POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 Periodic Review Report

MARILLA STREET LANDFILL

NYSDEC SITE ID NO. 915047

Prepared on behalf of:

Nicklaus Olmsted Buffalo, Inc.
369 Franklin Street
Buffalo, New York 14202

Prepared by:

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Grand Island, New York 14072

February 2019

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Nicklaus Olmsted Buffalo, Inc.

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1 INTRODUCTION

The Marilla Street Landfill (Site ID No. 915047) is located on a 100-acre parcel of land in the City of Buffalo, Erie County, New York. The landfill itself is approximately 80 acres, situated approximately 1.5 miles east of Lake Erie, and just west of Hopkins Street. A location map is shown in Figure 1-1. Railroad tracks run adjacent to the property along the west and north, and also divide the site into different fill areas.

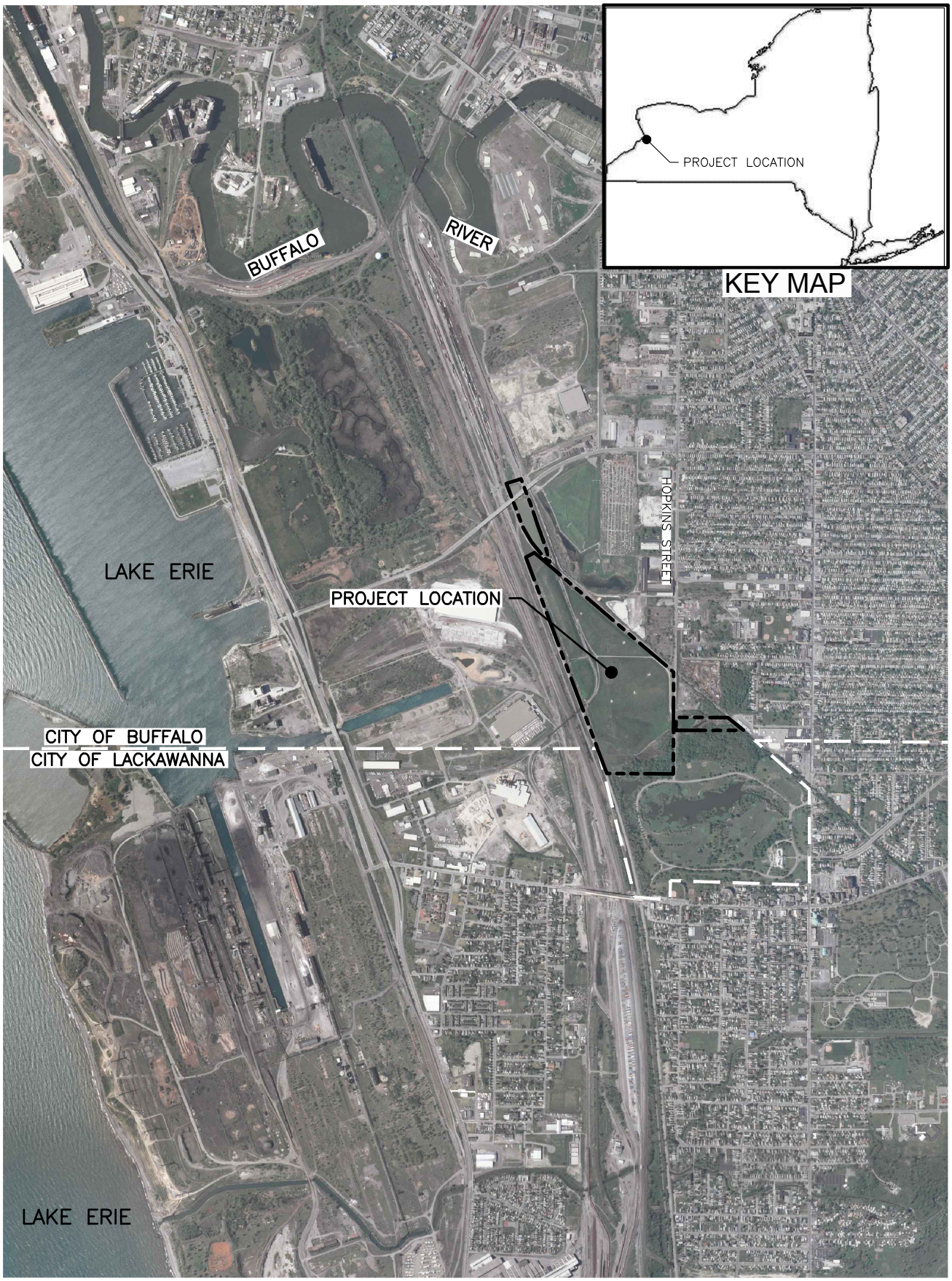
The landfill operated from 1930 through the summer of 1981 when it was owned by LTV Steel Company (formerly Republic Steel) and accepted wastes primarily produced by local steelmaking operations at the Buffalo Plant. Discarded wastes included, among others, construction and demolition debris, blast furnace and basic oxygen furnace (BOF) dust, precipitator dust, clarifier sludge from the steel plant's wastewater treatment system, and railroad ties.

The facility operated as an above-grade fill operation and the waste was divided by type. The landfill consists of the BOF Dust Area, the Clarifier Sludge Area, and several Miscellaneous Debris Areas as shown on the site plan in Figure 1-2. The Former Sediment Disposal Area is also contained within the larger Miscellaneous Debris Area west of Hopkins Street. The five-acre BOF Dust Area was capped in 1990 in accordance with 6 NYCRR Part 373. The latter two areas encompassing the remaining landfill area were capped in 1992 and 1993, respectively, under 6 NYCRR Part 360.

LTV Steel Company entered into an Order on Consent (File No. 89-57 R9-2808-89-05) with the New York State Department of Environmental Conservation (NYSDEC) in October 1992 to perform closure and post-closure maintenance and monitoring of the site. Steelfields, LTD acquired the site from LTV Steel Company and entered into a voluntary cleanup agreement with the NYSDEC in October 2002. To date, five onsite wetlands have been remediated which involved the excavation and removal of contaminated sediments, placement of clay and topsoil, and revegetation. Steelfields, LTD sold the property to Nicklaus Olmsted Buffalo, Inc. (NOB) in 2018. NOB will continue to monitor and maintain the site in accordance with the *Post-Closure Monitoring and Maintenance Plan for Republic Steel/LTV*, Rev October 2010 (hereto referred to

as the Site Management Plan (SMP) and its two adopted modifications dated July 15, 2015 and May 22, 2017.

This report satisfies the requirement for the 2018 annual reporting and assessment of post-closure monitoring and maintenance activities at the Marilla Street Landfill as outlined in the SMP and referenced modifications. Sampling results, analysis, evaluation of the results, and a discussion of statistical trending are included herein. A summary of the post-closure site inspection and maintenance activities performed during 2018 is also provided.



Q:\Nicklaus Olmsted Buffalo\ACAD\FIG 1-1LOCATION MAP.dwg 2/28/2019 9:46 AM

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LOCATION MAP

MARILLA STREET LANDFILL

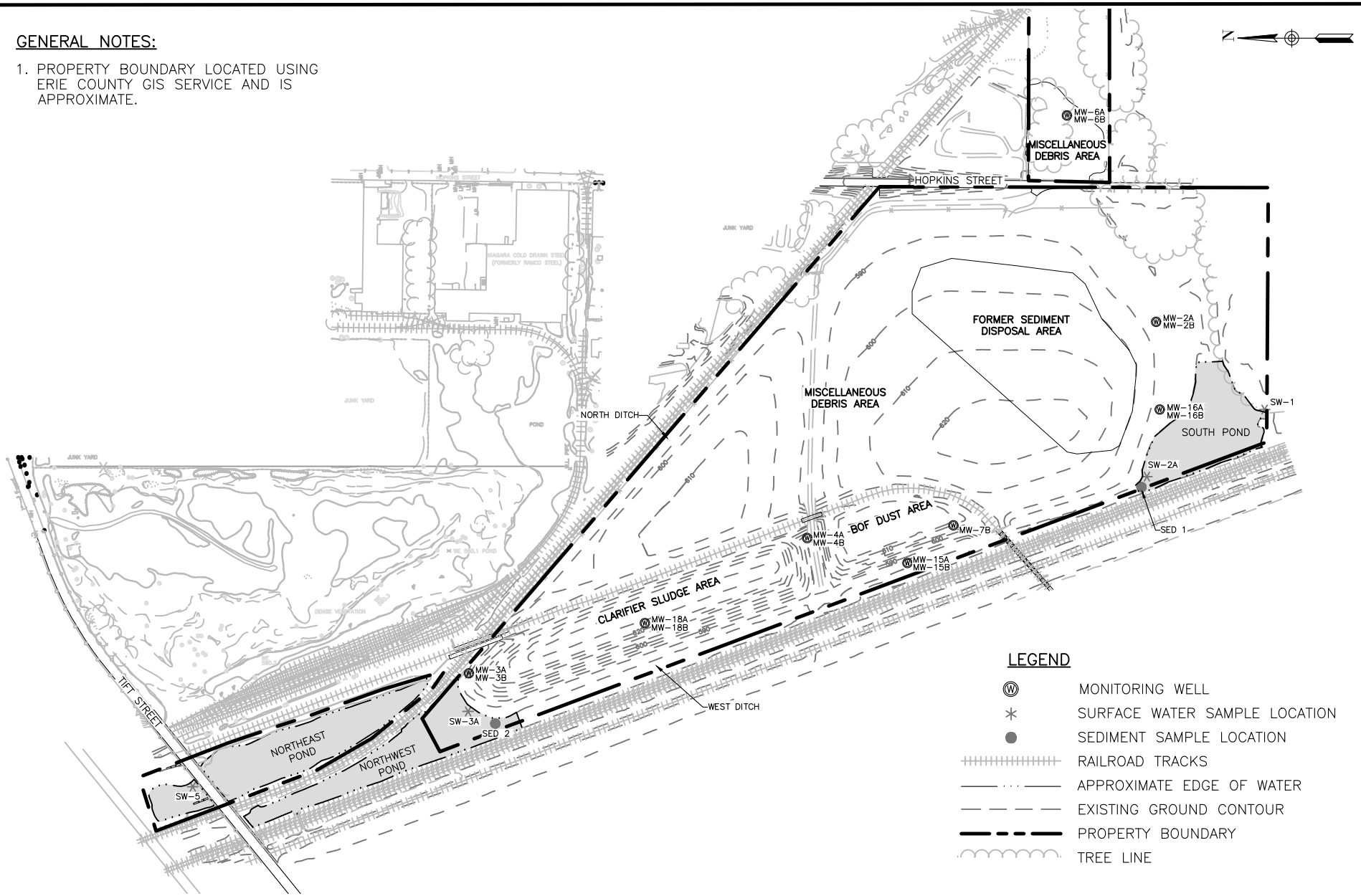
NICKLAUS OLMSTED BUFFALO, INC.

CITY OF BUFFALO	ERIE COUNTY	NEW YORK
February 2019	SCALE: NOT TO SCALE	REVISION # 0

FIGURE 1-1

GENERAL NOTES:

1. PROPERTY BOUNDARY LOCATED USING ERIE COUNTY GIS SERVICE AND IS APPROXIMATE.



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NICKLAUS OLMSTED BUFFALO, INC.		SITE PLAN MARILLA STREET LANDFILL	FIGURE 1-2
SCALE: 1" = 600'	REVISION # 0		
February 2019	CITY OF BUFFALO	ERIE COUNTY	NEW YORK

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2 MONITORING AND MAINTENANCE PROGRAM

2.1 GENERAL

Monitoring and maintenance of the Marilla Street Landfill operate under the conditions specified in the SMP and as modified in two adopted modifications dated July 15, 2015 and May 22, 2017. The SMP and accepted modifications specify sampling locations and methodology, analytical requirements, laboratory quality assurance/quality control procedures, and reporting requirements, as well as procedures for routine inspection and maintenance activities. Monitoring of surface water and shallow overburden groundwater is to be conducted annually, in addition to an overall site and final cover inspection. Monitoring of deep overburden groundwater and pond sediments are to be conducted every third year. The next triennial sampling event occurs in 2019. The approximate sampling locations are shown on Figure 1-2.

Sampling procedures, including collection and preservation, were completed in general accordance with the SMP for the 2018 sampling event between December 4th and 5th. Where deviations from the SMP's sampling protocol occurred, the anomalies are noted herein. Decontamination of shared sampling equipment (e.g., stainless steel dipper used for surface water sample collection, and the hand pump used for filtering surface water and groundwater) was performed by washing the equipment with phosphate-free soap and 10% nitric acid with a brush, then rinsing with deionized water.

Laboratory analysis was performed by ALS Environmental (ALS) of Rochester, New York, an ELAP certified laboratory. The analytical methods used (see Table 1) deviate from those required in the SMP. The laboratory reported that the methods specified in the SMP were outdated, and the methods actually used are the most current certified methods equivalent to those in the SMP.

2.2 SURFACE WATER

Four surface water samples are to be collected annually from the remediated wetland areas and analyzed for the set of parameters listed in Table 1 of Appendix A. Should leachate seeps be identified during the site inspection, these breakouts are to be sampled for the same suite of

parameters as identified in Table 1 for surface water. No seeps were identified during the current monitoring period. The four surface water samples are described as follows:

- **SW-1** – South Pond Inlet, collected from open drainage channel entering the South Pond, used to establish regional background levels;
- **SW-2A** – South Pond near cutoff wall location;
- **SW-3A** – Southern end of Northwest Pond; and,
- **SW-5** – Northern end of Northeast Pond.

Surface water samples were collected on December 4th and 5th, 2018 at the four locations as described above. A blind duplicate (SW-DUP) was collected at SW-5. Each grab sample was analyzed in the field for temperature, pH, conductivity, and turbidity and recorded on the Field Observation forms as shown in Appendix B. Field measurements are summarized in Table 2 in Appendix A.

As per the requirements of the SMP, surface water is to be field filtered and analyzed for soluble metals if the turbidity is greater than 50 NTU. No surface water samples demonstrated turbidity readings greater than 50 NTU. However, all surface water samples were filtered in the field and analyzed for soluble metals to facilitate a comparison to increasing trends in groundwater wells as suggested in the 2013 Periodic Review Report, December 2013 (Daigler Engineering, PC). A summary of the analytical results is provided in Table 3 of Appendix A. Analytical reports and chain of custody forms are provided in Appendix C.

2.2.1 Surface Water Quality Analysis

Surface water quality analytical results were compared to NYSDEC Class D Surface Water Quality Standards and Guidance Values per 6 NYCRR Part 703 and Technical and Operational Guidance Series (TOGS) 1.1.1 as shown in Table 3 for the current calendar year. With the exception of total iron, all analytical results were below (or in the range for pH) the Class D standards. Total iron exceedances decreased in 2018 compared with historic sampling results. Iron levels at all surface water locations had been greater than the Class D standard for the last six years, with the exception of SW-2A, which was less than the standard in 2015. This year only SW-1 and SW-2A exceeded the Class D standard. The background surface water sampling location, SW-1, is typically high in total iron concentration. This year the concentration was

only slightly greater than the Class D standard, yet despite the low concentration, Moving Average Trend Analysis (MATA) as presented in Appendix F still supports an upward trend in iron for SW-1. Downstream concentrations of total iron also decreased this year after having been elevated last year. In contrast total iron continues to exhibit decreasing trends at all downstream locations as can be seen in the MATA for surface water presented in Appendix F. Intra-location minima for total iron were observed at SW-3A and SW-5.

Analytical results for background (SW-1) and downstream sampling locations are generally similar. This suggests that downstream water quality is characteristic of the water quality from upstream of the site. Concentrations of several parameters recorded at SW-2A that were elevated last year decreased this year including conductivity, total organic carbon, total dissolved solids, and total iron. Total and dissolved manganese significantly decreased from intra-location maxima last year at this location, as well. Total manganese observed at SW-3A and SW-5 were intra-location minima in 2018. Total manganese at SW-3A appears to be on a decreasing trend based on the MATA presented in Appendix F. The increasing trend using MATA in pH at SW-5 is not paralleled by an increasing trend at the upstream surface water sampling location. All other surface water results were typical.

2.3 GROUNDWATER

In following with the 2015 and 2017 approved modifications to monitoring requirements, groundwater at the site is monitored on an annual basis for the parameters listed in Table 1 at eight monitoring wells. Every third year (2016, 2019, 2022, etc.), additional monitoring is conducted at seven deep overburden wells to detect downward leachate migration for the same set of parameters as the annual sampling event. Shallow overburden well IDs are succeeded by a "B" and deep overburden well IDs are designated with an "A". The following list identifies the monitoring wells sampled annually and those that are sampled every third year:

- **Annual** – MW-2B, MW-3B, MW-4B, MW-6B, MW-7B, MW-15B, MW-16B, MW-18B; and,
- **Triennial** –MW-2A, MW-3A, MW-4A, MW-6A, MW-15A, MW-16A, MW-18A.

Note that monitoring wells MW-6A and MW-6B represent the background wells for their respective water bearing units.

Groundwater sampling was conducted between December 4th and 5th, 2018. A photoionization detector was used to measure organic vapors from each well once the cover was unlocked and removed. All wells were recorded at zero ppm. Following static groundwater measurement at all shallow wells, the wells were purged and sampled using dedicated polyethylene bailers per the requirements in the SMP. While purging, the groundwater was field tested for temperature, pH, conductivity, and turbidity and recorded on the field observation sheets shown in Appendix B. After purging four well volumes or to dryness (whichever occurs first), a sample was collected, and field parameters were recorded for the sample on the field observation sheets. Field data are summarized in Table 2. Groundwater samples were preserved for analysis in laboratory provided containers.

Samples collected from two wells, MW-2B and MW-3B, measured greater than 50 NTU in turbidity. Subsequently, as mandated by the SMP, dissolved metals analyses were performed in addition to total metals for these samples. Background monitoring well MW-6B was also field filtered and tested for soluble metals for MATA purposes even though the turbidity reading was less than 50 NTU. A blind duplicate (GW-DUP) was collected from MW-18B and the matrix spike/matrix spike duplicate was collected from MW-15B. Analytical reports prepared by ALS and chain of custody forms are provided in Appendix C. A discussion and evaluation of the results are presented herein.

2.3.1 Groundwater Levels and Site Hydrogeology

Groundwater elevation data was gathered from all eight shallow overburden wells as summarized in Tables 4 and 5 of Appendix A. Water levels and the total depth of each well were measured from the top of casing and were recorded on the field observations logs at the time of measurement. All field observations logs are included in Appendix B.

A plot illustrating the groundwater elevations of each shallow monitoring well is presented in Figure 2-1. Groundwater elevations remained near typical levels in 2018. The groundwater level rose slightly for MW-3B, MW-6B, and MW-15B. Intra-well maximum values were

observed in MW-6B and MW-15B. These relatively high ground water elevations are expected to be a result of the seasonal timing of this sampling event.

2.3.2 Groundwater Quality Analysis

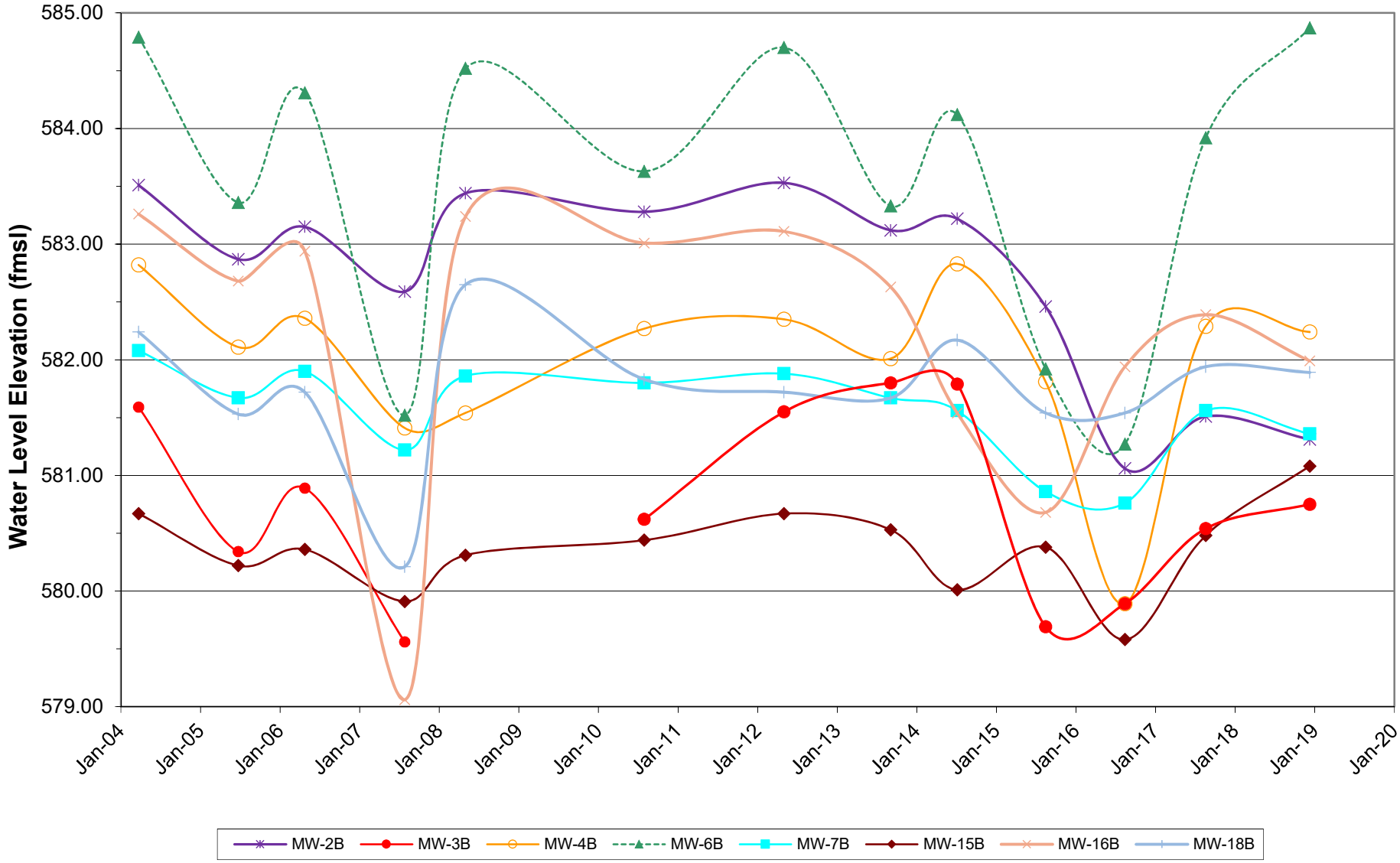
The SMP requires the comparison of groundwater results to 6 NYCRR Part 703 Class GA Standards and Guidance Values and to background water quality. According to the SMP decision tree, groundwater data which exceeds the background mean concentration (BMC) for a parameter by three standard deviations requires additional MATA to be performed. These evaluations are discussed herein.

2.3.2.1 Comparison of Water Quality to Standards and Guidance Values

Values from the annual samples of 2018 were compared to the 6 NYCRR Part 703 GA standards as shown in Table 6 of Appendix A for the shallow overburden wells. Green, grey, and orange shading in this table signifies exceedances of the Class GA standard; the Class GA standards (where applicable) and the BMC; and the Class GA standards (where applicable), the BMC, and the BMC plus three standard deviations (BMC+3SDs), respectively. Therefore, any shaded parameter is in exceedance of the Part 703 GA standard where one exists. Note that BMC and BMC+3SDs exceedances will be discussed in the next section.

Widespread exceedances of the Class GA standards for pH (upper limit), total dissolved solids (TDS), total iron, and total manganese occurred in wells both up and downgradient of the site. The pH detected at MW-6B returned to more typical level of 7.07 after an unusually acidic pH of 3.41 was observed in 2017. The standard of 5.0 ug/L for total recoverable phenolics (TRP) was also exceeded in many of the wells. It should be noted that the detection limit is greater than the standard for TRP and total lead; therefore, one or more of the wells reported as non-detect have the potential to be in exceedance of the standard for these parameters.

FIGURE 2-1
Marilla Street Landfill
December 2018 Annual Sampling Event
Summary of Historical Groundwater Elevations for Shallow Overburden Wells



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DAIGLER ENGINEERING, PC

Exceedances of the Class GA standard for total arsenic, total chromium, total lead, and acetone were measured at MW-3B, as is typically identified at this well. Acetone was again found in MW-15B after being detected in 2017 for the first time since 2012, and was at an intra-well maximum level of 140 ug/L. Concentrations above the standards for total arsenic in MW-15B and trichloroethene in MW-16B are generally consistent with data from previous sampling events. There was no detection of 2-Butanone in 2018, after it was detected in MW-3B in 2017, the first time this compound was detected in any well on site.

2.3.2.2 Comparison of Water Quality to Background Mean Concentration

BMCs and BMC+3SDs were calculated using results from all available events for background monitoring well MW-6B as shown in Appendix D. The results were incorporated into Table 6 and compared to the results from the current monitoring period. The results shaded in orange in the tables indicate the need for MATA which are presented on an individual parameter basis in Appendix E for the shallow overburden wells.

Table 7 summarizes the tracked parameters and groundwater wells which have experienced exceedances of the BMC+3SDs. After five tracked events, trending is evaluated. Increasing linear trends in downgradient shallow wells are compared to trending in the background water quality in the upgradient monitoring well and to surface water quality. All trend analyses utilize moving average data including this sampling event's data and the three preceding sampling events. Linear trend lines were fit to the data using a least squares analysis. Trends were considered not statistically significant if the 95% confidence interval around the slope of the linear regression includes zero. The fit of the data to the trend line was also checked by assessing the R^2 value. Values closer to one indicate more closely fit data.

Apparent increasing trends in downgradient wells which have experienced exceedances of the BMC+3SDs and have five tracked events include the following:

- Total arsenic (MW-3B, and MW-15B);
- pH (MW-7B, and MW-15B);
- TRP (MW-3B);

- TOC (MW-2B, MW-3B, MW-15B, and MW-16B);
- TDS (MW-3B and MW-15B);
- Specific conductance (MW-7B and MW-15B); and,
- Total manganese (MW-3B and MW-18B).

Generally, increasing trends were paralleled by a corresponding increasing trend in upgradient well MW-6B with the exception of total arsenic in MW-3B and MW-15B, and pH in MW-7B and MW-15B. As such, most of the water quality trends found in the downgradient wells are likely the result of changes in water quality upgradient of the site.

The apparent increasing trending in total arsenic in well MW-15B was not statistically significant at the 95% confidence level and had a relatively low R^2 value of 0.14. The increasing trend in total arsenic in well MW-3B continued to weaken as it has over the past several years. Regression analysis on total arsenic for well MW-3B shows that the increasing trend remains statistically significant at the 99% confidence level, as has been the case since 2012. However, the R^2 value has continued to decrease and with the 2018 data is at 0.64 after being at 0.77 last year and averaging around 0.90 over the past five years peaking in 2016 at 0.93. The total arsenic concentration in MW-6B has been lower than the detection limit since 1997, as was the case again this year. Thus, the source of arsenic does not appear to be coming from upgradient of the site. Should increasing trends for a specific parameter be observed downgradient with opposing trends upgradient, a comparison to surface water is the next step as per the SMP decision tree. A discussion of the comparison is provided in the next section.

The apparent increasing trend in pH at MW-7B and MW-15B continued to not be statistically significant in 2018 at the 95% confidence level. An apparent decreasing trend in pH in upgradient groundwater at MW-6B is statistically significant at the 95% confidence level but not at 99%. A comparison to the surface water results is provided in the next section.

With the inclusion of a fourth data point from 2018, the linear trend line for TRP at MW-15B which had been increasing is now shown to be decreasing. The apparent increasing trend in MW-3B was also determined to not be statistically significant at the 95% confidence level with

the inclusion of the 2018 data. TRP levels in MW-3B are essentially stagnant. Upgradient monitoring well MW-6B shows an apparent increasing trend with respect to TRP. However, of the twenty data points only two were detections, one in 1997 and one in 2007. The remaining variability is solely due to the variation of the detection limit.

Evaluation of trending in TOC for MW-2B began this year with the fifth tracked event, however, Section 3.1 of the SMP suggests that trending be evaluated with statistical analyses after a linear trend line has been plotted for *several* sampling events. When there are three data points to plot a linear trend line beginning next year, the statistical significance of the increasing trend will be determined. TOC has decreased slightly from levels last year across the site. The increasing trend at MW-3B continues to not be statistically significant at the 99% confidence level. Conversely, statistically significant trends are evident with 99% confidence for MW-15B and MW-16B. However, TOC decreased for the second straight year at MW-15B and was at an intra-well minimum in 2018. There is an apparent increasing trend at the upgradient monitoring well MW-6B that was determined to be statistically significant at the 95% confidence level, but not at 99%.

TDS has apparent increasing trends found in MW-3B and MW-15B. Trending is not statistically significant at the 95% confidence level at MW-15B. Trending in MW-3B with respect to TDS continued to be statistically significant at a 99% confidence level. Still with a mid-range R^2 value of 0.57 the correlation is not very strong, and the actual concentrations have been decreasing for the past three years. An increasing trend is also statistically significant for shallow upgradient well MW-6B at the 99% confidence level, therefore the increasing TDS may be originating from offsite.

The increasing trend for specific conductance in MW-7B and MW-15B weakened with the inclusion of the 2018 data. The trends were not statistically significant at the 99% confidence level and the data is poorly fit by linear regression with R^2 vales of 0.002 and 0.37, respectively. The increasing trends in the downgradient wells are not a cause for concern at this time. The recent apparent increasing trend in specific conductance at upgradient well MW-6B continued for 2018, although the trend is not statistically significant at the 95% confidence level and is the data is also poorly fit with a relatively low R^2 value of 0.06.

The observed positive trending in total manganese at MW-3B and MW-18B continued this year and is paralleled by an increasing trend at upgradient well MW-6B. Now including MW-18B, all trends are statistically significant at the 95% confidence level. However, the trend appears to be weakening in MW-3B as total manganese declined for the third straight year and was at an Intra-well minimum in 2018. The R^2 value for MW-3B also dropped from 0.77 in 2017 to 0.68 in 2018.

Historically, MATA was not conducted for total chromium and soluble chromium at MW-3B since a minimum of five tracked events are necessary to begin MATA. With the results of the 2018 sampling event, MATA is now required for these two parameters. Additionally, the statistical significance of the trending can be determined now that there are at least three moving average data points for the first time for not only total and soluble chromium, but total iron, total lead, and soluble arsenic as well. All five parameters exhibit decreasing trends, however only the trend for total lead was determined to be statistically significant at the 95% confidence level. The total iron observed in 2018 was the lowest observed since 2012. Total iron continued to have a statistically significant increasing trend in upgradient well MW-6B now at the 99% confidence level, and the fit of the data also increased but still only has a mid-range R^2 value of 0.49.

Historically, MATA has also not been conducted for volatile organic compounds as they have not been detected in the background groundwater well MW-6B. Acetone has historically been detected in MW-3B and MW-15B, and TCE has been historically detected in MW-16B. Beginning in 2018 these parameters have been added to Table 7. With more than five tracked events, there is an apparent upward trend for Acetone in MW-3B, however the trend is not statistically significant at the 95% confidence level. TCE in MW-16B has an upward trend that is statistically significant at the 99% confidence level but has a mid-range R^2 value of 0.62. The groundwater trending does not appear to be influencing surface water.

2.3.2.3 Comparison of Water Quality to Surface Water Quality

Moving average trend analysis, as described above, has been performed for all surface water sampling locations for select tracked parameters (those tracked for groundwater quality) as shown by the graphs in Appendix F. The results were incorporated into Table 7, where appropriate, and trending was compared to the results from the current monitoring period.

The results at all four surface water sampling locations for total arsenic have been less than the detection limit for the available data set (since May 2012). The MATA tables presented in Appendix F for the surface water sampling locations show a lower moving average concentration for the first year it was calculated than the following three years; however, this is simply the result of a lower detection limit in May 2012 of 0.004 mg/L compared to the detection limit of 0.010 mg/L from the following five years. As such, a graph is not provided for total arsenic as trending cannot be assessed. The situation is noted in Table 7 for the surface water trending with respect to arsenic. It is obvious, given the lack of detectable arsenic in the surface water samples that the trending in total arsenic at MW-3B and MW-15B is not migrating to the onsite surface water at this time.

The surface water sampling locations show an apparent decreasing trend for pH with the exception of SW-5. The decreasing trend for SW-1 was not statistically significant at the 95% confidence level. The decreasing trend for SW-2A was statistically significant at the 99% confidence level but has just a mid-range R^2 value of 0.50 indicating a relatively poor fit of the data to linear regression. An intra-location maximum value for pH was observed at SW-2A in 2018. The decreasing trend for SW-3A was statistically significant at the 95% confidence level, but with a relatively low R^2 value of 0.38. The increasing trend for SW-5A was also statistically significant at the 95% confidence level with a relatively low R^2 value of 0.38. The observed surface water trends do not appear to be related to the groundwater quality trending.

After being detected for two consecutive years, TRP was not detected in any of the surface water samples for 2018, which is more typical for the site. While the TRP levels in the groundwater are essentially stagnant they remain approximately two orders of magnitude higher than what was measured in the surface water. Influence on the surface water from elevated levels of TRP in shallow groundwater is not apparent. As discussed in the previous section, TOC has demonstrated increasing trends in the shallow downgradient wells MW-3B, MW-15B, and MW-16B. Apparent corresponding increasing trends are observed at all surface water sampling locations, as identified in Table 7. The positive trends at upstream surface water location, SW-1, and the most downstream surface water location, SW-5, remain not statistically significant at the 95% confidence level, with relatively low R^2 values of 0.10 and 0.17, respectively. Linear regression on the data from the more interior surface water locations showed that the upward

trends observed at SW-2A and SW-3A continue to be significant at the 99% confidence level and demonstrated relatively high R^2 values of 0.80 and 0.78, respectively. The actual concentrations of TOC in the downgradient groundwater wells are higher (between one and two orders of magnitude higher in some locations) than those found in the upgradient groundwater and surface water.

TDS at all four surface water sampling locations exhibit increasing trends based on four moving averages, corresponding to apparent increasing trends found in MW-3B and MW-15B. The observed upward trending in TDS is not statistically significant at any of the four surface water locations at the 95% confidence level. The TDS concentrations observed in the surface water are generally about half of the concentration observed in the groundwater wells. As previously mentioned, the TDS may originate from offsite.

All surface water sampling locations show a decreasing trend for specific conductance except SW-5. The increasing trend for SW-5 was not statically significant at the 95% confidence level and had a relatively low R^2 value of 0.27. The increasing trend in SW-5 is not a cause for concern at this time.

Apparent increasing trends for total manganese are shown for upgradient sampling location SW-1 and the most downstream surface water sampling point, SW-5. The increasing trend for SW-5 continued to be statistically insignificant at the 95% confidence level with a poor linear fit of the data (R^2=0.003). The increasing trend for SW-1 was statistically significant at the 99% confidence level, but with a R^2 value of 0.51. Intra-location minima for total manganese were observed at SW-1, SW-3A and SW-5 in 2018. Decreasing trends at the centrally located surface water sampling locations (SW-2A and SW-3A) show the linear fit of the data is relatively strong at SW-3A (R^2=0.62) with significant trending, but for SW-2A continued to shift from a strong fit in 2016 (R^2=0.88), to a much weaker R^2 value of 0.054 due to the unusually elevated intra-location maximum concentration observed last year. While the actual concentrations of total manganese at MW-3B are nearly double that of the upgradient groundwater and surface water, the increasing trend in this downgradient well may be supported by the increasing upgradient trend; however, the groundwater trending does not appear to be influencing surface water.

2.4 POST-CLOSURE SITE INSPECTION AND MAINTENANCE

The annual post-closure site inspection was conducted on December 4th and 5th, 2018. The site west of Hopkins street was inspected on December 4, 2018, and the miscellaneous debris area east of Hopkins street was inspected on December 5, 2018. Annual post-closure site inspections are conducted in general conformance with Section 7 of the Site Management Plan (SMP). The NYSDEC agreed in 2013 that the owners' primary responsibility is the maintenance and monitoring of the landfill cap, and maintenance of the fence around the site is no longer a required element of the SMP.

As documented in the December 4th and 5th Post-Closure Inspection Reports and photographs included in Appendix G, the landfill cap, vegetation, and drainage features were observed to be in very good condition. Mowing of the landfill cap vegetation did not take place in 2018. As noted in the inspection reports the vegetation in some areas was up to two feet high during the inspection.

Overall, the cap appears in good repair, with a thick, vigorous, healthy vegetative cover. No evidence of animal burrowing was observed. Relatively minor erosional rilling was observed on the cap west of Hopkins street. Some breaches in the site fencing were found and plotted in the inspection report, however no evidence of unauthorized dumping was observed on the cap.

The inspection reports and photographs are provided in Appendix G. The annual Institutional Controls/Engineering Controls (IC/ECs) Certification is appended to this report in Appendix H.

2.5 LABORATORY QUALITY ASSURANCE/QUALITY CONTROL

All samples were collected with the goal of obtaining representative samples of their respective media. A case narrative prepared by ALS was included with the laboratory report in Appendix C and identified any events, such as quality control failures, which may have occurred during analysis. All data are unqualified or usable estimates. Turbidity, pH, and conductivity meters were calibrated by Pine Environmental Services, Inc prior to sampling. All calibrations were successful, and the calibration sheets are at the end of Appendix B.

Percent completeness was calculated at 100% for both groundwater and surface water.

2.6 EQuIS Database

Laboratory analysis results were provided by ALS in the appropriate electronic data deliverables (EDDs) format to input directly into the EQuIS data processor (EDP) for submission to the NYSDEC's EQuIS database. Sample_v3, TestResultsQC_v3, and Batch_v3 EDDs were provided by ALS for all sampling locations, including blind duplicates, method duplicates, and laboratory control samples. The Initial EDD section will be populated in addition to Well_v3, WaterTable_v3, WaterLevel_v3, and FieldResults_v3.

The requirements in the "Final Checklist for Submissions of EDDs to NYSDEC" will be met and the formatted EDDs will be e-mailed to the EQuIS database administrator and the NYSDEC project manager for the site. Once the data is reviewed, a confirmatory message indicating the completeness of the EDDs will be sent by the NYSDEC.

3 SUMMARY AND CONCLUSIONS

Groundwater and surface water quality for the 2018 annual sampling event appeared typical for the site. Total iron remained elevated both upgradient and downgradient in groundwater and surface water. In past years, the source of iron in the surface water has been reported from upstream of the site and downgradient groundwater monitoring wells have had lower concentrations compared to upgradient and upstream locations. This remains true again this year.

Typical exceedances of the Part 703 GA standards were consistent with historic data, except for acetone in MW-15B which was an intra-well maximum.

Several parameters at surface water location SW-2A decreased back to typical levels from relatively high levels in 2017, namely conductivity, TOC, TDS, total iron, total manganese, and dissolved manganese.

Upgradient well MW-6B, downgradient wells MW-15B and MW-16B and surface water locations SW-2A and SW-3A continued to demonstrate statistically significant increasing trends in TOC; however, the actual concentrations of TOC in the downgradient groundwater wells are higher (between one and two orders of magnitude higher in some locations) than those found in the upgradient groundwater and surface water.

Trending in TDS at MW-3B continued to be statistically significant. However, MW-6B is observed with a statistically significant increasing trend indicating potential sources of TDS from upgradient of the site. With the inclusion of 2018 data TRP at MW-15B displayed a decreasing trend for the first time.

Increasing trends in total arsenic were found to be statistically significant in only MW-3B again this year. Concentrations of total arsenic in upgradient well MW-6B, as well as, at all surface water locations continue to be below the detection limit since 1997 and 2012, respectively. The trending at MW-3B continued to weaken for the second straight year with linear regression again producing a shallower slope for the data set this year as compared to 2017.

The increasing trend in total manganese was found to be statistically significant in both MW-3B and MW-18B in 2018. The increasing trend in upgradient well MW-6B and upgradient surface water sampling location SW-1 also remained statistically significant, indicating the trend may be originating from off-site. Decreasing trends were statistically significant for pH in upgradient monitoring well MW-6B and surface water sampling locations SW-2A, and SW-3A. A statistically significant increasing trend was observed for the most downgradient surface water sampling location SW-5. The surface water pH trends do not appear to be influenced by the groundwater trends.

The post-closure site inspection noted the landfill cap to be in very good condition again this year. There were no leachate seeps identified during the site investigation and the integrity of the final cover system was certified as acceptable.

APPENDIX A

Summary Tables

TABLE 1
Marilla Street Landfill
December 2018 Annual Sampling Event
Groundwater and Surface Water Analytical Parameters

	Analysis Method[3]	Groundwater	Surface Water[2]
FIELD PARAMETERS			
Static Water Level	Field	**X**	NA
pH	Field	**X**	**X**
Temperature	Field	**X**	**X**
Specific Conductance	Field	**X**	**X**
Turbidity	Field	**X**	**X**
WET CHEMISTRY			
Total Organic Carbon (TOC)	SM 5310 B	**X**	**X**
Total Dissolved Solids (TDS)	SM 2540 C	**X**	**X**
Total Recoverable Phenolics (TRP)	420.4	**X**	**X**
METALS - INORGANIC PARAMETERS[1]			
Arsenic - Total and Soluble	6010C	**X**	**X**
Chromium - Total and Soluble	6010C	**X**	**X**
Cyanide - Total	335.4	**X**	**X**
Iron - Total and Soluble	6010C	**X**	**X**
Lead - Total and Soluble	6010C	**X**	**X**
Manganese - Total and Soluble	6010C	**X**	**X**
Volatile Organic Compounds (VOCs)			
TCL Method 8260B	8260C	**X**	**X**

Notes:

(1) - Groundwater and surface water samples collected for inorganic analysis are field-filtered and analyzed for soluble inorganics in addition to total inorganics only if field measured turbidity values exceed 50 NTUs.

(2) - Leachate breakouts/seeps are to be analyzed for the same parameters as Surface Water.

(3) - Represents most current laboratory certified methods equivalent to those in the Site Management Plan.

NA	Analytical parameter not applicable for the specified media
	Parameters required by the Post-Closure Maintenance and Monitoring Plan and not analyzed for during this sampling event
X	Parameters required by the Post-Closure Maintenance and Monitoring Plan and analyzed for during this sampling event

TABLE 2
Marilla Street Landfill
December 2018 Annual Sampling Event
Summary of Field Measurements

Location	Sampling Date	Sampling Time	Temperature (^{o}F)	pH (units)	Specific Conductance (Umhos/cm)	Turbidity (NTU)
MW-2B[(1)]	12/4/2018	11:15	47.5	11.19	0.55	60
MW-3B[(1)]	12/4/2018	15:08	45.1	11.32	1.42	3,198
MW-4B	12/4/2018	12:00	49.9	8.11	0.44	21.4
MW-6B[(2)]	12/5/2018	10:10	51.7	7.07	0.96	9.25
MW-7B	12/5/2018	11:40	50.7	11.31	0.77	41.7
MW-15B	12/5/2018	12:37	48.8	12.42	1.91	14.4
MW-16B	12/4/2018	9:28	47.9	11.90	1.09	6.81
MW-18B	12/4/2018	13:05	49.1	8.07	1.64	8.32
SW-1	12/5/2018	15:05	42.5	8.36	0.68	3.94
SW-2A	12/4/2018	10:10	35.7	9.02	0.64	6.65
SW-3A	12/4/2018	14:10	35.2	8.08	0.51	2.54
SW-5	12/5/2018	8:30	38.0	8.64	1.02	3.98

Notes:
(1) - Sample was field filtered for soluble metals since turbidity measured greater than 50 NTU.
(2) - Sample was field filtered for soluble metals for comparison to other filtered samples as background.

TABLE 3

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of Surface Water Analytical Results

Parameter	SW-1	SW-2A	SW-3A	SW-5	Blind Duplicate #2[3] (SW DUP)	Class "D" Standard [1][2]
WATER QUALITY (mg/L or as indicated)						
pH (units)	8.36	9.02	8.08	8.64	8.64	6.0-9.5
Specific Conductance (Umhos/cm)	0.68	0.64	0.51	1.02	1.02	-
Total Organic Carbon	6.0	6.9	7.4	5.9	5.5	-
Total Dissolved Solids	405	425	355	699	695	-
Total Recoverable Phenolics	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
TOTAL METALS - INORGANIC PARAMETERS (mg/L)						
Arsenic	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	-
Chromium	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	-
Cyanide	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.022
Iron	**0.34**	**0.63**	0.18	0.20	0.12	0.3
Lead	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	-
Manganese	0.037	0.104	0.033	0.012	0.012	-
SOLUBLE METALS - INORGANIC PARAMETERS (mg/L)						
Arsenic	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.34
Chromium	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	H
Iron	0.1 U	0.19	0.1 U	0.1 U	0.1 U	-
Lead	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	H
Manganese	0.03	0.091	0.031	0.01 U	0.01 U	-
VOLATILE ORGANIC COMPOUNDS (AQUEOUS) (µg/L)						
	All U	All U	All U	All U	All U	Variable

Notes:

(1) - Class "D" Surface Water Quality Standards/Guidance Value - 6 NYCRR Part 703; revised August 1999 and TOGS 1.1.1; last amended June 2004.

(2) - Some Class "D" Standards/Guidance Values are expressed as a function of hardness. Considering the samples were not analyzed for hardness, those guidance values that require a hardness value to calculate a guidance value are indicated with an H.

(3) - Collected Blind Duplicate #2 from SW-5.

(4) - "U" indicates a non-detect value at the detection level listed.

Exceeds Surface Water Quality Standard/Guidance Value.

TABLE 4

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of Historical Groundwater Depths of Shallow Overburden Wells[2][5]

Well ID	MW-2B	MW-3B[4]	MW-4B	MW-6B	MW-7B	MW-15B	MW-16B	MW-18B
Riser Elevation[1]	590.86	588.29	591.89	597.92	615.76	586.78	588.09	627.04
Year[3]								
Apr-04	7.35	6.11	9.07	13.13	33.68	6.11	4.83	44.80
Jul-05	7.99	7.36	9.78	14.56	34.09	6.56	5.41	45.51
May-06	7.71	6.81	9.53	13.61	33.86	6.42	5.15	45.32
Aug-07	8.27	8.14	10.48	16.40	34.54	6.87	9.03	46.83
May-08	7.42	Note 4	10.35	13.40	33.90	6.47	4.85	44.39
Aug-10	7.58	7.67	9.62	14.29	33.96	6.34	5.08	45.21
May-12	7.33	6.74	9.54	13.22	33.88	6.11	4.98	45.32
Sep-13	7.74	6.49	9.88	14.59	34.09	6.25	5.46	45.37
Jul-14	7.64	6.50	9.06	13.80	34.20	6.77	6.55	44.87
Aug-15	8.40	8.60	10.08	16.00	34.90	6.40	7.41	45.50
Aug-16	9.80	8.40	12.00	16.65	35.00	7.20	6.15	45.50
Aug-17	9.35	7.75	9.60	14.00	34.20	6.30	5.70	45.10
Dec-18	9.55	7.54	9.65	13.05	34.40	5.70	6.10	45.15

Notes:

(1) - Riser elevations and depths for 2004-2006 measured by others based on information presented in the November 2006 Post-Closure Monitoring & Maintenance Program 2006 Annual report by TurnKey Environmental Restoration, LLC. Elevations and depths for 2007-2012 measured by others based on information presented in the June 2012 Post-Closure Monitoring & Maintenance Program 2012 Annual Report by EnSol, Inc.

(2) - Measured in feet below top of inner casing prior to purging/sampling.

(3) - No sampling or gauging was conducted in 2009 or 2011.

(4) - Well MW-3B damaged and not gauged in 2008. Well MW-3B was repaired with new PVC riser in August 2010. The original top of PVC casing elevation for MW-3B (587.70) was used as the reference elevation for water level measurements taken in 2004-2007. The revised top of PVC casing elevation (as shown in the table) was surveyed after the new PVC riser was installed. The revised 2010 elevation is used for all events from 2010 forward.

(5) - The NYSDEC accepted a Petition to Modify Monitoring Requirements in a letter dated August 21, 2015. This petition modified groundwater elevation measurements to only those wells being sampled beginning in 2015. Therefore, only the eight wells required for this year's sampling event are shown in this table.

TABLE 5

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of Historical Groundwater Elevations of Shallow Overburden Wells[4]

Well ID	MW-2B	MW-3B[3]	MW-4B	MW-6B	MW-7B	MW-15B	MW-16B	MW-18B
Riser Elevation[1]	590.86	588.29	591.89	597.92	615.76	586.78	588.09	627.04
Year[2]								
Apr-04	583.51	581.59	582.82	584.79	582.08	580.67	583.26	582.24
Jul-05	582.87	580.34	582.11	583.36	581.67	580.22	582.68	581.53
May-06	583.15	580.89	582.36	584.31	581.90	580.36	582.94	581.72
Aug-07	582.59	579.56	581.41	581.52	581.22	579.91	579.06	580.21
May-08	583.44	Note 3	581.54	584.52	581.86	580.31	583.24	582.65
Aug-10	583.28	580.62	582.27	583.63	581.80	580.44	583.01	581.83
May-12	583.53	581.55	582.35	584.70	581.88	580.67	583.11	581.72
Sep-13	583.12	581.80	582.01	583.33	581.67	580.53	582.63	581.67
Jul-14	583.22	581.79	582.83	584.12	581.56	580.01	581.54	582.17
Aug-15	582.46	579.69	581.81	581.92	580.86	580.38	580.68	581.54
Aug-16	581.06	579.89	579.89	581.27	580.76	579.58	581.94	581.54
Aug-17	581.51	580.54	582.29	583.92	581.56	580.48	582.39	581.94
Dec-18	581.31	580.75	582.24	584.87	581.36	581.08	581.99	581.89

Notes:

(1) - Riser elevations and depths for 2004-2006 measured by others based on information presented in the November 2006 Post-Closure Monitoring & Maintenance Program 2006 Annual report by TurnKey Environmental Restoration, LLC. Elevations and depths for 2007-2012 measured by others based on information presented in the June 2012 Post-Closure Monitoring & Maintenance Program 2012 Annual Report by EnSol, Inc.

(2) - No sampling or gauging was conducted in 2009 or 2011.

(3) - Well MW-3B damaged and not gauged in 2008. Well MW-3B was repaired with new PVC riser in August 2010. The original top of PVC casing elevation for MW-3B (587.70) was used as the reference elevation for water level measurements taken in 2004-2007. The revised top of PVC casing elevation (as shown in the table) was surveyed after the new PVC riser was installed. The revised 2010 elevation is used for all events from 2010 forward.

(4) - The NYSDEC accepted a Petition to Modify Monitoring Requirements in a letter dated August 21, 2015. This petition modified groundwater elevation measurements to only those wells being sampled beginning in 2015. Therefore, only the eight wells required for this year's sampling event are shown in this table.

TABLE 6

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of Shallow Groundwater Analytical Results

Parameter	MW-2B	MW-3B	MW-4B	MW-6B	MW-7B	MW-15B	MW-16B	MW-18B	Blind Duplicate #1[4] (GW-DUP)	Class "GA" Standard[1]	BMC[2]	BMC +3SDs[3]
WATER QUALITY (mg/L or as indicated)												
pH (standard units)	**11.19**	**11.32**	8.11	7.07	**11.31**	**12.42**	**11.90**	8.07	8.11	6.5-8.5	7.13	4.50-9.75
Specific Conductance (Umhos/cm)	0.55	**1.42**	0.44	0.96	0.77	**1.91**	1.09	**1.64**	1.64	-	1.12	2.27
Total Organic Carbon	**14.4**	**105**	5.3	**7.7**	**46.6**	**29.6**	**14.1**	**19.2**	**20.2**	-	6.55	14.27
Total Dissolved Solids	453	**1,560**	491	**1,180**	**890**	**1,280**	**653**	**2,790**	**2,750**	500	945	1,360
Total Recoverable Phenolics	**0.019**	**0.740**	0.0050 U	0.0050 U	**0.550**	**0.250**	0.0050 U	0.0050 U	0.0050 U	0.001	0.0111	0.0511
TOTAL METALS - INORGANIC PARAMETERS (mg/L)												
Arsenic	0.01 U	**0.035**	0.01 U	0.01 U	0.01 U	**0.029**	0.01 U	0.022	0.019	0.025	0.00796	0.0183
Chromium	0.01 U	**0.053**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05	0.00845	0.0187
Cyanide	0.010 U	0.06 U	0.010 U	0.010 U	0.025	0.010 U	0.032	0.019	0.024	0.2	0.00970	0.013
Iron	**1.53**	**26.2**	**1.05**	**2.18**	**3.27**	0.1 U	0.18	**0.32**	**0.64**	0.3	1.667	6.327
Lead	0.05 U	**0.442**	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.025	0.0132	0.0667
Manganese	0.080	**0.438**	**0.625**	**0.693**	0.051	0.01 U	0.01 U	**2.34**	**2.34**	0.3	0.352	1.10
SOLUBLE METALS - INORGANIC PARAMETERS (mg/L)												
Arsenic	0.01 U	**0.033**	NA	0.01 U	NA	NA	NA	NA	NA	-	0.00877	0.0172
Chromium	0.01 U	**0.029**	NA	0.01 U	NA	NA	NA	NA	NA	-	0.0103	0.0117
Iron	0.1 U	**3.22**	NA	0.13	NA	NA	NA	NA	NA	-	0.346	2.65
Lead	0.05 U	**0.219**	NA	0.05 U	NA	NA	NA	NA	NA	-	0.0222	0.0909
Manganese	0.01 U	0.059	NA	**0.6**	NA	NA	NA	NA	NA	-	0.288	0.996
VOLATILE ORGANIC COMPOUNDS (AQUEOUS) (ug/L)[5]												
Acetone	24	**650**	10 U	10 U	21	**140**	10 U	10 U	10 U	50	10 U	10 U
2-Butanone (MEK)	10 U	100 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50	10 U	10 U
cis-1,2-Dichloroethene	5.0 U	50 U	5.0 U	5.0 U	5.0 U	5.0 U	8.3	5.0 U	5.0 U	60	5 U	5 U
Trichloroethene	5.0 U	50 U	5.0 U	5.0 U	5.0 U	5.0 U	**22**	5.0 U	5.0 U	5	5 U	5 U

Notes:

(1) - Class "GA" Groundwater Quality Standards/Guidance Value - 6 NYCRR Part 703; revised August 1999 and TOGS 1.1.1; last amended June 2004.

(2) - Value represents the Background Mean Concentration of Well MW-6B.

(3) - Value represents the Background Mean plus 3 standard deviation concentrations of well MW-6B. Plus 3 and minus 3 standard deviations for pH.

(4) - Blind Duplicate #1 was collected from MW-18B.

(5) - Only those parameters detected at a minimum of one sample location are reported in this table.

(6) - "NA" indicates parameter not analyzed at this location or data is not available.

(7) - "U" indicates an analyte not detected at the given method reporting limit. "J" indicates an estimated value due to the concentration between the method detection limit and the method reporting limit.

#	Exceeds Groundwater Quality Standard/Guidance Value only.
#	Exceeds Background Mean and Groundwater Quality Standard/Guidance Value or just Background Mean if no Standard/Guidance Value exists.
#	Exceeds Background Mean plus 3 standard deviations and the Groundwater Quality Standard, where one exists, or just the Background Mean plus 3 standard deviations where no Groundwater Quality Standard is present.

TABLE 7

Marilla Street Landfill

December 2018 Annual Sampling Event

Parameter Tracking for Moving Average Trend Analysis (MATA)

Well I.D.	Tracked Parameters	Sampling Event[4]																No. of Tracked Events	Increasing Trend?[1]	Corresponding Increasing Trend?				
		Oct-01	Apr-02	Apr-03	Apr-04	Jul-05	May-06	Aug-07	May-08	Aug-10	May-12	Sep-13	Jul-14	Aug-15	Aug-16	Aug-17	Dec-18			Upgradient Groundwater[6]	Surface Water[2]			
																				MW-6B	SW-1	SW-2A	SW-3A	SW-5
Shallow Groundwater Monitoring Wells																								
MW-2B[7]	pH											X		X	X	X	X	5	No					
	Total Organic Carbon											X		X	X	X	X	5	Yes	Yes	Yes	Yes	Yes	Yes
	Total Recoverable Phenolics											X		X				2	TBD[3]					
	Total Chromium													X		X		2	TBD					
	Total Iron													X	X			2	TBD					
	Total Manganese													X				1	TBD					
MW-3B[5]	pH		X	X	X	X	X	X			X	X		X		X	X	11	No					
	Specific Conductance	X	X	X	X	X	X	X					X					8	No					
	Total Cyanide			X				X								X		3	TBD					
	Total Dissolved Solids		X	X	X	X	X	X		X	X	X	X	X	X	X	X	14	Yes	Yes	Yes	Yes	Yes	Yes
	Total Organic Carbon	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	15	Yes	Yes	Yes	Yes	Yes	Yes
	Total Recoverable Phenolics	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	15	No					
	Total Arsenic	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	15	Yes	No	Note 8	Note 8	Note 8	Note 8
	Total Chromium											X	X		X	X	X	5	No					
	Total Iron											X	X	X	X	X	X	6	No					
	Total Lead											X	X	X	X	X	X	6	No					
	Total Manganese							X		X	X	X	X	X	X			7	Yes	Yes	Yes	No	No	Yes
	Soluble Arsenic											X	X	X	X	X	X	6	No					
	Soluble Chromium											X	X	X		X	X	5	No					
	Soluble Iron											X				X	X	3	TBD					
	Soluble Lead											X	X			X	X	4	TBD					
	Acetone										X	X	X	X	X	X	X	7	Yes	Note 8	Note 8	Note 8	Note 8	Note 8
MW-4B	pH				X													1	TBD					
	Total Organic Carbon					X												1	TBD					
	Total Recoverable Phenolics					X				X								2	TBD					
	Total Iron					X				X					X			3	TBD					
	Total Manganese											X	X					2	TBD					
	Soluble Iron					X	X			X								3	TBD					
MW-7B	pH	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	15	Yes	No	No	No	No	Yes
	Specific Conductance	X	X	X	X	X	X					X	X	X	X			10	Yes	Yes	No	No	No	Yes
	Total Dissolved Solids			X	X	X	X					X						5	No					
	Total Organic Carbon	X	X	X	X	X	X	X		X		X	X	X	X	X	X	14	No					
	Total Recoverable Phenolics	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	16	No					
MW-15B	pH										X	X	X	X	X	X	X	7	Yes	No	No	No	No	Yes
	Specific Conductance	X	X	X	X	X	X					X	X	X	X			10	Yes	Yes	No	No	No	Yes
	Total Dissolved Solids			X	X	X	X	X	X			X	X	X	X			10	Yes	Yes	Yes	Yes	Yes	Yes
	Total Organic Carbon	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	15	Yes	Yes	Yes	Yes	Yes	Yes
	Total Recoverable Phenolics										X	X	X	X	X	X	X	7	No					
	Total Arsenic					X		X	X	X	X	X	X	X	X	X	X	11	Yes	Note 8	Note 8	Note 8	Note 8	Note 8
	Total Iron		X	X	X	X	X	X										6	No					
	Soluble Iron				X	X	X		X									4	TBD					
	Total Manganese	X	X	X	X	X	X	X	X									8	No					
	Soluble Manganese	X	X	X	X	X	X											6	No					
	Acetone															X	X	2	TBD					

TABLE 7

Marilla Street Landfill

December 2018 Annual Sampling Event

Parameter Tracking for Moving Average Trend Analysis (MATA)

Well I.D.	Tracked Parameters	Sampling Event[4]																No. of Tracked Events	Increasing Trend?[1]	Corresponding Increasing Trend?				
		Oct-01	Apr-02	Apr-03	Apr-04	Jul-05	May-06	Aug-07	May-08	Aug-10	May-12	Sep-13	Jul-14	Aug-15	Aug-16	Aug-17	Dec-18			Upgradient Groundwater[6]	Surface Water[2]			
																				MW-6B	SW-1	SW-2A	SW-3A	SW-5
MW-16B	pH	X		X	X	X	X	X	X		X	X	X	X	X	X	X	14	No					
	Specific Conductance	X	X	X	X	X	X											6	No					
	Total Organic Carbon	X	X	X		X							X		X			6	Yes	Yes	Yes	Yes	Yes	Yes
	Total Recoverable Phenolics	X														X		2	TBD					
	Total Dissolved Solids								X									1	TBD					
	Total Chromium				X													1	TBD					
	Total Iron	X	X		X													3	TBD					
	Total Manganese			X	X				X									3	TBD					
	TCE						X	X			X	X	X	X	X	X	X	9	Yes	Note 8	Note 8	Note 8	Note 8	Note 8
MW-18B	pH				X													1	TBD					
	Specific Conductance	X	X	X	X	X	X				X	X	X	X	X			11	No					
	Total Dissolved Solids			X	X	X	X	X	X	X	X	X	X	X	X	X	X	14	No					
	Total Organic Carbon	X	X	X	X	X		X		X			X	X	X	X	X	12	No					
	Total Recoverable Phenolics	X																1	TBD					
	Total Iron											X						1	TBD					
	Total Manganese	X	X	X	X	X		X	X				X	X	X	X	X	12	Yes	Yes	Yes	No	No	Yes

Notes:

(1) - In accordance with the Statistical Decision Tree (Figure 3-1 of the SMP); calculated moving average trend evaluation tracked for 5 sampling events.

(2) - In accordance with the Statistical Decision Tree (Figure 3-1 of the SMP); corresponding increasing trend in surface water concentration for that parameter.

(3) - "TBD" = trend to be determined on a minimum of 5 tracked sampling events.

(4) - The annual sampling event was not conducted in 2009 and 2011.

(5) - MW-3B could not be sampled during the May 2008 event. This well was repaired in August 2010.

(6) - Shallow monitoring wells (designated "B") are compared to upgradient monitoring well MW-6B.

(7) - MW-2B previously biennial, not sampled in 2014.

(8) - All data less than the detection limit or changes in the detection limit obscure true data such that trending cannot be assessed.

X	Tracked event where reported concentration exceeds Groundwater Quality Standard (GWQS) (if applicable), background mean, and background mean +3 standard deviations.
	A blank box indicates the reported concentration does not exceed GWQS, background mean, and background mean +3 standard deviations.
#	A value of 5 or greater indicates that the parameter has been tracked for 5 or more sampling events per the Statistical Decision Tree.
Yes	Indicates the parameter shows increasing trend.

APPENDIX B

Field Observation Sheets

FIELD OBSERVATIONS

Facility: Marilla Street Landfill Sample Point ID: MW-2B

Field Personnel: S.D. Sample Matrix: GROUNDWATER

MONITORTING WELL INSPECTION:

Date/Time 12-4-18 1830 am Cond of seal: (X) Good ( ) Cracked ( ) None ( ) Buried ____ %

Prot. Casing/riser height: 3.1' Cond of prot. Casing/riser: ( ) Unlocked (X) Good ( ) Loose ( ) Flush Mount ( ) Damaged ____

If prot.casing; depth to riser below: 0.5'

Gas Meter (Calibration/ Reading): % Gas: 1 % LEL: 1

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) 10.0

PURGE INFORMATION:

Date / Time Initiated: 12-4-18 / 11:00am Date / Time Completed: 12-4-18 11:15am

Surf. Meas. Pt: (X) Prot. Casing ( ) Riser Riser Diameter, Inches: 2"

Initial Water Level, Feet: 9.55 Elevation. G/W MSL: ____

Well Total Depth, Feet: 12.9 Method of Well Purge: BAILER

One (1) Riser Volume, Gal: 2.2 gal Dedicated: (Y) / N

Total Volume Purged, Gal: ~1.0 gal Purged To Dryness (Y) / N

Purge Observations: BROWN TINT Start 11:00AM Finish 11:15 am

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. °C/F	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other
11:05am		0	46.0		0.39	36.4		
11:10am		~0.5	49.0	10.93	0.45	60.0		
11:15am		~1.0	47.5	11.19	0.55			

12.9 - 9.55 = (3.35)(0.163) = 0.55 x 4 = 2.2 gal

FIELD OBSERVATIONS

Facility: Morrilla Street Landfill Sample Point ID: MW-313

Field Personnel: SJD Sample Matrix: GROUNDWATER

MONITORTING WELL INSPECTION:

Date/Time 12-4-18 12:45pm Cond of seal: (X) Good ( ) Cracked ( ) None (X) Buried ____%

Prot. Casing/riser height: 2.4' Cond of prot. Casing/riser: ( ) Unlocked (X) Good ( ) Loose ( ) Flush Mount ( ) Damaged ____

If prot.casing; depth to riser below: + 0.2'

Gas Meter (Calibration/ Reading): % Gas: 1 % LEL: 1

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) 10.0

PURGE INFORMATION:

Date / Time Initiated: 12-4-18/2:50pm Date / Time Completed: 12-4-18 3:08

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser Riser Diameter, Inches: 2"

Initial Water Level, Feet: 7.54 Elevation. G/W MSL: ____

Well Total Depth, Feet: 12.45 Method of Well Purge: BAILER

One (1) Riser Volume, Gal: 0.8 Dedicated: (Y) N

Total Volume Purged, Gal: 1.5→ Purged To Dryness (Y) N

Purge Observations: BROWN/YELLOW TINT Start 2:50pm Finish 3:08pm

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/hfz)	Cumulative Volume	Temp. °C/F	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other
2:50pm		0	43.4	10.37	1.30	OVERRANGE		
3:08pm		~1.5	45.1	11.32	1.42	3198		

12.45 - 7.54 = (4.91)(0.163) = (0.8)(4) = 3.2

FIELD OBSERVATIONS

Facility: Morrilla Street Landfill

Sample Point ID: MW-4B

Field Personnel: SJD

Sample Matrix: GROUNDWATER

MONITORTING WELL INSPECTION:

Date/Time 12-4-18 / 11:30am

Cond of seal: ( ) Good ( ) Cracked ____ %
(X) None ( ) Buried

Prot. Casing/riser height: 3.3'

Cond of prot. Casing/riser: ( ) Unlocked (X) Good * NO CAP
( ) Loose ( ) Flush Mount
( ) Damaged ____

If prot.casing; depth to riser below: 0.4'

Gas Meter (Calibration/ Reading): % Gas: 1 % LEL: 1

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) 10.0

PURGE INFORMATION:

Date / Time Initiated: 12-4-18 / 11:42am

Date / Time Completed: 12-4-18 / 12:05 pm

Surf. Meas. Pt: (X) Prot. Casing / ( ) Riser

Riser Diameter, Inches: 2"

Initial Water Level, Feet: 9.65'

Elevation. G/W MSL: ____

Well Total Depth, Feet: 19.4'

Method of Well Purge: BAILER

One (1) Riser Volume, Gal: 1.59 gal

Dedicated: (Y) / N

Total Volume Purged, Gal: ~2.25

Purged To Dryness (Y) / N

Purge Observations: AMMONIA ODOR

Start 11:42am Finish 12:05pm

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C)F	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other
11:42am		0	47.2	[illegible]	0.43	14.1		7.93 pH
12:05p		~2.0	49.9	8.11	0.44	21.4		

19.4 - 9.65 = (9.75)(0.163) = (1.59)(4) = 6.36

FIELD OBSERVATIONS

Facility: Morrilla Street Landfill Sample Point ID: MW-6B

Field Personnel: SJD Sample Matrix: GROUNDWATER

MONITORTING WELL INSPECTION:

Date/Time 12-5-18 / 9:45AM Cond of seal: ( ) Good ( ) Cracked ____ %
(X) None ( ) Buried

Prot. Casing/riser height: 3.73' Cond of prot. Casing/riser: ( ) Unlocked (X) Good
( ) Loose ( ) Flush Mount
( ) Damaged ____

If prot.casing; depth to riser below: 0.3'

Gas Meter (Calibration/ Reading): % Gas: 1 % LEL: 1

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm): 10.0

PURGE INFORMATION:

Date / Time Initiated: 12-5-18 / 10:00AM Date / Time Completed: 12-5-18, 10:15AM

Surf. Meas. Pt: (X) Prot. Casing ( ) Riser Riser Diameter, Inches: 2"

Initial Water Level, Feet: 13.05 Elevation. G/W MSL: ____

Well Total Depth, Feet: 19.2 Method of Well Purge: BAILER

One (1) Riser Volume, Gal: 0.93 Dedicated: (Y) / N

Total Volume Purged, Gal: ~1.5 Purged To Dryness (Y) N

Purge Observations: SULFUR ODOR Start 10:00AM Finish 10:15AM

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C) F	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other
10:00A	—	0 gal	50.1	[illegible]	0.93	1.62		6.93 pH
10:10AM		~1.0 gal	51.7	7.07	0.96	9.25		

(19.2 - 13.05) = (5.7)(0.163) = (0.93)(4) = 3.7
6.2 D.A.L. 1.01 4.04

FIELD OBSERVATIONS

Facility: Morilla Street landfill

Sample Point ID: MW-713

Field Personnel: SJD

Sample Matrix: GROUNDWATER

MONITORTING WELL INSPECTION:

Date/Time 12-5-18 / 11:20AM

Cond of seal: ( ) Good ( ) Cracked ____ %
( ) None ( ) Buried

Prot. Casing/riser height: 2.9

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good
( ) Loose ( ) Flush Mount
( ) Damaged ____

If prot.casing; depth to riser below: 0.85

Gas Meter (Calibration/ Reading): % Gas: 1 % LEL: 1

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) 10.0

PURGE INFORMATION:

Date / Time Initiated: 11:30 / 12-5-18

Date / Time Completed: 11:45 / 12-5-18

Surf. Meas. Pt: (X) Prot. Casing ( ) Riser

Riser Diameter, Inches: 2"

Initial Water Level, Feet: 34.4

Elevation. G/W MSL: ____

Well Total Depth, Feet: 41.3

Method of Well Purge: BAILER

One (1) Riser Volume, Gal: 1.12

Dedicated: (Y) N

Total Volume Purged, Gal: ~1.25

Purged To Dryness (Y) N

Purge Observations: ____

Start 11:30AM Finish 11:45

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C) F	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other
11:30AM		0	51.7	9.6	0.36	1.57		
11:40AM		~1.0	50.7	11.31	0.77	41.7		

41.3 - 34.4 = (6.9)(0.163) = (1.12)(4) = 4.5

(MS MSD)

FIELD OBSERVATIONS

Facility: Marilla Street Landfill Sample Point ID: MW-15B

Field Personnel: SJD Sample Matrix: GROUNDWATER

MONITORTING WELL INSPECTION:

Date/Time 12-5-18 / 12:00pm Cond of seal: (X) Good ( ) Cracked ( ) None ( ) Buried ____ %

Prot. Casing/riser height: 0.85 Cond of prot. Casing/riser: ( ) Unlocked (X) Good ( ) Loose ( ) Flush Mount ( ) Damaged ____

If prot.casing; depth to riser below: 0.10'

Gas Meter (Calibration/ Reading): % Gas: 1 % LEL: 1

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm): 0.0

PURGE INFORMATION:

Date / Time Initiated: 12-5-18 / 12:05pm Date / Time Completed: 12-5-18 / 12:37pm

Surf. Meas. Pt: (X) Prot. Casing ( ) Riser Riser Diameter, Inches: 2"

Initial Water Level, Feet: 5.7' Elevation. G/W MSL: ____

Well Total Depth, Feet: 13.5' Method of Well Purge: BAILER

One (1) Riser Volume, Gal: 1.27 Dedicated: (Y) N

Total Volume Purged, Gal: ~5.5 Purged To Dryness Y (N)

Purge Observations: ____ Start 12:05pm Finish 12:37pm

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C)F	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other
12:10p		0 gal	48.4	12.21	2.14	2.9		
12:26p	~	2.5 gal	47.7	12.46	2.10	14.5		
12:37p		~5.5 gal	48.8	12.42	1.91	14.4		

13.5 - 5.7 = (7.8)(0.163) = (1.27)(4) = 5.1

FIELD OBSERVATIONS

Facility: Morrilla Street Landfill Sample Point ID: MW-16B

Field Personnel: S.D. Sample Matrix: GROUNDWATER

MONITORTING WELL INSPECTION:

Date/Time 12-4-18 1 8:40AM Cond of seal: (Y) Good ( ) Cracked ( ) None ( ) Buried ____ %

Prot. Casing/riser height: 1.74' Cond of prot. Casing/riser: ( ) Unlocked (Y) Good ( ) Loose ( ) Flush Mount ( ) Damaged ____

If prot.casing; depth to riser below: 0.75'

Gas Meter (Calibration/ Reading): % Gas: 1 % LEL: 1

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) 10.0

PURGE INFORMATION:

Date / Time Initiated: 12-4-18 / 8:55AM Date / Time Completed: 12-4-8, 9:28

Surf. Meas. Pt: (X) Prot. Casing ( ) Riser Riser Diameter, Inches: 2"

Initial Water Level, Feet: 6.1 Elevation. G/W MSL: ____

Well Total Depth, Feet: 15.4 Method of Well Purge: BAILER

One (1) Riser Volume, Gal: 1.52 Dedicated: (Y) N

Total Volume Purged, Gal: ~7.0 Purged To Dryness Y (N)

Purge Observations: CLEAR Start 8:55AM Finish 9:28AM

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C) F	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other
8:55AM		0 gal	46.9	11.40	0.87 MS	2.34		
9:06AM		~2.5 gal	48.5	11.52	1.04 MS	6.92		
9:19A		~5.0 gal	48.6	11.85	1.11 MS	6.49		
9:28AM		~7.0 gal	47.9	11.90	1.09 MS	6.81		

15.4 - 6.1 = (9.3)(0.163) = 1.52 × 4 = 6.1 gal

(DUP)

FIELD OBSERVATIONS

Facility: Marilla Street Landfill Sample Point ID: MW-18B

Field Personnel: S.D. Sample Matrix: GROUNDWATER

MONITORTING WELL INSPECTION:

Date/Time 12-4-18 / 12:30pm Cond of seal: (✓) Good ( ) Cracked ( ) None ( ) Buried ____%

Prot. Casing/riser height: 1.4' Cond of prot. Casing/riser: ( ) Unlocked (✓) Good ( ) Loose ( ) Flush Mount ( ) Damaged____

If prot.casing; depth to riser below: 0.04'

Gas Meter (Calibration/ Reading): % Gas: 1 % LEL: 1

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) 10.0

PURGE INFORMATION:

Date / Time Initiated: 12-4-18 / 12:37pm Date / Time Completed: 12-4-18 / 1:05pm

Surf. Meas. Pt: (✓) Prot. Casing ( ) Riser Riser Diameter, Inches: 2"

Initial Water Level, Feet: 45.15 Elevation. G/W MSL: ____

Well Total Depth, Feet: 52.7' Method of Well Purge: BAILER

One (1) Riser Volume, Gal: 1.23 Dedicated: (Y) N

Total Volume Purged, Gal: ~5.0 Purged To Dryness Y (N)

Purge Observations: ____ Start 12:37pm Finish 1:05pm

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C)F	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other
12:40pm		0	50.0	7.68	1.54	1.4		
12:56p		~2.5	47.3	7.98	1.61	5.43		
1:05pm		~5.0	49.1	8.07	1.64	8.32		

52.7 - 45.15 = (7.55)(0.163) = (1.23)(4) = 4.9

FIELD OBSERVATIONS

Facility: Morilla Street landfill

Sample Point ID: SW-1

Field Personnel: SJD

Sample Matrix: SURFACE WATER

MONITORTING WELL INSPECTION: NA

Date/Time 12-5-18 1305pm

Cond of seal: ( ) Good ( ) Cracked ____ %
( ) None ( ) Buried

Prot. Casing/riser height: ____

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good
( ) Loose ( ) Flush Mount
( ) Damaged ____

If prot.casing; depth to riser below: ____

Gas Meter (Calibration/ Reading): % Gas: / % LEL: /

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm): /

PURGE INFORMATION: NA

Date / Time Initiated: ____

Date / Time Completed: /

Surf. Meas. Pt: ( ) Prot. Casing ( ) Riser

Riser Diameter, Inches: ____

Initial Water Level, Feet: ____

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: ____

One (1) Riser Volume, Gal: ____

Dedicated: Y / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / N

Purge Observations: ____

Start ____ Finish ____

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/hr)	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other TEMP
3:05pm				8.36	0.68	3.94		42.5

DAL. of

FIELD OBSERVATIONS

Facility: Marilla Street Landfill

Sample Point ID: SW-2A

Field Personnel: SJD

Sample Matrix: SURFACE WATER

MONITORTING WELL INSPECTION: NA

Date/Time 12-4-18 / 10:10 AM

Cond of seal: ( ) Good ( ) Cracked ____ %
( ) None ( ) Buried

Prot. Casing/riser height: _____

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good
( ) Loose ( ) Flush Mount
( ) Damaged _____

If prot.casing; depth to riser below: _____

Gas Meter (Calibration/ Reading): % Gas: / % LEL: /

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm): /

PURGE INFORMATION: NA

Date / Time Initiated: _____

Date / Time Completed: /

Surf. Meas. Pt: ( ) Prot. Casing ( ) Riser

Riser Diameter, Inches: _____

Initial Water Level, Feet: _____

Elevation. G/W MSL: _____

Well Total Depth, Feet: _____

Method of Well Purge: _____

One (1) Riser Volume, Gal: _____

Dedicated: Y / N

Total Volume Purged, Gal: _____

Purged To Dryness Y / N

Purge Observations: _____

Start _____ Finish _____

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (°F)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other
10:10 AM	-	-	35.7	9.02	0.64	6.65		

BLACK TAPE UNFILTERED

FIELD OBSERVATIONS

Facility: Morrilla Street landfill

Sample Point ID: SW-3A

Field Personnel: SJD

Sample Matrix: SURFACE WATER

MONITORTING WELL INSPECTION: NA

Date/Time 12-4-18 / 2:10pm

Cond of seal: ( ) Good ( ) Cracked ( ) None ( ) Buried ____%

Prot. Casing/riser height: ____

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose ( ) Flush Mount ( ) Damaged ____

If prot.casing; depth to riser below: ____

Gas Meter (Calibration/ Reading): % Gas: / % LEL: /

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm): /

PURGE INFORMATION: NA

Date / Time Initiated: ____

Date / Time Completed: /

Surf. Meas. Pt: ( ) Prot. Casing ( ) Riser

Riser Diameter, Inches: ____

Initial Water Level, Feet: ____

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: ____

One (1) Riser Volume, Gal: ____

Dedicated: Y / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / N

Purge Observations: ____

Start ____ Finish ____

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (°F)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other
2:10pm	—	—	35.2	8.08	0.51	2.54		

(DUP)

FIELD OBSERVATIONS

Facility: Morilla Street landfill

Sample Point ID: SW-5

Field Personnel: S.D.

Sample Matrix: _____

MONITORTING WELL INSPECTION: NA

Date/Time 12-5-18 10:30AM

Cond of seal: ( ) Good ( ) Cracked _____ %
( ) None ( ) Buried

Prot. Casing/riser height: _____

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good
( ) Loose ( ) Flush Mount
( ) Damaged _____

If prot.casing; depth to riser below: _____

Gas Meter (Calibration/ Reading): % Gas: / % LEL: /

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm): /

PURGE INFORMATION: NA

Date / Time Initiated: _____

Date / Time Completed: /

Surf. Meas. Pt: ( ) Prot. Casing ( ) Riser

Riser Diameter, Inches: _____

Initial Water Level, Feet: _____

Elevation. G/W MSL: _____

Well Total Depth, Feet: _____

Method of Well Purge: _____

One (1) Riser Volume, Gal: _____

Dedicated: Y / N

Total Volume Purged, Gal: _____

Purged To Dryness Y / N

Purge Observations: _____

Start _____ Finish _____

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C) F	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other
8:30AM	-	-	38.0	8.64	1.02	3.98		

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
1057 East Henrietta Rd.
Rochester NY 14623
Phone: 585-424-2140

Pine Environmental Services, Inc.

Instrument ID 16555
Description MiniRae 3000
Calibrated 12/3/2018 9:11:04AM

Manufacturer Rae Systems
Model Number PGM-7320
Serial Number/ Lot Number 592-904043
Location Rochester, NY
Department

State Certified
Status Pass
Temp °C 23.4
Humidity % 31

Calibration Specifications

Group # 1
Group Name Isobutylene
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 0.0000
Plus/Minus 5.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	PPM	100.00	PPM	100.00	100.00	0.00%	Pass

Test Instruments Used During the Calibration

(As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
ROC - 100PPM ISO 593244 MS	100 PPM ISOBUTYLENE 593244	Pine	31721			11/30/2019

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Mike Santiago

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
1057 East Henrietta Rd.
Rochester NY 14623
Phone: 585-424-2140

Pine Environmental Services, Inc.

Instrument ID 17994
Description LaMotte 2020WE
Calibrated 12/3/2018 8:56:56AM

Manufacturer LaMotte
Model Number 2020WE
Serial Number/ Lot Number 919-1811
Location Rochester, NY
Department

State Certified
Status Pass
Temp °C 23.2
Humidity % 31

Calibration Specifications

Group # 1
Group Name Turbidity
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.00 / 1.00	NTU	1.00	NTU	1.00	1.00	0.00%	Pass
10.00 / 10.00	NTU	10.00	NTU	10.00	10.00	0.00%	Pass

Test Instruments Used During the Calibration

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	(As Of Cal Entry Date) Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
ROC - 0 NTU - 17502171	0 NTU TURBIDITY SOLUTION	AMCOCLEAR	17502171			1/31/2019
ROC - 1 NTU TURB SOL.	1 NTU TURBIDITY SOLUTION	AMCOCLEAR	8577			7/31/2019
ROC - 10 NTU TURB SOL	10 NTU TURBIDITY SOLUTION	AMCOCLEAR	8578			8/30/2019

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Mike Santiago

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
1057 East Henrietta Rd.
Rochester NY 14623
Phone: 585-424-2140

Pine Environmental Services, Inc.

Instrument ID 30241
Description Hanna HI 991301
Calibrated 12/3/2018 8:58:30AM

Manufacturer Hanna
Model Number HI 991301
Serial Number/ Lot Number D0079243
Location Rochester, NY
Department

State Certified
Status Pass
Temp °C 23.4
Humidity % 31

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.01 / 7.01	PH	7.01	PH	7.01	7.01	0.00%	Pass
4.01 / 4.01	PH	4.01	PH	4.01	4.01	0.00%	Pass

Group # 2
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.41 / 1.41	ms/cm	1.41	ms/cm	1.41	1.41	0.00%	Pass

Test Instruments Used During the Calibration

(As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
ROC - 12.88 SOLUTION	12.88 CONDUCTIVITY SOLUTION	Hanna	12.88	0347		6/30/2021
ROC - 7.00 7GH158	PH 7.00 BUFFER SOLUTION	Pine Environmental Services, Inc.	7GH158			8/30/2019
ROC - PH 4.00 - 7GD788	PH 4.00 BUFFER SOLUTION	Pine Environmental Services, Inc.	7GD788	7GD788		4/30/2019
ROC- 0.718 COND. SOL	0.718 MS/CM CONDUCTIVITY STANDARD	Pine Environmental Services, Inc.	8GB715			2/28/2019
ROC-1413 8GB900	ROC - COND 1.413	AquaPhoenix Scientific	31986	8GB900		2/28/2019

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

1057 East Henrietta Rd.
Rochester NY 14623
Phone: 585-424-2140

Pine Environmental Services, Inc.

Instrument ID 30241
Description Hanna HI 991301
Calibrated 12/3/2018 8:58:30AM

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Mike Santiago

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

APPENDIX C

Laboratory Reports and Chain of Custody Forms

December 21, 2018 Service Request No:R1811907

Mr. Samuel Daigler
Daigler Engineering
2620 Grand Island Blvd.
Grand Island, NY 14072

Laboratory Results for: MARILLA STREET LF

Dear Mr.Daigler,

Enclosed are the results of the sample(s) submitted to our laboratory December 07, 2018
For your reference, these analyses have been assigned our service request number **R1811907.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7471. You may also contact me via email at Brady.Kalkman@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Brady Kalkman
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental

Client: Daigler Engineering
Project: MARILLA STREET LF
Sample Matrix: Water

Service Request: R1811907
Date Received: 12/07/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt:

Twenty two water samples were received for analysis at ALS Environmental on 12/07/2018. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 0 to 6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature. If any samples were received for the analysis of pH, chlorine residual, sulfite, dissolved oxygen, or ferrous iron, the samples were analyzed past their holding time expiration since these analyses are required to be analyzed within 15 minutes of sampling.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

Method 335.4, R1811907-013: The Method Reporting Limit (MRL) was elevated due to reactivity of sample.

Volatiles by GC/MS:

Method 8260C, R1811907-013: Sample(s) required dilution due to the foaming nature of the matrix. The reporting limits are adjusted to reflect the dilution.

Approved by _____ Date 12/21/2018

SAMPLE DETECTION SUMMARY

CLIENT ID: SW-1			Lab ID: R1811907-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	6.0		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Solids, Total Dissolved (TDS)	405		4	10	mg/L	SM 2540 C-1997 (2011)
Iron, Total	340		50	100	ug/L	6010C
Manganese, Total	37		6	10	ug/L	6010C

CLIENT ID: SW-1 Diss			Lab ID: R1811907-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Manganese, Dissolved	30		6	10	ug/L	6010C

CLIENT ID: SW-2A			Lab ID: R1811907-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	6.9		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Solids, Total Dissolved (TDS)	425		4	10	mg/L	SM 2540 C-1997 (2011)
Iron, Total	630		50	100	ug/L	6010C
Manganese, Total	104		6	10	ug/L	6010C

CLIENT ID: SW-2A Diss			Lab ID: R1811907-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Iron, Dissolved	190		50	100	ug/L	6010C
Manganese, Dissolved	91		6	10	ug/L	6010C

CLIENT ID: SW-3A			Lab ID: R1811907-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	7.4		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Solids, Total Dissolved (TDS)	355		4	10	mg/L	SM 2540 C-1997 (2011)
Iron, Total	180		50	100	ug/L	6010C
Manganese, Total	33		6	10	ug/L	6010C

CLIENT ID: SW-3A Diss			Lab ID: R1811907-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Manganese, Dissolved	31		6	10	ug/L	6010C

CLIENT ID: SW-5			Lab ID: R1811907-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	5.9		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Solids, Total Dissolved (TDS)	699		4	10	mg/L	SM 2540 C-1997 (2011)
Iron, Total	200		50	100	ug/L	6010C
Manganese, Total	12		6	10	ug/L	6010C

SAMPLE DETECTION SUMMARY

CLIENT ID: SW-DUP			Lab ID: R1811907-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	5.5		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Solids, Total Dissolved (TDS)	695		4	10	mg/L	SM 2540 C-1997 (2011)
Iron, Total	120		50	100	ug/L	6010C
Manganese, Total	12		6	10	ug/L	6010C

CLIENT ID: MW-2B			Lab ID: R1811907-011			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	14.4		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Phenolics, Total Recoverable	0.019		0.002	0.010	mg/L	420.4
Solids, Total Dissolved (TDS)	453		4	10	mg/L	SM 2540 C-1997 (2011)
Iron, Total	1530		50	100	ug/L	6010C
Manganese, Total	80		6	10	ug/L	6010C
Acetone	24		2.1	10	ug/L	8260C

CLIENT ID: MW-3B			Lab ID: R1811907-013			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	105		0.5	10	mg/L	SM 5310 C-2000 (2011)
Phenolics, Total Recoverable	0.74		0.02	0.10	mg/L	420.4
Solids, Total Dissolved (TDS)	1560		8	20	mg/L	SM 2540 C-1997 (2011)
Arsenic, Total	35		4	10	ug/L	6010C
Chromium, Total	53		2	10	ug/L	6010C
Iron, Total	26200		50	100	ug/L	6010C
Lead, Total	442		3	50	ug/L	6010C
Manganese, Total	438		6	10	ug/L	6010C
Acetone	650		21	100	ug/L	8260C

CLIENT ID: MW-3B Diss			Lab ID: R1811907-014			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Arsenic, Dissolved	33		4	10	ug/L	6010C
Chromium, Dissolved	29		2	10	ug/L	6010C
Iron, Dissolved	3220		50	100	ug/L	6010C
Lead, Dissolved	219		3	50	ug/L	6010C
Manganese, Dissolved	59		6	10	ug/L	6010C

CLIENT ID: MW-4B			Lab ID: R1811907-015			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	5.3		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Solids, Total Dissolved (TDS)	491		4	10	mg/L	SM 2540 C-1997 (2011)
Iron, Total	1050		50	100	ug/L	6010C

SAMPLE DETECTION SUMMARY

CLIENT ID: MW-4B			Lab ID: R1811907-015			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Manganese, Total	625		6	10	ug/L	6010C

CLIENT ID: MW-6B			Lab ID: R1811907-016			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	7.7		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Solids, Total Dissolved (TDS)	1180		4	10	mg/L	SM 2540 C-1997 (2011)
Iron, Total	2180		50	100	ug/L	6010C
Manganese, Total	693		6	10	ug/L	6010C

CLIENT ID: MW-6B Diss			Lab ID: R1811907-017			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Iron, Dissolved	130		50	100	ug/L	6010C
Manganese, Dissolved	600		6	10	ug/L	6010C

CLIENT ID: MW-7B			Lab ID: R1811907-018			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	46.6		0.3	5.0	mg/L	SM 5310 C-2000 (2011)
Cyanide, Total	0.025		0.002	0.010	mg/L	335.4
Phenolics, Total Recoverable	0.55		0.02	0.10	mg/L	420.4
Solids, Total Dissolved (TDS)	890		8	20	mg/L	SM 2540 C-1997 (2011)
Iron, Total	3270		50	100	ug/L	6010C
Manganese, Total	51		6	10	ug/L	6010C
Acetone	21		2.1	10	ug/L	8260C

CLIENT ID: MW-15B			Lab ID: R1811907-019			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	29.6		0.3	5.0	mg/L	SM 5310 C-2000 (2011)
Phenolics, Total Recoverable	0.25		0.02	0.10	mg/L	420.4
Solids, Total Dissolved (TDS)	1280		11	30	mg/L	SM 2540 C-1997 (2011)
Arsenic, Total	29		4	10	ug/L	6010C
Acetone	140		2.1	10	ug/L	8260C

CLIENT ID: MW-16B			Lab ID: R1811907-020			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	14.1		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Cyanide, Total	0.032		0.002	0.010	mg/L	335.4
Solids, Total Dissolved (TDS)	653		4	10	mg/L	SM 2540 C-1997 (2011)
Iron, Total	180		50	100	ug/L	6010C
Trichloroethene (TCE)	22		0.20	5.0	ug/L	8260C

SAMPLE DETECTION SUMMARY

CLIENT ID: MW-16B			Lab ID: R1811907-020			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
cis-1,2-Dichloroethene	8.3		0.26	5.0	ug/L	8260C

CLIENT ID: MW-18B			Lab ID: R1811907-021			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	19.2		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Cyanide, Total	0.019		0.002	0.010	mg/L	335.4
Solids, Total Dissolved (TDS)	2790		8	20	mg/L	SM 2540 C-1997 (2011)
Arsenic, Total	22		4	10	ug/L	6010C
Iron, Total	320		50	100	ug/L	6010C
Manganese, Total	2340		6	10	ug/L	6010C

CLIENT ID: GW-DUP			Lab ID: R1811907-022			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Carbon, Total Organic (TOC)	20.2		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Cyanide, Total	0.024		0.002	0.010	mg/L	335.4
Solids, Total Dissolved (TDS)	2750		8	20	mg/L	SM 2540 C-1997 (2011)
Arsenic, Total	19		4	10	ug/L	6010C
Iron, Total	640		50	100	ug/L	6010C
Manganese, Total	2340		6	10	ug/L	6010C

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Daigler Engineering **Service Request:**R1811907
Project: MARILLA STREET LF

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1811907-001	SW-1	12/5/2018	1505
R1811907-002	SW-1 Diss	12/5/2018	1505
R1811907-003	SW-2A	12/4/2018	1020
R1811907-004	SW-2A Diss	12/4/2018	1020
R1811907-005	SW-3A	12/4/2018	1415
R1811907-006	SW-3A Diss	12/4/2018	1415
R1811907-007	SW-5	12/5/2018	0830
R1811907-008	SW-5 Diss	12/5/2018	0830
R1811907-009	SW-DUP		
R1811907-010	SW-DUP Diss		
R1811907-011	MW-2B	12/4/2018	1615
R1811907-012	MW-2B Diss	12/4/2018	1615
R1811907-013	MW-3B	12/5/2018	1430
R1811907-014	MW-3B Diss	12/5/2018	1430
R1811907-015	MW-4B	12/4/2018	1545
R1811907-016	MW-6B	12/5/2018	1045
R1811907-017	MW-6B Diss	12/6/2018	1000
R1811907-018	MW-7B	12/5/2018	1345
R1811907-019	MW-15B	12/5/2018	1300
R1811907-020	MW-16B	12/4/2018	0935
R1811907-021	MW-18B	12/4/2018	1315
R1811907-022	GW-DUP		

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 54511

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: MARILLA STREET LF	Project Number:
Project Manager: BETHANY ACQUISTO	Report CC:
Company/Address: DAIGLER ENGINEERING P.C. 2620 GRAND ISLAND BLVD GRAND ISLAND, NY 14072	
Phone #: (716) 773-6872	Email: SAM@JADENVEGR.COM
Sampler's Signature:	Sampler's Printed Name: SAM DAIGLER

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1 | | | | | Z | Z | 4 | O | 3

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	CN	TDS	TOC, PHENOL					REMARKS/ ALTERNATE DESCRIPTION
SW-1		12-5-18	3:05PM	SURFACE WATER	8	X					X	X	X	X	X					
SW-2A		12-4-18	10:20AM		8	X					X	X	X	X	X					
SW-3A		12-4-18	2:15PM		8	X					X	X	X	X	X					
SW-5		12-5-18	8:30AM		8	X					X	X	X	X	X					
SW-DUP		—	—	↓	8	X					X	X	X	X	X					

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals As, Cr, Fe, Pb, Mn

See QAPP ☐

TURNAROUND REQUIREMENTS
____ RUSH (SURCHARGES APPLY)
____ 1 day ____ 2 day ____ 3 day
____ 4 day ____ 5 day
____ Standard (10 business days-No Surcharge)
REQUESTED REPORT DATE _____

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
Edata ____ Yes ____ No

INVOICE INFORMATION
PO #
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED MARILLA ST LF

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: SAM DAIGLER	Printed Name: CHRISTOPHER LEMMON	Printed Name	Printed Name	Printed Name	
Firm: DAIGLER ENGINEERING	Firm: ALS	Firm	Firm	Firm	
Date/Time: 12/6/18 2:00PM	Date/Time: 12-7-18 09:00	Date/Time	Date/Time	Date/Time	

R1811907 5
Daigler Engineering
MARILLA STREET LF

Distribution: White - Lab Copy; Yellow - Return to Originator

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 54508

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

Project Name: MARILLA STREET LF	Project Number:
Project Manager: BETHANY ACQUISTO	Report CC:
Company/Address: DAIGLER ENGINEERING, P.C. 2620 GRAND ISLAND BLVD GRAND ISLAND, NY 14072	
Phone #: (716) 773-6872	Email: SAM@JADENEGR.COM
Sampler's Signature:	Sampler's Printed Name: SAM DAIGLER

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 1 2 2 4 0 3

Preservative Key: 0. NONE; 1. HCL; 2. HNO_3; 3. H_2SO_4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. $NaHSO_4$; 8. Other _____

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ◦ 8260 ◦ 624 ◦ CLP	GC/MS SVOAs ◦ 8270 ◦ 625	GC VOAs ◦ 8021 ◦ 601/602	PESTICIDES ◦ 8081 ◦ 608	PCBs ◦ 8082 ◦ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	CN	TDS	TOC, PHENOL				REMARKS/ ALTERNATE DESCRIPTION
MW-2B		12-4-18	4:15pm	GROUND WATER	8	X					X	X	X	X	X				
MW-3B		12-5-18	2:30pm		8	X					X	X	X	X	X				
MW-4B		12-4-18	3:45pm		7	X					X		X	X	X				
MW-6B		12-5-18	10:45AM		8	X					X	X	X	X	X				
MW-7B		12-5-18	1:45pm		7	X					X		X	X	X				
MW-15B		12-5-18	1:00pm		7	X					X		X	X	X				
MW-15B (M.S.)		12-5-18	1:00pm		5	X					X		X						
MW-15B (M.S.D.)		12-5-18	1:00pm		5	X					X		X						
MW-16B		12-4-18	9:35AM		7	X					X		X	X	X				
MW-18B		12-4-18	1:15pm			X					X		X	X	X				
GW-DUP		"	"		7	X					X		X	X	X				

SPECIAL INSTRUCTIONS/COMMENTS

Metals

As, Cr, Fe, Pb, Mn

MW6B - DISSOLVED METALS SAMPLED ON 12-6-18 @ 10:00AM

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED MARILLA ST LF

TURNAROUND REQUIREMENTS

_____ RUSH (SURCHARGES APPLY)

_____ 1 day _____ 2 day _____ 3 day

_____ 4 day _____ 5 day

_____ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE _____

REPORT REQUIREMENTS

_____ I. Results Only

_____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

_____ III. Results + QC and Calibration Summaries

_____ IV. Data Validation Report with Raw Data

Edata _____ Yes _____ No

INVOICE INFORMATION

PO #

BILL TO:

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: SAM DAIGLER	Printed Name: Gregory O. Esmerian	Printed Name	Printed Name	Printed Name	
Firm: DAIGLER ENGINEERING	Firm: ALS	Firm	Firm	Firm	
Date/Time: 12/6/18 2:00pm	Date/Time: 12-7-18 09:00	Date/Time	Date/Time	Date/Time	

Distribution: White - Lab Copy; Yellow - Return to Originator

R1811907 5
Daigler Engineering
MARILLA STREET LF

R1811907 Daigler Engineering MARILLA STREET LF 5

Cooler Receipt and Preservation Check Form

Project/Client Daigler Engineering Folder Number R1811907

Cooler received on 12-7-18 by: KE

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y)	N
2	**Custody papers** properly completed (ink, signed)?	(Y)	N
3	Did all bottles arrive in good **condition** (unbroken)?	(Y)	N
4	Circle: (**Wet Ice**) **Dry Ice** **Gel packs** present?	(Y)	N

5a	**Perchlorate** samples have required headspace?	Y N	(NA)
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y (N)	NA
6	Where did the bottles originate?	(ALS/ROC)	CLIENT
7	Soil VOA received as: Bulk Encore 5035set		(NA)

8. Temperature Readings Date: 12-7-18 Time: 09:20 ID: IR#7 IR#10 From: (Temp Blank) Sample Bottle

Observed Temp (°C)	1.6	1.7					
Correction Factor (°C)	+0.4	+0.4					
Corrected Temp (°C)	2.0	2.1					
Temp from:Type of bottle	cent tube	cent tube					
Within 0-6°C?	(Y) N	(Y) N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R002 by KE on 12-7-18 at 09:32
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 12-10-18 Time: 10135 by: KE

9.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
10.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
11.	Were correct containers used for the tests indicated?	(YES)	NO
12.	Were 5035 vials acceptable (no extra labels, not leaking)?	YES	NO
13.	Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized	Tedlar® Bags Inflated		(N/A) (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12	200617	NaOH	X		193395	10/19				
≤2	↓	HNO_3	X	X	117091	10/19	013, 019	0.75ml each	B280 B280D KE 12-10-18	All ≤2
≤2		H_2SO_4	X		193989	11/19				
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522	X		If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**	4117090					

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 8-206-001, W133128, 091018-1BMC, 091018-2AAV

Explain all Discrepancies/ Other Comments:

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: KE

PC Secondary Review: _____

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: Daigler Engineering **Service Request:** R1811907
Project: MARILLA STREET LF

Sample Name: SW-1 **Date Collected:** 12/5/18
Lab Code: R1811907-001 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	LHERRING
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

Sample Name: SW-1 Diss **Date Collected:** 12/5/18
Lab Code: R1811907-002 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	LHERRING

Sample Name: SW-2A **Date Collected:** 12/4/18
Lab Code: R1811907-003 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	LHERRING
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

Client: Daigler Engineering **Service Request:** R1811907
Project: MARILLA STREET LF

Sample Name: SW-2A Diss **Date Collected:** 12/4/18
Lab Code: R1811907-004 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	LHERRING

Sample Name: SW-3A **Date Collected:** 12/4/18
Lab Code: R1811907-005 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	LHERRING
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

Sample Name: SW-3A Diss **Date Collected:** 12/4/18
Lab Code: R1811907-006 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	LHERRING

Sample Name: SW-5 **Date Collected:** 12/5/18
Lab Code: R1811907-007 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	LHERRING
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF		

Sample Name:	SW-5	**Date Collected:**	12/5/18
Lab Code:	R1811907-007	**Date Received:**	12/7/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
SM 5310 C-2000(2011)		CWOODS

Sample Name:	SW-5 Diss	**Date Collected:**	12/5/18
Lab Code:	R1811907-008	**Date Received:**	12/7/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	LHERRING

Sample Name:	SW-DUP	**Date Collected:**	NA
Lab Code:	R1811907-009	**Date Received:**	12/7/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	LHERRING
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

Sample Name:	SW-DUP Diss	**Date Collected:**	NA
Lab Code:	R1811907-010	**Date Received:**	12/7/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	LHERRING

Client: Daigler Engineering **Service Request:** R1811907
Project: MARILLA STREET LF

Sample Name: MW-2B **Date Collected:** 12/4/18
Lab Code: R1811907-011 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	LHERRING
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

Sample Name: MW-2B Diss **Date Collected:** 12/4/18
Lab Code: R1811907-012 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	LHERRING

Sample Name: MW-3B **Date Collected:** 12/5/18
Lab Code: R1811907-013 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	LHERRING
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF		

Sample Name:	MW-3B Diss	**Date Collected:**	12/5/18
Lab Code:	R1811907-014	**Date Received:**	12/7/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	LHERRING

Sample Name:	MW-4B	**Date Collected:**	12/4/18
Lab Code:	R1811907-015	**Date Received:**	12/7/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	LHERRING
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

Sample Name:	MW-6B	**Date Collected:**	12/5/18
Lab Code:	R1811907-016	**Date Received:**	12/7/18
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	LHERRING
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

Client: Daigler Engineering **Service Request:** R1811907
Project: MARILLA STREET LF

Sample Name: MW-6B Diss **Date Collected:** 12/6/18
Lab Code: R1811907-017 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	LHERRING

Sample Name: MW-7B **Date Collected:** 12/5/18
Lab Code: R1811907-018 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	LHERRING
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

Sample Name: MW-15B **Date Collected:** 12/5/18
Lab Code: R1811907-019 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	LHERRING
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

Client: Daigler Engineering **Service Request:** R1811907
Project: MARILLA STREET LF

Sample Name: MW-16B **Date Collected:** 12/4/18
Lab Code: R1811907-020 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	LHERRING
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

Sample Name: MW-18B **Date Collected:** 12/4/18
Lab Code: R1811907-021 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	NMANSEN
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

Sample Name: GW-DUP **Date Collected:** NA
Lab Code: R1811907-022 **Date Received:** 12/7/18
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
335.4	GNITAJOUPPI	GNITAJOUPPI
420.4		BBOWE
6010C	KMCLAEN	NMANSEN
8260C		FNAEGLER
SM 2540 C-1997(2011)		KWONG
SM 5310 C-2000(2011)		CWOODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 15:05
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-1	**Units:**	ug/L
Lab Code:	R1811907-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/11/18 20:35	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/11/18 20:35	
1,1,2-Trichloroethane	ND U	5.0	1	12/11/18 20:35	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/11/18 20:35	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/11/18 20:35	
1,2-Dichloroethane	ND U	5.0	1	12/11/18 20:35	
1,2-Dichloropropane	ND U	5.0	1	12/11/18 20:35	
2-Butanone (MEK)	ND U	10	1	12/11/18 20:35	
2-Hexanone	ND U	10	1	12/11/18 20:35	
4-Methyl-2-pentanone	ND U	10	1	12/11/18 20:35	
Acetone	ND U	10	1	12/11/18 20:35	
Benzene	ND U	5.0	1	12/11/18 20:35	
Bromodichloromethane	ND U	5.0	1	12/11/18 20:35	
Bromoform	ND U	5.0	1	12/11/18 20:35	
Bromomethane	ND U	5.0	1	12/11/18 20:35	
Carbon Disulfide	ND U	10	1	12/11/18 20:35	
Carbon Tetrachloride	ND U	5.0	1	12/11/18 20:35	
Chlorobenzene	ND U	5.0	1	12/11/18 20:35	
Chloroethane	ND U	5.0	1	12/11/18 20:35	
Chloroform	ND U	5.0	1	12/11/18 20:35	
Chloromethane	ND U	5.0	1	12/11/18 20:35	
Dibromochloromethane	ND U	5.0	1	12/11/18 20:35	
Dichloromethane	ND U	5.0	1	12/11/18 20:35	
Ethylbenzene	ND U	5.0	1	12/11/18 20:35	
Styrene	ND U	5.0	1	12/11/18 20:35	
Tetrachloroethene (PCE)	ND U	5.0	1	12/11/18 20:35	
Toluene	ND U	5.0	1	12/11/18 20:35	
Trichloroethene (TCE)	ND U	5.0	1	12/11/18 20:35	
Vinyl Chloride	ND U	5.0	1	12/11/18 20:35	
cis-1,2-Dichloroethene	ND U	5.0	1	12/11/18 20:35	
cis-1,3-Dichloropropene	ND U	5.0	1	12/11/18 20:35	
m,p-Xylenes	ND U	5.0	1	12/11/18 20:35	
o-Xylene	ND U	5.0	1	12/11/18 20:35	
trans-1,2-Dichloroethene	ND U	5.0	1	12/11/18 20:35	
trans-1,3-Dichloropropene	ND U	5.0	1	12/11/18 20:35	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 15:05
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-1	**Units:**	ug/L
Lab Code:	R1811907-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	12/11/18 20:35	
Dibromofluoromethane	100	89 - 119	12/11/18 20:35	
Toluene-d8	102	87 - 121	12/11/18 20:35	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 10:20
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-2A	**Units:**	ug/L
Lab Code:	R1811907-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/11/18 20:57	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/11/18 20:57	
1,1,2-Trichloroethane	ND U	5.0	1	12/11/18 20:57	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/11/18 20:57	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/11/18 20:57	
1,2-Dichloroethane	ND U	5.0	1	12/11/18 20:57	
1,2-Dichloropropane	ND U	5.0	1	12/11/18 20:57	
2-Butanone (MEK)	ND U	10	1	12/11/18 20:57	
2-Hexanone	ND U	10	1	12/11/18 20:57	
4-Methyl-2-pentanone	ND U	10	1	12/11/18 20:57	
Acetone	ND U	10	1	12/11/18 20:57	
Benzene	ND U	5.0	1	12/11/18 20:57	
Bromodichloromethane	ND U	5.0	1	12/11/18 20:57	
Bromoform	ND U	5.0	1	12/11/18 20:57	
Bromomethane	ND U	5.0	1	12/11/18 20:57	
Carbon Disulfide	ND U	10	1	12/11/18 20:57	
Carbon Tetrachloride	ND U	5.0	1	12/11/18 20:57	
Chlorobenzene	ND U	5.0	1	12/11/18 20:57	
Chloroethane	ND U	5.0	1	12/11/18 20:57	
Chloroform	ND U	5.0	1	12/11/18 20:57	
Chloromethane	ND U	5.0	1	12/11/18 20:57	
Dibromochloromethane	ND U	5.0	1	12/11/18 20:57	
Dichloromethane	ND U	5.0	1	12/11/18 20:57	
Ethylbenzene	ND U	5.0	1	12/11/18 20:57	
Styrene	ND U	5.0	1	12/11/18 20:57	
Tetrachloroethene (PCE)	ND U	5.0	1	12/11/18 20:57	
Toluene	ND U	5.0	1	12/11/18 20:57	
Trichloroethene (TCE)	ND U	5.0	1	12/11/18 20:57	
Vinyl Chloride	ND U	5.0	1	12/11/18 20:57	
cis-1,2-Dichloroethene	ND U	5.0	1	12/11/18 20:57	
cis-1,3-Dichloropropene	ND U	5.0	1	12/11/18 20:57	
m,p-Xylenes	ND U	5.0	1	12/11/18 20:57	
o-Xylene	ND U	5.0	1	12/11/18 20:57	
trans-1,2-Dichloroethene	ND U	5.0	1	12/11/18 20:57	
trans-1,3-Dichloropropene	ND U	5.0	1	12/11/18 20:57	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 10:20
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-2A	**Units:**	ug/L
Lab Code:	R1811907-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	12/11/18 20:57	
Dibromofluoromethane	100	89 - 119	12/11/18 20:57	
Toluene-d8	101	87 - 121	12/11/18 20:57	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 14:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-3A	**Units:**	ug/L
Lab Code:	R1811907-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/11/18 21:19	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/11/18 21:19	
1,1,2-Trichloroethane	ND U	5.0	1	12/11/18 21:19	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/11/18 21:19	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/11/18 21:19	
1,2-Dichloroethane	ND U	5.0	1	12/11/18 21:19	
1,2-Dichloropropane	ND U	5.0	1	12/11/18 21:19	
2-Butanone (MEK)	ND U	10	1	12/11/18 21:19	
2-Hexanone	ND U	10	1	12/11/18 21:19	
4-Methyl-2-pentanone	ND U	10	1	12/11/18 21:19	
Acetone	ND U	10	1	12/11/18 21:19	
Benzene	ND U	5.0	1	12/11/18 21:19	
Bromodichloromethane	ND U	5.0	1	12/11/18 21:19	
Bromoform	ND U	5.0	1	12/11/18 21:19	
Bromomethane	ND U	5.0	1	12/11/18 21:19	
Carbon Disulfide	ND U	10	1	12/11/18 21:19	
Carbon Tetrachloride	ND U	5.0	1	12/11/18 21:19	
Chlorobenzene	ND U	5.0	1	12/11/18 21:19	
Chloroethane	ND U	5.0	1	12/11/18 21:19	
Chloroform	ND U	5.0	1	12/11/18 21:19	
Chloromethane	ND U	5.0	1	12/11/18 21:19	
Dibromochloromethane	ND U	5.0	1	12/11/18 21:19	
Dichloromethane	ND U	5.0	1	12/11/18 21:19	
Ethylbenzene	ND U	5.0	1	12/11/18 21:19	
Styrene	ND U	5.0	1	12/11/18 21:19	
Tetrachloroethene (PCE)	ND U	5.0	1	12/11/18 21:19	
Toluene	ND U	5.0	1	12/11/18 21:19	
Trichloroethene (TCE)	ND U	5.0	1	12/11/18 21:19	
Vinyl Chloride	ND U	5.0	1	12/11/18 21:19	
cis-1,2-Dichloroethene	ND U	5.0	1	12/11/18 21:19	
cis-1,3-Dichloropropene	ND U	5.0	1	12/11/18 21:19	
m,p-Xylenes	ND U	5.0	1	12/11/18 21:19	
o-Xylene	ND U	5.0	1	12/11/18 21:19	
trans-1,2-Dichloroethene	ND U	5.0	1	12/11/18 21:19	
trans-1,3-Dichloropropene	ND U	5.0	1	12/11/18 21:19	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 14:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-3A	**Units:**	ug/L
Lab Code:	R1811907-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	12/11/18 21:19	
Dibromofluoromethane	99	89 - 119	12/11/18 21:19	
Toluene-d8	101	87 - 121	12/11/18 21:19	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 08:30
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-5	**Units:**	ug/L
Lab Code:	R1811907-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/11/18 21:41	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/11/18 21:41	
1,1,2-Trichloroethane	ND U	5.0	1	12/11/18 21:41	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/11/18 21:41	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/11/18 21:41	
1,2-Dichloroethane	ND U	5.0	1	12/11/18 21:41	
1,2-Dichloropropane	ND U	5.0	1	12/11/18 21:41	
2-Butanone (MEK)	ND U	10	1	12/11/18 21:41	
2-Hexanone	ND U	10	1	12/11/18 21:41	
4-Methyl-2-pentanone	ND U	10	1	12/11/18 21:41	
Acetone	ND U	10	1	12/11/18 21:41	
Benzene	ND U	5.0	1	12/11/18 21:41	
Bromodichloromethane	ND U	5.0	1	12/11/18 21:41	
Bromoform	ND U	5.0	1	12/11/18 21:41	
Bromomethane	ND U	5.0	1	12/11/18 21:41	
Carbon Disulfide	ND U	10	1	12/11/18 21:41	
Carbon Tetrachloride	ND U	5.0	1	12/11/18 21:41	
Chlorobenzene	ND U	5.0	1	12/11/18 21:41	
Chloroethane	ND U	5.0	1	12/11/18 21:41	
Chloroform	ND U	5.0	1	12/11/18 21:41	
Chloromethane	ND U	5.0	1	12/11/18 21:41	
Dibromochloromethane	ND U	5.0	1	12/11/18 21:41	
Dichloromethane	ND U	5.0	1	12/11/18 21:41	
Ethylbenzene	ND U	5.0	1	12/11/18 21:41	
Styrene	ND U	5.0	1	12/11/18 21:41	
Tetrachloroethene (PCE)	ND U	5.0	1	12/11/18 21:41	
Toluene	ND U	5.0	1	12/11/18 21:41	
Trichloroethene (TCE)	ND U	5.0	1	12/11/18 21:41	
Vinyl Chloride	ND U	5.0	1	12/11/18 21:41	
cis-1,2-Dichloroethene	ND U	5.0	1	12/11/18 21:41	
cis-1,3-Dichloropropene	ND U	5.0	1	12/11/18 21:41	
m,p-Xylenes	ND U	5.0	1	12/11/18 21:41	
o-Xylene	ND U	5.0	1	12/11/18 21:41	
trans-1,2-Dichloroethene	ND U	5.0	1	12/11/18 21:41	
trans-1,3-Dichloropropene	ND U	5.0	1	12/11/18 21:41	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 08:30
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-5	**Units:**	ug/L
Lab Code:	R1811907-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	12/11/18 21:41	
Dibromofluoromethane	99	89 - 119	12/11/18 21:41	
Toluene-d8	102	87 - 121	12/11/18 21:41	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-DUP	**Units:**	ug/L
Lab Code:	R1811907-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/11/18 22:03	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/11/18 22:03	
1,1,2-Trichloroethane	ND U	5.0	1	12/11/18 22:03	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/11/18 22:03	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/11/18 22:03	
1,2-Dichloroethane	ND U	5.0	1	12/11/18 22:03	
1,2-Dichloropropane	ND U	5.0	1	12/11/18 22:03	
2-Butanone (MEK)	ND U	10	1	12/11/18 22:03	
2-Hexanone	ND U	10	1	12/11/18 22:03	
4-Methyl-2-pentanone	ND U	10	1	12/11/18 22:03	
Acetone	ND U	10	1	12/11/18 22:03	
Benzene	ND U	5.0	1	12/11/18 22:03	
Bromodichloromethane	ND U	5.0	1	12/11/18 22:03	
Bromoform	ND U	5.0	1	12/11/18 22:03	
Bromomethane	ND U	5.0	1	12/11/18 22:03	
Carbon Disulfide	ND U	10	1	12/11/18 22:03	
Carbon Tetrachloride	ND U	5.0	1	12/11/18 22:03	
Chlorobenzene	ND U	5.0	1	12/11/18 22:03	
Chloroethane	ND U	5.0	1	12/11/18 22:03	
Chloroform	ND U	5.0	1	12/11/18 22:03	
Chloromethane	ND U	5.0	1	12/11/18 22:03	
Dibromochloromethane	ND U	5.0	1	12/11/18 22:03	
Dichloromethane	ND U	5.0	1	12/11/18 22:03	
Ethylbenzene	ND U	5.0	1	12/11/18 22:03	
Styrene	ND U	5.0	1	12/11/18 22:03	
Tetrachloroethene (PCE)	ND U	5.0	1	12/11/18 22:03	
Toluene	ND U	5.0	1	12/11/18 22:03	
Trichloroethene (TCE)	ND U	5.0	1	12/11/18 22:03	
Vinyl Chloride	ND U	5.0	1	12/11/18 22:03	
cis-1,2-Dichloroethene	ND U	5.0	1	12/11/18 22:03	
cis-1,3-Dichloropropene	ND U	5.0	1	12/11/18 22:03	
m,p-Xylenes	ND U	5.0	1	12/11/18 22:03	
o-Xylene	ND U	5.0	1	12/11/18 22:03	
trans-1,2-Dichloroethene	ND U	5.0	1	12/11/18 22:03	
trans-1,3-Dichloropropene	ND U	5.0	1	12/11/18 22:03	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-DUP	**Units:**	ug/L
Lab Code:	R1811907-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	12/11/18 22:03	
Dibromofluoromethane	101	89 - 119	12/11/18 22:03	
Toluene-d8	102	87 - 121	12/11/18 22:03	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 16:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-2B	**Units:**	ug/L
Lab Code:	R1811907-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/11/18 22:25	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/11/18 22:25	
1,1,2-Trichloroethane	ND U	5.0	1	12/11/18 22:25	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/11/18 22:25	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/11/18 22:25	
1,2-Dichloroethane	ND U	5.0	1	12/11/18 22:25	
1,2-Dichloropropane	ND U	5.0	1	12/11/18 22:25	
2-Butanone (MEK)	ND U	10	1	12/11/18 22:25	
2-Hexanone	ND U	10	1	12/11/18 22:25	
4-Methyl-2-pentanone	ND U	10	1	12/11/18 22:25	
Acetone	**24**	10	1	12/11/18 22:25	
Benzene	ND U	5.0	1	12/11/18 22:25	
Bromodichloromethane	ND U	5.0	1	12/11/18 22:25	
Bromoform	ND U	5.0	1	12/11/18 22:25	
Bromomethane	ND U	5.0	1	12/11/18 22:25	
Carbon Disulfide	ND U	10	1	12/11/18 22:25	
Carbon Tetrachloride	ND U	5.0	1	12/11/18 22:25	
Chlorobenzene	ND U	5.0	1	12/11/18 22:25	
Chloroethane	ND U	5.0	1	12/11/18 22:25	
Chloroform	ND U	5.0	1	12/11/18 22:25	
Chloromethane	ND U	5.0	1	12/11/18 22:25	
Dibromochloromethane	ND U	5.0	1	12/11/18 22:25	
Dichloromethane	ND U	5.0	1	12/11/18 22:25	
Ethylbenzene	ND U	5.0	1	12/11/18 22:25	
Styrene	ND U	5.0	1	12/11/18 22:25	
Tetrachloroethene (PCE)	ND U	5.0	1	12/11/18 22:25	
Toluene	ND U	5.0	1	12/11/18 22:25	
Trichloroethene (TCE)	ND U	5.0	1	12/11/18 22:25	
Vinyl Chloride	ND U	5.0	1	12/11/18 22:25	
cis-1,2-Dichloroethene	ND U	5.0	1	12/11/18 22:25	
cis-1,3-Dichloropropene	ND U	5.0	1	12/11/18 22:25	
m,p-Xylenes	ND U	5.0	1	12/11/18 22:25	
o-Xylene	ND U	5.0	1	12/11/18 22:25	
trans-1,2-Dichloroethene	ND U	5.0	1	12/11/18 22:25	
trans-1,3-Dichloropropene	ND U	5.0	1	12/11/18 22:25	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 16:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-2B	**Units:**	ug/L
Lab Code:	R1811907-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	12/11/18 22:25	
Dibromofluoromethane	100	89 - 119	12/11/18 22:25	
Toluene-d8	100	87 - 121	12/11/18 22:25	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 14:30
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-3B	**Units:**	ug/L
Lab Code:	R1811907-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	50	10	12/11/18 22:47	
1,1,2,2-Tetrachloroethane	ND U	50	10	12/11/18 22:47	
1,1,2-Trichloroethane	ND U	50	10	12/11/18 22:47	
1,1-Dichloroethane (1,1-DCA)	ND U	50	10	12/11/18 22:47	
1,1-Dichloroethene (1,1-DCE)	ND U	50	10	12/11/18 22:47	
1,2-Dichloroethane	ND U	50	10	12/11/18 22:47	
1,2-Dichloropropane	ND U	50	10	12/11/18 22:47	
2-Butanone (MEK)	ND U	100	10	12/11/18 22:47	
2-Hexanone	ND U	100	10	12/11/18 22:47	
4-Methyl-2-pentanone	ND U	100	10	12/11/18 22:47	
Acetone	**650**	100	10	12/11/18 22:47	
Benzene	ND U	50	10	12/11/18 22:47	
Bromodichloromethane	ND U	50	10	12/11/18 22:47	
Bromoform	ND U	50	10	12/11/18 22:47	
Bromomethane	ND U	50	10	12/11/18 22:47	
Carbon Disulfide	ND U	100	10	12/11/18 22:47	
Carbon Tetrachloride	ND U	50	10	12/11/18 22:47	
Chlorobenzene	ND U	50	10	12/11/18 22:47	
Chloroethane	ND U	50	10	12/11/18 22:47	
Chloroform	ND U	50	10	12/11/18 22:47	
Chloromethane	ND U	50	10	12/11/18 22:47	
Dibromochloromethane	ND U	50	10	12/11/18 22:47	
Dichloromethane	ND U	50	10	12/11/18 22:47	
Ethylbenzene	ND U	50	10	12/11/18 22:47	
Styrene	ND U	50	10	12/11/18 22:47	
Tetrachloroethene (PCE)	ND U	50	10	12/11/18 22:47	
Toluene	ND U	50	10	12/11/18 22:47	
Trichloroethene (TCE)	ND U	50	10	12/11/18 22:47	
Vinyl Chloride	ND U	50	10	12/11/18 22:47	
cis-1,2-Dichloroethene	ND U	50	10	12/11/18 22:47	
cis-1,3-Dichloropropene	ND U	50	10	12/11/18 22:47	
m,p-Xylenes	ND U	50	10	12/11/18 22:47	
o-Xylene	ND U	50	10	12/11/18 22:47	
trans-1,2-Dichloroethene	ND U	50	10	12/11/18 22:47	
trans-1,3-Dichloropropene	ND U	50	10	12/11/18 22:47	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 14:30
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-3B	**Units:**	ug/L
Lab Code:	R1811907-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	12/11/18 22:47	
Dibromofluoromethane	102	89 - 119	12/11/18 22:47	
Toluene-d8	103	87 - 121	12/11/18 22:47	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 15:45
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-4B	**Units:**	ug/L
Lab Code:	R1811907-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/11/18 23:09	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/11/18 23:09	
1,1,2-Trichloroethane	ND U	5.0	1	12/11/18 23:09	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/11/18 23:09	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/11/18 23:09	
1,2-Dichloroethane	ND U	5.0	1	12/11/18 23:09	
1,2-Dichloropropane	ND U	5.0	1	12/11/18 23:09	
2-Butanone (MEK)	ND U	10	1	12/11/18 23:09	
2-Hexanone	ND U	10	1	12/11/18 23:09	
4-Methyl-2-pentanone	ND U	10	1	12/11/18 23:09	
Acetone	ND U	10	1	12/11/18 23:09	
Benzene	ND U	5.0	1	12/11/18 23:09	
Bromodichloromethane	ND U	5.0	1	12/11/18 23:09	
Bromoform	ND U	5.0	1	12/11/18 23:09	
Bromomethane	ND U	5.0	1	12/11/18 23:09	
Carbon Disulfide	ND U	10	1	12/11/18 23:09	
Carbon Tetrachloride	ND U	5.0	1	12/11/18 23:09	
Chlorobenzene	ND U	5.0	1	12/11/18 23:09	
Chloroethane	ND U	5.0	1	12/11/18 23:09	
Chloroform	ND U	5.0	1	12/11/18 23:09	
Chloromethane	ND U	5.0	1	12/11/18 23:09	
Dibromochloromethane	ND U	5.0	1	12/11/18 23:09	
Dichloromethane	ND U	5.0	1	12/11/18 23:09	
Ethylbenzene	ND U	5.0	1	12/11/18 23:09	
Styrene	ND U	5.0	1	12/11/18 23:09	
Tetrachloroethene (PCE)	ND U	5.0	1	12/11/18 23:09	
Toluene	ND U	5.0	1	12/11/18 23:09	
Trichloroethene (TCE)	ND U	5.0	1	12/11/18 23:09	
Vinyl Chloride	ND U	5.0	1	12/11/18 23:09	
cis-1,2-Dichloroethene	ND U	5.0	1	12/11/18 23:09	
cis-1,3-Dichloropropene	ND U	5.0	1	12/11/18 23:09	
m,p-Xylenes	ND U	5.0	1	12/11/18 23:09	
o-Xylene	ND U	5.0	1	12/11/18 23:09	
trans-1,2-Dichloroethene	ND U	5.0	1	12/11/18 23:09	
trans-1,3-Dichloropropene	ND U	5.0	1	12/11/18 23:09	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 15:45
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-4B	**Units:**	ug/L
Lab Code:	R1811907-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	12/11/18 23:09	
Dibromofluoromethane	99	89 - 119	12/11/18 23:09	
Toluene-d8	102	87 - 121	12/11/18 23:09	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 10:45
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-6B	**Units:**	ug/L
Lab Code:	R1811907-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/11/18 23:31	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/11/18 23:31	
1,1,2-Trichloroethane	ND U	5.0	1	12/11/18 23:31	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/11/18 23:31	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/11/18 23:31	
1,2-Dichloroethane	ND U	5.0	1	12/11/18 23:31	
1,2-Dichloropropane	ND U	5.0	1	12/11/18 23:31	
2-Butanone (MEK)	ND U	10	1	12/11/18 23:31	
2-Hexanone	ND U	10	1	12/11/18 23:31	
4-Methyl-2-pentanone	ND U	10	1	12/11/18 23:31	
Acetone	ND U	10	1	12/11/18 23:31	
Benzene	ND U	5.0	1	12/11/18 23:31	
Bromodichloromethane	ND U	5.0	1	12/11/18 23:31	
Bromoform	ND U	5.0	1	12/11/18 23:31	
Bromomethane	ND U	5.0	1	12/11/18 23:31	
Carbon Disulfide	ND U	10	1	12/11/18 23:31	
Carbon Tetrachloride	ND U	5.0	1	12/11/18 23:31	
Chlorobenzene	ND U	5.0	1	12/11/18 23:31	
Chloroethane	ND U	5.0	1	12/11/18 23:31	
Chloroform	ND U	5.0	1	12/11/18 23:31	
Chloromethane	ND U	5.0	1	12/11/18 23:31	
Dibromochloromethane	ND U	5.0	1	12/11/18 23:31	
Dichloromethane	ND U	5.0	1	12/11/18 23:31	
Ethylbenzene	ND U	5.0	1	12/11/18 23:31	
Styrene	ND U	5.0	1	12/11/18 23:31	
Tetrachloroethene (PCE)	ND U	5.0	1	12/11/18 23:31	
Toluene	ND U	5.0	1	12/11/18 23:31	
Trichloroethene (TCE)	ND U	5.0	1	12/11/18 23:31	
Vinyl Chloride	ND U	5.0	1	12/11/18 23:31	
cis-1,2-Dichloroethene	ND U	5.0	1	12/11/18 23:31	
cis-1,3-Dichloropropene	ND U	5.0	1	12/11/18 23:31	
m,p-Xylenes	ND U	5.0	1	12/11/18 23:31	
o-Xylene	ND U	5.0	1	12/11/18 23:31	
trans-1,2-Dichloroethene	ND U	5.0	1	12/11/18 23:31	
trans-1,3-Dichloropropene	ND U	5.0	1	12/11/18 23:31	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 10:45
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-6B	**Units:**	ug/L
Lab Code:	R1811907-016	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	12/11/18 23:31	
Dibromofluoromethane	98	89 - 119	12/11/18 23:31	
Toluene-d8	101	87 - 121	12/11/18 23:31	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 13:45
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-7B	**Units:**	ug/L
Lab Code:	R1811907-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/11/18 23:53	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/11/18 23:53	
1,1,2-Trichloroethane	ND U	5.0	1	12/11/18 23:53	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/11/18 23:53	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/11/18 23:53	
1,2-Dichloroethane	ND U	5.0	1	12/11/18 23:53	
1,2-Dichloropropane	ND U	5.0	1	12/11/18 23:53	
2-Butanone (MEK)	ND U	10	1	12/11/18 23:53	
2-Hexanone	ND U	10	1	12/11/18 23:53	
4-Methyl-2-pentanone	ND U	10	1	12/11/18 23:53	
Acetone	**21**	10	1	12/11/18 23:53	
Benzene	ND U	5.0	1	12/11/18 23:53	
Bromodichloromethane	ND U	5.0	1	12/11/18 23:53	
Bromoform	ND U	5.0	1	12/11/18 23:53	
Bromomethane	ND U	5.0	1	12/11/18 23:53	
Carbon Disulfide	ND U	10	1	12/11/18 23:53	
Carbon Tetrachloride	ND U	5.0	1	12/11/18 23:53	
Chlorobenzene	ND U	5.0	1	12/11/18 23:53	
Chloroethane	ND U	5.0	1	12/11/18 23:53	
Chloroform	ND U	5.0	1	12/11/18 23:53	
Chloromethane	ND U	5.0	1	12/11/18 23:53	
Dibromochloromethane	ND U	5.0	1	12/11/18 23:53	
Dichloromethane	ND U	5.0	1	12/11/18 23:53	
Ethylbenzene	ND U	5.0	1	12/11/18 23:53	
Styrene	ND U	5.0	1	12/11/18 23:53	
Tetrachloroethene (PCE)	ND U	5.0	1	12/11/18 23:53	
Toluene	ND U	5.0	1	12/11/18 23:53	
Trichloroethene (TCE)	ND U	5.0	1	12/11/18 23:53	
Vinyl Chloride	ND U	5.0	1	12/11/18 23:53	
cis-1,2-Dichloroethene	ND U	5.0	1	12/11/18 23:53	
cis-1,3-Dichloropropene	ND U	5.0	1	12/11/18 23:53	
m,p-Xylenes	ND U	5.0	1	12/11/18 23:53	
o-Xylene	ND U	5.0	1	12/11/18 23:53	
trans-1,2-Dichloroethene	ND U	5.0	1	12/11/18 23:53	
trans-1,3-Dichloropropene	ND U	5.0	1	12/11/18 23:53	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 13:45
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-7B	**Units:**	ug/L
Lab Code:	R1811907-018	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	12/11/18 23:53	
Dibromofluoromethane	100	89 - 119	12/11/18 23:53	
Toluene-d8	101	87 - 121	12/11/18 23:53	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 13:00
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-15B	**Units:**	ug/L
Lab Code:	R1811907-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/12/18 00:15	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/12/18 00:15	
1,1,2-Trichloroethane	ND U	5.0	1	12/12/18 00:15	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/12/18 00:15	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/12/18 00:15	
1,2-Dichloroethane	ND U	5.0	1	12/12/18 00:15	
1,2-Dichloropropane	ND U	5.0	1	12/12/18 00:15	
2-Butanone (MEK)	ND U	10	1	12/12/18 00:15	
2-Hexanone	ND U	10	1	12/12/18 00:15	
4-Methyl-2-pentanone	ND U	10	1	12/12/18 00:15	
Acetone	**140**	10	1	12/12/18 00:15	
Benzene	ND U	5.0	1	12/12/18 00:15	
Bromodichloromethane	ND U	5.0	1	12/12/18 00:15	
Bromoform	ND U	5.0	1	12/12/18 00:15	
Bromomethane	ND U	5.0	1	12/12/18 00:15	
Carbon Disulfide	ND U	10	1	12/12/18 00:15	
Carbon Tetrachloride	ND U	5.0	1	12/12/18 00:15	
Chlorobenzene	ND U	5.0	1	12/12/18 00:15	
Chloroethane	ND U	5.0	1	12/12/18 00:15	
Chloroform	ND U	5.0	1	12/12/18 00:15	
Chloromethane	ND U	5.0	1	12/12/18 00:15	
Dibromochloromethane	ND U	5.0	1	12/12/18 00:15	
Dichloromethane	ND U	5.0	1	12/12/18 00:15	
Ethylbenzene	ND U	5.0	1	12/12/18 00:15	
Styrene	ND U	5.0	1	12/12/18 00:15	
Tetrachloroethene (PCE)	ND U	5.0	1	12/12/18 00:15	
Toluene	ND U	5.0	1	12/12/18 00:15	
Trichloroethene (TCE)	ND U	5.0	1	12/12/18 00:15	
Vinyl Chloride	ND U	5.0	1	12/12/18 00:15	
cis-1,2-Dichloroethene	ND U	5.0	1	12/12/18 00:15	
cis-1,3-Dichloropropene	ND U	5.0	1	12/12/18 00:15	
m,p-Xylenes	ND U	5.0	1	12/12/18 00:15	
o-Xylene	ND U	5.0	1	12/12/18 00:15	
trans-1,2-Dichloroethene	ND U	5.0	1	12/12/18 00:15	
trans-1,3-Dichloropropene	ND U	5.0	1	12/12/18 00:15	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 13:00
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-15B	**Units:**	ug/L
Lab Code:	R1811907-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	12/12/18 00:15	
Dibromofluoromethane	101	89 - 119	12/12/18 00:15	
Toluene-d8	101	87 - 121	12/12/18 00:15	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 09:35
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-16B	**Units:**	ug/L
Lab Code:	R1811907-020	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/12/18 00:37	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/12/18 00:37	
1,1,2-Trichloroethane	ND U	5.0	1	12/12/18 00:37	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/12/18 00:37	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/12/18 00:37	
1,2-Dichloroethane	ND U	5.0	1	12/12/18 00:37	
1,2-Dichloropropane	ND U	5.0	1	12/12/18 00:37	
2-Butanone (MEK)	ND U	10	1	12/12/18 00:37	
2-Hexanone	ND U	10	1	12/12/18 00:37	
4-Methyl-2-pentanone	ND U	10	1	12/12/18 00:37	
Acetone	ND U	10	1	12/12/18 00:37	
Benzene	ND U	5.0	1	12/12/18 00:37	
Bromodichloromethane	ND U	5.0	1	12/12/18 00:37	
Bromoform	ND U	5.0	1	12/12/18 00:37	
Bromomethane	ND U	5.0	1	12/12/18 00:37	
Carbon Disulfide	ND U	10	1	12/12/18 00:37	
Carbon Tetrachloride	ND U	5.0	1	12/12/18 00:37	
Chlorobenzene	ND U	5.0	1	12/12/18 00:37	
Chloroethane	ND U	5.0	1	12/12/18 00:37	
Chloroform	ND U	5.0	1	12/12/18 00:37	
Chloromethane	ND U	5.0	1	12/12/18 00:37	
Dibromochloromethane	ND U	5.0	1	12/12/18 00:37	
Dichloromethane	ND U	5.0	1	12/12/18 00:37	
Ethylbenzene	ND U	5.0	1	12/12/18 00:37	
Styrene	ND U	5.0	1	12/12/18 00:37	
Tetrachloroethene (PCE)	ND U	5.0	1	12/12/18 00:37	
Toluene	ND U	5.0	1	12/12/18 00:37	
Trichloroethene (TCE)	**22**	5.0	1	12/12/18 00:37	
Vinyl Chloride	ND U	5.0	1	12/12/18 00:37	
cis-1,2-Dichloroethene	**8.3**	5.0	1	12/12/18 00:37	
cis-1,3-Dichloropropene	ND U	5.0	1	12/12/18 00:37	
m,p-Xylenes	ND U	5.0	1	12/12/18 00:37	
o-Xylene	ND U	5.0	1	12/12/18 00:37	
trans-1,2-Dichloroethene	ND U	5.0	1	12/12/18 00:37	
trans-1,3-Dichloropropene	ND U	5.0	1	12/12/18 00:37	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 09:35
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-16B	**Units:**	ug/L
Lab Code:	R1811907-020	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	12/12/18 00:37	
Dibromofluoromethane	101	89 - 119	12/12/18 00:37	
Toluene-d8	102	87 - 121	12/12/18 00:37	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 13:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-18B	**Units:**	ug/L
Lab Code:	R1811907-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/12/18 00:59	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/12/18 00:59	
1,1,2-Trichloroethane	ND U	5.0	1	12/12/18 00:59	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/12/18 00:59	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/12/18 00:59	
1,2-Dichloroethane	ND U	5.0	1	12/12/18 00:59	
1,2-Dichloropropane	ND U	5.0	1	12/12/18 00:59	
2-Butanone (MEK)	ND U	10	1	12/12/18 00:59	
2-Hexanone	ND U	10	1	12/12/18 00:59	
4-Methyl-2-pentanone	ND U	10	1	12/12/18 00:59	
Acetone	ND U	10	1	12/12/18 00:59	
Benzene	ND U	5.0	1	12/12/18 00:59	
Bromodichloromethane	ND U	5.0	1	12/12/18 00:59	
Bromoform	ND U	5.0	1	12/12/18 00:59	
Bromomethane	ND U	5.0	1	12/12/18 00:59	
Carbon Disulfide	ND U	10	1	12/12/18 00:59	
Carbon Tetrachloride	ND U	5.0	1	12/12/18 00:59	
Chlorobenzene	ND U	5.0	1	12/12/18 00:59	
Chloroethane	ND U	5.0	1	12/12/18 00:59	
Chloroform	ND U	5.0	1	12/12/18 00:59	
Chloromethane	ND U	5.0	1	12/12/18 00:59	
Dibromochloromethane	ND U	5.0	1	12/12/18 00:59	
Dichloromethane	ND U	5.0	1	12/12/18 00:59	
Ethylbenzene	ND U	5.0	1	12/12/18 00:59	
Styrene	ND U	5.0	1	12/12/18 00:59	
Tetrachloroethene (PCE)	ND U	5.0	1	12/12/18 00:59	
Toluene	ND U	5.0	1	12/12/18 00:59	
Trichloroethene (TCE)	ND U	5.0	1	12/12/18 00:59	
Vinyl Chloride	ND U	5.0	1	12/12/18 00:59	
cis-1,2-Dichloroethene	ND U	5.0	1	12/12/18 00:59	
cis-1,3-Dichloropropene	ND U	5.0	1	12/12/18 00:59	
m,p-Xylenes	ND U	5.0	1	12/12/18 00:59	
o-Xylene	ND U	5.0	1	12/12/18 00:59	
trans-1,2-Dichloroethene	ND U	5.0	1	12/12/18 00:59	
trans-1,3-Dichloropropene	ND U	5.0	1	12/12/18 00:59	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 13:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-18B	**Units:**	ug/L
Lab Code:	R1811907-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85 - 122	12/12/18 00:59	
Dibromofluoromethane	99	89 - 119	12/12/18 00:59	
Toluene-d8	101	87 - 121	12/12/18 00:59	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	GW-DUP	**Units:**	ug/L
Lab Code:	R1811907-022	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/12/18 01:21	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/12/18 01:21	
1,1,2-Trichloroethane	ND U	5.0	1	12/12/18 01:21	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/12/18 01:21	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/12/18 01:21	
1,2-Dichloroethane	ND U	5.0	1	12/12/18 01:21	
1,2-Dichloropropane	ND U	5.0	1	12/12/18 01:21	
2-Butanone (MEK)	ND U	10	1	12/12/18 01:21	
2-Hexanone	ND U	10	1	12/12/18 01:21	
4-Methyl-2-pentanone	ND U	10	1	12/12/18 01:21	
Acetone	ND U	10	1	12/12/18 01:21	
Benzene	ND U	5.0	1	12/12/18 01:21	
Bromodichloromethane	ND U	5.0	1	12/12/18 01:21	
Bromoform	ND U	5.0	1	12/12/18 01:21	
Bromomethane	ND U	5.0	1	12/12/18 01:21	
Carbon Disulfide	ND U	10	1	12/12/18 01:21	
Carbon Tetrachloride	ND U	5.0	1	12/12/18 01:21	
Chlorobenzene	ND U	5.0	1	12/12/18 01:21	
Chloroethane	ND U	5.0	1	12/12/18 01:21	
Chloroform	ND U	5.0	1	12/12/18 01:21	
Chloromethane	ND U	5.0	1	12/12/18 01:21	
Dibromochloromethane	ND U	5.0	1	12/12/18 01:21	
Dichloromethane	ND U	5.0	1	12/12/18 01:21	
Ethylbenzene	ND U	5.0	1	12/12/18 01:21	
Styrene	ND U	5.0	1	12/12/18 01:21	
Tetrachloroethene (PCE)	ND U	5.0	1	12/12/18 01:21	
Toluene	ND U	5.0	1	12/12/18 01:21	
Trichloroethene (TCE)	ND U	5.0	1	12/12/18 01:21	
Vinyl Chloride	ND U	5.0	1	12/12/18 01:21	
cis-1,2-Dichloroethene	ND U	5.0	1	12/12/18 01:21	
cis-1,3-Dichloropropene	ND U	5.0	1	12/12/18 01:21	
m,p-Xylenes	ND U	5.0	1	12/12/18 01:21	
o-Xylene	ND U	5.0	1	12/12/18 01:21	
trans-1,2-Dichloroethene	ND U	5.0	1	12/12/18 01:21	
trans-1,3-Dichloropropene	ND U	5.0	1	12/12/18 01:21	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	GW-DUP	**Units:**	ug/L
Lab Code:	R1811907-022	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	12/12/18 01:21	
Dibromofluoromethane	99	89 - 119	12/12/18 01:21	
Toluene-d8	101	87 - 121	12/12/18 01:21	

Metals

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Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 15:05
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-1	**Basis:**	NA
Lab Code:	R1811907-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	ND U	ug/L	10	1	12/12/18 21:49	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 21:49	12/11/18	
Iron, Total	6010C	**340**	ug/L	100	1	12/12/18 21:49	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 21:49	12/11/18	
Manganese, Total	6010C	**37**	ug/L	10	1	12/12/18 21:49	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 15:05
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-1 Diss	**Basis:**	NA
Lab Code:	R1811907-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 21:52	12/11/18	
Chromium, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 21:52	12/11/18	
Iron, Dissolved	6010C	ND U	ug/L	100	1	12/12/18 21:52	12/11/18	
Lead, Dissolved	6010C	ND U	ug/L	50	1	12/12/18 21:52	12/11/18	
Manganese, Dissolved	6010C	**30**	ug/L	10	1	12/12/18 21:52	12/11/18	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 10:20
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-2A	**Basis:**	NA
Lab Code:	R1811907-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	ND U	ug/L	10	1	12/12/18 21:55	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 21:55	12/11/18	
Iron, Total	6010C	**630**	ug/L	100	1	12/12/18 21:55	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 21:55	12/11/18	
Manganese, Total	6010C	**104**	ug/L	10	1	12/12/18 21:55	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 10:20
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-2A Diss	**Basis:**	NA
Lab Code:	R1811907-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:02	12/11/18	
Chromium, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:02	12/11/18	
Iron, Dissolved	6010C	**190**	ug/L	100	1	12/12/18 22:02	12/11/18	
Lead, Dissolved	6010C	ND U	ug/L	50	1	12/12/18 22:02	12/11/18	
Manganese, Dissolved	6010C	**91**	ug/L	10	1	12/12/18 22:02	12/11/18	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 14:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-3A	**Basis:**	NA
Lab Code:	R1811907-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	ND U	ug/L	10	1	12/12/18 22:05	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 22:05	12/11/18	
Iron, Total	6010C	**180**	ug/L	100	1	12/12/18 22:05	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 22:05	12/11/18	
Manganese, Total	6010C	**33**	ug/L	10	1	12/12/18 22:05	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 14:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-3A Diss	**Basis:**	NA
Lab Code:	R1811907-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:08	12/11/18	
Chromium, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:08	12/11/18	
Iron, Dissolved	6010C	ND U	ug/L	100	1	12/12/18 22:08	12/11/18	
Lead, Dissolved	6010C	ND U	ug/L	50	1	12/12/18 22:08	12/11/18	
Manganese, Dissolved	6010C	**31**	ug/L	10	1	12/12/18 22:08	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 08:30
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-5	**Basis:**	NA
Lab Code:	R1811907-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	ND U	ug/L	10	1	12/12/18 22:11	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 22:11	12/11/18	
Iron, Total	6010C	**200**	ug/L	100	1	12/12/18 22:11	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 22:11	12/11/18	
Manganese, Total	6010C	**12**	ug/L	10	1	12/12/18 22:11	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 08:30
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-5 Diss	**Basis:**	NA
Lab Code:	R1811907-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:21	12/11/18	
Chromium, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:21	12/11/18	
Iron, Dissolved	6010C	ND U	ug/L	100	1	12/12/18 22:21	12/11/18	
Lead, Dissolved	6010C	ND U	ug/L	50	1	12/12/18 22:21	12/11/18	
Manganese, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:21	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-DUP	**Basis:**	NA
Lab Code:	R1811907-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	ND U	ug/L	10	1	12/12/18 22:25	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 22:25	12/11/18	
Iron, Total	6010C	**120**	ug/L	100	1	12/12/18 22:25	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 22:25	12/11/18	
Manganese, Total	6010C	**12**	ug/L	10	1	12/12/18 22:25	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-DUP Diss	**Basis:**	NA
Lab Code:	R1811907-010		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:28	12/11/18	
Chromium, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:28	12/11/18	
Iron, Dissolved	6010C	ND U	ug/L	100	1	12/12/18 22:28	12/11/18	
Lead, Dissolved	6010C	ND U	ug/L	50	1	12/12/18 22:28	12/11/18	
Manganese, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:28	12/11/18	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 16:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-2B	**Basis:**	NA
Lab Code:	R1811907-011		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	ND U	ug/L	10	1	12/12/18 22:31	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 22:31	12/11/18	
Iron, Total	6010C	**1530**	ug/L	100	1	12/12/18 22:31	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 22:31	12/11/18	
Manganese, Total	6010C	**80**	ug/L	10	1	12/12/18 22:31	12/11/18	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 16:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-2B Diss	**Basis:**	NA
Lab Code:	R1811907-012		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:34	12/11/18	
Chromium, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:34	12/11/18	
Iron, Dissolved	6010C	ND U	ug/L	100	1	12/12/18 22:34	12/11/18	
Lead, Dissolved	6010C	ND U	ug/L	50	1	12/12/18 22:34	12/11/18	
Manganese, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:34	12/11/18	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 14:30
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-3B	**Basis:**	NA
Lab Code:	R1811907-013		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	**35**	ug/L	10	1	12/12/18 22:37	12/11/18	
Chromium, Total	6010C	**53**	ug/L	10	1	12/12/18 22:37	12/11/18	
Iron, Total	6010C	**26200**	ug/L	100	1	12/12/18 22:37	12/11/18	
Lead, Total	6010C	**442**	ug/L	50	1	12/12/18 22:37	12/11/18	
Manganese, Total	6010C	**438**	ug/L	10	1	12/12/18 22:37	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 14:30
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-3B Diss	**Basis:**	NA
Lab Code:	R1811907-014		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	**33**	ug/L	10	1	12/12/18 22:41	12/11/18	
Chromium, Dissolved	6010C	**29**	ug/L	10	1	12/12/18 22:41	12/11/18	
Iron, Dissolved	6010C	**3220**	ug/L	100	1	12/12/18 22:41	12/11/18	
Lead, Dissolved	6010C	**219**	ug/L	50	1	12/12/18 22:41	12/11/18	
Manganese, Dissolved	6010C	**59**	ug/L	10	1	12/12/18 22:41	12/11/18	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 15:45
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-4B	**Basis:**	NA
Lab Code:	R1811907-015		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	ND U	ug/L	10	1	12/12/18 22:44	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 22:44	12/11/18	
Iron, Total	6010C	**1050**	ug/L	100	1	12/12/18 22:44	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 22:44	12/11/18	
Manganese, Total	6010C	**625**	ug/L	10	1	12/12/18 22:44	12/11/18	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 10:45
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-6B	**Basis:**	NA
Lab Code:	R1811907-016		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	ND U	ug/L	10	1	12/12/18 22:47	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 22:47	12/11/18	
Iron, Total	6010C	**2180**	ug/L	100	1	12/12/18 22:47	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 22:47	12/11/18	
Manganese, Total	6010C	**693**	ug/L	10	1	12/12/18 22:47	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/06/18 10:00
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-6B Diss	**Basis:**	NA
Lab Code:	R1811907-017		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:50	12/11/18	
Chromium, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 22:50	12/11/18	
Iron, Dissolved	6010C	**130**	ug/L	100	1	12/12/18 22:50	12/11/18	
Lead, Dissolved	6010C	ND U	ug/L	50	1	12/12/18 22:50	12/11/18	
Manganese, Dissolved	6010C	**600**	ug/L	10	1	12/12/18 22:50	12/11/18	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 13:45
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-7B	**Basis:**	NA
Lab Code:	R1811907-018		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	ND U	ug/L	10	1	12/12/18 23:00	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 23:00	12/11/18	
Iron, Total	6010C	**3270**	ug/L	100	1	12/12/18 23:00	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 23:00	12/11/18	
Manganese, Total	6010C	**51**	ug/L	10	1	12/12/18 23:00	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 13:00
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-15B	**Basis:**	NA
Lab Code:	R1811907-019		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	**29**	ug/L	10	1	12/12/18 23:03	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 23:03	12/11/18	
Iron, Total	6010C	ND U	ug/L	100	1	12/12/18 23:03	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 23:03	12/11/18	
Manganese, Total	6010C	ND U	ug/L	10	1	12/12/18 23:03	12/11/18	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 09:35
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-16B	**Basis:**	NA
Lab Code:	R1811907-020		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	ND U	ug/L	10	1	12/12/18 23:20	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 23:20	12/11/18	
Iron, Total	6010C	**180**	ug/L	100	1	12/12/18 23:20	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 23:20	12/11/18	
Manganese, Total	6010C	ND U	ug/L	10	1	12/12/18 23:20	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 13:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-18B	**Basis:**	NA
Lab Code:	R1811907-021		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	**22**	ug/L	10	1	12/12/18 13:39	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 13:39	12/11/18	
Iron, Total	6010C	**320**	ug/L	100	1	12/12/18 13:39	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 13:39	12/11/18	
Manganese, Total	6010C	**2340**	ug/L	10	1	12/12/18 13:39	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	GW-DUP	**Basis:**	NA
Lab Code:	R1811907-022		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	**19**	ug/L	10	1	12/12/18 13:42	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 13:42	12/11/18	
Iron, Total	6010C	**640**	ug/L	100	1	12/12/18 13:42	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 13:42	12/11/18	
Manganese, Total	6010C	**2340**	ug/L	10	1	12/12/18 13:42	12/11/18	

General Chemistry

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Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 15:05
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-1	**Basis:**	NA
Lab Code:	R1811907-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**6.0**	mg/L	1.0	1	12/11/18 21:36	NA	
Cyanide, Total	335.4	ND U	mg/L	0.010	1	12/13/18 09:53	12/12/18	
Phenolics, Total Recoverable	420.4	ND U	mg/L	0.0050	1	12/18/18 12:06	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**405**	mg/L	10	1	12/11/18 10:25	NA	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 10:20
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-2A	**Basis:**	NA
Lab Code:	R1811907-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**6.9**	mg/L	1.0	1	12/11/18 22:39	NA	
Cyanide, Total	335.4	ND U	mg/L	0.010	1	12/13/18 09:54	12/12/18	
Phenolics, Total Recoverable	420.4	ND U	mg/L	0.0050	1	12/18/18 12:10	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**425**	mg/L	10	1	12/11/18 10:25	NA	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 14:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-3A	**Basis:**	NA
Lab Code:	R1811907-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**7.4**	mg/L	1.0	1	12/11/18 23:00	NA	
Cyanide, Total	335.4	ND U	mg/L	0.010	1	12/13/18 09:55	12/12/18	
Phenolics, Total Recoverable	420.4	ND U	mg/L	0.0050	1	12/18/18 12:13	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**355**	mg/L	10	1	12/11/18 10:25	NA	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 08:30
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-5	**Basis:**	NA
Lab Code:	R1811907-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**5.9**	mg/L	1.0	1	12/11/18 23:21	NA	
Cyanide, Total	335.4	ND U	mg/L	0.010	1	12/13/18 09:55	12/12/18	
Phenolics, Total Recoverable	420.4	ND U	mg/L	0.0050	1	12/18/18 12:17	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**699**	mg/L	10	1	12/12/18 11:20	NA	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	SW-DUP	**Basis:**	NA
Lab Code:	R1811907-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**5.5**	mg/L	1.0	1	12/12/18 00:23	NA	
Cyanide, Total	335.4	ND U	mg/L	0.010	1	12/13/18 09:56	12/12/18	
Phenolics, Total Recoverable	420.4	ND U	mg/L	0.0050	1	12/18/18 12:27	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**695**	mg/L	10	1	12/12/18 11:20	NA	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 16:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-2B	**Basis:**	NA
Lab Code:	R1811907-011		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**14.4**	mg/L	1.0	1	12/12/18 00:44	NA	
Cyanide, Total	335.4	ND U	mg/L	0.010	1	12/13/18 09:57	12/12/18	
Phenolics, Total Recoverable	420.4	**0.019**	mg/L	0.010	2	12/18/18 12:31	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**453**	mg/L	10	1	12/11/18 10:25	NA	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 14:30
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-3B	**Basis:**	NA
Lab Code:	R1811907-013		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**105**	mg/L	10	10	12/12/18 01:05	NA	
Cyanide, Total	335.4	ND U	mg/L	0.060	1	12/13/18 09:58	12/12/18	
Phenolics, Total Recoverable	420.4	**0.74**	mg/L	0.10	20	12/18/18 12:48	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**1560**	mg/L	20	1	12/12/18 11:20	NA	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 15:45
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-4B	**Basis:**	NA
Lab Code:	R1811907-015		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**5.3**	mg/L	1.0	1	12/12/18 01:26	NA	
Cyanide, Total	335.4	ND U	mg/L	0.010	1	12/13/18 09:59	12/12/18	
Phenolics, Total Recoverable	420.4	ND U	mg/L	0.0050	1	12/18/18 12:52	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**491**	mg/L	10	1	12/11/18 10:25	NA	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 10:45
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-6B	**Basis:**	NA
Lab Code:	R1811907-016		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**7.7**	mg/L	1.0	1	12/12/18 01:47	NA	
Cyanide, Total	335.4	ND U	mg/L	0.010	1	12/13/18 10:01	12/12/18	
Phenolics, Total Recoverable	420.4	ND U	mg/L	0.0050	1	12/18/18 12:55	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**1180**	mg/L	10	1	12/12/18 11:20	NA	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 13:45
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-7B	**Basis:**	NA
Lab Code:	R1811907-018		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**46.6**	mg/L	5.0	5	12/14/18 01:09	NA	
Cyanide, Total	335.4	**0.025**	mg/L	0.010	1	12/13/18 10:02	12/12/18	
Phenolics, Total Recoverable	420.4	**0.55**	mg/L	0.10	20	12/18/18 12:59	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**890**	mg/L	20	1	12/12/18 11:20	NA	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18 13:00
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-15B	**Basis:**	NA
Lab Code:	R1811907-019		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**29.6**	mg/L	5.0	5	12/14/18 02:53	NA	
Cyanide, Total	335.4	ND U	mg/L	0.010	1	12/13/18 10:03	12/12/18	
Phenolics, Total Recoverable	420.4	**0.25**	mg/L	0.10	20	12/18/18 13:02	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**1280**	mg/L	30	1	12/12/18 11:20	NA	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 09:35
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-16B	**Basis:**	NA
Lab Code:	R1811907-020		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**14.1**	mg/L	1.0	1	12/12/18 02:49	NA	
Cyanide, Total	335.4	**0.032**	mg/L	0.010	1	12/13/18 10:05	12/12/18	
Phenolics, Total Recoverable	420.4	ND U	mg/L	0.0050	1	12/18/18 13:06	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**653**	mg/L	10	1	12/11/18 10:25	NA	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18 13:15
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	MW-18B	**Basis:**	NA
Lab Code:	R1811907-021		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**19.2**	mg/L	1.0	1	12/12/18 04:34	NA	
Cyanide, Total	335.4	**0.019**	mg/L	0.010	1	12/13/18 10:06	12/12/18	
Phenolics, Total Recoverable	420.4	ND U	mg/L	0.0050	1	12/18/18 13:09	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**2790**	mg/L	20	1	12/11/18 10:25	NA	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	12/07/18 09:00
Sample Name:	GW-DUP	**Basis:**	NA
Lab Code:	R1811907-022		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	**20.2**	mg/L	1.0	1	12/12/18 04:55	NA	
Cyanide, Total	335.4	**0.024**	mg/L	0.010	1	12/13/18 10:10	12/12/18	
Phenolics, Total Recoverable	420.4	ND U	mg/L	0.0050	1	12/18/18 13:13	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	**2750**	mg/L	20	1	12/12/18 11:20	NA	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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Volatile Organic Compounds by GC/MS

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1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Daigler Engineering **Service Request:** R1811907
Project: MARILLA STREET LF
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85-122	Dibromofluoromethane 89-119	Toluene-d8 87-121
SW-1	R1811907-001	98	100	102
SW-2A	R1811907-003	97	100	101
SW-3A	R1811907-005	96	99	101
SW-5	R1811907-007	99	99	102
SW-DUP	R1811907-009	98	101	102
MW-2B	R1811907-011	98	100	100
MW-3B	R1811907-013	99	102	103
MW-4B	R1811907-015	99	99	102
MW-6B	R1811907-016	97	98	101
MW-7B	R1811907-018	96	100	101
MW-15B	R1811907-019	99	101	101
MW-16B	R1811907-020	97	101	102
MW-18B	R1811907-021	96	99	101
GW-DUP	R1811907-022	97	99	101
Method Blank	RQ1813672-04	99	99	102
Lab Control Sample	RQ1813672-03	103	104	104
MW-15B MS	RQ1813672-05	104	104	103
MW-15B DMS	RQ1813672-06	105	106	104

QA/QC Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18
Sample Matrix:	Water	**Date Received:**	12/07/18
		Date Analyzed:	12/12/18
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	MW-15B	**Units:**	ug/L
Lab Code:	R1811907-019	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1813672-05			Duplicate Matrix Spike RQ1813672-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1-Trichloroethane (TCA)	ND U	58.5	50.0	117	62.4	50.0	125	74-127	6	30
1,1,2,2-Tetrachloroethane	ND U	54.4	50.0	109	57.0	50.0	114	72-122	5	30
1,1,2-Trichloroethane	ND U	47.9	50.0	96	49.5	50.0	99	82-121	3	30
1,1-Dichloroethane (1,1-DCA)	ND U	60.5	50.0	121	63.4	50.0	127	74-132	5	30
1,1-Dichloroethene (1,1-DCE)	ND U	57.0	50.0	114	58.0	50.0	116	71-118	2	30
1,2-Dichloroethane	ND U	54.6	50.0	109	57.6	50.0	115	68-130	5	30
1,2-Dichloropropane	ND U	54.0	50.0	108	56.5	50.0	113	79-124	5	30
2-Butanone (MEK)	ND U	53.8	50.0	108	51.5	50.0	103	61-137	4	30
2-Hexanone	ND U	62.3	50.0	125	62.6	50.0	125	56-132	<1	30
4-Methyl-2-pentanone	ND U	61.6	50.0	123	62.9	50.0	126	60-141	2	30
Acetone	140	184	50.0	88	172	50.0	65	35-183	6	30
Benzene	ND U	54.0	50.0	108	56.8	50.0	114	76-129	5	30
Bromodichloromethane	ND U	52.5	50.0	105	56.5	50.0	113	78-133	7	30
Bromoform	ND U	46.8	50.0	94	49.9	50.0	100	58-133	6	30
Bromomethane	ND U	31.0	50.0	62	29.8	50.0	60	10-184	4	30
Carbon Disulfide	ND U	66.2	50.0	132	68.8	50.0	138	59-140	4	30
Carbon Tetrachloride	ND U	54.2	50.0	108	58.6	50.0	117	65-135	8	30
Chlorobenzene	ND U	48.4	50.0	97	50.0	50.0	100	76-125	3	30
Chloroethane	ND U	45.5	50.0	91	47.0	50.0	94	48-146	3	30
Chloroform	ND U	58.6	50.0	117	60.7	50.0	121	75-130	3	30
Chloromethane	ND U	62.6	50.0	125	60.2	50.0	120	55-160	4	30
Dibromochloromethane	ND U	49.6	50.0	99	53.1	50.0	106	72-128	7	30
Dichloromethane	ND U	52.0	50.0	104	53.1	50.0	106	73-122	2	30
Ethylbenzene	ND U	51.9	50.0	104	53.8	50.0	108	72-134	3	30
Styrene	ND U	53.5	50.0	107	55.3	50.0	111	74-136	3	30
Tetrachloroethene (PCE)	ND U	48.0	50.0	96	49.8	50.0	100	72-125	4	30
Toluene	ND U	53.3	50.0	107	55.9	50.0	112	79-119	5	30
Trichloroethene (TCE)	ND U	47.1	50.0	94	49.5	50.0	99	74-122	5	30
Vinyl Chloride	ND U	58.0	50.0	116	59.0	50.0	118	74-159	2	30
cis-1,2-Dichloroethene	ND U	55.0	50.0	110	57.8	50.0	116	77-127	5	30
cis-1,3-Dichloropropene	ND U	53.1	50.0	106	56.6	50.0	113	52-134	6	30
m,p-Xylenes	ND U	106	100	106	108	100	108	80-126	2	30
o-Xylene	ND U	51.5	50.0	103	53.6	50.0	107	79-123	4	30
trans-1,2-Dichloroethene	ND U	57.9	50.0	116	60.5	50.0	121 *	73-118	5	30
trans-1,3-Dichloropropene	ND U	52.5	50.0	105	55.9	50.0	112	71-133	6	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1813672-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	1	12/11/18 18:00	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	12/11/18 18:00	
1,1,2-Trichloroethane	ND U	5.0	1	12/11/18 18:00	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	1	12/11/18 18:00	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	1	12/11/18 18:00	
1,2-Dichloroethane	ND U	5.0	1	12/11/18 18:00	
1,2-Dichloropropane	ND U	5.0	1	12/11/18 18:00	
2-Butanone (MEK)	ND U	10	1	12/11/18 18:00	
2-Hexanone	ND U	10	1	12/11/18 18:00	
4-Methyl-2-pentanone	ND U	10	1	12/11/18 18:00	
Acetone	ND U	10	1	12/11/18 18:00	
Benzene	ND U	5.0	1	12/11/18 18:00	
Bromodichloromethane	ND U	5.0	1	12/11/18 18:00	
Bromoform	ND U	5.0	1	12/11/18 18:00	
Bromomethane	ND U	5.0	1	12/11/18 18:00	
Carbon Disulfide	ND U	10	1	12/11/18 18:00	
Carbon Tetrachloride	ND U	5.0	1	12/11/18 18:00	
Chlorobenzene	ND U	5.0	1	12/11/18 18:00	
Chloroethane	ND U	5.0	1	12/11/18 18:00	
Chloroform	ND U	5.0	1	12/11/18 18:00	
Chloromethane	ND U	5.0	1	12/11/18 18:00	
Dibromochloromethane	ND U	5.0	1	12/11/18 18:00	
Dichloromethane	ND U	5.0	1	12/11/18 18:00	
Ethylbenzene	ND U	5.0	1	12/11/18 18:00	
Styrene	ND U	5.0	1	12/11/18 18:00	
Tetrachloroethene (PCE)	ND U	5.0	1	12/11/18 18:00	
Toluene	ND U	5.0	1	12/11/18 18:00	
Trichloroethene (TCE)	ND U	5.0	1	12/11/18 18:00	
Vinyl Chloride	ND U	5.0	1	12/11/18 18:00	
cis-1,2-Dichloroethene	ND U	5.0	1	12/11/18 18:00	
cis-1,3-Dichloropropene	ND U	5.0	1	12/11/18 18:00	
m,p-Xylenes	ND U	5.0	1	12/11/18 18:00	
o-Xylene	ND U	5.0	1	12/11/18 18:00	
trans-1,2-Dichloroethene	ND U	5.0	1	12/11/18 18:00	
trans-1,3-Dichloropropene	ND U	5.0	1	12/11/18 18:00	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1813672-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	12/11/18 18:00	
Dibromofluoromethane	99	89 - 119	12/11/18 18:00	
Toluene-d8	102	87 - 121	12/11/18 18:00	

Client: Daigler Engineering
Project: MARILLA STREET LF
Sample Matrix: Water

Service Request: R1811907
Date Analyzed: 12/11/18

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1813672-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	8260C	19.7	20.0	98	75-125
1,1,2,2-Tetrachloroethane	8260C	21.5	20.0	107	78-126
1,1,2-Trichloroethane	8260C	18.8	20.0	94	82-121
1,1-Dichloroethane (1,1-DCA)	8260C	21.9	20.0	109	80-124
1,1-Dichloroethene (1,1-DCE)	8260C	19.2	20.0	96	71-118
1,2-Dichloroethane	8260C	21.6	20.0	108	71-127
1,2-Dichloropropane	8260C	20.1	20.0	100	80-119
2-Butanone (MEK)	8260C	20.2	20.0	101	61-137
2-Hexanone	8260C	21.5	20.0	108	63-124
4-Methyl-2-pentanone	8260C	20.9	20.0	105	66-124
Acetone	8260C	19.4	20.0	97	40-161
Benzene	8260C	19.3	20.0	97	79-119
Bromodichloromethane	8260C	19.2	20.0	96	81-123
Bromoform	8260C	18.2	20.0	91	65-146
Bromomethane	8260C	16.6	20.0	83	42-166
Carbon Disulfide	8260C	21.1	20.0	106	66-128
Carbon Tetrachloride	8260C	16.9	20.0	85	70-127
Chlorobenzene	8260C	17.8	20.0	89	80-121
Chloroethane	8260C	16.9	20.0	85	62-131
Chloroform	8260C	21.4	20.0	107	79-120
Chloromethane	8260C	19.9	20.0	100	65-135
Dibromochloromethane	8260C	19.6	20.0	98	72-128
Dichloromethane	8260C	19.8	20.0	99	73-122
Ethylbenzene	8260C	17.7	20.0	89	76-120
Styrene	8260C	18.7	20.0	93	80-124
Tetrachloroethene (PCE)	8260C	15.9	20.0	79	72-125
Toluene	8260C	18.4	20.0	92	79-119
Trichloroethene (TCE)	8260C	16.8	20.0	84	74-122
Vinyl Chloride	8260C	19.7	20.0	99	74-159
cis-1,2-Dichloroethene	8260C	20.4	20.0	102	80-121
cis-1,3-Dichloropropene	8260C	21.2	20.0	106	77-122
m,p-Xylenes	8260C	34.7	40.0	87	80-126
o-Xylene	8260C	17.3	20.0	86	79-123

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QA/QC Report

Client: Daigler Engineering
Project: MARILLA STREET LF
Sample Matrix: Water

Service Request: R1811907
Date Analyzed: 12/11/18

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1813672-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
trans-1,2-Dichloroethene	8260C	20.7	20.0	103	73-118
trans-1,3-Dichloropropene	8260C	20.9	20.0	105	71-133

Metals

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www.alsglobal.com

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1811907-MB1		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 21:42	12/11/18	
Arsenic, Total	6010C	ND U	ug/L	10	1	12/12/18 12:11	12/11/18	
Chromium, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 21:42	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 12:11	12/11/18	
Iron, Dissolved	6010C	ND U	ug/L	100	1	12/12/18 21:42	12/11/18	
Iron, Total	6010C	ND U	ug/L	100	1	12/12/18 12:11	12/11/18	
Lead, Dissolved	6010C	ND U	ug/L	50	1	12/12/18 21:42	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 12:11	12/11/18	
Manganese, Dissolved	6010C	ND U	ug/L	10	1	12/12/18 21:42	12/11/18	
Manganese, Total	6010C	ND U	ug/L	10	1	12/12/18 12:11	12/11/18	

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1811907-MB2		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total	6010C	ND U	ug/L	10	1	12/12/18 21:42	12/11/18	
Chromium, Total	6010C	ND U	ug/L	10	1	12/12/18 21:42	12/11/18	
Iron, Total	6010C	ND U	ug/L	100	1	12/12/18 21:42	12/11/18	
Lead, Total	6010C	ND U	ug/L	50	1	12/12/18 21:42	12/11/18	
Manganese, Total	6010C	ND U	ug/L	10	1	12/12/18 21:42	12/11/18	

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QA/QC Report

Client: Daigler Engineering
Project: MARILLA STREET LF
Sample Matrix: Water

Service Request:R1811907
Date Collected:12/05/18
Date Received:12/07/18
Date Analyzed:12/12/18

Duplicate Matrix Spike Summary
Inorganic Parameters

Sample Name: MW-15B
Lab Code: R1811907-019

Units:ug/L
Basis:NA

			Matrix Spike R1811907-019MS			Duplicate Matrix Spike R1811907-019DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Arsenic, Total	6010C	29	64	40	88	64	40	89	75-125	<1	20
Chromium, Total	6010C	ND U	199	200	100	200	200	100	75-125	<1	20
Iron, Total	6010C	ND U	1090	1000	109	1090	1000	109	75-125	<1	20
Lead, Total	6010C	ND U	505	500	101	507	500	101	75-125	<1	20
Manganese, Total	6010C	ND U	490	500	98	493	500	99	75-125	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Daigler Engineering
Project: MARILLA STREET LF
Sample Matrix: Water

Service Request: R1811907
Date Analyzed: 12/12/18

Lab Control Sample Summary
Inorganic Parameters

Units:ug/L
Basis:NA

Lab Control Sample
R1811907-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Arsenic, Dissolved	6010C	43	40	107	80-120
Arsenic, Total	6010C	43	40	107	80-120
Chromium, Dissolved	6010C	199	200	100	80-120
Chromium, Total	6010C	199	200	100	80-120
Iron, Dissolved	6010C	970	1000	97	80-120
Iron, Total	6010C	970	1000	97	80-120
Lead, Dissolved	6010C	509	500	102	80-120
Lead, Total	6010C	509	500	102	80-120
Manganese, Dissolved	6010C	493	500	99	80-120
Manganese, Total	6010C	493	500	99	80-120

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QA/QC Report

Client: Daigler Engineering
Project: MARILLA STREET LF
Sample Matrix: Water

Service Request: R1811907
Date Analyzed: 12/12/18

Duplicate Lab Control Sample Summary
Inorganic Parameters

Units:ug/L
Basis:NA

			Lab Control Sample			Duplicate Lab Control Sample				
			R1811907-LCS1			R1811907-DLCS1				
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Arsenic, Total	6010C	38.7	40	97	38.6	40	97	80-120	<1	20
Chromium, Total	6010C	200	200	100	198	200	99	80-120	1	20
Iron, Total	6010C	955	1000	95	942	1000	94	80-120	1	20
Lead, Total	6010C	498	500	100	493	500	99	80-120	<1	20
Manganese, Total	6010C	490	500	98	483	500	97	80-120	1	20

General Chemistry

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Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1811907-MB1		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	ND	U	mg/L	1.0	1	12/11/18 11:29	NA	
Cyanide, Total	335.4	ND	U	mg/L	0.010	1	12/13/18 09:42	12/12/18	
Phenolics, Total Recoverable	420.4	ND	U	mg/L	0.0050	1	12/18/18 11:49	NA	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	ND	U	mg/L	10	1	12/11/18 10:25	NA	

Analytical Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1811907-MB2		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	ND	U	mg/L	1.0	1	12/13/18 17:17	NA	
Cyanide, Total	335.4	ND	U	mg/L	0.010	1	12/13/18 10:06	12/12/18	
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	ND	U	mg/L	10	1	12/12/18 11:20	NA	

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QA/QC Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18
Sample Matrix:	Water	**Date Received:**	12/07/18
		Date Analyzed:	12/11/18

Duplicate Matrix Spike Summary
Carbon, Total Organic (TOC)

Sample Name:	SW-1	**Units:**	mg/L
Lab Code:	R1811907-001	**Basis:**	NA
Analysis Method:	SM 5310 C-2000(2011)		

		Matrix Spike R1811907-001MS			**Duplicate Matrix Spike** R1811907-001DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic (TOC)	6.0	16.1	10.0	101	17.6	10.0	116	48-135	9	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18
Sample Matrix:	Water	**Date Received:**	12/07/18
		Date Analyzed:	12/18/18

Duplicate Matrix Spike Summary
Phenolics, Total Recoverable

Sample Name:	SW-5	**Units:**	mg/L
Lab Code:	R1811907-007	**Basis:**	NA
Analysis Method:	420.4		

		Matrix Spike			Duplicate Matrix Spike					
		R1811907-007MS			R1811907-007DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Phenolics, Total Recoverable	ND U	0.0403	0.0400	101	0.0408	0.0400	102	90-110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/05/18
Sample Matrix:	Water	**Date Received:**	12/07/18
		Date Analyzed:	12/14/18

Duplicate Matrix Spike Summary
Carbon, Total Organic (TOC)

Sample Name:	MW-7B	**Units:**	mg/L
Lab Code:	R1811907-018	**Basis:**	NA
Analysis Method:	SM 5310 C-2000(2011)		

		Matrix Spike R1811907-018MS			Duplicate Matrix Spike R1811907-018DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic (TOC)	46.6	99.0	50.0	105	98.8	50.0	104	48-135	<1	20

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: Daigler Engineering
Project: MARILLA STREET LF
Sample Matrix: Water

Service Request:R1811907
Date Collected:12/05/18
Date Received:12/07/18
Date Analyzed:12/13/18 - 12/14/18

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name: MW-15B
Lab Code: R1811907-019

Units:mg/L
Basis:NA

			Matrix Spike			Duplicate Matrix Spike					
			R1811907-019MS			R1811907-019DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	335.4	ND U	0.098	0.100	98	0.097	0.100	97	90-110	<1	20
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	29.6	89.8	50.0	120	75.0	50.0	91	48-135	18	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project:	MARILLA STREET LF	**Date Collected:**	12/04/18
Sample Matrix:	Water	**Date Received:**	12/07/18
		Date Analyzed:	12/12/18

Duplicate Matrix Spike Summary
Carbon, Total Organic (TOC)

Sample Name:	MW-16B	**Units:**	mg/L
Lab Code:	R1811907-020	**Basis:**	NA
Analysis Method:	SM 5310 C-2000(2011)		

		Matrix Spike				Duplicate Matrix Spike					
		R1811907-020MS				R1811907-020DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic (TOC)	14.1	23.6	10.0	96	23.9	10.0	99	48-135	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project	MARILLA STREET LF	**Date Collected:**	12/05/18
Sample Matrix:	Water	**Date Received:**	12/07/18
		Date Analyzed:	12/12/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	MW-7B	**Units:**	mg/L
Lab Code:	R1811907-018	**Basis:**	NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample R1811907-018DUP Result	Average	RPD	RPD Limit
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	20	890	896	893	<1	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client:	Daigler Engineering	**Service Request:**	R1811907
Project	MARILLA STREET LF	**Date Collected:**	12/04/18
Sample Matrix:	Water	**Date Received:**	12/07/18
		Date Analyzed:	12/11/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	MW-18B	**Units:**	mg/L
Lab Code:	R1811907-021	**Basis:**	NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample R1811907-021DUP Result	Average	RPD	RPD Limit
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	20	2790	2800	2790	<1	10

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Daigler Engineering
Project: MARILLA STREET LF
Sample Matrix: Water

Service Request: R1811907
Date Analyzed: 12/11/18 - 12/18/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1811907-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	10.5	10.0	105	80-121
Cyanide, Total	335.4	0.104	0.100	104	90-110
Phenolics, Total Recoverable	420.4	0.0404	0.0400	101	90-110
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	910	914	100	90-110

Client: Daigler Engineering
Project: MARILLA STREET LF
Sample Matrix: Water

Service Request: R1811907
Date Analyzed: 12/12/18 - 12/13/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1811907-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	10.7	10.0	107	80-121
Cyanide, Total	335.4	0.609	0.600	101	90-110
Solids, Total Dissolved (TDS)	SM 2540 C-1997(2011)	894	914	98	90-110

Client: Daigler Engineering
Project: MARILLA STREET LF
Sample Matrix: Water

Service Request: R1811907
Date Analyzed: 12/13/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1811907-LCS3

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	335.4	0.105	0.100	105	90-110

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QA/QC Report

Client: Daigler Engineering
Project: MARILLA STREET LF
Sample Matrix: Water

Service Request: R1811907
Date Analyzed: 12/13/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1811907-LCS4

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	335.4	0.613	0.600	102	90-110

APPENDIX D

Historic Data for Shallow Overburden Background Well MW-6B

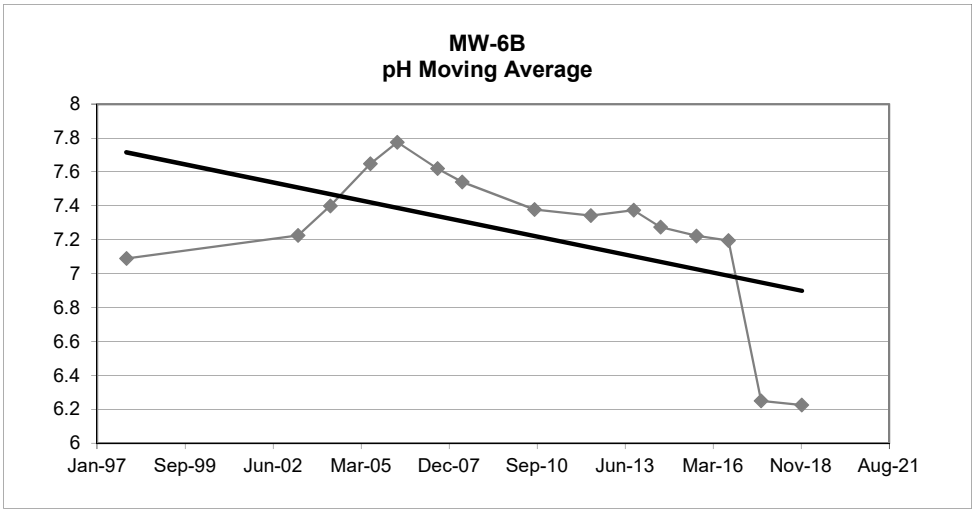
Appendix D

Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

pH

Event No.	Event Date	pH	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.	M.A. - 3 S.D.
1	Mar-96	7.22					
2	Jun-96	7.24					
3	Oct-96	7.32					
4	Dec-96	6.88					
5	Mar-97	7.14					
6	Jun-97	7.19					
7	Sep-97	7.00					
8	Dec-97	7.03	7.090	0.090	0.269	7.359	6.821
9	Apr-03	7.68	7.225	0.315	0.944	8.169	6.281
10	Apr-04	7.89	7.400	0.453	1.359	8.759	6.041
11	Jul-05	7.99	7.648	0.431	1.294	8.942	6.353
12	May-06	7.54	7.775	0.203	0.609	8.384	7.166
13	Aug-07	7.06	7.620	0.420	1.261	8.881	6.359
14	May-08	7.57	7.540	0.380	1.141	8.681	6.399
15	Aug-10	7.34	7.378	0.235	0.705	8.083	6.673
16	May-12	7.40	7.343	0.212	0.636	7.979	6.706
17	Sep-13	7.19	7.375	0.157	0.471	7.846	6.904
18	Jul-14	7.17	7.275	0.113	0.338	7.613	6.937
19	Aug-15	7.13	7.223	0.121	0.363	7.585	6.860
20	Aug-16	7.29	7.195	0.068	0.204	7.399	6.991
21	Aug-17	3.41	6.250	1.895	5.684	11.934	0.566
22	Dec-18	7.07	6.225	1.879	5.637	11.862	0.588

Background Mean Concentration (BMC)= 7.13
3 S.D.= 2.629
BMC + 3 S.D.= 9.75
BMC - 3 S.D.= 4.50



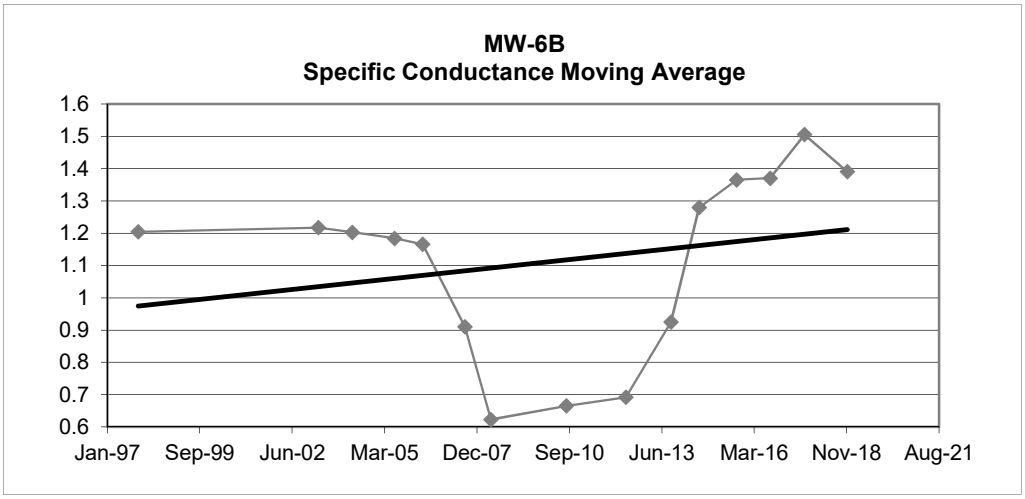
Appendix D

Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

Specific Conductance

Event No.	Event Date	Specific Conductance (mS/cm)	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Mar-96	1.057				
2	Jun-96	1.106				
3	Oct-96	1.118				
4	Dec-96	1.131				
5	Mar-97	1.102				
6	Jun-97	1.205				
7	Sep-97	1.234				
8	Dec-97	1.275	1.204	0.074	0.221	1.425
9	Apr-03	1.152	1.217	0.052	0.155	1.372
10	Apr-04	1.149	1.203	0.062	0.187	1.390
11	Jul-05	1.158	1.184	0.061	0.183	1.367
12	May-06	1.202	1.165	0.025	0.074	1.240
13	Aug-07	0.130	0.910	0.520	1.561	2.471
14	May-08	0.000	0.623	0.646	1.939	2.561
15	Aug-10	1.326	0.665	0.696	2.088	2.753
16	May-12	1.310	0.692	0.725	2.176	2.868
17	Sep-13	1.060	0.924	0.628	1.884	2.808
18	Jul-14	1.420	1.279	0.154	0.462	1.741
19	Aug-15	1.670	1.365	0.253	0.759	2.124
20	Aug-16	1.330	1.370	0.252	0.755	2.125
21	Aug-17	1.600	1.505	0.157	0.471	1.976
22	Dec-18	0.960	1.390	0.322	0.966	2.356

Background Mean Concentration (BMC)= 1.123
3 S.D.= 1.147
BMC + 3 S.D.= 2.269



Appendix D

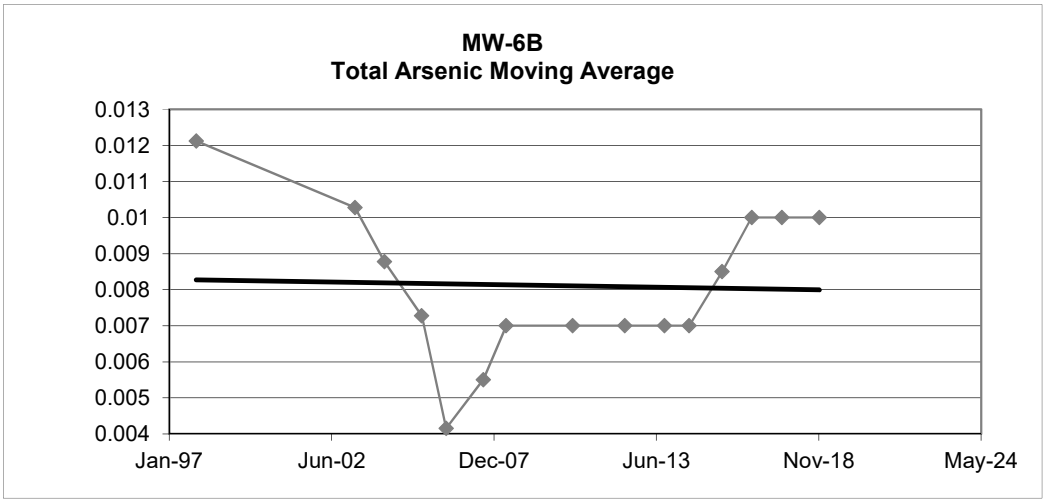
Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

Total Arsenic

Event No.	Event Date	Arsenic, T (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Mar-96	0.0050	*				
2	Jun-96	0.0070					
3	Oct-96	0.0050	*				
4	Dec-96	0.0050	*				
5	Mar-97	0.0120					
6	Jun-97	0.0100	*				
7	Sep-97	0.0100	*				
8	Dec-97	0.0165		0.0121	0.0031	0.0092	0.0213
9	Apr-03	0.0046	*	0.0103	0.0049	0.0146	0.0249
10	Apr-04	0.0040	*	0.0088	0.0058	0.0174	0.0262
11	Jul-05	0.0040	*	0.0073	0.0062	0.0185	0.0257
12	May-06	0.0040	*	0.0042	0.0003	0.0009	0.0051
13	Aug-07	0.0100	*	0.0055	0.0030	0.0090	0.0145
14	May-08	0.0100	*	0.0070	0.0035	0.0104	0.0174
15	Aug-10	0.0040	*	0.0070	0.0035	0.0104	0.0174
16	May-12	0.0040	*	0.0070	0.0035	0.0104	0.0174
17	Sep-13	0.0100	*	0.0070	0.0035	0.0104	0.0174
18	Jul-14	0.0100	*	0.0070	0.0035	0.0104	0.0174
19	Aug-15	0.0100	*	0.0085	0.0030	0.0090	0.0175
20	Aug-16	0.0100	*	0.0100	0.0000	0.0000	0.0100
21	Aug-17	0.0100	*	0.0100	0.0000	0.0000	0.0100
22	Dec-18	0.0100	*	0.0100	0.0000	0.0000	0.0100

Background Mean Concentration (BMC)= 0.00796
3 S.D.= 0.0103
BMC + 3 S.D.= 0.0183

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.
NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

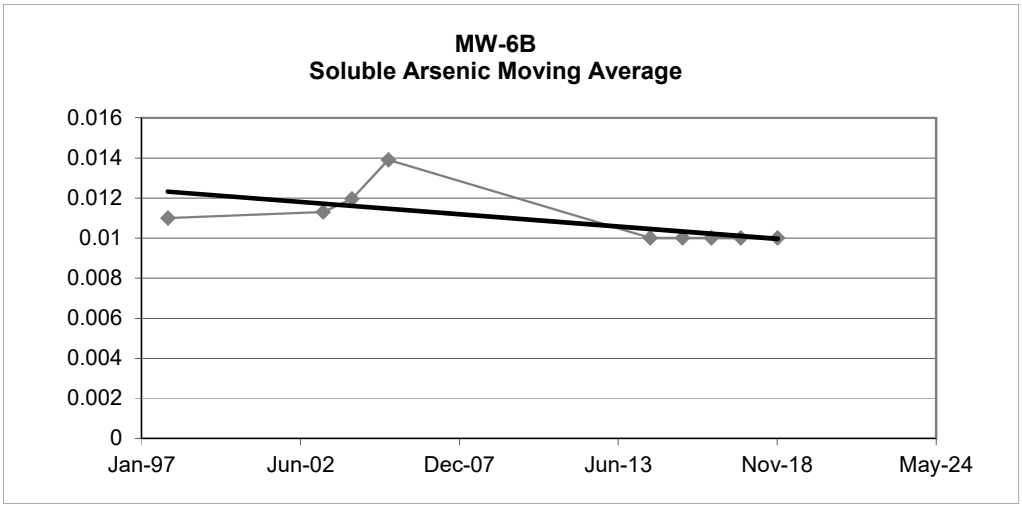
Soluble Arsenic

Event Date	Arsenic, S (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
Mar-96	0.0050	*				
Jun-96	0.0050	*				
Oct-96	0.0050	*				
Dec-96	0.0050	*				
Mar-97	0.0101					
Jun-97	0.0100	*				
Sep-97	0.0100	*				
Dec-97	0.0139		0.0110	0.0019	0.0058	0.0168
Apr-03	NA		0.0113	0.0023	0.0068	0.0181
Apr-04	NA		0.0120	0.0028	0.0083	0.0202
Jul-05	NA		0.0139	NA	NA	NA
May-06	NA		NA	NA	NA	NA
Aug-07	NA		NA	NA	NA	NA
May-08	NA		NA	NA	NA	NA
Aug-10	NA		NA	NA	NA	NA
May-12	NA		NA	NA	NA	NA
Sep-13	NA		NA	NA	NA	NA
Jul-14	0.0100	*	0.0100	NA	NA	NA
Aug-15	0.0100	*	0.0100	0.0000	0.0000	0.0100
Aug-16	0.0100	*	0.0100	0.0000	0.0000	0.0100
Aug-17	0.0100	*	0.0100	0.0000	0.0000	0.0100
Dec-18	0.0100	*	0.0100	0.0000	0.0000	0.0100

Background Mean Concentration (BMC)= 0.00877
3 S.D.= 0.0085
BMC+3 S.D.= 0.0172

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.

NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

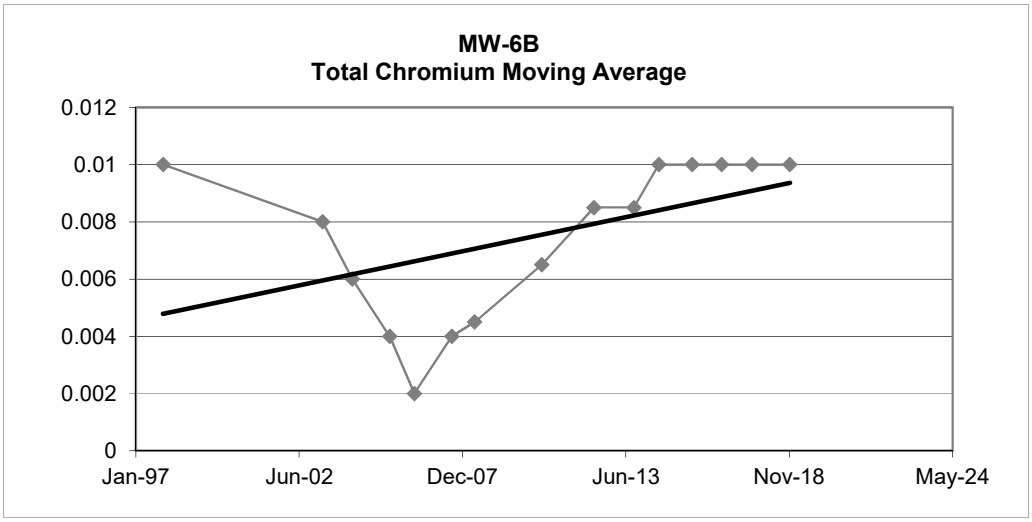
Total Chromium

Event Date	Chromium, T (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
Mar-96	0.0110	*				
Jun-96	0.0110	*				
Oct-96	0.0110	*				
Dec-96	0.0110	*				
Mar-97	0.0100	*				
Jun-97	0.0100	*				
Sep-97	0.0100	*				
Dec-97	0.0100	*	0.0100	0.0000	0.0000	0.0100
Apr-03	0.0020	*	0.0080	0.0040	0.0120	0.0200
Apr-04	0.0020	*	0.0060	0.0046	0.0139	0.0199
Jul-05	0.0020	*	0.0040	0.0040	0.0120	0.0160
May-06	0.0020	*	0.0020	0.0000	0.0000	0.0020
Aug-07	0.0100	*	0.0040	0.0040	0.0120	0.0160
May-08	0.0040	*	0.0045	0.0038	0.0114	0.0159
Aug-10	0.0100	*	0.0065	0.0041	0.0124	0.0189
May-12	0.0100	*	0.0085	0.0030	0.0090	0.0175
Sep-13	0.0100	*	0.0085	0.0030	0.0090	0.0175
Jul-14	0.0100	*	0.0100	0.0000	0.0000	0.0100
Aug-15	0.0100	*	0.0100	0.0000	0.0000	0.0100
Aug-16	0.0100	*	0.0100	0.0000	0.0000	0.0100
Aug-17	0.0100	*	0.0100	0.0000	0.0000	0.0100
Dec-18	0.0100	*	0.0100	0.0000	0.0000	0.0100

Background Mean Concentration (BMC)= 0.00845
3 S.D.= 0.0102
BMC+3 S.D.= 0.0187

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.

NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

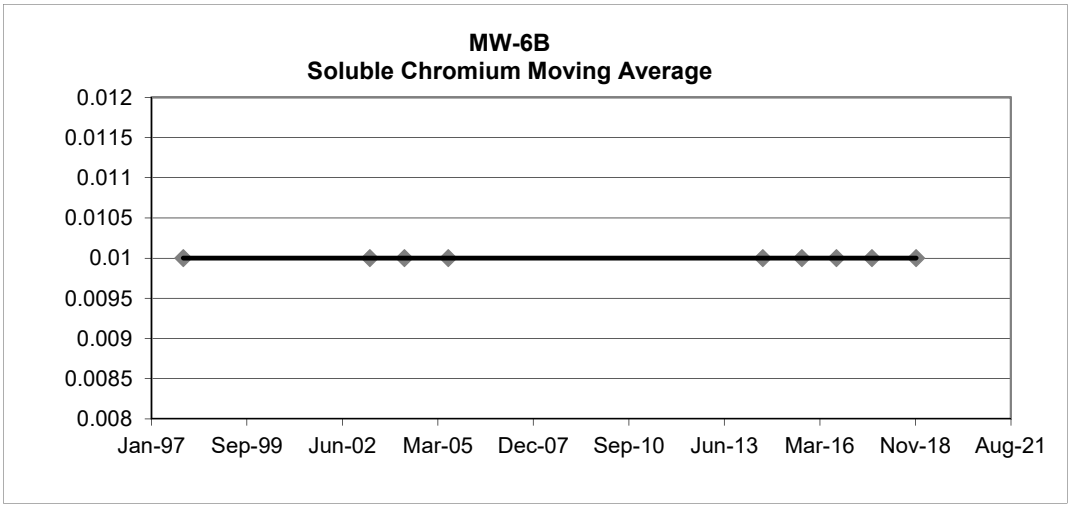
Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

Soluble Chromium

Event No.	Event Date	Chromium, S (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Mar-96	0.0110	*				
2	Jun-96	0.0110	*				
3	Oct-96	0.0110	*				
4	Dec-96	0.0110	*				
5	Mar-97	0.0100	*				
6	Jun-97	0.0100	*				
7	Sep-97	0.0100	*				
8	Dec-97	0.0100	*	0.0100	0.0000	0.0000	0.0100
9	Apr-03	NA		0.0100	0.0000	0.0000	0.0100
10	Apr-04	NA		0.0100	0.0000	0.0000	0.0100
11	Jul-05	NA		0.0100	NA	NA	NA
12	May-06	NA		NA	NA	NA	NA
13	Aug-07	NA		NA	NA	NA	NA
14	May-08	NA		NA	NA	NA	NA
15	Aug-10	NA		NA	NA	NA	NA
16	May-12	NA		NA	NA	NA	NA
17	Sep-13	NA		NA	NA	NA	NA
18	Jul-14	0.0100	*	0.0100	NA	NA	NA
19	Aug-15	0.0100	*	0.0100	0.0000	0.0000	0.0100
20	Aug-16	0.0100	*	0.0100	0.0000	0.0000	0.0100
21	Aug-17	0.0100	*	0.0100	0.0000	0.0000	0.0100
22	Dec-18	0.0100	*	0.0100	0.0000	0.0000	0.0100

Background Mean Concentration (BMC)= 0.0103
3 S.D.= 0.00144
BMC+3 S.D.= 0.0117

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.
NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

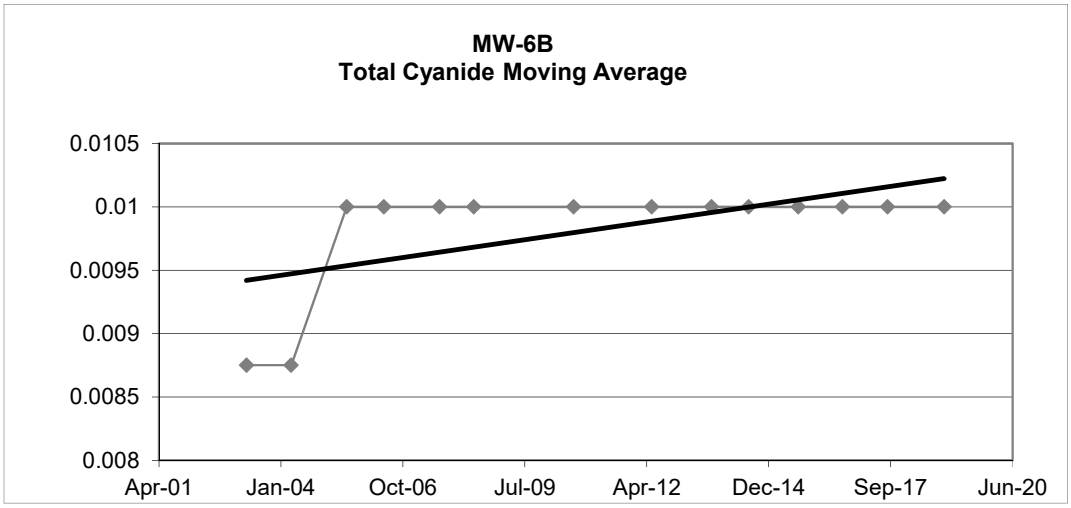
Total Cyanide

Event No.	Event Date	Cyanide, T (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Apr-01	0.010	*				
2	Oct-01	0.005					
3	Apr-02	0.010	*				
4	Apr-03	0.010	*	0.009	0.003	0.008	0.016
5	Apr-04	0.010	*	0.009	0.003	0.008	0.016
6	Jul-05	0.010	*	0.010	0.000	0.000	0.010
7	May-06	0.010	*	0.010	0.000	0.000	0.010
8	Aug-07	0.010	*	0.010	0.000	0.000	0.010
9	May-08	0.010	*	0.010	0.000	0.000	0.010
10	Aug-10	0.010	*	0.010	0.000	0.000	0.010
11	May-12	0.010	*	0.010	0.000	0.000	0.010
12	Sep-13	0.010	*	0.010	0.000	0.000	0.010
13	Jul-14	0.010	*	0.010	0.000	0.000	0.010
14	Aug-15	0.010	*	0.010	0.000	0.000	0.010
15	Aug-16	0.010	*	0.010	0.000	0.000	0.010
16	Aug-17	0.010	*	0.010	0.000	0.000	0.010
17	Dec-18	0.010	*	0.010	0.000	0.000	0.010

Background Mean Concentration (BMC)= 0.0097
3 S.D.= 0.0036
BMC+3 S.D.= 0.013

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.

NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

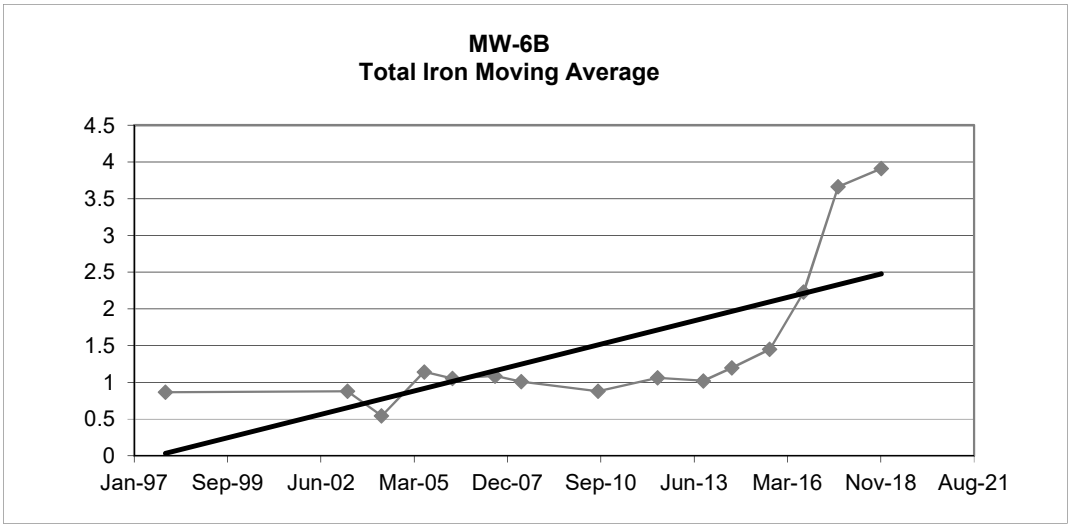
Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

Total Iron

Event No.	Event Date	Iron, T (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Mar-96	1.300					
2	Jun-96	3.960					
3	Oct-96	0.693					
4	Dec-96	1.760					
5	Mar-97	0.205					
6	Jun-97	2.130					
7	Sep-97	0.412					
8	Dec-97	0.719		0.867	0.868	2.605	3.472
9	Apr-03	0.250		0.878	0.857	2.572	3.449
10	Apr-04	0.798		0.545	0.258	0.773	1.317
11	Jul-05	2.800		1.142	1.132	3.395	4.537
12	May-06	0.360		1.052	1.189	3.567	4.619
13	Aug-07	0.383		1.085	1.161	3.482	4.568
14	May-08	0.490		1.008	1.196	3.588	4.596
15	Aug-10	2.280		0.878	0.936	2.809	3.687
16	May-12	1.090		1.061	0.870	2.611	3.672
17	Sep-13	0.220		1.020	0.915	2.746	3.766
18	Jul-14	1.190		1.195	0.844	2.533	3.728
19	Aug-15	3.300		1.450	1.308	3.924	5.374
20	Aug-16	4.200		2.228	1.839	5.517	7.745
21	Aug-17	5.950		3.660	1.980	5.941	9.601
22	Dec-18	2.180		3.908	1.593	4.778	8.686

Background Mean Concentration (BMC)= 1.667
3 S.D.= 4.661
BMC+3 S.D.= 6.327

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.
NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

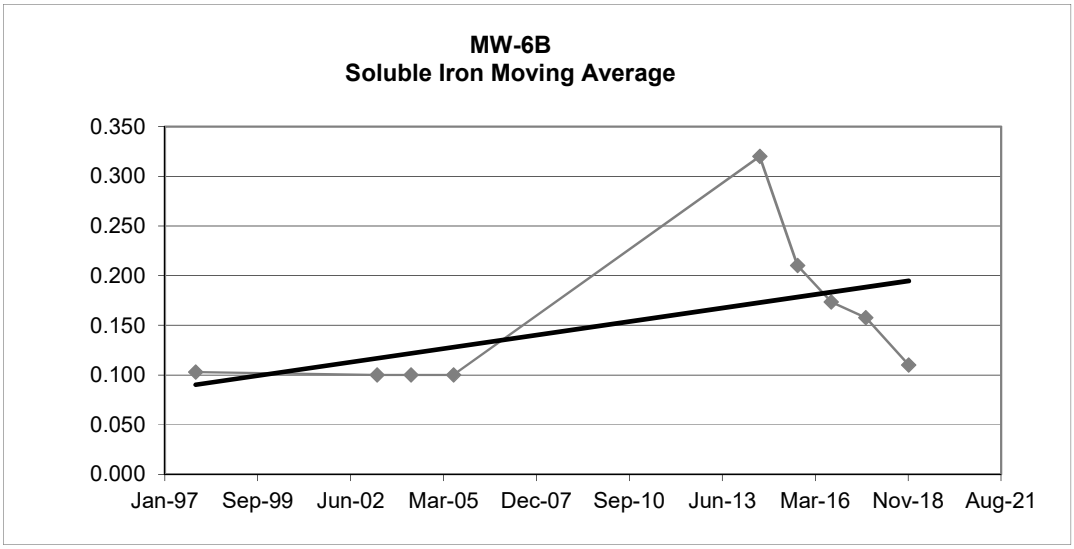
Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

Soluble Iron

Event No.	Event Date	Iron, S (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Mar-96	0.070					
2	Jun-96	0.063	*				
3	Oct-96	0.310					
4	Dec-96	2.890					
5	Mar-97	0.111					
6	Jun-97	0.100	*				
7	Sep-97	0.100	*				
8	Dec-97	0.100	*	0.103	0.006	0.017	0.119
9	Apr-03	NA		0.100	0.000	0.000	0.100
10	Apr-04	NA		0.100	0.000	0.000	0.100
11	Jul-05	NA		0.100	NA	NA	NA
12	May-06	NA		NA	NA	NA	NA
13	Aug-07	NA		NA	NA	NA	NA
14	May-08	NA		NA	NA	NA	NA
15	Aug-10	NA		NA	NA	NA	NA
14	May-12	NA		NA	NA	NA	NA
15	Sep-13	NA		NA	NA	NA	NA
16	Jul-14	0.320		0.320	NA	NA	NA
17	Aug-15	0.100	*	0.210	0.156	0.467	0.677
18	Aug-16	0.100	*	0.173	0.127	0.381	0.554
19	Aug-17	0.110		0.158	0.108	0.325	0.483
20	Dec-18	0.130		0.110	0.014	0.042	0.152

Background Mean Concentration (BMC)= 0.346
3 S.D.= 2.306
BMC+3 S.D.= 2.652

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.
NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

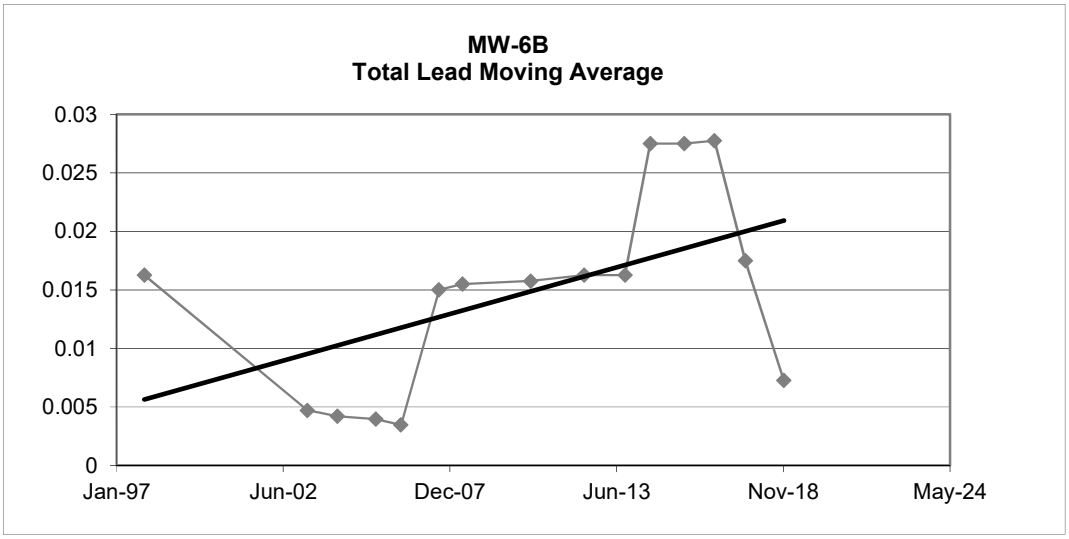
Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

Total Lead

Event No.	Event Date	Lead, T (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Mar-96	0.0050	*				
2	Jun-96	0.0040	*				
3	Oct-96	0.0040	*				
4	Dec-96	0.0040	*				
5	Mar-97	0.0500	*				
6	Jun-97	0.0050					
7	Sep-97	0.0050	*				
8	Dec-97	0.0050	*	0.0163	0.0225	0.0675	0.0838
9	Apr-03	0.0038	*	0.0047	0.0006	0.0018	0.0065
10	Apr-04	0.0030	*	0.0042	0.0010	0.0029	0.0071
11	Jul-05	0.0040	*	0.0040	0.0008	0.0025	0.0064
12	May-06	0.0030	*	0.0035	0.0005	0.0016	0.0050
13	Aug-07	0.0500	*	0.0150	0.0233	0.0700	0.0850
14	May-08	0.0050	*	0.0155	0.0230	0.0690	0.0845
15	Aug-10	0.0050	*	0.0158	0.0229	0.0686	0.0843
16	May-12	0.0050	*	0.0163	0.0225	0.0675	0.0838
17	Sep-13	0.0500	*	0.0163	0.0225	0.0675	0.0838
18	Jul-14	0.0500	*	0.0275	0.0260	0.0779	0.1054
19	Aug-15	0.0050	J	0.0275	0.0260	0.0779	0.1054
20	Aug-16	0.0060	J	0.0278	0.0257	0.0771	0.1048
21	Aug-17	0.0090	J	0.0175	0.0217	0.0652	0.0827
22	Dec-18	0.0090	*	0.0073	0.0021	0.0062	0.0134

Background Mean Concentration (BMC)= 0.0132
3 S.D.= 0.0535
BMC+3 S.D.= 0.0667

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.
NA = The parameter was not analyzed during that particular event or data is not available.
J = Concentration was reported as an estimated value and could not be verified within the linear range of the calibration.



Appendix D

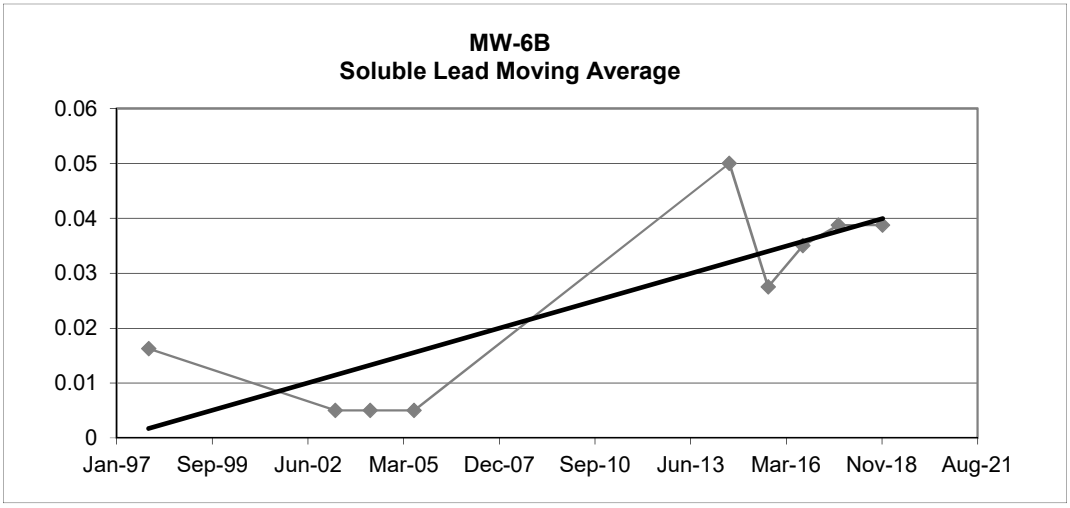
Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

Soluble Lead

Event No.	Event Date	Lead, S (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Mar-96	0.0060	*				
2	Jun-96	0.0040	*				
3	Oct-96	0.0040	*				
4	Dec-96	0.0040	*				
5	Mar-97	0.0500	*				
6	Jun-97	0.0050	*				
7	Sep-97	0.0050	*				
8	Dec-97	0.0050	*	0.0163	0.0225	0.0675	0.0838
9	Apr-03	NA		0.0050	0.0000	0.0000	0.0050
10	Apr-04	NA		0.0050	0.0000	0.0000	0.0050
11	Jul-05	NA		0.0050	NA	NA	NA
12	May-06	NA		NA	NA	NA	NA
13	Aug-07	NA		NA	NA	NA	NA
14	May-08	NA		NA	NA	NA	NA
15	Aug-10	NA		NA	NA	NA	NA
16	May-12	NA		NA	NA	NA	NA
17	Sep-13	NA		NA	NA	NA	NA
18	Jul-14	0.0500	*	0.0500	NA	NA	NA
19	Aug-15	0.0050	*	0.0275	0.0318	0.0955	0.1230
20	Aug-16	0.0500	*	0.0350	0.0260	0.0779	0.1129
21	Aug-17	0.0500	*	0.0388	0.0225	0.0675	0.1063
22	Dec-18	0.0500	*	0.0388	0.0225	0.0675	0.1063

Background Mean Concentration (BMC)= 0.0222
3 S.D.= 0.0688
BMC+3 S.D.= 0.0909

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.
NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

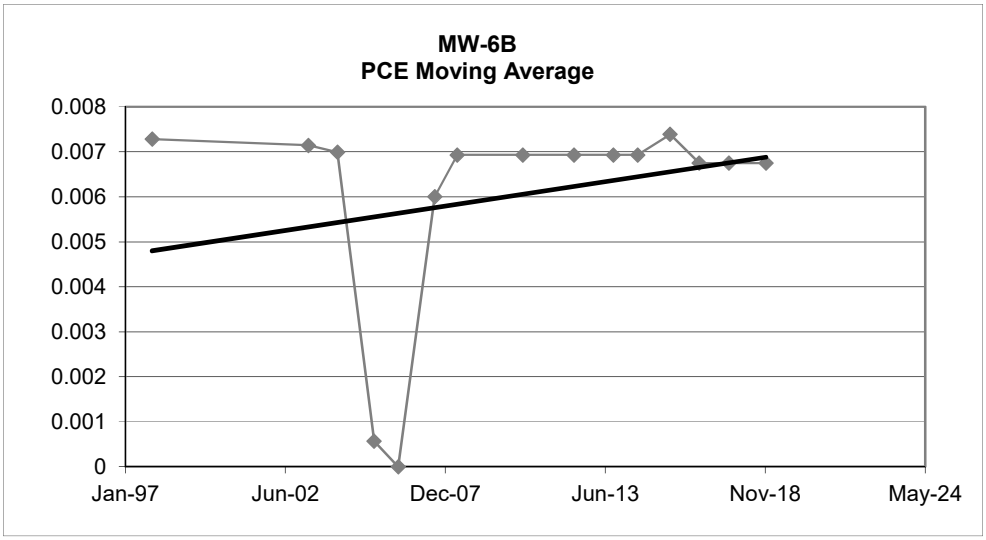
Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

PCE

Event No.	Event Date	PCE (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Mar-96	0.00090					
2	Jun-96	0.00090					
3	Oct-96	0.00090					
4	Dec-96	0.00090					
5	Mar-97	0.00069					
6	Jun-97	0.00069					
7	Sep-97	0.00552					
8	Dec-97	0.00062		0.00188	0.00243	0.00728	0.00916
9	Apr-03	0.00100	*	0.00196	0.00238	0.00714	0.00910
10	Apr-04	0.00100	*	0.00204	0.00233	0.00699	0.00903
11	Jul-05	0.00100	*	0.00091	0.00019	0.00057	0.00148
12	May-06	0.00100	*	0.00100	0.00000	0.00000	0.00100
13	Aug-07	0.00500	*	0.00200	0.00200	0.00600	0.00800
14	May-08	0.00500	*	0.00300	0.00231	0.00693	0.00993
15	Aug-10	0.00100	*	0.00300	0.00231	0.00693	0.00993
16	May-12	0.00100	*	0.00300	0.00231	0.00693	0.00993
17	Sep-13	0.00500	*	0.00300	0.00231	0.00693	0.00993
18	Jul-14	0.00500	*	0.00300	0.00231	0.00693	0.00993
19	Aug-15	0.00050	*	0.00288	0.00246	0.00739	0.01026
20	Aug-16	0.00500	*	0.00388	0.00225	0.00675	0.01063
21	Aug-17	0.00500	*	0.00388	0.00225	0.00675	0.01063
22	Dec-18	0.00500	*	0.00388	0.00225	0.00675	0.01063

Background Mean Concentration (BMC)= 0.00239
3 S.D.= 0.00623
BMC+3 S.D.= 0.00862

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.
NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

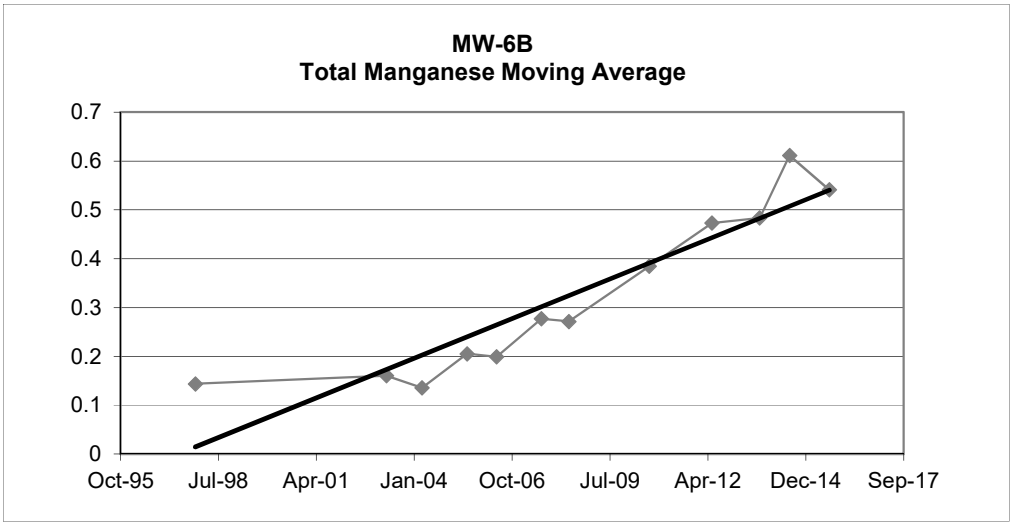
Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

Total Manganese

Event No.	Event Date	Manganese, T (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Mar-96	0.1070					
2	Jun-96	0.1960					
3	Oct-96	0.1980					
4	Dec-96	0.2620					
5	Mar-97	0.1130					
6	Jun-97	0.1750					
7	Sep-97	0.1410					
8	Dec-97	0.1450		0.1435	0.0254	0.0761	0.2196
9	Apr-03	0.1800		0.1603	0.0201	0.0603	0.2205
10	Apr-04	0.0754		0.1354	0.0436	0.1309	0.2663
11	Jul-05	0.4200		0.2051	0.1497	0.4492	0.6543
12	May-06	0.1200		0.1989	0.1535	0.4606	0.6595
13	Aug-07	0.4910		0.2766	0.2094	0.6282	0.9048
14	May-08	0.0540		0.2713	0.2164	0.6492	0.9205
15	Aug-10	0.8720		0.3843	0.3778	1.1334	1.5176
16	May-12	0.4740		0.4728	0.3342	1.0026	1.4754
17	Sep-13	0.5320		0.4830	0.3356	1.0067	1.4897
18	Jul-14	0.5670		0.6113	0.1780	0.5340	1.1453
19	Aug-15	0.5910		0.5410	0.0508	0.1524	0.6934
20	Aug-16	0.7200		0.6025	0.0820	0.2460	0.8485
21	Aug-17	0.6240		0.6255	0.0672	0.2016	0.8271
22	Dec-18	0.6930		0.6570	0.0597	0.1792	0.8362

Background Mean Concentration (BMC)= 0.3523
3 S.D.= 0.7497
BMC+3 S.D.= 1.1020

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.
NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

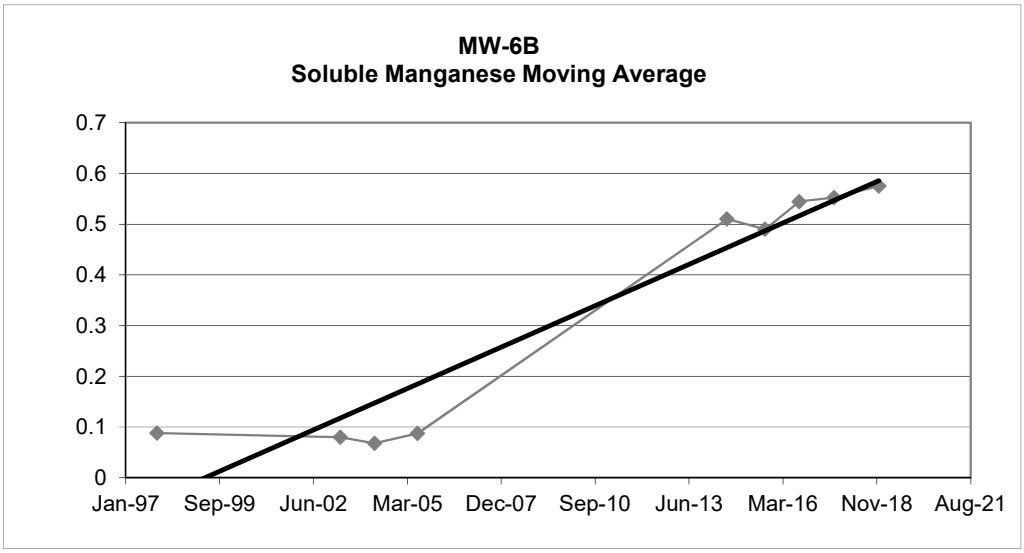
Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

Soluble Manganese

Event No.	Event Date	Manganese, S (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Mar-96	0.1050					
2	Jun-96	0.0310					
3	Oct-96	0.2000					
4	Dec-96	0.2410					
5	Mar-97	0.1120					
6	Jun-97	0.1030					
7	Sep-97	0.0484					
8	Dec-97	0.0875		0.0877	0.0281	0.0843	0.1720
9	Apr-03	NA		0.0796	0.0281	0.0844	0.1640
10	Apr-04	NA		0.0680	0.0276	0.0829	0.1509
11	Jul-05	NA		0.0875	NA	NA	NA
12	May-06	NA		NA	NA	NA	NA
13	Aug-07	NA		NA	NA	NA	NA
14	May-08	NA		NA	NA	NA	NA
15	Aug-10	NA		NA	NA	NA	NA
16	May-12	NA		NA	NA	NA	NA
17	Sep-13	NA		NA	NA	NA	NA
18	Jul-14	0.51		0.5100	NA	NA	NA
19	Aug-15	0.47		0.4900	0.0283	0.0849	0.5749
20	Aug-16	0.653		0.5443	0.0962	0.2886	0.8330
21	Aug-17	0.577		0.5525	0.0802	0.2407	0.7932
22	Dec-18	0.600		0.5750	0.0769	0.2307	0.8057

Background Mean Concentration (BMC)= 0.2875
3 S.D.= 0.7082
BMC+3 S.D.= 0.9958

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.
NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

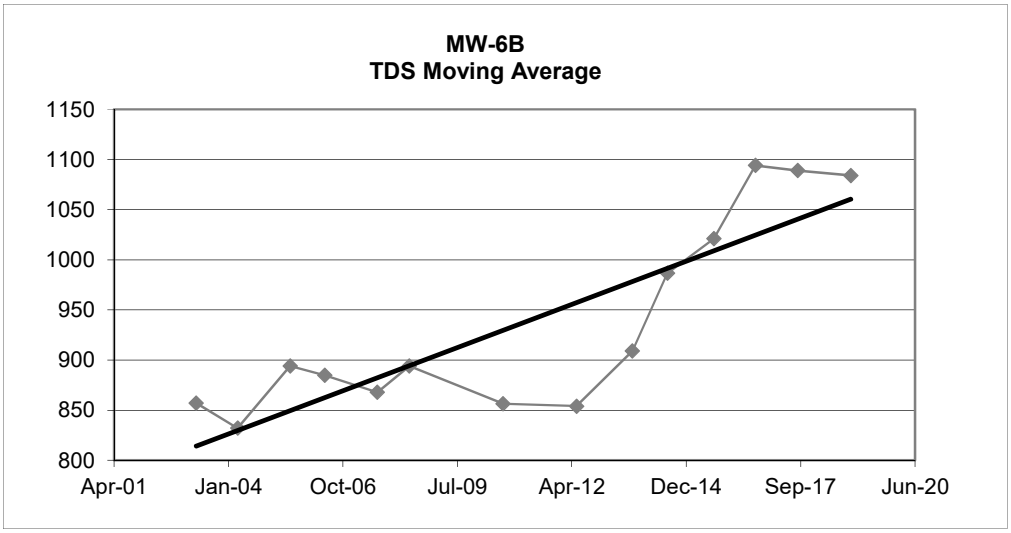
Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

Total Dissolved Solids

Event No.	Event Date	TDS (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Apr-01	885					
2	Oct-01	731					
3	Apr-02	914					
5	Apr-03	898		857	85	254	1111
6	Apr-04	785		832	88	265	1097
7	Jul-05	979		894	81	242	1136
8	May-06	877		885	80	239	1124
9	Aug-07	830		868	83	249	1117
10	May-08	890		894	62	187	1081
11	Aug-10	828		856	32	96	952
12	May-12	868		854	30	91	945
13	Sep-13	1050		909	97	292	1201
14	Jul-14	1200		987	172	516	1503
15	Aug-15	966		1021	141	422	1443
16	Aug-16	1160		1094	106	319	1413
17	Aug-17	1030		1089	110	329	1418
18	Dec-18	1180		1084	103	309	1393

Background Mean Concentration (BMC)= 945
3 S.D.= 414
BMC+3 S.D.= 1360

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.
NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

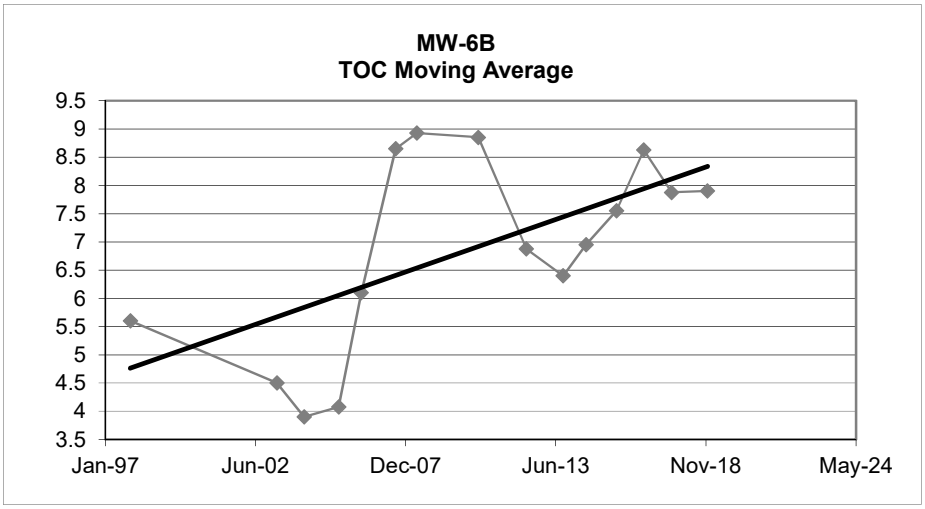
Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

Total Organic Carbon

Event No.	Event Date	TOC (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Mar-96	5.10					
2	Jun-96	5.10					
3	Oct-96	5.80					
4	Dec-96	5.40					
5	Mar-97	5.40					
6	Jun-97	6.70					
7	Sep-97	5.20					
8	Dec-97	5.10		5.60	0.74	2.23	7.83
9	Apr-03	1.00	*	4.50	2.45	7.34	11.84
10	Apr-04	4.30		3.90	1.97	5.92	9.82
11	Jul-05	5.90		4.08	2.15	6.45	10.53
12	May-06	13.20		6.10	5.15	15.46	21.56
13	Aug-07	11.20		8.65	4.23	12.69	21.34
14	May-08	5.40		8.93	3.87	11.62	20.55
15	Aug-10	5.60		8.85	3.95	11.86	20.71
16	May-12	5.30		6.88	2.89	8.66	15.53
17	Sep-13	9.30		6.40	1.94	5.81	12.21
18	Jul-14	7.60		6.95	1.87	5.61	12.56
19	Aug-15	8.00		7.55	1.67	5.00	12.55
20	Aug-16	9.60		8.63	0.97	2.92	11.55
21	Aug-17	6.30		7.88	1.36	4.08	11.95
22	Dec-18	7.70		7.90	1.35	4.06	11.96

Background Mean Concentration (BMC)= 6.55
3 S.D.= 7.71
BMC+3 S.D.= 14.27

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.
NA = The parameter was not analyzed during that particular event or data is not available.



Appendix D

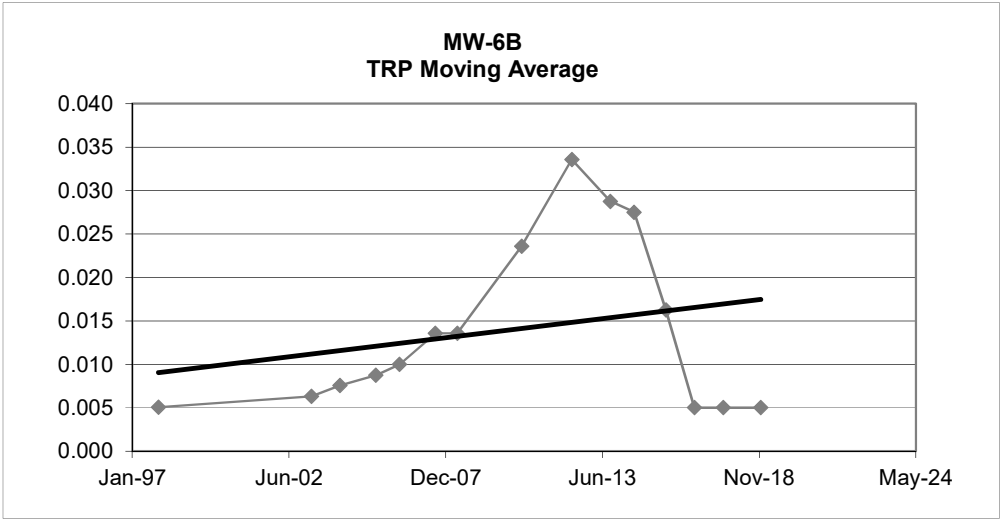
Marilla Street Landfill
December 2018 Annual Sampling Event
Background Shallow Overburden Well MW-6B

Total Recoverable Phenolics

Event No.	Event Date	TRP (mg/L)	*	Moving Average (M.A.)	Moving Standard Deviation (S.D.)	S.D. x 3	M.A. + 3 S.D.
1	Mar-96	0.005	*				
2	Jun-96	0.005	*				
3	Oct-96	0.005	*				
4	Dec-96	0.005	*				
5	Mar-97	0.005	*				
6	Jun-97	0.005					
7	Sep-97	0.00521	*				
8	Dec-97	0.005	*	0.005	0.000	0.000	0.005
9	Apr-03	0.010	*	0.006	0.002	0.007	0.014
10	Apr-04	0.010	*	0.008	0.003	0.008	0.016
11	Jul-05	0.010	*	0.009	0.003	0.008	0.016
12	May-06	0.010	*	0.010	0.000	0.000	0.010
13	Aug-07	0.0243		0.014	0.007	0.021	0.035
14	May-08	0.010	*	0.014	0.007	0.021	0.035
15	Aug-10	0.050	*	0.024	0.019	0.057	0.080
16	May-12	0.050	*	0.034	0.020	0.060	0.093
17	Sep-13	0.005	*	0.029	0.025	0.074	0.103
18	Jul-14	0.005	*	0.028	0.026	0.078	0.105
19	Aug-15	0.005	*	0.016	0.023	0.068	0.084
20	Aug-16	0.005	*	0.005	0.0000	0.000	0.005
21	Aug-17	0.005	*	0.005	0.0000	0.000	0.005
22	Dec-18	0.005	*	0.005	0.0000	0.000	0.005

Background Mean Concentration (BMC)= 0.0111
3 S.D.= 0.0400
BMC+3 S.D.= 0.0511

* = Concentration was reported as less than the laboratory detection limit; the laboratory detection limit is presented in this table.
NA = The parameter was not analyzed during that particular event or data is not available.



APPENDIX E

Moving Average Trend Analysis of Tracked Parameters for Shallow Overburden Wells

Appendix E

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of MATA Tracked Parameters for MW-2B

Event Date	pH	Moving Average	TRP	Moving Average	TOC	Moving Average	Total Chromium	Moving Average	Total Iron	Moving Average	Total Manganese	Moving Average
Sep-13	13.9	-	0.088	-	0.081	-	-	-	-	-	-	-
Jul-14[3]	-	-	-	-	-	-	-	-	-	-	-	-
Aug-15	12.22	-	0.059	-	18.0	-	0.097	-	31.5	-	2.23	-
Aug-16	12.42	-	0.029	-	16.8	-	0.024	-	10.8	-	0.595	-
Aug-17	11.22	12.44	0.063	0.06	17.3	13.05	0.013	-	4.9	-	0.277	-
Dec-18	11.19	11.76	0.019	0.04	14.4	16.63	0.01	0.04	1.53	12.18	0.08	0.80

Notes:

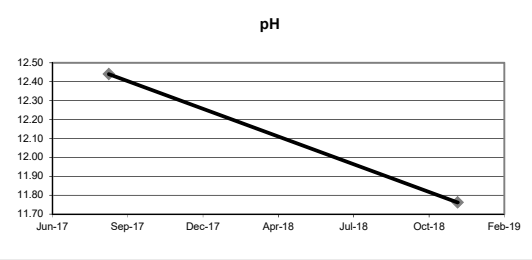
(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.

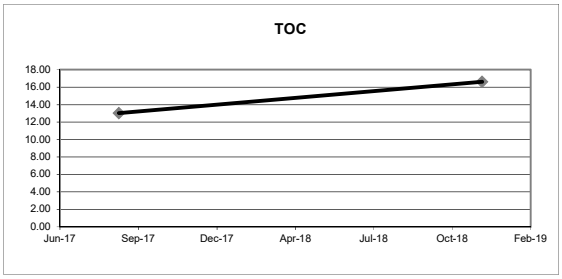
(2) - Data prior to September 2013 sampling event was unavailable, and/or MATA was not previously conducted.

(3) - MW-2B previously biennial, not sampled in 2014.

(4) - TOC = Total Organic Carbon

(5) - TRP = Total Recoverable Phenolics





Appendix E

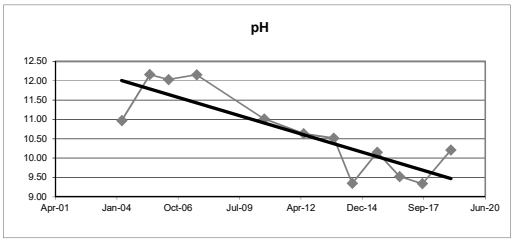
Marilla Street Landfill

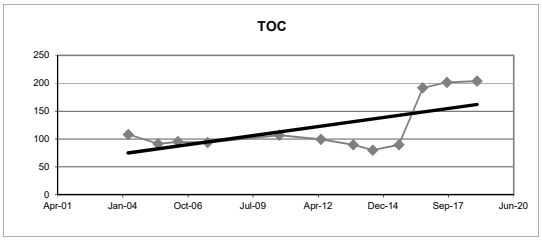
December 2018 Annual Sampling Event

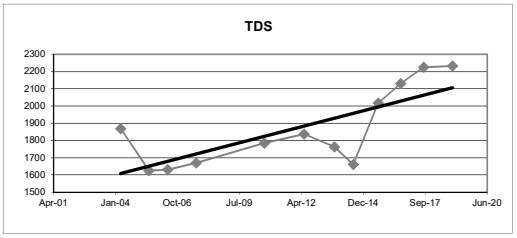
Summary of MATA Tracked Parameters for MW-3B

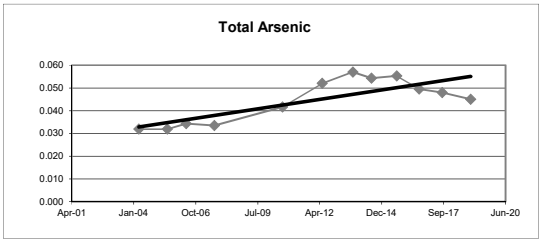
Event Date	pH	Moving Average	TOC	Moving Average	TDS	Moving Average	Total Arsenic	Moving Average	Specific Conductance	Moving Average	TRP	Moving Average
Oct-01	6.72	-	163.0	-	2400	-	0.030	-	2.30	-	1.30	-
Apr-02	12.41	-	117.0	-	1640	-	0.027	-	4.44	-	0.84	-
Apr-03	12.01	-	140.0	-	1780	-	0.037	-	2.97	-	1.10	-
Apr-04	12.74	10.97	11.0	107.8	1650	1868	0.034	0.032	3.53	3.31	0.24	0.87
Jul-05	11.48	12.16	96.9	91.2	1430	1625	0.030	0.032	2.77	3.43	0.36	0.64
May-06	11.90	12.03	132.0	95.0	1660	1630	0.037	0.034	6.69	3.99	0.72	0.61
Aug-07	12.49	12.15	134.0	93.5	1940	1670	0.058	0.034	6.13	4.78	1.05	0.59
Aug-10	8.18	11.01	63.7	106.7	2110	1785	0.026	0.042	0.90	4.12	0.36	0.62
May-12	9.95	10.63	66.6	99.1	1640	1838	0.087	0.052	1.70	3.85	0.64	0.69
Sep-13	11.44	10.52	93.6	89.5	1360	1763	0.057	0.057	1.59	2.58	0.851	0.73
Jul-14	7.84	9.35	96.0	80.0	1530	1660	0.047	0.054	2.75	1.73	0.521	0.59
Aug-15	11.38	10.15	101.0	89.3	3540	2018	0.030	0.055	2.08	2.03	0.683	0.67
Aug-16	7.42	9.52	475	191.4	2090	2130	0.064	0.050	1.73	2.04	0.812	0.72
Aug-17	10.71	9.34	134	201.5	1740	2225	0.051	0.048	3.14	2.43	0.730	0.69
Dec-18	11.32	10.21	105	203.8	1560	2233	0.035	0.045	1.42	2.09	0.740	0.74

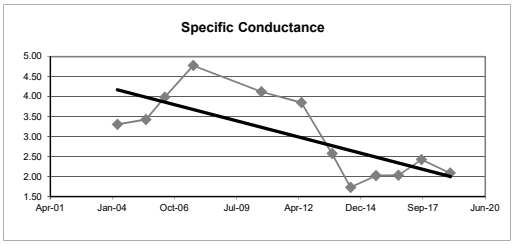
Notes:
(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.
(2) - TOC = Total Organic Carbon
(3) - TDS = Total Dissolved Solids
(4) - TRP = Total Recoverable Phenolics

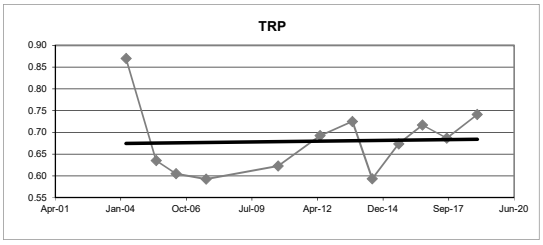












Appendix E

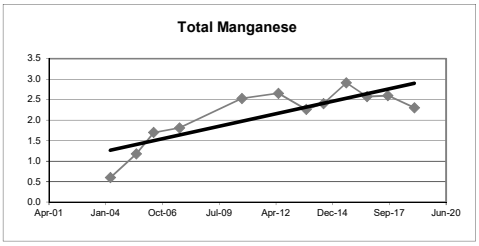
Marilla Street Landfill

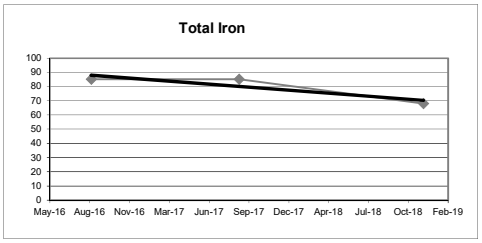
December 2018 Annual Sampling Event

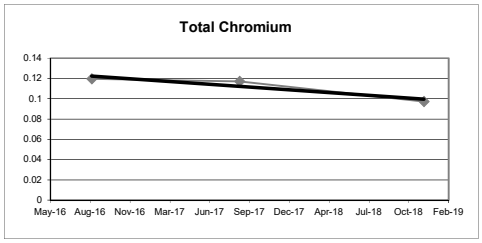
Summary of MATA Tracked Parameters for MW-3B

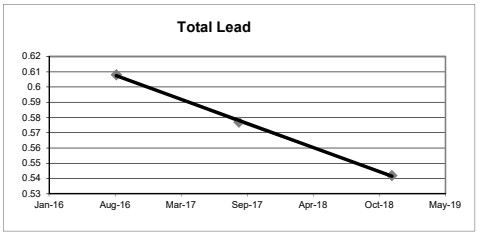
Event Date	Total Cyanide	Moving Average	Total Manganese	Moving Average	Total Chromium	Moving Average	Total Iron	Moving Average	Total Lead	Moving Average
Oct-01	0.0095	-	0.610	-						
Apr-02	0.0124	-	0.510	-						
Apr-03	0.0183	-	0.560	-						
Apr-04	0.0199	0.0150	0.727	0.602						
Jul-05	0.0262	0.0192	2.900	1.174						
May-06	0.0254	0.0225	2.600	1.697						
Aug-07	0.0174	0.0222	1.020	1.812						
Aug-10	0.0220	0.0228	3.600	2.530						
May-12	0.0100	0.0187	3.380	2.650						
Sep-13	0.0150	0.0161	1.030	2.258	0.129	-	73.3	-	0.763	-
Jun-14	0.0130	0.0150	1.610	2.405	0.133	-	94.4	-	0.582	-
Aug-15	0.0220	0.0150	5.610	2.908	0.037	-	58.3	-	0.105	-
Aug-16	0.1000	0.0375	2.050	2.575	0.179	0.120	115	85.250	0.982	0.608
Aug-17	0.1000	0.0588	1.110	2.595	0.120	0.117	73.0	85.175	0.639	0.577
Dec-18	0.0600	0.0705	0.438	2.302	0.053	0.097	26.2	68.125	0.442	0.542

Notes:
(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.









Appendix E

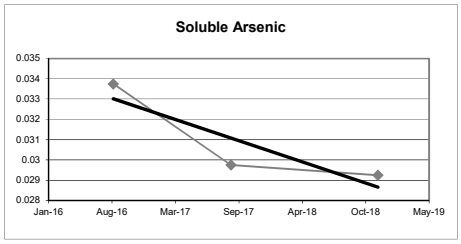
Marilla Street Landfill

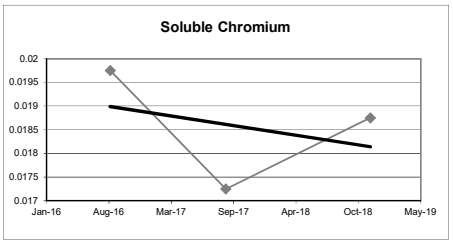
December 2018 Annual Sampling Event

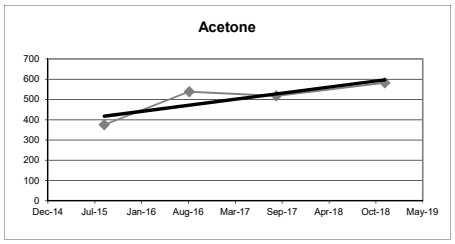
Summary of MATA Tracked Parameters for MW-3B

Event Date	Soluble Arsenic	Moving Average	Soluble Chromium	Moving Average	Soluble Iron	Moving Average	Soluble Lead	Moving Average	Acetone	Moving average
Oct-01										
Apr-02										
Apr-03										
Apr-04										
Jul-05										
May-06										
Aug-07										
Aug-10										
May-12									61.9	
Sep-13	0.041	-	0.0300	-	3.990	-	0.059	-	570	
Jun-14	0.035	-	0.0230	-	3.040	-	0.091	-	390	
Aug-15	0.028	-	0.0160	-	2.910	-	0.050	-	480	375.5
Aug-16	0.031	0.034	0.0100	0.020	1.690	2.908	0.006	0.052	710	537.5
Aug-17	0.025	0.030	0.0200	0.017	2.780	2.605	0.047	0.049	490	517.5
Dec-18	0.033	0.029	0.0290	0.019	3.220	2.650	0.219	0.081	650	582.5

Notes:
(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.







Appendix E

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of MATA Tracked Parameters for MW-4B

Event Date	pH	Moving Average	TOC	Moving Average	TRP	Moving Average	Total Iron	Moving Average	Soluble Iron	Moving Average	Total Manganese	Moving Average
Oct-01	NA	-	NA	-	NA	-	NA	-	NA	-		-
Apr-02	7.90	-	6.5	-	0.005	-	5.60	-	NA	-		-
Apr-03	8.08	-	4.6	-	0.010	-	30.20	-	NA	-		-
Apr-04	8.57	8.18	6.5	5.9	0.010	0.008	1.00	12.27	NA	-		-
Jul-05	7.78	8.08	22.2	10.0	0.076	0.025	10.90	11.92	4.00	4.00		-
May-06	7.71	8.04	3.9	9.3	0.010	0.027	6.60	12.17	NA	4.00		-
Aug-07	7.53	7.90	6.0	9.6	0.005	0.025	1.12	4.90	NA	4.00		-
May-08	7.81	7.71	5.0	9.3	0.010	0.025	0.72	4.84	NA	4.00		-
Aug-10	6.86	7.48	3.8	4.7	0.061	0.022	6.67	3.78	0.77	0.77		-
May-12	7.78	7.50	4.9	4.9	0.050	0.032	3.02	2.88	0.49	0.63		-
Sep-13	8.06	7.63	5.0	4.7	0.005	0.032	0.88	2.82	NA	0.63	1.02	-
Jul-14	8.04	7.69	6.8	5.1	0.0254	0.035	2.50	3.27	NA	0.63	1.02	-
Aug-15	7.60	7.87	6.7	5.9	0.0050	0.021	1.75	2.04	NA	0.49	0.89	-
Aug-16	8.44	8.04	7.7	6.6	0.0050	0.010	5.71	2.71	0.53	0.53	0.863	0.95
Aug-17	8.16	8.06	6.0	6.8	0.0050	0.010	3.84	3.45	NA	0.53	0.703	0.87
Dec-18	8.11	8.08	5.3	6.4	0.0050	0.005	1.05	3.09	NA	0.53	0.625	0.77

Notes:

(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.

(2) - TOC = Total Organic Carbon

(3) - TRP = Total Recoverable Phenolics

(4) - NA = Parameter not analyzed.

Appendix E

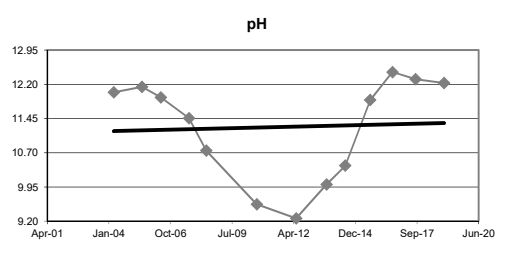
Marilla Street Landfill

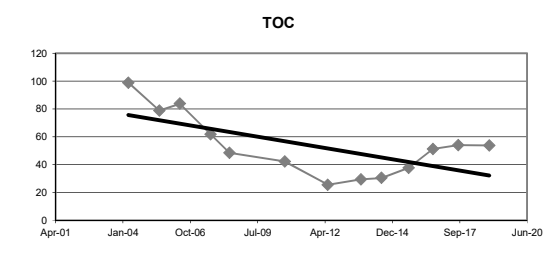
December 2018 Annual Sampling Event

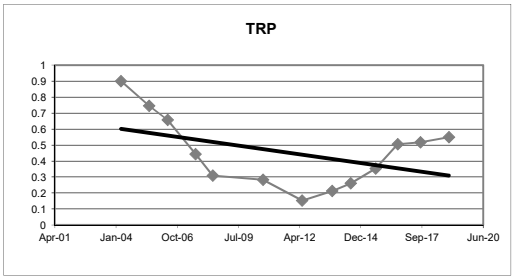
Summary of MATA Tracked Parameters for MW-7B

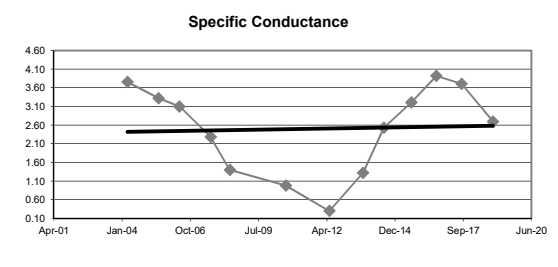
Event Date	pH	Moving Average	TOC	Moving Average	TRP	Moving Average	Specific Conductance	Moving Average	TDS	Moving Average
Oct-01	11.18	-	128.0	-	0.940	-	4.40	-	1420	-
Apr-02	12.61	-	61.8	-	0.950	-	3.73	-	1580	-
Apr-03	11.48	-	109.0	-	0.940	-	3.36	-	1410	-
Apr-04	12.83	12.03	97.0	99.0	0.770	0.900	3.53	3.76	1400	1453
Jul-05	11.65	12.14	47.8	78.9	0.320	0.745	2.66	3.32	1860	1563
May-06	11.69	11.91	81.4	83.8	0.600	0.658	2.83	3.10	1230	1475
Aug-07	9.65	11.46	21.0	61.8	0.083	0.443	0.11	2.28	529	1255
May-08	9.99	10.75	43.5	48.4	0.230	0.308	0.00	1.40	747	1092
Aug-10	6.94	9.57	23.0	42.2	0.220	0.283	0.97	0.98	468	744
May-12	10.45	9.26	14.6	25.5	0.080	0.153	0.12	0.30	401	536
Sep-13	12.63	10.00	36.5	29.4	0.321	0.213	4.20	1.32	1360	744
Jul-14	11.65	10.42	47.5	30.4	0.426	0.262	4.83	2.53	1070	825
Aug-15	12.70	11.86	51.8	37.6	0.587	0.354	3.70	3.21	1220	1013
Aug-16	12.90	12.47	69.0	51.2	0.689	0.506	2.94	3.92	1100	1188
Aug-17	12.01	12.32	47.4	53.9	0.370	0.518	3.37	3.71	832	1056
Dec-18	11.31	12.23	46.6	53.7	0.550	0.549	0.77	2.70	890	1011

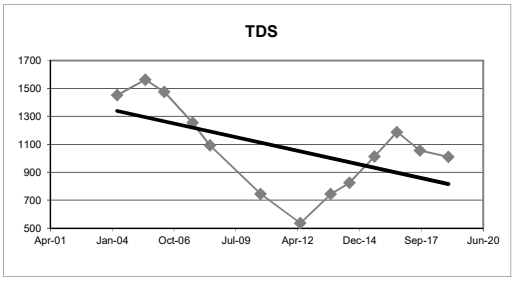
Notes:
(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.
(2) - TOC = Total Organic Carbon
(3) - TRP = Total Recoverable Phenolics
(4) - TDS = Total Dissolved Solids











Appendix E

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of MATA Tracked Parameters for MW-15B

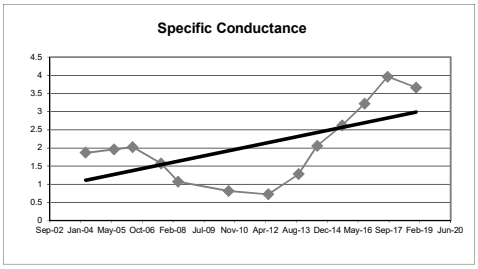
Event Date	Specific Conductance	Moving Average	TDS	Moving Average	TOC	Moving Average	Total Arsenic	Moving Average	Total Iron	Moving Average
Oct-01	1.62	-	722	-	70.2	-	0.009	-	4.7	-
Apr-02	1.81	-	1310	-	52.6	-	0.013	-	5.6	-
Apr-03	2.02	-	1240	-	62.9	-	0.014	-	30.2	-
Apr-04	2.02	1.87	1240	1128	54.6	60.1	0.023	0.015	36.5	19.3
Jul-05	2.00	1.96	1320	1278	49.9	55.0	0.076	0.032	50.5	30.7
May-06	2.04	2.02	1310	1278	50.6	54.5	0.017	0.033	29.0	36.6
Aug-07	0.23	1.57	1260	1283	56.3	52.9	0.027	0.036	43.6	39.9
May-08	0.00	1.07	1110	1250	56.8	53.4	0.040	0.040	33.0	39.0
Aug-10	1.00	0.82	951	1158	87.3	62.8	0.073	0.039	1.1	26.7
May-12	1.66	0.72	954	1069	61.3	65.4	0.032	0.043	3.6	20.3
Sep-13	2.45	1.28	1410	1106	73.8	69.8	0.059	0.051	1.4	9.8
Jul-14	3.11	2.05	1320	1159	96.0	79.6	0.032	0.049	0.85	1.7
Aug-15	3.27	2.62	1690	1344	83.0	78.5	0.026	0.037	0.53	1.6
Aug-16	4.06	3.22	1680	1525	256	127.2	0.037	0.039	0.10	0.7
Aug-17	5.41	3.96	1461	1538	51.0	121.5	0.029	0.031	0.15	0.4
Dec-18	1.91	3.66	1280	1528	29.6	104.9	0.029	0.030	0.10	0.2

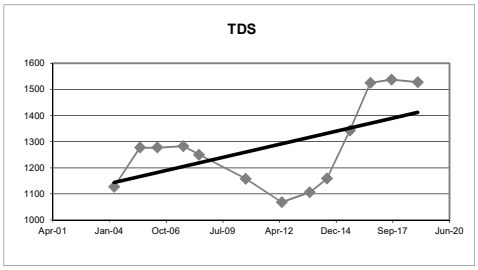
Notes:

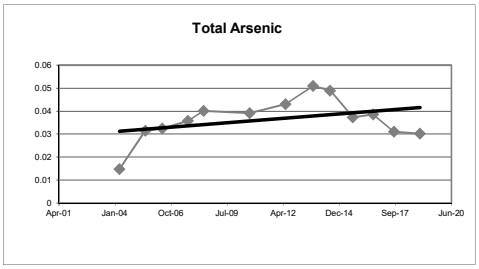
(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.

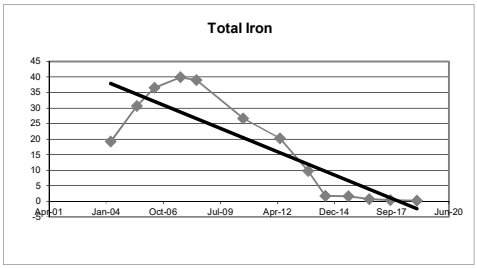
(2) - TDS = Total Dissolved Solids

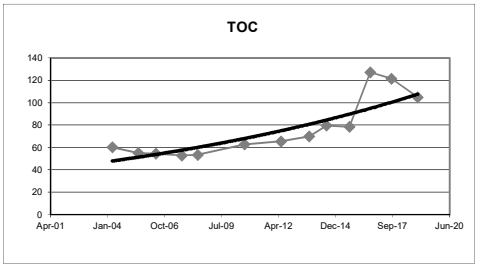
(3) - TOC = Total Organic Carbon











Appendix E

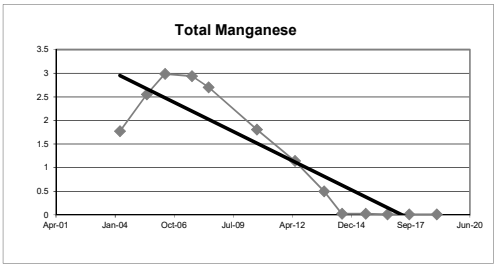
Marilla Street Landfill

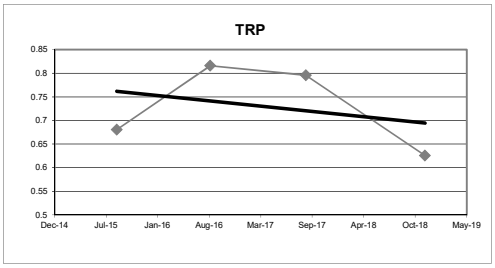
December 2018 Annual Sampling Event

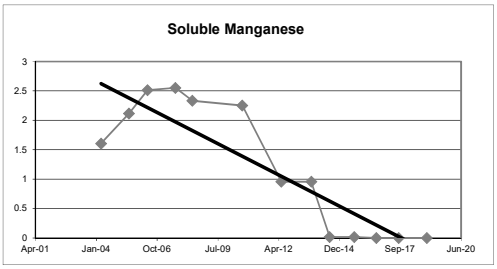
Summary of MATA Tracked Parameters for MW-15B

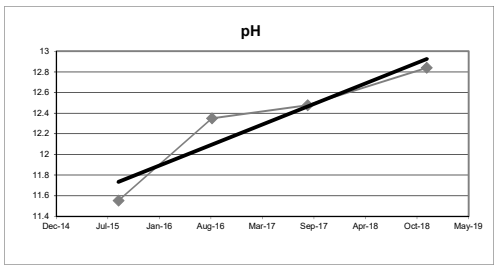
Event Date	Soluble Iron	Moving Average	Total Manganese	Moving Average	Soluble Manganese	Moving Average	TRP	Moving Average	pH	Moving Average	Acetone	Moving Average
Oct-01	4.7	-	0.48	-	0.47	-						
Apr-02	5.6	-	0.97	-	1.00	-						
Apr-03	21.4	-	2.80	-	2.40	-						
Apr-04	26.6	14.6	2.85	1.78	2.56	1.61						
Jul-05	26.3	20.0	3.60	2.56	2.50	2.12						
May-06	28.1	25.6	2.70	2.99	2.60	2.52						
Aug-07	NA	27.0	2.61	2.94	NA	2.55						
May-08	15.2	23.2	1.90	2.70	1.90	2.33						
Aug-10	NA	21.7	0.02	1.81	NA	2.25						
May-12	1.0	8.1	0.05	1.15	0.02	0.96	0.14	-	10.37		17.5	
Sep-13	NA	8.1	0.02	0.50	NA	0.96	0.761	-	12.23	-	10	
Jul-14	NA	1.0	0.02	0.03	NA	0.02	0.930	-	10.97	-	10	
Aug-15	NA	1.0	0.01	0.02	NA	0.02	0.893	0.68	12.64	11.55	10	11.875
Aug-16	NA	-	0.01	0.01	NA	-	0.680	0.82	13.56	12.35	10	10
Aug-17	NA	-	0.01	0.01	NA	-	0.680	0.80	12.74	12.48	83	28.25
Dec-18	NA	-	0.01	0.01	NA	-	0.250	0.63	12.42	12.84	140	60.75

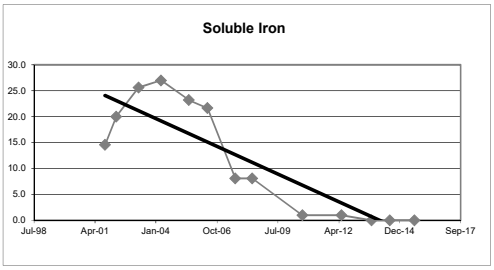
Notes:
(1) - TRP = Total Recoverable Phenolics
(2) - NA = Parameter not analyzed

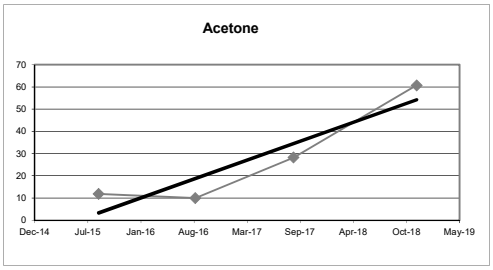












Appendix E

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of MATA Tracked Parameters for MW-16B

Event Date	pH	Moving Average	Specific Conductance	Moving Average	TOC	Moving Average	TRP	Moving Average	Total Iron	Moving Average	Total Chromium	Moving Average	Total Manganese	Moving Average	TCE	Moving Average
Oct-01	10.62	-	3.00	-	14.6	-	0.013	-	8.400	-	0.055	-	1.200	-	5.0	-
Apr-02	12.11	-	2.37	-	9.3	-	0.005	-	0.970	-	0.005	-	0.130	-	5.0	-
Apr-03	11.37	-	2.19	-	11.2	-	0.010	-	1.400	-	0.010	-	0.330	-	5.0	-
Apr-04	12.41	11.63	2.24	2.45	8.6	10.9	0.010	0.010	6.070	4.210	0.055	0.031	2.060	0.930	5.0	-
Jul-05	11.63	11.88	2.22	2.25	11.0	10.0	0.010	0.009	0.090	2.133	0.002	0.018	0.005	0.631	5.0	-
May-06	11.49	11.73	2.10	2.19	6.9	9.4	0.010	0.010	0.130	1.923	0.002	0.017	0.032	0.607	31.0	11.500
Aug-07	12.14	11.92	0.23	1.70	14.5	10.3	0.010	0.010	0.100	1.598	0.010	0.017	0.010	0.527	20.0	15.250
May-08	12.11	11.84	0.00	1.14	11.6	11.0	0.010	0.010	0.051	0.093	0.004	0.005	0.003	0.013	5.0	15.250
Aug-10	7.07	10.70	0.21	0.63	15.1	12.0	0.050	0.020	0.191	0.118	0.010	0.007	0.015	0.015	1.0	14.250
May-12	11.53	10.71	1.33	0.44	17.5	14.7	0.050	0.030	0.116	0.115	0.010	0.009	0.015	0.011	11.9	9.475
Sep-13	11.88	10.65	1.50	0.76	12.0	14.1	0.0073	0.029	0.110	0.117	0.010	0.009	0.011	0.011	35.0	13.225
Jul-14	10.90	10.35	1.75	1.20	18.2	15.7	0.0073	0.029	0.510	0.232	0.010	0.010	0.061	0.026	21.0	17.225
Aug-15	12.45	11.69	2.08	1.67	14.3	15.5	0.0080	0.018	3.620	1.089	0.031	0.015	0.717	0.201	26.0	23.475
Aug-16	12.87	12.03	1.77	1.78	16.7	15.3	0.0118	0.009	0.120	1.090	0.010	0.015	0.017	0.202	25.0	26.750
Aug-17	9.96	11.55	2.38	2.00	14.1	15.8	0.0078	0.009	0.100	1.088	0.010	0.015	0.010	0.201	31.0	25.750
Dec-18	11.90	11.80	1.90	2.03	14.1	14.8	0.0050	0.008	0.180	1.005	0.010	0.015	0.010	0.189	22.0	26.000

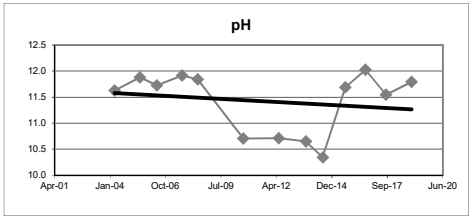
Notes:

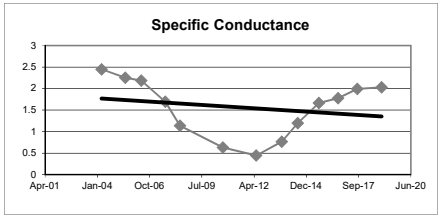
(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.

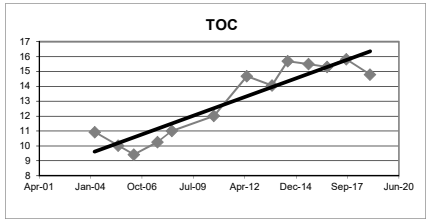
(2) - TOC = Total Organic Carbon

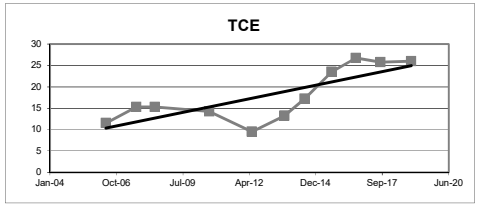
(3) - TCE = Trichloroethene

(4) - TRP = Total Recoverable Phenolics









Appendix E

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of MATA Tracked Parameters for MW-18B

Event Date	pH	Moving Average	Specific Conductance	Moving Average	TOC	Moving Average	TRP	Moving Average	TDS	Moving Average	Total Manganese	Moving Average	Total Iron	Moving Average
Oct-01	7.27	-	5.58	-	40.0	-	0.007	-	3860	-	2.900	-		
Apr-02	7.57	-	4.77	-	16.2	-	0.005	-	4220	-	0.740	-		
Apr-03	7.85	-	4.84	-	30.2	-	0.010	-	3940	-	2.500	-		
Apr-04	8.61	7.83	4.40	4.90	14.0	25.1	0.010	0.008	3820	3960	0.341	1.620		
Jul-05	7.89	7.98	3.79	4.45	17.9	19.6	0.010	0.009	3380	3840	0.630	1.053		
May-06	8.33	8.17	4.05	4.27	10.0	18.0	0.010	0.010	3450	3648	0.710	1.045		
Aug-07	7.56	8.10	0.45	3.17	16.9	14.7	0.005	0.009	3510	3540	0.952	0.658		
May-08	7.92	7.93	0.00	2.07	16.9	15.4	0.011	0.009	2920	3315	1.300	0.898		
Aug-10	7.49	7.83	0.42	1.23	19.3	15.8	0.050	0.019	1950	2958	0.908	0.968		
May-12	7.91	7.72	3.49	1.09	15.1	17.1	0.050	0.029	3990	3093	1.030	1.048		
Sep-13	7.68	7.75	2.81	1.68	14.4	16.4	0.005	0.029	1820	2670	0.896	1.034	7.660	-
Jul-14	7.55	7.66	2.82	2.38	24.4	18.3	0.005	0.028	2380	2535	1.40	1.059	1.09	-
Aug-15	7.84	7.75	3.41	3.13	17.0	17.7	0.005	0.016	2830	2755	1.73	1.264	1.89	-
Aug-16	8.29	7.84	3.03	3.02	17.6	18.4	0.005	0.005	2740	2443	2.19	1.554	0.17	2.703
Aug-17	7.56	7.81	3.25	3.13	24.3	20.8	0.005	0.005	2710	2665	2.10	1.855	0.64	0.948
Dec-18	8.07	7.94	1.64	2.83	19.2	19.5	0.005	0.005	2790	2768	2.34	2.090	0.32	0.755

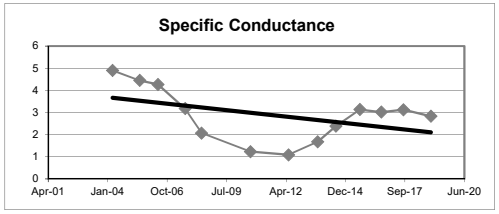
Notes:

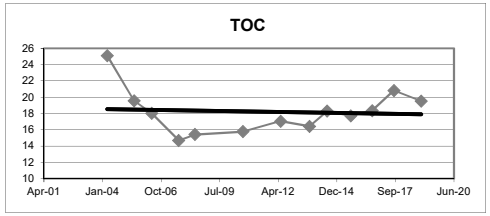
(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.

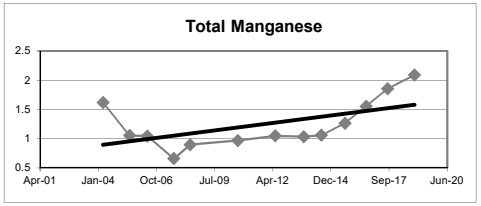
(2) - TOC = Total Organic Carbon

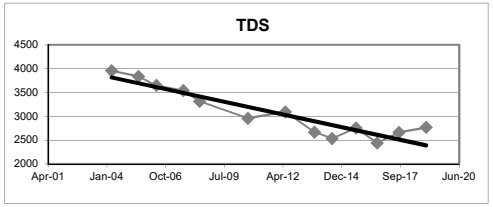
(3) - TRP = Total Recoverable Phenolics.

(4) - TDS = Total Dissolved Solids









APPENDIX F

Moving Average Trend Analysis of Tracked Parameters for Surface Water

Appendix F

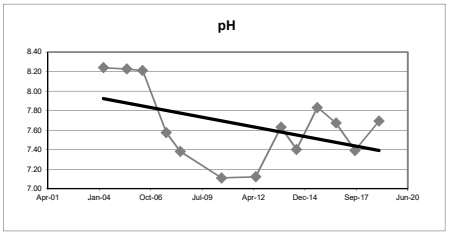
Marilla Street Landfill

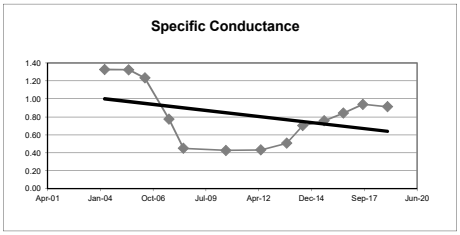
December 2018 Annual Sampling Event

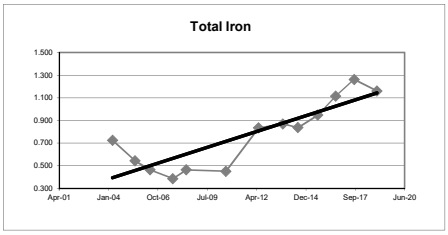
Summary of MATA Tracked Parameters for SW-1

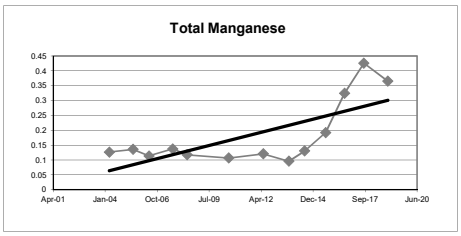
Event Date	pH	Moving Average	Specific Conductance	Moving Average	TOC	Moving Average	Total Iron	Moving Average	Total Manganese	Moving Average	TDS	Moving Average
Apr-01	7.62	-	1.21	-	6.6	-	0.730	-	0.300	-		
Oct-01	7.53	-	0.77	-	4.9	-	1.200	-	0.045	-		
Apr-02	8.02	-	1.23	-	3.5	-	0.390	-	0.160	-		
Apr-03	8.56	-	2.02	-	4.4	-	0.740	-	0.082	-		
Apr-04	8.85	8.24	1.30	1.33	2.5	3.8	0.564	0.724	0.219	0.127		
Jul-05	7.48	8.23	0.75	1.32	5.4	4.0	0.480	0.544	0.083	0.136		
May-06	7.95	8.21	0.87	1.24	7.3	4.9	0.070	0.464	0.070	0.114		
Aug-07	6.02	7.58	0.18	0.78	4.7	5.0	0.430	0.386	0.178	0.138		
May-08	8.07	7.38	0.00	0.45	5.2	5.7	0.880	0.465	0.140	0.118		
Jul-10	6.40	7.11	0.66	0.43	71.7	22.2	0.428	0.452	0.040	0.107		
May-12	8.00	7.12	0.89	0.43	6.6	22.1	1.600	0.835	0.126	0.121	366	-
Sep-13	8.05	7.63	0.48	0.51	4.5	22.0	0.570	0.870	0.077	0.096	267	-
Jul-14	7.16	7.40	0.79	0.70	6.1	22.2	0.750	0.837	0.279	0.130	414	-
Aug-15	8.12	7.83	0.87	0.76	5.2	5.6	0.870	0.948	0.284	0.192	363	353
Aug-16	7.36	7.67	1.23	0.84	13.2	7.3	2.27	1.115	0.657	0.324	738	446
Aug-17	6.93	7.39	0.87	0.94	9.9	8.6	1.16	1.263	0.482	0.426	422	484
Dec-18	8.36	7.69	0.68	0.91	6.0	8.6	0.34	1.160	0.037	0.365	405	482

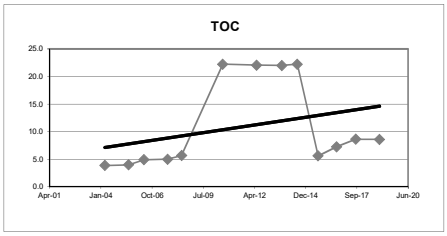
Notes:
(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.
(2) - TOC = Total Organic Carbon
(3) - TDS = Total Dissolved Solids

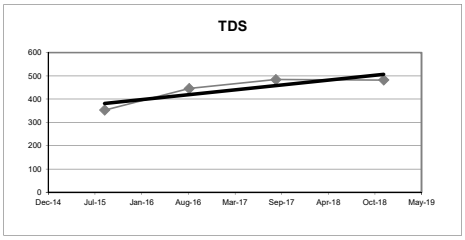












Appendix F

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of MATA Tracked Parameters for SW-1

Event Date	TRP	Moving Average	Total Arsenic	Moving Average	Total Chromium	Moving Average	Total Cyanide	Moving Average	Total Lead	Moving Average	Soluble Iron	Moving Average	Soluble Manganese	Moving Average
Apr-01														
Oct-01														
Apr-02														
Apr-03														
Apr-04														
Jul-05														
May-06														
Aug-07														
May-08														
Jul-10														
May-12	0.050	-	0.004	-	0.010	-	0.010	-	0.005	-				
Sep-13	0.005	-	0.010	-	0.010	-	0.010	-	0.050	-				
Jul-14	0.005	-	0.010	-	0.010	-	0.010	-	0.050	-	0.100	-	0.188	-
Aug-15	0.005	0.016	0.010	0.009	0.010	0.010	0.010	0.010	0.050	0.039	1.130	-	0.282	-
Aug-16	0.007	0.006	0.010	0.010	0.010	0.010	0.010	0.010	0.050	0.050	0.110	-	0.635	-
Aug-17	0.0056	0.006	0.010	0.010	0.010	0.010	0.010	0.010	0.050	0.050	0.100	0.360	0.464	0.392
Dec-18	0.0050	0.006	0.010	0.010	0.010	0.010	0.010	0.010	0.050	0.050	0.100	0.360	0.030	0.353

Notes:
(1) - Graphs not shown for parameters where all data are reported less than the detection limit or detection limits depict false trending.

Appendix F

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of MATA Tracked Parameters for SW-2A

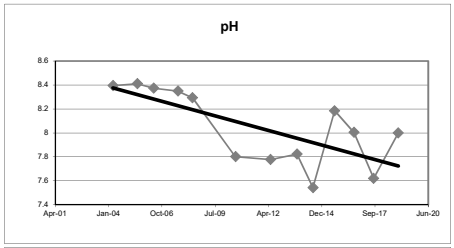
Event Date	pH	Moving Average	Specific Conductance	Moving Average	TOC	Moving Average	Total Iron	Moving Average	Total Manganese	Moving Average	TDS	Moving Average
Apr-01	8.58	-	1.29	-	6.4	-	0.780	-	0.360	-		
Oct-01	8.02	-	0.78	-	5.1	-	0.920	-	0.096	-		
Apr-02	8.45	-	1.12	-	4.0	-	0.950	-	0.180	-		
Apr-03	8.26	-	1.85	-	4.3	-	4.200	-	0.210	-		
Apr-04	8.85	8.40	1.28	1.26	4.2	4.4	1.540	1.903	0.265	0.188		
Jul-05	8.08	8.41	0.79	1.26	4.7	4.3	1.100	1.948	0.180	0.209		
May-06	8.30	8.37	0.89	1.20	6.9	5.0	0.800	1.910	0.051	0.177		
Aug-07	8.17	8.35	0.23	0.80	4.9	5.2	0.794	1.059	0.136	0.158		
May-08	8.62	8.29	0.00	0.48	5.2	5.4	1.100	0.949	0.160	0.132		
Jul-10	6.12	7.80	0.00	0.28	9.5	6.6	0.999	0.923	0.159	0.127		
May-12	8.20	7.78	0.93	0.29	4.8	6.1	0.569	0.866	0.095	0.137	365	-
Sep-13	8.35	7.82	0.43	0.34	5.4	6.2	0.550	0.805	0.045	0.115	293	-
Jul-14	7.50	7.54	0.77	0.53	5.8	6.4	0.480	0.650	0.141	0.110	409	-
Aug-15	8.69	8.19	0.91	0.76	6.9	5.7	0.270	0.467	0.010	0.073	375	361
Aug-16	7.48	8.01	1.38	0.87	12.5	7.7	0.870	0.543	0.080	0.069	626	426
Aug-17	6.81	7.62	1.45	1.13	9.8	8.8	1.910	0.883	0.669	0.225	426	459
Dec-18	9.02	8.00	0.64	1.10	6.9	9.0	0.630	0.920	0.104	0.216	425	463

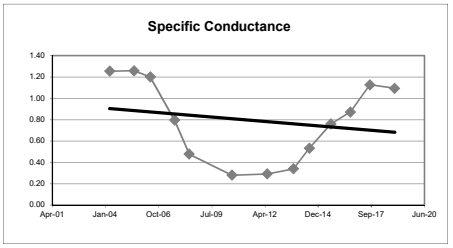
Notes:

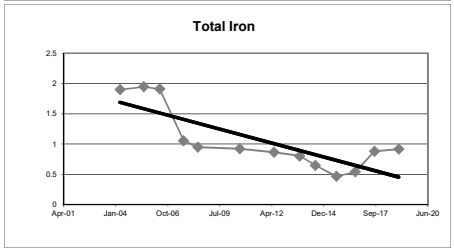
(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.

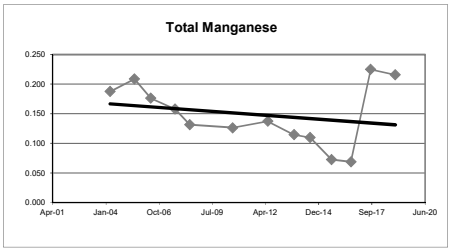
(2) - TOC = Total Organic Carbon

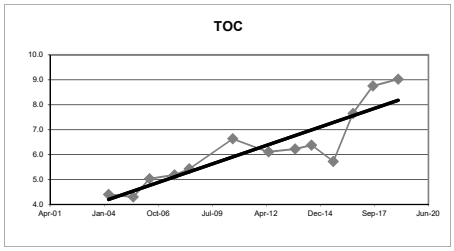
(3) - TDS = Total Dissolved Solids

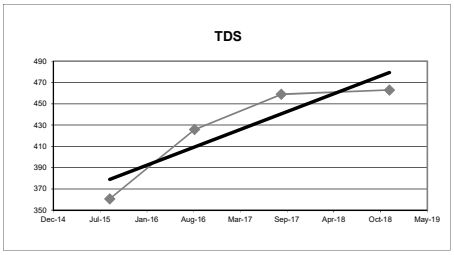












Appendix F

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of MATA Tracked Parameters for SW-2A

Event Date	TRP	Moving Average	Total Arsenic	Moving Average	Total Chromium	Moving Average	Total Cyanide	Moving Average	Total Lead	Moving Average	Soluble Iron	Moving Average	Soluble Manganese	Moving Average
Apr-01														
Oct-01														
Apr-02														
Apr-03														
Apr-04														
Jul-05														
May-06														
Aug-07														
May-08														
Jul-10														
May-12	0.050	-	0.004	-	0.010	-	0.010	-	0.005	-				
Sep-13	0.005	-	0.010	-	0.010	-	0.010	-	0.050	-				
Jul-14	0.005	-	0.010	-	0.010	-	0.010	-	0.050	-	0.10	-	0.079	-
Aug-15	0.005	0.016	0.010	0.009	0.010	0.010	0.010	0.010	0.050	0.039	0.370	-	0.011	-
Aug-16	0.0061	0.005	0.010	0.010	0.010	0.010	0.010	0.010	0.050	0.050	0.100	-	0.047	-
Aug-17	0.0062	0.006	0.010	0.010	0.010	0.010	0.010	0.010	0.050	0.050	0.100	0.168	0.534	0.168
Dec-18	0.0050	0.006	0.010	0.010	0.010	0.010	0.010	0.010	0.050	0.050	0.190	0.190	0.091	0.171

Notes:

(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.

(2) - Graphs not shown for parameters where all data are reported less than the detection limit or detection limits depict false trending.

(3) - TRP = Total Recoverable Phenolics

Appendix F

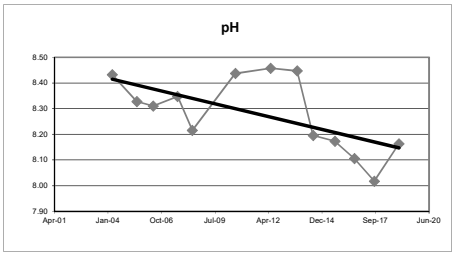
Marilla Street Landfill

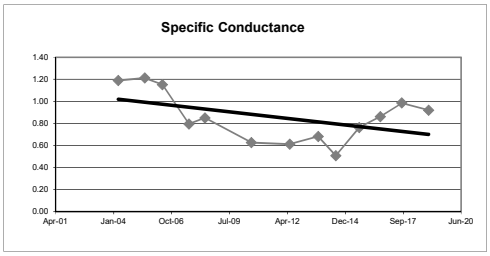
December 2018 Annual Sampling Event

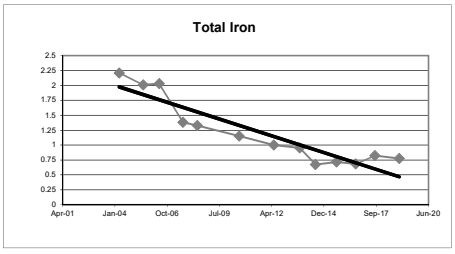
Summary of MATA Tracked Parameters for SW-3A

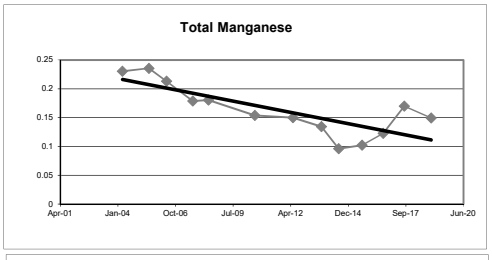
Event Date	pH	Moving Average	Specific Conductance	Moving Average	TOC	Moving Average	Total Iron	Moving Average	Total Manganese	Moving Average	TDS	Moving Average
Apr-01	8.75	-	1.16	-	8.5	-	1.800	-	0.350	-		
Oct-01	7.97	-	0.80	-	5.9	-	2.300	-	0.200	-		
Apr-02	8.54	-	1.11	-	4.0	-	1.400	-	0.180	-		
Apr-03	8.18	-	1.61	-	5.2	-	3.400	-	0.280	-		
Apr-04	9.04	8.43	1.24	1.19	4.4	4.9	1.730	2.208	0.263	0.231		
Jul-05	7.55	8.33	0.89	1.21	3.6	4.3	1.500	2.008	0.220	0.236		
May-06	8.47	8.31	0.87	1.15	7.1	5.1	1.500	2.033	0.091	0.214		
Aug-07	8.33	8.35	0.17	0.79	5.8	5.2	0.805	1.384	0.142	0.179		
May-08	8.51	8.22	1.46	0.85	6.0	5.6	1.500	1.326	0.270	0.181		
Jul-10	8.44	8.44	0.00	0.63	6.1	6.3	0.800	1.151	0.112	0.154		
May-12	8.55	8.46	0.81	0.61	5.5	5.9	0.897	1.001	0.076	0.150	396	-
Sep-13	8.29	8.45	0.45	0.68	5.6	5.8	0.620	0.954	0.080	0.135	324	-
Jul-14	7.50	8.20	0.77	0.51	6.3	5.9	0.380	0.674	0.116	0.096	427	-
Aug-15	8.35	8.17	1.02	0.76	5.8	5.8	0.970	0.717	0.137	0.102	471	405
Aug-16	8.28	8.11	1.21	0.86	10.6	7.1	0.770	0.685	0.159	0.123	654	469
Aug-17	7.94	8.02	0.94	0.99	7.4	7.5	1.180	0.825	0.268	0.170	480	508
Dec-18	8.08	8.16	0.51	0.92	7.4	7.8	0.180	0.775	0.033	0.149	355	490

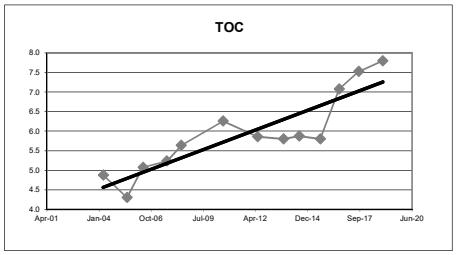
Notes:
(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.
(2) - TOC = Total Organic Carbon
(3) - TDS = Total Dissolved Solids

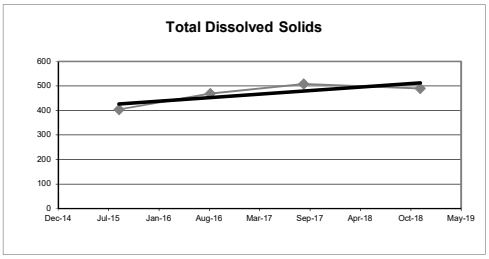












Appendix F

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of MATA Tracked Parameters for SW-3A

Event Date	TRP	Moving Average	Total Arsenic	Moving Average	Total Chromium	Moving Average	Total Cyanide	Moving Average	Total Lead	Moving Average	Soluble Iron	Moving Average	Soluble Manganese	Moving Average
Apr-01														
Oct-01														
Apr-02														
Apr-03														
Apr-04														
Jul-05														
May-06														
Aug-07														
May-08														
Jul-10														
May-12	0.050	-	0.004	-	0.010	-	0.010	-	0.005	-				
Sep-13	0.005	-	0.010	-	0.010	-	0.010	-	0.050	-				
Jul-14	0.005	-	0.010	-	0.010	-	0.010	-	0.050	-	0.190	-	0.081	-
Aug-15	0.005	0.016	0.010	0.009	0.010	0.010	0.010	0.010	0.050	0.039	0.850	-	0.106	-
Aug-16	0.005	0.005	0.010	0.010	0.010	0.010	0.010	0.010	0.050	0.050	0.100	-	0.031	-
Aug-17	0.005	0.005	0.010	0.010	0.010	0.010	0.010	0.010	0.050	0.050	0.100	0.310	0.067	0.071
Dec-18	0.005	0.005	0.010	0.010	0.010	0.010	0.010	0.010	0.050	0.050	0.100	0.288	0.031	0.059

Notes:
(1) - If the concentration was reported at less than the laboratory detection
limit, the detection limit is presented in the table.
(2) - Graphs not shown for parameters where all data are reported less than the detection limit or detection limits depict false trending.
(3) - TRP = Total Recoverable Phenolics

Appendix F

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of MATA Tracked Parameters for SW-5

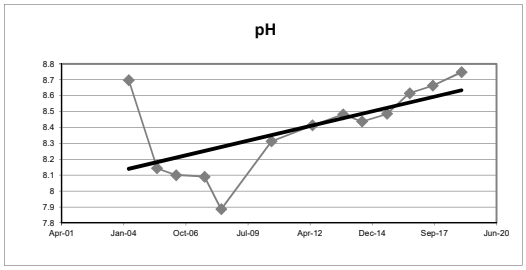
Event Date	pH	Moving Average	Specific Conductance	Moving Average	TOC	Moving Average	Total Iron	Moving Average	Total Manganese	Moving Average	TDS	Moving Average
Apr-01	8.75	-	1.10	-	8.4	-	0.560	-	0.086	-		
Oct-01	8.75	-	1.18	-	10.8	-	0.370	-	0.100	-		
Apr-02	8.36	-	0.97	-	5.2	-	0.890	-	0.050	-		
Apr-03	8.38	-	1.33	-	5.2	-	8.500	-	0.016	-		
Apr-04	9.30	8.70	1.22	1.18	4.8	6.5	0.689	2.612	0.036	0.050		
Jul-05	6.53	8.14	1.32	1.21	6.2	5.4	2.400	3.120	0.097	0.050		
May-06	8.19	8.10	1.43	1.33	8.3	6.1	1.900	3.372	0.093	0.060		
Aug-07	8.34	8.09	0.15	1.03	9.2	7.1	0.651	1.410	0.166	0.098		
May-08	8.48	7.89	1.66	1.14	5.8	7.4	1.600	1.638	0.097	0.113		
Jul-10	8.24	8.31	0.00	0.81	6.3	7.4	0.737	1.222	0.103	0.115		
May-12	8.59	8.41	1.43	0.81	5.8	6.8	2.730	1.430	0.104	0.118	646	-
Sep-13	8.62	8.48	1.29	1.10	6.0	6.0	0.840	1.477	0.057	0.090	873	-
Jul-14	8.30	8.44	1.58	1.08	5.7	6.0	0.660	1.242	0.054	0.080	40	-
Aug-15	8.43	8.49	1.86	1.54	6.3	6.0	1.020	1.313	0.068	0.071	826	596
Aug-16	9.11	8.62	1.79	1.63	12.4	7.6	1.480	1.000	0.079	0.065	1010	687
Aug-17	8.81	8.66	1.64	1.72	6.4	7.7	1.310	1.118	0.099	0.075	752	657
Dec-18	8.64	8.75	1.02	1.58	5.9	7.8	0.200	1.003	0.012	0.065	699	822

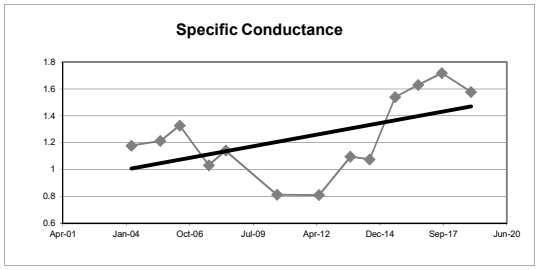
Notes:

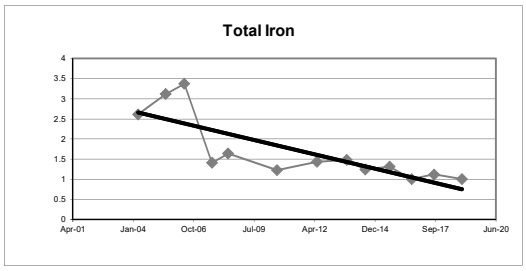
(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.

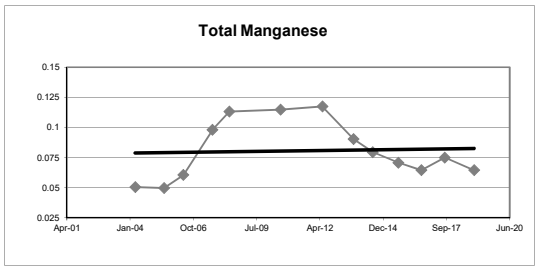
(2) - TOC = Total Organic Carbon

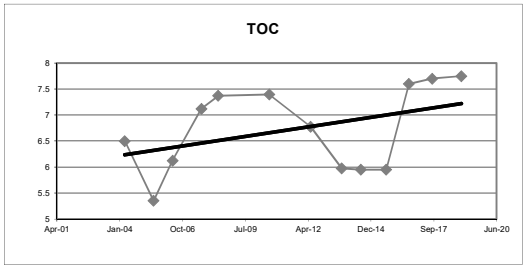
(3) - TDS = Total Dissolved Solids

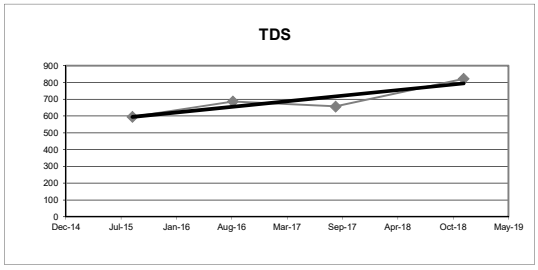












Appendix F

Marilla Street Landfill

December 2018 Annual Sampling Event

Summary of MATA Tracked Parameters for SW-5

Event Date	TRP	Moving Average	Total Arsenic	Moving Average	Total Chromium	Moving Average	Total Cyanide	Moving Average	Total Lead	Moving Average	Soluble Iron	Moving Average	Soluble Manganese	Moving Average
Apr-01														
Oct-01														
Apr-02														
Apr-03														
Apr-04														
Jul-05														
May-06														
Aug-07														
May-08														
Jul-10														
May-12	0.050	-	0.004	-	0.010	-	0.010	-	0.005	-				
Sep-13	0.005	-	0.010	-	0.010	-	0.010	-	0.050	-				
Jul-14	0.005	-	0.010	-	0.010	-	0.010	-	0.050	-	0.100	-	0.010	-
Aug-15	0.005	0.016	0.010	0.009	0.010	0.010	0.010	0.010	0.050	0.039	0.790	-	0.058	-
Aug-16	0.006	0.005	0.010	0.010	0.010	0.010	0.010	0.010	0.050	0.050	0.10	-	0.010	-
Aug-17	0.0056	0.005	0.010	0.010	0.010	0.010	0.010	0.010	0.050	0.050	0.10	0.273	0.010	0.022
Dec-18	0.005	0.005	0.010	0.010	0.010	0.010	0.010	0.010	0.050	0.050	0.10	0.273	0.010	0.022

Notes:

(1) - If the concentration was reported at less than the laboratory detection limit, the detection limit is presented in the table.

(2) - Graphs not shown for parameters where all data are reported less than the detection limit or detection limits depict false trending.

(3) - TRP = Total Recoverable Phenolics

APPENDIX G

2017 Post-Closure Inspection and Maintenance Reports

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 Grand Island Blvd. Grand Island NY 14072 Ph (716) 773-6872/ Fax (716)773-6873 www.daiglerengineering.com

DAILY INSPECTION REPORT

PROJECT: MARILLA STREET LANDFILL INSPECTION	DATE: 12-4-18
OWNER: NICKLAUS OLMSTED BUFFALO, INC.	

ARRIVE TIME: 10:15 am	DEPART TIME: 1:05 pm
WEATHER CONDITIONS: COOL, ~ 30°F, LITE BREEZE, P.CLOUDY TURNING SUNNY	
TEMPERATURE: ~30°F 10 AM	~ 35°F 1:00 PM
SITE CONDITIONS: LITE DUSTING FRESH SNOW, WET, FIRM/HARD, VEGETATED (GOOD)	

PERSONNEL AND EQUIPMENT:
SAM DAIGLER ON-SITE TO BEGIN GW/SW SAMPLING
SAMPLING EQUIPMENT & COOLERS

INSPECTIONS/TESTS/SAMPLES/MATERIALS RECEIVED:
(SEE ABOVE) ANNUAL SITE INSPECTION

ACTIVITIES: - ENVIRONMENTAL SAMPLING / ANNUAL INSPECTION

OBSERVER:	SIGNATURE:	DATE:
JIM DAIGLER	James J. Daigler	12-4-18

MARILLA STREET LANDFILL
POST -CLOSURE INSPECTION REPORT

DATE: 12-4-18
WEATHER: Cool ~ 30°F, P. Cloudy
PERSONNEL: JA. Paigler + SJW

Instructions: Complete the checklist of visual evaluation items then complete specific data items. Field measurements should be made with a cloth tape, provided instrumentation on equipment or other suitable means. Estimated measurements shall be noted. Attach hand sketches or photographs to further define conditions or problems.

I. VISUAL EVALUATION ITEMS	Acceptable	Not Acceptable	Not Present	Present	Remarks
1. Vegetative Cover					
a. Within Landfill Disposal Area	X				
b. Around Landfill Perimeter	X				
2. Integrity of Drainage Ditches					
a. Sediment Build-up			X		
b. Pooling or Ponding				X	Very minor in pockets from snow-melt
c. Slope Integrity	X				
d. Overall Adequacy	X				
3. General Conditions of Site					
a. Road Construction	X				
b. Gates/Fences/Locks					BREACHES AS SHOWN IN FIGURE
c. Grass Height	X	- missed mowing window - some areas 1 to 2' high			
d. Illegal Dumping			X		
e. Wetland Shrub Plantings [1]	N.A.				
4. Integrity of Groundwater	N.A.				
5. Integrity of Landfill Cap					
a. Erosion Damage				X	SOME RILLING
b. Leachate Breakthrough			X		
c. Settlement			X		
d. Cracking			X		
e. Slope	X				
f. Undesirable plants			X		
g. Benchmark	~~N.A.~~				
h. Animal Burrowing			NONE OBSERVED		

Notes: (1) Until Year 2002

II. SPECIFIC DATA ITEMS (Write N.A. if not applicable)

A. Erosion and Settlement:

1. Approximate size in feet of cap ended area(s). (List separately)
   a. _____ feet _____ feet
   b. _____ feet _____ feet Rills make areas of inches
   c. _____ feet _____ feet

2. How deep is the most extreme point of erosion when measured from the adjacent surface. (List separately)
   a. _____ feet
   b. _____ feet N.A.
   c. _____ feet

3. Approximate size in feet of eroded areas outside the soil cap area such as drainage ditches, roads or slopes.

   N.A.

4. Attach a hand sketch or photograph showing the location of the eroded area(s). Identify each area by using the letter a, b, c, etc. from Question 1.

5. Approximate size in feet of leachate breakouts. (List separately)
   a. _____ feet _____ feet
   b. _____ feet _____ feet
   c. _____ feet _____ feet N.A.

6. Approximate size in feet of any settlement areas within the soil cap area. (List separately)
   a. _____ feet _____ feet
   b. _____ feet _____ feet N.A.
   c. _____ feet _____ feet

7. Approximate depth of each settlement area when measured from adjacent surface. (List separately)
   a. _____ feet _____ feet
   b. _____ feet _____ feet N.A.
   c. _____ feet _____ feet

8. Attach a hand sketch or photograph showing the location of the settlement area(s). Identify each area by using the letter a, b, c, etc. from Question 6. N.A.

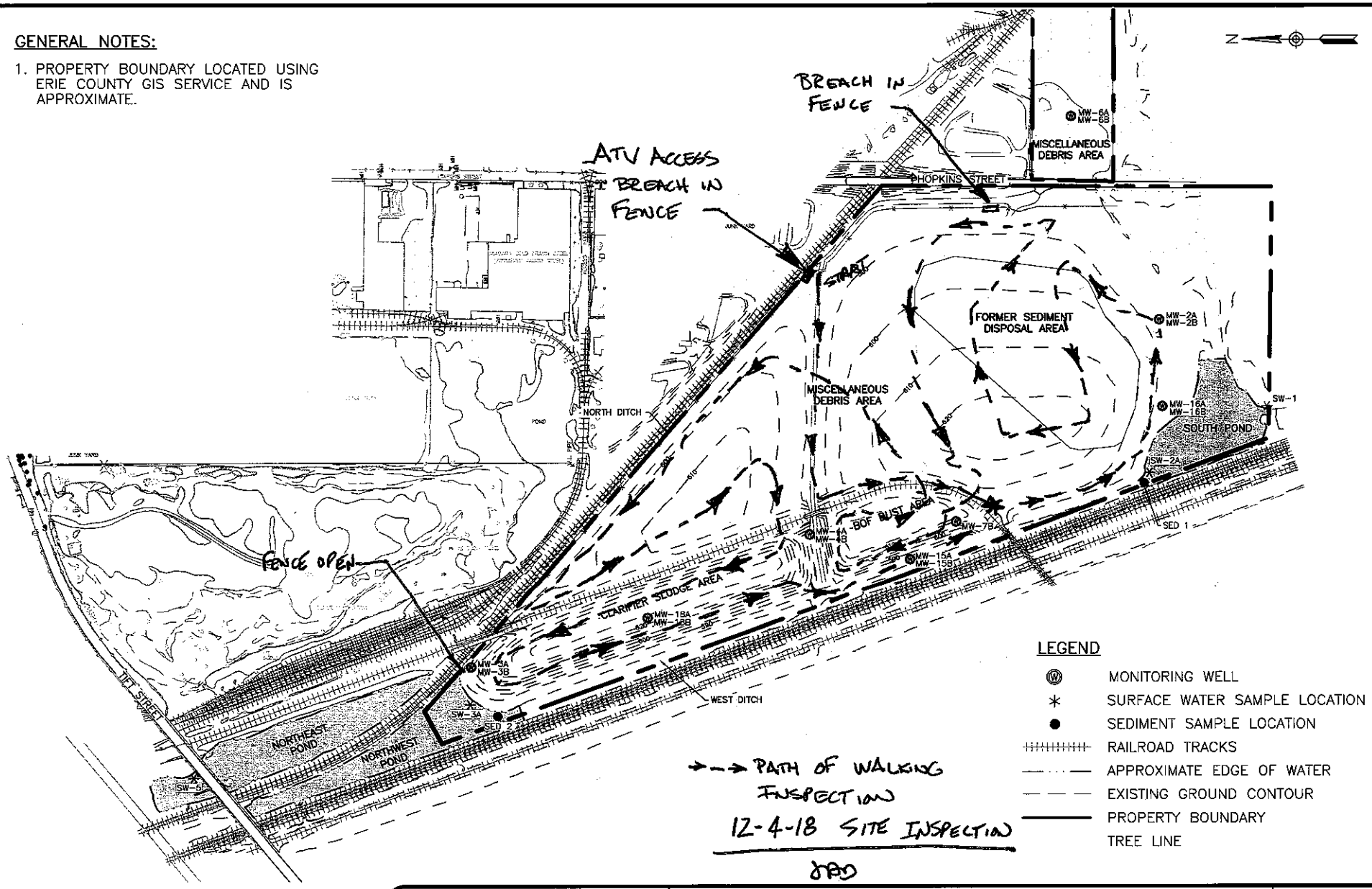
B. Corrective Actions:

1. Describe corrective actions taken (write N.A. if not applicable). N.A.

2. Date of corrective action: N.A.

GENERAL NOTES:

1. PROPERTY BOUNDARY LOCATED USING ERIE COUNTY GIS SERVICE AND IS APPROXIMATE.



DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX

NICKLAUS OLMSTED BUFFALO, INC.		SITE PLAN		FIGURE 1-2
SCALE: 1" = 600'	REVISION # 0	MARILLA STREET LANDFILL		
December 2018	CITY OF BUFFALO	ERIE COUNTY	NEW YORK	

Q:\Steelfields\Marilla Street Landfill\ACAD\FIG 2-SITE PLAN.dwg 9/29/2017 7:23 AM

DAIGLER ENGINEERING, P.C.
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 Grand Island Blvd. Grand Island NY 14072 Ph (716) 773-6872/ Fax (716)773-6873 www.daiglerengineering.com

DAILY INSPECTION REPORT

PROJECT: MARILLA STREET LANDFILL INSPECTION	DATE: 12-5-18
OWNER: NICKLAUS OLMSTED BUFFALO, INC.	

ARRIVE TIME: ~ 12:50	DEPART TIME: ~ 1:50
WEATHER CONDITIONS: COLD, CALM, P. SUNNY	
TEMPERATURE: ~~~30° AM~~	~30° PM
SITE CONDITIONS: WET, V. LITE SNOW COVER	

PERSONNEL AND EQUIPMENT: SAM DAIGLER ON-SITE GROUNDING
GW/SW SAMPLING, SAMPLING EQUIP/COOLERS

INSPECTIONS/TESTS/SAMPLES/MATERIALS RECEIVED:
COMPLETE ANNUAL SITE INSPECTION

ACTIVITIES: ENVIRONMENTAL SAMPLING / ANNUAL INSPECTION

OBSERVER:	SIGNATURE:	DATE:
JIM DAIGLER	James Daigler	12-5-18

MARILLA STREET LANDFILL
POST -CLOSURE INSPECTION REPORT

FOR MISC. DEBRIS AREA EAST OF HOPKINS STREET

DATE: 12-5-18
WEATHER: Cool ~30°F, P. Cloudy
PERSONNEL: J. Daugler

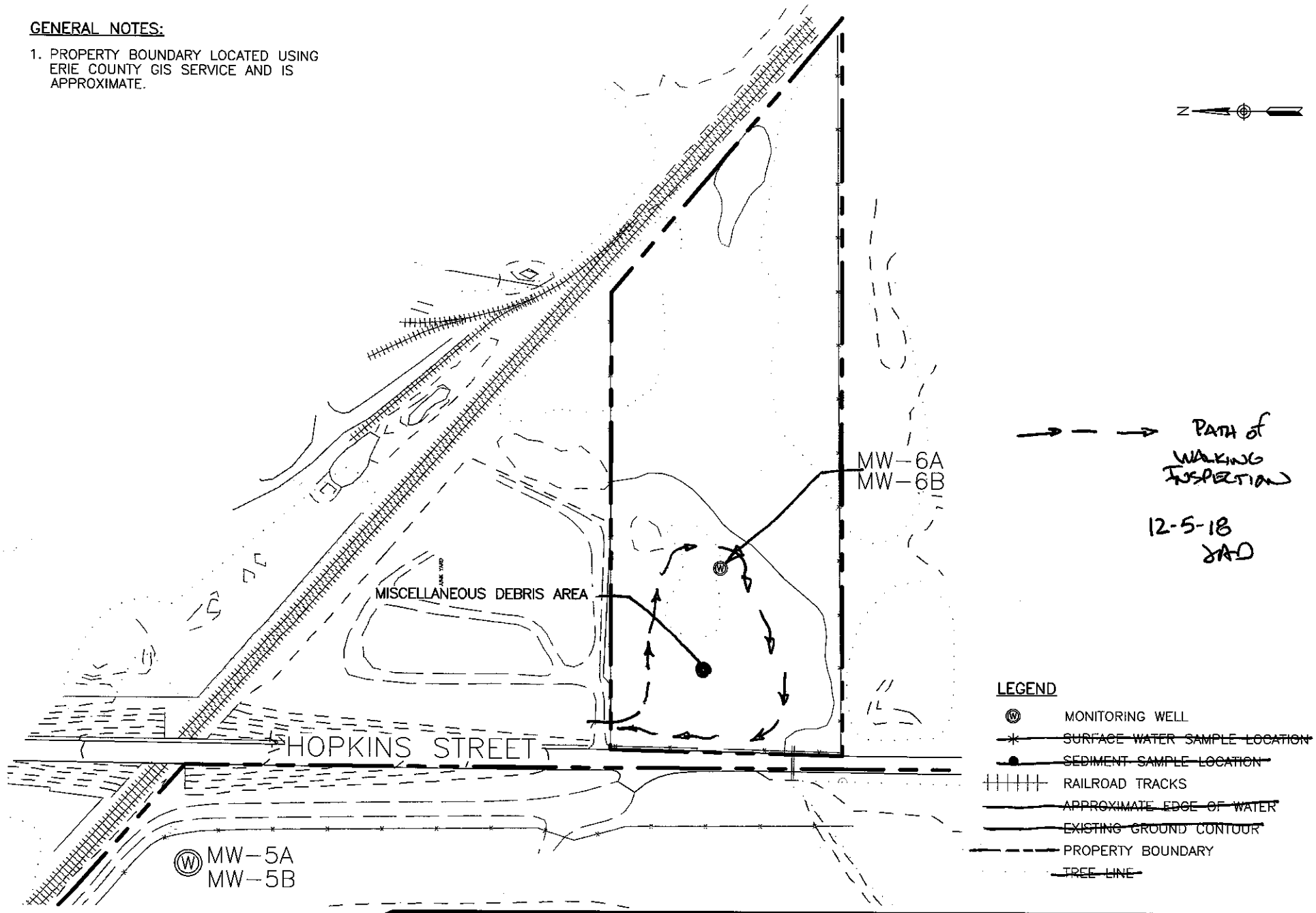
Instructions: Complete the checklist of visual evaluation items then complete specific data items. Field measurements should be made with a cloth tape, provided instrumentation on equipment or other suitable means. Estimated measurements shall be noted. Attach hand sketches or photographs to further define conditions or problems.

I. VISUAL EVALUATION ITEMS	Acceptable	Not Acceptable	Not Present	Present	Remarks
1. Vegetative Cover					
a. Within Landfill Disposal Area	X				
b. Around Landfill Perimeter	X				
2. Integrity of Drainage Ditches					
a. Sediment Build-up	N.A.				
b. Pooling or Ponding					
c. Slope Integrity					
d. Overall Adequacy					
3. General Conditions of Site					
a. Road Construction	N.A.				
b. Gates/Fences/Locks	X				
c. Grass Height	X	- missed mowing window - some higher grass			
d. Illegal Dumping			X		
e. Wetland Shrub Plantings (1)	N.A.				
4. Integrity of Groundwater	N.A.				
5. Integrity of Landfill Cap					
a. Erosion Damage			X		
b. Leachate Breakthrough			X		
c. Settlement			X		
d. Cracking			X		
e. Slope	X				
f. Undesirable plants			X		
g. Benchmark					
h. Animal Burrowing			NONE OBSERVED		

Notes: (1) Until Year 2002

GENERAL NOTES:

1. PROPERTY BOUNDARY LOCATED USING ERIE COUNTY GIS SERVICE AND IS APPROXIMATE.



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CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2620 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6872 (716) 773-6873 FAX

NICKLAUS OLMSTEAD BUFFALO, INC.		SITE PLAN EAST MARILLA STREET LANDFILL		FIGURE 2
SCALE: 1" = 200'	REVISION # 0			
DECEMBER 2018	CITY OF BUFFALO	ERIE COUNTY	NEW YORK	

Q:\Nicklaus Olmstead\ACAD\SITE PLAN.dwg 3/2/2015 5:35 PM

Photo 1 - Typical Ground Conditions

Photo 2 - Clarifier Sludge Area Looking North

Marilla St Landfill **Annual Site Inspection** **12/04,05/2018**	**Photograph Page** **1**

APPENDIX H

Institutional Controls/Engineering Controls (IC/ECs) Certification

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **915047**

Site Name Republic Steel (LTV) (Marilla St. LF)

Site Address: Marilla Street and Hopkins Street Zip Code: 14220
City/Town: Buffalo
County: Erie
Site Acreage: 110.000

Reporting Period: September 12, 2017 to September 12, 2018

	YES	NO
1. Is the information above correct?	☑	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☑	☐
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☑
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☑
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☑

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Closed Landfill	☑	☐
7. Are all ICs/ECs in place and functioning as designed?	☑	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

James Daley

Signature of Owner, Remedial Party or Designated Representative

1-31-19

Date

Enclosure 1

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional Controls/ Engineering Controls (IC/ECs)(Boxes 3, 4, and 5)

1.1.1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7)**:**

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.

- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.

SITE NO. 915047 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
132.16-1-11.2	~~Steelfields LTD~~ NICKLAUS OLMSTED BUFFALO, INC. (NOBI) JAD	

Record of Decision: 3/27/1997

The Final Post-Closure Monitoring and Maintenance Plan (Revised November 2010)was approved on 11/22/2010. The Plan requires:

1. Maintenance and Monitoring of the landfill caps.
2. Groundwater Monitoring.
3. Surface water and sediment sampling.
4. Periodic Reporting of Site activities and evaluation of Site data.

132.16-1-13 ~~Steelfields LTD~~ NOBI JAD

Record of Decision: 3/27/1997

The Final Post-Closure Monitoring and Maintenance Plan (Revised November 2010)was approved on 11/22/2010. The Plan requires:

1. Maintenance and Monitoring of the landfill caps.
2. Groundwater Monitoring.
3. Surface water and sediment sampling.
4. Periodic Reporting of Site activities and evaluation of Site data.

132.16-1-14 ~~Steelfields LTD~~ NOBI JAD

Record of Decision: 3/27/1997

The Final Post-Closure Monitoring and Maintenance Plan (Revised November 2010)was approved on 11/22/2010. The Plan requires:

1. Maintenance and Monitoring of the landfill caps.
2. Groundwater Monitoring.
3. Surface water and sediment sampling.
4. Periodic Reporting of Site activities and evaluation of Site data.

132.16-1-9 ~~Steelfields LTD~~ NOBI JAD

Monitoring Plan

Record of Decision: 3/27/1997

The Final Post-Closure Monitoring and Maintenance Plan (Revised November 2010)was approved on 11/22/2010. The Plan requires:

1. Maintenance and Monitoring of the landfill caps.
2. Groundwater Monitoring.
3. Surface water and sediment sampling.
4. Periodic Reporting of Site activities and evaluation of Site data.

132.20-1-2.2 ~~Steelfields LTD~~ NOBI JAD

Record of Decision: 3/27/1997

The Final Post-Closure Monitoring and Maintenance Plan (Revised November 2010)was approved on 11/22/2010. The Plan requires:

1. Maintenance and Monitoring of the landfill caps.
2. Groundwater Monitoring.
3. Surface water and sediment sampling.

4. Periodic Reporting of Site activities and evaluation of Site data.

132.20-1-9 ~~Steelfields LTD~~ NOBI JAO

Record of Decision: 3/27/1997

The Final Post-Closure Monitoring and Maintenance Plan (Revised November 2010)was approved on 11/22/2010. The Plan requires:

1. Maintenance and Monitoring of the landfill caps.
2. Groundwater Monitoring.
3. Surface water and sediment sampling.
4. Periodic Reporting of Site activities and evaluation of Site data.

133.13-1-8 ~~Steelfields LTD~~ NOBI JAO Monitoring Plan

Record of Decision: 3/27/1997

The Final Post-Closure Monitoring and Maintenance Plan (Revised November 2010)was approved on 11/22/2010. The Plan requires:

1. Maintenance and Monitoring of the landfill caps.
2. Groundwater Monitoring.
3. Surface water and sediment sampling.
4. Periodic Reporting of Site activities and evaluation of Site data.

133.17-1-1 ~~Steelfields LTD~~ NOBI JAO Monitoring Plan

Record of Decision: 3/27/1997

The Final Post-Closure Monitoring and Maintenance Plan (Revised November 2010)was approved on 11/22/2010. The Plan requires:

1. Maintenance and Monitoring of the landfill caps.
2. Groundwater Monitoring.
3. Surface water and sediment sampling.
4. Periodic Reporting of Site activities and evaluation of Site data.

133.17-1-10 ~~Steelfields LTD~~ NOBI JAO

Record of Decision: 3/27/1997

The Final Post-Closure Monitoring and Maintenance Plan (Revised November 2010)was approved on 11/22/2010. The Plan requires:

1. Maintenance and Monitoring of the landfill caps.
2. Groundwater Monitoring.
3. Surface water and sediment sampling.
4. Periodic Reporting of Site activities and evaluation of Site data.

133.17-1-2 ~~Steelfields LTD~~ NOBI JAO Monitoring Plan

Record of Decision: 3/27/1997

The Final Post-Closure Monitoring and Maintenance Plan (Revised November 2010)was approved on 11/22/2010. The Plan requires:

1. Maintenance and Monitoring of the landfill caps.
2. Groundwater Monitoring.
3. Surface water and sediment sampling.
4. Periodic Reporting of Site activities and evaluation of Site data.

133.17-1-6 ~~Steelfields LTD~~ NOBI JAO

Record of Decision: 3/27/1997

The Final Post-Closure Monitoring and Maintenance Plan (Revised November 2010)was approved on 11/22/2010. The Plan requires:

1. Maintenance and Monitoring of the landfill caps.
2. Groundwater Monitoring.
3. Surface water and sediment sampling.
4. Periodic Reporting of Site activities and evaluation of Site data.

133.17-1-9 ~~Steelfields LTD~~ NOBI RAO Monitoring Plan

Record of Decision: 3/27/1997

The Final Post-Closure Monitoring and Maintenance Plan (Revised November 2010)was approved on 11/22/2010. The Plan requires:

1. Maintenance and Monitoring of the landfill caps.
2. Groundwater Monitoring.
3. Surface water and sediment sampling.
4. Periodic Reporting of Site activities and evaluation of Site data.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
132.16-1-11.2	Cover System
132.16-1-13	Cover System
132.16-1-14	Cover System
132.16-1-9	Cover System
132.20-1-2.2	Cover System
132.20-1-9	Cover System
133.13-1-8	Cover System
133.17-1-1	Cover System
133.17-1-10	Cover System
133.17-1-2	

Parcel	Engineering Control
	Cover System
133.17-1-6	Cover System
133.17-1-9	Cover System

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☑	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☐	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative — Date

IC CERTIFICATIONS
SITE NO. 915047

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I JAMES DAIGLER at 2620 GRAND ISLAND BLVD, GRAND ISLAND, NY 14072

print name print business address

am certifying as Designated Representative (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

1-31-19
Date

IC/EC CERTIFICATIONS

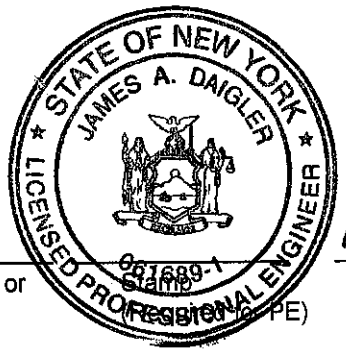
Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I JAMES DAIGLER at 2620 GRAND ISLAND BLVD, GRAND ISLAND, NY 14072
print name print business address

am certifying as a Professional Engineer for the Owner
(Owner or Remedial Party)



James Daigler
Signature of Professional Engineer, for the Owner or ~~Remedial~~ Party, Rendering Certification

067689-1
Stamp (Required for PE)

1-31-19
Date

Enclosure 3
Periodic Review Report (PRR) General Guidance

I. Executive Summary: (1/2-page or less)
   A. Provide a brief summary of site, nature and extent of contamination, and remedial history.
   B. Effectiveness of the Remedial Program - Provide overall conclusions regarding;
      1. progress made during the reporting period toward meeting the remedial objectives for the site
      2. the ultimate ability of the remedial program to achieve the remedial objectives for the site.
   C. Compliance
      1. Identify any areas of non-compliance regarding the major elements of the Site Management Plan (SMP, i.e., the Institutional/Engineering Control (IC/EC) Plan, the Monitoring Plan, and the Operation & Maintenance (O&M) Plan).
      2. Propose steps to be taken and a schedule to correct any areas of non-compliance.
   D. Recommendations
      1. recommend whether any changes to the SMP are needed
      2. recommend any changes to the frequency for submittal of PRRs (increase, decrease)
      3. recommend whether the requirements for discontinuing site management have been met.

II. Site Overview (one page or less)
   A. Describe the site location, boundaries (figure), significant features, surrounding area, and the nature and extent of contamination prior to site remediation.
   B. Describe the chronology of the main features of the remedial program for the site, the components of the selected remedy, cleanup goals, site closure criteria, and any significant changes to the selected remedy that have been made since remedy selection.

III. Evaluate Remedy Performance, Effectiveness, and Protectiveness
   Using tables, graphs, charts and bulleted text to the extent practicable, describe the effectiveness of the remedy in achieving the remedial goals for the site. Base findings, recommendations, and conclusions on objective data. Evaluations and should be presented simply and concisely.

IV. IC/EC Plan Compliance Report (if applicable)
   A. IC/EC Requirements and Compliance
      1. Describe each control, its objective, and how performance of the control is evaluated.
      2. Summarize the status of each goal (whether it is fully in place and its effectiveness).
      3. Corrective Measures: describe steps proposed to address any deficiencies in ICECs.
      4. Conclusions and recommendations for changes.
   B. IC/EC Certification
      1. The certification must be complete (even if there are IC/EC deficiencies), and certified by the appropriate party as set forth in a Department-approved certification form(s).

V. Monitoring Plan Compliance Report (if applicable)
   A. Components of the Monitoring Plan (tabular presentations preferred) - Describe the requirements of the monitoring plan by media (i.e., soil, groundwater, sediment, etc.) and by any remedial technologies being used at the site.
   B. Summary of Monitoring Completed During Reporting Period - Describe the monitoring tasks actually completed during this PRR reporting period. Tables and/or figures should be used to show all data.
   C. Comparisons with Remedial Objectives - Compare the results of all monitoring with the remedial objectives for the site. Include trend analyses where possible.
   D. Monitoring Deficiencies - Describe any ways in which monitoring did not fully comply with the monitoring plan.
   E. Conclusions and Recommendations for Changes - Provide overall conclusions regarding the monitoring completed and the resulting evaluations regarding remedial effectiveness.

VI. Operation & Maintenance (O&M) Plan Compliance Report (if applicable)
   A. Components of O&M Plan - Describe the requirements of the O&M plan including required activities, frequencies, recordkeeping, etc.

B. Summary of O&M Completed During Reporting Period - Describe the O&M tasks actually completed during this PRR reporting period.
C. Evaluation of Remedial Systems - Based upon the results of the O&M activities completed, evaluated the ability of each component of the remedy subject to O&M requirements to perform as designed/expected.
D. O&M Deficiencies - Identify any deficiencies in complying with the O&M plan during this PRR reporting period.
E. Conclusions and Recommendations for Improvements - Provide an overall conclusion regarding O&M for the site and identify any suggested improvements requiring changes in the O&M Plan.

VII. Overall PRR Conclusions and Recommendations
A. Compliance with SMP - For each component of the SMP (i.e., IC/EC, monitoring, O&M), summarize;
1. whether all requirements of each plan were met during the reporting period
2. any requirements not met
3. proposed plans and a schedule for coming into full compliance.
B. Performance and Effectiveness of the Remedy - Based upon your evaluation of the components of the SMP, form conclusions about the performance of each component and the ability of the remedy to achieve the remedial objectives for the site.
C. Future PRR Submittals
1. Recommend, with supporting justification, whether the frequency of the submittal of PRRs should be changed (either increased or decreased).
2. If the requirements for site closure have been achieved, contact the Departments Project Manager for the site to determine what, if any, additional documentation is needed to support a decision to discontinue site management.

VIII. Additional Guidance

Additional guidance regarding the preparation and submittal of an acceptable PRR can be obtained from the Departments Project Manager for the site.