2014	NM	--	--	--	--	--	--
	10/13/2014	4.8	--	--	--	--	--	--
	01/28/2015	10.55	--	--	--	--	--	--
	04/21/2015	4.5	1.0	--	--	--	--	--
	07/14/2015	6.5	1.0	--	--	--	--	--
	10/19/2015	3.6	0.8	--	--	--	--	--
	01/07/2016	4.5	0.5	--	--	--	--	--
	04/21/2016	4.5	0.75	--	--	--	--	--
	10/05/2016	4.5	0.75	--	--	--	--	--
MW-27	04/21/2015	0.00	--	--	--	--	--	--
	07/14/2015	0.00	--	--	--	--	--	--
	10/19/2015	0.00	--	--	--	--	--	--
	01/07/2016	0.00	--	--	--	--	--	--
	04/21/2016	0.00	--	--	--	--	--	--
	07/14/2016	0.00	--	--	--	--	--	--
	10/04/2016	0.00	--	--	--	--	--	--
PZ-27	04/21/2015	0.00	--	--	--	--	--	--
	07/14/2015	0.00	--	--	--	--	--	--
	10/19/2015	0.00	--	--	--	--	--	--
	01/07/2016	0.00	--	--	--	--	--	--
	04/22/2016	0.00	--	--	--	--	--	--
	07/14/2016	0.00	--	--	--	--	--	--
	10/05/2016	0.00	--	--	--	--	--	--
MW-28	04/21/2015	0.00	--	--	--	--	--	--
	07/14/2015	0.00	--	--	--	--	--	--
	10/19/2015	0.00	--	--	--	--	--	--
	01/07/2016	0.00	--	--	--	--	--	--
	04/22/2016	0.00	--	--	--	--	--	--
	07/14/2016	0.00	--	--	--	--	--	--
	10/04/2016	0.00	--	--	--	--	--	--

Table 9 - NAPL Observations

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Location	Date	NAPL Thickness ¹ (ft)	NAPL Recovered After Measurement (gal.)	Method of NAPL Observation				
				Visual inspection of purge water and groundwater sample	Visual inspection of tubing used for sample collection	Oil / Water Interface Probe (surface reading)	Oil / Water Interface Probe (bottom reading)	Bailer sent to bottom of well
PZ-28	04/21/2015	0.00	--	--	--	--	--	--
	07/14/2015	0.35	--	--	--	--	--	--
	10/19/2015	0.45	--	--	--	--	--	--
	01/07/2016	0.45	--	--	--	--	--	--
	04/21/2016	0.25	--	--	--	--	--	--
	07/14/2016	0.30	--	--	--	--	--	--
	10/04/2016	0.25	--	--	--	--	--	--

[BGH/RMN 5/10][AMM/KJB 02/11][NDK/BGH 08/11][CJM/AMM 01/12][AMM/JJW 5/12][AMM/ANS 7/12][AMM/NDK10/12][ETE/RJG 3/13] [ETO/RJG 5/13] [NDK/RJG 9/13][ETE/NDK 10/13][U-AJS 6/14][U-KLT 1/30/15, C-PMH 2/15][U-PMH 11/15, C-KLT 12/8/15 U:KJS 2/9/17; C: EMS 2/10/17]

Notes:

- 1: Starting in April 2012, NAPL thickness was measured with weighted tape sent to bottom of well.
- N: No Visible Evidence in water or on equipment (e.g., tubing, probe, bailer).
 - No reading
- ND: No detectible NAPL

Table 10 - Soil Gas Sample Results
2016 Annual Report
We Energies Appleton Former Manufactured Gas Plant Site

Field Sample ID ^(b)	Sample Location	Screened Interval (ft bgs)	Sample Date	Volatile Organic Compounds					Organics & Inorganics			ppbRae ¹ Total VOC with 10.6 eV Lamp (ppbv)
				Benzene (ug/m3)	Ethylbenzene (ug/m3)	Naphthalene (ug/m3)	Toluene (ug/m3)	Xylenes, Total (ug/m3)	Carbon Dioxide (mol %)	Methane (mol %)	Oxygen (mol %)	
Residential Vapor Risk Screening Level (VRSL) for Sub-Slab and Shallow Soil Gas^(a)				120	370	28	170,000	3,300	NS	NS	NS	NS
041415007	SV01D	5.8 - 6.3	4/14/2015	4.2	7.9	2.9	310	33	0.67	0.76	1.34	--
071515006	SV01D	5.8-6.3	7/15/2015	0.44 J	0.30 J	0.63 J	2.3	1.5 J	7.41	1.42	2.88	--
041415008	SV01S	2.8 - 3.3	4/14/2015	8.1	11	4.2	410	46	0.21	< 0.02	15.5	--
071515007	SV01S	2.8-3.3	7/15/2015	0.44 J	0.26 J	0.83 J	1.2 J	1.5 J	3.59	< 0.10 U	12.1	--
041415005	SV02D	5.3 - 5.8	4/14/2015	1.9	3	3.2	70	16	0.44	< 0.02	13.4	--
071515004	SV02D	5.3-5.8	7/15/2015	0.42 J	0.81 J	2.1	1.6	5.5	3.91	< 0.10 U	1.48	--
041415006	SV02S	2.3 - 2.8	4/14/2015	1.4	2.1	3.1	63	11	0.11	< 0.02	15.5	--
071515005	SV02S	2.3-2.8	7/15/2015	0.65 J	0.35 J	1.2 J	1.8	1.8 J	6.39	< 0.10 U	5.03	--
041415003	SV03D	5.3 - 5.8	4/14/2015	14	12	3.9	100	58	0.55	10.4	10.2	--
071515002	SV03D	5.3-5.8	7/15/2015	0.48 J	2.5	3.4	5.6	14	6.04	3.22	7.12	--
071515003	DUP01 (SV03D)	5.3-5.8	7/15/2015	0.51 J	2.4	3.4	5.8	14	5.99	3.19	7.43	--
041415004	SV03S	2.3 - 2.8	4/14/2015	10	8.5	3.5	61	41	0.32	0.43	15.6	--
041415001	SV04	3.8 - 4.3	4/14/2015	0.56 J	3.1	1.9	6.8	16	0.14	< 0.02	16.8	--
041415002	DUP01 (SV04)	3.8 - 4.3	4/14/2015	0.49 J	3.1	1.7 J	7.1	16	0.12	< 0.02	17	--
071515001	SV04	3.8-4.3	7/15/2015	0.28 J	0.38 J	3.3	1.6	2.4 J	0.736	< 0.10 U	16	--
091015002	SS01	sub-slab	9/10/2015	2.3	2	1.1 J	8.6	8.6	0.09	< 0.10	17.3	0.0
091015001	SS02	sub-slab	9/10/2015	1.0 J	0.96 J	1.7 J	4.8	4.5 J	< 0.08	< 0.10	17.5	0.0
091015003	SS03	sub-slab	9/10/2015	8.4	7.6	2.1	31	33	< 0.08	< 0.10	17.4	0.0
091015004	SS04	sub-slab	9/10/2015	3.2	1.8	2.9	9.6	8.5	< 0.08	< 0.10	17.3	21
091015005	SS05	sub-slab	9/10/2015	10	6.7	1.7 J	40	26	< 0.08	< 0.10	17.5	1,090
--	North Elevator Shaft		9/10/2015	--	--	--	--	--	--	--	--	0.0
--	West Elevator Shaft		9/10/2015	--	--	--	--	--	--	--	--	16
--	Crawl spaces		9/10/2015	--	--	--	--	--	--	--	--	0
033016001	SS-1	sub-slab	03/30/2016	0.13 J	0.24 J	< 0.41 U	0.46 J	2.0 J	0.09	< 0.02 U	17.4	--
033016003	DUP1 SS-1	sub-slab	03/30/2016	0.22 J	0.18 J	0.64 J	0.51 J	1.5 J	0.06 J	< 0.02 U	17.5	--
033016002	SS-5	sub-slab	03/30/2016	0.34 J	0.35 J	< 0.4 U	2.0	2.6 J	0.04 J	< 0.02 U	17.5	--

[O:AJS C:ECK 12/2/15] [U:PMH 1/27/17, C: KJS 2/7/17]

Notes:

- < = less than
- J = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
- NS = no standard
- DUP = Duplicate quality control sample
- ft bgs = feet below ground surface
- mol % = mole percent
- ppbv = parts per billion volume
- ug/m3 = micrograms per cubic meter
- ¹ Maximum observed field screening result collected by placing the intake of the ppb Rae (photoionization detector)
- (a) Vapor Risk Screening Levels (VRSLs) based on December 2015 U.S.EPA Regional Screening Level Tables: <http://dnr.wi.gov/topic/Brownfields/documents/vapor/vapor-quick.pdf>
- (b) Field Sample ID shown as listed on the COC and in the Lab Report

**Table 11 - Groundwater Monitoring Plan (updated 3/28/17)
2016 Annual Report
We Energies Appleton Former Manufactured Gas Plant Site**

Proposed Monitoring Plan (starting April 2017)								
Analytical Parameters					RNA Parameters			
Monitoring Well Location	BTEX (USEPA 8260B)	Benzene (USEPA 8260B)	Naphthalene (USEPA 8260B)	Arsenic (USEPA 6020)	Geochemical Parameters ¹ (Various)	Field Parameters ²	DNAPL Measurement	Water Levels
Site Monitoring Wells (Area 1 North of Fox River Canal)								
MW-2R	S		S	A	A	S	A	S
MW-8								S
MW-9								S
MW-10								S
MW-12R	S		S	A	A	S	A	S
MW-13R	S		S	A	A	S	A	S
MW-19	S		S	A	A	S	A	S
MW-19S								S
MW-20	S		S	A	A	S	S	S
MW-21	S		S	A	A	S	S	S
MW-22	S		S	A	A	S	A	S
MW-24	S		S	A	S	S		S
MW-25	S		S	A	S	S		S
Site Bedrock Piezometers (Area 1 North of Fox River Canal)								
PZ-12B		A	A			A		A
PZ-20B		A	A			A		A
PZ-21B		A	A			A		A
PZ-22B		A	A			A		A
Fox River Apartment Wells (Area 2 South of Fox River Canal)								
MW-23								Q
PZ-23	Q		Q	A	Q	Q	A	Q
PZ-26 ⁴	Q		Q	A	Q	Q	Q ³	Q
MW-26	Q		Q	A	Q	Q	Q	Q
MW-27	Q		Q	A	Q	Q	Q	Q
PZ-27	Q		Q	A	Q	Q	Q	Q
MW-28	Q		Q	A	Q	Q	Q	Q
PZ-28 ⁴	Q		Q	A	Q	Q	Q ³	Q
Staff Gauges								
SG-3								Q
SG-4								Q

(BGH 3/4/14)(PMH 3/20/14)(U-PMH 2/15)(U-BGH 3/17)

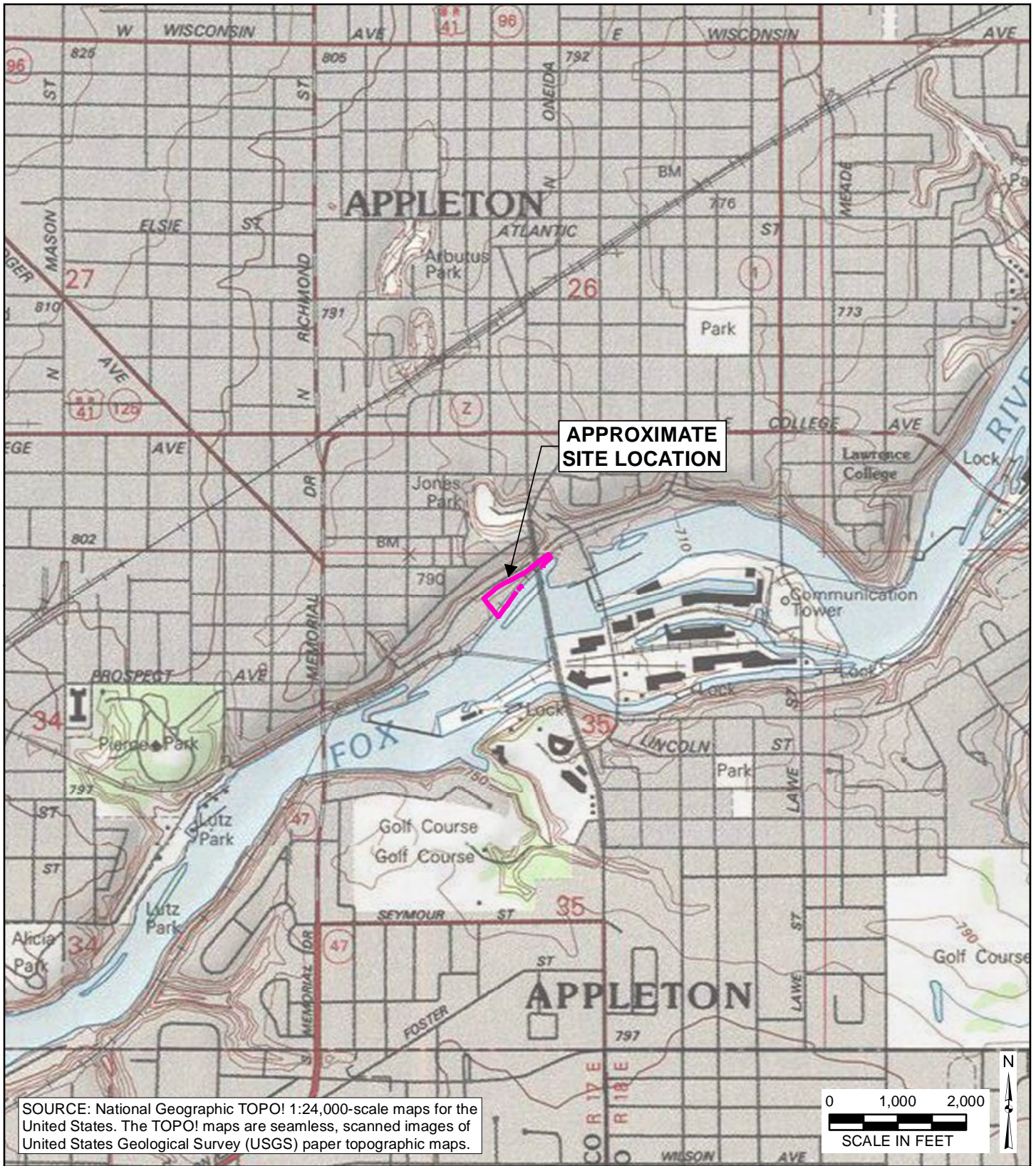
Notes:

- BTEX = Benzene, ethylbenzene, toluene, xylenes (total)
- RNA = Remediation by Natural Attenuation
- A = Annual Sampling Frequency (Apr)
- S = Semi-Annual Sampling Frequency (Apr, Oct)
- Q = Quarterly Sampling (Jan, Apr, Jul, Oct)
- 1,2Q = Quarterly Sampling for first two sample events (Jan, Apr)

1. Geochemical parameters include: Nitrate, methane, manganese, dissolved iron, sulfate, and alkalinity.
2. Field parameters include: pH, dissolved oxygen, temperature, specific conductance, and oxidation/reduction potential.
3. Following each quarterly NAPL reading in 2016, NAPL greater than 0.5 feet will be removed from the well using a bailer (or other technique). Water level and NAPL thickness measurements will be collected before and after NAPL removal. The volume of NAPL recovered will also be estimated and recorded.
4. Water quality sampling will not be conducted at this location as long as NAPL remains present.



Figures



**APPROXIMATE
SITE LOCATION**

SOURCE: National Geographic TOPO! 1:24,000-scale maps for the United States. The TOPO! maps are seamless, scanned images of United States Geological Survey (USGS) paper topographic maps.



SITE LOCATION MAP

2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED
GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN



PROJECT NO. 1508
FIGURE NO. 1

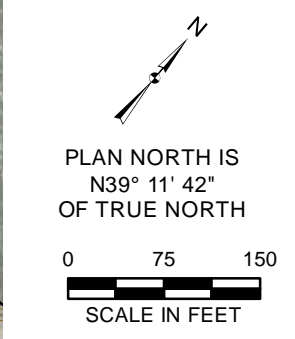
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REVIEWED BY: ANS 2/9/17
APPROVED BY: BGH 4/12/17

Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 2_Site_Features.mxd Author: stolzsd; Date/Time: 4/12/2017, 2:39:00 PM



- MONITORING WELL LOCATION
- STAFF GAUGE LOCATION
- 2014 TAX PARCEL
- TOP OF BANK
- GROUND SURFACE ELEVATION CONTOURS
- FORMER MGP SITE PERIMETER
- SHORELINE
- FORMER WASTE WATER TREATMENT PLANT STRUCTURES DEMOLISHED IN THIS AREA
- PERIMETER OF ISS TREATMENT AREA
- HISTORICAL NEEDLE DAM STRUCTURE

SOURCE: TAX PARCEL DATA OBTAINED FROM OUTAGAMIE COUNTY GIS
IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014



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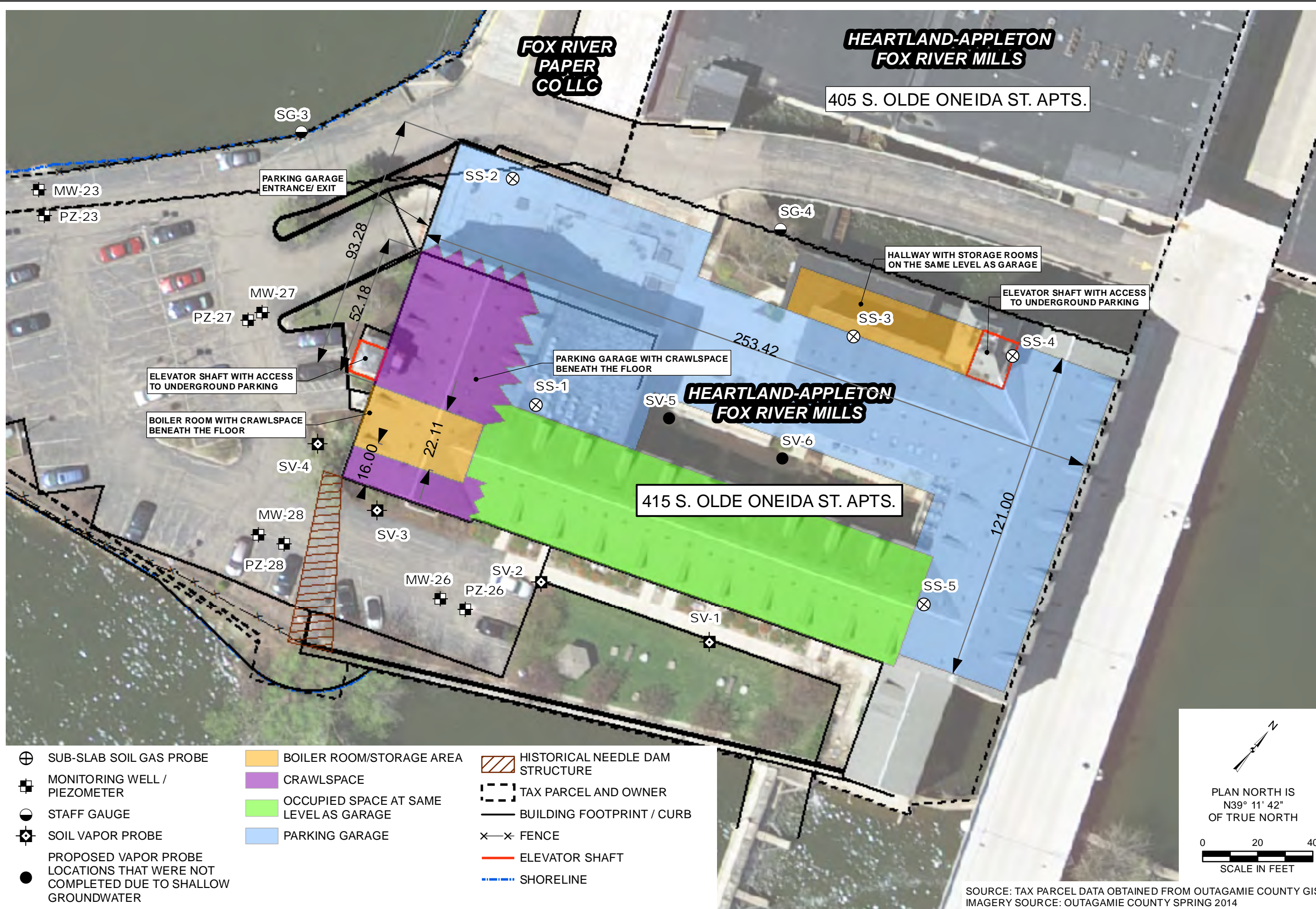
SITE FEATURES
2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508

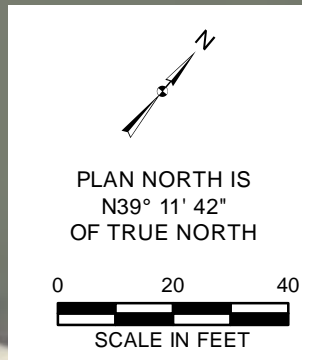
FIGURE NO: 2



Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 3_415 S.Olde Oneida St.Apt_Build_Features.mxd Author: stolzsd; Date/Time: 4/12/2017, 2:40:26 PM



- | | | | | | |
|---|---|---|--|-------|---------------------------------|
| ⊕ | SUB-SLAB SOIL GAS PROBE | ■ | BOILER ROOM/STORAGE AREA | ▨ | HISTORICAL NEEDLE DAM STRUCTURE |
| ⊕ | MONITORING WELL / PIEZOMETER | ■ | CRAWLSPACE | - - - | TAX PARCEL AND OWNER |
| ● | STAFF GAUGE | ■ | OCCUPIED SPACE AT SAME LEVEL AS GARAGE | — | BUILDING FOOTPRINT / CURB |
| ⊕ | SOIL VAPOR PROBE | ■ | PARKING GARAGE | ⊗ | FENCE |
| ● | PROPOSED VAPOR PROBE LOCATIONS THAT WERE NOT COMPLETED DUE TO SHALLOW GROUNDWATER | | | — | ELEVATOR SHAFT |
| | | | | — | SHORELINE |



SOURCE: TAX PARCEL DATA OBTAINED FROM OUTAGAMIE COUNTY GIS
IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

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REVIEWED BY/DATE:
ANS 2/9/17
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BGH 4/12/17

415 S. OLDE ONEIDA STREET APARTMENT BUILDING FEATURES

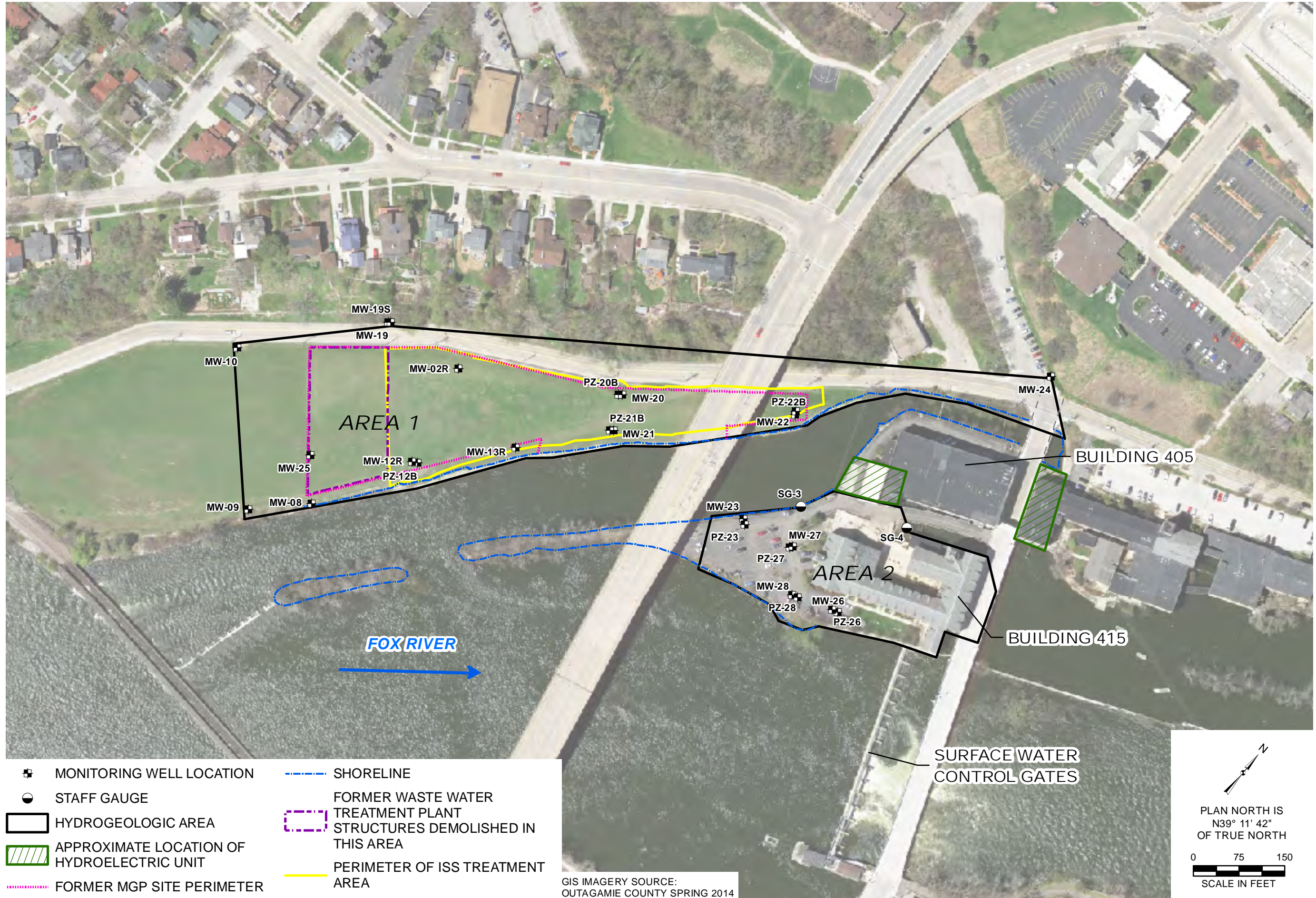
2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508

FIGURE NO: 3



Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 4_HydrogeologicAreas 1 and 2.mxd Author: stolszi Date/Time: 4/12/2017, 2:46:59 PM



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BGH 4/12/17

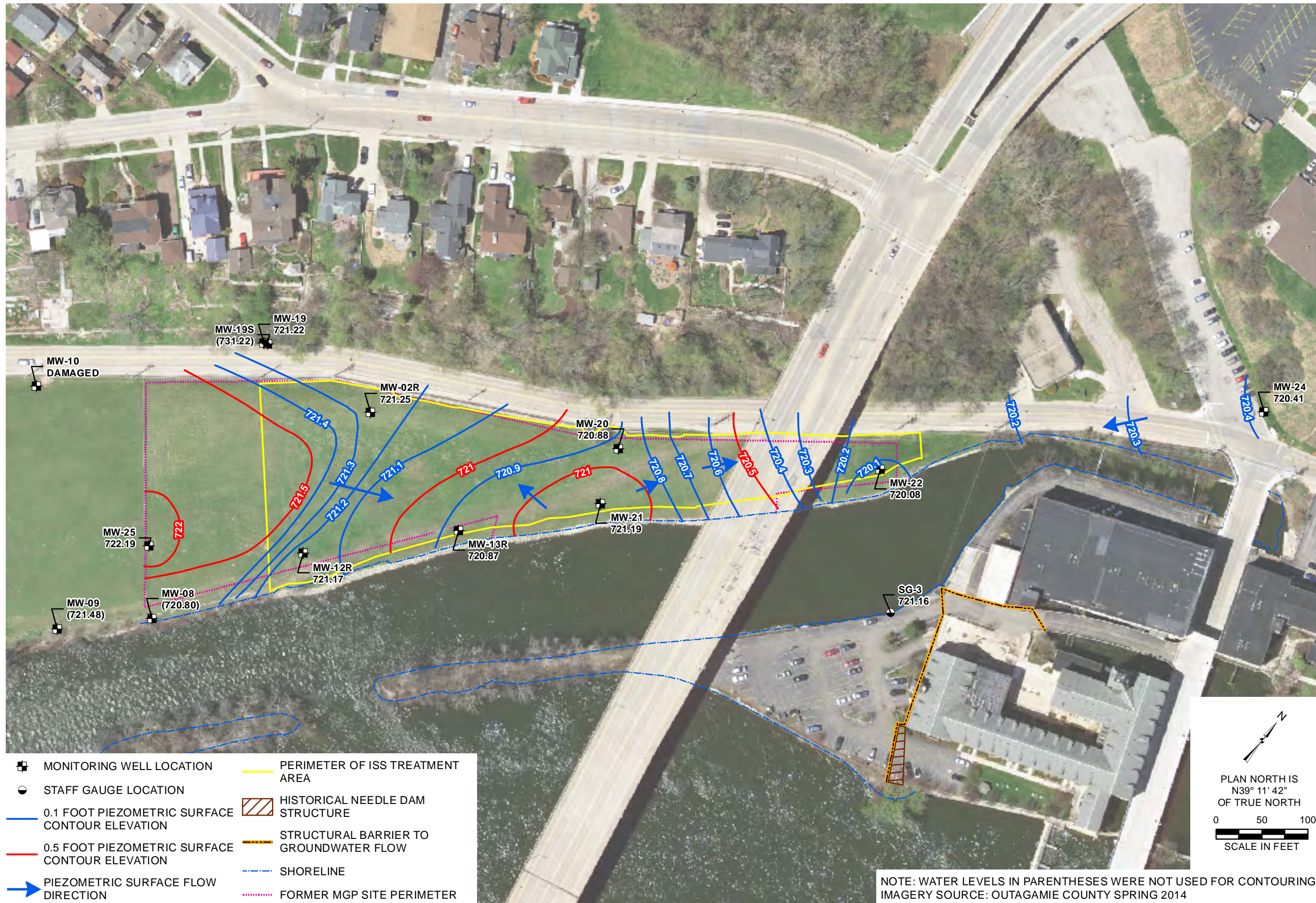
HYDROGEOLOGIC AREAS 1 AND 2
2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
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PROJECT NO: 1508

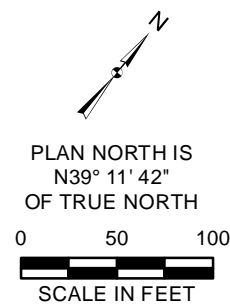
FIGURE NO: 4



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- | | |
|--|--|
| <ul style="list-style-type: none"> ☒ MONITORING WELL LOCATION ● STAFF GAUGE LOCATION — 0.1 FOOT PIEZOMETRIC SURFACE CONTOUR ELEVATION — 0.5 FOOT PIEZOMETRIC SURFACE CONTOUR ELEVATION ➔ PIEZOMETRIC SURFACE FLOW DIRECTION | <ul style="list-style-type: none"> — PERIMETER OF ISS TREATMENT AREA ▨ HISTORICAL NEEDLE DAM STRUCTURE — STRUCTURAL BARRIER TO GROUNDWATER FLOW --- SHORELINE ⋯ FORMER MGP SITE PERIMETER |
|--|--|



NOTE: WATER LEVELS IN PARENTHESES WERE NOT USED FOR CONTOURING
 IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

**LOWER TILL PIEZOMETRIC SURFACE ELEVATIONS
 APRIL 2016 - AREA 1**

2016 ANNUAL REPORT
 FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
 WE ENERGIES
 APPLETON, WISCONSIN

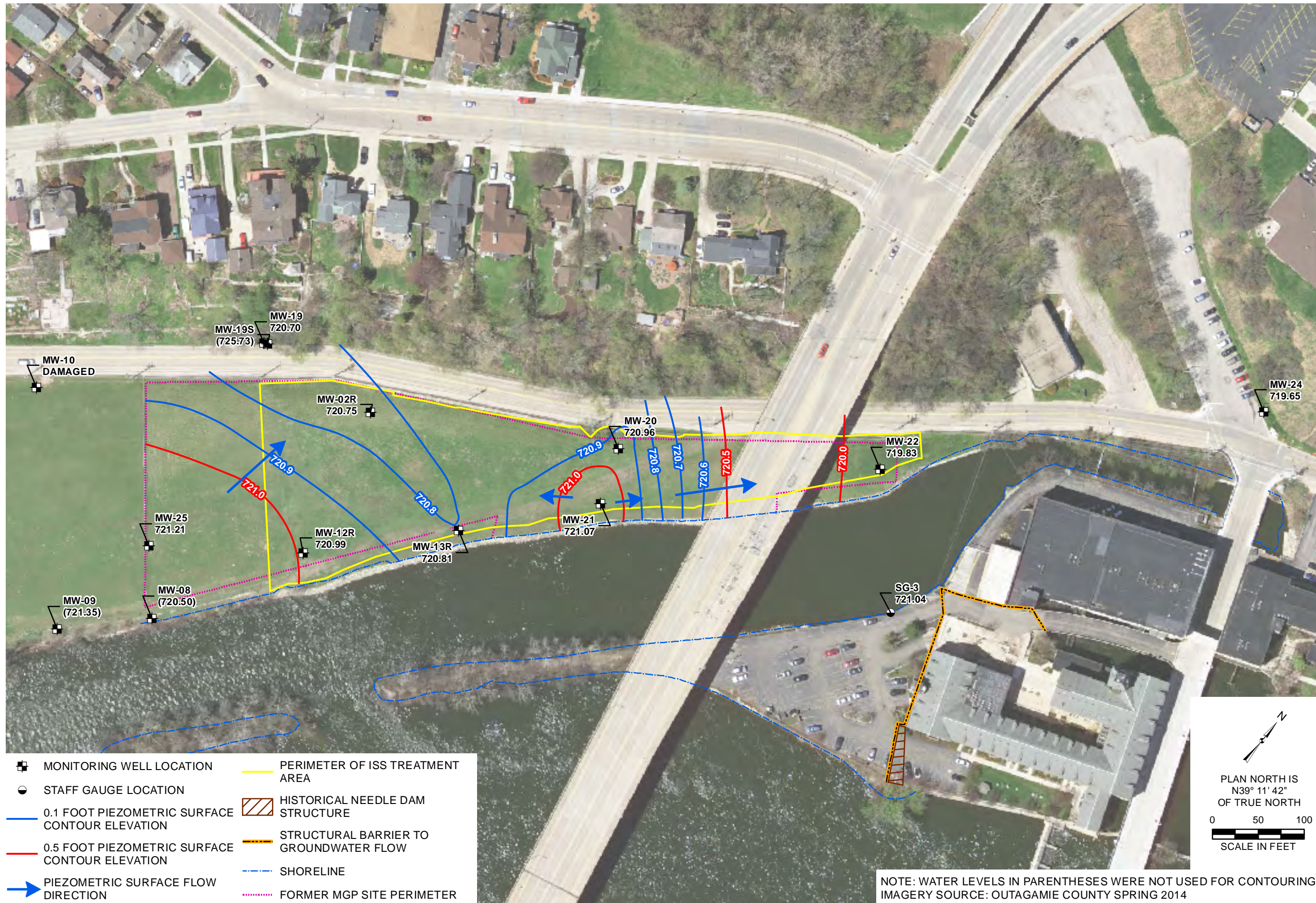
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 ANS 2/8/17
 APPROVED BY/DATE:
 BGH 4/12/17

PROJECT NO: 1508

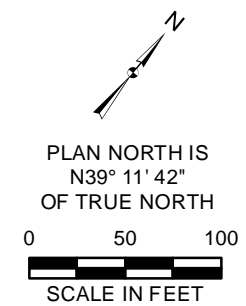
FIGURE NO: 5A



Y:\GIS\Projects\151508\MXD\2016_Annual_Report\Figure 5b_Lower_Till_PSE_Oct16.mxd Author: stolzsd Date/Time: 4/12/2017, 3:00:08 PM



- | | |
|--|--|
| <ul style="list-style-type: none"> ■ MONITORING WELL LOCATION ● STAFF GAUGE LOCATION — 0.1 FOOT PIEZOMETRIC SURFACE CONTOUR ELEVATION — 0.5 FOOT PIEZOMETRIC SURFACE CONTOUR ELEVATION ➔ PIEZOMETRIC SURFACE FLOW DIRECTION | <ul style="list-style-type: none"> — PERIMETER OF ISS TREATMENT AREA ▨ HISTORICAL NEEDLE DAM STRUCTURE — STRUCTURAL BARRIER TO GROUNDWATER FLOW — SHORELINE ⋯ FORMER MGP SITE PERIMETER |
|--|--|



NOTE: WATER LEVELS IN PARENTHESES WERE NOT USED FOR CONTOURING
IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

**LOWER TILL PIEZOMETRIC SURFACE ELEVATIONS
OCTOBER 2016 - AREA 1**

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REVIEWED BY/DATE:
ANS 2/8/17
APPROVED BY/DATE:
BGH 4/12/17

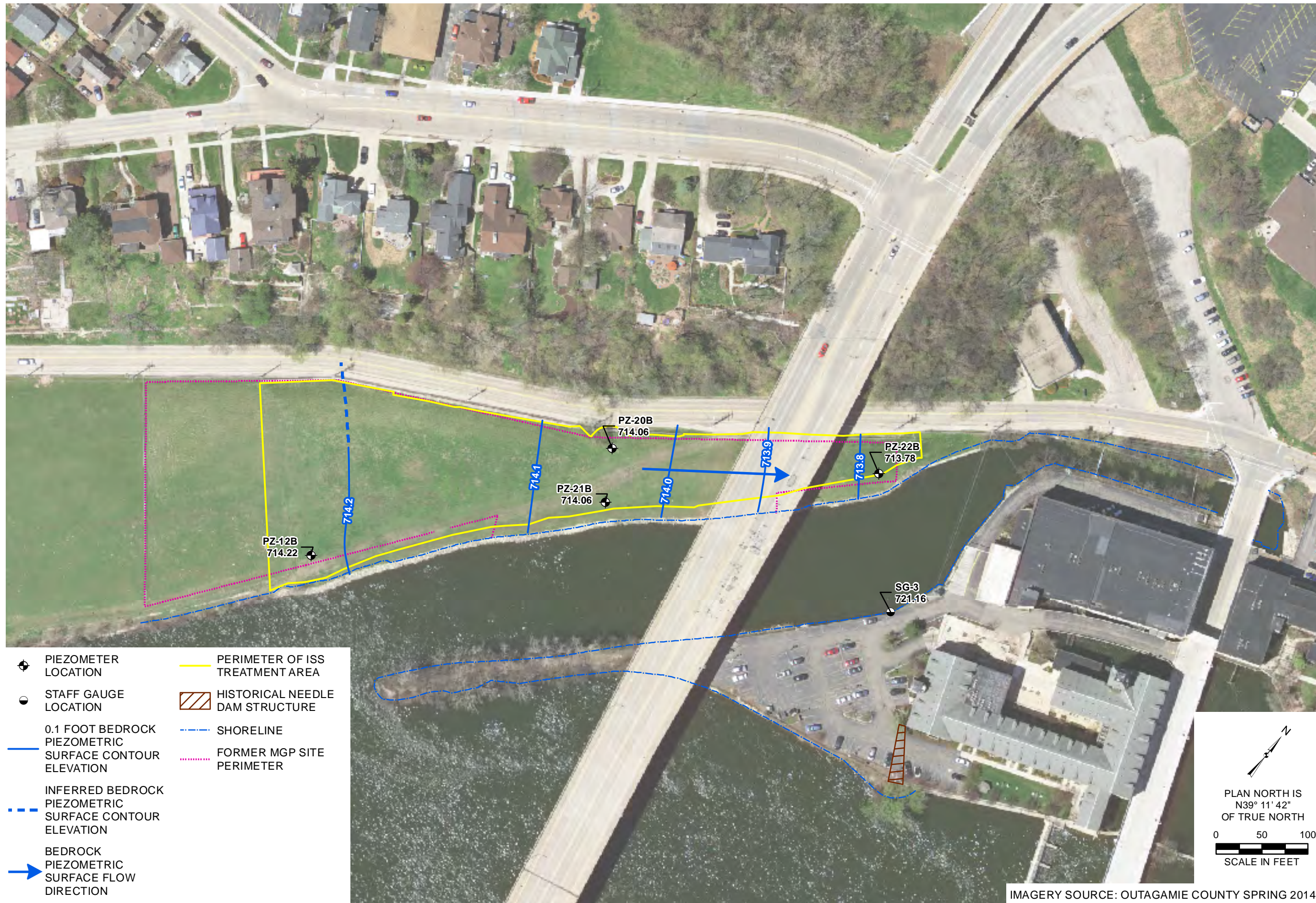
2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508

FIGURE NO: 5B



Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 6_Bedrock_PSE_Apr16.mxd Author: stolzsd; Date/Time: 4/12/2017, 3:04:59 PM

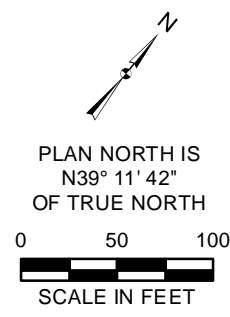


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BGH 4/12/17

**BEDROCK PIEZOMETRIC SURFACE ELEVATIONS
APRIL 2016 - AREA 1**

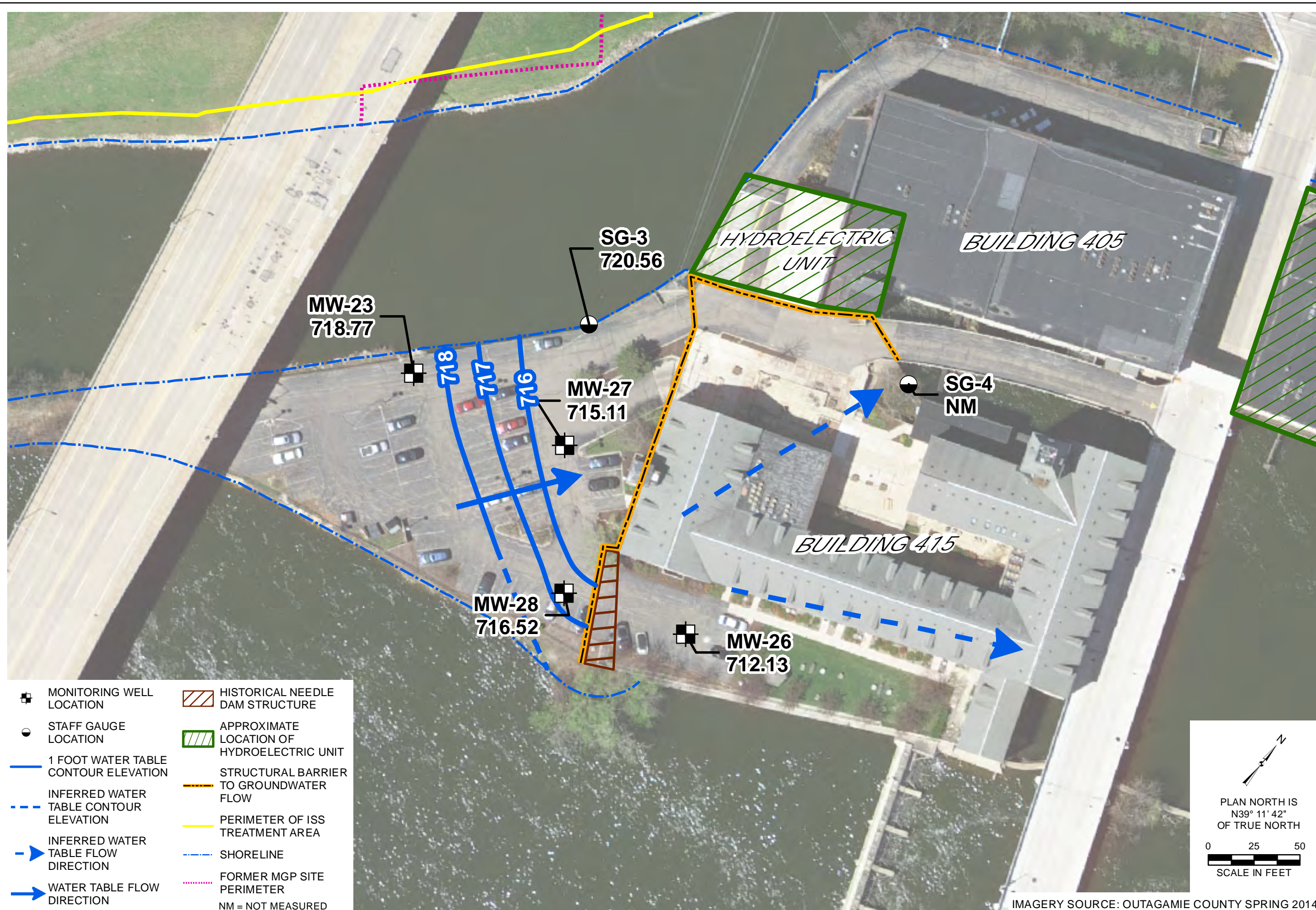
2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508
FIGURE NO: 6

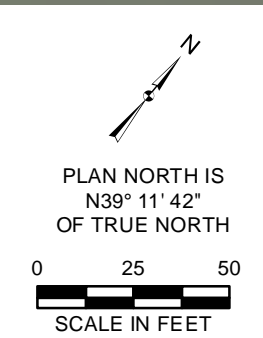


IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

Y:\GIS\Projects\151508\MXD\2016_Annual_Report\Figure 7a_Water_Table_Jan16.mxd Author: stolzsd; Date/Time: 4/12/2017, 3:08:11 PM



- | | | | |
|--|--|--|--|
| | MONITORING WELL LOCATION | | HISTORICAL NEEDLE DAM STRUCTURE |
| | STAFF GAUGE LOCATION | | APPROXIMATE LOCATION OF HYDROELECTRIC UNIT |
| | 1 FOOT WATER TABLE CONTOUR ELEVATION | | STRUCTURAL BARRIER TO GROUNDWATER FLOW |
| | INFERRED WATER TABLE CONTOUR ELEVATION | | PERIMETER OF ISS TREATMENT AREA |
| | INFERRED WATER TABLE FLOW DIRECTION | | SHORELINE |
| | WATER TABLE FLOW DIRECTION | | FORMER MGP SITE PERIMETER |
| | | | NM = NOT MEASURED |



IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

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BGH 4/12/17

**WATERTABLE ELEVATIONS
JANUARY 2016 - AREA 2**

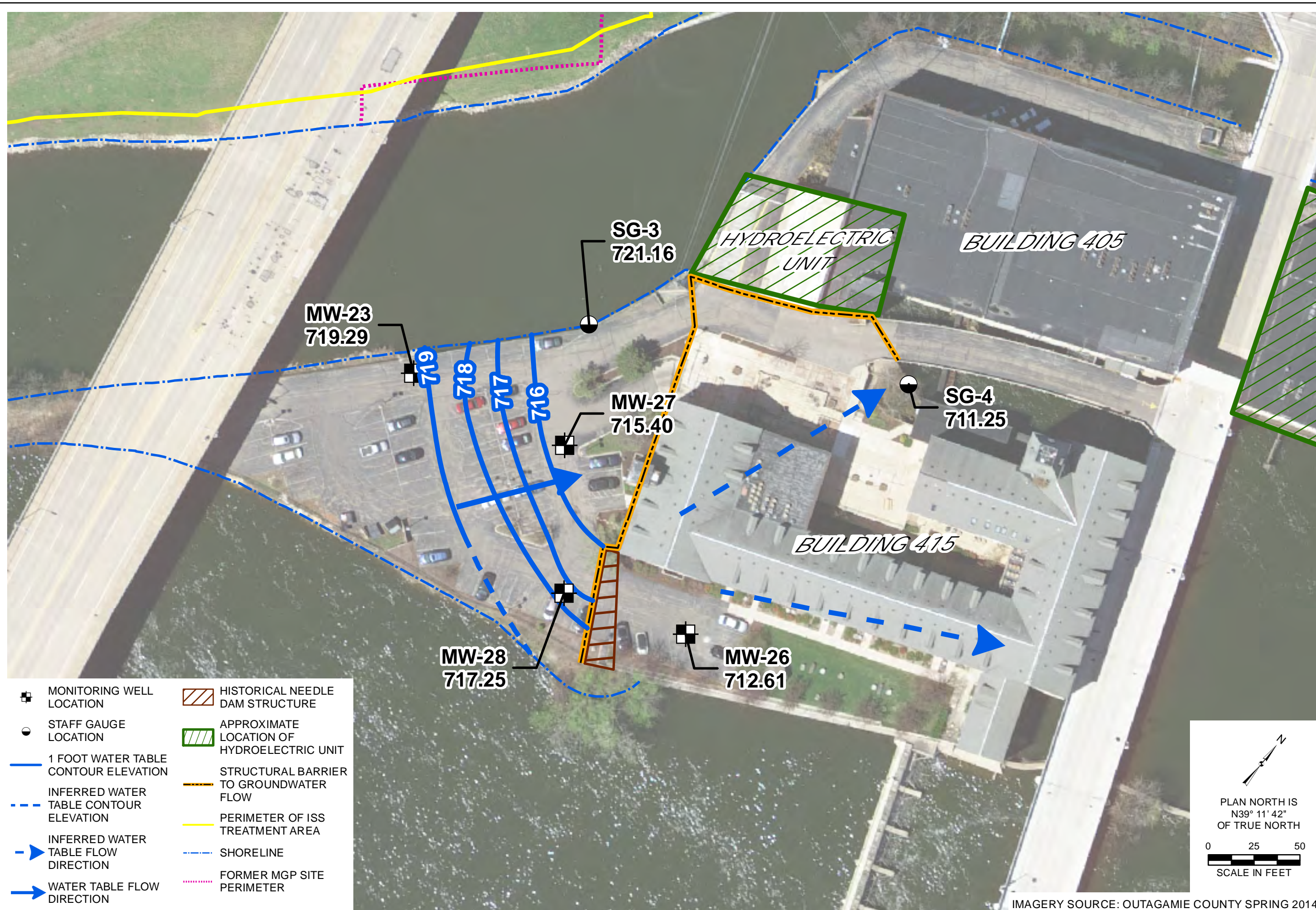
2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508

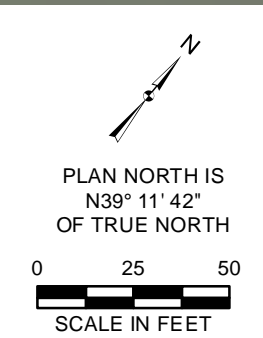
FIGURE NO: 7A



Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 7b_Water_Table_Apr16.mxd Author: stobzsd; Date/Time: 4/12/2017, 3:10:19 PM



IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014



**WATERTABLE ELEVATIONS
 APRIL 2016 - AREA 2**

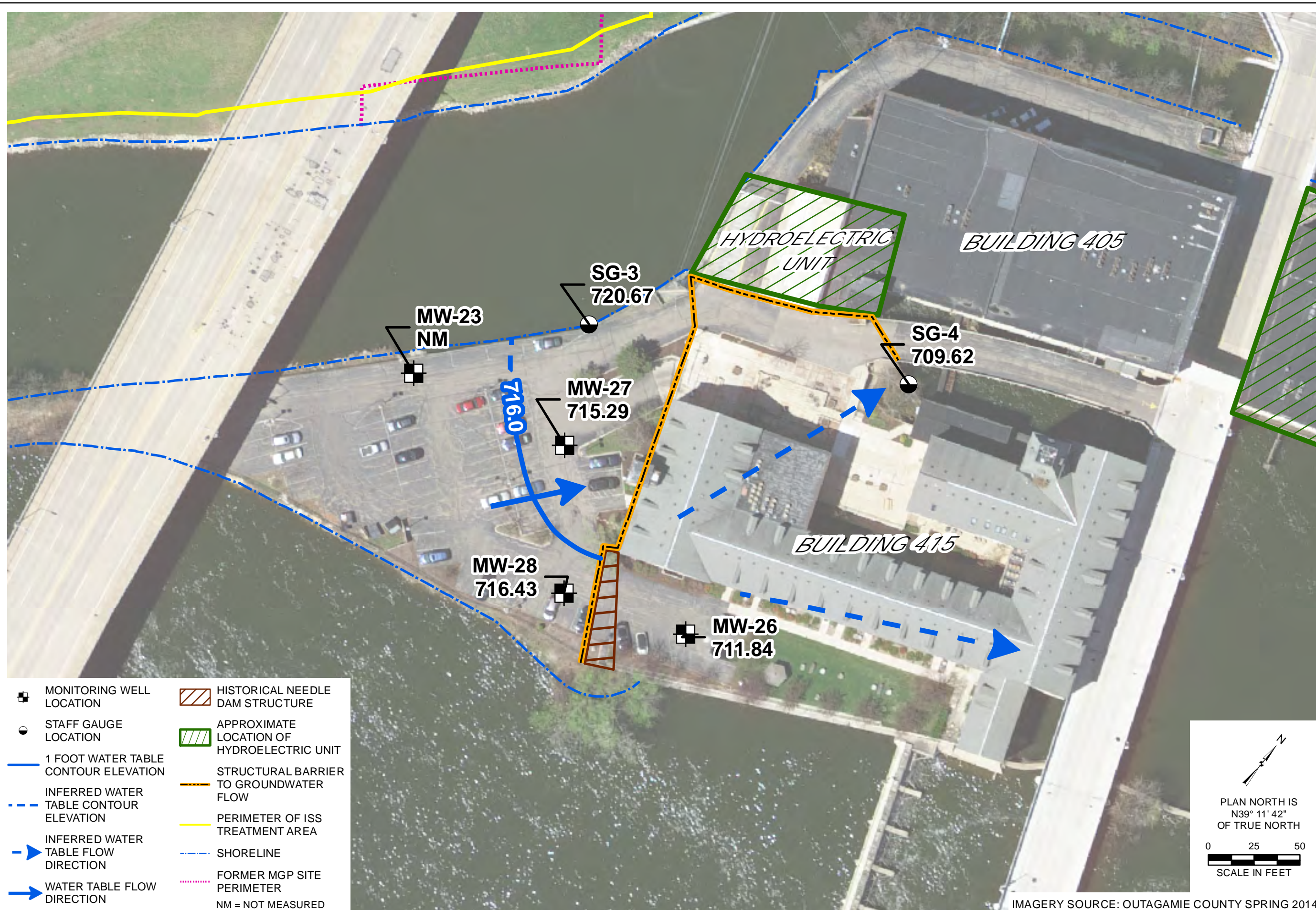
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 ANS 2/8/17
 APPROVED BY/DATE:
 BGH 4/12/17

2016 ANNUAL REPORT
 FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
 WE ENERGIES
 APPLETON, WISCONSIN

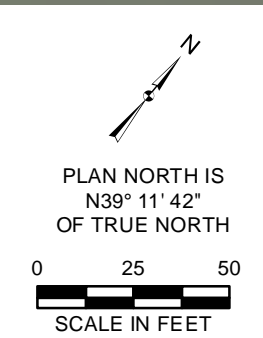
PROJECT NO: 1508
 FIGURE NO: 7B



Y:\GIS\Projects\151508\MXD\2016_Annual_Report\Figure 7c_Water_Table_July16.mxd Author: stolzsd Date/Time: 4/12/2017, 3:11:56 PM



- | | | | |
|--|--|--|--|
| | MONITORING WELL LOCATION | | HISTORICAL NEEDLE DAM STRUCTURE |
| | STAFF GAUGE LOCATION | | APPROXIMATE LOCATION OF HYDROELECTRIC UNIT |
| | 1 FOOT WATER TABLE CONTOUR ELEVATION | | STRUCTURAL BARRIER TO GROUNDWATER FLOW |
| | INFERRED WATER TABLE CONTOUR ELEVATION | | PERIMETER OF ISS TREATMENT AREA |
| | INFERRED WATER TABLE FLOW DIRECTION | | SHORELINE |
| | WATER TABLE FLOW DIRECTION | | FORMER MGP SITE PERIMETER |
| | | | NM = NOT MEASURED |



IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

DRAWN BY/DATE:
SDS 2/8/17
REVIEWED BY/DATE:
ANS 2/8/17
APPROVED BY/DATE:
BGH 4/12/17

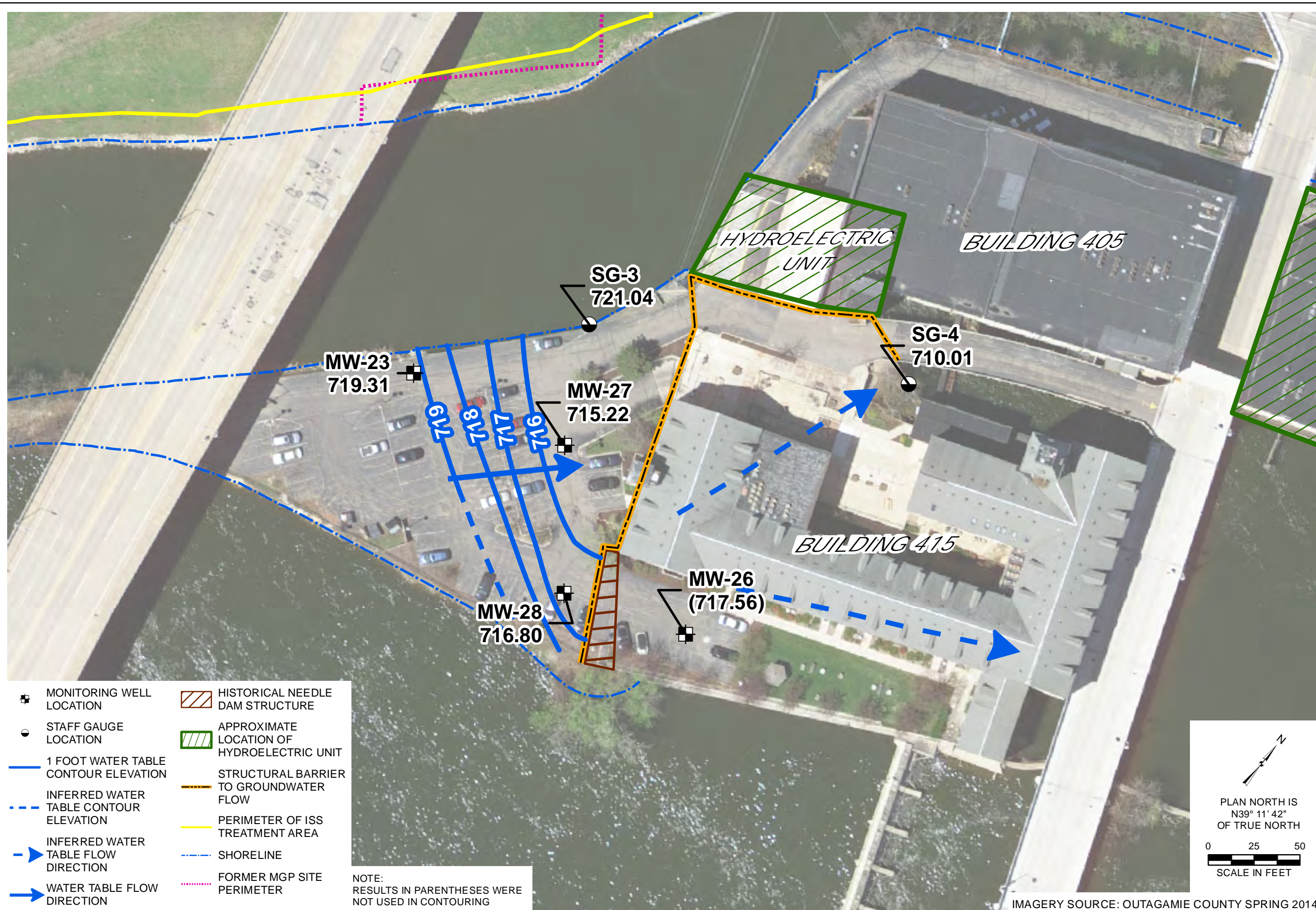
**WATERTABLE ELEVATIONS
JULY 2016 - AREA 2**

2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508
FIGURE NO: 7C

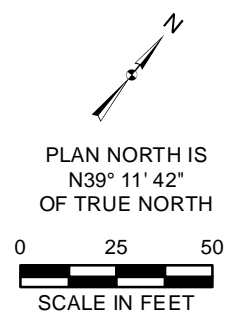


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- | | |
|---|--|
| <ul style="list-style-type: none"> MONITORING WELL LOCATION STAFF GAUGE LOCATION 1 FOOT WATER TABLE CONTOUR ELEVATION INFERRED WATER TABLE CONTOUR ELEVATION INFERRED WATER TABLE FLOW DIRECTION WATER TABLE FLOW DIRECTION | <ul style="list-style-type: none"> HISTORICAL NEEDLE DAM STRUCTURE APPROXIMATE LOCATION OF HYDROELECTRIC UNIT STRUCTURAL BARRIER TO GROUNDWATER FLOW PERIMETER OF ISS TREATMENT AREA SHORELINE FORMER MGP SITE PERIMETER |
|---|--|

NOTE:
RESULTS IN PARENTHESES WERE NOT USED IN CONTOURING



IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

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REVIEWED BY/DATE:
ANS 2/8/17
APPROVED BY/DATE:
BGH 4/12/17

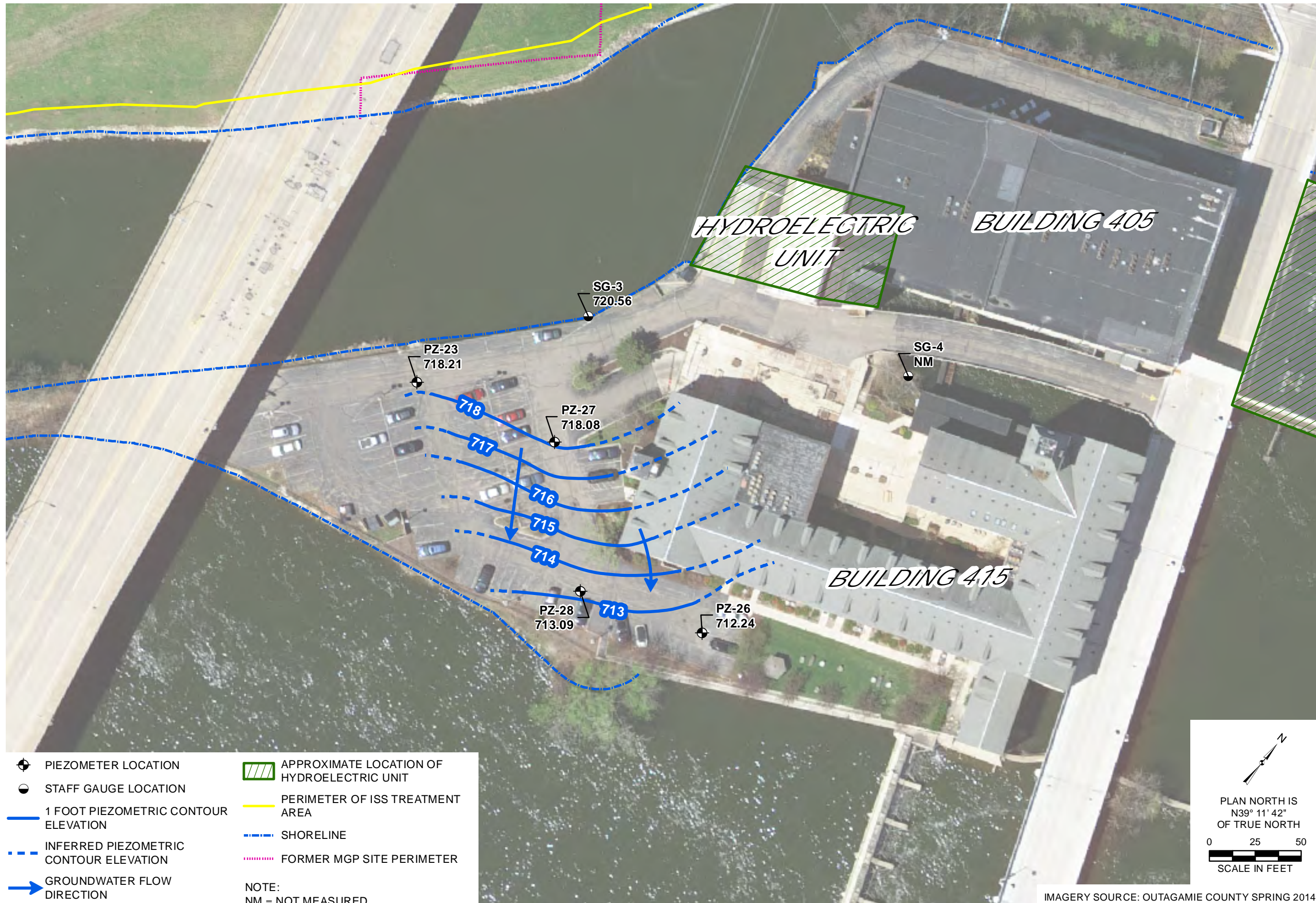
**WATERTABLE ELEVATIONS
OCTOBER 2016 - AREA 2**

2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508
FIGURE NO: 7D



Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 8a_Bedrock Piezometric Surface Elevations - Areas 2 - Jan16.mxd Author: stolzsd; Date/Time: 4/12/2017, 3:16:32 PM



- | | | | |
|--|--|----------------------------|--|
| | PIEZOMETER LOCATION | | APPROXIMATE LOCATION OF HYDROELECTRIC UNIT |
| | STAFF GAUGE LOCATION | | PERIMETER OF ISS TREATMENT AREA |
| | 1 FOOT PIEZOMETRIC CONTOUR ELEVATION | | SHORELINE |
| | INFERRED PIEZOMETRIC CONTOUR ELEVATION | | FORMER MGP SITE PERIMETER |
| | GROUNDWATER FLOW DIRECTION | NOTE:
NM = NOT MEASURED | |

DRAWN BY/DATE:
SDS 2/8/17
REVIEWED BY/DATE:
ANS 2/8/17
APPROVED BY/DATE:
BGH 4/12/17

**UPPER WEATHERED BEDROCK PIEZOMETRIC SURFACE ELEVATIONS
JANUARY 2016 - AREA 2**

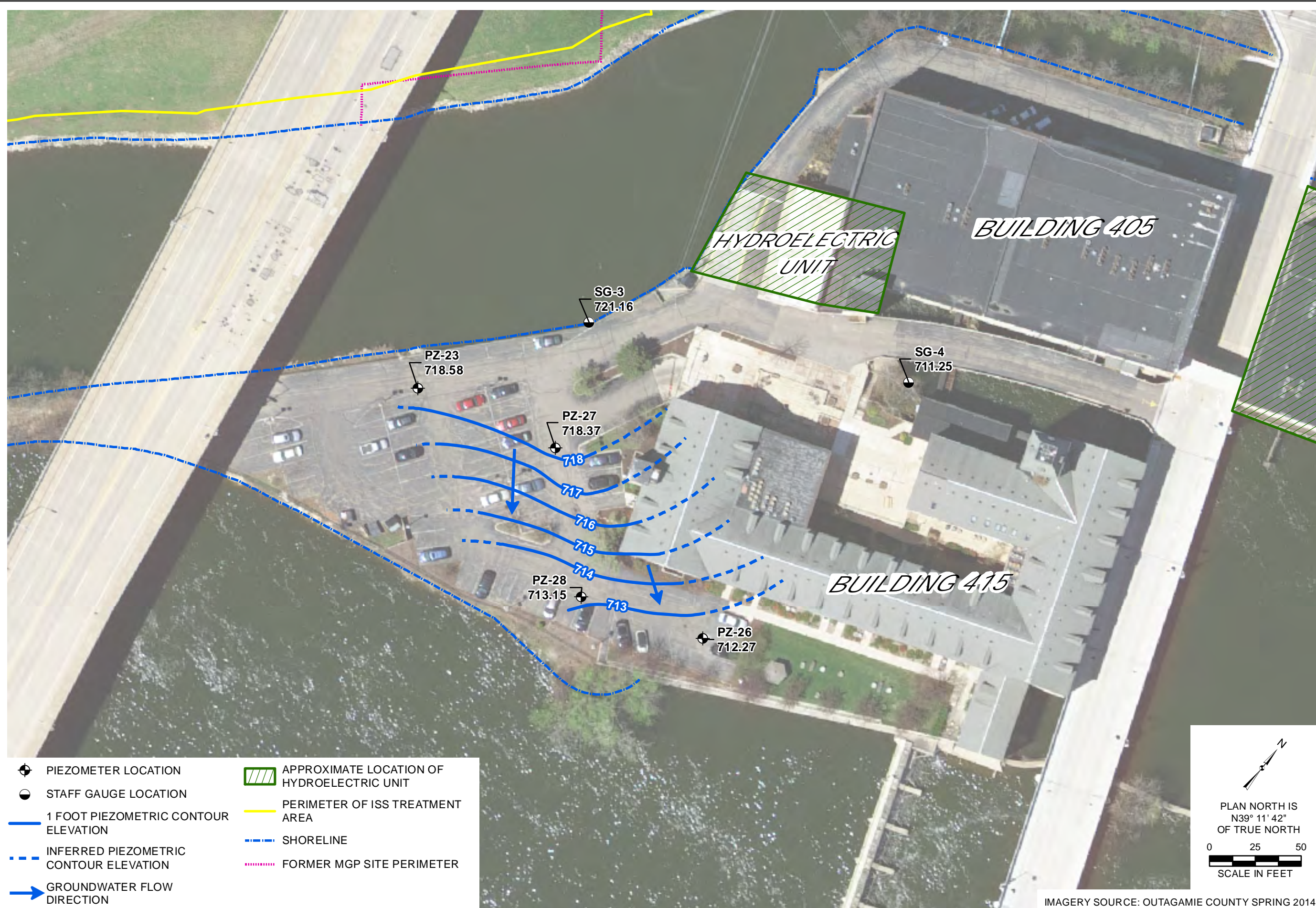
2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508
FIGURE NO: 8A



IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 8b_Bedrock Piezometric Surface Elevations - Areas 2 - April16.mxd - Author: stolzsd - Date/Time: 4/12/2017, 3:19:54 PM



- PIEZOMETER LOCATION
- STAFF GAUGE LOCATION
- 1 FOOT PIEZOMETRIC CONTOUR ELEVATION
- INFERRED PIEZOMETRIC CONTOUR ELEVATION
- GROUNDWATER FLOW DIRECTION
- APPROXIMATE LOCATION OF HYDROELECTRIC UNIT
- PERIMETER OF ISS TREATMENT AREA
- SHORELINE
- FORMER MGP SITE PERIMETER

PLAN NORTH IS

 N39° 11' 42"

 OF TRUE NORTH

 SCALE IN FEET

IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

DRAWN BY/DATE:
 SDS 2/8/17
 REVIEWED BY/DATE:
 ANS 2/8/17
 APPROVED BY/DATE:
 BGH 4/12/17

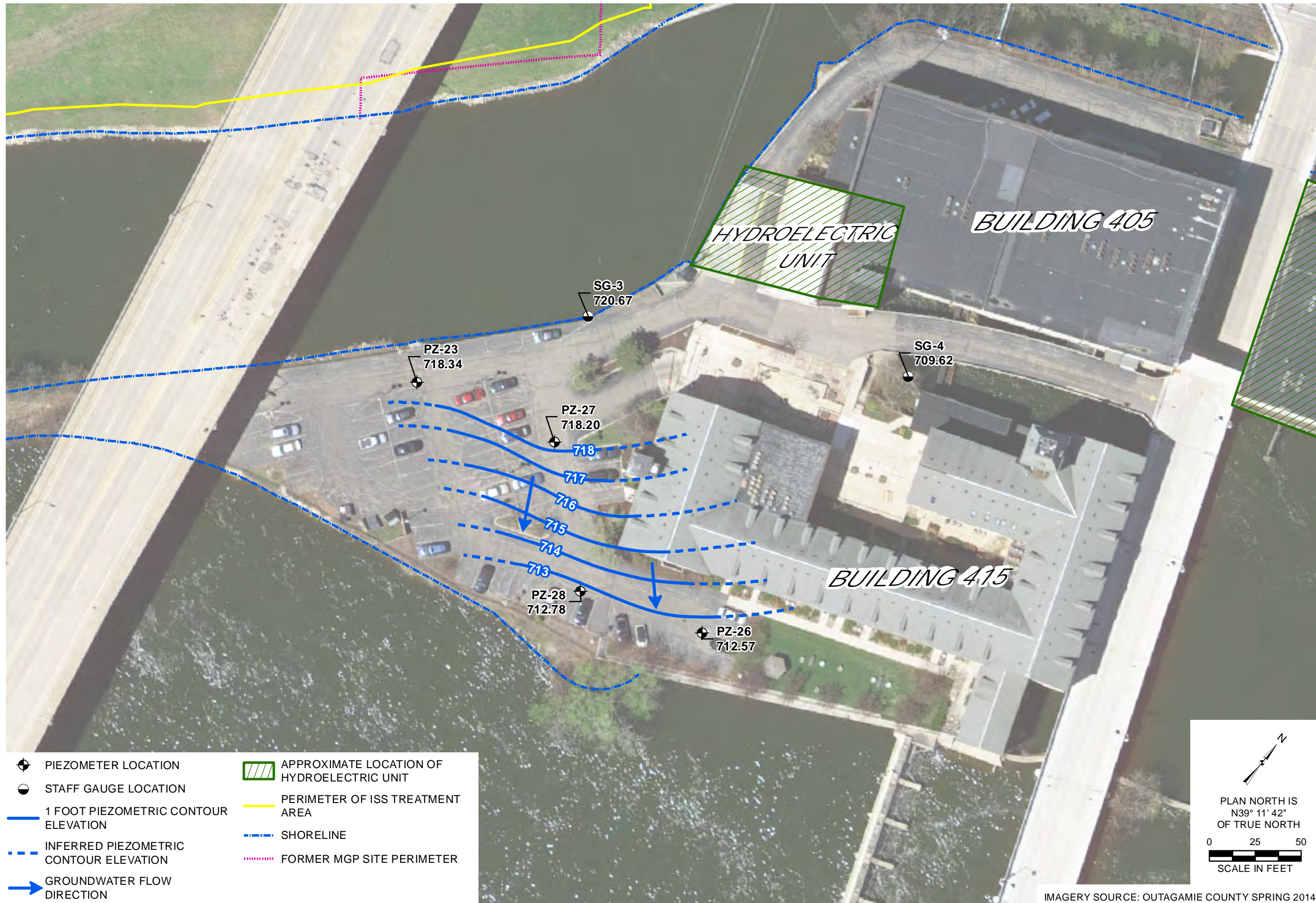
UPPER WEATHERED BEDROCK PIEZOMETRIC SURFACE ELEVATIONS
APRIL 2016 - AREA 2










2016 ANNUAL REPORT
 FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
 WE ENERGIES
 APPLETON, WISCONSIN

PROJECT NO: 1508
 FIGURE NO: 8B



Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 8c_Bedrock Piezometric Surface Elevations - Areas 2 - July16.mxd Author: stoltszki Date/Time: 4/12/2017, 3:23:19 PM



-  PIEZOMETER LOCATION
-  STAFF GAUGE LOCATION
-  1 FOOT PIEZOMETRIC CONTOUR ELEVATION
-  INFERRED PIEZOMETRIC CONTOUR ELEVATION
-  GROUNDWATER FLOW DIRECTION
-  APPROXIMATE LOCATION OF HYDROELECTRIC UNIT
-  PERIMETER OF ISS TREATMENT AREA
-  SHORELINE
-  FORMER MGP SITE PERIMETER

DRAWN BY/DATE:
SDS 2/8/17
REVIEWED BY/DATE:
ANS 2/8/17
APPROVED BY/DATE:
BGH 4/12/17

UPPER WEATHERED BEDROCK PIEZOMETRIC SURFACE ELEVATIONS
JULY 2016 - AREA 2

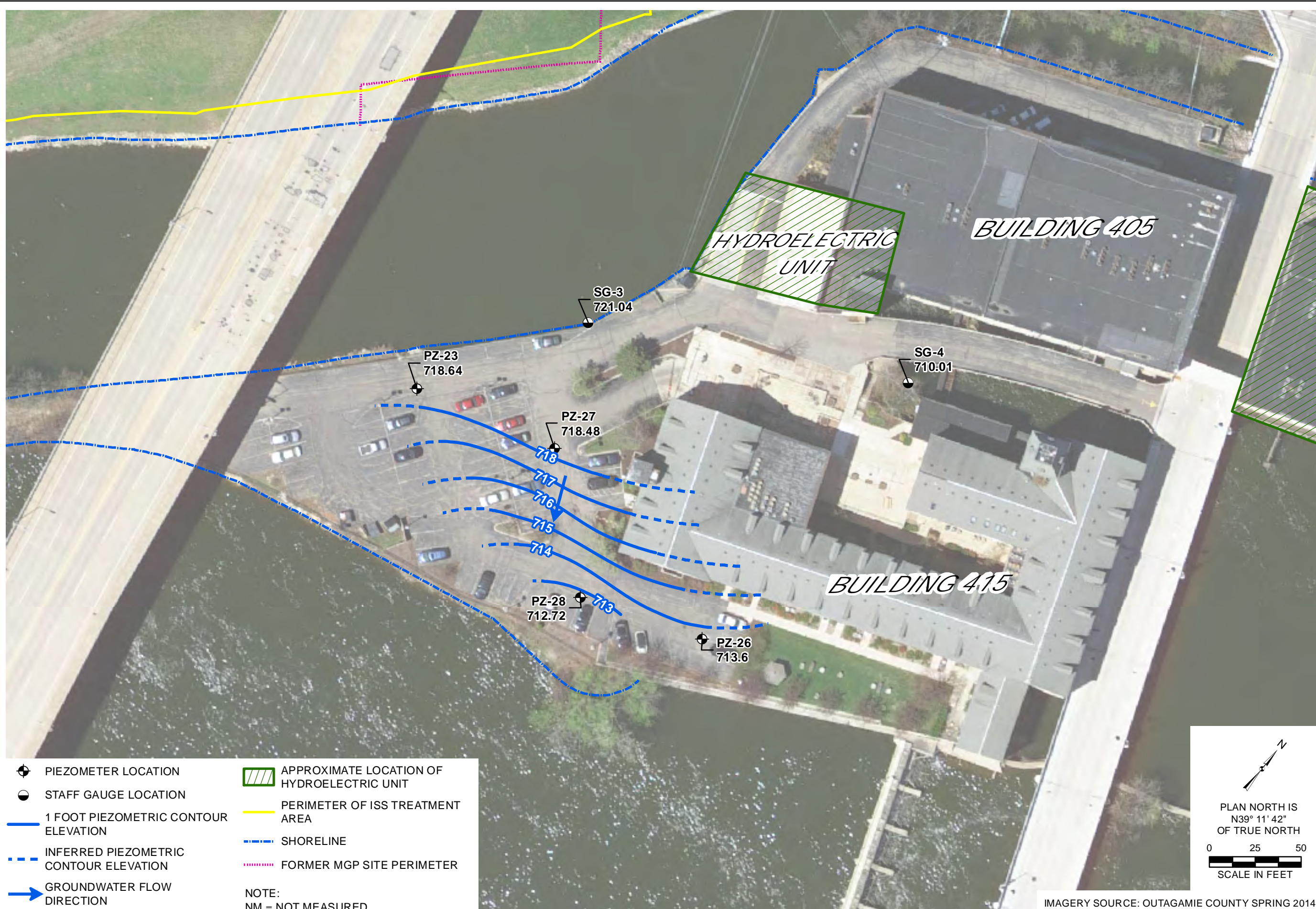
2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508
FIGURE NO: 8C



IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 8d_Bedrock Piezometric Surface Elevations - Areas 2 - Oct16.mxd Author: stolzsd Date/Time: 4/12/2017, 3:26:07 PM



- | | | | |
|--|--|----------------------------|--|
| | PIEZOMETER LOCATION | | APPROXIMATE LOCATION OF HYDROELECTRIC UNIT |
| | STAFF GAUGE LOCATION | | PERIMETER OF ISS TREATMENT AREA |
| | 1 FOOT PIEZOMETRIC CONTOUR ELEVATION | | SHORELINE |
| | INFERRED PIEZOMETRIC CONTOUR ELEVATION | | FORMER MGP SITE PERIMETER |
| | GROUNDWATER FLOW DIRECTION | NOTE:
NM = NOT MEASURED | |

IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

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REVIEWED BY/DATE:
ANS 2/8/17
APPROVED BY/DATE:
BGH 4/12/17

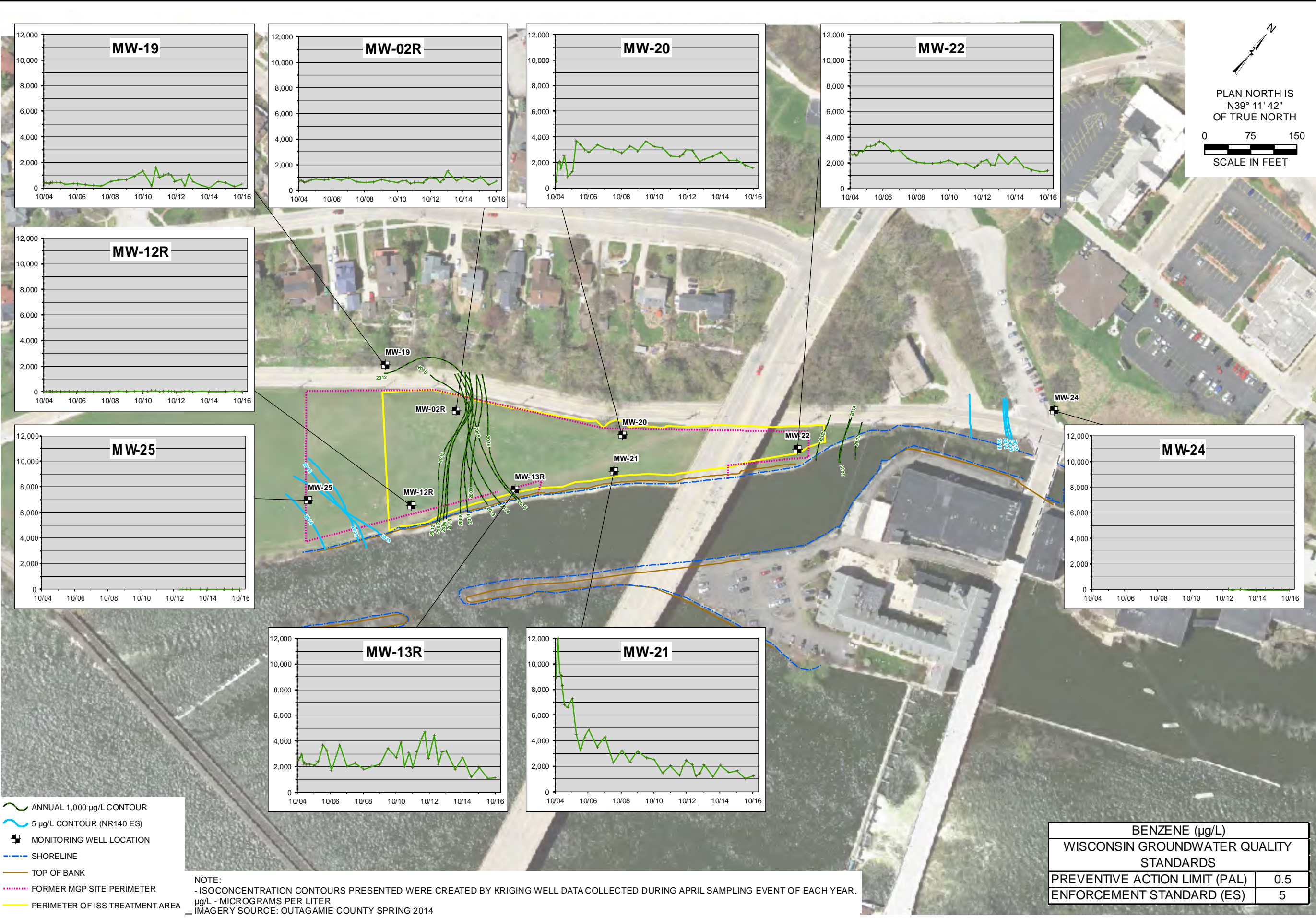
**UPPER WEATHERED BEDROCK PIEZOMETRIC SURFACE ELEVATIONS
OCTOBER 2016 - AREA 2**

2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508
FIGURE NO: 8D



Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 9_Lower_Till_GW_Benzene.mxd Author: stolzsd; Date/Time: 4/12/2017, 4:16:24 PM



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 REVIEWED BY/DATE:
ANS 2/9/17
 APPROVED BY/DATE:
BGH 4/12/17

**LOWER TILL GROUNDWATER BENZENE ANALYTICAL SUMMARY
 AREA 1**

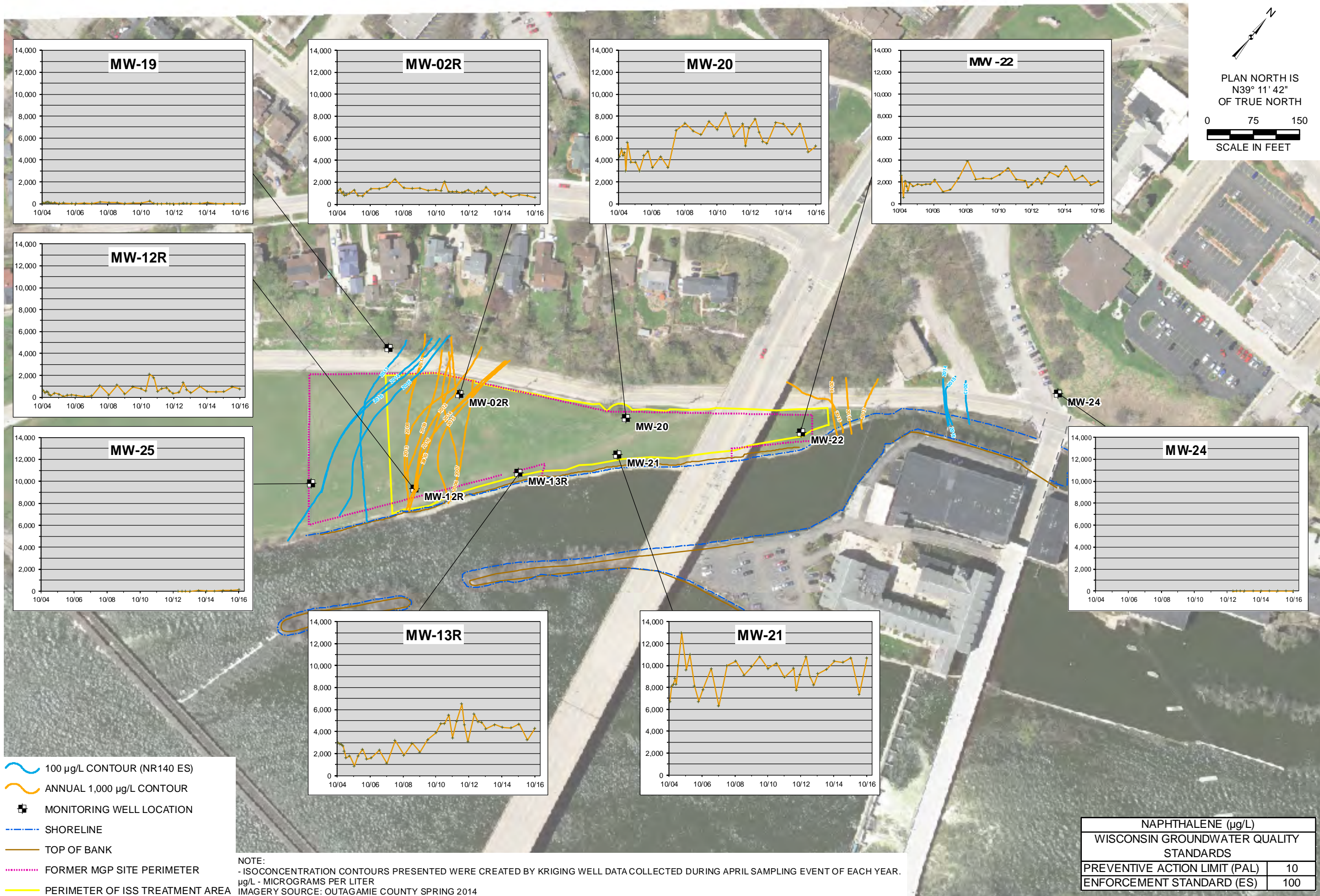
2016 ANNUAL REPORT
 FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
 WE ENERGIES
 APPLETON, WISCONSIN

PROJECT NO: 1508

FIGURE NO: 9



Y:\GIS\Projects\151508\MXD\2016_Annual_Report\Figure 10_Lower_Till_GW_Naphthalene.mxd Author: stc/izsd Date/Time: 4/12/2017, 4:24:24 PM



DRAWN BY/DATE:
SDS 2/9/17
REVIEWED BY/DATE:
ANS 2/9/17
APPROVED BY/DATE:
BGH 4/12/17

**LOWER TILL GROUNDWATER NAPHTHALENE ANALYTICAL SUMMARY
AREA 1**

2015 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

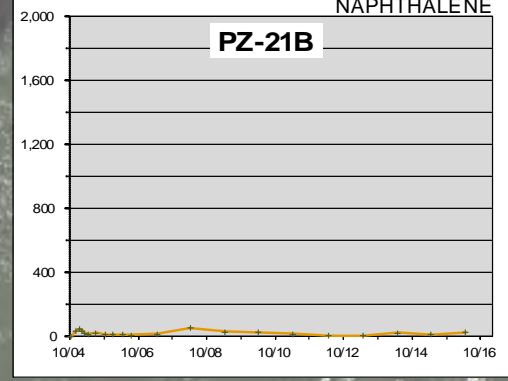
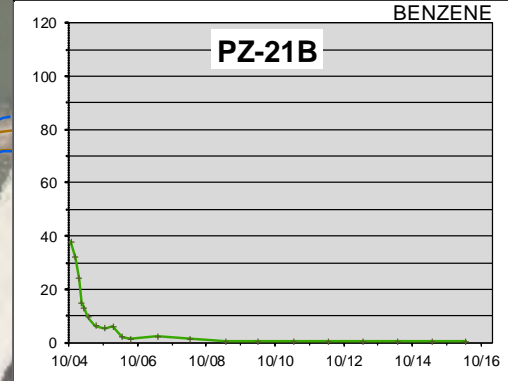
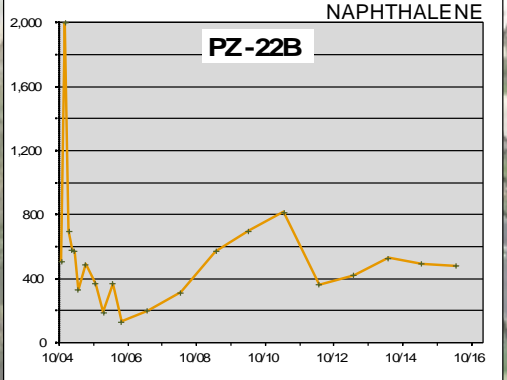
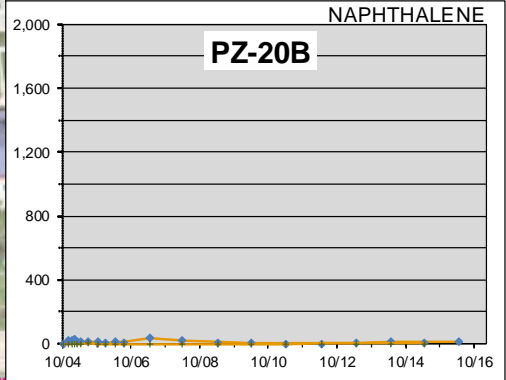
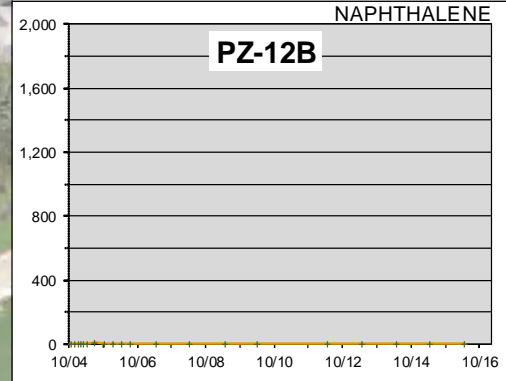
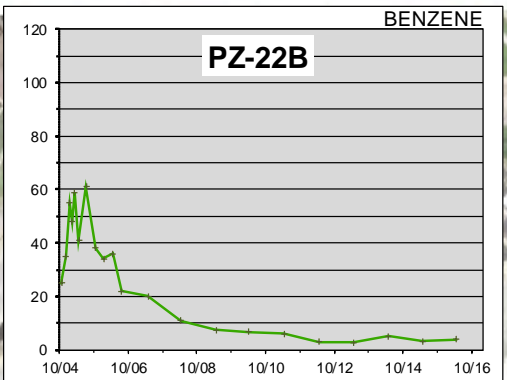
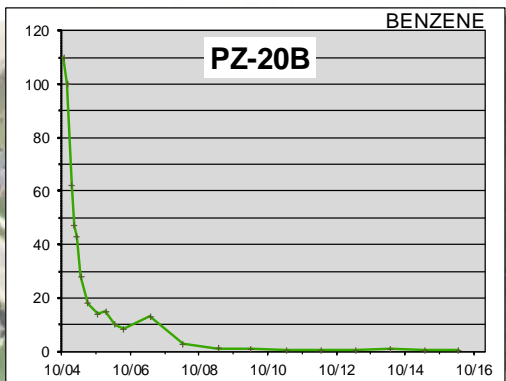
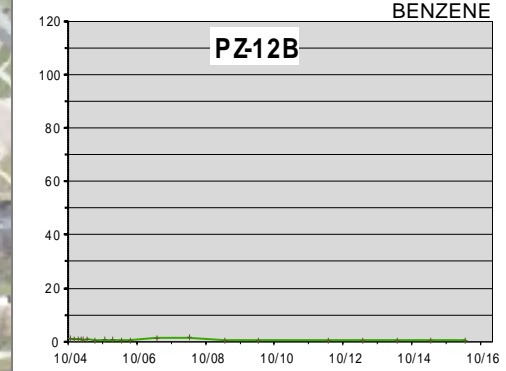
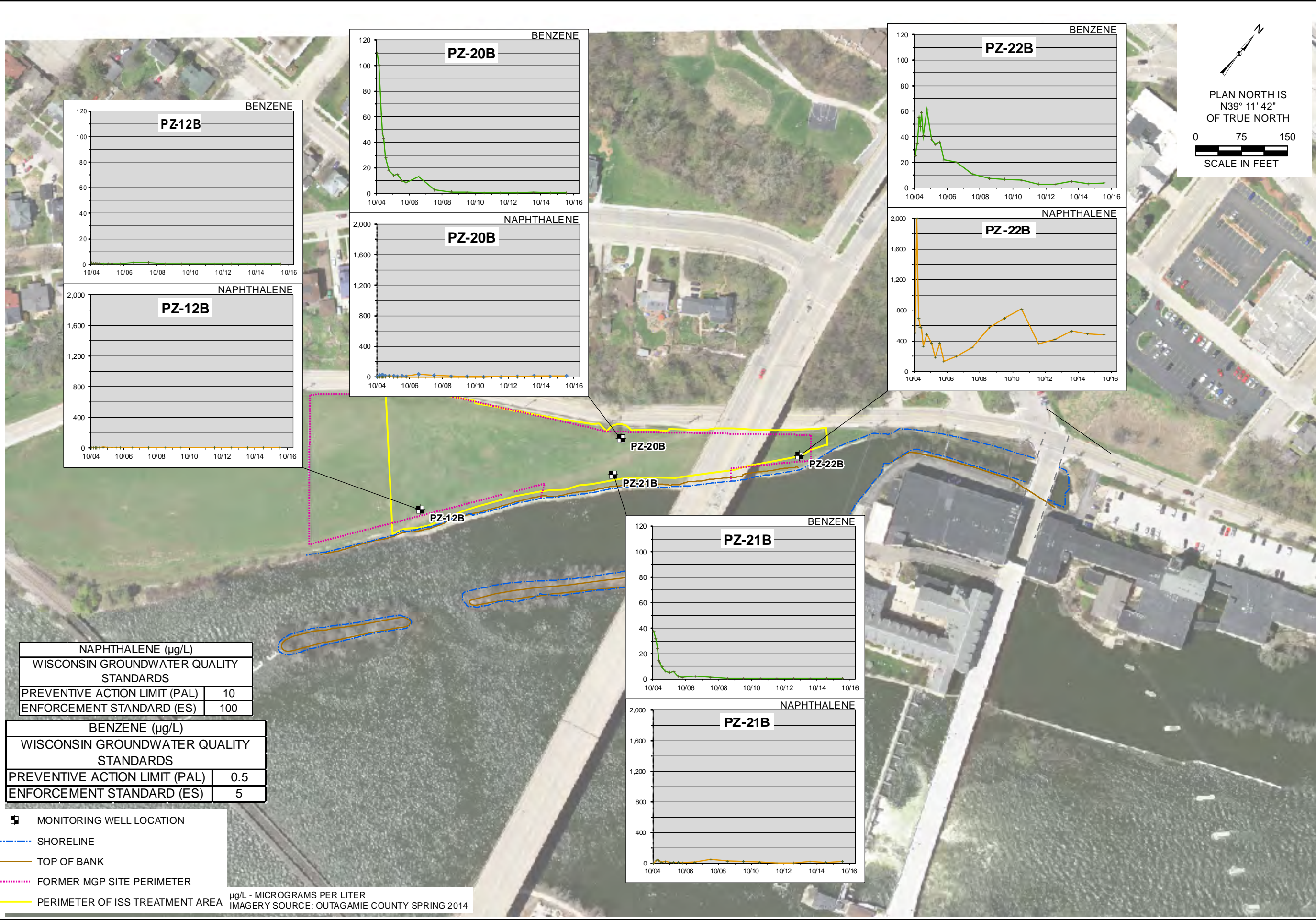
PROJECT NO. 1508
FIGURE NO. 10

NAPHTHALENE (µg/L)	
WISCONSIN GROUNDWATER QUALITY STANDARDS	
PREVENTIVE ACTION LIMIT (PAL)	10
ENFORCEMENT STANDARD (ES)	100



NOTE:
- ISOCONCENTRATION CONTOURS PRESENTED WERE CREATED BY KRIGING WELL DATA COLLECTED DURING APRIL SAMPLING EVENT OF EACH YEAR.
µg/L - MICROGRAMS PER LITER
IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure_11_Bedrock_GW_Benzene_Naphthalene.mxd Author: stolzsd Date/Time: 4/12/2017, 4:24:02 PM



PLAN NORTH IS
N39° 11' 42"
OF TRUE NORTH

0 75 150
SCALE IN FEET

DRAWN BY/DATE:
SDS 2/9/17
REVIEWED BY/DATE:
ANS 2/9/17
APPROVED BY/DATE:
BGH 4/12/17

**BEDROCK GROUNDWATER ANALYTICAL SUMMARY
BENZENE AND NAPHTHALENE - AREA 1**

2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

NAPHTHALENE (µg/L)	
WISCONSIN GROUNDWATER QUALITY STANDARDS	
PREVENTIVE ACTION LIMIT (PAL)	10
ENFORCEMENT STANDARD (ES)	100

BENZENE (µg/L)	
WISCONSIN GROUNDWATER QUALITY STANDARDS	
PREVENTIVE ACTION LIMIT (PAL)	0.5
ENFORCEMENT STANDARD (ES)	5

- ☒ MONITORING WELL LOCATION
- SHORELINE
- TOP OF BANK
- FORMER MGP SITE PERIMETER
- PERIMETER OF ISS TREATMENT AREA

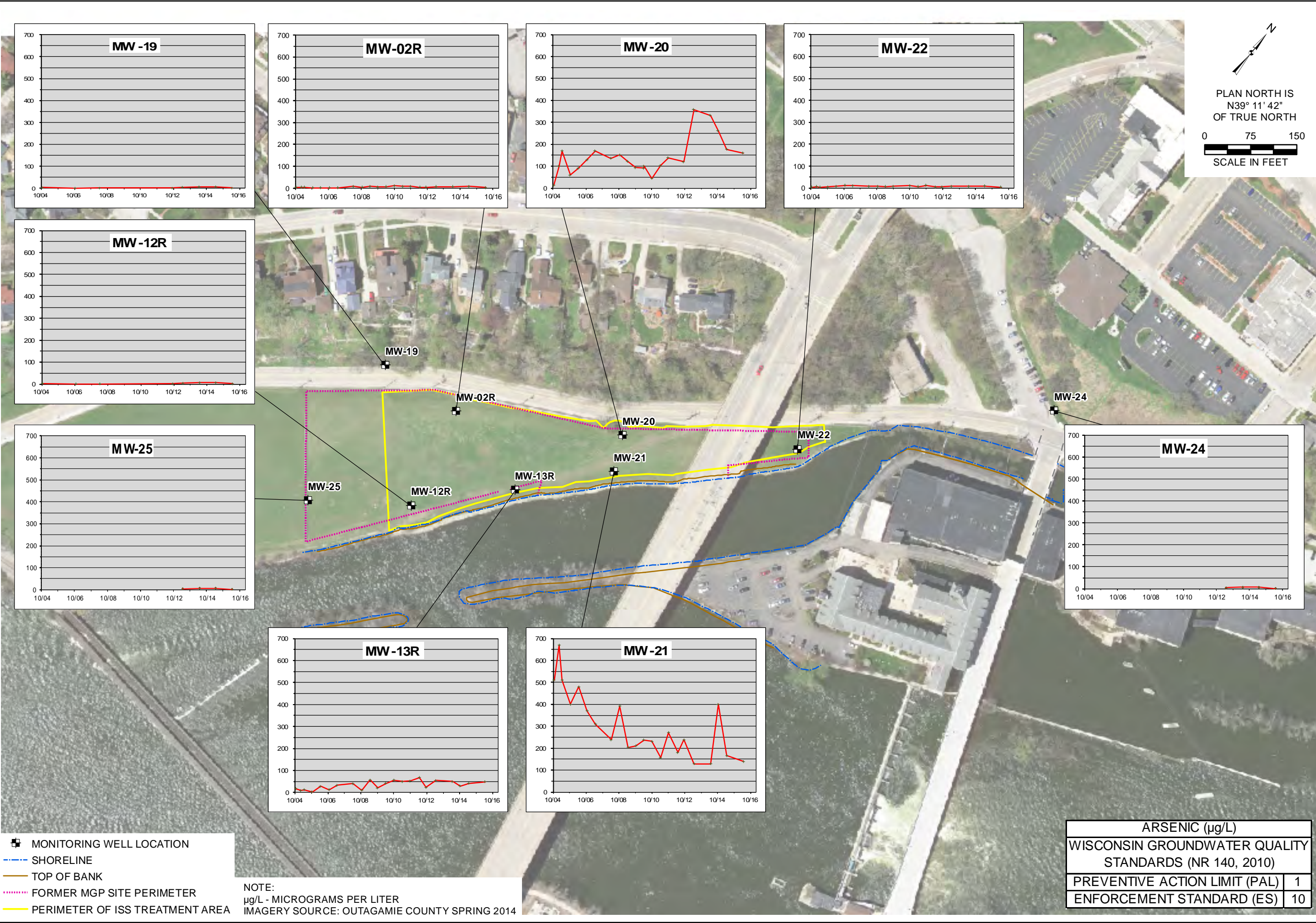
µg/L - MICROGRAMS PER LITER
IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

PROJECT NO. 1508

FIGURE NO. 11



Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 12_Lower_Till_GW_Arsenic.mxd Author: stolzsd; Date/Time: 4/12/2017, 4:23:15 PM



PLAN NORTH IS
N39° 11' 42"
OF TRUE NORTH

0 75 150
SCALE IN FEET

DRAWN BY/DATE:
SDS 2/9/17
REVIEWED BY/DATE:
ANS 2/9/17
APPROVED BY/DATE:
BGH 4/12/17

**LOWER TILL GROUNDWATER ARSENIC ANALYTICAL SUMMARY
AREA 1**

2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508

FIGURE NO: 12

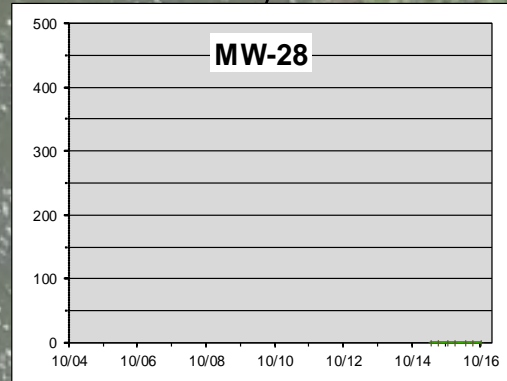
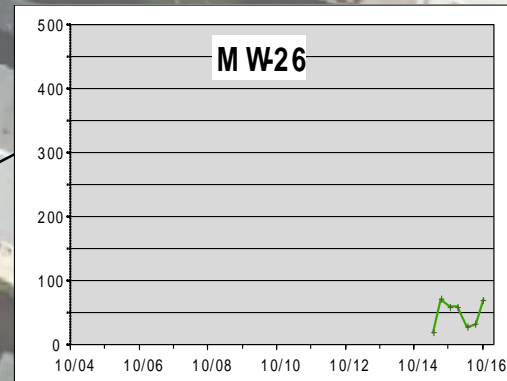
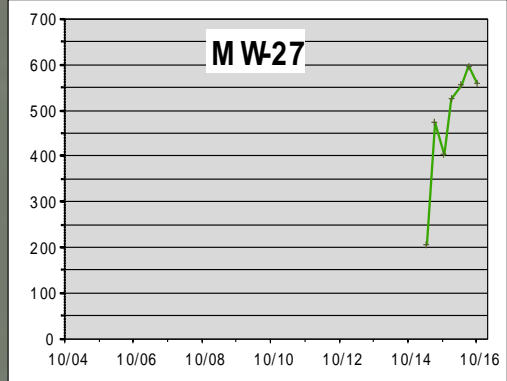
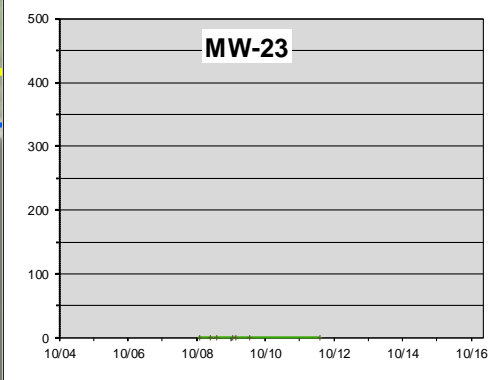
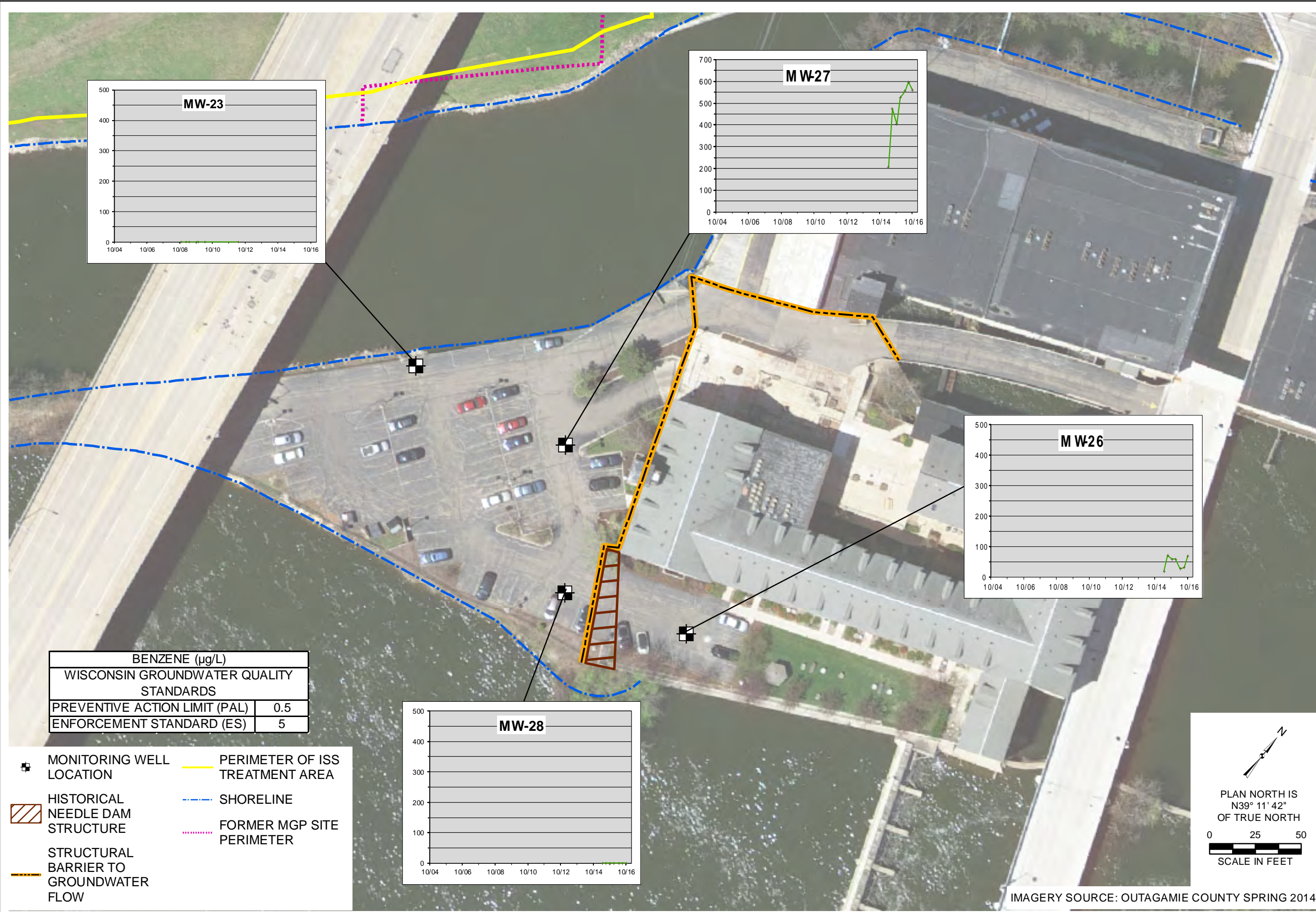
ARSENIC (µg/L)	
WISCONSIN GROUNDWATER QUALITY STANDARDS (NR 140, 2010)	
PREVENTIVE ACTION LIMIT (PAL)	1
ENFORCEMENT STANDARD (ES)	10



- MONITORING WELL LOCATION
- - - SHORELINE
- TOP OF BANK
- FORMER MGP SITE PERIMETER
- PERIMETER OF ISS TREATMENT AREA

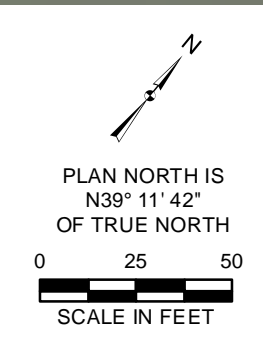
NOTE:
µg/L - MICROGRAMS PER LITER
IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 13_Watertable Benzene Analytical - Area 2.mxd Author: stolzsd; Date/Time: 4/12/2017, 4:24:59 PM



BENZENE (µg/L)	
WISCONSIN GROUNDWATER QUALITY STANDARDS	
PREVENTIVE ACTION LIMIT (PAL)	0.5
ENFORCEMENT STANDARD (ES)	5

- MONITORING WELL LOCATION
- PERIMETER OF ISS TREATMENT AREA
- HISTORICAL NEEDLE DAM STRUCTURE
- SHORELINE
- FORMER MGP SITE PERIMETER
- STRUCTURAL BARRIER TO GROUNDWATER FLOW



IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

**WATERTABLE GROUNDWATER BENZENE ANALYTICAL SUMMARY
AREA 2**

DRAWN BY/DATE:
SDS 2/9/17
REVIEWED BY/DATE:
ANS 2/9/17
APPROVED BY/DATE:
BGH 4/12/17

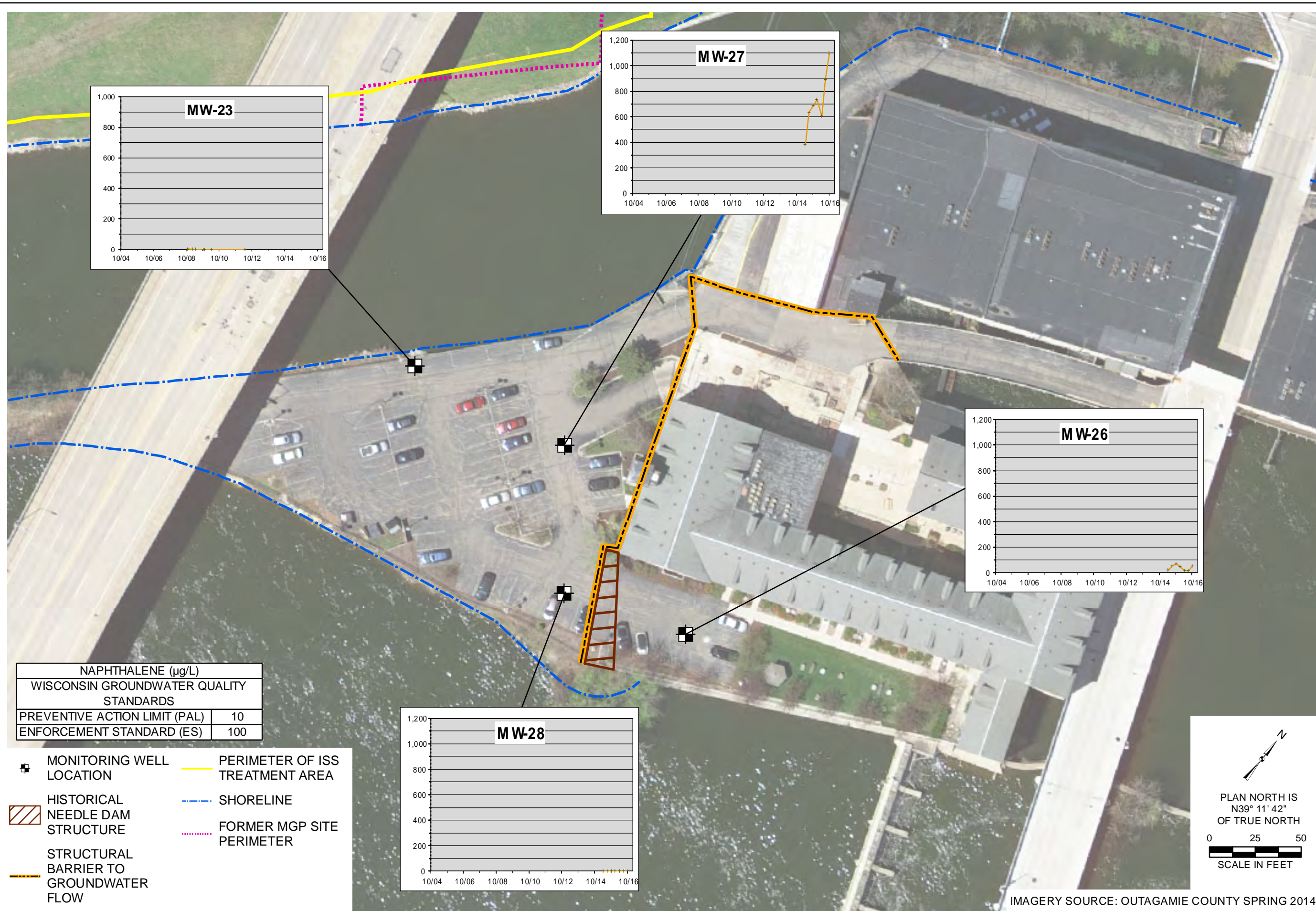
2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508

FIGURE NO: 13



Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure 14_Watertable Naphthalene Analytical - Area 2.mxd Author: stolzsd. Date/Time: 4/12/2017, 4:26:13 PM



DRAWN BY/DATE:
SDS 2/9/17
REVIEWED BY/DATE:
ANS 2/9/17
APPROVED BY/DATE:
BGH 4/12/17

WATERTABLE GROUNDWATER NAPHTHALENE ANALYTICAL SUMMARY
AREA 2

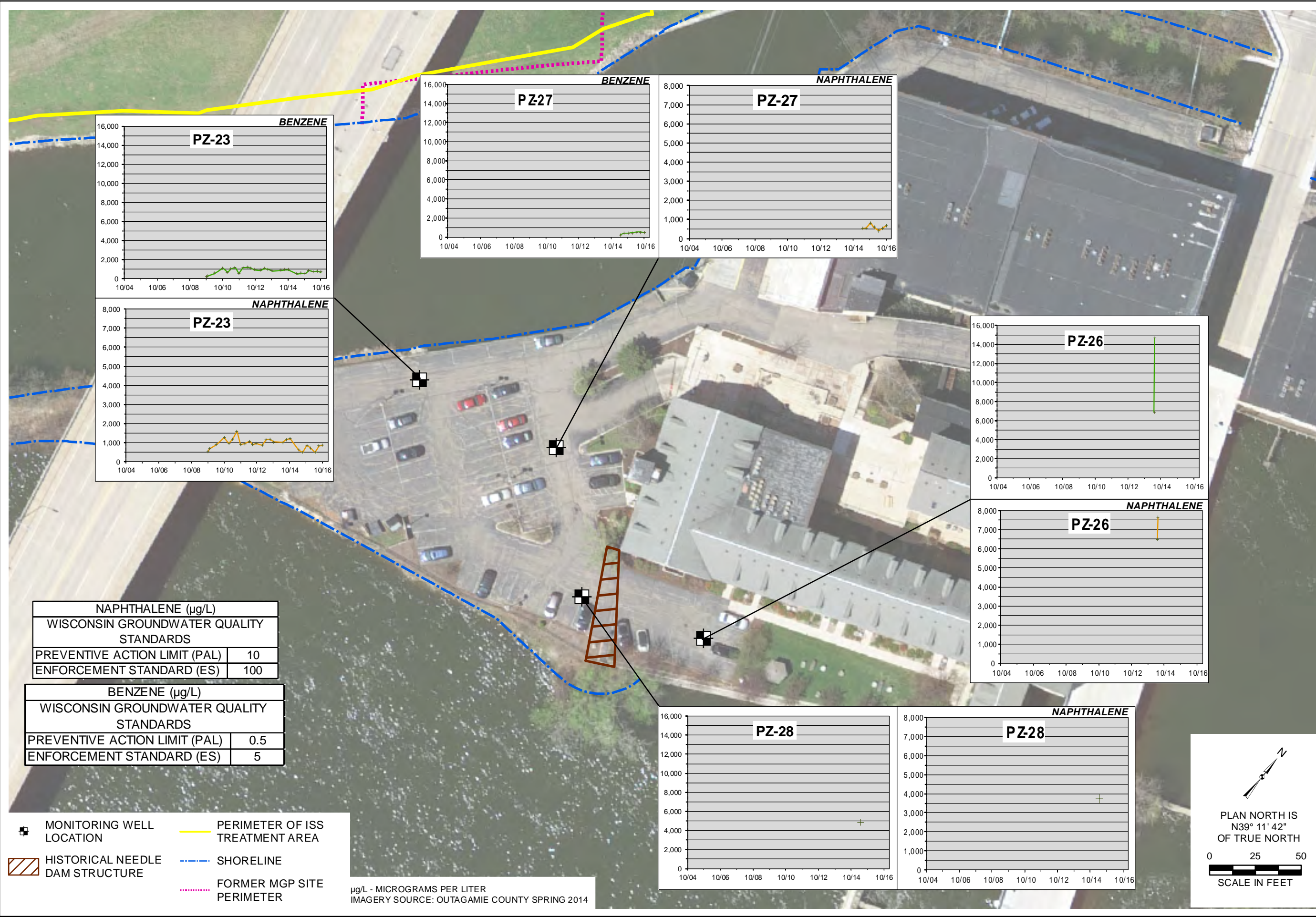
2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508

FIGURE NO: 14



Y:\GIS\Projects\151508\MXD\2016_Annual_Report\Figure 15_Shallow Bedrock Benzene and Naphthalene Analytical - Area 2.mxd Author: stolzsd Date/Time: 4/12/2017, 4:27:27 PM



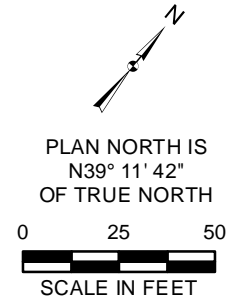
DRAWN BY/DATE:
SDS 2/9/17
REVIEWED BY/DATE:
ANS 2/9/17
APPROVED BY/DATE:
BGH 4/12/17

**UPPER WEATHERED BEDROCK GROUNDWATER ANALYTICAL SUMMARY
BENZENE AND NAPHTHALENE - AREA 2**

2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

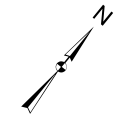
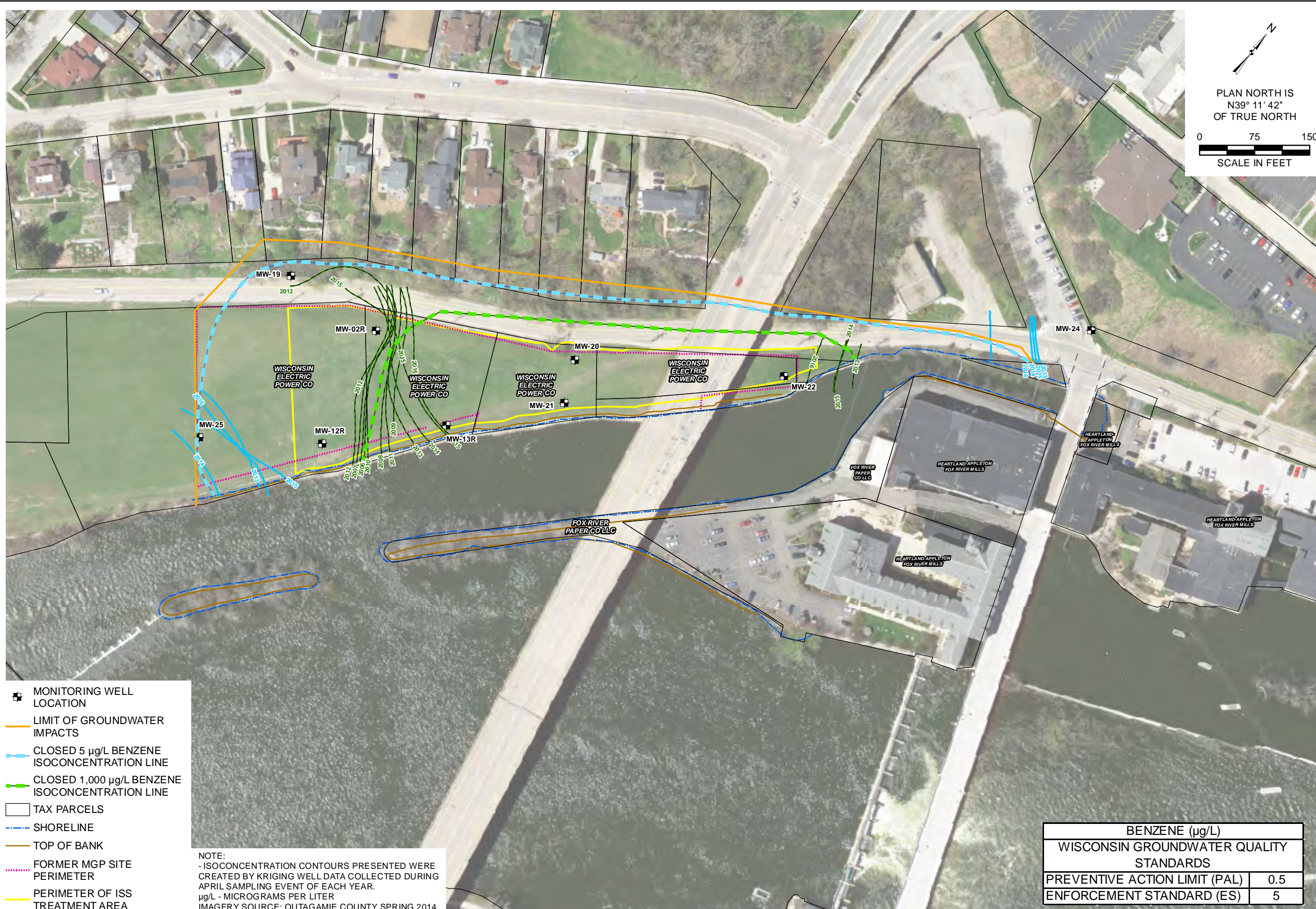
PROJECT NO: 1508

FIGURE NO: 15

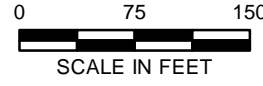


µg/L - MICROGRAMS PER LITER
IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\Figure_16_Limits_of_Groundwater_Impacts.mxd Author: stolzsd. Date/Time: 4/12/2017, 4:22:54 PM



PLAN NORTH IS
N39° 11' 42"
OF TRUE NORTH



- ☒ MONITORING WELL LOCATION
- LIMIT OF GROUNDWATER IMPACTS
- CLOSED 5 µg/L BENZENE ISOCONCENTRATION LINE
- CLOSED 1,000 µg/L BENZENE ISOCONCENTRATION LINE
- TAX PARCELS
- SHORELINE
- TOP OF BANK
- FORMER MGP SITE PERIMETER
- PERIMETER OF ISS TREATMENT AREA

NOTE:
- ISOCONCENTRATION CONTOURS PRESENTED WERE CREATED BY KRIGING WELL DATA COLLECTED DURING APRIL SAMPLING EVENT OF EACH YEAR.
µg/L - MICROGRAMS PER LITER
IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014

BENZENE (µg/L)	
WISCONSIN GROUNDWATER QUALITY STANDARDS	
PREVENTIVE ACTION LIMIT (PAL)	0.5
ENFORCEMENT STANDARD (ES)	5

DRAWN BY/DATE:
SDS 2/9/17
REVIEWED BY/DATE:
ANS 2/9/17
APPROVED BY/DATE:
BGH 4/12/17


LIMIT OF GROUNDWATER IMPACTS

2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508

FIGURE NO: 16





Appendix A
O&M 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

Appleton City (Coal Tar), aka Appleton MGP

2. Reporting period from: 01/01/2016 To: 12/31/2016 Days in period: 365

3. Regulatory agency (enter DNR, DATCP and/or other) 4. BRRTS ID No. (2 digit program-2 digit county-6 digit site specific)
 DNR 02-45-000042

5. Site location

Region	County	Address				
Northeast Region	Outagamie	337 Water 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
City of Appleton	21 N	17		35		

6. Responsible party 7. Consultant

Name	<input type="checkbox"/> Select if the following information has changed since the last submittal				
We Energies	Company name				
Mailing address	Natural Resource Technology, Inc				
333 W. Everett, Street, A231	Mailing address			Phone number	
Phone number	234 W Florida St, Milwaukee, WI 53024			(414) 837-3607	
(414) 221-2156					

8. Contaminants
 Benzene, Naphthalene

9. Soil types (USCS or USDA)
 Fill: solidified soil (cement), Native: CL, ML, SP, GW, GP, Dolomite

10. Hydraulic conductivity(cm/sec): 2E-7 to 9E-10 cm/s (solidified soil), 1E-3 to 1E-2 cm/s (till)
 11. Average linear velocity of groundwater (ft/yr) 0.003 ft/yr (solidified soil), 50 ft/yr (lower till)

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: Appleton City (Coal Tar), aka Appleton MGP

Reporting period from: 01/01/2016 To: 12/31/2016

Days in period: 365

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:

D. Economic and Cost Data to Date

1. Total investigation cost: \$1,300,000.00

2. Implementation costs (design, capital and installation costs, excluding investigation costs): \$10,000,000.00

3. Total costs during the previous reporting period: \$104,000.00

4. Total costs during this reporting period: \$40,000.00

5. Total anticipated costs for the next reporting period: \$40,000.00

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:

Sub-slab soil gas sampling was completed in 2016.

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

Site name: Appleton City (Coal Tar), aka Appleton MGP

Reporting period from: 01/01/2016 To: 12/31/2016

Days in period: 365

Remediation Site Operation, Maintenance, Monitoring & Optimization Report

Form 4400-194 (R 11/14)

Page 3 of 28

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
Signature	Date

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
Brian G. Hennings PG	Hydrogeologist
Signature 	Date
	4/11/17

Scientists:

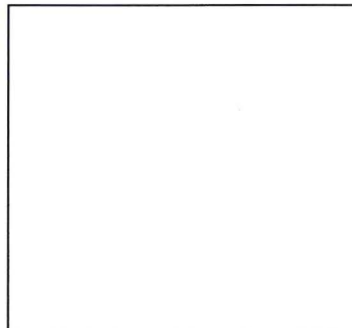
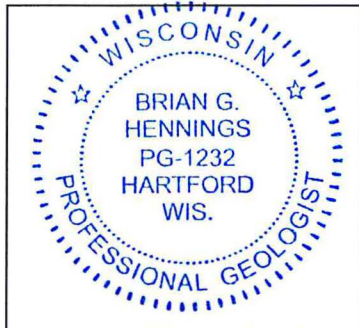
I hereby certify that I am a scientist as that term is defined in s. NR 712.03(3), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm.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

Print name	Title
Signature	Date

Other Persons:

Print name	Title
Signature	Date

Professional Seal(s), if applicable:



Site name: Appleton City (Coal Tar), aka Appleton MGP

Reporting period from: 01/01/2016 To: 12/31/2016

Days in period: 365

Remediation Site Operation, Maintenance, Monitoring & Optimization Report

Form 4400-194 (R 11/14)

Page 7 of 28

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

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: Benzene - Free product observed in 4 wells, see attached Annual Report Section 3.0 GW Quality

b. Percent reduction necessary to reach ch. NR 140 ES and PAL: 99.99 %

c. Maximum contaminant concentration level in any monitoring well of that contaminant: 1,780 $\mu\text{g/L}$

2. Aquifer parameters:

a. Hydraulic conductivity: 0.0033 cm/sec

b. Groundwater average linear velocity: 50 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: 862 $\mu\text{g/L}$

b. DO levels in the part of the plume that is most heavily contaminated 330 $\mu\text{g/L}$

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:

localized variable flow affects individual wells, site-wide trends are stable to decreasing

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.



Appendix B

Slug Test Results

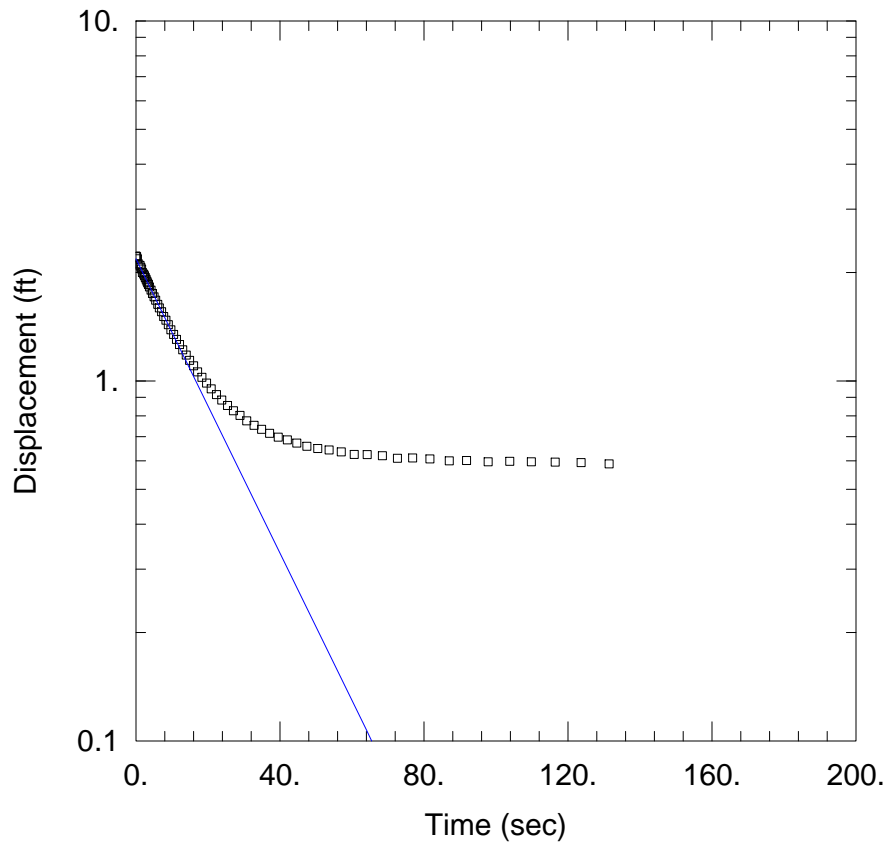
Slug Testing Summary Table

2016 Annual Update

We Energies Appleton Former Manufactured Gas Plant Site

Well ID	Attempt Number	Conductivity (K) (cm/sec)	Average In/Out (cm/sec)	Geomean (cm/sec)
PZ-27	Pneumatic 2	9.39E-03	1.03E-02	1.02E-02
	Pneumatic 3	9.58E-03		
	Pneumatic 4	1.19E-02		
Min (K) Value		9.4E-03		
Max (K) Value		1.2E-02		
Geomean (K) Value		1.0E-02		
Geomean (K) Value (ft/year)		10,579		

[O: ANS 2/20/17, C: BGH 2/20/17]



WELL TEST ANALYSIS

Data Set: P:\...\PZ27 Pneumatic 2.aqt
 Date: 02/20/17 Time: 15:59:52

PROJECT INFORMATION

Company: NRT
 Client: WE
 Project: 1508
 Location: Appleton
 Test Well: PZ27
 Test Date: July 2015

SOLUTION

Aquifer Model: Confined
 Solution Method: Bouwer-Rice
 $K = 0.00939$ cm/sec
 $y_0 = 2.186$ ft

AQUIFER DATA

Saturated Thickness: 50. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (New Well)

Initial Displacement: 2.22 ft
 Total Well Penetration Depth: 24. ft
 Casing Radius: 0.1667 ft

Static Water Column Height: 16.4 ft
 Screen Length: 5. ft
 Well Radius: 0.1667 ft

Data Set: P:\1500\1508\Data\2015 Well Installations\Slug Test Results\AQTESOLV Conductivity Results\Aqtesolv P
 Date: 02/20/17
 Time: 16:00:58

PROJECT INFORMATION

Company: NRT
 Client: WE
 Project: 1508
 Location: Appleton
 Test Date: July 2015
 Test Well: PZ27

AQUIFER DATA

Saturated Thickness: 50. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: New Well

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 2.22 ft
 Static Water Column Height: 16.4 ft
 Casing Radius: 0.1667 ft
 Well Radius: 0.1667 ft
 Well Skin Radius: 0.5 ft
 Screen Length: 5. ft
 Total Well Penetration Depth: 24. ft

No. of Observations: 68

<u>Time (sec)</u>	<u>Observation Data</u>		<u>Displacement (ft)</u>
	<u>Displacement (ft)</u>	<u>Time (sec)</u>	
0.	2.22	17.15	1.059
0.22	2.214	18.34	1.023
0.439	2.185	19.61	0.986
0.658	2.117	20.93	0.951
1.125	2.095	22.36	0.916
1.346	2.069	23.86	0.885
1.569	2.045	25.43	0.855
1.79	2.	27.11	0.826
2.151	1.979	28.91	0.802
2.373	1.96	30.77	0.775
2.598	1.937	32.81	0.753
2.817	1.917	34.91	0.734
3.037	1.892	37.13	0.715
3.257	1.871	39.52	0.698
3.479	1.852	42.05	0.686
3.765	1.824	44.69	0.672
4.185	1.788	47.51	0.658
4.605	1.75	50.51	0.649
5.025	1.712	53.69	0.643
5.505	1.675	57.05	0.635
6.045	1.631	60.65	0.625
6.525	1.596	64.24	0.624
7.125	1.556	68.44	0.62
7.725	1.51	72.64	0.61
8.325	1.474	76.84	0.611
8.985	1.433	81.64	0.607
9.705	1.387	87.04	0.6
10.48	1.346	91.84	0.601
11.27	1.304	97.84	0.596
12.11	1.262	103.8	0.598

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
13.01	1.22	109.8	0.596
13.97	1.18	116.4	0.595
14.93	1.141	123.6	0.593
16.	1.102	131.4	0.588

SOLUTION

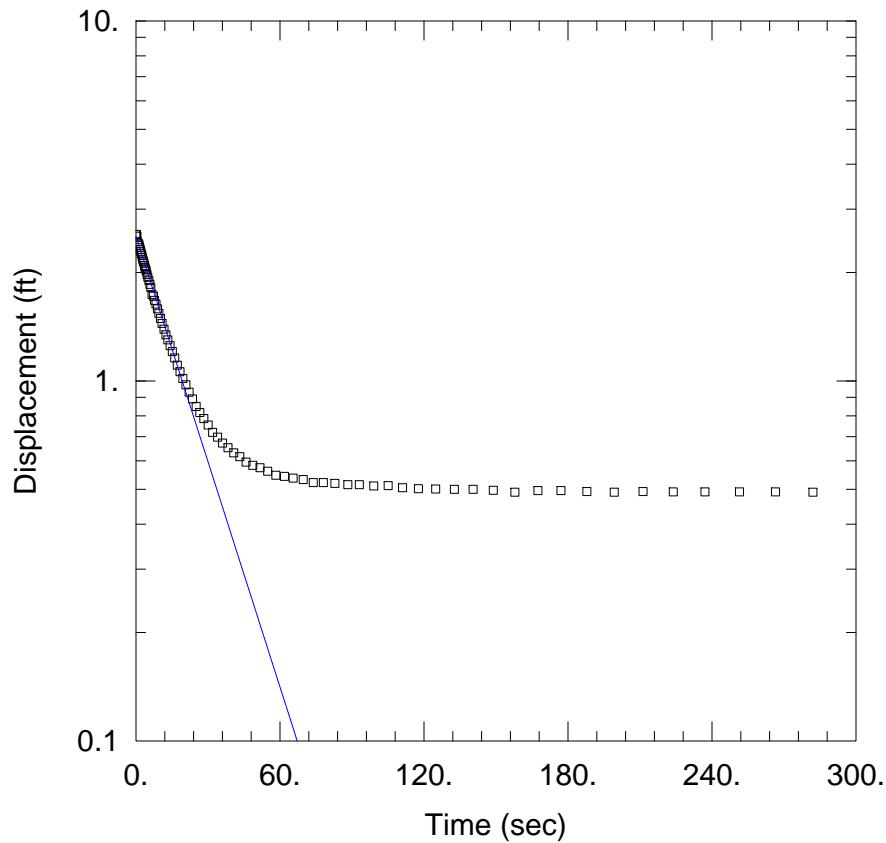
Slug Test
 Aquifer Model: Confined
 Solution Method: Bouwer-Rice
 ln(Re/rw): 2.705

VISUAL ESTIMATION RESULTS

Estimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	0.00939	cm/sec
y0	2.186	ft

$T = K \cdot b = 14.31 \text{ cm}^2/\text{sec}$



WELL TEST ANALYSIS

Data Set: P:\...\PZ27 Pneumatic 3.aqt
 Date: 02/20/17 Time: 16:08:08

PROJECT INFORMATION

Company: NRT
 Client: WE
 Project: 1508
 Location: Appleton
 Test Well: PZ27
 Test Date: July 2015

SOLUTION

Aquifer Model: Confined
 Solution Method: Bouwer-Rice
 $K = 0.009579$ cm/sec
 $y_0 = 2.52$ ft

AQUIFER DATA

Saturated Thickness: 50. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (New Well)

Initial Displacement: 2.551 ft
 Total Well Penetration Depth: 24. ft
 Casing Radius: 0.1667 ft

Static Water Column Height: 16.5 ft
 Screen Length: 5. ft
 Well Radius: 0.1667 ft

Data Set: P:\1500\1508\Data\2015 Well Installations\Slug Test Results\AQTESOLV Conductivity Results\Aqtesolv P
 Date: 02/20/17
 Time: 16:08:46

PROJECT INFORMATION

Company: NRT
 Client: WE
 Project: 1508
 Location: Appleton
 Test Date: July 2015
 Test Well: PZ27

AQUIFER DATA

Saturated Thickness: 50. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: New Well

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 2.551 ft
 Static Water Column Height: 16.5 ft
 Casing Radius: 0.1667 ft
 Well Radius: 0.1667 ft
 Well Skin Radius: 0.5 ft
 Screen Length: 5. ft
 Total Well Penetration Depth: 24. ft

No. of Observations: 86

<u>Time (sec)</u>	<u>Observation Data</u>		<u>Displacement (ft)</u>
	<u>Displacement (ft)</u>	<u>Time (sec)</u>	
0.	2.551	23.59	0.891
0.221	2.549	25.09	0.849
0.442	2.523	26.65	0.817
0.663	2.437	28.33	0.786
1.143	2.406	30.13	0.754
1.364	2.375	31.99	0.72
1.586	2.344	34.03	0.698
1.806	2.316	36.13	0.672
2.028	2.285	38.35	0.652
2.249	2.257	40.75	0.631
2.469	2.231	43.27	0.616
2.689	2.199	45.91	0.595
2.909	2.169	48.73	0.583
3.129	2.149	51.73	0.574
3.35	2.124	54.91	0.561
3.57	2.092	58.27	0.547
3.79	2.07	61.87	0.543
4.022	2.046	65.47	0.537
4.272	2.019	69.67	0.532
4.632	1.976	73.87	0.522
4.992	1.939	78.07	0.522
5.412	1.899	82.87	0.519
5.832	1.854	88.27	0.515
6.252	1.817	93.07	0.515
6.732	1.739	99.07	0.511
7.272	1.719	105.1	0.512
7.752	1.674	111.1	0.505
8.352	1.635	117.7	0.502
8.952	1.586	124.9	0.501
9.552	1.541	132.7	0.5

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
10.21	1.492	140.5	0.5
10.93	1.445	148.9	0.497
11.71	1.392	157.9	0.491
12.49	1.344	167.5	0.496
13.33	1.3	177.1	0.496
14.23	1.253	187.9	0.493
15.19	1.206	199.3	0.491
16.15	1.158	211.3	0.493
17.23	1.106	223.9	0.492
18.37	1.061	237.1	0.492
19.57	1.016	251.5	0.492
20.83	0.975	266.5	0.492
22.15	0.93	282.1	0.491

SOLUTION

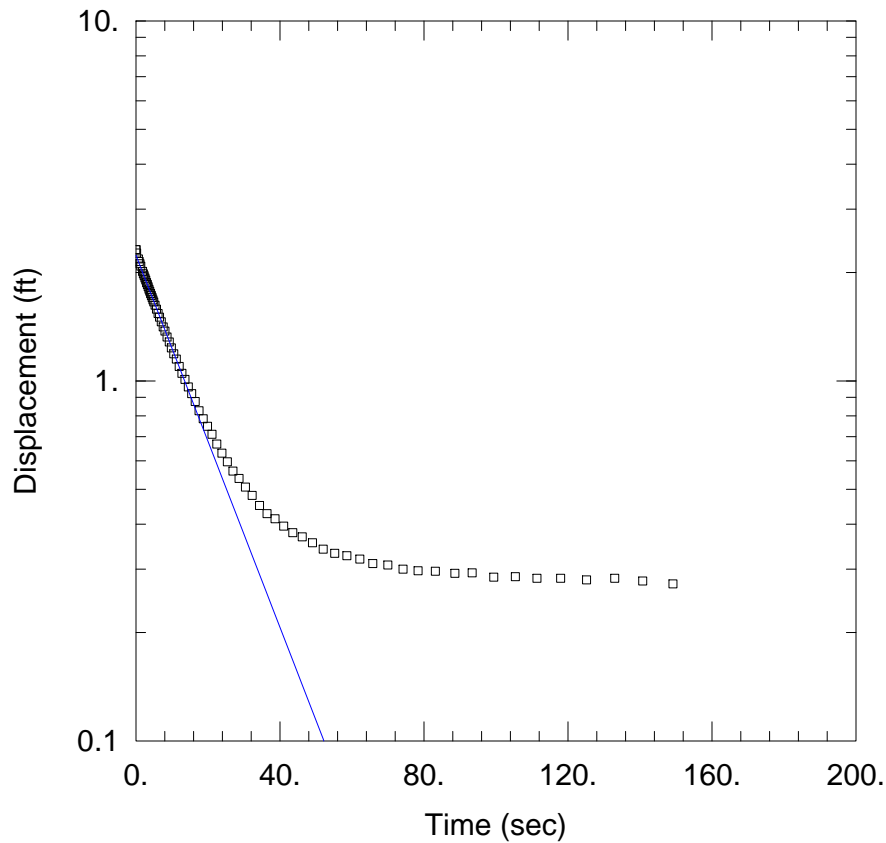
Slug Test
 Aquifer Model: Confined
 Solution Method: Bouwer-Rice
 ln(Re/rw): 2.705

VISUAL ESTIMATION RESULTS

Estimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	0.009579	cm/sec
y0	2.52	ft

$T = K \cdot b = 14.6 \text{ cm}^2/\text{sec}$



WELL TEST ANALYSIS

Data Set: P:\...\PZ27 Pneumatic 4.aqt
 Date: 02/20/17 Time: 16:17:37

PROJECT INFORMATION

Company: NRT
 Client: WE
 Project: 1508
 Location: Appleton
 Test Well: MW28
 Test Date: July 2015

SOLUTION

Aquifer Model: Confined
 Solution Method: Bouwer-Rice
 $K = 0.01186$ cm/sec
 $y_0 = 2.233$ ft

AQUIFER DATA

Saturated Thickness: 50. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (New Well)

Initial Displacement: 2.316 ft
 Total Well Penetration Depth: 24. ft
 Casing Radius: 0.1667 ft

Static Water Column Height: 16.72 ft
 Screen Length: 5. ft
 Well Radius: 0.1667 ft

Data Set: P:\1500\1508\Data\2015 Well Installations\Slug Test Results\AQTESOLV Conductivity Results\Aqtesolv P
 Date: 02/20/17
 Time: 16:17:03

PROJECT INFORMATION

Company: NRT
 Client: WE
 Project: 1508
 Location: Appleton
 Test Date: July 2015
 Test Well: MW28

AQUIFER DATA

Saturated Thickness: 50. ft
 Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: New Well

X Location: 0. ft
 Y Location: 0. ft

Initial Displacement: 2.316 ft
 Static Water Column Height: 16.72 ft
 Casing Radius: 0.1667 ft
 Well Radius: 0.1667 ft
 Well Skin Radius: 0.5 ft
 Screen Length: 5. ft
 Total Well Penetration Depth: 24. ft

No. of Observations: 76

<u>Time (sec)</u>	<u>Observation Data</u>		<u>Displacement (ft)</u>
	<u>Displacement (ft)</u>	<u>Time (sec)</u>	
0.	2.316	16.46	0.877
0.22	2.267	17.54	0.826
0.711	2.182	18.68	0.785
0.932	2.147	19.88	0.748
1.152	2.117	21.14	0.711
1.372	2.084	22.46	0.668
1.854	2.015	23.9	0.63
2.075	1.985	25.4	0.596
2.297	1.96	26.96	0.562
2.517	1.932	28.64	0.536
2.738	1.906	30.44	0.507
2.959	1.875	32.3	0.481
3.179	1.852	34.34	0.451
3.399	1.827	36.44	0.428
3.619	1.799	38.66	0.414
3.84	1.774	41.06	0.395
4.06	1.75	43.58	0.379
4.28	1.726	46.22	0.369
4.5	1.704	49.04	0.355
4.721	1.68	52.04	0.341
4.943	1.657	55.22	0.332
5.299	1.623	58.58	0.327
5.719	1.582	62.18	0.32
6.139	1.54	65.78	0.311
6.559	1.504	69.98	0.308
7.039	1.46	74.18	0.3
7.579	1.413	78.38	0.297
8.059	1.375	83.18	0.296
8.659	1.325	88.58	0.292
9.259	1.283	93.38	0.293

<u>Time (sec)</u>	<u>Displacement (ft)</u>	<u>Time (sec)</u>	<u>Displacement (ft)</u>
9.859	1.235	99.38	0.285
10.52	1.19	105.4	0.286
11.24	1.15	111.4	0.283
12.02	1.097	118.	0.283
12.8	1.05	125.2	0.28
13.64	1.01	133.	0.283
14.54	0.962	140.8	0.278
15.5	0.922	149.2	0.273

SOLUTION

Slug Test
 Aquifer Model: Confined
 Solution Method: Bouwer-Rice
 ln(Re/rw): 2.705

VISUAL ESTIMATION RESULTS

Estimated Parameters

<u>Parameter</u>	<u>Estimate</u>	
K	0.01186	cm/sec
y0	2.233	ft

$T = K \cdot b = 18.08 \text{ cm}^2/\text{sec}$



Appendix C
2015 Groundwater and
Soil Gas Laboratory
Reports

May 10, 2016

David Kollakowsky
We Energies
333 W. Everett St
Room P129
Milwaukee, WI 532012179

RE: Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40131214

Dear David Kollakowsky:

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

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

Sincerely,



Brian Basten
brian.basten@pacelabs.com
Project Manager

Enclosures

cc: Frank Dombrowski, WE Energies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY
Chris Robb, Natural Resource Technologies



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40131214

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
Virginia VELAP ID: 460263
North Dakota Certification #: R-150

South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Virginia VELAP ID: 460263
Virginia VELAP Certification ID: 460263
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40131214001	MW-2R	Water	04/21/16 10:10	04/22/16 09:35
40131214002	MW-12R	Water	04/21/16 14:05	04/22/16 09:35
40131214003	MW-13R	Water	04/21/16 13:38	04/22/16 09:35
40131214004	MW-19	Water	04/21/16 09:35	04/22/16 09:35
40131214005	MW-20	Water	04/21/16 10:46	04/22/16 09:35
40131214006	MW-21	Water	04/21/16 12:46	04/22/16 09:35
40131214007	MW-22	Water	04/21/16 11:38	04/22/16 09:35
40131214008	MW-26	Water	04/22/16 09:00	04/22/16 09:35
40131214009	MW-27	Water	04/22/16 07:32	04/22/16 09:35
40131214010	MW-28	Water	04/22/16 08:30	04/22/16 09:35
40131214011	PZ-23	Water	04/21/16 15:40	04/22/16 09:35
40131214012	PZ-27	Water	04/22/16 07:52	04/22/16 09:35
40131214013	QCFB	Water	04/21/16 14:35	04/22/16 09:35
40131214014	QC-1	Water	04/21/16 00:00	04/22/16 09:35
40131214015	PZ-22B	Water	04/21/16 12:10	04/22/16 09:35
40131214016	MW-24	Water	04/22/16 06:55	04/22/16 09:35
40131214017	MW-25	Water	04/21/16 15:40	04/22/16 09:35
40131214018	PZ-21B	Water	04/21/16 13:12	04/22/16 09:35
40131214019	PZ-20B	Water	04/21/16 11:12	04/22/16 09:35
40131214020	PZ-12B	Water	04/21/16 14:28	04/22/16 09:35
40131214021	TRIP BLANK	Water	04/21/16 00:00	04/22/16 09:35

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40131214001	MW-2R	EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40131214002	MW-12R	EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40131214003	MW-13R	EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40131214004	MW-19	EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40131214005	MW-20	EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40131214006	MW-21	EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40131214007	MW-22	EPA 8015B Modified	JSK	1	PASI-G

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SAMPLE ANALYTE COUNT

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40131214

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40131214008	MW-26	EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
		EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40131214009	MW-27	EPA 310.2	DAW	1	PASI-G
		EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
		EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
40131214010	MW-28	EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
		EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
		EPA 8015B Modified	JSK	1	PASI-G
40131214011	PZ-23	EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
		EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40131214012	PZ-27	EPA 310.2	DAW	1	PASI-G
		EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
		EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
40131214013	QCFB	EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M

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SAMPLE ANALYTE COUNT

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40131214014	QC-1	EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40131214015	PZ-22B	EPA 8260	LAP	5	PASI-G
40131214016	MW-24	EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40131214017	MW-25	EPA 8015B Modified	JSK	1	PASI-G
		EPA 6020A	TT3	3	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40131214018	PZ-21B	EPA 8260	LAP	5	PASI-G
40131214019	PZ-20B	EPA 8260	LAP	5	PASI-G
40131214020	PZ-12B	EPA 8260	LAP	5	PASI-G
40131214021	TRIP BLANK	EPA 8260	HNW	9	PASI-G

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: MW-2R **Lab ID: 40131214001** Collected: 04/21/16 10:10 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	1010	ug/L	14.0	6.8	5		04/27/16 13:37	74-82-8	M1
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	3.0	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 08:35	7440-38-2	
Iron, Dissolved	619	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 08:35	7439-89-6	M1
Manganese, Dissolved	8.9	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 08:35	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	422	ug/L	10.0	5.0	10		04/28/16 16:54	71-43-2	
Ethylbenzene	223	ug/L	10.0	5.0	10		04/28/16 16:54	100-41-4	
Naphthalene	784	ug/L	50.0	25.0	10		04/28/16 16:54	91-20-3	
Toluene	28.7	ug/L	10.0	5.0	10		04/28/16 16:54	108-88-3	
m&p-Xylene	79.5	ug/L	20.0	10.0	10		04/28/16 16:54	179601-23-1	
o-Xylene	84.0	ug/L	10.0	5.0	10		04/28/16 16:54	95-47-6	
Surrogates									
Dibromofluoromethane (S)	117	%	70-130		10		04/28/16 16:54	1868-53-7	
Toluene-d8 (S)	95	%	70-130		10		04/28/16 16:54	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		10		04/28/16 16:54	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 19:30	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	287	mg/L	80.0	40.0	20		04/25/16 16:38	14808-79-8	M0
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	475	mg/L	117	35.2	5		04/29/16 10:07		

Sample: MW-12R **Lab ID: 40131214002** Collected: 04/21/16 14:05 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	4320	ug/L	56.0	27.4	20		04/27/16 13:58	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	2.3J	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 08:48	7440-38-2	
Iron, Dissolved	273	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 08:48	7439-89-6	
Manganese, Dissolved	8.2	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 08:48	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	26.7	ug/L	10.0	5.0	10		04/28/16 17:16	71-43-2	
Ethylbenzene	73.2	ug/L	10.0	5.0	10		04/28/16 17:16	100-41-4	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: MW-12R **Lab ID: 40131214002** Collected: 04/21/16 14:05 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Naphthalene	961	ug/L	50.0	25.0	10		04/28/16 17:16	91-20-3	
Toluene	10.8	ug/L	10.0	5.0	10		04/28/16 17:16	108-88-3	
m&p-Xylene	25.2	ug/L	20.0	10.0	10		04/28/16 17:16	179601-23-1	
o-Xylene	32.0	ug/L	10.0	5.0	10		04/28/16 17:16	95-47-6	
Surrogates									
Dibromofluoromethane (S)	113	%	70-130		10		04/28/16 17:16	1868-53-7	
Toluene-d8 (S)	96	%	70-130		10		04/28/16 17:16	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		10		04/28/16 17:16	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 20:06	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	118	mg/L	20.0	10.0	5		04/25/16 17:38	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	285	mg/L	47.0	14.1	2		04/29/16 13:45		

Sample: MW-13R **Lab ID: 40131214003** Collected: 04/21/16 13:38 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	1100	ug/L	14.0	6.8	5		04/27/16 14:05	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	48.6	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 08:51	7440-38-2	
Iron, Dissolved	764	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 08:51	7439-89-6	
Manganese, Dissolved	52.0	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 08:51	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	1090	ug/L	40.0	20.0	40		04/28/16 17:39	71-43-2	
Ethylbenzene	345	ug/L	40.0	20.0	40		04/28/16 17:39	100-41-4	
Naphthalene	3240	ug/L	200	100	40		04/28/16 17:39	91-20-3	
Toluene	251	ug/L	40.0	20.0	40		04/28/16 17:39	108-88-3	
m&p-Xylene	376	ug/L	80.0	40.0	40		04/28/16 17:39	179601-23-1	
o-Xylene	177	ug/L	40.0	20.0	40		04/28/16 17:39	95-47-6	
Surrogates									
Dibromofluoromethane (S)	116	%	70-130		40		04/28/16 17:39	1868-53-7	
Toluene-d8 (S)	97	%	70-130		40		04/28/16 17:39	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		40		04/28/16 17:39	460-00-4	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: MW-13R Lab ID: 40131214003 Collected: 04/21/16 13:38 Received: 04/22/16 09:35 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 20:18	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	1080	mg/L	80.0	40.0	20		04/25/16 17:50	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	136	mg/L	47.0	14.1	2		04/29/16 13:45		

Sample: MW-19 Lab ID: 40131214004 Collected: 04/21/16 09:35 Received: 04/22/16 09:35 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	1110	ug/L	11.2	5.5	4		04/27/16 14:11	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	1.3J	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 08:53	7440-38-2	
Iron, Dissolved	529	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 08:53	7439-89-6	
Manganese, Dissolved	10.7	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 08:53	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	116	ug/L	1.0	0.50	1		04/28/16 21:01	71-43-2	
Ethylbenzene	62.5	ug/L	1.0	0.50	1		04/28/16 21:01	100-41-4	
Naphthalene	21.4	ug/L	5.0	2.5	1		04/28/16 21:01	91-20-3	
Toluene	3.2	ug/L	1.0	0.50	1		04/28/16 21:01	108-88-3	
m&p-Xylene	8.6	ug/L	2.0	1.0	1		04/28/16 21:01	179601-23-1	
o-Xylene	21.8	ug/L	1.0	0.50	1		04/28/16 21:01	95-47-6	
Surrogates									
Dibromofluoromethane (S)	113	%	70-130		1		04/28/16 21:01	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		04/28/16 21:01	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		04/28/16 21:01	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 20:30	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	612	mg/L	80.0	40.0	20		04/25/16 18:07	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	493	mg/L	47.0	14.1	2		04/29/16 13:46		

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: MW-20 **Lab ID: 40131214005** Collected: 04/21/16 10:46 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	272	ug/L	14.0	6.8	5		04/27/16 14:31	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	160	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 09:01	7440-38-2	
Iron, Dissolved	135	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 09:01	7439-89-6	
Manganese, Dissolved	1.2	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 09:01	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	1780	ug/L	50.0	25.0	50		04/28/16 18:01	71-43-2	
Ethylbenzene	616	ug/L	50.0	25.0	50		04/28/16 18:01	100-41-4	
Naphthalene	4730	ug/L	250	125	50		04/28/16 18:01	91-20-3	
Toluene	822	ug/L	50.0	25.0	50		04/28/16 18:01	108-88-3	
m&p-Xylene	491	ug/L	100	50.0	50		04/28/16 18:01	179601-23-1	
o-Xylene	362	ug/L	50.0	25.0	50		04/28/16 18:01	95-47-6	
Surrogates									
Dibromofluoromethane (S)	117	%	70-130		50		04/28/16 18:01	1868-53-7	
Toluene-d8 (S)	93	%	70-130		50		04/28/16 18:01	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		50		04/28/16 18:01	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 20:42	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	468	mg/L	80.0	40.0	20		04/25/16 18:21	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	95.9	mg/L	23.5	7.0	1		04/29/16 13:46		

Sample: MW-21 **Lab ID: 40131214006** Collected: 04/21/16 12:46 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	51.5	ug/L	2.8	1.4	1		04/27/16 11:09	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	139	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 09:03	7440-38-2	
Iron, Dissolved	220	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 09:03	7439-89-6	
Manganese, Dissolved	<0.098	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 09:03	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	1040	ug/L	100	50.0	100		04/28/16 18:24	71-43-2	
Ethylbenzene	225	ug/L	100	50.0	100		04/28/16 18:24	100-41-4	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: MW-21 **Lab ID: 40131214006** Collected: 04/21/16 12:46 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Naphthalene	7370	ug/L	500	250	100		04/28/16 18:24	91-20-3	
Toluene	995	ug/L	100	50.0	100		04/28/16 18:24	108-88-3	
m&p-Xylene	489	ug/L	200	100	100		04/28/16 18:24	179601-23-1	
o-Xylene	296	ug/L	100	50.0	100		04/28/16 18:24	95-47-6	
Surrogates									
Dibromofluoromethane (S)	119	%	70-130		100		04/28/16 18:24	1868-53-7	
Toluene-d8 (S)	94	%	70-130		100		04/28/16 18:24	2037-26-5	
4-Bromofluorobenzene (S)	90	%	70-130		100		04/28/16 18:24	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 20:54	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	500	mg/L	80.0	40.0	20		04/25/16 18:33	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	97.6	mg/L	23.5	7.0	1		04/29/16 13:47		

Sample: MW-22 **Lab ID: 40131214007** Collected: 04/21/16 11:38 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	1400	ug/L	56.0	27.4	20		04/27/16 14:38	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	3.9	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 09:06	7440-38-2	
Iron, Dissolved	398	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 09:06	7439-89-6	
Manganese, Dissolved	42.2	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 09:06	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	1310	ug/L	25.0	12.5	25		04/28/16 18:46	71-43-2	
Ethylbenzene	399	ug/L	25.0	12.5	25		04/28/16 18:46	100-41-4	
Naphthalene	1710	ug/L	125	62.5	25		04/28/16 18:46	91-20-3	
Toluene	<12.5	ug/L	25.0	12.5	25		04/28/16 18:46	108-88-3	
m&p-Xylene	<25.0	ug/L	50.0	25.0	25		04/28/16 18:46	179601-23-1	
o-Xylene	32.5	ug/L	25.0	12.5	25		04/28/16 18:46	95-47-6	
Surrogates									
Dibromofluoromethane (S)	111	%	70-130		25		04/28/16 18:46	1868-53-7	
Toluene-d8 (S)	98	%	70-130		25		04/28/16 18:46	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		25		04/28/16 18:46	460-00-4	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: MW-22 Lab ID: 40131214007 Collected: 04/21/16 11:38 Received: 04/22/16 09:35 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 21:06	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	3.1J	mg/L	4.0	2.0	1		04/22/16 21:06	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	446	mg/L	47.0	14.1	2		04/29/16 13:47		

Sample: MW-26 Lab ID: 40131214008 Collected: 04/22/16 09:00 Received: 04/22/16 09:35 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	1440	ug/L	70.0	34.2	25		04/27/16 14:45	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	78.1	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 09:08	7440-38-2	
Iron, Dissolved	1300	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 09:08	7439-89-6	
Manganese, Dissolved	269	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 09:08	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	27.1	ug/L	1.0	0.50	1		04/28/16 21:23	71-43-2	
Ethylbenzene	1.5	ug/L	1.0	0.50	1		04/28/16 21:23	100-41-4	
Naphthalene	16.7	ug/L	5.0	2.5	1		04/28/16 21:23	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		04/28/16 21:23	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		04/28/16 21:23	179601-23-1	
o-Xylene	1.4	ug/L	1.0	0.50	1		04/28/16 21:23	95-47-6	
Surrogates									
Dibromofluoromethane (S)	111	%	70-130		1		04/28/16 21:23	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		04/28/16 21:23	2037-26-5	
4-Bromofluorobenzene (S)	93	%	70-130		1		04/28/16 21:23	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 21:43	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	72.8	mg/L	20.0	10.0	5		04/25/16 18:45	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	390	mg/L	235	70.4	10		04/29/16 12:10		

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: MW-27 **Lab ID: 40131214009** Collected: 04/22/16 07:32 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	1640	ug/L	70.0	34.2	25		04/27/16 14:52	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	6.8	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 09:11	7440-38-2	
Iron, Dissolved	704	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 09:11	7439-89-6	
Manganese, Dissolved	116	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 09:11	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	556	ug/L	5.0	2.5	5		04/28/16 19:09	71-43-2	
Ethylbenzene	107	ug/L	5.0	2.5	5		04/28/16 19:09	100-41-4	
Naphthalene	605	ug/L	25.0	12.5	5		04/28/16 19:09	91-20-3	
Toluene	4.1J	ug/L	5.0	2.5	5		04/28/16 19:09	108-88-3	
m&p-Xylene	10.2	ug/L	10.0	5.0	5		04/28/16 19:09	179601-23-1	
o-Xylene	13.8	ug/L	5.0	2.5	5		04/28/16 19:09	95-47-6	
Surrogates									
Dibromofluoromethane (S)	111	%	70-130		5		04/28/16 19:09	1868-53-7	
Toluene-d8 (S)	95	%	70-130		5		04/28/16 19:09	2037-26-5	
4-Bromofluorobenzene (S)	92	%	70-130		5		04/28/16 19:09	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 21:55	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	9.2	mg/L	4.0	2.0	1		04/22/16 21:55	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	227	mg/L	23.5	7.0	1		04/29/16 13:50		

Sample: MW-28 **Lab ID: 40131214010** Collected: 04/22/16 08:30 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	1920	ug/L	70.0	34.2	25		04/27/16 14:58	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	23.8	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 09:13	7440-38-2	
Iron, Dissolved	197	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 09:13	7439-89-6	
Manganese, Dissolved	214	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 09:13	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		04/28/16 21:46	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		04/28/16 21:46	100-41-4	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: MW-28 **Lab ID: 40131214010** Collected: 04/22/16 08:30 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Naphthalene	<2.5	ug/L	5.0	2.5	1		04/28/16 21:46	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		04/28/16 21:46	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		04/28/16 21:46	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		04/28/16 21:46	95-47-6	
Surrogates									
Dibromofluoromethane (S)	109	%	70-130		1		04/28/16 21:46	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		04/28/16 21:46	2037-26-5	
4-Bromofluorobenzene (S)	86	%	70-130		1		04/28/16 21:46	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 22:07	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	19.8	mg/L	4.0	2.0	1		04/22/16 22:07	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	174	mg/L	23.5	7.0	1		04/29/16 13:51		

Sample: PZ-23 **Lab ID: 40131214011** Collected: 04/21/16 15:40 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	2910	ug/L	56.0	27.4	20		04/27/16 15:05	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	7.5	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 09:16	7440-38-2	
Iron, Dissolved	427	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 09:16	7439-89-6	
Manganese, Dissolved	99.0	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 09:16	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	728	ug/L	10.0	5.0	10		04/28/16 19:31	71-43-2	
Ethylbenzene	59.1	ug/L	10.0	5.0	10		04/28/16 19:31	100-41-4	
Naphthalene	488	ug/L	50.0	25.0	10		04/28/16 19:31	91-20-3	
Toluene	6.4J	ug/L	10.0	5.0	10		04/28/16 19:31	108-88-3	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		04/28/16 19:31	179601-23-1	
o-Xylene	10.9	ug/L	10.0	5.0	10		04/28/16 19:31	95-47-6	
Surrogates									
Dibromofluoromethane (S)	108	%	70-130		10		04/28/16 19:31	1868-53-7	
Toluene-d8 (S)	97	%	70-130		10		04/28/16 19:31	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		10		04/28/16 19:31	460-00-4	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40131214

Sample: PZ-23									
Lab ID: 40131214011 Collected: 04/21/16 15:40 Received: 04/22/16 09:35 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 22:19	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	13.0	mg/L	4.0	2.0	1		04/22/16 22:19	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	217	mg/L	47.0	14.1	2		04/29/16 13:51		

Sample: PZ-27									
Lab ID: 40131214012 Collected: 04/22/16 07:52 Received: 04/22/16 09:35 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	3200	ug/L	56.0	27.4	20		04/27/16 15:12	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	4.4	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 09:19	7440-38-2	
Iron, Dissolved	831	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 09:19	7439-89-6	
Manganese, Dissolved	118	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 09:19	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	512	ug/L	10.0	5.0	10		04/28/16 19:53	71-43-2	
Ethylbenzene	47.5	ug/L	10.0	5.0	10		04/28/16 19:53	100-41-4	
Naphthalene	401	ug/L	50.0	25.0	10		04/28/16 19:53	91-20-3	
Toluene	6.3J	ug/L	10.0	5.0	10		04/28/16 19:53	108-88-3	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		04/28/16 19:53	179601-23-1	
o-Xylene	9.9J	ug/L	10.0	5.0	10		04/28/16 19:53	95-47-6	
Surrogates									
Dibromofluoromethane (S)	115	%	70-130		10		04/28/16 19:53	1868-53-7	
Toluene-d8 (S)	97	%	70-130		10		04/28/16 19:53	2037-26-5	
4-Bromofluorobenzene (S)	89	%	70-130		10		04/28/16 19:53	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 22:31	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	8.8	mg/L	4.0	2.0	1		04/22/16 22:31	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	220	mg/L	23.5	7.0	1		04/29/16 13:53		

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: QCFB **Lab ID: 40131214013** Collected: 04/21/16 14:35 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	<1.4	ug/L	2.8	1.4	1		04/27/16 13:09	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	<0.73	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 09:21	7440-38-2	
Iron, Dissolved	<6.6	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 09:21	7439-89-6	
Manganese, Dissolved	0.11J	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 09:21	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		04/28/16 22:53	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		04/28/16 22:53	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		04/28/16 22:53	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		04/28/16 22:53	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		04/28/16 22:53	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		04/28/16 22:53	95-47-6	
Surrogates									
Dibromofluoromethane (S)	115	%	70-130		1		04/28/16 22:53	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		04/28/16 22:53	2037-26-5	
4-Bromofluorobenzene (S)	86	%	70-130		1		04/28/16 22:53	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 22:43	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	<2.0	mg/L	4.0	2.0	1		04/22/16 22:43	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	<7.0	mg/L	23.5	7.0	1		04/29/16 13:53		

Sample: QC-1 **Lab ID: 40131214014** Collected: 04/21/16 00:00 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	2000	ug/L	28.0	13.7	10		04/27/16 15:19	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	3.7	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 09:24	7440-38-2	
Iron, Dissolved	376	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 09:24	7439-89-6	
Manganese, Dissolved	40.0	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 09:24	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	1430	ug/L	20.0	10.0	20		04/29/16 08:25	71-43-2	
Ethylbenzene	472	ug/L	20.0	10.0	20		04/29/16 08:25	100-41-4	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: QC-1 **Lab ID: 40131214014** Collected: 04/21/16 00:00 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Naphthalene	2220	ug/L	100	50.0	20		04/29/16 08:25	91-20-3	
Toluene	<10.0	ug/L	20.0	10.0	20		04/29/16 08:25	108-88-3	
m&p-Xylene	30.9J	ug/L	40.0	20.0	20		04/29/16 08:25	179601-23-1	
o-Xylene	39.2	ug/L	20.0	10.0	20		04/29/16 08:25	95-47-6	
Surrogates									
Dibromofluoromethane (S)	116	%	70-130		20		04/29/16 08:25	1868-53-7	
Toluene-d8 (S)	96	%	70-130		20		04/29/16 08:25	2037-26-5	
4-Bromofluorobenzene (S)	93	%	70-130		20		04/29/16 08:25	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 22:55	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	3.1J	mg/L	4.0	2.0	1		04/22/16 22:55	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	477	mg/L	235	70.4	10		04/29/16 12:11		

Sample: PZ-22B **Lab ID: 40131214015** Collected: 04/21/16 12:10 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	4.0J	ug/L	5.0	2.5	5		04/28/16 20:38	71-43-2	
Naphthalene	481	ug/L	25.0	12.5	5		04/28/16 20:38	91-20-3	
Surrogates									
Dibromofluoromethane (S)	111	%	70-130		5		04/28/16 20:38	1868-53-7	
Toluene-d8 (S)	97	%	70-130		5		04/28/16 20:38	2037-26-5	
4-Bromofluorobenzene (S)	93	%	70-130		5		04/28/16 20:38	460-00-4	

Sample: MW-24 **Lab ID: 40131214016** Collected: 04/22/16 06:55 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	19.4	ug/L	2.8	1.4	1		04/27/16 13:23	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	<0.73	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 09:31	7440-38-2	
Iron, Dissolved	708	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 09:31	7439-89-6	
Manganese, Dissolved	117	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 09:31	7439-96-5	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: MW-24 **Lab ID: 40131214016** Collected: 04/22/16 06:55 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		04/28/16 22:08	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		04/28/16 22:08	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		04/28/16 22:08	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		04/28/16 22:08	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		04/28/16 22:08	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		04/28/16 22:08	95-47-6	
Surrogates									
Dibromofluoromethane (S)	114	%	70-130		1		04/28/16 22:08	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		04/28/16 22:08	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		1		04/28/16 22:08	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		04/22/16 23:07	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	85.4	mg/L	20.0	10.0	5		04/25/16 18:57	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	442	mg/L	47.0	14.1	2		04/29/16 13:54		

Sample: MW-25 **Lab ID: 40131214017** Collected: 04/21/16 15:40 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	876	ug/L	28.0	13.7	10		04/27/16 15:26	74-82-8	
6020A MET ICPMS, Dissolved Analytical Method: EPA 6020A Preparation Method: EPA 3020									
Arsenic, Dissolved	2.1J	ug/L	2.4	0.73	1	05/09/16 04:30	05/10/16 09:34	7440-38-2	
Iron, Dissolved	76.3	ug/L	22.0	6.6	1	05/09/16 04:30	05/10/16 09:34	7439-89-6	
Manganese, Dissolved	0.17J	ug/L	0.33	0.098	1	05/09/16 04:30	05/10/16 09:34	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	2.3	ug/L	1.0	0.50	1		04/28/16 22:31	71-43-2	
Ethylbenzene	5.2	ug/L	1.0	0.50	1		04/28/16 22:31	100-41-4	
Naphthalene	68.5	ug/L	5.0	2.5	1		04/28/16 22:31	91-20-3	
Toluene	1.1	ug/L	1.0	0.50	1		04/28/16 22:31	108-88-3	
m&p-Xylene	4.6	ug/L	2.0	1.0	1		04/28/16 22:31	179601-23-1	
o-Xylene	2.2	ug/L	1.0	0.50	1		04/28/16 22:31	95-47-6	
Surrogates									
Dibromofluoromethane (S)	109	%	70-130		1		04/28/16 22:31	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		04/28/16 22:31	2037-26-5	
4-Bromofluorobenzene (S)	90	%	70-130		1		04/28/16 22:31	460-00-4	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: MW-25 Lab ID: 40131214017 Collected: 04/21/16 15:40 Received: 04/22/16 09:35 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	1.0J	mg/L	1.5	0.75	5		04/25/16 19:09	14797-55-8	1q,D3
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	59.9	mg/L	20.0	10.0	5		04/25/16 19:09	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	385	mg/L	23.5	7.0	1		04/29/16 11:55		

Sample: PZ-21B Lab ID: 40131214018 Collected: 04/21/16 13:12 Received: 04/22/16 09:35 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		04/28/16 23:16	71-43-2	
Naphthalene	23.6	ug/L	5.0	2.5	1		04/28/16 23:16	91-20-3	
Surrogates									
Dibromofluoromethane (S)	109	%	70-130		1		04/28/16 23:16	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		04/28/16 23:16	2037-26-5	
4-Bromofluorobenzene (S)	84	%	70-130		1		04/28/16 23:16	460-00-4	

Sample: PZ-20B Lab ID: 40131214019 Collected: 04/21/16 11:12 Received: 04/22/16 09:35 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		04/28/16 23:38	71-43-2	
Naphthalene	15.9	ug/L	5.0	2.5	1		04/28/16 23:38	91-20-3	
Surrogates									
Dibromofluoromethane (S)	109	%	70-130		1		04/28/16 23:38	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		04/28/16 23:38	2037-26-5	
4-Bromofluorobenzene (S)	83	%	70-130		1		04/28/16 23:38	460-00-4	

Sample: PZ-12B Lab ID: 40131214020 Collected: 04/21/16 14:28 Received: 04/22/16 09:35 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		04/29/16 00:01	71-43-2	
Naphthalene	<2.5	ug/L	5.0	2.5	1		04/29/16 00:01	91-20-3	
Surrogates									
Dibromofluoromethane (S)	111	%	70-130		1		04/29/16 00:01	1868-53-7	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Sample: PZ-12B **Lab ID: 40131214020** Collected: 04/21/16 14:28 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST		Analytical Method: EPA 8260							
<i>Surrogates</i>									
Toluene-d8 (S)	99	%	70-130		1		04/29/16 00:01	2037-26-5	
4-Bromofluorobenzene (S)	86	%	70-130		1		04/29/16 00:01	460-00-4	

Sample: TRIP BLANK **Lab ID: 40131214021** Collected: 04/21/16 00:00 Received: 04/22/16 09:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		04/27/16 15:11	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		04/27/16 15:11	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		04/27/16 15:11	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		04/27/16 15:11	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		04/27/16 15:11	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		04/27/16 15:11	95-47-6	
<i>Surrogates</i>									
Dibromofluoromethane (S)	109	%	70-130		1		04/27/16 15:11	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		04/27/16 15:11	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		1		04/27/16 15:11	460-00-4	

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40131214

QC Batch: GCV/15952 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 8015B Modified Analysis Description: Methane, Ethane, Ethene GCV
Associated Lab Samples: 40131214001, 40131214002, 40131214003, 40131214004, 40131214005, 40131214006, 40131214007, 40131214008, 40131214009, 40131214010, 40131214011, 40131214012, 40131214013, 40131214014, 40131214016, 40131214017

METHOD BLANK: 1326172 Matrix: Water
Associated Lab Samples: 40131214001, 40131214002, 40131214003, 40131214004, 40131214005, 40131214006, 40131214007, 40131214008, 40131214009, 40131214010, 40131214011, 40131214012, 40131214013, 40131214014, 40131214016, 40131214017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	<1.4	2.8	04/27/16 09:53	

LABORATORY CONTROL SAMPLE & LCSD: 1326173 1326174

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	28.6	25.9	25.6	91	90	73-122	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1326175 1326176

Parameter	Units	40131214001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Methane	ug/L	1010	143	143	1290	1370	191	248	15-187	6	20	M1

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40131214

QC Batch: MPRP/63235 Analysis Method: EPA 6020A
QC Batch Method: EPA 3020 Analysis Description: 6020A Water Dissolved UPD4
Associated Lab Samples: 40131214001, 40131214002, 40131214003, 40131214004, 40131214005, 40131214006, 40131214007, 40131214008, 40131214009, 40131214010, 40131214011, 40131214012, 40131214013, 40131214014, 40131214016, 40131214017

METHOD BLANK: 2252710 Matrix: Water
Associated Lab Samples: 40131214001, 40131214002, 40131214003, 40131214004, 40131214005, 40131214006, 40131214007, 40131214008, 40131214009, 40131214010, 40131214011, 40131214012, 40131214013, 40131214014, 40131214016, 40131214017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<0.73	2.4	05/10/16 08:30	
Iron, Dissolved	ug/L	<6.6	22.0	05/10/16 08:30	
Manganese, Dissolved	ug/L	<0.098	0.33	05/10/16 08:30	

LABORATORY CONTROL SAMPLE: 2252711

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	80	83.2	104	80-120	
Iron, Dissolved	ug/L	1000	1100	110	80-120	
Manganese, Dissolved	ug/L	80	89.5	112	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2252712 2252713

Parameter	Units	2252712		2252713		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40131214001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Arsenic, Dissolved	ug/L	3.0	80	80	88.0	97.1	106	118	75-125	10	20
Iron, Dissolved	ug/L	619	1000	1000	1690	1870	107	126	75-125	10	20 M1
Manganese, Dissolved	ug/L	8.9	80	80	94.1	105	107	120	75-125	11	20

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40131214

QC Batch: MSV/33132 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40131214001, 40131214002, 40131214003, 40131214004, 40131214005, 40131214006, 40131214007, 40131214008, 40131214009, 40131214010, 40131214011, 40131214012, 40131214013, 40131214014, 40131214015, 40131214016, 40131214017, 40131214018, 40131214019, 40131214020

METHOD BLANK: 1325212 Matrix: Water
Associated Lab Samples: 40131214001, 40131214002, 40131214003, 40131214004, 40131214005, 40131214006, 40131214007, 40131214008, 40131214009, 40131214010, 40131214011, 40131214012, 40131214013, 40131214014, 40131214015, 40131214016, 40131214017, 40131214018, 40131214019, 40131214020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	04/28/16 15:24	
Ethylbenzene	ug/L	<0.50	1.0	04/28/16 15:24	
m&p-Xylene	ug/L	<1.0	2.0	04/28/16 15:24	
Naphthalene	ug/L	<2.5	5.0	04/28/16 15:24	
o-Xylene	ug/L	<0.50	1.0	04/28/16 15:24	
Toluene	ug/L	<0.50	1.0	04/28/16 15:24	
4-Bromofluorobenzene (S)	%	82	70-130	04/28/16 15:24	
Dibromofluoromethane (S)	%	119	70-130	04/28/16 15:24	
Toluene-d8 (S)	%	97	70-130	04/28/16 15:24	

LABORATORY CONTROL SAMPLE: 1325213

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	48.5	97	60-135	
Ethylbenzene	ug/L	50	47.7	95	70-136	
m&p-Xylene	ug/L	100	91.4	91	70-138	
o-Xylene	ug/L	50	42.2	84	70-134	
Toluene	ug/L	50	48.2	96	70-130	
4-Bromofluorobenzene (S)	%			94	70-130	
Dibromofluoromethane (S)	%			107	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1325214 1325215

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40131214001 Result	Spike Conc.	Spike Conc.	MS Result						
Benzene	ug/L	422	500	500	892	902	94	96	57-138	1	20
Ethylbenzene	ug/L	223	500	500	709	705	97	96	70-138	1	20
m&p-Xylene	ug/L	79.5	1000	1000	990	1010	91	93	70-140	2	20
o-Xylene	ug/L	84.0	500	500	516	520	86	87	70-134	1	20
Toluene	ug/L	28.7	500	500	511	505	96	95	70-130	1	20
4-Bromofluorobenzene (S)	%						94	93	70-130		
Dibromofluoromethane (S)	%						104	106	70-130		
Toluene-d8 (S)	%						100	100	70-130		

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40131214

QC Batch: MSV/33135 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40131214021

METHOD BLANK: 1325222 Matrix: Water
Associated Lab Samples: 40131214021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	04/27/16 06:59	
Ethylbenzene	ug/L	<0.50	1.0	04/27/16 06:59	
m&p-Xylene	ug/L	<1.0	2.0	04/27/16 06:59	
Naphthalene	ug/L	<2.5	5.0	04/27/16 06:59	
o-Xylene	ug/L	<0.50	1.0	04/27/16 06:59	
Toluene	ug/L	<0.50	1.0	04/27/16 06:59	
4-Bromofluorobenzene (S)	%	86	70-130	04/27/16 06:59	
Dibromofluoromethane (S)	%	108	70-130	04/27/16 06:59	
Toluene-d8 (S)	%	96	70-130	04/27/16 06:59	

LABORATORY CONTROL SAMPLE: 1325223

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	50.0	100	60-135	
Ethylbenzene	ug/L	50	53.1	106	70-136	
m&p-Xylene	ug/L	100	109	109	70-138	
o-Xylene	ug/L	50	52.4	105	70-134	
Toluene	ug/L	50	53.6	107	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			97	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1325224 1325225

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual	
		40131259005 Result	Spike Conc.	Spike Conc.	Result						
Benzene	ug/L	3.1	50	50	53.9	53.8	101	101	57-138	0	20
Ethylbenzene	ug/L	4.6	50	50	59.1	59.3	109	109	70-138	0	20
m&p-Xylene	ug/L	<1.0	100	100	109	109	108	108	70-140	0	20
o-Xylene	ug/L	<0.50	50	50	52.0	52.0	104	104	70-134	0	20
Toluene	ug/L	<0.50	50	50	53.0	53.5	106	107	70-130	1	20
4-Bromofluorobenzene (S)	%						99	99	70-130		
Dibromofluoromethane (S)	%						108	108	70-130		
Toluene-d8 (S)	%						98	98	70-130		

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40131214

QC Batch: WETA/33280 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40131214001, 40131214002, 40131214003, 40131214004, 40131214005, 40131214006, 40131214007, 40131214008, 40131214009, 40131214010, 40131214011, 40131214012, 40131214013, 40131214014, 40131214016, 40131214017

METHOD BLANK: 1324491 Matrix: Water
Associated Lab Samples: 40131214001, 40131214002, 40131214003, 40131214004, 40131214005, 40131214006, 40131214007, 40131214008, 40131214009, 40131214010, 40131214011, 40131214012, 40131214013, 40131214014, 40131214016, 40131214017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.15	0.30	04/22/16 18:42	
Sulfate	mg/L	<2.0	4.0	04/22/16 18:42	

LABORATORY CONTROL SAMPLE: 1324492

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.6	105	90-110	
Sulfate	mg/L	20	20.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1324493 1324494

Parameter	Units	40131214001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Spike Conc.	MSD Result						
Nitrate as N	mg/L	<0.15	1.5	1.5	1.4	1.4	94	95	90-110	2	20	
Sulfate	mg/L	287	400	400	752	725	116	109	90-110	4	20 M0	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1324495 1324496

Parameter	Units	40131214017 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Spike Conc.	MSD Result						
Nitrate as N	mg/L	1.0J	7.5	7.5	8.4	7.8	98	91	90-110	7	20	
Sulfate	mg/L	59.9	100	100	157	160	98	100	90-110	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40131214

QC Batch: WETA/33399 Analysis Method: EPA 310.2
QC Batch Method: EPA 310.2 Analysis Description: 310.2 Alkalinity
Associated Lab Samples: 40131214001

METHOD BLANK: 1326973 Matrix: Water
Associated Lab Samples: 40131214001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<7.0	23.5	04/29/16 10:35	

LABORATORY CONTROL SAMPLE: 1326974

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	100	110	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1326975 1326976

Parameter	Units	1326975		1326976		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40131052003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Alkalinity, Total as CaCO ₃	mg/L	837	2000	2000	2520	2750	84	95	90-110	9	20	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1326977 1326978

Parameter	Units	1326977		1326978		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40131214001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Alkalinity, Total as CaCO ₃	mg/L	475	500	500	944	936	94	92	90-110	1	20	

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40131214

QC Batch: WETA/33415 Analysis Method: EPA 310.2
QC Batch Method: EPA 310.2 Analysis Description: 310.2 Alkalinity
Associated Lab Samples: 40131214002, 40131214003, 40131214004, 40131214005, 40131214006, 40131214007, 40131214008, 40131214009, 40131214010, 40131214011, 40131214012, 40131214013, 40131214014, 40131214016, 40131214017

METHOD BLANK: 1327570 Matrix: Water
Associated Lab Samples: 40131214002, 40131214003, 40131214004, 40131214005, 40131214006, 40131214007, 40131214008, 40131214009, 40131214010, 40131214011, 40131214012, 40131214013, 40131214014, 40131214016, 40131214017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.0	23.5	04/29/16 13:43	

LABORATORY CONTROL SAMPLE: 1327571

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	103	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1327572 1327573

Parameter	Units	40131214011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	217	200	200	407	407	95	95	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1327574 1327575

Parameter	Units	40131268009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	258	200	200	384	396	63	69	90-110	3	20 M0	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

1q Re-analysis conducted in excess of EPA method holding time due to presence of high levels of non-target analytes or other matrix interference. Original analysis was conducted within EPA method holding time.

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40131214

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40131214001	MW-2R	EPA 8015B Modified	GCV/15952		
40131214002	MW-12R	EPA 8015B Modified	GCV/15952		
40131214003	MW-13R	EPA 8015B Modified	GCV/15952		
40131214004	MW-19	EPA 8015B Modified	GCV/15952		
40131214005	MW-20	EPA 8015B Modified	GCV/15952		
40131214006	MW-21	EPA 8015B Modified	GCV/15952		
40131214007	MW-22	EPA 8015B Modified	GCV/15952		
40131214008	MW-26	EPA 8015B Modified	GCV/15952		
40131214009	MW-27	EPA 8015B Modified	GCV/15952		
40131214010	MW-28	EPA 8015B Modified	GCV/15952		
40131214011	PZ-23	EPA 8015B Modified	GCV/15952		
40131214012	PZ-27	EPA 8015B Modified	GCV/15952		
40131214013	QCFB	EPA 8015B Modified	GCV/15952		
40131214014	QC-1	EPA 8015B Modified	GCV/15952		
40131214016	MW-24	EPA 8015B Modified	GCV/15952		
40131214017	MW-25	EPA 8015B Modified	GCV/15952		
40131214001	MW-2R	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214002	MW-12R	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214003	MW-13R	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214004	MW-19	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214005	MW-20	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214006	MW-21	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214007	MW-22	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214008	MW-26	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214009	MW-27	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214010	MW-28	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214011	PZ-23	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214012	PZ-27	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214013	QCFB	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214014	QC-1	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214016	MW-24	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214017	MW-25	EPA 3020	MPRP/63235	EPA 6020A	ICPM/29350
40131214001	MW-2R	EPA 8260	MSV/33132		
40131214002	MW-12R	EPA 8260	MSV/33132		
40131214003	MW-13R	EPA 8260	MSV/33132		
40131214004	MW-19	EPA 8260	MSV/33132		
40131214005	MW-20	EPA 8260	MSV/33132		
40131214006	MW-21	EPA 8260	MSV/33132		
40131214007	MW-22	EPA 8260	MSV/33132		
40131214008	MW-26	EPA 8260	MSV/33132		
40131214009	MW-27	EPA 8260	MSV/33132		
40131214010	MW-28	EPA 8260	MSV/33132		
40131214011	PZ-23	EPA 8260	MSV/33132		
40131214012	PZ-27	EPA 8260	MSV/33132		
40131214013	QCFB	EPA 8260	MSV/33132		
40131214014	QC-1	EPA 8260	MSV/33132		
40131214015	PZ-22B	EPA 8260	MSV/33132		
40131214016	MW-24	EPA 8260	MSV/33132		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40131214017	MW-25	EPA 8260	MSV/33132		
40131214018	PZ-21B	EPA 8260	MSV/33132		
40131214019	PZ-20B	EPA 8260	MSV/33132		
40131214020	PZ-12B	EPA 8260	MSV/33132		
40131214021	TRIP BLANK	EPA 8260	MSV/33135		
40131214001	MW-2R	EPA 300.0	WETA/33280		
40131214002	MW-12R	EPA 300.0	WETA/33280		
40131214003	MW-13R	EPA 300.0	WETA/33280		
40131214004	MW-19	EPA 300.0	WETA/33280		
40131214005	MW-20	EPA 300.0	WETA/33280		
40131214006	MW-21	EPA 300.0	WETA/33280		
40131214007	MW-22	EPA 300.0	WETA/33280		
40131214008	MW-26	EPA 300.0	WETA/33280		
40131214009	MW-27	EPA 300.0	WETA/33280		
40131214010	MW-28	EPA 300.0	WETA/33280		
40131214011	PZ-23	EPA 300.0	WETA/33280		
40131214012	PZ-27	EPA 300.0	WETA/33280		
40131214013	QCFB	EPA 300.0	WETA/33280		
40131214014	QC-1	EPA 300.0	WETA/33280		
40131214016	MW-24	EPA 300.0	WETA/33280		
40131214017	MW-25	EPA 300.0	WETA/33280		
40131214001	MW-2R	EPA 300.0	WETA/33280		
40131214002	MW-12R	EPA 300.0	WETA/33280		
40131214003	MW-13R	EPA 300.0	WETA/33280		
40131214004	MW-19	EPA 300.0	WETA/33280		
40131214005	MW-20	EPA 300.0	WETA/33280		
40131214006	MW-21	EPA 300.0	WETA/33280		
40131214007	MW-22	EPA 300.0	WETA/33280		
40131214008	MW-26	EPA 300.0	WETA/33280		
40131214009	MW-27	EPA 300.0	WETA/33280		
40131214010	MW-28	EPA 300.0	WETA/33280		
40131214011	PZ-23	EPA 300.0	WETA/33280		
40131214012	PZ-27	EPA 300.0	WETA/33280		
40131214013	QCFB	EPA 300.0	WETA/33280		
40131214014	QC-1	EPA 300.0	WETA/33280		
40131214016	MW-24	EPA 300.0	WETA/33280		
40131214017	MW-25	EPA 300.0	WETA/33280		
40131214001	MW-2R	EPA 310.2	WETA/33399		
40131214002	MW-12R	EPA 310.2	WETA/33415		
40131214003	MW-13R	EPA 310.2	WETA/33415		
40131214004	MW-19	EPA 310.2	WETA/33415		
40131214005	MW-20	EPA 310.2	WETA/33415		
40131214006	MW-21	EPA 310.2	WETA/33415		
40131214007	MW-22	EPA 310.2	WETA/33415		
40131214008	MW-26	EPA 310.2	WETA/33415		
40131214009	MW-27	EPA 310.2	WETA/33415		
40131214010	MW-28	EPA 310.2	WETA/33415		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40131214

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40131214011	PZ-23	EPA 310.2	WETA/33415		
40131214012	PZ-27	EPA 310.2	WETA/33415		
40131214013	QCFB	EPA 310.2	WETA/33415		
40131214014	QC-1	EPA 310.2	WETA/33415		
40131214016	MW-24	EPA 310.2	WETA/33415		
40131214017	MW-25	EPA 310.2	WETA/33415		

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CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DJ Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

Y/N	N	N	U	N	N						
Pick Letter	B	B	D	A	B						
Analyses Requested	BTEX ADI	NAPHTHYLENE (SLUG)	BENZENE ADI	NAPHTHYLENE (SLUG)	DISSOLVED METALS: Fe, As, Mn NITRATE, SULFATE ALKALINITY						
					HEXANE						

(Please Print Clearly)

Company Name: WE Energies

Branch/Location: LAB SERVICES

Project Contact: DAVE KOLLAKOWSKI

Phone: 414-221-2835

Project Number: W-1272-DDDD03

Project Name: APPLETON MGP

Project State: WI

Sampled By (Print): BILL BRAUNSCHEWIG

Sampled By (Sign): Bill Braunschweig

PO #: 4700003357 Regulatory Program:

Data Package Options (billable)

EPA Level III

EPA Level IV

MS/MSD

On your sample (billable)

NOT needed on your sample

Matrix Codes

A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SI = Sludge WP = Wipe

Quote #: _____

Mail To Contact: DAVE KOLLAKOWSKI

Mail To Company: WE Energies

Mail To Address: 333 W. EVERETT ST
MILWAUKEE, WI 53203

Invoice To Contact: ACCOUNTS PAYABLE

Invoice To Company: WE Energies

Invoice To Address: SAME

Invoice To Phone: _____

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Y/N	N	N	U	N	N	VOLUME	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
		DATE	TIME											
013	QLFB	4-21-16	1435	GW		X		X	X	X	2-250ml ^{HD}	mill-Q-H ₂ O	6-40mlv ^B	
002	QC-1	4-21-16	?	GW		X		X	X	X		BLIND DUPLICATE		
003	PZ-22B	4-21-16	1210	GW			X						3-40mlv ^B	
004	MW-26 MW-24	4-22-16	0655	GW		X		X	X	X				
005	MW-25	4-21-16	1540	GW		X		X	X	X				
006	PZ-21B	4-21-16	1312	GW			X							
007	PZ-26B	4-21-16	1112	GW			X							
008	PZ-12B	4-21-16	1428	GW			X							
009	Trip Blank												2-40mlv ^B	

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed: _____

Relinquished By: Bill Braunschweig Date/Time: 4-22-16 0935

Received By: M. [Signature] Date/Time: 4/22/16 0935

Transmit Prelim Rush Results by (complete what you want):

Email #1: _____

Email #2: _____

Telephone: _____

Fax: _____

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: _____

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: _____

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: _____

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: _____

PACE Project No. 40131214

Receipt Temp = ROT °C

Sample Receipt pH OK Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

014
015
016
017
018
019
020
021

① added to CAC by lab because included in shipment 4/22/16

Sample Condition Upon Receipt

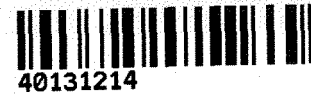
Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302



Project #:

WO#: 40131214

Client Name: We Energies



Courier: Fed Ex UPS Client Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used: NA Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature: Uncorr: _____ /Corr: ROI Biological Tissue is Frozen: yes

Temp Blank Present: yes no no

Person examining contents:
Date: 4/22/16
Initials: [Signature]

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>1</u> <u>kd 4/22/16</u>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>nitrate</u> <u>kd 4/22/16</u>
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>010 1 vial 10 MW-218, 017 5 vials time 1510, 005 1 vial no time, 020 date 4/21/16 all samples kd 4/22/16</u>
-Includes date/time/ID/Analysis Matrix: <u>w</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: <u>VOA</u> coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed: <u>[Signature]</u> Lab Std #ID of preservative: _____ Date/Time: _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>360</u>		

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 4-22-16

January 20, 2016

David Kollakowsky
We Energies
333 W. Everett St
Room P129
Milwaukee, WI 532012179

RE: Project: 102864 APPLETON MGP
Pace Project No.: 40126882

Dear David Kollakowsky:

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

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

Sincerely,



Brian Basten
brian.basten@pacelabs.com
Project Manager

Enclosures

cc: Frank Dombrowski, WE Energies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY
Chris Robb, Natural Resource Technologies



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

Virginia VELAP ID: 460263

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

US Dept of Agriculture #: S-76505

Virginia VELAP ID: 460263

Virginia VELAP Certification ID: 460263

Wisconsin Certification #: 405132750

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SAMPLE SUMMARY

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40126882001	MW-26	Water	01/07/16 11:55	01/07/16 13:50
40126882002	MW-27	Water	01/07/16 09:50	01/07/16 13:50
40126882003	MW-28	Water	01/07/16 10:25	01/07/16 13:50
40126882004	PZ-23	Water	01/07/16 08:40	01/07/16 13:50
40126882005	PZ-27	Water	01/07/16 09:15	01/07/16 13:50
40126882006	QCFB	Water	01/07/16 10:55	01/07/16 13:50
40126882007	QC-1	Water	01/07/16 00:00	01/07/16 13:50
40126882008	TRIP BLANK	Water	01/07/16 00:00	01/07/16 13:50

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SAMPLE ANALYTE COUNT

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40126882001	MW-26	EPA 8015B Modified	PMS	1	PASI-G
		EPA 6020	TT3	2	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40126882002	MW-27	EPA 8015B Modified	PMS	1	PASI-G
		EPA 6020	TT3	2	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40126882003	MW-28	EPA 8015B Modified	PMS	1	PASI-G
		EPA 6020	TT3	2	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40126882004	PZ-23	EPA 8015B Modified	PMS	1	PASI-G
		EPA 6020	TT3	2	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40126882005	PZ-27	EPA 8015B Modified	PMS	1	PASI-G
		EPA 6020	TT3	2	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40126882006	QCFB	EPA 8015B Modified	PMS	1	PASI-G
		EPA 6020	TT3	2	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40126882007	QC-1	EPA 8015B Modified	PMS	1	PASI-G

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SAMPLE ANALYTE COUNT

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020	TT3	2	PASI-M
		EPA 8260	LAP	9	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 310.2	DAW	1	PASI-G
40126882008	TRIP BLANK	EPA 8260	LAP	9	PASI-G

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ANALYTICAL RESULTS

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

Sample: MW-26 **Lab ID: 40126882001** Collected: 01/07/16 11:55 Received: 01/07/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	7950	ug/L	112	54.8	40		01/12/16 11:12	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Iron, Dissolved	1140	ug/L	50.0	13.7	1	01/11/16 22:01	01/13/16 08:23	7439-89-6	
Manganese, Dissolved	293	ug/L	0.50	0.24	1	01/11/16 22:01	01/13/16 08:23	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	58.7	ug/L	1.0	0.50	1		01/11/16 17:27	71-43-2	
Ethylbenzene	4.7	ug/L	1.0	0.50	1		01/11/16 17:27	100-41-4	
Naphthalene	45.8	ug/L	5.0	2.5	1		01/11/16 17:27	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		01/11/16 17:27	108-88-3	
m&p-Xylene	2.3	ug/L	2.0	1.0	1		01/11/16 17:27	179601-23-1	
o-Xylene	3.7	ug/L	1.0	0.50	1		01/11/16 17:27	95-47-6	
Surrogates									
Dibromofluoromethane (S)	99	%	70-130		1		01/11/16 17:27	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		01/11/16 17:27	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1		01/11/16 17:27	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		01/07/16 16:36	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	15.4	mg/L	4.0	2.0	1		01/07/16 16:36	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	319	mg/L	20.0	7.5	1		01/18/16 11:09		

Sample: MW-27 **Lab ID: 40126882002** Collected: 01/07/16 09:50 Received: 01/07/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	4280	ug/L	140	68.5	50		01/12/16 10:51	74-82-8	M1
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Iron, Dissolved	837	ug/L	50.0	13.7	1	01/11/16 22:01	01/13/16 08:37	7439-89-6	
Manganese, Dissolved	120	ug/L	0.50	0.24	1	01/11/16 22:01	01/13/16 08:37	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	526	ug/L	5.0	2.5	5		01/11/16 12:12	71-43-2	
Ethylbenzene	113	ug/L	5.0	2.5	5		01/11/16 12:12	100-41-4	
Naphthalene	734	ug/L	25.0	12.5	5		01/11/16 12:12	91-20-3	
Toluene	3.8J	ug/L	5.0	2.5	5		01/11/16 12:12	108-88-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

Sample: MW-27 Lab ID: 40126882002 Collected: 01/07/16 09:50 Received: 01/07/16 13:50 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
m&p-Xylene	9.6J	ug/L	10.0	5.0	5		01/11/16 12:12	179601-23-1	
o-Xylene	17.4	ug/L	5.0	2.5	5		01/11/16 12:12	95-47-6	
Surrogates									
Dibromofluoromethane (S)	97	%	70-130		5		01/11/16 12:12	1868-53-7	
Toluene-d8 (S)	94	%	70-130		5		01/11/16 12:12	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		5		01/11/16 12:12	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		01/07/16 17:10	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	4.3	mg/L	4.0	2.0	1		01/07/16 17:10	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	248	mg/L	40.0	15.0	2		01/18/16 11:10		

Sample: MW-28 Lab ID: 40126882003 Collected: 01/07/16 10:25 Received: 01/07/16 13:50 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	3660	ug/L	70.0	34.2	25		01/12/16 11:37	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Iron, Dissolved	335	ug/L	50.0	13.7	1	01/11/16 22:01	01/13/16 08:25	7439-89-6	
Manganese, Dissolved	124	ug/L	0.50	0.24	1	01/11/16 22:01	01/13/16 08:25	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		01/11/16 17:50	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		01/11/16 17:50	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		01/11/16 17:50	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		01/11/16 17:50	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		01/11/16 17:50	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		01/11/16 17:50	95-47-6	
Surrogates									
Dibromofluoromethane (S)	98	%	70-130		1		01/11/16 17:50	1868-53-7	
Toluene-d8 (S)	92	%	70-130		1		01/11/16 17:50	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		01/11/16 17:50	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		01/07/16 17:45	14797-55-8	

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ANALYTICAL RESULTS

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

Sample: MW-28 **Lab ID: 40126882003** Collected: 01/07/16 10:25 Received: 01/07/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	5.4	mg/L	4.0	2.0	1		01/07/16 17:45	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	212	mg/L	20.0	7.5	1		01/18/16 11:11		

Sample: PZ-23 **Lab ID: 40126882004** Collected: 01/07/16 08:40 Received: 01/07/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	3820	ug/L	140	68.5	50		01/12/16 11:44	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Iron, Dissolved	462	ug/L	50.0	13.7	1	01/11/16 22:01	01/13/16 08:28	7439-89-6	
Manganese, Dissolved	82.7	ug/L	0.50	0.24	1	01/11/16 22:01	01/13/16 08:28	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	840	ug/L	10.0	5.0	10		01/11/16 12:34	71-43-2	
Ethylbenzene	74.5	ug/L	10.0	5.0	10		01/11/16 12:34	100-41-4	
Naphthalene	721	ug/L	50.0	25.0	10		01/11/16 12:34	91-20-3	
Toluene	8.8J	ug/L	10.0	5.0	10		01/11/16 12:34	108-88-3	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		01/11/16 12:34	179601-23-1	
o-Xylene	15.8	ug/L	10.0	5.0	10		01/11/16 12:34	95-47-6	
Surrogates									
Dibromofluoromethane (S)	99	%	70-130		10		01/11/16 12:34	1868-53-7	
Toluene-d8 (S)	92	%	70-130		10		01/11/16 12:34	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		10		01/11/16 12:34	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		01/07/16 17:57	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	6.6	mg/L	4.0	2.0	1		01/07/16 17:57	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	227	mg/L	20.0	7.5	1		01/18/16 11:12		

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ANALYTICAL RESULTS

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

Sample: PZ-27 **Lab ID: 40126882005** Collected: 01/07/16 09:15 Received: 01/07/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	3940	ug/L	140	68.5	50		01/12/16 11:51	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Iron, Dissolved	935	ug/L	50.0	13.7	1	01/11/16 22:01	01/13/16 08:31	7439-89-6	
Manganese, Dissolved	123	ug/L	0.50	0.24	1	01/11/16 22:01	01/13/16 08:31	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	455	ug/L	10.0	5.0	10		01/11/16 12:57	71-43-2	
Ethylbenzene	49.1	ug/L	10.0	5.0	10		01/11/16 12:57	100-41-4	
Naphthalene	598	ug/L	50.0	25.0	10		01/11/16 12:57	91-20-3	
Toluene	<5.0	ug/L	10.0	5.0	10		01/11/16 12:57	108-88-3	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		01/11/16 12:57	179601-23-1	
o-Xylene	12.2	ug/L	10.0	5.0	10		01/11/16 12:57	95-47-6	
Surrogates									
Dibromofluoromethane (S)	99	%	70-130		10		01/11/16 12:57	1868-53-7	
Toluene-d8 (S)	94	%	70-130		10		01/11/16 12:57	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		10		01/11/16 12:57	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		01/07/16 18:08	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	3.9J	mg/L	4.0	2.0	1		01/07/16 18:08	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	241	mg/L	20.0	7.5	1		01/18/16 11:13		

Sample: QCFB **Lab ID: 40126882006** Collected: 01/07/16 10:55 Received: 01/07/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	<1.4	ug/L	2.8	1.4	1		01/12/16 10:17	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Iron, Dissolved	<13.7	ug/L	50.0	13.7	1	01/11/16 22:01	01/13/16 08:35	7439-89-6	
Manganese, Dissolved	<0.24	ug/L	0.50	0.24	1	01/11/16 22:01	01/13/16 08:35	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		01/11/16 18:35	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		01/11/16 18:35	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		01/11/16 18:35	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		01/11/16 18:35	108-88-3	

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ANALYTICAL RESULTS

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Sample: QCFB Lab ID: 40126882006 Collected: 01/07/16 10:55 Received: 01/07/16 13:50 Matrix: Water									
Analytical Method: EPA 8260									
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		01/11/16 18:35	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		01/11/16 18:35	95-47-6	
Surrogates									
Dibromofluoromethane (S)	94	%	70-130		1		01/11/16 18:35	1868-53-7	
Toluene-d8 (S)	92	%	70-130		1		01/11/16 18:35	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		01/11/16 18:35	460-00-4	
Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		01/07/16 18:20	14797-55-8	
Analytical Method: EPA 300.0									
Sulfate	<2.0	mg/L	4.0	2.0	1		01/07/16 18:20	14808-79-8	
Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	<7.5	mg/L	20.0	7.5	1		01/18/16 11:14		

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Sample: QC-1 Lab ID: 40126882007 Collected: 01/07/16 00:00 Received: 01/07/16 13:50 Matrix: Water									
Analytical Method: EPA 8015B Modified									
Methane	4480	ug/L	112	54.8	40		01/12/16 11:58	74-82-8	
Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Iron, Dissolved	336	ug/L	50.0	13.7	1	01/11/16 22:01	01/13/16 09:03	7439-89-6	
Manganese, Dissolved	123	ug/L	0.50	0.24	1	01/11/16 22:01	01/13/16 09:03	7439-96-5	
Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		01/11/16 18:12	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		01/11/16 18:12	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		01/11/16 18:12	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		01/11/16 18:12	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		01/11/16 18:12	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		01/11/16 18:12	95-47-6	
Surrogates									
Dibromofluoromethane (S)	98	%	70-130		1		01/11/16 18:12	1868-53-7	
Toluene-d8 (S)	92	%	70-130		1		01/11/16 18:12	2037-26-5	
4-Bromofluorobenzene (S)	93	%	70-130		1		01/11/16 18:12	460-00-4	
Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		01/07/16 18:31	14797-55-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

Sample: QC-1									
Lab ID: 40126882007									
Collected: 01/07/16 00:00 Received: 01/07/16 13:50 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Sulfate	5.1	mg/L	4.0	2.0	1		01/07/16 18:31	14808-79-8	
310.2 Alkalinity									
Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	217	mg/L	20.0	7.5	1		01/18/16 11:14		

Sample: TRIP BLANK									
Lab ID: 40126882008									
Collected: 01/07/16 00:00 Received: 01/07/16 13:50 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		01/12/16 07:42	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		01/12/16 07:42	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		01/12/16 07:42	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		01/12/16 07:42	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		01/12/16 07:42	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		01/12/16 07:42	95-47-6	
Surrogates									
Dibromofluoromethane (S)	96	%	70-130		1		01/12/16 07:42	1868-53-7	
Toluene-d8 (S)	90	%	70-130		1		01/12/16 07:42	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		01/12/16 07:42	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 102864 APPLETON MGP
Pace Project No.: 40126882

QC Batch: GCV/15575 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 8015B Modified Analysis Description: Methane, Ethane, Ethene GCV
Associated Lab Samples: 40126882001, 40126882002, 40126882003, 40126882004, 40126882005, 40126882006, 40126882007

METHOD BLANK: 1282633 Matrix: Water
Associated Lab Samples: 40126882001, 40126882002, 40126882003, 40126882004, 40126882005, 40126882006, 40126882007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	<1.4	2.8	01/12/16 09:21	

LABORATORY CONTROL SAMPLE & LCSD: 1282634 1282635

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	28.6	30.8	31.7	108	111	74-120	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1282686 1282687

Parameter	Units	40126882002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Methane	ug/L	4280	1430	1430	6880	7520	182	227	68-120	9	20	M1

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QUALITY CONTROL DATA

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

QC Batch: MPRP/60878 Analysis Method: EPA 6020
 QC Batch Method: EPA 3020 Analysis Description: 6020 MET Dissolved
 Associated Lab Samples: 40126882001, 40126882002, 40126882003, 40126882004, 40126882005, 40126882006, 40126882007

METHOD BLANK: 2173186 Matrix: Water
 Associated Lab Samples: 40126882001, 40126882002, 40126882003, 40126882004, 40126882005, 40126882006, 40126882007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	<13.7	50.0	01/13/16 08:13	
Manganese, Dissolved	ug/L	<0.24	0.50	01/13/16 08:13	

LABORATORY CONTROL SAMPLE: 2173187

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	1000	1070	107	80-120	
Manganese, Dissolved	ug/L	80	84.1	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2173188 2173189

Parameter	Units	40126882002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	837	1000	1000	1820	1800	98	96	75-125	1	20	
Manganese, Dissolved	ug/L	120	80	80	198	196	98	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

QC Batch: MSV/31834 Analysis Method: EPA 8260
 QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
 Associated Lab Samples: 40126882001, 40126882002, 40126882003, 40126882004, 40126882005, 40126882006, 40126882007, 40126882008

METHOD BLANK: 1281658 Matrix: Water
 Associated Lab Samples: 40126882001, 40126882002, 40126882003, 40126882004, 40126882005, 40126882006, 40126882007, 40126882008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	01/11/16 08:07	
Ethylbenzene	ug/L	<0.50	1.0	01/11/16 08:07	
m&p-Xylene	ug/L	<1.0	2.0	01/11/16 08:07	
Naphthalene	ug/L	<2.5	5.0	01/11/16 08:07	
o-Xylene	ug/L	<0.50	1.0	01/11/16 08:07	
Toluene	ug/L	<0.50	1.0	01/11/16 08:07	
4-Bromofluorobenzene (S)	%	92	70-130	01/11/16 08:07	
Dibromofluoromethane (S)	%	99	70-130	01/11/16 08:07	
Toluene-d8 (S)	%	94	70-130	01/11/16 08:07	

LABORATORY CONTROL SAMPLE: 1281659

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	48.2	96	70-130	
Ethylbenzene	ug/L	50	52.2	104	70-132	
m&p-Xylene	ug/L	100	107	107	70-131	
o-Xylene	ug/L	50	51.7	103	70-131	
Toluene	ug/L	50	49.1	98	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Dibromofluoromethane (S)	%			99	70-130	
Toluene-d8 (S)	%			92	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281660 1281661

Parameter	Units	40126882002		1281661		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Benzene	ug/L	526	250	772	790	98	106	70-130	2	20	
Ethylbenzene	ug/L	113	250	382	393	107	112	70-132	3	20	
m&p-Xylene	ug/L	9.6J	500	551	571	108	112	70-131	3	20	
o-Xylene	ug/L	17.4	250	286	289	108	108	70-131	1	20	
Toluene	ug/L	3.8J	250	253	263	100	104	70-130	4	20	
4-Bromofluorobenzene (S)	%					96	99	70-130			
Dibromofluoromethane (S)	%					100	99	70-130			
Toluene-d8 (S)	%					93	93	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 102864 APPLETON MGP
Pace Project No.: 40126882

QC Batch: WETA/32004 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40126882001, 40126882002, 40126882003, 40126882004, 40126882005, 40126882006, 40126882007

METHOD BLANK: 1281599 Matrix: Water
Associated Lab Samples: 40126882001, 40126882002, 40126882003, 40126882004, 40126882005, 40126882006, 40126882007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.15	0.30	01/07/16 16:13	
Sulfate	mg/L	<2.0	4.0	01/07/16 16:13	

LABORATORY CONTROL SAMPLE: 1281600

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.5	98	90-110	
Sulfate	mg/L	20	18.9	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281601 1281602

Parameter	Units	1281601		1281602		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40126882002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Nitrate as N	mg/L	<0.15	1.5	1.5	1.5	101	101	90-110	1	20	
Sulfate	mg/L	4.3	20	20	22.5	91	92	90-110	1	20	

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QUALITY CONTROL DATA

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

QC Batch: WETA/32085 Analysis Method: EPA 310.2
 QC Batch Method: EPA 310.2 Analysis Description: 310.2 Alkalinity
 Associated Lab Samples: 40126882001, 40126882002, 40126882003, 40126882004, 40126882005, 40126882006, 40126882007

METHOD BLANK: 1284560 Matrix: Water
 Associated Lab Samples: 40126882001, 40126882002, 40126882003, 40126882004, 40126882005, 40126882006, 40126882007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.5	20.0	01/18/16 11:03	

LABORATORY CONTROL SAMPLE: 1284561

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	107	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1284562 1284563

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40126882002 Result	Spike Conc.	Spike Conc.	Conc.								
Alkalinity, Total as CaCO3	mg/L	248	200	200	448	447	100	99	90-110	0	20		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 102864 APPLETON MGP
Pace Project No.: 40126882

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay
PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 102864 APPLETON MGP

Pace Project No.: 40126882

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40126882001	MW-26	EPA 8015B Modified	GCV/15575		
40126882002	MW-27	EPA 8015B Modified	GCV/15575		
40126882003	MW-28	EPA 8015B Modified	GCV/15575		
40126882004	PZ-23	EPA 8015B Modified	GCV/15575		
40126882005	PZ-27	EPA 8015B Modified	GCV/15575		
40126882006	QCFB	EPA 8015B Modified	GCV/15575		
40126882007	QC-1	EPA 8015B Modified	GCV/15575		
40126882001	MW-26	EPA 3020	MPRP/60878	EPA 6020	ICPM/28114
40126882002	MW-27	EPA 3020	MPRP/60878	EPA 6020	ICPM/28114
40126882003	MW-28	EPA 3020	MPRP/60878	EPA 6020	ICPM/28114
40126882004	PZ-23	EPA 3020	MPRP/60878	EPA 6020	ICPM/28114
40126882005	PZ-27	EPA 3020	MPRP/60878	EPA 6020	ICPM/28114
40126882006	QCFB	EPA 3020	MPRP/60878	EPA 6020	ICPM/28114
40126882007	QC-1	EPA 3020	MPRP/60878	EPA 6020	ICPM/28114
40126882001	MW-26	EPA 8260	MSV/31834		
40126882002	MW-27	EPA 8260	MSV/31834		
40126882003	MW-28	EPA 8260	MSV/31834		
40126882004	PZ-23	EPA 8260	MSV/31834		
40126882005	PZ-27	EPA 8260	MSV/31834		
40126882006	QCFB	EPA 8260	MSV/31834		
40126882007	QC-1	EPA 8260	MSV/31834		
40126882008	TRIP BLANK	EPA 8260	MSV/31834		
40126882001	MW-26	EPA 300.0	WETA/32004		
40126882002	MW-27	EPA 300.0	WETA/32004		
40126882003	MW-28	EPA 300.0	WETA/32004		
40126882004	PZ-23	EPA 300.0	WETA/32004		
40126882005	PZ-27	EPA 300.0	WETA/32004		
40126882006	QCFB	EPA 300.0	WETA/32004		
40126882007	QC-1	EPA 300.0	WETA/32004		
40126882001	MW-26	EPA 300.0	WETA/32004		
40126882002	MW-27	EPA 300.0	WETA/32004		
40126882003	MW-28	EPA 300.0	WETA/32004		
40126882004	PZ-23	EPA 300.0	WETA/32004		
40126882005	PZ-27	EPA 300.0	WETA/32004		
40126882006	QCFB	EPA 300.0	WETA/32004		
40126882007	QC-1	EPA 300.0	WETA/32004		
40126882001	MW-26	EPA 310.2	WETA/32085		
40126882002	MW-27	EPA 310.2	WETA/32085		
40126882003	MW-28	EPA 310.2	WETA/32085		
40126882004	PZ-23	EPA 310.2	WETA/32085		
40126882005	PZ-27	EPA 310.2	WETA/32085		
40126882006	QCFB	EPA 310.2	WETA/32085		
40126882007	QC-1	EPA 310.2	WETA/32085		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302



Project #:

WO#: 40126882

Client Name: We Energies



Courier: Fed Ex UPS Client Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used N/A Type of Ice: (Yes) Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROI /Corr: _____ Biological Tissue is Frozen: yes

Temp Blank Present: yes no no

Person examining contents:
Date: 1-7-16
Initials: SKW

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11. <u>1/7/16</u>
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>W</u>	
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
(HNO3, H2SO4, NaOH+ZnAct ≥9, NaOH ≥12)		
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed: <u>SKW</u> Lab Std #ID of preservative: _____ Date/Time: _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):	<u>354</u>	<u>1-7-16 SKW</u>

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 1/7/16

July 28, 2016

David Kollakowsky
We Energies
333 W. Everett St
Room P129
Milwaukee, WI 532012179

RE: Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40135282

Dear David Kollakowsky:

Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Brian Basten
brian.basten@pacelabs.com
Project Manager

Enclosures

cc: Frank Dombrowski, WE Energies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

Virginia VELAP ID: 460263

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

US Dept of Agriculture #: S-76505

Virginia VELAP Certification ID: 460263

Virginia VELAP ID: 460263

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

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SAMPLE SUMMARY

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40135282001	MW-26	Water	07/14/16 10:30	07/14/16 12:15
40135282002	MW-27	Water	07/14/16 08:22	07/14/16 12:15
40135282003	MW-28	Water	07/14/16 09:55	07/14/16 12:15
40135282004	PZ-23	Water	07/14/16 09:20	07/14/16 12:15
40135282005	PZ-27	Water	07/14/16 08:50	07/14/16 12:15
40135282006	QCFB	Water	07/14/16 10:45	07/14/16 12:15
40135282007	QC-1	Water	07/14/16 00:00	07/14/16 12:15

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SAMPLE ANALYTE COUNT

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40135282001	MW-26	EPA 8015B Modified	JSK	1
		EPA 6020	DS1	2
		EPA 8260	KRM	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40135282002	MW-27	EPA 8015B Modified	JSK	1
		EPA 6020	DS1	2
		EPA 8260	KRM	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40135282003	MW-28	EPA 8015B Modified	JSK	1
		EPA 6020	DS1	2
		EPA 8260	KRM	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40135282004	PZ-23	EPA 8015B Modified	JSK	1
		EPA 6020	DS1	2
		EPA 8260	HNW	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40135282005	PZ-27	EPA 8015B Modified	JSK	1
		EPA 6020	DS1	2
		EPA 8260	KRM	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40135282006	QCFB	EPA 8015B Modified	JSK	1
		EPA 6020	DS1	2
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40135282007	QC-1	EPA 8015B Modified	JSK	1

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SAMPLE ANALYTE COUNT

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 6020	DS1	2
		EPA 8260	HNW	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

Sample: MW-26 **Lab ID: 40135282001** Collected: 07/14/16 10:30 Received: 07/14/16 12:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	3580	ug/L	56.0	27.4	20		07/20/16 11:23	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	942	ug/L	250	10.0	1	07/25/16 10:19	07/26/16 16:09	7439-89-6	
Manganese, Dissolved	165	ug/L	1.0	0.18	1	07/25/16 10:19	07/26/16 16:09	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	32.1	ug/L	1.0	0.50	1		07/18/16 20:36	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		07/18/16 20:36	100-41-4	
Naphthalene	15.6	ug/L	5.0	2.5	1		07/18/16 20:36	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		07/18/16 20:36	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		07/18/16 20:36	179601-23-1	
o-Xylene	1.3	ug/L	1.0	0.50	1		07/18/16 20:36	95-47-6	
Surrogates									
Dibromofluoromethane (S)	106	%	70-130		1		07/18/16 20:36	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		07/18/16 20:36	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		07/18/16 20:36	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		07/14/16 16:36	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	28.9	mg/L	4.0	2.0	1		07/14/16 16:36	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	341	mg/L	23.5	7.0	1		07/25/16 10:21		

Sample: MW-27 **Lab ID: 40135282002** Collected: 07/14/16 08:22 Received: 07/14/16 12:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	2090	ug/L	28.0	13.7	10		07/20/16 11:30	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	675	ug/L	250	10.0	1	07/25/16 10:19	07/26/16 16:23	7439-89-6	
Manganese, Dissolved	108	ug/L	1.0	0.18	1	07/25/16 10:19	07/26/16 16:23	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	597	ug/L	5.0	2.5	5		07/18/16 14:51	71-43-2	
Ethylbenzene	115	ug/L	5.0	2.5	5		07/18/16 14:51	100-41-4	
Naphthalene	894	ug/L	25.0	12.5	5		07/18/16 14:51	91-20-3	
Toluene	2.8J	ug/L	5.0	2.5	5		07/18/16 14:51	108-88-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-27 Lab ID: 40135282002 Collected: 07/14/16 08:22 Received: 07/14/16 12:15 Matrix: Water									
Analytical Method: EPA 8260									
m&p-Xylene	10.5	ug/L	10.0	5.0	5		07/18/16 14:51	179601-23-1	
o-Xylene	16.2	ug/L	5.0	2.5	5		07/18/16 14:51	95-47-6	
Surrogates									
Dibromofluoromethane (S)	103	%	70-130		5		07/18/16 14:51	1868-53-7	
Toluene-d8 (S)	99	%	70-130		5		07/18/16 14:51	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		5		07/18/16 14:51	460-00-4	
Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		07/14/16 16:47	14797-55-8	
Analytical Method: EPA 300.0									
Sulfate	<2.0	mg/L	4.0	2.0	1		07/14/16 16:47	14808-79-8	
Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	252	mg/L	23.5	7.0	1		07/25/16 10:22		

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-28 Lab ID: 40135282003 Collected: 07/14/16 09:55 Received: 07/14/16 12:15 Matrix: Water									
Analytical Method: EPA 8015B Modified									
Methane	1570	ug/L	28.0	13.7	10		07/20/16 11:37	74-82-8	
Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	566	ug/L	250	10.0	1	07/25/16 10:19	07/26/16 16:29	7439-89-6	
Manganese, Dissolved	190	ug/L	1.0	0.18	1	07/25/16 10:19	07/26/16 16:29	7439-96-5	
Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		07/18/16 19:53	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		07/18/16 19:53	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		07/18/16 19:53	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		07/18/16 19:53	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		07/18/16 19:53	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		07/18/16 19:53	95-47-6	
Surrogates									
Dibromofluoromethane (S)	104	%	70-130		1		07/18/16 19:53	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		07/18/16 19:53	2037-26-5	
4-Bromofluorobenzene (S)	94	%	70-130		1		07/18/16 19:53	460-00-4	
Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		07/14/16 17:20	14797-55-8	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

Sample: MW-28 **Lab ID: 40135282003** Collected: 07/14/16 09:55 Received: 07/14/16 12:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	4.8	mg/L	4.0	2.0	1		07/14/16 17:20	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	210	mg/L	23.5	7.0	1		07/25/16 10:22		

Sample: PZ-23 **Lab ID: 40135282004** Collected: 07/14/16 09:20 Received: 07/14/16 12:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	2210	ug/L	56.0	27.4	20		07/20/16 11:44	74-82-8	M1
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	362	ug/L	250	10.0	1	07/25/16 10:19	07/26/16 15:42	7439-89-6	
Manganese, Dissolved	87.6	ug/L	1.0	0.18	1	07/25/16 10:19	07/26/16 15:42	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	783	ug/L	10.0	5.0	10		07/19/16 12:14	71-43-2	
Ethylbenzene	75.8	ug/L	10.0	5.0	10		07/19/16 12:14	100-41-4	
Naphthalene	831	ug/L	50.0	25.0	10		07/19/16 12:14	91-20-3	
Toluene	<5.0	ug/L	10.0	5.0	10		07/19/16 12:14	108-88-3	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		07/19/16 12:14	179601-23-1	
o-Xylene	14.3	ug/L	10.0	5.0	10		07/19/16 12:14	95-47-6	
Surrogates									
Dibromofluoromethane (S)	100	%	70-130		10		07/19/16 12:14	1868-53-7	
Toluene-d8 (S)	101	%	70-130		10		07/19/16 12:14	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		10		07/19/16 12:14	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		07/14/16 17:31	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	4.0	mg/L	4.0	2.0	1		07/14/16 17:31	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	243	mg/L	47.0	14.1	2		07/25/16 10:23		

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

Sample: PZ-27 **Lab ID: 40135282005** Collected: 07/14/16 08:50 Received: 07/14/16 12:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	2980	ug/L	56.0	27.4	20		07/20/16 12:04	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	785	ug/L	250	10.0	1	07/25/16 10:19	07/26/16 16:50	7439-89-6	
Manganese, Dissolved	98.2	ug/L	1.0	0.18	1	07/25/16 10:19	07/26/16 16:50	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	537	ug/L	10.0	5.0	10		07/18/16 15:34	71-43-2	
Ethylbenzene	52.5	ug/L	10.0	5.0	10		07/18/16 15:34	100-41-4	
Naphthalene	547	ug/L	50.0	25.0	10		07/18/16 15:34	91-20-3	
Toluene	<5.0	ug/L	10.0	5.0	10		07/18/16 15:34	108-88-3	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		07/18/16 15:34	179601-23-1	
o-Xylene	17.3	ug/L	10.0	5.0	10		07/18/16 15:34	95-47-6	
Surrogates									
Dibromofluoromethane (S)	105	%	70-130		10		07/18/16 15:34	1868-53-7	
Toluene-d8 (S)	99	%	70-130		10		07/18/16 15:34	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		10		07/18/16 15:34	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		07/14/16 16:25	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	2.4J	mg/L	4.0	2.0	1		07/14/16 16:25	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	239	mg/L	23.5	7.0	1		07/25/16 10:26		

Sample: QCFB **Lab ID: 40135282006** Collected: 07/14/16 10:45 Received: 07/14/16 12:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	<1.4	ug/L	2.8	1.4	1		07/20/16 09:01	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	<10.0	ug/L	250	10.0	1	07/25/16 10:19	07/26/16 16:57	7439-89-6	
Manganese, Dissolved	<0.18	ug/L	1.0	0.18	1	07/25/16 10:19	07/26/16 16:57	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		07/19/16 10:35	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		07/19/16 10:35	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		07/19/16 10:35	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		07/19/16 10:35	108-88-3	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

Sample: QCFB Lab ID: 40135282006 Collected: 07/14/16 10:45 Received: 07/14/16 12:15 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		07/19/16 10:35	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		07/19/16 10:35	95-47-6	
Surrogates									
Dibromofluoromethane (S)	109	%	70-130		1		07/19/16 10:35	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		07/19/16 10:35	2037-26-5	
4-Bromofluorobenzene (S)	89	%	70-130		1		07/19/16 10:35	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		07/14/16 16:03	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	<2.0	mg/L	4.0	2.0	1		07/14/16 16:03	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	<7.0	mg/L	23.5	7.0	1		07/25/16 10:27		

Sample: QC-1 Lab ID: 40135282007 Collected: 07/14/16 00:00 Received: 07/14/16 12:15 Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	3180	ug/L	70.0	34.2	25		07/20/16 12:11	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	657	ug/L	250	10.0	1	07/25/16 10:19	07/26/16 17:03	7439-89-6	
Manganese, Dissolved	108	ug/L	1.0	0.18	1	07/25/16 10:19	07/26/16 17:03	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	597	ug/L	10.0	5.0	10		07/19/16 12:36	71-43-2	
Ethylbenzene	121	ug/L	10.0	5.0	10		07/19/16 12:36	100-41-4	
Naphthalene	998	ug/L	50.0	25.0	10		07/19/16 12:36	91-20-3	
Toluene	<5.0	ug/L	10.0	5.0	10		07/19/16 12:36	108-88-3	
m&p-Xylene	12.7J	ug/L	20.0	10.0	10		07/19/16 12:36	179601-23-1	
o-Xylene	19.1	ug/L	10.0	5.0	10		07/19/16 12:36	95-47-6	
Surrogates									
Dibromofluoromethane (S)	102	%	70-130		10		07/19/16 12:36	1868-53-7	
Toluene-d8 (S)	99	%	70-130		10		07/19/16 12:36	2037-26-5	
4-Bromofluorobenzene (S)	94	%	70-130		10		07/19/16 12:36	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		07/14/16 16:14	14797-55-8	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

Sample: QC-1 **Lab ID: 40135282007** Collected: 07/14/16 00:00 Received: 07/14/16 12:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Sulfate	<2.0	mg/L	4.0	2.0	1		07/14/16 16:14	14808-79-8	
310.2 Alkalinity									
Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO ₃	251	mg/L	23.5	7.0	1		07/25/16 10:28		

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

QC Batch: 230272 Analysis Method: EPA 8015B Modified
 QC Batch Method: EPA 8015B Modified Analysis Description: Methane, Ethane, Ethene GCV
 Associated Lab Samples: 40135282001, 40135282002, 40135282003, 40135282004, 40135282005, 40135282006, 40135282007

METHOD BLANK: 1366284 Matrix: Water
 Associated Lab Samples: 40135282001, 40135282002, 40135282003, 40135282004, 40135282005, 40135282006, 40135282007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	<1.4	2.8	07/20/16 07:35	

LABORATORY CONTROL SAMPLE & LCSD: 1366285 1366286

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	28.6	28.1	27.5	98	96	73-122	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1366287 1366288

Parameter	Units	40135282004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Methane	ug/L	2210	571	571	3480	3720	222	265	15-187	7	20	M1

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40135282

QC Batch: 230677 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET Dissolved
Associated Lab Samples: 40135282001, 40135282002, 40135282003, 40135282004, 40135282005, 40135282006, 40135282007

METHOD BLANK: 1369083 Matrix: Water
Associated Lab Samples: 40135282001, 40135282002, 40135282003, 40135282004, 40135282005, 40135282006, 40135282007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	<10.0	250	07/26/16 15:29	
Manganese, Dissolved	ug/L	<0.18	1.0	07/26/16 15:29	

LABORATORY CONTROL SAMPLE: 1369084

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	5000	5100	102	80-120	
Manganese, Dissolved	ug/L	500	463	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1369085 1369086

Parameter	Units	1369085		1369086		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40135282004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Iron, Dissolved	ug/L	362	5000	5000	5320	5300	99	99	75-125	0	20	
Manganese, Dissolved	ug/L	87.6	500	500	542	537	91	90	75-125	1	20	

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40135282

QC Batch: 229965 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40135282001, 40135282002, 40135282003, 40135282005

METHOD BLANK: 1364476 Matrix: Water
Associated Lab Samples: 40135282001, 40135282002, 40135282003, 40135282005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	07/18/16 10:26	
Ethylbenzene	ug/L	<0.50	1.0	07/18/16 10:26	
m&p-Xylene	ug/L	<1.0	2.0	07/18/16 10:26	
Naphthalene	ug/L	<2.5	5.0	07/18/16 10:26	
o-Xylene	ug/L	<0.50	1.0	07/18/16 10:26	
Toluene	ug/L	<0.50	1.0	07/18/16 10:26	
4-Bromofluorobenzene (S)	%	97	70-130	07/18/16 10:26	
Dibromofluoromethane (S)	%	103	70-130	07/18/16 10:26	
Toluene-d8 (S)	%	99	70-130	07/18/16 10:26	

LABORATORY CONTROL SAMPLE: 1364477

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	42.7	85	60-135	
Ethylbenzene	ug/L	50	51.3	103	70-136	
m&p-Xylene	ug/L	100	103	103	70-138	
o-Xylene	ug/L	50	51.2	102	70-134	
Toluene	ug/L	50	51.1	102	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			106	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1365392 1365393

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		40135231013 Result	Spike Conc.	Spike Conc.	MS Result					
Benzene	ug/L	204	250	250	509	514	122	124	57-138	1 20
Ethylbenzene	ug/L	<5.0	250	250	233	265	93	106	70-138	13 20
m&p-Xylene	ug/L	<10.0	500	500	454	514	91	103	70-140	12 20
o-Xylene	ug/L	<5.0	250	250	228	259	91	104	70-134	13 20
Toluene	ug/L	<5.0	250	250	234	256	93	101	70-130	9 20
4-Bromofluorobenzene (S)	%						102	101	70-130	
Dibromofluoromethane (S)	%						103	105	70-130	
Toluene-d8 (S)	%						97	96	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40135282

QC Batch: 230042 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40135282006

METHOD BLANK: 1365287 Matrix: Water
Associated Lab Samples: 40135282006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	07/19/16 07:27	
Ethylbenzene	ug/L	<0.50	1.0	07/19/16 07:27	
m&p-Xylene	ug/L	<1.0	2.0	07/19/16 07:27	
Naphthalene	ug/L	<2.5	5.0	07/19/16 07:27	
o-Xylene	ug/L	<0.50	1.0	07/19/16 07:27	
Toluene	ug/L	<0.50	1.0	07/19/16 07:27	
4-Bromofluorobenzene (S)	%	88	70-130	07/19/16 07:27	
Dibromofluoromethane (S)	%	108	70-130	07/19/16 07:27	
Toluene-d8 (S)	%	100	70-130	07/19/16 07:27	

LABORATORY CONTROL SAMPLE: 1365288

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	60.7	121	60-135	
Ethylbenzene	ug/L	50	56.4	113	70-136	
m&p-Xylene	ug/L	100	115	115	70-138	
o-Xylene	ug/L	50	54.2	108	70-134	
Toluene	ug/L	50	53.7	107	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			110	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1365507 1365508

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual	
		40135282006 Result	Spike Conc.	Spike Conc.	MS Result						MSD Result
Benzene	ug/L	<0.50	50	50	61.6	61.6	123	123	57-138	0	20
Ethylbenzene	ug/L	<0.50	50	50	55.8	56.3	112	113	70-138	1	20
m&p-Xylene	ug/L	<1.0	100	100	112	112	112	112	70-140	1	20
o-Xylene	ug/L	<0.50	50	50	54.8	54.1	110	108	70-134	1	20
Toluene	ug/L	<0.50	50	50	54.8	54.5	110	109	70-130	1	20
4-Bromofluorobenzene (S)	%						100	103	70-130		
Dibromofluoromethane (S)	%						114	114	70-130		
Toluene-d8 (S)	%						101	98	70-130		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40135282

QC Batch: 230140 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40135282004, 40135282007

METHOD BLANK: 1365548 Matrix: Water
Associated Lab Samples: 40135282004, 40135282007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	07/19/16 09:58	
Ethylbenzene	ug/L	<0.50	1.0	07/19/16 09:58	
m&p-Xylene	ug/L	<1.0	2.0	07/19/16 09:58	
Naphthalene	ug/L	<2.5	5.0	07/19/16 09:58	
o-Xylene	ug/L	<0.50	1.0	07/19/16 09:58	
Toluene	ug/L	<0.50	1.0	07/19/16 09:58	
4-Bromofluorobenzene (S)	%	91	70-130	07/19/16 09:58	
Dibromofluoromethane (S)	%	99	70-130	07/19/16 09:58	
Toluene-d8 (S)	%	99	70-130	07/19/16 09:58	

LABORATORY CONTROL SAMPLE: 1365549

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	50.7	101	60-135	
Ethylbenzene	ug/L	50	46.1	92	70-136	
m&p-Xylene	ug/L	100	90.8	91	70-138	
o-Xylene	ug/L	50	45.8	92	70-134	
Toluene	ug/L	50	47.1	94	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			102	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1365550 1365551

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40135282004 Result	Spike Conc.	Spike Conc.	MS Result						
Benzene	ug/L	783	500	500	1390	1330	121	109	57-138	4	20
Ethylbenzene	ug/L	75.8	500	500	609	613	107	107	70-138	1	20
m&p-Xylene	ug/L	<10.0	1000	1000	1070	1060	106	105	70-140	1	20
o-Xylene	ug/L	14.3	500	500	530	531	103	103	70-134	0	20
Toluene	ug/L	<5.0	500	500	518	532	103	106	70-130	3	20
4-Bromofluorobenzene (S)	%						98	100	70-130		
Dibromofluoromethane (S)	%						104	101	70-130		
Toluene-d8 (S)	%						98	98	70-130		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

QC Batch: 229929

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 40135282001, 40135282002, 40135282003, 40135282004, 40135282005, 40135282006, 40135282007

METHOD BLANK: 1364216

Matrix: Water

Associated Lab Samples: 40135282001, 40135282002, 40135282003, 40135282004, 40135282005, 40135282006, 40135282007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.15	0.30	07/14/16 15:05	
Sulfate	mg/L	<2.0	4.0	07/14/16 15:05	

LABORATORY CONTROL SAMPLE: 1364217

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.5	102	90-110	
Sulfate	mg/L	20	19.5	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1364218 1364219

Parameter	Units	40135282004		MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec						
Nitrate as N	mg/L	<0.15	1.5	1.5	1.5	1.5	1.5	102	102	90-110	0	20			
Sulfate	mg/L	4.0	20	20	20	23.6	23.9	98	99	90-110	1	20			

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40135282

QC Batch: 230653 Analysis Method: EPA 310.2
QC Batch Method: EPA 310.2 Analysis Description: 310.2 Alkalinity
Associated Lab Samples: 40135282001, 40135282002, 40135282003, 40135282004, 40135282005, 40135282006, 40135282007

METHOD BLANK: 1369006 Matrix: Water
Associated Lab Samples: 40135282001, 40135282002, 40135282003, 40135282004, 40135282005, 40135282006, 40135282007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	7.5J	23.5	07/25/16 10:20	

LABORATORY CONTROL SAMPLE: 1369007

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	103	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1369008 1369009

Parameter	Units	40135282004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	243	200	200	437	441	97	99	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1369010 1369011

Parameter	Units	40135508005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	338	200	200	540	537	101	100	90-110	1	20	

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QUALIFIERS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40135282

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40135282001	MW-26	EPA 8015B Modified	230272		
40135282002	MW-27	EPA 8015B Modified	230272		
40135282003	MW-28	EPA 8015B Modified	230272		
40135282004	PZ-23	EPA 8015B Modified	230272		
40135282005	PZ-27	EPA 8015B Modified	230272		
40135282006	QCFB	EPA 8015B Modified	230272		
40135282007	QC-1	EPA 8015B Modified	230272		
40135282001	MW-26	EPA 3010	230677	EPA 6020	230753
40135282002	MW-27	EPA 3010	230677	EPA 6020	230753
40135282003	MW-28	EPA 3010	230677	EPA 6020	230753
40135282004	PZ-23	EPA 3010	230677	EPA 6020	230753
40135282005	PZ-27	EPA 3010	230677	EPA 6020	230753
40135282006	QCFB	EPA 3010	230677	EPA 6020	230753
40135282007	QC-1	EPA 3010	230677	EPA 6020	230753
40135282001	MW-26	EPA 8260	229965		
40135282002	MW-27	EPA 8260	229965		
40135282003	MW-28	EPA 8260	229965		
40135282004	PZ-23	EPA 8260	230140		
40135282005	PZ-27	EPA 8260	229965		
40135282006	QCFB	EPA 8260	230042		
40135282007	QC-1	EPA 8260	230140		
40135282001	MW-26	EPA 300.0	229929		
40135282002	MW-27	EPA 300.0	229929		
40135282003	MW-28	EPA 300.0	229929		
40135282004	PZ-23	EPA 300.0	229929		
40135282005	PZ-27	EPA 300.0	229929		
40135282006	QCFB	EPA 300.0	229929		
40135282007	QC-1	EPA 300.0	229929		
40135282001	MW-26	EPA 300.0	229929		
40135282002	MW-27	EPA 300.0	229929		
40135282003	MW-28	EPA 300.0	229929		
40135282004	PZ-23	EPA 300.0	229929		
40135282005	PZ-27	EPA 300.0	229929		
40135282006	QCFB	EPA 300.0	229929		
40135282007	QC-1	EPA 300.0	229929		
40135282001	MW-26	EPA 310.2	230653		
40135282002	MW-27	EPA 310.2	230653		
40135282003	MW-28	EPA 310.2	230653		
40135282004	PZ-23	EPA 310.2	230653		
40135282005	PZ-27	EPA 310.2	230653		
40135282006	QCFB	EPA 310.2	230653		
40135282007	QC-1	EPA 310.2	230653		

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Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project #:

WO#: 40135282

Client Name: WE Energies

Courier: Fed Ex UPS Client Pace Other:

Tracking #: _____



Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used: no Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature: Uncorr: ROI / Corr: Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Person examining contents:
Date: 7-14-16
Initials: mm

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Comments:

Table with 15 rows for checklist items (Chain of Custody Present, Chain of Custody Filled Out, etc.) and a large handwritten comment area for item 12: 'all sample labels & ID have appleton mg-p on samples mm 71416'.

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: ID on 3 vials for 004 TD Reddys "MW-27" no time, R "P2-28" and other no time 7-14-16 mm

Project Manager Review: _____

Handwritten signature

Date: 7-15-16

October 12, 2016

David Kollakowsky
We Energies
333 W. Everett St
Room P129
Milwaukee, WI 532012179

RE: Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40139523

Dear David Kollakowsky:

Enclosed are the analytical results for sample(s) received by the laboratory on October 05, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Brian Basten
brian.basten@pacelabs.com
Project Manager

Enclosures

cc: Frank Dombrowski, WE Energies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139523

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

Virginia VELAP ID: 460263

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

US Dept of Agriculture #: S-76505

Virginia VELAP Certification ID: 460263

Virginia VELAP ID: 460263

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139523

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40139523001	MW-2R	Water	10/04/16 11:20	10/05/16 10:16
40139523002	MW-12R	Water	10/04/16 14:34	10/05/16 10:16
40139523003	MW-13R	Water	10/04/16 14:12	10/05/16 10:16
40139523004	MW-19	Water	10/04/16 10:55	10/05/16 10:16
40139523005	MW-20	Water	10/04/16 13:02	10/05/16 10:16
40139523006	MW-21	Water	10/04/16 13:50	10/05/16 10:16
40139523007	MW-22	Water	10/04/16 13:25	10/05/16 10:16
40139523008	TRIP BLANK	Water	10/04/16 00:00	10/05/16 10:16

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SAMPLE ANALYTE COUNT

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139523

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40139523001	MW-2R	EPA 8260	LAP	9
40139523002	MW-12R	EPA 8260	LAP	9
40139523003	MW-13R	EPA 8260	LAP	9
40139523004	MW-19	EPA 8260	LAP	9
40139523005	MW-20	EPA 8260	LAP	9
40139523006	MW-21	EPA 8260	LAP	9
40139523007	MW-22	EPA 8260	LAP	9
40139523008	TRIP BLANK	EPA 8260	LAP	9

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40139523

Sample: MW-2R **Lab ID: 40139523001** Collected: 10/04/16 11:20 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	718	ug/L	10.0	5.0	10		10/10/16 09:22	71-43-2	
Ethylbenzene	304	ug/L	10.0	5.0	10		10/10/16 09:22	100-41-4	
Naphthalene	621	ug/L	50.0	25.0	10		10/10/16 09:22	91-20-3	
Toluene	9.8J	ug/L	10.0	5.0	10		10/10/16 09:22	108-88-3	
m&p-Xylene	56.8	ug/L	20.0	10.0	10		10/10/16 09:22	179601-23-1	
o-Xylene	106	ug/L	10.0	5.0	10		10/10/16 09:22	95-47-6	
Surrogates									
Dibromofluoromethane (S)	96	%	70-130		10		10/10/16 09:22	1868-53-7	
Toluene-d8 (S)	91	%	70-130		10		10/10/16 09:22	2037-26-5	
4-Bromofluorobenzene (S)	90	%	70-130		10		10/10/16 09:22	460-00-4	

Sample: MW-12R **Lab ID: 40139523002** Collected: 10/04/16 14:34 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	11.0	ug/L	10.0	5.0	10		10/10/16 09:44	71-43-2	
Ethylbenzene	43.4	ug/L	10.0	5.0	10		10/10/16 09:44	100-41-4	
Naphthalene	758	ug/L	50.0	25.0	10		10/10/16 09:44	91-20-3	
Toluene	5.9J	ug/L	10.0	5.0	10		10/10/16 09:44	108-88-3	
m&p-Xylene	17.5J	ug/L	20.0	10.0	10		10/10/16 09:44	179601-23-1	
o-Xylene	21.6	ug/L	10.0	5.0	10		10/10/16 09:44	95-47-6	
Surrogates									
Dibromofluoromethane (S)	97	%	70-130		10		10/10/16 09:44	1868-53-7	
Toluene-d8 (S)	92	%	70-130		10		10/10/16 09:44	2037-26-5	
4-Bromofluorobenzene (S)	89	%	70-130		10		10/10/16 09:44	460-00-4	

Sample: MW-13R **Lab ID: 40139523003** Collected: 10/04/16 14:12 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	1130	ug/L	40.0	20.0	40		10/10/16 10:06	71-43-2	
Ethylbenzene	353	ug/L	40.0	20.0	40		10/10/16 10:06	100-41-4	
Naphthalene	4300	ug/L	200	100	40		10/10/16 10:06	91-20-3	
Toluene	107	ug/L	40.0	20.0	40		10/10/16 10:06	108-88-3	
m&p-Xylene	285	ug/L	80.0	40.0	40		10/10/16 10:06	179601-23-1	
o-Xylene	161	ug/L	40.0	20.0	40		10/10/16 10:06	95-47-6	
Surrogates									
Dibromofluoromethane (S)	95	%	70-130		40		10/10/16 10:06	1868-53-7	
Toluene-d8 (S)	91	%	70-130		40		10/10/16 10:06	2037-26-5	
4-Bromofluorobenzene (S)	92	%	70-130		40		10/10/16 10:06	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139523

Sample: MW-19 **Lab ID: 40139523004** Collected: 10/04/16 10:55 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	303	ug/L	2.5	1.2	2.5		10/10/16 18:02	71-43-2	
Ethylbenzene	27.8	ug/L	2.5	1.2	2.5		10/10/16 18:02	100-41-4	
Naphthalene	<6.2	ug/L	12.5	6.2	2.5		10/10/16 18:02	91-20-3	
Toluene	<1.2	ug/L	2.5	1.2	2.5		10/10/16 18:02	108-88-3	
m&p-Xylene	<2.5	ug/L	5.0	2.5	2.5		10/10/16 18:02	179601-23-1	
o-Xylene	7.3	ug/L	2.5	1.2	2.5		10/10/16 18:02	95-47-6	
Surrogates									
Dibromofluoromethane (S)	103	%	70-130		2.5		10/10/16 18:02	1868-53-7	
Toluene-d8 (S)	89	%	70-130		2.5		10/10/16 18:02	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		2.5		10/10/16 18:02	460-00-4	

Sample: MW-20 **Lab ID: 40139523005** Collected: 10/04/16 13:02 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	1560	ug/L	50.0	25.0	50		10/10/16 10:50	71-43-2	
Ethylbenzene	537	ug/L	50.0	25.0	50		10/10/16 10:50	100-41-4	
Naphthalene	5260	ug/L	250	125	50		10/10/16 10:50	91-20-3	
Toluene	767	ug/L	50.0	25.0	50		10/10/16 10:50	108-88-3	
m&p-Xylene	478	ug/L	100	50.0	50		10/10/16 10:50	179601-23-1	
o-Xylene	366	ug/L	50.0	25.0	50		10/10/16 10:50	95-47-6	
Surrogates									
Dibromofluoromethane (S)	98	%	70-130		50		10/10/16 10:50	1868-53-7	
Toluene-d8 (S)	92	%	70-130		50		10/10/16 10:50	2037-26-5	
4-Bromofluorobenzene (S)	90	%	70-130		50		10/10/16 10:50	460-00-4	

Sample: MW-21 **Lab ID: 40139523006** Collected: 10/04/16 13:50 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	1240	ug/L	100	50.0	100		10/10/16 11:34	71-43-2	
Ethylbenzene	267	ug/L	100	50.0	100		10/10/16 11:34	100-41-4	
Naphthalene	10700	ug/L	500	250	100		10/10/16 11:34	91-20-3	
Toluene	1150	ug/L	100	50.0	100		10/10/16 11:34	108-88-3	
m&p-Xylene	611	ug/L	200	100	100		10/10/16 11:34	179601-23-1	
o-Xylene	353	ug/L	100	50.0	100		10/10/16 11:34	95-47-6	
Surrogates									
Dibromofluoromethane (S)	96	%	70-130		100		10/10/16 11:34	1868-53-7	
Toluene-d8 (S)	93	%	70-130		100		10/10/16 11:34	2037-26-5	
4-Bromofluorobenzene (S)	89	%	70-130		100		10/10/16 11:34	460-00-4	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139523

Sample: MW-22 **Lab ID: 40139523007** Collected: 10/04/16 13:25 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	1380	ug/L	25.0	12.5	25		10/10/16 11:12	71-43-2	
Ethylbenzene	409	ug/L	25.0	12.5	25		10/10/16 11:12	100-41-4	
Naphthalene	2070	ug/L	125	62.5	25		10/10/16 11:12	91-20-3	
Toluene	<12.5	ug/L	25.0	12.5	25		10/10/16 11:12	108-88-3	
m&p-Xylene	<25.0	ug/L	50.0	25.0	25		10/10/16 11:12	179601-23-1	
o-Xylene	38.1	ug/L	25.0	12.5	25		10/10/16 11:12	95-47-6	
Surrogates									
Dibromofluoromethane (S)	98	%	70-130		25		10/10/16 11:12	1868-53-7	
Toluene-d8 (S)	92	%	70-130		25		10/10/16 11:12	2037-26-5	
4-Bromofluorobenzene (S)	90	%	70-130		25		10/10/16 11:12	460-00-4	

Sample: TRIP BLANK **Lab ID: 40139523008** Collected: 10/04/16 00:00 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		10/10/16 17:18	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/16 17:18	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		10/10/16 17:18	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		10/10/16 17:18	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		10/10/16 17:18	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		10/10/16 17:18	95-47-6	
Surrogates									
Dibromofluoromethane (S)	99	%	70-130		1		10/10/16 17:18	1868-53-7	
Toluene-d8 (S)	90	%	70-130		1		10/10/16 17:18	2037-26-5	
4-Bromofluorobenzene (S)	86	%	70-130		1		10/10/16 17:18	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40139523

QC Batch: 237306 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40139523001, 40139523002, 40139523003, 40139523004, 40139523005, 40139523006, 40139523007, 40139523008

METHOD BLANK: 1406242 Matrix: Water
Associated Lab Samples: 40139523001, 40139523002, 40139523003, 40139523004, 40139523005, 40139523006, 40139523007, 40139523008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	10/10/16 07:54	
Ethylbenzene	ug/L	<0.50	1.0	10/10/16 07:54	
m&p-Xylene	ug/L	<1.0	2.0	10/10/16 07:54	
Naphthalene	ug/L	<2.5	5.0	10/10/16 07:54	
o-Xylene	ug/L	<0.50	1.0	10/10/16 07:54	
Toluene	ug/L	<0.50	1.0	10/10/16 07:54	
4-Bromofluorobenzene (S)	%	85	70-130	10/10/16 07:54	
Dibromofluoromethane (S)	%	95	70-130	10/10/16 07:54	
Toluene-d8 (S)	%	92	70-130	10/10/16 07:54	

LABORATORY CONTROL SAMPLE: 1406243

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	44.6	89	60-135	
Ethylbenzene	ug/L	50	48.6	97	70-136	
m&p-Xylene	ug/L	100	104	104	70-138	
o-Xylene	ug/L	50	49.4	99	70-134	
Toluene	ug/L	50	46.9	94	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	
Dibromofluoromethane (S)	%			94	70-130	
Toluene-d8 (S)	%			94	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1406244 1406245

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40139523001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Benzene	ug/L	718	500	500	1140	1120	84	80	57-138	2	20	
Ethylbenzene	ug/L	304	500	500	808	788	101	97	70-138	2	20	
m&p-Xylene	ug/L	56.8	1000	1000	1080	1060	103	100	70-140	2	20	
o-Xylene	ug/L	106	500	500	615	600	102	99	70-134	2	20	
Toluene	ug/L	9.8J	500	500	468	448	92	88	70-130	5	20	
4-Bromofluorobenzene (S)	%						94	93	70-130			
Dibromofluoromethane (S)	%						96	96	70-130			
Toluene-d8 (S)	%						92	90	70-130			

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139523

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139523

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40139523001	MW-2R	EPA 8260	237306		
40139523002	MW-12R	EPA 8260	237306		
40139523003	MW-13R	EPA 8260	237306		
40139523004	MW-19	EPA 8260	237306		
40139523005	MW-20	EPA 8260	237306		
40139523006	MW-21	EPA 8260	237306		
40139523007	MW-22	EPA 8260	237306		
40139523008	TRIP BLANK	EPA 8260	237306		

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Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302



Project # **WO# : 40139523**

Client Name: WE Energies

Courier: Fed Ex UPS Client Pace Other: CS Logistics



Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used NA Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROI /Corr: Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Person examining contents:
Date: 10-5-16
Initials: MM

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>001 - Date on all vials 10- -16</u>
-Includes date/time/ID/Analysis Matrix: <u>W</u>		<u>mm10516</u>
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lab Std #/ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>3169</u>		

Client Notification/ Resolution: If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: Added to COC trip blank mm10516
001 - 2 vials sample label client used mm10516 used white out mm10516

Project Manager Review: _____

Date: 10-5-16

October 17, 2016

David Kollakowsky
We Energies
333 W. Everett St
Room P129
Milwaukee, WI 532012179

RE: Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40139497

Dear David Kollakowsky:

Enclosed are the analytical results for sample(s) received by the laboratory on October 05, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Steven Mleczko for
Brian Basten
brian.basten@pacelabs.com
Project Manager

Enclosures

cc: Frank Dombrowski, WE Energies
Brian Hennings, NATURAL RESOURCE TECHNOLOGY



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139497

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

Virginia VELAP ID: 460263

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

US Dept of Agriculture #: S-76505

Virginia VELAP Certification ID: 460263

Virginia VELAP ID: 460263

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

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SAMPLE SUMMARY

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139497

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40139497001	MW-24	Water	10/05/16 06:55	10/05/16 10:16
40139497002	MW-25	Water	10/04/16 15:00	10/05/16 10:16
40139497003	MW-26	Water	10/05/16 08:40	10/05/16 10:16
40139497004	MW-27	Water	10/05/16 07:30	10/05/16 10:16
40139497005	MW-28	Water	10/04/16 12:10	10/05/16 10:16
40139497006	PZ-23	Water	10/04/16 12:35	10/05/16 10:16
40139497007	PZ-27	Water	10/05/16 07:54	10/05/16 10:16
40139497008	QCFB	Water	10/04/16 15:20	10/05/16 10:16
40139497009	QC-1	Water	10/04/16 00:00	10/05/16 10:16
40139497010	TRIP BLANK	Water	10/04/16 00:00	10/05/16 10:16

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SAMPLE ANALYTE COUNT

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139497

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40139497001	MW-24	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	2
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40139497002	MW-25	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	2
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40139497003	MW-26	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	2
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40139497004	MW-27	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	2
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40139497005	MW-28	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	2
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40139497006	PZ-23	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	2
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40139497007	PZ-27	EPA 8015B Modified	ALD	1

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SAMPLE ANALYTE COUNT

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139497

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 6020	DS1	2
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40139497008	QCFB	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	2
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40139497009	QC-1	EPA 8015B Modified	ALD	1
		EPA 6020	DS1	2
		EPA 8260	LAP	9
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
		EPA 310.2	DAW	1
40139497010	TRIP BLANK	EPA 8260	LAP	9

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40139497

Sample: MW-24 **Lab ID: 40139497001** Collected: 10/05/16 06:55 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	<1.4	ug/L	2.8	1.4	1		10/11/16 12:43	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	738	ug/L	250	10.0	1	10/11/16 09:36	10/12/16 18:49	7439-89-6	
Manganese, Dissolved	93.8	ug/L	1.0	0.18	1	10/11/16 09:36	10/12/16 18:49	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		10/10/16 21:22	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/16 21:22	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		10/10/16 21:22	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		10/10/16 21:22	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		10/10/16 21:22	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		10/10/16 21:22	95-47-6	
Surrogates									
Dibromofluoromethane (S)	97	%	70-130		1		10/10/16 21:22	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		10/10/16 21:22	2037-26-5	
4-Bromofluorobenzene (S)	84	%	70-130		1		10/10/16 21:22	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		10/05/16 16:58	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	88.3	mg/L	20.0	10.0	5		10/06/16 01:58	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	473	mg/L	117	35.2	5		10/13/16 11:42		

Sample: MW-25 **Lab ID: 40139497002** Collected: 10/04/16 15:00 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	899	ug/L	14.0	6.8	5		10/11/16 14:20	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	187J	ug/L	250	10.0	1	10/11/16 09:36	10/12/16 18:56	7439-89-6	
Manganese, Dissolved	0.24J	ug/L	1.0	0.18	1	10/11/16 09:36	10/12/16 18:56	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	6.7	ug/L	1.0	0.50	1		10/10/16 21:44	71-43-2	
Ethylbenzene	10.3	ug/L	1.0	0.50	1		10/10/16 21:44	100-41-4	
Naphthalene	149	ug/L	5.0	2.5	1		10/10/16 21:44	91-20-3	
Toluene	2.5	ug/L	1.0	0.50	1		10/10/16 21:44	108-88-3	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139497

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-25 Lab ID: 40139497002 Collected: 10/04/16 15:00 Received: 10/05/16 10:16 Matrix: Water									
Analytical Method: EPA 8260									
m&p-Xylene	9.4	ug/L	2.0	1.0	1		10/10/16 21:44	179601-23-1	
o-Xylene	5.2	ug/L	1.0	0.50	1		10/10/16 21:44	95-47-6	
Surrogates									
Dibromofluoromethane (S)	95	%	70-130		1		10/10/16 21:44	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		10/10/16 21:44	2037-26-5	
4-Bromofluorobenzene (S)	90	%	70-130		1		10/10/16 21:44	460-00-4	
Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		10/05/16 17:10	14797-55-8	
Analytical Method: EPA 300.0									
Sulfate	42.7	mg/L	4.0	2.0	1		10/05/16 17:10	14808-79-8	
Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	425	mg/L	117	35.2	5		10/13/16 12:15		

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-26 Lab ID: 40139497003 Collected: 10/05/16 08:40 Received: 10/05/16 10:16 Matrix: Water									
Analytical Method: EPA 8015B Modified									
Methane	3090	ug/L	70.0	34.2	25		10/11/16 14:26	74-82-8	
Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	1090	ug/L	250	10.0	1	10/11/16 09:36	10/12/16 19:03	7439-89-6	
Manganese, Dissolved	201	ug/L	1.0	0.18	1	10/11/16 09:36	10/12/16 19:03	7439-96-5	
Analytical Method: EPA 8260									
Benzene	70.2	ug/L	1.0	0.50	1		10/10/16 22:06	71-43-2	
Ethylbenzene	0.74J	ug/L	1.0	0.50	1		10/10/16 22:06	100-41-4	
Naphthalene	52.7	ug/L	5.0	2.5	1		10/10/16 22:06	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		10/10/16 22:06	108-88-3	
m&p-Xylene	1.6J	ug/L	2.0	1.0	1		10/10/16 22:06	179601-23-1	
o-Xylene	2.4	ug/L	1.0	0.50	1		10/10/16 22:06	95-47-6	
Surrogates									
Dibromofluoromethane (S)	97	%	70-130		1		10/10/16 22:06	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		10/10/16 22:06	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		1		10/10/16 22:06	460-00-4	
Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		10/05/16 17:21	14797-55-8	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139497

Sample: MW-26 **Lab ID: 40139497003** Collected: 10/05/16 08:40 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	13.7	mg/L	4.0	2.0	1		10/05/16 17:21	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	311	mg/L	23.5	7.0	1		10/13/16 11:44		

Sample: MW-27 **Lab ID: 40139497004** Collected: 10/05/16 07:30 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	2750	ug/L	70.0	34.2	25		10/11/16 14:33	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	750	ug/L	250	10.0	1	10/11/16 09:36	10/12/16 19:09	7439-89-6	
Manganese, Dissolved	114	ug/L	1.0	0.18	1	10/11/16 09:36	10/12/16 19:09	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	560	ug/L	5.0	2.5	5		10/10/16 23:12	71-43-2	
Ethylbenzene	111	ug/L	5.0	2.5	5		10/10/16 23:12	100-41-4	
Naphthalene	1100	ug/L	25.0	12.5	5		10/10/16 23:12	91-20-3	
Toluene	<2.5	ug/L	5.0	2.5	5		10/10/16 23:12	108-88-3	
m&p-Xylene	8.2J	ug/L	10.0	5.0	5		10/10/16 23:12	179601-23-1	
o-Xylene	14.7	ug/L	5.0	2.5	5		10/10/16 23:12	95-47-6	
Surrogates									
Dibromofluoromethane (S)	95	%	70-130		5		10/10/16 23:12	1868-53-7	
Toluene-d8 (S)	99	%	70-130		5		10/10/16 23:12	2037-26-5	
4-Bromofluorobenzene (S)	91	%	70-130		5		10/10/16 23:12	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		10/05/16 17:32	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	<2.0	mg/L	4.0	2.0	1		10/05/16 17:32	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	239	mg/L	23.5	7.0	1		10/13/16 11:45		

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40139497

Sample: MW-28 **Lab ID: 40139497005** Collected: 10/04/16 12:10 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	2650	ug/L	70.0	34.2	25		10/11/16 14:40	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	556	ug/L	250	10.0	1	10/11/16 09:36	10/12/16 19:16	7439-89-6	
Manganese, Dissolved	174	ug/L	1.0	0.18	1	10/11/16 09:36	10/12/16 19:16	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		10/10/16 22:28	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/16 22:28	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		10/10/16 22:28	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		10/10/16 22:28	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		10/10/16 22:28	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		10/10/16 22:28	95-47-6	
Surrogates									
Dibromofluoromethane (S)	97	%	70-130		1		10/10/16 22:28	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		10/10/16 22:28	2037-26-5	
4-Bromofluorobenzene (S)	86	%	70-130		1		10/10/16 22:28	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		10/05/16 15:41	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	3.9J	mg/L	4.0	2.0	1		10/05/16 15:41	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	219	mg/L	23.5	7.0	1		10/13/16 11:45		

Sample: PZ-23 **Lab ID: 40139497006** Collected: 10/04/16 12:35 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	3030	ug/L	70.0	34.2	25		10/11/16 14:47	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	481	ug/L	250	10.0	1	10/11/16 09:36	10/12/16 19:23	7439-89-6	
Manganese, Dissolved	93.2	ug/L	1.0	0.18	1	10/11/16 09:36	10/12/16 19:23	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	693	ug/L	10.0	5.0	10		10/10/16 23:33	71-43-2	
Ethylbenzene	61.2	ug/L	10.0	5.0	10		10/10/16 23:33	100-41-4	
Naphthalene	854	ug/L	50.0	25.0	10		10/10/16 23:33	91-20-3	
Toluene	<5.0	ug/L	10.0	5.0	10		10/10/16 23:33	108-88-3	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139497

Sample: PZ-23									
Lab ID: 40139497006									
Collected: 10/04/16 12:35									
Received: 10/05/16 10:16									
Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST									
Analytical Method: EPA 8260									
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		10/10/16 23:33	179601-23-1	
o-Xylene	10.1	ug/L	10.0	5.0	10		10/10/16 23:33	95-47-6	
Surrogates									
Dibromofluoromethane (S)	95	%	70-130		10		10/10/16 23:33	1868-53-7	
Toluene-d8 (S)	97	%	70-130		10		10/10/16 23:33	2037-26-5	
4-Bromofluorobenzene (S)	87	%	70-130		10		10/10/16 23:33	460-00-4	
300.0 IC Anions									
Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		10/05/16 15:52	14797-55-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Sulfate	<2.0	mg/L	4.0	2.0	1		10/05/16 15:52	14808-79-8	
310.2 Alkalinity									
Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	234	mg/L	23.5	7.0	1		10/13/16 11:46		

Sample: PZ-27									
Lab ID: 40139497007									
Collected: 10/05/16 07:54									
Received: 10/05/16 10:16									
Matrix: Water									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV									
Analytical Method: EPA 8015B Modified									
Methane	3530	ug/L	70.0	34.2	25		10/11/16 14:54	74-82-8	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	887	ug/L	250	10.0	1	10/11/16 09:36	10/12/16 19:29	7439-89-6	
Manganese, Dissolved	106	ug/L	1.0	0.18	1	10/11/16 09:36	10/12/16 19:29	7439-96-5	
8260 MSV UST									
Analytical Method: EPA 8260									
Benzene	487	ug/L	10.0	5.0	10		10/10/16 23:55	71-43-2	
Ethylbenzene	53.0	ug/L	10.0	5.0	10		10/10/16 23:55	100-41-4	
Naphthalene	687	ug/L	50.0	25.0	10		10/10/16 23:55	91-20-3	
Toluene	<5.0	ug/L	10.0	5.0	10		10/10/16 23:55	108-88-3	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		10/10/16 23:55	179601-23-1	
o-Xylene	11.3	ug/L	10.0	5.0	10		10/10/16 23:55	95-47-6	
Surrogates									
Dibromofluoromethane (S)	98	%	70-130		10		10/10/16 23:55	1868-53-7	
Toluene-d8 (S)	97	%	70-130		10		10/10/16 23:55	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		10		10/10/16 23:55	460-00-4	
300.0 IC Anions									
Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		10/05/16 16:03	14797-55-8	

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139497

Sample: PZ-27 **Lab ID: 40139497007** Collected: 10/05/16 07:54 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	<2.0	mg/L	4.0	2.0	1		10/05/16 16:03	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	233	mg/L	23.5	7.0	1		10/13/16 11:46		

Sample: QCFB **Lab ID: 40139497008** Collected: 10/04/16 15:20 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	<1.4	ug/L	2.8	1.4	1		10/11/16 13:31	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	18.0J	ug/L	250	10.0	1	10/11/16 09:36	10/12/16 17:35	7439-89-6	B
Manganese, Dissolved	0.19J	ug/L	1.0	0.18	1	10/11/16 09:36	10/12/16 17:35	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		10/10/16 17:44	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/16 17:44	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		10/10/16 17:44	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		10/10/16 17:44	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		10/10/16 17:44	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		10/10/16 17:44	95-47-6	
Surrogates									
Dibromofluoromethane (S)	94	%	70-130		1		10/10/16 17:44	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		10/10/16 17:44	2037-26-5	
4-Bromofluorobenzene (S)	89	%	70-130		1		10/10/16 17:44	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		10/05/16 16:14	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	<2.0	mg/L	4.0	2.0	1		10/05/16 16:14	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	<7.0	mg/L	23.5	7.0	1		10/13/16 11:47		1q

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ANALYTICAL RESULTS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139497

Sample: QC-1 **Lab ID: 40139497009** Collected: 10/04/16 00:00 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Methane, Ethane, Ethene GCV Analytical Method: EPA 8015B Modified									
Methane	1620	ug/L	56.0	27.4	20		10/11/16 15:01	74-82-8	
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Iron, Dissolved	198J	ug/L	250	10.0	1	10/11/16 09:36	10/12/16 19:36	7439-89-6	
Manganese, Dissolved	0.20J	ug/L	1.0	0.18	1	10/11/16 09:36	10/12/16 19:36	7439-96-5	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	6.6	ug/L	1.0	0.50	1		10/10/16 22:50	71-43-2	
Ethylbenzene	10.4	ug/L	1.0	0.50	1		10/10/16 22:50	100-41-4	
Naphthalene	149	ug/L	5.0	2.5	1		10/10/16 22:50	91-20-3	
Toluene	2.6	ug/L	1.0	0.50	1		10/10/16 22:50	108-88-3	
m&p-Xylene	9.2	ug/L	2.0	1.0	1		10/10/16 22:50	179601-23-1	
o-Xylene	5.2	ug/L	1.0	0.50	1		10/10/16 22:50	95-47-6	
Surrogates									
Dibromofluoromethane (S)	97	%	70-130		1		10/10/16 22:50	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		10/10/16 22:50	2037-26-5	
4-Bromofluorobenzene (S)	90	%	70-130		1		10/10/16 22:50	460-00-4	
300.0 IC Anions Analytical Method: EPA 300.0									
Nitrate as N	<0.15	mg/L	0.30	0.15	1		10/05/16 16:47	14797-55-8	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Sulfate	42.8	mg/L	4.0	2.0	1		10/05/16 16:47	14808-79-8	
310.2 Alkalinity Analytical Method: EPA 310.2									
Alkalinity, Total as CaCO3	417	mg/L	117	35.2	5		10/13/16 12:16		

Sample: TRIP BLANK **Lab ID: 40139497010** Collected: 10/04/16 00:00 Received: 10/05/16 10:16 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		10/10/16 18:06	71-43-2	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		10/10/16 18:06	100-41-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		10/10/16 18:06	91-20-3	
Toluene	<0.50	ug/L	1.0	0.50	1		10/10/16 18:06	108-88-3	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		10/10/16 18:06	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		10/10/16 18:06	95-47-6	
Surrogates									
Dibromofluoromethane (S)	97	%	70-130		1		10/10/16 18:06	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		10/10/16 18:06	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		1		10/10/16 18:06	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40139497

QC Batch: 237693 Analysis Method: EPA 8015B Modified
QC Batch Method: EPA 8015B Modified Analysis Description: Methane, Ethane, Ethene GCV
Associated Lab Samples: 40139497001, 40139497002, 40139497003, 40139497004, 40139497005, 40139497006, 40139497007, 40139497008, 40139497009

METHOD BLANK: 1408548 Matrix: Water
Associated Lab Samples: 40139497001, 40139497002, 40139497003, 40139497004, 40139497005, 40139497006, 40139497007, 40139497008, 40139497009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	<1.4	2.8	10/11/16 07:49	

LABORATORY CONTROL SAMPLE & LCSD: 1408549 1408550

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	28.6	27.8	28.8	97	101	73-122	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1409025 1409026

Parameter	Units	40139749005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Methane	ug/L	<1.4	28.6	28.6	26.5	27.1	93	95	15-187	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139497

QC Batch: 237713

Analysis Method: EPA 6020

QC Batch Method: EPA 3010

Analysis Description: 6020 MET Dissolved

Associated Lab Samples: 40139497001, 40139497002, 40139497003, 40139497004, 40139497005, 40139497006, 40139497007, 40139497008, 40139497009

METHOD BLANK: 1408617

Matrix: Water

Associated Lab Samples: 40139497001, 40139497002, 40139497003, 40139497004, 40139497005, 40139497006, 40139497007, 40139497008, 40139497009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	15.2J	250	10/12/16 17:29	
Manganese, Dissolved	ug/L	<0.18	1.0	10/12/16 17:29	

LABORATORY CONTROL SAMPLE: 1408618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	5000	4790	96	80-120	
Manganese, Dissolved	ug/L	500	517	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1408619 1408620

Parameter	Units	40139319001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	167J	5000	5000	4860	4740	94	92	75-125	2	20	
Manganese, Dissolved	ug/L	1700	500	500	2170	2180	95	96	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40139497

QC Batch: 237307 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 40139497001, 40139497002, 40139497003, 40139497004, 40139497005, 40139497006, 40139497007, 40139497008, 40139497009, 40139497010

METHOD BLANK: 1406246 Matrix: Water
Associated Lab Samples: 40139497001, 40139497002, 40139497003, 40139497004, 40139497005, 40139497006, 40139497007, 40139497008, 40139497009, 40139497010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	<0.50	1.0	10/10/16 16:17	
Ethylbenzene	ug/L	<0.50	1.0	10/10/16 16:17	
m&p-Xylene	ug/L	<1.0	2.0	10/10/16 16:17	
Naphthalene	ug/L	<2.5	5.0	10/10/16 16:17	
o-Xylene	ug/L	<0.50	1.0	10/10/16 16:17	
Toluene	ug/L	<0.50	1.0	10/10/16 16:17	
4-Bromofluorobenzene (S)	%	87	70-130	10/10/16 16:17	
Dibromofluoromethane (S)	%	94	70-130	10/10/16 16:17	
Toluene-d8 (S)	%	96	70-130	10/10/16 16:17	

LABORATORY CONTROL SAMPLE: 1406247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	49.1	98	60-135	
Ethylbenzene	ug/L	50	53.7	107	70-136	
m&p-Xylene	ug/L	100	108	108	70-138	
o-Xylene	ug/L	50	52.7	105	70-134	
Toluene	ug/L	50	51.9	104	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Dibromofluoromethane (S)	%			96	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1408566 1408567

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40139497008 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Benzene	ug/L	<0.50	50	50	50.8	49.3	102	99	57-138	3	20	
Ethylbenzene	ug/L	<0.50	50	50	54.1	54.4	107	108	70-138	1	20	
m&p-Xylene	ug/L	<1.0	100	100	107	109	107	109	70-140	2	20	
o-Xylene	ug/L	<0.50	50	50	53.3	53.2	106	106	70-134	0	20	
Toluene	ug/L	<0.50	50	50	52.1	52.7	104	105	70-130	1	20	
4-Bromofluorobenzene (S)	%						98	97	70-130			
Dibromofluoromethane (S)	%						98	96	70-130			
Toluene-d8 (S)	%						96	97	70-130			

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QUALITY CONTROL DATA

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40139497

QC Batch: 237906 Analysis Method: EPA 310.2
QC Batch Method: EPA 310.2 Analysis Description: 310.2 Alkalinity
Associated Lab Samples: 40139497001, 40139497002, 40139497003, 40139497004, 40139497005, 40139497006, 40139497007, 40139497008, 40139497009

METHOD BLANK: 1409549 Matrix: Water
Associated Lab Samples: 40139497001, 40139497002, 40139497003, 40139497004, 40139497005, 40139497006, 40139497007, 40139497008, 40139497009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<7.0	23.5	10/13/16 11:30	

LABORATORY CONTROL SAMPLE: 1409550

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	102	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1409551 1409552

Parameter	Units	40139493003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	48.0	100	100	147	146	99	98	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1409553 1409554

Parameter	Units	40139499001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	390	1000	1000	1380	1380	99	99	90-110	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139497

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1q Analyte was measured in the associated method blank at a concentration of -7.9 mg/L.

B Analyte was detected in the associated method blank.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: W-1272-000003 APPLETON MGP
Pace Project No.: 40139497

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40139497001	MW-24	EPA 8015B Modified	237693		
40139497002	MW-25	EPA 8015B Modified	237693		
40139497003	MW-26	EPA 8015B Modified	237693		
40139497004	MW-27	EPA 8015B Modified	237693		
40139497005	MW-28	EPA 8015B Modified	237693		
40139497006	PZ-23	EPA 8015B Modified	237693		
40139497007	PZ-27	EPA 8015B Modified	237693		
40139497008	QCFB	EPA 8015B Modified	237693		
40139497009	QC-1	EPA 8015B Modified	237693		
40139497001	MW-24	EPA 3010	237713	EPA 6020	237798
40139497002	MW-25	EPA 3010	237713	EPA 6020	237798
40139497003	MW-26	EPA 3010	237713	EPA 6020	237798
40139497004	MW-27	EPA 3010	237713	EPA 6020	237798
40139497005	MW-28	EPA 3010	237713	EPA 6020	237798
40139497006	PZ-23	EPA 3010	237713	EPA 6020	237798
40139497007	PZ-27	EPA 3010	237713	EPA 6020	237798
40139497008	QCFB	EPA 3010	237713	EPA 6020	237798
40139497009	QC-1	EPA 3010	237713	EPA 6020	237798
40139497001	MW-24	EPA 8260	237307		
40139497002	MW-25	EPA 8260	237307		
40139497003	MW-26	EPA 8260	237307		
40139497004	MW-27	EPA 8260	237307		
40139497005	MW-28	EPA 8260	237307		
40139497006	PZ-23	EPA 8260	237307		
40139497007	PZ-27	EPA 8260	237307		
40139497008	QCFB	EPA 8260	237307		
40139497009	QC-1	EPA 8260	237307		
40139497010	TRIP BLANK	EPA 8260	237307		
40139497001	MW-24	EPA 300.0	237272		
40139497002	MW-25	EPA 300.0	237272		
40139497003	MW-26	EPA 300.0	237272		
40139497004	MW-27	EPA 300.0	237272		
40139497005	MW-28	EPA 300.0	237272		
40139497006	PZ-23	EPA 300.0	237272		
40139497007	PZ-27	EPA 300.0	237272		
40139497008	QCFB	EPA 300.0	237272		
40139497009	QC-1	EPA 300.0	237272		
40139497001	MW-24	EPA 300.0	237272		
40139497002	MW-25	EPA 300.0	237272		
40139497003	MW-26	EPA 300.0	237272		
40139497004	MW-27	EPA 300.0	237272		
40139497005	MW-28	EPA 300.0	237272		
40139497006	PZ-23	EPA 300.0	237272		
40139497007	PZ-27	EPA 300.0	237272		
40139497008	QCFB	EPA 300.0	237272		
40139497009	QC-1	EPA 300.0	237272		
40139497001	MW-24	EPA 310.2	237906		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: W-1272-000003 APPLETON MGP

Pace Project No.: 40139497

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40139497002	MW-25	EPA 310.2	237906		
40139497003	MW-26	EPA 310.2	237906		
40139497004	MW-27	EPA 310.2	237906		
40139497005	MW-28	EPA 310.2	237906		
40139497006	PZ-23	EPA 310.2	237906		
40139497007	PZ-27	EPA 310.2	237906		
40139497008	QCFB	EPA 310.2	237906		
40139497009	QC-1	EPA 310.2	237906		

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QUARTERLY SAMPLING SUMMARY
Appleton MGP Groundwater Sampling – October 2016

Well/ Piezometer	Water Level ¹	NAPL Thickness	NAPL Removal	BTEX & Naphthalene (USEPA 8260B)	Benzene & Naphthalene (USEPA 8260B)	Arsenic, Iron, and Manganese ² (USEPA 6020)	Iron and Manganese ² (USEPA 6020)	Nitrate & Sulfate (USEPA 300.0) and Alkalinity (USEPA 310.2)	Methane (USEPA 8015B)	Field Parameters (See Note 3 for list)
MW-2R		NA	NA		NA	NA	NA	NA	NA	
MW-8		NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-9		NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-10		NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-12R		NA	NA		NA	NA	NA	NA	NA	
MW-13R		NA	NA		NA	NA	NA	NA	NA	
MW-19		NA	NA		NA	NA	NA	NA	NA	
MW-19S		NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-20			NA		NA	NA	NA	NA	NA	
MW-21			NA		NA	NA	NA	NA	NA	
MW-22		NA	NA		NA	NA	NA	NA	NA	
MW-23		NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-24		NA	NA		NA	NA				
MW-25		NA	NA		NA	NA				
MW-26			*	NA	NA	NA				
MW-27			*	NA	NA	NA				
MW-28			*	NA	NA	NA				
PZ-12B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PZ-20B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PZ-21B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PZ-22B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PZ-23		NA	NA		NA	NA				
PZ-26			*	N	NA	NA	N	N	N	N
PZ-27			NA		NA	NA				
PZ-28			*	N	NA	NA	N	N	N	N
SG-3		NA	NA	NA	NA	NA	NA	NA	NA	NA
SG-4		NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

- 1 - A complete round of water levels should be collected prior to any well purging or sampling activities.
- 2 - All metals (Ar, Mn, and Fe) are to be field filtered using in-line disposable filters.
- 3 - Field parameters include:
 - pH
 - Dissolved oxygen
 - Temperature
 - Specific conductance
 - Oxidation/reduction potential

NA	- Measurement/analysis not applicable for this location.
*	- Water level and NAPL thickness collected before and after removal of NAPL greater than 0.5 feet. Estimate volume removed
N	- Water quality sampling will not be conducted at this location as long as NAPL remains present

Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302



Project #: **WO# : 40139497**

Client Name: WE ENERGIES

Courier: Fed Ex UPS Client Pace Other: CS LOGISTICS



Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used na Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROI /Corr: _____ Biological Tissue is Frozen: yes no

Temp Blank Present: yes no no

Person examining contents:
Date: 10-5-16
Initials: MM

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>DOT - 1 vial time 07501 mm10516</u>
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: (VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER: _____)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed: <u>mm</u> Lab Std #/ID of preservative: _____ Date/Time: _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>3109</u>		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: 1 trip blank added to COC mm10516

Project Manager Review: [Signature]

Date: 10-5-16

STAT Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

April 07, 2016

Natural Resource Technology, Inc.

415A S. 3rd Street

Milwaukee, WI 53204

Telephone: (414) 837-3607

Fax: (262) 523-9001

Analytical Report for STAT Work Order: 16040024 Revision 0

RE: 1508.1 / 23.1, Appleton MGP, Appleton, WI

Dear Brian Hennings:

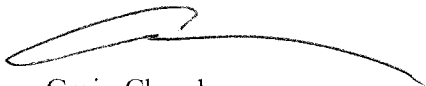
STAT Analysis received 3 samples for the referenced project on 4/1/2016 4:45:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,



Craig Chawla

Project Manager

The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone. This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory. This analytical report shall become property of the Customer upon payment in full. Otherwise, STAT will be under no obligation to support, defend or discuss the analytical report.

Client: Natural Resource Technology, Inc.
Project: 1508.1 / 23.1, Appleton MGP, Appleton, WI
Work Order: 16040024 Revision 0

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
16040024-001A	SS-1		3/30/2016 12:51:00 PM	4/1/2016
16040024-002A	SS-5		3/30/2016 2:24:00 PM	4/1/2016
16040024-003A	Dup-01		3/30/2016	4/1/2016

CLIENT: Natural Resource Technology, Inc.
Project: 1508.1 / 23.1, Appleton MGP, Appleton, WI
Work Order: 16040024 Revision 0

CASE NARRATIVE

TO-15 results that are reported in $\mu\text{g}/\text{m}^3$ are calculated based on a temperature of 25°C , atmospheric pressure of 760 mm Hg, and the molecular weight of the analyte.

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Report Date: April 07, 2016

ANALYTICAL RESULTS

Print Date: April 07, 2016

CLIENT: Natural Resource Technology, Inc.
Work Order: 16040024 Revision 0
Project: 1508.1 / 23.1, Appleton MGP, Appleton, WI
Lab ID: 16040024-001A

Client Sample ID: SS-1
Tag Number:
Collection Date: 3/30/2016 12:51:00 PM
Matrix: AIR

Analyses	Result	RL	MDL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds in Air by GC/MS		TO-15		Prep Date: 4/4/2016		Analyst: VP	
Benzene	0.13	0.87	0.062	J	µg/m³	1	4/4/2016
Ethylbenzene	0.24	1.2	0.092	J	µg/m³	1	4/4/2016
Naphthalene	ND	1.4	0.41		µg/m³	1	4/4/2016
Toluene	0.46	1.0	0.12	J	µg/m³	1	4/4/2016
Xylenes, Total	2.0	3.5	0.25	J	µg/m³	1	4/4/2016
Landfill Gases by EPA Method 3c		METHOD 3C		Prep Date:		Analyst: NLM	
Carbon Dioxide	0.09	0.08	0.02		mol %	2	4/4/2016
Methane	ND	0.10	0.02		mol %	2	4/4/2016
Oxygen	17.4	0.80	0.02		mol %	2	4/4/2016

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below reporting limit

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL/MDL - Reporting Limit / Method Detection Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

H - Holding time exceeded

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Report Date: April 07, 2016

ANALYTICAL RESULTS

Print Date: April 07, 2016

CLIENT: Natural Resource Technology, Inc.

Client Sample ID: SS-5

Work Order: 16040024 Revision 0

Tag Number:

Project: 1508.1 / 23.1, Appleton MGP, Appleton, WI

Collection Date: 3/30/2016 2:24:00 PM

Lab ID: 16040024-002A

Matrix: AIR

Analyses	Result	RL	MDL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds in Air by GC/MS		TO-15		Prep Date: 4/4/2016		Analyst: VP	
Benzene	0.34	0.86	0.062	J	µg/m³	1	4/4/2016
Ethylbenzene	0.35	1.2	0.091	J	µg/m³	1	4/4/2016
Naphthalene	ND	1.4	0.4		µg/m³	1	4/4/2016
Toluene	2.0	1.0	0.11		µg/m³	1	4/4/2016
Xylenes, Total	2.6	3.5	0.24	J	µg/m³	1	4/4/2016
Landfill Gases by EPA Method 3c		METHOD 3C		Prep Date:		Analyst: NLM	
Carbon Dioxide	0.04	0.08	0.02	J	mol %	2	4/4/2016
Methane	ND	0.10	0.02		mol %	2	4/4/2016
Oxygen	17.5	0.80	0.02		mol %	2	4/4/2016

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below reporting limit

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

* - Non-accredited parameter

RL/MDL - Reporting Limit / Method Detection Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

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Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

Report Date: April 07, 2016

ANALYTICAL RESULTS

Print Date: April 07, 2016

CLIENT: Natural Resource Technology, Inc.
Work Order: 16040024 Revision 0
Project: 1508.1 / 23.1, Appleton MGP, Appleton, WI
Lab ID: 16040024-003A

Client Sample ID: Dup-01
Tag Number:
Collection Date: 3/30/2016
Matrix: AIR

Analyses	Result	RL	MDL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds in Air by GC/MS		TO-15		Prep Date: 4/4/2016		Analyst: VP	
Benzene	0.22	0.86	0.062	J	µg/m³	1	4/4/2016
Ethylbenzene	0.18	1.2	0.091	J	µg/m³	1	4/4/2016
Naphthalene	0.64	1.4	0.4	J	µg/m³	1	4/4/2016
Toluene	0.51	1.0	0.11	J	µg/m³	1	4/4/2016
Xylenes, Total	1.5	3.5	0.24	J	µg/m³	1	4/4/2016
Landfill Gases by EPA Method 3c		METHOD 3C		Prep Date:		Analyst: NLM	
Carbon Dioxide	0.06	0.08	0.02	J	mol %	2	4/4/2016
Methane	ND	0.10	0.02		mol %	2	4/4/2016
Oxygen	17.5	0.80	0.02		mol %	2	4/4/2016

Qualifiers:	ND - Not Detected at the Reporting Limit	RL/MDL - Reporting Limit / Method Detection Limit for the analysis
	J - Analyte detected below reporting limit	S - Spike Recovery outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
	HT - Sample received past holding time	E - Value above quantitation range
	* - Non-accredited parameter	H - Holding time exceeded

CHAIN OF CUSTODY RECORD

N^o:

Page: 1 of 1

Company: <u>NAT</u>								P.O. No.:																																																							
Project Number: <u>1508.1 / 23.1</u>				Client Tracking No.:				Quote No.:																																																							
Project Name: <u>APPLETON MGP</u>								<div style="transform: rotate(-45deg); border: 1px solid black; padding: 5px;"> TO-15 - BTEX + 11PAHs + HAPs 26-CO₂ CH₄ O₂ </div>																																																							
Project Location: <u>APPLETON, WI</u>																																																															
Sampler(s): <u>N. KELLER, E. PLANT, B HENNING</u>																																																															
Report To: <u>DAVE KELLER</u> Phone: <u>414-537-3630</u>																																																															
<u>BRIAN HENNING</u> Fax: _____ QC Level: 1 _____ 2 <u>X</u> 3 _____ 4 _____ e-mail: <u>nkeller@naturalstat.com</u>								Turn Around:																																																							
<table border="1"> <thead> <tr> <th>Client Sample Number/Description:</th> <th>Date Taken</th> <th>Time Taken</th> <th>Matrix</th> <th>Comp.</th> <th>Grab</th> <th>Preserv.</th> <th>No. of Containers</th> <th>Remarks</th> <th>Lab No.:</th> </tr> </thead> <tbody> <tr> <td><u>SS-2</u></td> <td><u>3/30/16</u></td> <td><u>12:21-12:51</u></td> <td><u>S.VAF</u></td> <td><u>X</u></td> <td></td> <td></td> <td><u>2</u></td> <td><u>X X</u></td> <td><u>60226, A48</u></td> <td><u>001</u></td> </tr> <tr> <td><u>SS-5</u></td> <td><u>↓</u></td> <td><u>13:57-14:24</u></td> <td><u>S.VAF</u></td> <td><u>X</u></td> <td></td> <td></td> <td><u>↓</u></td> <td><u>↓ ↓</u></td> <td><u>60337, A14</u></td> <td><u>002</u></td> </tr> <tr> <td><u>DUP-01</u></td> <td><u>↓</u></td> <td><u>-</u></td> <td><u>↓</u></td> <td><u>X</u></td> <td></td> <td></td> <td><u>↓</u></td> <td><u>↓ ↓</u></td> <td><u>60419, A61</u></td> <td><u>003</u></td> </tr> <tr> <td><u>UNUSED CAN</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>1</u></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>								Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Remarks	Lab No.:	<u>SS-2</u>	<u>3/30/16</u>	<u>12:21-12:51</u>	<u>S.VAF</u>	<u>X</u>			<u>2</u>	<u>X X</u>	<u>60226, A48</u>	<u>001</u>	<u>SS-5</u>	<u>↓</u>	<u>13:57-14:24</u>	<u>S.VAF</u>	<u>X</u>			<u>↓</u>	<u>↓ ↓</u>	<u>60337, A14</u>	<u>002</u>	<u>DUP-01</u>	<u>↓</u>	<u>-</u>	<u>↓</u>	<u>X</u>			<u>↓</u>	<u>↓ ↓</u>	<u>60419, A61</u>	<u>003</u>	<u>UNUSED CAN</u>							<u>1</u>				Results Needed: am/pm	
Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Remarks	Lab No.:																																																						
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<u>UNUSED CAN</u>							<u>1</u>																																																								
Relinquished by: (Signature) <u>[Signature]</u> Date/Time: <u>3/30/16 12:00</u>								Laboratory Work Order No.: <u>16042024</u>																																																							
Received by: (Signature) <u>[Signature]</u> Date/Time: <u>4/1/16 12:00</u>																																																															
Relinquished by: (Signature) <u>[Signature]</u> Date/Time: <u>4/1/16 4:45</u>								Received on Ice: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																																							
Received by: (Signature) <u>[Signature]</u> Date/Time: <u>4/1/16 16:45</u>																																																															
Relinquished by: (Signature) _____ Date/Time: _____								Preservation Code: A = None B = HNO ₃ C = NaOH D = H ₂ SO ₄ E = HCl F = 5035/EnCore G = Other																																																							
Received by: (Signature) _____ Date/Time: _____																																																															

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Sample Receipt Checklist

Client Name **NRT**

Work Order Number **16040024**

Checklist completed by: Martin Jure 4/1/16
Signature Date

Date and Time Received: **4/1/2016 4:45:00 PM**

Received by: **MGK**

Reviewed by: [Signature] 4/4/16
Initials Date

Matrix: _____ Carrier name STAT Analysis

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels/containers? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container or Temp Blank temperature in compliance? Yes No Temperature Ambient °C
- Water - VOA vials have zero headspace? No VOA vials submitted Yes No
- Water - Samples pH checked? Yes No Checked by: _____
- Water - Samples properly preserved? Yes No pH Adjusted? _____

Any No response must be detailed in the comments section below.

Comments:

Client / Person contacted: _____ Date contacted: _____ Contacted by: _____

Response: _____

CLIENT: Natural Resource Technology, Inc.
Work Order: 16040024
Project: 1508.1 / 23.1, Appleton MGP, Appleton, WI

ANALYTICAL QC SUMMARY REPORT

Air Toxics
BatchID: R119941

ANALYTICAL RUN SUMMARY

SeqNo	Sample ID	Type	Test Code	Batch	DF	Date Analyzed
3242355	BFB040416-6	TUNE	BFB	R119941	1	04/04/2016 14:32
3242359	CCV040416-6 5.0	CCV	TO_15A+	R119941	1	04/04/2016 14:32
3242360	C040116B	MBLK	TO_15A+	R119941	1	04/04/2016 15:07
3242361	MB040416-6	MBLK	TO_15A+	R119941	1	04/04/2016 15:42
3242835	MB040416-6	MBLK	TO_15UG+	R119941	1	04/04/2016 15:42
3242362	LCS040416-6 5.0	LCS	TO_15A+	R119941	1	04/04/2016 16:17
3242836	LCS040416-6 5.0	LCS	TO_15UG+	R119941	1	04/04/2016 16:17
3242363	LCSD040416-6 5.0	LCSD	TO_15A+	R119941	1	04/04/2016 16:52
3242837	LCSD040416-6 5.0	LCSD	TO_15UG+	R119941	1	04/04/2016 16:52
3242817	16040024-001A	SAMP	TO_15A+	91117	1	04/04/2016 17:59
3242874	16040024-001A	SAMP	TO_15UG+	91117	1	04/04/2016 17:59
3242818	16040024-002A	SAMP	TO_15A+	91117	1	04/04/2016 18:32
3242875	16040024-002A	SAMP	TO_15UG+	91117	1	04/04/2016 18:32
3242819	16040024-003A	SAMP	TO_15A+	91117	1	04/04/2016 19:22
3242876	16040024-003A	SAMP	TO_15UG+	91117	1	04/04/2016 19:22
3242820	16040026-001A	SAMP	TO_15A+	91117	1	04/04/2016 19:56
3242877	16040026-001A	SAMP	TO_15UG+	91117	1	04/04/2016 19:56
3242821	16040026-002A	SAMP	TO_15A+	91117	1	04/04/2016 20:31
3242878	16040026-002A	SAMP	TO_15UG+	91117	1	04/04/2016 20:31
3242822	16040026-003A	SAMP	TO_15A+	91117	1	04/04/2016 21:06
3242879	16040026-003A	SAMP	TO_15UG+	91117	1	04/04/2016 21:06
3242823	16040027-001A	SAMP	TO_15A+	91117	1	04/04/2016 21:41
3242880	16040027-001A	SAMP	TO_15UG+	91117	1	04/04/2016 21:41
3242824	16040027-002A	SAMP	TO_15A+	91117	1	04/05/2016 08:43
3242881	16040027-002A	SAMP	TO_15UG+	91117	1	04/05/2016 08:43
3242825	16040027-003A	SAMP	TO_15A+	91117	1	04/05/2016 09:17
3242882	16040027-003A	SAMP	TO_15UG+	91117	1	04/05/2016 09:17
3242826	16040038-008A	SAMP	TO_15A+	91089	1	04/05/2016 09:51
3242883	16040038-008A	SAMP	TO_15UG+	91089	1	04/05/2016 09:51
3242827	16040038-009A	SAMP	TO_15A+	91089	1	04/05/2016 10:26
3242884	16040038-009A	SAMP	TO_15UG+	91089	1	04/05/2016 10:26
3242828	16040038-010A	SAMP	TO_15A+	91089	1	04/05/2016 10:58
3242885	16040038-010A	SAMP	TO_15UG+	91089	1	04/05/2016 10:58
3242829	16040038-011A	SAMP	TO_15A+	91089	1	04/05/2016 11:30
3242886	16040038-011A	SAMP	TO_15UG+	91089	1	04/05/2016 11:30
3242830	16040038-012A	SAMP	TO_15A+	91089	1	04/05/2016 12:05
3242887	16040038-012A	SAMP	TO_15UG+	91089	1	04/05/2016 12:05
3242831	16040038-013A	SAMP	TO_15A+	91089	1	04/05/2016 12:39
3242888	16040038-013A	SAMP	TO_15UG+	91089	1	04/05/2016 12:39
3242832	16040074-001A	SAMP	TO_15A+	91089	1	04/05/2016 13:12
3242833	16040074-002A	SAMP	TO_15A+	91089	1	04/05/2016 13:44
3242834	16040074-003A	SAMP	TO_15A+	91089	1	04/05/2016 14:19

QC SUMMARY

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits E - Value above quantitation range
 * - Non Accredited Parameter H/HT - Holding Time Exceeded

CLIENT: Natural Resource Technology, Inc.
Work Order: 16040024
Project: 1508.1 / 23.1, Appleton MGP, Appleton, WI

ANALYTICAL QC SUMMARY REPORT

Air Toxics
BatchID: R119941

Sample ID:	Customer ID:	SampType:	Units:	TestNo:	Prep Date:	Analysis Date:	Run ID:	SeqNo:			
MB040416-6	ZZZZZ	MBLK	µg/m³	TO-15		4/4/2016	VOA-6_160404A	3242835			
Analyte	Result	PQL	SPK value	SPK Ref Val	% REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Benzene	0.06389	0.64									J
Ethylbenzene	ND	0.87									
Naphthalene	ND	0.26									
Toluene	ND	0.75									
Xylenes, Total	ND	2.6									

Sample ID:	Customer ID:	SampType:	Units:	TestNo:	Prep Date:	Analysis Date:	Run ID:	SeqNo:			
LCS040416-6 5.0	ZZZZZ	LCS	µg/m³	TO-15		4/4/2016	VOA-6_160404A	3242836			
Analyte	Result	PQL	SPK value	SPK Ref Val	% REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Benzene	13.19	0.64	15.97	0.06389	82.2	70	130	0	0		
Ethylbenzene	19.06	0.87	21.71	0	87.8	70	130	0	0		
Naphthalene	24.01	0.26	26.21	0	91.6	70	130	0	0		
Toluene	16.81	0.75	18.84	0	89.2	70	130	0	0		
Xylenes, Total	56.4	2.6	65.13	0	86.6	70	130	0	0		

Sample ID:	Customer ID:	SampType:	Units:	TestNo:	Prep Date:	Analysis Date:	Run ID:	SeqNo:			
LCSD040416-6 5.0	ZZZZZ	LCSD	µg/m³	TO-15		4/4/2016	VOA-6_160404A	3242837			
Analyte	Result	PQL	SPK value	SPK Ref Val	% REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Benzene	13.23	0.64	15.97	0.06389	82.4	70	130	13.19	0.242	25	
Ethylbenzene	19.15	0.87	21.71	0	88.2	70	130	19.06	0.455	25	
Naphthalene	23.96	0.26	26.21	0	91.4	70	130	24.01	0.219	25	
Toluene	16.84	0.75	18.84	0	89.4	70	130	16.81	0.224	25	
Xylenes, Total	57.31	2.6	65.13	0	88	70	130	56.4	1.60	25	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits E - Value above quantitation range
 * - Non Accredited Parameter H/HT - Holding Time Exceeded

CLIENT: Natural Resource Technology, Inc.
 Work Order: 16040024
 Project: 1508.1 / 23.1, Appleton MGP, Appleton, WI

ANALYTICAL QC SUMMARY REPORT

Air Toxics
 BatchID: R119871

ANALYTICAL RUN SUMMARY

SeqNo	Sample ID	Type	Test Code	Batch	DF	Date Analyzed
3240685	CCV040416-3C L3	CCV	EPA_3C	R119871	1	04/04/2016 11:53
3240705	LCS040416-3C L3	LCS	EPA_3C	R119871	2	04/04/2016 12:17
3240706	MB040416-3C	MBLK	EPA_3C	R119871	2	04/04/2016 12:30
3240707	16040024-001A	SAMP	EPA_3C	R119871	2	04/04/2016 12:44
3240709	16040024-001A	DUP	EPA_3C	R119871	2	04/04/2016 13:03
3240710	16040024-002A	SAMP	EPA_3C	R119871	2	04/04/2016 13:21
3240711	16040024-002A	DUP	EPA_3C	R119871	2	04/04/2016 13:36
3240712	16040024-003A	SAMP	EPA_3C	R119871	2	04/04/2016 13:51
3240716	16040024-003A	DUP	EPA_3C	R119871	2	04/04/2016 14:10
3240719	CCV040416C-3C L3	CCV	EPA_3C	R119871	1	04/04/2016 14:26

QC SUMMARY

Sample ID:	Customer ID:	SampType:	Units:	TestNo:	Prep Date:	Analysis Date:	Run ID:	SeqNo:			
MB040416-3C	ZZZZZ	MBLK	mol %	Method 3c		4/4/2016	GC-TCD1_160404A	3240706			
Analyte	Result	PQL	SPK value	SPK Ref Val	% REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Carbon Dioxide	ND	0.0800									
Methane	ND	0.100									
Oxygen	ND	0.800									

Sample ID:	Customer ID:	SampType:	Units:	TestNo:	Prep Date:	Analysis Date:	Run ID:	SeqNo:			
LCS040416-3C L3	ZZZZZ	LCS	mol %	Method 3c		4/4/2016	GC-TCD1_160404A	3240705			
Analyte	Result	PQL	SPK value	SPK Ref Val	% REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Carbon Dioxide	0.624	0.0800	0.6	0	104	80	120	0	0		
Methane	0.976	0.100	1	0	97.6	80	120	0	0		
Oxygen	0.812	0.800	0.8	0	102	80	120	0	0		

Sample ID:	Customer ID:	SampType:	Units:	TestNo:	Prep Date:	Analysis Date:	Run ID:	SeqNo:			
16040024-001A	SS-1	DUP	mol %	Method 3c		4/4/2016	GC-TCD1_160404A	3240709			
Analyte	Result	PQL	SPK value	SPK Ref Val	% REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Carbon Dioxide	0.09	0.0800	0	0	0	0	0	0.094	4.35	5	
Methane	ND	0.100	0	0	0	0	0	0	0	5	
Oxygen	17.46	0.800	0	0	0	0	0	17.39	0.379	5	


Sample ID:	Customer ID:	SampType:	Units:	TestNo:	Prep Date:	Analysis Date:	Run ID:	SeqNo:			
16040024-002A	SS-5	DUP	mol %	Method 3c		4/4/2016	GC-TCD1_160404A	3240711			
Analyte	Result	PQL	SPK value	SPK Ref Val	% REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

Carbon Dioxide	0.038	0.0800	0	0	0	0	0	0.036	0	5	J
Methane	ND	0.100	0	0	0	0	0	0	0	5	
Oxygen	17.53	0.800	0	0	0	0	0	17.54	0.0798	5	

Sample ID:	Customer ID:	SampType:	Units:	TestNo:	Prep Date:	Analysis Date:	Run ID:	SeqNo:			
16040024-003A	Dup-01	DUP	mol %	Method 3c		4/4/2016	GC-TCD1_160404A	3240716			
Analyte	Result	PQL	SPK value	SPK Ref Val	% REC	Low Limit	High Limit	RPD Ref Val	%RPD	RPD Limit	Qual

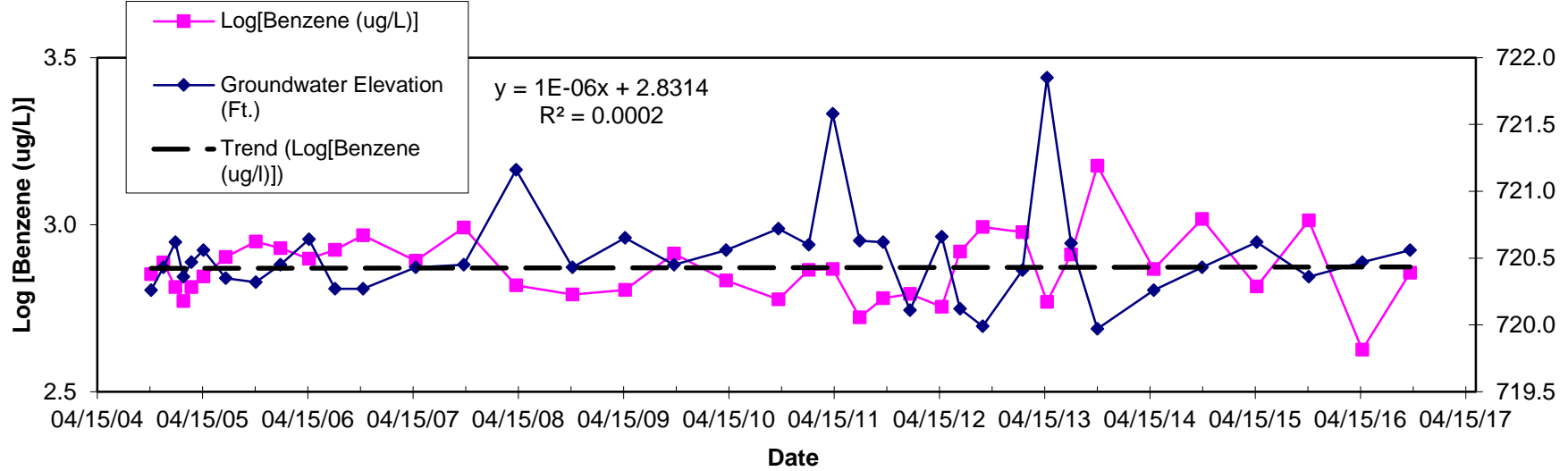
Carbon Dioxide	0.068	0.0800	0	0	0	0	0	0.064	0	5	J
Methane	ND	0.100	0	0	0	0	0	0	0	5	
Oxygen	17.56	0.800	0	0	0	0	0	17.5	0.377	5	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits E - Value above quantitation range
 * - Non Accredited Parameter H/HT - Holding Time Exceeded

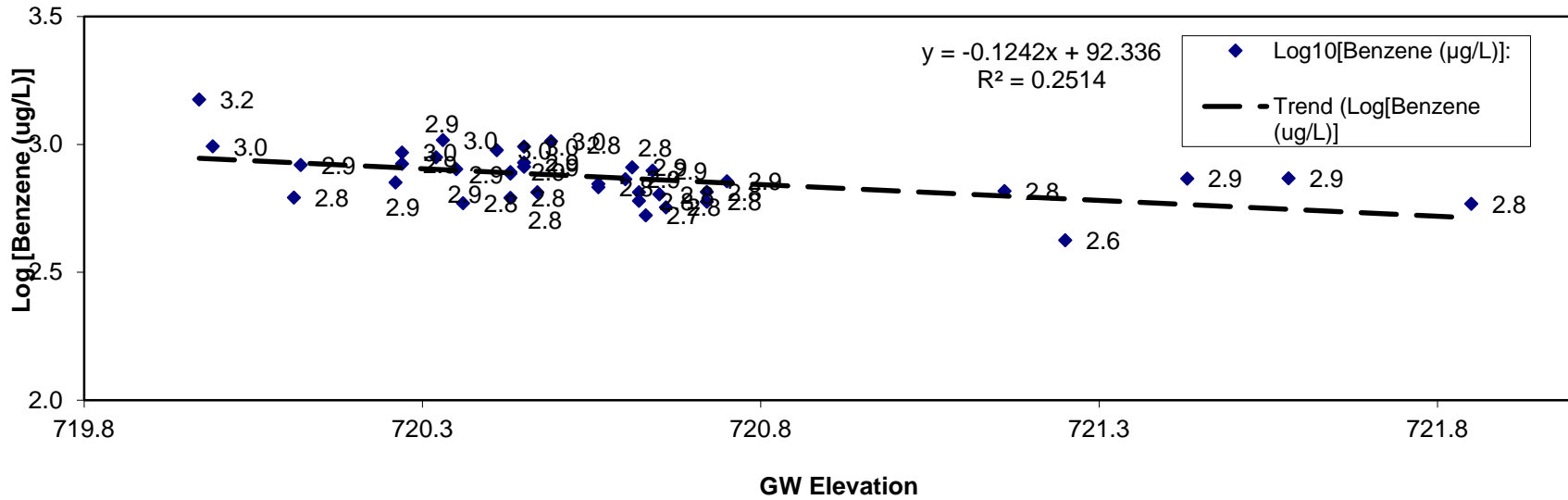


Appendix D
Benzene and Naphthalene
Groundwater Trend
Graphs

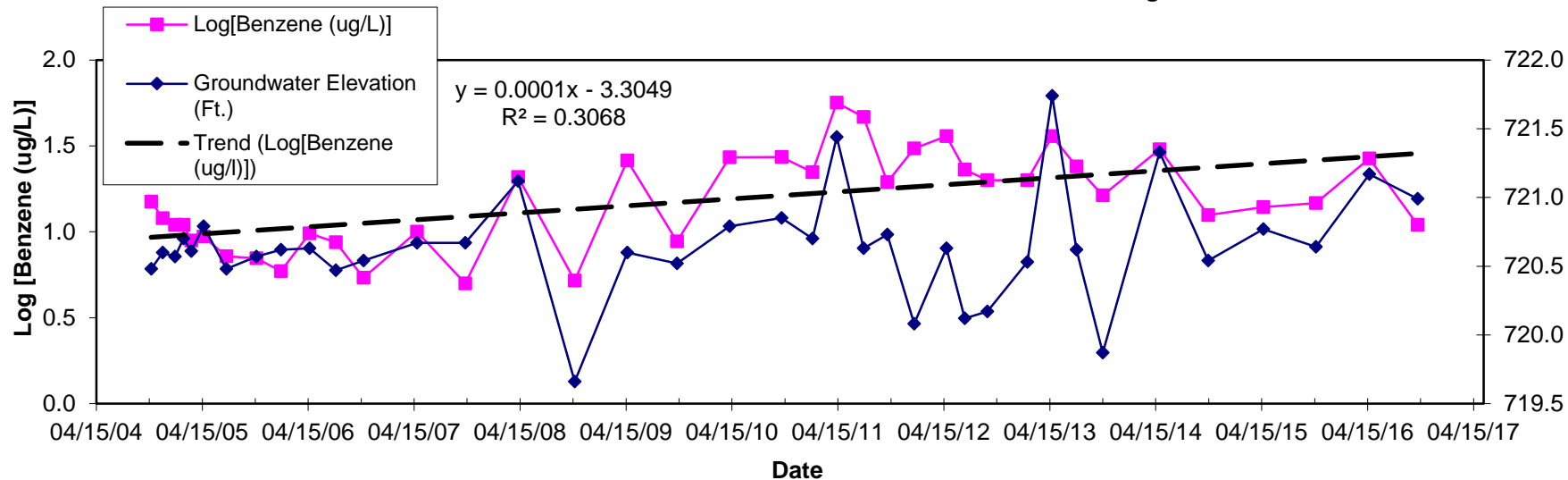
MW-02R Benzene Groundwater Monitoring



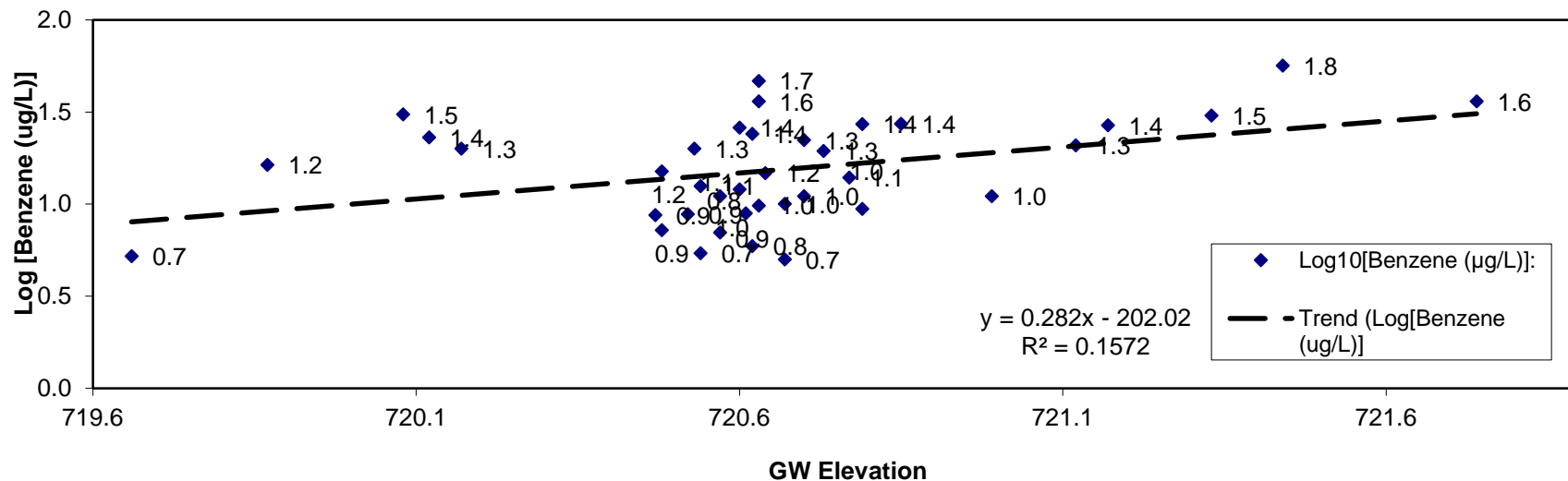
MW-02R Benzene Concentration vs. Groundwater Elevation



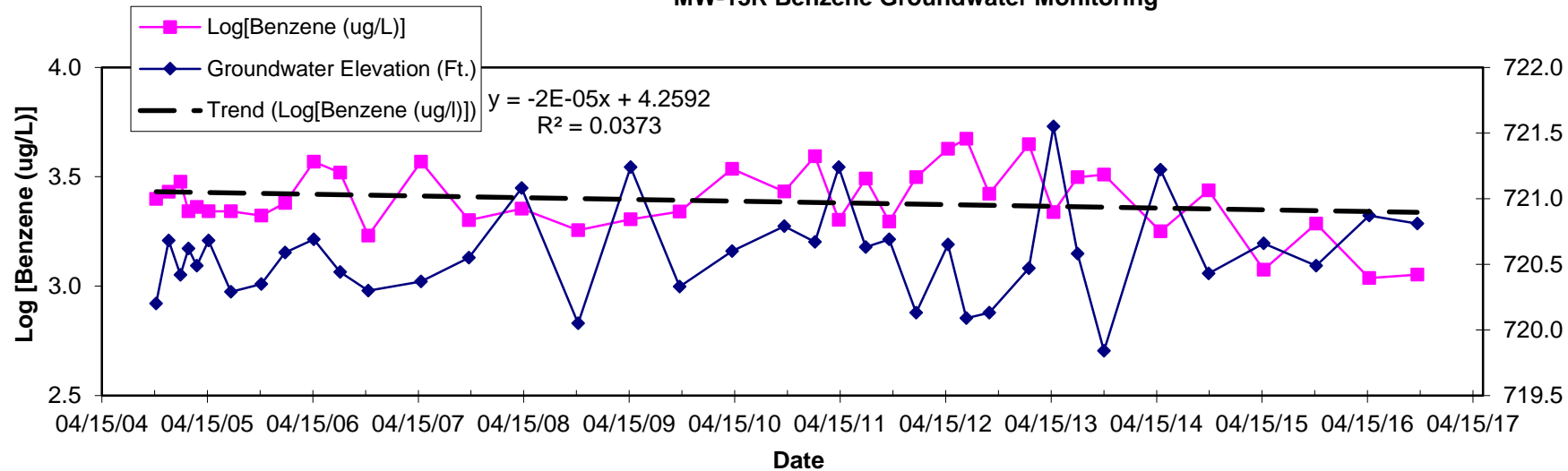
MW-12R Benzene Groundwater Monitoring



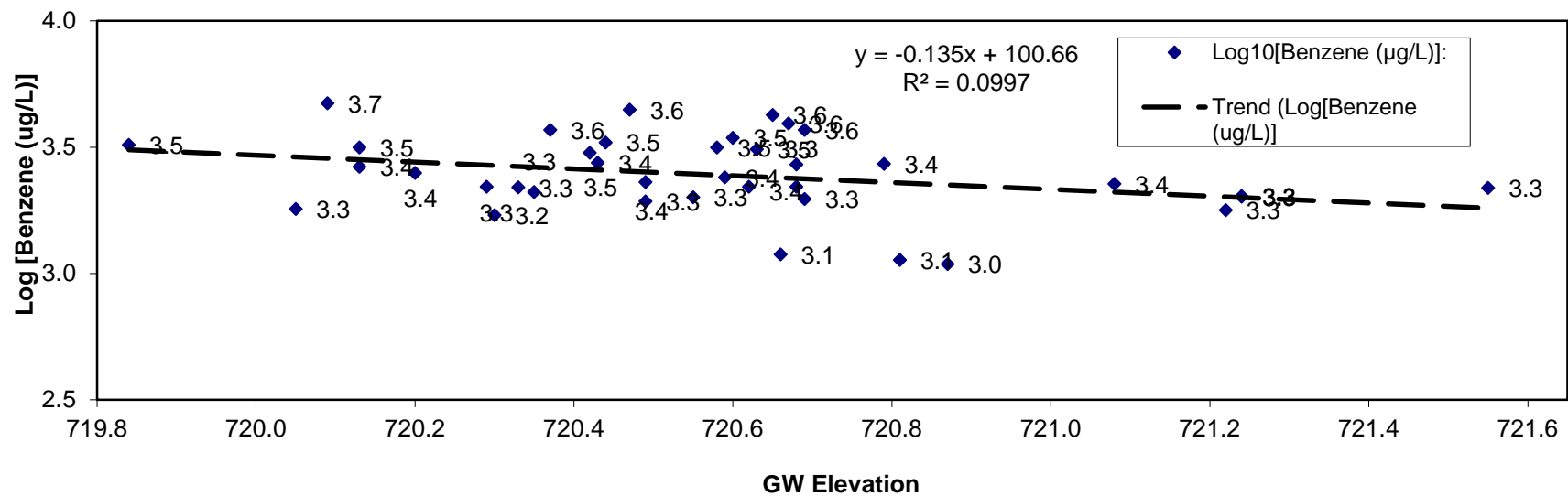
MW-12R Benzene Concentration vs. Groundwater Elevation



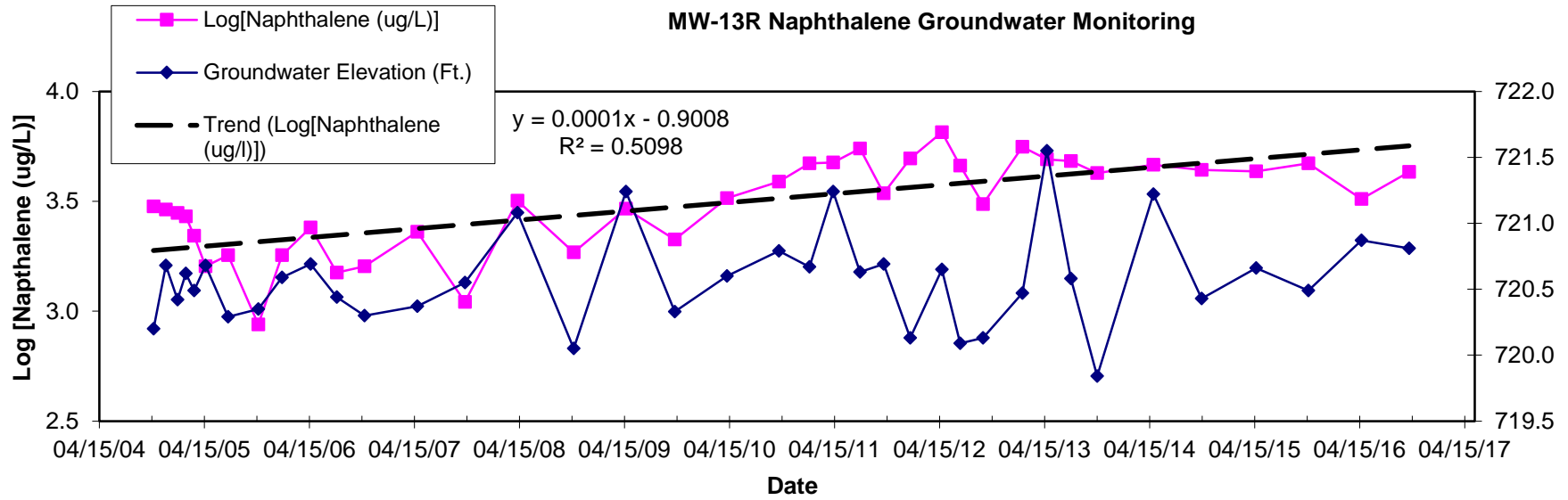
MW-13R Benzene Groundwater Monitoring



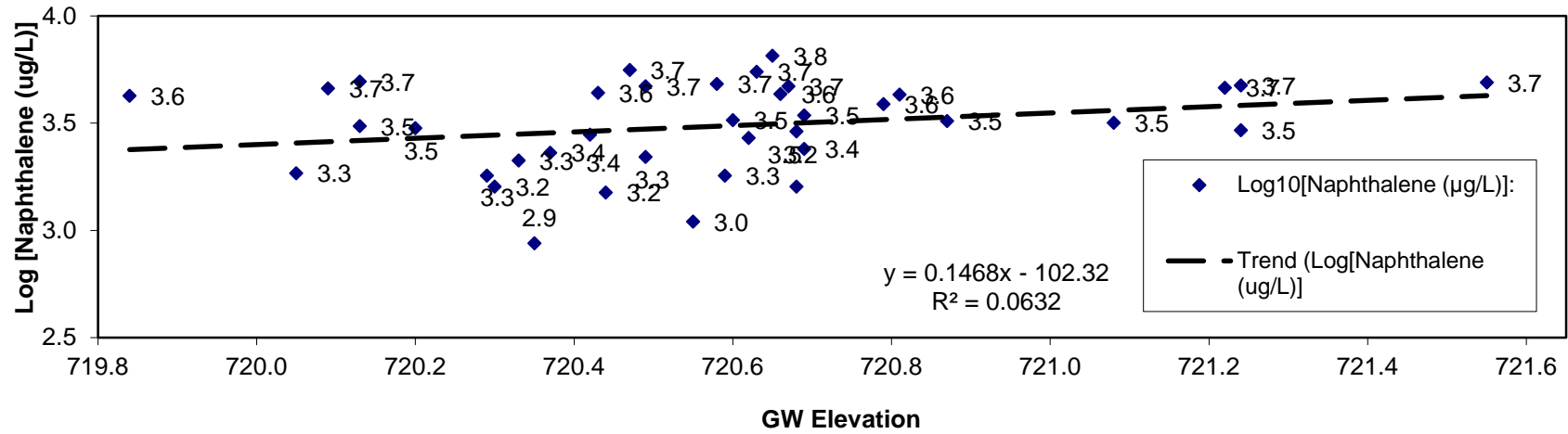
MW-13R Benzene Concentration vs. Groundwater Elevation

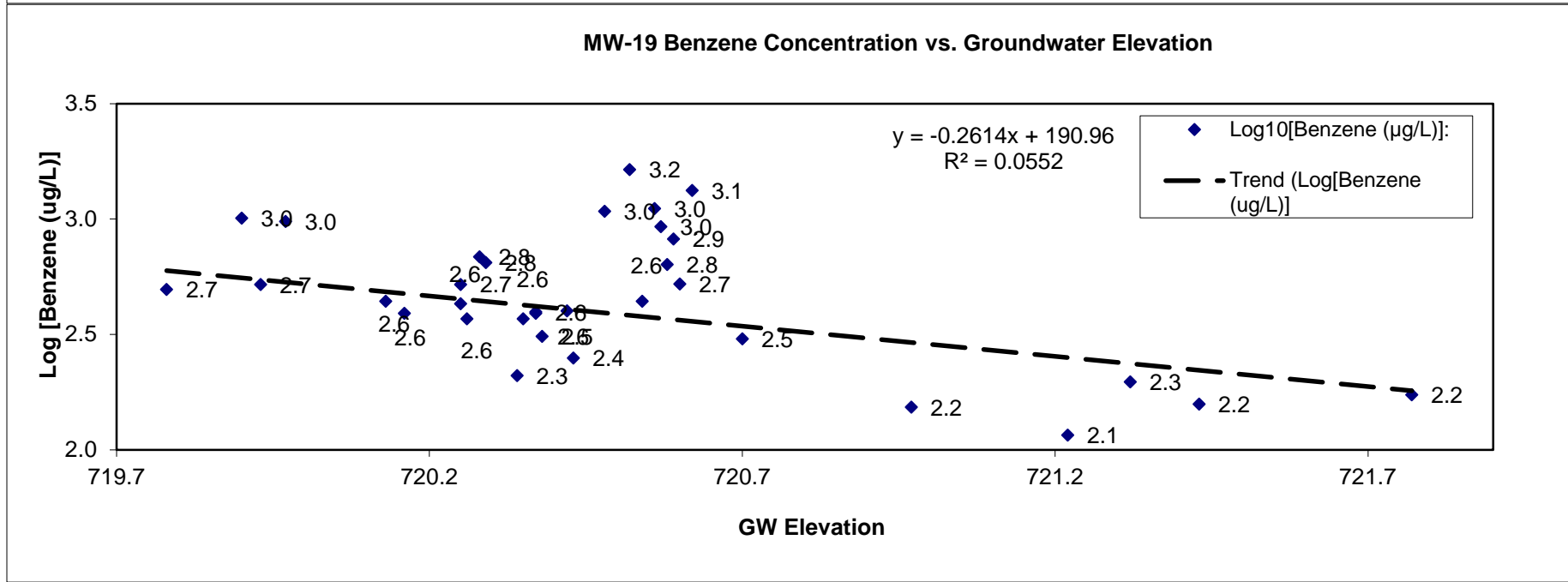
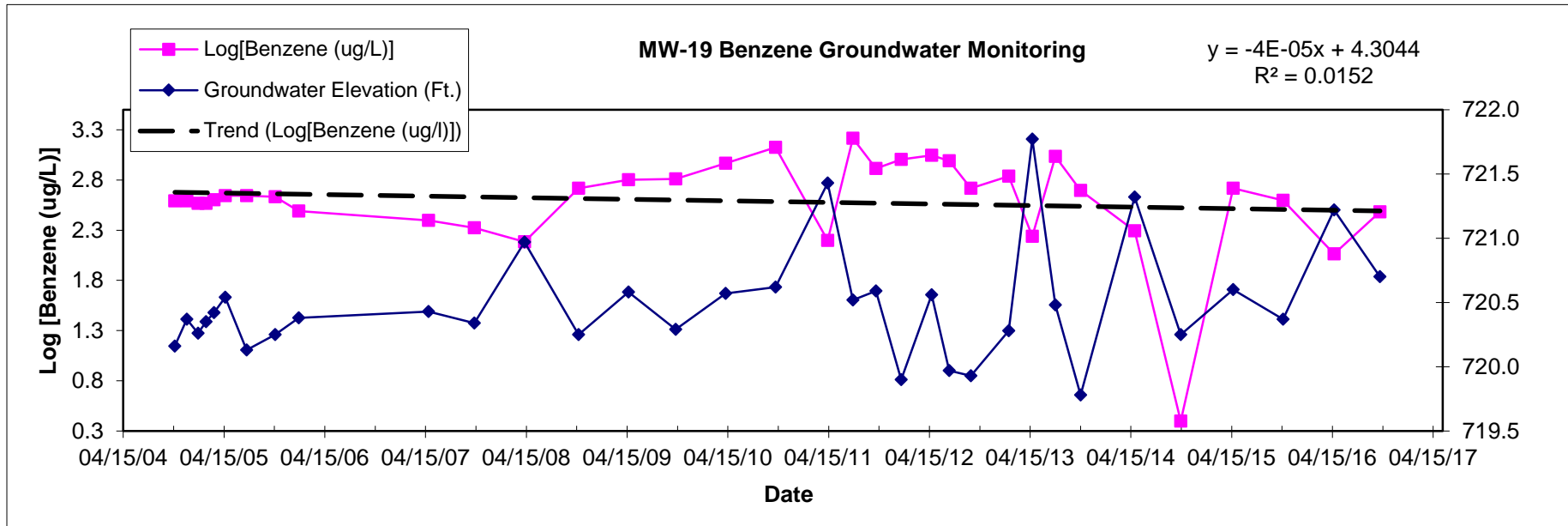


MW-13R Naphthalene Groundwater Monitoring

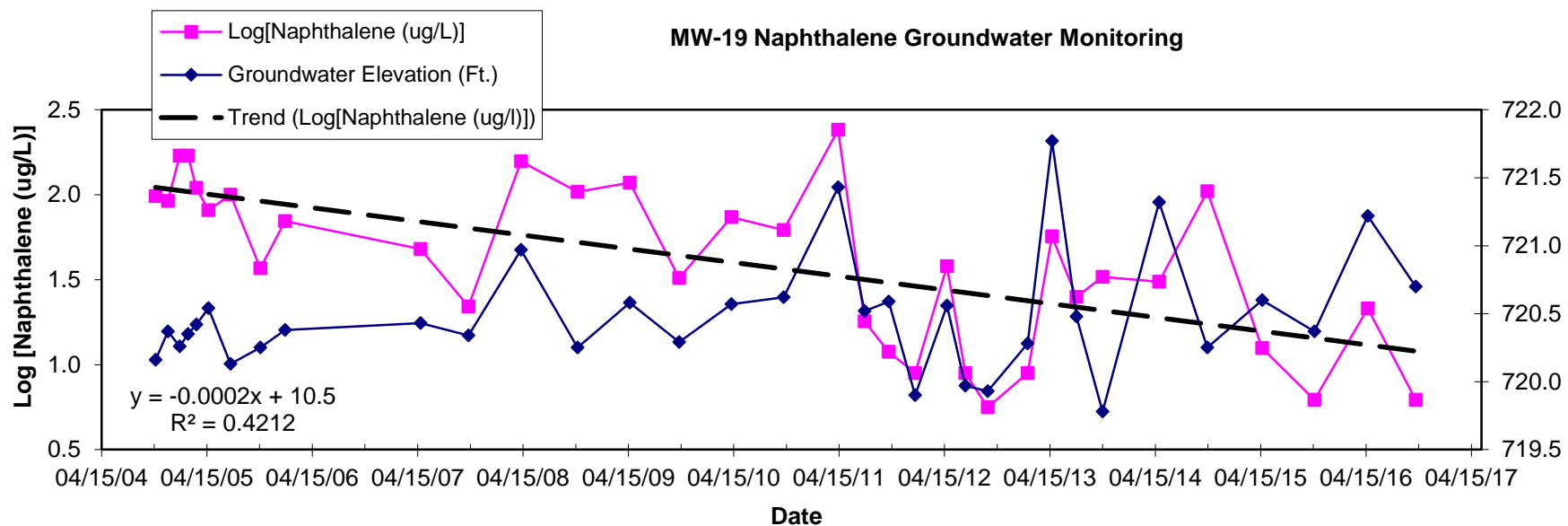


MW-13R Naphthalene Concentration vs. Groundwater Elevation

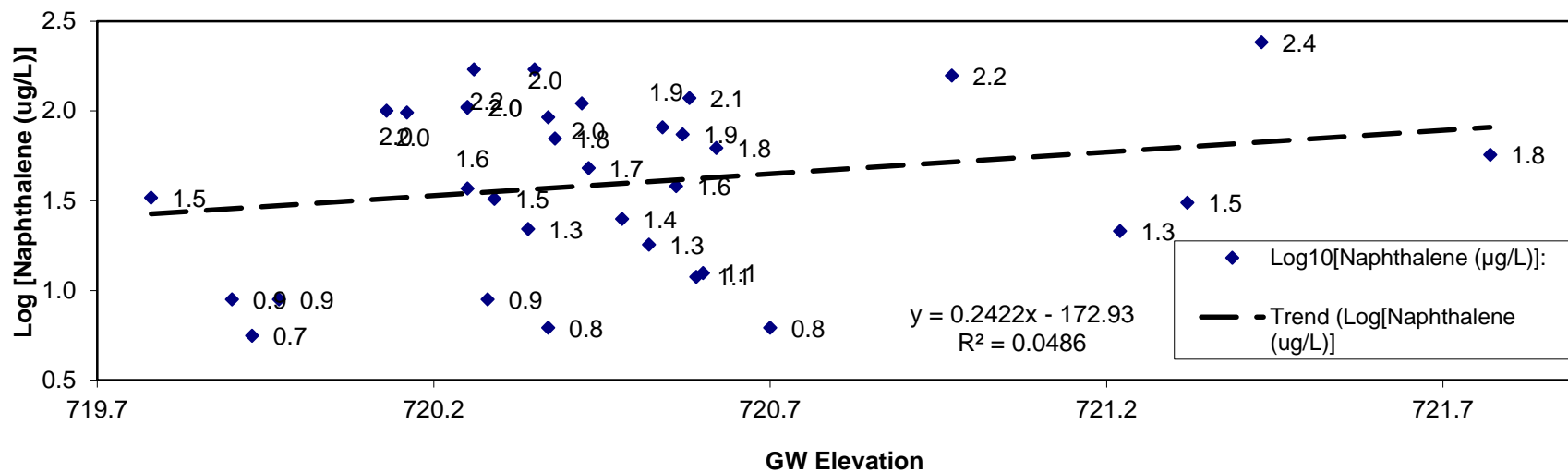


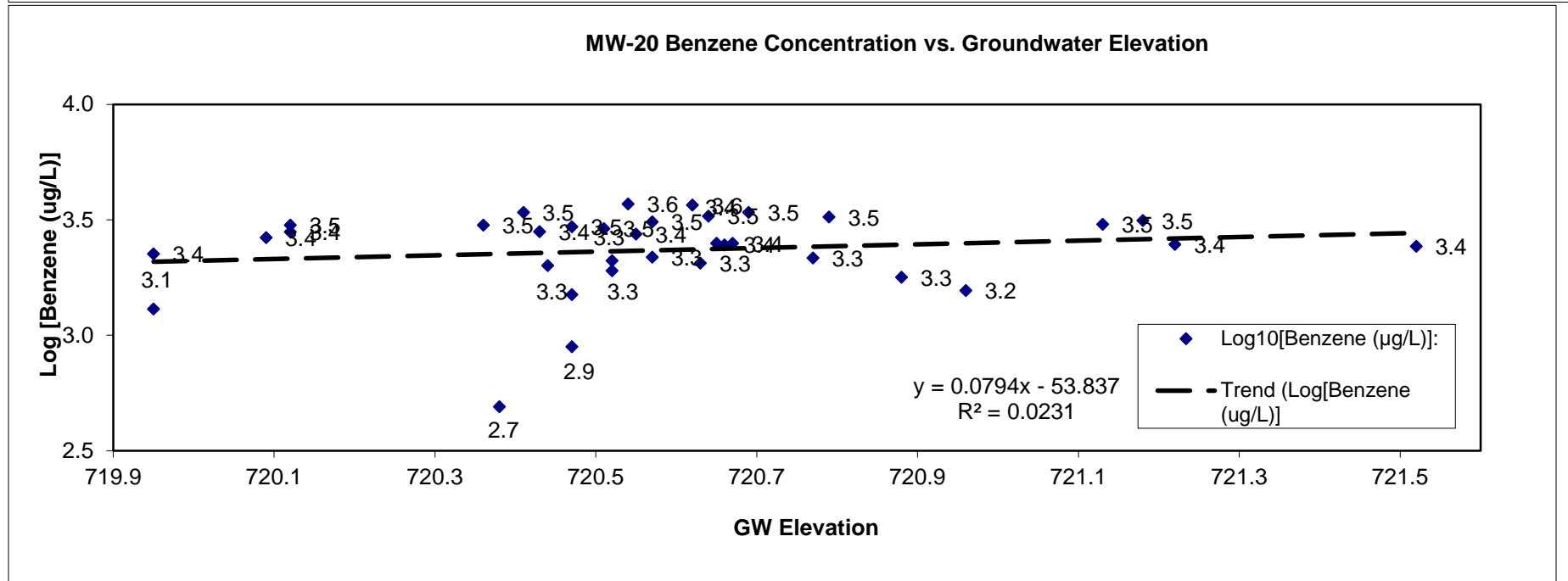
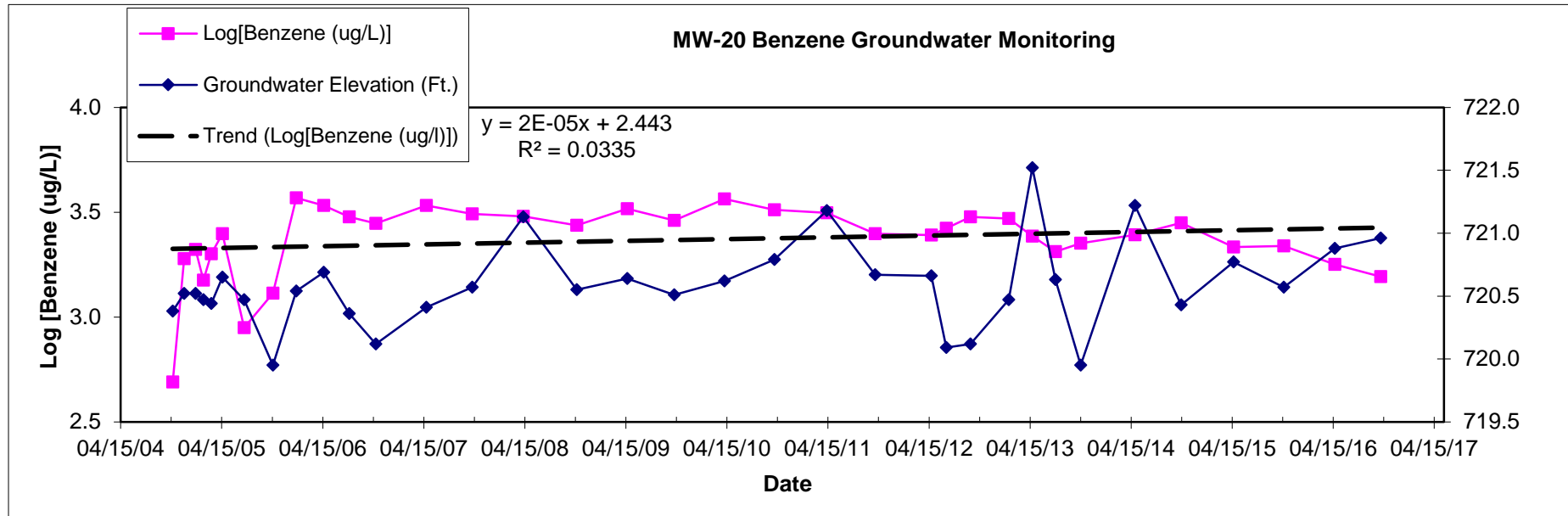


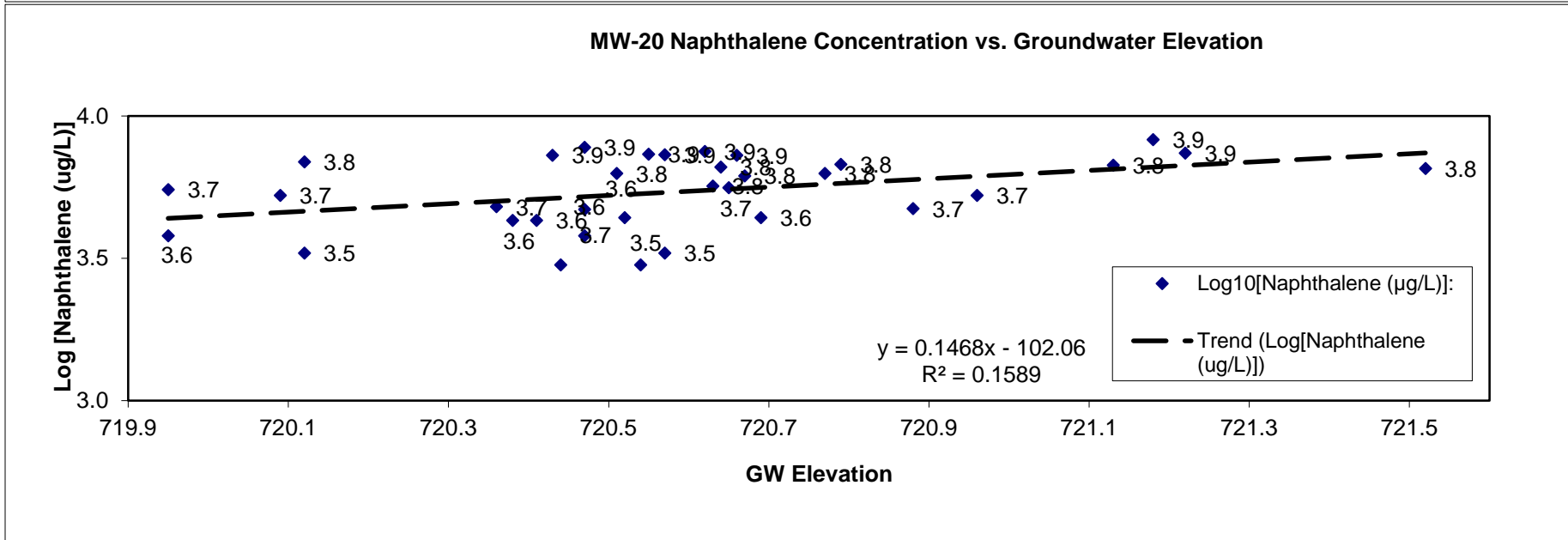
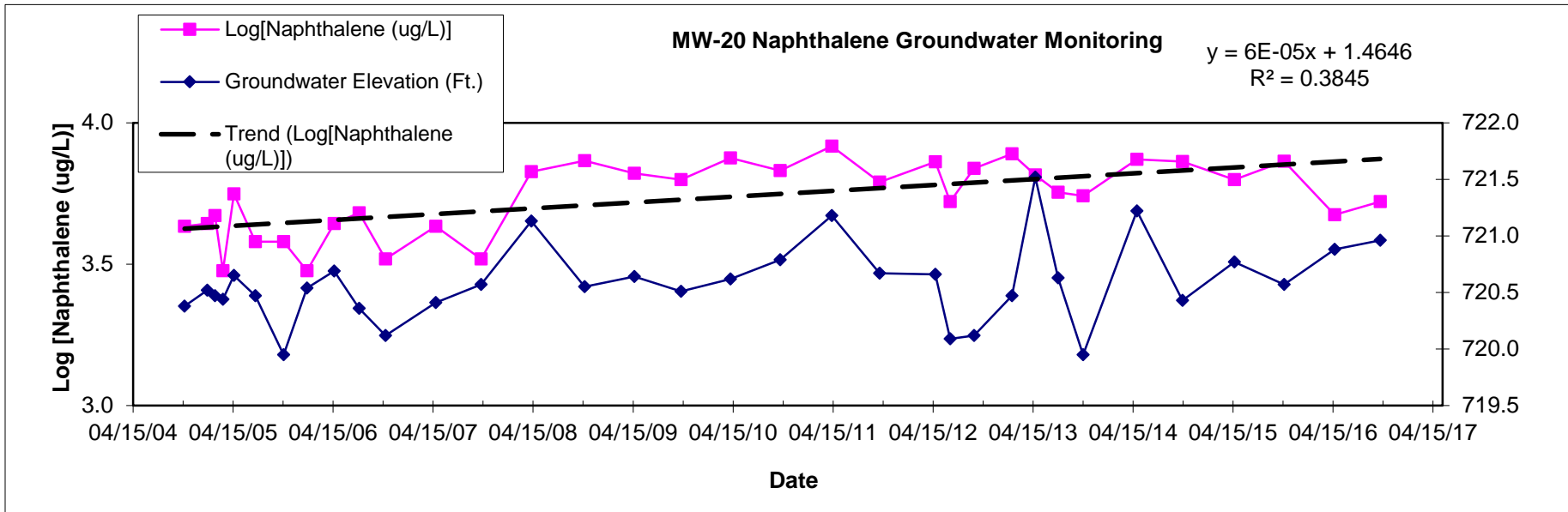
MW-19 Naphthalene Groundwater Monitoring

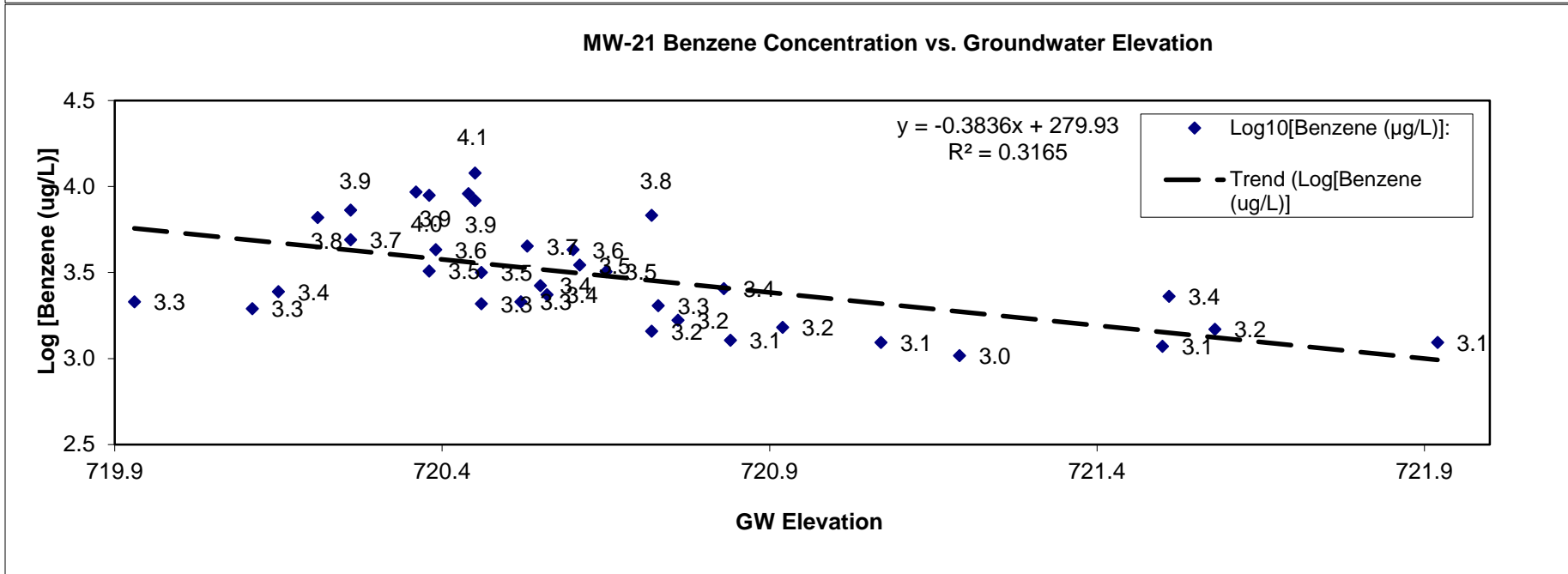
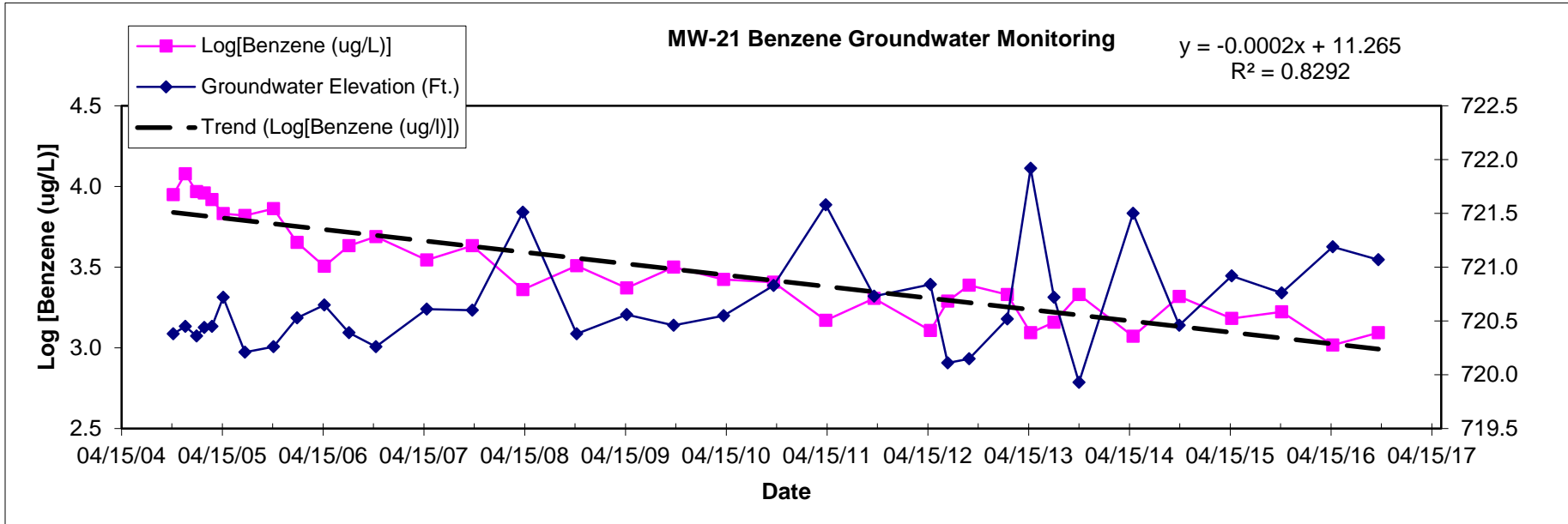


MW-19 Naphthalene Concentration vs. Groundwater Elevation

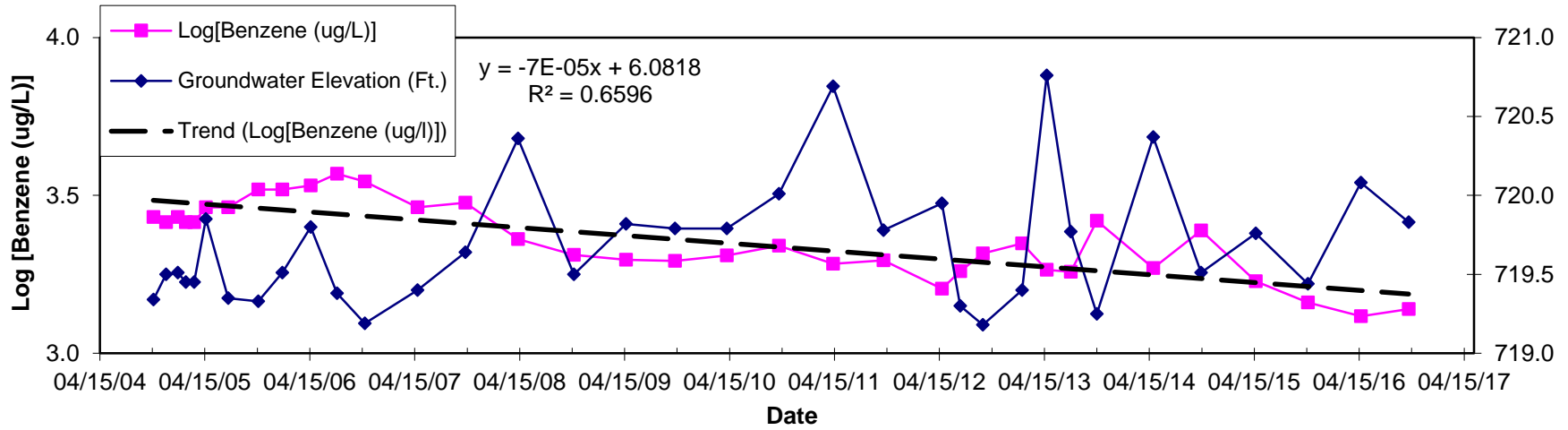




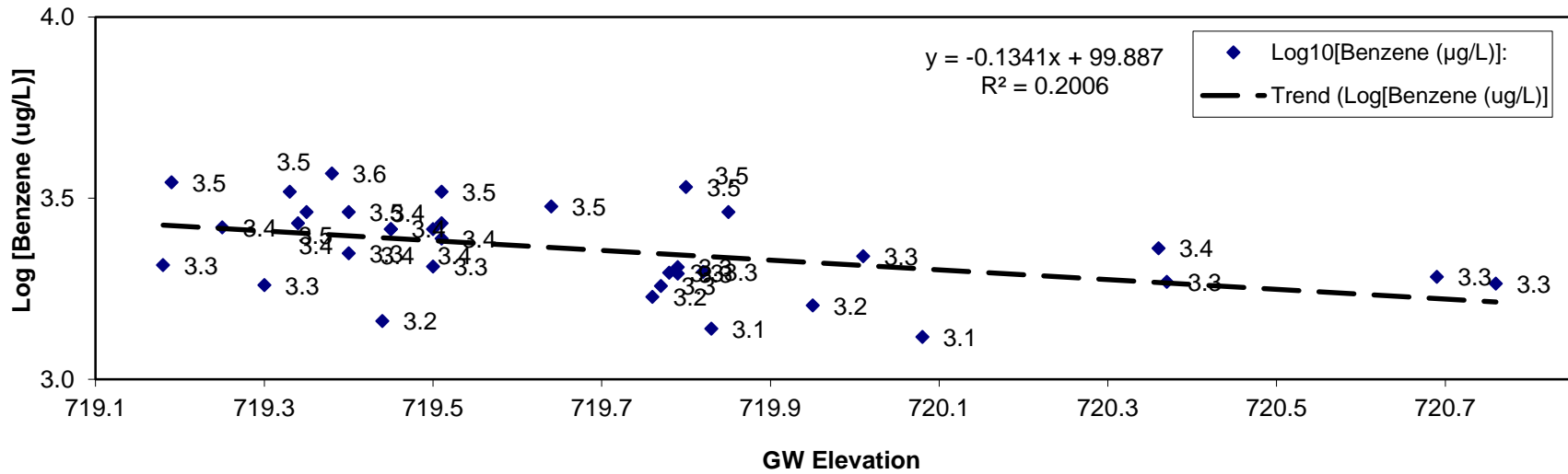




MW-22 Benzene Groundwater Monitoring



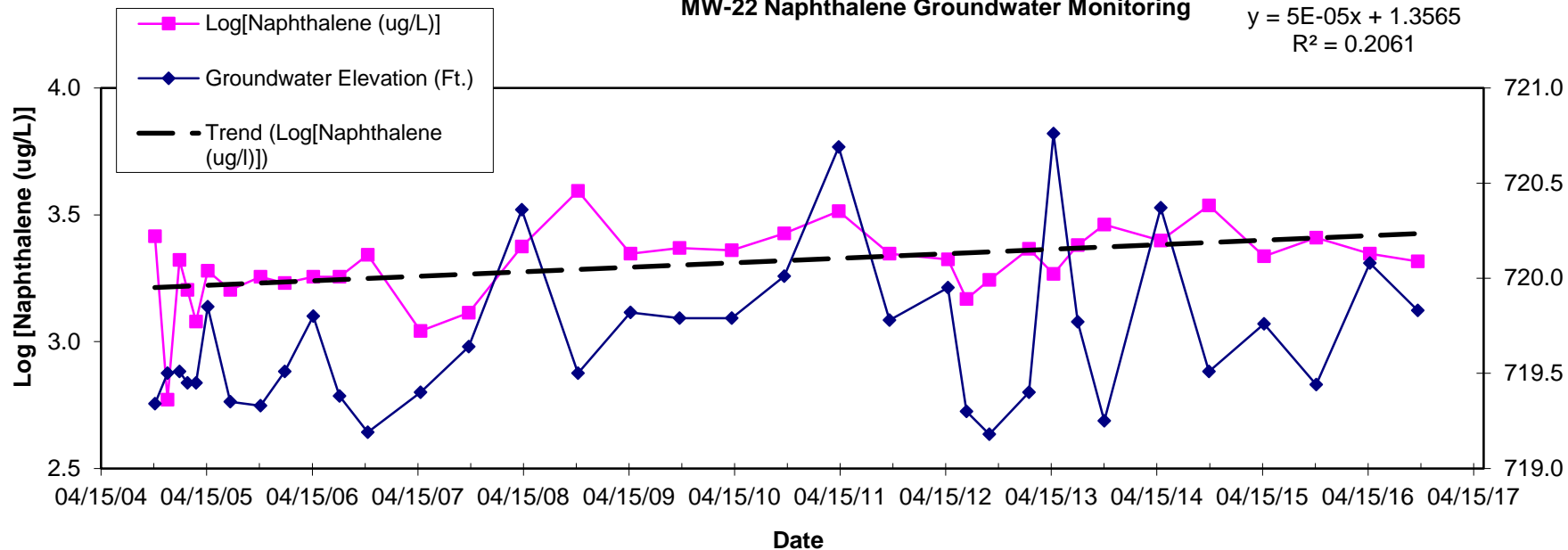
MW-22 Benzene Concentration vs. Groundwater Elevation



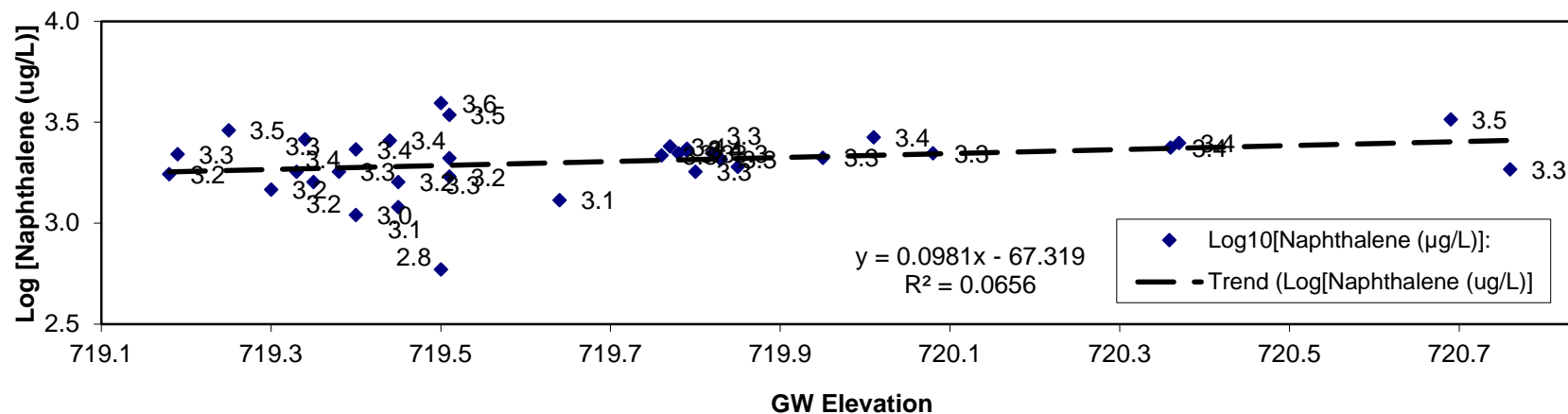
MW-22 Naphthalene Groundwater Monitoring

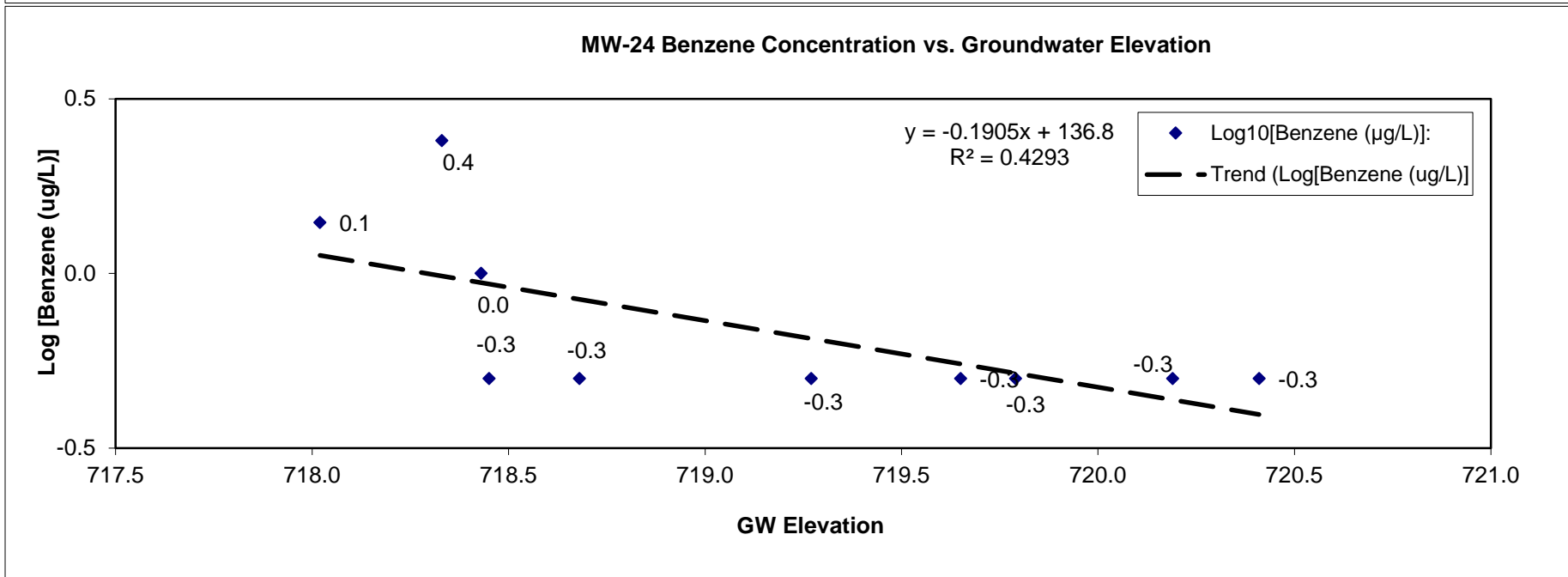
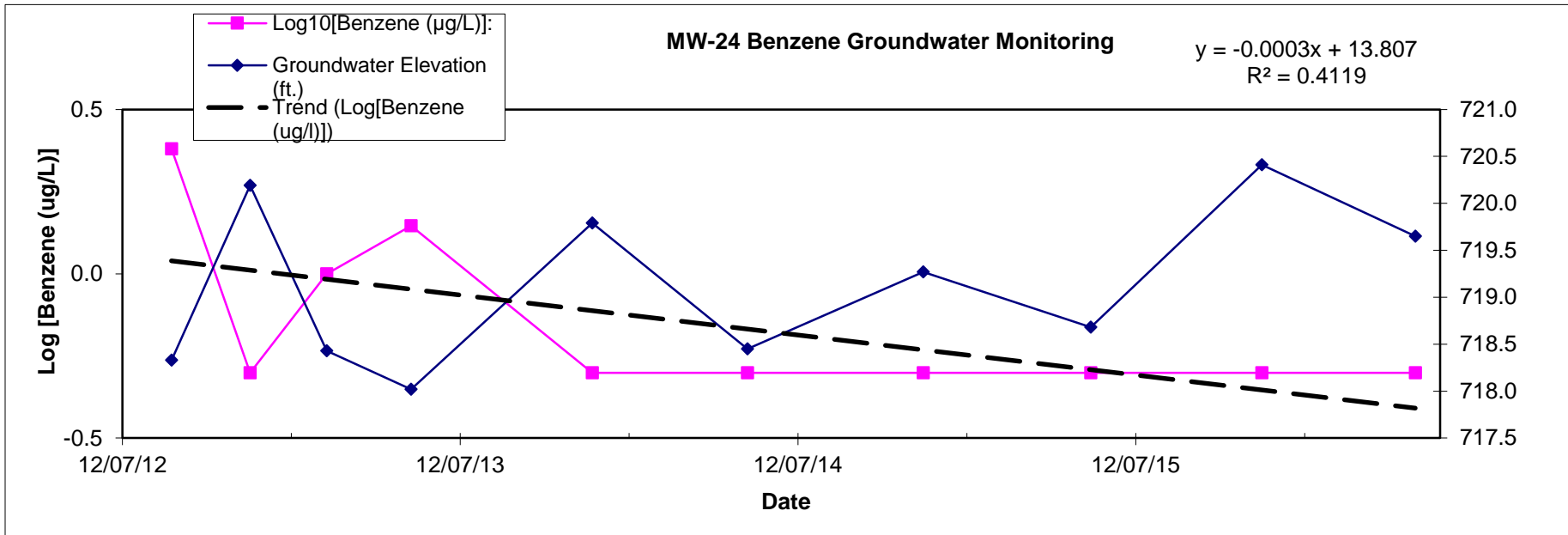
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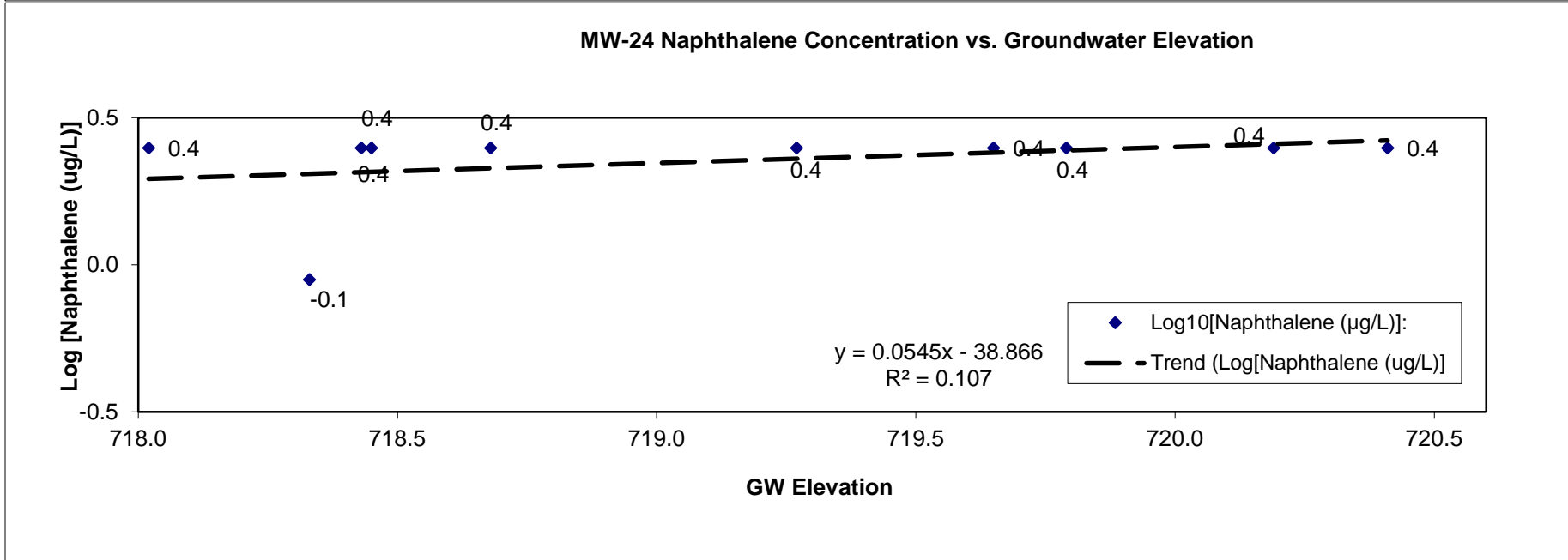
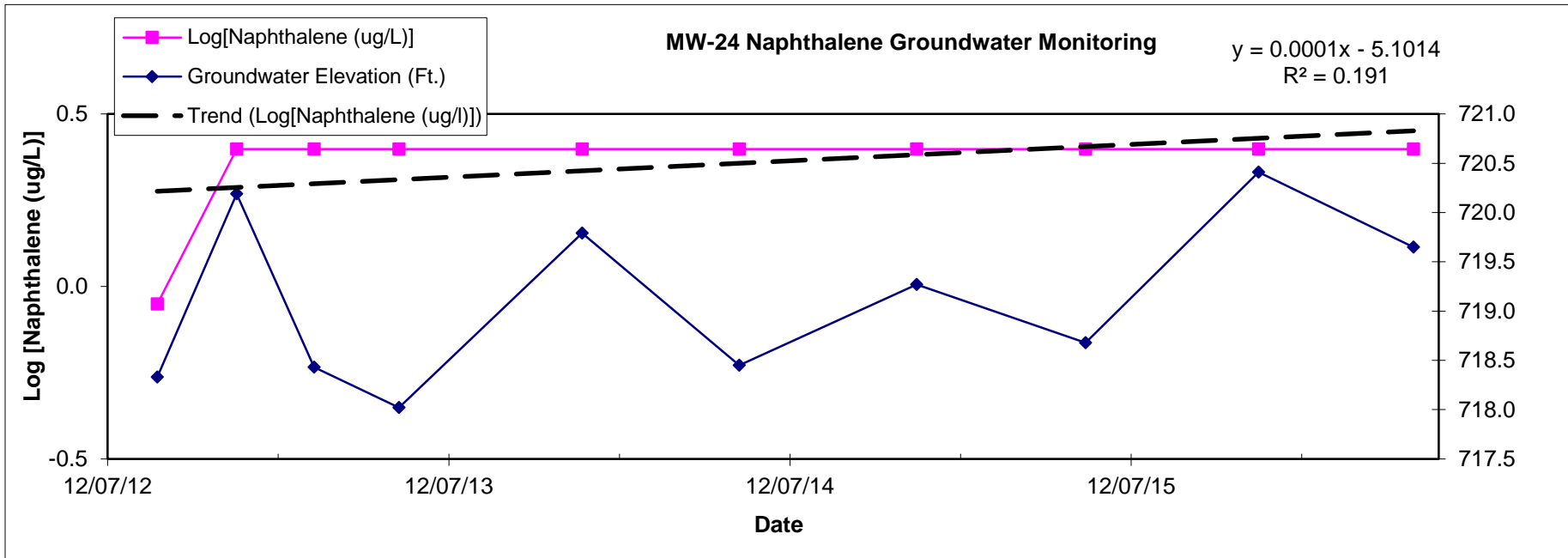
$$R^2 = 0.2061$$

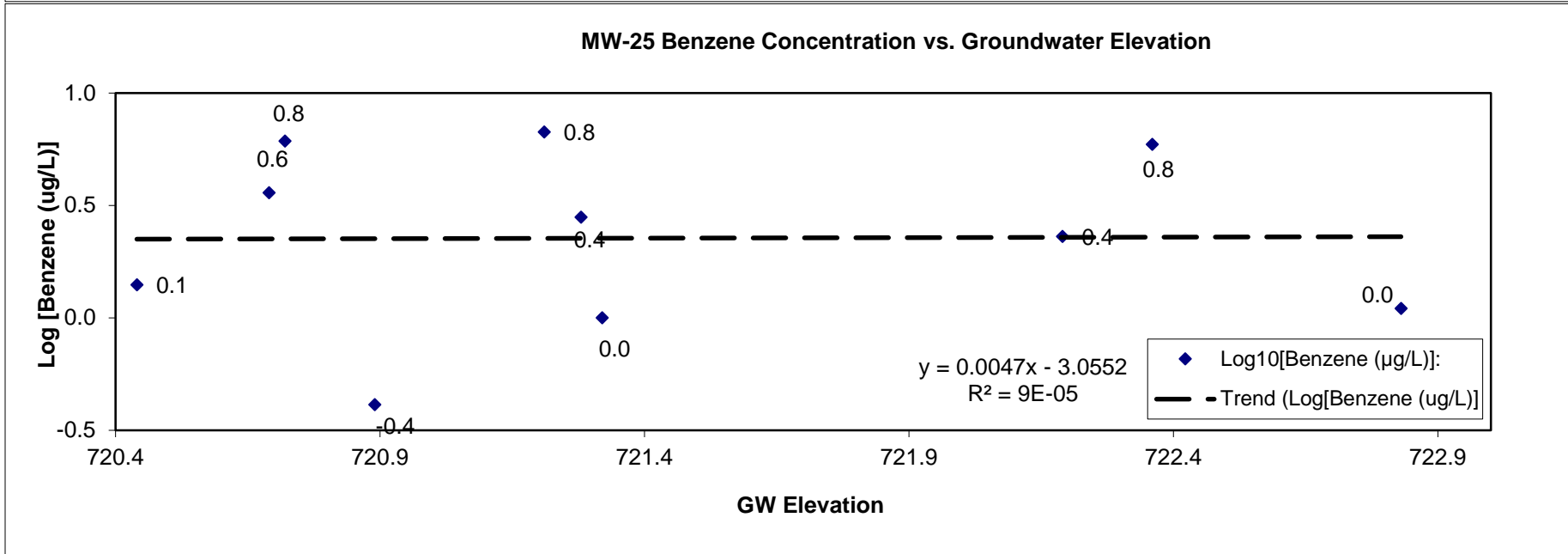
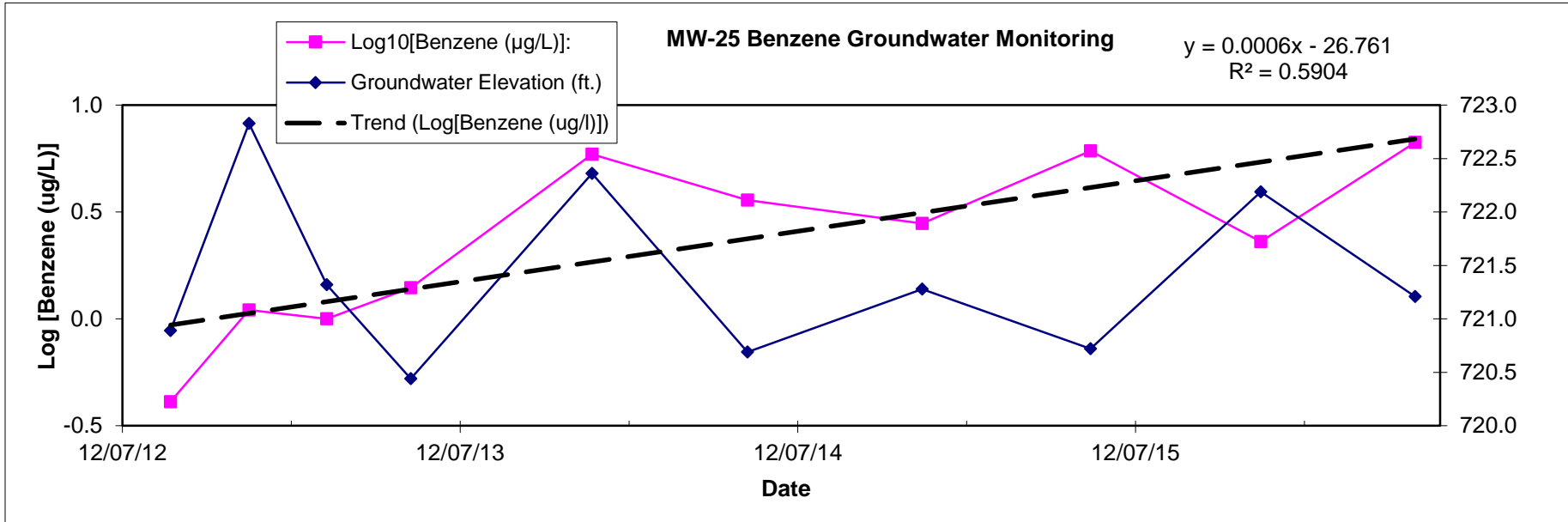


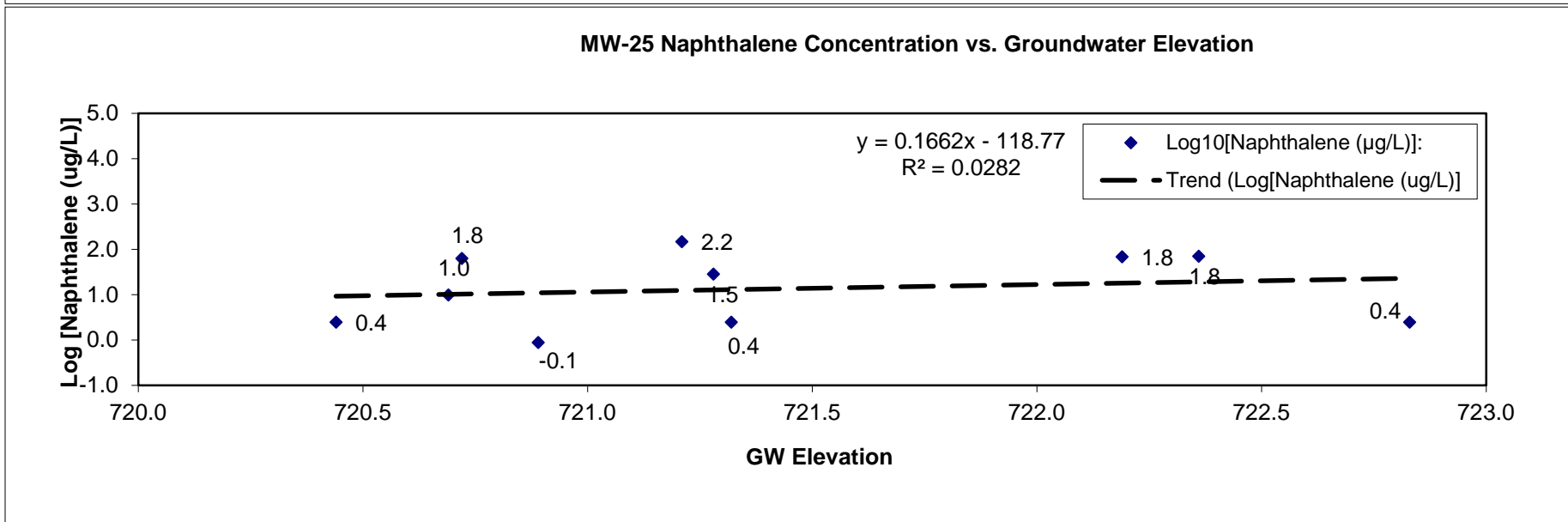
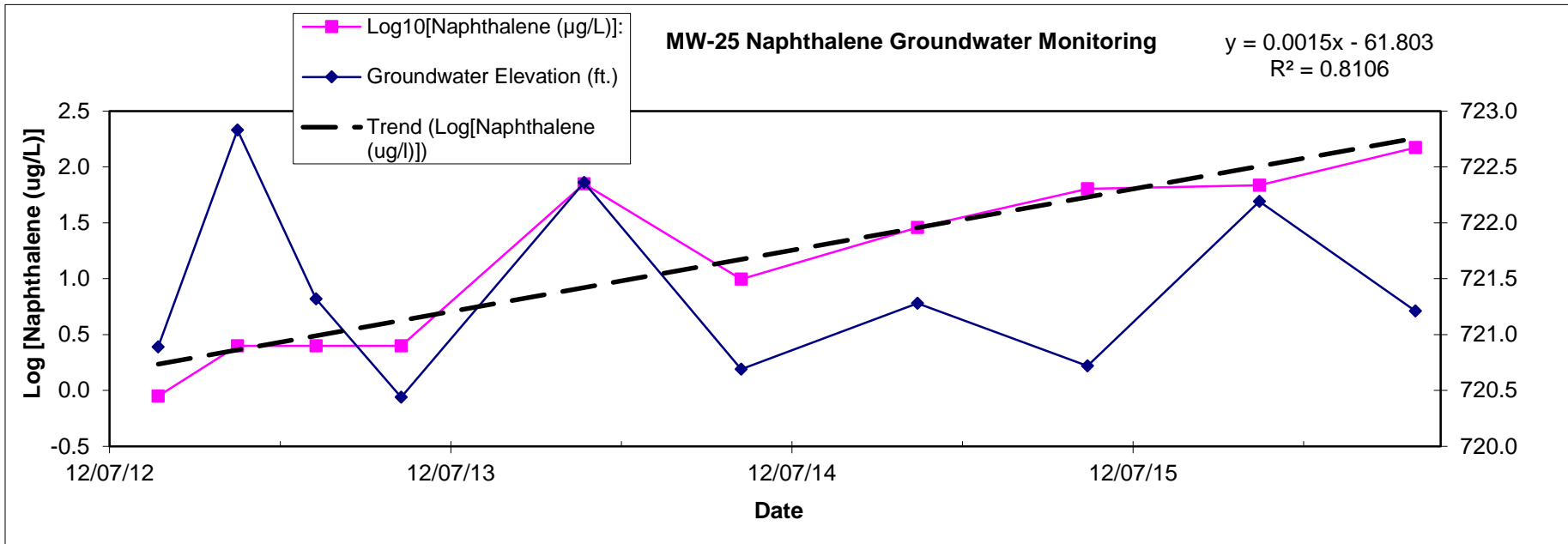
MW-22 Naphthalene Concentration vs. Groundwater Elevation



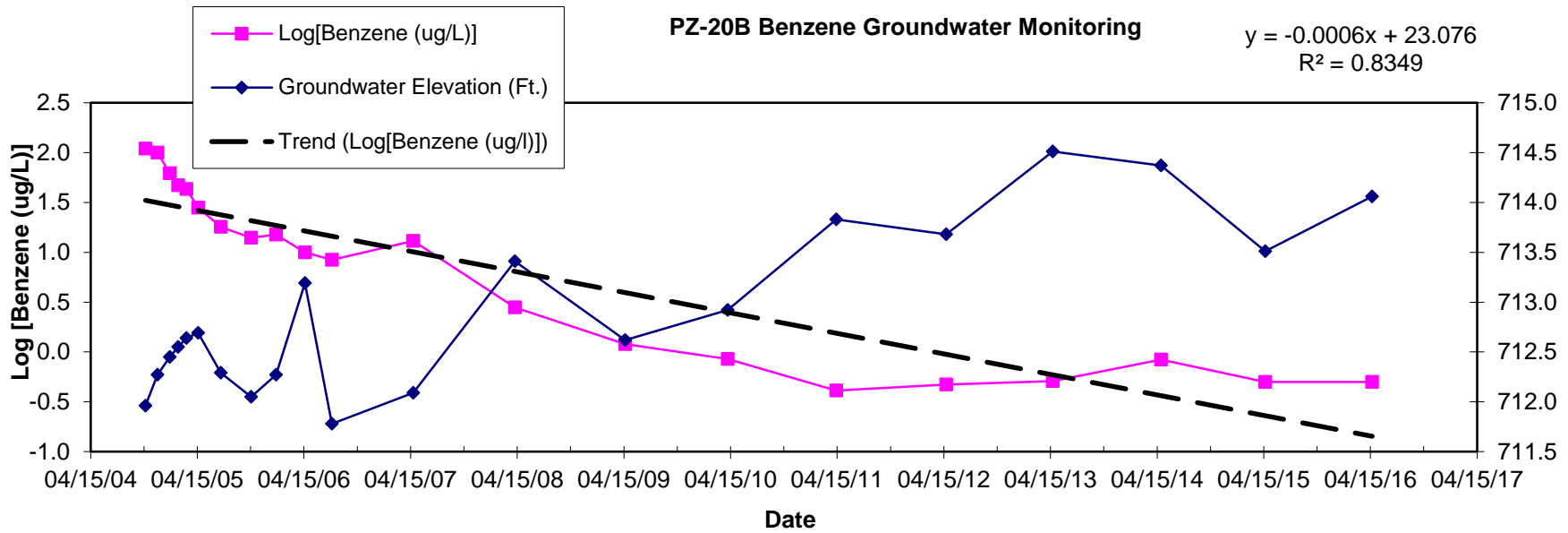




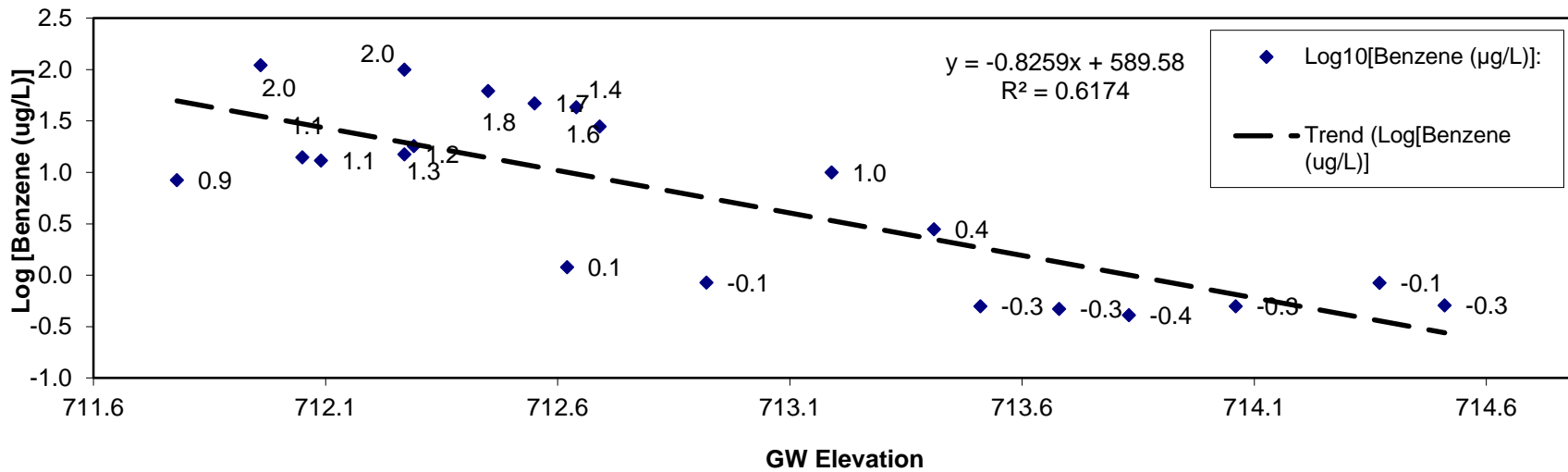




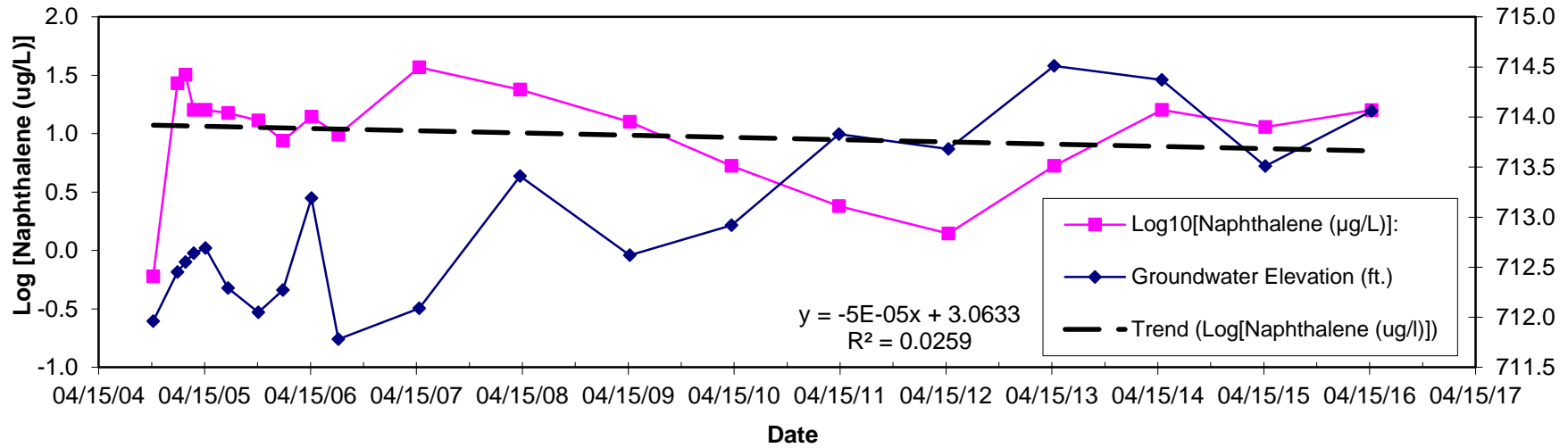
PZ-20B Benzene Groundwater Monitoring



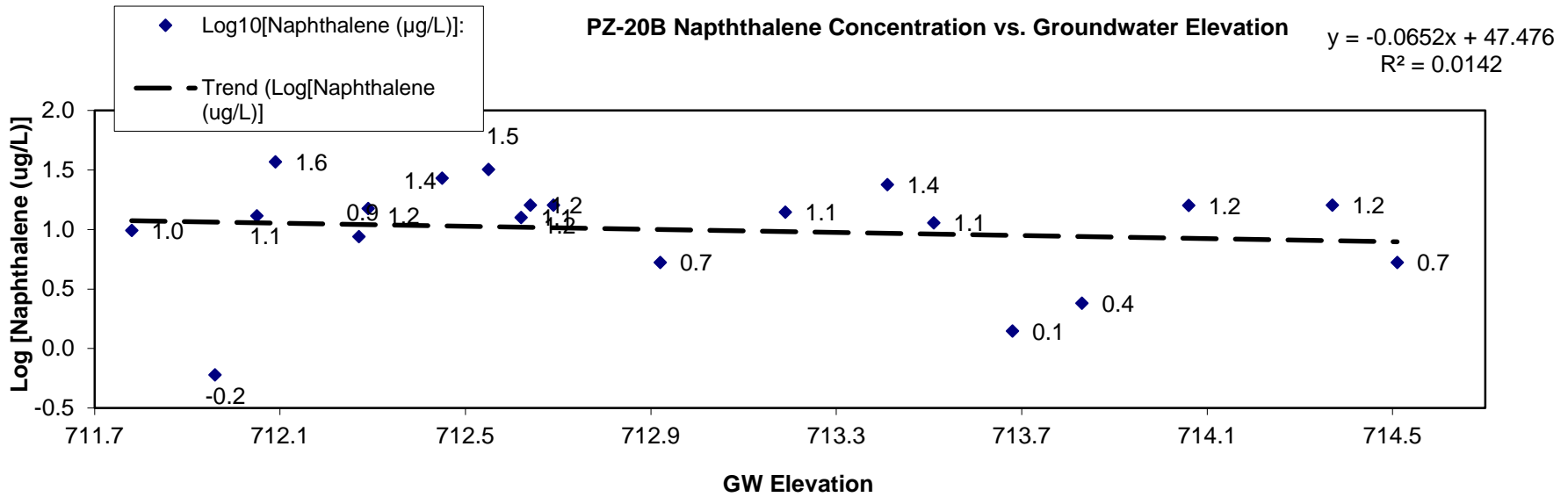
PZ-20B Benzene Concentration vs. Groundwater Elevation



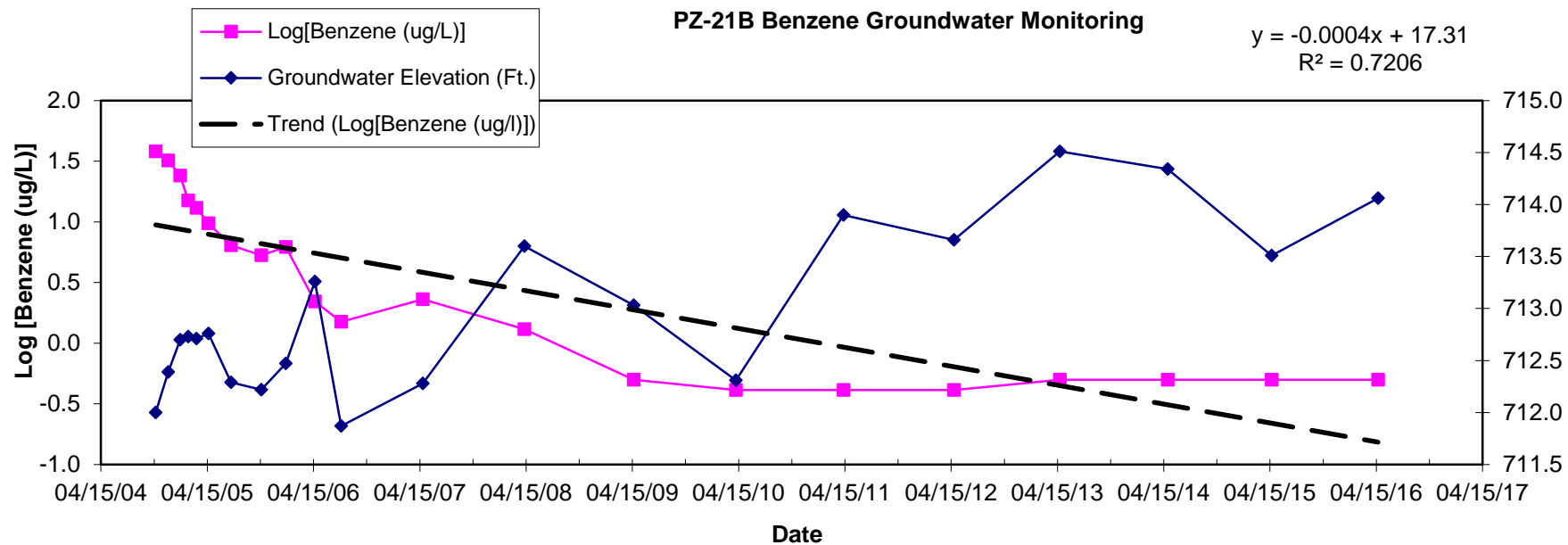
PZ-20B Naphthalene Groundwater Monitoring



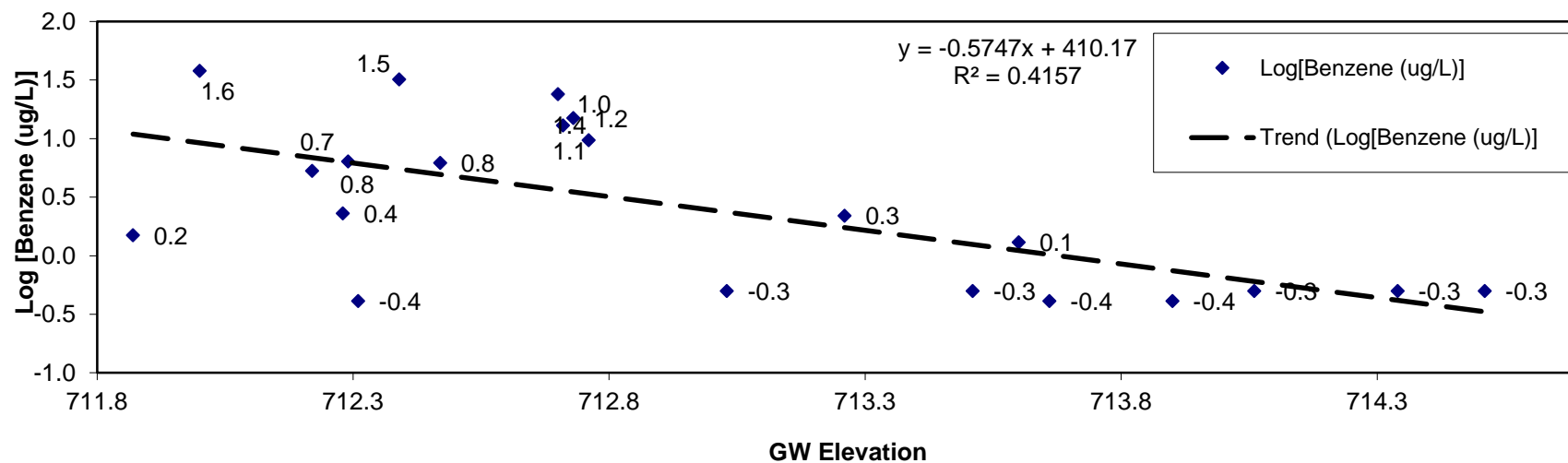
PZ-20B Naphthalene Concentration vs. Groundwater Elevation



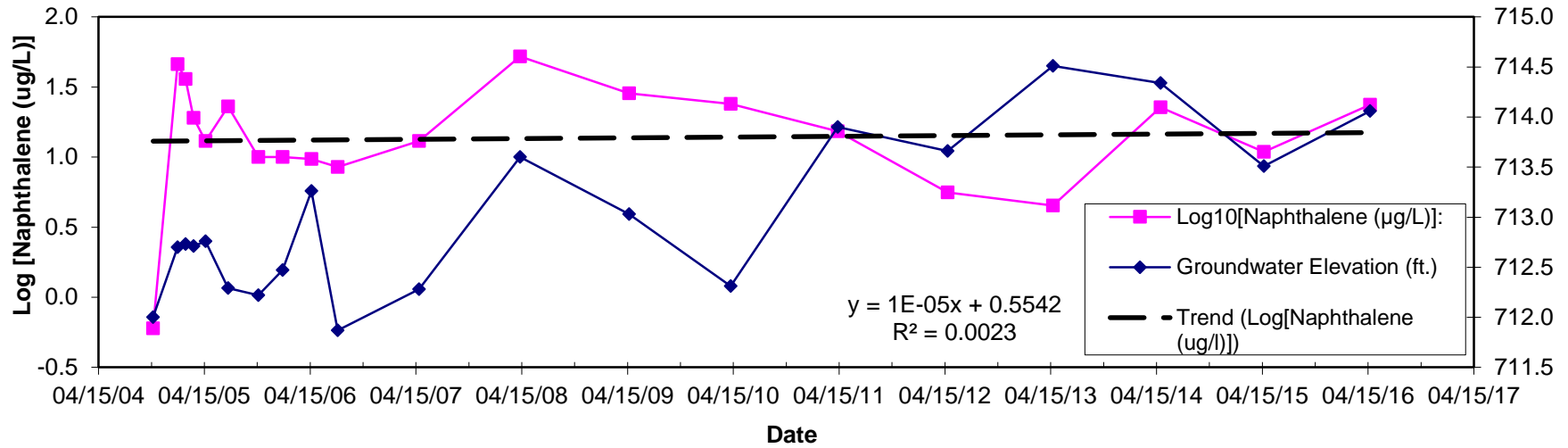
PZ-21B Benzene Groundwater Monitoring



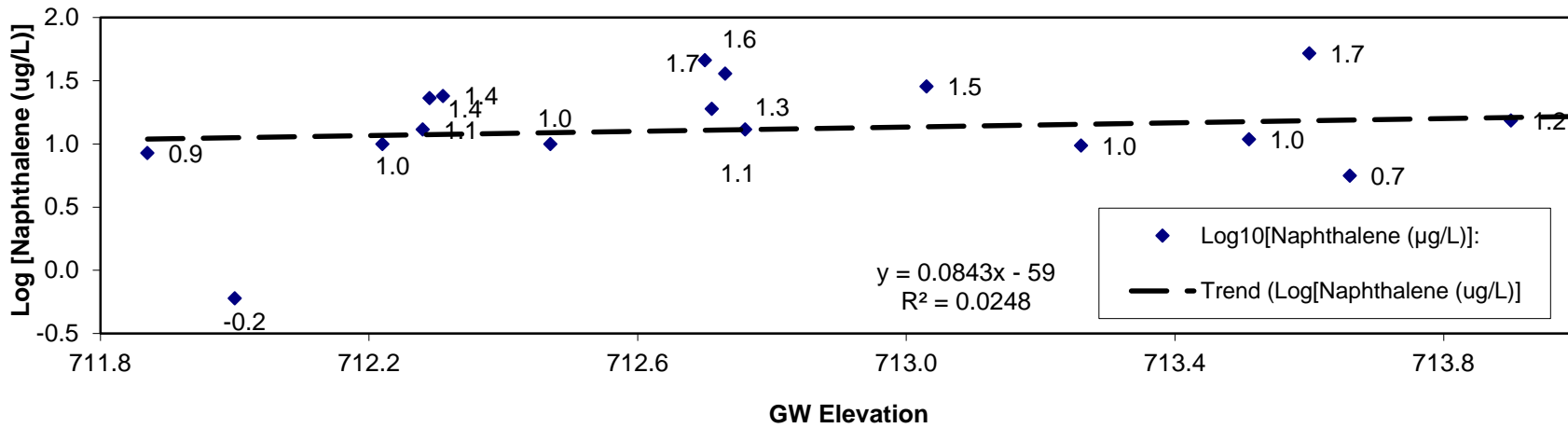
PZ-21B Benzene Concentration vs. Groundwater Elevation

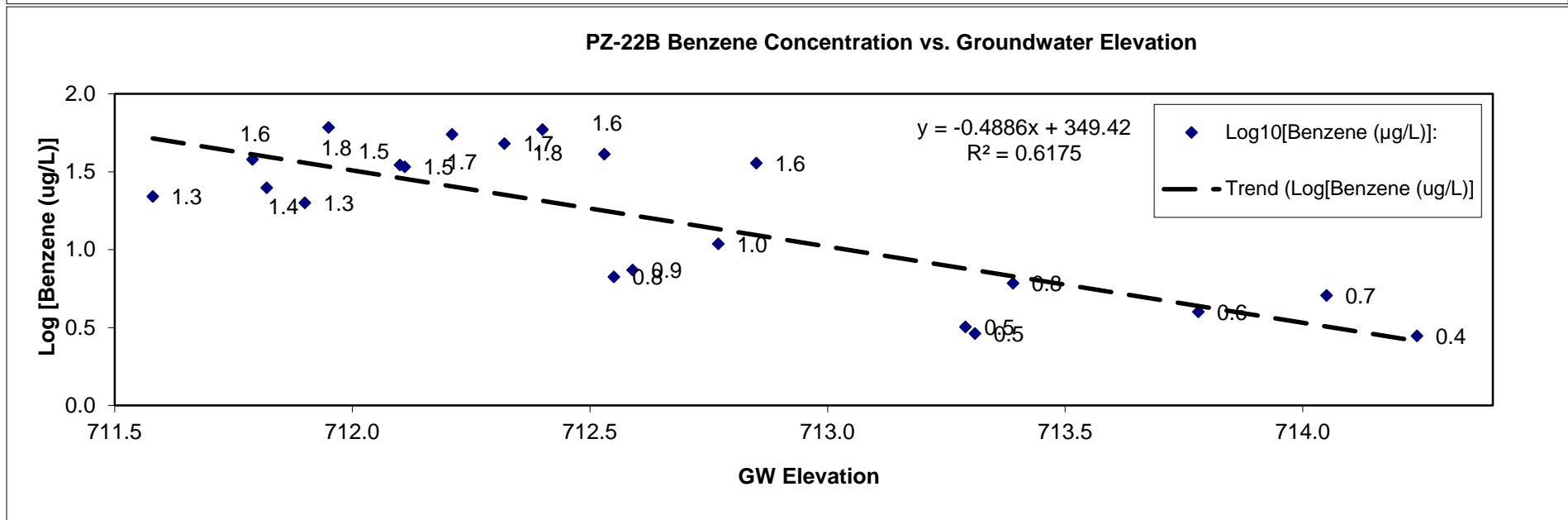
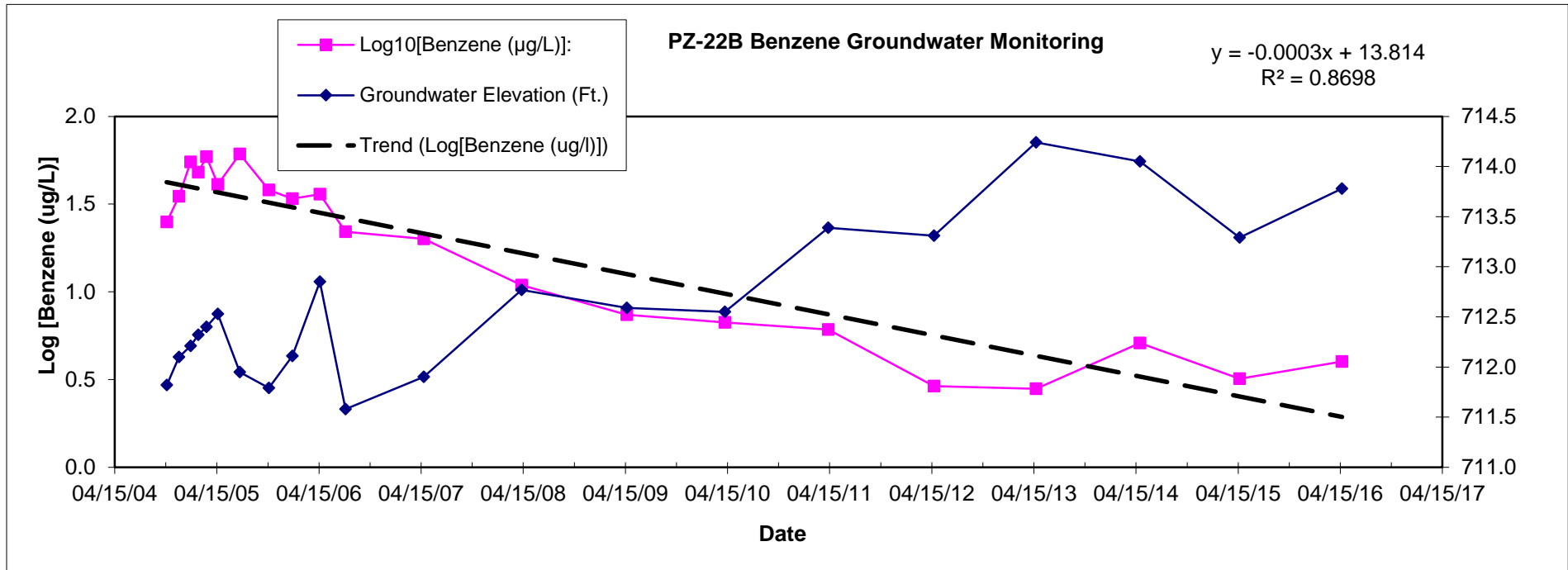


PZ-21B Naphthalene Groundwater Monitoring

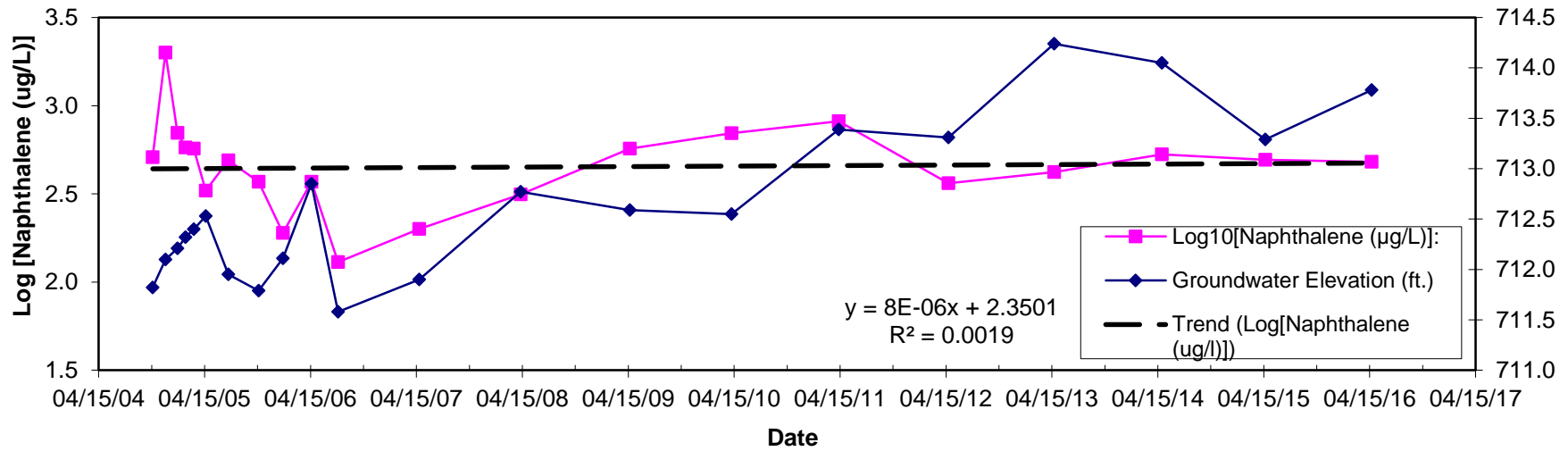


PZ-21B Naphthalene Concentration vs. Groundwater Elevation

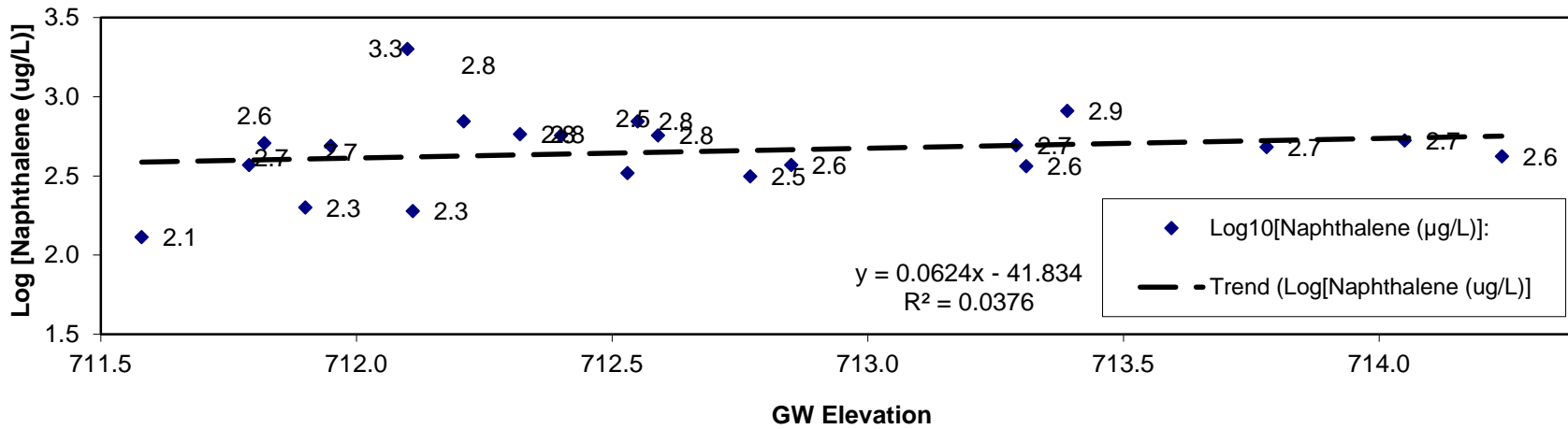


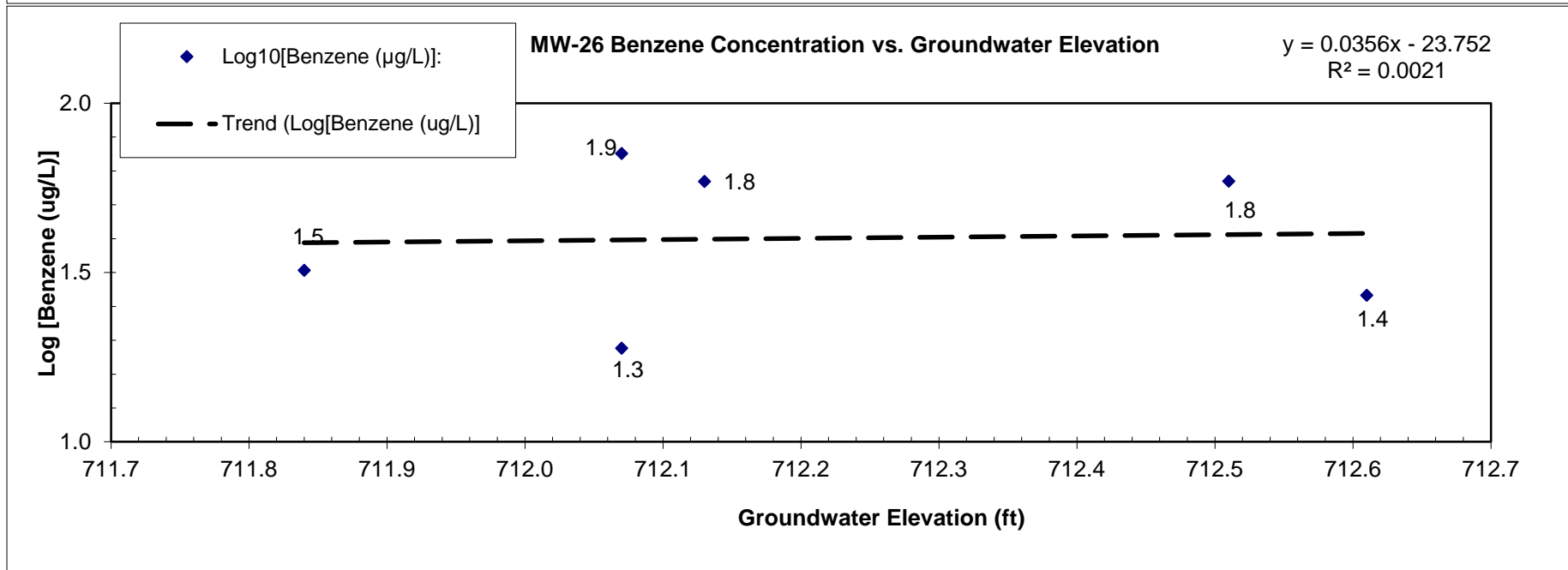
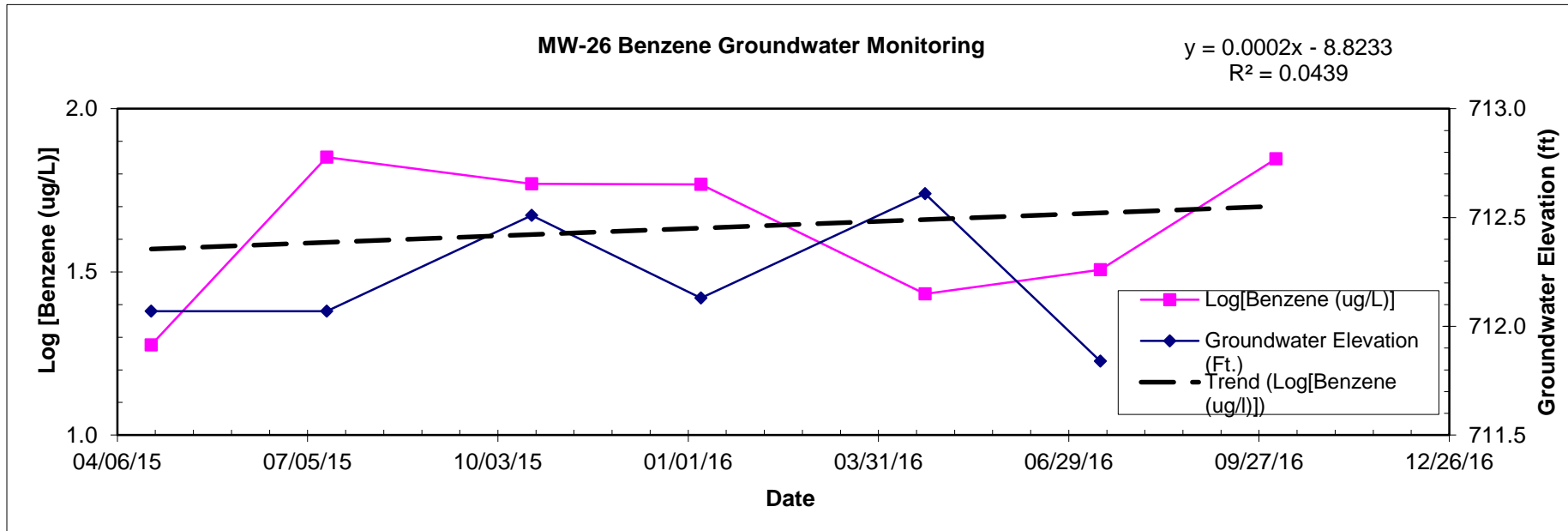


PZ-22B Naphthalene Groundwater Monitoring

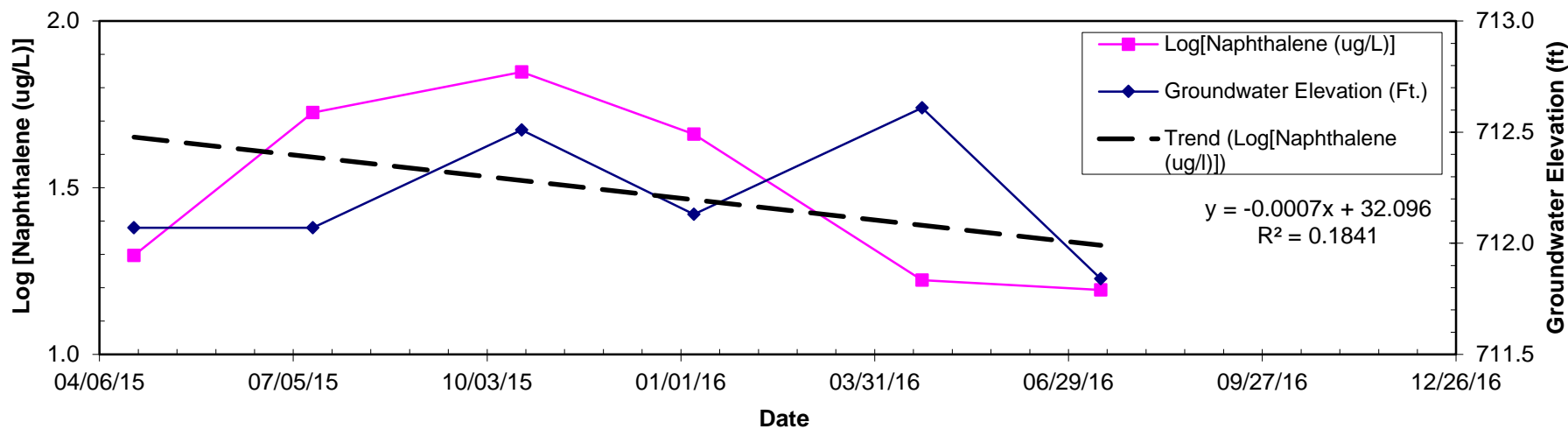


PZ-22B Naphthalene Concentration vs. Groundwater Elevation

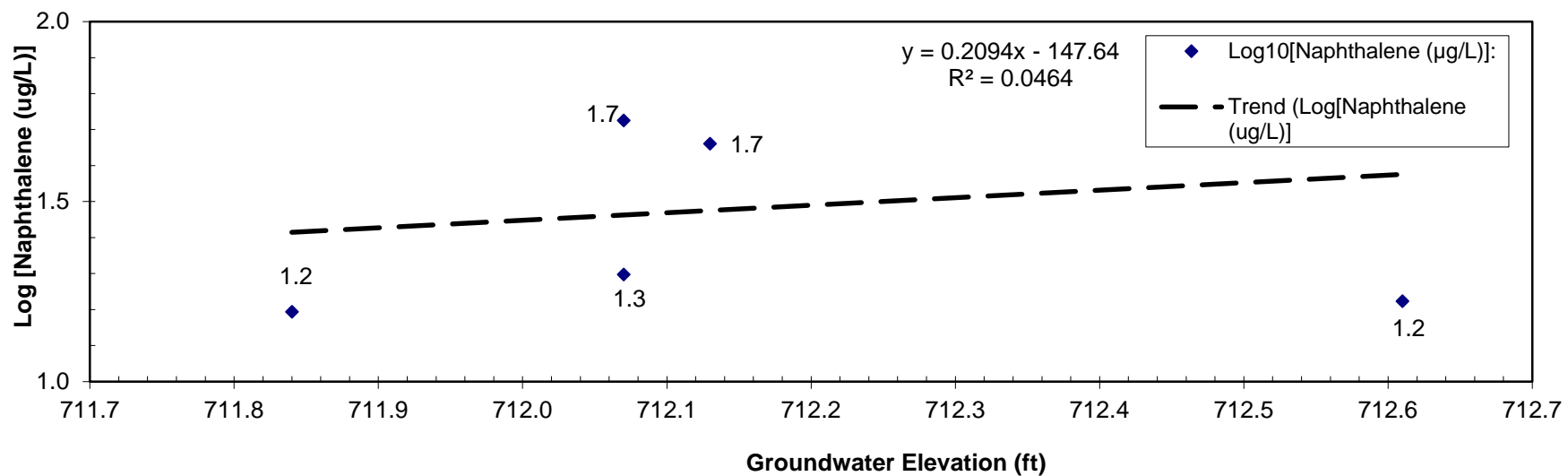




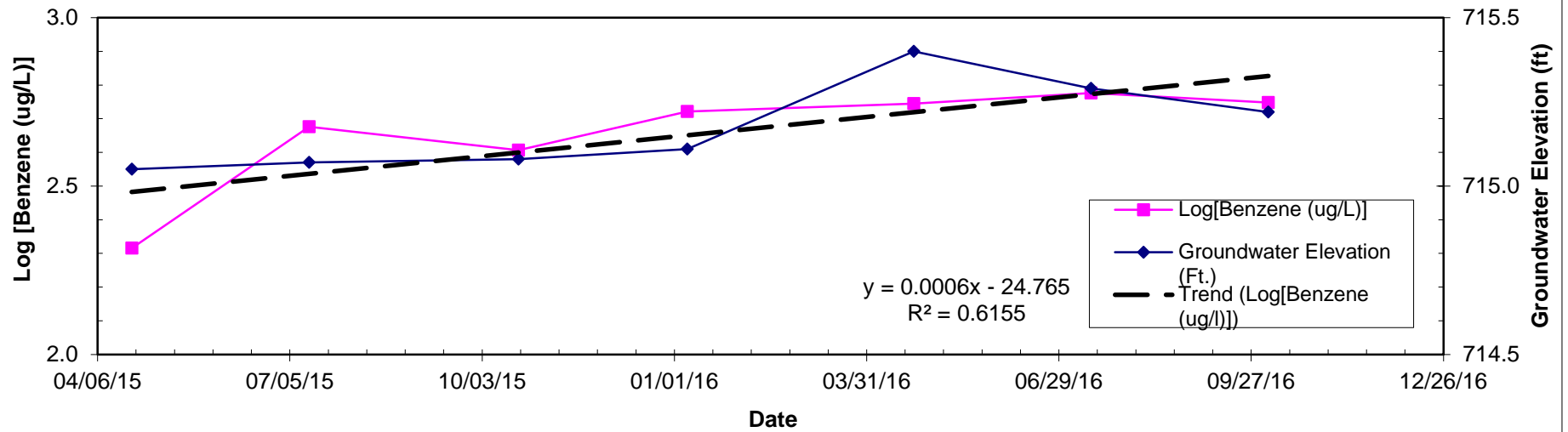
MW-26 Naphthalene Groundwater Monitoring



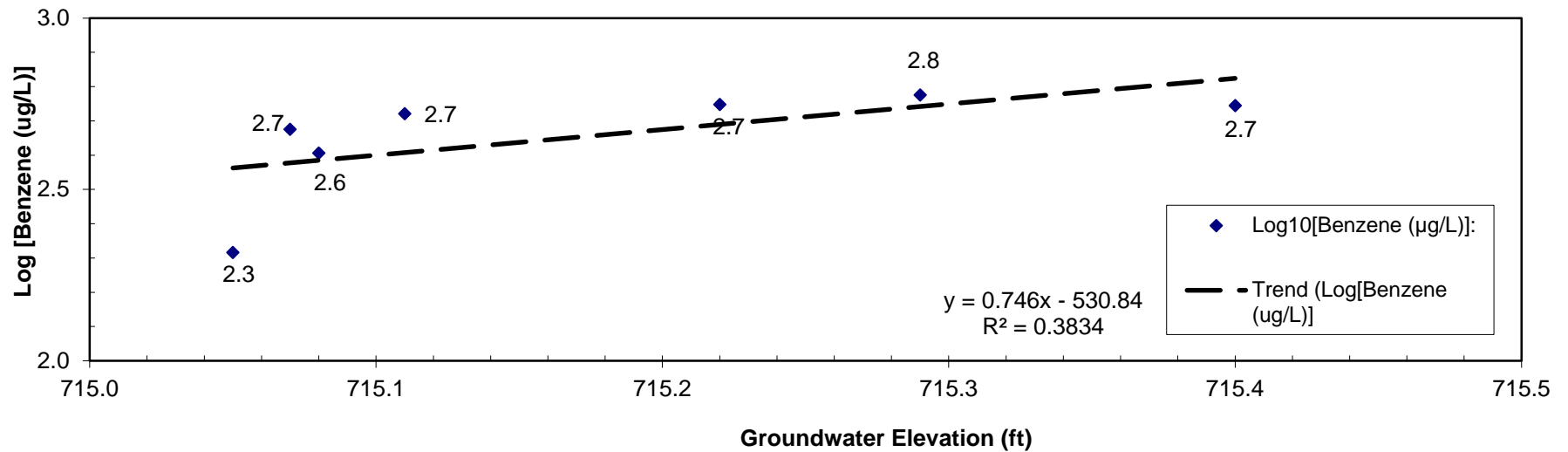
MW-26 Naphthalene Concentration vs. Groundwater Elevation



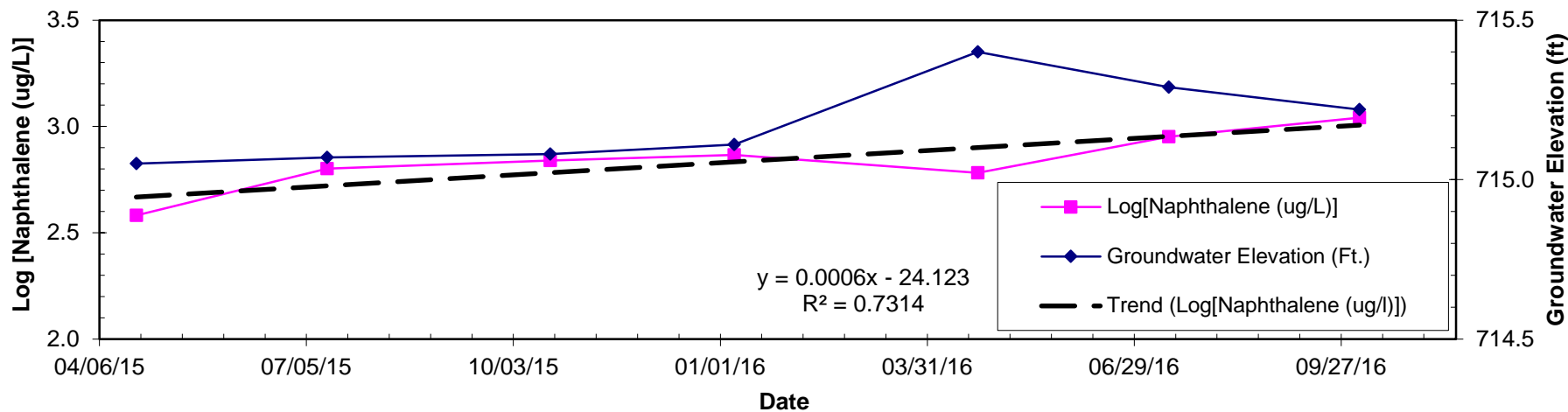
MW-27 Benzene Groundwater Monitoring



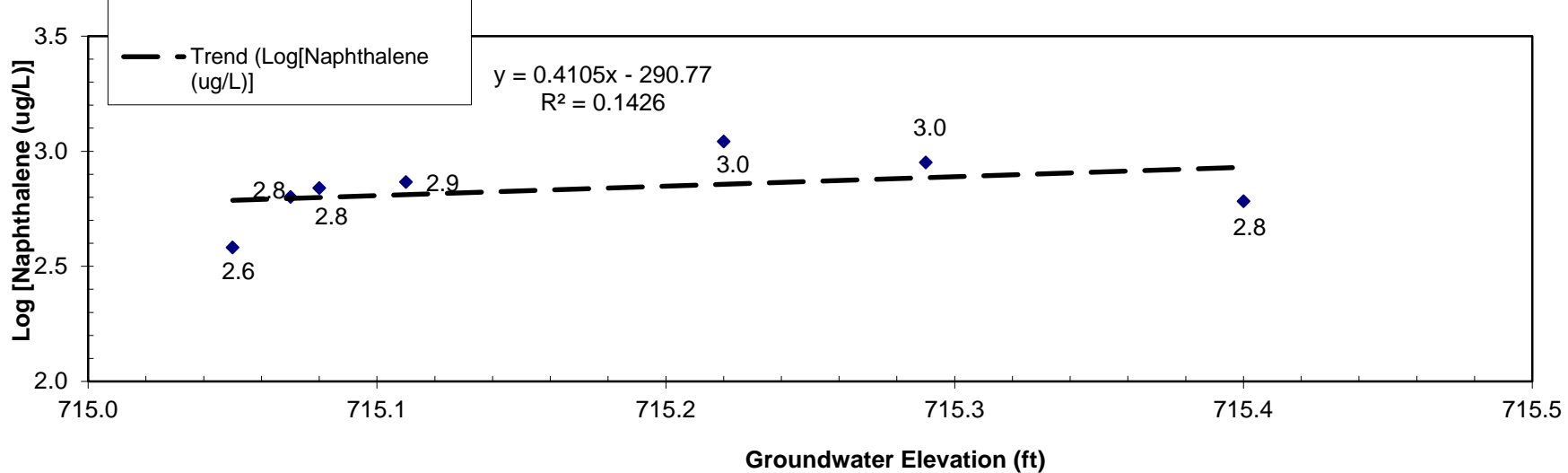
MW-27 Benzene Concentration vs. Groundwater Elevation

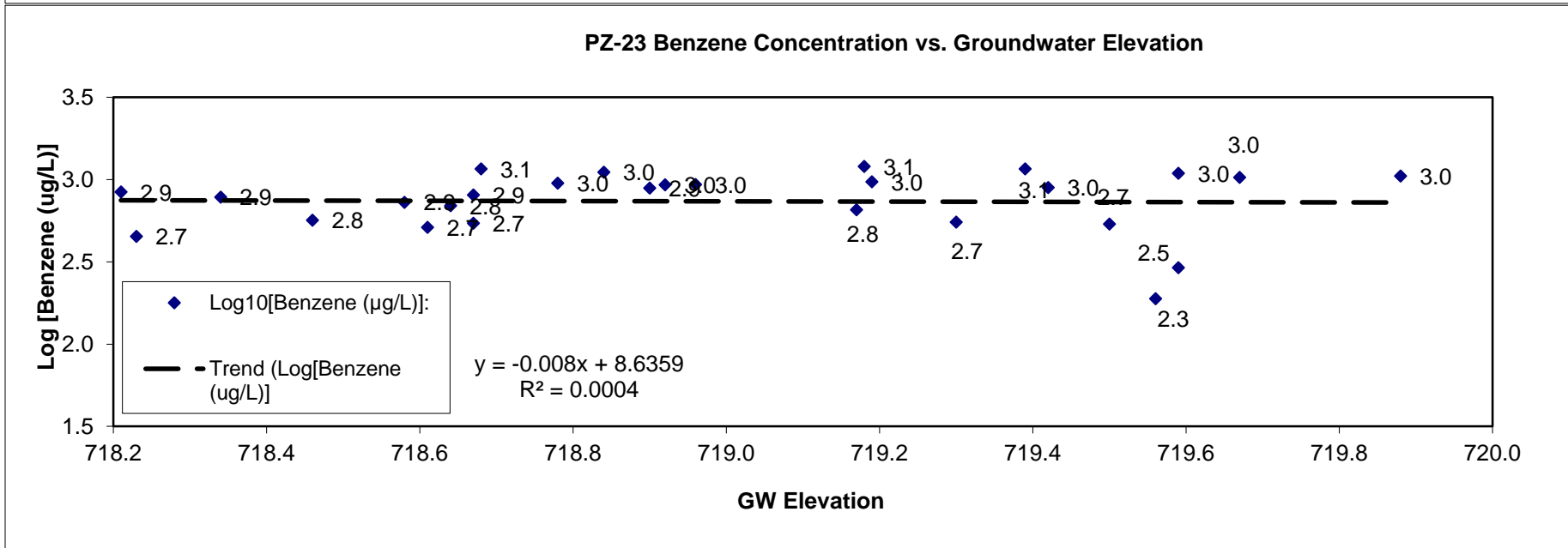
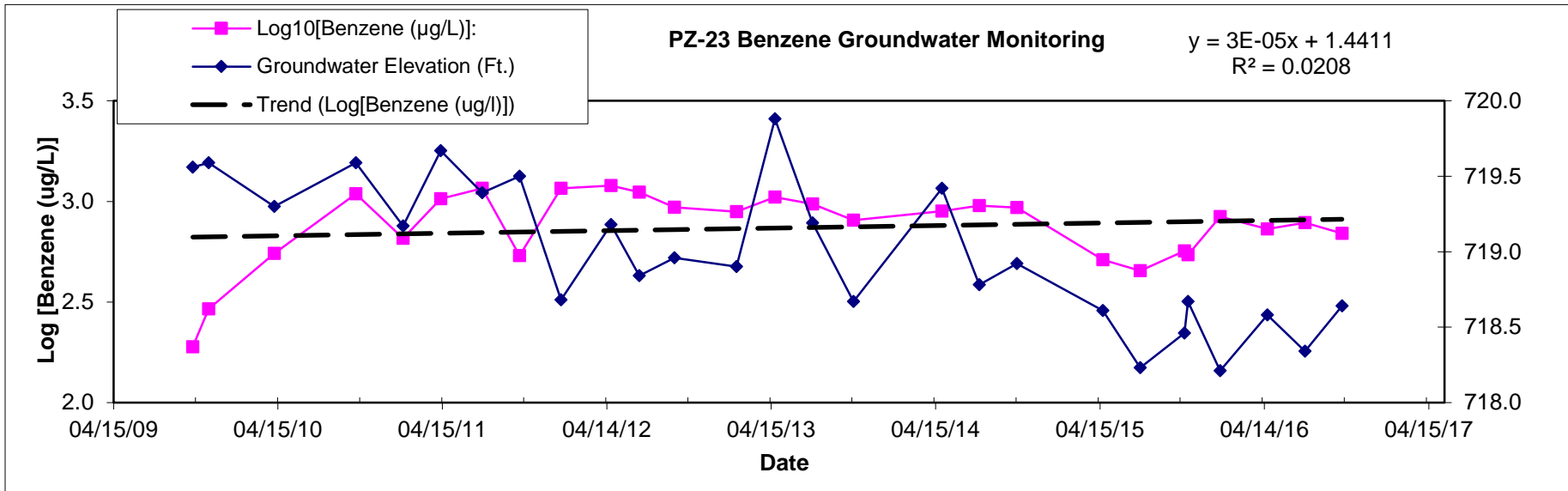


MW-27 Naphthalene Groundwater Monitoring

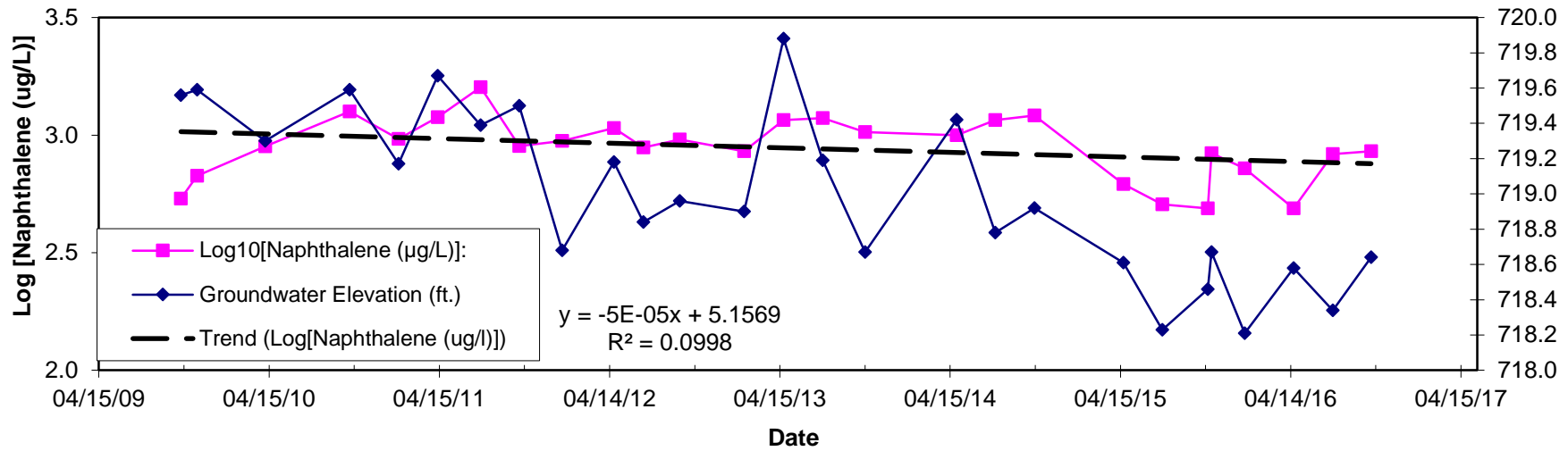


MW-27 Naphthalene Concentration vs. Groundwater Elevation

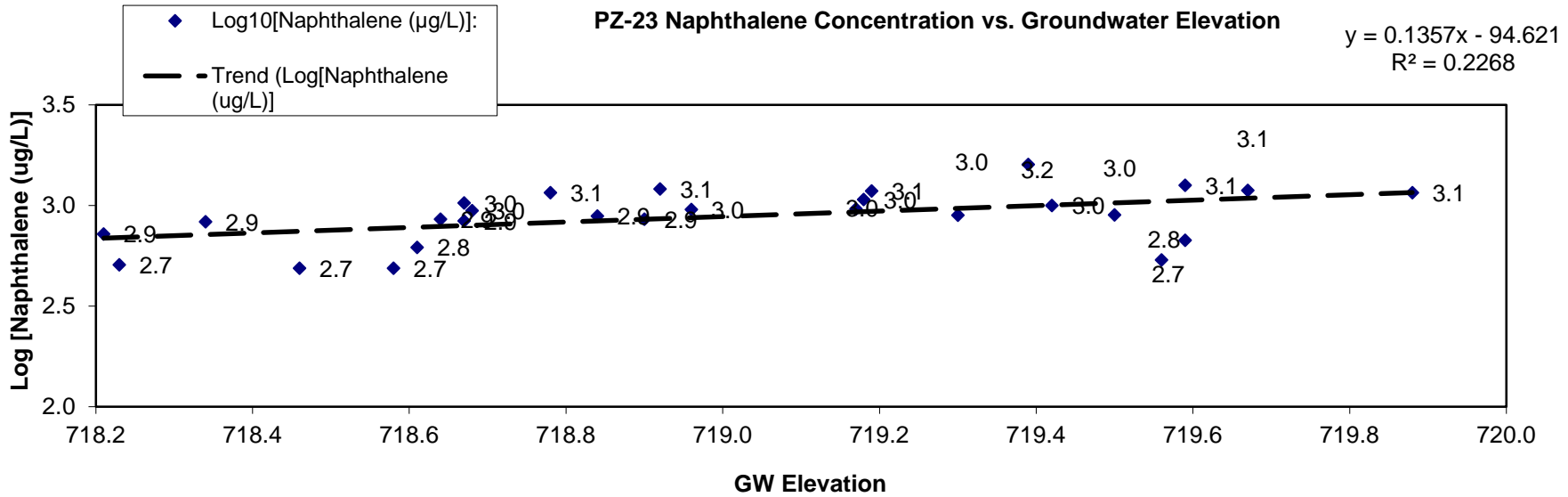


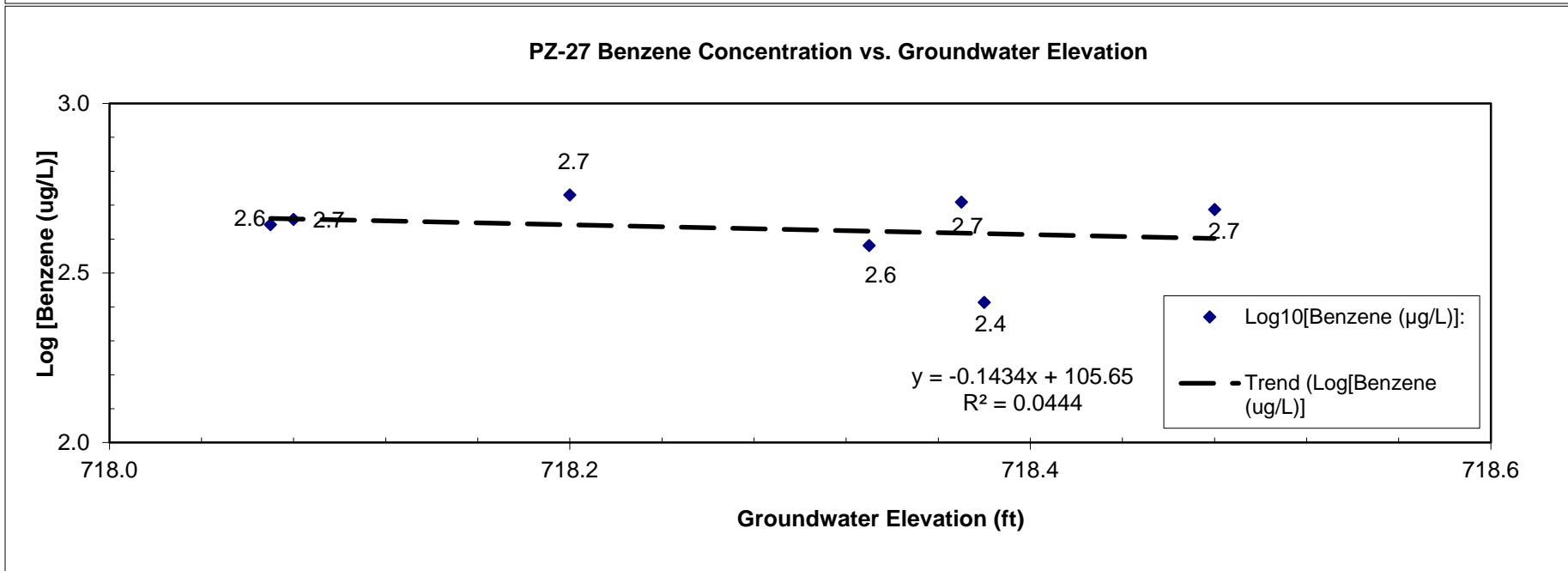
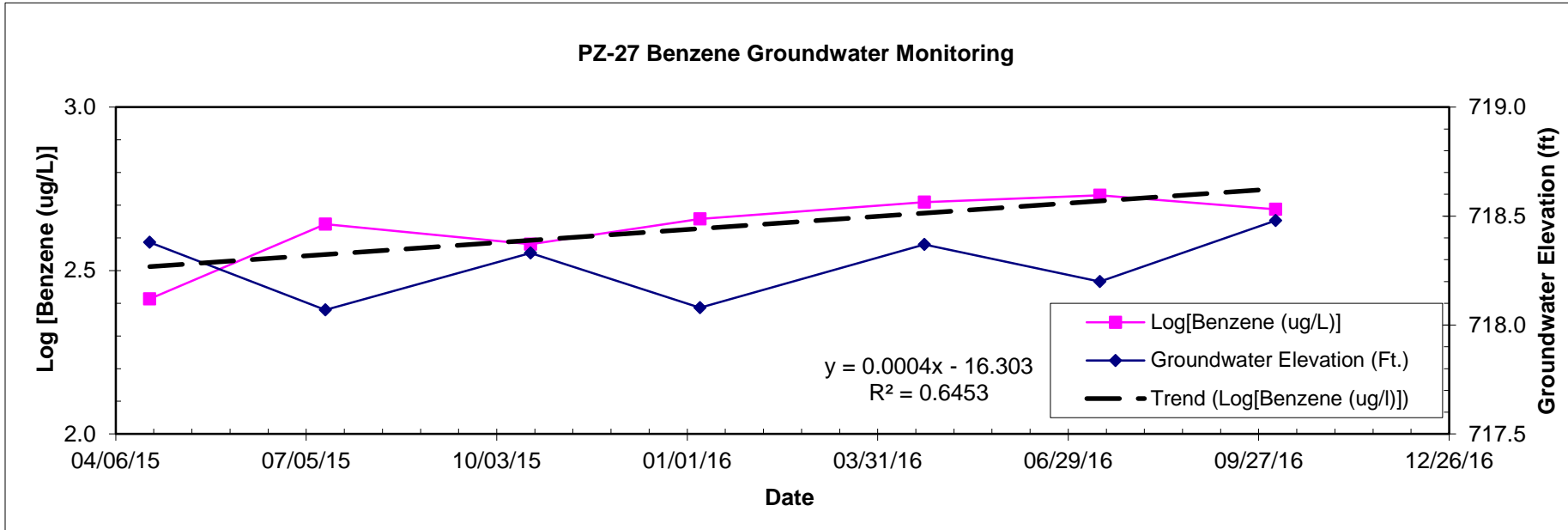


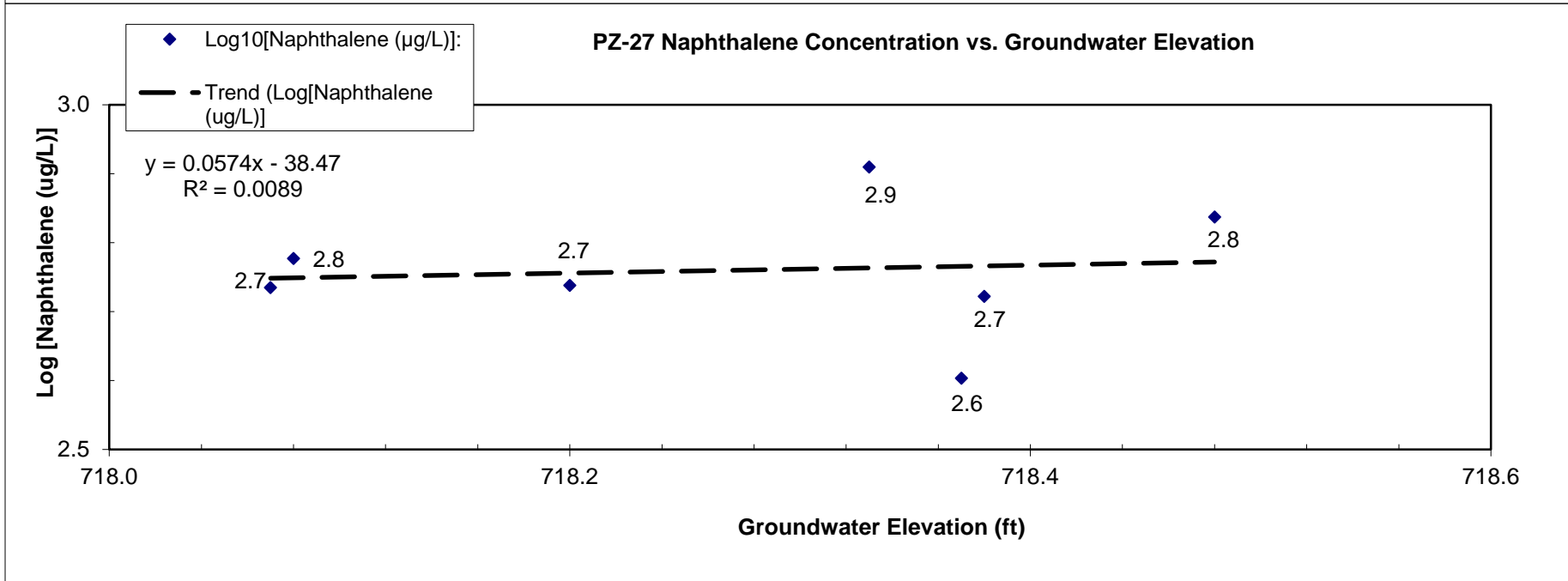
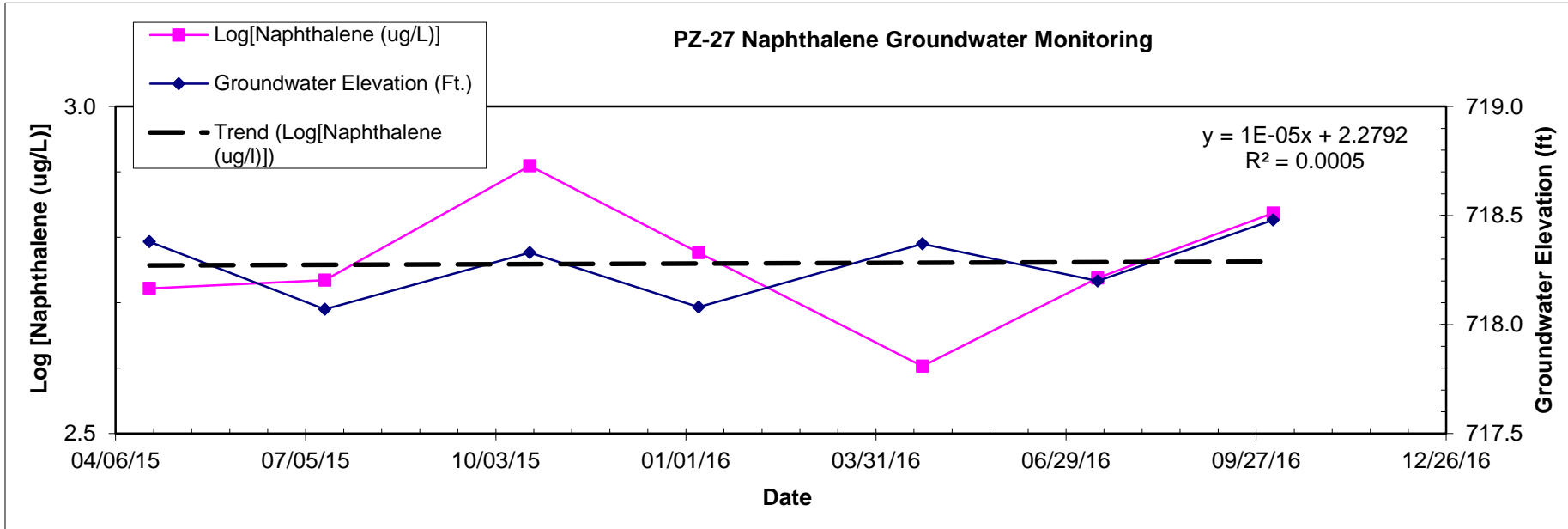
PZ-23 Naphthalene Groundwater Monitoring



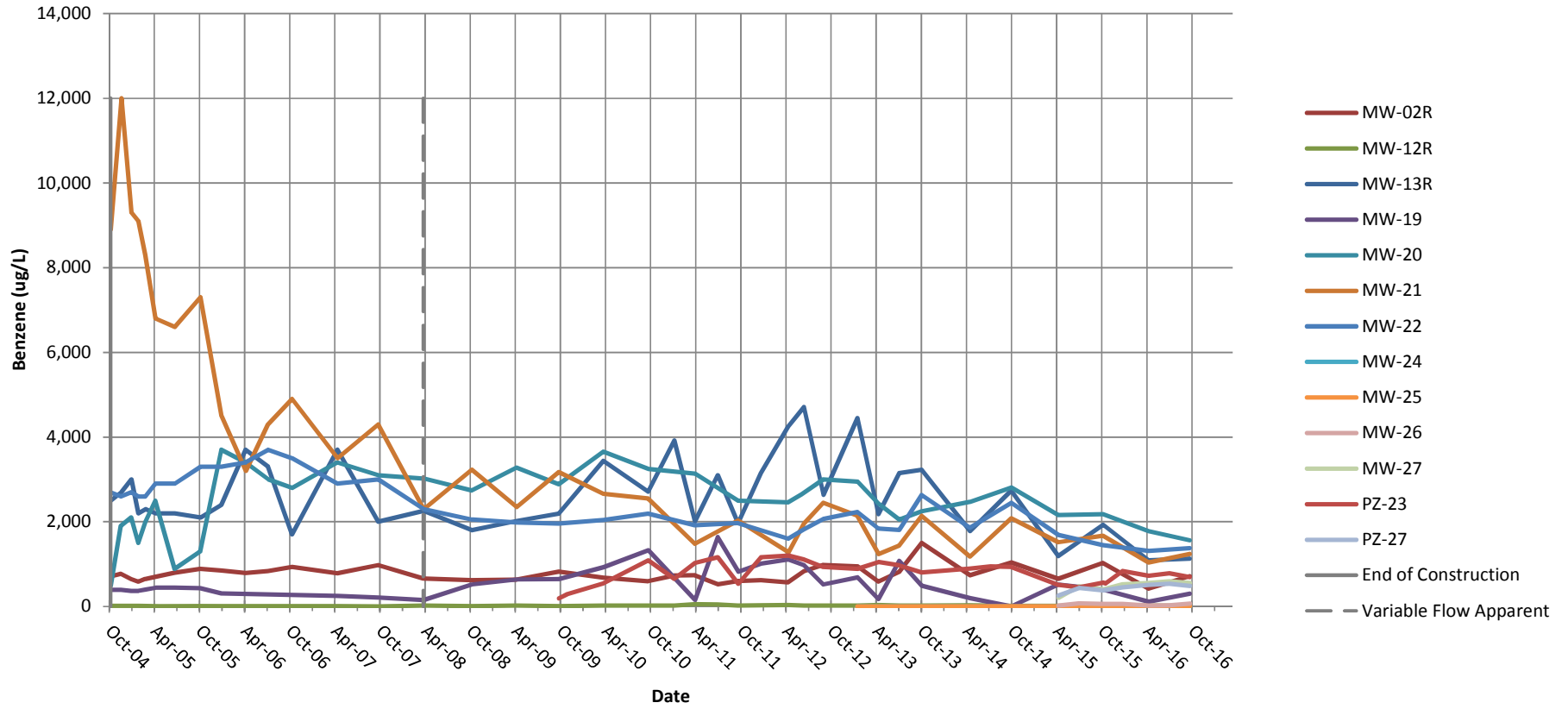
PZ-23 Naphthalene Concentration vs. Groundwater Elevation



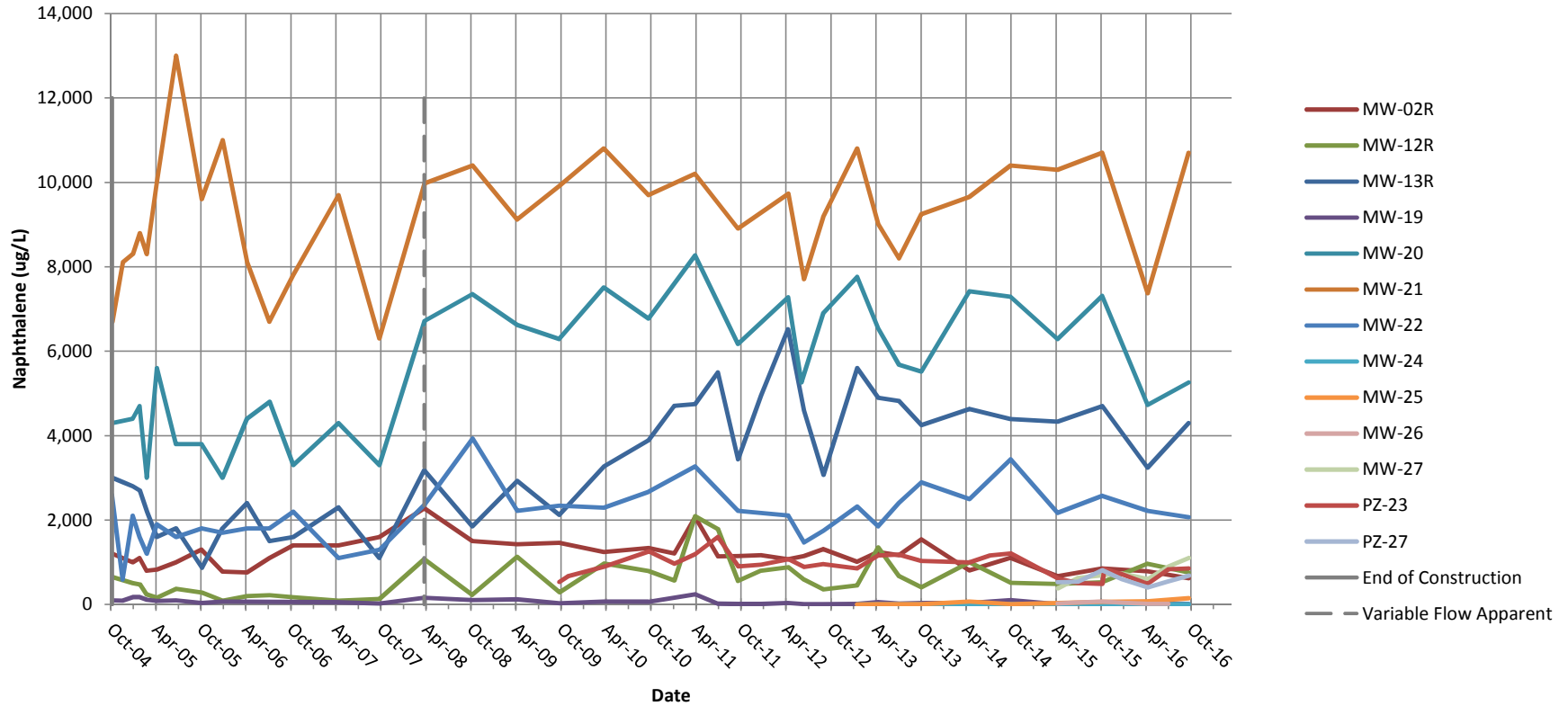





Benzene in Areas 1 and 2



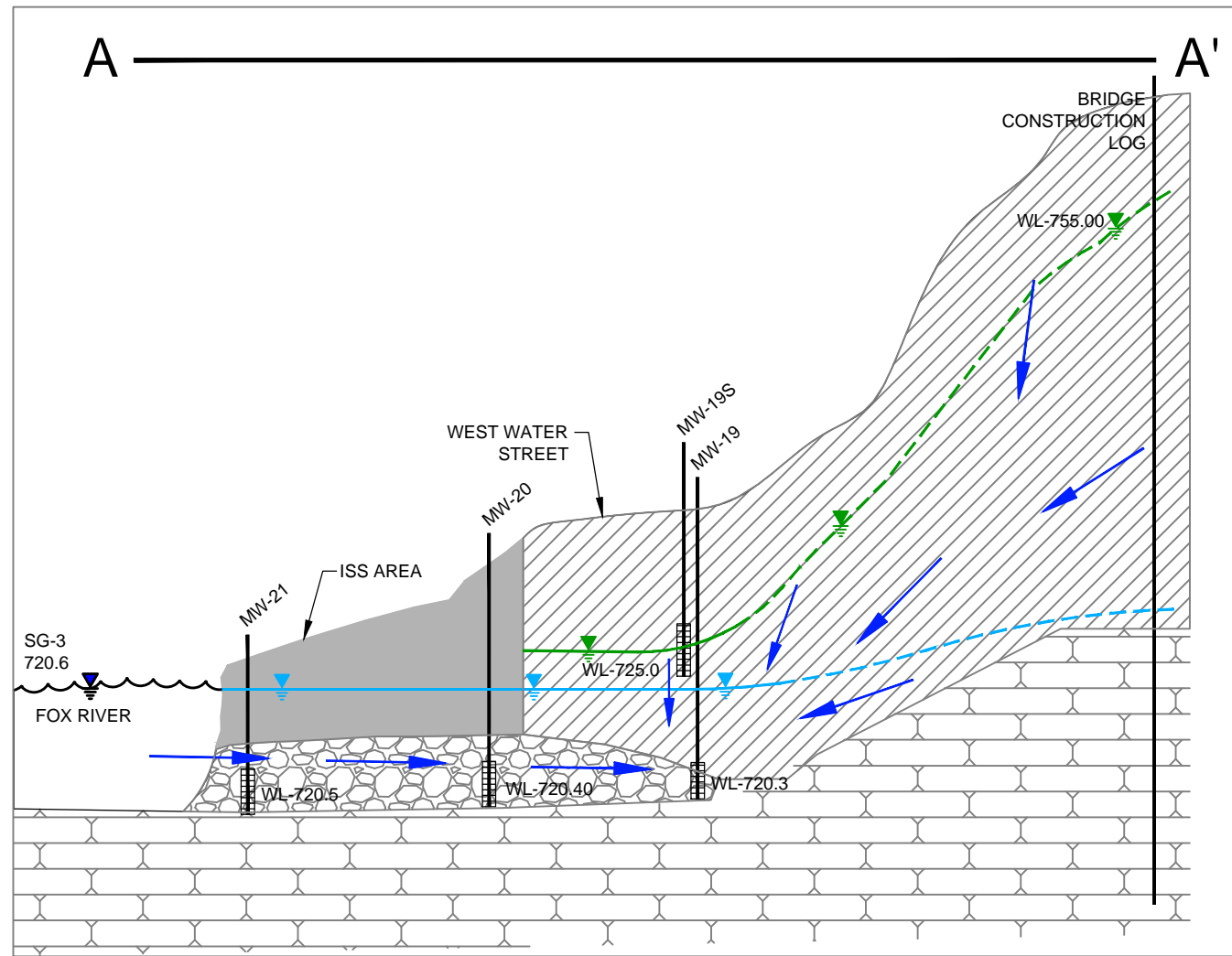
Naphthalene in Areas 1 & 2





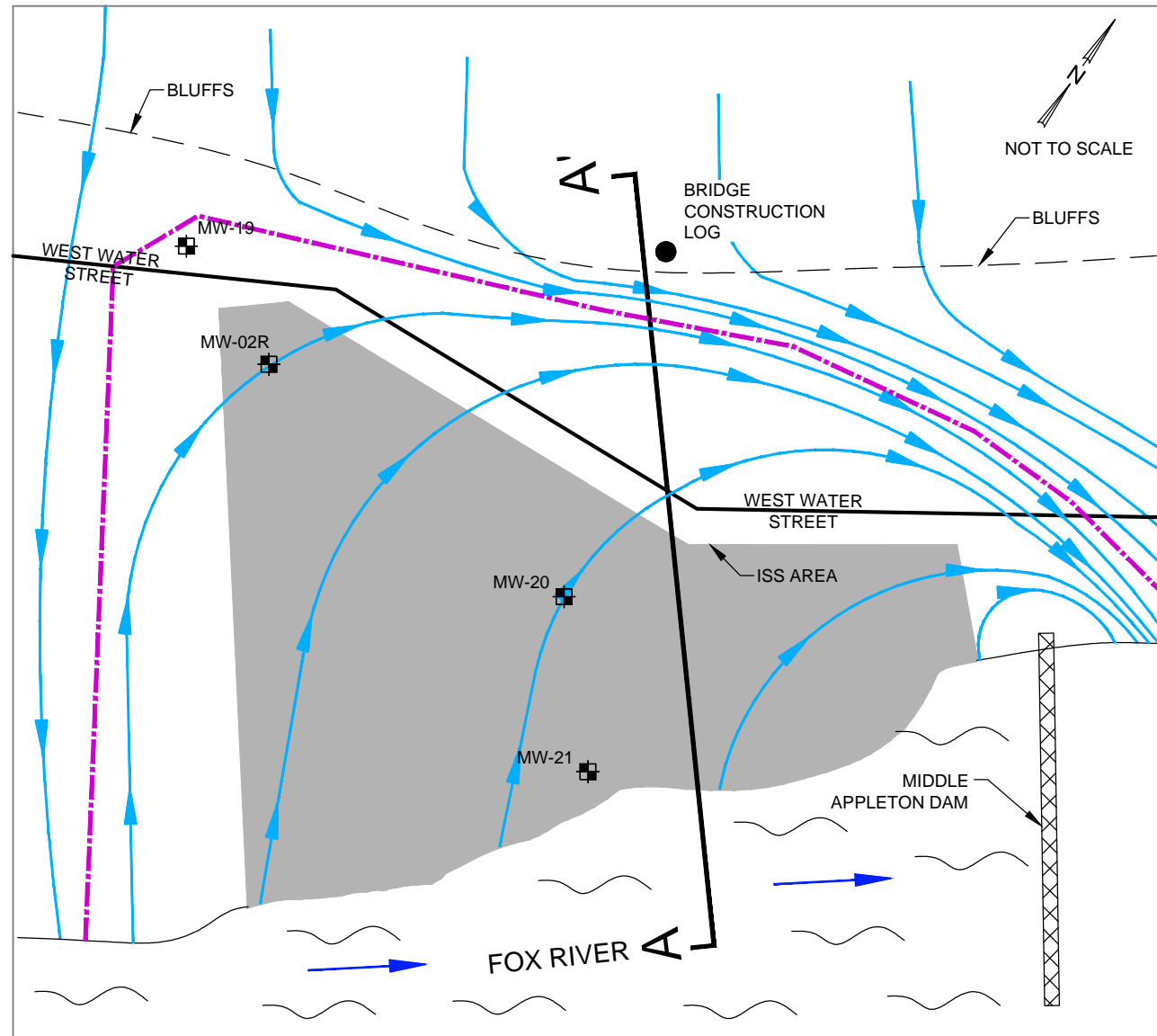
Appendix E
Conceptual Flow Model
and Conceptual Site
Model Figures

CONCEPTUAL FLOW MODEL
(PREVIOUSLY SUBMITTED AS FIGURE 12 OF THE
2014 ANNUAL REPORT)



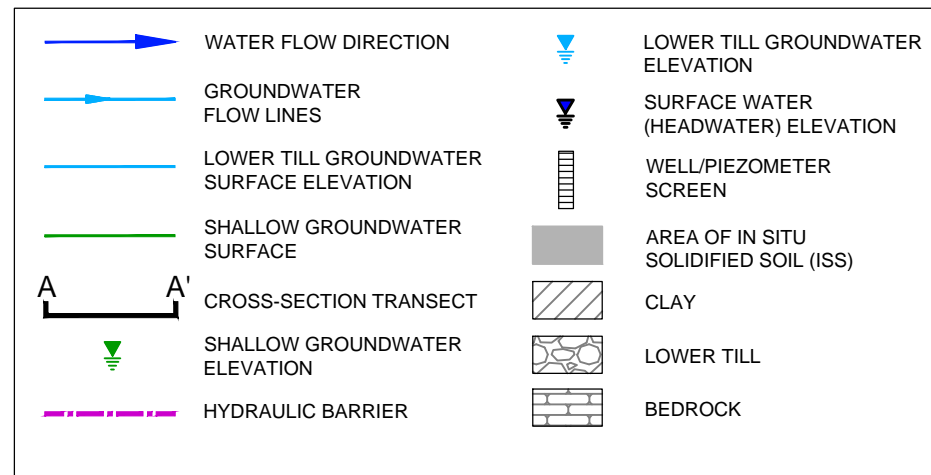
1 CROSS-SECTION A-A'

NOT TO SCALE



2 PLAN VIEW

NOT TO SCALE



DRAWN BY:	DMD	DATE:	03/11/15
CHECKED BY:	BGH	DATE:	03/25/15
APPROVED BY:	BGH	DATE:	04/27/15
DRAWING NO:	1508-212-B12		
REFERENCE:			

CONCEPTUAL FLOW MODEL

2014 ANNUAL GROUNDWATER REPORT
 WE ENERGIES
 APPLETON FORMER MGP SITE
 APPLETON, WISCONSIN



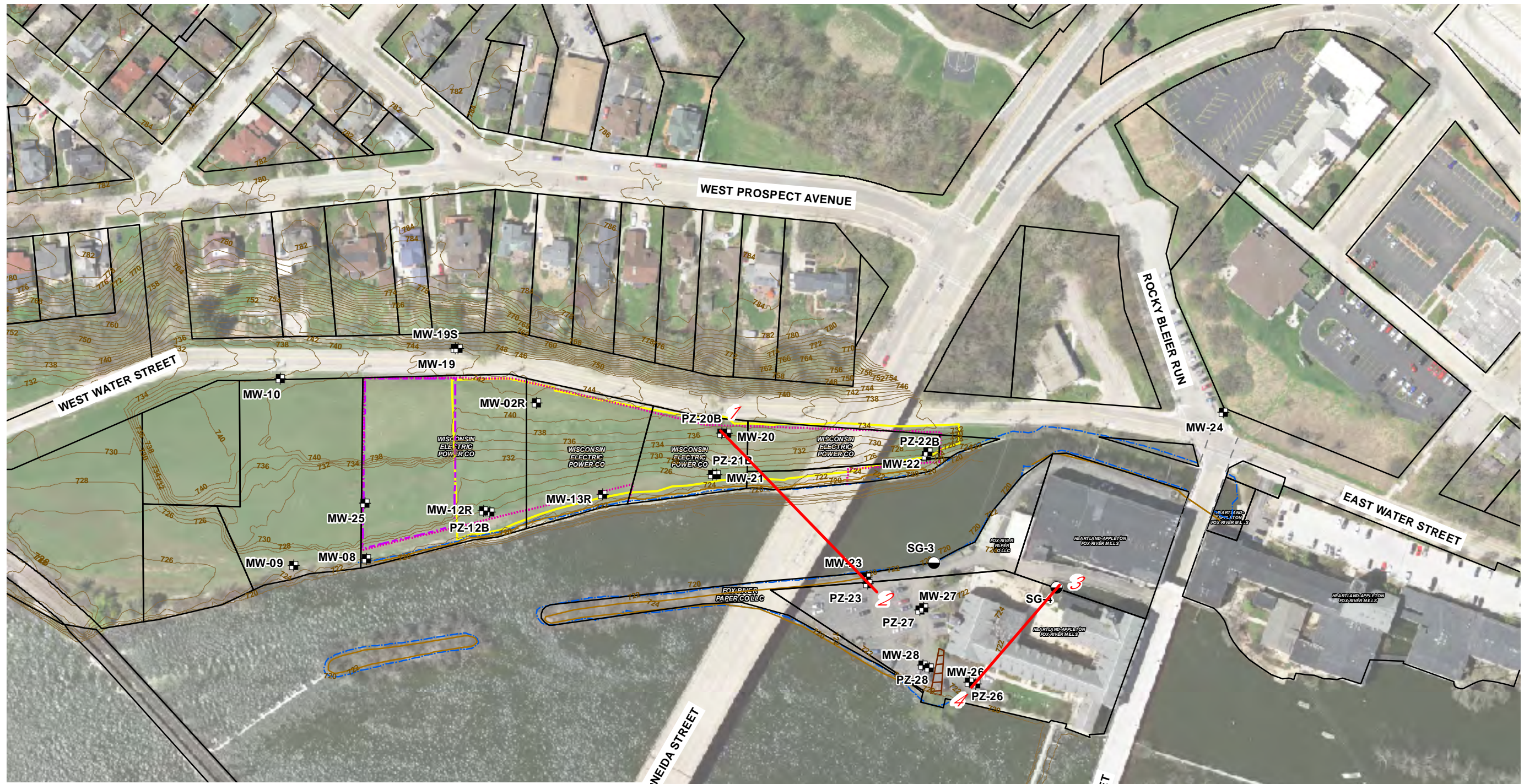
PROJECT NO.
1508/21.2

FIGURE NO.
12

Apr 27, 2015 4:39pm PLOTTED BY: dduda, SAVED BY: dduda
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 XREFS:

CONCEPTUAL SITE MODEL FIGURES

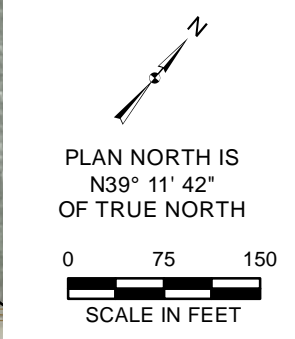
Y:\GIS\Projects\1511508\MXD\2016_Annual_Report\E1_Site_Features and CSM.mxd Author: stoljzsd Date/Time: 4/12/2017, 4:15:39 PM



1 2 CSM PROFILE (SEE DRAWINGS CSM-1 THROUGH CSM-4)

- MONITORING WELL LOCATION
- STAFF GAUGE LOCATION
- 2014 TAX PARCEL
- ~ TOP OF BANK
- ~ GROUND SURFACE ELEVATION CONTOURS
- FORMER MGP SITE PERIMETER
- SHORELINE
- FORMER WASTE WATER TREATMENT PLANT STRUCTURES DEMOLISHED IN THIS AREA
- PERIMETER OF ISS TREATMENT AREA
- ▨ HISTORICAL NEEDLE DAM STRUCTURE

SOURCE: TAX PARCEL DATA OBTAINED FROM OUTAGAMIE COUNTY GIS
IMAGERY SOURCE: OUTAGAMIE COUNTY SPRING 2014



DRAWN BY/DATE:
SDS 2/8/17
REVIEWED BY/DATE:
ANS 2/8/17
APPROVED BY/DATE:
BGH 4/12/17

SITE FEATURES AND CONCEPTUAL SITE MODEL (CSM) PROFILES

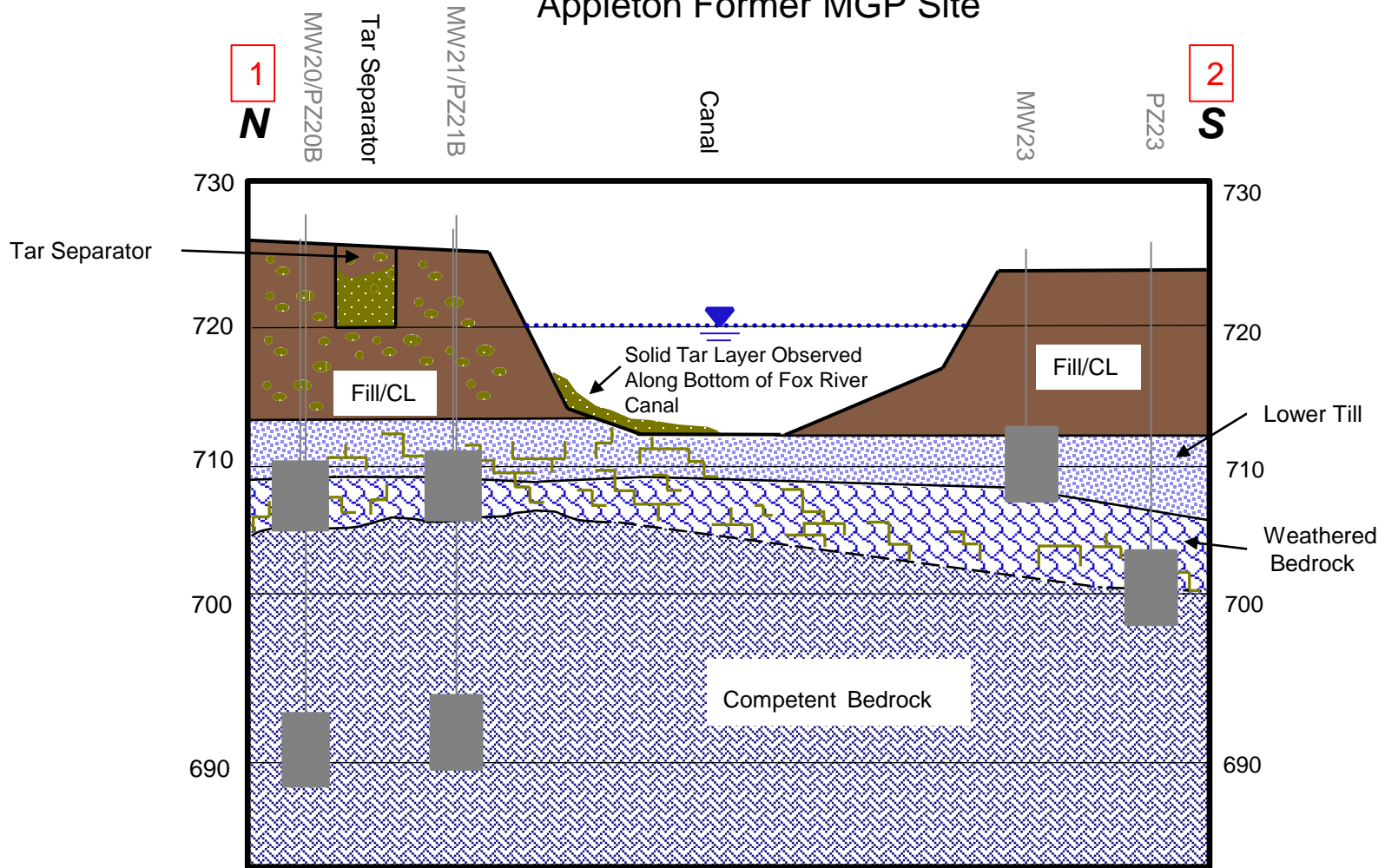
2016 ANNUAL REPORT
FORMER APPLETON MANUFACTURED GAS PLANT (MGP) FACILITY
WE ENERGIES
APPLETON, WISCONSIN

PROJECT NO: 1508

FIGURE NO: E1

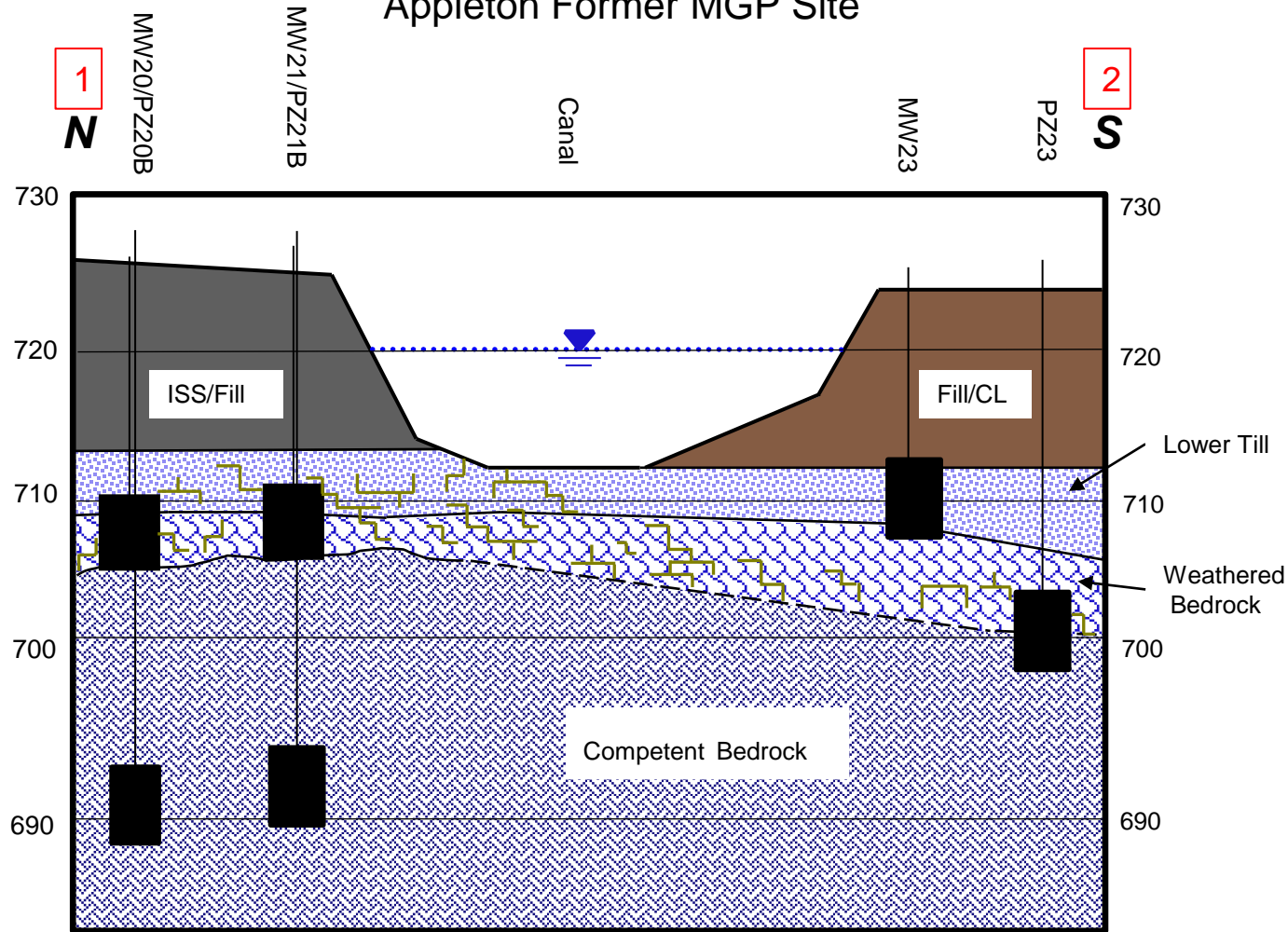


Pre-Remediation Conceptual Drawing of Residual Materials: Appleton Former MGP Site



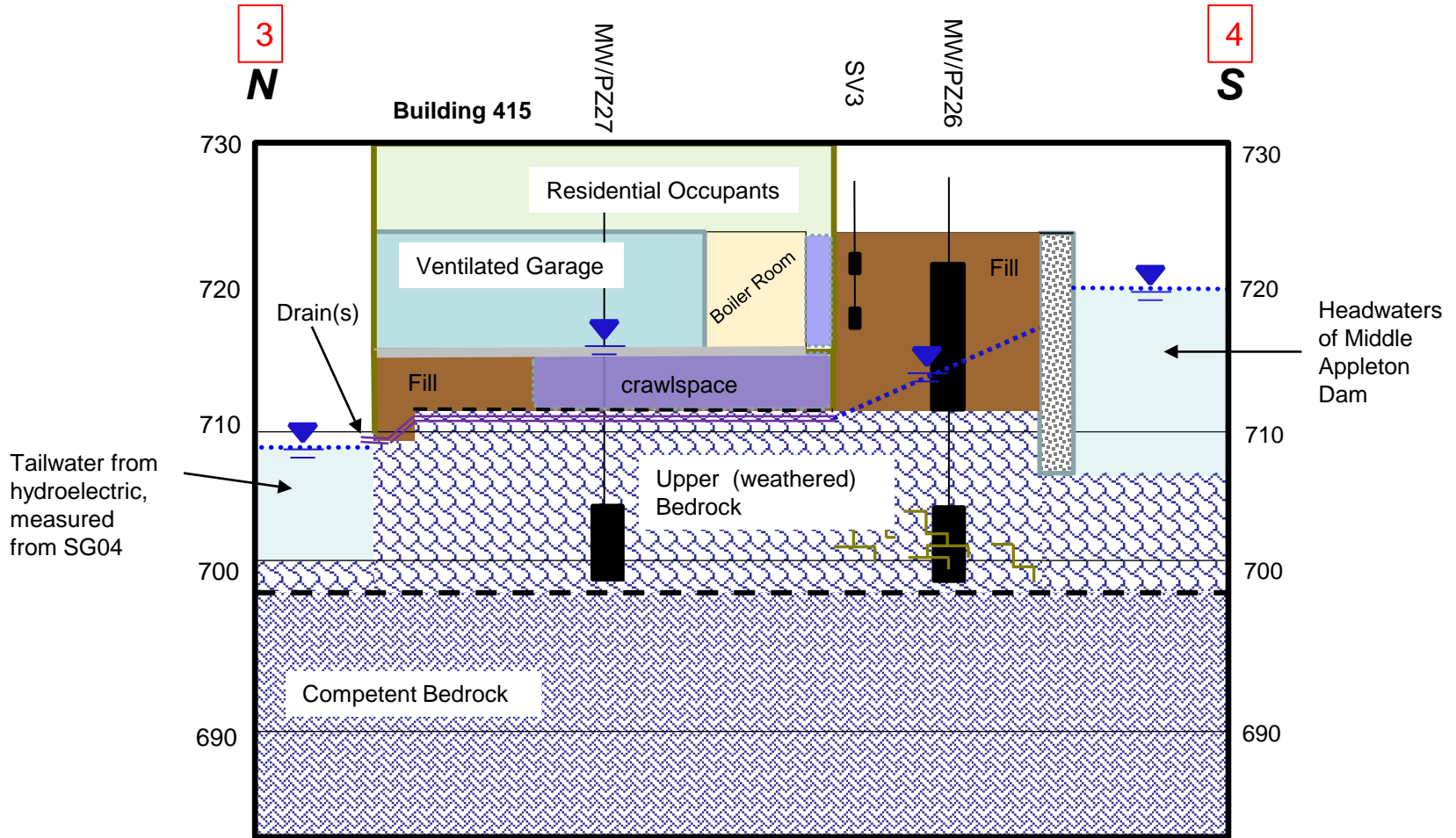
CSM-1. Conceptual drawing that illustrates the presence of MGP residuals prior to remedial construction (source removal and in situ solidification). Residual product is shown in green. Post-construction monitoring wells (gray) were included for reference. During remedial construction in 2002 and 2003, potential source areas such as the material within the tar separator and the solid tar layer observed along the bottom of the canal were removed. Following source removal, the fill and clay north of the canal was solidified. See "Post-Remediation Conceptual Drawing of Residual Materials" for conceptual drawing of post-remediation conditions.

Post-Remediation Conceptual Drawing of Residual Materials: Appleton Former MGP Site



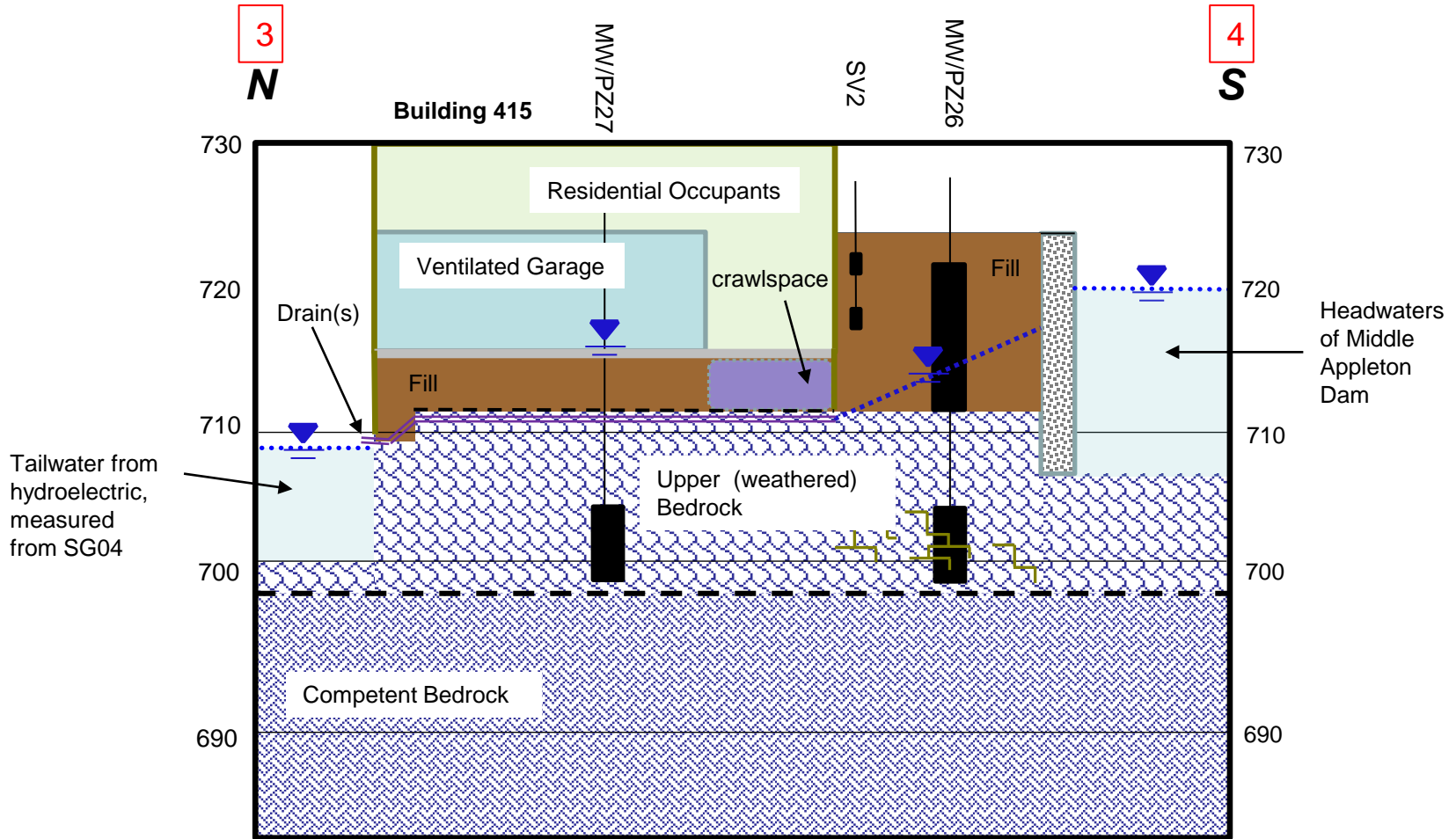
CSM-2. Conceptual drawing that illustrates the presence of MGP residuals following remedial construction (source removal and in situ solidification). Residual product is shown in green. The remediation area, including solidified soils, is shown in gray. Post-construction monitoring wells are in black. Following remedial construction, minor amounts of residual product have been observed in the lower till and weathered bedrock; and, a sheen was observed in portions of the canal bottom when dewatered in November 2011. The source of the observed residuals was removed or solidified during construction.

Conceptual Drawing of Building 415 Appleton Former MGP Site (Boiler Room)



CSM-3. Conceptual drawing that illustrates the profile of the apartment building located at 415 South Olde Oneida Street. Monitoring wells and soil vapor probes have been projected onto the profile. Residual product observed in shallow (weathered) bedrock is shown in green. The floor of the garage has been surveyed at 715 feet NAVD 88. Observations suggest that the wall of the building sits on bedrock near the elevation of the tailwater from the hydroelectric units, a crawl space was observed beneath the garage slab along the southern wall of the building and PVC drain pipes were observed in the wall near SG04 at approximately 709.5 feet, the drain pipes become submerged when tailwater elevations exceed 710 feet.

Conceptual Drawing of Building 415 Appleton Former MGP Site (Near Occupied Space)



CSM-4. Conceptual drawing that illustrates the profile of the apartment building located at 415 South Olde Oneida Street. Monitoring wells and soil vapor probes have been projected onto the profile. Residual product observed in shallow (weathered) bedrock is shown in green. The floor of the garage has been surveyed at 715 feet NAVD 88. Observations suggest that the wall of the building sits on bedrock near the elevation of the tailwater from the hydroelectric units, a crawlspace was observed beneath the garage slab along the southern wall of the building and PVC drain pipes were observed in the wall near SG04 at approximately 709.5 feet, the drain pipes become submerged when tailwater elevations exceed 710 feet.

OBG

THERE'S A WAY

