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2020 Annual Water Quality Report
Clay County Sanitary Landfill, SW-34

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I hereby certify that this report was prepared by me or under my direct supervision and that I am knowledgeable in the field of hydrogeology.

Date: January 31, 2021

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Environmental Scientist

1.0 Introduction

1.1 PURPOSE

This submittal presents the 2020 Annual Water Quality Monitoring Report for the Clay County Sanitary Landfill, Permit SW-34, as required under Minnesota Pollution Control Agency (MPCA) Rules pt. 7035.2815, Subp. 14, Item Q. The results of the 2020 groundwater quality are compared with previous five years of historical data (i.e., 2016-2020). This report will evaluate water quality and water level trends, and review the hydrogeologic setting. The impact of the landfill on local groundwater quality and the effectiveness of remediation efforts will also be evaluated within this report.

1.2 BACKGROUND

The Clay County Sanitary Landfill operates under MPCA solid waste disposal permit SW-34, originally issued in May 1971. The facility is located in irregular Section 19, T139N, R45W, approximately 16 miles east of Moorhead, Minnesota, see Figure 1. The site is located on the shoreline of Lake Agassiz, an ancient glacial lake that covered much of northwestern Minnesota during the Wisconsin glaciation period. The lakebed lies to the west and morainal uplands to the east. Regional groundwater flow is to the west from the recharge areas of the uplands toward the lakebed. Much of the groundwater is discharged in low lying wetlands along the base of the upland areas and the remainder flows beneath the lake sediments to be discharged into the Red River of the North.

The Clay County Sanitary Landfill was included on the State of Minnesota's Permanent List of Priorities in 1984 with a Hazard Ranking Score of 17 out of a possible 100 and removed from the list in 1997. A groundwater quality investigation, initiated in 1993, determined that leachate was impacting groundwater beyond the landfill boundary. During 1994, waste was relocated to approximately 200 feet from the northern property boundary, gas vents were installed, and a cap meeting current rules was applied to the previously closed Area I as part of the County's effort to remediate the site. During 1994, the Federal Subtitle D regulations, as administered by the MPCA, became effective at the landfill. As a result, assessment monitoring was initiated in Spring 1995. The results were documented in Assessment Monitoring Report, Clay County Sanitary Landfill, 1995 and submitted to the MPCA in July 1995. A second round of assessment monitoring was conducted in the spring of 1996 and a report submitted to the MPCA in July of that year.

Partial closure of Area II was completed in 1994 and the remainder was closed as Area III was developed. The first lined cell, Phase 1, in Area III began receiving waste in 1995 and was closed in 1998, when the Phase 2 cell became operational. Phase 2 was closed in 2001 and Phase 3 closed in 2004. At this time, the closure of Area II was completed.

In 2002, the County purchased approximately 10 acres east of Area I (Area IV) for expansion of the permitted site. A hydrogeologic evaluation was conducted during 2002 and 2003. Reports for Phases I (September 2002), II (June 2003), III (December 2003), and IV (January 2004) of the hydrogeologic evaluation were submitted to the MPCA. Relocation of waste from Area I to Area IV commenced in the fall of 2004 and was completed in the spring of 2005. All of Area I has been incorporated into Area IV which also overlaps Area II.

Upon completion of waste removal, an investigation of Area I was initiated in 2005. This included conducting soil borings, soil sampling, installing three temporary wells and

investigating landfill gas encountered during these operations. A report of investigation was submitted to the MPCA in 2006. Subsequently, the installation of ten gas vents within the area of gas detection was completed in the fall of 2006. During 2008, Clay County acquired 86.6 acres of land adjoining the landfill to the north and a groundwater investigation was initiated on this "North Acreage" property and in the western wetlands west of the permitted waste disposal area. This investigation was completed in early 2009 and involved the installation of 8 additional wells. Gas extraction wells were installed in the southern portion of the site in 2008 as well. Three more wells were installed in the fall of 2009. During 2010, two lower aquifer wells, W-2B nested with W-2 and W-203B in the southwest corner of the site, were installed. The most recent wells were installed in Summer 2015, two additional well nests, W-301A/B and W-302A/B, were installed and the compliance boundary modified as shown in the current site map (Figure 2).

Figure 3 shows the pre-expansion waste boundaries. These are the contaminant source areas that will be referenced in this report. Currently, Area IV Phases 1 through 4 are being developed.

2.0 Groundwater Monitoring System

Table 1 summarizes the water quality monitoring wells and domestic wells which are monitored at the site. In addition to these monitoring points, three surface water sites and 5 lysimeters were sampled.

Note that under the permit, the detection wells are only monitored in odd years and, therefore, were not sampled during the Spring 2020 event. These wells were part of the EMS prior to the acquisition of additional acreage to the east (2002) and north (2008) followed by hydrogeological investigations and the establishment of a modified compliance boundary in 2015 as noted above. The old northern and western EMS wells have since become detection wells for the known impacted groundwater plume at the landfill. The old western EMS wells (W-9, W-10, W-11, W-16 & W-17) are now assigned Class 2D aquatic standard intervention limits. The MPCA indicated that sampling the old northern EMS wells and the three temporary wells (TW-1, TW-2 & TW-3) was no longer required but Clay County wanted to retain them to track remediation efforts. For this reason, no intervention limits are assigned to W-15, C-1, C-10, TW-1, TW-2, or TW-3.

Table 1 also contains the riser elevations for all the monitoring wells and piezometers.

2.1 ENVIRONMENTAL MONITORING SYSTEM (EMS)

The existing EMS at the Clay County Sanitary Landfill is quite complex and monitors two distinct hydrogeologic units, an upper and lower aquifer zones. These zones are monitored by an outer ring of compliance boundary wells, an inner transect of detection monitoring wells, surface water monitoring points, and water level only wells to help characterize the site hydrogeology. Please refer to Appendix A for the EMS and Figure 2 for the location of all EMS points at the landfill. Please note that the 24 compliance boundary wells are further separated into two groups based on their screened well depth into either just the upper aquifer or fully into the lower aquifer. Furthermore, the detection monitoring wells are also split into two subgroups, including the extended parameter list wells and the routine parameter list wells, based on the former compliance boundary and groundwater impacts over this area. The landfill property also has a wetland area located immediately west of the landfill footprint that is monitored for surface water quality at three specific locations. One is located in a more upgradient location, but immediately downgradient of the landfill, another is near the center of the wetlands area, and a third point is situated near the wetlands discharge area.

Compliance Boundary Wells: A total of 24 compliance boundary wells ring the site and are located in both the upper and lower aquifer units. The ten (10) upper aquifer/water table wells are sampled semiannually in the spring for the extended parameter list (i.e., low-level VOCs, geochemicals and dissolved metals, and field parameters), and in the fall for the routine parameter list (i.e., low-level VOCs, field parameters, and static water levels). The upper aquifer (downgradient) monitoring points include W-106A, W-301A, W-104A, W-102A, W-302A, W-6, W-202A, W-2, W-201A, and W-5. The 12 lower aquifer compliance boundary wells and two (2) existing upgradient compliance boundary wells are sampled annually in the spring for the extended parameter list (i.e., low-level VOCs, groundwater geochemicals and dissolved metals, and field parameters), and are measured for water levels only during the fall event. The lower aquifer monitoring points include W-106B, W-301B, W-104B, W-102B, W-302B, W-13 (upgradient), W-12 (upgradient), C-11, W-1, W-203B, W-202B, W-2B, W-201B, and W-3.

Detection Wells: The fourteen (14) detection monitoring wells are sampled biannually in the spring of odd years only and are measured for static water levels during all other sampling events. The eight (8) extended parameter list wells are sampled for low-level VOCs, surface water geochemicals and total metals, and field parameters. These wells include W-17, W-9, W-10, W-16, W-11, C-4, C-8, and C-9. The remaining six (6) routine parameter list detection wells are sampled only for low-level VOCs, field parameters, and static water levels. This list includes W-15, C-1, C-10, TW-1, TW-2, and TW-3. Low-level mercury sampling is conducted according to EPA Method 1669 and lab analysis using EPA Method 1631.

Water Level Only Wells: There are a total of 16 monitoring points around the site that are monitored only for static groundwater elevation to aid in calculating flow direction in the upper and lower aquifers. No other field testing or sampling is required at these monitoring points. These well locations include W-112, W-109, T2-A, T2-B, T2-C, J-2, C-12, C-13, T1-A, T1-B, T1-C, PP-1, PP-2, PP-3, C-3, and C-2.

Off-Site Residential Wells: The Clay County Landfill monitors water quality typically in three offsite wells surrounding the landfill property, but has occasionally sampled other nearby residences. When given access by the landowners, the residential wells are sampled annually during the spring event only for the extended parameter list (i.e., low-level VOCs, groundwater geochemicals and dissolved metals, and field parameters). Water levels are not collected at these locations during either event.

Surface Water: The landfill's three (3) surface water monitoring points are monitored semiannually at the landfill. All three locations are sampled in the spring for the extended list (i.e., low-level VOCs, surface water geochemicals and total metals, and field parameters). During the fall sampling event, only locations SW-1 and SW-3 are sampled for the routine list (i.e., low-level VOCs and field parameters). Low-level mercury sampling is also conducted according to EPA Method 1669 and lab analysis using EPA Method 1631 during the spring event only.

3.0 Site Hydrogeology

3.1 GEOLOGY

The Clay County Sanitary Landfill is located on the eastern shoreline of ancient glacial Lake Agassiz. The lakebed lies to the west and consists of lake clays and lacustrine sand and silt deposits. The lake facies also contain sand bars which developed in the near offshore environment. To the east is a morainal upland containing numerous lakes. The landfill itself lies in a transitional near-shore environment consisting of interbedded lake and glacial deposits. The eastern portion of the site is used for waste disposal and is relatively high and well drained. The western half consists of permanent to seasonal wetlands and contains occasional granitic glacial erratics, often associated with small potholes.

The water table (upper) aquifer at the site is relatively shallow and, in general, consists of sand and silty sand containing small amounts of gravel. The sands of the upper aquifer are represented by a sand and gravel beach ridge in the southeast corner of the site and become finer and contain less gravel as one moves from east (upland) to west (lakebed). These sands rest upon, and are interbedded with, a dense sandy clay till which forms the lower confining layer. Within parts of the wetlands west of the disposal area and in portions of Area I, the lower confining layer is thinner or absent altogether.

Underlying the sediments described above are lacustrine deposits of interbedded silts and fine-grained sands. This facie contains little or no gravel and grades from poorly graded (well sorted) sand in the eastern portion of the site to silt with interbedded sand to the west. These sands and silts comprise the lower aquifer and are underlain by a sandy clay till similar to the lower confining layer of the upper aquifer.

3.2 GROUNDWATER

A map of the water table surface and lower aquifer, based on measurements made in May 2020 and October 2020, is presented on Figures 4A and 4B (Upper Aquifer) and Figures 5A and 5B (Lower Aquifer). In general, groundwater flow is westward toward the old lakebed for both aquifers. Vertical gradient measurements indicate that the upland (eastern) portion of the landfill site is a region of groundwater recharge and the wetland to the west of the fill area is a region of groundwater discharge with local areas of recharge (downward gradient). The demarcation between the general recharge and discharge regimes apparently occurs near the western waste disposal boundary where the vertical gradient measured in well nests W-9/W-17 and W-11/W-16 have varied between slightly upward to slightly downward over time. Well nests to the northwest of these wells have exhibited variable but often downward gradients, while the gradients in the southwest portion of the site exhibit generally upward (discharge) gradients.

Table 2 presents the vertical gradients for each of the well nests calculated from water level measurements collected during 2020. A summary of historical water level measurements since 2002 is presented in Table 3. Water elevation trends for the last five years of selected wells are presented in Figures 6 (Water Table Aquifer) and 7 (Lower Aquifer).

4.0 Water Quality

4.1 BACKGROUND

The groundwater monitoring system at the Clay County Sanitary Landfill was sampled in May and October of 2020 by Wenck Associates, Inc. and analyzed by Pace Analytical Services, LLC. All samples collected during the two rounds were analyzed according to the sampling and analysis plan for the site (Wenck, April 2018). The results of these analyses are compared with the MPCA Intervention Limits (IL) as mandated under the facility's permit for the compliance boundary wells. Select detection wells and surface water sites S-1, S-2 and S-3 are evaluated using a combination of surface water and groundwater standards. In addition, samples were collected from the lysimeters and from the nearby residential water supply wells at the Benesch residence, Deutscher residence, J. Ekre residence. Access to sample the Weaver and R. Ekre water supply wells was denied in 2020.

4.2 WATER QUALITY MONITORING SYSTEM RESULTS

4.2.1 Volatile Organic Compounds

The compliance wells were the only monitoring wells sampled during the 2020 events. The last time the full set of monitoring wells (compliance and detections wells) were sampled was in Spring 2019. The detections wells were not sampled in 2020 in accordance with the current EMS, requiring them to only be sampled during odd numbered years. Table 4 shows a summary of VOCs detected in 2020, while Table 9 shows the historical VOC results in the site. Vinyl chloride was the only low-level VOC detected at the site and was present in monitoring well W-2 above the MPCA IL of 0.05 ug/L during the 2020 sampling events.

4.2.1.1 Compliance Wells

The IL of 0.05 ug/L for vinyl chloride was exceeded in Upper Aquifer compliance well W-2 during both the spring and the fall sampling events at levels of 0.061 ug/L and 0.075 ug/L, respectively. Vinyl chloride concentrations in W-2 appear to be trending slightly upward, but concentrations still remain well below the HRL of 0.2 ug/L. In the past, W-104B had shown exceedances of the vinyl chloride IL criteria. However, vinyl chloride was not present in W-14B above the laboratory reporting limit (RL) for either 2020 sampling event. No other VOCs were detected in the monitoring wells during the 2020 sampling events.

Figure 8 presents vinyl chloride concentration trending in W-2 and W-102B through 2020.

4.2.1.2 Lysimeters

The Area III Lysimeters for Phases 1, 2 and 3 and Lysimeter Area IV for Phases 1, 2 and 3 were monitored during 2020. Table 7 presents these summary results. During 2020, only Lysimeter III-1 and Lysimeter III-2 were able to be sampled. Lysimeters III-3, and IV-1&2, were reported as dry during both the spring and the fall sampling events, while Lysimeter IV-3 was not sampled due to access obstructed from the ongoing site expansion construction project. Between Lysimeter III-1 and III-2, only Lysimeter III-2 detected VOCs, which only occurred during the Fall 2020 sampling event. These detections were for ethylbenzene, p-isopropyltoluene, toluene, and total xylenes. Of these detections, ethylbenzene exceeded the IL of 10 µg/L with a concentration of 27.8 µg/L, which is slightly

higher than concentrations reported in 2019. Likewise, total xylenes also exceeded its respective IL of 75 µg/L with a concentration of 168 µg/L.

4.2.1.3 Surface Water

Samples were collected from the three surface water sites within the western portion of the landfill property during the 2020 sampling events. These sites are shown in Figure 2 and designated as S-1, S-2, and S-3. S-1 and S-2 are located within the wetlands west of the waste fill (near former Area I and existing Area II), and S-3 is located in the southwest corner of the property where the water table surface is often higher than the ground surface. S-3 is also within the drainage way that runs to the south along the western property line.

Table 8 presents the results for the surface sites; standards for these sites are Aquatic Class 2D surface water standards. S-1, S-2 and S-3 were all sampled during the spring event. During the fall event a sample was obtained only for S-3, due to S-1 being dry at that time.

VOCs were detected in all three surface water monitoring locations during 2020. The VOCs detected and their concentrations in S-1 during the spring sampling event were for ethyl ether at 11.6 µg/L and vinyl chloride at 0.2 µg/L. Between S-1 and S-2 only ethyl ether was detected in both samples during the spring event. Ethyl ether was detected in S-2 at a concentration of 22 µg/L. Additionally detections in S-2 showed acetone at a concentration of 22.5 µg/L and tetrahydrofuran at a concentration of 74.4 µg/L. These were both less than the IL surface water standards. No VOCs were detected during the spring event in S-3, but a single low-level detection for toluene (0.52 µg/L) was present during the fall event.

4.2.1.4 Detection Wells

The detection wells are sampled biannually in the spring of odd years only, therefore these locations were not sampled during the 2020 events. These detection monitoring wells will be sampled again during the Spring 2021 event.

4.2.2 Inorganic & Metals Parameters

4.2.2.1 Compliance Wells

Table 5 summarizes the 2020 inorganic results. Manganese exceeded the 25 ug/L IL in 21 compliance wells during the spring of 2020. Of these 21 wells, 11 of them had exceedances above the MDH HRL of 100 ug/L. These 11 wells and their concentrations of manganese are as follows: W-3, 122 ug/L; W-6, 351 ug/L; W-12, 244 ug/L; W-102B, 174 ug/L; W-104A, 266 ug/L; W-104B, 228 ug/L; W-106B, 129 ug/L; W-201A, 317 ug/L; W-301B, 116 ug/L; W-302A, 206 ug/L; and W-302B, 215 ug/L. The 10 wells that only exceeded the IL for manganese and their respective concentrations are as follows: W-1, 52.3 ug/L; W-2, 52.3 ug/L; W-2B, 98.7 ug/L; W-5, 48.9 ug/L; W-13, 85.9 ug/L; W-106A, 41.6 ug/L; W-201B, 93.3 ug/L; W-202A, 65.1 ug/L; W-202B, 50.8 ug/L; and W-203B, 43.6 ug/L. This region is characteristically known for naturally elevated levels of manganese, including upgradient wells W-12 and W-13 making it difficult to attribute these exceedances solely to current landfill activities. However, wells located near former disposal Area I have generally shown higher levels of manganese, boron, arsenic, and occasionally barium in the water table wells near the unlined waste areas. This indicates that the landfill still has residual contamination and impacts in the vicinity of former Area I. See Sections 5.1.2 and 5.2 - 5.3 for additional discussion on historical plumes.

Arsenic also exceeded the IL of 2.5 ug/L in five wells. These compliance wells included W-2B with a concentration of 5.8 ug/L, W-104B with a concentration of 8.6 ug/L, W-106B with a concentration of 9.7 ug/L, W-201A with a concentration of 2.8 ug/L, and W-201B with a concentration of 4.8 ug/L.

Aside from manganese and arsenic, nitrates were the only other inorganic exceedance detected above water quality criteria limit during the 2020 sampling events. Nitrates exceeded the 2.5 ug/L IL in C-11 with a concentration of 8.6 ug/L. The 2020 nitrates concentration in C-11 is the lowest reported in several years, as nitrates have historically been reported above the HRL of 10 ug/L in this well.

Figures 9 through 11 present arsenic, manganese, and nitrates concentration trends for those compliance wells that have recently exceeded IL or HRL criteria as shown on Tables 3 and 10. There does not appear to be a consistent relationship between the water table and lower aquifer concentrations of these parameters.

4.2.2.2 Residential Water Supply Wells

Access to sample the Weaver and R. Ekre residences was denied during the Spring 2020 sampling event. No VOCs were detected in the Deutscher, Benesch, or J. Ekre residential wells. Manganese exceeded the IL of 25 µg/L in the Benesch well with a concentration of 39.5 µg/L. The manganese HRL of 100 µg/L was exceeded in the Deutscher well with a concentration of 430 µg/L during the spring sampling event. These results are consistent with past sampling results. Table 6 presents these results.

4.2.2.3 Lysimeters

Lysimeters III-1 and III-2 had inorganic exceedances during the spring sampling event. Arsenic was detected above the HRL of 10 µg/L in both Lysimeter III-1 and III-2 with concentrations of 57.7 µg/L and 107 µg/L, respectively. Manganese exceeded the IL of 25 µg/L in Lysimeter III-2 with a concentration of 107 µg/L, while the manganese concentration in Lysimeter III-1 exceeded the 100 µg/L HRL with a concentration of 1,050 µg/L. The 125 µg/L IL for Boron was exceeded in Lysimeter III-2 with a concentration of 214 µg/L.

4.2.2.4 Surface Water

There were inorganic exceedances for arsenic, lead, manganese, and mercury at the three surface water sampling locations during the spring sampling event in 2020. Manganese was detected above the HRL of 100 µg/L in S-1 with a concentration of 1,010 µg/L. Lead was also detected above the IL of 3.2 µg/L in S-1 at a concentration of 3.6 µg/L. Arsenic was detected above the 212 µg/L HRL in S-2 at a concentration of 3,700 µg/L. S-2 also showed and exceedances for mercury above the HRL of 27.6 ng/L with a concentration of 37.4 ng/L and for manganese above the 100 µg/L HRL with a concentration of 3,320 µg/L. Similar to surface water exceedances shown for S-1 and S-2, S-3 showed lower exceedances for manganese (46.3 µg/ vs. IL of 25 µg/L) and for mercury (6.9 ng/L vs. IL of 6.9 ng/L) during the spring event.

5.0 Conclusions

5.1 WATER QUALITY SUMMARY

5.1.1 Compliance Wells

VOCs were only detected in western compliance well W-2 (water table) during the 2020 events. Vinyl chloride exceeded the IL at low levels during both the spring and fall events. As previously noted, the detection of vinyl chloride at the compliance boundary is probably related to lower detection limits instituted in 2017 rather than to recent occurrence. Review here does show a slight upward trend, as shown on Figure 8. No other IL or HRL VOC exceedances occurred within the compliance wells.

Inorganic exceedances within the compliance wells were primarily for arsenic (5) and manganese (21). A nitrates exceedance also occurred for monitoring well C-11. The arsenic and manganese exceedances are probably a combination of natural origin and landfill impacts, whereas the nitrates are of agricultural origin. Monitoring well C-11 is downgradient of Area III and has shown no impacts to date other than exceedances of nitrates and one 2004 exceedance of manganese. The highest manganese concentration occurred within well W-6 (southwest of Area III) with a concentration of 351 µg/L, while the highest arsenic concentration was reported in W-106B (north acreage) at 9.7 µg/L.

5.1.2 Detection Wells

As noted above, none of the detection wells were sampled in 2020. The following discussion is based on results through 2019.

5.1.2.1 Area I

W-11 has historically been the most impacted well within the Area I plume. A downward trend in VOC concentrations was apparent through 2003, followed by upward trend in concentrations from 2003 until 2010. After 2010, VOC concentrations have remained steady. The 2019 values have generally shown a slight decrease in concentration for most parameters. Eight (8) low-level VOCs were detected in W-11 in 2019, but all remained below Class 2D aquatic standards. A single inorganic/metal IL exceedance occurred for arsenic, but concentrations remained below 2017 concentrations. The Area I investigation wells (TW-1, TW-2, and TW-3) once again revealed numerous VOC detections, although these wells are not subject to established IL/HRL standards since they are not part of the EMS. Overall, VOC concentrations for TW-1, TW-2, and TW-3 appear to be on the decline for most parameters.

Adjacent to W-11, lower aquifer well W-16 has shown a slight increase in detected VOCs in 2019. W-16 reached peak VOC detections in 2005 and declined in detection until 2009 when the detections began to remain steady. The trends in concentration levels in the lower aquifer may be related, in part, to changes in groundwater elevations and associated changes in vertical gradients. Also, soil borings in 2005 indicated a lack of separation between the upper and lower aquifers in portions of Area I and the presence of pressurized landfill gas in the upper aquifer which may have driven the downward migration of leachate. The decline from historic highs may be related in part to the venting of gas in the old Area I. The delay between the appearance of VOC contaminants in the upper and lower aquifer in

the well nest may be due to slower migration of contaminants in the relatively low hydraulic conductivity environment of the lower aquifer.

Monitoring wells C-1 and W-15, along the northern edge of the Area I fill area, also have no established IL/HRLs. Historically, these wells have exhibited a few VOC detections. The 2019 sampling event revealed the detection of six (6) low-level VOCs in C-1 and three (3) low-level VOCs in W-15. Most detections were consistent with historical concentrations.

5.1.2.2 Area II

The second plume, detected in W-9, is associated with Area II. VOC concentrations have shown a continuous and rapid decline between 1991 and 1994. Between 1996 and the end of 2000, a high amplitude peak occurred in the level of tetrahydrofuran. Tetrahydrofuran levels have fallen to zero or near zero since. Other parameters have reflected the trend of the tetrahydrofuran peak in a suppressed form or shown little change in their trends. It is probable that the increases noted between 1995 and 2001 are related to contact of groundwater with waste and/or contaminated soils previously within the unsaturated zone due to historical high-water levels. Current levels of VOCs in W-9 appear to be stabilizing. There were no exceedances in this well in 2019 which is down from one exceedance for mercury in 2017 (surface water standard).

The lower aquifer well, W-17, adjacent to W-9 showed a trend of increasing VOCs from 1999 through 2007 followed by a significant decline. Since 2011 the trend has been flat although vinyl chloride levels continue decline. There is little information about a confining layer between the upper and lower aquifers in Area II.

Well C-9 installed downgradient of the waste site in the wetland showed only minor VOC impacts prior to 2003. Vinyl chloride levels in C-9 peaked in 2004 and are currently flat following a sharp decline. The last time vinyl chloride was detected in C-9 was the spring of 2012. However, in 2019 vinyl chloride was detected at a concentration of 0.11 ug/L. C-10 exhibited a rapid decline in VOCs detected between 1995 and 1999 followed by gradually increasing levels through 2007. VOCs continue to decline in this well as there were no detections in 2019. A decline from 1 detection of ethyl ether in 2017.

In general, it appears that upper aquifer groundwater quality in W-9 has stabilized at a very low level of contamination with the exception of ethyl ether as noted above. The timing of the appearance of VOCs in wells C-9 and C-10 may be related to delayed interception of the plume due to the length of the flow path from the contaminant source to C-9 and the fact that the C-10 is not directly downgradient of the unlined portion of the landfill. VOCs in C-9 may also be related to discharge from the lower aquifer into the upper aquifer.

The hydrology of the site suggests that most of contaminants originating in Area I and Area II remain relatively shallow in the groundwater flow regime and are discharged in the wetlands west of the fill areas. However, relatively low levels, albeit greater than the IL of 0.05 µg/L, of vinyl chloride have been detected in W-2, indicating some transport further than previously thought.

5.1.2.3 Area III

The wells that are downgradient to Area III include C-10 and C-11. Well C-10, is also affected by Area II, is discussed above. Well C-11 which is obliquely downgradient of Area III has shown no impacts to date other than exceedances of nitrates and one 2004 exceedance of manganese.

5.1.2.4 Area IV

Monitoring wells in Area IV also monitor old Area I and are discussed above.

Since the detection wells are only sampled during the spring event of odd years, the next sampling event scheduled for the detection wells will occur in Spring 2021.

5.1.3 Lysimeters

Lysimeters III-1 and III-2 were sampled during the 2020 events, whereas Lysimeters III-3 and IV-1,2were both dry, and Lysimeter IV-3 was obstructed during the 2020 sampling events. No VOCs were detected within the lysimeters during the Spring 2020 event. Lysimeter III-2 revealed four VOCs detections during the fall sampling event with only two IL standard exceedances for ethylbenzene and total xylenes.

The inorganic exceedances present in Lysimeter III-1 and Lysimeter III-2 are for arsenic boron, or manganese. Arsenic and manganese have historically been present in excess of the HRL and is not uncommon to see again for these locations. Also, as previously stated, this region is characteristically known for naturally high levels of manganese which could explain these exceedances.

Boron in excess of the IL in Lysimeter III-2 has also been present since 2017. Between 2012 to 2017 Lysimeter III-2 was dry and no sample could be collected. Prior to 2012, the parameter was not analyzed for. Its presence will continue to be monitored to determine significance.

5.1.4 Surface Water

All three surface water samples were collected in Spring 2020. Only S-3 was sampled in the fall, as S-1 was dry, and S-2 is only sampled during the spring sampling event. A total of 5 different VOCs were detected between S-1, S-2, and S-3, and all below surface water criteria. Vinyl chloride was only present in S-1. Ethyl ether was present in both S-1 and S-2 in the spring. Acetone and tetrahydrofuran were found only in S-2. . S-3 revealed a detection for toluene during the fall event only.

Inorganic exceedances were present in all three surface water locations in 2020. Arsenic exceeded the IL in S-2, while manganese was present above the HRL in S-1 and S-2 and above the IL in S-3. Similarly, low-level mercury was also present in all three surface water sampling locations, but only exceeding the IL at S-3 and the HRL at S-2. Lead was also detected above the IL in S-1.

5.1.5 Residential Water Supply Wells

The manganese present in the Deutscher and Benesch 2020 sample results is likely of natural origin, as the Deutscher well is upgradient to side-gradient of the landfill and the Benesch well is well removed from the landfill. In 2020, no VOCs were detected above their reporting limits for any of the residential wells. No other residential wells were sampled in 2020, due to access not being given for sample collection.

5.2 REMEDIATION EVALUATION

5.2.1 Methodology

Clay County has initiated a number of remedial actions at the landfill. Corrective measures consisting of relocating waste, upgrading the cap, and adding gas vents were performed during 1994 to reduce leachate production contributing to the contaminant plume emanating from Area I. Phytoremediation was initiated in 1998 with the planting of 200 poplar trees. This was followed with the planting of 300 trees in 2000, 3000 trees in 2001 and 1000 trees in 2002. Commencing in the fall of 2004 and continuing into the spring of 2005, waste was removed from Area I and relocated to a lined cell in Area IV. Gas vents were installed in the waste removal area in 2006.

In 2008/2009 the Clay County Landfill upgraded their passive vent system in the closed areas of the landfill (Areas II and III), to an active gas collection system, where the landfill gas is burned off in an enclosed fare. The gas system became fully functional in January 2009. The gas system had been running intermittently due to insufficient gas generation to fuel the enclosed flare. Additional wells were added to the system during 2010 and most recently in 2020 resulting in improved operations.

In an attempt to monitor the effectiveness of the phytoremediation effort, three piezometers were installed across the tree belt (PP-1, 2 & 3) west of Area I in 2004. Water levels were measured monthly to detect any lowering of the water table due to water take-up by the trees.

5.3 DISCUSSION

5.3.1 VOC Trends

In Area I the moving average VOC trend in well W-11 apparently began declining after the initial waste relocation, followed by an increase beginning fall 2005. A significant increase and subsequent decline in groundwater elevations represented by the water level plot for well W-15 occurred during the period when phytoremediation was being implemented with the increase in VOCs near the end of that period which may be related to mobilization of contaminants because of increased infiltration due to the removal of waste and cover in Area I. This also coincides with an increase in water levels. Active gas extraction may be having some effect as well as lower water levels in the recent declines. The VOC trends for well W-16, a lower aquifer well adjacent to W-11, are currently relatively flat.

In well W-9 (Area II) the VOC trend line had declined sharply prior to the original waste move which likely had no effect on contaminants in Area II. During the period of tree planting there was a sharp increase in the trend corresponding to the increasing groundwater levels. Starting about 2001 VOC trends show a sharp decline again mirroring the water level trend. VOC levels have been rising since reaching an all-time low in 2010. Most of the rise can be attributed to increasing levels of ethyl ether.

Well W-17, a lower aquifer well adjacent to W-9, has exhibited falling levels of VOCs since 2007 and the levels appear to be currently stable. They do not appear to be correlated to either remediation efforts or groundwater elevations. There is no confining layer between the upper and lower aquifers in this well and the presence or absence of a confining layer in the contaminant source area (Area II) is uncertain.

5.3.2 Piezometer Results

Relating water levels in the piezometers to water uptake in the phytoremediation trees is difficult. There is evidence that measured water levels are lower on a recurring basis during the summer growing season, but this pattern has been interrupted on occasion by high precipitation levels, such as those observed in 2019. Because the water table is near the surface, direct evaporation, precipitation, temperature, and the overall site water level all have an effect.

5.3.3 Summary

The following points are based on the foregoing discussion as well as on the groundwater data presented in this report.

1. As would be expected, the waste relocation in Area I in 1994 appears to have initiated a decline in contaminant levels in W-11, but had little effect on the Area II contaminants (W-9) which had been in steep decline prior to the relocation.

2. Groundwater elevation appears to have had a strong influence at times on water table contaminant levels in Area I and Area II. At its highest level, the water table probably intersected the waste in some parts of Area II. Also, contaminants adsorbed within soils in the previously unsaturated zone may have been mobilized once the soils were saturated. VOC trends have generally reflected water level trends in Area I since about 2005. While VOC trends have tracked water levels in Area II prior to 2009, but not since that time. Current increases in VOCs in W-9 are due to increasing levels of ethyl ether, while other VOCs remain at low levels.

3. The evaluation of remediation in Area I is complicated, there had been increasing levels of VOCs in W-11 from about 2005 to a peak in 2009. The VOC levels after 2005 appear to follow groundwater levels which probably mask the effects of remediation. Trends for most parameters are declining along with the groundwater levels. Area II trends in W-9 had been downward for several years, but currently appear to be rising although most individual parameters other than ethyl ether are stable at low levels or declining.

4. As of 2019, levels of most VOCs had declined significantly from initial readings in the temporary wells installed in Area I. This may be due to degassing by the wells themselves, which have been described as "active" in field reports, and from the gas vents.

5. A definitive conclusion as to the effectiveness of any one of the remediation measures is difficult to determine. The contaminant levels are very low and there are several processes operating simultaneously, including the effects of the original waste relocation, the probable natural attenuation occurring within the plume, the effects of the phytoremediation program, the effects of later waste removal, the effects of groundwater levels and the effects of gas vents/active collection. On the whole, it appears that contaminant levels are in decline.

6. The presence of VOCs at the compliance boundary, including vinyl chloride exceedances in W-2 (water table) detected recently due to lower

detection/reporting limits attained by the laboratory, indicates that the contaminants travel somewhat further than previously thought although at a very low level.

7. The origin of the vinyl chloride in W-2 is difficult to isolate due to the variation in water table configuration over time and the dispersal of dissolved chemicals over distance. The most likely source is old Area II, but Area I may contribute.

5.4 MONITORING WELL CONDITIONS REVIEW

The damaged well casing for compliance well W-203B (Lower Aquifer) was repaired by an MDH-certified well driller on October 8, 2019. It was determined that the casing was pinched several feet below the top of casing. During the repairs on the PVC well casing, soil was removed from around the monitoring well steel protective casing to allow the repairs (cutting of pipe below pinched area). The area around the well casing annulus was then filled in on April 24, 2020. A sample was collected during the normal spring event in 2020.

Due to the current monitoring well condition and the wells history of freeze thaw cycle, additional monitoring well protection measures may be required in 2021. The well top of casing currently sits a few inches above the ground surface. The water in this well has historically shown upwards artesian flow, so the PVC riser of this monitoring well might be extended in order to decrease the amount of water flowing out of the top. However, the casing was previously extended in the past in attempts to mitigate the cycle. All efforts will be presented to the MPCA as to the status of the monitoring well and included in the 2021 groundwater reports.

Lower Aquifer well W-1 is located in the southwest portion of the landfill's western extent. This location is a near flush-mount well and situated in the portion of the site that can be prone to surface water ponding. MW-1 was able to be readily sampled in the Spring of 2020 and provided a representative sample that compared well to historical concentrations and ranges. Nonetheless, the W-1 well casing will also be evaluated by the county in 2021 for extension.

Tables

1. Well Summary
2. Historical Vertical Gradients
3. Historical Water Level Data Summary
4. Summary of 2020 Detected VOCs
5. Summary of 2020 Inorganic & Metals Exceedances
6. Summary of 2020 Residential Well Water Quality Results
7. Summary of 2020 Lysimeter Water Quality Results
8. Summary of 2020 Surface Water Results
9. 2020 VOCs Results
10. 2020 Inorganics & Metals Results

Table 1
Clay County Sanitary Landfill
Hawley, Minnesota

Well Summary

Monitoring Point	Top of Riser Elevation (Ft.-NGVD)	Screen Interval (Ft.-NGVD)	Frequency	Description
Compliance Wells (Upper Aquifer)				
W-2 #117051	1091.51	1063.1 - 1069.1	2x/yr Spring & Fall	Downgradient, center of western property line.
W-5 #222010	1093.16	1080.7 - 1086.7	2x/yr Spring & Fall	Downgradient, adjacent to W-3.
W-6 #222012	1094.41	1078.3 - 1084.3	2x/yr Spring & Fall	Downgradient, adjacent W-1.
C-11 #670505	1112.65	1090.7 - 1100.7	1x/yr Spring	Downgradient, south of Area III, phase 1.
W-12 #458868	1139.12	1091.2 - 1101.4	1x/yr Spring	Upgradient, east end of southern site boundary.
W-13 #458867	1133.14	1080.2 - 1090.4	1x/yr Spring	Upgradient near south end of eastern site boundary.
W102A #670532	1127.35	1107.0 - 1117.0	2x/yr Spring & Fall	Side Gradient, north of Area I/IV.
W-104A #763237	1098.10	1080.8 - 1085.8	2x/yr Spring & Fall	Side Gradient, north of W-11.
W-106A #763239	1094.64	1076.6 - 1081.6	2x/yr Spring & Fall	Downgradient, northeast of well nest W-3/5.
W-201A #763243	1092.60	1074.7 - 1079.7	2x/yr Spring & Fall	Downgradient, near west prop boundary, between well nest W-3/5 and well W-2. Nested with W-201B.
W-202A #763244	1090.45	1077.0 - 1082.0	2x/yr Spring	Downgradient, near west prop boundary, between well nest W-1/6 and well W-2. Nested with W-202B.
W-301A #778496	1094.23	1077.4 - 1087.4	2x/yr Spring & Fall	Northern compliance boundary.
W-302A #778498	1120.60	1088.0 - 1098.0	2x/yr Spring & Fall	Northern compliance boundary.
Compliance Wells (Lower Aquifer)				
W-1 #117057	1094.79	1022.2 - 1028.2	1x/yr Spring	Downgradient near southern boundary, west of fill area.
W-2B #582746	1091.04	1042.9 - 1047.9	1x/yr Spring	Downgradient, nested with W-2.
W-3 #117059	1092.87	1020.3 - 1026.3	1x/yr Spring	Downgradient, NW corner of site.
W-102B #670533	1127.48	1082.6 - 1087.6	1x/yr Spring	Side Gradient, north of Area I/IV. Nested with W-102A.
W-104B #763238	1098.08	1054.1 - 1064.1	1x/yr Spring	Side Gradient, north of W-11. Nested with W-104A.
W-106B #763240	1094.21	1038.9 - 1048.9	1x/yr Spring	Downgradient, northeast of well nest W-3/5. Nested with W-106A.
W-201B #670534	1092.59	1050.7 - 1055.7	1x/yr Spring	Downgradient, near west prop boundary, between well nest W-3/5 and well W-2. Nested with W-201A.
W-202B #670535	1090.24	1048.3 - 1053.3	1x/yr Spring	Downgradient, near west prop boundary, between well nest W-1/6 and well W-2. Nested with W-202A.
W-203B #582747	1088.59	1048.9 - 1053.9	1x/yr Spring	Downgradient, SW corner of landfill property.
W-301B #778497	1094.14	1042.4 - 1047.4	1x/yr Spring	Northern compliance boundary. Nested with W-301A.
W-302B #778499	1120.85	1059.3 - 1064.3	1x/yr Spring	Northern compliance boundary. Nested with W-302A.
Detection Wells (Upper Aquifer) - Odd Years				
C-1 #527905	1124.03	1092.0 - 1102.0	1x/2yr Spring	Side Gradient, northern site boundary, east of W-15.
C-4 #533339	1098.87	1078.2 - 1088.2	1x/2yr Spring	Downgradient, in wetland, SW of W-11.
C-8 #533340	1096.98	1078.2 - 1088.2	1x/2yr Spring	Downgradient, in wetland, NW of W-9.
C-9 #533341	1098.88	1078.8 - 1088.8	1x/2yr Spring	Downgradient, in wetland. SW of W-9.
C-10 #526826	1103.99	1081.7 - 1091.7	1x/2yr Spring	Downgradient, west of Area III.
TW-1 #680892	1104.73	1085.8 - 1095.8	1x/2yr Spring	Located in Area I/IV, temporary non-EMS well.
TW-2 #680893	1107.54	1088.7 -1098.7	1x/2yr Spring	Located in Area I/IV, temporary non-EMS well.
TW-3 #680894	1103.59	1084.6 - 1094.6	1x/2yr Spring	Located in Area I/IV, temporary non-EMS well.

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Table 1
Clay County Sanitary Landfill
Hawley, Minnesota

Well Summary

Monitoring Point	Top of Riser Elevation (Ft.-NGVD)	Screen Interval (Ft.-NGVD)	Frequency	Description
Detection Wells (Upper Aquifer) - Odd Years (Cont.)				
W-9 #246303	1097.37	1080.3 - 1084.3	1x/2yr Spring	Downgradient, on western edge of fill area.
W-10 #246304	1096.01	1081.0 - 1087.0	1x/2yr Spring	Downgradient, on western edge of fill area.
W-11 #246305	1097.05	1082.4 - 1087.9	1x/2yr Spring	Downgradient, NW corner of Area I/IV.
W-15 #486362	1112.70	1083.7 - 1093.7	1x/2yr Spring	Side-gradient, northern edge of Area I/IV.
Detection Wells (Lower Aquifer) - Odd Years				
W-16 #486363	1096.39	1054.3 - 1059.3	1x/2yr Spring	Downgradient, nested with W-11.
W-17 #486364	1097.57	1056.5 - 1061.5	1x/2yr Spring	Downgradient, nested with W-9.
Residential Wells				
Benesch Well #480968	--	--	1x/yr Spring	Residential well: northwest of landfill (spring).
J. Ekre Well #639667	--	--	1x/yr Spring	Residential well: north/northwest of landfill (spring).
R. Ekre Well #639667	--	--	1x/yr Spring	Residential well: east of landfill (spring).
Deutscher Well #ZW00200	--	--	1x/yr Spring	Residential well: south of landfill (spring)
Weaver Well #ZW03948	--	--	1x/yr Spring	Residential well: northeast of landfill (spring)
Water Level Wells & Piezometers				
W-109 #763241	1099.10	1078.1 - 1088.1	2x/yr Spring & Fall	Side gradient, near northern property boundary, north of W-104A/B. Upper aquifer.
W-112 #763242	1091.15	1071.0 - 1076.0	2x/yr Spring & Fall	Down gradient, near northern property boundary, north of W-106A/B. Upper aquifer
C-2 #527906	1093.97	1076.4 - 1086.4	2x/yr Spring & Fall	Downgradient, west of Area I/IV. Upper aquifer.
C-3 #527907	1093.68	1076.0 - 1086.0	2x/yr Spring & Fall	Downgradient, west of Area I/IV, SW of C-2. Upper aquifer
C-12 #670526	1113.07	1096.6 - 1106.6	2x/yr Spring & Fall	Upgradient, nested with C-13. Upper aquifer
C-13 #670527	1113.27	1062.1 -1067.1	2x/yr Spring & Fall	Upgradient, nested with C-12. Lower aquifer.
J-2 #670504	1119.65	1096.1 -1106.1	2x/yr Spring & Fall	Upgradient, northeast corner of site. Upper aquifer.
PP-1 ZW03955	1098.38	--	2x/yr Spring & Fall	Piezometer transect across north end of western phytoremediation plantation
PP-2 ZW03956	1097.66	--	2x/yr Spring & Fall	Piezometer transect across north end of western phytoremediation plantation
PP-3 ZW03957	1096.22	--	2x/yr Spring & Fall	Piezometer transect across north end of western phytoremediation plantation
T1-A ZW03949	1104.75	1093.6 - 1096.6	2x/yr Spring & Fall	Piezometer transect across western phytoremediation plantation
T1-B ZW03950	1102.90	1091.7 - 1094.7	2x/yr Spring & Fall	Piezometer transect across western phytoremediation plantation
T1-C ZW03951	1101.81	1090.6 - 1093.6	2x/yr Spring & Fall	Piezometer transect across western phytoremediation plantation
T2-A ZW03952	1111.98	--	2x/yr Spring & Fall	Piezometer transect across northern phytoremediation plantation
T2-B ZW03953	1110.82	--	2x/yr Spring & Fall	Piezometer transect across northern phytoremediation plantation
T2-C ZW03954	1113.10	--	2x/yr Spring & Fall	Piezometer transect across northern phytoremediation plantation

= Sampled every other year on odd years

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Table 2
Clay County Sanitary Landfill
Hawley, Minnesota

Historical Vertical Gradients

Well Nests	May-20	Oct-20
	FT/FT	FT/FT
W-5/W-3	0.0088	-0.0056
W-11/W-16	0.1587	-0.0797
W-9/W-17	-0.0069	-0.0167
W-6/W-1	-0.0693	-0.0916
C-12/C-13	0.0873	0.0750
W-104A/W-104B	-0.0643	0.1020
W-106A/W-106B	0.0266	0.0074
W-201A/W-201B	0.0150	0.0113
W-202A/W-202B	-0.0530	-0.0739
W-2/W-2B	-0.0040	-0.0101
W-301A/W-301B	-0.0243	-0.0480
W-302A/W-302B	0.0981	0.1186

= (water elev. in screen)
= (middle of screen elev.)

Note: Negative values indicate upwards flow

Well ID	Top of Screen	Middle of Screen
W-1	1028.20	1025.20
W-2	1069.10	1066.10
W-2B	1048.80	1046.30
W-3	1026.30	1023.30
W-5	1086.70	1083.70
W-6	1084.30	1081.30
W-9	1084.30	1082.30
W-11	1087.90	1085.15
W-16	1059.30	1056.80
W-17	1061.50	1059.00
W-104A	1085.80	1083.30
W-104B	1062.80	1057.80
W-106A	1081.60	1079.10
W-106B	1047.60	1042.60
W-201A	1079.60	1077.10
W-201B	1055.60	1053.10
W-202A	1082.00	1079.50
W-202B	1053.30	1050.80
C-12	1106.60	1101.60
C-13	1062.10	1064.60
301A	1087.40	1082.40
301B	1047.40	1044.90
302A	1098.00	1093.00
302B	1064.30	1061.80

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Table 3
Clay County Sanitary Landfill
Hawley, Minnesota

Historical Water Level Data Summary

Date	W-1	W-2	W-2B	W-3	W-5	W-6	W-9	W-10	W-11	W-12	W-13	W-15	W-16	W-17	W-102A	W-102B	W-104A	W-104B	W-106A	W-106B	W-109	W-112	W-201A	W-201B	W-202A	W-202B	W-203B
TOC*	1094.79	1091.51	1091.04	1092.87	1093.16	1094.41	1097.37	1096.01	1097.05	1139.12	1133.14	1112.70	1096.39	1097.57	1127.35	1127.48	1098.10	1098.08	1094.64	1094.41	1099.10	1091.15	1092.60	1092.59	1090.45	1090.24	1088.59
Aquifer Zone	LA	WT	LA	LA	WT	WT	WT	WT	WT	WT	WT	WT	LA	LA	WT	LA	WT	LA	WT	LA	WT	WT	WT	LA	WT	LA	LA
Apr-02	1094.70	NA	NA	1089.14	1088.55	1091.14	1091.43	1094.32	1090.57	1102.97	1102.63	1094.32	1094.67	1094.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jul-02	1094.71	1086.79	NA	1089.29	1087.80	1090.52	1089.37	1092.27	1092.62	1103.47	1102.71	1097.21	1094.31	1092.64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oct-02	1094.67	1087.88	NA	1088.85	1088.49	1089.62	1092.97	1093.32	1092.55	1102.25	1104.04	1095.20	1094.14	1093.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oct-12	1091.84	1081.76	1080.26	1083.46	1081.05	1085.23	1089.20	1089.98	1087.79	1100.42	1101.63	1091.35	1090.68	1088.87	Dry	1096.00	1087.54	1090.69	1082.03	1083.38	1085.85	1081.89	1082.33	1081.68	1079.90	1081.63	1081.59
May-13	1094.69	1088.35	1086.07	1089.09	1090.40	1087.79	1094.15	1094.10	1093.73	1101.37	1103.93	1093.09	1094.80	1094.22	Dry	1096.96	1092.32	1094.39	1088.75	1089.01	1093.35	1087.96	1089.07	1088.04	1087.72	1087.65	1086.11
Nov-13	1094.44	1087.81	1086.61	1088.99	1089.61	1090.61	1093.43	1093.49	1092.82	1101.23	1103.87	1095.32	1094.36	1093.62	Dry	1096.51	1091.83	1093.93	1088.25	1088.53	1092.88	1087.48	1088.48	1087.57	1086.77	1086.68	1085.74
May-14	1094.48	1088.53	1087.59	1089.84	1090.87	1091.93	1094.79	1095.32	1094.40	1101.34	1104.16	1098.12	1095.64	1094.89	Dry	1097.97	1094.00	1095.00	1092.35	1090.30	1093.84	1088.42	1089.56	1089.17	1087.89	1087.38	1086.52
Oct-14	1093.39	1084.98	1085.46	1086.76	1085.97	1087.44	1092.01	1092.70	1090.87	1102.22	1104.84	1094.84	1092.18	1092.47	Dry	1099.83	1090.32	1093.64	1085.96	1086.89	1091.20	1084.91	1085.69	1085.79	1083.24	1085.54	1084.41
May-15	1094.59	1088.99	1089.16	1089.53	1090.11	1092.02	1094.12	1094.09	1093.60	1101.16	1102.68	1094.88	1094.70	1095.54	Dry	1097.53	1093.33	1094.29	1091.24	1089.63	1093.16	1087.78	1090.17	1089.38	1087.97	1088.42	1086.44
Nov-15	1092.07	1083.63	1084.17	1085.27	1083.22	1085.95	1091.02	1091.70	1089.52	1100.70	1102.10	1092.51	1091.94	1091.38	Dry	1096.71	1088.84	1091.82	1084.04	1085.14	1088.69	1080.60	1084.25	1084.31	1081.76	1084.14	1083.31
May-16	1093.46	1087.60	1087.25	1088.28	1088.23	1089.99	NA	NA	NA	1099.90	1101.20	NA	NA	NA	Dry	NA	1091.37	1092.74	1088.69	1087.00	Lost Data	1086.23	1088.24	1087.84	1086.48	1086.27	1086.05
Oct-16	1092.68	1086.59	1086.87	1087.12	1087.63	1089.85	1091.84	1092.24	1090.73	1099.44	1101.09	1092.65	1092.27	1092.09	Dry	1095.78	1090.26	1091.95	1087.58	1086.87	1089.95	1084.82	1086.85	1086.74	1084.31	1086.37	1084.89
May-17	1093.49	1087.81	1087.85	1088.59	1089.83	1090.47	1093.04	1093.06	1092.51	1099.36	1101.14	1094.30	1093.30	1093.15	Dry	1095.97	1091.85	1092.72	1090.03	1088.57	1092.21	1086.87	1088.37	1088.16	1086.85	1088.26	1086.28
Nov-17	NA	1086.06	1086.22	1086.59	1087.26	1088.80	1091.31	1090.55	1090.19	1097.97	1100.30	1092.27	1091.66	1091.54	Dry	1095.34	1089.75	1091.13	1087.41	1086.45	1089.57	1084.34	1086.34	1086.14	1084.52	1086.26	NA
May-18	1093.29	1087.96	1088.10	1088.46	1089.51	1090.91	1092.78	1092.69	1092.21	1098.58	1100.04	1093.35	1092.74	1092.94	Dry	1094.98	1091.60	1092.04	1089.36	1088.24	1091.77	1086.43	1088.44	1088.16	1087.13	1088.37	1086.29
Oct-18	1093.02	1087.42	1087.51	1087.81	1088.80	1090.38	1091.91	1092.07	1091.04	1098.38	1100.03	1092.52	1092.11	1092.12	1107.21	1094.71	1090.44	1091.33	1088.84	1087.54	1089.88	1085.21	1087.97	1087.65	1086.24	1087.67	1086.00
Apr-19	1094.73	1088.41	1088.50	1089.15	1090.56	1091.70	1093.82	1093.69	1093.39	1098.71	1100.95	1096.11	1093.89	1093.87	1113.81	1105.08	1092.83	1093.07	1091.11	1089.31	1093.11	1087.17	1089.14	1088.53	1087.66	1088.84	1084.95
Oct-19	1094.79	1088.22	1088.30	1089.18	1090.05	1091.30	1093.38	1093.33	1092.59	1099.88	1103.40	1095.55	1094.12	1093.56	1108.79	1098.05	1092.22	1093.69	1090.59	1089.38	1092.41	1087.40	1088.73	1088.37	1087.35	1088.72	NA
May-20	1094.59	1088.14	1088.22	1089.28	1089.81	1090.70	1093.66	1093.59	1093.11	1100.95	1104.43	1097.56	1088.61	1093.82	1111.15	1099.61	1092.59	1094.23	1090.45	1089.48	1093.23	1087.34	1088.80	1088.44	1087.16	1088.68	1088.59+
Oct-20	1093.28	1085.98	1086.18	1087.43	1087.09	1088.14	1092.11	1092.59	1091.01	1100.91	1103.79	1094.44	1093.27	1092.50	1107.19	1098.52	1093.18	1090.58	1087.50	1087.23	1090.86	1085.03	1086.68	1086.41	1084.22	1086.34	1088.59+

Notes:
TOC= Top Of Casing
LA = Lower Aquifer
WT = Water Table (Upper) Aquifer

WENCK now part of Stantec

Table 3
Clay County Sanitary Landfill
Hawley, Minnesota

Historical Water Level Data Summary

Date	W-301A	W-301B	W-302A	W-302B	C-1	C-2	C-3	C-4	C-8	C-9	C-10	C-11	C-12	C-13	J-2	TW-1	TW-2	TW-3	PP-1	PP-2	PP-3	T1-A	T1-B	T1-C	T2-A	T2-B	T2-C
TOC*	1094.23	1094.14	1120.60	1120.85	1124.03	1093.97	1093.68	1098.87	1096.98	1098.88	1103.99	1112.65	1113.07	1113.27	1119.65	1104.73	1107.54	1103.59	1098.38	1097.66	1096.22	1104.75	1102.90	1101.81	1111.98	1110.82	1113.10
Aquifer Zone	WT	LA	WT	LA	WT	WT	WT	WT	WT	WT	WT	WT	WT	LA	WT	WT	WT	WT	WT	WT	WT	WT	WT	WT	WT	WT	WT
Apr-02	NA	NA	NA	NA	1098.49	1092.06	1090.10	1093.55	1092.54	1092.28	1095.07	1097.93	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Jul-02	NA	NA	NA	NA	1101.56	1088.45	1089.55	1092.97	1092.92	1092.63	1094.42	1112.67	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Oct-02	NA	NA	NA	NA	1098.67	1090.43	1089.08	1093.00	1091.71	1092.63	1094.70	1097.76	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Oct-12	NA	NA	NA	NA	1095.47	1084.48	1083.46	1089.07	1087.04	1088.02	1090.41	1095.46	1101.36	1098.28	1099.51	1092.39	1095.56	1091.90	1090.05	1089.25	1089.11						
May-13	NA	NA	NA	NA	1097.24	1091.14	1089.99	1093.52	1092.03	1093.03	1102.03	1097.75	1105.31	1101.16	1102.73	1095.42	1098.59	1096.75	1094.78	1094.15	1094.06						
Nov-13	NA	NA	NA	NA	1097.94	1090.93	1089.62	1093.23	1088.54	1089.49	1094.99	1095.33	1101.54	1097.43	1101.47	1092.57	1095.75	1093.89	1094.14	1093.50	1093.38						
May-14	NA	NA	NA	NA	1099.94	1091.33	1090.20	1093.72	1092.12	1096.30	1095.49	1099.19	1101.92	1097.82	1101.85	1094.12	1097.32	1095.42	1095.20	1094.38	1094.25						
Oct-14	NA	NA	NA	NA	1100.18	1087.72	1086.47	1091.90	1086.78	1090.92	1093.85	1098.55	1104.50	1101.93	1102.74	1090.87	1094.06	1092.15	1092.96	1092.11	1091.99						
May-15	1090.91	1091.55	1099.68	1096.85	1097.46	1090.68	1090.03	1093.07	1091.42	1093.37	1094.80	1097.34	1101.24	1097.18	1100.54	1095.76	1097.58	1094.76	1094.61	1093.98	1093.83						
Nov-15	1084.73	1088.04	1098.85	1095.46	1096.36	1086.24	1084.96	1090.75	1089.12	1090.09	1092.34	1096.77	1101.97	1097.93	1099.58	1095.13	1096.93	1094.12	1098.38	1097.66	1096.22						
May-16	1089.78	1089.95	1097.82	1095.15	NA	1090.40	1088.67	NA	NA	NA	NA	1097.01	1101.76	1099.13	1098.84	NA	NA	NA	NA	NA	NA						
Oct-16	1087.98	1089.10	1097.37	1094.30	1095.77	1088.79	1087.99	1091.92	1091.46	1091.79	1093.83	1096.50	1101.60	1098.50	1098.72	1093.25	1095.60	1094.96	1092.27	1092.03	1091.91	1095.79	1091.83	1091.68	1096.04	DRY	DRY
May-17	1090.08	1090.08	1097.17	1094.63	1096.25	1089.86	1087.75	1092.91	1091.67	1092.60	1094.88	1096.26	1101.93	1098.62	1098.46	1094.72	1096.72	1095.97	1093.44	1093.08	1092.95	1097.40	1093.43	1093.27	1096.17	1095.44	DRY
Nov-17	1087.47	1088.22	1096.71	1093.53	1095.16	1088.20	1086.85	1091.02	1091.01	1090.79	1093.35	1096.21	1100.05	1097.63	1096.81	1092.71	1098.01	1090.95	1091.60	1091.22	1091.11	1095.49	1091.69	1091.26	1096.15	1094.90	1094.72
May-18	1090.27	1089.62	1096.45	1093.31	1095.09	1090.86	1088.95	1092.78	1091.69	1092.55	1094.77	1096.48	1101.82	1097.82	1097.42	1094.00	1095.51	1094.90	1093.03	1092.87	1092.76	1095.79	1092.99	1092.89	1096.15	1094.86	DRY
Oct-18	1088.83	1088.78	1096.07	1094.12	1094.89	1089.37	1088.04	1091.65	1091.33	1091.76	1094.39	1096.52	1100.37	1097.42	1097.41	1093.84	1095.69	1095.89	1092.17	1091.83	1091.70	1096.69	1091.85	1091.90	1096.22	1094.82	DRY
Apr-19	1090.42	1089.97	1098.44	1094.72	1095.70	1091.09	1089.16	1093.32	1091.80	1093.01	1094.96	1097.31	1103.83	1098.73	1101.64	1096.00	1097.39	1097.67	1094.23	1093.90	1093.77	1097.71	1094.13	1093.97	1102.45	1102.41	1096.92
Oct-19	1090.14	1090.72	1099.06	1096.03	1098.55	1090.94	1088.95	1092.99	1091.83	1092.92	1094.96	1098.40	1103.68	1100.00	1101.22	1095.73	1098.51	1097.57	1093.89	1093.22	1093.09	1097.85	1093.61	1093.47	1097.16	1097.88	1096.01
May-20	1090.08	1090.99	1100.07	1097.01	1101.24	1090.95	1088.83	1093.30	1091.87	1092.95	1095.01	1099.20	1104.32	1100.91	1101.35	1096.17	1099.05	1097.49	1094.28	1093.60	1093.47	1097.95	1093.96	1093.79	1102.59	1102.03	1098.41
Oct-20	1087.40	1089.20	1100.38	1096.68	1098.65	1088.44	1086.55	1091.95	1091.65	1091.33	1094.12	1097.83	1103.51	1100.58	1101.60	1094.48	1097.76	1095.86	1092.63	1092.13	1092.00	1096.22	1092.23	1092.11	1096.44	1096.30	1095.15

Notes:
TOC= Top Of Casing
LA = Lower Aquifer
WT = Water Table (Upper) Aquifer

WENCK now part of Stantec

Table 4
Clay County Sanitary Landfill
Hawley, Minnesota

Summary of 2020 Detected VOCs

Parameter	Units	HRL	IL	May-20	Oct-20
Environmental Monitoring System					
W-2	Water table	**Compliance Well**			
Vinyl chloride	ug/L	0.2	0.05	**0.061**	**0.075**

Bold values > IL, Underlined values > MDH Standard/MCL
NS - Not Sampled

WENCK now part of Stantec

Table 5
Clay County Sanitary Landfill
Hawley, Minnesota

Summary of 2020 Inorganic & Metals Exceedances

Parameter	Units	HRL	IL	May-20
Environmental Monitoring System				
W-1	Water table	**Compliance Well**		
Manganese	ug/L	100	25	**52.3**
W-2	Water table	**Compliance Well**		
Manganese	ug/L	100	25	**52.3**
W-2B	Lower Aquifer	**Compliance Well**		
Arsenic	ug/L	10	2.5	**5.8**
Manganese	ug/L	100	25	**98.7**
W-3	Lower Aquifer	**Compliance Well**		
Manganese	ug/L	100	25	**122**
W-5	Water Table	**Compliance Well**		
Manganese	ug/L	100	25	**48.9**
W-6	Water Table	**Compliance Well**		
Manganese	ug/L	100	25	**351**
W-12	Water Table	**Compliance Well**		
Manganese	ug/L	100	25	**244**
W-13	Water Table	**Compliance Well**		
Manganese	ug/L	100	25	**85.9**
W-102B	Lower Aquifer	**Compliance Well**		
Manganese	ug/L	100	25	**174**
W-104A	Water Table	**Compliance Well**		
Manganese	ug/L	100	25	**266**
W-104B	Lower Aquifer	**Compliance Well**		
Arsenic	ug/L	10	2.5	**8.6**
Manganese	ug/L	100	25	**228**
W-106A	Water Table	**Compliance Well**		
Manganese	ug/L	100	25	**41.5**
W-106B	Water Table	**Compliance Well**		
Arsenic	ug/L	10	2.5	**9.7**
Manganese	ug/L	100	25	**129**
W-201A	Water table	**Compliance Well**		
Arsenic	ug/L	10	2.5	**2.8**
Manganese	ug/L	100	25	**317**
W-201B	Lower Aquifer	**Compliance Well**		
Arsenic	ug/L	10	2.5	**4.8**
Manganese	ug/L	100	25	**93.3**
W-202A	Lower Aquifer	**Compliance Well**		
Manganese	ug/L	100	25	**65.1**
W-202B	Lower Aquifer	**Compliance Well**		
Manganese	ug/L	100	25	**50.8**
W-203B	Lower Aquifer	**Compliance Well**		
Manganese	ug/L	100	25	**43.6**
W-301B	Water Table	**Compliance Well**		
Manganese	ug/L	100	25	**116**
W-302A	Water Table	**Compliance Well**		
Manganese	ug/L	100	25	**206**
W-302B	Lower Aquifer	**Compliance Well**		
Manganese	ug/L	100	25	**215**
C-11	Water table	**Compliance Well**		
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	**8.6**

Bold values > IL, Underlined values > MDH Standard/MCL

WENCK now part of Stantec

Table 6
Clay County Sanitary Landfill
Hawley, Minnesota

Summary of 2020 Residential Well Water Quality Results

Parameter	Units	HRL	IL	Deutscher May-20	R. Ekre May-20	J. Ekre May-20	Weaver May-20	Benesch May-20
Detected Volatile Organic Compounds								
None				--	No Access	--	No Access	--
Inorganics	**Units**	**HRL**	**IL**					
Manganese	ug/L	100	25	**<u>430</u>**		0.99		**39.5**

Bold values > IL, Underlined values > MDH Standard/MCL

WENCK now part of Stantec

Table 7
Clay County Sanitary Landfill
Hawley, Minnesota

Summary of 2020 Lysimeter Water Quality Results

Parameter	Units	HRL	IL	Lys III-1 May-20	Lys III-1 Oct-20	Lys III-2 May-20	Lys III-2 Oct-20	Lys III-3 May-20	Lys III-3 Oct-20	Lys IV-1&2 May-20	Lys IV-1&2 Oct-20	Lys IV-3 May-20	Lys IV-3 Oct-20
Detected Volatile Organic Compounds													
								Dry	Dry	Dry	Dry	Obstructed	Obstructed
Ethylbenzene	ug/L	40	10	<0.4	<0.4	<0.4	**27.8**						
p-Isopropyltoluene	ug/L			<0.4	<0.4	<0.4	0.88						
Toluene	ug/L	70	17.5	<0.4	<0.4	<0.4	0.95						
Xylene (Total)	ug/L	300	75	<1.2	<1.2	<1.2	**168**						
Xylene (m & p)	ug/L	300	75	<0.8	<0.8	<0.8	**81.3**						
o-Xylene	ug/L	300	75	<0.4	<0.4	<0.4	**86.4**						
Inorganics	**Units**	**HRL**	**IL**										
Arsenic	ug/L	10	2.5	**<u>57.7</u>**	NS	**<u>107</u>**	NS						
Boron	ug/L	500	125	35.2	NS	**214**	NS						
Manganese	ug/L	100	25	**<u>1050</u>**	NS	**54.4**	NS						

[NA] = Not analyzed, [NS] = Not sampled, [NE] = Not established
Bold values > IL, Underlined values > MDH Standard/MCL

WENCK now part of Stantec

Table 8
Clay County Sanitary Landfill
Hawley, Minnesota

Summary of 2020 Surface Water Results

Parameter	Units	HRL	IL	S-1 (West of W-16) May-20	S-1 (West of W-16) Oct-20	S-2 (West of W-10) May-20	S-2 (West of W-10) Oct-20	S-3 (SW Corner) May-20	S-3 (SW Corner) Oct-20
Detected Volatile Organic Compounds									
Acetone	ug/L			<20	Dry	22.5	NS	<20	<20
Ethyl Ether	ug/L	200	50	11.6		22	NS	<4.0	<4.0
Tetrahydrofuran	ug/L			<10		74.4	NS	<10	<10
Toluene	ug/L	1012	253	<0.4		<0.4	NS	<0.4	0.52
Vinyl chloride	ug/L	36.8	9.2	0.2		<0.05	NS	<0.05	<0.05
Inorganics	**Units**	**HRL**	**IL**						
Arsenic	ug/L	212	53	22.1		**<u>3700</u>**	NS	3.6	NS
Lead	ug/L	12.8	3.2	**3.6**		0.79	NS	<0.1	NS
Manganese	ug/L	100	25	**<u>1010</u>**		**<u>3320</u>**	NS	**46.3**	NS
Mercury	ng/L	27.6	6.9	3.68		**<u>37.4</u>**	NS	**13.9**	NS

[NA] = Not analyzed, [NS] = Not sampled, [NE] = Not established
Bold values > IL, Underlined values > MDH Standard/MCL

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-1
Lower Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-20
Acetone	3000	750	--	--	<20	Well Not Sampled Due to Unrepresentative Conditions Within the Casing	<20
Allyl chloride	30	7.5	--	--	<4.0		<4.0
Benzene	2.0	0.5	--	--	0.21		<0.2
Bromobenzene			--	--	<0.4		<0.4
Bromochloromethane			--	--	<1.0		<1.0
Bromodichloromethane	3.0	0.75	--	--	<0.4		<0.4
Bromoform	40	10	--	--	<1.0		<1.0
Bromomethane	10	2.5	--	--	<1.0		<1.0
n-Butylbenzene			--	--	<0.4		<0.4
sec-Butylbenzene			--	--	<0.4		<0.4
tert-Butylbenzene			--	--	<0.4		<0.4
Carbon tetrachloride	1.0	0.25	--	--	<0.05		<0.05
Chlorobenzene	100	25	--	--	<0.4		<0.4
Chlorodibromomethane	10	2.5	--	--	<0.4		<0.4
Chloroethane			--	--	<1.0		<1.0
Chloroform	20	5.0	--	--	<1.0		<1.0
Chloromethane			--	--	<1.0		<1.0
2-Chlorotoluene			--	--	<0.4		<0.4
4-Chlorotoluene			--	--	<0.4		<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	<0.4		<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12		<0.12
1,2-Dibromoethane	0.004	0.001	--	--	<0.05		<0.05
Dibromomethane			--	--	<1.0		<1.0
1,2-Dichlorobenzene	600	150	--	--	<0.4		<0.4
1,3-Dichlorobenzene			--	--	<0.4		<0.4
1,4-Dichlorobenzene	10	2.5	--	--	<0.4		<0.4
Dichlorodifluoromethane	500	125	--	--	<1.0		<1.0
1,1-Dichloroethane	80	20	--	--	<0.4		<0.4
1,2-Dichloroethane	1.0	0.25	--	--	<0.2		<0.2
1,1-Dichloroethylene	200	50	--	--	<0.4		<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	<0.4		<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	<0.4		<0.4
Dichlorofluoromethane	20	5.0	--	--	<1.0		<1.0
1,2-Dichloropropane	5.0	1.25	--	--	<0.4		<0.4
1,3-Dichloropropane			--	--	<0.4		<0.4
2,2-Dichloropropane			--	--	<1.0		<1.0
1,1-Dichloropropene			--	--	<0.4		<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4		<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4		<0.4
Ethyl benzene	40	10	--	--	<0.4		<0.4
Ethyl ether	200	50	--	--	<4.0		<4.0
Hexachlorobutadiene	1.0	0.25	--	--	<0.1		<0.1
p-Isopropyltoluene			--	--	<0.4		<0.4
Methyl ethyl ketone	4000	1000	--	--	<5.0		<5.0
Methyl isobutyl ketone	300	75	--	--	<5.0		<5.0
Methyl tert-butyl ether	700	175	--	--	<0.4		<0.4
Methylene chloride	5.0	1.25	--	--	<1.0		<1.0
Naphthalene	70	17.5	--	--	<1.0		<1.0
n-Propylbenzene			--	--	<0.4		<0.4
Styrene			--	--	<0.4		<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	<0.4		<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	<0.4		<0.4
1,1,2,2-Tetrachloroethylene			--	--	<0.4		<0.4
Tetrahydrofuran	600	150	--	--	<10		<10
Toluene	70	17.5	--	--	<0.4		<0.4
1,2,3-Trichlorobenzene			--	--	<0.4		<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	<0.4		<0.4
1,1,1-Trichloroethane	5000	1250	--	--	<0.4		<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	<0.4		<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	<0.05		<0.05
Trichlorofluoromethane	2000	500	--	--	<0.4		<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	<0.01		<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0		<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	<1.0		<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	<0.4		<0.4
Vinyl chloride	0.2	0.05	--	--	<0.05		<0.05
TOTAL Xylenes	300	75	--	--	<2.4		<1.2
[m & p-Xylene]	300	75	--	--	<2.0		<0.8
[o-Xylene]	300	75	--	--	<0.4		<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-2
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	May-19	Oct-19	May-20	Oct-20
Acetone	3000	750	--	--	--	--	<20	<20	<20	<20	<20	<20
Allyl chloride	30	7.5	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromochloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chloroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	--	--	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromomethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
cis-1,2-Dichloroethylene	6.0	1.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	1.1	1.18	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	--	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Styrene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	--	--	<10	<10	<10	<10	<10	<10
Toluene	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
1,1,2-Trichloroethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	0.04	0.05	0.07	0.069	0.076	0.082	0.061	0.075
TOTAL Xylenes	300	75	--	--	--	--	<2.4	<1.2	<1.2	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	--	--	<2.0	<0.8	<0.8	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-2B
Lower Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-20
Acetone	3000	750	--	--	<20	<20	<20
Allyl chloride	30	7.5	--	--	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	<0.2	<0.2	<0.2
Bromobenzene			--	--	<0.4	<0.4	<0.4
Bromochloromethane			--	--	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	<1.0	<0.4	<0.4
sec-Butylbenzene			--	--	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	<0.4	<0.4	<0.4
Chloroethane			--	--	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	<1.0	<1.0	<1.0
Chloromethane			--	--	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	<0.05	<0.05	<0.05
Dibromomethane			--	--	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	<4.0	<0.4	<0.4
Ethyl ether	200	50	--	--	<0.4	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	<0.4	<0.4	<0.4
Styrene			--	--	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	<1.0	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	<10	<10	<10
Toluene	70	17.5	--	--	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	<1.0	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-3
Lower Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-19 (DUP)	May-20
Acetone	3000	750	--	--	<20	<20	Results Not Obtained Due to Lab Complications	<20
Allyl chloride	30	7.5	--	--	<4.0	<4.0		<4.0
Benzene	2.0	0.5	--	--	<0.2	<0.2		<0.2
Bromobenzene			--	--	<0.4	<0.4		<0.4
Bromochloromethane			--	--	<1.0	<1.0		<1.0
Bromodichloromethane	3.0	0.75	--	--	<0.4	<0.4		<0.4
Bromoform	40	10	--	--	<1.0	<1.0		<1.0
Bromomethane	10	2.5	--	--	<1.0	<1.0		<1.0
n-Butylbenzene			--	--	<0.4	<0.4		<0.4
sec-Butylbenzene			--	--	<0.4	<0.4		<0.4
tert-Butylbenzene			--	--	<0.4	<0.4		<0.4
Carbon tetrachloride	1.0	0.25	--	--	<0.05	<0.05		<0.05
Chlorobenzene	100	25	--	--	<0.4	<0.4		<0.4
Chlorodibromomethane	10	2.5	--	--	<0.4	<0.4		<0.4
Chloroethane			--	--	<1.0	<1.0		<1.0
Chloroform	20	5.0	--	--	<1.0	<1.0		<1.0
Chloromethane			--	--	<1.0	<1.0		<1.0
2-Chlorotoluene			--	--	<0.4	<0.4		<0.4
4-Chlorotoluene			--	--	<0.4	<0.4		<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	<0.4	<0.4		<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12	<0.12		<0.12
1,2-Dibromoethane	0.004	0.001	--	--	<0.05	<0.05		<0.05
Dibromomethane			--	--	<1.0	<1.0		<1.0
1,2-Dichlorobenzene	600	150	--	--	<0.4	<0.4		<0.4
1,3-Dichlorobenzene			--	--	<0.4	<0.4		<0.4
1,4-Dichlorobenzene	10	2.5	--	--	<0.4	<0.4		<0.4
Dichlorodifluoromethane	500	125	--	--	<1.0	<1.0		<1.0
1,1-Dichloroethane	80	20	--	--	<0.4	<0.4		<0.4
1,2-Dichloroethane	1.0	0.25	--	--	<0.2	<0.2		<0.2
1,1-Dichloroethylene	200	50	--	--	<0.4	<0.4		<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	<0.4	<0.4		<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	<0.4	<0.4		<0.4
Dichlorofluoromethane	20	5.0	--	--	<1.0	<1.0		<1.0
1,2-Dichloropropane	5.0	1.25	--	--	<0.4	<0.4		<0.4
1,3-Dichloropropane			--	--	<0.4	<0.4		<0.4
2,2-Dichloropropane			--	--	<1.0	<1.0		<1.0
1,1-Dichloropropene			--	--	<0.4	<0.4		<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4	<0.4		<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4	<0.4		<0.4
Ethyl benzene	40	10	--	--	<0.4	<0.4		<0.4
Ethyl ether	200	50	--	--	<4.0	<4.0		<4.0
Hexachlorobutadiene	1.0	0.25	--	--	<0.1	<0.1		<0.1
p-Isopropyltoluene			--	--	<0.4	<0.4		<0.4
Methyl ethyl ketone	4000	1000	--	--	<5.0	<5.0		<5.0
Methyl isobutyl ketone	300	75	--	--	<5.0	<5.0		<5.0
Methyl tert-butyl ether	700	175	<0.4	--	<0.4	<0.4		<0.4
Methylene chloride	5.0	1.25	--	--	<1.0	<1.0		<1.0
Naphthalene	70	17.5	--	--	<1.0	<1.0		<1.0
n-Propylbenzene			--	--	<0.4	<0.4		<0.4
Styrene			--	--	<0.4	<0.4		<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	<0.4	<0.4		<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	<0.4	<0.4		<0.4
1,1,2,2-Tetrachloroethylene			--	--	<0.4	<0.4		<0.4
Tetrahydrofuran	600	150	--	--	<10	<10		<10
Toluene	70	17.5	--	--	<0.4	<0.4		<0.4
1,2,3-Trichlorobenzene			--	--	<0.4	<0.4		<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	<0.4	<0.4		<0.4
1,1,1-Trichloroethane	5000	1250	--	--	<0.4	<0.4		<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	<0.4	<0.4		<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	<0.05	<0.05		<0.05
Trichlorofluoromethane	2000	500	--	--	<0.4	<0.4		<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	<0.01	<0.01		<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0	<1.0		<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	<1.0	<1.0		<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	<0.4	<0.4		<0.4
Vinyl chloride	0.2	0.05	--	--	<0.05	<0.05		<0.05
TOTAL Xylenes	300	75	--	--	<2.4	<1.2		<1.2
[m & p-Xylene]	300	75	--	--	<2.0	<0.8		<0.8
[o-Xylene]	300	75	--	--	<0.4	<0.4		<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-5
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	May-19	Oct-19	May-20	Oct-20
Acetone	3000	750	--	--	--	--	<20	<20	<20	<20	<20	<20
Allyl chloride	30	7.5	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromochloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chloroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	--	--	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromomethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
cis-1,2-Dichloroethylene	6.0	1.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	--	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Styrene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	--	--	<10	<10	<10	<10	<10	<10
Toluene	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
1,1,2-Trichloroethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	--	--	<2.4	<1.2	<1.2	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	--	--	<2.0	<0.8	<0.8	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-6
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	May-19	Oct-19	May-20	Oct-20
Acetone	3000	750	--	--	--	--	<20	<20	<20	<20	<20	<20
Allyl chloride	30	7.5	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromochloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chloroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	--	--	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromomethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
cis-1,2-Dichloroethylene	6.0	1.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	--	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Styrene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	--	--	<10	<10	<10	<10	<10	<10
Toluene	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
1,1,2-Trichloroethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	--	--	<2.4	<1.2	<1.2	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	--	--	<2.0	<0.8	<0.8	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-9
Upper Aquifer
Spring of Odd Years
Aquatic Standard

ORGANIC PARAMETERS ug/L	HRL	IL	May-15	May-17	Apr-19
Acetone			--	--	<20
Allyl chloride			--	--	<4.0
Benzene	392	98	--	1.5	1.2
Bromobenzene			--	--	<0.4
Bromochloromethane			--	--	<1.0
Bromodichloromethane			--	--	<0.4
Bromoform			--	--	<1.0
Bromomethane			--	--	<1.0
n-Butylbenzene			--	--	<0.4
sec-Butylbenzene			--	--	<0.4
tert-Butylbenzene			--	--	<0.4
Carbon tetrachloride	23.6	5.9	--	--	<0.05
Chlorobenzene	80	20	--	--	<0.4
Chlorodibromomethane			--	--	<0.4
Chloroethane			1.1	1.3	1.1
Chloroform	620	155	--	--	<1.0
Chloromethane			--	--	1.2
2-Chlorotoluene			--	--	<0.4
4-Chlorotoluene			--	--	<0.4
Cumene (*isopropylbenzene*)			--	--	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12
1,2-Dibromoethane			--	--	<0.05
Dibromomethane			--	--	<1.0
1,2-Dichlorobenzene			--	--	<0.4
1,3-Dichlorobenzene			--	--	<0.4
1,4-Dichlorobenzene			--	--	<0.4
Dichlorodifluoromethane			--	--	<1.0
1,1-Dichloroethane			--	0.61	0.54
1,2-Dichloroethane	760	190	--	--	<0.2
1,1-Dichloroethylene			--	--	<0.4
cis-1,2-Dichloroethylene			--	--	0.75
trans-1,2-Dichloroethylene			--	--	<0.4
Dichlorofluoromethane			--	0.82	1.1
1,2-Dichloropropane			--	0.68	0.42
1,3-Dichloropropane			--	--	<0.4
2,2-Dichloropropane			--	--	<1.0
1,1-Dichloropropene			--	--	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4
Ethyl benzene	272	68	--	--	<0.4
Ethyl ether			52.6	81.8	72.5
Hexachlorobutadiene			--	--	<0.1
p-Isopropyltoluene			--	--	<0.4
Methyl ethyl ketone			--	--	<5.0
Methyl isobutyl ketone			--	--	<5.0
Methyl tert-butyl ether			--	1.0	0.9
Methylene chloride	7760	1940	--	--	<1.0
Naphthalene	324	81	--	--	<1.0
n-Propylbenzene			--	--	<0.4
Styrene			--	--	<0.4
1,1,1,2-Tetrachloroethane			--	--	<0.4
1,1,2,2-Tetrachloroethane	52	13	--	--	<0.4
1,1,2,2-Tetrachloroethylene	35.6	8.9	--	--	<0.4
Tetrahydrofuran			--	--	<10
Toluene	1012	253	--	--	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4
1,2,4-Trichlorobenzene			--	--	<0.4
1,1,1-Trichloroethane	1316	329	--	--	<0.4
1,1,2-Trichloroethane			--	--	<0.4
1,1,2-Trichloroethylene	480	120	--	0.25	0.2
Trichlorofluoromethane			--	--	<0.4
1,2,3-Trichloropropane			--	--	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0
1,2,4-Trimethylbenzene			--	--	<1.0
1,3,5-Trimethylbenzene			--	--	<0.4
Vinyl chloride	36.8	9.2	--	0.28	0.37
TOTAL Xylenes	664	166	--	--	<1.2
[m & p-Xylene]			--	--	<0.8
[o-Xylene]			--	--	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-10
Upper Aquifer
Spring of Odd Years
Aquatic Standard

ORGANIC PARAMETERS ug/L	HRL	IL	May-15	May-17	May-19
Acetone			--	--	<20
Allyl chloride			--	--	<4.0
Benzene	392	98	--	--	<0.2
Bromobenzene			--	--	<0.4
Bromochloromethane			--	--	<1.0
Bromodichloromethane			--	--	<0.4
Bromoform			--	--	<1.0
Bromomethane			--	--	<1.0
n-Butylbenzene			--	--	<0.4
sec-Butylbenzene			--	--	<0.4
tert-Butylbenzene			--	--	<0.4
Carbon tetrachloride	23.6	5.9	--	--	<0.05
Chlorobenzene	80	20	--	--	<0.4
Chlorodibromomethane			--	--	<0.4
Chloroethane			--	--	<1.0
Chloroform	620	155	--	--	<1.0
Chloromethane			--	--	1.1
2-Chlorotoluene			--	--	<0.4
4-Chlorotoluene			--	--	<0.4
Cumene (*isopropylbenzene*)			--	--	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12
1,2-Dibromoethane			--	--	<0.05
Dibromomethane			--	--	<1.0
1,2-Dichlorobenzene			--	--	<0.4
1,3-Dichlorobenzene			--	--	<0.4
1,4-Dichlorobenzene			--	--	<0.4
Dichlorodifluoromethane			--	--	<1.0
1,1-Dichloroethane			--	--	<0.4
1,2-Dichloroethane	760	190	--	--	<0.2
1,1-Dichloroethylene			--	--	<0.4
cis-1,2-Dichloroethylene			--	--	<0.4
trans-1,2-Dichloroethylene			--	--	<0.4
Dichlorofluoromethane			--	--	<1.0
1,2-Dichloropropane			--	--	<0.4
1,3-Dichloropropane			--	--	<0.4
2,2-Dichloropropane			--	--	<1.0
1,1-Dichloropropene			--	--	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4
Ethyl benzene	272	68	--	--	<0.4
Ethyl ether			5.0	2.3	<4.0
Hexachlorobutadiene			--	--	<0.1
p-Isopropyltoluene			--	--	<0.4
Methyl ethyl ketone			--	--	<5.0
Methyl isobutyl ketone			--	--	<5.0
Methyl tert-butyl ether			--	--	<0.4
Methylene chloride	7760	1940	--	--	<1.0
Naphthalene	324	81	--	--	<1.0
n-Propylbenzene			--	--	<0.4
Styrene			--	--	<0.4
1,1,1,2-Tetrachloroethane			--	--	<0.4
1,1,2,2-Tetrachloroethane	52	13	--	--	<0.4
1,1,2,2-Tetrachloroethylene	35.6	8.9	--	--	<0.4
Tetrahydrofuran			--	--	<10
Toluene	1012	253	--	--	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4
1,2,4-Trichlorobenzene			--	--	<0.4
1,1,1-Trichloroethane	1316	329	--	--	<0.4
1,1,2-Trichloroethane			--	--	<0.4
1,1,2-Trichloroethylene	480	120	--	--	<0.05
Trichlorofluoromethane			--	--	<0.4
1,2,3-Trichloropropane			--	--	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0
1,2,4-Trimethylbenzene			--	--	<1.0
1,3,5-Trimethylbenzene			--	--	<0.4
Vinyl chloride	36.8	9.2	--	0.17	<0.05
TOTAL Xylenes	664	166	--	--	<1.2
[m & p-Xylene]			--	--	<0.8
[o-Xylene]			--	--	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-11
Upper Aquifer
Spring of Odd Years
Aquatic Standard

ORGANIC PARAMETERS ug/L	HRL	IL	May-15	May-17	Apr-19
Acetone			--	--	<20
Allyl chloride			--	--	<4.0
Benzene	392	98	1.3	2.5	2.5
Bromobenzene			--	--	<0.4
Bromochloromethane			--	--	<1.0
Bromodichloromethane			--	--	<0.4
Bromoform			--	--	<1.0
Bromomethane			--	--	<1.0
n-Butylbenzene			--	--	<0.4
sec-Butylbenzene			--	--	<0.4
tert-Butylbenzene			--	--	<0.4
Carbon tetrachloride	23.6	5.9	--	--	<0.05
Chlorobenzene	80	20	--	--	<0.4
Chlorodibromomethane			--	--	<0.4
Chloroethane			--	--	<1.0
Chloroform	620	155	--	--	<1.0
Chloromethane			--	--	1.3
2-Chlorotoluene			--	--	<0.4
4-Chlorotoluene			--	--	<0.4
Cumene (*isopropylbenzene*)			--	--	0.44
1,2-Dibromo-3-chloropropane			--	--	<0.12
1,2-Dibromoethane			--	--	<0.05
Dibromomethane			--	--	<1.0
1,2-Dichlorobenzene			--	--	<0.4
1,3-Dichlorobenzene			--	--	<0.4
1,4-Dichlorobenzene			--	--	<0.4
Dichlorodifluoromethane			--	--	<1.0
1,1-Dichloroethane			--	0.46	0.48
1,2-Dichloroethane	760	190	--	--	<0.2
1,1-Dichloroethylene			--	--	<0.4
cis-1,2-Dichloroethylene			--	--	<0.4
trans-1,2-Dichloroethylene			--	--	<0.4
Dichlorofluoromethane			--	1.4	1.3
1,2-Dichloropropane			--	2.1	1.9
1,3-Dichloropropane			--	--	<0.4
2,2-Dichloropropane			--	--	<1.0
1,1-Dichloropropene			--	--	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4
Ethyl benzene	272	68	--	--	<0.4
Ethyl ether			17.8	40.5	40.1
Hexachlorobutadiene			--	--	<0.1
p-Isopropyltoluene			--	--	<0.4
Methyl ethyl ketone			--	--	<5.0
Methyl isobutyl ketone			--	--	<5.0
Methyl tert-butyl ether			--	--	<0.4
Methylene chloride	7760	1940	--	--	<1.0
Naphthalene	324	81	--	--	<1.0
n-Propylbenzene			--	--	<0.4
Styrene			--	--	<0.4
1,1,1,2-Tetrachloroethane			--	--	<0.4
1,1,2,2-Tetrachloroethane	52	13	--	--	<0.4
1,1,2,2-Tetrachloroethylene	35.6	8.9	--	--	<0.4
Tetrahydrofuran			23.1	--	<10
Toluene	1012	253	--	--	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4
1,2,4-Trichlorobenzene			--	--	<0.4
1,1,1-Trichloroethane	1316	329	--	--	<0.4
1,1,2-Trichloroethane			--	--	<0.4
1,1,2-Trichloroethylene	480	120	--	--	<0.05
Trichlorofluoromethane			--	--	<0.4
1,2,3-Trichloropropane			--	--	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0
1,2,4-Trimethylbenzene			--	--	<1.0
1,3,5-Trimethylbenzene			--	--	<0.4
Vinyl chloride	36.8	9.2	0.44	0.74	1.0
TOTAL Xylenes	664	166	--	--	<1.2
[m & p-Xylene]			--	--	<0.8
[o-Xylene]			--	--	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-12
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-20
Acetone	3000	750	--	--	<20	<20	<20
Allyl chloride	30	7.5	--	--	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	<0.2	<0.2	<0.2
Bromobenzene			--	--	<0.4	<0.4	<0.4
Bromochloromethane			--	--	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	<0.4	<0.4	<0.4
Chloroethane			--	--	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	<1.0	<1.0	<1.0
Chloromethane			--	--	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	<0.05	<0.05	<0.05
Dibromomethane			--	--	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	<0.4	<0.4	<0.4
Styrene			--	--	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	<10	<10	<10
Toluene	70	17.5	--	--	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	<2.4	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	<2.0	<0.8	<0.8
[o-Xylene]	300	75	--	--	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-13
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-20	May-20 (DUP)
Acetone	3000	750	--	--	<20	<20	<20	<20
Allyl chloride	30	7.5	--	--	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	<0.2	<0.2	<0.2	<0.2
Bromobenzene			--	--	<0.4	<0.4	<0.4	<0.4
Bromochloromethane			--	--	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	<0.4	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	<1.0	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	<0.4	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	<0.4	<0.4	<0.4	<0.4
Chloroethane			--	--	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	<1.0	<1.0	<1.0	<1.0
Chloromethane			--	--	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	<0.05	<0.05	<0.05	<0.05
Dibromomethane			--	--	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	<0.4	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	<0.4	<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	<0.4	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	<0.4	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	<0.4	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	<1.0	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	<0.4	<0.4	<0.4	<0.4
Styrene			--	--	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	<0.4	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	<10	<10	<10	<10
Toluene	70	17.5	--	--	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	<0.4	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	<0.05	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	<2.4	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	<2.0	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	<0.4	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-15
Upper Aquifer
Spring of Odd Years

ORGANIC PARAMETERS ug/L	May-15	May-17	Apr-19
Acetone	--	--	<20
Allyl chloride	--	--	<4.0
Benzene	--	0.98	1.8
Bromobenzene	--	--	<0.4
Bromochloromethane	--	--	<1.0
Bromodichloromethane	--	--	<0.4
Bromoform	--	--	<1.0
Bromomethane	--	--	<1.0
n-Butylbenzene	--	--	<0.4
sec-Butylbenzene	--	--	<0.4
tert-Butylbenzene	--	--	<0.4
Carbon tetrachloride	--	--	<0.2
Chlorobenzene	--	--	<0.4
Chlorodibromomethane	--	--	<0.4
Chloroethane	--	--	<1.0
Chloroform	--	--	<1.0
Chloromethane	--	--	<1.0
2-Chlorotoluene	--	--	<0.4
4-Chlorotoluene	--	--	<0.4
Cumene (*isopropylbenzene*)	--	--	<0.4
1,2-Dibromo-3-chloropropane	--	--	<0.12
1,2-Dibromoethane	--	--	<0.05
Dibromomethane	--	--	<1.0
1,2-Dichlorobenzene	--	--	0.47
1,3-Dichlorobenzene	--	--	<0.4
1,4-Dichlorobenzene	--	--	<0.4
Dichlorodifluoromethane	--	--	<1.0
1,1-Dichloroethane	--	--	<0.4
1,2-Dichloroethane	--	--	<0.2
1,1-Dichloroethylene	--	--	<0.4
cis-1,2-Dichloroethylene	--	--	<0.4
trans-1,2-Dichloroethylene	--	--	<0.4
Dichlorofluoromethane	--	--	<1.0
1,2-Dichloropropane	--	--	<0.4
1,3-Dichloropropane	--	--	<0.4
2,2-Dichloropropane	--	--	<1.0
1,1-Dichloropropene	--	--	<0.4
cis-1,3-Dichloro-1-propene	--	--	<0.4
trans-1,3-Dichloro-1-propene	--	--	<0.4
Ethyl benzene	--	--	<0.4
Ethyl ether	--	--	<4.0
Hexachlorobutadiene	--	--	<0.2
p-Isopropyltoluene	--	--	<0.4
Methyl ethyl ketone	--	--	<5.0
Methyl isobutyl ketone	--	--	<5.0
Methyl tert-butyl ether	--	--	<0.4
Methylene chloride	--	--	<1.0
Naphthalene	--	--	<1.0
n-Propylbenzene	--	--	<0.4
Styrene	--	--	<0.4
1,1,1,2-Tetrachloroethane	--	--	<0.4
1,1,2,2-Tetrachloroethane	--	--	<0.4
1,1,2,2-Tetrachloroethylene	--	--	<0.4
Tetrahydrofuran	--	--	<10
Toluene	--	--	<0.4
1,2,3-Trichlorobenzene	--	--	<0.4
1,2,4-Trichlorobenzene	--	--	<0.4
1,1,1-Trichloroethane	--	--	<0.4
1,1,2-Trichloroethane	--	--	<0.4
1,1,2-Trichloroethylene	--	--	<0.02
Trichlorofluoromethane	--	--	<0.4
1,2,3-Trichloropropane	--	--	<0.01
1,1,2-Trichlorotrifluoroethane	--	--	<1.0
1,2,4-Trimethylbenzene	--	--	<1.0
1,3,5-Trimethylbenzene	--	--	<0.4
Vinyl chloride	--	0.27	0.42
TOTAL Xylenes	--	--	<1.2
[m & p-Xylene]	--	--	<0.8
[o-Xylene]	--	--	<0.4

-- = Not Detected
Gray-shaded entries represent detections.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-16
Lower Aquifer
Spring of Odd Years
Aquatic Standard

ORGANIC PARAMETERS ug/L	HRL	IL	May-15	May-17	Apr-19
Acetone			--	--	<20
Allyl chloride			--	--	<4.0
Benzene	392	98	--	0.79	1.3
Bromobenzene			--	--	<0.4
Bromochloromethane			--	--	<1.0
Bromodichloromethane			--	--	<0.4
Bromoform			--	--	<1.0
Bromomethane			--	--	<1.0
n-Butylbenzene			--	--	<0.4
sec-Butylbenzene			--	--	<0.4
tert-Butylbenzene			--	--	<0.4
Carbon tetrachloride	23.6	5.9	--	--	<0.05
Chlorobenzene	80	20	--	--	<0.4
Chlorodibromomethane			--	--	<0.4
Chloroethane			--	--	<1.0
Chloroform	620	155	--	--	<1.0
Chloromethane			--	--	1.0
2-Chlorotoluene			--	--	<0.4
4-Chlorotoluene			--	--	<0.4
Cumene (*isopropylbenzene*)			--	--	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12
1,2-Dibromoethane			--	--	<0.05
Dibromomethane			--	--	<1.0
1,2-Dichlorobenzene			--	--	<0.4
1,3-Dichlorobenzene			--	--	<0.4
1,4-Dichlorobenzene			--	--	<0.4
Dichlorodifluoromethane			--	--	<1.0
1,1-Dichloroethane			--	--	0.59
1,2-Dichloroethane	760	190	--	--	<0.2
1,1-Dichloroethylene			--	--	<0.4
cis-1,2-Dichloroethylene			--	--	<0.4
trans-1,2-Dichloroethylene			--	--	<0.4
Dichlorofluoromethane			1.6	1.3	3.2
1,2-Dichloropropane			--	--	<0.4
1,3-Dichloropropane			--	--	<0.4
2,2-Dichloropropane			--	--	<1.0
1,1-Dichloropropene			--	--	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4
Ethyl benzene	272	68	--	--	0.47
Ethyl ether			8.0	10.3	20.9
Hexachlorobutadiene			--	--	<0.1
p-Isopropyltoluene			--	--	<0.4
Methyl ethyl ketone			--	--	<5.0
Methyl isobutyl ketone			--	--	<5.0
Methyl tert-butyl ether			--	--	<0.4
Methylene chloride	7760	1940	--	--	<1.0
Naphthalene	324	81	--	--	<1.0
n-Propylbenzene			--	--	<0.4
Styrene			--	--	<0.4
1,1,1,2-Tetrachloroethane			--	--	<0.4
1,1,2,2-Tetrachloroethane	52	13	--	--	<0.4
1,1,2,2-Tetrachloroethylene	35.6	8.9	--	--	<0.4
Tetrahydrofuran			--	--	12.8
Toluene	1012	253	--	--	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4
1,2,4-Trichlorobenzene			--	--	<0.4
1,1,1-Trichloroethane	1316	329	--	--	<0.4
1,1,2-Trichloroethane			--	--	<0.4
1,1,2-Trichloroethylene	480	120	--	--	<0.05
Trichlorofluoromethane			--	--	<0.4
1,2,3-Trichloropropane			--	--	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0
1,2,4-Trimethylbenzene			--	--	<1.0
1,3,5-Trimethylbenzene			--	--	<0.4
Vinyl chloride	36.8	9.2	0.46	0.36	1.1
TOTAL Xylenes	664	166	--	--	<1.2
[m & p-Xylene]			--	--	<0.8
[o-Xylene]			--	--	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-17
Lower Aquifer
Spring of Odd Years
Aquatic Standard

ORGANIC PARAMETERS ug/L	HRL	IL	May-15	May-17	Apr-19
Acetone			--	--	<20
Allyl chloride			--	--	<4.0
Benzene	392	98	--	0.41	0.53
Bromobenzene			--	--	<0.4
Bromochloromethane			--	--	<1.0
Bromodichloromethane			--	--	<0.4
Bromoform			--	--	<1.0
Bromomethane			--	--	<1.0
n-Butylbenzene			--	--	<0.4
sec-Butylbenzene			--	--	<0.4
tert-Butylbenzene			--	--	<0.4
Carbon tetrachloride	23.6	5.9	--	--	<0.05
Chlorobenzene	80	20	--	--	<0.4
Chlorodibromomethane			--	--	<0.4
Chloroethane			--	--	1.2
Chloroform	620	155	--	--	<1.0
Chloromethane			--	--	<1.0
2-Chlorotoluene			--	--	<0.4
4-Chlorotoluene			--	--	<0.4
Cumene (*isopropylbenzene*)			--	--	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12
1,2-Dibromoethane			--	--	<0.05
Dibromomethane			--	--	<1.0
1,2-Dichlorobenzene			--	--	<0.4
1,3-Dichlorobenzene			--	--	<0.4
1,4-Dichlorobenzene			--	--	<0.4
Dichlorodifluoromethane			--	--	<1.0
1,1-Dichloroethane			1.1	1.2	1.6
1,2-Dichloroethane	760	190	--	--	<0.2
1,1-Dichloroethylene			--	--	<0.4
cis-1,2-Dichloroethylene			--	--	0.77
trans-1,2-Dichloroethylene			--	--	<0.4
Dichlorofluoromethane			4.5	3.7	5.1
1,2-Dichloropropane			--	--	<0.4
1,3-Dichloropropane			--	--	<0.4
2,2-Dichloropropane			--	--	<1.0
1,1-Dichloropropene			--	--	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4
Ethyl benzene	272	68	--	--	<0.4
Ethyl ether			44.5	52.4	71.7
Hexachlorobutadiene			--	--	<0.1
p-Isopropyltoluene			--	--	<0.4
Methyl ethyl ketone			--	--	<5.0
Methyl isobutyl ketone			--	--	<5.0
Methyl tert-butyl ether			--	0.52	0.84
Methylene chloride	7760	1940	--	--	<1.0
Naphthalene	324	81	--	--	<1.0
n-Propylbenzene			--	--	<0.4
Styrene			--	--	<0.4
1,1,1,2-Tetrachloroethane			--	--	<0.4
1,1,2,2-Tetrachloroethane	52	13	--	--	<0.4
1,1,2,2-Tetrachloroethylene	35.6	8.9	--	--	<0.4
Tetrahydrofuran			--	--	<10
Toluene	1012	253	--	--	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4
1,2,4-Trichlorobenzene			--	--	<0.4
1,1,1-Trichloroethane	1316	329	--	--	<0.4
1,1,2-Trichloroethane			--	--	<0.4
1,1,2-Trichloroethylene	480	120	--	--	<0.05
Trichlorofluoromethane			--	--	<0.4
1,2,3-Trichloropropane			--	--	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0
1,2,4-Trimethylbenzene			--	--	<1.0
1,3,5-Trimethylbenzene			--	--	<0.4
Vinyl chloride	36.8	9.2	0.75	0.57	1.2
TOTAL Xylenes	664	166	--	--	<1.2
[m & p-Xylene]			--	--	<0.8
[o-Xylene]			--	--	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-102A
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	Oct-19	May-20	Oct-20
Acetone	3000	750	Dry	Dry	Dry	<20	<20	<20	Dry
Allyl chloride	30	7.5				<4.0	<4.0	<4.0	
Benzene	2.0	0.5				<0.2	<0.2	<0.2	
Bromobenzene						<0.4	<0.4	<0.4	
Bromochloromethane						<1.0	<1.0	<1.0	
Bromodichloromethane	3.0	0.75				<0.4	<0.4	<0.4	
Bromoform	40	10				<1.0	<1.0	<1.0	
Bromomethane	10	2.5				<1.0	<1.0	<1.0	
n-Butylbenzene						<0.4	<0.4	<0.4	
sec-Butylbenzene						<0.4	<0.4	<0.4	
tert-Butylbenzene						<0.4	<0.4	<0.4	
Carbon tetrachloride	1.0	0.25				<0.05	<0.05	<0.05	
Chlorobenzene	100	25				<0.4	<0.4	<0.4	
Chlorodibromomethane	10	2.5				<0.4	<0.4	<0.4	
Chloroethane						<1.0	<1.0	<1.0	
Chloroform	20	5.0				<1.0	<1.0	<1.0	
Chloromethane						<1.0	<1.0	<1.0	
2-Chlorotoluene						<0.4	<0.4	<0.4	
4-Chlorotoluene						<0.4	<0.4	<0.4	
Cumene (*isopropylbenzene*)	300	75				<0.4	<0.4	<0.4	
1,2-Dibromo-3-chloropropane						<0.12	<0.12	<0.12	
1,2-Dibromoethane	0.004	0.001				<0.05	<0.05	<0.05	
Dibromomethane						<1.0	<1.0	<1.0	
1,2-Dichlorobenzene	600	150				<0.4	<0.4	<0.4	
1,3-Dichlorobenzene						<0.4	<0.4	<0.4	
1,4-Dichlorobenzene	10	2.5				<0.4	<0.4	<0.4	
Dichlorodifluoromethane	500	125				<1.0	<1.0	<1.0	
1,1-Dichloroethane	80	20				<0.4	<0.4	<0.4	
1,2-Dichloroethane	1.0	0.25				<0.2	<0.2	<0.2	
1,1-Dichloroethylene	200	50				<0.4	<0.4	<0.4	
cis-1,2-Dichloroethylene	6.0	1.5				<0.4	<0.4	<0.4	
trans-1,2-Dichloroethylene	9.0	2.25				<0.4	<0.4	<0.4	
Dichlorofluoromethane	20	5.0				<1.0	<1.0	<1.0	
1,2-Dichloropropane	5.0	1.25				<0.4	<0.4	<0.4	
1,3-Dichloropropane						<0.4	<0.4	<0.4	
2,2-Dichloropropane						<1.0	<1.0	<1.0	
1,1-Dichloropropene						<0.4	<0.4	<0.4	
cis-1,3-Dichloro-1-propene						<0.4	<0.4	<0.4	
trans-1,3-Dichloro-1-propene						<0.4	<0.4	<0.4	
Ethyl benzene	40	10				<0.4	<0.4	<0.4	
Ethyl ether	200	50				<4.0	<4.0	<4.0	
Hexachlorobutadiene	1.0	0.25				<0.1	<0.1	<0.1	
p-Isopropyltoluene						<0.4	<0.4	<0.4	
Methyl ethyl ketone	4000	1000				<5.0	<5.0	<5.0	
Methyl isobutyl ketone	300	75				<5.0	<5.0	<5.0	
Methyl tert-butyl ether	700	175				<0.4	<0.4	<0.4	
Methylene chloride	5.0	1.25				<1.0	<1.0	<1.0	
Naphthalene	70	17.5				<1.0	<1.0	<1.0	
n-Propylbenzene						<0.4	<0.4	<0.4	
Styrene						<0.4	<0.4	<0.4	
1,1,1,2-Tetrachloroethane	70	17.5				<0.4	<0.4	<0.4	
1,1,2,2-Tetrachloroethane	2.0	0.5				<0.4	<0.4	<0.4	
1,1,2,2-Tetrachloroethylene						<0.4	<0.4	<0.4	
Tetrahydrofuran	600	150				<10	<10	<10	
Toluene	70	17.5				<0.4	<0.4	<0.4	
1,2,3-Trichlorobenzene						<0.4	<0.4	<0.4	
1,2,4-Trichlorobenzene	4.0	1.0				<0.4	<0.4	<0.4	
1,1,1-Trichloroethane	5000	1250				<0.4	<0.4	<0.4	
1,1,2-Trichloroethane	3.0	0.75				<0.4	<0.4	<0.4	
1,1,2-Trichloroethylene	0.4	0.1				<0.05	<0.05	<0.05	
Trichlorofluoromethane	2000	500				<0.4	<0.4	<0.4	
1,2,3-Trichloropropane	7.0	1.75				<0.01	<0.01	<0.01	
1,1,2-Trichlorotrifluoroethane						<1.0	<1.0	<1.0	
1,2,4-Trimethylbenzene	30	7.5				<1.0	<1.0	<1.0	
1,3,5-Trimethylbenzene	30	7.5				<0.4	<0.4	<0.4	
Vinyl chloride	0.2	0.05				<0.05	<0.05	<0.05	
TOTAL Xylenes	300	75				<1.2	<1.2	<1.2	
[m & p-Xylene]	300	75				<0.8	<0.8	<0.8	
[o-Xylene]	300	75				<0.4	<0.4	<0.4	

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-102B
Lower Aquifer
Spring Event

ORGANIC PARAMETERS (ug/L)	HRL	IL	May-16	May-17	May-18	May-19	May-20
Acetone	3000	750	Well Obstructed	--	<20	<20	<20
Allyl chloride	30	7.5		--	<4.0	<4.0	<4.0
Benzene	2.0	0.5		--	<0.2	<0.2	<0.2
Bromobenzene				--	<0.4	<0.4	<0.4
Bromochloromethane				--	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75		--	<0.4	<0.4	<0.4
Bromoform	40	10		--	<1.0	<1.0	<1.0
Bromomethane	10	2.5		--	<1.0	<1.0	<1.0
n-Butylbenzene				--	<0.4	<0.4	<0.4
sec-Butylbenzene				--	<0.4	<0.4	<0.4
tert-Butylbenzene				--	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25		--	<0.05	<0.05	<0.05
Chlorobenzene	100	25		--	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5		--	<0.4	<0.4	<0.4
Chloroethane				--	<1.0	<1.0	<1.0
Chloroform	20	5.0		--	<1.0	<1.0	<1.0
Chloromethane				--	<1.0	<1.0	<1.0
2-Chlorotoluene				--	<0.4	<0.4	<0.4
4-Chlorotoluene				--	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75		--	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane				--	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001		--	<0.05	<0.05	<0.05
Dibromomethane				--	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150		--	<0.4	<0.4	<0.4
1,3-Dichlorobenzene				--	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5		--	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125		--	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20		--	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25		--	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50		--	<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5		--	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25		--	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0		--	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25		--	<0.4	<0.4	<0.4
1,3-Dichloropropane				--	<0.4	<0.4	<0.4
2,2-Dichloropropane				--	<1.0	<1.0	<1.0
1,1-Dichloropropene				--	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene				--	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene				--	<0.4	<0.4	<0.4
Ethyl benzene	40	10		--	<0.4	<0.4	<0.4
Ethyl ether	200	50		--	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25		--	<0.1	<0.1	<0.1
p-Isopropyltoluene				--	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000		--	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75		--	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175		--	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25		--	<1.0	<1.0	<1.0
Naphthalene	70	17.5		--	<1.0	<1.0	<1.0
n-Propylbenzene				--	<0.4	<0.4	<0.4
Styrene				--	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5		--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5		--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene				--	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150		--	<10	<10	<10
Toluene	70	17.5		--	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene				--	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0		--	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250		--	<0.4	<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75		--	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1		--	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500		--	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75		--	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane				--	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5		--	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5		--	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05		--	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75		--	<2.4	<1.2	<1.2
[m & p-Xylene]	300	75		--	<2.0	<0.8	<0.8
[o-Xylene]	300	75		--	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-104A
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	May-19	Oct-19	May-20	Oct-20
Acetone	3000	750	--	--	--	--	<20	<20	<20	<20	<20	<20
Allyl chloride	30	7.5	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromochloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chloroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	--	--	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromomethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
cis-1,2-Dichloroethylene	6.0	1.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	--	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Styrene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	--	--	<10	<10	<10	<10	<10	<10
Toluene	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
1,1,2-Trichloroethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	--	--	<2.4	<1.2	<1.2	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	--	--	<2.0	<0.8	<0.8	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-104B
Lower Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	Nov-17	May-18	Oct-18	May-19	May-20
Acetone	3000	750	--	--	--	<20	<20	<20	<20
Allyl chloride	30	7.5	--	--	--	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	--	<0.2	<0.2	<0.2	<0.2
Bromobenzene			--	--	--	<0.4	<0.4	<0.4	<0.4
Bromochloromethane			--	--	--	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	--	<0.4	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	--	<1.0	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	--	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	--	<0.4	<1.0	<0.4	<0.4
sec-Butylbenzene			--	--	--	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	--	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	--	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	--	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	--	<0.4	<0.4	<0.4	<0.4
Chloroethane			--	--	--	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	--	<1.0	<1.0	<1.0	<1.0
Chloromethane			--	--	--	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	--	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	--	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	--	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	--	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	--	<0.05	<0.05	<0.05	<0.05
Dibromomethane			--	--	--	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	--	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	--	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	--	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	--	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	--	<0.4	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	--	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	--	<0.4	<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	--	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	--	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	--	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	--	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	--	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	--	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	--	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	--	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	--	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	--	<0.4	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	--	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	--	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	--	<0.4	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	--	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	--	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	--	<0.4	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	--	<1.0	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	--	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	--	<0.4	<0.4	<0.4	<0.4
Styrene			--	--	--	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	--	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	--	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	--	<0.4	<1.0	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	--	<10	<10	<10	<10
Toluene	70	17.5	--	--	--	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	--	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	--	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	--	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	--	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	--	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	--	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	--	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	--	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	--	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	--	<0.4	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	0.058	0.05	0.067	0.055	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	--	<2.4	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	--	<2.0	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	--	<0.4	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-106A
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	May-19	Oct-19	May-20	Oct-20	Oct-20 (DUP)
Acetone	3000	750	--	--	--	--	<20	<20	Results Not Obtained Due to Lab Complications	<20	<20	<20	<20
Allyl chloride	30	7.5	--	--	--	--	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	--	--	<0.2	<0.2		<0.2	<0.2	<0.2	<0.5
Bromobenzene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Bromochloromethane			--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Bromoform	40	10	--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<4.0
Bromomethane	10	2.5	--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<4.0
n-Butylbenzene			--	--	--	--	<0.4	<1.0		<0.4	<0.4	<0.4	<0.5
sec-Butylbenzene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
tert-Butylbenzene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Carbon tetrachloride	1.0	0.25	--	--	--	--	<0.05	<0.05		<0.05	<0.05	<0.05	<0.5
Chlorobenzene	100	25	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Chlorodibromomethane	10	2.5	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Chloroethane			--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0
Chloromethane			--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<4.0
2-Chlorotoluene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
4-Chlorotoluene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Cumene (*isopropylbenzene*)	300	75	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
1,2-Dibromo-3-chloropropane			--	--	--	--	<0.12	<0.12		<0.12	<0.12	<0.12	<4.0
1,2-Dibromoethane	0.004	0.001	--	--	--	--	<0.05	<0.05		<0.05	<0.05	<0.05	<0.5
Dibromomethane			--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
1,3-Dichlorobenzene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
1,4-Dichlorobenzene	10	2.5	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Dichlorodifluoromethane	500	125	--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
1,2-Dichloroethane	1.0	0.25	--	--	--	--	<0.2	<0.2		<0.2	<0.2	<0.2	<0.5
1,1-Dichloroethylene	200	50	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<1.0	<1.0
cis-1,2-Dichloroethylene	6.0	1.5	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
trans-1,2-Dichloroethylene	9.0	2.25	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Dichlorofluoromethane	20	5.0	--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<4.0
1,3-Dichloropropane			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
2,2-Dichloropropane			--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
cis-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
trans-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Ethyl benzene	40	10	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Ethyl ether	200	50	--	--	--	--	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	--	--	<0.1	<0.1		<0.1	<0.1	<0.1	<1.0
p-Isopropyltoluene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Methyl ethyl ketone	4000	1000	--	--	--	--	<5.0	<5.0		<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	--	--	<5.0	<5.0		<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Methylene chloride	5.0	1.25	--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<4.0
Naphthalene	70	17.5	--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Styrene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
1,1,1,2-Tetrachloroethane	70	17.5	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
1,1,2,2-Tetrachloroethylene			--	--	--	--	<0.4	<1.0		<0.4	<0.4	<0.4	<0.5
Tetrahydrofuran	600	150	--	--	--	--	<10	<10		<10	<10	<10	<10
Toluene	70	17.5	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
1,2,3-Trichlorobenzene			--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
1,2,4-Trichlorobenzene	4.0	1.0	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
1,1,1-Trichloroethane	5000	1250	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<1.0	<0.5
1,1,2-Trichloroethane	3.0	0.75	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
1,1,2-Trichloroethylene	0.4	0.1	--	--	--	--	<0.05	<0.05		<0.05	<0.05	<0.05	<0.4
Trichlorofluoromethane	2000	500	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
1,2,3-Trichloropropane	7.0	1.75	--	--	--	--	<0.01	<0.01		<0.01	<0.01	<0.01	<4.0
1,1,2-Trichlorotrifluoroethane			--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	--	--	<1.0	<1.0		<1.0	<1.0	<1.0	<0.5
1,3,5-Trimethylbenzene	30	7.5	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5
Vinyl chloride	0.2	0.05	--	--	--	--	<0.05	<0.05		<0.05	<0.05	<0.05	<0.2
TOTAL Xylenes	300	75	--	--	--	--	<2.4	<1.2		<1.2	<1.2	<1.2	<1.5
[m & p-Xylene]	300	75	--	--	--	--	<2.0	<0.8		<0.8	<0.8	<0.8	<1.0
[o-Xylene]	300	75	--	--	--	--	<0.4	<0.4		<0.4	<0.4	<0.4	<0.5

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-106B
Lower Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	Oct-19	Oct-19 (DUP)	May-20
Acetone	3000	750	--	--	<20	Results Not Obtained Due to Lab complications	<20	<20	<20
Allyl chloride	30	7.5	--	--	<4.0		<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	<0.2		<0.2	<0.2	<0.2
Bromobenzene			--	--	<0.4		<0.4	<0.4	<0.4
Bromochloromethane			--	--	<1.0		<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	<0.4		<0.4	<0.4	<0.4
Bromoform	40	10	--	--	<1.0		<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	<1.0		<1.0	<1.0	<1.0
n-Butylbenzene			--	--	<0.4		<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	<0.4		<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	<0.4		<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	<0.05		<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	<0.4		<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	<0.4		<0.4	<0.4	<0.4
Chloroethane			--	--	<1.0		<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	<1.0		<1.0	<1.0	<1.0
Chloromethane			--	--	<1.0		<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	<0.4		<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	<0.4		<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	<0.4		<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12		<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	<0.05		<0.05	<0.05	<0.05
Dibromomethane			--	--	<1.0		<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	<0.4		<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	<0.4		<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	<0.4		<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	<1.0		<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	<0.4		<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	<0.2		<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	<0.4		<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	<0.4		<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	<0.4		<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	<1.0		<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	<0.4		<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	<0.4		<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	<1.0		<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	<0.4		<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4		<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4		<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	<0.4		<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	<4.0		<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	<0.1		<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	<0.4		<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	<5.0		<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	<5.0		<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	<0.4		<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	<1.0		<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	<1.0		<1.0	<1.0	<1.0
n-Propylbenzene			--	--	<0.4		<0.4	<0.4	<0.4
Styrene			--	--	<0.4		<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	<0.4		<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	<0.4		<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	<0.4		<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	<10		<10	<10	<10
Toluene	70	17.5	--	--	<0.4		<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4		<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	<0.4		<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	<0.4		<0.4	<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	<0.4		<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	<0.05		<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	<0.4		<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	<0.01		<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0		<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	<1.0		<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	<0.4		<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	<0.05		<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	<2.4		<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	<2.0		<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	<0.4		<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-201A
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	May-19	Oct-19	May-20	May-20 (DUP)	Oct-20
Acetone	3000	750	--	--	--	--	<20	<20	<20	<20	<20	<20	<20
Allyl chloride	30	7.5	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromochloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chloroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			--	--	--	--	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	--	--	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromomethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
cis-1,2-Dichloroethylene	6.0	1.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	--	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Styrene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	--	--	<10	<10	<10	<10	<10	<10	<10
Toluene	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
1,1,2-Trichloroethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	--	--	<2.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	--	--	<2.0	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-201B
Lower Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-20
Acetone	3000	750	--	--	<20	<20	<20
Allyl chloride	30	7.5	--	--	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	<0.2	<0.2	<0.2
Bromobenzene			--	--	<0.4	<0.4	<0.4
Bromochloromethane			--	--	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	<0.4	<0.4	<0.4
Chloroethane			--	--	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	<1.0	<1.0	<1.0
Chloromethane			--	--	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	<0.05	<0.05	<0.05
Dibromomethane			--	--	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	<0.4	<0.4	<0.4
Styrene			--	--	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	<10	<10	<10
Toluene	70	17.5	--	--	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	<2.4	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	<2.0	<0.8	<0.8
[o-Xylene]	300	75	--	--	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-202A
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	May-19	Oct-19	Oct-19 (DUP)	May-20	Oct-20
Acetone	3000	750	--	--	--	--	<20	<20	<20	<20	<20	<20	<20
Allyl chloride	30	7.5	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromochloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chloroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	--	--	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromomethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
cis-1,2-Dichloroethylene	6.0	1.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	--	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Styrene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	--	--	<10	<10	<10	<10	<10	<10	<10
Toluene	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
1,1,2-Trichloroethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	--	--	<2.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	--	--	<2.0	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-202B
Lower Aquifer

ORGANIC PARAMETERS (ug/L)	HRL	IL	May-16	May-17	May-18	May-19	May-20
Acetone	3000	750	--	--	<20	<20	<20
Allyl chloride	30	7.5	--	--	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	<0.2	<0.2	<0.2
Bromobenzene			--	--	<0.4	<0.4	<0.4
Bromochloromethane			--	--	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	<0.4	<0.4	<0.4
Chloroethane			--	--	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	<1.0	<1.0	<1.0
Chloromethane			--	--	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	<0.05	<0.05	<0.05
Dibromomethane			--	--	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	<0.4	<0.4	<0.4
Styrene			--	--	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	<10	<10	<10
Toluene	70	17.5	--	--	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	<2.4	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	<2.0	<0.8	<0.8
[o-Xylene]	300	75	--	--	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-203B
Lower Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-20
Acetone	3000	750	--	--	Well Obstructed	Well Access Obstructed	<20
Allyl chloride	30	7.5	--	--			<4.0
Benzene	2.0	0.5	--	--			<0.2
Bromobenzene			--	--			<0.4
Bromochloromethane			--	--			<1.0
Bromodichloromethane	3.0	0.75	--	--			<0.4
Bromoform	40	10	--	--			<1.0
Bromomethane	10	2.5	--	--			<1.0
n-Butylbenzene			--	--			<0.4
sec-Butylbenzene			--	--			<0.4
tert-Butylbenzene			--	--			<0.4
Carbon tetrachloride	1.0	0.25	--	--			<0.05
Chlorobenzene	100	25	--	--			<0.4
Chlorodibromomethane	10	2.5	--	0.62			<0.4
Chloroethane			--	--			<1.0
Chloroform	20	5.0	--	--			<1.0
Chloromethane			--	--			<1.0
2-Chlorotoluene			--	--			<0.4
4-Chlorotoluene			--	--			<0.4
Cumene (*isopropylbenzene*)	300	75	--	--			<0.4
1,2-Dibromo-3-chloropropane			--	--			<0.12
1,2-Dibromoethane	0.004	0.001	--	--			<0.05
Dibromomethane			--	--			<1.0
1,2-Dichlorobenzene	600	150	--	--			<0.4
1,3-Dichlorobenzene			--	--			<0.4
1,4-Dichlorobenzene	10	2.5	--	--			<0.4
Dichlorodifluoromethane	500	125	--	--			<1.0
1,1-Dichloroethane	80	20	--	--			<0.4
1,2-Dichloroethane	1.0	0.25	--	--			<0.2
1,1-Dichloroethylene	200	50	--	--			<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--			<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--			<0.4
Dichlorofluoromethane	20	5.0	--	--			<1.0
1,2-Dichloropropane	5.0	1.25	--	--			<0.4
1,3-Dichloropropane			--	--			<0.4
2,2-Dichloropropane			--	--			<1.0
1,1-Dichloropropene			--	--			<0.4
cis-1,3-Dichloro-1-propene			--	--			<0.4
trans-1,3-Dichloro-1-propene			--	--			<0.4
Ethyl benzene	40	10	--	--			<0.4
Ethyl ether	200	50	--	--			<4.0
Hexachlorobutadiene	1.0	0.25	--	--			<0.1
p-Isopropyltoluene			--	--			<0.4
Methyl ethyl ketone	4000	1000	--	--			<5.0
Methyl isobutyl ketone	300	75	--	--			<5.0
Methyl tert-butyl ether	700	175	--	--			<0.4
Methylene chloride	5.0	1.25	--	--			<1.0
Naphthalene	70	17.5	--	--			<1.0
n-Propylbenzene			--	--			<0.4
Styrene			--	--			<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--			<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--			<0.4
1,1,2,2-Tetrachloroethylene			--	--			<0.4
Tetrahydrofuran	600	150	--	--			<10
Toluene	70	17.5	--	--			<0.4
1,2,3-Trichlorobenzene			--	--			<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--			<0.4
1,1,1-Trichloroethane	5000	1250	--	--			<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--			<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--			<0.05
Trichlorofluoromethane	2000	500	--	--			<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--			<0.01
1,1,2-Trichlorotrifluoroethane			--	--			<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--			<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--			<0.4
Vinyl chloride	0.2	0.05	--	--			<0.05
TOTAL Xylenes	300	75	--	--			<1.2
[m & p-Xylene]	300	75	--	--			<0.8
[o-Xylene]	300	75	--	--			<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-301A
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	May-19	Oct-19	May-20	Oct-20
Acetone	3000	750	--	--	--	--	<20	<20	<20	<20	<20	<20
Allyl chloride	30	7.5	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromochloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chloroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			--	--	--	--	<1.0	<1.0	1.2	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	--	--	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromomethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	--	0.73	<0.4	0.4	<0.4	0.59	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
cis-1,2-Dichloroethylene	6.0	1.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	--	0.69	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	--	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Styrene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	--	--	<10	<10	<10	<10	<10	<10
Toluene	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
1,1,2-Trichloroethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	--	--	<2.4	<1.2	<1.2	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	--	--	<2.0	<0.8	<0.8	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-301B
Lower Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-20
Acetone	3000	750	--	--	<20	<20	<20
Allyl chloride	30	7.5	--	--	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	<0.2	<0.2	<0.2
Bromobenzene			--	--	<0.4	<0.4	<0.4
Bromochloromethane			--	--	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	<0.4	<0.4	<0.4
Chloroethane			--	--	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	<1.0	<1.0	<1.0
Chloromethane			--	--	<1.0	1.4	<1.0
2-Chlorotoluene			--	--	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	<0.05	<0.05	<0.05
Dibromomethane			--	--	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	<0.4	<0.4	<0.4
Styrene			--	--	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	<10	<10	<10
Toluene	70	17.5	--	--	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	<2.4	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	<2.0	<0.8	<0.8
[o-Xylene]	300	75	--	--	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-302A
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	Apr-19	Apr-19 (DUP)	Oct-19	May-20	Oct-20
Acetone	3000	750	--	--	--	--	<20	<20	<20	<20	<20	<20	<20
Allyl chloride	30	7.5	--	--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromochloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	--	--	<1.0	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chloroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	--	--	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromomethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
cis-1,2-Dichloroethylene	6.0	1.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	--	--	<4.0	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	--	--	<0.4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	--	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Styrene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	--	--	<1.0	<1.0	<0.4	<0.4	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	--	--	<10	<10	<10	<10	<10	<10	<10
Toluene	70	17.5	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
1,1,2-Trichloroethane	3.0	0.75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	--	--	<1.0	<0.40	<0.4	<0.4	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	--	--	<1.2	<2.4	<1.2	<1.2	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	--	--	<0.8	<2.0	<0.8	<0.8	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

W-302B
Lower Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-20
Acetone	3000	750	--	--	<20	<20	<20
Allyl chloride	30	7.5	--	--	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	<0.2	<0.2	<0.2
Bromobenzene			--	--	<0.4	<0.4	<0.4
Bromochloromethane			--	--	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	<1.0	<0.4	<0.4
sec-Butylbenzene			--	--	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	<0.4	<0.4	<0.4
Chloroethane			--	--	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	<1.0	<1.0	<1.0
Chloromethane			--	--	<1.0	<1.0	<1.0
2-Chlorotoluene			--	--	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	<0.05	<0.05	<0.05
Dibromomethane			--	--	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	<4.0	<0.4	<0.4
Ethyl ether	200	50	--	--	<0.4	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	<0.4	<0.4	<0.4
Styrene			--	--	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	<1.0	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	<10	<10	<10
Toluene	70	17.5	--	--	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	<1.0	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

C-1
Upper Aquifer
Spring of Odd Years

ORGANIC PARAMETERS ug/L	May-15	May-17	Apr-19
Acetone	80.1	--	<20
Allyl chloride	--	--	<4.0
Benzene	--	--	0.21
Bromobenzene	--	--	<0.4
Bromochloromethane	--	--	<1.0
Bromodichloromethane	--	--	<0.4
Bromoform	--	--	<1.0
Bromomethane	--	--	<1.0
n-Butylbenzene	--	--	<0.4
sec-Butylbenzene	--	--	<0.4
tert-Butylbenzene	--	--	<0.4
Carbon tetrachloride	--	--	<0.2
Chlorobenzene	--	--	<0.4
Chlorodibromomethane	--	--	<0.4
Chloroethane	--	--	<1.0
Chloroform	--	--	<1.0
Chloromethane	--	--	<1.0
2-Chlorotoluene	--	--	<0.4
4-Chlorotoluene	--	--	<0.4
Cumene (*isopropylbenzene*)	--	--	<0.4
1,2-Dibromo-3-chloropropane	--	--	<0.12
1,2-Dibromoethane	--	--	<0.05
Dibromomethane	--	--	<1.0
1,2-Dichlorobenzene	--	--	<0.4
1,3-Dichlorobenzene	--	--	<0.4
1,4-Dichlorobenzene	--	--	<0.4
Dichlorodifluoromethane	--	--	<1.0
1,1-Dichloroethane	--	--	0.51
1,2-Dichloroethane	--	--	<0.2
1,1-Dichloroethylene	--	--	<0.4
cis-1,2-Dichloroethylene	--	1.3	2.9
trans-1,2-Dichloroethylene	--	--	<0.4
Dichlorofluoromethane	--	0.84	1.9
1,2-Dichloropropane	--	--	<0.4
1,3-Dichloropropane	--	--	<0.4
2,2-Dichloropropane	--	--	<1.0
1,1-Dichloropropene	--	--	<0.4
cis-1,3-Dichloro-1-propene	--	--	<0.4
trans-1,3-Dichloro-1-propene	--	--	<0.4
Ethyl benzene	--	--	<0.4
Ethyl ether	--	--	<4.0
Hexachlorobutadiene	--	--	<0.2
p-Isopropyltoluene	--	--	<0.4
Methyl ethyl ketone	--	--	<5.0
Methyl isobutyl ketone	--	--	<5.0
Methyl tert-butyl ether	--	--	<0.4
Methylene chloride	--	--	<1.0
Naphthalene	--	--	<1.0
n-Propylbenzene	--	--	<0.4
Styrene	--	--	<0.4
1,1,1,2-Tetrachloroethane	--	--	<0.4
1,1,2,2-Tetrachloroethane	--	--	<0.4
1,1,2,2-Tetrachloroethylene	--	--	<0.4
Tetrahydrofuran	--	--	<10
Toluene	--	--	<0.4
1,2,3-Trichlorobenzene	--	--	<0.4
1,2,4-Trichlorobenzene	--	--	<0.4
1,1,1-Trichloroethane	--	--	<0.4
1,1,2-Trichloroethane	--	--	<0.4
1,1,2-Trichloroethylene	0.84	0.7	0.79
Trichlorofluoromethane	--	--	<0.4
1,2,3-Trichloropropane	--	--	<0.01
1,1,2-Trichlorotrifluoroethane	--	--	<1.0
1,2,4-Trimethylbenzene	--	--	<1.0
1,3,5-Trimethylbenzene	--	--	<0.4
Vinyl chloride	--	0.27	0.42
TOTAL Xylenes	--	--	<1.2
[m & p-Xylene]	--	--	<0.8
[o-Xylene]	--	--	<0.4

-- = Not Detected
Gray-shaded entries represent detections.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

C-4
Upper Aquifer
Spring of Odd Years
Aquatic Standards

ORGANIC PARAMETERS ug/L	HRL	IL	May-15	May-17	Apr-19	Apr-19 (DUP)
Acetone			--	--	<20	<20
Allyl chloride			--	--	<4.0	<4.0
Benzene	392	98	--	--	<0.2	<0.2
Bromobenzene			--	--	<0.4	<0.4
Bromochloromethane			--	--	<1.0	<1.0
Bromodichloromethane			--	--	<0.4	<0.4
Bromoform			--	--	<1.0	<1.0
Bromomethane			--	--	<1.0	<1.0
n-Butylbenzene			--	--	<0.4	<0.4
sec-Butylbenzene			--	--	<0.4	<0.4
tert-Butylbenzene			--	--	<0.4	<0.4
Carbon tetrachloride	23.6	5.9	--	--	<0.05	<0.05
Chlorobenzene	80	20	--	--	<0.4	<0.4
Chlorodibromomethane			--	--	<0.4	<0.4
Chloroethane			--	--	<1.0	<1.0
Chloroform	620	155	--	--	<1.0	<1.0
Chloromethane			--	--	<1.0	<1.0
2-Chlorotoluene			--	--	<0.4	<0.4
4-Chlorotoluene			--	--	<0.4	<0.4
Cumene (*isopropylbenzene*)			--	--	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12	<0.12
1,2-Dibromoethane			--	--	<0.05	<0.05
Dibromomethane			--	--	<1.0	<1.0
1,2-Dichlorobenzene			--	--	<0.4	<0.4
1,3-Dichlorobenzene			--	--	<0.4	<0.4
1,4-Dichlorobenzene			--	--	<0.4	<0.4
Dichlorodifluoromethane			--	--	<1.0	<1.0
1,1-Dichloroethane			--	--	<0.4	<0.4
1,2-Dichloroethane	760	190	--	--	<0.2	<0.2
1,1-Dichloroethylene			--	--	<0.4	<0.4
cis-1,2-Dichloroethylene			--	--	<0.4	<0.4
trans-1,2-Dichloroethylene			--	--	<0.4	<0.4
Dichlorofluoromethane			1.7	1.7	2.2	2.0
1,2-Dichloropropane			--	--	<0.4	<0.4
1,3-Dichloropropane			--	--	<0.4	<0.4
2,2-Dichloropropane			--	--	<1.0	<1.0
1,1-Dichloropropene			--	--	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4	<0.4
Ethyl benzene	272	68	--	--	<0.4	<0.4
Ethyl ether			7.7	9.2	9.5	9.5
Hexachlorobutadiene			--	--	<0.1	<0.1
p-Isopropyltoluene			--	--	<0.4	<0.4
Methyl ethyl ketone			--	--	<5.0	<5.0
Methyl isobutyl ketone			--	--	<5.0	<5.0
Methyl tert-butyl ether			--	--	<0.4	<0.4
Methylene chloride	7760	1940	--	--	<1.0	<1.0
Naphthalene	324	81	--	--	<1.0	<1.0
n-Propylbenzene			--	--	<0.4	<0.4
Styrene			--	--	<0.4	<0.4
1,1,1,2-Tetrachloroethane			--	--	<0.4	<0.4
1,1,2,2-Tetrachloroethane	52	13	--	--	<0.4	<0.4
1,1,2,2-Tetrachloroethylene	35.6	8.9	--	--	<0.4	<0.4
Tetrahydrofuran			11.4	--	<10	<10
Toluene	1012	253	--	--	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4	<0.4
1,2,4-Trichlorobenzene			--	--	<0.4	<0.4
1,1,1-Trichloroethane	1316	329	--	--	<0.4	<0.4
1,1,2-Trichloroethane			--	--	<0.4	<0.4
1,1,2-Trichloroethylene	480	120	--	--	<0.05	<0.05
Trichlorofluoromethane			--	--	<0.4	<0.4
1,2,3-Trichloropropane			--	--	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0	<1.0
1,2,4-Trimethylbenzene			--	--	<1.0	<1.0
1,3,5-Trimethylbenzene			--	--	<0.4	<0.4
Vinyl chloride	36.8	9.2	--	0.32	0.47	0.45
TOTAL Xylenes	664	166	--	--	<1.2	<1.2
[m & p-Xylene]			--	--	<0.8	<0.8
[o-Xylene]			--	--	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

C-8
Upper Aquifer
Spring of Odd Years
Aquatic Standards

ORGANIC PARAMETERS ug/L	HRL	IL	May-15	May-17	Apr-19	Oct-19
Acetone			Not Sampled	--	Results Not Obtained Due to Lab Complications	<20
Allyl chloride				--		<4.0
Benzene	392	98		--		<0.2
Bromobenzene				--		<0.4
Bromochloromethane				--		<1.0
Bromodichloromethane				--		<0.4
Bromoform				--		<1.0
Bromomethane				--		<1.0
n-Butylbenzene				--		<0.4
sec-Butylbenzene				--		<0.4
tert-Butylbenzene				--		<0.4
Carbon tetrachloride	23.6	5.9		--		<0.05
Chlorobenzene	80	20		--		<0.4
Chlorodibromomethane				--		<0.4
Chloroethane				--		<1.0
Chloroform	620	155		--		<1.0
Chloromethane				--		<1.0
2-Chlorotoluene				--		<0.4
4-Chlorotoluene				--		<0.4
Cumene (*isopropylbenzene*)				--		<0.4
1,2-Dibromo-3-chloropropane				--		<0.12
1,2-Dibromoethane				--		<0.05
Dibromomethane				--		<1.0
1,2-Dichlorobenzene				--		<0.4
1,3-Dichlorobenzene				--		<0.4
1,4-Dichlorobenzene				--		<0.4
Dichlorodifluoromethane				--		<1.0
1,1-Dichloroethane				--		<0.4
1,2-Dichloroethane	760	190		--		<0.2
1,1-Dichloroethylene				--		<0.4
cis-1,2-Dichloroethylene				--		<0.4
trans-1,2-Dichloroethylene				--		<0.4
Dichlorofluoromethane				0.44		<1.0
1,2-Dichloropropane				--		<0.4
1,3-Dichloropropane				--		<0.4
2,2-Dichloropropane				--		<1.0
1,1-Dichloropropene				--		<0.4
cis-1,3-Dichloro-1-propene				--		<0.4
trans-1,3-Dichloro-1-propene				--		<0.4
Ethyl benzene	272	68		--		<0.4
Ethyl ether				4.2		4.3
Hexachlorobutadiene				--		<0.1
p-Isopropyltoluene				--		<0.4
Methyl ethyl ketone				--		<5.0
Methyl isobutyl ketone				--		<5.0
Methyl tert-butyl ether				--		<0.4
Methylene chloride	7760	1940		--		<1.0
Naphthalene	324	81		--		<1.0
n-Propylbenzene				--		<0.4
Styrene				--		<0.4
1,1,1,2-Tetrachloroethane				--		<0.4
1,1,2,2-Tetrachloroethane	52	13		--		<0.4
1,1,2,2-Tetrachloroethylene	35.6	8.9		--		<0.4
Tetrahydrofuran				--		<10
Toluene	1012	253		--		<0.4
1,2,3-Trichlorobenzene				--		<0.4
1,2,4-Trichlorobenzene				--		<0.4
1,1,1-Trichloroethane	1316	329		--		<0.4
1,1,2-Trichloroethane				--		<0.4
1,1,2-Trichloroethylene	480	120		--		<0.05
Trichlorofluoromethane				--		<0.4
1,2,3-Trichloropropane				--		<0.01
1,1,2-Trichlorotrifluoroethane				--		<1.0
1,2,4-Trimethylbenzene				--		<1.0
1,3,5-Trimethylbenzene				--		<0.4
Vinyl chloride	36.8	9.2		0.049		0.058
TOTAL Xylenes	664	166		--		<1.2
[m & p-Xylene]				--		<0.8
[o-Xylene]				--		<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

C-9
Upper Aquifer
Spring of Odd Years
Aquatic Standards

ORGANIC PARAMETERS ug/L	HRL	IL	May-15	May-17	May-19
Acetone			--	--	<20
Allyl chloride			--	--	<4.0
Benzene	392	98	--	--	<0.2
Bromobenzene			--	--	<0.4
Bromochloromethane			--	--	<1.0
Bromodichloromethane			--	--	<0.4
Bromoform			--	--	<1.0
Bromomethane			--	--	<1.0
n-Butylbenzene			--	--	<0.4
sec-Butylbenzene			--	--	<0.4
tert-Butylbenzene			--	--	<0.4
Carbon tetrachloride	23.6	5.9	--	--	<0.05
Chlorobenzene	80	20	--	--	<0.4
Chlorodibromomethane			--	--	<0.4
Chloroethane			--	--	<1.0
Chloroform	620	155	--	--	<1.0
Chloromethane			--	--	1.8
2-Chlorotoluene			--	--	<0.4
4-Chlorotoluene			--	--	<0.4
Cumene (*isopropylbenzene*)			--	--	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12
1,2-Dibromoethane			--	--	<0.05
Dibromomethane			--	--	<1.0
1,2-Dichlorobenzene			--	--	<0.4
1,3-Dichlorobenzene			--	--	<0.4
1,4-Dichlorobenzene			--	--	<0.4
Dichlorodifluoromethane			--	--	<1.0
1,1-Dichloroethane			--	--	0.55
1,2-Dichloroethane	760	190	--	--	<0.2
1,1-Dichloroethylene			--	--	<0.4
cis-1,2-Dichloroethylene			--	--	0.42
trans-1,2-Dichloroethylene			--	--	<0.4
Dichlorofluoromethane			--	--	<1.0
1,2-Dichloropropane			--	--	<0.4
1,3-Dichloropropane			--	--	<0.4
2,2-Dichloropropane			--	--	<1.0
1,1-Dichloropropene			--	--	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4
Ethyl benzene	272	68	--	--	<0.4
Ethyl ether			33.1	29.2	29.5
Hexachlorobutadiene			--	--	<0.1
p-Isopropyltoluene			--	--	<0.4
Methyl ethyl ketone			--	--	<5.0
Methyl isobutyl ketone			--	--	<5.0
Methyl tert-butyl ether			--	0.6	0.83
Methylene chloride	7760	1940	--	--	<1.0
Naphthalene	324	81	--	--	<1.0
n-Propylbenzene			--	--	<0.4
Styrene			--	--	<0.4
1,1,1,2-Tetrachloroethane			--	--	<0.4
1,1,2,2-Tetrachloroethane	52	13	--	--	<0.4
1,1,2,2-Tetrachloroethylene	35.6	8.9	--	--	<0.4
Tetrahydrofuran			--	--	<10
Toluene	1012	253	--	--	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4
1,2,4-Trichlorobenzene			--	--	<0.4
1,1,1-Trichloroethane	1316	329	--	--	<0.4
1,1,2-Trichloroethane			--	--	<0.4
1,1,2-Trichloroethylene	480	120	--	--	<0.05
Trichlorofluoromethane			--	--	<0.4
1,2,3-Trichloropropane			--	--	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0
1,2,4-Trimethylbenzene			--	--	<1.0
1,3,5-Trimethylbenzene			--	--	<0.4
Vinyl chloride	36.8	9.2	--	--	0.11
TOTAL Xylenes	664	166	--	--	<1.2
[m & p-Xylene]			--	--	<0.8
[o-Xylene]			--	--	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

C-10
Upper Aquifer
Spring of Odd Years

ORGANIC PARAMETERS (ug/L)	May-15	May-17	Apr-19
Acetone	--	--	<20
Allyl chloride	--	--	<4.0
Benzene	--	--	<0.2
Bromobenzene	--	--	<0.4
Bromochloromethane	--	--	<1.0
Bromodichloromethane	--	--	<0.4
Bromoform	--	--	<1.0
Bromomethane	--	--	<1.0
n-Butylbenzene	--	--	<0.4
sec-Butylbenzene	--	--	<0.4
tert-Butylbenzene	--	--	<0.4
Carbon tetrachloride	--	--	<0.05
Chlorobenzene	--	--	<0.4
Chlorodibromomethane	--	--	<0.4
Chloroethane	--	--	<1.0
Chloroform	--	--	<1.0
Chloromethane	--	--	<1.0
2-Chlorotoluene	--	--	<0.4
4-Chlorotoluene	--	--	<0.4
Cumene (*isopropylbenzene*)	--	--	<0.4
1,2-Dibromo-3-chloropropane	--	--	<0.12
1,2-Dibromoethane	--	--	<0.05
Dibromomethane	--	--	<1.0
1,2-Dichlorobenzene	--	--	<0.4
1,3-Dichlorobenzene	--	--	<0.4
1,4-Dichlorobenzene	--	--	<0.4
Dichlorodifluoromethane	--	--	<1.0
1,1-Dichloroethane	--	--	<0.4
1,2-Dichloroethane	--	--	<0.2
1,1-Dichloroethylene	--	--	<0.4
cis-1,2-Dichloroethylene	--	--	<0.4
trans-1,2-Dichloroethylene	--	--	<0.4
Dichlorofluoromethane	--	--	<1.0
1,2-Dichloropropane	--	--	<0.4
1,3-Dichloropropane	--	--	<0.4
2,2-Dichloropropane	--	--	<1.0
1,1-Dichloropropene	--	--	<0.4
cis-1,3-Dichloro-1-propene	--	--	<0.4
trans-1,3-Dichloro-1-propene	--	--	<0.4
Ethyl benzene	--	--	<0.4
Ethyl ether	6.4	4.5	<4.0
Hexachlorobutadiene	--	--	<0.1
p-Isopropyltoluene	--	--	<0.4
Methyl ethyl ketone	--	--	<5.0
Methyl isobutyl ketone	--	--	<5.0
Methyl tert-butyl ether	--	--	<0.4
Methylene chloride	--	--	<1.0
Naphthalene	--	--	<1.0
n-Propylbenzene	--	--	<0.4
Styrene	--	--	<0.4
1,1,1,2-Tetrachloroethane	--	--	<0.4
1,1,2,2-Tetrachloroethane	--	--	<0.4
1,1,2,2-Tetrachloroethylene	--	--	<0.4
Tetrahydrofuran	--	--	<10
Toluene	--	--	<0.4
1,2,3-Trichlorobenzene	--	--	<0.4
1,2,4-Trichlorobenzene	--	--	<0.4
1,1,1-Trichloroethane	--	--	<0.4
1,1,2-Trichloroethane	--	--	<0.4
1,1,2-Trichloroethylene	--	--	<0.05
Trichlorofluoromethane	--	--	<0.4
1,2,3-Trichloropropane	--	--	<0.01
1,1,2-Trichlorotrifluoroethane	--	--	<1.0
1,2,4-Trimethylbenzene	--	--	<1.0
1,3,5-Trimethylbenzene	--	--	<0.4
Vinyl chloride	--	--	<0.05
TOTAL Xylenes	--	--	<1.2
[m & p-Xylene]	--	--	<0.8
[o-Xylene]	--	--	<0.4

-- = Not Detected
Gray-shaded entries represent detections.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

C-11
Upper Aquifer

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-19 (DUP)	May-20
Acetone	3000	750	--	--	<20	<20	<20	<20
Allyl chloride	30	7.5	--	--	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	<0.2	<0.2	<0.2	<0.2
Bromobenzene			--	--	<0.4	<0.4	<0.4	<0.4
Bromochloromethane			--	--	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	<0.4	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	<1.0	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	<1.0	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	<0.4	<0.4	<0.4	<0.4
Chloroethane			--	--	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	<1.0	<1.0	<1.0	<1.0
Chloromethane			--	--	<1.0	<1.0	1.3	<1.0
2-Chlorotoluene			--	--	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001	--	--	<0.05	<0.05	<0.05	<0.05
Dibromomethane			--	--	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	<0.4	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	<0.4	<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	<4.0	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	<0.4	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	<0.4	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	<0.4	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	<1.0	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	<0.4	<0.4	<0.4	<0.4
Styrene			--	--	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	<1.0	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	<10	<10	<10	<10
Toluene	70	17.5	--	--	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	<1.0	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	<0.05	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	<1.2	<1.2	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	<0.8	<0.8	<0.8	<0.8
[o-Xylene]	300	75	--	--	<0.4	<0.4	<0.4	<0.4

-- = Not Detected

Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

TW-1
Upper Aquifer
Spring of Odd Years

ORGANIC PARAMETERS ug/L	May-15	May-17	Apr-19
Acetone	--	--	<20
Allyl chloride	--	--	<4.0
Benzene	6.3	6.8	1.9
Bromobenzene	--	--	<0.4
Bromochloromethane	--	--	<1.0
Bromodichloromethane	--	--	<0.4
Bromoform	--	--	<1.0
Bromomethane	--	--	<1.0
n-Butylbenzene	--	--	<0.4
sec-Butylbenzene	--	--	<0.4
tert-Butylbenzene	--	--	<0.4
Carbon tetrachloride	--	--	<0.05
Chlorobenzene	--	--	<0.4
Chlorodibromomethane	--	--	<0.4
Chloroethane	3.0	--	<1.0
Chloroform	--	--	<1.0
Chloromethane	--	--	1.2
2-Chlorotoluene	--	--	<0.4
4-Chlorotoluene	--	--	<0.4
Cumene (*isopropylbenzene*)	2.5	1.6	0.52
1,2-Dibromo-3-chloropropane	--	--	<0.12
1,2-Dibromoethane	--	--	<0.05
Dibromomethane	--	--	<1.0
1,2-Dichlorobenzene	--	--	<0.4
1,3-Dichlorobenzene	--	--	<0.4
1,4-Dichlorobenzene	1.4	1.7	0.86
Dichlorodifluoromethane	--	--	<1.0
1,1-Dichloroethane	1.4	1.2	0.42
1,2-Dichloroethane	--	--	<0.2
1,1-Dichloroethylene	--	--	<0.4
cis-1,2-Dichloroethylene	--	--	<0.4
trans-1,2-Dichloroethylene	--	--	<0.4
Dichlorofluoromethane	6.8	2.7	<1.0
1,2-Dichloropropane	--	2.6	0.49
1,3-Dichloropropane	--	--	<0.4
2,2-Dichloropropane	--	--	<1.0
1,1-Dichloropropene	--	--	<0.4
cis-1,3-Dichloro-1-propene	--	--	<0.4
trans-1,3-Dichloro-1-propene	--	--	<0.4
Ethyl benzene	9.7	--	<0.4
Ethyl ether	48.2	121	22.4
Hexachlorobutadiene	--	--	<0.1
p-Isopropyltoluene	1.5	1.6	<0.4
Methyl ethyl ketone	--	--	<5.0
Methyl isobutyl ketone	--	--	<5.0
Methyl tert-butyl ether	--	--	<0.4
Methylene chloride	--	--	<1.0
Naphthalene	--	--	<1.0
n-Propylbenzene	--	--	<0.4
Styrene	--	--	<0.4
1,1,1,2-Tetrachloroethane	--	--	<0.4
1,1,2,2-Tetrachloroethane	--	--	<0.4
1,1,2,2-Tetrachloroethylene	--	--	<0.4
Tetrahydrofuran	110	182	14.6
Toluene	--	--	<0.4
1,2,3-Trichlorobenzene	--	--	<0.4
1,2,4-Trichlorobenzene	--	--	<0.4
1,1,1-Trichloroethane	--	--	<0.4
1,1,2-Trichloroethane	--	--	<0.4
1,1,2-Trichloroethylene	--	--	<0.05
Trichlorofluoromethane	--	--	<0.4
1,2,3-Trichloropropane	--	--	<0.01
1,1,2-Trichlorotrifluoroethane	--	--	<1.0
1,2,4-Trimethylbenzene	--	--	<1.0
1,3,5-Trimethylbenzene	--	--	<0.4
Vinyl chloride	3.6	4.2	1.4
TOTAL Xylenes	--	--	<1.2
[m & p-Xylene]	--	--	<0.8
[o-Xylene]	--	--	<0.4

-- = Not Detected
Gray-shaded entries represent detections.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

TW-2
Upper Aquifer
Spring of Odd Years

ORGANIC PARAMETERS ug/L	May-15	May-17	Apr-19
Acetone	--	--	<20
Allyl chloride	--	--	<4.0
Benzene	4.7	3.8	3.7
Bromobenzene	--	--	<0.4
Bromochloromethane	--	--	<1.0
Bromodichloromethane	--	--	<0.4
Bromoform	--	--	<1.0
Bromomethane	--	--	<1.0
n-Butylbenzene	--	--	<0.4
sec-Butylbenzene	--	--	<0.4
tert-Butylbenzene	--	--	<0.4
Carbon tetrachloride	--	--	<0.05
Chlorobenzene	--	--	<0.4
Chlorodibromomethane	--	--	<0.4
Chloroethane	--	--	<1.0
Chloroform	--	--	<1.0
Chloromethane	--	--	<1.0
2-Chlorotoluene	--	--	<0.4
4-Chlorotoluene	--	--	<0.4
Cumene (*isopropylbenzene*)	--	--	0.67
1,2-Dibromo-3-chloropropane	--	--	<0.12
1,2-Dibromoethane	--	--	<0.05
Dibromomethane	--	--	<1.0
1,2-Dichlorobenzene	--	--	<0.4
1,3-Dichlorobenzene	--	--	<0.4
1,4-Dichlorobenzene	--	1.2	1.1
Dichlorodifluoromethane	--	--	<1.0
1,1-Dichloroethane	2.3	1.8	1.3
1,2-Dichloroethane	--	--	<0.2
1,1-Dichloroethylene	--	--	<0.4
cis-1,2-Dichloroethylene	--	--	<0.4
trans-1,2-Dichloroethylene	--	--	<0.4
Dichlorofluoromethane	13.1	7.8	7.4
1,2-Dichloropropane	--	0.82	0.45
1,3-Dichloropropane	--	--	<0.4
2,2-Dichloropropane	--	--	<1.0
1,1-Dichloropropene	--	--	<0.4
cis-1,3-Dichloro-1-propene	--	--	<0.4
trans-1,3-Dichloro-1-propene	--	--	<0.4
Ethyl benzene	--	0.44	<0.4
Ethyl ether	21	7.5	<4.0
Hexachlorobutadiene	--	--	<0.1
p-Isopropyltoluene	--	--	<0.4
Methyl ethyl ketone	--	--	<5.0
Methyl isobutyl ketone	--	--	<5.0
Methyl tert-butyl ether	--	--	<0.4
Methylene chloride	--	--	<1.0
Naphthalene	--	--	<1.0
n-Propylbenzene	--	--	<0.4
Styrene	--	--	<0.4
1,1,1,2-Tetrachloroethane	--	--	<0.4
1,1,2,2-Tetrachloroethane	--	--	<0.4
1,1,2,2-Tetrachloroethylene	--	--	<0.4
Tetrahydrofuran	--	--	<10
Toluene	--	--	<0.4
1,2,3-Trichlorobenzene	--	--	<0.4
1,2,4-Trichlorobenzene	--	--	<0.4
1,1,1-Trichloroethane	--	--	<0.4
1,1,2-Trichloroethane	--	--	<0.4
1,1,2-Trichloroethylene	--	0.052	0.051
Trichlorofluoromethane	--	--	<0.4
1,2,3-Trichloropropane	--	--	<0.01
1,1,2-Trichlorotrifluoroethane	--	--	<1.0
1,2,4-Trimethylbenzene	--	--	<1.0
1,3,5-Trimethylbenzene	--	--	<0.4
Vinyl chloride	3.1	3.7	4.9
TOTAL Xylenes	--	--	<1.2
[m & p-Xylene]	--	--	<0.8
[o-Xylene]	--	--	<0.4

-- = Not Detected
Gray-shaded entries represent detections.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

TW-3
Upper Aquifer
Spring of Odd Years

ORGANIC PARAMETERS ug/L	May-15	May-17	Apr-19
Acetone	--	--	<20
Allyl chloride	--	--	<4.0
Benzene	1.2	0.34	1.2
Bromobenzene	--	--	<0.4
Bromochloromethane	--	--	<1.0
Bromodichloromethane	--	--	<0.4
Bromoform	--	--	<1.0
Bromomethane	--	--	<1.0
n-Butylbenzene	--	--	<0.4
sec-Butylbenzene	--	--	<0.4
tert-Butylbenzene	--	--	<0.4
Carbon tetrachloride	--	--	<0.05
Chlorobenzene	--	--	<0.4
Chlorodibromomethane	--	--	<0.4
Chloroethane	--	--	<1.0
Chloroform	--	--	<1.0
Chloromethane	--	--	<1.0
2-Chlorotoluene	--	--	<0.4
4-Chlorotoluene	--	--	<0.4
Cumene (*isopropylbenzene*)	--	--	0.74
1,2-Dibromo-3-chloropropane	--	--	<0.12
1,2-Dibromoethane	--	--	<0.05
Dibromomethane	--	--	<1.0
1,2-Dichlorobenzene	--	--	<0.4
1,3-Dichlorobenzene	--	--	<0.4
1,4-Dichlorobenzene	1.6	1.6	0.53
Dichlorodifluoromethane	--	--	<1.0
1,1-Dichloroethane	--	--	0.41
1,2-Dichloroethane	--	--	<0.2
1,1-Dichloroethylene	--	--	<0.4
cis-1,2-Dichloroethylene	--	--	<0.4
trans-1,2-Dichloroethylene	--	--	<0.4
Dichlorofluoromethane	--	--	<1.0
1,2-Dichloropropane	--	--	<0.4
1,3-Dichloropropane	--	--	<0.4
2,2-Dichloropropane	--	--	<1.0
1,1-Dichloropropene	--	--	<0.4
cis-1,3-Dichloro-1-propene	--	--	<0.4
trans-1,3-Dichloro-1-propene	--	--	<0.4
Ethyl benzene	--	--	<0.4
Ethyl ether	6.2	1.8	6.4
Hexachlorobutadiene	--	--	<0.1
p-Isopropyltoluene	1.0	1.1	<0.4
Methyl ethyl ketone	--	--	<5.0
Methyl isobutyl ketone	--	--	<5.0
Methyl tert-butyl ether	--	--	<0.4
Methylene chloride	--	--	<1.0
Naphthalene	--	--	<1.0
n-Propylbenzene	--	--	<0.4
Styrene	--	--	<0.4
1,1,1,2-Tetrachloroethane	--	--	<0.4
1,1,2,2-Tetrachloroethane	--	--	<0.4
1,1,2,2-Tetrachloroethylene	--	--	<0.4
Tetrahydrofuran	12.8	--	<10
Toluene	--	--	<0.4
1,2,3-Trichlorobenzene	--	--	<0.4
1,2,4-Trichlorobenzene	--	--	<0.4
1,1,1-Trichloroethane	--	--	<0.4
1,1,2-Trichloroethane	--	--	<0.4
1,1,2-Trichloroethylene	--	--	<0.05
Trichlorofluoromethane	--	--	<0.4
1,2,3-Trichloropropane	--	--	<0.01
1,1,2-Trichlorotrifluoroethane	--	--	<1.0
1,2,4-Trimethylbenzene	--	--	<1.0
1,3,5-Trimethylbenzene	--	--	<0.4
Vinyl chloride	--	0.12	0.33
TOTAL Xylenes	--	--	<1.2
[m & p-Xylene]	--	--	<0.8
[o-Xylene]	--	--	<0.4

-- = Not Detected
Gray-shaded entries represent detections.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

Lysimeter III-P1

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	Apr-19	Oct-19	May-20	Oct-20	Oct-20 (DUP)
Acetone	3000	750	Dry	--	--	--	<20	<20	<20	<20	<20	<20	<20
Allyl chloride	30	7.5		--	--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5		--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5
Bromobenzene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
Bromochloromethane				--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75		--	--	--	<0.4	<0.4	<0.4	1.4	<0.4	<0.4	<0.5
Bromoform	40	10		--	--	--	<1.0	<1.0	<1.0	6.9	<1.0	<1.0	<4.0
Bromomethane	10	2.5		--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<4.0
n-Butylbenzene				--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4	<0.5
sec-Butylbenzene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
tert-Butylbenzene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
Carbon tetrachloride	1.0	0.25		--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
Chlorobenzene	100	25		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
Chlorodibromomethane	10	2.5		--	--	--	<0.4	<0.4	<0.4	2.8	<0.4	<0.4	<0.5
Chloroethane				--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0		--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane				--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<4.0
2-Chlorotoluene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
4-Chlorotoluene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
Cumene (*isopropylbenzene*)	300	75		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
1,2-Dibromo-3-chloropropane				--	--	--	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<4.0
1,2-Dibromoethane	0.004	0.001		--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
Dibromomethane				--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
1,3-Dichlorobenzene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
1,4-Dichlorobenzene	10	2.5		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
Dichlorodifluoromethane	500	125		--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
1,2-Dichloroethane	1.0	0.25		--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5
1,1-Dichloroethylene	200	50		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0	<1.0
cis-1,2-Dichloroethylene	6.0	1.5		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
trans-1,2-Dichloroethylene	9.0	2.25		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
Dichlorofluoromethane	20	5.0		--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<4.0
1,3-Dichloropropane				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
2,2-Dichloropropane				--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
cis-1,3-Dichloro-1-propene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
trans-1,3-Dichloro-1-propene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
Ethyl benzene	40	10		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
Ethyl ether	200	50		--	--	2.31	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25		--	--	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.0
p-Isopropyltoluene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
Methyl ethyl ketone	4000	1000		--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75		--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
Methylene chloride	5.0	1.25		--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<4.0
Naphthalene	70	17.5		--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
Styrene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
1,1,1,2-Tetrachloroethane	70	17.5		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
1,1,2,2-Tetrachloroethane	2.0	0.5		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
1,1,2,2-Tetrachloroethylene				--	--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4	<0.5
Tetrahydrofuran	600	150		--	--	--	<10	<10	<10	<10	<10	<10	<10
Toluene	70	17.5		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
1,2,3-Trichlorobenzene				--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
1,2,4-Trichlorobenzene	4.0	1.0		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
1,1,1-Trichloroethane	5000	1250		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0	<0.5
1,1,2-Trichloroethane	3.0	0.75		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
1,1,2-Trichloroethylene	0.4	0.1		--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.4
Trichlorofluoromethane	2000	500		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
1,2,3-Trichloropropane	7.0	1.75		--	--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<4.0
1,1,2-Trichlorotrifluoroethane				--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5		--	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5
1,3,5-Trimethylbenzene	30	7.5		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5
Vinyl chloride	0.2	0.05		--	--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2
TOTAL Xylenes	300	75		--	--	--	<2.4	<1.2	<1.2	<1.2	<1.2	<1.2	<1.5
[m & p-Xylene]	300	75		--	--	--	<2.0	<0.8	<0.8	<0.8	<0.8	<0.8	<1.0
[o-Xylene]	300	75		--	--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.5

-- = Not Detected

Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

Lysimeter III-P2

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	Apr-19	Oct-19	May-20	Oct-20
Acetone	3000	750	Dry	Dry	--	--	<20	<20	<20	<20	<20	<20
Allyl chloride	30	7.5			--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Benzene	2.0	0.5			--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromobenzene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromochloromethane					--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromoform	40	10			--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	10	2.5			--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene					--	--	<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
sec-Butylbenzene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25			--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	100	25			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chloroethane					--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	20	5.0			--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane					--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane					--	--	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane	0.004	0.001			--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromomethane					--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125			--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25			--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
cis-1,2-Dichloroethylene	6.0	1.5			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0			--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane					--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	40	10			--	--	<0.4	39.1	<0.4	25	<0.4	27.8
Ethyl ether	200	50			--	--	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25			--	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	0.88
Methyl ethyl ketone	4000	1000			--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75			--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25			--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	70	17.5			--	--	<1.0	1.3	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Styrene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene					--	--	<0.40	<1.0	<0.4	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150			--	--	<10	<10	<10	<10	<10	<10
Toluene	70	17.5			--	--	<0.4	3.5	<0.4	1.7	<0.4	0.95
1,2,3-Trichlorobenzene					--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
1,1,2-Trichloroethane	3.0	0.75			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1			--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75			--	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane					--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5			--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5			--	--	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05			--	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75			--	3.97	<2.4	189	<1.2	136	<1.2	168
[m & p-Xylene]	300	75			--	3.97	<2.0	70.8	<0.8	41.7	<0.8	81.3
[o-Xylene]	300	75			--	--	<0.4	118	<0.4	94.6	<0.4	86.4

-- = Not Detected

Gray-shaded entries represent detections.

Yellow-shaded entries represent IL exceedances for water quality performance standards.

Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

Lysimeter III-P3

ORGANIC PARAMETERS	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	Apr-19	Oct-19	May-20	Oct-20
ug/L												
Acetone	3000	750	Dry	Dry	--	--	--	--	Dry	Dry	Dry	Dry
Allyl chloride	30	7.5			--	--	--	--				
Benzene	2.0	0.5			--	--	--	--				
Bromobenzene					--	--	--	--				
Bromochloromethane					--	--	--	--				
Bromodichloromethane	3.0	0.75			--	--	--	--				
Bromoform	40	10			--	--	--	--				
Bromomethane	10	2.5			--	--	--	--				
n-Butylbenzene					--	--	--	--				
sec-Butylbenzene					--	--	--	--				
tert-Butylbenzene					--	--	--	--				
Carbon tetrachloride	1.0	0.25			--	--	--	--				
Chlorobenzene	100	25			--	--	--	--				
Chlorodibromomethane	10	2.5			--	--	--	--				
Chloroethane					--	--	--	--				
Chloroform	20	5.0			--	--	--	--				
Chloromethane					--	--	--	--				
2-Chlorotoluene					--	--	--	--				
4-Chlorotoluene					--	--	--	--				
Cumene (*isopropylbenzene*)	300	75			--	--	--	--				
1,2-Dibromo-3-chloropropane					--	--	--	--				
1,2-Dibromoethane	0.004	0.001			--	--	--	--				
Dibromomethane					--	--	--	--				
1,2-Dichlorobenzene	600	150			--	--	--	--				
1,3-Dichlorobenzene					--	--	--	--				
1,4-Dichlorobenzene	10	2.5			--	--	--	--				
Dichlorodifluoromethane	500	125			--	--	--	--				
1,1-Dichloroethane	80	20			--	--	--	--				
1,2-Dichloroethane	1.0	0.25			--	--	--	--				
1,1-Dichloroethylene	200	50			--	--	--	--				
cis-1,2-Dichloroethylene	6.0	1.5			--	--	--	--				
trans-1,2-Dichloroethylene	9.0	2.25			--	--	--	--				
Dichlorofluoromethane	20	5.0			--	--	--	--				
1,2-Dichloropropane	5.0	1.25			--	--	--	--				
1,3-Dichloropropane					--	--	--	--				
2,2-Dichloropropane					--	--	--	--				
1,1-Dichloropropene					--	--	--	--				
cis-1,3-Dichloro-1-propene					--	--	--	--				
trans-1,3-Dichloro-1-propene					--	--	--	--				
Ethyl benzene	40	10			--	--	--	--				
Ethyl ether	200	50			--	--	--	--				
Hexachlorobutadiene	1.0	0.25			--	--	--	--				
p-Isopropyltoluene					--	--	--	--				
Methyl ethyl ketone	4000	1000			--	--	--	--				
Methyl isobutyl ketone	300	75			--	--	--	--				
Methyl tert-butyl ether	700	175			--	--	--	--				
Methylene chloride	5.0	1.25			--	--	--	--				
Naphthalene	70	17.5			--	--	--	--				
n-Propylbenzene					--	--	--	--				
Styrene					--	--	--	--				
1,1,1,2-Tetrachloroethane	70	17.5			--	--	--	--				
1,1,2,2-Tetrachloroethane	2.0	0.5			--	--	--	--				
1,1,2,2-Tetrachloroethylene					--	--	--	--				
Tetrahydrofuran	600	150			--	--	--	--				
Toluene	70	17.5			--	--	--	--				
1,2,3-Trichlorobenzene					--	--	--	--				
1,2,4-Trichlorobenzene	4.0	1.0			--	--	--	--				
1,1,1-Trichloroethane	5000	1250			--	--	--	--				
1,1,2-Trichloroethane	3.0	0.75			--	--	--	--				
1,1,2-Trichloroethylene	0.4	0.1			--	--	--	--				
Trichlorofluoromethane	2000	500			--	--	--	--				
1,2,3-Trichloropropane	7.0	1.75			--	--	--	--				
1,1,2-Trichlorotrifluoroethane					--	--	--	--				
1,2,4-Trimethylbenzene	30	7.5			--	--	--	--				
1,3,5-Trimethylbenzene	30	7.5			--	--	--	--				
Vinyl chloride	0.2	0.05			--	--	--	--				
TOTAL Xylenes	300	75			--	3.97	--	--				
[m & p-Xylene]	300	75			--	3.97	--	--				
[o-Xylene]	300	75			--	--	--	--				

-- = Not Detected

Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

Lysimeter IV-P1&2

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-18	Oct-18	Apr-19	Oct-19	May-20	Oct-20
Acetone	3000	750	Obstructed	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Allyl chloride	30	7.5										
Benzene	2.0	0.5										
Bromobenzene												
Bromochloromethane												
Bromodichloromethane	3.0	0.75										
Bromoform	40	10										
Bromomethane	10	2.5										
n-Butylbenzene												
sec-Butylbenzene												
tert-Butylbenzene												
Carbon tetrachloride	1.0	0.25										
Chlorobenzene	100	25										
Chlorodibromomethane	10	2.5										
Chloroethane												
Chloroform	20	5.0										
Chloromethane												
2-Chlorotoluene												
4-Chlorotoluene												
Cumene (*isopropylbenzene*)	300	75										
1,2-Dibromo-3-chloropropane												
1,2-Dibromoethane	0.004	0.001										
Dibromomethane												
1,2-Dichlorobenzene	600	150										
1,3-Dichlorobenzene												
1,4-Dichlorobenzene	10	2.5										
Dichlorodifluoromethane	500	125										
1,1-Dichloroethane	80	20										
1,2-Dichloroethane	1.0	0.25										
1,1-Dichloroethylene	200	50										
cis-1,2-Dichloroethylene	6.0	1.5										
trans-1,2-Dichloroethylene	9.0	2.25										
Dichlorofluoromethane	20	5.0										
1,2-Dichloropropane	5.0	1.25										
1,3-Dichloropropane												
2,2-Dichloropropane												
1,1-Dichloropropene												
cis-1,3-Dichloro-1-propene												
trans-1,3-Dichloro-1-propene												
Ethyl benzene	40	10										
Ethyl ether	200	50										
Hexachlorobutadiene	1.0	0.25										
p-Isopropyltoluene												
Methyl ethyl ketone	4000	1000										
Methyl isobutyl ketone	300	75										
Methyl tert-butyl ether	700	175										
Methylene chloride	5.0	1.25										
Naphthalene	70	17.5										
n-Propylbenzene												
Styrene												
1,1,1,2-Tetrachloroethane	70	17.5										
1,1,2,2-Tetrachloroethane	2.0	0.5										
1,1,2,2-Tetrachloroethylene												
Tetrahydrofuran	600	150										
Toluene	70	17.5										
1,2,3-Trichlorobenzene												
1,2,4-Trichlorobenzene	4.0	1.0										
1,1,1-Trichloroethane	5000	1250										
1,1,2-Trichloroethane	3.0	0.75										
1,1,2-Trichloroethylene	0.4	0.1										
Trichlorofluoromethane	2000	500										
1,2,3-Trichloropropane	7.0	1.75										
1,1,2-Trichlorotrifluoroethane												
1,2,4-Trimethylbenzene	30	7.5										
1,3,5-Trimethylbenzene	30	7.5										
Vinyl chloride	0.2	0.05										
TOTAL Xylenes	300	75										
[m & p-Xylene]	300	75										
[o-Xylene]	300	75										

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

Lysimeter IV-P3

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Oct-16	May-17	Nov-17	May-17	May-18	Apr-19	Oct-19	May-20	Oct-20
Acetone	3000	750	Dry	Dry	Dry	Dry	Dry	Obstructed	Obstructed	Obstructed	Obstructed	Obstructed
Allyl chloride	30	7.5										
Benzene	2.0	0.5										
Bromobenzene												
Bromochloromethane												
Bromodichloromethane	3.0	0.75										
Bromoform	40	10										
Bromomethane	10	2.5										
n-Butylbenzene												
sec-Butylbenzene												
tert-Butylbenzene												
Carbon tetrachloride	1.0	0.25										
Chlorobenzene	100	25										
Chlorodibromomethane	10	2.5										
Chloroethane												
Chloroform	20	5.0										
Chloromethane												
2-Chlorotoluene												
4-Chlorotoluene												
Cumene (*isopropylbenzene*)	300	75										
1,2-Dibromo-3-chloropropane												
1,2-Dibromoethane	0.004	0.001										
Dibromomethane												
1,2-Dichlorobenzene	600	150										
1,3-Dichlorobenzene												
1,4-Dichlorobenzene	10	2.5										
Dichlorodifluoromethane	500	125										
1,1-Dichloroethane	80	20										
1,2-Dichloroethane	1.0	0.25										
1,1-Dichloroethylene	200	50										
cis-1,2-Dichloroethylene	6.0	1.5										
trans-1,2-Dichloroethylene	9.0	2.25										
Dichlorofluoromethane	20	5.0										
1,2-Dichloropropane	5.0	1.25										
1,3-Dichloropropane												
2,2-Dichloropropane												
1,1-Dichloropropene												
cis-1,3-Dichloro-1-propene												
trans-1,3-Dichloro-1-propene												
Ethyl benzene	40	10										
Ethyl ether	200	50										
Hexachlorobutadiene	1.0	0.25										
p-Isopropyltoluene												
Methyl ethyl ketone	4000	1000										
Methyl isobutyl ketone	300	75										
Methyl tert-butyl ether	700	175										
Methylene chloride	5.0	1.25										
Naphthalene	70	17.5										
n-Propylbenzene												
Styrene												
1,1,1,2-Tetrachloroethane	70	17.5										
1,1,2,2-Tetrachloroethane	2.0	0.5										
1,1,2,2-Tetrachloroethylene												
Tetrahydrofuran	600	150										
Toluene	70	17.5										
1,2,3-Trichlorobenzene												
1,2,4-Trichlorobenzene	4.0	1.0										
1,1,1-Trichloroethane	5000	1250										
1,1,2-Trichloroethane	3.0	0.75										
1,1,2-Trichloroethylene	0.4	0.1										
Trichlorofluoromethane	2000	500										
1,2,3-Trichloropropane	7.0	1.75										
1,1,2-Trichlorotrifluoroethane												
1,2,4-Trimethylbenzene	30	7.5										
1,3,5-Trimethylbenzene	30	7.5										
Vinyl chloride	0.2	0.05										
TOTAL Xylenes	300	75										
[m & p-Xylene]	300	75										
[o-Xylene]	300	75										

-- = Not Detected

Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

R. Ekre
Residence
Spring Event

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-20
Acetone	3000	750	Not Sampled - Access Not Granted	Not Sampled - Access Not Granted	Not Sampled - Access Not Granted	Not Sampled - Access Not Granted	Not Sampled - Access Not Granted
Allyl chloride	30	7.5					
Benzene	2.0	0.5					
Bromobenzene							
Bromochloromethane							
Bromodichloromethane	3.0	0.75					
Bromoform	40	10					
Bromomethane	10	2.5					
n-Butylbenzene							
sec-Butylbenzene							
tert-Butylbenzene							
Carbon tetrachloride	1.0	0.25					
Chlorobenzene	100	25					
Chlorodibromomethane	10	2.5					
Chloroethane							
Chloroform	20	5.0					
Chloromethane							
2-Chlorotoluene							
4-Chlorotoluene							
Cumene (*isopropylbenzene*)	300	75					
1,2-Dibromo-3-chloropropane							
1,2-Dibromoethane	0.004	0.001					
Dibromomethane							
1,2-Dichlorobenzene	600	150					
1,3-Dichlorobenzene							
1,4-Dichlorobenzene	10	2.5					
Dichlorodifluoromethane	500	125					
1,1-Dichloroethane	80	20					
1,2-Dichloroethane	1.0	0.25					
1,1-Dichloroethylene	200	50					
cis-1,2-Dichloroethylene	6.0	1.5					
trans-1,2-Dichloroethylene	9.0	2.25					
Dichlorofluoromethane	20	5.0					
1,2-Dichloropropane	5.0	1.25					
1,3-Dichloropropane							
2,2-Dichloropropane							
1,1-Dichloropropene							
cis-1,3-Dichloro-1-propene							
trans-1,3-Dichloro-1-propene							
Ethyl benzene	40	10					
Ethyl ether	200	50					
Hexachlorobutadiene	1.0	0.25					
p-Isopropyltoluene							
Methyl ethyl ketone	4000	1000					
Methyl isobutyl ketone	300	75					
Methyl tert-butyl ether	700	175					
Methylene chloride	5.0	1.25					
Naphthalene	70	17.5					
n-Propylbenzene							
Styrene							
1,1,1,2-Tetrachloroethane	70	17.5					
1,1,2,2-Tetrachloroethane	2.0	0.5					
1,1,2,2-Tetrachloroethylene							
Tetrahydrofuran	600	150					
Toluene	70	17.5					
1,2,3-Trichlorobenzene							
1,2,4-Trichlorobenzene	4.0	1.0					
1,1,1-Trichloroethane	5000	1250					
1,1,2-Trichloroethane	3.0	0.75					
1,1,2-Trichloroethylene	0.4	0.1					
Trichlorofluoromethane	2000	500					
1,2,3-Trichloropropane	7.0	1.75					
1,1,2-Trichlorotrifluoroethane							
1,2,4-Trimethylbenzene	30	7.5					
1,3,5-Trimethylbenzene	30	7.5					
Vinyl chloride	0.2	0.05					
TOTAL Xylenes	300	75					
[m & p-Xylene]	300	75					
[o-Xylene]	300	75					

Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

J. Ekre
Residence
Spring Event

ORGANIC PARAMETERS ug/L	HRL	IL	May-18	May-19	May-20
Acetone	3000	750	<20	Not Sampled - Access Not Granted	<20
Allyl chloride	30	7.5	<4.0		<4.0
Benzene	2.0	0.5	<0.2		<0.2
Bromobenzene			<0.4		<0.4
Bromochloromethane			<1.0		<1.0
Bromodichloromethane	3.0	0.75	<0.4		<0.4
Bromoform	40	10	<1.0		<1.0
Bromomethane	10	2.5	<1.0		<1.0
n-Butylbenzene			<0.4		<0.4
sec-Butylbenzene			<0.4		<0.4
tert-Butylbenzene			<0.4		<0.4
Carbon tetrachloride	1.0	0.25	<0.05		<0.05
Chlorobenzene	100	25	<0.4		<0.4
Chlorodibromomethane	10	2.5	<0.4		<1.0
Chloroethane			<1.0		<1.0
Chloroform	20	5.0	<1.0		<1.0
Chloromethane			<1.0		<0.4
2-Chlorotoluene			<0.4		<0.4
4-Chlorotoluene			<0.4		<0.4
Cumene (*isopropylbenzene*)	300	75	<0.4		<0.12
1,2-Dibromo-3-chloropropane			<0.12		<0.4
1,2-Dibromoethane	0.004	0.001	<0.05		<0.05
Dibromomethane			<1.0		<1.0
1,2-Dichlorobenzene	600	150	<0.4		<0.4
1,3-Dichlorobenzene			<0.4		<0.4
1,4-Dichlorobenzene	10	2.5	<0.4		<0.4
Dichlorodifluoromethane	500	125	<1.0		<1.0
1,1-Dichloroethane	80	20	<0.4		<0.4
1,2-Dichloroethane	1.0	0.25	<0.2		<0.2
1,1-Dichloroethylene	200	50	<0.4		<0.4
cis-1,2-Dichloroethylene	6.0	1.5	<0.4		<0.4
trans-1,2-Dichloroethylene	9.0	2.25	<0.4		<0.4
Dichlorofluoromethane	20	5.0	<1.0		<1.0
1,2-Dichloropropane	5.0	1.25	<0.4		<0.4
1,3-Dichloropropane			<0.4		<0.4
2,2-Dichloropropane			<1.0		<1.0
1,1-Dichloropropene			<0.4		<0.4
cis-1,3-Dichloro-1-propene			<0.4		<0.4
trans-1,3-Dichloro-1-propene			<0.4		<0.4
Ethyl benzene	40	10	<0.4		<0.4
Ethyl ether	200	50	<4.0		<4.0
Hexachlorobutadiene	1.0	0.25	<0.1		<0.1
p-Isopropyltoluene			<0.4		<0.4
Methyl ethyl ketone	4000	1000	<5.0		<5.0
Methyl isobutyl ketone	300	75	<5.0		<5.0
Methyl tert-butyl ether	700	175	<0.4		<0.4
Methylene chloride	5.0	1.25	<1.0		<1.0
Naphthalene	70	17.5	<1.0		<1.0
n-Propylbenzene			<0.4		<0.4
Styrene			<0.4		<0.4
1,1,1,2-Tetrachloroethane	70	17.5	<0.4		<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	<0.4		<0.4
1,1,2,2-Tetrachloroethylene			<0.4		<0.4
Tetrahydrofuran	600	150	<10		<10
Toluene	70	17.5	<0.4		<0.4
1,2,3-Trichlorobenzene			<0.4		<0.4
1,2,4-Trichlorobenzene	4.0	1.0	<0.4		<0.4
1,1,1-Trichloroethane	5000	1250	<0.4		<0.4
1,1,2-Trichloroethane	3.0	0.75	<0.4		<0.4
1,1,2-Trichloroethylene	0.4	0.1	<0.05		<0.05
Trichlorofluoromethane	2000	500	<0.4		<0.4
1,2,3-Trichloropropane	7.0	1.75	<0.01		<0.01
1,1,2-Trichlorotrifluoroethane			<1.0		<1.0
1,2,4-Trimethylbenzene	30	7.5	<1.0		<1.0
1,3,5-Trimethylbenzene	30	7.5	<0.4		<0.4
Vinyl chloride	0.2	0.05	<0.05		<0.05
TOTAL Xylenes	300	75	<2.4		<1.2
[m & p-Xylene]	300	75	<2.0		<0.8
[o-Xylene]	300	75	<0.4		<0.4

Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

Deutscher
Residence
Spring Event

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-20
Acetone	3000	750	--	--	<20	<20	<20
Allyl chloride	30	7.5	--	--	<4.0	<4.0	<4.0
Benzene	2.0	0.5	--	--	<0.2	<0.2	<0.2
Bromobenzene			--	--	<0.4	<0.4	<0.4
Bromochloromethane			--	--	<1.0	<1.0	<1.0
Bromodichloromethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
Bromoform	40	10	--	--	<1.0	<1.0	<1.0
Bromomethane	10	2.5	--	--	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	<0.4	<0.4	<0.4
Carbon tetrachloride	1.0	0.25	--	--	<0.05	<0.05	<0.05
Chlorobenzene	100	25	--	--	<0.4	<0.4	<0.4
Chlorodibromomethane	10	2.5	--	--	<0.4	<0.4	<1.0
Chloroethane			--	--	<1.0	<1.0	<1.0
Chloroform	20	5.0	--	--	<1.0	<1.0	<1.0
Chloromethane			--	--	<1.0	<1.0	<0.4
2-Chlorotoluene			--	--	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	--	--	<0.4	<0.4	<0.12
1,2-Dibromo-3-chloropropane			--	--	<0.12	<0.12	<0.4
1,2-Dibromoethane	0.004	0.001	--	--	<0.05	<0.05	<0.05
Dibromomethane			--	--	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	600	150	--	--	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	<0.4	<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	--	--	<0.4	<0.4	<0.4
Dichlorodifluoromethane	500	125	--	--	<1.0	<1.0	<1.0
1,1-Dichloroethane	80	20	--	--	<0.4	<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	--	--	<0.2	<0.2	<0.2
1,1-Dichloroethylene	200	50	--	--	<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5	--	--	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	--	--	<0.4	<0.4	<0.4
Dichlorofluoromethane	20	5.0	--	--	<1.0	<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	--	--	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
Ethyl benzene	40	10	--	--	<0.4	<0.4	<0.4
Ethyl ether	200	50	--	--	<4.0	<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	--	--	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	<0.4	<0.4	<0.4
Methyl ethyl ketone	4000	1000	--	--	<5.0	<5.0	<5.0
Methyl isobutyl ketone	300	75	--	--	<5.0	<5.0	<5.0
Methyl tert-butyl ether	700	175	--	--	<0.4	<0.4	<0.4
Methylene chloride	5.0	1.25	--	--	<1.0	<1.0	<1.0
Naphthalene	70	17.5	--	--	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	<0.4	<0.4	<0.4
Styrene			--	--	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene			--	--	<0.4	<0.4	<0.4
Tetrahydrofuran	600	150	--	--	<10	<10	<10
Toluene	70	17.5	--	--	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	--	--	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	--	--	<0.05	<0.05	<0.05
Trichlorofluoromethane	2000	500	--	--	<0.4	<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	--	--	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	--	--	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	--	--	<0.4	<0.4	<0.4
Vinyl chloride	0.2	0.05	--	--	<0.05	<0.05	<0.05
TOTAL Xylenes	300	75	--	--	<2.4	<1.2	<1.2
[m & p-Xylene]	300	75	--	--	<2.0	<0.8	<0.8
[o-Xylene]	300	75	--	--	<0.4	<0.4	<0.4

-- = Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

Weaver
Residence
Spring Event

ORGANIC PARAMETERS ug/L	HRL	IL	May-16	May-17	May-18	May-19	May-20
Acetone	3000	750	--	Not Sampled - Access Not Granted	Not Sampled - Access Not Granted	Not Sampled - Access Not Granted	Not Sampled - Access Not Granted
Allyl chloride	30	7.5	--				
Benzene	2.0	0.5	--				
Bromobenzene			--				
Bromochloromethane			--				
Bromodichloromethane	3.0	0.75	--				
Bromoform	40	10	--				
Bromomethane	10	2.5	--				
n-Butylbenzene			--				
sec-Butylbenzene			--				
tert-Butylbenzene			--				
Carbon tetrachloride	1.0	0.25	--				
Chlorobenzene	100	25	--				
Chlorodibromomethane	10	2.5	--				
Chloroethane			--				
Chloroform	20	5.0	--				
Chloromethane			--				
2-Chlorotoluene			--				
4-Chlorotoluene			--				
Cumene (*isopropylbenzene*)	300	75	--				
1,2-Dibromo-3-chloropropane			--				
1,2-Dibromoethane	0.004	0.001	--				
Dibromomethane			--				
1,2-Dichlorobenzene	600	150	--				
1,3-Dichlorobenzene			--				
1,4-Dichlorobenzene	10	2.5	--				
Dichlorodifluoromethane	500	125	--				
1,1-Dichloroethane	80	20	--				
1,2-Dichloroethane	1.0	0.25	--				
1,1-Dichloroethylene	200	50	--				
cis-1,2-Dichloroethylene	6.0	1.5	--				
trans-1,2-Dichloroethylene	9.0	2.25	--				
Dichlorofluoromethane	20	5.0	--				
1,2-Dichloropropane	5.0	1.25	--				
1,3-Dichloropropane			--				
2,2-Dichloropropane			--				
1,1-Dichloropropene			--				
cis-1,3-Dichloro-1-propene			--				
trans-1,3-Dichloro-1-propene			--				
Ethyl benzene	40	10	--				
Ethyl ether	200	50	--				
Hexachlorobutadiene	1.0	0.25	--				
p-Isopropyltoluene			--				
Methyl ethyl ketone	4000	1000	--				
Methyl isobutyl ketone	300	75	--				
Methyl tert-butyl ether	700	175	--				
Methylene chloride	5.0	1.25	--				
Naphthalene	70	17.5	--				
n-Propylbenzene			--				
Styrene			--				
1,1,1,2-Tetrachloroethane	70	17.5	--				
1,1,2,2-Tetrachloroethane	2.0	0.5	--				
1,1,2,2-Tetrachloroethylene			--				
Tetrahydrofuran	600	150	--				
Toluene	70	17.5	--				
1,2,3-Trichlorobenzene			--				
1,2,4-Trichlorobenzene	4.0	1.0	--				
1,1,1-Trichloroethane	5000	1250	--				
1,1,2-Trichloroethane	3.0	0.75	--				
1,1,2-Trichloroethylene	0.4	0.1	--				
Trichlorofluoromethane	2000	500	--				
1,2,3-Trichloropropane	7.0	1.75	--				
1,1,2-Trichlorotrifluoroethane			--				
1,2,4-Trimethylbenzene	30	7.5	--				
1,3,5-Trimethylbenzene	30	7.5	--				
Vinyl chloride	0.2	0.05	--				
TOTAL Xylenes	300	75	--				
[m & p-Xylene]	300	75	--				
[o-Xylene]	300	75	--				

Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

Benesch
Residence
Spring Event

ORGANIC PARAMETERS ug/L	HRL	IL	May-18	May-19	May-20	May-20 (DUP)
Acetone	3000	750	<20	Not Sampled - Access Not Granted	<20	<20
Allyl chloride	30	7.5	<4.0		<4.0	<4.0
Benzene	2.0	0.5	<0.2		<0.2	<0.2
Bromobenzene			<0.4		<0.4	<0.4
Bromochloromethane			<1.0		<1.0	<1.0
Bromodichloromethane	3.0	0.75	<0.4		<0.4	<0.4
Bromoform	40	10	<1.0		<1.0	<1.0
Bromomethane	10	2.5	<1.0		<1.0	<1.0
n-Butylbenzene			<0.4		<0.4	<0.4
sec-Butylbenzene			<0.4		<0.4	<0.4
tert-Butylbenzene			<0.4		<0.4	<0.4
Carbon tetrachloride	1.0	0.25	<0.05		<0.05	<0.05
Chlorobenzene	100	25	<0.4		<0.4	<0.4
Chlorodibromomethane	10	2.5	<0.4		<1.0	<1.0
Chloroethane			<1.0		<1.0	<1.0
Chloroform	20	5.0	<1.0		<1.0	<1.0
Chloromethane			<1.0		<0.4	<0.4
2-Chlorotoluene			<0.4		<0.4	<0.4
4-Chlorotoluene			<0.4		<0.4	<0.4
Cumene (*isopropylbenzene*)	300	75	<0.4		<0.12	<0.12
1,2-Dibromo-3-chloropropane			<0.12		<0.4	<0.4
1,2-Dibromoethane	0.004	0.001	<0.05		<0.05	<0.05
Dibromomethane			<1.0		<1.0	<1.0
1,2-Dichlorobenzene	600	150	<0.4		<0.4	<0.4
1,3-Dichlorobenzene			<0.4		<0.4	<0.4
1,4-Dichlorobenzene	10	2.5	<0.4		<0.4	<0.4
Dichlorodifluoromethane	500	125	<1.0		<1.0	<1.0
1,1-Dichloroethane	80	20	<0.4		<0.4	<0.4
1,2-Dichloroethane	1.0	0.25	<0.2		<0.2	<0.2
1,1-Dichloroethylene	200	50	<0.4		<0.4	<0.4
cis-1,2-Dichloroethylene	6.0	1.5	<0.4		<0.4	<0.4
trans-1,2-Dichloroethylene	9.0	2.25	<0.4		<0.4	<0.4
Dichlorofluoromethane	20	5.0	<1.0		<1.0	<1.0
1,2-Dichloropropane	5.0	1.25	<0.4		<0.4	<0.4
1,3-Dichloropropane			<0.4		<0.4	<0.4
2,2-Dichloropropane			<1.0		<1.0	<1.0
1,1-Dichloropropene			<0.4		<0.4	<0.4
cis-1,3-Dichloro-1-propene			<0.4		<0.4	<0.4
trans-1,3-Dichloro-1-propene			<0.4		<0.4	<0.4
Ethyl benzene	40	10	<0.4		<0.4	<0.4
Ethyl ether	200	50	<4.0		<4.0	<4.0
Hexachlorobutadiene	1.0	0.25	<0.1		<0.1	<0.1
p-Isopropyltoluene			<0.4		<0.4	<0.4
Methyl ethyl ketone	4000	1000	<5.0		<5.0	<5.0
Methyl isobutyl ketone	300	75	<5.0		<5.0	<5.0
Methyl tert-butyl ether	700	175	<0.4		<0.4	<0.4
Methylene chloride	5.0	1.25	<1.0		<1.0	<1.0
Naphthalene	70	17.5	<1.0		<1.0	<1.0
n-Propylbenzene			<0.4		<0.4	<0.4
Styrene			<0.4		<0.4	<0.4
1,1,1,2-Tetrachloroethane	70	17.5	<0.4		<0.4	<0.4
1,1,2,2-Tetrachloroethane	2.0	0.5	<0.4		<0.4	<0.4
1,1,2,2-Tetrachloroethylene			<0.4		<0.4	<0.4
Tetrahydrofuran	600	150	<10		<10	<10
Toluene	70	17.5	<0.4		<0.4	<0.4
1,2,3-Trichlorobenzene			<0.4		<0.4	<0.4
1,2,4-Trichlorobenzene	4.0	1.0	<0.4		<0.4	<0.4
1,1,1-Trichloroethane	5000	1250	<0.4		<0.4	<0.4
1,1,2-Trichloroethane	3.0	0.75	<0.4		<0.4	<0.4
1,1,2-Trichloroethylene	0.4	0.1	<0.05		<0.05	<0.05
Trichlorofluoromethane	2000	500	<0.4		<0.4	<0.4
1,2,3-Trichloropropane	7.0	1.75	<0.01		<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			<1.0		<1.0	<1.0
1,2,4-Trimethylbenzene	30	7.5	<1.0		<1.0	<1.0
1,3,5-Trimethylbenzene	30	7.5	<0.4		<0.4	<0.4
Vinyl chloride	0.2	0.05	<0.05		<0.05	<0.05
TOTAL Xylenes	300	75	<2.4		<1.2	<1.2
[m & p-Xylene]	300	75	<2.0		<0.8	<0.8
[o-Xylene]	300	75	<0.4		<0.4	<0.4

Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

S-1
Surface Water
(West of W-16)
Aquatic Standards

ORGANIC PARAMETERS ug/L	HRL	IL	Oct-16	May-17	Nov-17	May-18	Oct-18	Apr-19	Oct-19	May-20	Oct-20
Acetone			DRY	DRY	DRY	<20	DRY	<20	DRY	<20	DRY
Allyl chloride						<4.0		<4.0		<4.0	
Benzene	392	98				<0.2		0.33		<0.2	
Bromobenzene						<0.4		<0.4		<0.4	
Bromochloromethane						<1.0		<1.0		<1.0	
Bromodichloromethane						<0.4		<0.4		<0.4	
Bromoform						<1.0		<1.0		<1.0	
Bromomethane						<1.0		<1.0		<1.0	
n-Butylbenzene						<0.4		<0.4		<0.4	
sec-Butylbenzene						<0.4		<0.4		<0.4	
tert-Butylbenzene						<0.4		<0.4		<0.4	
Carbon tetrachloride	23.6	5.9				<0.05		<0.05		<0.05	
Chlorobenzene	80	20				<0.4		<0.4		<0.4	
Chlorodibromomethane						<0.4		<0.4		<1.0	
Chloroethane						<1.0		<1.0		<1.0	
Chloroform	620	155				<1.0		<1.0		<1.0	
Chloromethane						<1.0		<1.0		<0.4	
2-Chlorotoluene						<0.4		<0.4		<0.4	
4-Chlorotoluene						<0.4		<0.4		<0.4	
Cumene (*isopropylbenzene*)						<0.4		<0.4		<0.4	
1,2-Dibromo-3-chloropropane						<0.12		<0.12		<0.12	
1,2-Dibromoethane						<0.05		<0.05		<0.05	
Dibromomethane						<1.0		<1.0		<1.0	
1,2-Dichlorobenzene						<0.4		<0.4		<0.4	
1,3-Dichlorobenzene						<0.4		<0.4		<0.4	
1,4-Dichlorobenzene						<0.4		<0.4		<0.4	
Dichlorodifluoromethane						<1.0		<1.0		<1.0	
1,1-Dichloroethane						<0.4		0.46		<0.4	
1,2-Dichloroethane	760	190				<0.2		<0.2		<0.2	
1,1-Dichloroethylene						<0.4		<0.4		<0.4	
cis-1,2-Dichloroethylene						<0.4		<0.4		<0.4	
trans-1,2-Dichloroethylene						<0.4		<0.4		<0.4	
Dichlorofluoromethane						<1.0		1.2		<1.0	
1,2-Dichloropropane						<0.4		<0.4		<0.4	
1,3-Dichloropropane						<0.4		<0.4		<0.4	
2,2-Dichloropropane						<1.0		<1.0		<1.0	
1,1-Dichloropropene						<0.4		<0.4		<0.4	
cis-1,3-Dichloro-1-propene						<0.4		<0.4		<0.4	
trans-1,3-Dichloro-1-propene						<0.4		<0.4		<0.4	
Ethyl benzene	272	68				<0.4		<0.4		<0.4	
Ethyl ether						<4.0		21		11.6	
Hexachlorobutadiene						<0.1		<0.1		<0.1	
p-Isopropyltoluene						<0.4		<0.4		<0.4	
Methyl ethyl ketone						<5.0		<5.0		<5.0	
Methyl isobutyl ketone						<5.0		<5.0		<5.0	
Methyl tert-butyl ether						<0.4		<0.4		<0.4	
Methylene chloride	7760	1940				<1.0		<1.0		<1.0	
Naphthalene	324	81				<1.0		<1.0		<1.0	
n-Propylbenzene						<0.4		<0.4		<0.4	
Styrene						<0.4		<0.4		<0.4	
1,1,1,2-Tetrachloroethane						<0.4		<0.4		<0.4	
1,1,2,2-Tetrachloroethane	52	13				<0.4		<0.4		<0.4	
1,1,2,2-Tetrachloroethylene	35.6	8.9				<0.4		<0.4		<0.4	
Tetrahydrofuran						<10		<10		<10	
Toluene	1012	253				1.6		<0.4		<0.4	
1,2,3-Trichlorobenzene						<0.4		<0.4		<0.4	
1,2,4-Trichlorobenzene						<0.4		<0.4		<0.4	
1,1,1-Trichloroethane	1316	329				<0.4		<0.4		<0.4	
1,1,2-Trichloroethane						<0.4		<0.4		<0.4	
1,1,2-Trichloroethylene	480	120				<0.05		<0.05		<0.05	
Trichlorofluoromethane						<0.4		<0.4		<0.4	
1,2,3-Trichloropropane						<0.01		<0.01		<0.01	
1,1,2-Trichlorotrifluoroethane						<1.0		<1.0		<1.0	
1,2,4-Trimethylbenzene						<1.0		<1.0		<1.0	
1,3,5-Trimethylbenzene						<0.4		<0.4		<0.4	
Vinyl chloride	36.8	9.2				<0.05		0.24		0.2	
TOTAL Xylenes	664	166				<2.4		<1.2		<1.2	
[m & p-Xylene]						<2.0		<0.8		<0.8	
[o-Xylene]						<0.4		<0.4		<0.4	

-- Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

S-2 Surface Water (West of W-10) Aquatic Standards ORGANIC PARAMETERS ug/L	HRL	IL	May-16	Nov-17	May-18	Apr-19	May-20
Acetone			--	--	<20	<20	22.5
Allyl chloride			--	--	<4.0	<4.0	<4.0
Benzene	392	98	--	--	<0.2	<0.2	<0.2
Bromobenzene			--	--	<0.4	<0.4	<0.4
Bromochloromethane			--	--	<1.0	<1.0	<1.0
Bromodichloromethane			--	--	<0.4	<0.4	<0.4
Bromoform			--	--	<1.0	<1.0	<1.0
Bromomethane			--	--	<1.0	<1.0	<1.0
n-Butylbenzene			--	--	<0.4	<0.4	<0.4
sec-Butylbenzene			--	--	<0.4	<0.4	<0.4
tert-Butylbenzene			--	--	<0.4	<0.4	<0.4
Carbon tetrachloride	23.6	5.9	--	--	<0.05	<0.05	<0.05
Chlorobenzene	80	20	--	--	<0.4	<0.4	<0.4
Chlorodibromomethane			--	--	<0.4	<0.4	<1.0
Chloroethane			--	--	<1.0	<1.0	<1.0
Chloroform	620	155	--	--	<1.0	<1.0	<1.0
Chloromethane			--	--	<1.0	1.2	<0.4
2-Chlorotoluene			--	--	<0.4	<0.4	<0.4
4-Chlorotoluene			--	--	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)			--	--	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--	--	<0.12	<0.12	<0.12
1,2-Dibromoethane			--	--	<0.05	<0.05	<0.05
Dibromomethane			--	--	<1.0	<1.0	<1.0
1,2-Dichlorobenzene			--	--	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--	--	<0.4	<0.4	<0.4
1,4-Dichlorobenzene			--	--	<0.4	<0.4	<0.4
Dichlorodifluoromethane			--	--	<1.0	<1.0	<1.0
1,1-Dichloroethane			--	--	<0.4	<0.4	<0.4
1,2-Dichloroethane	760	190	--	--	<0.2	<0.2	<0.2
1,1-Dichloroethylene			--	--	<0.4	<0.4	<0.4
cis-1,2-Dichloroethylene			--	--	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene			--	--	<0.4	<0.4	<0.4
Dichlorofluoromethane			--	--	<1.0	<1.0	<1.0
1,2-Dichloropropane			--	--	<0.4	<0.4	<0.4
1,3-Dichloropropane			--	--	<0.4	<0.4	<0.4
2,2-Dichloropropane			--	--	<1.0	<1.0	<1.0
1,1-Dichloropropene			--	--	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--	--	<0.4	<0.4	<0.4
Ethyl benzene	272	68	--	--	<0.4	<0.4	<0.4
Ethyl ether			--	1.4	5.6	4.6	22
Hexachlorobutadiene			--	--	<0.1	<0.1	<0.1
p-Isopropyltoluene			--	--	<0.4	<0.4	<0.4
Methyl ethyl ketone			--	--	<5.0	<5.0	<5.0
Methyl isobutyl ketone			--	--	<5.0	<5.0	<5.0
Methyl tert-butyl ether			--	--	<0.4	<0.4	<0.4
Methylene chloride	7760	1940	--	--	<1.0	<1.0	<1.0
Naphthalene	324	81	--	--	<1.0	<1.0	<1.0
n-Propylbenzene			--	--	<0.4	<0.4	<0.4
Styrene			--	--	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane			--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	52	13	--	--	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene	35.6	8.9	--	--	<0.4	<0.4	<0.4
Tetrahydrofuran			--	--	<10	<10	74.4
Toluene	1012	253	--	--	<0.4	<0.4	<0.4
1,2,3-Trichlorobenzene			--	--	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene			--	--	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	1316	329	--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethane			--	--	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	480	120	--	--	<0.05	<0.05	<0.05
Trichlorofluoromethane			--	--	<0.4	<0.4	<0.4
1,2,3-Trichloropropane			--	--	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--	--	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene			--	--	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene			--	--	<0.4	<0.4	<0.4
Vinyl chloride	36.8	9.2	--	--	0.055	<0.05	<0.05
TOTAL Xylenes	664	166	--	--	<2.4	<1.2	<1.2
[m & p-Xylene]			--	--	<2.0	<0.8	<0.8
[o-Xylene]			--	--	<0.4	<0.4	<0.4

-- Not Detected

Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 9
Clay County Sanitary Landfill
Hawley, Minnesota

VOCs

S-3
Surface Water
(SW Corner)
Aquatic Standards

ORGANIC PARAMETERS ug/L	HRL	IL	Oct-16	May-17	Nov-17	May-18	Oct-18	May-19	Oct-19	May-20	Oct-20
Acetone			--	DRY	DRY	<20	<20	<20	<20	<20	<20
Allyl chloride			--			<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Benzene	392	98	--			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromobenzene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromochloromethane			--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Bromoform			--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane			--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Butylbenzene			--			<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
sec-Butylbenzene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
tert-Butylbenzene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Carbon tetrachloride	23.6	5.9	--			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	80	20	--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Chlorodibromomethane			--			<0.4	<0.4	<0.4	<0.4	<1.0	<0.4
Chloroethane			--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroform	620	155	--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane			--			<1.0	<1.0	<1.0	<1.0	<0.4	<1.0
2-Chlorotoluene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
4-Chlorotoluene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Cumene (*isopropylbenzene*)			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dibromo-3-chloropropane			--			<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
1,2-Dibromoethane			--			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromomethane			--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichlorobenzene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,4-Dichlorobenzene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorodifluoromethane			--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2-Dichloroethane	760	190	--			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
cis-1,2-Dichloroethylene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,2-Dichloroethylene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dichlorofluoromethane			--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,3-Dichloropropane			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
2,2-Dichloropropane			--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
cis-1,3-Dichloro-1-propene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
trans-1,3-Dichloro-1-propene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl benzene	272	68	--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Ethyl ether			--			<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Hexachlorobutadiene			--			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p-Isopropyltoluene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methyl ethyl ketone			--			<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl isobutyl ketone			--			<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methylene chloride	7760	1940	--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	324	81	--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Styrene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1,2-Tetrachloroethane			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethane	52	13	--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2,2-Tetrachloroethylene	35.6	8.9	--			<0.4	<1.0	<0.4	<0.4	<0.4	<0.4
Tetrahydrofuran			--			<10	<10	<10	<10	<10	<10
Toluene	1012	253	--			<0.4	<0.4	<0.4	<0.4	<0.4	0.52
1,2,3-Trichlorobenzene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,4-Trichlorobenzene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,1-Trichloroethane	1316	329	--			<0.4	<0.4	<0.4	<0.4	<0.4	<1.0
1,1,2-Trichloroethane			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,1,2-Trichloroethylene	480	120	--			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
1,2,3-Trichloropropane			--			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,1,2-Trichlorotrifluoroethane			--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene			--			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Vinyl chloride	36.8	9.2	--			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TOTAL Xylenes	664	166	--			<2.4	<1.2	<1.2	<1.2	<1.2	<1.2
[m & p-Xylene]			--			<2.0	<0.80	<0.8	<0.8	<0.8	<0.8
[o-Xylene]			--			<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

-- Not Detected
Gray-shaded entries represent detections.
Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-1
Lower Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	May-20
Alkalinity	mg/L			240	241	239	Well Not Sampled Due to Unrepresentative Conditions Within the Casing	238
Arsenic	ug/L	10	2.5	--	--	<0.5		<0.5
Barium	ug/L	2000	500	104	101	103		114
Boron	ug/L	500	125	--	27.2	27.9		29.1
Cadmium	ug/L	0.5	0.125	--	--	<0.08		<0.08
Calcium	mg/L			52.2	45.6	52.7		56.2
Chloride	mg/L			--	--	<1.2		<1.2
Chromium	ug/L	100	25	--	--	<0.5		<0.5
Copper	ug/L	1300	325	--	--	<1.0		<1.0
Iron	ug/L			--	123	64.4		94.6
Lead	ug/L	15	3.75	--	1.0	0.35		0.46
Magnesium	ug/L			26000	25600	26500		28100
Manganese	ug/L	100	25	46.9	48.3	42.5		52.3
Mercury	ug/L	2.0	0.5	--	0.000789	<0.2		<0.2
Nickel	ug/L	100	25	--	--	<0.5		<0.5
Nitrogen, Ammonia	mg/L			--	0.22	<0.1		<0.1
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<2.0		<0.1
Potassium	ug/L			2800	2600	2690		3030
Selenium	ug/L	30	7.5	--	--	<0.5		<0.5
Sodium	ug/L			4500	4050	4410		4720
Sulfate	mg/L			2.2	3.8	5.4		4.9
Zinc	ug/L	2000	500	348	617	340		349
Total Dissolved Solids	mg/L			287	238	236		233
Total Suspended Solids	mg/L			32.4	111	45		32
Cation/Anion Balance	%							5.59
Anion Summation	meq/L							4.9
Cation Sumation	meq/L							5.4
Specific Conductance, Lab	umhos/cm							455
pH, Lab	SU							8.1

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-2
Upper Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	Oct-19	May-20	Oct-20
Alkalinity	mg/L			276	264	282	269	x	280	x
Arsenic	ug/L	10	2.5	1.2	1.2	1.4	1.6	x	1.5	x
Barium	ug/L	2000	500	140	178	145	145	x	144	x
Boron	ug/L	500	125	--	37.5	36.2	36.8	x	36.1	x
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	x	<0.08	x
Calcium	mg/L			71.2	58.3	73.1	69.6	x	74.3	x
Chloride	mg/L			9.9	9.1	10.3	12.4	x	10.9	x
Chromium	ug/L	100	25	--	--	<0.5	<0.5	x	<0.5	x
Copper	ug/L	1300	325	--	--	<1.0	<1.0	x	<1.0	x
Iron	ug/L			962	2170	858	829	x	830	x
Lead	ug/L	15	3.75	--	0.78	0.17	<0.1	x	0.19	x
Magnesium	ug/L			32200	29200	29900	31100	x	35400	x
Manganese	ug/L	100	25	56.1	58.7	52.5	54.7	x	49.6	x
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	x	<0.2	x
Nickel	ug/L	100	25	--	1.6	1.9	2.6	x	2.8	x
Nitrogen, Ammonia	mg/L			0.19	0.96	0.24	0.18	x	0.19	x
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<2.0	<0.1	x	<0.1	x
Potassium	ug/L			2900	2620	2590	2850	x	2860	x
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	x	<0.5	x
Sodium	ug/L			6400	5760	5640	6060	x	6200	x
Sulfate	mg/L			11.9	12	14.6	13.7	x	11.2	x
Zinc	ug/L	2000	500	187	574	100	160	x	234	x
Total Dissolved Solids	mg/L			317	412	349	309	x	322	x
Total Suspended Solids	mg/L			6.2	785	49	19	x	<10	x
Cation/Anion Balance	%						2.98	x	6.47	x
Anion Summation	meq/L						6.0	x	6.1	x
Cation Sumation	meq/L						6.4	x	7.0	x
Specific Conductance, Lab	umhos/cm						586	595	607	564
pH, Lab	SU						7.6	7.2	8.0	7.8

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-2B
Lower Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	May-20
Alkalinity	mg/L			266	267	265	277	280
Arsenic	ug/L	10	2.5	4.1	5.9	5.3	6.2	5.8
Barium	ug/L	2000	500	126	139	122	140	137
Boron	ug/L	500	125	--	39.8	38.3	38.6	38.4
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	<0.08
Calcium	mg/L			70.1	59.6	71.4	68.8	71.9
Chloride	mg/L			2.3	2.3	2.5	2.4	1.6
Chromium	ug/L	100	25	--	--	<0.5	<0.5	<0.5
Copper	ug/L	1300	325	--	--	<1.0	<1.0	<1.0
Iron	ug/L			467	384	483	398	398
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	<0.1
Magnesium	ug/L			25700	24700	25400	25400	26600
Manganese	ug/L	100	25	94.1	97.4	94.9	102	98.7
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	<0.2
Nickel	ug/L	100	25	--	0.86	<0.5	0.77	0.68
Nitrogen, Ammonia	mg/L			--	0.31	0.23	0.25	0.23
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<2.0	<0.1	<0.1
Potassium	ug/L			2800	2720	2620	2830	3030
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	<0.5
Sodium	ug/L			7400	7020	6240	6880	7710
Sulfate	mg/L			18.4	17.4	17.6	16.9	13.4
Zinc	ug/L	2000	500	--	--	<5.0	<5.0	<5.0
Total Dissolved Solids	mg/L			331	297	330	294	279
Total Suspended Solids	mg/L			28.7	256	12	3260	80
Cation/Anion Balance	%						-0.36	2.42
Anion Summation	meq/L						6.0	5.9
Cation Sumation	meq/L						5.9	6.2
Specific Conductance, Lab	umhos/cm						533	535
pH, Lab	SU						7.7	8.0

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-3
Lower Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	May-19 (Dup)	May-20
Alkalinity	mg/L			276	280	278	255	266	244
Arsenic	ug/L	10	2.5	3.0	2.1	1.8	2.4	2.3	2.3
Barium	ug/L	2000	500	191	174	171	174	165	156
Boron	ug/L	500	125	--	26.8	31.1	29.8	26.6	28.8
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	<0.08	0.12
Calcium	mg/L			78.7	75	69.3	72.3	65.2	67.1
Chloride	mg/L			3.0	3.4	2.6	2.4	2.1	1.6
Chromium	ug/L	100	25	--	--	<0.5	<0.5	<0.5	<0.5
Copper	ug/L	1300	325	--	--	<1.0	<1.0	<1.0	<1.0
Iron	ug/L			697	673	571	669	597	683
Lead	ug/L	15	3.75	--	--	<0.1	0.11	<0.1	1.1
Magnesium	ug/L			33900	33400	30400	30800	28900	30500
Manganese	ug/L	100	25	143	135	122	141	127	122
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	<0.2	<0.2
Nickel	ug/L	100	25	--	--	<0.5	<0.5	<0.5	<0.5
Nitrogen, Ammonia	mg/L			0.13	0.24	0.19	0.12	0.12	0.18
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<0.1	<0.1	<0.1	<0.1
Potassium	ug/L			2800	2440	2300	2410	2250	2550
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	<0.5	<0.5
Sodium	ug/L			5900	4960	4720	5170	4710	5020
Sulfate	mg/L			51.8	48.3	46.9	41.7	40.2	32.2
Zinc	ug/L	2000	500	--	33.4	<5.0	8.0	9.3	417
Total Dissolved Solids	mg/L			450	355	332	326	322	299
Total Suspended Solids	mg/L			17.3	17	101	16	10	<10
Cation/Anion Balance	%						3.39	-2.43	4.8
Anion Summation	meq/L						6.0	6.2	5.6
Cation Sumation	meq/L						6.5	5.9	6.2
Specific Conductance, Lab	umhos/cm						577	558	565
pH, Lab	SU						7.2	7.5	7.7

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-5
Upper Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	Oct-19	May-20	Oct-20
Alkalinity	mg/L			289	283	222	264	x	441	x
Arsenic	ug/L	10	2.5	2.8	0.54	1.5	0.82	x	0.86	x
Barium	ug/L	2000	500	67.5	44.3	38.8	37.5	x	63.7	x
Boron	ug/L	500	125	--	23.1	28.6	21.2	x	26.5	x
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	x	<0.08	x
Calcium	mg/L			85.7	66.5	52.7	58.2	x	102	x
Chloride	mg/L			--	--	<1.2	<1.2	x	<1.2	x
Chromium	ug/L	100	25	--	--	<0.5	0.76	x	<0.5	x
Copper	ug/L	1300	325	--	--	<1.0	<1.0	x	<1.0	x
Iron	ug/L			3340	1320	2360	1090	x	1950	x
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	x	<0.1	x
Magnesium	ug/L			37200	35700	26700	30700	x	56500	x
Manganese	ug/L	100	25	208	71.3	95.2	37.1	x	48.9	x
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	x	<0.2	x
Nickel	ug/L	100	25	--	0.8	0.87	1.3	x	0.81	x
Nitrogen, Ammonia	mg/L			--	--	<0.1	<0.1	x	<0.1	x
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	0.026	<100	<0.1	x	<0.1	x
Potassium	ug/L			3600	2510	2250	2050	x	2680	x
Selenium	ug/L	30	7.5	--	1.9	0.96	1.6	x	0.8	x
Sodium	ug/L			13100	13800	9780	9780	x	14000	x
Sulfate	mg/L			88.7	48.4	40	26.1	x	17	x
Zinc	ug/L	2000	500	65.4	105	<5.0	102	x	134	x
Total Dissolved Solids	mg/L			493	340	274	281	x	443	x
Total Suspended Solids	mg/L			18.3	--	12	<10	x	11	x
Cation/Anion Balance	%						0.79	x	6.37	x
Anion Summation	meq/L						5.8	x	9.2	x
Cation Sumation	meq/L						5.9	x	10.4	x
Specific Conductance, Lab	umhos/cm						545	723	802	786
pH, Lab	SU						7.4	7.0	7.8	7.6

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-6
Upper Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	Oct-19	May-20	Oct-20
Alkalinity	mg/L			273	308	323	305	x	405	x
Arsenic	ug/L	10	2.5	4.7	0.96	1.4	1.2	x	1.4	x
Barium	ug/L	2000	500	107	88.8	91.9	88.1	x	111	x
Boron	ug/L	500	125	--	26.2	25.1	20	x	25.9	x
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	x	<0.08	x
Calcium	mg/L			77.7	74.3	90.6	92.4	x	113	x
Chloride	mg/L			1.4	3.4	3.3	3.2	x	1.8	x
Chromium	ug/L	100	25	--	--	<0.5	<0.5	x	<0.5	x
Copper	ug/L	1300	325	--	--	<1.0	<1.0	x	<1.0	x
Iron	ug/L			1380	3700	2690	2760	x	5220	x
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	x	<0.1	x
Magnesium	ug/L			24800	28000	29200	30500	x	38000	x
Manganese	ug/L	100	25	233	305	202	201	x	351	x
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	x	<0.2	x
Nickel	ug/L	100	25	--	--	<0.5	0.6	x	<0.5	x
Nitrogen, Ammonia	mg/L			--	0.11	<0.1	<0.1	x	<0.1	x
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	0.066	<0.1	<0.1	x	<0.1	x
Potassium	ug/L			2900	1820	1850	1640	x	2160	x
Selenium	ug/L	30	7.5	--	0.54	<0.5	<0.5	x	<0.5	x
Sodium	ug/L			6300	4140	4300	4190	x	5520	x
Sulfate	mg/L			16.5	23.8	23.4	27.6	x	22.7	x
Zinc	ug/L	2000	500	78.6	45.5	53.8	46.1	x	56.1	x
Total Dissolved Solids	mg/L			351	334	314	362	x	438	x
Total Suspended Solids	mg/L			32.5	10	<10	11	x	21	x
Cation/Anion Balance	%						4.31	x	2.82	x
Anion Summation	meq/L						6.8	x	8.6	x
Cation Sumation	meq/L						7.4	x	9.1	x
Specific Conductance, Lab	umhos/cm						664	719	783	736
pH, Lab	SU						7.3	7.0	7.8	7.5

X = Not Analyzed -- = Not Detected

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Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-9
Upper Aquifer

Odd Years Aquatic Standard		HRL	IL	May-15	May-17	Apr-19
Alkalinity	mg/L			464	546	453
Arsenic	ug/L	212	53	3.4	24.9	49.1
Barium	ug/L			428	x	x
Boron	ug/L			--	197	136
Cadmium	ug/L	4.4	1.1	--	--	<0.08
Calcium	mg/L			144	137	86.8
Chloride	mg/L	920	230	86.1	134	77.8
Chromium	ug/L			--	x	x
Copper	ug/L			--	--	x
Iron	ug/L			--	x	x
Lead	ug/L	12.8	3.2	--	--	<0.1
Magnesium	ug/L			51500	58300	53300
Manganese	ug/L			2450	1860	548
Mercury	ug/L			--	0.0082	x
Nickel	ug/L			34.9	x	x
Nitrogen, Ammonia	mg/L			--	x	x
Nitrogen, Nitrate + Nitrite	mg/L			--	x	x
Potassium	ug/L			1700	x	x
Selenium	ug/L			x	x	x
Sodium	ug/L			29900	x	x
Sulfate	mg/L			17.7	x	x
Zinc	ug/L			--	x	x
Total Dissolved Solids	mg/L			710	740	590
Total Suspended Solids	mg/L			41.3	27	27
Cation/Anion Balance	%					-12.27
Anion Summation	meq/L					11.3
Cation Summation	meq/L					8.8
Specific Conductance, Lab	umhos/cm					1070
pH, Lab	SU					7.3
Mercury, Low-Level	ng/L	27.6	6.9			3.53

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Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-10
Upper Aquifer

Odd Years Aquatic Standards		HRL	IL	May-12	May-13	May-14	May-15	May-17	Apr-19
Alkalinity	mg/L			579	573	265	578	436	188
Arsenic	ug/L	212	53	--	--	--	--	0.82	<0.5
Barium	ug/L			82.3	74.6	38.8	80.1	x	x
Boron	ug/L			--	--	--	--	28.7	13.1
Cadmium	ug/L	4.4	1.1	--	--	--	--	--	<0.08
Calcium	mg/L			171	161	82.7	178	155	50.7
Chloride	mg/L	920	230	15	18.5	8.8	15.6	13.2	7.1
Chromium	ug/L			--	--	--	--	x	x
Copper	ug/L			--	--	--	--	--	x
Iron	ug/L			9150	5800	153	--	x	x
Lead	ug/L	12.8	3.2	--	--	--	--	3.0	0.47
Magnesium	ug/L			60900	56500	2600	59400	48400	16700
Manganese	ug/L			383	1170	435	1060	1180	306
Mercury	ug/L			--	--	--	--	--	x
Nickel	ug/L			5.9	11.4	--	11.2	x	x
Nitrogen, Ammonia	mg/L			--	--	--	--	x	x
Nitrogen, Nitrate + Nitrite	mg/L			100	--	--	--	x	x
Potassium	ug/L			1470	1200	720	1500	x	x
Selenium	ug/L			x	x	x	x	x	x
Sodium	ug/L			5870	5700	7000	6800	x	x
Sulfate	mg/L			23.3	53.7	38.5	54.4	x	x
Zinc	ug/L			274	306	90.7	232	x	x
Total Dissolved Solids	mg/L			652	699	322	720	581	233
Total Suspended Solids	mg/L			35	33	12.4	43.3	13	<10
Cation/Anion Balance	%								-0.33
Anion Summation	meq/L								4.0
Cation Summation	meq/L								3.9
Specific Conductance, Lab	umhos/cm								438
pH, Lab	SU								7.5
Mercury, Low-Level	ng/L	27.6	6.9						3.04

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WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-11
Upper Aquifer

Odd Years Aquatic Standard		HRL	IL	May-15	May-17	Apr-19
Alkalinity	mg/L			409	629	613
Arsenic	ug/L	212	53	34.4	117	80.9
Barium	ug/L			480	x	x
Boron	ug/L			165	160	155
Cadmium	ug/L	4.4	1.1	--	--	<0.08
Calcium	mg/L			85.7	123	115
Chloride	mg/L	920	230	31.8	49.5	46
Chromium	ug/L			--	x	x
Copper	ug/L			--	--	x
Iron	ug/L			182	x	x
Lead	ug/L	12.8	3.2	--	--	<0.1
Magnesium	ug/L			52200	78500	73400
Manganese	ug/L			447	541	443
Mercury	ug/L			--	x	x
Nickel	ug/L			11	x	x
Nitrogen, Ammonia	mg/L			0.14	x	x
Nitrogen, Nitrate + Nitrite	mg/L			--	x	x
Potassium	ug/L			2400	x	x
Selenium	ug/L			x	x	x
Sodium	ug/L			35500	x	x
Sulfate	mg/L			25.6	x	x
Zinc	ug/L			--	x	x
Total Dissolved Solids	mg/L			555	650	679
Total Suspended Solids	mg/L			39.3	42	32
Cation/Anion Balance	%					-6.64
Anion Summation	meq/L					13.6
Cation Summation	meq/L					11.9
Specific Conductance, Lab	umhos/cm					1180
pH, Lab	SU					7.2
Mercury, Low-Level	ng/L	27.6	6.9			0.727

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Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-12
Upper Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	May-20
Alkalinity	mg/L			586	494	462	442	542
Arsenic	ug/L	10	2.5	--	--	<0.5	<0.5	<0.5
Barium	ug/L	2000	500	212	221	196	190	228
Boron	ug/L	500	125	--	19.1	15	17.8	22.2
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	<0.08
Calcium	mg/L			136	131	126	118	145
Chloride	mg/L			1.1	--	<1.2	<1.2	<1.2
Chromium	ug/L	100	25	--	--	<0.5	<0.5	<0.5
Copper	ug/L	1300	325	--	--	<1.0	<1.0	<1.0
Iron	ug/L			1280	1270	536	60.8	121
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	<0.1
Magnesium	ug/L			72000	51700	47100	50600	62400
Manganese	ug/L	100	25	256	673	550	308	244
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	<0.2
Nickel	ug/L	100	25	--	1.7	1.3	2.0	2.5
Nitrogen, Ammonia	mg/L			--	0.19	<0.1	<0.1	<0.1
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	1.5	1.0	2.4	3.9	2.4
Potassium	ug/L			3400	3490	3020	3010	4740
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	<0.5
Sodium	ug/L			5000	3860	2880	2800	6710
Sulfate	mg/L			27.3	22.2	27.2	23.4	29.5
Zinc	ug/L	2000	500	--	--	<5.0	5.5	7.1
Total Dissolved Solids	mg/L			662	512	410	492	566
Total Suspended Solids	mg/L			4.1	26	<10	<10	<10
Cation/Anion Balance	%						4.76	5.62
Anion Summation	meq/L						9.3	11.5
Cation Sumation	meq/L						10.3	12.8
Specific Conductance, Lab	umhos/cm						858	988
pH, Lab	SU						6.9	7.3

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WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-13
Upper Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	May-20	May-20 (Dup)
Alkalinity	mg/L			364	375	379	347	360	421
Arsenic	ug/L	10	2.5	--	3.3	1.7	<0.5	1.7	1.3
Barium	ug/L	2000	500	143	165	147	76.2	178	151
Boron	ug/L	500	125	--	23.4	27	21.5	25.9	23.3
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	<0.08	<0.08
Calcium	mg/L			84	83.2	85.3	53.5	90.6	81.1
Chloride	mg/L			1.5	1.4	1.4	1.3	<1.2	<1.2
Chromium	ug/L	100	25	--	8.3	<0.5	<0.5	<0.5	<0.5
Copper	ug/L	1300	325	--	--	<1.0	<1.0	<1.0	<1.0
Iron	ug/L			568	546	375	3590	534	523
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	<0.1	<0.1
Magnesium	ug/L			43300	42600	43400	35200	47400	41900
Manganese	ug/L	100	25	97.7	81.2	83.3	123	85.9	75.2
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	<0.2	<0.2
Nickel	ug/L	100	25	--	5.4	0.93	0.69	5.4	4.0
Nitrogen, Ammonia	mg/L			--	0.097	<0.1	<0.1	<0.1	<0.1
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	60	<100	<0.1	<0.1	<0.1
Potassium	ug/L			2200	2300	2170	3100	2620	2170
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	1.2	0.6
Sodium	ug/L			5100	5310	5290	10900	5420	4800
Sulfate	mg/L			15.6	19.3	17.2	18	15.3	16
Zinc	ug/L	2000	500	--	--	<5.0	7.2	<5.0	<5.0
Total Dissolved Solids	mg/L			406	385	354	360	359	364
Total Suspended Solids	mg/L			146	400	75	600	146	139
Cation/Anion Balance	%						-8.99	7.49	-5.88
Anion Summation	meq/L						7.3	7.5	8.7
Cation Sumation	meq/L						6.1	8.7	7.8
Specific Conductance, Lab	umhos/cm						660	685	673
pH, Lab	SU						7.2	7.6	7.6

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WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-15
Upper Aquifer

Odd Years		May-15	May-17	Apr-19
Alkalinity	mg/L	Not Sampled	Not Sampled	x
Arsenic	ug/L			x
Barium	ug/L			x
Boron	ug/L			x
Cadmium	ug/L			x
Calcium	mg/L			x
Chloride	mg/L			x
Chromium	ug/L			x
Copper	ug/L			x
Iron	ug/L			x
Lead	ug/L			x
Magnesium	ug/L			x
Manganese	ug/L			x
Mercury	ug/L			x
Nickel	ug/L			x
Nitrogen, Ammonia	mg/L			x
Nitrogen, Nitrate + Nitrite	ug/L			x
Potassium	ug/L			x
Sodium	ug/L			x
Sulfate	mg/L			x
Zinc	ug/L			x
Total Dissolved Solids	mg/L			x
Total Suspended Solids	mg/L			x
Cation/Anion Balance	%			x
Anion Summation	meq/L			x
Cation Summation	meq/L			x
Specific Conductance, Lab	umhos/cm			798
pH, Lab	SU			6.9
Mercury, Low-Level	ng/L			x

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WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-16
Lower Aquifer

Aquatic Standard		HRL	IL	May-15	May-17	Apr-19
Alkalinity	mg/L			335	377	407
Arsenic	ug/L	212	53	--	1.7	2.4
Barium	ug/L			270	x	x
Boron	ug/L			--	34.2	34.9
Cadmium	ug/L	4.4	1.1	--	--	<0.08
Calcium	mg/L			83.7	102	170
Chloride	mg/L	920	230	19.1	20.8	21.8
Chromium	ug/L			--	x	x
Copper	ug/L			--	x	x
Iron	ug/L			--	x	x
Lead	ug/L	12.8	3.2	--	0.45	1.5
Magnesium	ug/L			39600	44100	58500
Manganese	ug/L			106	169	377
Mercury	ug/L			--	0.000516	x
Nickel	ug/L			--	x	x
Nitrogen, Ammonia	mg/L			--	x	x
Nitrogen, Nitrate + Nitrite	mg/L			--	x	x
Potassium	ug/L			2900	x	x
Selenium	ug/L			x	x	x
Sodium	ug/L			8500	x	x
Sulfate	mg/L			--	x	x
Zinc	ug/L			--	x	x
Total Dissolved Solids	mg/L			408	382	410
Total Suspended Solids	mg/L			26.8	43	122
Cation/Anion Balance	%					20.66
Anion Summation	meq/L					8.8
Cation Summation	meq/L					13.3
Specific Conductance, Lab	umhos/cm					785
pH, Lab	SU					7.2
Mercury, Low-Level	ng/L	27.6	6.9			2.52

X = Not Analyzed -- = Not Detected

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Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-17
Lower Aquifer

Aquatic Standard		HRL	IL	May-15	May-17	Apr-19
Alkalinity	mg/L			NA	456	410
Arsenic	ug/L	212	53	NA	0.78	0.76
Barium	ug/L			NA	x	x
Boron	ug/L			NA	129	114
Cadmium	ug/L	4.4	1.1	NA	--	<0.08
Calcium	mg/L			NA	120	104
Chloride	mg/L	920	230	NA	89.4	81.9
Chromium	ug/L			NA	x	x
Copper	ug/L			NA	x	x
Iron	ug/L			NA	x	x
Lead	ug/L	12.8	3.2	NA	0.39	0.16
Magnesium	ug/L			NA	59200	55100
Manganese	ug/L			NA	109	93.9
Mercury	ug/L			NA	0.000822	x
Nickel	ug/L			NA	x	x
Nitrogen, Ammonia	mg/L			NA	x	x
Nitrogen, Nitrate + Nitrite	mg/L			NA	x	x
Potassium	ug/L			NA	x	x
Selenium	ug/L			NA	x	x
Sodium	ug/L			NA	x	x
Sulfate	mg/L			NA	x	x
Zinc	ug/L			NA	x	x
Total Dissolved Solids	mg/L			NA	558	546
Total Suspended Solids	mg/L			NA	23	24
Cation/Anion Balance	%					-3.76
Anion Summation	meq/L					10.5
Cation Summation	meq/L					9.8
Specific Conductance, Lab	umhos/cm					1010
pH, Lab	SU					7.5
Mercury, Low-Level	ng/L	27.6	6.9			1.21

X = Not Analyzed -- = Not Detected

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Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-102A
Lower Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	Oct-19	May-20	Oct-20
Alkalinity	mg/L			Dry	Dry	Dry	240	x	236	Dry
Arsenic	ug/L	10	2.5				<0.5	x	<0.5	
Barium	ug/L	2000	500				41	x	57.2	
Boron	ug/L	500	125				14.6	x	17.8	
Cadmium	ug/L	0.5	0.125				0.14	x	<0.08	
Calcium	mg/L						75.3	x	66.6	
Chloride	mg/L						13.5	x	1.7	
Chromium	ug/L	100	25				1.7	x	1.7	
Copper	ug/L	1300	325				2.1	x	<1.0	
Iron	ug/L						418	x	<50	
Lead	ug/L	15	3.75				0.48	x	<0.1	
Magnesium	ug/L						25600	x	22400	
Manganese	ug/L	100	25				33.6	x	<0.5	
Mercury	ug/L	2.0	0.5				<0.2	x	<0.2	
Nickel	ug/L	100	25				1.3	x	<0.5	
Nitrogen, Ammonia	mg/L						<0.1	x	<0.1	
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5				7.6	x	1.4	
Potassium	ug/L						1170	x	1060	
Selenium	ug/L	30	7.5				0.96	x	<0.5	
Sodium	ug/L						20000	x	4100	
Sulfate	mg/L						32.2	x	8.4	
Zinc	ug/L	2000	500				21.6	x	<5.0	
Total Dissolved Solids	mg/L						372	x	265	
Total Suspended Solids	mg/L						206	x	11	
Cation/Anion Balance	%						7.3	x	4.33	
Anion Summation	meq/L						5.8	x	4.9	
Cation Summation	meq/L						6.8	x	5.4	
Specific Conductance, Lab	umhos/cm						596	649	497	
pH, Lab	SU						7.4	7.4	7.9	

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-102B
Lower Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	May-20
Alkalinity	mg/L			Well Obstructed	236	238	237	237
Arsenic	ug/L	10	2.5		--	0.5	0.51	0.54
Barium	ug/L	2000	500		127	134	132	142
Boron	ug/L	500	125		20.7	20.1	19.9	19.4
Cadmium	ug/L	0.5	0.125			<0.08	<0.08	<0.08
Calcium	mg/L				76.8	79.1	76.5	79.1
Chloride	mg/L				4.9	5.3	5.0	4.0
Chromium	ug/L	100	25		--	<0.5	<0.5	<0.5
Copper	ug/L	1300	325		--	<1.0	<1.0	<1.0
Iron	ug/L				--	121	118	97.5
Lead	ug/L	15	3.75		--	<0.1	<0.1	<0.1
Magnesium	ug/L				28000	28600	27800	29600
Manganese	ug/L	100	25		178	196	177	174
Mercury	ug/L	2.0	0.5		--	<0.2	<0.2	<0.2
Nickel	ug/L	100	25		1.5	1.7	1.3	1.9
Nitrogen, Ammonia	mg/L				--	<0.1	<0.1	<0.1
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5		--	<0.1	<0.1	0.49
Potassium	ug/L				2340	2470	2270	2640
Selenium	ug/L	30	7.5		--	<0.5	<0.5	<0.5
Sodium	ug/L				3010	3270	3090	3170
Sulfate	mg/L				35.5	73.1	69.4	59.4
Zinc	ug/L	2000	500		--	<5.0	<5.0	<5.0
Total Dissolved Solids	mg/L				357	344	363	353
Total Suspended Solids	mg/L				31	<10	10	15
Cation/Anion Balance	%						-0.1	4.12
Anion Summation	meq/L						6.3	6.1
Cation Summation	meq/L						6.3	6.6
Specific Conductance, Lab	umhos/cm						574	600
pH, Lab	SU						7.2	7.7

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-104A
Upper Aquifer

		MCL	HRL	IL	May-16	May-17	May-18	May-19	Oct-19	May-20	Oct-20
Alkalinity	mg/L	NE			314	327	304	282	x	422	x
Arsenic	ug/L	10	10	2.5	2.0	1.4	1.4	1.6	x	1.8	x
Barium	ug/L	2000	2000	500	103	107	109	101	x	153	x
Boron	ug/L	NE	500	125	--	24.6	22.9	22.3	x	26	x
Cadmium	ug/L	5	0.5	0.125	--	--	<0.08	<0.08	x	<0.08	x
Calcium	mg/L	NE			109	83.6	96.2	88.1	x	142	x
Chloride	mg/L	NE			8.7	7.4	6.8	6.1	x	6.7	x
Chromium	ug/L	100	100	25	--	--	<0.5	0.78	x	<0.5	x
Copper	ug/L	1300	1300	325	--	--	<1.0	<1.0	x	1.1	x
Iron	ug/L	NE			--	--	<50	<50	x	<50	x
Lead	ug/L	15	15	3.75	--	--	<0.1	<0.1	x	<0.1	x
Magnesium	ug/L	NE			33000	31100	30600	29700	x	45600	x
Manganese	ug/L	NE	100	25	65.4	130	169	203	x	266	x
Mercury	ug/L	2	2.0	0.5	--	--	<0.2	<0.2	x	<0.2	x
Nickel	ug/L	NE	100	25	--	0.51	0.77	1.8	x	1.5	x
Nitrogen, Ammonia	mg/L	NE			--	--	<0.1	<0.1	x	<0.1	x
Nitrogen, Nitrate + Nitrite	mg/L	11000	10	2.5	1.7	0.97	1.1	0.74	x	0.97	x
Potassium	ug/L	NE			1300	1190	1180	1250	x	1660	x
Selenium	ug/L		30	7.5	--	--	<0.5	<0.5	x	<0.5	x
Sodium	ug/L	NE			3700	3320	3070	3150	x	4770	x
Sulfate	mg/L	NE			54.6	47.4	42.1	41.6	x	38.5	x
Zinc	ug/L	NE	2000	500	--	--	<5.0	5.7	x	<5.0	x
Total Dissolved Solids	mg/L	NE			492	408	400	360	x	503	x
Total Suspended Solids	mg/L	NE			189	127	77	20	x	131	x
Cation/Anion Balance	%							2.53	x	8.13	x
Anion Summation	meq/L							6.7	x	9.4	x
Cation Summation	meq/L							7.0	x	11.1	x
Specific Conductance, Lab	umhos/cm							636	686	868	793
pH, Lab	SU							7.3	7.0	7.3	7.3

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-104B
Lower Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	May-20
Alkalinity	mg/L			248	240	243	238	236
Arsenic	ug/L	10	2.5	11.1	10.2	10.9	10	8.6
Barium	ug/L	2000	500	154	141	146	142	139
Boron	ug/L	500	125	--	25.3	26.3	29	26.4
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	<0.08
Calcium	mg/L			77.3	74.4	79.1	75.9	74.5
Chloride	mg/L			2.7	3.0	3.0	2.9	2.4
Chromium	ug/L	100	25	--	--	<0.5	<0.5	<0.5
Copper	ug/L	1300	325	--	--	<1.0	<1.0	<1.0
Iron	ug/L			901	819	725	746	768
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	<0.1
Magnesium	ug/L			25900	25300	25800	25200	25100
Manganese	ug/L	100	25	236	226	217	239	228
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	<0.2
Nickel	ug/L	100	25	--	--	<0.5	<0.5	<0.5
Nitrogen, Ammonia	mg/L			0.15	0.3	0.16	0.14	0.12
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<0.1	<0.1	<0.1
Potassium	ug/L			2900	2830	2740	2850	2790
Selenium	ug/L	30	7.5	--		<0.5	<0.5	<0.5
Sodium	ug/L			4300	4010	3930	4030	3940
Sulfate	mg/L			51.6	48.4	56.3	55	47.6
Zinc	ug/L	2000	500	--	--	<5.0	<5.0	<5.0
Total Dissolved Solids	mg/L			411	356	374	345	334
Total Suspended Solids	mg/L			278	114	<10	20	22
Cation/Anion Balance	%						1.14	2.23
Anion Summation	meq/L						6.0	5.8
Cation Summation	meq/L						6.1	6.1
Specific Conductance, Lab	umhos/cm						560	576
pH, Lab	SU						7.5	8.0

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Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-106A
Upper Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	Oct-19	May-20	Oct-20	Oct-20 (DUP)
Alkalinity	mg/L			327	310	278	315	x	316	x	x
Arsenic	ug/L	10	2.5	--	1.0	1.5	1.2	x	1.1	x	x
Barium	ug/L	2000	500	134	128	124	116	x	118	x	x
Boron	ug/L	500	125	--	30.5	28.5	34.4	x	29.6	x	x
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	x	<0.08	x	x
Calcium	mg/L			103	93.5	92.8	86.3	x	88	x	x
Chloride	mg/L			16.3	16.4	17.3	18.8	x	16	x	x
Chromium	ug/L	100	25	--	--	0.55	<0.5	x	<0.5	x	x
Copper	ug/L	1300	325	--	--	<1.0	<1.0	x	<1.0	x	x
Iron	ug/L			--	--	326	<50	x	<50	x	x
Lead	ug/L	15	3.75	--	--	0.15	<0.1	x	<0.1	x	x
Magnesium	ug/L			38800	36400	36400	33500	x	35200	x	x
Manganese	ug/L	100	25	234	65.5	154	58.8	x	41.5	x	x
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	x	<0.2	x	x
Nickel	ug/L	100	25	--	1.5	1.7	1.7	x	1.6	x	x
Nitrogen, Ammonia	mg/L			--	--	<0.1	<0.1	x	<0.1	x	x
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<0.1	<0.1	x	<0.1	x	x
Potassium	ug/L			3000	3370	2860	3320	x	3520	x	x
Selenium	ug/L	30	7.5	--		<0.5	<0.5	x	<0.5	x	x
Sodium	ug/L			8100	24700	12100	46700	x	38000	x	x
Sulfate	mg/L			80.6	84.2	79.4	83.8	x	71.5	x	x
Zinc	ug/L	2000	500	--	--	<5.0	<5.0	x	<5.0	x	x
Total Dissolved Solids	mg/L			511	485	467	484	x	485	x	x
Total Suspended Solids	mg/L			1110	56	33	38	x	144	x	x
Cation/Anion Balance	%						3.5	x	4.53	x	x
Anion Summation	meq/L						8.6	x	8.3	x	x
Cation Summation	meq/L						9.2	x	9.0	x	x
Specific Conductance, Lab	umhos/cm						796	780	763	792	776
pH, Lab	SU						7.3	7.2	8.1	7.6	7.7

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-106B
Lower Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	Oct-19	Oct-19 (DUP)	May-20
Alkalinity	mg/L			261	270	257	285	x	x	293
Arsenic	ug/L	10	2.5	2.8	4.6	4.1	7.6	x	x	9.7
Barium	ug/L	2000	500	129	156	155	204	x	x	199
Boron	ug/L	500	125	--	37.8	37.2	38.6	x	x	36.8
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	x	x	<0.08
Calcium	mg/L			63.2	51.1	60.9	74.8	x	x	88.4
Chloride	mg/L			--	1.3	1.4	7.1	x	x	10.9
Chromium	ug/L	100	25	--	--	<0.5	<0.5	x	x	0.77
Copper	ug/L	1300	325	--	--	<1.0	1.3	x	x	<1.0
Iron	ug/L			194	203	179	388	x	x	911
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	x	x	0.12
Magnesium	ug/L			29000	29100	30600	33200	x	x	37100
Manganese	ug/L	100	25	74.7	80.4	72.4	109	x	x	129
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	x	x	<0.2
Nickel	ug/L	100	25	--	--	<0.5	1.2	x	x	2.5
Nitrogen, Ammonia	mg/L			0.14	0.25	0.28	0.22	x	x	0.21
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<0.1	<0.1	x	x	<0.1
Potassium	ug/L			2600	2660	2700	3240	x	x	3510
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	x	x	<0.5
Sodium	ug/L			5300	5430	5190	6070	x	x	6720
Sulfate	mg/L			21.5	24.6	29.8	36	x	x	30.8
Zinc	ug/L	2000	500	--	--	<5.0	<5.0	x	x	5.7
Total Dissolved Solids	mg/L			328	302	307	351	x	x	361
Total Suspended Solids	mg/L			640	482	171	524	x	x	235
Cation/Anion Balance	%						1.34	x	x	7.23
Anion Summation	meq/L						6.7	x	x	6.8
Cation Summation	meq/L						6.8	x	x	7.9
Specific Conductance, Lab	umhos/cm						614	632	655	614
pH, Lab	SU						7.5	7.2	7.1	7.9

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-201A
Upper Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	Oct-19	May-20	May-20 (DUP)	Oct-20
Alkalinity	mg/L			301	343	338	347	x	312	312	x
Arsenic	ug/L	10	2.5	2.5	2.5	2.7	2.8	x	2.8	3.0	x
Barium	ug/L	2000	500	184	188	201	228	x	195	201	x
Boron	ug/L	500	125	--	27.1	23.7	24.3	x	25	25.4	x
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	x	<0.08	<0.08	x
Calcium	mg/L			80.9	75.6	93.8	97.5	x	86.1	88.9	x
Chloride	mg/L			6.6	12.5	13.5	20.4	x	14.6	14.3	x
Chromium	ug/L	100	25	--	--	<0.50	<0.5	x	<0.5	<0.5	x
Copper	ug/L	1300	325	--	--	<1.0	<1.0	x	<1.0	<1.0	x
Iron	ug/L			50.5	53.9	69.6	82.9	x	114	101	x
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	x	<0.1	<0.1	x
Magnesium	ug/L			34100	37400	39700	43100	x	38000	39700	x
Manganese	ug/L	100	25	265	272	300	374	x	317	325	x
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	x	<0.2	<0.2	x
Nickel	ug/L	100	25	--	2.2	2.5	3.2	x	2.8	2.6	x
Nitrogen, Ammonia	mg/L			--	0.071	<0.1	<0.1	x	<0.1	<0.1	x
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<0.1	<0.1	x	<0.1	<0.1	x
Potassium	ug/L			2200	2070	2130	2290	x	2260	2310	x
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	x	<0.5	<0.5	x
Sodium	ug/L			6000	6280	6660	7390	x	7220	7400	x
Sulfate	mg/L			32	34.6	42.4	48.8	x	31.5	30.5	x
Zinc	ug/L	2000	500	--	--	<5.0	<5.0	x	<5.0	<5.0	x
Total Dissolved Solids	mg/L			389	412	445	437	x	393	391	x
Total Suspended Solids	mg/L			124	785	84	212	x	92	174	x
Cation/Anion Balance	%						1.76	x	3.41	5.5	x
Anion Summation	meq/L						8.5	x	7.3	7.3	x
Cation Summation	meq/L						8.8	x	7.8	8.1	x
Specific Conductance, Lab	umhos/cm						804	710	692	688	806
pH, Lab	SU						7.3	6.9	8	7.9	7.6

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-201B
Lower Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	May-20
Alkalinity	mg/L			269	263	271	274	256
Arsenic	ug/L	10	2.5	3.6	4.1	4.6	4.0	4.8
Barium	ug/L	2000	500	131	120	122	127	127
Boron	ug/L	500	125	--	31	31.6	30.4	30.9
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	<0.08
Calcium	mg/L			67.9	55.4	67.4	65.3	67.8
Chloride	mg/L			--	--	<1.2	<1.2	<1.2
Chromium	ug/L	100	25	--	--	<0.5	0.66	<0.5
Copper	ug/L	1300	325	--	--	<1.0	<1.0	<1.0
Iron	ug/L			547	394	397	299	374
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	<0.1
Magnesium	ug/L			26900	25300	26500	26600	27000
Manganese	ug/L	100	25	109	89.8	91.1	80.9	93.3
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	<0.2
Nickel	ug/L	100	25	--	--	<0.5	0.6	<0.5
Nitrogen, Ammonia	mg/L			--	0.15	0.12	<0.1	0.12
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<0.1	<0.1	<0.1
Potassium	ug/L			2700	2510	2580	2720	2820
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	<0.5
Sodium	ug/L			5400	5930	6150	6780	6970
Sulfate	mg/L			14.2	13.4	14.8	14.9	13
Zinc	ug/L	2000	500	--	--	<5.0	<5.0	<5.0
Total Dissolved Solids	mg/L			333	284	309	302	290
Total Suspended Solids	mg/L			5.7	25	72	336	<10
Cation/Anion Balance	%						0.33	5.4
Anion Summation	meq/L						5.8	5.4
Cation Summation	meq/L						5.8	6.0
Specific Conductance, Lab	umhos/cm						530	525
pH, Lab	SU						7.3	7.9

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Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-202A
Upper Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	Oct-19	Oct-19 (DUP)	May-20	Oct-20
Alkalinity	mg/L			255	358	370	358	x	x	412	x
Arsenic	ug/L	10	2.5	1.0	0.87	0.94	0.79	x	x	0.7	x
Barium	ug/L	2000	500	132	123	148	137	x	x	130	x
Boron	ug/L	500	125	--	21.8	26	24.2	x	x	19.8	x
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	x	x	<0.08	x
Calcium	mg/L			77.8	75	103	93.3	x	x	102	x
Chloride	mg/L			30.6	39.8	50.3	40.6	x	x	29.1	x
Chromium	ug/L	100	25	--	--	<0.5	<0.5	x	x	0.61	x
Copper	ug/L	1300	325	--	1.7	1.9	1.6	x	x	1.3	x
Iron	ug/L			--	70.2	<50	<50	x	x	<50	x
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	x	x	<0.1	x
Magnesium	ug/L			33500	54000	59500	56700	x	x	63000	x
Manganese	ug/L	100	25	10.7	10	4.8	3.1	x	x	65.1	x
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	x	x	<0.2	x
Nickel	ug/L	100	25	--	4.7	4.8	4.2	x	x	7.8	x
Nitrogen, Ammonia	mg/L			--	--	<0.1	<0.1	x	x	<0.1	x
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<0.1	<0.1	x	x	<0.1	x
Potassium	ug/L			1800	766	1230	985	x	x	715	x
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	x	x	<0.5	x
Sodium	ug/L			7700	7920	9330	8810	x	x	9670	x
Sulfate	mg/L			42.6	34.1	49.9	34.7	x	x	14.8	x
Zinc	ug/L	2000	500	--	--	<5.0	<5.0	x	x	<5.0	x
Total Dissolved Solids	mg/L			402	454	562	470	x	x	446	x
Total Suspended Solids	mg/L			46.5	136	125	59	x	x	401	x
Cation/Anion Balance	%						3.79	x	x	6.78	x
Anion Summation	meq/L						9.0	x	x	9.4	x
Cation Summation	meq/L						9.7	x	x	10.7	x
Specific Conductance, Lab	umhos/cm						846	936	921	891	869
pH, Lab	SU						7.3	7.0	7.0	7.6	7.6

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-202B
Lower Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	May-20
Alkalinity	mg/L			255	267	269	242	280
Arsenic	ug/L	10	2.5	--	--	<0.5	<0.5	<0.5
Barium	ug/L	2000	500	120	131	117	118	119
Boron	ug/L	500	125	--	37.8	35.9	36.5	36.4
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	<0.08
Calcium	mg/L			65.9	55.1	67.1	63.1	66.8
Chloride	mg/L			--	--	<1.2	<1.2	<1.2
Chromium	ug/L	100	25	--	--	<0.5	<0.5	<0.5
Copper	ug/L	1300	325	--	--	<1.0	<1.0	<1.0
Iron	ug/L			373	509	309	334	333
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	<0.1
Magnesium	ug/L			22400	12100	21800	21300	23300
Manganese	ug/L	100	25	54.9	54.2	50.2	56.2	50.8
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	<0.2
Nickel	ug/L	100	25	--	0.54	<0.5	<0.5	<0.5
Nitrogen, Ammonia	mg/L			--	0.34	0.26	0.23	0.23
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<0.1	<0.1	<0.1
Potassium	ug/L			3000	2800	2800	2850	3020
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	<0.5
Sodium	ug/L			7000	6370	6590	6850	7680
Sulfate	mg/L			11.6	10.8	11.6	11.2	9.3
Zinc	ug/L	2000	500	--	--	<5.0	<5.0	<5.0
Total Dissolved Solids	mg/L			307	270	297	273	262
Total Suspended Solids	mg/L			2540	648	626	79	557
Cation/Anion Balance	%						2.0	-1.1
Anion Summation	meq/L						5.1	5.8
Cation Summation	meq/L						5.3	5.7
Specific Conductance, Lab	umhos/cm						494	494
pH, Lab	SU						7.7	7.8

X = Not Analyzed -- = Not Detected

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Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-203B
Lower Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	May-20
Alkalinity	mg/L			261	256	Well Obstructed	Well Access Obstructed	255
Arsenic	ug/L	10	2.5	1.1	0.96			1.2
Barium	ug/L	2000	500	117	110			111
Boron	ug/L	500	125	--	33.7			32.8
Cadmium	ug/L	0.5	0.125	--	--			<0.08
Calcium	mg/L			64	51.8			63.2
Chloride	mg/L			--	--			<1.2
Chromium	ug/L	100	25	--	--			1.2
Copper	ug/L	1300	325	--	--			<1.0
Iron	ug/L			367	348			483
Lead	ug/L	15	3.75	--	--			<0.1
Magnesium	ug/L			26100	24400			25800
Manganese	ug/L	100	25	45.9	44.3			43.6
Mercury	ug/L	2.0	0.5	--	--			<0.2
Nickel	ug/L	100	25	--	--			<0.5
Nitrogen, Ammonia	mg/L			0.17	0.26			0.18
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--			<0.1
Potassium	ug/L			3000	2660			2880
Selenium	ug/L	30	7.5	--	--			<0.5
Sodium	ug/L			5500	4850			5710
Sulfate	mg/L			12.1	11.6			9.5
Zinc	ug/L	2000	500	--	--			<5.0
Total Dissolved Solids	mg/L			281	271			268
Total Suspended Solids	mg/L			37.7	652			574
Cation/Anion Balance	%							2.88
Anion Summation	meq/L							5.3
Cation Summation	meq/L							5.6
Specific Conductance, Lab	umhos/cm							508
pH, Lab	SU							7.8

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-301A
Upper Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	Oct-19	May-20	Oct-20
Alkalinity	mg/L			381	363	375	356	x	410	x
Arsenic	ug/L	10	2.5	--	0.51	0.67	0.61	x	0.79	x
Barium	ug/L	2000	500	128	12.1	126	114	x	141	x
Boron	ug/L	500	125	--	22.8	23.5	20.9	x	18.8	x
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	x	<0.08	x
Calcium	mg/L			113	95.8	115	108	x	131	x
Chloride	mg/L			42.8	39.2	46.6	39.4	x	39.6	x
Chromium	ug/L	100	25	--	--	<0.5	<0.5	x	<0.5	x
Copper	ug/L	1300	325	--	--	1.1	1.1	x	<1.0	x
Iron	ug/L			--	--	<50	<50	x	68.9	x
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	x	<0.1	x
Magnesium	ug/L			45000	45000	47100	44800	x	53100	x
Manganese	ug/L	100	25	--	0.62	0.68	<0.5	x	2.4	x
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	x	<0.2	x
Nickel	ug/L	100	25	--	5.1	5.2	5.0	x	3.3	x
Nitrogen, Ammonia	mg/L			--	0.02	<0.1	<0.1	x	<0.1	x
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<0.1	<0.1	x	<0.1	x
Potassium	ug/L			2900	2410	2420	2340	x	2810	x
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	x	<0.5	x
Sodium	ug/L			20100	14900	17200	12700	x	15800	x
Sulfate	mg/L			54.3	52.6	73.6	63.6	x	59.6	x
Zinc	ug/L	2000	500	--	--	<5.0	<5.0	x	<5.0	x
Total Dissolved Solids	mg/L			611	506	569	523	x	574	x
Total Suspended Solids	mg/L			24.6	--	<10	<10	x	26	x
Cation/Anion Balance	%						0.76	x	4.92	x
Anion Summation	meq/L						9.5	x	10.6	x
Cation Summation	meq/L						9.7	x	11.6	x
Specific Conductance, Lab	umhos/cm						884	871	997	1020
pH, Lab	SU						7.4	7.0	7.4	7.4

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-301B
Lower Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	May-20
Alkalinity	mg/L			241	222	223	226	228
Arsenic	ug/L	10	2.5	1.6	2.1	1.9	2.5	2.3
Barium	ug/L	2000	500	149	146	128	154	142
Boron	ug/L	500	125	--	30.7	29.8	30.9	27.5
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	<0.08
Calcium	mg/L			70	56.5	55.2	65.5	64.4
Chloride	mg/L			3.4	3.3	3.7	3.4	2.7
Chromium	ug/L	100	25	--	--	<0.5	<0.5	<0.5
Copper	ug/L	1300	325	--	--	<1.0	<1.0	<1.0
Iron	ug/L			1180	886	961	820	843
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	<0.1
Magnesium	ug/L			30800	30000	29000	30500	30400
Manganese	ug/L	100	25	139	125	112	131	116
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	<0.2
Nickel	ug/L	100	25	--	--	<0.5	<0.5	<0.5
Nitrogen, Ammonia	mg/L			0.14	0.14	0.22	0.13	0.12
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<0.1	<0.1	<0.1
Potassium	ug/L			2600	2440	2440	2610	2670
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	<0.5
Sodium	ug/L			4700	4310	4300	4540	4640
Sulfate	mg/L			46.2	40.4	45.5	48.4	36.1
Zinc	ug/L	2000	500	--	--	<5.0	<5.0	<5.0
Total Dissolved Solids	mg/L			598	290	308	310	290
Total Suspended Solids	mg/L			63.9	33	34	21	55
Cation/Anion Balance	%						3.79	5.45
Anion Summation	meq/L						5.6	5.4
Cation Summation	meq/L						6.1	6.0
Specific Conductance, Lab	umhos/cm						537	540
pH, Lab	SU						7.6	7.7

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WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-302A
Upper Aquifer

		HRL	IL	May-16	May-17	May-18	Apr-19	Apr-19 (DUP)	Oct-19	May-20	Oct-20
Alkalinity	mg/L			266	277	258	191	191	x	222	x
Arsenic	ug/L	10	2.5	--	0.77	0.65	0.89	0.89	x	1.6	x
Barium	ug/L	2000	500	64.1	66.3	61.7	44.8	45.3	x	131	x
Boron	ug/L	500	125	--	14.1	16	11.5	10.9	x	14.7	x
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	<0.08	x	<0.08	x
Calcium	mg/L			84.4	73.3	81.5	60.6	60.3	x	71.6	x
Chloride	mg/L			11.7	14.4	10.9	5.1	4.9	x	9.6	x
Chromium	ug/L	100	25	--	--	0.93	1.1	0.76	x	<0.5	x
Copper	ug/L	1300	325	--	--	<1.0	1.6	1.2	x	<1.0	x
Iron	ug/L			--	--	<50	<50	<50	x	899	x
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	<0.1	x	<0.1	x
Magnesium	ug/L			23700	22500	22400	16000	15900	x	31100	x
Manganese	ug/L	100	25	--	1.7	3.2	<0.5	<0.5	x	206	x
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	<0.2	x	<0.2	x
Nickel	ug/L	100	25	--	--	<0.5	0.64	<0.5	x	<0.5	x
Nitrogen, Ammonia	mg/L			--	--	<0.1	<0.1	<0.1	x	<0.1	x
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	3.5	3.3	<0.5	1.4	1.4	x	<0.1	x
Potassium	ug/L			980	933	988	710	709	x	3520	x
Selenium	ug/L	30	7.5	--	0.82	0.67	<0.5	<0.5	x	<0.5	x
Sodium	ug/L			7000	4960	4860	2870	2950	x	3250	x
Sulfate	mg/L			6.4	8.1	8.8	6.6	6.4	x	38.7	x
Zinc	ug/L	2000	500	--	--	<5.0	14.9	<5.0	x	<5.0	x
Total Dissolved Solids	mg/L			332	321	313	219	239	x	308	x
Total Suspended Solids	mg/L			5.6	13	<10	<10	<10	x	10	x
Cation/Anion Balance	%						4.48	4.31	x	7.21	x
Anion Summation	meq/L						4.1	4.1	x	5.5	x
Cation Summation	meq/L						4.5	4.5	x	6.4	x
Specific Conductance, Lab	umhos/cm						424	424	452	546	471
pH, Lab	SU						7.5	7.3	7.4	7.9	7.8

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Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

W-302B
Lower Aquifer

		HRL	IL	May-16	May-17	May-18	Apr-19	May-20
Alkalinity	mg/L			246	198	230	222	251
Arsenic	ug/L	10	2.5	1.8	1.3	1.5	1.6	1.5
Barium	ug/L	2000	500	137	98.3	128	120	128
Boron	ug/L	500	125	--	17.8	17	16.6	14.1
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	<0.08
Calcium	mg/L			74.9	64.6	80.2	63.5	68.7
Chloride	mg/L			8.9	8.1	9.7	10	9.8
Chromium	ug/L	100	25	--	--	<0.5	<0.5	<0.5
Copper	ug/L	1300	325	--	--	<1.0	<1.0	<1.0
Iron	ug/L			2160	1400	1100	955	1070
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	<0.1
Magnesium	ug/L			23700	21400	26700	28800	30600
Manganese	ug/L	100	25	360	189	254	197	215
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	<0.2
Nickel	ug/L	100	25	--	--	<0.5	<0.5	<0.5
Nitrogen, Ammonia	mg/L			--	0.096	<0.1	<0.1	<0.1
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	--	--	<100	<0.1	1.9
Potassium	ug/L			4200	3530	3090	3440	3420
Selenium	ug/L	30	7.5	--	--	<0.5	<0.5	<0.5
Sodium	ug/L			11900	9230	3270	4420	3300
Sulfate	mg/L			55.6	46.8	48.5	45.5	38.8
Zinc	ug/L	2000	500	--	--	<5.0	<5.0	<5.0
Total Dissolved Solids	mg/L			446	299	338	312	328
Total Suspended Solids	mg/L			189	16	29	<10	<10
Cation/Anion Balance	%						1.41	0.82
Anion Summation	meq/L						5.7	6.1
Cation Summation	meq/L						5.8	6.2
Specific Conductance, Lab	umhos/cm						551	579
pH, Lab	SU						7.4	7.9

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Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

C-1
Upper Aquifer

		HRL	IL	May-15	May-17	Apr-19
Alkalinity	mg/L			Not Sampled	Not Sampled	x
Arsenic	ug/L	212	53			x
Barium	ug/L					x
Boron	ug/L					x
Cadmium	ug/L	4.4	1.1			x
Calcium	mg/L					x
Chloride	mg/L	920	230			x
Chromium	ug/L					x
Copper	ug/L					x
Iron	ug/L					x
Lead	ug/L	12.8	3.2			x
Magnesium	ug/L					x
Manganese	ug/L					x
Mercury	ug/L					x
Nickel	ug/L					x
Nitrogen, Ammonia	mg/L					x
Nitrogen, Nitrate + Nitrite	mg/L					x
Potassium	ug/L					x
Sodium	ug/L					x
Sulfate	mg/L					x
Zinc	ug/L					x
Total Dissolved Solids	mg/L					x
Total Suspended Solids	mg/L					x
Cation/Anion Balance	%					x
Anion Summation	meq/L					x
Cation Summation	meq/L					x
Specific Conductance, Lab	umhos/cm					755
pH, Lab	SU					6.7
Chemical Oxygen Demand	mg/L					x
Mercury, Low-Level	ng/L	27.6	6.9			x

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WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

C-4
Upper Aquifer

Odd Years Aquatic Standard		HRL	IL	May-15	May-17	Apr-19	Apr-19 (DUP)
Alkalinity	mg/L			334	342	327	312
Arsenic	ug/L	212	53	--	--	0.51	0.53
Barium	ug/L			240	x	x	x
Boron	ug/L			--	27.2	25	23.3
Cadmium	ug/L	4.4	1.1	--	0.12	0.17	0.12
Calcium	mg/L			87.2	84.8	71.6	71.9
Chloride	mg/L	920	230	14.6	13.7	8.6	8.5
Chromium	ug/L			--	x	x	x
Copper	ug/L			--	x	x	x
Iron	ug/L			--	x	x	x
Lead	ug/L	12.8	3.2	--	1.1	1.1	0.64
Magnesium	ug/L			38900	37800	32400	33000
Manganese	ug/L			127	132	102	100
Mercury	ug/L			--	--	x	x
Nickel	ug/L			--	x	x	x
Nitrogen, Ammonia	mg/L			0.11	x	x	x
Nitrogen, Nitrate + Nitrite	mg/L			--	x	x	x
Potassium	ug/L			2700	x	x	x
Selenium	ug/L			x	x	x	x
Sodium	ug/L			5600	x	x	x
Sulfate	mg/L			5.2	x	x	x
Zinc	ug/L			--	x	x	x
Total Dissolved Solids	mg/L			390	357	322	320
Total Suspended Solids	mg/L			37.2	--	<10	17
Cation/Anion Balance	%					-3.94	-1.27
Anion Summation	meq/L					6.8	6.5
Cation Summation	meq/L					6.3	6.3
Specific Conductance, Lab	umhos/cm					577	592
pH, Lab	SU					7.5	7.6
Mercury, Low-Level	ng/L	27.6	6.9			<0.5	0.689

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WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

C-8
Upper Aquifer

Odd Years Aquatic Standard		HRL	IL	May-17	Apr-19	Oct-19
Alkalinity	mg/L			294	330	x
Arsenic	ug/L	212	53	7.0	4.2	x
Barium	ug/L			x	x	x
Boron	ug/L			29.1	27.4	x
Cadmium	ug/L	4.4	1.1	0.39	<0.08	x
Calcium	mg/L			80.8	85.2	x
Chloride	mg/L	920	230	9.6	22.1	x
Chromium	ug/L			x	x	x
Copper	ug/L			1.2	x	x
Iron	ug/L			x	x	x
Lead	ug/L	12.8	3.2	22.2	0.11	x
Magnesium	ug/L			35400	38400	x
Manganese	ug/L			178	190	x
Mercury	ug/L			--	x	x
Nickel	ug/L			x	x	x
Nitrogen, Ammonia	mg/L			x	x	x
Nitrogen, Nitrate + Nitrite	mg/L			x	x	x
Potassium	ug/L			x	x	x
Selenium	ug/L			x	x	x
Sodium	ug/L			x	x	x
Sulfate	mg/L			x	x	x
Zinc	ug/L			x	x	x
Total Dissolved Solids	mg/L			346	385	x
Total Suspended Solids	mg/L			21	<10	x
Cation/Anion Balance	%				1.47	x
Anion Summation	meq/L				7.2	x
Cation Summation	meq/L				7.4	x
Specific Conductance, Lab	umhos/cm				687	631
pH, Lab	SU				7.7	7.6
Chemical Oxygen Demand	mg/L				x	x
Mercury, Low-Level	ng/L	27.6	6.9		<0.5	x

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

C-9
Upper Aquifer

Odd Years Aquatic Standard		HRL	IL	May-15	May-17	May-19
Alkalinity	mg/L			592	529	504
Arsenic	ug/L	212	53	--	1.9	4.1
Barium	ug/L			271	x	x
Boron	ug/L			172	151	24.9
Cadmium	ug/L	4.4	1.1	--	0.11	<0.08
Calcium	mg/L			187	155	144
Chloride	mg/L	920	230	112	102	72.6
Chromium	ug/L			--	x	x
Copper	ug/L			--	2.2	x
Iron	ug/L			--	x	x
Lead	ug/L	12.8	3.2	--	0.22	0.12
Magnesium	ug/L			69000	59600	37400
Manganese	ug/L			1100	1240	186
Mercury	ug/L			--	0.00088	x
Nickel	ug/L			39.4	x	x
Nitrogen, Ammonia	mg/L			--	x	x
Nitrogen, Nitrate + Nitrite	mg/L			--	x	x
Potassium	ug/L			2800	x	x
Selenium	ug/L			x	x	x
Sodium	ug/L			35300	x	x
Sulfate	mg/L			42.1	x	x
Zinc	ug/L			--	x	x
Total Dissolved Solids	mg/L			884	723	657
Total Suspended Solids	mg/L			5.2	21	<10
Cation/Anion Balance	%					-8.21
Anion Summation	meq/L					12.1
Cation Summation	meq/L					10.3
Specific Conductance, Lab	umhos/cm					1150
pH, Lab	SU					6.8
Chemical Oxygen Demand	mg/L					x
Mercury, Low-Level	ng/L	27.6	6.9			0.911

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

C-10
Upper Aquifer

Odd Years Aquatic Standard		HRL	IL	May-15	May-17	Apr-19
Alkalinity	mg/L			--	--	x
Arsenic	ug/L	212	53	--	--	x
Barium	ug/L			--	--	x
Boron	ug/L			--	--	x
Cadmium	ug/L	4.4	1.1	--	--	x
Calcium	mg/L			--	--	x
Chloride	mg/L	920	230	--	--	x
Chromium	ug/L			--	--	x
Copper	ug/L			--	--	x
Iron	ug/L			--	--	x
Lead	ug/L	12.8	3.2	--	--	x
Magnesium	ug/L			--	--	x
Manganese	ug/L			--	--	x
Mercury	ug/L			--	--	x
Nickel	ug/L			--	--	x
Nitrogen, Ammonia	mg/L			--	--	x
Nitrogen, Nitrate + Nitrite	mg/L			--	--	x
Potassium	ug/L			--	--	x
Selenium	ug/L			--	--	x
Sodium	ug/L			--	--	x
Sulfate	mg/L			--	--	x
Zinc	ug/L			--	--	x
Total Dissolved Solids	mg/L			--	--	x
Total Suspended Solids	mg/L			--	--	x
Cation/Anion Balance	%			--	--	x
Anion Summation	meq/L			--	--	x
Cation Summation	meq/L			--	--	x
Specific Conductance, Lab	umhos/cm			--	--	1260
pH, Lab	SU			--	--	7.2
Chemical Oxygen Demand	mg/L			--	--	x
Mercury, Low-Level	ng/L	27.6	6.9	--	--	x

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

C-11
Upper Aquifer

		HRL	IL	May-16	May-17	May-18	May-19	May-19 (DUP)	May-20
Alkalinity	mg/L			344	336	336	341	346	338
Arsenic	ug/L	10	2.5	--	--	<0.5	<0.5	<0.5	<0.5
Barium	ug/L	2000	500	138	130	127	123	126	112
Boron	ug/L	500	125	--	30.3	32	30.8	31.1	25.1
Cadmium	ug/L	0.5	0.125	--	--	<0.08	<0.08	<0.08	<0.08
Calcium	mg/L			120	111	112	111	106	104
Chloride	mg/L			23.8	13.6	22	15.2	16.5	4.5
Chromium	ug/L	100	25	--	--	0.53	0.75	<0.5	3.2
Copper	ug/L	1300	325	--	1.3	1.6	1.2	1.4	<1.0
Iron	ug/L			--	--	<50	<50	<50	<50
Lead	ug/L	15	3.75	--	--	<0.1	<0.1	0.46	<0.1
Magnesium	ug/L			49400	43200	46000	43500	43800	36100
Manganese	ug/L	100	25	--	--	<0.5	<0.5	<0.5	<0.5
Mercury	ug/L	2.0	0.5	--	--	<0.2	<0.2	<0.2	<0.2
Nickel	ug/L	100	25	--	--	<0.5	<0.5	<0.5	1.3
Nitrogen, Ammonia	mg/L			--	--	<0.1	<0.1	<0.1	<0.1
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	18	15.8	19.3	18.9	18.9	8.6
Potassium	ug/L			2800	2810	2520	2520	2540	2280
Selenium	ug/L	30	7.5	--	1.1	1.2	1.3	1.4	1.0
Sodium	ug/L			11300	8850	9270	8240	8410	5060
Sulfate	mg/L			41.9	27.6	40.5	32.3	33.9	13.7
Zinc	ug/L	2000	500	--	--	<5.0	<5.0	<5.0	<5.0
Total Dissolved Solids	mg/L			596	489	483	510	536	411
Total Suspended Solids	mg/L			17.4	--	<10	<10	<10	<10
Cation/Anion Balance	%						9.17	7.3	8.11
Anion Summation	meq/L						7.9	8.1	7.2
Cation Summation	meq/L						9.5	9.4	8.4
Specific Conductance, Lab	umhos/cm						863	867	725
pH, Lab	SU						7.3	7.3	7.5

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

TW-1
Upper Aquifer

Odd Years Aquatic Standard		May-15	May-17	Apr-19
Alkalinity	mg/L	--	--	x
Arsenic	ug/L	--	--	x
Barium	ug/L	--	--	x
Boron	ug/L	--	--	x
Cadmium	ug/L	--	--	x
Calcium	mg/L	--	--	x
Chloride	mg/L	--	--	x
Chromium	ug/L	--	--	x
Copper	ug/L	--	--	x
Iron	ug/L	--	--	x
Lead	ug/L	--	--	x
Magnesium	ug/L	--	--	x
Manganese	ug/L	--	--	x
Mercury	ug/L	--	--	x
Nickel	ug/L	--	--	x
Nitrogen, Ammonia	mg/L	--	--	x
Nitrogen, Nitrate + Nitrite	mg/L	--	--	x
Potassium	ug/L	--	--	x
Selenium	ug/L	--	--	x
Sodium	ug/L	--	--	x
Sulfate	mg/L	--	--	x
Zinc	ug/L	--	--	x
Total Dissolved Solids	mg/L	--	--	x
Total Suspended Solids	mg/L	--	--	x
Cation/Anion Balance	%	--	--	x
Anion Summation	meq/L	--	--	x
Cation Summation	meq/L	--	--	x
Specific Conductance, Lab	umhos/cm	--	--	1370
pH, Lab	SU	--	--	6.7
Mercury, Low-Level	ng/L	--	--	x

X = Not Analyzed -- = Not Detected

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

TW-2
Upper Aquifer

Odd Years Aquatic Standard		May-15	May-17	Apr-19
Alkalinity	mg/L	--	--	x
Arsenic	ug/L	--	--	x
Barium	ug/L	--	--	x
Boron	ug/L	--	--	x
Cadmium	ug/L	--	--	x
Calcium	mg/L	--	--	x
Chloride	mg/L	--	--	x
Chromium	ug/L	--	--	x
Copper	ug/L	--	--	x
Iron	ug/L	--	--	x
Lead	ug/L	--	--	x
Magnesium	ug/L	--	--	x
Manganese	ug/L	--	--	x
Mercury	ug/L	--	--	x
Nickel	ug/L	--	--	x
Nitrogen, Ammonia	mg/L	--	--	x
Nitrogen, Nitrate + Nitrite	mg/L	--	--	x
Potassium	ug/L	--	--	x
Selenium	ug/L	--	--	x
Sodium	ug/L	--	--	x
Sulfate	mg/L	--	--	x
Zinc	ug/L	--	--	x
Total Dissolved Solids	mg/L	--	--	x
Total Suspended Solids	mg/L	--	--	x
Cation/Anion Balance	%	--	--	x
Anion Summation	meq/L	--	--	x
Cation Summation	meq/L	--	--	x
Specific Conductance, Lab	umhos/cm	--	--	921
pH, Lab	SU	--	--	6.8
Mercury, Low-Level	ng/L	--	--	x

X = Not Analyzed -- = Not Detected

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

TW-3
Upper Aquifer

Odd Years Aquatic Standard		May-15	May-17	Apr-19
Alkalinity	mg/L	--	--	x
Arsenic	ug/L	--	--	x
Barium	ug/L	--	--	x
Boron	ug/L	--	--	x
Cadmium	ug/L	--	--	x
Calcium	mg/L	--	--	x
Chloride	mg/L	--	--	x
Chromium	ug/L	--	--	x
Copper	ug/L	--	--	x
Iron	ug/L	--	--	x
Lead	ug/L	--	--	x
Magnesium	ug/L	--	--	x
Manganese	ug/L	--	--	x
Mercury	ug/L	--	--	x
Nickel	ug/L	--	--	x
Nitrogen, Ammonia	mg/L	--	--	x
Nitrogen, Nitrate + Nitrite	mg/L	--	--	x
Potassium	ug/L	--	--	x
Selenium	ug/L	--	--	x
Sodium	ug/L	--	--	x
Sulfate	mg/L	--	--	x
Zinc	ug/L	--	--	x
Total Dissolved Solids	mg/L	--	--	x
Total Suspended Solids	mg/L	--	--	x
Cation/Anion Balance	%	--	--	x
Anion Summation	meq/L	--	--	x
Cation Summation	meq/L	--	--	x
Specific Conductance, Lab	umhos/cm	--	--	3460
pH, Lab	SU	--	--	6.7
Mercury, Low-Level	ng/L	--	--	x

X = Not Analyzed -- = Not Detected

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

Lysimeter III-P1
Area III

		HRL	IL	May-16	May-17	May-18	Apr-19	Oct-19	May-20	Oct-20	Oct-20 (DUP)
				Dry							
Alkalinity	mg/L				303	452	424	x	351	x	x
Arsenic	ug/L	10	2.5		30.8	24.9	105	x	57.7	x	x
Barium	ug/L				390	x	x	x	x	x	x
BOD	mg/L					x	x	x	x	x	x
Boron	ug/L	500	125		29.7	40.4	31	x	35.2	x	x
Cadmium	ug/L	0.5	0.125		--	<0.08	<0.08	x	<0.08	x	x
Calcium	mg/L				60.5	112	127	x	111	x	x
Chloride	mg/L				6.9	9.2	9.9	x	8.7	x	x
Chromium	ug/L	100	25		--	<0.5	x	x	x	x	x
Chromium, Hexavalent	mg/L	100	25				0.014	x	<0.01	x	x
COD	mg/L				--	<50	<50	x	<50	x	x
Copper	ug/L	1300	325		--	<1.0	<1.0	x	<1.0	x	x
Iron	ug/L				1880	12800	6080	x	5680	x	x
Lead	ug/L	15	3.75		--	<0.1	<0.1	x	<0.1	x	x
Magnesium	ug/L				--	51200	59200	x	46900	x	x
Manganese	ug/L	100	25		624	1190	1600	x	1050	x	x
Mercury	ug/L	2.0	0.5		--	<0.2	<0.2	x	<0.2	x	x
Nickel	ug/L				1.1	x	x	x	x	x	x
Nitrogen, Ammonia	mg/L				0.046	<0.1	<0.1	x	<0.1	x	x
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5		--	<0.1	<0.1	x	<0.1	x	x
Potassium	ug/L				2.57	4.15	2.76	x	3010	x	x
Selenium	ug/L	30	7.5		--	--	x	x	x	x	x
Sodium	ug/L				4590	7120	7400	x	8820	x	x
Sulfate	mg/L				--	36.7	125	x	75	x	x
Zinc	ug/L	2000	500		--	<5.0	<5.0	x	<5.0	x	x
Total Dissolved Solids	mg/L				308	490	621	x	509	x	x
Total Suspended Solids	mg/L				18	26	15	x	18	x	x
Cation/Anion Balance	%						1.64	x	5.97	x	x
Anion Summation	meq/L						11.4	x	8.8	x	x
Cation Summation	meq/L						11.7	x	10	x	x
Specific Conductance, Lab	umhos/cm						972	978	824	763	766
pH, Lab	SU						7.1	7.4	7.5	7.8	7.9

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

Lysimeter III-P2

Area III

		HRL	IL	May-16	May-17	May-18	Apr-19	Oct-19	May-20	Oct-20
Alkalinity	mg/L			Dry	756	806	773	x	697	x
Arsenic	ug/L	10	2.5		123	114	112	x	107	x
Barium	ug/L				13.8	x	x	x	x	x
BOD	mg/L				x	x	x	x	x	x
Boron	ug/L	500	125		222	231	226	x	214	x
Cadmium	ug/L	0.5	0.125		x	<0.08	<0.08	x	<0.08	x
Calcium	mg/L				27.9	40.9	41	x	48.6	x
Chloride	mg/L				42.5	41.6	35.6	x	25.7	x
Chromium	ug/L	100	25		9.9	8.9	x	x	x	x
Chromium, Hexavalent	mg/L	100			x	x	<0.01	x	<0.01	x
COD	mg/L				96.6	<50	<50	x	<50	x
Copper	ug/L	1300	325		2.7	5.9	10.4	x	11.4	x
Iron	ug/L				76.8	73	<50	x	69.2	x
Lead	ug/L	15	3.75		x	<0.1	<0.1	x	<0.1	x
Magnesium	ug/L				31000	32300	29500	x	29400	x
Manganese	ug/L	100	25		3.1	18.1	5.9	x	54.4	x
Mercury	ug/L	2.0	0.5		x	<0.2	<0.2	x	<0.2	x
Nickel	ug/L				9.1	x	x	x	x	x
Nitrogen, Ammonia	mg/L				x	<0.1	<0.1	x	<0.1	x
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5		0.34	0.37	0.34	x	0.52	x
Potassium	ug/L				246000	273000	282000	x	246000	x
Selenium	ug/L	30	7.5		x	x	x	x	x	x
Sodium	ug/L				133000	134000	152000	x	128000	x
Sulfate	mg/L				x	6.2	8.8	x	8.0	x
Zinc	ug/L	2000	500		x	<5.0	6.3	x	8.1	x
Total Dissolved Solids	mg/L				930	1240	966	x	865	x
Total Suspended Solids	mg/L				51	<10	<10	x	81	x
Cation/Anion Balance	%				x	x	4.83	x	6.08	x
Anion Summation	meq/L				x	x	16.6	x	14.8	x
Cation Summation	meq/L				x	x	18.3	x	16.7	x
Specific Conductance, Lab	umhos/cm				x	x	1560	1640	1460	1600
pH, Lab	SU					x	7.4	7.5	6.9	6.9

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

Lysimeter III-P3

Area III

Inorganic Parameters		HRL	IL	May-16	May-17	May-18	Apr-19	May-20
Alkalinity	mg/L			Dry	Dry	Dry	Dry	Dry
Arsenic	ug/L	10	2.5					
Barium	ug/L							
BOD	mg/L							
Boron	ug/L	500	125					
Cadmium	ug/L	0.5	0.125					
Calcium	mg/L							
Chloride	mg/L							
Chromium	ug/L	100	25					
Chromium, Hexavalent	mg/L	100	25					
COD	mg/L							
Copper	ug/L	1300	325					
Iron	ug/L							
Lead	ug/L	15	3.75					
Magnesium	ug/L							
Manganese	ug/L	100	25					
Mercury	ug/L	2.0	0.5					
Nickel	ug/L							
Nitrogen, Ammonia	mg/L							
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5					
Potassium	ug/L							
Selenium	ug/L	30	7.5					
Sodium	ug/L							
Sulfate	mg/L							
Zinc	ug/L	2000	500					
Total Dissolved Solids	mg/L							
Total Suspended Solids	mg/L							
Cation/Anion Balance	%							
Anion Summation	meq/L							
Cation Summation	meq/L							
Specific Conductance, Lab	umhos/cm							
pH, Lab	SU							

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

Lysimeter IV-P1&2

Area IV

Inorganic Parameters		HRL	IL	May-16	May-17	May-18	Apr-19	May-20
Alkalinity	mg/L			Obstructed	Dry	Dry	Dry	Dry
Arsenic	ug/L	10	2.5					
Barium	ug/L							
BOD	mg/L							
Boron	ug/L	500	125					
Cadmium	ug/L	0.5	0.125					
Calcium	mg/L							
Chloride	mg/L							
Chromium	ug/L	100	25					
Chromium, Hexavalent	mg/L	100	25					
COD	mg/L							
Copper	ug/L	1300	325					
Iron	ug/L							
Lead	ug/L	15	3.75					
Magnesium	ug/L							
Manganese	ug/L	100	25					
Mercury	ug/L	2.0	0.5					
Nickel	ug/L							
Nitrogen, Ammonia	mg/L							
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5					
Potassium	ug/L							
Selenium	ug/L	30	7.5					
Sodium	ug/L							
Sulfate	mg/L							
Zinc	ug/L	2000	500					
Total Dissolved Solids	mg/L							
Total Suspended Solids	mg/L							
Cation/Anion Balance	%							
Anion Summation	meq/L							
Cation Summation	meq/L							
Specific Conductance, Lab	umhos/cm							
pH, Lab	SU							

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

Lysimeter IV-P3

Area IV

Inorganic Parameters		HRL	IL	May-16	May-17	May-18	Apr-19	May-20
Alkalinity	mg/L			Dry	Dry	Obstructed	Dry	Dry
Arsenic	ug/L	10	2.5					
Barium	ug/L							
BOD	mg/L							
Boron	ug/L	500	125					
Cadmium	ug/L	0.5	0.125					
Calcium	mg/L							
Chloride	mg/L							
Chromium	ug/L	100	25					
Chromium, Hexavalent	mg/L	100	25					
COD	mg/L							
Copper	ug/L	1300	325					
Iron	ug/L							
Lead	ug/L	15	3.75					
Magnesium	ug/L							
Manganese	ug/L	100	25					
Mercury	ug/L	2.0	0.5					
Nickel	ug/L							
Nitrogen, Ammonia	mg/L							
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5					
Potassium	ug/L							
Selenium	ug/L	30	7.5					
Sodium	ug/L							
Sulfate	mg/L							
Zinc	ug/L	2000	500					
Total Dissolved Solids	mg/L							
Total Suspended Solids	mg/L							
Cation/Anion Balance	%							
Anion Summation	meq/L							
Cation Summation	meq/L							
Specific Conductance, Lab	umhos/cm							
pH, Lab	SU							

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

Surface Water: S-1
(West of W-16)

		HRL	IL	May-16	May-17	May-18	Apr-19	May-20
Alkalinity	mg/L			Dry	Dry	452	468	476
Arsenic	ug/L	212	53			974	1.3	22.1
Barium	ug/L					--	x	x
Boron	ug/L	500	125			1330	50.9	81.5
Cadmium	ug/L	4.4	1.1			25.8	<0.08	<0.4
Calcium	mg/L					2490	142	121
Chloride	mg/L	920	230			25.7	35	24.1
Chromium	ug/L					--	x	x
Copper	ug/L					831	x	x
Iron	ug/L					--	x	x
Lead	ug/L	12.8	3.2			489	<0.1	3.6
Magnesium	ug/L					653000	51600	57500
Manganese	ug/L	100	25			62300	1390	1010
Mercury	ug/L					1.1	x	x
Nickel - Total	ug/L					--	x	x
Ammonia-Nitrogen as N	mg/L					--	x	x
Nitrogen, NO2 plus NO4	mg/L					--	x	x
Potassium - Total	ug/L					--	x	x
Selenium - Total	ug/L					--	x	x
Sodium - Total	ug/L					--	x	x
Sulfate	mg/L					--	x	23.8
Zinc - Total	ug/L					--	x	x
Total Dissolved Solids	mg/L					640	556	558
Total Suspended Solids	mg/L					11600	140	386
Cation/Anion Balance	%					--	5.11	0.87
Anion Summation	meq/L					--	10.3	10.7
Cation Summation	meq/L					--	11.5	10.9
Specific Conductance, Lab	umhos/cm					--	951	974
pH, Lab	SU					--	7.4	7.4
Chemical Oxygen Demand	mg/L					--	x	x
Mercury, Low-Level	ng/L	27.6	6.9			--	9.33	3.68

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

Surface Water: S-2
(West of W-10)

		HRL	IL	May-16	May-17	May-18	Apr-19	May-20
Alkalinity	mg/L			395	379	403	399	883
Arsenic	ug/L	212	53	9.6	10.7	81.7	68.6	3700
Boron	ug/L	500	125	--	46.6	80.7	34.6	<50
Cadmium	ug/L	4.4	1.1	--	--	<0.08	<0.08	<0.4
Calcium	mg/L			82.8	101	152	136	259
Chloride	mg/L	920	230	65.7	32.2	48.7	42	85.6
Copper	ug/L		9.8	--	--	2.1	x	x
Lead	ug/L	12.8	3.2	--	--	0.72	0.52	0.79
Magnesium	ug/L			76500	46100	61300	57800	75500
Manganese	ug/L	100	25	540	142	902	1190	3320
Mercury	ug/L		0.0069	0.0197	0.00278	0.019	x	x
Sulfate	mg/L			--	--	--	x	<1.2
Total Dissolved Solids	mg/L			670	448	522	486	695
Total Suspended Solids	mg/L			129	34	312	301	2530
Cation/Anion Balance	%			--	--	--	11.79	-1.83
Anion Summation	meq/L			--	--	--	9.2	20.1
Cation Summation	meq/L			--	--	--	11.6	19.4
Specific Conductance, Lab	umhos/cm			--	--	--	878	1170
pH, Lab	SU			--	--	--	7.4	7.2
Chemical Oxygen Demand	mg/L			--	--	--	x	x
Mercury, Low-Level	ng/L	27.6	6.9	--	--	--	16.9	37.4

X = Not Analyzed -- = Not Detected

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Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

Surface Water: S-3
(SW Corner)

		HRL	IL	May-16	May-17	May-18	May-19	Oct-19	May-20	Oct-20
Alkalinity	mg/L			321	Dry	357	402	x	734	x
Arsenic	ug/L	212	53	5.8		3.8	3.6	x	3.6	x
Barium				--		--	x	x	x	x
Boron		500	125	--		36.5	25.4	x	27.5	x
Cadmium	ug/L	4.4	1.1	--		<0.08	<0.08	x	<0.08	x
Calcium	mg/L			89		914	79.1	x	96.8	x
Chloride	mg/L	920	230	30.1		24.1	7.9	x	<1.2	x
Chromium				--		--	x	x	x	x
Copper	ug/L		9.8	--		1.2	x	x	x	x
Iron				--		--	x	x	x	x
Lead	ug/L	12.8	3.2	--		0.1	0.2	x	<0.1	x
Magnesium	ug/L			51200		63200	100000	x	145000	x
Manganese	ug/L	100	25	27.2		19.8	141	x	46.3	x
Mercury	ug/L		0.0069	0.00432		0.004	x	x	x	x
Nickel				--		--	x	x	x	x
Ammonia-Nitrogen as N				--		--	x	x	x	x
Nitrogen, NO2 plus NO4				--		--	x	x	x	x
Potassium				--		--	x	x	x	x
Selenium				--		--	x	x	x	x
Sodium				--		--	x	x	x	x
Sulfate				--		--	x	x	189	x
Zinc				--		--	x	x	x	x
Total Dissolved Solids	mg/L			527		510	602	x	985	x
Total Suspended Solids	mg/L			14.6		11	27	x	33	x
Cation/Anion Balance	%			--		--	19.24	x	-5.2	x
Anion Summation	meq/L			--		--	8.3	x	18.6	x
Cation Summation	meq/L			--		--	12.2	x	16.8	x
Specific Conductance, Lab	umhos/cm			--		--	876	1380	1510	887
pH, Lab	SU			--		--	7.4	7.4	7.8	7.4
Chemical Oxygen Demand	mg/L			--		--	x	x	x	x
Mercury, Low-Level	ng/L	27.6	6.9	--		--	7.18	x	13.9	x

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

R. Ekre
Residence

		HRL	IL	May-16	May-17	May-18	May-19	May-20
Alkalinity	mg/L			No Access	No Access	No Access	No Access	No Access
Arsenic	ug/L	10	2.5					
Barium	ug/L	2000	500					
Boron	ug/L	500	125					
Cadmium	ug/L	0.5	0.125					
Calcium	mg/L							
Chloride	mg/L							
Chromium	ug/L	100	25					
Copper	ug/L	1300	325					
Iron	ug/L							
Lead	ug/L	15	3.75					
Magnesium	ug/L							
Manganese	ug/L	100	25					
Mercury	ug/L	2.0	0.5					
Nickel	ug/L	100	25					
Nitrogen, Ammonia	mg/L							
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5					
Potassium	ug/L							
Selenium	ug/L	30	7.5					
Sodium	ug/L							
Sulfate	mg/L							
Zinc	ug/L	2000	500					
Total Dissolved Solids	mg/L							
Total Suspended Solids	mg/L							
Cation/Anion Balance	%							
Anion Summation	meq/L							
Cation Summation	meq/L							
Specific Conductance, Lab	umhos/cm							
pH, Lab	SU							

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

J. Ekre
Residence

		HRL	IL	May-18	May-19	May-20
Alkalinity	mg/L			228	No Access	232
Arsenic	ug/L	10	2.5	1.3		1.8
Barium	ug/L	2000	500	0.69		0.79
Boron	ug/L	500	125	25.4		23.7
Cadmium	ug/L	0.5	0.125	<0.08		<0.08
Calcium	mg/L			0.34		0.298
Chloride	mg/L			2.1		1.5
Chromium	ug/L	100	25	<0.5		<0.5
Copper	ug/L	1300	325	8.0		1.6
Iron	ug/L			<50		<50
Lead	ug/L	15	3.75	<0.1		<0.1
Magnesium	ug/L			147		118
Manganese	ug/L	100	25	0.84		0.99
Mercury	ug/L	2.0	0.5	<0.2		<0.2
Nickel	ug/L	100	25	<0.5		<0.5
Nitrogen, Ammonia	mg/L			<0.1		<0.1
Nitrogen, Nitrate + Nitrite	mg/L	10	2.5	<0.1		<0.1
Potassium	ug/L			256		180
Selenium	ug/L	30	7.5	<0.5		<0.5
Sodium	ug/L			126000		130000
Sulfate	mg/L			54.7		47.2
Zinc	ug/L	2000	500	<5.0		<5.0
Total Dissolved Solids	mg/L			350		365
Total Suspended Solids	mg/L			<10		<10
Cation/Anion Balance	%			-1.83		0.35
Anion Summation	meq/L			5.5		5.7
Cation Summation	meq/L			5.5		5.7
Specific Conductance, Lab	umhos/cm			582		581
pH, Lab	SU			7.8		8.0

X = Not Analyzed -- = Not Detected

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Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

Deutscher
Residence

		HRL	IL	May-16	May-17	May-18	May-19	May-20
Alkalinity	mg/L			257	257	267	261	273
Arsenic	ug/L	10	2.5	2.7	2.5	0.88	1.4	1.2
Barium	ug/L	2000	500	82.4	88.7	75.6	72.2	109
Boron	ug/L	500	125	<100	21.7	20.7	20.7	29.3
Cadmium	ug/L	0.5	0.125	<0.4	<0.08	<0.08	<0.08	<0.08
Calcium	mg/L			102	86.2	92.3	73.7	132
Chloride	mg/L			34.6	20.6	25.9	17.6	29.4
Chromium	ug/L	100	25	<10	<0.5	<0.5	<0.5	0.78
Copper	ug/L	1300	325	<10	<1.0	5.1	2.1	5.1
Iron	ug/L			1530	<50	<50	<50	<50
Lead	ug/L	15	3.75	<1.0	<0.1	<0.1	<0.1	<0.1
Magnesium	ug/L			58600	45300	53300	40900	77000
Manganese	ug/L	100	25	291	256	267	231	430
Mercury	ug/L	2.0	0.5	<0.2	<0.2	<0.2	<0.2	<0.2
Nickel	ug/L	100	25	<10	<0.5	2.4	<0.5	1.1
Nitrogen, Ammonia	mg/L			<0.1	0.13	<0.1	<0.1	<0.1
Nitrogen, Nitrate + Nitrite	ug/L	10	2.5	<0.1	<0.02	<0.1	<0.1	<0.1
Potassium	ug/L			3400	2910	3100	2670	3890
Selenium	ug/L	30	7.5	<2.0	<0.5	<0.5	<0.5	<0.5
Sodium	ug/L			7200	5120	6660	4900	10400
Sulfate	mg/L			194	111	159	107	163
Zinc	ug/L	2000	500	94.3	32.3	348	87.5	259
Total Dissolved Solids	mg/L			660	474	570	455	676
Total Suspended Solids	mg/L			3.0	<10	<10	<10	10
Cation/Anion Balance	%			0.94	x	-0.14	-3.8	16.49
Anion Summation	meq/L			x	x	9.4	7.9	9.7
Cation Summation	meq/L			x	x	9.4	7.4	13.5
Specific Conductance, Lab	umhos/cm			x	718	806	714	936
pH, Lab	SU			x	7.1	7.4	7.5	7.5

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

Weaver
Residence

		HRL	IL	May-16	May-17	May-18	May-19	May-20
Alkalinity	mg/L			266	No Access	No Access	No Access	No Access
Arsenic	ug/L	10	2.5	1.0				
Barium	ug/L	2000	500	136				
Boron	ug/L	500	125	<100				
Cadmium	ug/L	0.5	0.125	<0.4				
Calcium	mg/L			73.4				
Chloride	mg/L			4.6				
Chromium	ug/L	100	25	<10				
Copper	ug/L	1300	325	<10				
Iron	ug/L			1120				
Lead	ug/L	15	3.75	<1.0				
Magnesium	ug/L			35600				
Manganese	ug/L	100	25	172				
Mercury	ug/L	2.0	0.5	<0.2				
Nickel	ug/L	100	25	<10				
Nitrogen, Ammonia	mg/L			<0.1				
Nitrogen, Nitrate + Nitrite	ug/L	10	2.5	<0.1				
Potassium	ug/L			2700				
Selenium	ug/L	30	7.5	<2.0				
Sodium	ug/L			3800				
Sulfate	mg/L			68.1				
Zinc	ug/L	2000	500	<20				
Total Dissolved Solids	mg/L			417				
Total Suspended Solids	mg/L			2.2				
Cation/Anion Balance	%			<0.1				
Anion Summation	meq/L			x				
Cation Summation	meq/L			x				
Specific Conductance, Lab	umhos/cm			x				
pH, Lab	SU			x				

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Table 10
Clay County Sanitary Landfill
Hawley, Minnesota

Inorganics & Metals Results

Benesch
Residence

		HRL	IL	May-18	May-19	May-20	May-20 (DUP)
Alkalinity	mg/L			255	No Access	262	263
Arsenic	ug/L	10	2.5	1.7		1.2	1.3
Barium	ug/L	2000	500	342		328	340
Boron	ug/L	500	125	123		116	123
Cadmium	ug/L	0.5	0.125	<0.08		<0.08	<0.08
Calcium	mg/L			56.3		51.5	54.4
Chloride	mg/L			<1.2		<1.2	<1.2
Chromium	ug/L	100	25	<0.5		<0.5	<0.5
Copper	ug/L	1300	325	<1.0		<1.0	<1.0
Iron	ug/L			<50		<50	<50
Lead	ug/L	15	3.75	<0.1		<0.1	<0.1
Magnesium	ug/L			21400		20900	21400
Manganese	ug/L	100	25	41.1		39.5	40.2
Mercury	ug/L	2.0	0.5	<0.2		<0.2	<0.2
Nickel	ug/L	100	25	<0.5		<0.5	<0.5
Nitrogen, Ammonia	mg/L			1.0		0.76	0.76
Nitrogen, Nitrate + Nitrite	ug/L	10	2.5	<0.1		<0.1	<0.1
Potassium	ug/L			4030		3760	3890
Selenium	ug/L	30	7.5	<0.5		<0.5	<0.5
Sodium	ug/L			12800		12800	13100
Sulfate	mg/L			<1.2		<1.2	<1.2
Zinc	ug/L	2000	500	7.4		32.8	17
Total Dissolved Solids	mg/L			280		285	284
Total Suspended Solids	mg/L			<10		<10	<10
Cation/Anion Balance	%			2.97		-2.51	-0.65
Anion Summation	meq/L			5.1		5.2	5.3
Cation Summation	meq/L			5.4		5	5.2
Specific Conductance, Lab	umhos/cm			504		501	494
pH, Lab	SU			7.7		8.2	7.9

X = Not Analyzed -- = Not Detected

Yellow-shaded entries represent IL exceedances for water quality performance standards.
Blue-shaded entries represent HRL exceedances for water quality performance standards.

WENCK now part of Stantec

Figures

1. Site Location Map
2. 2020 Aerial Photograph
3. Old Landfill Area Boundaries

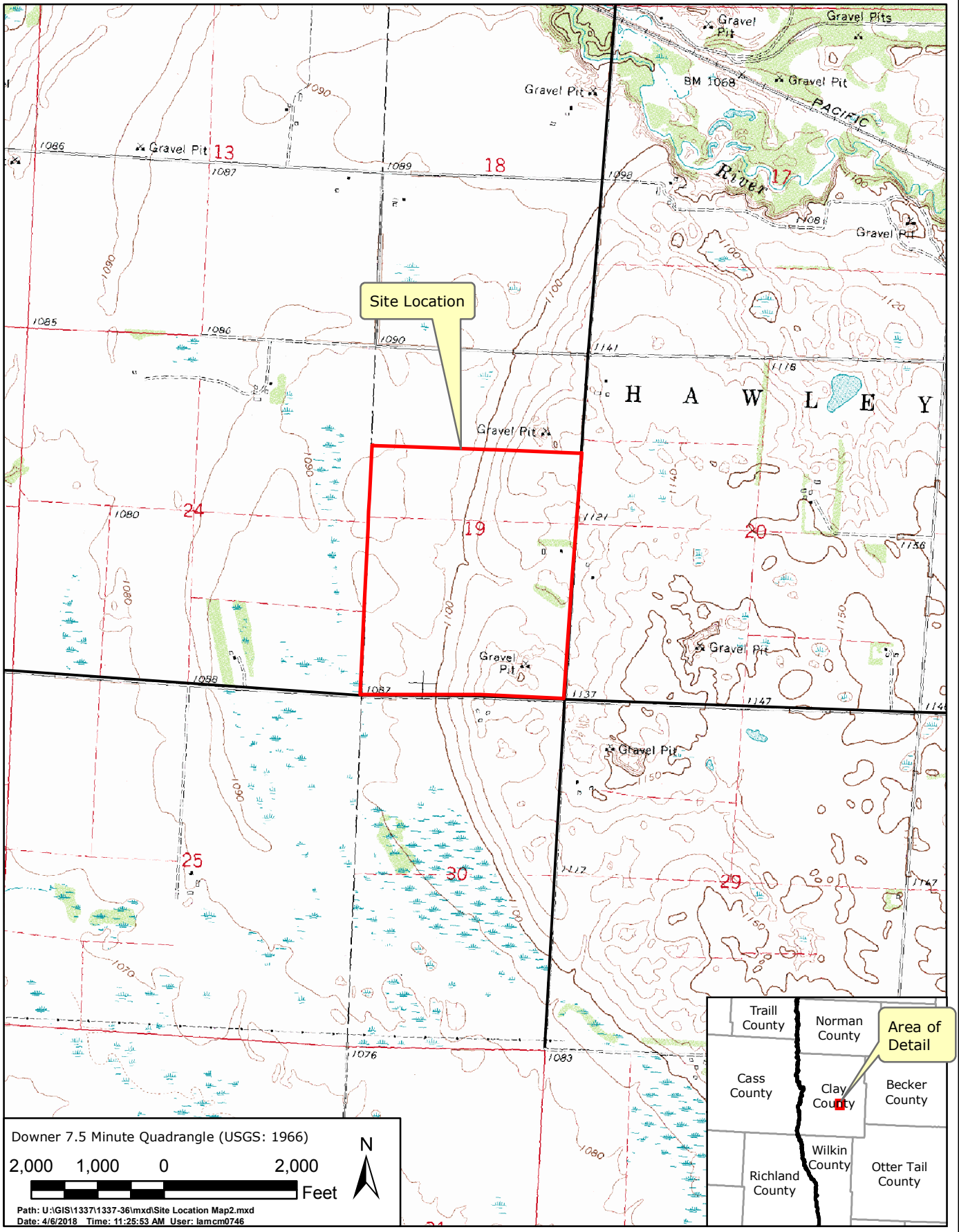
4A 2020 Spring Groundwater Flow – Water Table

4B 2020 Fall Groundwater Flow – Water Table

5A 2020 Spring Groundwater Flow – Lower Aquifer

5B 2020 Fall Groundwater Flow – Lower Aquifer

6. Hydrographs - W-9, W-112, W-106A, W-202A, W-302A & C-12
7. Hydrographs - W-106B, W-202B, W-302B, C-11 & C-13
8. Vinyl Chloride Concentration Trend Graph
9. Arsenic Concentration Trend Graph
10. Manganese Concentration Trend Graph
11. Nitrates Concentration Trend Graph



CLAY COUNTY LANDFILL

Site Location Map

WENCK now part of Stantec

JAN 2021

Figure 1

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Plot Date & Time: 28 January 2021 8:11 PM

N

400 0 200 400

GRAPHIC SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- PHASE BOUNDARY LINE
- C–13 EMS WELLS/PIEZOMETERS
- DEUTSHER RESIDENTIAL WELL
- S–1 SURFACE WATER POINT
- LYS IV–3 LANDFILL LYSIMETER
- GP–2 GAS PROBE
- RW–8 REMEDIATION WELL

WEAVER

W–112
W–109
NORTH ACREAGE
APPLIANCE STORAGE (APPROX. 15' X 22')
TIRE STORAGE (APPROX. 13' X 14')
DEMOLITION DUMPSTER (20 CY CONTAINER)
LANDFILL GAS BLOWER AND FLARE SKID
W–302A
GP–4AR
W–302B
LANDFILL OFFICE, ELECTRONIC STORAGE AND HIGHWAY DEPT. SHOP
LANDFILL TRUCK SCALE
EXISTING LEACHATE LOADOUT
W–301A
W–301B
W–104A
W–104B
W–106A
W–106B
W102B
W102A
METAL RECYCLING BIN (40 CY CONTAINER)
LANDFILL SHOP
W–15
C–1
GP–2
T2–C
T2–B
T2–A
GP–1
MAINTENANCE GARAGE & ELECTRONIC STORAGE
C–2
W–11
W–16
S–1
W–5
W–3
J–2
GP–3
EAST SEDIMENTATION POND
C–4
PP–2
PP–3
PP–1
C–3
LYS IV–3
LYS IV–1&2
RW–1
RW–2
TW–2
PUBLIC DROP OFF BINS (14 CY CONTAINERS)
GP–5A
TW–1
FUTURE AREA IV PHASE 5
RW–3
RW–4
RW–5
RW–6
RW–7
RW–8
RW–9
RW–10
AREA IV PHASE 3 (ACTIVE)
TW–3
R. EKRE
W201B
W–201A
S–2
W–10
WETLANDS
FUTURE AREA IV PHASE 6
NORTH HALF AREA IV PHASE 4 (ACTIVE)
GP–6A
C–8
SOUTH HALF AREA IV PHASE 4 (ACTIVE)
AREA IV PHASES I & 2 (ACTIVE)
C.S.A.H. NO. 23 /190TH ST S
C–12
C–13
GP–7A
W–2
W–2B
W–9
W–17
T1–C
T1–B
T1–A
C–9
AREA II (CLOSED)
AREA III PHASE 3 (CLOSED)
GP–8A
W202B
W–202A
ENCLOSED FLARE
AREA III PHASE 2 (CLOSED)
AREA III PHASE 1 (CLOSED)
W–13
C–10
LYS III–1
LYS III–2
LYS III–3
GP–9
GP–11
GP–10
W–12
W–203B
S–3
W–6
W–1
C–11
GP–12
SOUTHWEST SEDIMENTATION POND
DEUTSCHER
C.S.A.H. NO. 12

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
A	ISSUED TO CLIENT	ANN	MPM	1/29/21

WENCK now part of Stantec

DWN BY	CHK'D	APP'D
ANN	AJF	MPM

DWG DATE JANUARY 2021

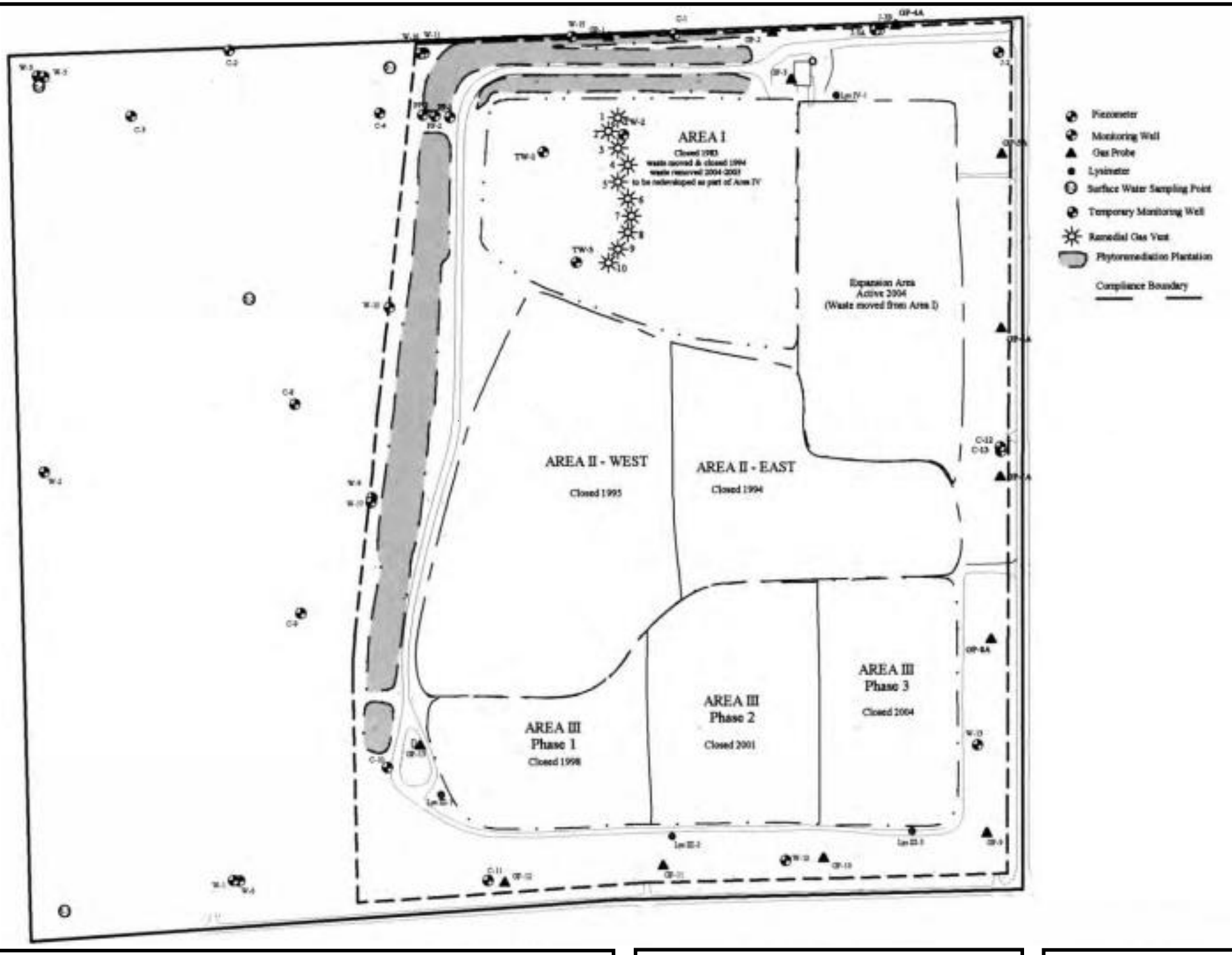
SCALE AS SHOWN

PROJECT CLAY COUNTY SANITARY LANDFILL 2020 ANNUAL LANDFILL REPORT

CLIENT CLAY COUNTY HAWLEY, MINNESOTA

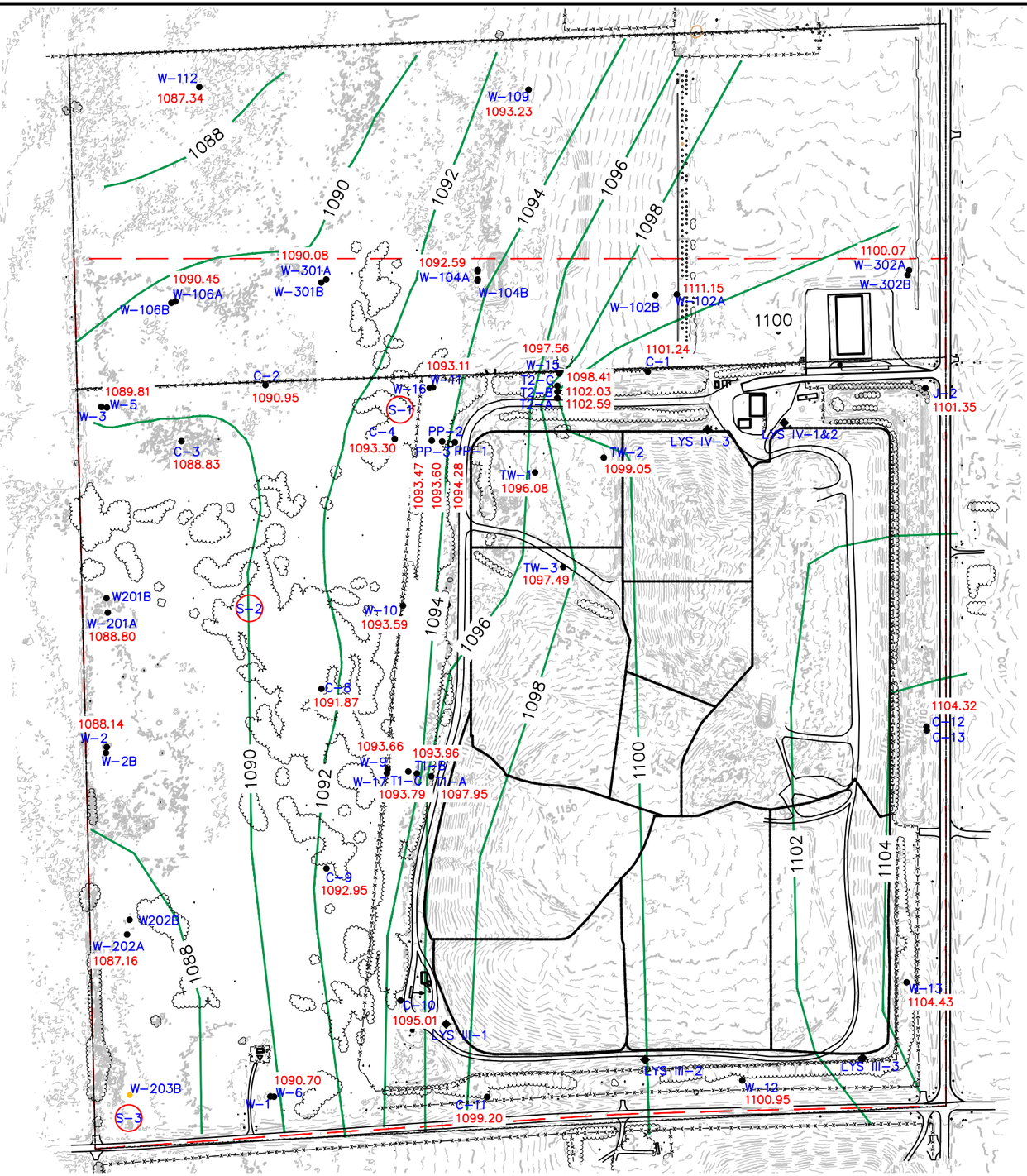
SHEET TITLE 2020 AERIAL PHOTOGRAPH

PROJECT NO.	SHEET NO.	REV NO.
1337–0072	FIGURE 2	A



CLAY COUNTY LANDFILL	JAN 2021
Old Landfill Area Boundaries	FIGURE 3

WENCK now part of Stantec



NOTE:
EXISTING CONDITIONS BASED ON OCTOBER 25, 2019 AERIAL SURVEY BY KBM, INC.

REV	REVISION DESCRIPTION	DWN	APP	REV DATE

WENCK now part of Stantec
3303 FIECHTNER DR, SUITE 100
FARGO, NORTH DAKOTA 58103
(701) 297-9600
(701) 297-9601

DWN BY	CHK'D	APP'D
MPM	AJF	MPM

DWG DATE: JUNE 2020
SCALE: AS NOTED

PROJECT: CLAY COUNTY SANITARY LANDFILL
2020 SPRING REPORT

CLIENT: CLAY COUNTY
HAWLEY, MINNESOTA

SHEET TITLE: 2020 SPRING GROUNDWATER FLOW – WATER TABLE

PROJECT NO.	SHEET NO.	REV NO.
1337-0072	FIGURE 4A	

Plot Date & Time: 27 January 2021 10:21 PM
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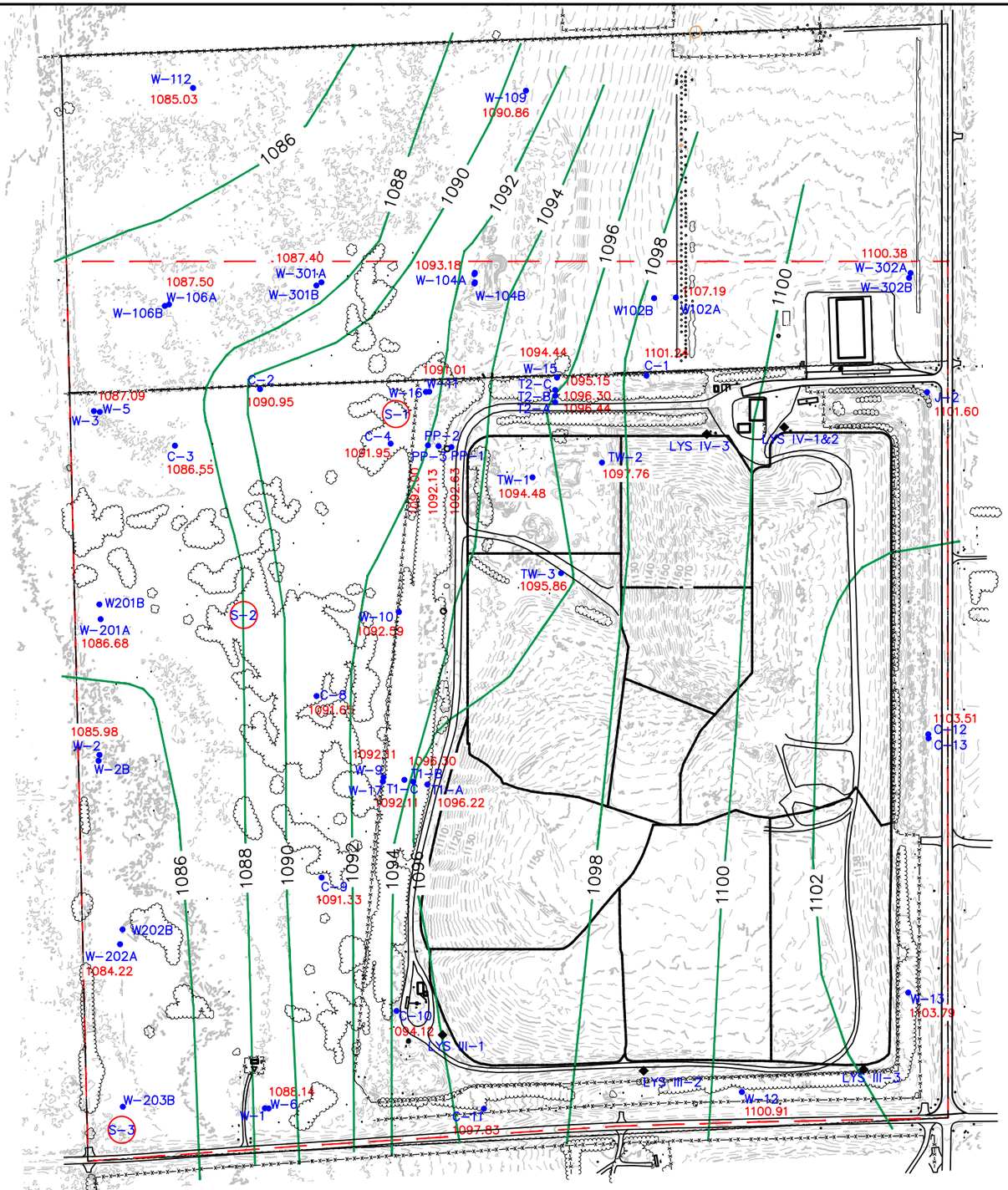

NOTE:
EXISTING CONDITIONS BASED ON OCTOBER 16, 2020, AERIAL SURVEY BY WENCK ASSOCIATES, INC.

REV	REVISION DESCRIPTION	DWN	APP	REV DATE

WENCK now part of Stantec
3303 FIECHTNER DR, SUITE 100
FARGO, NORTH DAKOTA 58103
(701) 297-9600
(701) 297-9601

DWN BY	CHK'D	APP'D
ANN	AJF	MPM

DWG DATE: JANUARY 2021
SCALE: AS NOTED

PROJECT: CLAY COUNTY SANITARY LANDFILL
2020 FALL REPORT

CLIENT: CLAY COUNTY
HAWLEY, MINNESOTA

SHEET TITLE: 2020 FALL GROUNDWATER FLOW – WATER TABLE

PROJECT NO. 1337-0072
SHEET NO. FIGURE 4B
REV NO.

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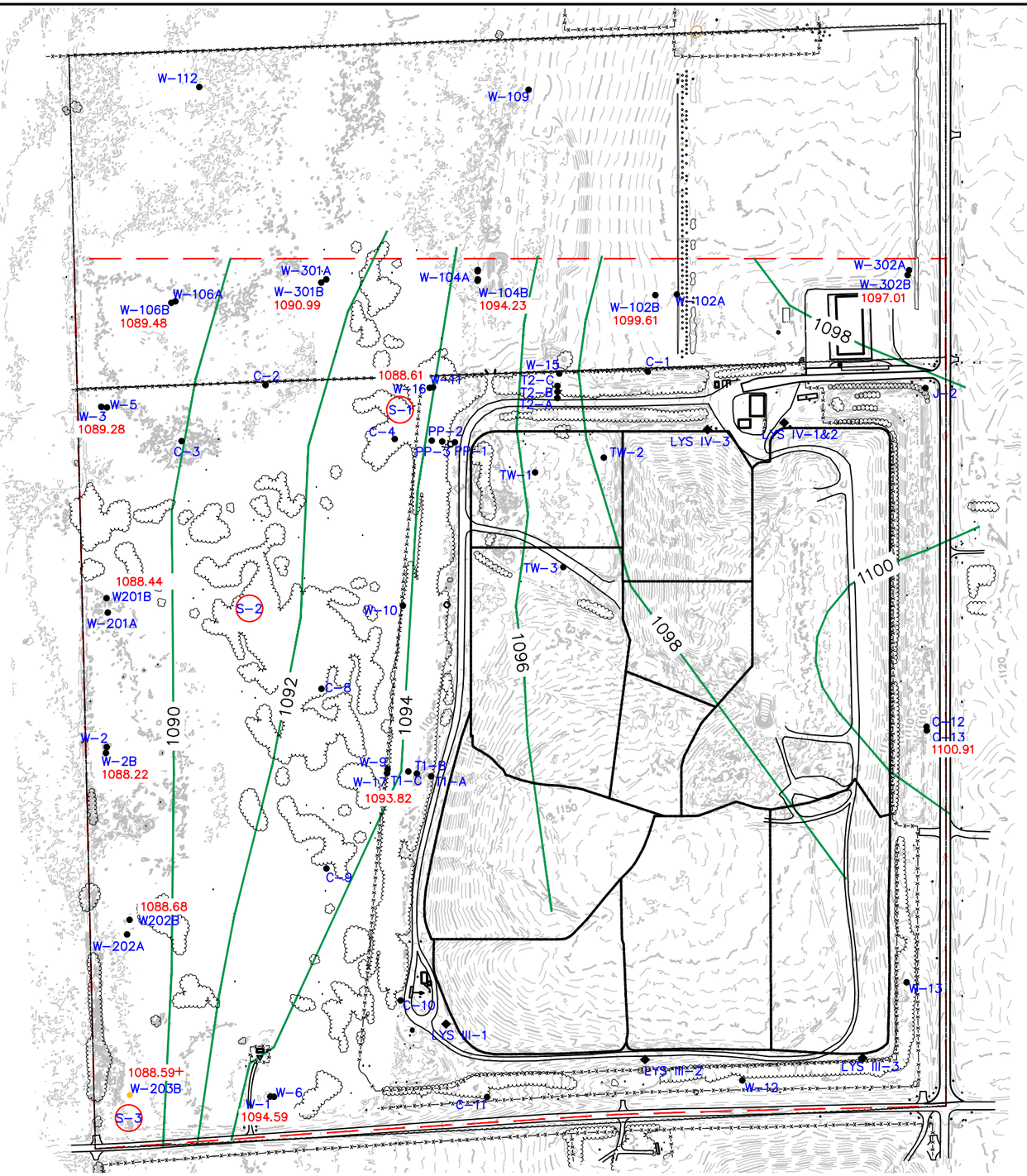

200 0 100 200
GRAPHIC SCALE IN FEET

LEGEND

- 1100 EXISTING CONTOURS
- TREE LINE
- TREE
- EXISTING ROAD
- EXISTING BUILDING
- PROPERTY BOUNDARY
- FENCE
- PHASE BOUNDARY LINE
- COMPLIANCE BOUNDARY LINE
- 1100 POTENTIOMETRIC WATER ELEVATION CONTOURS
- C-1 EXISTING MONITORING WELL
- S-1 SURFACE WATER POINT
- LYS IV-3 LANDFILL LYSIMETER

NOTE:
EXISTING CONDITIONS BASED ON OCTOBER 25, 2019 AERIAL SURVEY BY KBM, INC.

REV	REVISION DESCRIPTION	DWN	APP	REV DATE

WENCK now part of Stantec
3303 FIECHTNER DR, SUITE 100
FARGO, NORTH DAKOTA 58103
(701) 297-9600
(701) 297-9601

DWN BY	CHK'D	APP'D
MPM	AJF	MPM

DWG DATE: JUNE 2020
SCALE: AS NOTED

PROJECT: CLAY COUNTY SANITARY LANDFILL
2020 SPRING REPORT

CLIENT: CLAY COUNTY
HAWLEY, MINNESOTA

SHEET TITLE: 2020 SPRING GROUNDWATER FLOW – LOWER AQUIFER

PROJECT NO.	SHEET NO.	REV NO.
1337-0072	FIGURE 5A	

Plot Date & Time: 27 January 2021 10:50 PM
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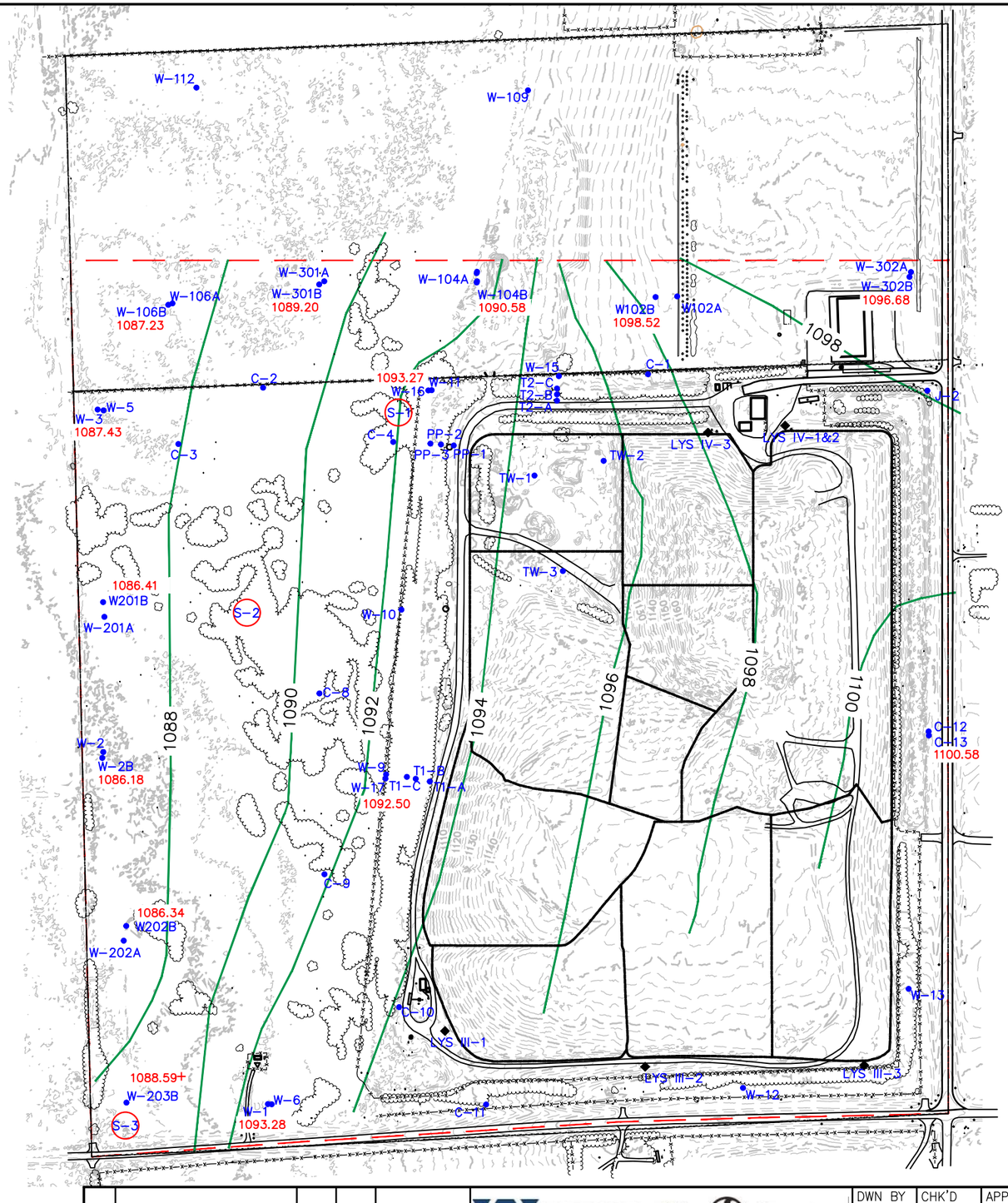


N

200 0 100 200
GRAPHIC SCALE IN FEET

LEGEND

- 1100 — EXISTING CONTOURS
- TREE LINE
- TREE
- EXISTING ROAD
- EXISTING BUILDING
- PROPERTY BOUNDARY
- FENCE
- PHASE BOUNDARY LINE
- COMPLIANCE BOUNDARY LINE
- 1100 — INFERRED WATER ELEVATION CONTOURS
- C-12 — EXISTING MONITORING WELL
- S-1 — SURFACE WATER POINT
- LYS IV-3 — LANDFILL LYSIMETER

NOTE:
EXISTING CONDITIONS BASED ON OCTOBER 16, 2020, AERIAL SURVEY BY WENCK ASSOCIATES, INC.

REV	REVISION DESCRIPTION	DWN	APP	REV DATE

WENCK now part of Stantec
3303 FIECHTNER DR, SUITE 100
FARGO, NORTH DAKOTA 58103
(701) 297-9600
(701) 297-9601

DWN BY	CHK'D	APP'D
ANN	AJF	MPM

DWG DATE: JANUARY 2021
SCALE: AS NOTED

PROJECT: CLAY COUNTY SANITARY LANDFILL
2020 FALL REPORT

CLIENT: CLAY COUNTY
HAWLEY, MINNESOTA

SHEET TITLE: 2020 FALL GROUNDWATER FLOW – LOWER AQUIFER

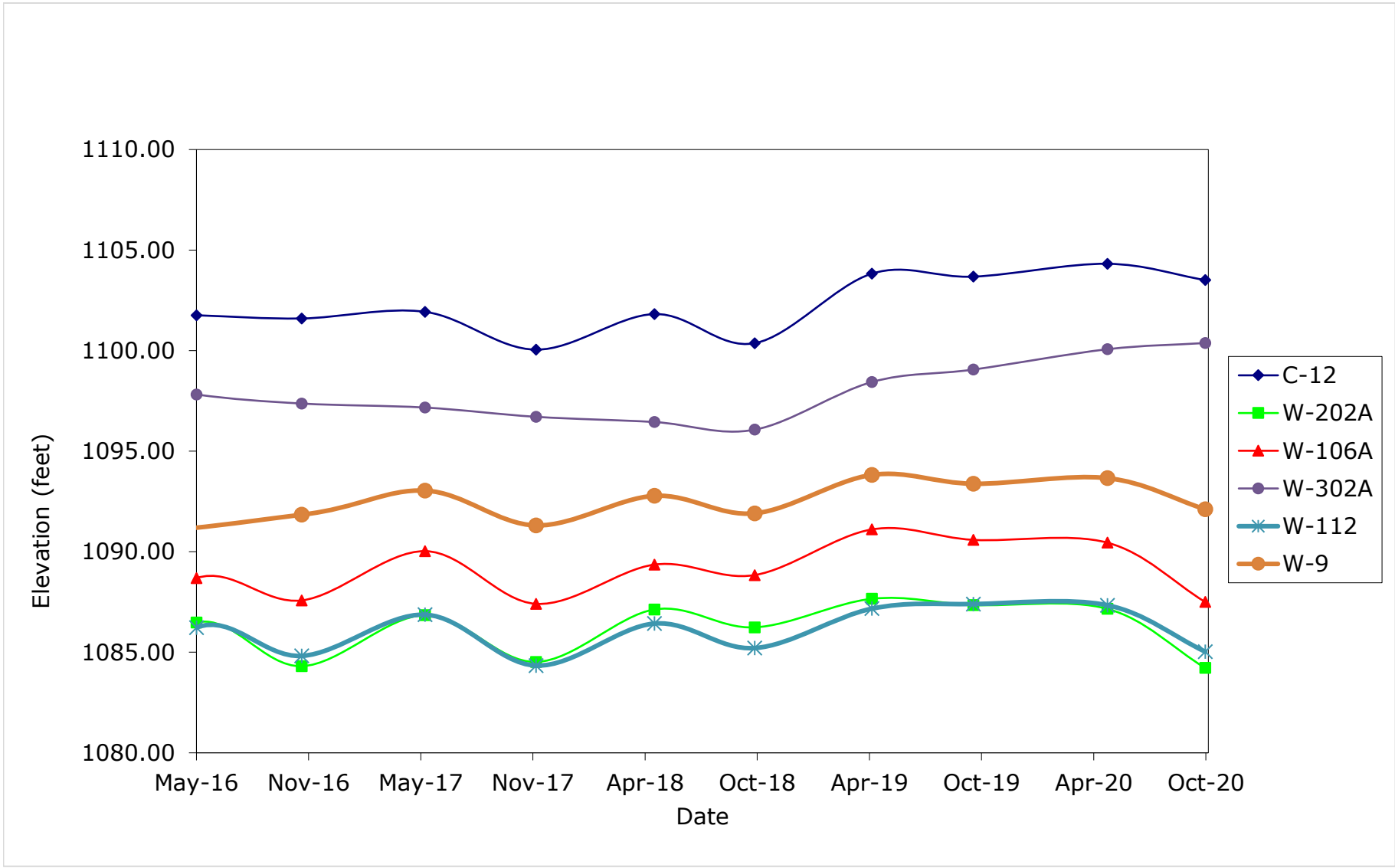
PROJECT NO.	SHEET NO.	REV NO.
1337-0072	FIGURE 5B	

Plot Date & Time: 27 January 2021 10:48 PM
T:\1337 Clay Co\72\02\2020\Fall 2020\Figures\CAD\CIV\Flow Map Fall 2020- Figure 5B.dwg

Figure 6

Clay County Sanitary Landfill
Hawley, Minnesota

Hydrographs - W-9, W-112, W-106A, W-202A, W-302A & C-12

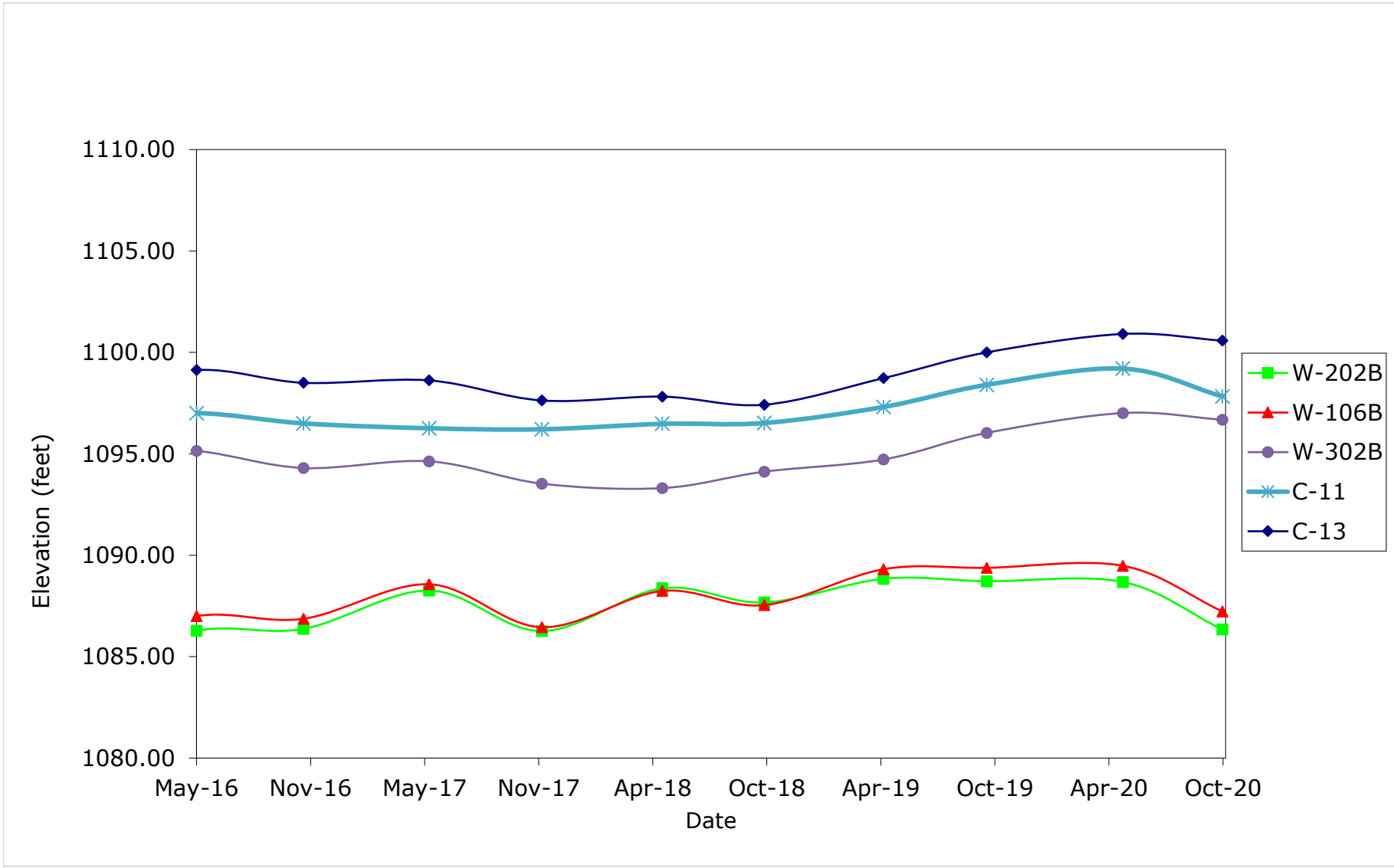


T:\1337 Clay Co\72\01\2020\Tables\T3-Wtr Elev

Figure 7

Clay County Sanitary Landfill
Hawley, Minnesota

Hydrographs - W-106B, W-202B, W-302B, C-11 & C-13

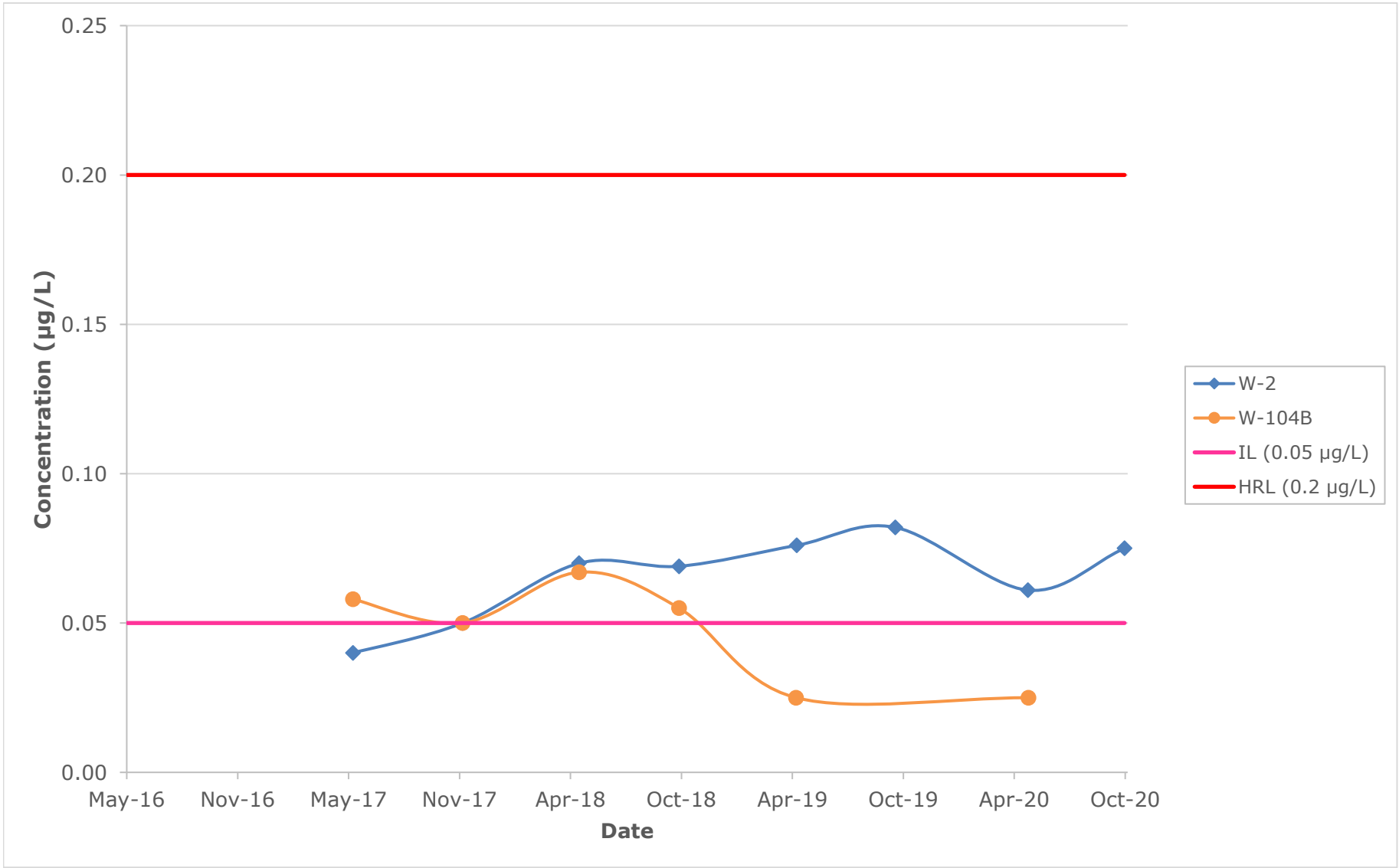


WENCK now part of Stantec

Figure 8

Clay County Sanitary Landfill
Hawley, Minnesota

Vinyl Chloride Concentration Trend Graph



WENCK now part of Stantec

Figure 9

Clay County Sanitary Landfill
Hawley, Minnesota

Arsenic Concentration Trend Graph

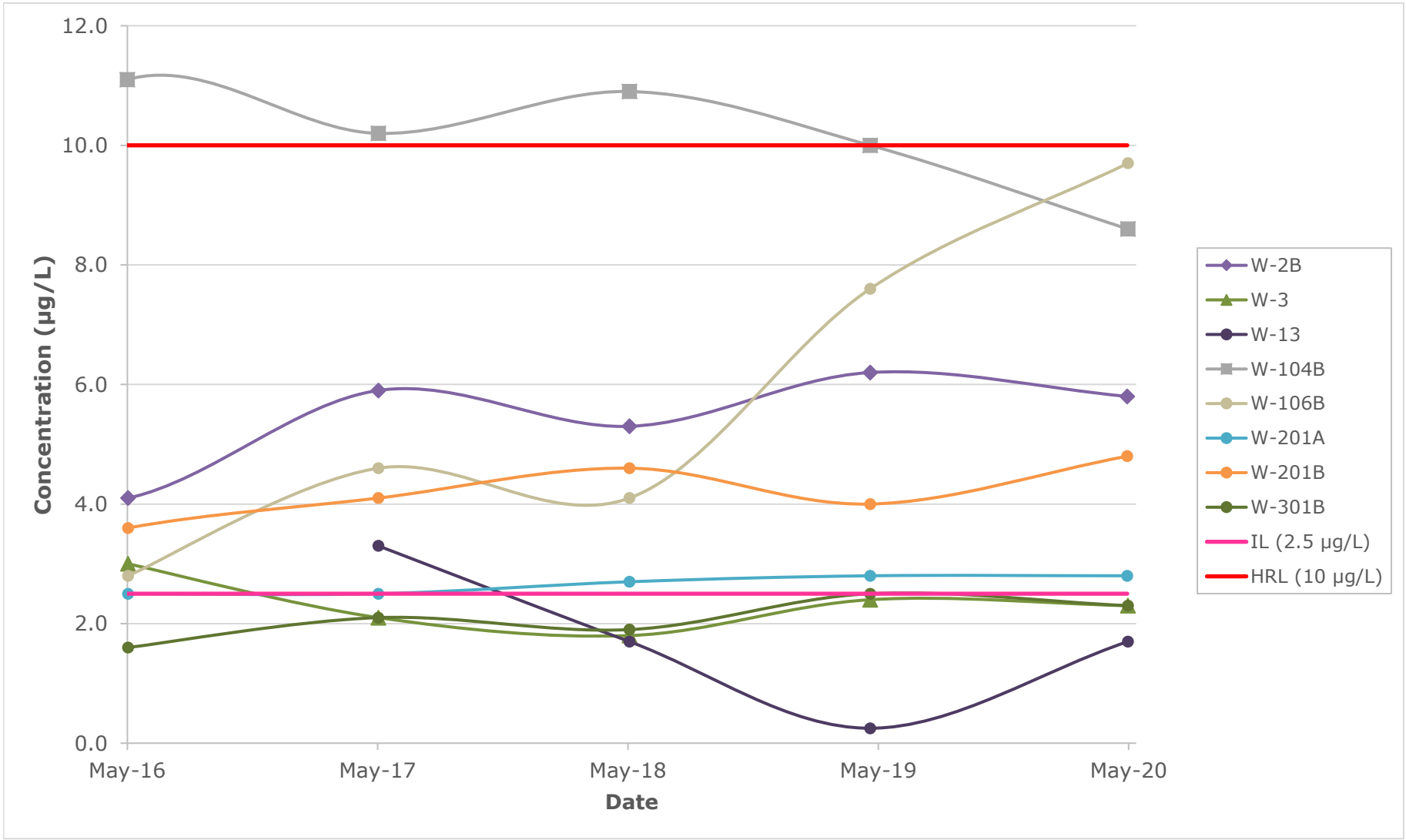


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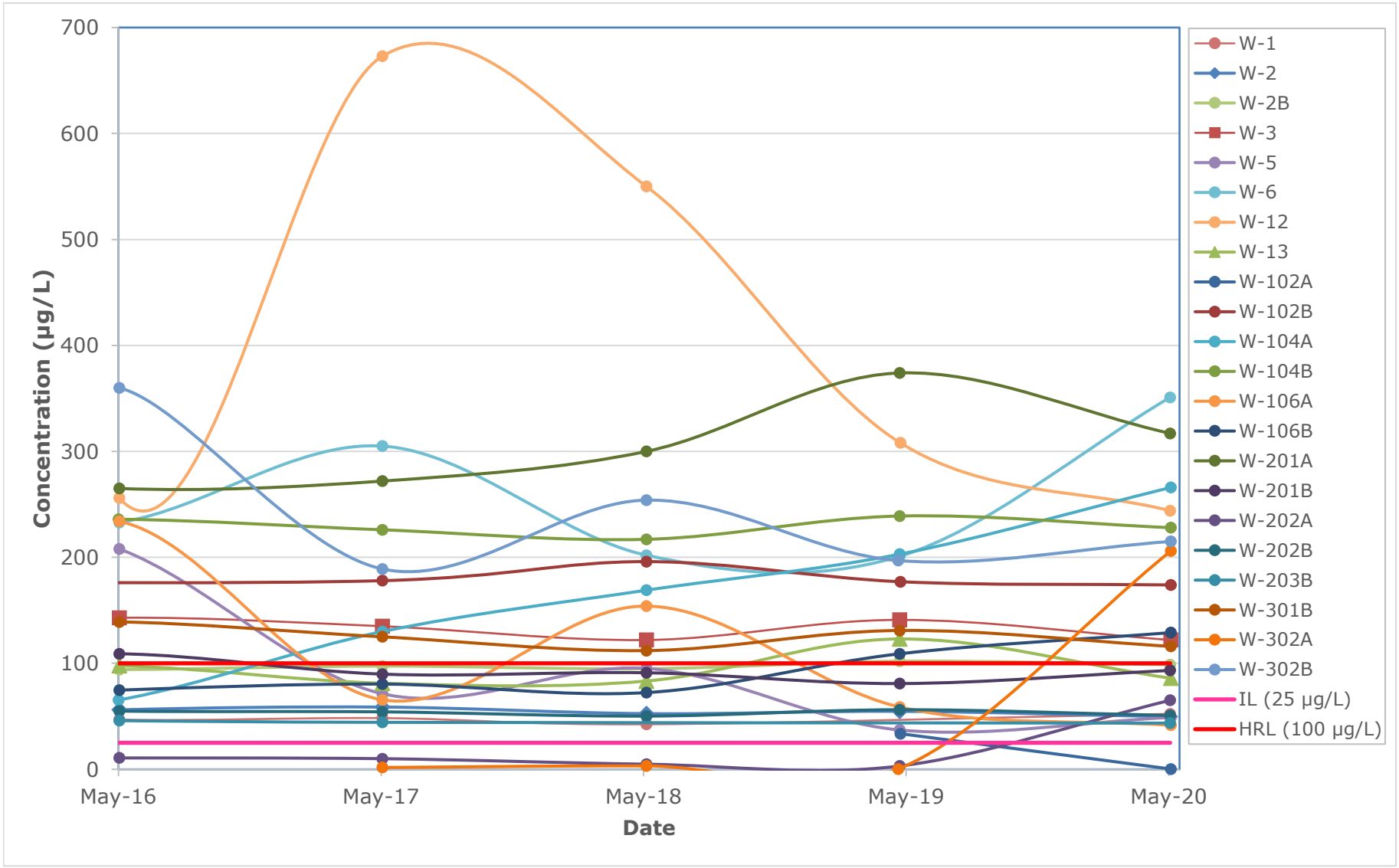
Figure 10

Clay County Sanitary Landfill
Hawley, Minnesota

Manganese Concentration Trend Graph

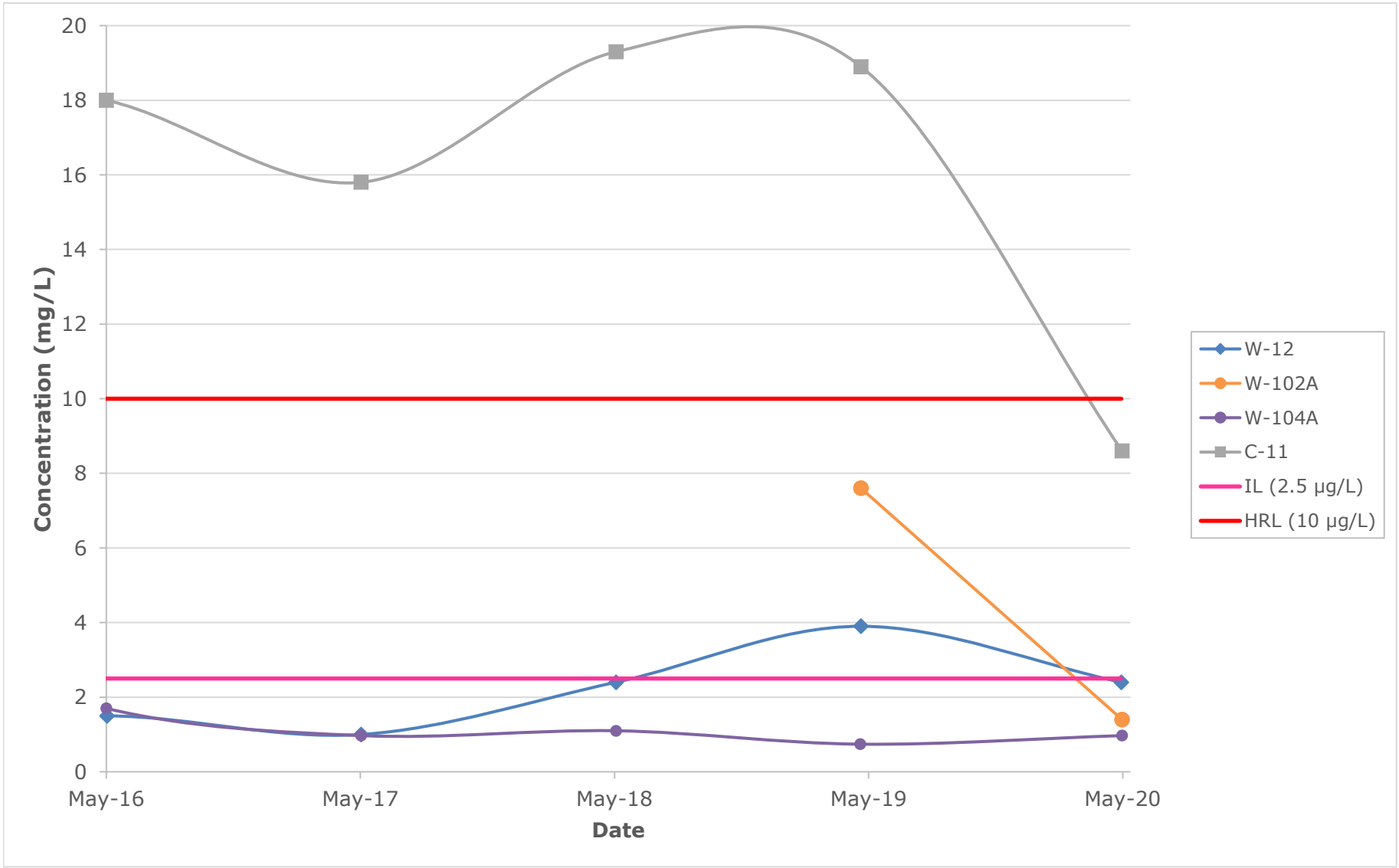


WENCK now part of Stantec

Figure 11

Clay County Sanitary Landfill
Hawley, Minnesota

Nitrates Concentration Trend Graph



WENCK now part of Stantec

Appendix A

Environmental Monitoring System Summary

TABLE 1

Clay County Landfill
Permit SW - 34
Environmental Monitoring System

EMS WELLS: (2x/yr) (Compliance Boundary)

Monitoring Wells*	Parameter Lists for Analysis	
	Spring	Fall
1) W-106A	1, 2, 4	1, 4
2) W-301A	1, 2, 4	1, 4
3) W-104A	1, 2, 4	1, 4
4) W-102A	1, 2, 4	1, 4
5) W-302A	1, 2, 4	1, 4
6) W-6	1, 2, 4	1, 4
7) W-202A	1, 2, 4	1, 4
8) W-2	1, 2, 4	1, 4
9) W-201A	1, 2, 4	1, 4
10) W-5	1, 2, 4	1, 4

* All monitoring wells will be sampled semiannually in the spring for the extended list (low-level VOCs, dissolved metals, geochemicals, field parameters, and static water levels), and in the fall for the routine list (low-level VOCs, field parameters, and static water levels).

EMS WELLS: (1x/yr) (Compliance Boundary)

Monitoring Wells*	Parameter Lists for Analysis	
	Spring	Fall
11) W-106B	1, 2, 4	--
12) W-301B	1, 2, 4	--
13) W-104B	1, 2, 4	--
14) W-102B	1, 2, 4	--
15) W-302B	1, 2, 4	--
16) W-13	1, 2, 4	--
17) W-12	1, 2, 4	--
18) C-11	1, 2, 4	--
19) W-1	1, 2, 4	--
20) W-203B	1, 2, 4	--
21) W-202B	1, 2, 4	--
22) W-2B	1, 2, 4	--
23) W-201B	1, 2, 4	--
24) W-3	1, 2, 4	--

* All monitoring wells will be sampled semiannually in the spring only for the extended list (low-level VOCs, dissolved metals, geochemicals, field parameters, and static water levels).

TABLE 1

Clay County Landfill
Permit SW - 34
Environmental Monitoring System

EMS WELLS: (1x/2yr) (Detection Monitoring Purposes)

Monitoring Wells*	Parameter Lists for Analysis	
	Spring	Fall
25) W-17 (1)	1, 2, 4	--
26) W-9 (1)	1, 2, 4	--
27) W-10 (1)	1, 2, 4	--
29) W-16 (1)	1, 2, 4	--
30) W-11 (1)	1, 2, 4	--
31) C-4 (1)	1, 2, 4	--
32) C-8 (1)	1, 2, 4	--
33) C-9 (1)	1, 2, 4	--

* All detection monitoring wells will be sampled biannually in the spring of odd years for the extended list (low-level VOCs, total metals, geochemicals, LL Hg, field parameters, and static water levels).
(1) Class 2D aquatic standards should apply to these eight wells (except for low-level mercury (LL Hg)).

Monitoring Wells*	Parameter Lists for Analysis	
	Spring	Fall
34) W-15	1, 4	--
35) C-1	1, 4	--
36) C-10	1, 4	--
37) TW-1	1, 4	--
38) TW-2	1, 4	--
39) TW-3	1, 4	--

* All detection monitoring wells will be sampled biannually in the spring of odd years for the routine list (low-level VOCs, field parameters (including pH and conductivity), and static water levels). No limits are proposed for these six wells.

EMS WELLS: (2x/yr) (Water Level Only)

Monitoring Wells*	Parameter Lists for Analysis	
	Spring	Fall
40) W-112	--	--
41) W-109	--	--
42) J-2	--	--
43) C-12	--	--
44) C-13	--	--
45) C-3	--	--
46) C-2	--	--

* Static water level will be measured semiannually in the spring and fall.

TABLE 1

Clay County Landfill
Permit SW - 34
Environmental Monitoring System

RESIDENTIAL WELLS: (1x/yr)

Monitoring Wells*	Parameter Lists for Analysis	
	Spring	Fall
1) R. Ekre	1, 2, 4	--
2) Deutscher	1, 2, 4	--
3) Weaver	1, 2, 4	--

* All residential wells will be sampled annually in the spring for the extended list (low-level VOCs, dissolved metals, geochemicals, and field parameters).
* If well owner does not allow Clay County access for sampling, it shall be documented in the subsequent Quarterly Monitoring Report.

SURFACE WATER MONITORING POINTS: (2x/yr)

Monitoring Points*	Parameter Lists for Analysis	
	Spring	Fall
1) S-1 (1)	1, 3, 4	1, 4
2) S-2 (1)	1, 3, 4	--
3) S-3 (1)	1, 3, 4	1, 4

* All surface water points are sampled semiannually in the spring for the extended list (low-level VOCs, total metals, geochemicals, LL Hg, and field parameters), while only SW-1 and SW-2 are sampled in the fall for the routine list (low-level VOCs and field parameters (including pH and conductivity)).
(1) Class 2D aquatic standards should apply.

LYSIMETERS: (2x/yr)

Lysimeters*	Parameter Lists for Analysis	
	Spring	Fall
1) III - 1	1, 4, 5	1, 4
2) III - 2	1, 4, 5	1, 4
3) III - 3	1, 4, 5	1, 4
4) IV – 1 & 2	1, 4, 5	1, 4
5) IV - 3	1, 4, 5	1, 4

* All lysimeters will be sampled semiannually in the spring for the extended list (low-level VOCs, total metals, geochemicals, and field parameters).

LEACHATE: (4x/yr)
Both leachate tanks #1 and #2 will be sampled quarterly for VOCs, total metals, COD, and BOD as listed in parameter Lists A through C.

METHANE MONITORING SYSTEM: (4x/yr)
All gas probes, GP-1 through GP-12, will be monitored quarterly for each sampling event for combustible gas (methane), carbon dioxide, and oxygen. Note that GP-4 was abandoned in 2014 due to landfill scale installation and replaced with GP-4R.

TABLE 2

Clay County Landfill
Permit SW-34
Environmental Monitoring System

Parameter Lists For Analyses

List 1 (VOCs) (Groundwater, Lysimeters and Surface Water)

1,1,1,2-Tetrachloroethane	Chlorobenzene (monochlorobenzene)
1,1,1-Trichloroethane	Chlorodibromomethane (Dibromochloromethane)
1,1,2,2-Tetrachloroethane	Chloroethane
1,1,2-Trichloroethane	Chloroform
1,1,2-Trichlorotrifluoroethane	Chloromethane (Methyl chloride)
1,1-Dichloroethane	cis-1,3,-Dichloropropene
1,1-Dichloroethylene (Vinylidene chloride)	Cumene (Isopropylbenzene)
1,1-Dichloropropene	Dibromochloropropane (DBCP)
1,2-(trans-) Dichloroethylene	Dibromomethane (Methylene bromide)
1,2,3-Trichlorobenzene	Dichlorodifluoromethane
1,2,3-Trichloropropane	Dichlorofluoromethane
1,2,4-Trichlorobenzene	Dichloromethane (Methylene chloride)
1,2,4-Trimethylbenzene	Ethyl benzene
1,2-Dibromoethane (Ethylene dibromide); EDB	Ethyl ether
1,2-Dichlorobenzene (ortho-)	Hexachlorobutadiene
1,2-Dichloroethane	Methyl ethyl ketone (MEK)
1,2-Dichloroethlyene (cis-)	Methyl isobutyl ketone (4-Methyl-2-pentanone)
1,2-Dichloropropane	Methyl tertiary-Butyl Ether (MTBE)
1,3,5-Trimethylbenzene	Naphthalene
1,3-Dichlorobenzene (meta-)	n-Butyl Benzene
1,3-Dichloropropane	n-Propyl benzene
1,4-Dichlorobenzene (para-)	p-Isopropyltoluene
2,2-Dichloropropane	sec-Butyl Benzene
2-Chlorotoluene (ortho-)	Styrene
4-Chlorotoluene (para-)	tert-Butyl Benzene
Acetone	Tetrachloroethylene (Perchloroethylene)
Allyl chloride (3 chloropropene)	Tetrahydrofuran
Benzene	Toluene
Bromobenzene	Trichloroethylene (TCE)
Bromochloromethane (Chlorobromomethane)	Trichlorofluoromethane
Bromodichloromethane (Dichlorobromomethane)	Vinyl chloride (chloroethene)
Bromoform	m-Xylene & p-Xylene
Bromomethane (Methyl bromide)	o-Xylene
Carbon tetrachloride	

List 2 (Geochemicals, Metals[(1)]) (Groundwater)

Alkalinity, Total as CaCO3	Magnesium
Ammonia Nitrogen	Manganese
Arsenic	Mercury
Barium	Nickel
Boron	Nitrate+Nitrite
Cadmium	Potassium
Calcium	Selenium
Cation-Anion Balance	Sodium
Chloride	Sulfate
Chromium	Zinc
Copper	Total Dissolved Solids
Iron	Total Suspended Solids
Lead	

[(1)] All metals are measured as dissolved. All groundwater samples for metals will be filtered in the field.

TABLE 2

Clay County Landfill
Permit SW-34
Environmental Monitoring System

Parameter Lists For Analyses

List 3 (Geochemicals, Metals[2]) (Detection Wells & Surface Water)

Alkalinity, Total as CaCO3	Copper
Arsenic	Lead
Boron	Magnesium
Cadmium	Manganese
Calcium	Mercury[3]
Cation-Anion Balance	Total Dissolved Solids
Chloride	Total Suspended Solids

[2] All metals are measured as total. All surface water samples for metals will not be filtered in the field or lab.

[3] Low-level mercury analyses, EPA Method 1631E.

List 4 (Field Parameters) (Groundwater, Lysimeters and Surface Water)

Appearance	**Specific Conductance**
Dissolved Oxygen	Static Water Level (Elevation, MSL)[4]
Eh (Oxidation potential)	Temperature
Odor	Turbidity
pH	

[4] Groundwater Samples only, and not for residential wells or surface water.

List 5 (Geochemicals, Metals[2]) (Lysimeters)

Alkalinity, Total as CaCO3	Iron
Ammonia Nitrogen	Lead
Arsenic	Magnesium
Arsenic	Manganese
BOD	Mercury
Boron	Nitrate+Nitrite
Cadmium	Potassium
Calcium	Sodium
Cation-Anion Balance	Sulfate
COD	Zinc
Chloride	Total Dissolved Solids
Chromium	Total Suspended Solids
Copper	

[1] All metals are measured as total.

TABLE 2

Clay County Landfill
Permit SW-34
Environmental Monitoring System

Parameter Lists For Analyses

List A (VOCs) (Leachate)

1,1,1,2-Tetrachloroethane	Chlorobenzene (monochlorobenzene)
1,1,1-Trichloroethane	Chlorodibromomethane (Dibromochloromethane)
1,1,2,2-Tetrachloroethane	Chloroethane
1,1,2-Trichloroethane	Chloroform
1,1,2-Trichlorotrifluoroethane	Chloromethane (Methyl chloride)
1,1-Dichloroethane	cis-1,3,-Dichloropropene
1,1-Dichloroethylene (Vinylidene chloride)	Cumene (Isopropylbenzene)
1,1-Dichloropropene	Dibromochloropropane (DBCP)
1,2-(trans-) Dichloroethylene	Dibromomethane (Methylene bromide)
1,2,3-Trichlorobenzene	Dichlorodifluoromethane
1,2,3-Trichloropropane	Dichlorofluoromethane
1,2,4-Trichlorobenzene	Dichloromethane (Methylene chloride)
1,2,4-Trimethylbenzene	Ethyl benzene
1,2-Dibromoethane (Ethylene dibromide); EDB	Ethyl ether
1,2-Dichlorobenzene (ortho-)	Hexachlorobutadiene
1,2-Dichloroethane	Methyl ethyl ketone (MEK)
1,2-Dichloroethlyene (cis-)	Methyl isobutyl ketone (4-Methyl-2-pentanone)
1,2-Dichloropropane	Methyl tertiary-Butyl Ether (MTBE)
1,3,5-Trimethylbenzene	Naphthalene
1,3-Dichlorobenzene (meta-)	n-Butyl Benzene
1,3-Dichloropropane	n-Propyl benzene
1,4-Dichlorobenzene (para-)	p-Isopropyltoluene
2,2-Dichloropropane	sec-Butyl Benzene
2-Chlorotoluene (ortho-)	Styrene
4-Chlorotoluene (para-)	tert-Butyl Benzene
Acetone	Tetrachloroethylene (Perchloroethylene)
Allyl chloride (3 chloropropene)	Tetrahydrofuran
Benzene	Toluene
Bromobenzene	Trichloroethylene (TCE)
Bromochloromethane (Chlorobromomethane)	Trichlorofluoromethane
Bromodichloromethane (Dichlorobromomethane)	Vinyl chloride (chloroethene)
Bromoform	m-Xylene & p-Xylene
Bromomethane (Methyl bromide)	o-Xylene
Carbon tetrachloride	

TABLE 2

Clay County Landfill
Permit SW-34
Environmental Monitoring System

Parameter Lists For Analyses

List B (Geochemicals, Metals [2]) (Leachate)

Alkalinity, Total as CaCO3	Iron
Aluminum	Lead
Ammonia Nitrogen	Magnesium
Arsenic	Manganese
Barium	Mercury
BOD	Nitrate+Nitrite
Boron	Potassium
Cadmium	Selenium
Calcium	Silver
Cation-Anion Balance	Sodium
Cobalt	Sulfate
COD	Zinc
Chloride	Total Dissolved Solids
Chromium, Total	Total Suspended Solids
Copper	

[2] All metals are measured as total.

List C (Field Parameters) (Leachate)

Appearance	**pH**
Dissolved Oxygen	**Specific Conductance**
Eh (Oxidation potential)	Temperature
Odor	Turbidity
Static Water Level (Elevation, MSL)	

T:\1337 Clay Co\72\01\2020\Figures\Figure 1.dwg

Plot Date & Time: 27 January 2021 10:58 PM

N

400 0 200 400

GRAPHIC SCALE IN FEET

LEGEND

EXISTING ROAD
EXISTING BUILDING
PROPERTY BOUNDARY
FENCE
PHASE BOUNDARY LINE
COMPLIANCE BOUNDARY
C-1 EXISTING MONITORING WELL/PIEZOMETER
RW-1 EXISTING REMEDIATION WELL/VENT
S-1 SURFACE WATER SAMPLING POINT
GP-1 GAS PROBES
PHYTOREMEDIATION PLANTATION
Lys III-1 LYSIMETER
LEACHATE TANKS

W-112 W-109 NORTH ACREAGE GP-4AR W-302A W-302B W-301A W-301B W-104A W-104B W-106A W-106B W102B W102A LEACHATE TANK #1 LANDFILL ENTRANCE C-2 W-15 C-1 W-16 W-17 T2-C T2-B T2-A GP-2 J-2 W-5 W-3 S-1 GP-3 C-4 PP-2 PP-3 PP-1 LYS IV-1&2 LYS IV-3 C-3 RW-1 RW-2 TW-2 RW-3 RW-4 RW-5 TW-1 GP-5A EAST SEDIMENTATION POND FUTURE AREA IV PHASE 6 AREA IV PHASE 3 (ACTIVE) RW-6 RW-7 RW-8 RW-9 RW-10 CLOSURE AREA TW-3 W201B W-201A S-2 W-10 GP-6A C.S.A.H. NO. 23 (BITUMINOUS SURFACE) WETLANDS AREA IV PHASE 4 NORTH (ACTIVE) FUTURE AREA IV PHASE 5 C-8 AREA IV PHASE 4 SOUTH (ACTIVE) AREA IV PHASES I & 2 (ACTIVE) C-12 C-13 GP-7A W-2 W-2B W-9 T1-B W-11 T1-C T1-A AREA III PHASE 3 (CLOSED) C-9 GP-8A AREA II (CLOSED) W202B W-202A AREA III PHASE 2 (CLOSED) W-13 LEACHATE TANK #2 AREA III PHASE 1 (CLOSED) C-10 LYS III-1 GP-9 LYS III-2 LYS III-3 GP-10 GP-11 W-12 W-203B W-1 W-6 C-11 GP-12 CLAY COUNTY MONUMENT AT SE CORNER SECT 19-139-45 HAWLEY TOWNSHIP, MN. S-3 SOUTHWEST SEDIMENTATION POND C.S.A.H. NO. 12 (GRAVEL SURFACE)

REV	REVISION DESCRIPTION	DWN	APP	REV DATE

WENCK now part of Stantec

3303 FIECHTNER DR, SUITE 100
FARGO, NORTH DAKOTA 58103

(701) 297-9600
(701) 297-9601

DWN BY	CHK'D	APP'D
ANN	AJF	MPM

DWG DATE: JAN. 2021

SCALE: AS NOTED

PROJECT: 2020 ANNUAL WATER QUALITY REPORT

CLIENT: CLAY COUNTY HAWLEY, MINNESOTA

SHEET TITLE: REVISED EMS AND COMPLIANCE BOUNDARY

PROJECT NO.	SHEET NO.	REV NO.
1337-0071	FIGURE 1	A

Appendix B

2020 Field Data and Laboratory Reports

WENCK

Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 47°, sunny, NNW 14mph
Field Technician(s): ~~CMH~~ HRB

Date: 5/11/20

Well ID : MW-202A

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.09
Top of Casing Elev. (feet)		Volume Purged (gals.)	12.0
Depth to Water from **TOC** (feet)	3.29	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	13.98	Time Sample Collected	14:48
Volume of Water in Casing (gals.)	1.74	Color	colorless
3 Well Volumes (gals.)	5.23	Odor	None
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y/Y
Purging Start Time	14:37	Lock Key #	2106
Purging Stop Time	14:48	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.7	3.4	5.2	8.6	12.0		
Stabilization Readings							
Time	14:38	14:39	14:41	14:46	14:47		
Temperature (°C)	4.64	4.70	4.70	4.70	4.70		
Conductance (uS/cm)	780	792	792	786	~~780~~ 784		
Dissolved Oxygen (mg/L)	2.67	1.65	1.13	0.38	0.23		
pH	7.35	7.18	7.10	6.90	6.79		
ORP (mV)	24.5	29.9	33.1	40.5	46.1		
Turbidity (NTU)			22.1	9.4			

Comments:

WENCK

Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 47°, sunny, NNW 14mph
Field Technician(s): CML

Date: 5/11/20

Well ID : W-202B			
Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.25
Top of Casing Elev. (feet)		Volume Purged (gals.)	26.3
Depth to Water from **TOC** (feet)	1.56	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	41.92	Time Sample Collected	14:50
Volume of Water in Casing (gals.)	6.58	Color	H gray
3 Well Volumes (gals.)	19.74	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	14:27	Lock Key #	2406
Purging Stop Time	14:48	Damage to Well? (Y/N)	N

Volume Purged (gallons)	6.6	13.2	19.7	26.3			
Stabilization Readings							
Time	14:31	14:36	14:46	14:48			
Temperature (°C)	6.54	7.36	7.64	7.64			
Conductance (uS/cm)	474	472	480	479			
Dissolved Oxygen (mg/L)	999.99	999.99	999.99	999.99			
pH	7.92	7.78	7.78	7.79			
ORP (mV)	-149.9	-62.7	-17.1	-28.1			
Turbidity (NTU)	350	>1000	130	60.0			

Comments:

WENCK

Responsive partner. Exceptional outcomes.

Well Purging Sheet

Date: 5/11/20

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 47°, Sunny, NNW 14 mph
Field Technician(s): CML

Well ID : MW-201A

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.44
Top of Casing Elev. (feet)		Volume Purged (gals.)	11.5
Depth to Water from **TOC** (feet)	3.80	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	15.20	Time Sample Collected	15:35
Volume of Water in Casing (gals.)	1.86	Color	lt gray
3 Well Volumes (gals.)	5.56	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	15:24	Lock Key #	2106
Purging Stop Time	15:32	Damage to Well? (Y/N)	N

4.0 6.0 [illegible]

Volume Purged (gallons)	1.9	[illegible]	[illegible]	8.0	11.5		
Stabilization Readings							
Time	15:26	15:27	15:28	15:30	15:32		
Temperature (°C)	5.28	5.27	5.27	5.27	5.27		
Conductance (uS/cm)	714	699	694	693	694		
Dissolved Oxygen (mg/L)	99999	—	—	—	—		
pH	7.91	7.82	7.74	7.69	7.64		
ORP (mV)	15.4	16.5	16.0	-32.8	-2.2		
Turbidity (NTU)	140	[illegible]	40.0	25.0	12.0		

55.0

Comments:

Dup 1 collected @ 15:43

WENCK

Responsive partner. Exceptional outcomes.

Well Purging Sheet

Date: 5/11/20

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 47°, sunny, NNW 14mph
Field Technician(s): ~~AM~~ HRB

Well ID : W-201B			
Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.68
Top of Casing Elev. (feet)		Volume Purged (gals.)	18.5
Depth to Water from **TOC** (feet)	4.15	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	42.00	Time Sample Collected	15:45
Volume of Water in Casing (gals.)	6.17	Color	Colorless
3 Well Volumes (gals.)	18.51	Odor	None
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	15:34	Lock Key #	406
Purging Stop Time	15.45	Damage to Well? (Y/N)	N

Volume Purged (gallons)	6.17	12.32	18.51				
Stabilization Readings							
Time	15:36	15:39	15.42				
Temperature (°C)	7.59	7.80	7.86				
Conductance (uS/cm)	452	450	450				
Dissolved Oxygen (mg/L)	2.05	0.65	0.33				
pH	7.09	7.08	7.04				
ORP (mV)	-69.8	-91.9	-61.0				
Turbidity (NTU)	10.0	5.50	4.10				

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Date: 5/11/20

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 47°, Sunny, NNW 14mph
Field Technician(s): CML

Well ID : W-2

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.31
Top of Casing Elev. (feet)		Volume Purged (gals.)	4.0
Depth to Water from **TOC** (feet)	3.37	Purged Dry (Y/N)	Y
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	24.04	Time Sample Collected	16:50
Volume of Water in Casing (gals.)	3.37	Color	lt BRN
3 Well Volumes (gals.)	10.11	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	16:34	Lock Key #	2106
Purging Stop Time	16:47	Damage to Well? (Y/N)	N

Volume Purged (gallons)	3.4	4.0	10.1				
Stabilization Readings							
Time	16:38	16:46					
Temperature (°C)	5.55	7.62					
Conductance (uS/cm)	475	580					
Dissolved Oxygen (mg/L)	—	—					
pH	8.25	7.93					
ORP (mV)	-208.1	-207.6					
Turbidity (NTU)	28.0	20.0					

Comments:

- Well ran dry @ 3 gallons @ 16:37, continued to purge to 4 gallons

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/11/20
Weather Conditions: 47°, sunny, NNW 14mph
Field Technician(s): ~~CMR~~ HRB

Well ID : W-2B

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.11
Top of Casing Elev. (feet)		Volume Purged (gals.)	30.0
Depth to Water from **TOC** (feet)	2.82	Purged Dry (Y/N)	Y
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	49.80	Time Sample Collected	16:58
Volume of Water in Casing (gals.)	7.49	Color	Colorless
3 Well Volumes (gals.)	22.48	Odor	None
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y/Y
Purging Start Time	16:36	Lock Key #	2106
Purging Stop Time	16:57	Damage to Well? (Y/N)	N

Volume Purged (gallons)	7.5	15.0	22.5	30			
Stabilization Readings							
Time	16:35	16:47	16:50	16:57			
Temperature (°C)	7.36	7.96	8.10	8.11			
Conductance (uS/cm)	459	462	459	454			
Dissolved Oxygen (mg/L)	3.44	0.67	1.53	3.26			
pH	7.41	7.31	7.30	7.32			
ORP (mV)	-68.0	-100.7	-108.1	-89.2			
Turbidity (NTU)	15.0	9.40	380	21.0			

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: 13 Mile Landfill - 2018 Spring Event
Address: Williston, ND
Weather Conditions: 47°, sunny, NNW 14mph
Field Technician(s): CML

Date: 5/11/20

Well ID : W-2030			
Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.43
Top of Casing Elev. (feet)		Volume Purged (gals.)	17.9
Depth to Water from **TOC** (feet)	0.00	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	36.52	Time Sample Collected	18:19
Volume of Water in Casing (gals.)	5.95	Color	lt yellow/clear
3 Well Volumes (gals.)	17.86	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	NA
Purging Start Time	17:36	Lock Key #	NA
Purging Stop Time	18:18	Damage to Well? (Y/N)	NA

Volume Purged (gallons)	6.0	12.0	17.9				
Stabilization Readings							
Time	17:53	18:09	18:18				
Temperature (°C)	7.61	7.46	7.46				
Conductance (uS/cm)	497	499	498				
Dissolved Oxygen (mg/L)	–	–	–				
pH	7.77	7.83	7.76				
ORP (mV)	-711.3	-537.2	-418.9				
Turbidity (NTU)	20.0	9.50	7.00				

Comments:

- well is nearly flush w/ ground surface
- new tubing

WENCK

Responsive partner. Exceptional outcomes.

Well Purging Sheet

Date: 5/11/20

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 47° Sunny, NNW 14 mph
Field Technician(s): CML

Well ID : W-1			
Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.86
Top of Casing Elev. (feet)		Volume Purged (gals.)	9.5
Depth to Water from **TOC** (feet)	0.2	Purged Dry (Y/N)	Y
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	63.08	Time Sample Collected	19:22
Volume of Water in Casing (gals.)	10.24	Color	Clear
3 Well Volumes (gals.)	30.71	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	19:00	Lock Key #	2106
Purging Stop Time	19:11	Damage to Well? (Y/N)	N
	9.5		

Volume Purged (gallons)	~~10.24~~						
Stabilization Readings							
Time	19:11						
Temperature (°C)	7.37						
Conductance (uS/cm)	388						
Dissolved Oxygen (mg/L)	9.25						
pH	8.12						
ORP (mV)	143.9						
Turbidity (NTU)	28.0						

Comments:

C-9: 5.93 water level
well ran dry 19:11 @ 9.5 gal

Field Blank @ 20:02

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/11/20
Weather Conditions: 47°, sunny, NNW 14mph
Field Technician(s): CML

Well ID : W-16

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.16
Top of Casing Elev. (feet)		Volume Purged (gals.)	6.1
Depth to Water from **TOC** (feet)	3.71	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	pers. Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	16.20	Time Sample Collected	19:30
Volume of Water in Casing (gals.)	2.03	Color	lt. org.
3 Well Volumes (gals.)	6.10	Odor	N
Purging Device	pers. Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	18:49	Lock Key #	2106
Purging Stop Time	19:28	Damage to Well? (Y/N)	N

Volume Purged (gallons)	2.0	4.0	6.1				
Stabilization Readings							
Time	19:03	19:17	19:28				
Temperature (°C)	5.36	5.30	5.32				
Conductance (uS/cm)	696	760	784				
Dissolved Oxygen (mg/L)	—	—	—				
pH	7.55	7.47	7.43				
ORP (mV)	-231.2	-155.8	-112.0				
Turbidity (NTU)	55.0	9.80	65.0				

Comments:

- water started off orange in color
- collected sample before well ran dry.

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 47°, sunny, NNW 14mph
Field Technician(s): CML
Date: 5/11/20

Well ID : S-3

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	
Top of Casing Elev. (feet)		Volume Purged (gals.)	
Depth to Water from **TOC** (feet)		Purged Dry (Y/N)	
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)		Time Sample Collected	18:00
Volume of Water in Casing (gals.)		Color	yellow
3 Well Volumes (gals.)		Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	
Purging Start Time		Lock Key #	
Purging Stop Time		Damage to Well? (Y/N)	

Grab

Volume Purged (gallons)							
Stabilization Readings							
Time	18:00						
Temperature (°C)	9.27						
Conductance (uS/cm)	1388						
Dissolved Oxygen (mg/L)	4.95						
pH	7.68						
ORP (mV)	-54.2						
Turbidity (NTU)	16.0						

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/12/20
Weather Conditions: 44°, sunny, calm
Field Technician(s): CML

Well ID : W-13

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.96
Top of Casing Elev. (feet)		Volume Purged (gals.)	19.1
Depth to Water from **TOC** (feet)	28.71	Purged Dry (Y/N)	Y
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	52.23	Time Sample Collected	9:10
Volume of Water in Casing (gals.)	3.83	Color	lt gray
3 Well Volumes (gals.)	11.50	Odor	Slight sewer
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	8:49	Lock Key #	2106
Purging Stop Time	9:09	Damage to Well? (Y/N)	N

Volume Purged (gallons)	3.8	7.6	11.5	15.3	19.1		
Stabilization Readings							
Time	8:52	8:56	9:00	9:05	9:09		
Temperature (°C)	8.88	8.95	8.97	8.99	9.09		
Conductance (uS/cm)	565	588	587	594	591		
Dissolved Oxygen (mg/L)	1.67	1.01	0.91	0.71	3.83		
pH	7.52	7.29	7.27	7.23	7.29		
ORP (mV)	-127.0	-93.0	-87.4	-91.5	-71.2		
Turbidity (NTU)	240	65.0	55.0	7/000	80.0		

Comments:

- well started running dry after 11 WV, continued to purge due to fast recharge
* - needs new tubing next time

Dup-2 collected @ 9:17

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 44°, sunny, calm
Field Technician(s): CML

Date: 5/12/20

Well ID : C-11

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.17
Top of Casing Elev. (feet)		Volume Purged (gals.)	4.2
Depth to Water from **TOC** (feet)	13.45	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	21.91	Time Sample Collected	10:08
Volume of Water in Casing (gals.)	1.38	Color	1+BRN
3 Well Volumes (gals.)	4.14	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	9:41	Lock Key #	2106
Purging Stop Time	10:06	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.4	2.8	4.2				
Stabilization Readings							
Time	9:49	9:57	10:06				
Temperature (°C)	6.39	6.46	6.44				
Conductance (uS/cm)	647	646	645				
Dissolved Oxygen (mg/L)	7.82	7.80	7.80				
pH	7.09	6.98	6.94				
ORP (mV)	88.7	97.3	103.5				
Turbidity (NTU)	2.10	1.30	1.30				

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 45°, sunny, NNE 2mph
Field Technician(s): CML
Date: 5/12/20

Well ID : W-12			
Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.75
Top of Casing Elev. (feet)		Volume Purged (gals.)	4.5
Depth to Water from **TOC** (feet)	38.17	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	47.28	Time Sample Collected	10:34
Volume of Water in Casing (gals.)	1.48	Color	Clear
3 Well Volumes (gals.)	4.45	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	10:27	Lock Key #	2106
Purging Stop Time	10:33	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.5	3.0	4.5				
Stabilization Readings							
Time	10:29	10:31	10:33				
Temperature (°C)	8.99	9.03	9.05				
Conductance (uS/cm)	914	905	905				
Dissolved Oxygen (mg/L)	2.39	0.91	0.51				
pH	6.96	6.85	6.81				
ORP (mV)	-46.2	-19.0	-8.5				
Turbidity (NTU)	9.50	9.50	2.80				

Comments:

WENCK

Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 46°, sunny, WNW 2 mph
Field Technician(s): CML

Date: 5/12/20

Well ID : W-5

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.21
Top of Casing Elev. (feet)		Volume Purged (gals.)	6.0
Depth to Water from **TOC** (feet)	3.35	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump pers.
Depth to Bottom of Well from **TOC** (feet)	12.48	Time Sample Collected	13:19
Volume of Water in Casing (gals.)	1.49	Color	Org
3 Well Volumes (gals.)	4.46	Odor	N
Purging Device pers.	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	12:49	Lock Key #	2106
Purging Stop Time	13:18	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.5	3.0	4.5	6.0			
Stabilization Readings							
Time	12:57	13:05	13:10	13:18			
Temperature (°C)	5.45	5.45	5.38	5.40			
Conductance (uS/cm)	719	705	701	715			
Dissolved Oxygen (mg/L)	0.74	0.93	1.02	1.06			
pH	7.36	7.35	7.34	7.32			
ORP (mV)	-127.5	-119.4	-106.4	-98.8			
Turbidity (NTU)	22.0	55.0	9.6	3.10			

Comments:

- new tubing next time

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/12/20
Weather Conditions: 48°, sunny, WNW 2mph
Field Technician(s): ~~GML~~ HRB

Well ID : W-3

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.92
Top of Casing Elev. (feet)		Volume Purged (gals.)	48
Depth to Water from **TOC** (feet)	3.59	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	76.94	Time Sample Collected	13:30
Volume of Water in Casing (gals.)	11.96	Color	clear
3 Well Volumes (gals.)	35.87	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	12:56	Lock Key #	2106
Purging Stop Time	13:30	Damage to Well? (Y/N)	N

Volume Purged (gallons)	12.0	24.0	35.9	48.0			
Stabilization Readings							
Time	13:03	13:11	13:20	13:30			
Temperature (°C)	7.79	7.82	7.79	7.79			
Conductance (uS/cm)	531	547	550	549			
Dissolved Oxygen (mg/L)	925.85	–	–	–			
pH	8.20	7.89	7.85	7.82			
ORP (mV)	-205.6	-46.9	209.1	-8.8			
Turbidity (NTU)	55.0	19.0	5.3	3.8			

Comments:

WENCK

Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 48°, sunny, WNW 2mph
Field Technician(s): CML

Date: 5/12/20

Well ID : MW-106A

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.17
Top of Casing Elev. (feet)		Volume Purged (gals.)	6.7
Depth to Water from **TOC** (feet)	4.19	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	17.97	Time Sample Collected	14:35
Volume of Water in Casing (gals.)	2.25	Color	lt gray
3 Well Volumes (gals.)	6.74	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	13:53	Lock Key #	2106
Purging Stop Time	14:33	Damage to Well? (Y/N)	N

Volume Purged (gallons)	2.3	4.6	6.7				
Stabilization Readings							
Time	14:07	14:19	14:33				
Temperature (°C)	5.94	5.97	5.89				
Conductance (uS/cm)	341	371	527				
Dissolved Oxygen (mg/L)	1.40	1.18	1.61				
pH	7.23	7.20	7.20				
ORP (mV)	26.8	47.4	43.4				
Turbidity (NTU)	140	65.0	50.0				

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 48°, Sunny, WNW 2mph
Field Technician(s): ~~GWL~~ HRB

Date: 5/12/20

Well ID : W-104B

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.07
Top of Casing Elev. (feet)		Volume Purged (gals.)	30
Depth to Water from **TOC** (feet)	4.93	Purged Dry (Y/N)	Y
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	56.09	Time Sample Collected	14:31
Volume of Water in Casing (gals.)	8.34	Color	Colorless
3 Well Volumes (gals.)	25.02	Odor	None
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	13:58	Lock Key #	2106
Purging Stop Time	14:26	Damage to Well? (Y/N)	N

Volume Purged (gallons)	8.3	16.6	25.0				
Stabilization Readings							
Time	14:04	14:11	14:20				
Temperature (°C)	7.43	7.96	8.02				
Conductance (uS/cm)	584	698	679				
Dissolved Oxygen (mg/L)	—	—	—				
pH	8.14	7.88	7.85				
ORP (mV)	-46.4	-98.9	-103.2				
Turbidity (NTU)	120	95.	12				

Comments:
ran dry at 14:26 @ 30 gal

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/12/20
Weather Conditions: 52°; sunny, 5 5 mph
Field Technician(s): CML

Well ID : MW-301A			
Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.18
Top of Casing Elev. (feet)		Volume Purged (gals.)	6.1
Depth to Water from **TOC** (feet)	4.15	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	16.68	Time Sample Collected	15:35
Volume of Water in Casing (gals.)	2.04	Color	clear
3 Well Volumes (gals.)	6.12	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	15:00	Lock Key #	2106
Purging Stop Time	15:34	Damage to Well? (Y/N)	N

Volume Purged (gallons)	2.0	4.0	6.1				
Stabilization Readings							
Time	15:13	15:24	15:34				
Temperature (°C)	5.80	5.58	5.63				
Conductance (uS/cm)	690	893	895				
Dissolved Oxygen (mg/L)	0.46	0.41	0.38				
pH	6.96	6.96	6.96				
ORP (mV)	63.1	74.8	78.5				
Turbidity (NTU)	11.0	10.0	7.30				

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 52°, Sunny, S 5 mph
Field Technician(s): ~~GWL~~ HRB

Date: 5/12/20

Well ID : MW-301B

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.6
Top of Casing Elev. (feet)		Volume Purged (gals.)	32
Depth to Water from **TOC** (feet)	3.15	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	52.22	Time Sample Collected	15:24
Volume of Water in Casing (gals.)	7.99	Color	H Black
3 Well Volumes (gals.)	24	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y/Y
Purging Start Time	15:04	Lock Key #	2106
Purging Stop Time	15:24	Damage to Well? (Y/N)	N

Volume Purged (gallons)	8:00	16	24	32			
Stabilization Readings							
Time	15:09	15:14	15:18	15:23			
Temperature (°C)	7.55	7.54	7.58	7.58			
Conductance (uS/cm)	522	536	540	543			
Dissolved Oxygen (mg/L)	—	—	—	—			
pH	8.36	8.06	7.95	7.89			
ORP (mV)	-109.7	-173.2	-172.8	-181.0			
Turbidity (NTU)	40	13	11	9.60			

Comments:
very silty / Black at start

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/12/20
Weather Conditions: 54°; sunny, SSE 5mph
Field Technician(s): CML

Well ID : W-102A

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.15
Top of Casing Elev. (feet)		Volume Purged (gals.)	2.0
Depth to Water from **TOC** (feet)	16.20	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	20.29	Time Sample Collected	17:06
Volume of Water in Casing (gals.)	0.67	Color	Clear
3 Well Volumes (gals.) 2.0	[illegible]	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	16:52	Lock Key #	2100
Purging Stop Time	17:05	Damage to Well? (Y/N)	N

Volume Purged (gallons)	0.7	1.4	2.0				
Stabilization Readings							
Time	16:56	17:01	17:05				
Temperature (°C)	7.31	7.29	7.40				
Conductance (uS/cm)	405	429	425				
Dissolved Oxygen (mg/L)	10.49	10.19	10.00				
pH	7.44	7.40	7.40				
ORP (mV)	135.2	137.6	136.4				
Turbidity (NTU)	4.80	3.60	4.60				

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/12/20
Weather Conditions: 54°, sunny, SSE 5mph
Field Technician(s): ~~DVL~~ HRB

Well ID : W-102B

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.1
Top of Casing Elev. (feet)		Volume Purged (gals.)	11
Depth to Water from **TOC** (feet)	27.87	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	44.71	Time Sample Collected	15:12
Volume of Water in Casing (gals.)	2.74	Color	colorless
3 Well Volumes (gals.)	8.23	Odor	None
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y/Y
Purging Start Time	17:01	Lock Key #	2106
Purging Stop Time	17:17	Damage to Well? (Y/N)	N

Volume Purged (gallons)	2.75	5.5	8.23	11			
Stabilization Readings							
Time	17:03	17:06	17:08	17:11			
Temperature (°C)	8.77	8.82	8.84	9.01			
Conductance (uS/cm)	596	596	596	594			
Dissolved Oxygen (mg/L)	—	—	—	—			
pH	7.92	7.75	7.69	7.61			
ORP (mV)	321.9	3894	375.0	332.1			
Turbidity (NTU)	45.0	12.0	7.2	4.40			

Comments:

WENCK

Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 54°, sunny, SSE 5mph
Field Technician(s): ~~CML~~ HRB

Date: 9/12/20

Well ID : W-104A

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.33
Top of Casing Elev. (feet)		Volume Purged (gals.)	8.00
Depth to Water from **TOC** (feet)	5.51	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	17.64	Time Sample Collected 16:17	[redacted]
Volume of Water in Casing (gals.)	1.98	Color	Colorless
3 Well Volumes (gals.)	5.93	Odor	None
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y/Y
Purging Start Time	16:10	Lock Key #	2106
Purging Stop Time	16:16	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.98	3.96	5.93	8.0			
Stabilization Readings							
Time	16:12	16:13	16:14	16:15			
Temperature (°C)	6.06	6.05	6.04	6.03			
Conductance (uS/cm)	752	763	773	774			
Dissolved Oxygen (mg/L)	2.49	2.07	1.45	1.26			
pH	7.09	7.04	6.96	6.93			
ORP (mV)	65.7	67.4	68.1	67.8			
Turbidity (NTU)	34.0	6.2	4.7	4.2			

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 54°, sunny, SSE 5mph
Field Technician(s): CML
Date: 5/12/21

Well ID : W-164B

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.06
Top of Casing Elev. (feet)		Volume Purged (gals.)	26.5
Depth to Water from **TOC** (feet)	3.85	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	44.17	Time Sample Collected	16:32
Volume of Water in Casing (gals.)	6.57	Color	Clear
3 Well Volumes (gals.)	19.71	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	16:06	Lock Key #	2106
Purging Stop Time	16:31	Damage to Well? (Y/N)	N

Volume Purged (gallons)	6.6	13.2	19.7	26.5			
Stabilization Readings							
Time	16:12	16:19	16:25	16:31			
Temperature (°C)	8.43	8.44	8.44	8.42			
Conductance (uS/cm)	542	551	552	552			
Dissolved Oxygen (mg/L)	—	—	—	—			
pH	7.79	7.69	7.69	7.70			
ORP (mV)	16.1	12.5	-100.8	-48.0			
Turbidity (NTU)	80.0	16.0	11.0	4.00			

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/12/20
Weather Conditions: 54°, sunny, SE 4mph
Field Technician(s): ~~GM~~ HRB

Well ID : W-302A

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.51
Top of Casing Elev. (feet)		Volume Purged (gals.)	5.1
Depth to Water from **TOC** (feet)	20.53	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	30.95	Time Sample Collected	18:13
Volume of Water in Casing (gals.)	1.69	Color	colorless
3 Well Volumes (gals.)	5.09	Odor	None
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y/Y
Purging Start Time	18:03	Lock Key #	2106
Purging Stop Time	18:13	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.7	3.4	5.09				
Stabilization Readings							
Time 18:05	[illegible]	18:09	18:11				
Temperature (°C)	7.45	7.42	7.44				
Conductance (uS/cm)	436	442	446				
Dissolved Oxygen (mg/L)	9.01	8.40	8.12				
pH	7.38	7.30	7.26				
ORP (mV)	128.8	131.8	133.9				
Turbidity (NTU)	26.0	3.90	2.30				

Comments:

WENCK

Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 54°, sunny, SE 4 mph
Field Technician(s): CML
Date: 5/12/20

Well ID : W-302B

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.78
Top of Casing Elev. (feet)		Volume Purged (gals.)	18.8
Depth to Water from **TOC** (feet)	23.84	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	62.42	Time Sample Collected	18:11
Volume of Water in Casing (gals.)	6.29	Color	clear
3 Well Volumes (gals.)	18.8	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	17:47	Lock Key #	2106
Purging Stop Time	18:11	Damage to Well? (Y/N)	N

Volume Purged (gallons)	6.3	12.6	18.8				
Stabilization Readings							
Time	17:53	18:02	18:10				
Temperature (°C)	8.07	8.21	8.23				
Conductance (uS/cm)	299	495	539				
Dissolved Oxygen (mg/L)	—	—	—				
pH	8.90	8.17	7.94				
ORP (mV)	-134.5	-230.8	126.5				
Turbidity (NTU)	45.0	6.30	2.60				

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/12/20
Weather Conditions: 44°, sunny, calm
Field Technician(s): CML

Well ID : 9-2

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	
Top of Casing Elev. (feet)		Volume Purged (gals.)	
Depth to Water from **TOC** (feet)		Purged Dry (Y/N)	
Groundwater Elev. (feet)		Sampling Device	Grab / Submersible Pump
Depth to Bottom of Well from **TOC** (feet)		Time Sample Collected	11:52
Volume of Water in Casing (gals.)		Color	ORG
3 Well Volumes (gals.)		Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	
Purging Start Time		Lock Key #	
Purging Stop Time		Damage to Well? (Y/N)	

Volume Purged (gallons)							
Stabilization Readings							
Time	11:52						
Temperature (°C)	13.81						
Conductance (uS/cm)	989						
Dissolved Oxygen (mg/L)	4.26						
pH	6.93						
ORP (mV)	-68.7						
Turbidity (NTU)	>1000						

Comments:

- Sheen visible, but cattails nearby

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 44°, sunny, calm
Field Technician(s): CML

Date: 5/12/20

Well ID : S-1			
Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	
Top of Casing Elev. (feet)		Volume Purged (gals.)	
Depth to Water from **TOC** (feet)		Purged Dry (Y/N)	
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)		Time Sample Collected	11:17
Volume of Water in Casing (gals.)		Color	BRN
3 Well Volumes (gals.)		Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	
Purging Start Time		Lock Key #	
Purging Stop Time		Damage to Well? (Y/N)	

Volume Purged (gallons)							
Stabilization Readings							
Time	11:17						
Temperature (°C)	8.04						
Conductance (uS/cm)	848						
Dissolved Oxygen (mg/L)	3.57						
pH	7.09						
ORP (mV)	-12.0						
Turbidity (NTU)	15.0						

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/12/20
Weather Conditions: 54°, sunny, SE 4mph
Field Technician(s): CML

Well ID : LYS 111-2

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	
Top of Casing Elev. (feet)		Volume Purged (gals.)	
Depth to Water from **TOC** (feet)		Purged Dry (Y/N)	
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)		Time Sample Collected	19:10
Volume of Water in Casing (gals.)		Color	clear
3 Well Volumes (gals.)		Odor	Y
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	
Purging Start Time		Lock Key #	
Purging Stop Time		Damage to Well? (Y/N)	

Volume Purged (gallons)							
Stabilization Readings							
Time	19:10						
Temperature (°C)	7.84						
Conductance (uS/cm)	1349						
Dissolved Oxygen (mg/L)	4.76						
pH	6.85						
ORP (mV)	155.4						
Turbidity (NTU)	2.20						

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/12/20
Weather Conditions: 54°, sunny, SE 4mph
Field Technician(s): CML

Well ID : LYS III-1			
Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	/
Top of Casing Elev. (feet)		Volume Purged (gals.)	
Depth to Water from **TOC** (feet)		Purged Dry (Y/N)	
Groundwater Elev. (feet)		Sampling Device	pers. Submersible Pump
Depth to Bottom of Well from **TOC** (feet)		Time Sample Collected	20:00
Volume of Water in Casing (gals.)		Color	clear
3 Well Volumes (gals.)		Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	/
Purging Start Time		Lock Key #	
Purging Stop Time		Damage to Well? (Y/N)	/

Volume Purged (gallons)							
Stabilization Readings							
Time	20:00						
Temperature (°C)	8.06						
Conductance (uS/cm)	740						
Dissolved Oxygen (mg/L)	4.74						
pH	7.07						
ORP (mV)	-80.1						
Turbidity (NTU)	13.0						

Comments:

WENCK

Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/14/20
Weather Conditions: 63°, partly cloudy, SW 13mph
Field Technician(s): CML

Well ID : Benesch

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	
Top of Casing Elev. (feet)		Volume Purged (gals.)	
Depth to Water from **TOC** (feet)		Purged Dry (Y/N)	
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)		Time Sample Collected	12:20
Volume of Water in Casing (gals.)		Color	Clear
3 Well Volumes (gals.)		Odor	Slight Egg
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	
Purging Start Time		Lock Key #	
Purging Stop Time		Damage to Well? (Y/N)	

Grab

Volume Purged (gallons)							
Stabilization Readings							
Time	12:20						
Temperature (°C)	11.43						
Conductance (uS/cm)	498						
Dissolved Oxygen (mg/L)	—						
pH	7.55						
ORP (mV)	-102.2						
Turbidity (NTU)	6.10						

Comments:

Dup 3 collected

WENCK

Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 5/14/20
Weather Conditions: 63°, partly cloudy, SW 13mph
Field Technician(s): CML

Well ID : J. Ekre

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	
Top of Casing Elev. (feet)		Volume Purged (gals.)	
Depth to Water from **TOC** (feet)		Purged Dry (Y/N)	
Groundwater Elev. (feet)		Sampling Device	Submersible Pump (Grab)
Depth to Bottom of Well from **TOC** (feet)		Time Sample Collected	13:02
Volume of Water in Casing (gals.)		Color	Clear
3 Well Volumes (gals.)		Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	
Purging Start Time		Lock Key #	
Purging Stop Time		Damage to Well? (Y/N)	

Volume Purged (gallons)							
Stabilization Readings							
Time	13:02						
Temperature (°C)	15.51						
Conductance (uS/cm)	565						
Dissolved Oxygen (mg/L)	[illegible]	660.41					
pH	[illegible]	7.81					
ORP (mV)	[illegible]	-228.5					
Turbidity (NTU)	1.20						

Comments:

Faucet inside house

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 63°, partly cloudy, SW 13 mph
Field Technician(s): CML
Date: 5/14/20

Well ID : Deutscher

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	
Top of Casing Elev. (feet)		Volume Purged (gals.)	
Depth to Water from **TOC** (feet)		Purged Dry (Y/N)	
Groundwater Elev. (feet)		Sampling Device	Grab / ~~Submersible Pump~~
Depth to Bottom of Well from **TOC** (feet)		Time Sample Collected	11:33
Volume of Water in Casing (gals.)		Color	H BRN
3 Well Volumes (gals.)		Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	
Purging Start Time		Lock Key #	
Purging Stop Time		Damage to Well? (Y/N)	

Volume Purged (gallons)							
Stabilization Readings							
Time	11.33						
Temperature (°C)	12.39						
Conductance (uS/cm)	991						
Dissolved Oxygen (mg/L)	765.34						
pH	7.54						
ORP (mV)	-70.9						
Turbidity (NTU)	50.0						

Comments:

MS/MSD collected

Clay County Landfill

Water Levels Only- Spring event (even years)

W-17 - 3.75
W-9 - 3.71
W-10 - 2.42
W-16 - 7.78
W-11 - 3.94
C-4 - 5.57
C-8 - 5.11
C-9 - 5.93
W-15 - 15.14
~~C-11~~
C-10 - 8.98
TW-1 - 8.65
TW-2 - 8.49
TW-3 - 6.10
W-112 - 3.81
W-109 - 5.87
J-2 - 18.30
C-12 - 8.75
C-13 - 12.36
C-3 - 4.85
C-2 - 3.02
C-1 - 22.79
T2-A - 9.39
T2-B - 8.79
T2-C - 14.69
PP-1 - 4.10
PP-2 - 4.06
PP-3 - 2.75
T1-A - 6.80
T1-B - 8.94
T1-C - 8.02

Lys III-3 = Dry
Lys IV-1&2 = Dry
Lys IV-3 = Could not obtain sample

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

May 29, 2020

Andrew Feia
Wenck Associates, Inc.
3303 Fiechtner Drive
Suite 100
Fargo, ND 58103

RE: Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

Dear Andrew Feia:

Enclosed are the analytical results for sample(s) received by the laboratory on May 15, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Duluth

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

Sincerely,

Annika Asp
annika.asp@pacelabs.com
(612)607-1700
Project Manager

Enclosures

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

CERTIFICATIONS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

Pace Analytical Services Duluth Minnesota
4730 Oneota St., Duluth, MN 55807
Minnesota Dept of Ag Certification #: Via MN Dept of Health 027-137-152
Montana DHHS Certification #: CERT0102
Minnesota Dept of Health Certification #: 1733125
Wisconsin Dept of Agriculture Certification #: 480341
Wisconsin DNR Certification # : 999446800
North Dakota Certification #: R-105
Nevada DCNR Certification #: MN000372019-1

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10518091001	**S-1**	Water	05/12/20 11:17	05/15/20 09:05
10518091002	**S-2**	Water	05/12/20 11:52	05/15/20 09:05
10518091003	**S-3**	Water	05/11/20 18:00	05/15/20 09:05
10518091004	**Field Blank (S-1)**	Water	05/11/20 18:00	05/15/20 09:05
10518091005	**Field Blank (S-2)**	Water	05/12/20 11:17	05/15/20 09:05
10518091006	**Field Blank (S-3)**	Water	05/12/20 11:25	05/15/20 09:05

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(612)607-1700

SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10518091001	**S-1**	EPA 1631E	CPK	1	PASI-DUL
10518091002	**S-2**	EPA 1631E	CPK	1	PASI-DUL
10518091003	**S-3**	EPA 1631E	CPK	1	PASI-DUL
10518091004	**Field Blank (S-1)**	EPA 1631E	CPK	1	PASI-DUL
10518091005	**Field Blank (S-2)**	EPA 1631E	CPK	1	PASI-DUL
10518091006	**Field Blank (S-3)**	EPA 1631E	CPK	1	PASI-DUL

PASI-DUL = Pace Analytical Services - Duluth

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

Sample: S-1 **Lab ID: 10518091001** Collected: 05/12/20 11:17 Received: 05/15/20 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level	Analytical Method: EPA 1631E Preparation Method: EPA 1631E Pace Analytical Services - Duluth							
Mercury	**3.68**	ng/L	2.0	4	05/22/20 15:00	05/27/20 13:21	7439-97-6	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

Sample: S-2 **Lab ID: 10518091002** Collected: 05/12/20 11:52 Received: 05/15/20 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level	Analytical Method: EPA 1631E Preparation Method: EPA 1631E Pace Analytical Services - Duluth							
Mercury	**37.4**	ng/L	5.0	10	05/22/20 15:00	05/27/20 13:33	7439-97-6	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

Sample: S-3 **Lab ID: 10518091003** Collected: 05/11/20 18:00 Received: 05/15/20 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level	Analytical Method: EPA 1631E Preparation Method: EPA 1631E Pace Analytical Services - Duluth							
Mercury	**13.9**	ng/L	2.0	4	05/22/20 15:00	05/27/20 13:27	7439-97-6	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

Sample: Field Blank (S-1) **Lab ID: 10518091004** Collected: 05/11/20 18:00 Received: 05/15/20 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level	Analytical Method: EPA 1631E Preparation Method: EPA 1631E Pace Analytical Services - Duluth							
Mercury	**<0.50**	ng/L	0.50	1	05/22/20 15:00	05/27/20 11:27	7439-97-6	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

Sample: Field Blank (S-2) **Lab ID: 10518091005** Collected: 05/12/20 11:17 Received: 05/15/20 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level	Analytical Method: EPA 1631E Preparation Method: EPA 1631E Pace Analytical Services - Duluth							
Mercury	**<0.50**	ng/L	0.50	1	05/22/20 15:00	05/27/20 11:33	7439-97-6	

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

Sample: Field Blank (S-3) **Lab ID: 10518091006** Collected: 05/12/20 11:25 Received: 05/15/20 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level	Analytical Method: EPA 1631E Preparation Method: EPA 1631E Pace Analytical Services - Duluth							
Mercury	**<0.50**	ng/L	0.50	1	05/22/20 15:00	05/27/20 11:51	7439-97-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

QC Batch: 189972 Analysis Method: EPA 1631E
QC Batch Method: EPA 1631E Analysis Description: 1631E Mercury
Laboratory: Pace Analytical Services - Duluth
Associated Lab Samples: 10518091001, 10518091002, 10518091003, 10518091004, 10518091005, 10518091006

METHOD BLANK: 747446 Matrix: Water
Associated Lab Samples: 10518091001, 10518091002, 10518091003, 10518091004, 10518091005, 10518091006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	<0.50	0.50	05/27/20 10:39	

METHOD BLANK: 747447 Matrix: Water
Associated Lab Samples: 10518091001, 10518091002, 10518091003, 10518091004, 10518091005, 10518091006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	<0.50	0.50	05/27/20 10:45	

METHOD BLANK: 747451 Matrix: Water
Associated Lab Samples: 10518091001, 10518091002, 10518091003, 10518091004, 10518091005, 10518091006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	<0.50	0.50	05/27/20 12:21	

METHOD BLANK: 747454 Matrix: Water
Associated Lab Samples: 10518091001, 10518091002, 10518091003, 10518091004, 10518091005, 10518091006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	<0.50	0.50	05/27/20 13:51	

LABORATORY CONTROL SAMPLE: 747448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ng/L	5	5.20	104	77-123	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 747449 747450

Parameter	Units	12143961002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ng/L	0.729	2.5	2.5	3.30	3.33	103	104	71-125	1	24	

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

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 747452 747453

Parameter	Units	10517938002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ng/L	0.556	2.5	2.5	3.19	3.22	105	106	71-125	1	24	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10518091

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10518091001	**S-1**	EPA 1631E	189972	EPA 1631E	189975
10518091002	**S-2**	EPA 1631E	189972	EPA 1631E	189975
10518091003	**S-3**	EPA 1631E	189972	EPA 1631E	189975
10518091004	**Field Blank (S-1)**	EPA 1631E	189972	EPA 1631E	189975
10518091005	**Field Blank (S-2)**	EPA 1631E	189972	EPA 1631E	189975
10518091006	**Field Blank (S-3)**	EPA 1631E	189972	EPA 1631E	189975

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Minnesota Pollution Control Agency

MPCA Chain-of-Custody Form revision 2017.0328

* indicates a required field

Work Order Number: | COC Type: Standard | Page: 1 of 1

Turnaround Time: Standard | COC ID: 33549 line8

FOR LAB USE ONLY

Lab Work Order Sticker

PROJECT/CLIENT INFO

Facility Code:* SW-34 | Program Code (MDH Lab Only):

Project Name:* Clay County Sanitary Landfill - Spring 2020 Surface Water | Project Task Code:* PRJ07913

Project Manager: Andrew Feia

Potential Hazard? No | If yes, add information to **Sampler Comments** field

LABORATORY

Lab Name: Pace Analytical Services, LLC

Address: 315 Chestnut Street

Virgina, MN 55792

EPA Lab ID:*

SAMPLE DETAILS

SAMPLE TYPES
Sample=Routine Sample
QC-FB=Field Blank Sample
QC-FR=Field Replicate Sample
QC-TB=Trip Blank Sample
QC-EB=Equipment Blank
Treated-Mid=Treatment system sample
Treated-Post=Treatment system sample

SAMPLING METHODS
G=Grab sample
CT=Composite, time-paced w/AS
CF=Composite w/AS
D-T=Discrete,time-paced w/AS
D-F=Discrete,flow-paced w/AS
SW-GAS=Gas Sampling
Unknown=Unknown

LAB MATRICES
DW=Drinking Water
NW=Nonpotable Water
SD=Soil/Solid
AR=Air
BL=Biological Material
OT=Other
TS=Tissue

FIELD MATRICES
Wtr-Ground=Groundwater
Wtr-Surf=Surface Water
Wtr-Drink=Drinking Water
QC-BLANK=Artificial Blank Water
Leachate=Leachate Sample
Air-Indoor=Indoor Air
Gas-Soil=Soil Gas

ANALYSIS REQUESTED

MN Location Identifier*	Field Name	Sample Type*	Start Date* (mm/dd/yyyy)	Start Time* 24 hr (hh:mm)	Depth Start	Depth End	Depth Units (m or ft.)	Sampling Method*	Complete ONLY if Method is CT, CF, D-T, or D-F: End Date (mm/dd/yyyy)	Complete ONLY if Method is CT, CF, D-T, or D-F: End Time 24 hr (hh:mm)	Lab Matrix*	Field Matrix*	AIS	Sampler Comments (filter volume, special handling, etc.)	# of Cont	PRESERV.	HCL	HN03	H2S04	None	None		Lab Sample No.	#
																FF	N	N	N	N	N			
																ANALYSIS*	List 1-VOCs (Attached)	List 3-Total Metals (Attached)	List 3-Inorganics (Attached)	List 4-pH, Specific Conductance	LL Mercury 1631 E			
SP00049	S-1	Sample	5/12/2020	11:17				G			NW	WTR-Surf			1						x			1
SP00050	S-2	Sample	5/12/2020	11:52				G			NW	WTR-Surf			1						x			2
SP00051	S-3	Sample	5/11/2020	18:00				G			NW	WTR-Surf			1						x			3
QC-BLANK	Field Blank (S-1)	QC-FB	5/11/2020	18:00				G			NW	QC-BLANK			1						x			4
QC-BLANK	Field Blank (S-2)	QC-FB	5/12/2020	11:17				G			NW	QC-BLANK			1						x			5
QC-BLANK	Field Blank (S-3)	QC-FB	5/12/2020	11:25				G			NW	QC-BLANK			1						x			6
																								7
																								8
																								9
																								10

Sampler's Name:* Christina Lammers | **Phone#:** 701-893-2327

Sampler's Signature:* Christina Lammers

Sampler's Organization: Wenck Associates, Inc.

Billing Organization: Clay County - Kirk Rosenberger | **Acct#:** 10-115155

Address: 807 11th Street North, Moorhead, MN 56560

Courier Name: Speedee | **Tracking#:**

Receiving Comments:

Relinquished By/Affiliation	Date/Time	Accepted By/Affiliation	Date/Time
(Sampler) Christina Lammers /Wenck	5/13 14:30	B Matthews	5/15/20 0905
			2.9

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 25Feb2020 Page 1 of 1
	Document No.: F-VM-C-001-rev.14	Issuing Authority: Pace Virginia Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace Mpls

Project #: 10518091

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other: SD

Tracking Number:

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

Optional: Proj. Due Date: Proj. Name:

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

Thermometer Used: ☑ 140792808 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.6 **Cooler Temp Corrected °C:** 2.9 **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ NA

Temp should be above freezing to 6 °C Correction Factor: +0.3 **Date and Initials of Person Examining Contents:** BM 5/15/20

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5. If Fecal: ☐ <8 hours ☐ >8, <24 hours ☐ >24 hours
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation properly preserved?	☐ Yes	☐ No	☑ N/A	13. Note samples needing adjustment:
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☑ N/A	14.
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	16.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	
Pace Trip Blank Lot # (if purchased):				

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

Person Contacted: Date/Time:

Comments/Resolution:

SEE EXCEPTION FORM Y N

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Shaunna Davis **Date:** 5/15/20

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

Chain of Custody

WO#: 12144069

PM: LM2 Due Date: 06/01/20

CLIENT: PACE MPLS

☒ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: MN

Cert. Needed: ☒ Yes ☐ No

Workorder: 10518091 Workorder Name: PRJ07913 Clay County Sanitary

Owner Received Date: 5/15/2020 Results Requested By: 6/1/2020

Report To	Subcontract To
Annika Asp Pace Analytical Minnesota 1700 Elm Street Suite 200 Minneapolis, MN 55414 Phone (612)607-1700	Pace Analytical Duluth 4730 Oneota St. Duluth, MN 55807 Phone (218)727-6380

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Other	1631 LL Hg	LAB USE ONLY
1	S-1	PS	5/12/2020 11:17	10518091001	Water	1	X	
2	S-2	PS	5/12/2020 11:52	10518091002	Water	1	X	
3	S-3	PS	5/11/2020 18:00	10518091003	Water	1	X	
4	Field Blank (S-1)	PS	5/11/2020 18:00	10518091004	Water	1	X	
5	Field Blank (S-2)	PS	5/12/2020 11:17	10518091005	Water	1	X	
6	Field Blank (S-3)	PS	5/12/2020 11:25	10518091006	Water	1	X	

Transfers	Released By	Date/Time	Received By	Date/Time
1			B. Mathews	5/15/20 0905
2	[illegible] 5/15/20	1415	John Odett PACE	5/15/2020 15:45
3				

Comments

Cooler Temperature on Receipt 2.9 °C | Custody Seal Y or N | Received on Ice Y or N | Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 17June2019 Page 1 of 1
	Document No.: F-DUL-C-001-rev.07	Issuing Authority: Pace Duluth Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: PACE - MPLS

Project # WO#: 12144069

PM: LM2 Due Date: 06/01/20

CLIENT: PACE MPLS

Courier: ☐Fed Ex ☐UPS ☐USPS ☐Client ☐SpeeDee ☑Pace ☐Other:

Tracking Number:

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

Packing Material: ☑Bubble Wrap ☐Bubble Bags ☐None ☐Other:

Type of Ice: ☑Wet ☐Blue ☐None ☐Samples on ice, cooling process has begun

Is there evidence of ice formation in samples? ☐Yes ☑No **Biological Tissue Frozen?** ☐Yes ☐No ☑NA

Temp Blank? ☑Yes ☐No **Thermometer Used:** ☑01339252/1710 ☐122639816 **Correction Factor °C:** -0.3

Temp should be above freezing to 6 °C **Cooler Temp Read °C:** 1.9 **Cooler Temp Corrected °C:** 1.6

Date and Initials of Person Examining Contents: 05/15/2020

				Comments:
Chain of Custody Present?	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out?	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished?	☑Yes	☐No	☐N/A	3.
Sampler Name and Signature on COC?	☐Yes	☐No	☑N/A	4.
Samples Arrived within Hold Time?	☑Yes	☐No	☐N/A	5. If Fecal: ☐<8 hours ☐>8, <24 hours ☐>24 hours
Short Hold Time Analysis (<72 hr)?	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested?	☐Yes	☑No	☐N/A	7.
Sufficient Volume?	☑Yes	☐No	☐N/A	8.
Correct Containers Used?	☑Yes	☐No	☐N/A	9.
-Pace Containers Used?	☑Yes	☐No	☐N/A	
Containers Intact?	☑Yes	☐No	☐N/A	10.
Filtered Volume Received for Dissolved Tests?	☐Yes	☐No	☑N/A	11. Note if sediment is visible in the dissolved containers:
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑Yes	☐No	☐N/A	12.
All containers needing acid/base preservation properly preserved?	☐Yes	☐No	☑N/A	13. Note samples needing adjustment:
Headspace in Methyl Mercury Container	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm)?	☐Yes	☐No	☑N/A	15.
Trip Blank Present?	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present?	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

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

Person Contacted: Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE: Y N TEMPERATURE WAIVER ON FILE: Y N

Project Manager Review: Leah Morehouse **Date:** 05/18/2020

Minnesota Pollution Control Agency

MPCA Chain-of-Custody Form

revision 2017.0328

* indicates a required field

Work Order Number:

COC Type: Standard

Page: 1 of 1

Turnaround Time: Standard

COC ID: 33549 line8

WO#: 12144069

PM: LM2 **Due Date: 06/01/20**

CLIENT: PACE MPLS

Sticker

PROJECT/CLIENT INFO

Facility Code:*	SW-34	Program Code (MDH Lab Only):	
Project Name:*	Clay County Sanitary Landfill - Spring 2020 Surface Water	Project Task Code:*	PRJ07913
Project Manager:	Andrew Feia		
Potential Hazard?	No	If yes, add information to **Sampler Comments** field	

Lab Name: Pace Ana

Address: 315 Chest

Virgina, M

EPA Lab ID:*

SAMPLE DETAILS

SAMPLE TYPES
Sample=Routine Sample
QC-FB=Field Blank Sample
QC-FR=Field Replicate Sample
QC-TB=Trip Blank Sample
QC-EB=Equipment Blank
Treated-Mid=Treatment system sample
Treated-Post=Treatment system sample

SAMPLING METHODS
G=Grab sample
CT=Composite, time-paced w/AS
CF=Composite w/AS
D-T=Discrete,time-paced w/AS
D-F=Discrete,flow-paced w/AS
SW-GAS=Gas Sampling
Unknown=Unknown

LAB MATRICES
DW=Drinking Water
NW=Nonpotable Water
SD=Soil/Solid
AR=Air
BL=Biological Material
OT=Other
TS=Tissue

FIELD MATRICES
Wtr-Ground=Groundwater
Wtr-Surf=Surface Water
Wtr-Drink=Drinking Water
QC-BLANK=Artificial Blank Water
Leachate=Leachate Sample
Air-Indoor=Indoor Air
Gas-Soil=Soil Gas

MN Location Identifier*	Field Name	Sample Type*	Start Date* (mm/dd/yyyy)	Start Time* 24 hr (hh:mm)	Depth Start	Depth End	Depth Units (m or ft.)	Sampling Method*	Complete ONLY if Method is CT, CF, D-T, or D-F: End Date (mm/dd/yyyy)	Complete ONLY if Method is CT, CF, D-T, or D-F: End Time 24 hr (hh:mm)	Lab Matrix*	Field Matrix*	AIS	Sampler Comments (filter volume, special handling, etc.)	# of Cont	ANALYSIS*	PRESERV.	FF	HCL / N	HN03 / N	H2SO4 / N	None / N	None / N	Lab Sample No.	#
																ANALYSIS*	List 1-VOCs (Attached)	List 3-Total Metals (Attached)	List 3-Inorganics (Attached)	List 4-pH, Specific Conductance	LL Mercury 1631 E				
SP00049	S-1	Sample	5/12/2020	11:17				G			NW	WTR-Surf			1							x			1
SP00050	S-2	Sample	5/12/2020	11:52				G			NW	WTR-Surf			1							x			2
SP00051	S-3	Sample	5/11/2020	18:00				G			NW	WTR-Surf			1							x			3
QC-BLANK	Field Blank (S-1)	QC-FB	5/11/2020	18:00				G			NW	QC-BLANK			1							x			4
QC-BLANK	Field Blank (S-2)	QC-FB	5/12/2020	11:17				G			NW	QC-BLANK			1							x			5
QC-BLANK	Field Blank (S-3)	QC-FB	5/12/2020	11:25				G			NW	QC-BLANK			1							x			6
																									7
																									8
																									9
																									10

Sampler's Name:* Christina Lammers **Phone#:** 701-893-2327

Sampler's Signature:* Christina Lammers

Sampler's Organization: Wenck Associates, Inc.

Billing Organization: Clay County - Kirk Rosenberger **Acct#:** 10-115155

Address: 807 11th Street North, Moorhead, MN 56560

Courier Name: Speedee **Tracking#:**

Receiving Comments:

Relinquished By/Affiliation	Date/Time	Accepted By/Affiliation	Date/Time
(Sampler) /Wenck	5/13 14:30	B Mathews	5/15/20 0905
	5/15/20 1415	/PACE	5/15/20 15:45 2.9 1.6°C

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 25Feb2020 Page 1 of 1
	Document No.: F-VM-C-001-rev.14	Issuing Authority: Pace Virginia Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace Mpls

Project #:

WO#: 12144069

PM: LM2 **Due Date: 06/01/20**

CLIENT: PACE MPLS

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other: SD

Tracking Number:

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

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other:

Temp Blank? ☑ Yes ☐ No

Thermometer Used: ☑ 140792808 Type of Ice: ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.6 Cooler Temp Corrected °C: 2.9

Biological Tissue Frozen? ☐ Yes ☐ No ☑ NA

Temp should be above freezing to 6 °C Correction Factor: +0.3

Date and Initials of Person Examining Contents: BM 5/15/20

Comments: 8 5/15/20

Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5. If Fecal: ☐ <8 hours ☐ >8, <24 hours ☐ >24 hours
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: W				
All containers needing acid/base preservation properly preserved?	☐ Yes	☐ No	☑ N/A	13. Note samples needing adjustment:
Headspace in Methyl Mercury Container	☐ Yes	☐ No	☑ N/A	14.
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	15.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	16.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

SEE EXCEPTION FORM Y N

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Date:

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

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

June 01, 2020

Andrew Feia
Wenck Associates, Inc.
3303 Fiechtner Drive
Suite 100
Fargo, ND 58103

RE: Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Dear Andrew Feia:

Enclosed are the analytical results for sample(s) received by the laboratory on May 14, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

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

Sincerely,

Annika Asp
annika.asp@pacelabs.com
(612)607-1700
Project Manager

Enclosures

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CERTIFICATIONS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE SUMMARY

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10517973001	**MH-LYS-III-P1**	Water	05/12/20 20:00	05/14/20 11:35
10517973002	**MH-LYS-III-P2**	Water	05/12/20 19:10	05/14/20 11:35

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SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10517973001	**MH-LYS-III-P1**	EPA 200.8	PW1	12
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		SM 3500-Cr B Modified	AR3	1
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
		SM 5220D	KEO	1
10517973002	**MH-LYS-III-P2**	EPA 200.8	PW1	12
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		SM 3500-Cr B Modified	AR3	1
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
		SM 5220D	KEO	1

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Sample: MH-LYS-III-P1 **Lab ID: 10517973001** Collected: 05/12/20 20:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**57.7**	ug/L	0.50	1	05/22/20 06:36	05/28/20 18:28	7440-38-2	
Boron, Dissolved	**35.2**	ug/L	10.0	1	05/22/20 06:36	05/28/20 18:28	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/22/20 06:36	05/28/20 18:28	7440-43-9	
Calcium, Dissolved	**111000**	ug/L	800	20	05/22/20 06:36	05/28/20 18:31	7440-70-2	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/22/20 06:36	05/28/20 18:28	7440-50-8	
Iron, Dissolved	**5680**	ug/L	50.0	1	05/22/20 06:36	05/28/20 18:28	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/22/20 06:36	05/28/20 18:28	7439-92-1	
Magnesium, Dissolved	**46900**	ug/L	200	20	05/22/20 06:36	05/29/20 14:10	7439-95-4	
Manganese, Dissolved	**1050**	ug/L	10.0	20	05/22/20 06:36	05/28/20 18:31	7439-96-5	
Potassium, Dissolved	**3010**	ug/L	100	1	05/22/20 06:36	05/28/20 18:28	7440-09-7	
Sodium, Dissolved	**8820**	ug/L	50.0	1	05/22/20 06:36	05/28/20 18:28	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/22/20 06:36	05/28/20 18:28	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**5.97**	%		1		06/01/20 15:33		1M
Total Cations	**10**	meq/L		1		06/01/20 15:33		N2
Total Anions	**8.8**	meq/L		1		06/01/20 15:33		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/22/20 10:09	05/27/20 10:01	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/22/20 03:30	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/22/20 03:30	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/22/20 03:30	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/22/20 03:30	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/22/20 03:30	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/22/20 03:30	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/22/20 03:30	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/22/20 03:30	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 04:58	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/22/20 03:30	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/22/20 03:30	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		05/22/20 03:30	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 04:58	96-12-8	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Sample: MH-LYS-III-P1 **Lab ID: 10517973001** Collected: 05/12/20 20:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 04:58	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 04:58	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/22/20 03:30	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 03:30	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 03:30	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 04:58	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 03:30	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 03:30	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 03:30	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/22/20 03:30	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 04:58	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 04:58	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/22/20 03:30	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 04:58	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/22/20 03:30	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/22/20 03:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/22/20 03:30	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/22/20 03:30	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/22/20 03:30	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 03:30	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 03:30	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/22/20 03:30	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 03:30	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 03:30	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 04:58	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/22/20 03:30	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 04:58	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/22/20 03:30	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/22/20 03:30	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 04:58	75-01-4	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Sample: MH-LYS-III-P1 **Lab ID: 10517973001** Collected: 05/12/20 20:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/22/20 03:30	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/22/20 03:30	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/22/20 03:30	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%.	75-128	1		05/22/20 03:30	17060-07-0	
1,2-Dichloroethane-d4 (S)	105	%.	75-128	1		05/25/20 04:58	17060-07-0	
Toluene-d8 (S)	101	%.	75-125	1		05/22/20 03:30	2037-26-5	
Toluene-d8 (S)	101	%.	75-125	1		05/25/20 04:58	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125	1		05/22/20 03:30	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**351**	mg/L	5.0	1		05/21/20 18:38		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**509**	mg/L	10.0	1		05/19/20 11:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**18.0**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.5**	Std. Units	0.10	1		05/29/20 17:11		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**824**	umhos/cm	1.0	1		05/29/20 17:08		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**8.7**	mg/L	1.2	1		05/28/20 21:32	16887-00-6	
Sulfate	**75.0**	mg/L	1.2	1		05/28/20 21:32	14808-79-8	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B Modified Pace Analytical Services - Minneapolis							
Chromium, Hexavalent	**<0.010**	mg/L	0.010	1		05/15/20 19:26		FS,H3
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/26/20 11:25	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Sample: MH-LYS-III-P1 **Lab ID: 10517973001** Collected: 05/12/20 20:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/22/20 16:56		
5220D COD	Analytical Method: SM 5220D Preparation Method: SM 5220D Pace Analytical Services - Minneapolis							
Chemical Oxygen Demand	**<50.0**	mg/L	50.0	1	05/27/20 08:54	05/27/20 16:11		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Sample: MH-LYS-III-P2 **Lab ID: 10517973002** Collected: 05/12/20 19:10 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**107**	ug/L	0.50	1	05/22/20 06:36	05/28/20 18:34	7440-38-2	
Boron, Dissolved	**214**	ug/L	10.0	1	05/22/20 06:36	05/28/20 18:34	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/22/20 06:36	05/28/20 18:34	7440-43-9	
Calcium, Dissolved	**48600**	ug/L	800	20	05/22/20 06:36	05/28/20 18:47	7440-70-2	P6
Copper, Dissolved	**11.4**	ug/L	1.0	1	05/22/20 06:36	05/28/20 18:34	7440-50-8	
Iron, Dissolved	**69.2**	ug/L	50.0	1	05/22/20 06:36	05/28/20 18:34	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/22/20 06:36	05/28/20 18:34	7439-92-1	
Magnesium, Dissolved	**29400**	ug/L	200	20	05/22/20 06:36	05/29/20 14:14	7439-95-4	P6
Manganese, Dissolved	**54.4**	ug/L	0.50	1	05/22/20 06:36	05/28/20 18:34	7439-96-5	
Potassium, Dissolved	**246000**	ug/L	2000	20	05/22/20 06:36	05/28/20 18:47	7440-09-7	P6
Sodium, Dissolved	**128000**	ug/L	1000	20	05/22/20 06:36	05/28/20 18:47	7440-23-5	P6
Zinc, Dissolved	**8.1**	ug/L	5.0	1	05/22/20 06:36	05/28/20 18:34	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**6.08**	%		1		06/01/20 15:33		1M
Total Cations	**16.7**	meq/L		1		06/01/20 15:33		N2
Total Anions	**14.8**	meq/L		1		06/01/20 15:33		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/22/20 10:09	05/27/20 10:04	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/22/20 03:04	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/22/20 03:04	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/22/20 03:04	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/22/20 03:04	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/22/20 03:04	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/22/20 03:04	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/22/20 03:04	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/22/20 03:04	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 04:32	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/22/20 03:04	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/22/20 03:04	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		05/22/20 03:04	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 04:32	96-12-8	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Sample: MH-LYS-III-P2 **Lab ID: 10517973002** Collected: 05/12/20 19:10 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 04:32	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 04:32	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/22/20 03:04	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 03:04	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 03:04	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 04:32	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 03:04	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 03:04	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 03:04	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/22/20 03:04	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 04:32	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 04:32	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/22/20 03:04	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 04:32	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/22/20 03:04	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/22/20 03:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/22/20 03:04	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/22/20 03:04	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/22/20 03:04	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 03:04	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 03:04	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/22/20 03:04	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 03:04	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 03:04	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 04:32	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/22/20 03:04	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 04:32	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/22/20 03:04	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/22/20 03:04	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 04:32	75-01-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Sample: MH-LYS-III-P2 **Lab ID: 10517973002** Collected: 05/12/20 19:10 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/22/20 03:04	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/22/20 03:04	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/22/20 03:04	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	75-128	1		05/22/20 03:04	17060-07-0	
1,2-Dichloroethane-d4 (S)	105	%.	75-128	1		05/25/20 04:32	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1		05/22/20 03:04	2037-26-5	
Toluene-d8 (S)	101	%.	75-125	1		05/25/20 04:32	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125	1		05/22/20 03:04	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**697**	mg/L	5.0	1		05/21/20 16:37		M1
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**865**	mg/L	50.0	1		05/19/20 11:43		D6
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**81.0**	mg/L	10.0	1		05/18/20 15:14		D6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		05/29/20 16:45		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**1460**	umhos/cm	1.0	1		05/29/20 17:09		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**25.7**	mg/L	1.2	1		05/28/20 23:48	16887-00-6	M3
Sulfate	**8.0**	mg/L	1.2	1		05/28/20 23:48	14808-79-8	M3
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B Modified Pace Analytical Services - Minneapolis							
Chromium, Hexavalent	**<0.010**	mg/L	0.010	1		05/15/20 19:23		FS,H3
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/26/20 11:27	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Sample: MH-LYS-III-P2 **Lab ID: 10517973002** Collected: 05/12/20 19:10 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**0.52**	mg/L	0.10	1		05/22/20 16:57		M1
5220D COD	Analytical Method: SM 5220D Preparation Method: SM 5220D Pace Analytical Services - Minneapolis							
Chemical Oxygen Demand	**<50.0**	mg/L	50.0	1	05/27/20 08:54	05/27/20 16:11		

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 676620
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

METHOD BLANK: 3622114 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.20	0.20	05/27/20 09:23	

LABORATORY CONTROL SAMPLE: 3622115

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.9	98	85-115	

MATRIX SPIKE SAMPLE: 3622116

Parameter	Units	10517971003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	<0.20	5	5.1	102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622117 3622118

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	<0.20	5	5	5.2	4.9	105	98	70-130	7	20	

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

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 676612
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

METHOD BLANK: 3622093 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<0.50	0.50	05/28/20 16:54	
Boron, Dissolved	ug/L	<10.0	10.0	05/28/20 16:54	
Cadmium, Dissolved	ug/L	<0.080	0.080	05/28/20 16:54	
Calcium, Dissolved	ug/L	<40.0	40.0	05/28/20 16:54	
Copper, Dissolved	ug/L	<1.0	1.0	05/28/20 16:54	
Iron, Dissolved	ug/L	<50.0	50.0	05/28/20 16:54	
Lead, Dissolved	ug/L	<0.10	0.10	05/28/20 16:54	
Magnesium, Dissolved	ug/L	<10.0	10.0	05/28/20 16:54	
Manganese, Dissolved	ug/L	<0.50	0.50	05/28/20 16:54	
Potassium, Dissolved	ug/L	<100	100	05/28/20 16:54	
Sodium, Dissolved	ug/L	<50.0	50.0	05/28/20 16:54	
Zinc, Dissolved	ug/L	<5.0	5.0	05/28/20 16:54	

LABORATORY CONTROL SAMPLE: 3622094

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	96.2	96	85-115	
Boron, Dissolved	ug/L	100	97.1	97	85-115	
Cadmium, Dissolved	ug/L	100	97.2	97	85-115	
Calcium, Dissolved	ug/L	2000	2000	100	85-115	
Copper, Dissolved	ug/L	100	100	100	85-115	
Iron, Dissolved	ug/L	2000	2010	101	85-115	
Lead, Dissolved	ug/L	100	95.7	96	85-115	
Magnesium, Dissolved	ug/L	2000	2040	102	85-115	
Manganese, Dissolved	ug/L	100	99.1	99	85-115	
Potassium, Dissolved	ug/L	2000	2030	102	85-115	
Sodium, Dissolved	ug/L	2000	2010	101	85-115	
Zinc, Dissolved	ug/L	100	102	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622095 3622096

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	107	100	100	212	204	105	98	70-130	4	20	
Boron, Dissolved	ug/L	214	100	100	327	315	114	101	70-130	4	20	
Cadmium, Dissolved	ug/L	<0.080	100	100	95.9	93.7	96	94	70-130	2	20	
Calcium, Dissolved	ug/L	48600	2000	2000	52200	49700	180	54	70-130	5	20	P6

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622095 3622096

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper, Dissolved	ug/L	11.4	100	100	109	105	97	94	70-130	3	20	
Iron, Dissolved	ug/L	69.2	2000	2000	2140	2080	104	100	70-130	3	20	
Lead, Dissolved	ug/L	<0.10	100	100	94.0	90.7	94	91	70-130	4	20	
Magnesium, Dissolved	ug/L	29400	2000	2000	32500	31100	157	89	70-130	4	20	P6
Manganese, Dissolved	ug/L	54.4	100	100	157	152	103	98	70-130	3	20	
Potassium, Dissolved	ug/L	246000	2000	2000	256000	243000	498	-128	70-130	5	20	E,P6
Sodium, Dissolved	ug/L	128000	2000	2000	134000	127000	313	-40	70-130	5	20	E,P6
Zinc, Dissolved	ug/L	8.1	100	100	110	107	102	99	70-130	3	20	

MATRIX SPIKE SAMPLE: 3622097

Parameter	Units	10517971001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	0.70	100	102	101	70-130	
Boron, Dissolved	ug/L	19.8	100	118	99	70-130	
Cadmium, Dissolved	ug/L	<0.080	100	102	102	70-130	
Calcium, Dissolved	ug/L	102000	2000	102000	-5	70-130	P6
Copper, Dissolved	ug/L	1.3	100	102	101	70-130	
Iron, Dissolved	ug/L	<50.0	2000	2160	106	70-130	
Lead, Dissolved	ug/L	<0.10	100	100	100	70-130	
Magnesium, Dissolved	ug/L	63000	2000	65400	121	70-130	
Manganese, Dissolved	ug/L	65.1	100	168	102	70-130	
Potassium, Dissolved	ug/L	715	2000	2810	105	70-130	
Sodium, Dissolved	ug/L	9670	2000	11500	91	70-130	
Zinc, Dissolved	ug/L	<5.0	100	108	105	70-130	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 676819
QC Batch Method: EPA 8260B
Analysis Method: EPA 8260B
Analysis Description: 8260B MSV LLW by SIMSCAN
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

METHOD BLANK: 3622840 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.40	0.40	05/22/20 02:12	
1,1,1-Trichloroethane	ug/L	<0.40	0.40	05/22/20 02:12	
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	05/22/20 02:12	
1,1,2-Trichloroethane	ug/L	<0.40	0.40	05/22/20 02:12	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	1.0	05/22/20 02:12	
1,1-Dichloroethane	ug/L	<0.40	0.40	05/22/20 02:12	
1,1-Dichloroethene	ug/L	<0.40	0.40	05/22/20 02:12	
1,1-Dichloropropene	ug/L	<0.40	0.40	05/22/20 02:12	
1,2,3-Trichlorobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
1,2,3-Trichloropropane	ug/L	<0.010	0.010	05/25/20 03:40	
1,2,4-Trichlorobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
1,2,4-Trimethylbenzene	ug/L	<1.0	1.0	05/22/20 02:12	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	0.12	05/25/20 03:40	
1,2-Dibromoethane (EDB)	ug/L	<0.050	0.050	05/25/20 03:40	
1,2-Dichlorobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
1,2-Dichloroethane	ug/L	<0.20	0.20	05/25/20 03:40	
1,2-Dichloropropane	ug/L	<0.40	0.40	05/22/20 02:12	
1,3,5-Trimethylbenzene	ug/L	<0.40	0.40	05/22/20 02:12	
1,3-Dichlorobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
1,3-Dichloropropane	ug/L	<0.40	0.40	05/22/20 02:12	
1,4-Dichlorobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
2,2-Dichloropropane	ug/L	<1.0	1.0	05/22/20 02:12	
2-Butanone (MEK)	ug/L	<5.0	5.0	05/22/20 02:12	
2-Chlorotoluene	ug/L	<0.40	0.40	05/22/20 02:12	
4-Chlorotoluene	ug/L	<0.40	0.40	05/22/20 02:12	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	05/22/20 02:12	
Acetone	ug/L	<20.0	20.0	05/22/20 02:12	
Allyl chloride	ug/L	<4.0	4.0	05/22/20 02:12	
Benzene	ug/L	<0.20	0.20	05/22/20 02:12	
Bromobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
Bromochloromethane	ug/L	<1.0	1.0	05/22/20 02:12	
Bromodichloromethane	ug/L	<0.40	0.40	05/22/20 02:12	
Bromoform	ug/L	<1.0	1.0	05/22/20 02:12	
Bromomethane	ug/L	<1.0	1.0	05/22/20 02:12	
Carbon tetrachloride	ug/L	<0.050	0.050	05/25/20 03:40	
Chlorobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
Chloroethane	ug/L	<1.0	1.0	05/22/20 02:12	
Chloroform	ug/L	<1.0	1.0	05/22/20 02:12	
Chloromethane	ug/L	<1.0	1.0	05/22/20 02:12	
cis-1,2-Dichloroethene	ug/L	<0.40	0.40	05/22/20 02:12	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

METHOD BLANK: 3622840 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	ug/L	<0.40	0.40	05/25/20 03:40	
Dibromochloromethane	ug/L	<0.40	0.40	05/25/20 03:40	
Dibromomethane	ug/L	<1.0	1.0	05/22/20 02:12	
Dichlorodifluoromethane	ug/L	<1.0	1.0	05/22/20 02:12	
Dichlorofluoromethane	ug/L	<1.0	1.0	05/22/20 02:12	
Diethyl ether (Ethyl ether)	ug/L	<4.0	4.0	05/22/20 02:12	
Ethylbenzene	ug/L	<0.40	0.40	05/22/20 02:12	
Hexachloro-1,3-butadiene	ug/L	<0.10	0.10	05/25/20 03:40	
Isopropylbenzene (Cumene)	ug/L	<0.40	0.40	05/22/20 02:12	
m&p-Xylene	ug/L	<0.80	0.80	05/22/20 02:12	
Methyl-tert-butyl ether	ug/L	<0.40	0.40	05/22/20 02:12	
Methylene Chloride	ug/L	<1.0	1.0	05/22/20 02:12	
n-Butylbenzene	ug/L	<0.40	0.40	05/22/20 02:12	
n-Propylbenzene	ug/L	<0.40	0.40	05/22/20 02:12	
Naphthalene	ug/L	<1.0	1.0	05/22/20 02:12	
o-Xylene	ug/L	<0.40	0.40	05/22/20 02:12	
p-Isopropyltoluene	ug/L	<0.40	0.40	05/22/20 02:12	
sec-Butylbenzene	ug/L	<0.40	0.40	05/22/20 02:12	
Styrene	ug/L	<0.40	0.40	05/22/20 02:12	
tert-Butylbenzene	ug/L	<0.40	0.40	05/22/20 02:12	
Tetrachloroethene	ug/L	<0.40	0.40	05/22/20 02:12	
Tetrahydrofuran	ug/L	<10.0	10.0	05/22/20 02:12	
Toluene	ug/L	<0.40	0.40	05/22/20 02:12	
trans-1,2-Dichloroethene	ug/L	<0.40	0.40	05/22/20 02:12	
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	05/25/20 03:40	
Trichloroethene	ug/L	<0.050	0.050	05/25/20 03:40	
Trichlorofluoromethane	ug/L	<0.40	0.40	05/22/20 02:12	
Vinyl chloride	ug/L	<0.050	0.050	05/25/20 03:40	
Xylene (Total)	ug/L	<1.2	1.2	05/22/20 02:12	
1,2-Dichloroethane-d4 (S)	%.	105	75-128	05/25/20 03:40	
1,2-Dichloroethane-d4 (S)	%.	105	75-128	05/22/20 02:12	
4-Bromofluorobenzene (S)	%.	102	75-125	05/22/20 02:12	
Toluene-d8 (S)	%.	103	75-125	05/22/20 02:12	
Toluene-d8 (S)	%.	101	75-125	05/25/20 03:40	

LABORATORY CONTROL SAMPLE: 3622841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	10	11.0	110	75-125	
1,1,1-Trichloroethane	ug/L	10	10	100	68-131	
1,1,2,2-Tetrachloroethane	ug/L	10	9.1	91	71-125	
1,1,2-Trichloroethane	ug/L	10	10.4	104	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	10	9.4	94	71-125	
1,1-Dichloroethane	ug/L	10	9.0	90	71-125	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

LABORATORY CONTROL SAMPLE: 3622841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	10	9.3	93	66-126	
1,1-Dichloropropene	ug/L	10	9.0	90	58-134	
1,2,3-Trichlorobenzene	ug/L	10	9.8	98	71-125	
1,2,3-Trichloropropane	ug/L	1	1.0	102	75-125	
1,2,4-Trichlorobenzene	ug/L	10	9.5	95	72-125	
1,2,4-Trimethylbenzene	ug/L	10	10.1	101	75-125	
1,2-Dibromo-3-chloropropane	ug/L	2.5	2.5	100	71-125	
1,2-Dibromoethane (EDB)	ug/L	1	1.0	104	71-125	
1,2-Dichlorobenzene	ug/L	10	9.7	97	75-125	
1,2-Dichloroethane	ug/L	1	1.1	105	75-131	
1,2-Dichloropropane	ug/L	10	9.8	98	73-125	
1,3,5-Trimethylbenzene	ug/L	10	9.9	99	75-125	
1,3-Dichlorobenzene	ug/L	10	10.3	103	75-125	
1,3-Dichloropropane	ug/L	10	9.7	97	75-125	
1,4-Dichlorobenzene	ug/L	10	8.8	88	75-125	
2,2-Dichloropropane	ug/L	10	9.0	90	57-144	
2-Butanone (MEK)	ug/L	50	42.0	84	51-144	
2-Chlorotoluene	ug/L	10	10	100	75-125	
4-Chlorotoluene	ug/L	10	10.6	106	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	50	48.9	98	72-125	
Acetone	ug/L	50	39.1	78	34-150	
Allyl chloride	ug/L	10	7.9	79	58-132	
Benzene	ug/L	10	9.2	92	70-125	
Bromobenzene	ug/L	10	9.0	90	75-125	
Bromochloromethane	ug/L	10	9.9	99	72-126	
Bromodichloromethane	ug/L	10	10.3	103	73-128	
Bromoform	ug/L	10	10.6	106	70-125	
Bromomethane	ug/L	10	10.7	107	31-150	SS
Carbon tetrachloride	ug/L	1	1.1	107	68-136	
Chlorobenzene	ug/L	10	10	100	75-125	
Chloroethane	ug/L	10	8.7	87	70-128	
Chloroform	ug/L	10	9.9	99	72-125	
Chloromethane	ug/L	10	8.5	85	63-129	
cis-1,2-Dichloroethene	ug/L	10	9.5	95	69-128	
cis-1,3-Dichloropropene	ug/L	1	1.0	100	71-125	
Dibromochloromethane	ug/L	1	1.0	100	71-125	
Dibromomethane	ug/L	10	10	100	74-130	
Dichlorodifluoromethane	ug/L	10	8.5	85	65-134	
Dichlorofluoromethane	ug/L	10	9.3	93	74-125	
Diethyl ether (Ethyl ether)	ug/L	10	8.6	86	64-126	
Ethylbenzene	ug/L	10	9.9	99	75-125	
Hexachloro-1,3-butadiene	ug/L	1	0.96	96	65-133	
Isopropylbenzene (Cumene)	ug/L	10	11.5	115	75-125	
m&p-Xylene	ug/L	20	20.3	102	75-125	
Methyl-tert-butyl ether	ug/L	10	9.0	90	68-125	
Methylene Chloride	ug/L	10	10.5	105	69-125	
n-Butylbenzene	ug/L	10	9.5	95	75-125	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

LABORATORY CONTROL SAMPLE: 3622841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
n-Propylbenzene	ug/L	10	9.3	93	74-125	
Naphthalene	ug/L	10	9.4	94	66-125	
o-Xylene	ug/L	10	9.9	99	75-125	
p-Isopropyltoluene	ug/L	10	10.1	101	75-125	
sec-Butylbenzene	ug/L	10	10	100	75-125	
Styrene	ug/L	10	10.6	106	75-125	
tert-Butylbenzene	ug/L	10	9.7	97	75-125	
Tetrachloroethene	ug/L	10	9.7	97	75-125	
Tetrahydrofuran	ug/L	100	92.5	93	55-139	
Toluene	ug/L	10	9.1	91	75-125	
trans-1,2-Dichloroethene	ug/L	10	9.1	91	67-127	
trans-1,3-Dichloropropene	ug/L	1	0.98	98	70-125	
Trichloroethene	ug/L	1	1.0	100	69-125	
Trichlorofluoromethane	ug/L	10	9.7	97	70-131	
Vinyl chloride	ug/L	1	0.90	90	68-132	
Xylene (Total)	ug/L	30	30.2	101	75-125	
1,2-Dichloroethane-d4 (S)	%.			96	75-128	
1,2-Dichloroethane-d4 (S)	%.			102	75-128	
4-Bromofluorobenzene (S)	%.			96	75-125	
Toluene-d8 (S)	%.			99	75-125	
Toluene-d8 (S)	%.			100	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622842 3622843

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	<0.40	10	10	11.1	10.7	111	107	75-125	4	30	
1,1,1-Trichloroethane	ug/L	<0.40	10	10	11.3	10.5	113	105	65-148	7	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.40	10	10	9.4	9.1	94	91	72-125	4	30	
1,1,2-Trichloroethane	ug/L	<0.40	10	10	10.1	9.9	101	99	75-125	2	30	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	10	10	10.6	10.4	106	104	75-145	1	30	
1,1-Dichloroethane	ug/L	<0.40	10	10	10.3	9.9	103	99	73-136	4	30	
1,1-Dichloroethene	ug/L	<0.40	10	10	11.2	10.6	112	106	69-138	5	30	
1,1-Dichloropropene	ug/L	<0.40	10	10	10.8	10.6	108	106	60-150	1	30	
1,2,3-Trichlorobenzene	ug/L	<0.40	10	10	9.5	9.5	95	95	67-135	1	30	
1,2,3-Trichloropropane	ug/L	<0.010	1	1	1.1	1.1	105	111	49-150	6	30	
1,2,4-Trichlorobenzene	ug/L	<0.40	10	10	9.5	9.4	95	94	68-133	1	30	
1,2,4-Trimethylbenzene	ug/L	<1.0	10	10	11.1	10.8	111	108	75-135	3	30	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	2.5	2.5	2.6	2.8	104	110	53-150	6	30	
1,2-Dibromoethane (EDB)	ug/L	<0.050	1	1	1.1	1.2	109	116	49-150	6	30	
1,2-Dichlorobenzene	ug/L	<0.40	10	10	10	9.8	100	98	75-125	2	30	
1,2-Dichloroethane	ug/L	<0.20	1	1	1.1	1.2	114	121	42-150	6	30	
1,2-Dichloropropane	ug/L	<0.40	10	10	10.3	9.6	103	96	71-125	6	30	
1,3,5-Trimethylbenzene	ug/L	<0.40	10	10	10.8	10.5	108	105	75-129	3	30	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622842 3622843

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,3-Dichlorobenzene	ug/L	<0.40	10	10	10.5	9.9	105	99	75-125	6	30	
1,3-Dichloropropane	ug/L	<0.40	10	10	9.8	9.6	98	96	75-125	2	30	
1,4-Dichlorobenzene	ug/L	<0.40	10	10	9.7	9.7	97	97	75-125	0	30	
2,2-Dichloropropane	ug/L	<1.0	10	10	9.3	8.8	93	88	67-150	5	30	
2-Butanone (MEK)	ug/L	<5.0	50	50	42.5	40.1	85	80	49-138	6	30	
2-Chlorotoluene	ug/L	<0.40	10	10	10.9	10.4	109	104	75-130	4	30	
4-Chlorotoluene	ug/L	<0.40	10	10	11.1	10.9	111	109	75-133	2	30	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	50	50	50.1	46.9	100	94	75-126	7	30	
Acetone	ug/L	<20.0	50	50	42.3	42.8	85	86	51-125	1	30	
Allyl chloride	ug/L	<4.0	10	10	9.7	9.2	97	92	50-150	6	30	
Benzene	ug/L	<0.20	10	10	10.1	9.9	101	99	68-129	2	30	
Bromobenzene	ug/L	<0.40	10	10	9.5	9.2	95	92	75-125	3	30	
Bromochloromethane	ug/L	<1.0	10	10	10.2	9.8	102	98	73-132	3	30	
Bromodichloromethane	ug/L	<0.40	10	10	10.3	10.1	103	101	75-127	2	30	
Bromoform	ug/L	<1.0	10	10	10.2	9.2	102	92	71-125	10	30	
Bromomethane	ug/L	<1.0	10	10	13.2	13.6	132	136	30-150	3	30	SS
Carbon tetrachloride	ug/L	<0.050	1	1	1.2	1.3	124	133	30-150	7	30	
Chlorobenzene	ug/L	<0.40	10	10	10.2	9.9	102	99	75-125	3	30	
Chloroethane	ug/L	<1.0	10	10	9.9	9.6	99	96	68-141	4	30	
Chloroform	ug/L	<1.0	10	10	10.6	10.0	106	100	61-129	6	30	
Chloromethane	ug/L	<1.0	10	10	9.9	9.7	99	97	46-150	2	30	
cis-1,2-Dichloroethene	ug/L	<0.40	10	10	10.4	10.2	104	102	68-142	1	30	
cis-1,3-Dichloropropene	ug/L	<0.40	1	1	1.0	1.1	105	111	48-150	6	30	
Dibromochloromethane	ug/L	<0.40	1	1	1.1	1.1	106	111	50-150	5	30	
Dibromomethane	ug/L	<1.0	10	10	10.4	9.7	104	97	69-137	6	30	
Dichlorodifluoromethane	ug/L	<1.0	10	10	10.5	10.6	105	106	68-150	1	30	
Dichlorofluoromethane	ug/L	<1.0	10	10	10.1	9.9	101	99	73-135	2	30	
Diethyl ether (Ethyl ether)	ug/L	<4.0	10	10	9.7	9.4	97	94	61-128	3	30	
Ethylbenzene	ug/L	<0.40	10	10	10.8	10.4	108	104	75-131	4	30	
Hexachloro-1,3-butadiene	ug/L	<0.10	1	1	1.1	1.2	113	118	40-150	4	30	
Isopropylbenzene (Cumene)	ug/L	<0.40	10	10	12.6	12.1	126	121	75-133	5	30	
m&p-Xylene	ug/L	<0.80	20	20	22.7	21.5	113	107	75-135	5	30	
Methyl-tert-butyl ether	ug/L	<0.40	10	10	9.9	9.6	99	96	67-126	4	30	
Methylene Chloride	ug/L	<1.0	10	10	10.5	10.2	105	102	61-137	3	30	
n-Butylbenzene	ug/L	<0.40	10	10	10.4	10.4	104	104	75-136	0	30	
n-Propylbenzene	ug/L	<0.40	10	10	10.4	10.2	104	102	75-139	2	30	
Naphthalene	ug/L	<1.0	10	10	9.5	9.5	95	95	64-127	0	30	
o-Xylene	ug/L	<0.40	10	10	10.8	10.1	108	101	75-127	6	30	
p-Isopropyltoluene	ug/L	<0.40	10	10	11.1	10.9	111	109	75-135	2	30	
sec-Butylbenzene	ug/L	<0.40	10	10	11.2	11.0	112	110	75-141	2	30	
Styrene	ug/L	<0.40	10	10	11.0	10.5	110	105	75-125	4	30	
tert-Butylbenzene	ug/L	<0.40	10	10	10.8	10.6	108	106	75-141	1	30	
Tetrachloroethene	ug/L	<0.40	10	10	10.3	10.3	103	103	75-135	1	30	
Tetrahydrofuran	ug/L	<10.0	100	100	93.7	90.6	94	91	45-145	3	30	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622842 3622843

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene	ug/L	<0.40	10	10	9.9	9.5	99	95	74-125	4	30	
trans-1,2-Dichloroethene	ug/L	<0.40	10	10	10.3	9.9	103	99	68-137	4	30	
trans-1,3-Dichloropropene	ug/L	<0.40	1	1	1.0	1.1	105	112	50-150	6	30	
Trichloroethene	ug/L	<0.050	1	1	1.1	1.2	112	119	41-150	6	30	
Trichlorofluoromethane	ug/L	<0.40	10	10	11.1	10.4	111	104	72-150	6	30	
Vinyl chloride	ug/L	<0.050	1	1	1.0	0.99	100	99	30-150	2	30	
Xylene (Total)	ug/L	<1.2	30	30	33.4	31.6	111	105	75-131	6	30	
1,2-Dichloroethane-d4 (S)	%.						102	101	75-128			
1,2-Dichloroethane-d4 (S)	%.						102	99	75-128			
1,2-Dichloroethane-d4 (S)	%.						99	101	75-128			
1,2-Dichloroethane-d4 (S)	%.						99	99	75-128			
4-Bromofluorobenzene (S)	%.						97	98	75-125			
Toluene-d8 (S)	%.						98	97	75-125			
Toluene-d8 (S)	%.						98	98	75-125			
Toluene-d8 (S)	%.						98	97	75-125			
Toluene-d8 (S)	%.						98	98	75-125			

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 676757
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

METHOD BLANK: 3622643 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<5.0	5.0	05/21/20 16:06	

LABORATORY CONTROL SAMPLE & LCSD: 3622644 3622645

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	42.3	42.5	106	106	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622646 3622647

Parameter	Units	10518129001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	44.1	40	40	84.7	61.4	101	43	80-120	32	20	M1,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622648 3622649

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	697	40	40	779	751	207	136	80-120	4	20	M1

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 676008
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

METHOD BLANK: 3618951 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<10.0	10.0	05/19/20 11:43	

LABORATORY CONTROL SAMPLE: 3618952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	986	99	80-120	

SAMPLE DUPLICATE: 3618953

Parameter	Units	10517973002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	865	915	6	5	D6

SAMPLE DUPLICATE: 3618954

Parameter	Units	10518119005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	307	311	1	5	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 675801
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

METHOD BLANK: 3618146 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<10.0	10.0	05/18/20 15:14	

LABORATORY CONTROL SAMPLE: 3618147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	120	120	80-120	

SAMPLE DUPLICATE: 3618148

Parameter	Units	10517964015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	<10.0	<10.0		5	

SAMPLE DUPLICATE: 3618149

Parameter	Units	10517973002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	81.0	97.0	18	5	D6

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 678205
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

LABORATORY CONTROL SAMPLE: 3629809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	100	98-102	H6

SAMPLE DUPLICATE: 3629810

Parameter	Units	10517929006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	0	3	H6

SAMPLE DUPLICATE: 3629811

Parameter	Units	10517973002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	6.9	0	3	H6

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 678208
QC Batch Method: SM 2510
Analysis Method: SM 2510
Analysis Description: SM2510 Specific Conductance
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

METHOD BLANK: 3629825 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	<1.0	1.0	05/29/20 16:54	

LABORATORY CONTROL SAMPLE: 3629826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	998	100	90-110	

SAMPLE DUPLICATE: 3629827

Parameter	Units	10517929005 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	458	465	2	20	

SAMPLE DUPLICATE: 3629828

Parameter	Units	10517973002 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1460	1460	0	20	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 677791
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

METHOD BLANK: 3627619 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.2	1.2	05/28/20 17:07	
Sulfate	mg/L	<1.2	1.2	05/28/20 17:07	

LABORATORY CONTROL SAMPLE: 3627620

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.0	96	90-110	
Sulfate	mg/L	12.5	12.3	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627621 3627622

Parameter	Units	10517870001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.2	12.5	12.5	11.1	11.2	79	80	90-110	0	20	M3
Sulfate	mg/L	3.2	12.5	12.5	13.4	13.6	81	83	90-110	1	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627623 3627624

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	25.7	12.5	12.5	32.0	32.3	51	52	90-110	1	20	M3
Sulfate	mg/L	8.0	12.5	12.5	18.1	18.2	81	82	90-110	1	20	M3

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 675691
QC Batch Method: SM 3500-Cr B Modified
Analysis Method: SM 3500-Cr B Modified
Analysis Description: Chromium, Hexavalent by 3500
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

METHOD BLANK: 3617630 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.010	0.010	05/15/20 19:21	FS

LABORATORY CONTROL SAMPLE: 3617631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	0.25	0.25	101	90-110	FS

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3617632 3617633

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	mg/L	<0.010	0.25	0.25	0.24	0.23	97	92	85-115	5	20	FS,H3

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 676220
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

METHOD BLANK: 3619933 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	<0.10	0.10	05/26/20 11:15	

LABORATORY CONTROL SAMPLE: 3619934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.5	2.4	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3619935 3619937

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	<0.10	2.5	2.5	2.5	2.4	99	95	90-110	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3619938 3619939

Parameter	Units	10518163001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	ND	2.5	2.5	1.7	1.9	66	74	90-110	12	20	M1

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 677064
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

METHOD BLANK: 3624364 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.10	0.10	05/22/20 17:07	

LABORATORY CONTROL SAMPLE: 3624365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	1	1.1	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3624366 3624367

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.52	1	1	1.7	1.7	116	116	90-110	1	20	M1

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

QC Batch: 677500
QC Batch Method: SM 5220D
Analysis Method: SM 5220D
Analysis Description: 5220D COD
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517973001, 10517973002

METHOD BLANK: 3626292 Matrix: Water
Associated Lab Samples: 10517973001, 10517973002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	<50.0	50.0	05/27/20 16:07	

LABORATORY CONTROL SAMPLE: 3626293

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	300	301	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3626294 3626295

Parameter	Units	10518666001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chemical Oxygen Demand	mg/L	1540	2500	2500	3780	3780	90	90	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3626296 3626297

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chemical Oxygen Demand	mg/L	<50.0	250	250	299	293	102	100	80-120	2	20	

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QUALIFIERS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1M	Due to required dilutions on anion and/or cation analysis, the cation anion balance calculation resulted in a non-balance state.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
FS	The sample was filtered in the laboratory prior to analysis.
H3	Sample was received or analysis requested beyond the recognized method holding time.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
R1	RPD value was outside control limits.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517973

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10517973001	**MH-LYS-III-P1**	EPA 200.8	676612	EPA 200.8	677018
10517973002	**MH-LYS-III-P2**	EPA 200.8	676612	EPA 200.8	677018
10517973001	**MH-LYS-III-P1**	SM 1030E	677610		
10517973002	**MH-LYS-III-P2**	SM 1030E	677610		
10517973001	**MH-LYS-III-P1**	EPA 245.1	676620	EPA 245.1	676996
10517973002	**MH-LYS-III-P2**	EPA 245.1	676620	EPA 245.1	676996
10517973001	**MH-LYS-III-P1**	EPA 8260B	676819		
10517973002	**MH-LYS-III-P2**	EPA 8260B	676819		
10517973001	**MH-LYS-III-P1**	SM 2320B	676757		
10517973002	**MH-LYS-III-P2**	SM 2320B	676757		
10517973001	**MH-LYS-III-P1**	SM 2540C	676008		
10517973002	**MH-LYS-III-P2**	SM 2540C	676008		
10517973001	**MH-LYS-III-P1**	SM 2540D	675801		
10517973002	**MH-LYS-III-P2**	SM 2540D	675801		
10517973001	**MH-LYS-III-P1**	SM 4500-H+B	678205		
10517973002	**MH-LYS-III-P2**	SM 4500-H+B	678205		
10517973001	**MH-LYS-III-P1**	SM 2510	678208		
10517973002	**MH-LYS-III-P2**	SM 2510	678208		
10517973001	**MH-LYS-III-P1**	EPA 300.0	677791		
10517973002	**MH-LYS-III-P2**	EPA 300.0	677791		
10517973001	**MH-LYS-III-P1**	SM 3500-Cr B Modified	675691		
10517973002	**MH-LYS-III-P2**	SM 3500-Cr B Modified	675691		
10517973001	**MH-LYS-III-P1**	EPA 350.1	676220		
10517973002	**MH-LYS-III-P2**	EPA 350.1	676220		
10517973001	**MH-LYS-III-P1**	EPA 353.2	677064		
10517973002	**MH-LYS-III-P2**	EPA 353.2	677064		
10517973001	**MH-LYS-III-P1**	SM 5220D	677500	SM 5220D	677689
10517973002	**MH-LYS-III-P2**	SM 5220D	677500	SM 5220D	677689

REPORT OF LABORATORY ANALYSIS

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WO#: 10517973

10517973

MPCA Chain-of-Custody Form revision 2017.0328

* indicates a required field

Minnesota Pollution Control Agency

Work Order Number: | **COC Type:** Standard | **Page:**

Turnaround Time: Standard | **COC ID:** 33549 line8

PROJECT/CLIENT INFO

Facility Code:* SW-34 — Program Code (MDH Lab Only):

Project Name:* Clay County Sanitary Landfill - Spring 2020 Lysimeters — Project Task Code:* PRJ07913

Project Manager: Andrew Feia

Potential Hazard? No — If yes, add information to **Sampler Comments** field

LABORATORY

Lab Name: Pace Analytical Services, LLC

Address: 1700 Elm Street SE

Minneapolis, MN 55414

EPA Lab ID:*

SAMPLE DETAILS

SAMPLE TYPES
Sample=Routine Sample
QC-FB=Field Blank Sample
QC-FR=Field Replicate Sample
QC-TB=Trip Blank Sample
QC-EB=Equipment Blank
Treated-Mid=Treatment system sample
Treated-Post=Treatment system sample

SAMPLING METHODS
G=Grab sample
CT=Composite, time-paced w/AS
CF=Composite w/AS
D-T=Discrete,time-paced w/AS
D-F=Discrete,flow-paced w/AS
SW-GAS=Gas Sampling
Unknown=Unknown

LAB MATRICES
DW=Drinking Water
NW=Nonpotable Water
SD=Soil/Solid
AR=Air
BL=Biological Material
OT=Other
TS=Tissue

FIELD MATRICES
Wtr-Ground=Groundwater
Wtr-Surf=Surface Water
Wtr-Drink=Drinking Water
QC-BLANK=Artificial Blank Water
Leachate=Leachate Sample
Air-Indoor=Indoor Air
Gas-Soil=Soil Gas

ANALYSIS REQUESTED

MN Location Identifier*	Field Name	Sample Type*	Start Date* (mm/dd/yyyy)	Start Time* 24 hr (hh:mm)	Depth Start	Depth End	Depth Units (m or ft.)	Sampling Method*	Complete ONLY if Method is CT, CF, D-T, or D-F: End Date (mm/dd/yyyy)	End Time 24 hr (hh:mm)	Lab Matrix*	Field Matrix*	AIS	Sampler Comments (filter volume, special handling, etc.)	# of Cont	ANALYSIS*	List 1-VOCs (Attached)	List 4-pH, Specific Conductance	List 5-Dissolved Metals (Attached)	List 5-Inorganics (Attached)			Lab Sample No.	#
														PRESERV.		HCL	None	HN03	H2S04					
														FF		N	N	Y	N					
LS00124	MH-LYS-III-P1	Sample	5/12/2020	20:00				G			NW	WTR-Ground			14		x	x	x	x			001	1
LS00125	MH-LYS-III-P2	Sample	5/12/2020	19:10				G			NW	WTR-Ground			14		x	x	x	x			002	2
QC-BLANK	MH-LYS-III-P2 (MS/MSD)	QC-FR	5/12/2020	19:10				G			NW	WTR-Ground			12		x	x	x	x			002	3
																								4
																								5
																								6
																								7
																								8
																								9
																								10

Sampler's Name:* Christina Lammers — **Phone#:** 701-893-2327

Sampler's Signature:* Christina Lammers

Sampler's Organization: Wenck Associates, Inc.

Billing Organization: Clay County - Kirk Rosenberger — **Acct#:** 10-115155

Address: 807 11th Street North, Moorhead, MN 56560

Courier Name: Speedee — **Tracking#:**

Receiving Comments:

Relinquished By/Affiliation	Date/Time	Accepted By/Affiliation	Date/Time
(Sampler) Christina Lammers /Wenck	5/13 14:30	Chi Pa T=2.9	5.14.20 ~~11:39~~ 1135

5-14-20

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) - MN**	Document Revised: 27Mar2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0150 Rev.00**	Pace Analytical Services - **Minneapolis**

Sample Condition Upon Receipt

Client Name: MPCA - Wenck

Project #: **WO#: 10517973**

PM: AKA **Due Date: 05/29/20**

CLIENT: WENCK-ND

Courier: ☐Fed Ex ☐UPS ☐USPS ☐Client ☐Pace ☒SpeeDee ☐Commercial **See Exceptions** ☐

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☐Yes ☒No **Seals Intact?** ☐Yes ☒No **Biological Tissue Frozen?** ☐Yes ☐No ☒N/A

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

Thermometer: ☐T1(0461) ☐T2(1336) ☐T3(0459) ☒T4(0254) ☐T5(0489) **Type of Ice:** ☒Wet ☐Blue ☐None ☐Dry ☐Melted

Did Samples Originate in West Virginia? ☐Yes ☒No **Were All Container Temps Taken?** ☐Yes ☐No ☒N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 2.9 °C

Average Corrected Temp (no temp blank only): ☐See Exceptions _____ °C ☐1 Container

Correction Factor: True **Cooler Temp Corrected w/temp blank:** 2.9 °C

USDA Regulated Soil: (☒ N/A, water sample/Other:_____)

Date/Initials of Person Examining Contents: Clif 5.14.20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐Yes ☐No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐Yes ☐No

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

				COMMENTS:
Chain of Custody Present and Filled Out?	☒Yes	☐No		1.
Chain of Custody Relinquished?	☒Yes	☐No		2.
Sampler Name and/or Signature on COC?	☒Yes	☐No	☐N/A	3.
Samples Arrived within Hold Time?	☒Yes	☐No		4.
Short Hold Time Analysis (<72 hr)?	☐Yes	☒No		5. ☐Fecal Coliform ☐HPC ☐Total Coliform/E coli ☐BOD/cBOD ☐Hex Chrome ☐Turbidity ☐Nitrate ☐Nitrite ☐Orthophos ☐Other_____
Rush Turn Around Time Requested?	☐Yes	☒No		6.
Sufficient Volume?	☒Yes	☐No		7.
Correct Containers Used? -Pace Containers Used?	☒Yes ☒Yes	☐No ☐No		8.
Containers Intact?	☒Yes	☐No		9.
Field Filtered Volume Received for Dissolved Tests?	☒Yes	☐No	☐N/A	10. Is sediment visible in the dissolved container? ☐Yes ☐No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☒Water ☐Soil ☐Oil ☐Other_____	☒Yes	☐No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
All containers needing acid/base preservation have been checked?	☒Yes	☐No	☐N/A	12. Sample # 1-1/1, 2-2/2 1-3/1, 2-3/3
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☒Yes	☐No	☐N/A	☐ NaOH ☒ HNO_3 ☒ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☒Yes	☐No	☐N/A	Positive for Res. Chlorine? ☐Yes ☐No **pH Paper Lot#** **See Exception** ☐
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐Yes	☐No	☒N/A	13. **See Exception** ☐
Headspace in VOA Vials (greater than 6mm)?	☐Yes	☒No	☐N/A	
Trip Blank Present?	☐Yes	☒No	☐N/A	14.
Trip Blank Custody Seals Present?	☐Yes	☐No	☒N/A	Pace Trip Blank Lot # (if purchased):_____

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Anna Osp **Date:** 5/14/2020

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

Labeled by: RNC

TABLE 2

Clay County Landfill
Permit SW-34
Environmental Monitoring System

Parameter Lists For Analyses

List 1 (VOCs) (Groundwater and Surface Water)

1,1,1,2-Tetrachloroethane	Chlorobenzene (monochlorobenzene)
1,1,1-Trichloroethane	Chlorodibromomethane (Dibromochloromethane)
1,1,2,2-Tetrachloroethane	Chloroethane
1,1,2-Trichloroethane	Chloroform
1,1,2-Trichlorotrifluoroethane	Chloromethane (Methyl chloride)
1,1-Dichloroethane	cis-1,3,-Dichloropropene
1,1-Dichloroethylene (Vinylidene chloride)	Cumene (Isopropylbenzene)
1,1-Dichloropropene	Dibromochloropropane (DBCP)
1,2-(trans-) Dichloroethylene	Dibromomethane (Methylene bromide)
1,2,3-Trichlorobenzene	Dichlorodifluoromethane
1,2,3-Trichloropropane	Dichlorofluoromethane
1,2,4-Trichlorobenzene	Dichloromethane (Methylene chloride)
1,2,4-Trimethylbenzene	Ethyl benzene
1,2-Dibromoethane (Ethylene dibromide); EDB	Ethyl ether
1,2-Dichlorobenzene (ortho-)	Hexachlorobutadiene
1,2-Dichloroethane	Methyl ethyl ketone (MEK)
1,2-Dichloroethlyene (cis-)	Methyl isobutyl ketone (4-Methyl-2-pentanone)
1,2-Dichloropropane	Methyl tertiary-Butyl Ether (MTBE)
1,3,5-Trimethylbenzene	Naphthalene
1,3-Dichlorobenzene (meta-)	n-Butyl Benzene
1,3-Dichloropropane	n-Propyl benzene
1,4-Dichlorobenzene (para-)	p-Isopropyltoluene
2,2-Dichloropropane	sec-Butyl Benzene
2-Chlorotoluene (ortho-)	Styrene
4-Chlorotoluene (para-)	tert-Butyl Benzene
Acetone	Tetrachloroethylene (Perchloroethylene)
Allyl chloride (3 chloropropene)	Tetrahydrofuran
Benzene	Toluene
Bromobenzene	Trichloroethylene (TCE)
Bromochloromethane (Chlorobromomethane)	Trichlorofluoromethane
Bromodichloromethane (Dichlorobromomethane)	Vinyl chloride (chloroethene)
Bromoform	m-Xylene & p-Xylene
Bromomethane (Methyl bromide)	o-Xylene
Carbon tetrachloride	

List 2 (Geochemicals, Metals[1]) (Groundwater)

Alkalinity, Total as CaCO3	Magnesium
Ammonia Nitrogen	Manganese
Arsenic	Mercury
Barium	Nickel
Boron	Nitrate+Nitrite
Cadmium	Potassium
Calcium	Selenium
Cation-Anion Balance	Sodium
Chloride	Sulfate
Chromium	Zinc
Copper	Total Dissolved Solids
Iron	Total Suspended Solids
Lead	

[1] All metals are measured as dissolved. All groundwater samples for metals will be filtered in the field.

TABLE 2

Clay County Landfill
Permit SW-34
Environmental Monitoring System

Parameter Lists For Analyses

List 3 (Geochemicals, Metals[2]) (Surface Water)

Alkalinity, Total as CaCO3	Lead
Arsenic	Magnesium
Boron	Manganese
Cadmium	Mercury[3]
Calcium	Total Dissolved Solids
Cation-Anion Balance	Total Suspended Solids
Chloride	

[2] All metals are measured as total. All surface water samples for metals will not be filtered in the field or lab.

[3] Low-level mercury analyses, EPA Method 1669.

List 4 (Field Parameters) (Groundwater and Surface Water)

Appearance	Specific Conductance
Dissolved Oxygen	Static Water Level (Elevation, MSL)[4]
Eh (Oxidation potential)	Temperature
Odor	Turbidity
pH	

[4] Groundwater Samples only, and not for residential wells.

List 5 (Geochemicals, Metals[1]) (Lysimeter)

Alkalinity, Total as CaCO3	Iron
Ammonia Nitrogen	Lead
Arsenic	Magnesium
Arsenic	Manganese
Boron	Mercury
Cadmium	Nitrate+Nitrite
Calcium	Potassium
Cation-Anion Balance	Sodium
COD	Sulfate
Chloride	Zinc
Chromium VI	Total Dissolved Solids
Copper	Total Suspended Solids

[1] All metals are measured as dissolved. All Lysimeter samples for metals will be filtered in the field.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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June 02, 2020

Andrew Feia
Wenck Associates, Inc.
3303 Fiechtner Drive
Suite 100
Fargo, ND 58103

RE: Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Dear Andrew Feia:

Enclosed are the analytical results for sample(s) received by the laboratory on May 14, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

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

Sincerely,

Annika Asp
annika.asp@pacelabs.com
(612)607-1700
Project Manager

Enclosures

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CERTIFICATIONS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE SUMMARY

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10517964001	**W-13**	Water	05/12/20 09:10	05/14/20 11:35
10517964002	**C-11**	Water	05/12/20 10:08	05/14/20 11:35
10517964003	**W-12**	Water	05/12/20 10:34	05/14/20 11:35
10517964004	**W-3**	Water	05/12/20 13:30	05/14/20 11:35
10517964005	**W-5**	Water	05/12/20 13:19	05/14/20 11:35
10517964006	**W-106A**	Water	05/12/20 14:35	05/14/20 11:35
10517964007	**W-106B**	Water	05/12/20 14:31	05/14/20 11:35
10517964008	**W-301A**	Water	05/12/20 15:35	05/14/20 11:35
10517964009	**W-301B**	Water	05/12/20 15:24	05/14/20 11:35
10517964010	**W-102A**	Water	05/12/20 17:06	05/14/20 11:35
10517964011	**W-102B**	Water	05/12/20 15:12	05/14/20 11:35
10517964012	**W-104A**	Water	05/12/20 16:17	05/14/20 11:35
10517964013	**W-104B**	Water	05/12/20 16:32	05/14/20 11:35
10517964014	**W-302A**	Water	05/12/20 18:13	05/14/20 11:35
10517964015	**W-302B**	Water	05/12/20 18:11	05/14/20 11:35
10517964016	**Dup-2**	Water	05/12/20 00:00	05/14/20 11:35
10517964017	**Trip Blank 2**	Water	05/12/20 00:00	05/14/20 11:35
10517964018	**Trip Blank 3**	Water	05/12/20 00:00	05/14/20 11:35
10517964019	**Trip Blank 4**	Water	05/12/20 00:00	05/14/20 11:35

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SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10517964001	**W-13**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964002	**C-11**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964003	**W-12**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964004	**W-3**	EPA 200.8	PW1	16

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SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964005	**W-5**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964006	**W-106A**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964007	**W-106B**	EPA 200.8	PW1	16
		SM 1030E	WBS	3

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SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964008	**W-301A**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964009	**W-301B**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964010	**W-102A**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1

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SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964011	**W-102B**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964012	**W-104A**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964013	**W-104B**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72

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SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964014	**W-302A**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964015	**W-302B**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964016	**Dup-2**	EPA 200.8	PW1	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1

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SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10517964017	**Trip Blank 2**	EPA 8260B	AEZ	72
10517964018	**Trip Blank 3**	EPA 8260B	AEZ	72
10517964019	**Trip Blank 4**	EPA 8260B	AEZ	72

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-13 **Lab ID: 10517964001** Collected: 05/12/20 09:10 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**1.7**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:09	7440-38-2	
Barium, Dissolved	**178**	ug/L	0.30	1	05/21/20 15:27	05/28/20 22:09	7440-39-3	
Boron, Dissolved	**25.9**	ug/L	10.0	1	05/21/20 15:27	05/28/20 22:09	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 22:09	7440-43-9	
Calcium, Dissolved	**90600**	ug/L	800	20	05/21/20 15:27	05/28/20 22:12	7440-70-2	P6
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:09	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 22:09	7440-50-8	
Iron, Dissolved	**534**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:09	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 22:09	7439-92-1	
Magnesium, Dissolved	**47400**	ug/L	200	20	05/21/20 15:27	05/28/20 22:12	7439-95-4	P6
Manganese, Dissolved	**85.9**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:09	7439-96-5	
Nickel, Dissolved	**5.4**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:09	7440-02-0	
Potassium, Dissolved	**2620**	ug/L	100	1	05/21/20 15:27	05/28/20 22:09	7440-09-7	
Selenium, Dissolved	**1.2**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:09	7782-49-2	
Sodium, Dissolved	**5420**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:09	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/21/20 15:27	05/28/20 22:09	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**7.49**	%		1		06/01/20 17:32		1M
Total Cations	**8.7**	meq/L		1		06/01/20 17:32		N2
Total Anions	**7.5**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:16	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 17:33	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 17:33	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 17:33	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 17:33	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 17:33	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 17:33	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 17:33	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 17:33	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 17:41	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 17:33	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 17:33	67-66-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-13 **Lab ID: 10517964001** Collected: 05/12/20 09:10 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 17:33	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 17:41	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 17:41	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 17:41	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 17:33	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 17:33	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 17:33	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 17:41	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 17:33	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 17:33	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 17:33	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 17:33	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 17:41	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 17:41	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 17:33	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 17:41	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 17:33	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 17:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 17:33	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 17:33	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 17:33	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 17:33	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 17:33	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 17:33	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 17:33	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 17:33	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 17:41	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 17:33	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 17:41	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-13 **Lab ID: 10517964001** Collected: 05/12/20 09:10 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 17:33	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 17:33	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 17:41	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 17:33	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 17:33	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 17:33	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%.	75-128	1		05/21/20 17:33	17060-07-0	
1,2-Dichloroethane-d4 (S)	106	%.	75-128	1		05/25/20 17:41	17060-07-0	
Toluene-d8 (S)	102	%.	75-125	1		05/21/20 17:33	2037-26-5	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 17:41	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125	1		05/21/20 17:33	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**360**	mg/L	5.0	1		05/21/20 13:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**359**	mg/L	10.0	1		05/15/20 10:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
	Pace Analytical Services - Minneapolis							
Total Suspended Solids	**146**	mg/L	10.0	1		05/19/20 14:42		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		05/29/20 17:46		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**685**	umhos/cm	1.0	1		05/29/20 18:04		
300.0 IC Anions	Analytical Method: EPA 300.0							
	Pace Analytical Services - Minneapolis							
Chloride	**<1.2**	mg/L	1.2	1		05/29/20 06:52	16887-00-6	M1
Sulfate	**15.3**	mg/L	1.2	1		05/29/20 06:52	14808-79-8	M1
350.1 Ammonia	Analytical Method: EPA 350.1							
	Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/19/20 16:13	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-13 **Lab ID: 10517964001** Collected: 05/12/20 09:10 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/21/20 17:31		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: C-11 **Lab ID: 10517964002** Collected: 05/12/20 10:08 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:18	7440-38-2	
Barium, Dissolved	**112**	ug/L	0.30	1	05/21/20 15:27	05/28/20 22:18	7440-39-3	
Boron, Dissolved	**25.1**	ug/L	10.0	1	05/21/20 15:27	05/28/20 22:18	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 22:18	7440-43-9	
Calcium, Dissolved	**104000**	ug/L	800	20	05/21/20 15:27	05/28/20 22:21	7440-70-2	
Chromium, Dissolved	**3.2**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:18	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 22:18	7440-50-8	
Iron, Dissolved	**<50.0**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:18	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 22:18	7439-92-1	
Magnesium, Dissolved	**36100**	ug/L	200	20	05/21/20 15:27	05/28/20 22:21	7439-95-4	
Manganese, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:18	7439-96-5	
Nickel, Dissolved	**1.3**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:18	7440-02-0	
Potassium, Dissolved	**2280**	ug/L	100	1	05/21/20 15:27	05/28/20 22:18	7440-09-7	
Selenium, Dissolved	**1.0**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:18	7782-49-2	
Sodium, Dissolved	**5060**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:18	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/21/20 15:27	05/28/20 22:18	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E							
	Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**8.11**	%		1		06/01/20 17:32		1M
Total Cations	**8.4**	meq/L		1		06/01/20 17:32		N2
Total Anions	**7.2**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
	Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:18	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 17:59	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 17:59	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 17:59	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 17:59	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 17:59	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 17:59	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 17:59	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 17:59	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 18:07	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 17:59	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 17:59	67-66-3	

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: C-11 **Lab ID: 10517964002** Collected: 05/12/20 10:08 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 17:59	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 18:07	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 18:07	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 18:07	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 17:59	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 17:59	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 17:59	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 18:07	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 17:59	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 17:59	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 17:59	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 17:59	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 18:07	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 18:07	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 17:59	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 18:07	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 17:59	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 17:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 17:59	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 17:59	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 17:59	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 17:59	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 17:59	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 17:59	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 17:59	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 17:59	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 18:07	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 17:59	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 18:07	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: C-11 **Lab ID: 10517964002** Collected: 05/12/20 10:08 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 17:59	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 17:59	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 18:07	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 17:59	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 17:59	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 17:59	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%.	75-128	1		05/25/20 18:07	17060-07-0	
1,2-Dichloroethane-d4 (S)	106	%.	75-128	1		05/21/20 17:59	17060-07-0	
Toluene-d8 (S)	103	%.	75-125	1		05/21/20 17:59	2037-26-5	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 18:07	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125	1		05/21/20 17:59	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**338**	mg/L	5.0	1		05/21/20 14:08		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**411**	mg/L	10.0	1		05/15/20 10:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**<10.0**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.5**	Std. Units	0.10	1		05/29/20 17:54		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**725**	umhos/cm	1.0	1		05/29/20 18:08		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**4.5**	mg/L	1.2	1		05/29/20 08:11	16887-00-6	
Sulfate	**13.7**	mg/L	1.2	1		05/29/20 08:11	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/19/20 16:14	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: C-11 **Lab ID: 10517964002** Collected: 05/12/20 10:08 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**8.6**	mg/L	1.0	10		05/21/20 17:34		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-12 **Lab ID: 10517964003** Collected: 05/12/20 10:34 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:24	7440-38-2	
Barium, Dissolved	**228**	ug/L	0.30	1	05/21/20 15:27	05/28/20 22:24	7440-39-3	
Boron, Dissolved	**22.2**	ug/L	10.0	1	05/21/20 15:27	05/28/20 22:24	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 22:24	7440-43-9	
Calcium, Dissolved	**145000**	ug/L	800	20	05/21/20 15:27	05/28/20 22:28	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:24	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 22:24	7440-50-8	
Iron, Dissolved	**121**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:24	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 22:24	7439-92-1	
Magnesium, Dissolved	**62400**	ug/L	200	20	05/21/20 15:27	05/28/20 22:28	7439-95-4	
Manganese, Dissolved	**244**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:24	7439-96-5	
Nickel, Dissolved	**2.5**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:24	7440-02-0	
Potassium, Dissolved	**4740**	ug/L	100	1	05/21/20 15:27	05/28/20 22:24	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:24	7782-49-2	
Sodium, Dissolved	**6710**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:24	7440-23-5	
Zinc, Dissolved	**7.1**	ug/L	5.0	1	05/21/20 15:27	05/28/20 22:24	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**5.62**	%		1		06/01/20 17:32		1M
Total Cations	**12.8**	meq/L		1		06/01/20 17:32		N2
Total Anions	**11.5**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:20	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 18:25	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 18:25	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 18:25	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 18:25	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 18:25	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 18:25	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 18:25	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 18:25	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 18:33	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 18:25	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 18:25	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-12 **Lab ID: 10517964003** Collected: 05/12/20 10:34 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 18:25	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 18:33	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 18:33	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 18:33	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 18:25	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 18:25	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 18:25	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 18:33	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 18:25	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 18:25	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 18:25	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 18:25	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 18:33	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 18:33	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 18:25	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 18:33	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 18:25	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 18:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 18:25	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 18:25	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 18:25	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 18:25	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 18:25	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 18:25	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 18:25	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 18:25	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 18:33	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 18:25	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 18:33	96-18-4	

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-12 **Lab ID: 10517964003** Collected: 05/12/20 10:34 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 18:25	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 18:25	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 18:33	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 18:25	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 18:25	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 18:25	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%.	75-128	1		05/25/20 18:33	17060-07-0	
1,2-Dichloroethane-d4 (S)	104	%.	75-128	1		05/21/20 18:25	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 18:33	2037-26-5	
Toluene-d8 (S)	102	%.	75-125	1		05/21/20 18:25	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125	1		05/21/20 18:25	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**542**	mg/L	5.0	1		05/21/20 14:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**566**	mg/L	20.0	1		05/15/20 10:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
	Pace Analytical Services - Minneapolis							
Total Suspended Solids	**<10.0**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		05/29/20 17:57		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**988**	umhos/cm	1.0	1		05/29/20 18:10		
300.0 IC Anions	Analytical Method: EPA 300.0							
	Pace Analytical Services - Minneapolis							
Chloride	**<1.2**	mg/L	1.2	1		05/29/20 08:44	16887-00-6	
Sulfate	**29.5**	mg/L	1.2	1		05/29/20 08:44	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1							
	Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/19/20 16:22	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-12 **Lab ID: 10517964003** Collected: 05/12/20 10:34 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**2.4**	mg/L	0.50	5		05/21/20 17:35		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-3 **Lab ID: 10517964004** Collected: 05/12/20 13:30 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**2.3**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:37	7440-38-2	
Barium, Dissolved	**156**	ug/L	0.30	1	05/21/20 15:27	05/28/20 22:37	7440-39-3	
Boron, Dissolved	**28.8**	ug/L	10.0	1	05/21/20 15:27	05/28/20 22:37	7440-42-8	
Cadmium, Dissolved	**0.12**	ug/L	0.080	1	05/21/20 15:27	05/28/20 22:37	7440-43-9	
Calcium, Dissolved	**67100**	ug/L	800	20	05/21/20 15:27	05/28/20 22:40	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:37	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 22:37	7440-50-8	
Iron, Dissolved	**683**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:37	7439-89-6	
Lead, Dissolved	**1.1**	ug/L	0.10	1	05/21/20 15:27	05/28/20 22:37	7439-92-1	
Magnesium, Dissolved	**30500**	ug/L	200	20	05/21/20 15:27	05/28/20 22:40	7439-95-4	
Manganese, Dissolved	**122**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:37	7439-96-5	
Nickel, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:37	7440-02-0	
Potassium, Dissolved	**2550**	ug/L	100	1	05/21/20 15:27	05/28/20 22:37	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:37	7782-49-2	
Sodium, Dissolved	**5020**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:37	7440-23-5	
Zinc, Dissolved	**417**	ug/L	5.0	1	05/21/20 15:27	05/28/20 22:37	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E							
	Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**4.8**	%		1		06/01/20 17:32		
Total Cations	**6.2**	meq/L		1		06/01/20 17:32		N2
Total Anions	**5.6**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
	Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:25	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 18:51	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 18:51	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 18:51	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 18:51	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 18:51	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 18:51	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 18:51	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 18:51	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 18:59	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 18:51	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 18:51	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-3 **Lab ID: 10517964004** Collected: 05/12/20 13:30 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 18:51	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 18:59	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 18:59	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 18:59	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 18:51	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 18:51	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 18:51	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 18:59	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 18:51	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 18:51	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 18:51	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 18:51	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 18:59	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 18:59	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 18:51	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 18:59	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 18:51	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 18:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 18:51	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 18:51	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 18:51	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 18:51	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 18:51	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 18:51	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 18:51	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 18:51	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 18:59	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 18:51	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 18:59	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-3 **Lab ID: 10517964004** Collected: 05/12/20 13:30 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 18:51	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 18:51	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 18:59	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 18:51	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 18:51	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 18:51	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%.	75-128	1		05/25/20 18:59	17060-07-0	
1,2-Dichloroethane-d4 (S)	110	%.	75-128	1		05/21/20 18:51	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 18:59	2037-26-5	
Toluene-d8 (S)	103	%.	75-125	1		05/21/20 18:51	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125	1		05/21/20 18:51	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**244**	mg/L	5.0	1		05/21/20 14:27		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**299**	mg/L	10.0	1		05/15/20 10:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**<10.0**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.7**	Std. Units	0.10	1		05/29/20 17:59		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**565**	umhos/cm	1.0	1		05/29/20 18:10		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**1.6**	mg/L	1.2	1		05/29/20 08:59	16887-00-6	
Sulfate	**32.2**	mg/L	1.2	1		05/29/20 08:59	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**0.18**	mg/L	0.10	1		05/19/20 16:26	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-3 **Lab ID: 10517964004** Collected: 05/12/20 13:30 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/21/20 17:36		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-5 **Lab ID: 10517964005** Collected: 05/12/20 13:19 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**0.86**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:43	7440-38-2	
Barium, Dissolved	**63.7**	ug/L	0.30	1	05/21/20 15:27	05/28/20 22:43	7440-39-3	
Boron, Dissolved	**26.5**	ug/L	10.0	1	05/21/20 15:27	05/28/20 22:43	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 22:43	7440-43-9	
Calcium, Dissolved	**102000**	ug/L	800	20	05/21/20 15:27	05/28/20 22:46	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:43	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 22:43	7440-50-8	
Iron, Dissolved	**1950**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:43	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 22:43	7439-92-1	
Magnesium, Dissolved	**56500**	ug/L	200	20	05/21/20 15:27	05/28/20 22:46	7439-95-4	
Manganese, Dissolved	**48.9**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:43	7439-96-5	
Nickel, Dissolved	**0.81**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:43	7440-02-0	
Potassium, Dissolved	**2680**	ug/L	100	1	05/21/20 15:27	05/28/20 22:43	7440-09-7	
Selenium, Dissolved	**0.80**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:43	7782-49-2	
Sodium, Dissolved	**14000**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:43	7440-23-5	
Zinc, Dissolved	**134**	ug/L	5.0	1	05/21/20 15:27	05/28/20 22:43	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**6.37**	%		1		06/01/20 17:32		1M
Total Cations	**10.4**	meq/L		1		06/01/20 17:32		N2
Total Anions	**9.2**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:28	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 19:17	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 19:17	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 19:17	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 19:17	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 19:17	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 19:17	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 19:17	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 19:17	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 19:25	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 19:17	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 19:17	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-5 **Lab ID: 10517964005** Collected: 05/12/20 13:19 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 19:17	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 19:25	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 19:25	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 19:25	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 19:17	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 19:17	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 19:17	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 19:25	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 19:17	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 19:17	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 19:17	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 19:17	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 19:25	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 19:25	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 19:17	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 19:25	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 19:17	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 19:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 19:17	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 19:17	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 19:17	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 19:17	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 19:17	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 19:17	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 19:17	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 19:17	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 19:25	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 19:17	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 19:25	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-5 **Lab ID: 10517964005** Collected: 05/12/20 13:19 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 19:17	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 19:17	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 19:25	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 19:17	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 19:17	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 19:17	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%.	75-128	1		05/21/20 19:17	17060-07-0	
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/25/20 19:25	17060-07-0	
Toluene-d8 (S)	102	%.	75-125	1		05/21/20 19:17	2037-26-5	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 19:25	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125	1		05/21/20 19:17	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**441**	mg/L	5.0	1		05/21/20 14:34		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**443**	mg/L	10.0	1		05/15/20 10:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
	Pace Analytical Services - Minneapolis							
Total Suspended Solids	**11.0**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.8**	Std. Units	0.10	1		05/29/20 18:01		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**802**	umhos/cm	1.0	1		05/29/20 18:11		
300.0 IC Anions	Analytical Method: EPA 300.0							
	Pace Analytical Services - Minneapolis							
Chloride	**<1.2**	mg/L	1.2	1		05/29/20 11:35	16887-00-6	
Sulfate	**17.0**	mg/L	1.2	1		05/29/20 11:35	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1							
	Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/19/20 16:30	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-5 **Lab ID: 10517964005** Collected: 05/12/20 13:19 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/22/20 11:45		M1,R1

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-106A **Lab ID: 10517964006** Collected: 05/12/20 14:35 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**1.1**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:50	7440-38-2	
Barium, Dissolved	**118**	ug/L	0.30	1	05/21/20 15:27	05/28/20 22:50	7440-39-3	
Boron, Dissolved	**29.6**	ug/L	10.0	1	05/21/20 15:27	05/28/20 22:50	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 22:50	7440-43-9	
Calcium, Dissolved	**88000**	ug/L	800	20	05/21/20 15:27	05/28/20 22:53	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:50	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 22:50	7440-50-8	
Iron, Dissolved	**<50.0**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:50	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 22:50	7439-92-1	
Magnesium, Dissolved	**35200**	ug/L	200	20	05/21/20 15:27	05/28/20 22:53	7439-95-4	
Manganese, Dissolved	**41.5**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:50	7439-96-5	
Nickel, Dissolved	**1.6**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:50	7440-02-0	
Potassium, Dissolved	**3520**	ug/L	100	1	05/21/20 15:27	05/28/20 22:50	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:50	7782-49-2	
Sodium, Dissolved	**38000**	ug/L	1000	20	05/21/20 15:27	05/28/20 22:53	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/21/20 15:27	05/28/20 22:50	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**4.53**	%		1		06/01/20 17:32		
Total Cations	**9.0**	meq/L		1		06/01/20 17:32		N2
Total Anions	**8.3**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:35	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 19:43	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 19:43	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 19:43	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 19:43	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 19:43	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 19:43	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 19:43	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 19:43	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 19:51	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 19:43	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 19:43	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-106A **Lab ID: 10517964006** Collected: 05/12/20 14:35 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 19:43	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 19:51	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 19:51	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 19:51	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 19:43	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 19:43	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 19:43	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 19:51	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 19:43	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 19:43	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 19:43	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 19:43	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 19:51	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 19:51	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 19:43	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 19:51	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 19:43	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 19:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 19:43	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 19:43	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 19:43	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 19:43	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 19:43	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 19:43	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 19:43	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 19:43	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 19:51	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 19:43	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 19:51	96-18-4	

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-106A **Lab ID: 10517964006** Collected: 05/12/20 14:35 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 19:43	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 19:43	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 19:51	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 19:43	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 19:43	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 19:43	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/21/20 19:43	17060-07-0	
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/25/20 19:51	17060-07-0	
Toluene-d8 (S)	102	%.	75-125	1		05/21/20 19:43	2037-26-5	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 19:51	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125	1		05/21/20 19:43	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**316**	mg/L	5.0	1		05/21/20 14:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**485**	mg/L	10.0	1		05/15/20 10:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
	Pace Analytical Services - Minneapolis							
Total Suspended Solids	**144**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**8.1**	Std. Units	0.10	1		05/29/20 18:03		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**763**	umhos/cm	1.0	1		05/29/20 18:11		
300.0 IC Anions	Analytical Method: EPA 300.0							
	Pace Analytical Services - Minneapolis							
Chloride	**16.0**	mg/L	1.2	1		05/29/20 12:05	16887-00-6	
Sulfate	**71.5**	mg/L	1.2	1		05/29/20 12:05	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1							
	Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/19/20 16:32	7664-41-7	

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(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-106A **Lab ID: 10517964006** Collected: 05/12/20 14:35 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/22/20 11:48		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-106B **Lab ID: 10517964007** Collected: 05/12/20 14:31 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**9.7**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:56	7440-38-2	
Barium, Dissolved	**199**	ug/L	0.30	1	05/21/20 15:27	05/28/20 22:56	7440-39-3	
Boron, Dissolved	**36.8**	ug/L	10.0	1	05/21/20 15:27	05/28/20 22:56	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 22:56	7440-43-9	
Calcium, Dissolved	**88400**	ug/L	800	20	05/21/20 15:27	05/28/20 22:59	7440-70-2	
Chromium, Dissolved	**0.77**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:56	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 22:56	7440-50-8	
Iron, Dissolved	**911**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:56	7439-89-6	
Lead, Dissolved	**0.12**	ug/L	0.10	1	05/21/20 15:27	05/28/20 22:56	7439-92-1	
Magnesium, Dissolved	**37100**	ug/L	200	20	05/21/20 15:27	05/28/20 22:59	7439-95-4	
Manganese, Dissolved	**129**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:56	7439-96-5	
Nickel, Dissolved	**2.5**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:56	7440-02-0	
Potassium, Dissolved	**3510**	ug/L	100	1	05/21/20 15:27	05/28/20 22:56	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 22:56	7782-49-2	
Sodium, Dissolved	**6720**	ug/L	50.0	1	05/21/20 15:27	05/28/20 22:56	7440-23-5	
Zinc, Dissolved	**5.7**	ug/L	5.0	1	05/21/20 15:27	05/28/20 22:56	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**7.23**	%		1		06/01/20 17:32		1M
Total Cations	**7.9**	meq/L		1		06/01/20 17:32		N2
Total Anions	**6.8**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:37	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 20:09	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 20:09	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 20:09	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 20:09	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 20:09	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 20:09	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 20:09	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 20:09	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 20:17	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 20:09	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 20:09	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-106B **Lab ID: 10517964007** Collected: 05/12/20 14:31 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 20:09	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 20:17	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 20:17	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 20:17	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 20:09	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 20:09	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 20:09	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 20:17	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 20:09	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 20:09	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 20:09	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 20:09	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 20:17	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 20:17	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 20:09	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 20:17	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 20:09	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 20:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 20:09	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 20:09	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 20:09	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 20:09	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 20:09	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 20:09	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 20:09	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 20:09	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 20:17	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 20:09	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 20:17	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-106B **Lab ID: 10517964007** Collected: 05/12/20 14:31 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 20:09	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 20:09	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 20:17	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 20:09	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 20:09	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 20:09	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%.	75-128	1		05/25/20 20:17	17060-07-0	
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/21/20 20:09	17060-07-0	
Toluene-d8 (S)	104	%.	75-125	1		05/21/20 20:09	2037-26-5	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 20:17	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125	1		05/21/20 20:09	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**293**	mg/L	5.0	1		05/21/20 14:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**361**	mg/L	10.0	1		05/15/20 10:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
	Pace Analytical Services - Minneapolis							
Total Suspended Solids	**235**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.9**	Std. Units	0.10	1		05/29/20 18:07		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**614**	umhos/cm	1.0	1		05/29/20 18:12		
300.0 IC Anions	Analytical Method: EPA 300.0							
	Pace Analytical Services - Minneapolis							
Chloride	**10.9**	mg/L	1.2	1		05/29/20 12:20	16887-00-6	
Sulfate	**30.8**	mg/L	1.2	1		05/29/20 12:20	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1							
	Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**0.21**	mg/L	0.10	1		05/19/20 16:33	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-106B **Lab ID: 10517964007** Collected: 05/12/20 14:31 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/22/20 11:49		FS

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-301A **Lab ID: 10517964008** Collected: 05/12/20 15:35 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**0.79**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:02	7440-38-2	
Barium, Dissolved	**141**	ug/L	0.30	1	05/21/20 15:27	05/28/20 23:02	7440-39-3	
Boron, Dissolved	**18.8**	ug/L	10.0	1	05/21/20 15:27	05/28/20 23:02	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 23:02	7440-43-9	
Calcium, Dissolved	**131000**	ug/L	800	20	05/21/20 15:27	05/28/20 23:05	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:02	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 23:02	7440-50-8	
Iron, Dissolved	**68.9**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:02	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 23:02	7439-92-1	
Magnesium, Dissolved	**53100**	ug/L	200	20	05/21/20 15:27	05/28/20 23:05	7439-95-4	
Manganese, Dissolved	**2.4**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:02	7439-96-5	
Nickel, Dissolved	**3.3**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:02	7440-02-0	
Potassium, Dissolved	**2810**	ug/L	100	1	05/21/20 15:27	05/28/20 23:02	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:02	7782-49-2	
Sodium, Dissolved	**15800**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:02	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/21/20 15:27	05/28/20 23:02	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E							
	Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**4.92**	%		1		06/01/20 17:32		
Total Cations	**11.6**	meq/L		1		06/01/20 17:32		N2
Total Anions	**10.6**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
	Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:40	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 20:35	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 20:35	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 20:35	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 20:35	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 20:35	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 20:35	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 20:35	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 20:35	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 20:43	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 20:35	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 20:35	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-301A **Lab ID: 10517964008** Collected: 05/12/20 15:35 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 20:35	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 20:43	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 20:43	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 20:43	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 20:35	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 20:35	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 20:35	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 20:43	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 20:35	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 20:35	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 20:35	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 20:35	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 20:43	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 20:43	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 20:35	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 20:43	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 20:35	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 20:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 20:35	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 20:35	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 20:35	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 20:35	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 20:35	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 20:35	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 20:35	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 20:35	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 20:43	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 20:35	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 20:43	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-301A **Lab ID: 10517964008** Collected: 05/12/20 15:35 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 20:35	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 20:35	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 20:43	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 20:35	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 20:35	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 20:35	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%.	75-128	1		05/21/20 20:35	17060-07-0	
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/25/20 20:43	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 20:43	2037-26-5	
Toluene-d8 (S)	103	%.	75-125	1		05/21/20 20:35	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125	1		05/21/20 20:35	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**410**	mg/L	5.0	1		05/21/20 14:59		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**574**	mg/L	20.0	1		05/15/20 10:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**26.0**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		05/29/20 18:09		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**997**	umhos/cm	1.0	1		05/29/20 18:14		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**39.6**	mg/L	1.2	1		05/29/20 12:35	16887-00-6	
Sulfate	**59.6**	mg/L	1.2	1		05/29/20 12:35	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/19/20 16:35	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-301A **Lab ID: 10517964008** Collected: 05/12/20 15:35 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/22/20 11:51		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-301B **Lab ID: 10517964009** Collected: 05/12/20 15:24 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**2.3**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:15	7440-38-2	
Barium, Dissolved	**142**	ug/L	0.30	1	05/21/20 15:27	05/28/20 23:15	7440-39-3	
Boron, Dissolved	**27.5**	ug/L	10.0	1	05/21/20 15:27	05/28/20 23:15	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 23:15	7440-43-9	
Calcium, Dissolved	**64400**	ug/L	800	20	05/21/20 15:27	05/28/20 23:18	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:15	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 23:15	7440-50-8	
Iron, Dissolved	**843**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:15	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 23:15	7439-92-1	
Magnesium, Dissolved	**30400**	ug/L	200	20	05/21/20 15:27	05/29/20 14:33	7439-95-4	
Manganese, Dissolved	**116**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:15	7439-96-5	
Nickel, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:15	7440-02-0	
Potassium, Dissolved	**2670**	ug/L	100	1	05/21/20 15:27	05/28/20 23:15	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:15	7782-49-2	
Sodium, Dissolved	**4640**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:15	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/21/20 15:27	05/28/20 23:15	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**5.45**	%		1		06/01/20 17:32		1M
Total Cations	**6.0**	meq/L		1		06/01/20 17:32		N2
Total Anions	**5.4**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:42	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 21:01	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 21:01	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 21:01	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 21:01	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 21:01	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 21:01	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 21:01	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 21:01	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 21:09	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 21:01	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 21:01	67-66-3	

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-301B **Lab ID: 10517964009** Collected: 05/12/20 15:24 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 21:01	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 21:09	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 21:09	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 21:09	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 21:01	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 21:01	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:01	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 21:09	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 21:01	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 21:01	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 21:01	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 21:01	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 21:09	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 21:09	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 21:01	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 21:09	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 21:01	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 21:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 21:01	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 21:01	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 21:01	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:01	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:01	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 21:01	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:01	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:01	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 21:09	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 21:01	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 21:09	96-18-4	

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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-301B **Lab ID: 10517964009** Collected: 05/12/20 15:24 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 21:01	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 21:01	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 21:09	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 21:01	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 21:01	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 21:01	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%.	75-128	1		05/21/20 21:01	17060-07-0	
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/25/20 21:09	17060-07-0	
Toluene-d8 (S)	103	%.	75-125	1		05/21/20 21:01	2037-26-5	
Toluene-d8 (S)	99	%.	75-125	1		05/25/20 21:09	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125	1		05/21/20 21:01	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**228**	mg/L	5.0	1		05/21/20 15:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**290**	mg/L	10.0	1		05/15/20 10:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**55.0**	mg/L	10.0	1		05/18/20 15:14		MW
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.7**	Std. Units	0.10	1		05/29/20 18:11		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**540**	umhos/cm	1.0	1		05/29/20 18:15		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**2.7**	mg/L	1.2	1		05/29/20 13:54	16887-00-6	
Sulfate	**36.1**	mg/L	1.2	1		05/29/20 13:54	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**0.12**	mg/L	0.10	1		05/19/20 16:36	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-301B **Lab ID: 10517964009** Collected: 05/12/20 15:24 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/22/20 11:52		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-102A **Lab ID: 10517964010** Collected: 05/12/20 17:06 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:21	7440-38-2	
Barium, Dissolved	**57.2**	ug/L	0.30	1	05/21/20 15:27	05/28/20 23:21	7440-39-3	
Boron, Dissolved	**17.8**	ug/L	10.0	1	05/21/20 15:27	05/28/20 23:21	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 23:21	7440-43-9	
Calcium, Dissolved	**66600**	ug/L	800	20	05/21/20 15:27	05/28/20 23:24	7440-70-2	
Chromium, Dissolved	**1.7**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:21	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 23:21	7440-50-8	
Iron, Dissolved	**<50.0**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:21	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 23:21	7439-92-1	
Magnesium, Dissolved	**22400**	ug/L	200	20	05/21/20 15:27	05/29/20 14:36	7439-95-4	
Manganese, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:21	7439-96-5	
Nickel, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:21	7440-02-0	
Potassium, Dissolved	**1060**	ug/L	100	1	05/21/20 15:27	05/28/20 23:21	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:21	7782-49-2	
Sodium, Dissolved	**4100**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:21	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/21/20 15:27	05/28/20 23:21	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**4.33**	%		1		06/01/20 17:32		
Total Cations	**5.4**	meq/L		1		06/01/20 17:32		N2
Total Anions	**4.9**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:45	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 21:27	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 21:27	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 21:27	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 21:27	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 21:27	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 21:27	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 21:27	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 21:27	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 21:35	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 21:27	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 21:27	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-102A **Lab ID: 10517964010** Collected: 05/12/20 17:06 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 21:27	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 21:35	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 21:35	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 21:35	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 21:27	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 21:27	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:27	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 21:35	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 21:27	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 21:27	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 21:27	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 21:27	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 21:35	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 21:35	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 21:27	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 21:35	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 21:27	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 21:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 21:27	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 21:27	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 21:27	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:27	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:27	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 21:27	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:27	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:27	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 21:35	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 21:27	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 21:35	96-18-4	

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-102A **Lab ID: 10517964010** Collected: 05/12/20 17:06 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 21:27	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 21:27	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 21:35	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 21:27	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 21:27	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 21:27	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/25/20 21:35	17060-07-0	
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/21/20 21:27	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 21:35	2037-26-5	
Toluene-d8 (S)	100	%.	75-125	1		05/21/20 21:27	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125	1		05/21/20 21:27	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**236**	mg/L	5.0	1		05/21/20 15:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**265**	mg/L	10.0	1		05/19/20 11:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**11.0**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.9**	Std. Units	0.10	1		05/29/20 18:13		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**497**	umhos/cm	1.0	1		05/29/20 18:15		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**1.7**	mg/L	1.2	1		05/29/20 14:27	16887-00-6	
Sulfate	**8.4**	mg/L	1.2	1		05/29/20 14:27	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/19/20 16:38	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-102A **Lab ID: 10517964010** Collected: 05/12/20 17:06 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**1.4**	mg/L	0.10	1		05/22/20 11:53		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-102B **Lab ID: 10517964011** Collected: 05/12/20 15:12 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**0.54**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:28	7440-38-2	
Barium, Dissolved	**142**	ug/L	0.30	1	05/21/20 15:27	05/28/20 23:28	7440-39-3	
Boron, Dissolved	**19.4**	ug/L	10.0	1	05/21/20 15:27	05/28/20 23:28	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 23:28	7440-43-9	
Calcium, Dissolved	**79100**	ug/L	800	20	05/21/20 15:27	05/28/20 23:31	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:28	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 23:28	7440-50-8	
Iron, Dissolved	**97.5**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:28	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 23:28	7439-92-1	
Magnesium, Dissolved	**29600**	ug/L	200	20	05/21/20 15:27	05/29/20 14:39	7439-95-4	
Manganese, Dissolved	**174**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:28	7439-96-5	
Nickel, Dissolved	**1.9**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:28	7440-02-0	
Potassium, Dissolved	**2640**	ug/L	100	1	05/21/20 15:27	05/28/20 23:28	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:28	7782-49-2	
Sodium, Dissolved	**3170**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:28	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/21/20 15:27	05/28/20 23:28	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E							
	Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**4.12**	%		1		06/01/20 17:32		
Total Cations	**6.6**	meq/L		1		06/01/20 17:32		N2
Total Anions	**6.1**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
	Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:47	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 21:53	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 21:53	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 21:53	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 21:53	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 21:53	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 21:53	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 21:53	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 21:53	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 22:01	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 21:53	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 21:53	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-102B **Lab ID: 10517964011** Collected: 05/12/20 15:12 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 21:53	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 22:01	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 22:01	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 22:01	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 21:53	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 21:53	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:53	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 22:01	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 21:53	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 21:53	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 21:53	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 21:53	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 22:01	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 22:01	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 21:53	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 22:01	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 21:53	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 21:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 21:53	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 21:53	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 21:53	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:53	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:53	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 21:53	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:53	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 21:53	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 22:01	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 21:53	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 22:01	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-102B **Lab ID: 10517964011** Collected: 05/12/20 15:12 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 21:53	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 21:53	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 22:01	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 21:53	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 21:53	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 21:53	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%.	75-128	1		05/21/20 21:53	17060-07-0	
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/25/20 22:01	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 22:01	2037-26-5	
Toluene-d8 (S)	100	%.	75-125	1		05/21/20 21:53	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125	1		05/21/20 21:53	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**237**	mg/L	5.0	1		05/21/20 15:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**353**	mg/L	10.0	1		05/19/20 11:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**15.0**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.7**	Std. Units	0.10	1		05/29/20 18:15		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**600**	umhos/cm	1.0	1		05/29/20 18:16		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**4.0**	mg/L	1.2	1		05/29/20 14:42	16887-00-6	
Sulfate	**59.4**	mg/L	1.2	1		05/29/20 14:42	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/19/20 16:39	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-102B **Lab ID: 10517964011** Collected: 05/12/20 15:12 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**0.49**	mg/L	0.10	1		05/22/20 11:54		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-104A **Lab ID: 10517964012** Collected: 05/12/20 16:17 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**1.8**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:34	7440-38-2	
Barium, Dissolved	**153**	ug/L	0.30	1	05/21/20 15:27	05/28/20 23:34	7440-39-3	
Boron, Dissolved	**26.0**	ug/L	10.0	1	05/21/20 15:27	05/28/20 23:34	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 23:34	7440-43-9	
Calcium, Dissolved	**142000**	ug/L	800	20	05/21/20 15:27	05/28/20 23:37	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:34	7440-47-3	
Copper, Dissolved	**1.1**	ug/L	1.0	1	05/21/20 15:27	05/28/20 23:34	7440-50-8	
Iron, Dissolved	**<50.0**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:34	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 23:34	7439-92-1	
Magnesium, Dissolved	**45600**	ug/L	200	20	05/21/20 15:27	05/29/20 14:42	7439-95-4	
Manganese, Dissolved	**266**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:34	7439-96-5	
Nickel, Dissolved	**1.5**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:34	7440-02-0	
Potassium, Dissolved	**1660**	ug/L	100	1	05/21/20 15:27	05/28/20 23:34	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:34	7782-49-2	
Sodium, Dissolved	**4770**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:34	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/21/20 15:27	05/28/20 23:34	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**8.13**	%		1		06/01/20 17:32		1M
Total Cations	**11.1**	meq/L		1		06/01/20 17:32		N2
Total Anions	**9.4**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:49	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 22:19	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 22:19	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 22:19	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 22:19	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 22:19	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 22:19	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 22:19	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 22:19	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 22:27	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 22:19	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 22:19	67-66-3	

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(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-104A **Lab ID: 10517964012** Collected: 05/12/20 16:17 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 22:19	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 22:27	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 22:27	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 22:27	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 22:19	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 22:19	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 22:19	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 22:27	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 22:19	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 22:19	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 22:19	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 22:19	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 22:27	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 22:27	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 22:19	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 22:27	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 22:19	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 22:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 22:19	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 22:19	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 22:19	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 22:19	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 22:19	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 22:19	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 22:19	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 22:19	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 22:27	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 22:19	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 22:27	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-104A **Lab ID: 10517964012** Collected: 05/12/20 16:17 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 22:19	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 22:19	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 22:27	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 22:19	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 22:19	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 22:19	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%.	75-128	1		05/25/20 22:27	17060-07-0	
1,2-Dichloroethane-d4 (S)	110	%.	75-128	1		05/21/20 22:19	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 22:27	2037-26-5	
Toluene-d8 (S)	103	%.	75-125	1		05/21/20 22:19	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125	1		05/21/20 22:19	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**422**	mg/L	5.0	1		05/21/20 15:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**503**	mg/L	10.0	1		05/19/20 11:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
	Pace Analytical Services - Minneapolis							
Total Suspended Solids	**131**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		05/29/20 18:18		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**868**	umhos/cm	1.0	1		05/29/20 18:16		
300.0 IC Anions	Analytical Method: EPA 300.0							
	Pace Analytical Services - Minneapolis							
Chloride	**6.7**	mg/L	1.2	1		05/29/20 15:42	16887-00-6	
Sulfate	**38.5**	mg/L	1.2	1		05/29/20 15:42	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1							
	Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/19/20 16:41	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-104A **Lab ID: 10517964012** Collected: 05/12/20 16:17 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**0.97**	mg/L	0.10	1		05/22/20 11:58		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-104B **Lab ID: 10517964013** Collected: 05/12/20 16:32 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**8.6**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:40	7440-38-2	
Barium, Dissolved	**139**	ug/L	0.30	1	05/21/20 15:27	05/28/20 23:40	7440-39-3	
Boron, Dissolved	**26.4**	ug/L	10.0	1	05/21/20 15:27	05/28/20 23:40	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 23:40	7440-43-9	
Calcium, Dissolved	**74500**	ug/L	800	20	05/21/20 15:27	05/28/20 23:43	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:40	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 23:40	7440-50-8	
Iron, Dissolved	**768**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:40	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 23:40	7439-92-1	
Magnesium, Dissolved	**25100**	ug/L	200	20	05/21/20 15:27	05/29/20 14:45	7439-95-4	
Manganese, Dissolved	**228**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:40	7439-96-5	
Nickel, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:40	7440-02-0	
Potassium, Dissolved	**2790**	ug/L	100	1	05/21/20 15:27	05/28/20 23:40	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:40	7782-49-2	
Sodium, Dissolved	**3940**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:40	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/21/20 15:27	05/28/20 23:40	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E							
	Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**2.23**	%		1		06/01/20 17:32		
Total Cations	**6.1**	meq/L		1		06/01/20 17:32		N2
Total Anions	**5.8**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
	Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:52	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 22:45	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 22:45	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 22:45	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 22:45	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 22:45	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 22:45	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 22:45	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 22:45	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 22:53	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 22:45	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 22:45	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-104B **Lab ID: 10517964013** Collected: 05/12/20 16:32 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 22:45	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 22:53	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 22:53	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 22:53	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 22:45	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 22:45	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 22:45	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 22:53	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 22:45	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 22:45	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 22:45	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 22:45	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 22:53	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 22:53	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 22:45	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 22:53	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 22:45	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 22:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 22:45	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 22:45	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 22:45	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 22:45	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 22:45	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 22:45	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 22:45	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 22:45	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 22:53	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 22:45	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 22:53	96-18-4	

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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-104B **Lab ID: 10517964013** Collected: 05/12/20 16:32 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 22:45	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 22:45	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 22:53	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 22:45	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 22:45	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 22:45	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/25/20 22:53	17060-07-0	
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/21/20 22:45	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1		05/21/20 22:45	2037-26-5	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 22:53	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125	1		05/21/20 22:45	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**236**	mg/L	5.0	1		05/21/20 15:45		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**334**	mg/L	10.0	1		05/19/20 11:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**22.0**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**8.0**	Std. Units	0.10	1		05/29/20 18:20		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**576**	umhos/cm	1.0	1		05/29/20 18:17		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**2.4**	mg/L	1.2	1		05/29/20 15:58	16887-00-6	
Sulfate	**47.6**	mg/L	1.2	1		05/29/20 15:58	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**0.12**	mg/L	0.10	1		05/19/20 16:42	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-104B **Lab ID: 10517964013** Collected: 05/12/20 16:32 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/22/20 11:59		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-302A **Lab ID: 10517964014** Collected: 05/12/20 18:13 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**1.6**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:53	7440-38-2	
Barium, Dissolved	**131**	ug/L	0.30	1	05/21/20 15:27	05/28/20 23:53	7440-39-3	
Boron, Dissolved	**14.7**	ug/L	10.0	1	05/21/20 15:27	05/28/20 23:53	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 23:53	7440-43-9	
Calcium, Dissolved	**71600**	ug/L	800	20	05/21/20 15:27	05/28/20 23:56	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:53	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 23:53	7440-50-8	
Iron, Dissolved	**899**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:53	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 23:53	7439-92-1	
Magnesium, Dissolved	**31100**	ug/L	200	20	05/21/20 15:27	05/29/20 14:55	7439-95-4	
Manganese, Dissolved	**206**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:53	7439-96-5	
Nickel, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:53	7440-02-0	
Potassium, Dissolved	**3520**	ug/L	2000	20	05/21/20 15:27	05/29/20 14:55	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:53	7782-49-2	
Sodium, Dissolved	**3250**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:53	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/21/20 15:27	05/28/20 23:53	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**7.21**	%		1		06/01/20 17:32		1M
Total Cations	**6.4**	meq/L		1		06/01/20 17:32		N2
Total Anions	**5.5**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 11:54	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 23:11	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 23:11	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 23:11	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 23:11	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 23:11	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 23:11	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 23:11	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 23:11	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 23:19	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 23:11	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 23:11	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-302A **Lab ID: 10517964014** Collected: 05/12/20 18:13 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 23:11	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 23:19	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 23:19	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 23:19	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 23:11	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 23:11	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 23:11	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 23:19	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 23:11	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 23:11	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 23:11	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 23:11	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 23:19	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 23:19	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 23:11	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 23:19	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 23:11	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 23:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 23:11	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 23:11	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 23:11	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 23:11	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 23:11	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 23:11	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 23:11	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 23:11	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 23:19	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 23:11	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 23:19	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-302A **Lab ID: 10517964014** Collected: 05/12/20 18:13 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 23:11	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 23:11	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 23:19	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 23:11	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 23:11	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 23:11	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	110	%.	75-128	1		05/21/20 23:11	17060-07-0	
1,2-Dichloroethane-d4 (S)	106	%.	75-128	1		05/25/20 23:19	17060-07-0	
Toluene-d8 (S)	102	%.	75-125	1		05/21/20 23:11	2037-26-5	
Toluene-d8 (S)	99	%.	75-125	1		05/25/20 23:19	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125	1		05/21/20 23:11	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**222**	mg/L	5.0	1		05/21/20 15:52		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**308**	mg/L	10.0	1		05/19/20 11:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**10.0**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.9**	Std. Units	0.10	1		05/29/20 18:22		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**546**	umhos/cm	1.0	1		05/29/20 18:18		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**9.6**	mg/L	1.2	1		05/29/20 16:28	16887-00-6	
Sulfate	**38.7**	mg/L	1.2	1		05/29/20 16:28	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/19/20 16:44	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-302A **Lab ID: 10517964014** Collected: 05/12/20 18:13 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/22/20 12:00		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-302B **Lab ID: 10517964015** Collected: 05/12/20 18:11 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**1.5**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:59	7440-38-2	
Barium, Dissolved	**128**	ug/L	0.30	1	05/21/20 15:27	05/28/20 23:59	7440-39-3	
Boron, Dissolved	**14.1**	ug/L	10.0	1	05/21/20 15:27	05/28/20 23:59	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/28/20 23:59	7440-43-9	
Calcium, Dissolved	**68700**	ug/L	800	20	05/21/20 15:27	05/29/20 00:12	7440-70-2	P6
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:59	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/28/20 23:59	7440-50-8	
Iron, Dissolved	**1070**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:59	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/28/20 23:59	7439-92-1	
Magnesium, Dissolved	**30600**	ug/L	200	20	05/21/20 15:27	05/29/20 14:58	7439-95-4	P6
Manganese, Dissolved	**215**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:59	7439-96-5	
Nickel, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:59	7440-02-0	
Potassium, Dissolved	**3420**	ug/L	2000	20	05/21/20 15:27	05/29/20 14:58	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/28/20 23:59	7782-49-2	
Sodium, Dissolved	**3300**	ug/L	50.0	1	05/21/20 15:27	05/28/20 23:59	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/21/20 15:27	05/28/20 23:59	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**.82**	%		1		06/01/20 17:32		
Total Cations	**6.2**	meq/L		1		06/01/20 17:32		N2
Total Anions	**6.1**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 12:01	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 16:15	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 16:15	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 16:15	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 16:15	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 16:15	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 16:15	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 16:15	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 16:15	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 16:23	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 16:15	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 16:15	67-66-3	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-302B **Lab ID: 10517964015** Collected: 05/12/20 18:11 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 16:15	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 16:23	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 16:23	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 16:23	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 16:15	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 16:15	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 16:15	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 16:23	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 16:15	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 16:15	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 16:15	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 16:15	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 16:23	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 16:23	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 16:15	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 16:23	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 16:15	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 16:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 16:15	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 16:15	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 16:15	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 16:15	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 16:15	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 16:15	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 16:15	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 16:15	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 16:23	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 16:15	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 16:23	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-302B **Lab ID: 10517964015** Collected: 05/12/20 18:11 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 16:15	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 16:15	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 16:23	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 16:15	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 16:15	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 16:15	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%.	75-128	1		05/21/20 16:15	17060-07-0	
1,2-Dichloroethane-d4 (S)	106	%.	75-128	1		05/25/20 16:23	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1		05/25/20 16:23	2037-26-5	
Toluene-d8 (S)	104	%.	75-125	1		05/21/20 16:15	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125	1		05/21/20 16:15	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**251**	mg/L	5.0	1		05/21/20 13:13		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**328**	mg/L	10.0	1		05/19/20 10:41		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**<10.0**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.9**	Std. Units	0.10	1		05/29/20 17:50		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**579**	umhos/cm	1.0	1		05/29/20 18:18		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**9.8**	mg/L	1.2	1		05/29/20 16:13	16887-00-6	M1,R1
Sulfate	**38.8**	mg/L	1.2	1		05/29/20 16:13	14808-79-8	M1,R1
350.1 Ammonia	Analytical Method: EPA 350.1 Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/19/20 17:16	7664-41-7	M1

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: W-302B **Lab ID: 10517964015** Collected: 05/12/20 18:11 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**1.9**	mg/L	0.10	1		05/22/20 12:02		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: Dup-2 **Lab ID: 10517964016** Collected: 05/12/20 00:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**1.3**	ug/L	0.50	1	05/21/20 15:27	05/29/20 00:18	7440-38-2	
Barium, Dissolved	**151**	ug/L	0.30	1	05/21/20 15:27	05/29/20 00:18	7440-39-3	
Boron, Dissolved	**23.3**	ug/L	10.0	1	05/21/20 15:27	05/29/20 00:18	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/21/20 15:27	05/29/20 00:18	7440-43-9	
Calcium, Dissolved	**81100**	ug/L	800	20	05/21/20 15:27	05/29/20 00:21	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/21/20 15:27	05/29/20 00:18	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/21/20 15:27	05/29/20 00:18	7440-50-8	
Iron, Dissolved	**523**	ug/L	50.0	1	05/21/20 15:27	05/29/20 00:18	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/21/20 15:27	05/29/20 00:18	7439-92-1	
Magnesium, Dissolved	**41900**	ug/L	200	20	05/21/20 15:27	05/29/20 15:11	7439-95-4	
Manganese, Dissolved	**75.2**	ug/L	0.50	1	05/21/20 15:27	05/29/20 00:18	7439-96-5	
Nickel, Dissolved	**4.0**	ug/L	0.50	1	05/21/20 15:27	05/29/20 00:18	7440-02-0	
Potassium, Dissolved	**2170**	ug/L	2000	20	05/21/20 15:27	05/29/20 15:11	7440-09-7	
Selenium, Dissolved	**0.60**	ug/L	0.50	1	05/21/20 15:27	05/29/20 00:18	7782-49-2	
Sodium, Dissolved	**4800**	ug/L	50.0	1	05/21/20 15:27	05/29/20 00:18	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/21/20 15:27	05/29/20 00:18	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**-5.88**	%		1		06/01/20 17:32		1M
Total Cations	**7.8**	meq/L		1		06/01/20 17:32		N2
Total Anions	**8.7**	meq/L		1		06/01/20 17:32		N2
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1 Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/21/20 18:22	05/27/20 12:08	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 23:37	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 23:37	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 23:37	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 23:37	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 23:37	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 23:37	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 23:37	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 23:37	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 23:44	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 23:37	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 23:37	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: Dup-2 **Lab ID: 10517964016** Collected: 05/12/20 00:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 23:37	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 23:44	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 23:44	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 23:44	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 23:37	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 23:37	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 23:37	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 23:44	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 23:37	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 23:37	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 23:37	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 23:37	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 23:44	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 23:44	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 23:37	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 23:44	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 23:37	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 23:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 23:37	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 23:37	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 23:37	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 23:37	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 23:37	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 23:37	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 23:37	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 23:37	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 23:44	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 23:37	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 23:44	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: Dup-2 **Lab ID: 10517964016** Collected: 05/12/20 00:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 23:37	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 23:37	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 23:44	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 23:37	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 23:37	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 23:37	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/25/20 23:44	17060-07-0	
1,2-Dichloroethane-d4 (S)	110	%.	75-128	1		05/21/20 23:37	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1		05/25/20 23:44	2037-26-5	
Toluene-d8 (S)	101	%.	75-125	1		05/21/20 23:37	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125	1		05/21/20 23:37	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**421**	mg/L	5.0	1		05/21/20 15:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**364**	mg/L	10.0	1		05/19/20 11:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
	Pace Analytical Services - Minneapolis							
Total Suspended Solids	**139**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		05/29/20 18:24		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**673**	umhos/cm	1.0	1		05/29/20 18:19		
300.0 IC Anions	Analytical Method: EPA 300.0							
	Pace Analytical Services - Minneapolis							
Chloride	**<1.2**	mg/L	1.2	1		05/29/20 16:43	16887-00-6	
Sulfate	**16.0**	mg/L	1.2	1		05/29/20 16:43	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1							
	Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/19/20 17:21	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: Dup-2 **Lab ID: 10517964016** Collected: 05/12/20 00:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/22/20 12:05		FS

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: Trip Blank 2 **Lab ID: 10517964017** Collected: 05/12/20 00:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 14:57	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 14:57	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 14:57	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 14:57	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 14:57	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 14:57	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 14:57	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 14:57	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/26/20 00:10	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 14:57	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 14:57	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 14:57	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/26/20 00:10	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/26/20 00:10	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/26/20 00:10	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 14:57	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 14:57	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 14:57	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/26/20 00:10	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 14:57	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 14:57	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 14:57	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 14:57	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 00:10	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 00:10	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 14:57	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/26/20 00:10	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 14:57	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 14:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 14:57	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: Trip Blank 2 **Lab ID: 10517964017** Collected: 05/12/20 00:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 14:57	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 14:57	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 14:57	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 14:57	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 14:57	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 14:57	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 14:57	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/26/20 00:10	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 14:57	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/26/20 00:10	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 14:57	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 14:57	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/26/20 00:10	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 14:57	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 14:57	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 14:57	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%.	75-128	1		05/21/20 14:57	17060-07-0	
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/26/20 00:10	17060-07-0	
Toluene-d8 (S)	103	%.	75-125	1		05/21/20 14:57	2037-26-5	
Toluene-d8 (S)	100	%.	75-125	1		05/26/20 00:10	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125	1		05/21/20 14:57	460-00-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: Trip Blank 3 **Lab ID: 10517964018** Collected: 05/12/20 00:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 15:23	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 15:23	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 15:23	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 15:23	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 15:23	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 15:23	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 15:23	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 15:23	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/26/20 11:38	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 15:23	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 15:23	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 15:23	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/26/20 11:38	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/26/20 11:38	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/26/20 11:38	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 15:23	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 15:23	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 15:23	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/26/20 11:38	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 15:23	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 15:23	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 15:23	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 15:23	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 11:38	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 11:38	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 15:23	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/26/20 11:38	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 15:23	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 15:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 15:23	108-10-1	

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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: Trip Blank 3 **Lab ID: 10517964018** Collected: 05/12/20 00:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 15:23	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 15:23	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 15:23	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 15:23	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 15:23	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 15:23	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 15:23	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/26/20 11:38	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 15:23	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/26/20 11:38	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 15:23	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 15:23	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/26/20 11:38	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 15:23	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 15:23	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 15:23	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%.	75-128	1		05/21/20 15:23	17060-07-0	
1,2-Dichloroethane-d4 (S)	105	%.	75-128	1		05/26/20 11:38	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1		05/26/20 11:38	2037-26-5	
Toluene-d8 (S)	103	%.	75-125	1		05/21/20 15:23	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125	1		05/21/20 15:23	460-00-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: Trip Blank 4 **Lab ID: 10517964019** Collected: 05/12/20 00:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/21/20 15:49	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/21/20 15:49	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/21/20 15:49	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/21/20 15:49	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/21/20 15:49	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/21/20 15:49	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/21/20 15:49	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/21/20 15:49	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/26/20 12:04	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/21/20 15:49	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/21/20 15:49	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		05/21/20 15:49	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/26/20 12:04	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/26/20 12:04	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/26/20 12:04	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/21/20 15:49	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 15:49	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 15:49	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/26/20 12:04	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/21/20 15:49	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 15:49	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/21/20 15:49	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/21/20 15:49	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 12:04	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 12:04	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/21/20 15:49	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/26/20 12:04	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/21/20 15:49	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/21/20 15:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/21/20 15:49	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Sample: Trip Blank 4 **Lab ID: 10517964019** Collected: 05/12/20 00:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/21/20 15:49	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/21/20 15:49	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 15:49	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/21/20 15:49	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/21/20 15:49	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 15:49	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/21/20 15:49	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/26/20 12:04	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/21/20 15:49	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/26/20 12:04	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/21/20 15:49	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/21/20 15:49	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/26/20 12:04	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/21/20 15:49	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/21/20 15:49	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/21/20 15:49	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	110	%.	75-128	1		05/21/20 15:49	17060-07-0	
1,2-Dichloroethane-d4 (S)	104	%.	75-128	1		05/26/20 12:04	17060-07-0	
Toluene-d8 (S)	101	%.	75-125	1		05/21/20 15:49	2037-26-5	
Toluene-d8 (S)	99	%.	75-125	1		05/26/20 12:04	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125	1		05/21/20 15:49	460-00-4	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 676619 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury - Dissolved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

METHOD BLANK: 3622109 Matrix: Water
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.20	0.20	05/27/20 11:11	

LABORATORY CONTROL SAMPLE: 3622110

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	106	85-115	

MATRIX SPIKE SAMPLE: 3622111

Parameter	Units	10517964003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	<0.20	5	5.0	100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622112 3622113

Parameter	Units	10517964015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	<0.20	5	5	5.2	5.2	104	103	70-130	1	20	

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

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 676609
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

METHOD BLANK: 3622084
Matrix: Water
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<0.50	0.50	05/28/20 22:02	
Barium, Dissolved	ug/L	<0.30	0.30	05/28/20 22:02	
Boron, Dissolved	ug/L	<10.0	10.0	05/28/20 22:02	
Cadmium, Dissolved	ug/L	<0.080	0.080	05/28/20 22:02	
Calcium, Dissolved	ug/L	<40.0	40.0	05/28/20 22:02	
Chromium, Dissolved	ug/L	<0.50	0.50	05/28/20 22:02	
Copper, Dissolved	ug/L	<1.0	1.0	05/28/20 22:02	
Iron, Dissolved	ug/L	<50.0	50.0	05/28/20 22:02	
Lead, Dissolved	ug/L	<0.10	0.10	05/28/20 22:02	
Magnesium, Dissolved	ug/L	<10.0	10.0	05/28/20 22:02	
Manganese, Dissolved	ug/L	<0.50	0.50	05/28/20 22:02	
Nickel, Dissolved	ug/L	<0.50	0.50	05/28/20 22:02	
Potassium, Dissolved	ug/L	<100	100	05/28/20 22:02	
Selenium, Dissolved	ug/L	<0.50	0.50	05/28/20 22:02	
Sodium, Dissolved	ug/L	<50.0	50.0	05/28/20 22:02	
Zinc, Dissolved	ug/L	<5.0	5.0	05/28/20 22:02	

LABORATORY CONTROL SAMPLE: 3622085

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	99.3	99	85-115	
Barium, Dissolved	ug/L	100	105	105	85-115	
Boron, Dissolved	ug/L	100	104	104	85-115	
Cadmium, Dissolved	ug/L	100	98.9	99	85-115	
Calcium, Dissolved	ug/L	2000	2090	104	85-115	
Chromium, Dissolved	ug/L	100	106	106	85-115	
Copper, Dissolved	ug/L	100	101	101	85-115	
Iron, Dissolved	ug/L	2000	2040	102	85-115	
Lead, Dissolved	ug/L	100	101	101	85-115	
Magnesium, Dissolved	ug/L	2000	2110	105	85-115	
Manganese, Dissolved	ug/L	100	101	101	85-115	
Nickel, Dissolved	ug/L	100	103	103	85-115	
Potassium, Dissolved	ug/L	2000	2070	104	85-115	
Selenium, Dissolved	ug/L	100	104	104	85-115	
Sodium, Dissolved	ug/L	2000	2040	102	85-115	

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

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

LABORATORY CONTROL SAMPLE: 3622085

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Zinc, Dissolved	ug/L	100	105	105	85-115	

MATRIX SPIKE SAMPLE: 3622086

Parameter	Units	10517964001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	1.7	100	105	103	70-130	
Barium, Dissolved	ug/L	178	100	272	93	70-130	
Boron, Dissolved	ug/L	25.9	100	126	100	70-130	
Cadmium, Dissolved	ug/L	<0.080	100	101	101	70-130	
Calcium, Dissolved	ug/L	90600	2000	86800	-192	70-130	P6
Chromium, Dissolved	ug/L	<0.50	100	107	107	70-130	
Copper, Dissolved	ug/L	<1.0	100	99.7	100	70-130	
Iron, Dissolved	ug/L	534	2000	2640	106	70-130	
Lead, Dissolved	ug/L	<0.10	100	100	100	70-130	
Magnesium, Dissolved	ug/L	47400	2000	46700	-33	70-130	P6
Manganese, Dissolved	ug/L	85.9	100	185	99	70-130	
Nickel, Dissolved	ug/L	5.4	100	111	105	70-130	
Potassium, Dissolved	ug/L	2620	2000	4550	97	70-130	
Selenium, Dissolved	ug/L	1.2	100	104	103	70-130	
Sodium, Dissolved	ug/L	5420	2000	7180	88	70-130	
Zinc, Dissolved	ug/L	<5.0	100	109	105	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622087 3622088

Parameter	Units	10517964015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	1.5	100	100	102	103	100	101	70-130	1	20	
Barium, Dissolved	ug/L	128	100	100	234	243	106	115	70-130	4	20	
Boron, Dissolved	ug/L	14.1	100	100	109	117	95	103	70-130	7	20	
Cadmium, Dissolved	ug/L	<0.080	100	100	98.5	98.5	99	99	70-130	0	20	
Calcium, Dissolved	ug/L	68700	2000	2000	72200	78000	173	467	70-130	8	20	P6
Chromium, Dissolved	ug/L	<0.50	100	100	106	107	105	107	70-130	2	20	
Copper, Dissolved	ug/L	<1.0	100	100	96.1	97.3	96	97	70-130	1	20	
Iron, Dissolved	ug/L	1070	2000	2000	3190	3270	106	110	70-130	2	20	
Lead, Dissolved	ug/L	<0.10	100	100	98.5	100	98	100	70-130	2	20	
Magnesium, Dissolved	ug/L	30600	2000	2000	32800	36000	108	270	70-130	9	20	P6
Manganese, Dissolved	ug/L	215	100	100	314	336	99	121	70-130	7	20	
Nickel, Dissolved	ug/L	<0.50	100	100	102	103	102	103	70-130	1	20	
Potassium, Dissolved	ug/L	3420	2000	2000	5260	5610	92	110	70-130	6	20	
Selenium, Dissolved	ug/L	<0.50	100	100	100	103	100	103	70-130	3	20	
Sodium, Dissolved	ug/L	3300	2000	2000	5360	5790	103	124	70-130	8	20	
Zinc, Dissolved	ug/L	<5.0	100	100	104	107	102	105	70-130	3	20	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 676817 | Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B | Analysis Description: 8260B MSV LLW by SIMSCAN
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016, 10517964017

METHOD BLANK: 3622834 Matrix: Water

Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016, 10517964017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.40	0.40	05/21/20 14:31	
1,1,1-Trichloroethane	ug/L	<0.40	0.40	05/21/20 14:31	
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	05/21/20 14:31	
1,1,2-Trichloroethane	ug/L	<0.40	0.40	05/21/20 14:31	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	1.0	05/21/20 14:31	
1,1-Dichloroethane	ug/L	<0.40	0.40	05/21/20 14:31	
1,1-Dichloroethene	ug/L	<0.40	0.40	05/21/20 14:31	
1,1-Dichloropropene	ug/L	<0.40	0.40	05/21/20 14:31	
1,2,3-Trichlorobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
1,2,3-Trichloropropane	ug/L	<0.010	0.010	05/25/20 15:05	
1,2,4-Trichlorobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
1,2,4-Trimethylbenzene	ug/L	<1.0	1.0	05/21/20 14:31	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	0.12	05/25/20 15:05	
1,2-Dibromoethane (EDB)	ug/L	<0.050	0.050	05/25/20 15:05	
1,2-Dichlorobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
1,2-Dichloroethane	ug/L	<0.20	0.20	05/25/20 15:05	
1,2-Dichloropropane	ug/L	<0.40	0.40	05/21/20 14:31	
1,3,5-Trimethylbenzene	ug/L	<0.40	0.40	05/21/20 14:31	
1,3-Dichlorobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
1,3-Dichloropropane	ug/L	<0.40	0.40	05/21/20 14:31	
1,4-Dichlorobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
2,2-Dichloropropane	ug/L	<1.0	1.0	05/21/20 14:31	
2-Butanone (MEK)	ug/L	<5.0	5.0	05/21/20 14:31	
2-Chlorotoluene	ug/L	<0.40	0.40	05/21/20 14:31	
4-Chlorotoluene	ug/L	<0.40	0.40	05/21/20 14:31	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	05/21/20 14:31	
Acetone	ug/L	<20.0	20.0	05/21/20 14:31	
Allyl chloride	ug/L	<4.0	4.0	05/21/20 14:31	
Benzene	ug/L	<0.20	0.20	05/21/20 14:31	
Bromobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
Bromochloromethane	ug/L	<1.0	1.0	05/21/20 14:31	
Bromodichloromethane	ug/L	<0.40	0.40	05/21/20 14:31	
Bromoform	ug/L	<1.0	1.0	05/21/20 14:31	
Bromomethane	ug/L	<1.0	1.0	05/21/20 14:31	
Carbon tetrachloride	ug/L	<0.050	0.050	05/25/20 15:05	
Chlorobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
Chloroethane	ug/L	<1.0	1.0	05/21/20 14:31	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

METHOD BLANK: 3622834 Matrix: Water

Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016, 10517964017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloroform	ug/L	<1.0	1.0	05/21/20 14:31	
Chloromethane	ug/L	<1.0	1.0	05/21/20 14:31	
cis-1,2-Dichloroethene	ug/L	<0.40	0.40	05/21/20 14:31	
cis-1,3-Dichloropropene	ug/L	<0.40	0.40	05/25/20 15:05	
Dibromochloromethane	ug/L	<0.40	0.40	05/25/20 15:05	
Dibromomethane	ug/L	<1.0	1.0	05/21/20 14:31	
Dichlorodifluoromethane	ug/L	<1.0	1.0	05/21/20 14:31	
Dichlorofluoromethane	ug/L	<1.0	1.0	05/21/20 14:31	
Diethyl ether (Ethyl ether)	ug/L	<4.0	4.0	05/21/20 14:31	
Ethylbenzene	ug/L	<0.40	0.40	05/21/20 14:31	
Hexachloro-1,3-butadiene	ug/L	<0.10	0.10	05/25/20 15:05	
Isopropylbenzene (Cumene)	ug/L	<0.40	0.40	05/21/20 14:31	
m&p-Xylene	ug/L	<0.80	0.80	05/21/20 14:31	
Methyl-tert-butyl ether	ug/L	<0.40	0.40	05/21/20 14:31	
Methylene Chloride	ug/L	<1.0	1.0	05/21/20 14:31	
n-Butylbenzene	ug/L	<0.40	0.40	05/21/20 14:31	
n-Propylbenzene	ug/L	<0.40	0.40	05/21/20 14:31	
Naphthalene	ug/L	<1.0	1.0	05/21/20 14:31	
o-Xylene	ug/L	<0.40	0.40	05/21/20 14:31	
p-Isopropyltoluene	ug/L	<0.40	0.40	05/21/20 14:31	
sec-Butylbenzene	ug/L	<0.40	0.40	05/21/20 14:31	
Styrene	ug/L	<0.40	0.40	05/21/20 14:31	
tert-Butylbenzene	ug/L	<0.40	0.40	05/21/20 14:31	
Tetrachloroethene	ug/L	0.40	0.40	05/21/20 14:31	P8
Tetrahydrofuran	ug/L	<10.0	10.0	05/21/20 14:31	
Toluene	ug/L	<0.40	0.40	05/21/20 14:31	
trans-1,2-Dichloroethene	ug/L	<0.40	0.40	05/21/20 14:31	
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	05/25/20 15:05	
Trichloroethene	ug/L	<0.050	0.050	05/25/20 15:05	
Trichlorofluoromethane	ug/L	<0.40	0.40	05/21/20 14:31	
Vinyl chloride	ug/L	<0.050	0.050	05/25/20 15:05	
Xylene (Total)	ug/L	<1.2	1.2	05/21/20 14:31	
1,2-Dichloroethane-d4 (S)	%.	107	75-128	05/21/20 14:31	
1,2-Dichloroethane-d4 (S)	%.	106	75-128	05/25/20 15:05	
4-Bromofluorobenzene (S)	%.	101	75-125	05/21/20 14:31	
Toluene-d8 (S)	%.	101	75-125	05/25/20 15:05	
Toluene-d8 (S)	%.	105	75-125	05/21/20 14:31	

LABORATORY CONTROL SAMPLE: 3622835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	10	10.3	103	75-125	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

LABORATORY CONTROL SAMPLE: 3622835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	10	10	100	68-131	
1,1,2,2-Tetrachloroethane	ug/L	10	9.1	91	71-125	
1,1,2-Trichloroethane	ug/L	10	10	100	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	10	9.8	98	71-125	
1,1-Dichloroethane	ug/L	10	8.7	87	71-125	
1,1-Dichloroethene	ug/L	10	9.5	95	66-126	
1,1-Dichloropropene	ug/L	10	9.2	92	58-134	
1,2,3-Trichlorobenzene	ug/L	10	10.0	100	71-125	
1,2,3-Trichloropropane	ug/L	1	1.1	114	75-125	
1,2,4-Trichlorobenzene	ug/L	10	9.8	98	72-125	
1,2,4-Trimethylbenzene	ug/L	10	10.3	103	75-125	
1,2-Dibromo-3-chloropropane	ug/L	2.5	2.8	111	71-125	
1,2-Dibromoethane (EDB)	ug/L	1	1.2	117	71-125	
1,2-Dichlorobenzene	ug/L	10	9.8	98	75-125	
1,2-Dichloroethane	ug/L	1	1.2	120	75-131	
1,2-Dichloropropane	ug/L	10	9.8	98	73-125	
1,3,5-Trimethylbenzene	ug/L	10	10.3	103	75-125	
1,3-Dichlorobenzene	ug/L	10	10.3	103	75-125	
1,3-Dichloropropane	ug/L	10	9.1	91	75-125	
1,4-Dichlorobenzene	ug/L	10	9.1	91	75-125	
2,2-Dichloropropane	ug/L	10	10.2	102	57-144	
2-Butanone (MEK)	ug/L	50	41.9	84	51-144	
2-Chlorotoluene	ug/L	10	10.1	101	75-125	
4-Chlorotoluene	ug/L	10	10.8	108	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	50	46.7	93	72-125	
Acetone	ug/L	50	39.0	78	34-150	
Allyl chloride	ug/L	10	8.1	81	58-132	
Benzene	ug/L	10	9.0	90	70-125	
Bromobenzene	ug/L	10	9.2	92	75-125	
Bromochloromethane	ug/L	10	9.5	95	72-126	
Bromodichloromethane	ug/L	10	9.4	94	73-128	
Bromoform	ug/L	10	9.8	98	70-125	
Bromomethane	ug/L	10	12.2	122	31-150	SS
Carbon tetrachloride	ug/L	1	1.3	127	68-136	CH
Chlorobenzene	ug/L	10	10.1	101	75-125	
Chloroethane	ug/L	10	8.6	86	70-128	
Chloroform	ug/L	10	9.9	99	72-125	
Chloromethane	ug/L	10	8.2	82	63-129	
cis-1,2-Dichloroethene	ug/L	10	9.3	93	69-128	
cis-1,3-Dichloropropene	ug/L	1	1.2	119	71-125	
Dibromochloromethane	ug/L	1	1.1	114	71-125	
Dibromomethane	ug/L	10	9.6	96	74-130	
Dichlorodifluoromethane	ug/L	10	8.8	88	65-134	
Dichlorofluoromethane	ug/L	10	9.1	91	74-125	
Diethyl ether (Ethyl ether)	ug/L	10	8.2	82	64-126	
Ethylbenzene	ug/L	10	9.6	96	75-125	
Hexachloro-1,3-butadiene	ug/L	1	1.3	125	65-133	CH

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

LABORATORY CONTROL SAMPLE: 3622835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Isopropylbenzene (Cumene)	ug/L	10	11.3	113	75-125	
m&p-Xylene	ug/L	20	19.8	99	75-125	
Methyl-tert-butyl ether	ug/L	10	8.9	89	68-125	
Methylene Chloride	ug/L	10	10.1	101	69-125	
n-Butylbenzene	ug/L	10	10.2	102	75-125	
n-Propylbenzene	ug/L	10	9.7	97	74-125	
Naphthalene	ug/L	10	9.2	92	66-125	
o-Xylene	ug/L	10	9.5	95	75-125	
p-Isopropyltoluene	ug/L	10	10.6	106	75-125	
sec-Butylbenzene	ug/L	10	10.5	105	75-125	
Styrene	ug/L	10	10.2	102	75-125	
tert-Butylbenzene	ug/L	10	9.8	98	75-125	
Tetrachloroethene	ug/L	10	9.6	96	75-125	
Tetrahydrofuran	ug/L	100	88.4	88	55-139	
Toluene	ug/L	10	9.0	90	75-125	
trans-1,2-Dichloroethene	ug/L	10	9.3	93	67-127	
trans-1,3-Dichloropropene	ug/L	1	1.2	118	70-125	
Trichloroethene	ug/L	1	1.2	118	69-125	
Trichlorofluoromethane	ug/L	10	10.1	101	70-131	
Vinyl chloride	ug/L	1	1.1	113	68-132	
Xylene (Total)	ug/L	30	29.3	98	75-125	
1,2-Dichloroethane-d4 (S)	%.			98	75-128	
1,2-Dichloroethane-d4 (S)	%.			101	75-128	
4-Bromofluorobenzene (S)	%.			96	75-125	
Toluene-d8 (S)	%.			99	75-125	
Toluene-d8 (S)	%.			98	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622836 3622837

Parameter	Units	10517964015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	<0.40	10	10	10.5	10.9	105	109	75-125	4	30	
1,1,1-Trichloroethane	ug/L	<0.40	10	10	10.7	10.7	107	107	65-148	0	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.40	10	10	9.2	9.2	92	92	72-125	0	30	
1,1,2-Trichloroethane	ug/L	<0.40	10	10	10.2	10.1	102	101	75-125	2	30	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	10	10	10.5	11.1	105	111	75-145	5	30	
1,1-Dichloroethane	ug/L	<0.40	10	10	9.6	9.9	96	99	73-136	3	30	
1,1-Dichloroethene	ug/L	<0.40	10	10	10.2	10.6	102	106	69-138	4	30	
1,1-Dichloropropene	ug/L	<0.40	10	10	10.7	10.6	107	106	60-150	0	30	
1,2,3-Trichlorobenzene	ug/L	<0.40	10	10	9.8	9.6	98	96	67-135	2	30	
1,2,3-Trichloropropane	ug/L	<0.010	1	1	1.0	0.94	100	94	49-150	7	30	
1,2,4-Trichlorobenzene	ug/L	<0.40	10	10	10	9.9	100	99	68-133	1	30	
1,2,4-Trimethylbenzene	ug/L	<1.0	10	10	10.8	10.6	108	106	75-135	1	30	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	2.5	2.5	2.4	2.3	98	90	53-150	8	30	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622836 3622837

Parameter	Units	10517964015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	<0.050	1	1	1.0	0.98	103	98	49-150	5	30	
1,2-Dichlorobenzene	ug/L	<0.40	10	10	9.9	9.9	99	99	75-125	0	30	
1,2-Dichloroethane	ug/L	<0.20	1	1	1.1	1.1	110	106	42-150	4	30	
1,2-Dichloropropane	ug/L	<0.40	10	10	9.7	10.1	97	101	71-125	4	30	
1,3,5-Trimethylbenzene	ug/L	<0.40	10	10	10.5	10.8	105	108	75-129	2	30	
1,3-Dichlorobenzene	ug/L	<0.40	10	10	10.3	10.4	103	104	75-125	1	30	
1,3-Dichloropropane	ug/L	<0.40	10	10	9.5	9.5	95	95	75-125	1	30	
1,4-Dichlorobenzene	ug/L	<0.40	10	10	9.8	9.6	98	96	75-125	2	30	
2,2-Dichloropropane	ug/L	<1.0	10	10	10.9	11.1	109	111	67-150	2	30	
2-Butanone (MEK)	ug/L	<5.0	50	50	40.8	42.8	82	86	49-138	5	30	
2-Chlorotoluene	ug/L	<0.40	10	10	10.5	10.7	105	107	75-130	3	30	
4-Chlorotoluene	ug/L	<0.40	10	10	11.1	11.0	111	110	75-133	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	50	50	47.5	47.6	95	95	75-126	0	30	
Acetone	ug/L	<20.0	50	50	36.5	41.4	73	83	51-125	12	30	
Allyl chloride	ug/L	<4.0	10	10	8.9	9.6	89	96	50-150	8	30	
Benzene	ug/L	<0.20	10	10	9.8	10.0	98	100	68-129	2	30	
Bromobenzene	ug/L	<0.40	10	10	9.4	9.4	94	94	75-125	0	30	
Bromochloromethane	ug/L	<1.0	10	10	10.2	9.8	102	98	73-132	4	30	
Bromodichloromethane	ug/L	<0.40	10	10	9.8	10	98	100	75-127	2	30	
Bromoform	ug/L	<1.0	10	10	9.6	9.0	96	90	71-125	7	30	
Bromomethane	ug/L	<1.0	10	10	14.1	13.8	141	138	30-150	2	30	SS
Carbon tetrachloride	ug/L	<0.050	1	1	1.2	1.1	121	112	30-150	7	30	CH
Chlorobenzene	ug/L	<0.40	10	10	10.1	10	101	100	75-125	1	30	
Chloroethane	ug/L	<1.0	10	10	9.5	10	95	100	68-141	4	30	
Chloroform	ug/L	<1.0	10	10	9.7	10.1	97	101	61-129	4	30	
Chloromethane	ug/L	<1.0	10	10	9.2	9.5	92	95	46-150	4	30	
cis-1,2-Dichloroethene	ug/L	<0.40	10	10	9.7	10.1	97	101	68-142	4	30	
cis-1,3-Dichloropropene	ug/L	<0.40	1	1	1.0	0.96	101	96	48-150	4	30	
Dibromochloromethane	ug/L	<0.40	1	1	0.98	0.92	98	92	50-150	6	30	
Dibromomethane	ug/L	<1.0	10	10	10.2	9.8	102	98	69-137	4	30	
Dichlorodifluoromethane	ug/L	<1.0	10	10	10.6	10.5	106	105	68-150	1	30	
Dichlorofluoromethane	ug/L	<1.0	10	10	10	9.9	100	99	73-135	1	30	
Diethyl ether (Ethyl ether)	ug/L	<4.0	10	10	8.6	9.2	86	92	61-128	7	30	
Ethylbenzene	ug/L	<0.40	10	10	10.5	10.5	105	105	75-131	1	30	
Hexachloro-1,3-butadiene	ug/L	<0.10	1	1	1.1	1.0	107	100	40-150	6	30	CH
Isopropylbenzene (Cumene)	ug/L	<0.40	10	10	12.4	12.4	124	124	75-133	0	30	
m&p-Xylene	ug/L	<0.80	20	20	21.8	21.9	109	110	75-135	0	30	
Methyl-tert-butyl ether	ug/L	<0.40	10	10	9.0	9.4	90	94	67-126	4	30	
Methylene Chloride	ug/L	<1.0	10	10	9.5	10.1	95	101	61-137	6	30	
n-Butylbenzene	ug/L	<0.40	10	10	10.8	11.0	108	110	75-136	2	30	
n-Propylbenzene	ug/L	<0.40	10	10	10.4	10.5	104	105	75-139	1	30	
Naphthalene	ug/L	<1.0	10	10	9.2	9.4	92	94	64-127	3	30	
o-Xylene	ug/L	<0.40	10	10	10.3	10.4	103	104	75-127	2	30	
p-Isopropyltoluene	ug/L	<0.40	10	10	11.4	11.5	114	115	75-135	1	30	

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622836 3622837

Parameter	Units	10517964015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
sec-Butylbenzene	ug/L	<0.40	10	10	11.2	11.4	112	114	75-141	2	30	
Styrene	ug/L	<0.40	10	10	10.6	10.1	106	101	75-125	5	30	
tert-Butylbenzene	ug/L	<0.40	10	10	10.6	10.7	106	107	75-141	1	30	
Tetrachloroethene	ug/L	<0.40	10	10	10.6	10.5	106	105	75-135	1	30	
Tetrahydrofuran	ug/L	<10.0	100	100	86.8	89.2	87	89	45-145	3	30	
Toluene	ug/L	<0.40	10	10	9.5	9.5	95	95	74-125	1	30	
trans-1,2-Dichloroethene	ug/L	<0.40	10	10	9.9	10	99	100	68-137	1	30	
trans-1,3-Dichloropropene	ug/L	<0.40	1	1	1.0	0.96	101	96	50-150	5	30	
Trichloroethene	ug/L	<0.050	1	1	1.0	0.99	105	99	41-150	6	30	
Trichlorofluoromethane	ug/L	<0.40	10	10	11.0	10.6	110	106	72-150	4	30	
Vinyl chloride	ug/L	<0.050	1	1	1.4	1.1	136	110	30-150	21	30	
Xylene (Total)	ug/L	<1.2	30	30	32.1	32.3	107	108	75-131	1	30	
1,2-Dichloroethane-d4 (S)	%.						103	99	75-128			
1,2-Dichloroethane-d4 (S)	%.						98	103	75-128			
1,2-Dichloroethane-d4 (S)	%.						98	99	75-128			
1,2-Dichloroethane-d4 (S)	%.						103	103	75-128			
4-Bromofluorobenzene (S)	%.						98	97	75-125			
Toluene-d8 (S)	%.						96	98	75-125			
Toluene-d8 (S)	%.						96	97	75-125			
Toluene-d8 (S)	%.						98	97	75-125			
Toluene-d8 (S)	%.						98	98	75-125			

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 677147
QC Batch Method: EPA 8260B
Analysis Method: EPA 8260B
Analysis Description: 8260B MSV LLW by SIMSCAN
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964018, 10517964019

METHOD BLANK: 3625058 Matrix: Water
Associated Lab Samples: 10517964018, 10517964019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.40	0.40	05/21/20 14:31	
1,1,1-Trichloroethane	ug/L	<0.40	0.40	05/21/20 14:31	
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	05/21/20 14:31	
1,1,2-Trichloroethane	ug/L	<0.40	0.40	05/21/20 14:31	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	1.0	05/21/20 14:31	
1,1-Dichloroethane	ug/L	<0.40	0.40	05/21/20 14:31	
1,1-Dichloroethene	ug/L	<0.40	0.40	05/21/20 14:31	
1,1-Dichloropropene	ug/L	<0.40	0.40	05/21/20 14:31	
1,2,3-Trichlorobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
1,2,3-Trichloropropane	ug/L	<0.010	0.010	05/26/20 11:12	
1,2,4-Trichlorobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
1,2,4-Trimethylbenzene	ug/L	<1.0	1.0	05/21/20 14:31	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	0.12	05/26/20 11:12	
1,2-Dibromoethane (EDB)	ug/L	<0.050	0.050	05/26/20 11:12	
1,2-Dichlorobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
1,2-Dichloroethane	ug/L	<0.20	0.20	05/26/20 11:12	
1,2-Dichloropropane	ug/L	<0.40	0.40	05/21/20 14:31	
1,3,5-Trimethylbenzene	ug/L	<0.40	0.40	05/21/20 14:31	
1,3-Dichlorobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
1,3-Dichloropropane	ug/L	<0.40	0.40	05/21/20 14:31	
1,4-Dichlorobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
2,2-Dichloropropane	ug/L	<1.0	1.0	05/21/20 14:31	
2-Butanone (MEK)	ug/L	<5.0	5.0	05/21/20 14:31	
2-Chlorotoluene	ug/L	<0.40	0.40	05/21/20 14:31	
4-Chlorotoluene	ug/L	<0.40	0.40	05/21/20 14:31	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	05/21/20 14:31	
Acetone	ug/L	<20.0	20.0	05/21/20 14:31	
Allyl chloride	ug/L	<4.0	4.0	05/21/20 14:31	
Benzene	ug/L	<0.20	0.20	05/21/20 14:31	
Bromobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
Bromochloromethane	ug/L	<1.0	1.0	05/21/20 14:31	
Bromodichloromethane	ug/L	<0.40	0.40	05/21/20 14:31	
Bromoform	ug/L	<1.0	1.0	05/21/20 14:31	
Bromomethane	ug/L	<1.0	1.0	05/21/20 14:31	
Carbon tetrachloride	ug/L	<0.050	0.050	05/26/20 11:12	
Chlorobenzene	ug/L	<0.40	0.40	05/21/20 14:31	
Chloroethane	ug/L	<1.0	1.0	05/21/20 14:31	
Chloroform	ug/L	<1.0	1.0	05/21/20 14:31	
Chloromethane	ug/L	<1.0	1.0	05/21/20 14:31	
cis-1,2-Dichloroethene	ug/L	<0.40	0.40	05/21/20 14:31	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

METHOD BLANK: 3625058 Matrix: Water
Associated Lab Samples: 10517964018, 10517964019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	ug/L	<0.40	0.40	05/26/20 11:12	
Dibromochloromethane	ug/L	<0.40	0.40	05/26/20 11:12	
Dibromomethane	ug/L	<1.0	1.0	05/21/20 14:31	
Dichlorodifluoromethane	ug/L	<1.0	1.0	05/21/20 14:31	
Dichlorofluoromethane	ug/L	<1.0	1.0	05/21/20 14:31	
Diethyl ether (Ethyl ether)	ug/L	<4.0	4.0	05/21/20 14:31	
Ethylbenzene	ug/L	<0.40	0.40	05/21/20 14:31	
Hexachloro-1,3-butadiene	ug/L	<0.10	0.10	05/26/20 11:12	
Isopropylbenzene (Cumene)	ug/L	<0.40	0.40	05/21/20 14:31	
m&p-Xylene	ug/L	<0.80	0.80	05/21/20 14:31	
Methyl-tert-butyl ether	ug/L	<0.40	0.40	05/21/20 14:31	
Methylene Chloride	ug/L	<1.0	1.0	05/21/20 14:31	
n-Butylbenzene	ug/L	<0.40	0.40	05/21/20 14:31	
n-Propylbenzene	ug/L	<0.40	0.40	05/21/20 14:31	
Naphthalene	ug/L	<1.0	1.0	05/21/20 14:31	
o-Xylene	ug/L	<0.40	0.40	05/21/20 14:31	
p-Isopropyltoluene	ug/L	<0.40	0.40	05/21/20 14:31	
sec-Butylbenzene	ug/L	<0.40	0.40	05/21/20 14:31	
Styrene	ug/L	<0.40	0.40	05/21/20 14:31	
tert-Butylbenzene	ug/L	<0.40	0.40	05/21/20 14:31	
Tetrachloroethene	ug/L	0.40	0.40	05/21/20 14:31	P8
Tetrahydrofuran	ug/L	<10.0	10.0	05/21/20 14:31	
Toluene	ug/L	<0.40	0.40	05/21/20 14:31	
trans-1,2-Dichloroethene	ug/L	<0.40	0.40	05/21/20 14:31	
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	05/26/20 11:12	
Trichloroethene	ug/L	<0.050	0.050	05/26/20 11:12	
Trichlorofluoromethane	ug/L	<0.40	0.40	05/21/20 14:31	
Vinyl chloride	ug/L	<0.050	0.050	05/26/20 11:12	
Xylene (Total)	ug/L	<1.2	1.2	05/21/20 14:31	
1,2-Dichloroethane-d4 (S)	%.	107	75-128	05/21/20 14:31	
1,2-Dichloroethane-d4 (S)	%.	104	75-128	05/26/20 11:12	
4-Bromofluorobenzene (S)	%.	101	75-125	05/21/20 14:31	
Toluene-d8 (S)	%.	100	75-125	05/26/20 11:12	
Toluene-d8 (S)	%.	105	75-125	05/21/20 14:31	

LABORATORY CONTROL SAMPLE: 3625059

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	10	10.3	103	75-125	
1,1,1-Trichloroethane	ug/L	10	10	100	68-131	
1,1,2,2-Tetrachloroethane	ug/L	10	9.1	91	71-125	
1,1,2-Trichloroethane	ug/L	10	10	100	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	10	9.8	98	71-125	
1,1-Dichloroethane	ug/L	10	8.7	87	71-125	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

LABORATORY CONTROL SAMPLE: 3625059

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	10	9.5	95	66-126	
1,1-Dichloropropene	ug/L	10	9.2	92	58-134	
1,2,3-Trichlorobenzene	ug/L	10	10.0	100	71-125	
1,2,3-Trichloropropane	ug/L	1	1.1	110	75-125	
1,2,4-Trichlorobenzene	ug/L	10	9.8	98	72-125	
1,2,4-Trimethylbenzene	ug/L	10	10.3	103	75-125	
1,2-Dibromo-3-chloropropane	ug/L	2.5	2.7	107	71-125	
1,2-Dibromoethane (EDB)	ug/L	1	1.1	110	71-125	
1,2-Dichlorobenzene	ug/L	10	9.8	98	75-125	
1,2-Dichloroethane	ug/L	1	1.1	115	75-131	
1,2-Dichloropropane	ug/L	10	9.8	98	73-125	
1,3,5-Trimethylbenzene	ug/L	10	10.3	103	75-125	
1,3-Dichlorobenzene	ug/L	10	10.3	103	75-125	
1,3-Dichloropropane	ug/L	10	9.1	91	75-125	
1,4-Dichlorobenzene	ug/L	10	9.1	91	75-125	
2,2-Dichloropropane	ug/L	10	10.2	102	57-144	
2-Butanone (MEK)	ug/L	50	41.9	84	51-144	
2-Chlorotoluene	ug/L	10	10.1	101	75-125	
4-Chlorotoluene	ug/L	10	10.8	108	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	50	46.7	93	72-125	
Acetone	ug/L	50	39.0	78	34-150	
Allyl chloride	ug/L	10	8.1	81	58-132	
Benzene	ug/L	10	9.0	90	70-125	
Bromobenzene	ug/L	10	9.2	92	75-125	
Bromochloromethane	ug/L	10	9.5	95	72-126	
Bromodichloromethane	ug/L	10	9.4	94	73-128	
Bromoform	ug/L	10	9.8	98	70-125	
Bromomethane	ug/L	10	12.2	122	31-150	SS
Carbon tetrachloride	ug/L	1	1.2	122	68-136	CH
Chlorobenzene	ug/L	10	10.1	101	75-125	
Chloroethane	ug/L	10	8.6	86	70-128	
Chloroform	ug/L	10	9.9	99	72-125	
Chloromethane	ug/L	10	8.2	82	63-129	
cis-1,2-Dichloroethene	ug/L	10	9.3	93	69-128	
cis-1,3-Dichloropropene	ug/L	1	1.1	111	71-125	
Dibromochloromethane	ug/L	1	1.1	108	71-125	
Dibromomethane	ug/L	10	9.6	96	74-130	
Dichlorodifluoromethane	ug/L	10	8.8	88	65-134	
Dichlorofluoromethane	ug/L	10	9.1	91	74-125	
Diethyl ether (Ethyl ether)	ug/L	10	8.2	82	64-126	
Ethylbenzene	ug/L	10	9.6	96	75-125	
Hexachloro-1,3-butadiene	ug/L	1	1.1	113	65-133	
Isopropylbenzene (Cumene)	ug/L	10	11.3	113	75-125	
m&p-Xylene	ug/L	20	19.8	99	75-125	
Methyl-tert-butyl ether	ug/L	10	8.9	89	68-125	
Methylene Chloride	ug/L	10	10.1	101	69-125	
n-Butylbenzene	ug/L	10	10.2	102	75-125	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

LABORATORY CONTROL SAMPLE: 3625059

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
n-Propylbenzene	ug/L	10	9.7	97	74-125	
Naphthalene	ug/L	10	9.2	92	66-125	
o-Xylene	ug/L	10	9.5	95	75-125	
p-Isopropyltoluene	ug/L	10	10.6	106	75-125	
sec-Butylbenzene	ug/L	10	10.5	105	75-125	
Styrene	ug/L	10	10.2	102	75-125	
tert-Butylbenzene	ug/L	10	9.8	98	75-125	
Tetrachloroethene	ug/L	10	9.6	96	75-125	
Tetrahydrofuran	ug/L	100	88.4	88	55-139	
Toluene	ug/L	10	9.0	90	75-125	
trans-1,2-Dichloroethene	ug/L	10	9.3	93	67-127	
trans-1,3-Dichloropropene	ug/L	1	1.1	109	70-125	
Trichloroethene	ug/L	1	1.1	110	69-125	
Trichlorofluoromethane	ug/L	10	10.1	101	70-131	
Vinyl chloride	ug/L	1	0.95	95	68-132	
Xylene (Total)	ug/L	30	29.3	98	75-125	
1,2-Dichloroethane-d4 (S)	%.			100	75-128	
1,2-Dichloroethane-d4 (S)	%.			98	75-128	
4-Bromofluorobenzene (S)	%.			96	75-125	
Toluene-d8 (S)	%.			98	75-125	
Toluene-d8 (S)	%.			97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3626727 3626728

Parameter	Units	10519223001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	<0.40	10	10	10.5	10.9	105	109	75-125	4	30	
1,1,1-Trichloroethane	ug/L	<0.40	10	10	10.7	10.7	107	107	65-148	0	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.40	10	10	9.2	9.2	92	92	72-125	0	30	
1,1,2-Trichloroethane	ug/L	<0.40	10	10	10.2	10.1	102	101	75-125	2	30	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	10	10	10.5	11.1	105	111	75-145	5	30	
1,1-Dichloroethane	ug/L	<0.40	10	10	9.6	9.9	96	99	73-136	3	30	
1,1-Dichloroethene	ug/L	<0.40	10	10	10.2	10.6	102	106	69-138	4	30	
1,1-Dichloropropene	ug/L	<0.40	10	10	10.7	10.6	107	106	60-150	0	30	
1,2,3-Trichlorobenzene	ug/L	<0.40	10	10	9.8	9.6	98	96	67-135	2	30	
1,2,3-Trichloropropane	ug/L	<0.010	1	1	1.2	1.1	117	109	49-150	7	30	
1,2,4-Trichlorobenzene	ug/L	<0.40	10	10	10	9.9	100	99	68-133	1	30	
1,2,4-Trimethylbenzene	ug/L	<1.0	10	10	10.8	10.6	108	106	75-135	1	30	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	2.5	2.5	2.8	2.6	113	105	53-150	7	30	
1,2-Dibromoethane (EDB)	ug/L	<0.050	1	1	1.2	1.1	119	111	49-150	7	30	
1,2-Dichlorobenzene	ug/L	<0.40	10	10	9.9	9.9	99	99	75-125	0	30	
1,2-Dichloroethane	ug/L	<0.20	1	1	1.3	1.2	126	118	42-150	7	30	
1,2-Dichloropropane	ug/L	<0.40	10	10	9.7	10.1	97	101	71-125	4	30	
1,3,5-Trimethylbenzene	ug/L	<0.40	10	10	10.5	10.8	105	108	75-129	2	30	

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REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3626727 3626728

Parameter	Units	10519223001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,3-Dichlorobenzene	ug/L	<0.40	10	10	10.3	10.4	103	104	75-125	1	30	
1,3-Dichloropropane	ug/L	<0.40	10	10	9.5	9.5	95	95	75-125	1	30	
1,4-Dichlorobenzene	ug/L	<0.40	10	10	9.8	9.6	98	96	75-125	2	30	
2,2-Dichloropropane	ug/L	<1.0	10	10	10.9	11.1	109	111	67-150	2	30	
2-Butanone (MEK)	ug/L	<5.0	50	50	40.8	42.8	82	86	49-138	5	30	
2-Chlorotoluene	ug/L	<0.40	10	10	10.5	10.7	105	107	75-130	3	30	
4-Chlorotoluene	ug/L	<0.40	10	10	11.1	11.0	111	110	75-133	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	50	50	47.5	47.6	95	95	75-126	0	30	
Acetone	ug/L	<20.0	50	50	36.5	41.4	73	83	51-125	12	30	
Allyl chloride	ug/L	<4.0	10	10	8.9	9.6	89	96	50-150	8	30	
Benzene	ug/L	<0.20	10	10	9.8	10.0	98	100	68-129	2	30	
Bromobenzene	ug/L	<0.40	10	10	9.4	9.4	94	94	75-125	0	30	
Bromochloromethane	ug/L	<1.0	10	10	10.2	9.8	102	98	73-132	4	30	
Bromodichloromethane	ug/L	<0.40	10	10	9.8	10	98	100	75-127	2	30	
Bromoform	ug/L	<1.0	10	10	9.6	9.0	96	90	71-125	7	30	
Bromomethane	ug/L	<1.0	10	10	14.1	13.8	141	138	30-150	2	30	SS
Carbon tetrachloride	ug/L	<0.050	1	1	1.5	1.3	145	135	30-150	8	30	CH
Chlorobenzene	ug/L	<0.40	10	10	10.1	10	101	100	75-125	1	30	
Chloroethane	ug/L	<1.0	10	10	9.5	10	95	100	68-141	4	30	
Chloroform	ug/L	<1.0	10	10	9.7	10.1	97	101	61-129	4	30	
Chloromethane	ug/L	<1.0	10	10	9.2	9.5	92	95	46-150	4	30	
cis-1,2-Dichloroethene	ug/L	<0.40	10	10	9.7	10.1	97	101	68-142	4	30	
cis-1,3-Dichloropropene	ug/L	<0.40	1	1	1.2	1.1	115	106	48-150	8	30	
Dibromochloromethane	ug/L	<0.40	1	1	1.2	1.1	115	107	50-150	8	30	
Dibromomethane	ug/L	<1.0	10	10	10.2	9.8	102	98	69-137	4	30	
Dichlorodifluoromethane	ug/L	<1.0	10	10	10.6	10.5	106	105	68-150	1	30	
Dichlorofluoromethane	ug/L	<1.0	10	10	10	9.9	100	99	73-135	1	30	
Diethyl ether (Ethyl ether)	ug/L	<4.0	10	10	8.6	9.2	86	92	61-128	7	30	
Ethylbenzene	ug/L	<0.40	10	10	10.5	10.5	105	105	75-131	1	30	
Hexachloro-1,3-butadiene	ug/L	<0.10	1	1	1.2	1.2	124	116	40-150	6	30	
Isopropylbenzene (Cumene)	ug/L	<0.40	10	10	12.4	12.4	124	124	75-133	0	30	
m&p-Xylene	ug/L	<0.80	20	20	21.8	21.9	109	110	75-135	0	30	
Methyl-tert-butyl ether	ug/L	<0.40	10	10	9.0	9.4	90	94	67-126	4	30	
Methylene Chloride	ug/L	<1.0	10	10	9.5	10.1	95	101	61-137	6	30	
n-Butylbenzene	ug/L	<0.40	10	10	10.8	11.0	108	110	75-136	2	30	
n-Propylbenzene	ug/L	<0.40	10	10	10.4	10.5	104	105	75-139	1	30	
Naphthalene	ug/L	<1.0	10	10	9.2	9.4	92	94	64-127	3	30	
o-Xylene	ug/L	<0.40	10	10	10.3	10.4	103	104	75-127	2	30	
p-Isopropyltoluene	ug/L	<0.40	10	10	11.4	11.5	114	115	75-135	1	30	
sec-Butylbenzene	ug/L	<0.40	10	10	11.2	11.4	112	114	75-141	2	30	
Styrene	ug/L	<0.40	10	10	10.6	10.1	106	101	75-125	5	30	
tert-Butylbenzene	ug/L	<0.40	10	10	10.6	10.7	106	107	75-141	1	30	
Tetrachloroethene	ug/L	<0.40	10	10	10.6	10.5	106	105	75-135	1	30	
Tetrahydrofuran	ug/L	<10.0	100	100	86.8	89.2	87	89	45-145	3	30	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3626727 3626728

Parameter	Units	10519223001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene	ug/L	<0.40	10	10	9.5	9.5	95	95	74-125	1	30	
trans-1,2-Dichloroethene	ug/L	<0.40	10	10	9.9	10	99	100	68-137	1	30	
trans-1,3-Dichloropropene	ug/L	<0.40	1	1	1.2	1.1	115	106	50-150	9	30	
Trichloroethene	ug/L	<0.050	1	1	1.2	1.1	124	115	41-150	8	30	
Trichlorofluoromethane	ug/L	<0.40	10	10	11.0	10.6	110	106	72-150	4	30	
Vinyl chloride	ug/L	<0.050	1	1	1.2	1.1	118	115	30-150	3	30	
Xylene (Total)	ug/L	<1.2	30	30	32.1	32.3	107	108	75-131	1	30	
1,2-Dichloroethane-d4 (S)	%.						102	99	75-128			
1,2-Dichloroethane-d4 (S)	%.						102	102	75-128			
1,2-Dichloroethane-d4 (S)	%.						98	102	75-128			
1,2-Dichloroethane-d4 (S)	%.						98	99	75-128			
4-Bromofluorobenzene (S)	%.						98	97	75-125			
Toluene-d8 (S)	%.						95	95	75-125			
Toluene-d8 (S)	%.						96	97	75-125			
Toluene-d8 (S)	%.						96	95	75-125			
Toluene-d8 (S)	%.						95	97	75-125			

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 676548 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

METHOD BLANK: 3621761 — Matrix: Water
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<5.0	5.0	05/21/20 12:42	

LABORATORY CONTROL SAMPLE & LCSD: 3621762 3621763

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	42.4	42.4	106	106	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3621764 3621765

Parameter	Units	10518518001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	27.5	40	40	63.6	64.0	90	91	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3621766 3621767

Parameter	Units	10517964015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	251	40	40	285	287	86	90	80-120	1	20	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 675525 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009

METHOD BLANK: 3616450 Matrix: Water
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<10.0	10.0	05/15/20 10:47	

LABORATORY CONTROL SAMPLE: 3616451

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1030	103	80-120	

SAMPLE DUPLICATE: 3616452

Parameter	Units	10517971001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	446	462	4	5	

SAMPLE DUPLICATE: 3616453

Parameter	Units	10517971002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	262	161	48	5	D6

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 676005
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964015

METHOD BLANK: 3618942 Matrix: Water
Associated Lab Samples: 10517964015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<10.0	10.0	05/19/20 10:41	

LABORATORY CONTROL SAMPLE: 3618943

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	996	100	80-120	

SAMPLE DUPLICATE: 3618945

Parameter	Units	10517918005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	195	286	38	5	D6

SAMPLE DUPLICATE: 3618950

Parameter	Units	10517964015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	328	318	3	5	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 676008 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964016

METHOD BLANK: 3618951 Matrix: Water
Associated Lab Samples: 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<10.0	10.0	05/19/20 11:43	

LABORATORY CONTROL SAMPLE: 3618952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	986	99	80-120	

SAMPLE DUPLICATE: 3618953

Parameter	Units	10517973002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	865	915	6	5	D6

SAMPLE DUPLICATE: 3618954

Parameter	Units	10518119005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	307	311	1	5	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 675801
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

METHOD BLANK: 3618146
Matrix: Water
Associated Lab Samples: 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<10.0	10.0	05/18/20 15:14	

LABORATORY CONTROL SAMPLE: 3618147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	120	120	80-120	

SAMPLE DUPLICATE: 3618148

Parameter	Units	10517964015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	<10.0	<10.0		5	

SAMPLE DUPLICATE: 3618149

Parameter	Units	10517973002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	81.0	97.0	18	5	D6

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 676016
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964001

METHOD BLANK: 3618979 Matrix: Water
Associated Lab Samples: 10517964001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<10.0	10.0	05/19/20 14:42	

LABORATORY CONTROL SAMPLE: 3618980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	90.0	90	80-120	

SAMPLE DUPLICATE: 3618981

Parameter	Units	10517772001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	87.0	115	28	5	D6

SAMPLE DUPLICATE: 3620950

Parameter	Units	10517750001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	450	500	11	5	D6

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 678204
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

LABORATORY CONTROL SAMPLE: 3629802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	100	98-102	H6

SAMPLE DUPLICATE: 3629803

Parameter	Units	10517964001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.7	1	3	H6

SAMPLE DUPLICATE: 3629804

Parameter	Units	10517964015 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.8	0	3	H6

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 678207
QC Batch Method: SM 2510
Analysis Method: SM 2510
Analysis Description: SM2510 Specific Conductance
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

METHOD BLANK: 3629821
Matrix: Water
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	<1.0	1.0	05/29/20 18:01	

LABORATORY CONTROL SAMPLE: 3629822

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	992	99	90-110	

SAMPLE DUPLICATE: 3629823

Parameter	Units	10517964001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	685	681	1	20	

SAMPLE DUPLICATE: 3629824

Parameter	Units	10517964015 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	579	556	4	20	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 677796
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

METHOD BLANK: 3627641 Matrix: Water
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.2	1.2	05/29/20 02:54	
Sulfate	mg/L	<1.2	1.2	05/29/20 02:54	

LABORATORY CONTROL SAMPLE: 3627642

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	11.8	94	90-110	
Sulfate	mg/L	12.5	11.9	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627643 3627644

Parameter	Units	10517964001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	<1.2	12.5	12.5	10.8	10.8	80	80	90-110	0	20	M1
Sulfate	mg/L	15.3	12.5	12.5	24.1	24.3	70	72	90-110	1	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627645 3627646

Parameter	Units	10517964015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	9.8	12.5	12.5	6.7	10	-25	2	90-110	40	20	M1,R1
Sulfate	mg/L	38.8	12.5	12.5	19.6	26.2	-154	-101	90-110	29	20	M1,R1

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 676157
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964001, 10517964002

METHOD BLANK: 3619552 Matrix: Water
Associated Lab Samples: 10517964001, 10517964002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	<0.10	0.10	05/19/20 15:32	

LABORATORY CONTROL SAMPLE: 3619553

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.5	2.5	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3619554 3619555

Parameter	Units	10518199005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	ND	2.5	2.5	2.4	2.4	94	97	90-110	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3619556 3619557

Parameter	Units	10517964002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	<0.10	2.5	2.5	2.4	2.4	95	94	90-110	0	20	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 676219 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

METHOD BLANK: 3619909 Matrix: Water
Associated Lab Samples: 10517964003, 10517964004, 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	<0.10	0.10	05/19/20 16:19	

LABORATORY CONTROL SAMPLE: 3619910

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.5	2.4	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3619911 3619912

Parameter	Units	10517964003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	<0.10	2.5	2.5	2.4	2.4	96	97	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3619913 3619914

Parameter	Units	10517964015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	<0.10	2.5	2.5	2.2	2.5	88	101	90-110	13	20	M1

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 676821 | Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 | Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004

METHOD BLANK: 3622876 Matrix: Water
Associated Lab Samples: 10517964001, 10517964002, 10517964003, 10517964004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.10	0.10	05/21/20 17:37	

LABORATORY CONTROL SAMPLE: 3622877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	1	0.95	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622878 3622879

Parameter	Units	10517954003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	ND	1	1	1.0	1.0	104	102	90-110	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622880 3622881

Parameter	Units	10517964001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	<0.10	1	1	1.0	1.0	98	98	90-110	0	20	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

QC Batch: 676822 — Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 — Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

METHOD BLANK: 3622882 — Matrix: Water
Associated Lab Samples: 10517964005, 10517964006, 10517964007, 10517964008, 10517964009, 10517964010, 10517964011, 10517964012, 10517964013, 10517964014, 10517964015, 10517964016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.10	0.10	05/22/20 12:17	FS

LABORATORY CONTROL SAMPLE: 3622883

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	1	1.0	102	90-110	FS

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622884 3622885

Parameter	Units	10517964005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	<0.10	1	1	1.1	0.72	103	69	90-110	38	20	M1,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622886 3622887

Parameter	Units	10517964015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	1.9	1	1	3.0	3.0	104	106	90-110	1	20	

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QUALIFIERS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1M	Due to required dilutions on anion and/or cation analysis, the cation anion balance calculation resulted in a non-balance state.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
FS	The sample was filtered in the laboratory prior to analysis.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MW	Due to matrix interference, achieving a constant weight is not possible.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
P8	Analyte was detected in the method blank. All associated samples had concentrations of at least ten times greater than the blank or were below the reporting limit.
R1	RPD value was outside control limits.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10517964001	W-13	EPA 200.8	676609	EPA 200.8	676932
10517964002	C-11	EPA 200.8	676609	EPA 200.8	676932
10517964003	W-12	EPA 200.8	676609	EPA 200.8	676932
10517964004	W-3	EPA 200.8	676609	EPA 200.8	676932
10517964005	W-5	EPA 200.8	676609	EPA 200.8	676932
10517964006	W-106A	EPA 200.8	676609	EPA 200.8	676932
10517964007	W-106B	EPA 200.8	676609	EPA 200.8	676932
10517964008	W-301A	EPA 200.8	676609	EPA 200.8	676932
10517964009	W-301B	EPA 200.8	676609	EPA 200.8	676932
10517964010	W-102A	EPA 200.8	676609	EPA 200.8	676932
10517964011	W-102B	EPA 200.8	676609	EPA 200.8	676932
10517964012	W-104A	EPA 200.8	676609	EPA 200.8	676932
10517964013	W-104B	EPA 200.8	676609	EPA 200.8	676932
10517964014	W-302A	EPA 200.8	676609	EPA 200.8	676932
10517964015	W-302B	EPA 200.8	676609	EPA 200.8	676932
10517964016	Dup-2	EPA 200.8	676609	EPA 200.8	676932
10517964001	W-13	SM 1030E	677608		
10517964002	C-11	SM 1030E	677608		
10517964003	W-12	SM 1030E	677608		
10517964004	W-3	SM 1030E	677608		
10517964005	W-5	SM 1030E	677608		
10517964006	W-106A	SM 1030E	677608		
10517964007	W-106B	SM 1030E	677608		
10517964008	W-301A	SM 1030E	677608		
10517964009	W-301B	SM 1030E	677608		
10517964010	W-102A	SM 1030E	677608		
10517964011	W-102B	SM 1030E	677608		
10517964012	W-104A	SM 1030E	677608		
10517964013	W-104B	SM 1030E	677608		
10517964014	W-302A	SM 1030E	677608		
10517964015	W-302B	SM 1030E	677608		
10517964016	Dup-2	SM 1030E	677608		
10517964001	W-13	EPA 245.1	676619	EPA 245.1	676878
10517964002	C-11	EPA 245.1	676619	EPA 245.1	676878
10517964003	W-12	EPA 245.1	676619	EPA 245.1	676878
10517964004	W-3	EPA 245.1	676619	EPA 245.1	676878
10517964005	W-5	EPA 245.1	676619	EPA 245.1	676878
10517964006	W-106A	EPA 245.1	676619	EPA 245.1	676878
10517964007	W-106B	EPA 245.1	676619	EPA 245.1	676878
10517964008	W-301A	EPA 245.1	676619	EPA 245.1	676878
10517964009	W-301B	EPA 245.1	676619	EPA 245.1	676878
10517964010	W-102A	EPA 245.1	676619	EPA 245.1	676878
10517964011	W-102B	EPA 245.1	676619	EPA 245.1	676878
10517964012	W-104A	EPA 245.1	676619	EPA 245.1	676878
10517964013	W-104B	EPA 245.1	676619	EPA 245.1	676878
10517964014	W-302A	EPA 245.1	676619	EPA 245.1	676878
10517964015	W-302B	EPA 245.1	676619	EPA 245.1	676878
10517964016	Dup-2	EPA 245.1	676619	EPA 245.1	676878

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10517964001	**W-13**	EPA 8260B	676817		
10517964002	**C-11**	EPA 8260B	676817		
10517964003	**W-12**	EPA 8260B	676817		
10517964004	**W-3**	EPA 8260B	676817		
10517964005	**W-5**	EPA 8260B	676817		
10517964006	**W-106A**	EPA 8260B	676817		
10517964007	**W-106B**	EPA 8260B	676817		
10517964008	**W-301A**	EPA 8260B	676817		
10517964009	**W-301B**	EPA 8260B	676817		
10517964010	**W-102A**	EPA 8260B	676817		
10517964011	**W-102B**	EPA 8260B	676817		
10517964012	**W-104A**	EPA 8260B	676817		
10517964013	**W-104B**	EPA 8260B	676817		
10517964014	**W-302A**	EPA 8260B	676817		
10517964015	**W-302B**	EPA 8260B	676817		
10517964016	**Dup-2**	EPA 8260B	676817		
10517964017	**Trip Blank 2**	EPA 8260B	676817		
10517964018	**Trip Blank 3**	EPA 8260B	677147		
10517964019	**Trip Blank 4**	EPA 8260B	677147		
10517964001	**W-13**	SM 2320B	676548		
10517964002	**C-11**	SM 2320B	676548		
10517964003	**W-12**	SM 2320B	676548		
10517964004	**W-3**	SM 2320B	676548		
10517964005	**W-5**	SM 2320B	676548		
10517964006	**W-106A**	SM 2320B	676548		
10517964007	**W-106B**	SM 2320B	676548		
10517964008	**W-301A**	SM 2320B	676548		
10517964009	**W-301B**	SM 2320B	676548		
10517964010	**W-102A**	SM 2320B	676548		
10517964011	**W-102B**	SM 2320B	676548		
10517964012	**W-104A**	SM 2320B	676548		
10517964013	**W-104B**	SM 2320B	676548		
10517964014	**W-302A**	SM 2320B	676548		
10517964015	**W-302B**	SM 2320B	676548		
10517964016	**Dup-2**	SM 2320B	676548		
10517964001	**W-13**	SM 2540C	675525		
10517964002	**C-11**	SM 2540C	675525		
10517964003	**W-12**	SM 2540C	675525		
10517964004	**W-3**	SM 2540C	675525		
10517964005	**W-5**	SM 2540C	675525		
10517964006	**W-106A**	SM 2540C	675525		
10517964007	**W-106B**	SM 2540C	675525		
10517964008	**W-301A**	SM 2540C	675525		
10517964009	**W-301B**	SM 2540C	675525		
10517964010	**W-102A**	SM 2540C	676008		
10517964011	**W-102B**	SM 2540C	676008		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10517964012	**W-104A**	SM 2540C	676008		
10517964013	**W-104B**	SM 2540C	676008		
10517964014	**W-302A**	SM 2540C	676008		
10517964015	**W-302B**	SM 2540C	676005		
10517964016	**Dup-2**	SM 2540C	676008		
10517964001	**W-13**	SM 2540D	676016		
10517964002	**C-11**	SM 2540D	675801		
10517964003	**W-12**	SM 2540D	675801		
10517964004	**W-3**	SM 2540D	675801		
10517964005	**W-5**	SM 2540D	675801		
10517964006	**W-106A**	SM 2540D	675801		
10517964007	**W-106B**	SM 2540D	675801		
10517964008	**W-301A**	SM 2540D	675801		
10517964009	**W-301B**	SM 2540D	675801		
10517964010	**W-102A**	SM 2540D	675801		
10517964011	**W-102B**	SM 2540D	675801		
10517964012	**W-104A**	SM 2540D	675801		
10517964013	**W-104B**	SM 2540D	675801		
10517964014	**W-302A**	SM 2540D	675801		
10517964015	**W-302B**	SM 2540D	675801		
10517964016	**Dup-2**	SM 2540D	675801		
10517964001	**W-13**	SM 4500-H+B	678204		
10517964002	**C-11**	SM 4500-H+B	678204		
10517964003	**W-12**	SM 4500-H+B	678204		
10517964004	**W-3**	SM 4500-H+B	678204		
10517964005	**W-5**	SM 4500-H+B	678204		
10517964006	**W-106A**	SM 4500-H+B	678204		
10517964007	**W-106B**	SM 4500-H+B	678204		
10517964008	**W-301A**	SM 4500-H+B	678204		
10517964009	**W-301B**	SM 4500-H+B	678204		
10517964010	**W-102A**	SM 4500-H+B	678204		
10517964011	**W-102B**	SM 4500-H+B	678204		
10517964012	**W-104A**	SM 4500-H+B	678204		
10517964013	**W-104B**	SM 4500-H+B	678204		
10517964014	**W-302A**	SM 4500-H+B	678204		
10517964015	**W-302B**	SM 4500-H+B	678204		
10517964016	**Dup-2**	SM 4500-H+B	678204		
10517964001	**W-13**	SM 2510	678207		
10517964002	**C-11**	SM 2510	678207		
10517964003	**W-12**	SM 2510	678207		
10517964004	**W-3**	SM 2510	678207		
10517964005	**W-5**	SM 2510	678207		
10517964006	**W-106A**	SM 2510	678207		
10517964007	**W-106B**	SM 2510	678207		
10517964008	**W-301A**	SM 2510	678207		
10517964009	**W-301B**	SM 2510	678207		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10517964010	**W-102A**	SM 2510	678207		
10517964011	**W-102B**	SM 2510	678207		
10517964012	**W-104A**	SM 2510	678207		
10517964013	**W-104B**	SM 2510	678207		
10517964014	**W-302A**	SM 2510	678207		
10517964015	**W-302B**	SM 2510	678207		
10517964016	**Dup-2**	SM 2510	678207		
10517964001	**W-13**	EPA 300.0	677796		
10517964002	**C-11**	EPA 300.0	677796		
10517964003	**W-12**	EPA 300.0	677796		
10517964004	**W-3**	EPA 300.0	677796		
10517964005	**W-5**	EPA 300.0	677796		
10517964006	**W-106A**	EPA 300.0	677796		
10517964007	**W-106B**	EPA 300.0	677796		
10517964008	**W-301A**	EPA 300.0	677796		
10517964009	**W-301B**	EPA 300.0	677796		
10517964010	**W-102A**	EPA 300.0	677796		
10517964011	**W-102B**	EPA 300.0	677796		
10517964012	**W-104A**	EPA 300.0	677796		
10517964013	**W-104B**	EPA 300.0	677796		
10517964014	**W-302A**	EPA 300.0	677796		
10517964015	**W-302B**	EPA 300.0	677796		
10517964016	**Dup-2**	EPA 300.0	677796		
10517964001	**W-13**	EPA 350.1	676157		
10517964002	**C-11**	EPA 350.1	676157		
10517964003	**W-12**	EPA 350.1	676219		
10517964004	**W-3**	EPA 350.1	676219		
10517964005	**W-5**	EPA 350.1	676219		
10517964006	**W-106A**	EPA 350.1	676219		
10517964007	**W-106B**	EPA 350.1	676219		
10517964008	**W-301A**	EPA 350.1	676219		
10517964009	**W-301B**	EPA 350.1	676219		
10517964010	**W-102A**	EPA 350.1	676219		
10517964011	**W-102B**	EPA 350.1	676219		
10517964012	**W-104A**	EPA 350.1	676219		
10517964013	**W-104B**	EPA 350.1	676219		
10517964014	**W-302A**	EPA 350.1	676219		
10517964015	**W-302B**	EPA 350.1	676219		
10517964016	**Dup-2**	EPA 350.1	676219		
10517964001	**W-13**	EPA 353.2	676821		
10517964002	**C-11**	EPA 353.2	676821		
10517964003	**W-12**	EPA 353.2	676821		
10517964004	**W-3**	EPA 353.2	676821		
10517964005	**W-5**	EPA 353.2	676822		
10517964006	**W-106A**	EPA 353.2	676822		
10517964007	**W-106B**	EPA 353.2	676822		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10517964

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10517964008	**W-301A**	EPA 353.2	676822		
10517964009	**W-301B**	EPA 353.2	676822		
10517964010	**W-102A**	EPA 353.2	676822		
10517964011	**W-102B**	EPA 353.2	676822		
10517964012	**W-104A**	EPA 353.2	676822		
10517964013	**W-104B**	EPA 353.2	676822		
10517964014	**W-302A**	EPA 353.2	676822		
10517964015	**W-302B**	EPA 353.2	676822		
10517964016	**Dup-2**	EPA 353.2	676822		

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WO#: 10517964

10517964

Minnesota Pollution Control Agency

MPCA Chain-of-Custody Form revision 2017.0328

* indicates a required field

Work Order Number: | **COC Type:** Standard | **Page:**

Turnaround Time: Standard | **COC ID:** 33549 line8

PROJECT/CLIENT INFO

Facility Code:* SW-34 | Program Code (MDH Lab Only):

Project Name:* Clay County Sanitary Landfill - Spring 2020 Compliance W | Project Task Code:* PRJ07913

Project Manager: Andrew Feia

Potential Hazard? No | If yes, add information to **Sampler Comments** field

LABORATORY

Lab Name: Pace Analytical Services, LLC

Address: 1700 Elm Street SE

Minneapolis, MN 55414

EPA Lab ID:*

SAMPLE DETAILS

SAMPLE TYPES
Sample=Routine Sample
QC-FB=Field Blank Sample
QC-FR=Field Replicate Sample
QC-TB=Trip Blank Sample
QC-EB=Equipment Blank
Treated-Mid=Treatment system sample
Treated-Post=Treatment system sample

SAMPLING METHODS
G=Grab sample
CT=Composite, time-paced w/AS
CF=Composite w/AS
D-T=Discrete,time-paced w/AS
D-F=Discrete,flow-paced w/AS
SW-GAS=Gas Sampling
Unknown=Unknown

LAB MATRICES
DW=Drinking Water
NW=Nonpotable Water
SD=Soil/Solid
AR=Air
BL=Biological Material
OT=Other
TS=Tissue

FIELD MATRICES
Wtr-Ground=Groundwater
Wtr-Surf=Surface Water
Wtr-Drink=Drinking Water
QC-BLANK=Artificial Blank Water
Leachate=Leachate Sample
Air-Indoor=Indoor Air
Gas-Soil=Soil Gas

ANALYSIS REQUESTED

MN Location Identifier*	Field Name	Sample Type*	Start Date* (mm/dd/yyyy)	Start Time* 24 hr (hh:mm)	Depth Start	Depth End	Depth Units (m or ft.)	Sampling Method*	Complete ONLY if Method is CT, CF, D-T, or D-F: End Date (mm/dd/yyyy)	Complete ONLY if Method is CT, CF, D-T, or D-F: End Time 24 hr (hh:mm)	Lab Matrix*	Field Matrix*	AIS	Sampler Comments (filter volume, special handling, etc.)	# of Cont	ANALYSIS*	PRESERV.	List 1-VOCs (Attached) HCL	List 2-Dissolved Metals (Attached) HN03	List 2-Inorganics (Attached) H2S04	List 4-pH, Specific Conductance None			Lab Sample No.	#
																	FF	N	Y	N	N				
458867	W-13	Sample	5/12/2020	09:10				G			NW	WTR-Ground			12			x	x	x	x			001	1
670505	C-11	Sample	5/12/2020	10:08				G			NW	WTR-Ground			12			x	x	x	x			002	2
458868	W-12	Sample	5/12/2020	10:34				G			NW	WTR-Ground			12			x	x	x	x			003	3
117059	W-3	Sample	5/12/2020	13:30				G			NW	WTR-Ground			12			x	x	x	x			004	4
222010	W-5	Sample	5/12/2020	13:19				G			NW	WTR-Ground			12			x	x	x	x			005	5
763239	W-106A	Sample	5/12/2020	14:35				G			NW	WTR-Ground			12			x	x	x	x			006	6
763240	W-106B	Sample	5/12/2020	14:31				G			NW	WTR-Ground			12			x	x	x	x			007	7
778496	W-301A	Sample	5/12/2020	15:35				G			NW	WTR-Ground			12			x	x	x	x			008	8
778497	W-301B	Sample	5/12/2020	15:24				G			NW	WTR-Ground			12			x	x	x	x			009	9
670532	W-102A	Sample	5/12/2020	17:06				G			NW	WTR-Ground			12			x	x	x	x			010	10

Sampler's Name:* Christina Lammers | **Phone#:** 701-893-2327

Sampler's Signature:* Christina Lammers

Sampler's Organization: Wenck Associates, Inc.

Billing Organization: Clay County - Kirk Rosenberger | **Acct#:** 10-115155

Address: 807 11th Street North, Moorhead, MN 56560

Courier Name: Speedee | **Tracking#:**

Receiving Comments:

Relinquished By/Affiliation	Date/Time	Accepted By/Affiliation	Date/Time
(Sampler) Christina Lammers /Wenck	5/13 14:30	Cam Pace	5/14/20 1135

T=1.3, 3.4, 6.5, 1.5, 2.7

Minnesota Pollution Control Agency

MPCA Chain-of-Custody Form revision 2017.0328

* indicates a required field

Work Order Number: | **COC Type:** Standard | **Page:** 2 of 2

Turnaround Time: Standard | **COC ID:** 33549 line8

FOR LAB USE ONLY

PROJECT/CLIENT INFO

Facility Code:*	SW-34
Program Code (MDH Lab Only):	
Project Name:*	Clay County Sanitary Landfill - Spring 2020 Compliance W
Project Task Code:*	PRJ07913
Project Manager:	Andrew Feia
Potential Hazard?	No — If yes, add information to **Sampler Comments** field

LABORATORY

Lab Name:	Pace Analytical Services, LLC
Address:	1700 Elm Street SE
	Minneapolis, MN 55414
EPA Lab ID:*	

Lab Work Order Sticker

SAMPLE DETAILS

SAMPLE TYPES
Sample=Routine Sample
QC-FB=Field Blank Sample
QC-FR=Field Replicate Sample
QC-TB=Trip Blank Sample
QC-EB=Equipment Blank
Treated-Mid=Treatment system sample
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Air-Indoor=Indoor Air
Gas-Soil=Soil Gas

MN Location Identifier*	Field Name	Sample Type*	Start Date* (mm/dd/yyyy)	Start Time* 24 hr (hh:mm)	Depth Start	Depth End	Depth Units (m or ft.)	Sampling Method*	End Date (mm/dd/yyyy)	End Time 24 hr (hh:mm)	Lab Matrix*	Field Matrix*	AIS	Sampler Comments (filter volume, special handling, etc.)	# of Cont	ANALYSIS*	List 1-VOCs (Attached)	List 2-Dissolved Metals (Attached)	List 2-Inorganics (Attached)	List 4-pH, Specific Conductance			Lab Sample No.	#
														PRESERV.		HCL	HN03	H2S04	None					
														FF		N	Y	N	N					
670533	W-102B	Sample	5/12/2020	15:12				G			NW	WTR-Ground			12		x	x	x	x			011	1
763237	W-104A	Sample	5/12/2020	16:17				G			NW	WTR-Ground			12		x	x	x	x			012	2
763238	W-104B	Sample	5/12/2020	16:32				G			NW	WTR-Ground			12		x	x	x	x			013	3
778498	W-302A	Sample	5/12/2020	18:13				G			NW	WTR-Ground			12		x	x	x	x			014	4
778499	W-302B	Sample	5/12/2020	18:11				G			NW	WTR-Ground			12		x	x	x	x			015	5
QC-BLANK	Dup-2	QC-FR	5/12/2020	-				G			NW	WTR-Ground			12		x	x	x	x			016	6
QC-BLANK	Trip Blank 2	QC-TB	5/12/2020	-				G			NW	QC-Blank			4		x						017	7
QC-BLANK	Trip Blank 3	QC-TB	5/12/2020	-				G			NW	QC-Blank			4		x						018	8
QC-BLANK	Trip Blank 4	QC-TB	5/12/2020	-				G			NW	QC-Blank			4		x						019	9
QC-BLANK	W-302B (MS/MSD)	QC-FR	5/12/2020	18:11				G			NW	WTR-Ground			12		x	x	x	x				10

Sampler's Name:* Christina Lammers — **Phone#:** 701-893-2327

Sampler's Signature:* Christina Lammers

Sampler's Organization: Wenck Associates, Inc.

Billing Organization: Clay County - Kirk Rosenberger — **Acct#:** 10-115155

Address: 807 11th Street North, Moorhead, MN 56560

Courier Name: Speedee — **Tracking#:**

Receiving Comments:

Relinquished By/Affiliation	Date/Time	Accepted By/Affiliation	Date/Time
(Sampler) Christina Lammers /Wenck	5/13 14:30	Pace	5/14/20 1135

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) - MN**	Document Revised: 27Mar2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0150 Rev.00**	Pace Analytical Services - **Minneapolis**

Sample Condition Upon Receipt

Client Name: Wenck

Project #: WO#: 10517964
PM: AKA Due Date: 05/29/20
CLIENT: WENCK-ND

Courier: ☐Fed Ex ☐UPS ☐USPS ☐Client ☐Pace ☑SpeeDee ☐Commercial See Exceptions ☑

Tracking Number:

Custody Seal on Cooler/Box Present? ☑Yes ☐No **Seals Intact?** ☑Yes ☐No **Biological Tissue Frozen?** ☐Yes ☐No ☑N/A

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

Thermometer: ☑T1(0461) ☐T2(1336) ☐T3(0459) ☐T4(0254) ☐T5(0489) **Type of Ice:** ☑Wet ☐Blue ☐None ☐Dry ☐Melted

Did Samples Originate in West Virginia? ☐Yes ☑No **Were All Container Temps Taken?** ☐Yes ☐No ☑N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** _____ °C **Average Corrected Temp (no temp blank only):** ☐See Exceptions _____ °C ☐1 Container

Correction Factor: true **Cooler Temp Corrected w/temp blank:** See exceptions °C

USDA Regulated Soil: (☑N/A, water sample/Other: _____) **Date/Initials of Person Examining Contents:** 5-14-20 AA

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐Yes ☐No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐Yes ☐No

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

				COMMENTS:
Chain of Custody Present and Filled Out?	☑Yes	☐No		1.
Chain of Custody Relinquished?	☑Yes	☐No		2.
Sampler Name and/or Signature on COC?	☑Yes	☐No	☐N/A	3.
Samples Arrived within Hold Time?	☑Yes	☑No	AA 5-14-20	4.
Short Hold Time Analysis (<72 hr)?	☐Yes	☑No		5. ☐Fecal Coliform ☐HPC ☐Total Coliform/E coli ☐BOD/cBOD ☐Hex Chrome ☐Turbidity ☐Nitrate ☐Nitrite ☐Orthophos ☐Other
Rush Turn Around Time Requested?	☐Yes	☑No		6.
Sufficient Volume?	☑Yes	☐No		7.
Correct Containers Used? -Pace Containers Used?	☑Yes ☑Yes	☐No ☐No		8.
Containers Intact?	☑Yes	☐No		9.
Field Filtered Volume Received for Dissolved Tests?	☑Yes	☐No	☐N/A	10. Is sediment visible in the dissolved container? ☐Yes ☑No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☑Water ☐Soil ☐Oil ☐Other	☑Yes	☐No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
All containers needing acid/base preservation have been checked?	☑Yes	☐No	☐N/A	12. Sample # 1-16 1-14, 16:1 1 ☐NaOH ☑HNO_3 ☑H_2SO_4 ☐Zinc Acetate 15! 2 2
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☑Yes	☐No	☐N/A	
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☑Yes	☐No	☐N/A	Positive for Res. Chlorine? ☐Yes ☐No **pH Paper Lot#** **See Exception** ☐
				Res. Chlorine | 0-6 Roll 203619 | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐Yes	☐No	☑N/A	13. 1 vial in Trip Blank 3 has <6mm headspace **See Exception** ☐
Headspace in VOA Vials (greater than 6mm)?	☐Yes	☑No	☐N/A	
Trip Blank Present?	☑Yes	☐No	☐N/A	14.
Trip Blank Custody Seals Present?	☑Yes	☐No	☐N/A	Pace Trip Blank Lot # (if purchased): 256134

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** 5/14/2020

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

Labeled by: RNC (1)

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) Exception Form**	Document Revised: 26Mar2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0142 Rev.00**	Pace Analytical Services - **Minneapolis**

SCUR Exceptions:

Workorder #:

Out of Temp Sample IDs	Container Type	# of Containers

PM Notified? ☐Yes ☐No

If yes, indicate who was contacted/date/time.
If no, indicate reason why.

Multiple Cooler Project? ☐Yes ☐No
If you answered yes, fill out information to the left.

No Temp Blank		
Read Temp	Corrected Temp	Average Temp

Tracking Number/Temperature	
SP 00 95 93 03 13420 45262	1.3
" " " " 52475	3.4
" " " " 22645	0.5
" " " " 25714	1.5
" " " " 25695	2.7

Other Issues		
Issue Type: Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

TABLE 2

Clay County Landfill
Permit SW-34
Environmental Monitoring System

Parameter Lists For Analyses

List 1 (VOCs) (Groundwater and Surface Water)

1,1,1,2-Tetrachloroethane	Chlorobenzene (monochlorobenzene)
1,1,1-Trichloroethane	Chlorodibromomethane (Dibromochloromethane)
1,1,2,2-Tetrachloroethane	Chloroethane
1,1,2-Trichloroethane	Chloroform
1,1,2-Trichlorotrifluoroethane	Chloromethane (Methyl chloride)
1,1-Dichloroethane	cis-1,3,-Dichloropropene
1,1-Dichloroethylene (Vinylidene chloride)	Cumene (Isopropylbenzene)
1,1-Dichloropropene	Dibromochloropropane (DBCP)
1,2-(trans-) Dichloroethylene	Dibromomethane (Methylene bromide)
1,2,3-Trichlorobenzene	Dichlorodifluoromethane
1,2,3-Trichloropropane	Dichlorofluoromethane
1,2,4-Trichlorobenzene	Dichloromethane (Methylene chloride)
1,2,4-Trimethylbenzene	Ethyl benzene
1,2-Dibromoethane (Ethylene dibromide); EDB	Ethyl ether
1,2-Dichlorobenzene (ortho-)	Hexachlorobutadiene
1,2-Dichloroethane	Methyl ethyl ketone (MEK)
1,2-Dichloroethlyene (cis-)	Methyl isobutyl ketone (4-Methyl-2-pentanone)
1,2-Dichloropropane	Methyl tertiary-Butyl Ether (MTBE)
1,3,5-Trimethylbenzene	Naphthalene
1,3-Dichlorobenzene (meta-)	n-Butyl Benzene
1,3-Dichloropropane	n-Propyl benzene
1,4-Dichlorobenzene (para-)	p-Isopropyltoluene
2,2-Dichloropropane	sec-Butyl Benzene
2-Chlorotoluene (ortho-)	Styrene
4-Chlorotoluene (para-)	tert-Butyl Benzene
Acetone	Tetrachloroethylene (Perchloroethylene)
Allyl chloride (3 chloropropene)	Tetrahydrofuran
Benzene	Toluene
Bromobenzene	Trichloroethylene (TCE)
Bromochloromethane (Chlorobromomethane)	Trichlorofluoromethane
Bromodichloromethane (Dichlorobromomethane)	Vinyl chloride (chloroethene)
Bromoform	m-Xylene & p-Xylene
Bromomethane (Methyl bromide)	o-Xylene
Carbon tetrachloride	

List 2 (Geochemicals, Metals[(1)]) (Groundwater)

Alkalinity, Total as CaCO3	Magnesium
Ammonia Nitrogen	Manganese
Arsenic	Mercury
Barium	Nickel
Boron	Nitrate+Nitrite
Cadmium	Potassium
Calcium	Selenium
Cation-Anion Balance	Sodium
Chloride	Sulfate
Chromium	Zinc
Copper	Total Dissolved Solids
Iron	Total Suspended Solids
Lead	

[(1)] All metals are measured as dissolved. All groundwater samples for metals will be filtered in the field.

TABLE 2

Clay County Landfill
Permit SW-34
Environmental Monitoring System

Parameter Lists For Analyses

List 3 (Geochemicals, Metals[2]) (Surface Water)

Alkalinity, Total as CaCO3	Lead
Arsenic	Magnesium
Boron	Manganese
Cadmium	Mercury[3]
Calcium	Total Dissolved Solids
Cation-Anion Balance	Total Suspended Solids
Chloride	

[2] All metals are measured as total. All surface water samples for metals will not be filtered in the field or lab.

[3] Low-level mercury analyses, EPA Method 1669.

List 4 (Field Parameters) (Groundwater and Surface Water)

Appearance	Specific Conductance
Dissolved Oxygen	Static Water Level (Elevation, MSL)[4]
Eh (Oxidation potential)	Temperature
Odor	Turbidity
pH	

[4] Groundwater Samples only, and not for residential wells.

List 5 (Geochemicals, Metals[1]) (Lysimeter)

Alkalinity, Total as CaCO3	Iron
Ammonia Nitrogen	Lead
Arsenic	Magnesium
Arsenic	Manganese
Boron	Mercury
Cadmium	Nitrate+Nitrite
Calcium	Potassium
Cation-Anion Balance	Sodium
COD	Sulfate
Chloride	Zinc
Chromium VI	Total Dissolved Solids
Copper	Total Suspended Solids

[1] All metals are measured as dissolved. All Lysimeter samples for metals will be filtered in the field.

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

June 02, 2020

Andrew Feia
Wenck Associates, Inc.
3303 Fiechtner Drive
Suite 100
Fargo, ND 58103

RE: Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Dear Andrew Feia:

Enclosed are the analytical results for sample(s) received by the laboratory on May 14, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

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

Sincerely,

Annika Asp
annika.asp@pacelabs.com
(612)607-1700
Project Manager

Enclosures

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

CERTIFICATIONS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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

SAMPLE SUMMARY

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10518185001	**S-1**	Water	05/12/20 11:17	05/14/20 11:35
10518185002	**S-2**	Water	05/12/20 11:52	05/14/20 11:35
10518185003	**S-3**	Water	05/12/20 18:00	05/14/20 11:35

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SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10518185001	**S-1**	EPA 200.8	PW1	7
		SM 1030E	WBS	3
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
10518185002	**S-2**	EPA 200.8	PW1	7
		SM 1030E	WBS	3
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
10518185003	**S-3**	EPA 200.8	PW1	7
		SM 1030E	WBS	3
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Sample: S-1 **Lab ID: 10518185001** Collected: 05/12/20 11:17 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Minneapolis							
Arsenic	**22.1**	ug/L	2.5	5	05/22/20 05:38	05/29/20 22:58	7440-38-2	
Boron	**81.5**	ug/L	50.0	5	05/22/20 05:38	05/29/20 22:58	7440-42-8	
Cadmium	**<0.40**	ug/L	0.40	5	05/22/20 05:38	05/29/20 22:58	7440-43-9	D3
Calcium	**121000**	ug/L	2000	50	05/22/20 05:38	05/29/20 23:04	7440-70-2	P6
Lead	**3.6**	ug/L	0.50	5	05/22/20 05:38	05/29/20 22:58	7439-92-1	
Magnesium	**57500**	ug/L	50.0	5	05/22/20 05:38	05/29/20 22:58	7439-95-4	P6
Manganese	**1010**	ug/L	2.5	5	05/22/20 05:38	05/29/20 22:58	7439-96-5	
Cation/Anion Balance	Analytical Method: SM 1030E							
	Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**.87**	%		1		06/02/20 14:15		
Total Cations	**10.9**	meq/L		1		06/02/20 14:15		N2
Total Anions	**10.7**	meq/L		1		06/02/20 14:15		N2
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/22/20 10:25	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/22/20 10:25	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/22/20 10:25	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/22/20 10:25	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/22/20 10:25	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/22/20 10:25	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/22/20 10:25	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/22/20 10:25	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 11:27	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/22/20 10:25	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/22/20 10:25	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		05/22/20 10:25	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 11:27	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 11:27	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 11:27	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/22/20 10:25	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 10:25	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 10:25	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 11:27	107-06-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Sample: S-1 **Lab ID: 10518185001** Collected: 05/12/20 11:17 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 10:25	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 10:25	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 10:25	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/22/20 10:25	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 11:27	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 11:27	10061-02-6	
Diethyl ether (Ethyl ether)	**11.6**	ug/L	4.0	1		05/22/20 10:25	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 11:27	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/22/20 10:25	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/22/20 10:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/22/20 10:25	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/22/20 10:25	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/22/20 10:25	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 10:25	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 10:25	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/22/20 10:25	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 10:25	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 10:25	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 11:27	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/22/20 10:25	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 11:27	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/22/20 10:25	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/22/20 10:25	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	108-67-8	
Vinyl chloride	**0.20**	ug/L	0.050	1		05/25/20 11:27	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/22/20 10:25	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/22/20 10:25	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/22/20 10:25	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	75-128	1		05/25/20 11:27	17060-07-0	
1,2-Dichloroethane-d4 (S)	108	%.	75-128	1		05/22/20 10:25	17060-07-0	
Toluene-d8 (S)	97	%.	75-125	1		05/25/20 11:27	2037-26-5	
Toluene-d8 (S)	99	%.	75-125	1		05/22/20 10:25	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125	1		05/22/20 10:25	460-00-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Sample: S-1 **Lab ID: 10518185001** Collected: 05/12/20 11:17 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**476**	mg/L	5.0	1		05/21/20 18:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**558**	mg/L	20.0	1		05/19/20 11:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**386**	mg/L	20.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		05/29/20 17:13		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**974**	umhos/cm	1.0	1		05/29/20 17:10		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**24.1**	mg/L	1.2	1		05/29/20 05:36	16887-00-6	
Sulfate	**23.8**	mg/L	1.2	1		05/29/20 05:36	14808-79-8	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Sample: S-2 **Lab ID: 10518185002** Collected: 05/12/20 11:52 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Minneapolis							
Arsenic	**3700**	ug/L	25.0	50	05/22/20 05:38	05/29/20 23:29	7440-38-2	
Boron	**<50.0**	ug/L	50.0	5	05/22/20 05:38	05/29/20 23:26	7440-42-8	D3
Cadmium	**<0.40**	ug/L	0.40	5	05/22/20 05:38	05/29/20 23:26	7440-43-9	D3
Calcium	**259000**	ug/L	2000	50	05/22/20 05:38	05/29/20 23:29	7440-70-2	
Lead	**0.79**	ug/L	0.50	5	05/22/20 05:38	05/29/20 23:26	7439-92-1	
Magnesium	**75500**	ug/L	50.0	5	05/22/20 05:38	05/29/20 23:26	7439-95-4	
Manganese	**3320**	ug/L	25.0	50	05/22/20 05:38	05/29/20 23:29	7439-96-5	
Cation/Anion Balance	Analytical Method: SM 1030E							
	Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**-1.83**	%		1		06/02/20 14:15		
Total Cations	**19.4**	meq/L		1		06/02/20 14:15		N2
Total Anions	**20.1**	meq/L		1		06/02/20 14:15		N2
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
Acetone	**22.5**	ug/L	20.0	1		05/22/20 10:51	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/22/20 10:51	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/22/20 10:51	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/22/20 10:51	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/22/20 10:51	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/22/20 10:51	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/22/20 10:51	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/22/20 10:51	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 12:19	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/22/20 10:51	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/22/20 10:51	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		05/22/20 10:51	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 12:19	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 12:19	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 12:19	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/22/20 10:51	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 10:51	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 10:51	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 12:19	107-06-2	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Sample: S-2 **Lab ID: 10518185002** Collected: 05/12/20 11:52 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 10:51	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 10:51	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 10:51	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/22/20 10:51	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 12:19	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 12:19	10061-02-6	
Diethyl ether (Ethyl ether)	**22.0**	ug/L	4.0	1		05/22/20 10:51	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 12:19	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/22/20 10:51	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/22/20 10:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/22/20 10:51	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/22/20 10:51	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/22/20 10:51	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 10:51	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 10:51	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	127-18-4	
Tetrahydrofuran	**74.4**	ug/L	10.0	1		05/22/20 10:51	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 10:51	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 10:51	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 12:19	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/22/20 10:51	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 12:19	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/22/20 10:51	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/22/20 10:51	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 12:19	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/22/20 10:51	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/22/20 10:51	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/22/20 10:51	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	75-128	1		05/25/20 12:19	17060-07-0	
1,2-Dichloroethane-d4 (S)	111	%.	75-128	1		05/22/20 10:51	17060-07-0	
Toluene-d8 (S)	95	%.	75-125	1		05/25/20 12:19	2037-26-5	
Toluene-d8 (S)	97	%.	75-125	1		05/22/20 10:51	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125	1		05/22/20 10:51	460-00-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Sample: S-2 **Lab ID: 10518185002** Collected: 05/12/20 11:52 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**883**	mg/L	5.0	1		05/21/20 19:05		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**695**	mg/L	50.0	1		05/19/20 11:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**2530**	mg/L	100	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		05/29/20 17:15		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**1170**	umhos/cm	1.0	1		05/29/20 17:12		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**85.6**	mg/L	1.2	1		05/29/20 06:21	16887-00-6	
Sulfate	**<1.2**	mg/L	1.2	1		05/29/20 06:21	14808-79-8	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Sample: S-3 **Lab ID: 10518185003** Collected: 05/12/20 18:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Minneapolis							
Arsenic	**3.6**	ug/L	0.50	1	05/22/20 05:38	05/29/20 23:32	7440-38-2	
Boron	**27.5**	ug/L	10.0	1	05/22/20 05:38	05/29/20 23:32	7440-42-8	
Cadmium	**<0.080**	ug/L	0.080	1	05/22/20 05:38	05/29/20 23:32	7440-43-9	
Calcium	**96800**	ug/L	800	20	05/22/20 05:38	05/29/20 23:35	7440-70-2	
Lead	**<0.10**	ug/L	0.10	1	05/22/20 05:38	05/29/20 23:32	7439-92-1	
Magnesium	**145000**	ug/L	200	20	05/22/20 05:38	05/29/20 23:35	7439-95-4	
Manganese	**46.3**	ug/L	0.50	1	05/22/20 05:38	05/29/20 23:32	7439-96-5	
Cation/Anion Balance	Analytical Method: SM 1030E							
	Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**-5.2**	%		1		06/02/20 14:15		1M
Total Cations	**16.8**	meq/L		1		06/02/20 14:15		N2
Total Anions	**18.6**	meq/L		1		06/02/20 14:15		N2
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/22/20 09:59	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/22/20 09:59	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/22/20 09:59	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/22/20 09:59	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/22/20 09:59	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/22/20 09:59	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/22/20 09:59	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/22/20 09:59	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/25/20 11:53	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/22/20 09:59	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/22/20 09:59	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		05/22/20 09:59	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/25/20 11:53	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/25/20 11:53	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/25/20 11:53	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/22/20 09:59	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 09:59	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 09:59	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/25/20 11:53	107-06-2	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Sample: S-3 **Lab ID: 10518185003** Collected: 05/12/20 18:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 09:59	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 09:59	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 09:59	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/22/20 09:59	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 11:53	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/25/20 11:53	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/22/20 09:59	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/25/20 11:53	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/22/20 09:59	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/22/20 09:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/22/20 09:59	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/22/20 09:59	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/22/20 09:59	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 09:59	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 09:59	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/22/20 09:59	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 09:59	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 09:59	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/25/20 11:53	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/22/20 09:59	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/25/20 11:53	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/22/20 09:59	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/22/20 09:59	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/25/20 11:53	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/22/20 09:59	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/22/20 09:59	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/22/20 09:59	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%.	75-128	1		05/25/20 11:53	17060-07-0	
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		05/22/20 09:59	17060-07-0	
Toluene-d8 (S)	94	%.	75-125	1		05/25/20 11:53	2037-26-5	
Toluene-d8 (S)	101	%.	75-125	1		05/22/20 09:59	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125	1		05/22/20 09:59	460-00-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Sample: S-3 **Lab ID: 10518185003** Collected: 05/12/20 18:00 Received: 05/14/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**734**	mg/L	5.0	1		05/21/20 19:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**985**	mg/L	50.0	1		05/19/20 11:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D Pace Analytical Services - Minneapolis							
Total Suspended Solids	**33.0**	mg/L	10.0	1		05/18/20 15:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.8**	Std. Units	0.10	1		05/29/20 17:17		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**1510**	umhos/cm	1.0	1		05/29/20 17:13		
300.0 IC Anions	Analytical Method: EPA 300.0 Pace Analytical Services - Minneapolis							
Chloride	**<1.2**	mg/L	1.2	1		05/29/20 07:56	16887-00-6	
Sulfate	**189**	mg/L	6.0	5		05/29/20 11:20	14808-79-8	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

QC Batch: 676624 | Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 | Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518185001, 10518185002, 10518185003

METHOD BLANK: 3622128 Matrix: Water
Associated Lab Samples: 10518185001, 10518185002, 10518185003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<0.50	0.50	05/29/20 22:51	
Boron	ug/L	<10.0	10.0	05/29/20 22:51	
Cadmium	ug/L	<0.080	0.080	05/29/20 22:51	
Calcium	ug/L	<40.0	40.0	05/29/20 22:51	
Lead	ug/L	<0.10	0.10	05/29/20 22:51	
Magnesium	ug/L	<10.0	10.0	05/29/20 22:51	
Manganese	ug/L	<0.50	0.50	05/29/20 22:51	

LABORATORY CONTROL SAMPLE: 3622129

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	100	95.6	96	85-115	
Boron	ug/L	100	94.0	94	85-115	
Cadmium	ug/L	100	95.7	96	85-115	
Calcium	ug/L	2000	1970	98	85-115	
Lead	ug/L	100	106	106	85-115	
Magnesium	ug/L	2000	2010	100	85-115	
Manganese	ug/L	100	101	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622130 3622131

Parameter	Units	10518185001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	22.1	100	100	119	123	97	101	70-130	3	20	
Boron	ug/L	81.5	100	100	179	184	98	102	70-130	2	20	
Cadmium	ug/L	<0.40	100	100	95.3	101	95	100	70-130	5	20	
Calcium	ug/L	121000	2000	2000	121000	126000	-22	221	70-130	4	20	E,P6
Lead	ug/L	3.6	100	100	106	110	103	106	70-130	3	20	
Magnesium	ug/L	57500	2000	2000	57400	60800	-3	167	70-130	6	20	P6
Manganese	ug/L	1010	100	100	1100	1140	90	127	70-130	3	20	

MATRIX SPIKE SAMPLE: 3622132

Parameter	Units	10518175007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	0.39J	100	99.3	99	70-130	
Boron	ug/L	25.7J	100	120	94	70-130	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

MATRIX SPIKE SAMPLE: 3622132

Parameter	Units	10518175007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	<0.20	100	97.4	97	70-130	
Calcium	ug/L	228000	2000	238000	534	70-130	E,P6
Lead	ug/L	<0.50	100	102	102	70-130	
Magnesium	ug/L	53000	2000	55100	107	70-130	
Manganese	ug/L	25.5	100	129	104	70-130	

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

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

QC Batch: 676819 | Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B | Analysis Description: 8260B MSV LLW by SIMSCAN
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518185001, 10518185002, 10518185003

METHOD BLANK: 3622840 Matrix: Water
Associated Lab Samples: 10518185001, 10518185002, 10518185003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.40	0.40	05/22/20 02:12	
1,1,1-Trichloroethane	ug/L	<0.40	0.40	05/22/20 02:12	
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	05/22/20 02:12	
1,1,2-Trichloroethane	ug/L	<0.40	0.40	05/22/20 02:12	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	1.0	05/22/20 02:12	
1,1-Dichloroethane	ug/L	<0.40	0.40	05/22/20 02:12	
1,1-Dichloroethene	ug/L	<0.40	0.40	05/22/20 02:12	
1,1-Dichloropropene	ug/L	<0.40	0.40	05/22/20 02:12	
1,2,3-Trichlorobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
1,2,3-Trichloropropane	ug/L	<0.010	0.010	05/25/20 03:40	
1,2,4-Trichlorobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
1,2,4-Trimethylbenzene	ug/L	<1.0	1.0	05/22/20 02:12	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	0.12	05/25/20 03:40	
1,2-Dibromoethane (EDB)	ug/L	<0.050	0.050	05/25/20 03:40	
1,2-Dichlorobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
1,2-Dichloroethane	ug/L	<0.20	0.20	05/25/20 03:40	
1,2-Dichloropropane	ug/L	<0.40	0.40	05/22/20 02:12	
1,3,5-Trimethylbenzene	ug/L	<0.40	0.40	05/22/20 02:12	
1,3-Dichlorobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
1,3-Dichloropropane	ug/L	<0.40	0.40	05/22/20 02:12	
1,4-Dichlorobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
2,2-Dichloropropane	ug/L	<1.0	1.0	05/22/20 02:12	
2-Butanone (MEK)	ug/L	<5.0	5.0	05/22/20 02:12	
2-Chlorotoluene	ug/L	<0.40	0.40	05/22/20 02:12	
4-Chlorotoluene	ug/L	<0.40	0.40	05/22/20 02:12	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	05/22/20 02:12	
Acetone	ug/L	<20.0	20.0	05/22/20 02:12	
Allyl chloride	ug/L	<4.0	4.0	05/22/20 02:12	
Benzene	ug/L	<0.20	0.20	05/22/20 02:12	
Bromobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
Bromochloromethane	ug/L	<1.0	1.0	05/22/20 02:12	
Bromodichloromethane	ug/L	<0.40	0.40	05/22/20 02:12	
Bromoform	ug/L	<1.0	1.0	05/22/20 02:12	
Bromomethane	ug/L	<1.0	1.0	05/22/20 02:12	
Carbon tetrachloride	ug/L	<0.050	0.050	05/25/20 03:40	
Chlorobenzene	ug/L	<0.40	0.40	05/22/20 02:12	
Chloroethane	ug/L	<1.0	1.0	05/22/20 02:12	
Chloroform	ug/L	<1.0	1.0	05/22/20 02:12	
Chloromethane	ug/L	<1.0	1.0	05/22/20 02:12	
cis-1,2-Dichloroethene	ug/L	<0.40	0.40	05/22/20 02:12	

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

METHOD BLANK: 3622840 Matrix: Water
Associated Lab Samples: 10518185001, 10518185002, 10518185003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	ug/L	<0.40	0.40	05/25/20 03:40	
Dibromochloromethane	ug/L	<0.40	0.40	05/25/20 03:40	
Dibromomethane	ug/L	<1.0	1.0	05/22/20 02:12	
Dichlorodifluoromethane	ug/L	<1.0	1.0	05/22/20 02:12	
Dichlorofluoromethane	ug/L	<1.0	1.0	05/22/20 02:12	
Diethyl ether (Ethyl ether)	ug/L	<4.0	4.0	05/22/20 02:12	
Ethylbenzene	ug/L	<0.40	0.40	05/22/20 02:12	
Hexachloro-1,3-butadiene	ug/L	<0.10	0.10	05/25/20 03:40	
Isopropylbenzene (Cumene)	ug/L	<0.40	0.40	05/22/20 02:12	
m&p-Xylene	ug/L	<0.80	0.80	05/22/20 02:12	
Methyl-tert-butyl ether	ug/L	<0.40	0.40	05/22/20 02:12	
Methylene Chloride	ug/L	<1.0	1.0	05/22/20 02:12	
n-Butylbenzene	ug/L	<0.40	0.40	05/22/20 02:12	
n-Propylbenzene	ug/L	<0.40	0.40	05/22/20 02:12	
Naphthalene	ug/L	<1.0	1.0	05/22/20 02:12	
o-Xylene	ug/L	<0.40	0.40	05/22/20 02:12	
p-Isopropyltoluene	ug/L	<0.40	0.40	05/22/20 02:12	
sec-Butylbenzene	ug/L	<0.40	0.40	05/22/20 02:12	
Styrene	ug/L	<0.40	0.40	05/22/20 02:12	
tert-Butylbenzene	ug/L	<0.40	0.40	05/22/20 02:12	
Tetrachloroethene	ug/L	<0.40	0.40	05/22/20 02:12	
Tetrahydrofuran	ug/L	<10.0	10.0	05/22/20 02:12	
Toluene	ug/L	<0.40	0.40	05/22/20 02:12	
trans-1,2-Dichloroethene	ug/L	<0.40	0.40	05/22/20 02:12	
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	05/25/20 03:40	
Trichloroethene	ug/L	<0.050	0.050	05/25/20 03:40	
Trichlorofluoromethane	ug/L	<0.40	0.40	05/22/20 02:12	
Vinyl chloride	ug/L	<0.050	0.050	05/25/20 03:40	
Xylene (Total)	ug/L	<1.2	1.2	05/22/20 02:12	
1,2-Dichloroethane-d4 (S)	%.	105	75-128	05/22/20 02:12	
1,2-Dichloroethane-d4 (S)	%.	105	75-128	05/25/20 03:40	
4-Bromofluorobenzene (S)	%.	102	75-125	05/22/20 02:12	
Toluene-d8 (S)	%.	101	75-125	05/25/20 03:40	
Toluene-d8 (S)	%.	103	75-125	05/22/20 02:12	

LABORATORY CONTROL SAMPLE: 3622841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	10	11.0	110	75-125	
1,1,1-Trichloroethane	ug/L	10	10	100	68-131	
1,1,2,2-Tetrachloroethane	ug/L	10	9.1	91	71-125	
1,1,2-Trichloroethane	ug/L	10	10.4	104	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	10	9.4	94	71-125	
1,1-Dichloroethane	ug/L	10	9.0	90	71-125	

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

LABORATORY CONTROL SAMPLE: 3622841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	10	9.3	93	66-126	
1,1-Dichloropropene	ug/L	10	9.0	90	58-134	
1,2,3-Trichlorobenzene	ug/L	10	9.8	98	71-125	
1,2,3-Trichloropropane	ug/L	1	1.0	102	75-125	
1,2,4-Trichlorobenzene	ug/L	10	9.5	95	72-125	
1,2,4-Trimethylbenzene	ug/L	10	10.1	101	75-125	
1,2-Dibromo-3-chloropropane	ug/L	2.5	2.5	100	71-125	
1,2-Dibromoethane (EDB)	ug/L	1	1.0	104	71-125	
1,2-Dichlorobenzene	ug/L	10	9.7	97	75-125	
1,2-Dichloroethane	ug/L	1	1.1	105	75-131	
1,2-Dichloropropane	ug/L	10	9.8	98	73-125	
1,3,5-Trimethylbenzene	ug/L	10	9.9	99	75-125	
1,3-Dichlorobenzene	ug/L	10	10.3	103	75-125	
1,3-Dichloropropane	ug/L	10	9.7	97	75-125	
1,4-Dichlorobenzene	ug/L	10	8.8	88	75-125	
2,2-Dichloropropane	ug/L	10	9.0	90	57-144	
2-Butanone (MEK)	ug/L	50	42.0	84	51-144	
2-Chlorotoluene	ug/L	10	10	100	75-125	
4-Chlorotoluene	ug/L	10	10.6	106	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	50	48.9	98	72-125	
Acetone	ug/L	50	39.1	78	34-150	
Allyl chloride	ug/L	10	7.9	79	58-132	
Benzene	ug/L	10	9.2	92	70-125	
Bromobenzene	ug/L	10	9.0	90	75-125	
Bromochloromethane	ug/L	10	9.9	99	72-126	
Bromodichloromethane	ug/L	10	10.3	103	73-128	
Bromoform	ug/L	10	10.6	106	70-125	
Bromomethane	ug/L	10	10.7	107	31-150	SS
Carbon tetrachloride	ug/L	1	1.1	107	68-136	
Chlorobenzene	ug/L	10	10	100	75-125	
Chloroethane	ug/L	10	8.7	87	70-128	
Chloroform	ug/L	10	9.9	99	72-125	
Chloromethane	ug/L	10	8.5	85	63-129	
cis-1,2-Dichloroethene	ug/L	10	9.5	95	69-128	
cis-1,3-Dichloropropene	ug/L	1	1.0	100	71-125	
Dibromochloromethane	ug/L	1	1.0	100	71-125	
Dibromomethane	ug/L	10	10	100	74-130	
Dichlorodifluoromethane	ug/L	10	8.5	85	65-134	
Dichlorofluoromethane	ug/L	10	9.3	93	74-125	
Diethyl ether (Ethyl ether)	ug/L	10	8.6	86	64-126	
Ethylbenzene	ug/L	10	9.9	99	75-125	
Hexachloro-1,3-butadiene	ug/L	1	0.96	96	65-133	
Isopropylbenzene (Cumene)	ug/L	10	11.5	115	75-125	
m&p-Xylene	ug/L	20	20.3	102	75-125	
Methyl-tert-butyl ether	ug/L	10	9.0	90	68-125	
Methylene Chloride	ug/L	10	10.5	105	69-125	
n-Butylbenzene	ug/L	10	9.5	95	75-125	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

LABORATORY CONTROL SAMPLE: 3622841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
n-Propylbenzene	ug/L	10	9.3	93	74-125	
Naphthalene	ug/L	10	9.4	94	66-125	
o-Xylene	ug/L	10	9.9	99	75-125	
p-Isopropyltoluene	ug/L	10	10.1	101	75-125	
sec-Butylbenzene	ug/L	10	10	100	75-125	
Styrene	ug/L	10	10.6	106	75-125	
tert-Butylbenzene	ug/L	10	9.7	97	75-125	
Tetrachloroethene	ug/L	10	9.7	97	75-125	
Tetrahydrofuran	ug/L	100	92.5	93	55-139	
Toluene	ug/L	10	9.1	91	75-125	
trans-1,2-Dichloroethene	ug/L	10	9.1	91	67-127	
trans-1,3-Dichloropropene	ug/L	1	0.98	98	70-125	
Trichloroethene	ug/L	1	1.0	100	69-125	
Trichlorofluoromethane	ug/L	10	9.7	97	70-131	
Vinyl chloride	ug/L	1	0.90	90	68-132	
Xylene (Total)	ug/L	30	30.2	101	75-125	
1,2-Dichloroethane-d4 (S)	%.			102	75-128	
1,2-Dichloroethane-d4 (S)	%.			96	75-128	
4-Bromofluorobenzene (S)	%.			96	75-125	
Toluene-d8 (S)	%.			100	75-125	
Toluene-d8 (S)	%.			99	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622842 3622843

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	<0.40	10	10	11.1	10.7	111	107	75-125	4	30	
1,1,1-Trichloroethane	ug/L	<0.40	10	10	11.3	10.5	113	105	65-148	7	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.40	10	10	9.4	9.1	94	91	72-125	4	30	
1,1,2-Trichloroethane	ug/L	<0.40	10	10	10.1	9.9	101	99	75-125	2	30	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	10	10	10.6	10.4	106	104	75-145	1	30	
1,1-Dichloroethane	ug/L	<0.40	10	10	10.3	9.9	103	99	73-136	4	30	
1,1-Dichloroethene	ug/L	<0.40	10	10	11.2	10.6	112	106	69-138	5	30	
1,1-Dichloropropene	ug/L	<0.40	10	10	10.8	10.6	108	106	60-150	1	30	
1,2,3-Trichlorobenzene	ug/L	<0.40	10	10	9.5	9.5	95	95	67-135	1	30	
1,2,3-Trichloropropane	ug/L	<0.010	1	1	1.1	1.1	105	111	49-150	6	30	
1,2,4-Trichlorobenzene	ug/L	<0.40	10	10	9.5	9.4	95	94	68-133	1	30	
1,2,4-Trimethylbenzene	ug/L	<1.0	10	10	11.1	10.8	111	108	75-135	3	30	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	2.5	2.5	2.6	2.8	104	110	53-150	6	30	
1,2-Dibromoethane (EDB)	ug/L	<0.050	1	1	1.1	1.2	109	116	49-150	6	30	
1,2-Dichlorobenzene	ug/L	<0.40	10	10	10	9.8	100	98	75-125	2	30	
1,2-Dichloroethane	ug/L	<0.20	1	1	1.1	1.2	114	121	42-150	6	30	
1,2-Dichloropropane	ug/L	<0.40	10	10	10.3	9.6	103	96	71-125	6	30	
1,3,5-Trimethylbenzene	ug/L	<0.40	10	10	10.8	10.5	108	105	75-129	3	30	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622842 3622843

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,3-Dichlorobenzene	ug/L	<0.40	10	10	10.5	9.9	105	99	75-125	6	30	
1,3-Dichloropropane	ug/L	<0.40	10	10	9.8	9.6	98	96	75-125	2	30	
1,4-Dichlorobenzene	ug/L	<0.40	10	10	9.7	9.7	97	97	75-125	0	30	
2,2-Dichloropropane	ug/L	<1.0	10	10	9.3	8.8	93	88	67-150	5	30	
2-Butanone (MEK)	ug/L	<5.0	50	50	42.5	40.1	85	80	49-138	6	30	
2-Chlorotoluene	ug/L	<0.40	10	10	10.9	10.4	109	104	75-130	4	30	
4-Chlorotoluene	ug/L	<0.40	10	10	11.1	10.9	111	109	75-133	2	30	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	50	50	50.1	46.9	100	94	75-126	7	30	
Acetone	ug/L	<20.0	50	50	42.3	42.8	85	86	51-125	1	30	
Allyl chloride	ug/L	<4.0	10	10	9.7	9.2	97	92	50-150	6	30	
Benzene	ug/L	<0.20	10	10	10.1	9.9	101	99	68-129	2	30	
Bromobenzene	ug/L	<0.40	10	10	9.5	9.2	95	92	75-125	3	30	
Bromochloromethane	ug/L	<1.0	10	10	10.2	9.8	102	98	73-132	3	30	
Bromodichloromethane	ug/L	<0.40	10	10	10.3	10.1	103	101	75-127	2	30	
Bromoform	ug/L	<1.0	10	10	10.2	9.2	102	92	71-125	10	30	
Bromomethane	ug/L	<1.0	10	10	13.2	13.6	132	136	30-150	3	30	SS
Carbon tetrachloride	ug/L	<0.050	1	1	1.2	1.3	124	133	30-150	7	30	
Chlorobenzene	ug/L	<0.40	10	10	10.2	9.9	102	99	75-125	3	30	
Chloroethane	ug/L	<1.0	10	10	9.9	9.6	99	96	68-141	4	30	
Chloroform	ug/L	<1.0	10	10	10.6	10.0	106	100	61-129	6	30	
Chloromethane	ug/L	<1.0	10	10	9.9	9.7	99	97	46-150	2	30	
cis-1,2-Dichloroethene	ug/L	<0.40	10	10	10.4	10.2	104	102	68-142	1	30	
cis-1,3-Dichloropropene	ug/L	<0.40	1	1	1.0	1.1	105	111	48-150	6	30	
Dibromochloromethane	ug/L	<0.40	1	1	1.1	1.1	106	111	50-150	5	30	
Dibromomethane	ug/L	<1.0	10	10	10.4	9.7	104	97	69-137	6	30	
Dichlorodifluoromethane	ug/L	<1.0	10	10	10.5	10.6	105	106	68-150	1	30	
Dichlorofluoromethane	ug/L	<1.0	10	10	10.1	9.9	101	99	73-135	2	30	
Diethyl ether (Ethyl ether)	ug/L	<4.0	10	10	9.7	9.4	97	94	61-128	3	30	
Ethylbenzene	ug/L	<0.40	10	10	10.8	10.4	108	104	75-131	4	30	
Hexachloro-1,3-butadiene	ug/L	<0.10	1	1	1.1	1.2	113	118	40-150	4	30	
Isopropylbenzene (Cumene)	ug/L	<0.40	10	10	12.6	12.1	126	121	75-133	5	30	
m&p-Xylene	ug/L	<0.80	20	20	22.7	21.5	113	107	75-135	5	30	
Methyl-tert-butyl ether	ug/L	<0.40	10	10	9.9	9.6	99	96	67-126	4	30	
Methylene Chloride	ug/L	<1.0	10	10	10.5	10.2	105	102	61-137	3	30	
n-Butylbenzene	ug/L	<0.40	10	10	10.4	10.4	104	104	75-136	0	30	
n-Propylbenzene	ug/L	<0.40	10	10	10.4	10.2	104	102	75-139	2	30	
Naphthalene	ug/L	<1.0	10	10	9.5	9.5	95	95	64-127	0	30	
o-Xylene	ug/L	<0.40	10	10	10.8	10.1	108	101	75-127	6	30	
p-Isopropyltoluene	ug/L	<0.40	10	10	11.1	10.9	111	109	75-135	2	30	
sec-Butylbenzene	ug/L	<0.40	10	10	11.2	11.0	112	110	75-141	2	30	
Styrene	ug/L	<0.40	10	10	11.0	10.5	110	105	75-125	4	30	
tert-Butylbenzene	ug/L	<0.40	10	10	10.8	10.6	108	106	75-141	1	30	
Tetrachloroethene	ug/L	<0.40	10	10	10.3	10.3	103	103	75-135	1	30	
Tetrahydrofuran	ug/L	<10.0	100	100	93.7	90.6	94	91	45-145	3	30	

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622842 3622843

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene	ug/L	<0.40	10	10	9.9	9.5	99	95	74-125	4	30	
trans-1,2-Dichloroethene	ug/L	<0.40	10	10	10.3	9.9	103	99	68-137	4	30	
trans-1,3-Dichloropropene	ug/L	<0.40	1	1	1.0	1.1	105	112	50-150	6	30	
Trichloroethene	ug/L	<0.050	1	1	1.1	1.2	112	119	41-150	6	30	
Trichlorofluoromethane	ug/L	<0.40	10	10	11.1	10.4	111	104	72-150	6	30	
Vinyl chloride	ug/L	<0.050	1	1	1.0	0.99	100	99	30-150	2	30	
Xylene (Total)	ug/L	<1.2	30	30	33.4	31.6	111	105	75-131	6	30	
1,2-Dichloroethane-d4 (S)	%.						102	99	75-128			
1,2-Dichloroethane-d4 (S)	%.						99	101	75-128			
1,2-Dichloroethane-d4 (S)	%.						99	99	75-128			
1,2-Dichloroethane-d4 (S)	%.						102	101	75-128			
4-Bromofluorobenzene (S)	%.						97	98	75-125			
Toluene-d8 (S)	%.						98	98	75-125			
Toluene-d8 (S)	%.						98	97	75-125			
Toluene-d8 (S)	%.						98	97	75-125			
Toluene-d8 (S)	%.						98	98	75-125			

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REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

QC Batch: 676757 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518185001, 10518185002, 10518185003

METHOD BLANK: 3622643 Matrix: Water
Associated Lab Samples: 10518185001, 10518185002, 10518185003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<5.0	5.0	05/21/20 16:06	

LABORATORY CONTROL SAMPLE & LCSD: 3622644 3622645

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	42.3	42.5	106	106	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622646 3622647

Parameter	Units	10518129001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	44.1	40	40	84.7	61.4	101	43	80-120	32	20	M1,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3622648 3622649

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	697	40	40	779	751	207	136	80-120	4	20	M1

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

QC Batch: 676008
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518185001, 10518185002, 10518185003

METHOD BLANK: 3618951 Matrix: Water
Associated Lab Samples: 10518185001, 10518185002, 10518185003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<10.0	10.0	05/19/20 11:43	

LABORATORY CONTROL SAMPLE: 3618952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	986	99	80-120	

SAMPLE DUPLICATE: 3618953

Parameter	Units	10517973002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	865	915	6	5	D6

SAMPLE DUPLICATE: 3618954

Parameter	Units	10518119005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	307	311	1	5	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

QC Batch: 675801 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518185001, 10518185002, 10518185003

METHOD BLANK: 3618146 Matrix: Water
Associated Lab Samples: 10518185001, 10518185002, 10518185003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<10.0	10.0	05/18/20 15:14	

LABORATORY CONTROL SAMPLE: 3618147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	120	120	80-120	

SAMPLE DUPLICATE: 3618148

Parameter	Units	10517964015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	<10.0	<10.0		5	

SAMPLE DUPLICATE: 3618149

Parameter	Units	10517973002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	81.0	97.0	18	5	D6

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

QC Batch: 678205
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518185001, 10518185002, 10518185003

LABORATORY CONTROL SAMPLE: 3629809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	100	98-102	H6

SAMPLE DUPLICATE: 3629810

Parameter	Units	10517929006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	0	3	H6

SAMPLE DUPLICATE: 3629811

Parameter	Units	10517973002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	6.9	0	3	H6

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

QC Batch: 678208 | Analysis Method: SM 2510
QC Batch Method: SM 2510 | Analysis Description: SM2510 Specific Conductance
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518185001, 10518185002, 10518185003

METHOD BLANK: 3629825 Matrix: Water
Associated Lab Samples: 10518185001, 10518185002, 10518185003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	<1.0	1.0	05/29/20 16:54	

LABORATORY CONTROL SAMPLE: 3629826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	998	100	90-110	

SAMPLE DUPLICATE: 3629827

Parameter	Units	10517929005 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	458	465	2	20	

SAMPLE DUPLICATE: 3629828

Parameter	Units	10517973002 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1460	1460	0	20	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

QC Batch: 677791
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518185001, 10518185002, 10518185003

METHOD BLANK: 3627619 Matrix: Water
Associated Lab Samples: 10518185001, 10518185002, 10518185003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.2	1.2	05/28/20 17:07	
Sulfate	mg/L	<1.2	1.2	05/28/20 17:07	

LABORATORY CONTROL SAMPLE: 3627620

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.0	96	90-110	
Sulfate	mg/L	12.5	12.3	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627621 3627622

Parameter	Units	10517870001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.2	12.5	12.5	11.1	11.2	79	80	90-110	0	20	M3
Sulfate	mg/L	3.2	12.5	12.5	13.4	13.6	81	83	90-110	1	20	M3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627623 3627624

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	25.7	12.5	12.5	32.0	32.3	51	52	90-110	1	20	M3
Sulfate	mg/L	8.0	12.5	12.5	18.1	18.2	81	82	90-110	1	20	M3

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1M	CAB exceeded criteria. Non balance may be due to other cations/anions that were not selected for analysis.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
R1	RPD value was outside control limits.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518185

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10518185001	**S-1**	EPA 200.8	676624	EPA 200.8	677031
10518185002	**S-2**	EPA 200.8	676624	EPA 200.8	677031
10518185003	**S-3**	EPA 200.8	676624	EPA 200.8	677031
10518185001	**S-1**	SM 1030E	677610		
10518185002	**S-2**	SM 1030E	677610		
10518185003	**S-3**	SM 1030E	677610		
10518185001	**S-1**	EPA 8260B	676819		
10518185002	**S-2**	EPA 8260B	676819		
10518185003	**S-3**	EPA 8260B	676819		
10518185001	**S-1**	SM 2320B	676757		
10518185002	**S-2**	SM 2320B	676757		
10518185003	**S-3**	SM 2320B	676757		
10518185001	**S-1**	SM 2540C	676008		
10518185002	**S-2**	SM 2540C	676008		
10518185003	**S-3**	SM 2540C	676008		
10518185001	**S-1**	SM 2540D	675801		
10518185002	**S-2**	SM 2540D	675801		
10518185003	**S-3**	SM 2540D	675801		
10518185001	**S-1**	SM 4500-H+B	678205		
10518185002	**S-2**	SM 4500-H+B	678205		
10518185003	**S-3**	SM 4500-H+B	678205		
10518185001	**S-1**	SM 2510	678208		
10518185002	**S-2**	SM 2510	678208		
10518185003	**S-3**	SM 2510	678208		
10518185001	**S-1**	EPA 300.0	677791		
10518185002	**S-2**	EPA 300.0	677791		
10518185003	**S-3**	EPA 300.0	677791		

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Minnesota Pollution Control Agency

MPCA Chain-of-Custody Form revision 2017.0328

* indicates a required field

Work Order Number: | **COC Type:** Standard | **Page:** 1 of 1

Turnaround Time: Standard | **COC ID:** 33549 line8

FOR LAB USE ONLY

PROJECT/CLIENT INFO

Facility Code:* SW-34 | Program Code (MDH Lab Only):

Project Name:* Clay County Sanitary Landfill - Spring 2020 Surface Wate | Project Task Code:* PRJ07913

Project Manager: Andrew Feia

Potential Hazard? No | If yes, add information to **Sampler Comments** field

LABORATORY

Lab Name: Pace Analytical Services, LLC

Address: 1700 Elm Street SE

Minneapolis, MN 55414

EPA Lab ID:*

Lab Work Order Sticker

SAMPLE DETAILS

SAMPLE TYPES
Sample=Routine Sample
QC-FB=Field Blank Sample
QC-FR=Field Replicate Sample
QC-TB=Trip Blank Sample
QC-EB=Equipment Blank
Treated-Mid=Treatment system sample
Treated-Post=Treatment system sample

SAMPLING METHODS
G=Grab sample
CT=Composite, time-paced w/AS
CF=Composite w/AS
D-T=Discrete,time-paced w/AS
D-F=Discrete,flow-paced w/AS
SW-GAS=Gas Sampling
Unknown=Unknown

LAB MATRICES
DW=Drinking Water
NW=Nonpotable Water
SD=Soil/Solid
AR=Air
BL=Biological Material
OT=Other
TS=Tissue

FIELD MATRICES
Wtr-Ground=Groundwater
Wtr-Surf=Surface Water
Wtr-Drink=Drinking Water
QC-BLANK=Artificial Blank Water
Leachate=Leachate Sample
Air-Indoor=Indoor Air
Gas-Soil=Soil Gas

ANALYSIS REQUESTED

MN Location Identifier*	Field Name	Sample Type*	Start Date* (mm/dd/yyyy)	Start Time* 24 hr (hh:mm)	Depth Start	Depth End	Depth Units (m or ft.)	Sampling Method*	Complete ONLY if Method is CT, CF, D-T, or D-F: End Date (mm/dd/yyyy)	Complete ONLY if Method is CT, CF, D-T, or D-F: End Time 24 hr (hh:mm)	Lab Matrix*	Field Matrix*	AIS	Sampler Comments (filter volume, special handling, etc.)	# of Cont	ANALYSIS*	PRESERV.	FF	List 1-VOCs (Attached) HCL / N	List 3-Total Metals (Attached) HN03 / N	List 3-Inorganics (Attached) H2S04 / N	List 4-pH, Specific Conductance None / N	LL Mercury 1631 E None / N	Lab Sample No.	#
SP00049	S-1	Sample	5/12/2020	11:17				G			NW	WTR-Surf			12				x	x	x	x		001	1
SP00050	S-2	Sample	5/12/2020	11:52				G			NW	WTR-Surf			12				x	x	x	x		002	2
SP00051	S-3	Sample	5/11/2020	18:00				G			NW	WTR-Surf			12				x	x	x	x		003	3
																									4
																									5
																									6
																									7
																									8
																									9
																									10

WO#: 10518185

10518185

Sampler's Name:* Christina Lammers | **Phone#:** 701-893-2327

Sampler's Signature:* Christina Lammers

Sampler's Organization: Wenck Associates, Inc.

Billing Organization: Clay County - Kirk Rosenberger | **Acct#:** 10-115155

Address: 807 11th Street North, Moorhead, MN 56560

Courier Name: Speedee | **Tracking#:**

Receiving Comments:

Relinquished By/Affiliation	Date/Time	Accepted By/Affiliation	Date/Time
(Sampler) /Wenck		Pace	5/14/20 1135

T=4.3, 1.6, 1.4, 1.2

Pace Analytical®	Document Name: Sample Condition Upon Receipt (SCUR) - MN	Document Revised: 27Mar2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0150 Rev.00	Pace Analytical Services - Minneapolis

Sample Condition Upon Receipt

Client Name: Wenck

Project #: WO#: 10518185
PM: AKA Due Date: 05/29/20
CLIENT: WENCK-ND

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

Tracking Number:

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

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

Thermometer: ☐ T1(0461) ☐ T2(1336) ☒ T3(0459) ☐ T4(0254) ☐ T5(0489) **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 4.3, 1.4, 1.4, 1.2 °C **Average Corrected Temp (no temp blank only):** ☐ See Exceptions °C ☐ 1 Container

Correction Factor: TWG **Cooler Temp Corrected w/temp blank:** " " °C

USDA Regulated Soil: (☒ N/A, water sample/Other:) **Date/Initials of Person Examining Contents:** 5/15/14/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

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

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1. COC was received via email after the samples were received.
Chain of Custody Relinquished?	☐ Yes	☒ No		2. - AKA 5/20/2020
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☐ Yes	☒ No		6.
Sufficient Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No		8.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☒ Water ☐ Soil ☐ Oil ☐ Other	☒ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
All containers needing acid/base preservation have been checked?	☒ Yes	☐ No	☐ N/A	12. Sample # 1-3 ☐ NaOH ☒ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☒ Yes	☐ No	☐ N/A	
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☒ Yes	☐ No	☐ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐
				Res. Chlorine: 0-6 Roll 203616 / 0-6 Strip / 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☒ N/A	13. **See Exception** ☐
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☒ No	☐ N/A	
Trip Blank Present?	☐ Yes	☐ No	☐ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☐ N/A	Pace Trip Blank Lot # (if purchased):

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

Person Contacted: Date/Time:

Comments/Resolution: LL hg by 1664 is present on 10518091.

Project Manager Review: Anne Ohp **Date:** 5/20/2020

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

Labeled by: CEG (2)

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) Exception Form**	Document Revised: 26Mar2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0142 Rev.00**	Pace Analytical Services - **Minneapolis**

SCUR Exceptions:

Workorder #:

Out of Temp Sample IDs	Container Type	# of Containers

PM Notified? ☐Yes ☐No

If yes, indicate who was contacted/date/time.
If no, indicate reason why.

Multiple Cooler Project? ☐Yes ☐No
If you answered yes, fill out information to the left.

No Temp Blank

Read Temp	Corrected Temp	Average Temp

Tracking Number/Temperature

SP0095930313420539104	4.3
432391	1.6
404494	1.4
~~356995~~ 351919/20	
453843	1.2

Other Issues

Issue Type: Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

TABLE 2

Clay County Landfill
Permit SW-34
Environmental Monitoring System

Parameter Lists For Analyses

List 1 (VOCs) (Groundwater and Surface Water)

1,1,1,2-Tetrachloroethane	Chlorobenzene (monochlorobenzene)
1,1,1-Trichloroethane	Chlorodibromomethane (Dibromochloromethane)
1,1,2,2-Tetrachloroethane	Chloroethane
1,1,2-Trichloroethane	Chloroform
1,1,2-Trichlorotrifluoroethane	Chloromethane (Methyl chloride)
1,1-Dichloroethane	cis-1,3,-Dichloropropene
1,1-Dichloroethylene (Vinylidene chloride)	Cumene (Isopropylbenzene)
1,1-Dichloropropene	Dibromochloropropane (DBCP)
1,2-(trans-) Dichloroethylene	Dibromomethane (Methylene bromide)
1,2,3-Trichlorobenzene	Dichlorodifluoromethane
1,2,3-Trichloropropane	Dichlorofluoromethane
1,2,4-Trichlorobenzene	Dichloromethane (Methylene chloride)
1,2,4-Trimethylbenzene	Ethyl benzene
1,2-Dibromoethane (Ethylene dibromide); EDB	Ethyl ether
1,2-Dichlorobenzene (ortho-)	Hexachlorobutadiene
1,2-Dichloroethane	Methyl ethyl ketone (MEK)
1,2-Dichloroethlyene (cis-)	Methyl isobutyl ketone (4-Methyl-2-pentanone)
1,2-Dichloropropane	Methyl tertiary-Butyl Ether (MTBE)
1,3,5-Trimethylbenzene	Naphthalene
1,3-Dichlorobenzene (meta-)	n-Butyl Benzene
1,3-Dichloropropane	n-Propyl benzene
1,4-Dichlorobenzene (para-)	p-Isopropyltoluene
2,2-Dichloropropane	sec-Butyl Benzene
2-Chlorotoluene (ortho-)	Styrene
4-Chlorotoluene (para-)	tert-Butyl Benzene
Acetone	Tetrachloroethylene (Perchloroethylene)
Allyl chloride (3 chloropropene)	Tetrahydrofuran
Benzene	Toluene
Bromobenzene	Trichloroethylene (TCE)
Bromochloromethane (Chlorobromomethane)	Trichlorofluoromethane
Bromodichloromethane (Dichlorobromomethane)	Vinyl chloride (chloroethene)
Bromoform	m-Xylene & p-Xylene
Bromomethane (Methyl bromide)	o-Xylene
Carbon tetrachloride	

List 2 (Geochemicals, Metals[1]) (Groundwater)

Alkalinity, Total as CaCO3	Magnesium
Ammonia Nitrogen	Manganese
Arsenic	Mercury
Barium	Nickel
Boron	Nitrate+Nitrite
Cadmium	Potassium
Calcium	Selenium
Cation-Anion Balance	Sodium
Chloride	Sulfate
Chromium	Zinc
Copper	Total Dissolved Solids
Iron	Total Suspended Solids
Lead	

[1] All metals are measured as dissolved. All groundwater samples for metals will be filtered in the field.

TABLE 2

Clay County Landfill
Permit SW-34
Environmental Monitoring System

Parameter Lists For Analyses

List 3 (Geochemicals, Metals[2]) (Surface Water)

Alkalinity, Total as CaCO3	Lead
Arsenic	Magnesium
Boron	Manganese
Cadmium	Mercury[3]
Calcium	Total Dissolved Solids
Cation-Anion Balance	Total Suspended Solids
Chloride	

[2] All metals are measured as total. All surface water samples for metals will not be filtered in the field or lab.

[3] Low-level mercury analyses, EPA Method 1669.

List 4 (Field Parameters) (Groundwater and Surface Water)

Appearance	Specific Conductance
Dissolved Oxygen	Static Water Level (Elevation, MSL)[4]
Eh (Oxidation potential)	Temperature
Odor	Turbidity
pH	

[4] Groundwater Samples only, and not for residential wells.

List 5 (Geochemicals, Metals[1]) (Lysimeter)

Alkalinity, Total as CaCO3	Iron
Ammonia Nitrogen	Lead
Arsenic	Magnesium
Arsenic	Manganese
Boron	Mercury
Cadmium	Nitrate+Nitrite
Calcium	Potassium
Cation-Anion Balance	Sodium
COD	Sulfate
Chloride	Zinc
Chromium VI	Total Dissolved Solids
Copper	Total Suspended Solids

[1] All metals are measured as dissolved. All Lysimeter samples for metals will be filtered in the field.

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

June 05, 2020

Andrew Feia
Wenck Associates, Inc.
3303 Fiechtner Drive
Suite 100
Fargo, ND 58103

RE: Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Dear Andrew Feia:

Enclosed are the analytical results for sample(s) received by the laboratory on May 15, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

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

Sincerely,

Annika Asp
annika.asp@pacelabs.com
(612)607-1700
Project Manager

Enclosures

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CERTIFICATIONS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE SUMMARY

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10518134001	**Deutcher**	Water	05/14/20 11:33	05/15/20 12:15
10518134002	**Benesch**	Water	05/14/20 12:20	05/15/20 12:15
10518134003	**J. Ekre**	Water	05/14/20 13:02	05/15/20 12:15
10518134004	**Dup-3**	Water	05/14/20 00:00	05/15/20 12:15

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SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10518134001	**Deutcher**	EPA 200.8	RJS	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10518134002	**Benesch**	EPA 200.8	RJS	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10518134003	**J. Ekre**	EPA 200.8	RJS	16
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1
10518134004	**Dup-3**	EPA 200.8	RJS	16

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SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 1030E	WBS	3
		EPA 245.1	LMW	1
		EPA 8260B	AEZ	72
		SM 2320B	SH4	1
		SM 2540C	EPT	1
		SM 2540D	EPT	1
		SM 4500-H+B	SH4	1
		SM 2510	SH4	1
		EPA 300.0	KEO	2
		EPA 350.1	JFP	1
		EPA 353.2	JFP	1

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: Deutcher **Lab ID: 10518134001** Collected: 05/14/20 11:33 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Lab Filtered	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**1.2**	ug/L	0.50	1	05/28/20 12:54	06/03/20 23:52	7440-38-2	
Barium, Dissolved	**109**	ug/L	0.30	1	05/28/20 12:54	06/03/20 23:52	7440-39-3	M1
Boron, Dissolved	**29.3**	ug/L	10.0	1	05/28/20 12:54	06/03/20 23:52	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/28/20 12:54	06/03/20 23:52	7440-43-9	
Calcium, Dissolved	**132000**	ug/L	400	10	05/28/20 12:54	06/05/20 08:00	7440-70-2	P6
Chromium, Dissolved	**0.78**	ug/L	0.50	1	05/28/20 12:54	06/03/20 23:52	7440-47-3	
Copper, Dissolved	**5.1**	ug/L	1.0	1	05/28/20 12:54	06/03/20 23:52	7440-50-8	
Iron, Dissolved	**<50.0**	ug/L	50.0	1	05/28/20 12:54	06/03/20 23:52	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/28/20 12:54	06/03/20 23:52	7439-92-1	
Magnesium, Dissolved	**77000**	ug/L	100	10	05/28/20 12:54	06/05/20 08:00	7439-95-4	P6
Manganese, Dissolved	**430**	ug/L	0.50	1	05/28/20 12:54	06/03/20 23:52	7439-96-5	M1
Nickel, Dissolved	**1.1**	ug/L	0.50	1	05/28/20 12:54	06/03/20 23:52	7440-02-0	
Potassium, Dissolved	**3890**	ug/L	100	1	05/28/20 12:54	06/03/20 23:52	7440-09-7	M1
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/28/20 12:54	06/03/20 23:52	7782-49-2	
Sodium, Dissolved	**10400**	ug/L	50.0	1	05/28/20 12:54	06/03/20 23:52	7440-23-5	M1,P6
Zinc, Dissolved	**259**	ug/L	5.0	1	05/28/20 12:54	06/03/20 23:52	7440-66-6	M1
Cation/Anion Balance	Analytical Method: SM 1030E							
	Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**16.49**	%		1		06/05/20 16:15		1M
Total Cations	**13.5**	meq/L		1		06/05/20 16:15		N2
Total Anions	**9.7**	meq/L		1		06/05/20 16:15		N2
245.1 Mercury, Lab Filtered	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
	Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/28/20 17:11	05/29/20 11:44	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/22/20 13:59	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/22/20 13:59	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/22/20 13:59	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/22/20 13:59	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/22/20 13:59	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/22/20 13:59	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/22/20 13:59	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/22/20 13:59	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/26/20 12:30	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/22/20 13:59	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/22/20 13:59	67-66-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: Deutcher **Lab ID: 10518134001** Collected: 05/14/20 11:33 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/22/20 13:59	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/26/20 12:30	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/26/20 12:30	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/26/20 12:30	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/22/20 13:59	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 13:59	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 13:59	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/26/20 12:30	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 13:59	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 13:59	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 13:59	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/22/20 13:59	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 12:30	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 12:30	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/22/20 13:59	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/26/20 12:30	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/22/20 13:59	98-82-8	M1
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/22/20 13:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/22/20 13:59	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/22/20 13:59	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/22/20 13:59	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 13:59	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 13:59	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/22/20 13:59	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 13:59	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 13:59	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/26/20 12:30	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/22/20 13:59	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/26/20 12:30	96-18-4	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: Deutcher **Lab ID: 10518134001** Collected: 05/14/20 11:33 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/22/20 13:59	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/22/20 13:59	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/26/20 12:30	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/22/20 13:59	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/22/20 13:59	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/22/20 13:59	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%.	75-128	1		05/22/20 13:59	17060-07-0	
1,2-Dichloroethane-d4 (S)	105	%.	75-128	1		05/26/20 12:30	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1		05/22/20 13:59	2037-26-5	
Toluene-d8 (S)	99	%.	75-125	1		05/26/20 12:30	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125	1		05/22/20 13:59	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**273**	mg/L	5.0	1		05/27/20 15:23		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**676**	mg/L	10.0	1		05/28/20 13:40		H5
2540D Total Suspended Solids	Analytical Method: SM 2540D							
	Pace Analytical Services - Minneapolis							
Total Suspended Solids	**10.0**	mg/L	10.0	1		05/21/20 11:28		D6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.5**	Std. Units	0.10	1		05/29/20 19:03		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**936**	umhos/cm	1.0	1		06/01/20 19:51		
300.0 IC Anions	Analytical Method: EPA 300.0							
	Pace Analytical Services - Minneapolis							
Chloride	**29.4**	mg/L	1.2	1		05/30/20 00:44	16887-00-6	M1
Sulfate	**163**	mg/L	12.0	10		05/30/20 09:46	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1							
	Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/26/20 14:23	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: Deutcher **Lab ID: 10518134001** Collected: 05/14/20 11:33 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/30/20 11:27		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: Benesch **Lab ID: 10518134002** Collected: 05/14/20 12:20 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Lab Filtered	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**1.2**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:23	7440-38-2	
Barium, Dissolved	**328**	ug/L	0.30	1	05/28/20 12:54	06/04/20 00:23	7440-39-3	
Boron, Dissolved	**116**	ug/L	10.0	1	05/28/20 12:54	06/04/20 00:23	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/28/20 12:54	06/04/20 00:23	7440-43-9	
Calcium, Dissolved	**51500**	ug/L	400	10	05/28/20 12:54	06/04/20 00:27	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:23	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/28/20 12:54	06/04/20 00:23	7440-50-8	
Iron, Dissolved	**<50.0**	ug/L	50.0	1	05/28/20 12:54	06/04/20 00:23	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/28/20 12:54	06/04/20 00:23	7439-92-1	
Magnesium, Dissolved	**20900**	ug/L	10.0	1	05/28/20 12:54	06/04/20 00:23	7439-95-4	
Manganese, Dissolved	**39.5**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:23	7439-96-5	
Nickel, Dissolved	**<0.50**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:23	7440-02-0	
Potassium, Dissolved	**3760**	ug/L	100	1	05/28/20 12:54	06/04/20 00:23	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:23	7782-49-2	
Sodium, Dissolved	**12800**	ug/L	50.0	1	05/28/20 12:54	06/04/20 00:23	7440-23-5	
Zinc, Dissolved	**32.8**	ug/L	5.0	1	05/28/20 12:54	06/04/20 00:23	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E							
	Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**-2.51**	%		1		06/05/20 16:15		
Total Cations	**5.0**	meq/L		1		06/05/20 16:15		N2
Total Anions	**5.2**	meq/L		1		06/05/20 16:15		N2
245.1 Mercury, Lab Filtered	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
	Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/28/20 17:11	05/29/20 11:51	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/22/20 19:10	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/22/20 19:10	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/22/20 19:10	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/22/20 19:10	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/22/20 19:10	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/22/20 19:10	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/22/20 19:10	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/22/20 19:10	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/26/20 16:24	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/22/20 19:10	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/22/20 19:10	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: Benesch **Lab ID: 10518134002** Collected: 05/14/20 12:20 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/22/20 19:10	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/26/20 16:24	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/26/20 16:24	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/26/20 16:24	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/22/20 19:10	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 19:10	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 19:10	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/26/20 16:24	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 19:10	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 19:10	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 19:10	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/22/20 19:10	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 16:24	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 16:24	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/22/20 19:10	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/26/20 16:24	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/22/20 19:10	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/22/20 19:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/22/20 19:10	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/22/20 19:10	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/22/20 19:10	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 19:10	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 19:10	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/22/20 19:10	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 19:10	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 19:10	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/26/20 16:24	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/22/20 19:10	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/26/20 16:24	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: Benesch **Lab ID: 10518134002** Collected: 05/14/20 12:20 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/22/20 19:10	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/22/20 19:10	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/26/20 16:24	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/22/20 19:10	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/22/20 19:10	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/22/20 19:10	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%.	75-128	1		05/22/20 19:10	17060-07-0	
1,2-Dichloroethane-d4 (S)	105	%.	75-128	1		05/26/20 16:24	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1		05/26/20 16:24	2037-26-5	
Toluene-d8 (S)	100	%.	75-125	1		05/22/20 19:10	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125	1		05/22/20 19:10	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**262**	mg/L	5.0	1		05/27/20 16:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**285**	mg/L	10.0	1		05/28/20 13:40		H5
2540D Total Suspended Solids	Analytical Method: SM 2540D							
	Pace Analytical Services - Minneapolis							
Total Suspended Solids	**<10.0**	mg/L	10.0	1		05/21/20 11:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**8.2**	Std. Units	0.10	1		05/29/20 19:20		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**501**	umhos/cm	1.0	1		06/01/20 19:53		
300.0 IC Anions	Analytical Method: EPA 300.0							
	Pace Analytical Services - Minneapolis							
Chloride	**<1.2**	mg/L	1.2	1		05/30/20 02:27	16887-00-6	M1
Sulfate	**<1.2**	mg/L	1.2	1		05/30/20 02:27	14808-79-8	M1
350.1 Ammonia	Analytical Method: EPA 350.1							
	Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**0.76**	mg/L	0.10	1		05/26/20 14:27	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: Benesch **Lab ID: 10518134002** Collected: 05/14/20 12:20 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/22/20 17:05		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: J. Ekre **Lab ID: 10518134003** Collected: 05/14/20 13:02 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Lab Filtered	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**1.8**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:30	7440-38-2	
Barium, Dissolved	**0.79**	ug/L	0.30	1	05/28/20 12:54	06/04/20 00:30	7440-39-3	
Boron, Dissolved	**23.7**	ug/L	10.0	1	05/28/20 12:54	06/04/20 00:30	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/28/20 12:54	06/04/20 00:30	7440-43-9	
Calcium, Dissolved	**298**	ug/L	40.0	1	05/28/20 12:54	06/04/20 00:30	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:30	7440-47-3	
Copper, Dissolved	**1.6**	ug/L	1.0	1	05/28/20 12:54	06/04/20 00:30	7440-50-8	
Iron, Dissolved	**<50.0**	ug/L	50.0	1	05/28/20 12:54	06/04/20 00:30	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/28/20 12:54	06/04/20 00:30	7439-92-1	
Magnesium, Dissolved	**118**	ug/L	10.0	1	05/28/20 12:54	06/04/20 00:30	7439-95-4	
Manganese, Dissolved	**0.99**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:30	7439-96-5	
Nickel, Dissolved	**<0.50**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:30	7440-02-0	
Potassium, Dissolved	**180**	ug/L	100	1	05/28/20 12:54	06/04/20 00:30	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:30	7782-49-2	
Sodium, Dissolved	**130000**	ug/L	500	10	05/28/20 12:54	06/04/20 00:33	7440-23-5	
Zinc, Dissolved	**<5.0**	ug/L	5.0	1	05/28/20 12:54	06/04/20 00:30	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E							
	Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**.35**	%		1		06/05/20 16:15		
Total Cations	**5.7**	meq/L		1		06/05/20 16:15		N2
Total Anions	**5.7**	meq/L		1		06/05/20 16:15		N2
245.1 Mercury, Lab Filtered	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
	Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/28/20 17:11	05/29/20 11:54	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/22/20 19:36	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/22/20 19:36	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/22/20 19:36	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/22/20 19:36	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/22/20 19:36	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/22/20 19:36	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/22/20 19:36	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/22/20 19:36	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/26/20 16:51	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/22/20 19:36	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/22/20 19:36	67-66-3	

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1700 Elm Street - Suite 200
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(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: J. Ekre **Lab ID: 10518134003** Collected: 05/14/20 13:02 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/22/20 19:36	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/26/20 16:51	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/26/20 16:51	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/26/20 16:51	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/22/20 19:36	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 19:36	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 19:36	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/26/20 16:51	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 19:36	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 19:36	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 19:36	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/22/20 19:36	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 16:51	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 16:51	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/22/20 19:36	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/26/20 16:51	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/22/20 19:36	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/22/20 19:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/22/20 19:36	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/22/20 19:36	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/22/20 19:36	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 19:36	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 19:36	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/22/20 19:36	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 19:36	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 19:36	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/26/20 16:51	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/22/20 19:36	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/26/20 16:51	96-18-4	

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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: J. Ekre **Lab ID: 10518134003** Collected: 05/14/20 13:02 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/22/20 19:36	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/22/20 19:36	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/26/20 16:51	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/22/20 19:36	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/22/20 19:36	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/22/20 19:36	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	75-128	1		05/26/20 16:51	17060-07-0	
1,2-Dichloroethane-d4 (S)	104	%.	75-128	1		05/22/20 19:36	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1		05/26/20 16:51	2037-26-5	
Toluene-d8 (S)	99	%.	75-125	1		05/22/20 19:36	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125	1		05/22/20 19:36	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**232**	mg/L	5.0	1		05/27/20 16:42		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**365**	mg/L	10.0	1		05/28/20 13:40		H5
2540D Total Suspended Solids	Analytical Method: SM 2540D							
	Pace Analytical Services - Minneapolis							
Total Suspended Solids	**<10.0**	mg/L	10.0	1		05/21/20 11:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**8.0**	Std. Units	0.10	1		05/29/20 19:22		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**581**	umhos/cm	1.0	1		06/01/20 19:54		
300.0 IC Anions	Analytical Method: EPA 300.0							
	Pace Analytical Services - Minneapolis							
Chloride	**1.5**	mg/L	1.2	1		05/30/20 03:31	16887-00-6	
Sulfate	**47.2**	mg/L	1.2	1		05/30/20 03:31	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1							
	Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**<0.10**	mg/L	0.10	1		05/26/20 14:28	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: J. Ekre **Lab ID: 10518134003** Collected: 05/14/20 13:02 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/22/20 17:06		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: Dup-3 **Lab ID: 10518134004** Collected: 05/14/20 00:00 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Lab Filtered	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
	Pace Analytical Services - Minneapolis							
Arsenic, Dissolved	**1.3**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:36	7440-38-2	
Barium, Dissolved	**340**	ug/L	0.30	1	05/28/20 12:54	06/04/20 00:36	7440-39-3	
Boron, Dissolved	**123**	ug/L	10.0	1	05/28/20 12:54	06/04/20 00:36	7440-42-8	
Cadmium, Dissolved	**<0.080**	ug/L	0.080	1	05/28/20 12:54	06/04/20 00:36	7440-43-9	
Calcium, Dissolved	**54400**	ug/L	400	10	05/28/20 12:54	06/04/20 00:39	7440-70-2	
Chromium, Dissolved	**<0.50**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:36	7440-47-3	
Copper, Dissolved	**<1.0**	ug/L	1.0	1	05/28/20 12:54	06/04/20 00:36	7440-50-8	
Iron, Dissolved	**<50.0**	ug/L	50.0	1	05/28/20 12:54	06/04/20 00:36	7439-89-6	
Lead, Dissolved	**<0.10**	ug/L	0.10	1	05/28/20 12:54	06/04/20 00:36	7439-92-1	
Magnesium, Dissolved	**21400**	ug/L	10.0	1	05/28/20 12:54	06/04/20 00:36	7439-95-4	
Manganese, Dissolved	**40.2**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:36	7439-96-5	
Nickel, Dissolved	**<0.50**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:36	7440-02-0	
Potassium, Dissolved	**3890**	ug/L	100	1	05/28/20 12:54	06/04/20 00:36	7440-09-7	
Selenium, Dissolved	**<0.50**	ug/L	0.50	1	05/28/20 12:54	06/04/20 00:36	7782-49-2	
Sodium, Dissolved	**13100**	ug/L	50.0	1	05/28/20 12:54	06/04/20 00:36	7440-23-5	
Zinc, Dissolved	**17.0**	ug/L	5.0	1	05/28/20 12:54	06/04/20 00:36	7440-66-6	
Cation/Anion Balance	Analytical Method: SM 1030E							
	Pace Analytical Services - Minneapolis							
Cation/Anion Balance	**-.65**	%		1		06/05/20 16:15		
Total Cations	**5.2**	meq/L		1		06/05/20 16:15		N2
Total Anions	**5.3**	meq/L		1		06/05/20 16:15		N2
245.1 Mercury, Lab Filtered	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
	Pace Analytical Services - Minneapolis							
Mercury, Dissolved	**<0.20**	ug/L	0.20	1	05/28/20 17:11	05/29/20 11:56	7439-97-6	
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		05/22/20 20:02	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		05/22/20 20:02	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		05/22/20 20:02	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		05/22/20 20:02	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		05/22/20 20:02	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		05/22/20 20:02	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		05/22/20 20:02	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		05/22/20 20:02	78-93-3	
n-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		05/26/20 17:17	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/22/20 20:02	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		05/22/20 20:02	67-66-3	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: Dup-3 **Lab ID: 10518134004** Collected: 05/14/20 00:00 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B Pace Analytical Services - Minneapolis							
Chloromethane	**<1.0**	ug/L	1.0	1		05/22/20 20:02	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		05/26/20 17:17	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		05/26/20 17:17	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		05/26/20 17:17	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		05/22/20 20:02	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 20:02	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 20:02	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		05/26/20 17:17	107-06-2	
1,1-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		05/22/20 20:02	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 20:02	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		05/22/20 20:02	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		05/22/20 20:02	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 17:17	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		05/26/20 17:17	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		05/22/20 20:02	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		05/26/20 17:17	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		05/22/20 20:02	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		05/22/20 20:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		05/22/20 20:02	108-10-1	
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		05/22/20 20:02	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		05/22/20 20:02	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 20:02	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		05/22/20 20:02	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		05/22/20 20:02	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	120-82-1	
1,1,1-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 20:02	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		05/22/20 20:02	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		05/26/20 17:17	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		05/22/20 20:02	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		05/26/20 17:17	96-18-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: Dup-3 **Lab ID: 10518134004** Collected: 05/14/20 00:00 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV LLW by SIMSCAN	Analytical Method: EPA 8260B							
	Pace Analytical Services - Minneapolis							
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		05/22/20 20:02	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		05/22/20 20:02	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		05/26/20 17:17	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		05/22/20 20:02	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		05/22/20 20:02	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		05/22/20 20:02	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	75-128	1		05/26/20 17:17	17060-07-0	
1,2-Dichloroethane-d4 (S)	108	%.	75-128	1		05/22/20 20:02	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1		05/26/20 17:17	2037-26-5	
Toluene-d8 (S)	100	%.	75-125	1		05/22/20 20:02	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125	1		05/22/20 20:02	460-00-4	
2320B Alkalinity	Analytical Method: SM 2320B							
	Pace Analytical Services - Minneapolis							
Alkalinity, Total as CaCO3	**263**	mg/L	5.0	1		05/27/20 16:48		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
	Pace Analytical Services - Minneapolis							
Total Dissolved Solids	**284**	mg/L	10.0	1		05/28/20 13:40		H5
2540D Total Suspended Solids	Analytical Method: SM 2540D							
	Pace Analytical Services - Minneapolis							
Total Suspended Solids	**<10.0**	mg/L	10.0	1		05/21/20 11:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.9**	Std. Units	0.10	1		05/29/20 19:26		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**494**	umhos/cm	1.0	1		06/01/20 19:54		
300.0 IC Anions	Analytical Method: EPA 300.0							
	Pace Analytical Services - Minneapolis							
Chloride	**<1.2**	mg/L	1.2	1		05/30/20 04:02	16887-00-6	
Sulfate	**<1.2**	mg/L	1.2	1		05/30/20 04:02	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1							
	Pace Analytical Services - Minneapolis							
Nitrogen, Ammonia	**0.76**	mg/L	0.10	1		05/26/20 14:30	7664-41-7	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Sample: Dup-3 **Lab ID: 10518134004** Collected: 05/14/20 00:00 Received: 05/15/20 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrate + Nitrite	Analytical Method: EPA 353.2 Pace Analytical Services - Minneapolis							
Nitrogen, NO2 plus NO3	**<0.10**	mg/L	0.10	1		05/30/20 11:31		

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

QC Batch: 677743 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury - Dissolved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

METHOD BLANK: 3627474 Matrix: Water
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.20	0.20	05/29/20 11:40	

LABORATORY CONTROL SAMPLE: 3627475

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	110	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627476 3627477

Parameter	Units	10518134001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	<0.20	5	5	4.8	4.6	96	91	70-130	6	20	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

QC Batch: 677739
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

METHOD BLANK: 3627458 Matrix: Water
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<0.50	0.50	06/03/20 23:46	
Barium, Dissolved	ug/L	<0.30	0.30	06/03/20 23:46	
Boron, Dissolved	ug/L	<10.0	10.0	06/03/20 23:46	
Cadmium, Dissolved	ug/L	<0.080	0.080	06/03/20 23:46	
Calcium, Dissolved	ug/L	<40.0	40.0	06/03/20 23:46	
Chromium, Dissolved	ug/L	<0.50	0.50	06/03/20 23:46	
Copper, Dissolved	ug/L	<1.0	1.0	06/03/20 23:46	
Iron, Dissolved	ug/L	<50.0	50.0	06/03/20 23:46	
Lead, Dissolved	ug/L	<0.10	0.10	06/03/20 23:46	
Magnesium, Dissolved	ug/L	<10.0	10.0	06/03/20 23:46	
Manganese, Dissolved	ug/L	<0.50	0.50	06/03/20 23:46	
Nickel, Dissolved	ug/L	<0.50	0.50	06/03/20 23:46	
Potassium, Dissolved	ug/L	<100	100	06/03/20 23:46	
Selenium, Dissolved	ug/L	<0.50	0.50	06/03/20 23:46	
Sodium, Dissolved	ug/L	<50.0	50.0	06/03/20 23:46	
Zinc, Dissolved	ug/L	<5.0	5.0	06/03/20 23:46	

LABORATORY CONTROL SAMPLE: 3627459

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	95.8	96	85-115	
Barium, Dissolved	ug/L	100	101	101	85-115	
Boron, Dissolved	ug/L	100	100	100	85-115	
Cadmium, Dissolved	ug/L	100	98.7	99	85-115	
Calcium, Dissolved	ug/L	2000	1950	97	85-115	
Chromium, Dissolved	ug/L	100	107	107	85-115	
Copper, Dissolved	ug/L	100	108	108	85-115	
Iron, Dissolved	ug/L	2000	2040	102	85-115	
Lead, Dissolved	ug/L	100	103	103	85-115	
Magnesium, Dissolved	ug/L	2000	2050	102	85-115	
Manganese, Dissolved	ug/L	100	100	100	85-115	
Nickel, Dissolved	ug/L	100	104	104	85-115	
Potassium, Dissolved	ug/L	2000	1950	98	85-115	
Selenium, Dissolved	ug/L	100	96.0	96	85-115	
Sodium, Dissolved	ug/L	2000	2020	101	85-115	
Zinc, Dissolved	ug/L	100	102	102	85-115	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627460 3627461

Parameter	Units	10518134001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	1.2	100	100	97.5	101	96	100	70-130	3	20	
Barium, Dissolved	ug/L	109	100	100	204	211	95	102	70-130	3	20	
Boron, Dissolved	ug/L	29.3	100	100	129	134	100	104	70-130	3	20	
Cadmium, Dissolved	ug/L	<0.080	100	100	95.9	100	96	100	70-130	5	20	
Calcium, Dissolved	ug/L	132000	2000	2000	135000	138000	146	300	70-130	2	20	E,P6
Chromium, Dissolved	ug/L	0.78	100	100	105	110	104	109	70-130	4	20	
Copper, Dissolved	ug/L	5.1	100	100	105	110	100	105	70-130	4	20	
Iron, Dissolved	ug/L	<50.0	2000	2000	2040	2120	101	105	70-130	4	20	
Lead, Dissolved	ug/L	<0.10	100	100	100	104	100	104	70-130	4	20	
Magnesium, Dissolved	ug/L	77000	2000	2000	78600	81000	80	201	70-130	3	20	E,P6
Manganese, Dissolved	ug/L	430	100	100	521	540	90	110	70-130	4	20	
Nickel, Dissolved	ug/L	1.1	100	100	97.2	100	96	99	70-130	3	20	
Potassium, Dissolved	ug/L	3890	2000	2000	6010	6100	106	110	70-130	1	20	
Selenium, Dissolved	ug/L	<0.50	100	100	102	104	102	104	70-130	2	20	
Sodium, Dissolved	ug/L	10400	2000	2000	12300	12600	91	107	70-130	3	20	
Zinc, Dissolved	ug/L	259	100	100	339	347	80	88	70-130	2	20	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

QC Batch: 677028 | Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B | Analysis Description: 8260B MSV LLW by SIMSCAN
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

METHOD BLANK: 3624021 Matrix: Water
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.40	0.40	05/22/20 12:48	
1,1,1-Trichloroethane	ug/L	<0.40	0.40	05/22/20 12:48	
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	05/22/20 12:48	
1,1,2-Trichloroethane	ug/L	<0.40	0.40	05/22/20 12:48	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	1.0	05/22/20 12:48	
1,1-Dichloroethane	ug/L	<0.40	0.40	05/22/20 12:48	
1,1-Dichloroethene	ug/L	<0.40	0.40	05/22/20 12:48	
1,1-Dichloropropene	ug/L	<0.40	0.40	05/22/20 12:48	
1,2,3-Trichlorobenzene	ug/L	<0.40	0.40	05/22/20 12:48	
1,2,3-Trichloropropane	ug/L	<0.010	0.010	05/26/20 11:12	
1,2,4-Trichlorobenzene	ug/L	<0.40	0.40	05/22/20 12:48	
1,2,4-Trimethylbenzene	ug/L	<1.0	1.0	05/22/20 12:48	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	0.12	05/26/20 11:12	
1,2-Dibromoethane (EDB)	ug/L	<0.050	0.050	05/26/20 11:12	
1,2-Dichlorobenzene	ug/L	<0.40	0.40	05/22/20 12:48	
1,2-Dichloroethane	ug/L	<0.20	0.20	05/26/20 11:12	
1,2-Dichloropropane	ug/L	<0.40	0.40	05/22/20 12:48	
1,3,5-Trimethylbenzene	ug/L	<0.40	0.40	05/22/20 12:48	
1,3-Dichlorobenzene	ug/L	<0.40	0.40	05/22/20 12:48	
1,3-Dichloropropane	ug/L	<0.40	0.40	05/22/20 12:48	
1,4-Dichlorobenzene	ug/L	<0.40	0.40	05/22/20 12:48	
2,2-Dichloropropane	ug/L	<1.0	1.0	05/22/20 12:48	
2-Butanone (MEK)	ug/L	<5.0	5.0	05/22/20 12:48	
2-Chlorotoluene	ug/L	<0.40	0.40	05/22/20 12:48	
4-Chlorotoluene	ug/L	<0.40	0.40	05/22/20 12:48	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	05/22/20 12:48	
Acetone	ug/L	<20.0	20.0	05/22/20 12:48	
Allyl chloride	ug/L	<4.0	4.0	05/22/20 12:48	
Benzene	ug/L	<0.20	0.20	05/22/20 12:48	
Bromobenzene	ug/L	<0.40	0.40	05/22/20 12:48	
Bromochloromethane	ug/L	<1.0	1.0	05/22/20 12:48	
Bromodichloromethane	ug/L	<0.40	0.40	05/22/20 12:48	
Bromoform	ug/L	<1.0	1.0	05/22/20 12:48	
Bromomethane	ug/L	<1.0	1.0	05/22/20 12:48	
Carbon tetrachloride	ug/L	<0.050	0.050	05/26/20 11:12	
Chlorobenzene	ug/L	<0.40	0.40	05/22/20 12:48	
Chloroethane	ug/L	<1.0	1.0	05/22/20 12:48	
Chloroform	ug/L	<1.0	1.0	05/22/20 12:48	
Chloromethane	ug/L	<1.0	1.0	05/22/20 12:48	
cis-1,2-Dichloroethene	ug/L	<0.40	0.40	05/22/20 12:48	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

METHOD BLANK: 3624021 Matrix: Water
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	ug/L	<0.40	0.40	05/26/20 11:12	
Dibromochloromethane	ug/L	<0.40	0.40	05/26/20 11:12	
Dibromomethane	ug/L	<1.0	1.0	05/22/20 12:48	
Dichlorodifluoromethane	ug/L	<1.0	1.0	05/22/20 12:48	
Dichlorofluoromethane	ug/L	<1.0	1.0	05/22/20 12:48	
Diethyl ether (Ethyl ether)	ug/L	<4.0	4.0	05/22/20 12:48	
Ethylbenzene	ug/L	<0.40	0.40	05/22/20 12:48	
Hexachloro-1,3-butadiene	ug/L	<0.10	0.10	05/26/20 11:12	
Isopropylbenzene (Cumene)	ug/L	<0.40	0.40	05/22/20 12:48	
m&p-Xylene	ug/L	<0.80	0.80	05/22/20 12:48	
Methyl-tert-butyl ether	ug/L	<0.40	0.40	05/22/20 12:48	
Methylene Chloride	ug/L	<1.0	1.0	05/22/20 12:48	
n-Butylbenzene	ug/L	<0.40	0.40	05/22/20 12:48	
n-Propylbenzene	ug/L	<0.40	0.40	05/22/20 12:48	
Naphthalene	ug/L	<1.0	1.0	05/22/20 12:48	
o-Xylene	ug/L	<0.40	0.40	05/22/20 12:48	
p-Isopropyltoluene	ug/L	<0.40	0.40	05/22/20 12:48	
sec-Butylbenzene	ug/L	<0.40	0.40	05/22/20 12:48	
Styrene	ug/L	<0.40	0.40	05/22/20 12:48	
tert-Butylbenzene	ug/L	<0.40	0.40	05/22/20 12:48	
Tetrachloroethene	ug/L	<0.40	0.40	05/22/20 12:48	
Tetrahydrofuran	ug/L	<10.0	10.0	05/22/20 12:48	
Toluene	ug/L	<0.40	0.40	05/22/20 12:48	
trans-1,2-Dichloroethene	ug/L	<0.40	0.40	05/22/20 12:48	
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	05/26/20 11:12	
Trichloroethene	ug/L	<0.050	0.050	05/26/20 11:12	
Trichlorofluoromethane	ug/L	<0.40	0.40	05/22/20 12:48	
Vinyl chloride	ug/L	<0.050	0.050	05/26/20 11:12	
Xylene (Total)	ug/L	<1.2	1.2	05/22/20 12:48	
1,2-Dichloroethane-d4 (S)	%.	104	75-128	05/22/20 12:48	
1,2-Dichloroethane-d4 (S)	%.	104	75-128	05/26/20 11:12	
4-Bromofluorobenzene (S)	%.	99	75-125	05/22/20 12:48	
Toluene-d8 (S)	%.	100	75-125	05/22/20 12:48	
Toluene-d8 (S)	%.	100	75-125	05/26/20 11:12	

LABORATORY CONTROL SAMPLE: 3624022

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	10	10.6	106	75-125	
1,1,1-Trichloroethane	ug/L	10	9.9	99	68-131	
1,1,2,2-Tetrachloroethane	ug/L	10	8.9	89	71-125	
1,1,2-Trichloroethane	ug/L	10	10	100	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	10	10	100	71-125	
1,1-Dichloroethane	ug/L	10	8.4	84	71-125	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

LABORATORY CONTROL SAMPLE: 3624022

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	10	9.2	92	66-126	
1,1-Dichloropropene	ug/L	10	8.7	87	58-134	
1,2,3-Trichlorobenzene	ug/L	10	9.8	98	71-125	
1,2,3-Trichloropropane	ug/L	1	1.1	110	75-125	
1,2,4-Trichlorobenzene	ug/L	10	9.5	95	72-125	
1,2,4-Trimethylbenzene	ug/L	10	10.3	103	75-125	
1,2-Dibromo-3-chloropropane	ug/L	2.5	2.7	107	71-125	
1,2-Dibromoethane (EDB)	ug/L	1	1.1	110	71-125	
1,2-Dichlorobenzene	ug/L	10	10.1	101	75-125	
1,2-Dichloroethane	ug/L	1	1.1	115	75-131	
1,2-Dichloropropane	ug/L	10	9.1	91	73-125	
1,3,5-Trimethylbenzene	ug/L	10	10.2	102	75-125	
1,3-Dichlorobenzene	ug/L	10	10.4	104	75-125	
1,3-Dichloropropane	ug/L	10	9.0	90	75-125	
1,4-Dichlorobenzene	ug/L	10	9.2	92	75-125	
2,2-Dichloropropane	ug/L	10	10.3	103	57-144	
2-Butanone (MEK)	ug/L	50	40.9	82	51-144	
2-Chlorotoluene	ug/L	10	10.1	101	75-125	
4-Chlorotoluene	ug/L	10	10.3	103	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	50	44.6	89	72-125	
Acetone	ug/L	50	37.4	75	34-150	
Allyl chloride	ug/L	10	8.0	80	58-132	
Benzene	ug/L	10	8.7	87	70-125	
Bromobenzene	ug/L	10	8.8	88	75-125	
Bromochloromethane	ug/L	10	10.1	101	72-126	
Bromodichloromethane	ug/L	10	9.6	96	73-128	
Bromoform	ug/L	10	10	100	70-125	
Bromomethane	ug/L	10	8.9	89	31-150	SS
Carbon tetrachloride	ug/L	1	1.2	122	68-136	CH
Chlorobenzene	ug/L	10	9.9	99	75-125	
Chloroethane	ug/L	10	8.5	85	70-128	
Chloroform	ug/L	10	9.7	97	72-125	
Chloromethane	ug/L	10	8.2	82	63-129	
cis-1,2-Dichloroethene	ug/L	10	9.0	90	69-128	
cis-1,3-Dichloropropene	ug/L	1	1.1	111	71-125	
Dibromochloromethane	ug/L	1	1.1	108	71-125	
Dibromomethane	ug/L	10	9.7	97	74-130	
Dichlorodifluoromethane	ug/L	10	8.8	88	65-134	
Dichlorofluoromethane	ug/L	10	9.2	92	74-125	
Diethyl ether (Ethyl ether)	ug/L	10	8.1	81	64-126	
Ethylbenzene	ug/L	10	9.6	96	75-125	
Hexachloro-1,3-butadiene	ug/L	1	1.1	113	65-133	
Isopropylbenzene (Cumene)	ug/L	10	11.3	113	75-125	
m&p-Xylene	ug/L	20	19.7	99	75-125	
Methyl-tert-butyl ether	ug/L	10	8.7	87	68-125	
Methylene Chloride	ug/L	10	9.4	94	69-125	
n-Butylbenzene	ug/L	10	9.9	99	75-125	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

LABORATORY CONTROL SAMPLE: 3624022

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
n-Propylbenzene	ug/L	10	9.6	96	74-125	
Naphthalene	ug/L	10	9.4	94	66-125	
o-Xylene	ug/L	10	9.2	92	75-125	
p-Isopropyltoluene	ug/L	10	10.7	107	75-125	
sec-Butylbenzene	ug/L	10	10.5	105	75-125	
Styrene	ug/L	10	10.0	100	75-125	
tert-Butylbenzene	ug/L	10	9.9	99	75-125	
Tetrachloroethene	ug/L	10	9.7	97	75-125	
Tetrahydrofuran	ug/L	100	85.7	86	55-139	
Toluene	ug/L	10	8.7	87	75-125	
trans-1,2-Dichloroethene	ug/L	10	8.8	88	67-127	
trans-1,3-Dichloropropene	ug/L	1	1.1	109	70-125	
Trichloroethene	ug/L	1	1.1	110	69-125	
Trichlorofluoromethane	ug/L	10	10.3	103	70-131	
Vinyl chloride	ug/L	1	0.95	95	68-132	
Xylene (Total)	ug/L	30	28.9	96	75-125	
1,2-Dichloroethane-d4 (S)	%.			100	75-128	
1,2-Dichloroethane-d4 (S)	%.			98	75-128	
4-Bromofluorobenzene (S)	%.			97	75-125	
Toluene-d8 (S)	%.			97	75-125	
Toluene-d8 (S)	%.			98	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3624023 3624024

Parameter	Units	10518134001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	<0.40	10	10	12.0	12.3	120	123	75-125	3	30	
1,1,1-Trichloroethane	ug/L	<0.40	10	10	11.9	11.7	119	117	65-148	2	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.40	10	10	9.7	10	97	100	72-125	3	30	
1,1,2-Trichloroethane	ug/L	<0.40	10	10	11.0	11.0	110	110	75-125	1	30	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	10	10	11.9	12.2	119	122	75-145	2	30	
1,1-Dichloroethane	ug/L	<0.40	10	10	10.2	10.4	102	104	73-136	2	30	
1,1-Dichloroethene	ug/L	<0.40	10	10	11.0	11.3	110	113	69-138	3	30	
1,1-Dichloropropene	ug/L	<0.40	10	10	11.5	11.3	115	113	60-150	2	30	
1,2,3-Trichlorobenzene	ug/L	<0.40	10	10	10.4	10.6	104	106	67-135	2	30	
1,2,3-Trichloropropane	ug/L	<0.010	1	1	1.2	1.1	117	109	49-150	7	30	
1,2,4-Trichlorobenzene	ug/L	<0.40	10	10	10.4	10.6	104	106	68-133	2	30	
1,2,4-Trimethylbenzene	ug/L	<1.0	10	10	11.4	11.5	114	115	75-135	1	30	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	2.5	2.5	2.8	2.6	113	105	53-150	7	30	
1,2-Dibromoethane (EDB)	ug/L	<0.050	1	1	1.2	1.1	119	111	49-150	7	30	
1,2-Dichlorobenzene	ug/L	<0.40	10	10	10.9	10.9	109	109	75-125	1	30	
1,2-Dichloroethane	ug/L	<0.20	1	1	1.3	1.2	126	118	42-150	7	30	
1,2-Dichloropropane	ug/L	<0.40	10	10	10.1	10.2	101	102	71-125	0	30	
1,3,5-Trimethylbenzene	ug/L	<0.40	10	10	11.4	11.1	114	111	75-129	3	30	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3624023 3624024

Parameter	Units	10518134001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,3-Dichlorobenzene	ug/L	<0.40	10	10	11.2	11.3	112	113	75-125	1	30	
1,3-Dichloropropane	ug/L	<0.40	10	10	10.2	10.3	102	103	75-125	1	30	
1,4-Dichlorobenzene	ug/L	<0.40	10	10	10.8	10.9	108	109	75-125	1	30	
2,2-Dichloropropane	ug/L	<1.0	10	10	11.7	11.7	117	117	67-150	0	30	
2-Butanone (MEK)	ug/L	<5.0	50	50	44.4	46.9	89	94	49-138	5	30	
2-Chlorotoluene	ug/L	<0.40	10	10	11.4	11.4	114	114	75-130	0	30	
4-Chlorotoluene	ug/L	<0.40	10	10	11.9	12.0	119	120	75-133	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	50	50	50.1	51.7	100	103	75-126	3	30	
Acetone	ug/L	<20.0	50	50	40.9	42.5	82	85	51-125	4	30	
Allyl chloride	ug/L	<4.0	10	10	9.4	10.1	94	101	50-150	7	30	
Benzene	ug/L	<0.20	10	10	10.4	10.4	104	104	68-129	0	30	
Bromobenzene	ug/L	<0.40	10	10	10.1	10.3	101	103	75-125	3	30	
Bromochloromethane	ug/L	<1.0	10	10	11.2	11.2	112	112	73-132	1	30	
Bromodichloromethane	ug/L	<0.40	10	10	10.9	10.6	109	106	75-127	3	30	
Bromoform	ug/L	<1.0	10	10	10.2	10.4	102	104	71-125	2	30	
Bromomethane	ug/L	<1.0	10	10	10.9	11.2	109	112	30-150	3	30	SS
Carbon tetrachloride	ug/L	<0.050	1	1	1.5	1.3	145	135	30-150	8	30	CH
Chlorobenzene	ug/L	<0.40	10	10	11.0	11.1	110	111	75-125	1	30	
Chloroethane	ug/L	<1.0	10	10	9.8	9.6	98	96	68-141	2	30	
Chloroform	ug/L	<1.0	10	10	11.1	11.1	111	111	61-129	0	30	
Chloromethane	ug/L	<1.0	10	10	9.5	9.7	95	97	46-150	3	30	
cis-1,2-Dichloroethene	ug/L	<0.40	10	10	10.6	10.8	106	108	68-142	2	30	
cis-1,3-Dichloropropene	ug/L	<0.40	1	1	1.2	1.1	115	106	48-150	8	30	
Dibromochloromethane	ug/L	<0.40	1	1	1.2	1.1	115	107	50-150	8	30	
Dibromomethane	ug/L	<1.0	10	10	11.2	10.4	112	104	69-137	7	30	
Dichlorodifluoromethane	ug/L	<1.0	10	10	11.2	10.7	112	107	68-150	4	30	
Dichlorofluoromethane	ug/L	<1.0	10	10	10.1	10.1	101	101	73-135	0	30	
Diethyl ether (Ethyl ether)	ug/L	<4.0	10	10	9.2	10.0	92	100	61-128	8	30	
Ethylbenzene	ug/L	<0.40	10	10	11.3	11.3	113	113	75-131	0	30	
Hexachloro-1,3-butadiene	ug/L	<0.10	1	1	1.2	1.2	124	116	40-150	6	30	
Isopropylbenzene (Cumene)	ug/L	<0.40	10	10	13.6	13.7	136	137	75-133	1	30	M1
m&p-Xylene	ug/L	<0.80	20	20	23.7	23.7	118	119	75-135	0	30	
Methyl-tert-butyl ether	ug/L	<0.40	10	10	9.9	10.5	99	105	67-126	6	30	
Methylene Chloride	ug/L	<1.0	10	10	10.3	10.4	103	104	61-137	1	30	
n-Butylbenzene	ug/L	<0.40	10	10	11.7	11.9	117	119	75-136	2	30	
n-Propylbenzene	ug/L	<0.40	10	10	11.3	11.3	113	113	75-139	0	30	
Naphthalene	ug/L	<1.0	10	10	10.4	10.7	104	107	64-127	3	30	
o-Xylene	ug/L	<0.40	10	10	11.1	11.3	111	113	75-127	1	30	
p-Isopropyltoluene	ug/L	<0.40	10	10	12.3	12.2	123	122	75-135	1	30	
sec-Butylbenzene	ug/L	<0.40	10	10	12.3	12.4	123	124	75-141	1	30	
Styrene	ug/L	<0.40	10	10	10.9	10.8	109	108	75-125	1	30	
tert-Butylbenzene	ug/L	<0.40	10	10	11.7	11.9	117	119	75-141	2	30	
Tetrachloroethene	ug/L	<0.40	10	10	11.4	11.3	114	113	75-135	1	30	
Tetrahydrofuran	ug/L	<10.0	100	100	94.9	100	95	100	45-145	5	30	

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3624023 3624024

Parameter	Units	10518134001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene	ug/L	<0.40	10	10	10.0	10.1	100	101	74-125	1	30	
trans-1,2-Dichloroethene	ug/L	<0.40	10	10	10.8	11.3	108	113	68-137	5	30	
trans-1,3-Dichloropropene	ug/L	<0.40	1	1	1.2	1.1	115	106	50-150	9	30	
Trichloroethene	ug/L	<0.050	1	1	1.2	1.1	124	115	41-150	8	30	
Trichlorofluoromethane	ug/L	<0.40	10	10	11.6	10.9	116	109	72-150	6	30	
Vinyl chloride	ug/L	<0.050	1	1	1.2	1.1	118	115	30-150	3	30	
Xylene (Total)	ug/L	<1.2	30	30	34.8	35.0	116	117	75-131	1	30	
1,2-Dichloroethane-d4 (S)	%.						97	94	75-128			
1,2-Dichloroethane-d4 (S)	%.						102	94	75-128			
1,2-Dichloroethane-d4 (S)	%.						102	102	75-128			
1,2-Dichloroethane-d4 (S)	%.						97	102	75-128			
4-Bromofluorobenzene (S)	%.						95	96	75-125			
Toluene-d8 (S)	%.						95	95	75-125			
Toluene-d8 (S)	%.						93	95	75-125			
Toluene-d8 (S)	%.						93	96	75-125			
Toluene-d8 (S)	%.						95	96	75-125			

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

QC Batch: 677074 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

METHOD BLANK: 3624483 Matrix: Water
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<5.0	5.0	05/27/20 14:52	

LABORATORY CONTROL SAMPLE & LCSD: 3624484 3624485

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	42.6	42.5	106	106	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3624486 3624487

Parameter	Units	10518199005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	158	40	40	201	206	107	120	80-120	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3624488 3624489

Parameter	Units	10518134001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	273	40	40	317	319	109	115	80-120	1	20	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

QC Batch: 676583 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

METHOD BLANK: 3621992 Matrix: Water
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<10.0	10.0	05/28/20 13:40	H5

LABORATORY CONTROL SAMPLE: 3621993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	988	99	80-120	H5

SAMPLE DUPLICATE: 3621994

Parameter	Units	10518134001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	676	670	1	5	H5

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

QC Batch: 676584 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

METHOD BLANK: 3621995 Matrix: Water
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<10.0	10.0	05/21/20 11:28	

LABORATORY CONTROL SAMPLE: 3621996

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	88.0	88	80-120	

SAMPLE DUPLICATE: 3621997

Parameter	Units	10518134001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	10.0	11.0	10	5	D6

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

QC Batch: 678206
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

LABORATORY CONTROL SAMPLE: 3629814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	100	98-102	H6

SAMPLE DUPLICATE: 3629815

Parameter	Units	10518134001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	1	3	H6

SAMPLE DUPLICATE: 3629816

Parameter	Units	10518199005 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.0	0	3	H6

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

QC Batch: 678502 | Analysis Method: SM 2510
QC Batch Method: SM 2510 | Analysis Description: SM2510 Specific Conductance
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

METHOD BLANK: 3631181 Matrix: Water
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	<1.0	1.0	06/01/20 19:50	

LABORATORY CONTROL SAMPLE: 3631182

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	961	96	90-110	

SAMPLE DUPLICATE: 3631183

Parameter	Units	10518134001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	936	939	0	20	

SAMPLE DUPLICATE: 3631184

Parameter	Units	10518134002 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	501	495	1	20	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

QC Batch: 677800 | Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 | Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

METHOD BLANK: 3627664 Matrix: Water
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<1.2	1.2	05/29/20 23:01	
Sulfate	mg/L	<1.2	1.2	05/29/20 23:01	

LABORATORY CONTROL SAMPLE: 3627665

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	11.9	95	90-110	
Sulfate	mg/L	12.5	12.0	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627666 3627667

Parameter	Units	10518134001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	29.4	12.5	12.5	35.4	35.8	48	51	90-110	1	20	M1
Sulfate	mg/L	163	125	125	282	283	96	96	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3627668 3627669

Parameter	Units	10518134002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	<1.2	12.5	12.5	10.6	10.7	81	82	90-110	0	20	M1
Sulfate	mg/L	<1.2	12.5	12.5	11.3	11.3	83	84	90-110	1	20	M1

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

QC Batch: 677278 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

METHOD BLANK: 3625420 Matrix: Water
Associated Lab Samples: 10518134001, 10518134002, 10518134003, 10518134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	<0.10	0.10	05/26/20 14:13	

LABORATORY CONTROL SAMPLE: 3625421

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.5	2.4	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3625422 3625423

Parameter	Units	10518439001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	ND	2.5	2.5	2.6	2.5	104	101	90-110	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3625424 3625425

Parameter	Units	10518134001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Ammonia	mg/L	<0.10	2.5	2.5	2.6	2.5	104	98	90-110	6	20	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

QC Batch: 677064
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518134002, 10518134003

METHOD BLANK: 3624364 Matrix: Water
Associated Lab Samples: 10518134002, 10518134003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.10	0.10	05/22/20 17:07	

LABORATORY CONTROL SAMPLE: 3624365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	1	1.1	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3624366 3624367

Parameter	Units	10517973002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.52	1	1	1.7	1.7	116	116	90-110	1	20	M1

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

QC Batch: 678234
QC Batch Method: EPA 353.2
Analysis Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10518134001, 10518134004

METHOD BLANK: 3630111 Matrix: Water
Associated Lab Samples: 10518134001, 10518134004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.10	0.10	05/30/20 12:01	FS

LABORATORY CONTROL SAMPLE: 3630112

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	1	1.1	108	90-110	FS

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3630113 3630114

Parameter	Units	10518134001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	<0.10	1	1	1.0	0.96	104	96	90-110	8	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3630115 3630116

Parameter	Units	40208441001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	18.7	10	10	29.0	31.1	103	124	90-110	7	20	E,M6

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Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1M	Due to required dilutions on anion and/or cation analysis, the cation anion balance calculation resulted in a non-balance state.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
FS	The sample was filtered in the laboratory prior to analysis.
H5	Reanalysis conducted in excess of EPA method holding time. Results confirm original analysis performed in hold time.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10518134001	**Deutcher**	EPA 200.8	677739	EPA 200.8	678047
10518134002	**Benesch**	EPA 200.8	677739	EPA 200.8	678047
10518134003	**J. Ekre**	EPA 200.8	677739	EPA 200.8	678047
10518134004	**Dup-3**	EPA 200.8	677739	EPA 200.8	678047
10518134001	**Deutcher**	SM 1030E	677610		
10518134002	**Benesch**	SM 1030E	677610		
10518134003	**J. Ekre**	SM 1030E	677610		
10518134004	**Dup-3**	SM 1030E	677610		
10518134001	**Deutcher**	EPA 245.1	677743	EPA 245.1	678126
10518134002	**Benesch**	EPA 245.1	677743	EPA 245.1	678126
10518134003	**J. Ekre**	EPA 245.1	677743	EPA 245.1	678126
10518134004	**Dup-3**	EPA 245.1	677743	EPA 245.1	678126
10518134001	**Deutcher**	EPA 8260B	677028		
10518134002	**Benesch**	EPA 8260B	677028		
10518134003	**J. Ekre**	EPA 8260B	677028		
10518134004	**Dup-3**	EPA 8260B	677028		
10518134001	**Deutcher**	SM 2320B	677074		
10518134002	**Benesch**	SM 2320B	677074		
10518134003	**J. Ekre**	SM 2320B	677074		
10518134004	**Dup-3**	SM 2320B	677074		
10518134001	**Deutcher**	SM 2540C	676583		
10518134002	**Benesch**	SM 2540C	676583		
10518134003	**J. Ekre**	SM 2540C	676583		
10518134004	**Dup-3**	SM 2540C	676583		
10518134001	**Deutcher**	SM 2540D	676584		
10518134002	**Benesch**	SM 2540D	676584		
10518134003	**J. Ekre**	SM 2540D	676584		
10518134004	**Dup-3**	SM 2540D	676584		
10518134001	**Deutcher**	SM 4500-H+B	678206		
10518134002	**Benesch**	SM 4500-H+B	678206		
10518134003	**J. Ekre**	SM 4500-H+B	678206		
10518134004	**Dup-3**	SM 4500-H+B	678206		
10518134001	**Deutcher**	SM 2510	678502		
10518134002	**Benesch**	SM 2510	678502		
10518134003	**J. Ekre**	SM 2510	678502		
10518134004	**Dup-3**	SM 2510	678502		
10518134001	**Deutcher**	EPA 300.0	677800		
10518134002	**Benesch**	EPA 300.0	677800		
10518134003	**J. Ekre**	EPA 300.0	677800		
10518134004	**Dup-3**	EPA 300.0	677800		
10518134001	**Deutcher**	EPA 350.1	677278		
10518134002	**Benesch**	EPA 350.1	677278		
10518134003	**J. Ekre**	EPA 350.1	677278		
10518134004	**Dup-3**	EPA 350.1	677278		

REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PRJ07913 Clay County Landfill
Pace Project No.: 10518134

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10518134001	**Deutcher**	EPA 353.2	678234		
10518134002	**Benesch**	EPA 353.2	677064		
10518134003	**J. Ekre**	EPA 353.2	677064		
10518134004	**Dup-3**	EPA 353.2	678234		

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Minnesota Pollution Control Agency

MPCA Chain-of-Custody Form revision 2017.0328

* indicates a required field

Work Order Number: | COC Type: Standard | Page: 1 of 1

Turnaround Time: Standard | COC ID: 33549 line8

FOR LAB USE ONLY

PROJECT/CLIENT INFO

Facility Code:* SW-34 | Program Code (MDH Lab Only):

Project Name:* Clay County Sanitary Landfill - Spring 2020 Compliance W | Project Task Code:* PRJ07913

Project Manager: Andrew Feia

Potential Hazard? No | If yes, add information to **Sampler Comments** field

LABORATORY

Lab Name: Pace Analytical Services, LLC

Address: 1700 Elm Street SE

Minneapolis, MN 55414

EPA Lab ID:*

Lab Work Order Sticker

SAMPLE DETAILS

SAMPLE TYPES
Sample=Routine Sample
QC-FB=Field Blank Sample
QC-FR=Field Replicate Sample
QC-TB=Trip Blank Sample
QC-EB=Equipment Blank
Treated-Mid=Treatment system sample
Treated-Post=Treatment system sample

SAMPLING METHODS
G=Grab sample
CT=Composite, time-paced w/AS
CF=Composite w/AS
D-T=Discrete,time-paced w/AS
D-F=Discrete,flow-paced w/AS
SW-GAS=Gas Sampling
Unknown=Unknown

LAB MATRICES
DW=Drinking Water
NW=Nonpotable Water
SD=Soil/Solid
AR=Air
BL=Biological Material
OT=Other
TS=Tissue

FIELD MATRICES
Wtr-Ground=Groundwater
Wtr-Surf=Surface Water
Wtr-Drink=Drinking Water
QC-BLANK=Artificial Blank Water
Leachate=Leachate Sample
Air-Indoor=Indoor Air
Gas-Soil=Soil Gas

ANALYSIS REQUESTED

MN Location Identifier*	Field Name	Sample Type*	Start Date* (mm/dd/yyyy)	Start Time* 24 hr (hh:mm)	Depth Start	Depth End	Depth Units (m or ft.)	Sampling Method*	Complete ONLY if Method is CT, CF, D-T, or D-F: End Date (mm/dd/yyyy)	Complete ONLY if Method is CT, CF, D-T, or D-F: End Time 24 hr (hh:mm)	Lab Matrix*	Field Matrix*	AIS	Sampler Comments (filter volume, special handling, etc.)	# of Cont	ANALYSIS*	PRESERV: HCL	None	H2S04	None			Lab Sample No.	#
																FF	N	N	N	N				
ZW00200	Deutcher	Sample	5/14/2020	11:33				G			NW	WTR-Ground		lab to filter for metals, not preserved	12		x	x	x	x			01	1
	Benesch	Sample	5/14/2020	12:20				G			NW	WTR-Ground		lab to filter for metals, not preserved	12		x	x	x	x			02	2
	J. Ekre	Sample	5/14/2020	13:02				G			NW	WTR-Ground		lab to filter for metals, not preserved	12		x	x	x	x			03	3
QC-BLANK	Dup-3	QC-FR	5/14/2020	-				G			NW	WTR-Ground		lab to filter for metals, not preserved	12		x	x	x	x			04	4
QC-BLANK	Deutcher (MS/MD)	QC-FR	5/14/2020	11:33				G			NW	WTR-Ground		lab to filter for metals, not preserved	12		x	x	x	x			01	5
																								6
																								7
																								8
																								9
																								10

WO#: 10518134

10518134

Sampler's Name:* Christina Lammers | **Phone#:** 701-893-2327

Sampler's Signature:* Christina Lammers

Sampler's Organization: Wenck Associates, Inc.

Billing Organization: Clay County - Kirk Rosenberger | **Acct#:** 10-115155

Address: 807 11th Street North, Moorhead, MN 56560

Courier Name: Speedee | **Tracking#:**

Receiving Comments:

Relinquished By/Affiliation	Date/Time	Accepted By/Affiliation	Date/Time
(Sampler) Christina Lammers /Wenck	5/14 14:30	Spack	5/15/20 1215
			T=5.0

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) - MN**	Document Revised: 27Mar2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0150 Rev.00**	Pace Analytical Services - **Minneapolis**

Sample Condition Upon Receipt

Client Name: Wenck

Project #: **WO#: 10518134**

PM: AKA **Due Date: 06/01/20**

CLIENT: WENCK-ND

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☒ SpeeDee ☐ Commercial **See Exceptions** ☒

Tracking Number:

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

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

Thermometer: ☐ T1(0461) ☒ T2(1336) ☐ T3(0459) ☐ T4(0254) ☐ T5(0489) **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** _____ °C

Correction Factor: -0.1 **Cooler Temp Corrected w/temp blank:** _____ °C

Average Corrected Temp (no temp blank only): 5.0 °C ☒ See Exceptions ☐ 1 Container

USDA Regulated Soil: (☒ N/A, water sample/Other: _____)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Date/Initials of Person Examining Contents: 8/5/2020

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

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

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☒ Yes	☐ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☒ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☒ Other _____
Rush Turn Around Time Requested?	☐ Yes	☒ No		6.
Sufficient Volume?	☒ Yes	☐ No		7. Double MS/MSD received for "Deutcher"
Correct Containers Used?	☒ Yes	☐ No		8.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
Matrix: ☒ Water ☐ Soil ☐ Oil ☐ Other _____				
All containers needing acid/base preservation have been checked?	☒ Yes	☐ No	☐ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☒ Yes	☐ No	☐ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☒ Yes	☐ No	☐ N/A	8/5/2020 Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☒ N/A	13. **See Exception** ☐
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☒ No	☐ N/A	
Trip Blank Present?	☐ Yes	☒ No	☐ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	Pace Trip Blank Lot # (if purchased): _____

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** 5/20/2020

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

Labeled by: 8/5

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) Exception Form**	Document Revised: 26Mar2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0142 Rev.00**	Pace Analytical Services - **Minneapolis**

SCUR Exceptions:

Workorder #:

Out of Temp Sample IDs	Container Type	# of Containers

PM Notified? ☐Yes ☐No

If yes, indicate who was contacted/date/time.
If no, indicate reason why.

Multiple Cooler Project? ☐Yes ☐No
If you answered yes, fill out information to the left.

No Temp Blank

Read Temp	Corrected Temp	Average Temp
5.4	5.3	5.0
3.4	3.8	
6.4	6.8	
4.3	4.2	

Tracking Number/Temperature	
SP 009593031352032462	5.0

Other Issues

Issue Type: Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

Pace Container Order #645080

Addresses

Order By :		Ship To :		Return To:	
Company	Wenck - North Dakota	Company	Wenck - North Dakota	Company	Pace Analytical Minnesota
Contact	Lammers, Christina	Contact	Lammers, Christina	Contact	Asp, Annika
Email	clammers@wenck.com	Email	clammers@wenck.com	Email	annika.asp@pacelabs.com
Address	3303 Fiechtner Drive	Address	3303 Fiechtner Drive	Address	1700 Elm Street
Address 2	Suite 100	Address 2	Suite 100	Address 2	Suite 200
City	Fargo	City	Fargo	City	Minneapolis
State	ND Zip 58103	State	ND Zip 58103	State	MN Zip 55414
Phone	(701) 893-2327	Phone	(701) 893-2327	Phone	(612)607-1700

Info

Project Name Clay County Landfill **Due Date** 05/07/2020 **Profile** 33549 line 8 **Quote** 00058958

Project Manager Asp, Annika **Return Date** **Carrier** Most Economical **Location** ND

Trip Blanks

- [X] Include Trip Blanks

Bottle Labels

- [ ] Blank
- [X] Pre-Printed No Sample IDs
- [ ] Pre-Printed With Sample IDs

Bottles

- [ ] Boxed Cases
- [X] Individually Wrapped
- [X] Grouped By Sample ID/Matrix

Return Shipping Labels

- [ ] No Shipper
- [ ] With Shipper

COC Options

- [X] Number of Blanks 5
- [ ] Pre-Printed

Misc

- [ ] Sampling Instructions
- [X] Custody Seal
- [X] Temp. Blanks
- [X] Coolers
- [ ] Syringes
- [ ] Extra Bubble Wrap
- [X] Short Hold/Rush Stickers
- [ ] DI Water Liter(s)
- [ ] USDA Regulated Soils

# of Samples	Matrix	Test	Container	Total	# of	Lot #	Notes
39	WT	LL VOC by 8260 SIM SCAN	(6) 40 mL clear glass vials, HCL	252	18	033020-3CYR	
39	WT	Turbidity, Dissolved Oxygen, Specific Conductance, pH. Appearance, Eh, Odor, Temperature	500mL plastic unpres	45	6	040620-2ADT	48 hr short hold
39	WT	Alkalinity, Chloride	250mL plastic unpres	45	6	032320-2EIX	
39	WT	Total Dissolved Solids (TDS); Total Suspended Solids (TSS)	1-1L Plastic Unpreserved	45	6	041320-2AED, 042020-2AED	
36	WT	Sulfate by 300.0	250mL plastic unpres	42	6	032320-2EIX	
36	WT	200.8 Dissolved Metals (Field Filter) + Mercury	250mL plastic HNO3	42	6	033020-2EIZ;041320-	
36	WT	Nitrate + Nitrite (sum of two), Ammonia	250mL plastic H2SO4	42	6	042020-4EJA	

Hazard Shipping Placard In Place : NO

*Sample receiving hours are Mon-Fri 7:30am-7:00pm and Sat 9:00am-1:00pm unless special arrangements are made with your project manager.

*Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.

*Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample storage/disposal.

*Payment term are net 30 days.

*Please include the proposal number on the chain of custody to insure proper billing.

LAB USE:

Ship Date :	05/15/2020
Prepared By:	RHL/TDB
Verified By:	HWF

Sample

CLIENT USE (Optional):

Date Rec'd:	
Received By:	
Verified By:	

Pace Container Order #645080

Addresses

Order By :		Ship To :		Return To:	
Company	Wenck - North Dakota	Company	Wenck - North Dakota	Company	Pace Analytical Minnesota
Contact	Lammers, Christina	Contact	Lammers, Christina	Contact	Asp, Annika
Email	clammers@wenck.com	Email	clammers@wenck.com	Email	annika.asp@pacelabs.com
Address	3303 Fiechtner Drive	Address	3303 Fiechtner Drive	Address	1700 Elm Street
Address 2	Suite 100	Address 2	Suite 100	Address 2	Suite 200
City	Fargo	City	Fargo	City	Minneapolis
State	ND Zip 58103	State	ND Zip 58103	State	MN Zip 55414
Phone	(701) 893-2327	Phone	(701) 893-2327	Phone	(612)607-1700

Info

Project Name Clay County Landfill **Due Date** 05/07/2020 **Profile** 33549 line 8 **Quote** 00058958

Project Manager Asp, Annika **Return Date** **Carrier** Most Economical **Location** ND

Trip Blanks

- [X] Include Trip Blanks

Bottle Labels

- [ ] Blank
- [X] Pre-Printed No Sample IDs
- [ ] Pre-Printed With Sample IDs

Bottles

- [ ] Boxed Cases
- [X] Individually Wrapped
- [X] Grouped By Sample ID/Matrix

Return Shipping Labels

- [ ] No Shipper
- [ ] With Shipper

Misc

- [ ] Sampling Instructions
- [X] Custody Seal
- [X] Temp. Blanks
- [X] Coolers
- [ ] Syringes
- [ ] Extra Bubble Wrap
- [X] Short Hold/Rush Stickers
- [ ] DI Water Liter(s)
- [ ] USDA Regulated Soils

COC Options

- [X] Number of Blanks 5
- [ ] Pre-Printed

# of Samples	Matrix	Test	Container	Total	# of	Lot #	Notes
6	WT	Hexavalent Chromium	250 mL unpreserved	6	0	032320-2EIX	
6	WT	COD	250mL plastic H2SO4	6	0	040620-4EJA	
3	WT	Low Level Mercury kit	250mL clear glass (double bagged)	3	0	013020-03DFC; 031720-01dfc	Include LL hg Kit and LL hg field blank
3	WT	Total Metals	250mL Plastic w/HNO3	3	0	041320-2EIZ	
5	WT	Trip BLANK	4-40mL HCL w/custody seal	20	0	255353, 256134	

Hazard Shipping Placard In Place : NO

*Sample receiving hours are Mon-Fri 7:30am-7:00pm and Sat 9:00am-1:00pm unless special arrangements are made with your project manager.

*Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.

*Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample storage/disposal.

*Payment term are net 30 days.

*Please include the proposal number on the chain of custody to insure proper billing.

LAB USE:

Ship Date :	05/15/2020
Prepared By:	RHL/TDB
Verified By:	HWF

Sample

CLIENT USE (Optional):

Date Rec'd:	
Received By:	
Verified By:	

TABLE 2

Clay County Landfill
Permit SW-34
Environmental Monitoring System

Parameter Lists For Analyses

List 1 (VOCs) (Groundwater and Surface Water)

1,1,1,2-Tetrachloroethane	Chlorobenzene (monochlorobenzene)
1,1,1-Trichloroethane	Chlorodibromomethane (Dibromochloromethane)
1,1,2,2-Tetrachloroethane	Chloroethane
1,1,2-Trichloroethane	Chloroform
1,1,2-Trichlorotrifluoroethane	Chloromethane (Methyl chloride)
1,1-Dichloroethane	cis-1,3,-Dichloropropene
1,1-Dichloroethylene (Vinylidene chloride)	Cumene (Isopropylbenzene)
1,1-Dichloropropene	Dibromochloropropane (DBCP)
1,2-(trans-) Dichloroethylene	Dibromomethane (Methylene bromide)
1,2,3-Trichlorobenzene	Dichlorodifluoromethane
1,2,3-Trichloropropane	Dichlorofluoromethane
1,2,4-Trichlorobenzene	Dichloromethane (Methylene chloride)
1,2,4-Trimethylbenzene	Ethyl benzene
1,2-Dibromoethane (Ethylene dibromide); EDB	Ethyl ether
1,2-Dichlorobenzene (ortho-)	Hexachlorobutadiene
1,2-Dichloroethane	Methyl ethyl ketone (MEK)
1,2-Dichloroethlyene (cis-)	Methyl isobutyl ketone (4-Methyl-2-pentanone)
1,2-Dichloropropane	Methyl tertiary-Butyl Ether (MTBE)
1,3,5-Trimethylbenzene	Naphthalene
1,3-Dichlorobenzene (meta-)	n-Butyl Benzene
1,3-Dichloropropane	n-Propyl benzene
1,4-Dichlorobenzene (para-)	p-Isopropyltoluene
2,2-Dichloropropane	sec-Butyl Benzene
2-Chlorotoluene (ortho-)	Styrene
4-Chlorotoluene (para-)	tert-Butyl Benzene
Acetone	Tetrachloroethylene (Perchloroethylene)
Allyl chloride (3 chloropropene)	Tetrahydrofuran
Benzene	Toluene
Bromobenzene	Trichloroethylene (TCE)
Bromochloromethane (Chlorobromomethane)	Trichlorofluoromethane
Bromodichloromethane (Dichlorobromomethane)	Vinyl chloride (chloroethene)
Bromoform	m-Xylene & p-Xylene
Bromomethane (Methyl bromide)	o-Xylene
Carbon tetrachloride	

List 2 (Geochemicals, Metals[1]) (Groundwater)

Alkalinity, Total as CaCO3	Magnesium
Ammonia Nitrogen	Manganese
Arsenic	Mercury
Barium	Nickel
Boron	Nitrate+Nitrite
Cadmium	Potassium
Calcium	Selenium
Cation-Anion Balance	Sodium
Chloride	Sulfate
Chromium	Zinc
Copper	Total Dissolved Solids
Iron	Total Suspended Solids
Lead	

[1] All metals are measured as dissolved. All groundwater samples for metals will be filtered in the field.

TABLE 2

Clay County Landfill
Permit SW-34
Environmental Monitoring System

Parameter Lists For Analayses

List 3 (Geochemicals, Metals[2]) (Surface Water)

Alkalinity, Total as CaCO3	Lead
Arsenic	Magnesium
Boron	Manganese
Cadmium	Mercury[3]
Calcium	Total Dissolved Solids
Cation-Anion Balance	Total Suspended Solids
Chloride	

[2] All metals are measured as total. All surface water samples for metals will not be filtered in the field or lab.

[3] Low-level mercury analyses, EPA Method 1669.

List 4 (Field Parameters) (Groundwater and Surface Water)

Appearance	Specific Conductance
Dissolved Oxygen	Static Water Level (Elevation, MSL)[4]
Eh (Oxidation potential)	Temperature
Odor	Turbidity
pH	

[4] Groundwater Samples only, and not for residential wells.

List 5 (Geochemicals, Metals[1]) (Lysimeter)

Alkalinity, Total as CaCO3	Iron
Ammonia Nitrogen	Lead
Arsenic	Magnesium
Arsenic	Manganese
Boron	Mercury
Cadmium	Nitrate+Nitrite
Calcium	Potassium
Cation-Anion Balance	Sodium
COD	Sulfate
Chloride	Zinc
Chromium VI	Total Dissolved Solids
Copper	Total Suspended Solids

[1] All metals are measured as dissolved. All Lysimeter samples for metals will be filtered in the field.

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 10/15/20
Weather Conditions: 46°, cloudy, WNW 22mph
Field Technician(s): CML

Well ID : W-2

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.18
Top of Casing Elev. (feet)		Volume Purged (gals.)	2.5
Depth to Water from **TOC** (feet)	5.53	Purged Dry (Y/N)	Y
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	24.03	Time Sample Collected	13:27
Volume of Water in Casing (gals.)	3.02	Color	lt GRY
3 Well Volumes (gals.)	9.05	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y/N
Purging Start Time	13:11	Lock Key #	NA
Purging Stop Time	13:25	Damage to Well? (Y/N)	N

Volume Purged (gallons)	2.5	3.0	6.0	9.1			
Stabilization Readings							
Time	13:18						
Temperature (°C)	10.54						
Conductance (uS/cm)	0.694						
Dissolved Oxygen (mg/L)	9.87						
pH	7.62						
ORP (mV)	-726.5						
Turbidity (NTU)	55.0						

Comments:

- well started running dry @ 2 gallons. Continued to purge

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 9/15/20
Weather Conditions: 40°, mostly cloudy, w 11e mph
Field Technician(s): CML

Well ID : N-5

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.20
Top of Casing Elev. (feet)		Volume Purged (gals.)	4.1
Depth to Water from **TOC** (feet)	6.07	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device pers.	~~Submersible~~ Pump
Depth to Bottom of Well from **TOC** (feet)	12.41	Time Sample Collected	10:59
Volume of Water in Casing (gals.)	1.03	Color	Slight OR-5
3 Well Volumes (gals.)	3.10	Odor	N
Purging Device pers	~~Submersible~~ Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	10:36	Lock Key #	2106
Purging Stop Time	10:57	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.0	2.0	3.1	4.1			
Stabilization Readings							
Time	10:41	10:45	10:49	10:57			
Temperature (°C)	11.37	11.36	11.36	11.20			
Conductance (uS/cm)	1.109	1.090	1.091	1.107			
Dissolved Oxygen (mg/L)	4.69	3.89	3.61	3.50			
pH	7.13	7.11	7.11	7.09			
ORP (mV)	-504.7	-522.3	-530.2	-524.5			
Turbidity (NTU)	60.0	19.0	16.0	5.60			

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 10/15/20
Weather Conditions: 46°, cloudy, WNW 22mph
Field Technician(s): CML

Well ID : MW-6			
Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.18
Top of Casing Elev. (feet)		Volume Purged (gals.)	4.9
Depth to Water from **TOC** (feet)	6.27	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device pers.	~~Submersible~~ Pump
Depth to Bottom of Well from **TOC** (feet)	16.20	Time Sample Collected	14:10
Volume of Water in Casing (gals.)	1.62	Color	ORG
3 Well Volumes (gals.)	4.86	Odor	N
Purging Device pers.	~~Submersible~~ Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	13:42	Lock Key #	2106
Purging Stop Time	14:09	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.6	3.2	4.9				
Stabilization Readings							
Time	13:50	13:59	14:09				
Temperature (°C)	11.28	11.34	11.34				
Conductance (uS/cm)	0.953	1.023	1.113				
Dissolved Oxygen (mg/L)	9.34	2.01	1.01				
pH	7.06	7.03	6.98				
ORP (mV)	-516.6	-481.0	-336.4				
Turbidity (NTU)	15.0	7.50	8.40				

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 10/15/20
Weather Conditions: 44°, mostly cloudy, WNW 18mph
Field Technician(s): CML

Well ID : W-104A

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.38
Top of Casing Elev. (feet)		Volume Purged (gals.)	5.5
Depth to Water from **TOC** (feet)	7.53	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	17.64	Time Sample Collected	15:39
Volume of Water in Casing (gals.)	1.65	Color	Clear
3 Well Volumes (gals.)	4.94	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	15:34	Lock Key #	2106
Purging Stop Time	15:38	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.7	4.0	5.5				
Stabilization Readings							
Time	15:36	15:37	15:38				
Temperature (°C)	11.37	11.39	11.40				
Conductance (uS/cm)	1.081	1.102	1.115				
Dissolved Oxygen (mg/L)	20.22	13.64	10.32				
pH	6.81	6.77	6.74				
ORP (mV)	-613.5	-611.9	-627.3				
Turbidity (NTU)	5.50	3.20	3.40				

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 10/15/20
Weather Conditions: 40°, mostly cloudy, W 16mph
Field Technician(s): CML

Well ID : W-106A

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.24
Top of Casing Elev. (feet)		Volume Purged (gals.)	6.8
Depth to Water from **TOC** (feet)	7.14	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device pers.	~~Submersible~~ Pump
Depth to Bottom of Well from **TOC** (feet)	17.63	Time Sample Collected	10:18
Volume of Water in Casing (gals.)	1.71	Color	BRN
3 Well Volumes (gals.)	5.13	Odor	N
Purging Device pers.	~~Submersible~~ Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	9:49	Lock Key #	2106
Purging Stop Time	10:17	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.7	3.4	5.1	6.8			
Stabilization Readings							
Time	9:57	10:04	10:10	10:17			
Temperature (°C)	11.05	10.76	10.78	10.77			
Conductance (uS/cm)	1.109	1.118	1.119	1.115			
Dissolved Oxygen (mg/L)	6.44	4.71	4.04	3.99			
pH	7.05	7.02	7.02	7.02			
ORP (mV)	-925.3	-767.3	-710.2	-721.3			
Turbidity (NTU)	950	1000	800	1000			

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Weather Conditions: 46°, cloudy, WNW 22mph
Field Technician(s): CML
Date: 10/15/20

Well ID : W-201A			
Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.05
Top of Casing Elev. (feet)		Volume Purged (gals.)	8.4
Depth to Water from **TOC** (feet)	5.92	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	16.23	Time Sample Collected	12:56
Volume of Water in Casing (gals.)	1.68	Color	lt GRY
3 Well Volumes (gals.)	5.04	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	12:47	Lock Key #	2106
Purging Stop Time	12:55	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.7	3.4	5.1	6.8	8.4		
Stabilization Readings							
Time	12:48	12:50	12:52	12:53	12:55		
Temperature (°C)	11.44	11.49	11.53	11.54	11.55		
Conductance (uS/cm)	1.092	1.116	[illegible]	1.122	1.130		
Dissolved Oxygen (mg/L)	20.28	10.17	5.17	3.48	2.47		
pH	6.96	6.95	6.94	6.95	6.92		
ORP (mV)	-551.0	-515.0	-435.9	-382.8	-396.2		
Turbidity (NTU)	220	39.0	13.0	12.0	8.60		

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 10/15/20
Weather Conditions: 46°, cloudy, WNW 22 mph
Field Technician(s): CML

Well ID : W-202A			
Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	1.2
Top of Casing Elev. (feet)		Volume Purged (gals.)	8.4
Depth to Water from **TOC** (feet)	6.23	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	13.99	Time Sample Collected	12:28
Volume of Water in Casing (gals.)	1.26	Color	lt GRY
3 Well Volumes (gals.)	3.79	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	12:20	Lock Key #	2106
Purging Stop Time	12:27	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.7	3.4	5.1	6.8	8.4		
Stabilization Readings							
Time	12:22	12:23	12:24	12:26	12:27		
Temperature (°C)	11.42	11.51	11.51	11.55	11.56		
Conductance (uS/cm)	0.904	1.134	1.077	1.144	1.177		
Dissolved Oxygen (mg/L)	7.78	4.64	3.65	2.50	1.98		
pH	7.11	7.00	6.97	6.93	6.90		
ORP (mV)	-316.0	-336.9	-378.1	-367.9	-419.9		
Turbidity (NTU)	45.0	21.0	15.0	12.0	7.20		

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 10/15/20
Weather Conditions: 40°, mostly cloudy, W 16 mph
Field Technician(s): CML

Well ID : W-301A

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.23
Top of Casing Elev. (feet)		Volume Purged (gals.)	4.8
Depth to Water from **TOC** (feet)	6.83	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device pers.	~~Submersible~~ Pump
Depth to Bottom of Well from **TOC** (feet)	16.67	Time Sample Collected	9:31
Volume of Water in Casing (gals.)	1.60	Color	Clear
3 Well Volumes (gals.)	4.81	Odor	N
Purging Device pers.	~~Submersible~~ Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	9:09	Lock Key #	2106
Purging Stop Time	9:30	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.6	3.2	4.8				
Stabilization Readings							
Time	9:16	9:24	9:30				
Temperature (°C)	10.70	10.70	10.70				
Conductance (uS/cm)	1.448	1.441	1.439				
Dissolved Oxygen (mg/L)	7.60	4.98	4.14				
pH	6.95	6.89	6.88				
ORP (mV)	-309.9	-324.7	-347.0				
Turbidity (NTU)	4.20	2.30	2.60				

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 10/15/20
Weather Conditions: 44°, mostly cloudy, WNW 18mph
Field Technician(s): CML

Well ID : W-302A

Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	0.7
Top of Casing Elev. (feet)		Volume Purged (gals.)	7.7
Depth to Water from **TOC** (feet)	20.22	Purged Dry (Y/N)	N
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)	31.99	Time Sample Collected	14:45
Volume of Water in Casing (gals.)	1.92	Color	Clear
3 Well Volumes (gals.)	5.76	Odor	N
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	Y
Purging Start Time	14:33	Lock Key #	2106
Purging Stop Time	14:44	Damage to Well? (Y/N)	N

Volume Purged (gallons)	1.9	3.8	5.8	7.7			
Stabilization Readings							
Time	14:36	14:38	14:40	14:44			
Temperature (°C)	8.61	8.65	8.65	8.67			
Conductance (uS/cm)	0.607	0.610	0.613	0.613			
Dissolved Oxygen (mg/L)	20.14	15.82	12.87	12.14			
pH	7.12	7.10	7.09	7.09			
ORP (mV)	-397.3	-403.7	-366.9	-527.5			
Turbidity (NTU)	21.0	11.0	5.40	4.00			

Comments:

WENCK
Responsive partner. Exceptional outcomes.

Well Purging Sheet

Project Name: Clay County Landfill
Address: 3301 190th St S, Hawley, MN 56549
Date: 10/15/20
Weather Conditions: 44°, mostly cloudy, WNW 18mph
Field Technician(s): CML

Well ID :			
Casing Diameter (inches)	2.0	Average Purging Rate (g/m)	
Top of Casing Elev. (feet)		Volume Purged (gals.)	
Depth to Water from **TOC** (feet)		Purged Dry (Y/N)	
Groundwater Elev. (feet)		Sampling Device	Submersible Pump
Depth to Bottom of Well from **TOC** (feet)		Time Sample Collected	
Volume of Water in Casing (gals.)		Color	
3 Well Volumes (gals.)		Odor	
Purging Device	Submersible Pump	Well Capped & Locked (Y/N)	
Purging Start Time		Lock Key #	
Purging Stop Time		Damage to Well? (Y/N)	

~~Volume Purged (gallons)~~ Location:	Lys III-1	Lys III-2		SW-3			
Stabilization Readings							
Time	16:18	17:10		11:34			
Temperature (°C)	11.40	8.70		5.77			
Conductance (uS/cm)	1.138	2.077		1.067			
Dissolved Oxygen (mg/L)	44.02	9.86		16.49			
pH	7.35	6.73		7.11			
ORP (mV)	-314.1	-405.9		-338.3			
Turbidity (NTU)	45.0	5.90		5.80			

Comments:
Color: yellow / lt yellow / lt BRN
Odor: N / slight / slightly swampy.
Equip: pers. pump / spout pump / Grab

SW-1 = DRY
Lys III-3 = DRY
Lys IV-1 & 2 = DRY
Lys IV-3 = under construction/cannot sample

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

November 11, 2020

Andrew Feia
Wenck Associates, Inc.
3303 Fiechtner Drive
Suite 100
Fargo, ND 58103

RE: Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Dear Andrew Feia:

Enclosed are the analytical results for sample(s) received by the laboratory on October 21, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

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

Sincerely,

Annika Asp
annika.asp@pacelabs.com
(612)607-1700
Project Manager

Enclosures

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

CERTIFICATIONS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Pace Analytical Services - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
A2LA Certification #: 2926.01*
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

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SAMPLE SUMMARY

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10536477001	**W-301A**	Water	10/15/20 09:31	10/21/20 12:20
10536477002	**W-106A**	Water	10/15/20 10:18	10/21/20 12:20
10536477003	**W-5**	Water	10/15/20 10:59	10/21/20 12:20
10536477004	**S-3**	Water	10/15/20 11:34	10/21/20 12:20
10536477005	**W-202A**	Water	10/15/20 12:28	10/21/20 12:20
10536477006	**W-201A**	Water	10/15/20 12:56	10/21/20 12:20
10536477007	**W-2**	Water	10/15/20 13:27	10/21/20 12:20
10536477008	**W-6**	Water	10/15/20 14:10	10/21/20 12:20
10536477009	**W-302A**	Water	10/15/20 14:45	10/21/20 12:20
10536477010	**W-104A**	Water	10/15/20 15:39	10/21/20 12:20
10536477011	**MH-LYS-III-P1**	Water	10/15/20 16:18	10/21/20 12:20
10536477012	**MH-LYS-III-P2**	Water	10/15/20 17:10	10/21/20 12:20
10536477013	**Duplicate 1**	Water	10/15/20 00:00	10/21/20 12:20
10536477014	**LYS-DUP**	Water	10/15/20 00:00	10/21/20 12:20
10536477015	**Trip Blank**	Water	10/15/20 12:00	10/21/20 12:20
10536477016	**Trip Blank 2**	Water	10/15/20 12:05	10/21/20 12:20

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SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10536477001	**W-301A**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477002	**W-106A**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477003	**W-5**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477004	**S-3**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477005	**W-202A**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477006	**W-201A**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477007	**W-2**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477008	**W-6**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477009	**W-302A**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477010	**W-104A**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477011	**MH-LYS-III-P1**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477012	**MH-LYS-III-P2**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477013	**Duplicate 1**	EPA 8260D	AEZ	72

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SAMPLE ANALYTE COUNT

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477014	**LYS-DUP**	EPA 8260D	AEZ	72
		SM 4500-H+B	AMN	1
		SM 2510	SH4	1
10536477015	**Trip Blank**	EPA 8260D	AEZ	72
10536477016	**Trip Blank 2**	EPA 8260D	AEZ	72

PASI-M = Pace Analytical Services - Minneapolis

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Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-301A **Lab ID: 10536477001** Collected: 10/15/20 09:31 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/28/20 11:32	67-64-1	v2
Allyl chloride	**<4.0**	ug/L	4.0	1		10/28/20 11:32	107-05-1	v2
Benzene	**<0.20**	ug/L	0.20	1		10/28/20 11:32	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/28/20 11:32	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		10/28/20 11:32	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		10/28/20 11:32	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		10/28/20 11:32	74-83-9	1M,v1
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/28/20 11:32	78-93-3	v2
n-Butylbenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		10/28/20 22:27	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/28/20 11:32	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/28/20 11:32	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		10/28/20 11:32	74-87-3	
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		10/28/20 22:27	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		10/28/20 22:27	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		10/28/20 22:27	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/28/20 11:32	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/28/20 11:32	75-71-8	v2
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		10/28/20 11:32	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		10/28/20 22:27	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/28/20 11:32	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/28/20 11:32	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		10/28/20 11:32	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		10/28/20 11:32	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/28/20 11:32	594-20-7	
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/28/20 22:27	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/28/20 22:27	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/28/20 11:32	60-29-7	v2
Ethylbenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		10/28/20 22:27	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		10/28/20 11:32	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		10/28/20 11:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/28/20 11:32	108-10-1	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-301A **Lab ID: 10536477001** Collected: 10/15/20 09:31 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		10/28/20 11:32	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/28/20 11:32	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/28/20 11:32	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/28/20 11:32	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/28/20 11:32	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/28/20 11:32	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		10/28/20 11:32	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		10/28/20 22:27	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		10/28/20 11:32	75-69-4	
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		10/28/20 22:27	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/28/20 11:32	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		10/28/20 11:32	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		10/28/20 22:27	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		10/28/20 11:32	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		10/28/20 11:32	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		10/28/20 11:32	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%.	75-128	1		10/28/20 22:27	17060-07-0	
1,2-Dichloroethane-d4 (S)	103	%.	75-128	1		10/28/20 11:32	17060-07-0	
Toluene-d8 (S)	103	%.	75-125	1		10/28/20 22:27	2037-26-5	
Toluene-d8 (S)	98	%.	75-125	1		10/28/20 11:32	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	75-125	1		10/28/20 11:32	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		11/03/20 12:47		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**1020**	umhos/cm	1.0	1		10/26/20 15:05		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-106A **Lab ID: 10536477002** Collected: 10/15/20 10:18 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 18:03	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 18:03	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		10/29/20 18:03	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 18:03	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		10/29/20 18:03	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		10/29/20 18:03	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		10/29/20 18:03	74-83-9	1M,v2
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 18:03	78-93-3	v2
n-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		10/29/20 00:38	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 18:03	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 18:03	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		10/29/20 18:03	74-87-3	v2
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		10/29/20 00:38	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		10/29/20 00:38	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		10/29/20 00:38	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 18:03	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 18:03	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 18:03	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		10/29/20 00:38	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 18:03	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 18:03	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 18:03	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 18:03	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 18:03	594-20-7	v1
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 00:38	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 00:38	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 18:03	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		10/29/20 00:38	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		10/29/20 18:03	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		10/29/20 18:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 18:03	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-106A **Lab ID: 10536477002** Collected: 10/15/20 10:18 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		10/29/20 18:03	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 18:03	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 18:03	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 18:03	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 18:03	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/29/20 18:03	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 18:03	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		10/29/20 00:38	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		10/29/20 18:03	75-69-4	v1
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		10/29/20 00:38	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 18:03	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		10/29/20 18:03	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		10/29/20 00:38	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		10/29/20 18:03	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		10/29/20 18:03	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		10/29/20 18:03	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	122	%.	75-128	1		10/29/20 18:03	17060-07-0	
1,2-Dichloroethane-d4 (S)	107	%.	75-128	1		10/29/20 00:38	17060-07-0	
Toluene-d8 (S)	104	%.	75-125	1		10/29/20 00:38	2037-26-5	
Toluene-d8 (S)	103	%.	75-125	1		10/29/20 18:03	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	75-125	1		10/29/20 18:03	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		11/03/20 12:51		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**792**	umhos/cm	1.0	1		10/26/20 15:06		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-5 **Lab ID: 10536477003** Collected: 10/15/20 10:59 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 18:29	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 18:29	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		10/29/20 18:29	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 18:29	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		10/29/20 18:29	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		10/29/20 18:29	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		10/29/20 18:29	74-83-9	1M,v2
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 18:29	78-93-3	v2
n-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		10/29/20 01:04	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 18:29	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 18:29	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		10/29/20 18:29	74-87-3	v2
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		10/29/20 01:04	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		10/29/20 01:04	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		10/29/20 01:04	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 18:29	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 18:29	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 18:29	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		10/29/20 01:04	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 18:29	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 18:29	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 18:29	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 18:29	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 18:29	594-20-7	v1
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 01:04	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 01:04	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 18:29	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		10/29/20 01:04	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		10/29/20 18:29	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		10/29/20 18:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 18:29	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-5 **Lab ID: 10536477003** Collected: 10/15/20 10:59 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		10/29/20 18:29	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 18:29	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 18:29	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 18:29	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 18:29	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/29/20 18:29	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 18:29	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		10/29/20 01:04	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		10/29/20 18:29	75-69-4	v1
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		10/29/20 01:04	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 18:29	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		10/29/20 18:29	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		10/29/20 01:04	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		10/29/20 18:29	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		10/29/20 18:29	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		10/29/20 18:29	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	124	%.	75-128	1		10/29/20 18:29	17060-07-0	
1,2-Dichloroethane-d4 (S)	109	%.	75-128	1		10/29/20 01:04	17060-07-0	
Toluene-d8 (S)	105	%.	75-125	1		10/29/20 18:29	2037-26-5	
Toluene-d8 (S)	104	%.	75-125	1		10/29/20 01:04	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	75-125	1		10/29/20 18:29	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		11/03/20 12:52		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**786**	umhos/cm	1.0	1		10/26/20 15:08		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: S-3 **Lab ID: 10536477004** Collected: 10/15/20 11:34 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 18:56	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 18:56	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		10/29/20 18:56	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 18:56	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		10/29/20 18:56	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		10/29/20 18:56	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		10/29/20 18:56	74-83-9	1M,v2
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 18:56	78-93-3	v2
n-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		10/29/20 01:30	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 18:56	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 18:56	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		10/29/20 18:56	74-87-3	v2
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		10/29/20 01:30	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		10/29/20 01:30	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		10/29/20 01:30	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 18:56	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 18:56	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 18:56	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		10/29/20 01:30	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 18:56	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 18:56	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 18:56	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 18:56	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 18:56	594-20-7	v1
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 01:30	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 01:30	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 18:56	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		10/29/20 01:30	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		10/29/20 18:56	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		10/29/20 18:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 18:56	108-10-1	

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(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: S-3 **Lab ID: 10536477004** Collected: 10/15/20 11:34 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		10/29/20 18:56	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 18:56	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 18:56	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 18:56	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 18:56	109-99-9	
Toluene	**0.52**	ug/L	0.40	1		10/29/20 18:56	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/29/20 18:56	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 18:56	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		10/29/20 01:30	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		10/29/20 18:56	75-69-4	v1
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		10/29/20 01:30	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 18:56	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		10/29/20 18:56	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		10/29/20 01:30	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		10/29/20 18:56	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		10/29/20 18:56	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		10/29/20 18:56	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%.	75-128	1		10/29/20 01:30	17060-07-0	
1,2-Dichloroethane-d4 (S)	120	%.	75-128	1		10/29/20 18:56	17060-07-0	
Toluene-d8 (S)	103	%.	75-125	1		10/29/20 01:30	2037-26-5	
Toluene-d8 (S)	102	%.	75-125	1		10/29/20 18:56	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	75-125	1		10/29/20 18:56	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		11/03/20 12:54		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**887**	umhos/cm	1.0	1		10/26/20 15:08		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-202A **Lab ID: 10536477005** Collected: 10/15/20 12:28 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 19:22	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 19:22	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		10/29/20 19:22	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		10/29/20 19:22	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		10/29/20 19:22	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	74-83-9	1M,v2
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 19:22	78-93-3	v2
n-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		10/29/20 01:57	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 19:22	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	74-87-3	v2
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		10/29/20 01:57	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		10/29/20 01:57	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		10/29/20 01:57	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 19:22	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		10/29/20 01:57	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 19:22	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 19:22	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 19:22	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	594-20-7	v1
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 01:57	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 01:57	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 19:22	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		10/29/20 01:57	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		10/29/20 19:22	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		10/29/20 19:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 19:22	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-202A **Lab ID: 10536477005** Collected: 10/15/20 12:28 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		10/29/20 19:22	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 19:22	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 19:22	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 19:22	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 19:22	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 19:22	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		10/29/20 01:57	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		10/29/20 19:22	75-69-4	v1
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		10/29/20 01:57	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		10/29/20 19:22	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		10/29/20 01:57	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		10/29/20 19:22	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		10/29/20 19:22	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%.	75-128	1		10/29/20 01:57	17060-07-0	
1,2-Dichloroethane-d4 (S)	124	%.	75-128	1		10/29/20 19:22	17060-07-0	
Toluene-d8 (S)	103	%.	75-125	1		10/29/20 19:22	2037-26-5	
Toluene-d8 (S)	105	%.	75-125	1		10/29/20 01:57	2037-26-5	
4-Bromofluorobenzene (S)	92	%.	75-125	1		10/29/20 19:22	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		11/03/20 12:55		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**869**	umhos/cm	1.0	1		10/26/20 15:09		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-201A **Lab ID: 10536477006** Collected: 10/15/20 12:56 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 19:48	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 19:48	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		10/29/20 19:48	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:48	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		10/29/20 19:48	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		10/29/20 19:48	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		10/29/20 19:48	74-83-9	1M,v2
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 19:48	78-93-3	v2
n-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		10/29/20 02:23	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 19:48	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 19:48	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:48	74-87-3	v2
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		10/29/20 02:23	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		10/29/20 02:23	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		10/29/20 02:23	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 19:48	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:48	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 19:48	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		10/29/20 02:23	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 19:48	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:48	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 19:48	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 19:48	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 19:48	594-20-7	v1
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 02:23	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 02:23	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 19:48	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		10/29/20 02:23	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		10/29/20 19:48	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		10/29/20 19:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 19:48	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-201A **Lab ID: 10536477006** Collected: 10/15/20 12:56 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		10/29/20 19:48	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 19:48	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 19:48	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 19:48	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 19:48	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/29/20 19:48	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 19:48	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		10/29/20 02:23	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		10/29/20 19:48	75-69-4	v1
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		10/29/20 02:23	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 19:48	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		10/29/20 19:48	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		10/29/20 02:23	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		10/29/20 19:48	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		10/29/20 19:48	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		10/29/20 19:48	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%.	75-128	1		10/29/20 02:23	17060-07-0	
1,2-Dichloroethane-d4 (S)	120	%.	75-128	1		10/29/20 19:48	17060-07-0	
Toluene-d8 (S)	104	%.	75-125	1		10/29/20 19:48	2037-26-5	
Toluene-d8 (S)	105	%.	75-125	1		10/29/20 02:23	2037-26-5	
4-Bromofluorobenzene (S)	92	%.	75-125	1		10/29/20 19:48	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		11/03/20 12:57		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**806**	umhos/cm	1.0	1		10/26/20 15:10		

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(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-2 **Lab ID: 10536477007** Collected: 10/15/20 13:27 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 20:14	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 20:14	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		10/29/20 20:14	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:14	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		10/29/20 20:14	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		10/29/20 20:14	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		10/29/20 20:14	74-83-9	1M,v2
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 20:14	78-93-3	v2
n-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		10/29/20 02:49	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 20:14	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 20:14	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:14	74-87-3	v2
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		10/29/20 02:49	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		10/29/20 02:49	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		10/29/20 02:49	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 20:14	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:14	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 20:14	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		10/29/20 02:49	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 20:14	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:14	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 20:14	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 20:14	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 20:14	594-20-7	v1
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 02:49	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 02:49	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 20:14	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		10/29/20 02:49	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		10/29/20 20:14	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		10/29/20 20:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 20:14	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-2 **Lab ID: 10536477007** Collected: 10/15/20 13:27 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		10/29/20 20:14	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 20:14	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 20:14	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 20:14	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 20:14	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/29/20 20:14	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 20:14	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		10/29/20 02:49	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		10/29/20 20:14	75-69-4	v1
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		10/29/20 02:49	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 20:14	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		10/29/20 20:14	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	108-67-8	
Vinyl chloride	**0.075**	ug/L	0.050	1		10/29/20 02:49	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		10/29/20 20:14	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		10/29/20 20:14	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		10/29/20 20:14	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	121	%.	75-128	1		10/29/20 20:14	17060-07-0	
1,2-Dichloroethane-d4 (S)	110	%.	75-128	1		10/29/20 02:49	17060-07-0	
Toluene-d8 (S)	104	%.	75-125	1		10/29/20 20:14	2037-26-5	
Toluene-d8 (S)	104	%.	75-125	1		10/29/20 02:49	2037-26-5	
4-Bromofluorobenzene (S)	93	%.	75-125	1		10/29/20 20:14	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.8**	Std. Units	0.10	1		11/03/20 12:58		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**564**	umhos/cm	1.0	1		10/27/20 16:31		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-6 **Lab ID: 10536477008** Collected: 10/15/20 14:10 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 20:40	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 20:40	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		10/29/20 20:40	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:40	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		10/29/20 20:40	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		10/29/20 20:40	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		10/29/20 20:40	74-83-9	1M,v2
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 20:40	78-93-3	v2
n-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		10/29/20 03:15	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 20:40	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 20:40	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:40	74-87-3	v2
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		10/29/20 03:15	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		10/29/20 03:15	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		10/29/20 03:15	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 20:40	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:40	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 20:40	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		10/29/20 03:15	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 20:40	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:40	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 20:40	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 20:40	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 20:40	594-20-7	v1
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 03:15	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 03:15	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 20:40	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		10/29/20 03:15	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		10/29/20 20:40	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		10/29/20 20:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 20:40	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-6 **Lab ID: 10536477008** Collected: 10/15/20 14:10 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		10/29/20 20:40	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 20:40	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 20:40	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 20:40	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 20:40	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/29/20 20:40	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 20:40	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		10/29/20 03:15	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		10/29/20 20:40	75-69-4	v1
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		10/29/20 03:15	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 20:40	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		10/29/20 20:40	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		10/29/20 03:15	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		10/29/20 20:40	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		10/29/20 20:40	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		10/29/20 20:40	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	124	%.	75-128	1		10/29/20 20:40	17060-07-0	
1,2-Dichloroethane-d4 (S)	111	%.	75-128	1		10/29/20 03:15	17060-07-0	
Toluene-d8 (S)	105	%.	75-125	1		10/29/20 03:15	2037-26-5	
Toluene-d8 (S)	105	%.	75-125	1		10/29/20 20:40	2037-26-5	
4-Bromofluorobenzene (S)	95	%.	75-125	1		10/29/20 20:40	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.5**	Std. Units	0.10	1		11/03/20 13:00		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**736**	umhos/cm	1.0	1		10/27/20 16:32		

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-302A **Lab ID: 10536477009** Collected: 10/15/20 14:45 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 21:06	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 21:06	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		10/29/20 21:06	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 21:06	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		10/29/20 21:06	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		10/29/20 21:06	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		10/29/20 21:06	74-83-9	1M,v2
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 21:06	78-93-3	v2
n-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		10/29/20 03:41	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 21:06	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 21:06	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		10/29/20 21:06	74-87-3	v2
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		10/29/20 03:41	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		10/29/20 03:41	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		10/29/20 03:41	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 21:06	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 21:06	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 21:06	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		10/29/20 03:41	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 21:06	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 21:06	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 21:06	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 21:06	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 21:06	594-20-7	v1
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 03:41	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 03:41	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 21:06	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		10/29/20 03:41	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		10/29/20 21:06	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		10/29/20 21:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 21:06	108-10-1	

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(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-302A **Lab ID: 10536477009** Collected: 10/15/20 14:45 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		10/29/20 21:06	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 21:06	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 21:06	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 21:06	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 21:06	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/29/20 21:06	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 21:06	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		10/29/20 03:41	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		10/29/20 21:06	75-69-4	v1
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		10/29/20 03:41	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 21:06	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		10/29/20 21:06	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		10/29/20 03:41	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		10/29/20 21:06	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		10/29/20 21:06	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		10/29/20 21:06	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	119	%.	75-128	1		10/29/20 21:06	17060-07-0	
1,2-Dichloroethane-d4 (S)	111	%.	75-128	1		10/29/20 03:41	17060-07-0	
Toluene-d8 (S)	105	%.	75-125	1		10/29/20 03:41	2037-26-5	
Toluene-d8 (S)	104	%.	75-125	1		10/29/20 21:06	2037-26-5	
4-Bromofluorobenzene (S)	91	%.	75-125	1		10/29/20 21:06	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.8**	Std. Units	0.10	1		11/03/20 13:02		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**471**	umhos/cm	1.0	1		10/27/20 16:33		

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(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-104A **Lab ID: 10536477010** Collected: 10/15/20 15:39 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 21:33	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 21:33	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		10/29/20 21:33	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 21:33	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		10/29/20 21:33	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		10/29/20 21:33	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		10/29/20 21:33	74-83-9	1M,v2
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 21:33	78-93-3	v2
n-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		10/29/20 04:07	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 21:33	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 21:33	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		10/29/20 21:33	74-87-3	v2
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		10/29/20 04:07	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		10/29/20 04:07	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		10/29/20 04:07	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 21:33	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 21:33	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 21:33	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		10/29/20 04:07	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 21:33	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 21:33	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 21:33	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 21:33	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 21:33	594-20-7	v1
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 04:07	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 04:07	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 21:33	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		10/29/20 04:07	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		10/29/20 21:33	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		10/29/20 21:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 21:33	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: W-104A **Lab ID: 10536477010** Collected: 10/15/20 15:39 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		10/29/20 21:33	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 21:33	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 21:33	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 21:33	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 21:33	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/29/20 21:33	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 21:33	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		10/29/20 04:07	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		10/29/20 21:33	75-69-4	v1
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		10/29/20 04:07	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 21:33	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		10/29/20 21:33	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		10/29/20 04:07	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		10/29/20 21:33	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		10/29/20 21:33	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		10/29/20 21:33	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	111	%.	75-128	1		10/29/20 04:07	17060-07-0	
1,2-Dichloroethane-d4 (S)	123	%.	75-128	1		10/29/20 21:33	17060-07-0	
Toluene-d8 (S)	106	%.	75-125	1		10/29/20 04:07	2037-26-5	
Toluene-d8 (S)	103	%.	75-125	1		10/29/20 21:33	2037-26-5	
4-Bromofluorobenzene (S)	89	%.	75-125	1		10/29/20 21:33	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		11/03/20 13:03		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**793**	umhos/cm	1.0	1		10/27/20 16:33		

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: MH-LYS-III-P1 **Lab ID: 10536477011** Collected: 10/15/20 16:18 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 21:59	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 21:59	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		10/29/20 21:59	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 21:59	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		10/29/20 21:59	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		10/29/20 21:59	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		10/29/20 21:59	74-83-9	1M,v2
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 21:59	78-93-3	v2
n-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		10/29/20 04:33	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 21:59	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 21:59	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		10/29/20 21:59	74-87-3	v2
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		10/29/20 04:33	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		10/29/20 04:33	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		10/29/20 04:33	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 21:59	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 21:59	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 21:59	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		10/29/20 04:33	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 21:59	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 21:59	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 21:59	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 21:59	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 21:59	594-20-7	v1
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 04:33	10061-01-5	
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 04:33	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 21:59	60-29-7	
Ethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		10/29/20 04:33	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		10/29/20 21:59	98-82-8	
p-Isopropyltoluene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		10/29/20 21:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 21:59	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: MH-LYS-III-P1 **Lab ID: 10536477011** Collected: 10/15/20 16:18 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		10/29/20 21:59	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 21:59	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 21:59	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 21:59	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 21:59	109-99-9	
Toluene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/29/20 21:59	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 21:59	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		10/29/20 04:33	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		10/29/20 21:59	75-69-4	v1
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		10/29/20 04:33	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 21:59	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		10/29/20 21:59	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		10/29/20 04:33	75-01-4	
Xylene (Total)	**<1.2**	ug/L	1.2	1		10/29/20 21:59	1330-20-7	
m&p-Xylene	**<0.80**	ug/L	0.80	1		10/29/20 21:59	179601-23-1	
o-Xylene	**<0.40**	ug/L	0.40	1		10/29/20 21:59	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	112	%.	75-128	1		10/29/20 04:33	17060-07-0	
1,2-Dichloroethane-d4 (S)	122	%.	75-128	1		10/29/20 21:59	17060-07-0	
Toluene-d8 (S)	106	%.	75-125	1		10/29/20 04:33	2037-26-5	
Toluene-d8 (S)	105	%.	75-125	1		10/29/20 21:59	2037-26-5	
4-Bromofluorobenzene (S)	91	%.	75-125	1		10/29/20 21:59	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.8**	Std. Units	0.10	1		11/03/20 13:05		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**763**	umhos/cm	1.0	1		10/27/20 16:34		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: MH-LYS-III-P2 **Lab ID: 10536477012** Collected: 10/15/20 17:10 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 22:25	67-64-1	
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 22:25	107-05-1	
Benzene	**<0.20**	ug/L	0.20	1		10/29/20 22:25	71-43-2	
Bromobenzene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 22:25	74-97-5	
Bromodichloromethane	**<0.40**	ug/L	0.40	1		10/29/20 22:25	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		10/29/20 22:25	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		10/29/20 22:25	74-83-9	1M,v2
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 22:25	78-93-3	v2
n-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	104-51-8	
sec-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	135-98-8	
tert-Butylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	98-06-6	
Carbon tetrachloride	**<0.050**	ug/L	0.050	1		10/29/20 08:55	56-23-5	
Chlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 22:25	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 22:25	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		10/29/20 22:25	74-87-3	v2
2-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	95-49-8	
4-Chlorotoluene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	106-43-4	
1,2-Dibromo-3-chloropropane	**<0.12**	ug/L	0.12	1		10/29/20 08:55	96-12-8	
Dibromochloromethane	**<0.40**	ug/L	0.40	1		10/29/20 08:55	124-48-1	
1,2-Dibromoethane (EDB)	**<0.050**	ug/L	0.050	1		10/29/20 08:55	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 22:25	74-95-3	
1,2-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	95-50-1	
1,3-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	541-73-1	
1,4-Dichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 22:25	75-71-8	
1,1-Dichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 22:25	75-34-3	
1,2-Dichloroethane	**<0.20**	ug/L	0.20	1		10/29/20 08:55	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 22:25	75-35-4	
cis-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	156-59-2	
trans-1,2-Dichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 22:25	75-43-4	
1,2-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 22:25	78-87-5	
1,3-Dichloropropane	**<0.40**	ug/L	0.40	1		10/29/20 22:25	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 22:25	594-20-7	v1
1,1-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	563-58-6	
cis-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 08:55	10061-01-5	v2
trans-1,3-Dichloropropene	**<0.40**	ug/L	0.40	1		10/29/20 08:55	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 22:25	60-29-7	
Ethylbenzene	**27.8**	ug/L	0.40	1		10/29/20 22:25	100-41-4	
Hexachloro-1,3-butadiene	**<0.10**	ug/L	0.10	1		10/29/20 08:55	87-68-3	
Isopropylbenzene (Cumene)	**<0.40**	ug/L	0.40	1		10/29/20 22:25	98-82-8	
p-Isopropyltoluene	**0.88**	ug/L	0.40	1		10/29/20 22:25	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		10/29/20 22:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 22:25	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: MH-LYS-III-P2 **Lab ID: 10536477012** Collected: 10/15/20 17:10 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV LLW by SIMSCAN	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.40**	ug/L	0.40	1		10/29/20 22:25	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 22:25	91-20-3	
n-Propylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	103-65-1	
Styrene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 22:25	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.40**	ug/L	0.40	1		10/29/20 22:25	79-34-5	
Tetrachloroethene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 22:25	109-99-9	
Toluene	**0.95**	ug/L	0.40	1		10/29/20 22:25	108-88-3	
1,2,3-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	87-61-6	
1,2,4-Trichlorobenzene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/29/20 22:25	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/L	0.40	1		10/29/20 22:25	79-00-5	
Trichloroethene	**<0.050**	ug/L	0.050	1		10/29/20 08:55	79-01-6	
Trichlorofluoromethane	**<0.40**	ug/L	0.40	1		10/29/20 22:25	75-69-4	v1
1,2,3-Trichloropropane	**<0.010**	ug/L	0.010	1		10/29/20 08:55	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 22:25	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		10/29/20 22:25	95-63-6	
1,3,5-Trimethylbenzene	**<0.40**	ug/L	0.40	1		10/29/20 22:25	108-67-8	
Vinyl chloride	**<0.050**	ug/L	0.050	1		10/29/20 08:55	75-01-4	
Xylene (Total)	**168**	ug/L	6.0	5		11/04/20 11:50	1330-20-7	H5
m&p-Xylene	**81.3**	ug/L	0.80	1		10/29/20 22:25	179601-23-1	
o-Xylene	**86.4**	ug/L	2.0	5		11/04/20 11:50	95-47-6	H5
Surrogates								
1,2-Dichloroethane-d4 (S)	112	%.	75-128	1		10/29/20 08:55	17060-07-0	
1,2-Dichloroethane-d4 (S)	123	%.	75-128	1		10/29/20 22:25	17060-07-0	
Toluene-d8 (S)	107	%.	75-125	1		10/29/20 08:55	2037-26-5	
Toluene-d8 (S)	104	%.	75-125	1		10/29/20 22:25	2037-26-5	
4-Bromofluorobenzene (S)	93	%.	75-125	1		10/29/20 22:25	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**6.9**	Std. Units	0.10	1		11/03/20 13:09		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**1600**	umhos/cm	1.0	1		10/27/20 16:36		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: Duplicate 1 **Lab ID: 10536477013** Collected: 10/15/20 00:00 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 20:10	67-64-1	v1
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 20:10	107-05-1	
Benzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	71-43-2	
Bromobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:10	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	0.50	1		10/29/20 20:10	75-27-4	
Bromoform	**<4.0**	ug/L	4.0	1		10/29/20 20:10	75-25-2	
Bromomethane	**<4.0**	ug/L	4.0	1		10/29/20 20:10	74-83-9	v1
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 20:10	78-93-3	
n-Butylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	104-51-8	
sec-Butylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	135-98-8	
tert-Butylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	98-06-6	
Carbon tetrachloride	**<0.50**	ug/L	0.50	1		10/29/20 20:10	56-23-5	
Chlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 20:10	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 20:10	67-66-3	
Chloromethane	**<4.0**	ug/L	4.0	1		10/29/20 20:10	74-87-3	
2-Chlorotoluene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	95-49-8	
4-Chlorotoluene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	106-43-4	
1,2-Dibromo-3-chloropropane	**<4.0**	ug/L	4.0	1		10/29/20 20:10	96-12-8	
Dibromochloromethane	**<0.50**	ug/L	0.50	1		10/29/20 20:10	124-48-1	
1,2-Dibromoethane (EDB)	**<0.50**	ug/L	0.50	1		10/29/20 20:10	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 20:10	74-95-3	
1,2-Dichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	95-50-1	
1,3-Dichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	541-73-1	
1,4-Dichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:10	75-71-8	
1,1-Dichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 20:10	75-34-3	
1,2-Dichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 20:10	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 20:10	75-35-4	
cis-1,2-Dichloroethene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	156-59-2	
trans-1,2-Dichloroethene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:10	75-43-4	
1,2-Dichloropropane	**<4.0**	ug/L	4.0	1		10/29/20 20:10	78-87-5	
1,3-Dichloropropane	**<0.50**	ug/L	0.50	1		10/29/20 20:10	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 20:10	594-20-7	
1,1-Dichloropropene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	563-58-6	
cis-1,3-Dichloropropene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	10061-01-5	
trans-1,3-Dichloropropene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 20:10	60-29-7	
Ethylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		10/29/20 20:10	87-68-3	
Isopropylbenzene (Cumene)	**<0.50**	ug/L	0.50	1		10/29/20 20:10	98-82-8	
p-Isopropyltoluene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	99-87-6	
Methylene Chloride	**<4.0**	ug/L	4.0	1		10/29/20 20:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 20:10	108-10-1	

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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: Duplicate 1 **Lab ID: 10536477013** Collected: 10/15/20 00:00 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.50**	ug/L	0.50	1		10/29/20 20:10	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 20:10	91-20-3	
n-Propylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	103-65-1	
Styrene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.50**	ug/L	0.50	1		10/29/20 20:10	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.50**	ug/L	0.50	1		10/29/20 20:10	79-34-5	
Tetrachloroethene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 20:10	109-99-9	
Toluene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	108-88-3	
1,2,3-Trichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	87-61-6	
1,2,4-Trichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	120-82-1	
1,1,1-Trichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 20:10	71-55-6	
1,1,2-Trichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 20:10	79-00-5	
Trichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 20:10	79-01-6	
Trichlorofluoromethane	**<0.50**	ug/L	0.50	1		10/29/20 20:10	75-69-4	
1,2,3-Trichloropropane	**<4.0**	ug/L	4.0	1		10/29/20 20:10	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 20:10	76-13-1	
1,2,4-Trimethylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	95-63-6	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	108-67-8	
Vinyl chloride	**<0.20**	ug/L	0.20	1		10/29/20 20:10	75-01-4	
Xylene (Total)	**<1.5**	ug/L	1.5	1		10/29/20 20:10	1330-20-7	
m&p-Xylene	**<1.0**	ug/L	1.0	1		10/29/20 20:10	179601-23-1	
o-Xylene	**<0.50**	ug/L	0.50	1		10/29/20 20:10	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	75-128	1		10/29/20 20:10	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1		10/29/20 20:10	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125	1		10/29/20 20:10	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.7**	Std. Units	0.10	1		11/03/20 14:03		H6
SM2510 Specific Conductance	Analytical Method: SM 2510 Pace Analytical Services - Minneapolis							
Specific Conductance	**776**	umhos/cm	1.0	1		10/27/20 16:37		

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(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: LYS-DUP **Lab ID: 10536477014** Collected: 10/15/20 00:00 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 20:33	67-64-1	v1
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 20:33	107-05-1	
Benzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	71-43-2	
Bromobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:33	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	0.50	1		10/29/20 20:33	75-27-4	
Bromoform	**<4.0**	ug/L	4.0	1		10/29/20 20:33	75-25-2	
Bromomethane	**<4.0**	ug/L	4.0	1		10/29/20 20:33	74-83-9	v1
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 20:33	78-93-3	
n-Butylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	104-51-8	
sec-Butylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	135-98-8	
tert-Butylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	98-06-6	
Carbon tetrachloride	**<0.50**	ug/L	0.50	1		10/29/20 20:33	56-23-5	
Chlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 20:33	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 20:33	67-66-3	
Chloromethane	**<4.0**	ug/L	4.0	1		10/29/20 20:33	74-87-3	
2-Chlorotoluene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	95-49-8	
4-Chlorotoluene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	106-43-4	
1,2-Dibromo-3-chloropropane	**<4.0**	ug/L	4.0	1		10/29/20 20:33	96-12-8	
Dibromochloromethane	**<0.50**	ug/L	0.50	1		10/29/20 20:33	124-48-1	
1,2-Dibromoethane (EDB)	**<0.50**	ug/L	0.50	1		10/29/20 20:33	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 20:33	74-95-3	
1,2-Dichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	95-50-1	
1,3-Dichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	541-73-1	
1,4-Dichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:33	75-71-8	
1,1-Dichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 20:33	75-34-3	
1,2-Dichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 20:33	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 20:33	75-35-4	
cis-1,2-Dichloroethene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	156-59-2	
trans-1,2-Dichloroethene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 20:33	75-43-4	
1,2-Dichloropropane	**<4.0**	ug/L	4.0	1		10/29/20 20:33	78-87-5	
1,3-Dichloropropane	**<0.50**	ug/L	0.50	1		10/29/20 20:33	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 20:33	594-20-7	
1,1-Dichloropropene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	563-58-6	
cis-1,3-Dichloropropene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	10061-01-5	
trans-1,3-Dichloropropene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 20:33	60-29-7	
Ethylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		10/29/20 20:33	87-68-3	
Isopropylbenzene (Cumene)	**<0.50**	ug/L	0.50	1		10/29/20 20:33	98-82-8	
p-Isopropyltoluene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	99-87-6	
Methylene Chloride	**<4.0**	ug/L	4.0	1		10/29/20 20:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 20:33	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: LYS-DUP **Lab ID: 10536477014** Collected: 10/15/20 00:00 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D							
	Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.50**	ug/L	0.50	1		10/29/20 20:33	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 20:33	91-20-3	
n-Propylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	103-65-1	
Styrene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.50**	ug/L	0.50	1		10/29/20 20:33	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.50**	ug/L	0.50	1		10/29/20 20:33	79-34-5	
Tetrachloroethene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 20:33	109-99-9	
Toluene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	108-88-3	
1,2,3-Trichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	87-61-6	
1,2,4-Trichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	120-82-1	
1,1,1-Trichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 20:33	71-55-6	
1,1,2-Trichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 20:33	79-00-5	
Trichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 20:33	79-01-6	
Trichlorofluoromethane	**<0.50**	ug/L	0.50	1		10/29/20 20:33	75-69-4	
1,2,3-Trichloropropane	**<4.0**	ug/L	4.0	1		10/29/20 20:33	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 20:33	76-13-1	
1,2,4-Trimethylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	95-63-6	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	108-67-8	
Vinyl chloride	**<0.20**	ug/L	0.20	1		10/29/20 20:33	75-01-4	
Xylene (Total)	**<1.5**	ug/L	1.5	1		10/29/20 20:33	1330-20-7	
m&p-Xylene	**<1.0**	ug/L	1.0	1		10/29/20 20:33	179601-23-1	
o-Xylene	**<0.50**	ug/L	0.50	1		10/29/20 20:33	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	75-128	1		10/29/20 20:33	17060-07-0	
Toluene-d8 (S)	98	%.	75-125	1		10/29/20 20:33	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125	1		10/29/20 20:33	460-00-4	
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
	Pace Analytical Services - Minneapolis							
pH at 25 Degrees C	**7.9**	Std. Units	0.10	1		11/03/20 14:07		H6
SM2510 Specific Conductance	Analytical Method: SM 2510							
	Pace Analytical Services - Minneapolis							
Specific Conductance	**766**	umhos/cm	1.0	1		10/27/20 16:38		

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: Trip Blank **Lab ID: 10536477015** Collected: 10/15/20 12:00 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 19:22	67-64-1	v1
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 19:22	107-05-1	
Benzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	71-43-2	
Bromobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	0.50	1		10/29/20 19:22	75-27-4	
Bromoform	**<4.0**	ug/L	4.0	1		10/29/20 19:22	75-25-2	
Bromomethane	**<4.0**	ug/L	4.0	1		10/29/20 19:22	74-83-9	v1
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 19:22	78-93-3	
n-Butylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	104-51-8	
sec-Butylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	135-98-8	
tert-Butylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	98-06-6	
Carbon tetrachloride	**<0.50**	ug/L	0.50	1		10/29/20 19:22	56-23-5	
Chlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 19:22	67-66-3	
Chloromethane	**<4.0**	ug/L	4.0	1		10/29/20 19:22	74-87-3	
2-Chlorotoluene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	95-49-8	
4-Chlorotoluene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	106-43-4	
1,2-Dibromo-3-chloropropane	**<4.0**	ug/L	4.0	1		10/29/20 19:22	96-12-8	
Dibromochloromethane	**<0.50**	ug/L	0.50	1		10/29/20 19:22	124-48-1	
1,2-Dibromoethane (EDB)	**<0.50**	ug/L	0.50	1		10/29/20 19:22	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	74-95-3	
1,2-Dichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	95-50-1	
1,3-Dichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	541-73-1	
1,4-Dichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	75-71-8	
1,1-Dichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 19:22	75-34-3	
1,2-Dichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 19:22	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 19:22	75-35-4	
cis-1,2-Dichloroethene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	156-59-2	
trans-1,2-Dichloroethene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	75-43-4	
1,2-Dichloropropane	**<4.0**	ug/L	4.0	1		10/29/20 19:22	78-87-5	
1,3-Dichloropropane	**<0.50**	ug/L	0.50	1		10/29/20 19:22	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	594-20-7	
1,1-Dichloropropene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	563-58-6	
cis-1,3-Dichloropropene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	10061-01-5	
trans-1,3-Dichloropropene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 19:22	60-29-7	
Ethylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		10/29/20 19:22	87-68-3	
Isopropylbenzene (Cumene)	**<0.50**	ug/L	0.50	1		10/29/20 19:22	98-82-8	
p-Isopropyltoluene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	99-87-6	
Methylene Chloride	**<4.0**	ug/L	4.0	1		10/29/20 19:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 19:22	108-10-1	

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(612)607-1700

ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: Trip Blank **Lab ID: 10536477015** Collected: 10/15/20 12:00 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.50**	ug/L	0.50	1		10/29/20 19:22	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 19:22	91-20-3	
n-Propylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	103-65-1	
Styrene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.50**	ug/L	0.50	1		10/29/20 19:22	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.50**	ug/L	0.50	1		10/29/20 19:22	79-34-5	
Tetrachloroethene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 19:22	109-99-9	
Toluene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	108-88-3	
1,2,3-Trichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	87-61-6	
1,2,4-Trichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	120-82-1	
1,1,1-Trichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 19:22	71-55-6	
1,1,2-Trichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 19:22	79-00-5	
Trichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 19:22	79-01-6	
Trichlorofluoromethane	**<0.50**	ug/L	0.50	1		10/29/20 19:22	75-69-4	
1,2,3-Trichloropropane	**<4.0**	ug/L	4.0	1		10/29/20 19:22	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 19:22	76-13-1	
1,2,4-Trimethylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	95-63-6	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	108-67-8	
Vinyl chloride	**<0.20**	ug/L	0.20	1		10/29/20 19:22	75-01-4	
Xylene (Total)	**<1.5**	ug/L	1.5	1		10/29/20 19:22	1330-20-7	
m&p-Xylene	**<1.0**	ug/L	1.0	1		10/29/20 19:22	179601-23-1	
o-Xylene	**<0.50**	ug/L	0.50	1		10/29/20 19:22	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	75-128	1		10/29/20 19:22	17060-07-0	
Toluene-d8 (S)	98	%.	75-125	1		10/29/20 19:22	2037-26-5	
4-Bromofluorobenzene (S)	95	%.	75-125	1		10/29/20 19:22	460-00-4	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: Trip Blank 2 **Lab ID: 10536477016** Collected: 10/15/20 12:05 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Acetone	**<20.0**	ug/L	20.0	1		10/29/20 19:46	67-64-1	v1
Allyl chloride	**<4.0**	ug/L	4.0	1		10/29/20 19:46	107-05-1	
Benzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	71-43-2	
Bromobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:46	74-97-5	
Bromodichloromethane	**<0.50**	ug/L	0.50	1		10/29/20 19:46	75-27-4	
Bromoform	**<4.0**	ug/L	4.0	1		10/29/20 19:46	75-25-2	
Bromomethane	**<4.0**	ug/L	4.0	1		10/29/20 19:46	74-83-9	v1
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		10/29/20 19:46	78-93-3	
n-Butylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	104-51-8	
sec-Butylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	135-98-8	
tert-Butylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	98-06-6	
Carbon tetrachloride	**<0.50**	ug/L	0.50	1		10/29/20 19:46	56-23-5	
Chlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/29/20 19:46	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		10/29/20 19:46	67-66-3	
Chloromethane	**<4.0**	ug/L	4.0	1		10/29/20 19:46	74-87-3	
2-Chlorotoluene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	95-49-8	
4-Chlorotoluene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	106-43-4	
1,2-Dibromo-3-chloropropane	**<4.0**	ug/L	4.0	1		10/29/20 19:46	96-12-8	
Dibromochloromethane	**<0.50**	ug/L	0.50	1		10/29/20 19:46	124-48-1	
1,2-Dibromoethane (EDB)	**<0.50**	ug/L	0.50	1		10/29/20 19:46	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		10/29/20 19:46	74-95-3	
1,2-Dichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	95-50-1	
1,3-Dichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	541-73-1	
1,4-Dichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	106-46-7	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:46	75-71-8	
1,1-Dichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 19:46	75-34-3	
1,2-Dichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 19:46	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		10/29/20 19:46	75-35-4	
cis-1,2-Dichloroethene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	156-59-2	
trans-1,2-Dichloroethene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	156-60-5	
Dichlorofluoromethane	**<1.0**	ug/L	1.0	1		10/29/20 19:46	75-43-4	
1,2-Dichloropropane	**<4.0**	ug/L	4.0	1		10/29/20 19:46	78-87-5	
1,3-Dichloropropane	**<0.50**	ug/L	0.50	1		10/29/20 19:46	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		10/29/20 19:46	594-20-7	
1,1-Dichloropropene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	563-58-6	
cis-1,3-Dichloropropene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	10061-01-5	
trans-1,3-Dichloropropene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	10061-02-6	
Diethyl ether (Ethyl ether)	**<4.0**	ug/L	4.0	1		10/29/20 19:46	60-29-7	
Ethylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		10/29/20 19:46	87-68-3	
Isopropylbenzene (Cumene)	**<0.50**	ug/L	0.50	1		10/29/20 19:46	98-82-8	
p-Isopropyltoluene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	99-87-6	
Methylene Chloride	**<4.0**	ug/L	4.0	1		10/29/20 19:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		10/29/20 19:46	108-10-1	

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ANALYTICAL RESULTS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Sample: Trip Blank 2 **Lab ID: 10536477016** Collected: 10/15/20 12:05 Received: 10/21/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260D MSV Low Level	Analytical Method: EPA 8260D Pace Analytical Services - Minneapolis							
Methyl-tert-butyl ether	**<0.50**	ug/L	0.50	1		10/29/20 19:46	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		10/29/20 19:46	91-20-3	
n-Propylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	103-65-1	
Styrene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.50**	ug/L	0.50	1		10/29/20 19:46	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.50**	ug/L	0.50	1		10/29/20 19:46	79-34-5	
Tetrachloroethene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	127-18-4	
Tetrahydrofuran	**<10.0**	ug/L	10.0	1		10/29/20 19:46	109-99-9	
Toluene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	108-88-3	
1,2,3-Trichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	87-61-6	
1,2,4-Trichlorobenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	120-82-1	
1,1,1-Trichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 19:46	71-55-6	
1,1,2-Trichloroethane	**<0.50**	ug/L	0.50	1		10/29/20 19:46	79-00-5	
Trichloroethene	**<0.40**	ug/L	0.40	1		10/29/20 19:46	79-01-6	
Trichlorofluoromethane	**<0.50**	ug/L	0.50	1		10/29/20 19:46	75-69-4	
1,2,3-Trichloropropane	**<4.0**	ug/L	4.0	1		10/29/20 19:46	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<1.0**	ug/L	1.0	1		10/29/20 19:46	76-13-1	
1,2,4-Trimethylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	95-63-6	
1,3,5-Trimethylbenzene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	108-67-8	
Vinyl chloride	**<0.20**	ug/L	0.20	1		10/29/20 19:46	75-01-4	
Xylene (Total)	**<1.5**	ug/L	1.5	1		10/29/20 19:46	1330-20-7	
m&p-Xylene	**<1.0**	ug/L	1.0	1		10/29/20 19:46	179601-23-1	
o-Xylene	**<0.50**	ug/L	0.50	1		10/29/20 19:46	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%.	75-128	1		10/29/20 19:46	17060-07-0	
Toluene-d8 (S)	104	%.	75-125	1		10/29/20 19:46	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125	1		10/29/20 19:46	460-00-4	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

QC Batch: 708886 | Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D | Analysis Description: 8260D MSV LL Water
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10536477013, 10536477014, 10536477015, 10536477016

METHOD BLANK: 3787085 Matrix: Water
Associated Lab Samples: 10536477013, 10536477014, 10536477015, 10536477016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	10/29/20 12:15	
1,1,1-Trichloroethane	ug/L	<0.50	0.50	10/29/20 12:15	
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	10/29/20 12:15	
1,1,2-Trichloroethane	ug/L	<0.50	0.50	10/29/20 12:15	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	1.0	10/29/20 12:15	
1,1-Dichloroethane	ug/L	<0.50	0.50	10/29/20 12:15	
1,1-Dichloroethene	ug/L	<1.0	1.0	10/29/20 12:15	MN
1,1-Dichloropropene	ug/L	<0.50	0.50	10/29/20 12:15	
1,2,3-Trichlorobenzene	ug/L	<0.50	0.50	10/29/20 12:15	
1,2,3-Trichloropropane	ug/L	<4.0	4.0	10/29/20 12:15	
1,2,4-Trichlorobenzene	ug/L	<0.50	0.50	10/29/20 12:15	
1,2,4-Trimethylbenzene	ug/L	<0.50	0.50	10/29/20 12:15	
1,2-Dibromo-3-chloropropane	ug/L	<4.0	4.0	10/29/20 12:15	
1,2-Dibromoethane (EDB)	ug/L	<0.50	0.50	10/29/20 12:15	
1,2-Dichlorobenzene	ug/L	<0.50	0.50	10/29/20 12:15	
1,2-Dichloroethane	ug/L	<0.50	0.50	10/29/20 12:15	
1,2-Dichloropropane	ug/L	<4.0	4.0	10/29/20 12:15	
1,3,5-Trimethylbenzene	ug/L	<0.50	0.50	10/29/20 12:15	
1,3-Dichlorobenzene	ug/L	<0.50	0.50	10/29/20 12:15	
1,3-Dichloropropane	ug/L	<0.50	0.50	10/29/20 12:15	
1,4-Dichlorobenzene	ug/L	<0.50	0.50	10/29/20 12:15	
2,2-Dichloropropane	ug/L	<1.0	1.0	10/29/20 12:15	
2-Butanone (MEK)	ug/L	<5.0	5.0	10/29/20 12:15	
2-Chlorotoluene	ug/L	<0.50	0.50	10/29/20 12:15	
4-Chlorotoluene	ug/L	<0.50	0.50	10/29/20 12:15	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	10/29/20 12:15	
Acetone	ug/L	<20.0	20.0	10/29/20 12:15	v1
Allyl chloride	ug/L	<4.0	4.0	10/29/20 12:15	
Benzene	ug/L	<0.50	0.50	10/29/20 12:15	
Bromobenzene	ug/L	<0.50	0.50	10/29/20 12:15	
Bromochloromethane	ug/L	<1.0	1.0	10/29/20 12:15	
Bromodichloromethane	ug/L	<0.50	0.50	10/29/20 12:15	
Bromoform	ug/L	<4.0	4.0	10/29/20 12:15	
Bromomethane	ug/L	<4.0	4.0	10/29/20 12:15	v1
Carbon tetrachloride	ug/L	<0.50	0.50	10/29/20 12:15	
Chlorobenzene	ug/L	<0.50	0.50	10/29/20 12:15	
Chloroethane	ug/L	<1.0	1.0	10/29/20 12:15	
Chloroform	ug/L	<1.0	1.0	10/29/20 12:15	
Chloromethane	ug/L	<4.0	4.0	10/29/20 12:15	
cis-1,2-Dichloroethene	ug/L	<0.50	0.50	10/29/20 12:15	

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

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

METHOD BLANK: 3787085 Matrix: Water
Associated Lab Samples: 10536477013, 10536477014, 10536477015, 10536477016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	ug/L	<0.50	0.50	10/29/20 12:15	
Dibromochloromethane	ug/L	<0.50	0.50	10/29/20 12:15	
Dibromomethane	ug/L	<1.0	1.0	10/29/20 12:15	
Dichlorodifluoromethane	ug/L	<1.0	1.0	10/29/20 12:15	
Dichlorofluoromethane	ug/L	<1.0	1.0	10/29/20 12:15	
Diethyl ether (Ethyl ether)	ug/L	<4.0	4.0	10/29/20 12:15	
Ethylbenzene	ug/L	<0.50	0.50	10/29/20 12:15	
Hexachloro-1,3-butadiene	ug/L	<1.0	1.0	10/29/20 12:15	
Isopropylbenzene (Cumene)	ug/L	<0.50	0.50	10/29/20 12:15	
m&p-Xylene	ug/L	<1.0	1.0	10/29/20 12:15	
Methyl-tert-butyl ether	ug/L	<0.50	0.50	10/29/20 12:15	
Methylene Chloride	ug/L	<4.0	4.0	10/29/20 12:15	
n-Butylbenzene	ug/L	<0.50	0.50	10/29/20 12:15	
n-Propylbenzene	ug/L	<0.50	0.50	10/29/20 12:15	
Naphthalene	ug/L	<1.0	1.0	10/29/20 12:15	
o-Xylene	ug/L	<0.50	0.50	10/29/20 12:15	
p-Isopropyltoluene	ug/L	<0.50	0.50	10/29/20 12:15	
sec-Butylbenzene	ug/L	<0.50	0.50	10/29/20 12:15	
Styrene	ug/L	<0.50	0.50	10/29/20 12:15	
tert-Butylbenzene	ug/L	<0.50	0.50	10/29/20 12:15	
Tetrachloroethene	ug/L	<0.50	0.50	10/29/20 12:15	
Tetrahydrofuran	ug/L	<10.0	10.0	10/29/20 12:15	
Toluene	ug/L	<0.50	0.50	10/29/20 12:15	
trans-1,2-Dichloroethene	ug/L	<0.50	0.50	10/29/20 12:15	
trans-1,3-Dichloropropene	ug/L	<0.50	0.50	10/29/20 12:15	
Trichloroethene	ug/L	<0.40	0.40	10/29/20 12:15	
Trichlorofluoromethane	ug/L	<0.50	0.50	10/29/20 12:15	
Vinyl chloride	ug/L	<0.20	0.20	10/29/20 12:15	
Xylene (Total)	ug/L	<1.5	1.5	10/29/20 12:15	
1,2-Dichloroethane-d4 (S)	%.	100	75-128	10/29/20 12:15	
4-Bromofluorobenzene (S)	%.	98	75-125	10/29/20 12:15	
Toluene-d8 (S)	%.	99	75-125	10/29/20 12:15	

LABORATORY CONTROL SAMPLE: 3787086

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.3	97	75-125	
1,1,1-Trichloroethane	ug/L	20	20.0	100	68-131	
1,1,2,2-Tetrachloroethane	ug/L	20	18.5	92	71-125	
1,1,2-Trichloroethane	ug/L	20	20.6	103	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	22.4	112	71-125	
1,1-Dichloroethane	ug/L	20	19.4	97	71-125	
1,1-Dichloroethene	ug/L	20	21.0	105	66-126	
1,1-Dichloropropene	ug/L	20	20.3	101	58-134	

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

LABORATORY CONTROL SAMPLE: 3787086

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,3-Trichlorobenzene	ug/L	20	18.1	90	71-125	
1,2,3-Trichloropropane	ug/L	20	18.9	95	75-125	
1,2,4-Trichlorobenzene	ug/L	20	18.1	90	72-125	
1,2,4-Trimethylbenzene	ug/L	20	19.1	95	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	42.6	85	64-125	
1,2-Dibromoethane (EDB)	ug/L	20	19.0	95	75-125	
1,2-Dichlorobenzene	ug/L	20	18.3	92	75-125	
1,2-Dichloroethane	ug/L	20	18.1	91	70-125	
1,2-Dichloropropane	ug/L	20	19.2	96	73-125	
1,3,5-Trimethylbenzene	ug/L	20	19.0	95	75-125	
1,3-Dichlorobenzene	ug/L	20	18.6	93	75-125	
1,3-Dichloropropane	ug/L	20	19.6	98	75-125	
1,4-Dichlorobenzene	ug/L	20	18.7	93	75-125	
2,2-Dichloropropane	ug/L	20	20.1	100	57-144	
2-Butanone (MEK)	ug/L	100	100	100	51-144	
2-Chlorotoluene	ug/L	20	18.8	94	75-125	
4-Chlorotoluene	ug/L	20	19.0	95	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	94.9	95	72-125	
Acetone	ug/L	100	134	134	34-150	v1
Allyl chloride	ug/L	20	22.4	112	58-132	
Benzene	ug/L	20	19.6	98	70-125	
Bromobenzene	ug/L	20	18.8	94	75-125	
Bromochloromethane	ug/L	20	19.4	97	72-126	
Bromodichloromethane	ug/L	20	19.5	97	73-128	
Bromoform	ug/L	20	18.0	90	70-125	
Bromomethane	ug/L	20	29.3	146	31-150	v1
Carbon tetrachloride	ug/L	20	19.8	99	72-131	
Chlorobenzene	ug/L	20	19.6	98	75-125	
Chloroethane	ug/L	20	21.5	108	70-128	
Chloroform	ug/L	20	18.8	94	72-125	
Chloromethane	ug/L	20	21.1	105	63-129	
cis-1,2-Dichloroethene	ug/L	20	18.8	94	69-128	
cis-1,3-Dichloropropene	ug/L	20	20.1	101	74-128	
Dibromochloromethane	ug/L	20	20.1	100	75-125	
Dibromomethane	ug/L	20	19.2	96	74-130	
Dichlorodifluoromethane	ug/L	20	19.0	95	65-134	
Dichlorofluoromethane	ug/L	20	21.8	109	74-125	
Diethyl ether (Ethyl ether)	ug/L	20	20.8	104	64-126	
Ethylbenzene	ug/L	20	20.0	100	75-125	
Hexachloro-1,3-butadiene	ug/L	20	17.9	89	71-130	
Isopropylbenzene (Cumene)	ug/L	20	20.3	102	75-125	
m&p-Xylene	ug/L	40	38.5	96	75-125	
Methyl-tert-butyl ether	ug/L	20	18.2	91	68-125	
Methylene Chloride	ug/L	20	21.0	105	69-125	
n-Butylbenzene	ug/L	20	19.5	98	75-125	
n-Propylbenzene	ug/L	20	19.3	97	74-125	
Naphthalene	ug/L	20	17.2	86	66-125	

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

LABORATORY CONTROL SAMPLE: 3787086

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
o-Xylene	ug/L	20	19.5	97	75-125	
p-Isopropyltoluene	ug/L	20	19.7	98	75-125	
sec-Butylbenzene	ug/L	20	19.7	98	75-125	
Styrene	ug/L	20	20.3	102	75-125	
tert-Butylbenzene	ug/L	20	19.2	96	75-125	
Tetrachloroethene	ug/L	20	20.6	103	75-125	
Tetrahydrofuran	ug/L	200	174	87	55-139	
Toluene	ug/L	20	19.2	96	75-125	
trans-1,2-Dichloroethene	ug/L	20	19.2	96	67-127	
trans-1,3-Dichloropropene	ug/L	20	20.1	100	75-125	
Trichloroethene	ug/L	20	19.8	99	75-125	
Trichlorofluoromethane	ug/L	20	22.8	114	70-131	
Vinyl chloride	ug/L	20	22.3	111	71-130	
Xylene (Total)	ug/L	60	58.0	97	75-125	
1,2-Dichloroethane-d4 (S)	%.			97	75-128	
4-Bromofluorobenzene (S)	%.			96	75-125	
Toluene-d8 (S)	%.			99	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3787087 3787088

Parameter	Units	10536273002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	19.4	19.2	97	96	75-125	1	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	21.4	20.8	107	104	65-148	3	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	20.0	18.9	100	95	72-125	6	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	20.7	20.0	104	100	75-125	4	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	27.1	26.4	135	132	75-145	2	30	
1,1-Dichloroethane	ug/L	ND	20	20	21.3	20.0	107	100	73-136	6	30	
1,1-Dichloroethene	ug/L	ND	20	20	25.6	24.2	128	121	69-138	5	30	
1,1-Dichloropropene	ug/L	ND	20	20	21.7	20.9	109	105	60-150	4	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	20.4	20.2	102	101	67-135	1	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	20.6	19.0	103	95	75-125	8	30	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	20.3	18.5	102	92	68-133	10	30	
1,2,4-Trimethylbenzene	ug/L	ND	20	20	20.8	19.6	104	98	75-135	6	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	48.9	44.9	98	90	61-127	9	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	20.0	19.1	100	95	75-125	5	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	20.1	19.4	100	97	75-125	3	30	
1,2-Dichloroethane	ug/L	ND	20	20	19.5	18.5	97	93	65-125	5	30	
1,2-Dichloropropane	ug/L	ND	20	20	21.8	20.7	109	104	71-125	5	30	
1,3,5-Trimethylbenzene	ug/L	ND	20	20	20.7	20.1	103	100	75-129	3	30	
1,3-Dichlorobenzene	ug/L	ND	20	20	20.4	20.2	102	101	75-125	1	30	
1,3-Dichloropropane	ug/L	ND	20	20	19.8	19.5	99	97	75-125	2	30	
1,4-Dichlorobenzene	ug/L	ND	20	20	20.4	19.9	102	100	75-125	2	30	
2,2-Dichloropropane	ug/L	ND	20	20	20.4	20.3	102	101	67-150	1	30	

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3787087 3787088

Parameter	Units	10536273002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Butanone (MEK)	ug/L	ND	100	100	96.1	83.2	96	83	49-138	14	30	
2-Chlorotoluene	ug/L	ND	20	20	20.0	19.9	100	100	75-130	1	30	
4-Chlorotoluene	ug/L	ND	20	20	19.7	19.1	99	96	75-133	3	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	102	91.4	102	91	75-126	11	30	
Acetone	ug/L	ND	100	100	84.3	81.3	84	81	51-125	4	30	v1
Allyl chloride	ug/L	ND	20	20	25.4	24.9	127	125	50-150	2	30	
Benzene	ug/L	ND	20	20	20.5	20.2	103	101	68-129	2	30	
Bromobenzene	ug/L	ND	20	20	20.7	20.6	104	103	75-125	1	30	
Bromochloromethane	ug/L	ND	20	20	20.4	19.8	102	99	73-132	3	30	
Bromodichloromethane	ug/L	ND	20	20	20.6	20.0	103	100	75-127	3	30	
Bromoform	ug/L	ND	20	20	18.8	17.9	94	89	71-125	5	30	
Bromomethane	ug/L	ND	20	20	32.4	32.2	162	161	30-150	1	30	M1,v1
Carbon tetrachloride	ug/L	ND	20	20	21.5	21.4	108	107	74-146	1	30	
Chlorobenzene	ug/L	ND	20	20	20.9	20.2	104	101	75-125	3	30	
Chloroethane	ug/L	ND	20	20	25.2	25.4	126	127	68-141	1	30	
Chloroform	ug/L	ND	20	20	19.5	19.3	98	97	61-129	1	30	
Chloromethane	ug/L	ND	20	20	23.3	22.3	116	111	46-150	4	30	
cis-1,2-Dichloroethene	ug/L	ND	20	20	19.9	19.5	100	98	68-142	2	30	
cis-1,3-Dichloropropene	ug/L	ND	20	20	20.6	19.7	103	99	66-133	5	30	
Dibromochloromethane	ug/L	ND	20	20	20.3	19.8	101	99	75-126	2	30	
Dibromomethane	ug/L	ND	20	20	21.6	20.6	108	103	69-137	5	30	
Dichlorodifluoromethane	ug/L	ND	20	20	21.5	20.5	107	102	68-150	5	30	
Dichlorofluoromethane	ug/L	ND	20	20	25.0	24.3	125	121	73-135	3	30	
Diethyl ether (Ethyl ether)	ug/L	ND	20	20	23.3	21.8	117	109	61-128	7	30	
Ethylbenzene	ug/L	ND	20	20	21.1	20.5	105	103	75-131	3	30	
Hexachloro-1,3-butadiene	ug/L	ND	20	20	19.8	19.4	99	97	66-150	2	30	
Isopropylbenzene (Cumene)	ug/L	ND	20	20	21.0	20.4	105	102	75-133	3	30	
m&p-Xylene	ug/L	ND	40	40	41.1	39.4	103	99	75-135	4	30	
Methyl-tert-butyl ether	ug/L	ND	20	20	22.9	21.9	114	109	67-126	4	30	
Methylene Chloride	ug/L	ND	20	20	24.4	23.4	122	117	61-137	4	30	
n-Butylbenzene	ug/L	ND	20	20	22.1	20.0	111	100	75-136	10	30	
n-Propylbenzene	ug/L	ND	20	20	20.5	20.7	102	103	75-139	1	30	
Naphthalene	ug/L	ND	20	20	18.9	17.1	95	86	64-127	10	30	
o-Xylene	ug/L	ND	20	20	19.9	19.5	99	98	75-127	2	30	
p-Isopropyltoluene	ug/L	ND	20	20	21.7	21.0	109	105	75-135	3	30	
sec-Butylbenzene	ug/L	ND	20	20	21.9	20.0	109	100	75-141	9	30	
Styrene	ug/L	ND	20	20	20.6	19.6	103	98	75-125	5	30	
tert-Butylbenzene	ug/L	ND	20	20	21.3	20.5	107	102	75-141	4	30	
Tetrachloroethene	ug/L	ND	20	20	21.5	21.7	107	108	75-135	1	30	
Tetrahydrofuran	ug/L	ND	200	200	161	151	81	75	45-145	7	30	
Toluene	ug/L	ND	20	20	20.1	20.8	100	104	74-125	4	30	
trans-1,2-Dichloroethene	ug/L	ND	20	20	23.2	22.5	116	112	68-137	3	30	
trans-1,3-Dichloropropene	ug/L	ND	20	20	19.6	19.2	98	96	71-128	2	30	
Trichloroethene	ug/L	ND	20	20	21.6	21.3	108	107	75-131	1	30	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3787087 3787088

Parameter	Units	10536273002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Trichlorofluoromethane	ug/L	ND	20	20	27.8	26.6	139	133	72-150	4	30	
Vinyl chloride	ug/L	ND	20	20	26.5	25.1	132	125	60-150	6	30	
Xylene (Total)	ug/L	ND	60	60	61.0	59.0	102	98	75-131	3	30	
1,2-Dichloroethane-d4 (S)	%.						98	99	75-128			
4-Bromofluorobenzene (S)	%.						99	95	75-125			
Toluene-d8 (S)	%.						97	99	75-125			

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

QC Batch: 707085
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV LLW by SIMSCAN
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10536477001

METHOD BLANK: 3777622 Matrix: Water
Associated Lab Samples: 10536477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.40	0.40	10/28/20 08:03	
1,1,1-Trichloroethane	ug/L	<1.0	1.0	10/28/20 08:03	MN
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	10/28/20 08:03	
1,1,2-Trichloroethane	ug/L	<0.40	0.40	10/28/20 08:03	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	1.0	10/28/20 08:03	
1,1-Dichloroethane	ug/L	<0.40	0.40	10/28/20 08:03	
1,1-Dichloroethene	ug/L	<1.0	1.0	10/28/20 08:03	MN
1,1-Dichloropropene	ug/L	<0.40	0.40	10/28/20 08:03	
1,2,3-Trichlorobenzene	ug/L	<0.40	0.40	10/28/20 08:03	
1,2,3-Trichloropropane	ug/L	<0.010	0.010	10/28/20 18:58	
1,2,4-Trichlorobenzene	ug/L	<0.40	0.40	10/28/20 08:03	
1,2,4-Trimethylbenzene	ug/L	<1.0	1.0	10/28/20 08:03	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	0.12	10/28/20 18:58	
1,2-Dibromoethane (EDB)	ug/L	<0.050	0.050	10/28/20 18:58	
1,2-Dichlorobenzene	ug/L	<0.40	0.40	10/28/20 08:03	
1,2-Dichloroethane	ug/L	<0.20	0.20	10/28/20 18:58	
1,2-Dichloropropane	ug/L	<0.40	0.40	10/28/20 08:03	
1,3,5-Trimethylbenzene	ug/L	<0.40	0.40	10/28/20 08:03	
1,3-Dichlorobenzene	ug/L	<0.40	0.40	10/28/20 08:03	
1,3-Dichloropropane	ug/L	<0.40	0.40	10/28/20 08:03	
1,4-Dichlorobenzene	ug/L	<0.40	0.40	10/28/20 08:03	
2,2-Dichloropropane	ug/L	<1.0	1.0	10/28/20 08:03	
2-Butanone (MEK)	ug/L	<5.0	5.0	10/28/20 08:03	v2
2-Chlorotoluene	ug/L	<0.40	0.40	10/28/20 08:03	
4-Chlorotoluene	ug/L	<0.40	0.40	10/28/20 08:03	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	10/28/20 08:03	
Acetone	ug/L	<20.0	20.0	10/28/20 08:03	v2
Allyl chloride	ug/L	<4.0	4.0	10/28/20 08:03	v2
Benzene	ug/L	<0.20	0.20	10/28/20 08:03	
Bromobenzene	ug/L	<0.40	0.40	10/28/20 08:03	
Bromochloromethane	ug/L	<1.0	1.0	10/28/20 08:03	
Bromodichloromethane	ug/L	<0.40	0.40	10/28/20 08:03	
Bromoform	ug/L	<1.0	1.0	10/28/20 08:03	
Bromomethane	ug/L	<1.0	1.0	10/28/20 08:03	1M,v1
Carbon tetrachloride	ug/L	<0.050	0.050	10/28/20 18:58	
Chlorobenzene	ug/L	<0.40	0.40	10/28/20 08:03	
Chloroethane	ug/L	<1.0	1.0	10/28/20 08:03	
Chloroform	ug/L	<1.0	1.0	10/28/20 08:03	
Chloromethane	ug/L	<1.0	1.0	10/28/20 08:03	
cis-1,2-Dichloroethene	ug/L	<0.40	0.40	10/28/20 08:03	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

METHOD BLANK: 3777622 Matrix: Water
Associated Lab Samples: 10536477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	ug/L	<0.40	0.40	10/28/20 18:58	
Dibromochloromethane	ug/L	<0.40	0.40	10/28/20 18:58	
Dibromomethane	ug/L	<1.0	1.0	10/28/20 08:03	
Dichlorodifluoromethane	ug/L	<1.0	1.0	10/28/20 08:03	v2
Dichlorofluoromethane	ug/L	<1.0	1.0	10/28/20 08:03	
Diethyl ether (Ethyl ether)	ug/L	<4.0	4.0	10/28/20 08:03	v2
Ethylbenzene	ug/L	<0.40	0.40	10/28/20 08:03	
Hexachloro-1,3-butadiene	ug/L	<0.10	0.10	10/28/20 18:58	
Isopropylbenzene (Cumene)	ug/L	<0.40	0.40	10/28/20 08:03	
m&p-Xylene	ug/L	<0.80	0.80	10/28/20 08:03	
Methyl-tert-butyl ether	ug/L	<0.40	0.40	10/28/20 08:03	
Methylene Chloride	ug/L	<1.0	1.0	10/28/20 08:03	
n-Butylbenzene	ug/L	<0.40	0.40	10/28/20 08:03	
n-Propylbenzene	ug/L	<0.40	0.40	10/28/20 08:03	
Naphthalene	ug/L	<1.0	1.0	10/28/20 08:03	
o-Xylene	ug/L	<0.40	0.40	10/28/20 08:03	
p-Isopropyltoluene	ug/L	<0.40	0.40	10/28/20 08:03	
sec-Butylbenzene	ug/L	<0.40	0.40	10/28/20 08:03	
Styrene	ug/L	<0.40	0.40	10/28/20 08:03	
tert-Butylbenzene	ug/L	<0.40	0.40	10/28/20 08:03	
Tetrachloroethene	ug/L	<0.40	0.40	10/28/20 08:03	
Tetrahydrofuran	ug/L	<10.0	10.0	10/28/20 08:03	
Toluene	ug/L	<0.40	0.40	10/28/20 08:03	
trans-1,2-Dichloroethene	ug/L	<0.40	0.40	10/28/20 08:03	
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	10/28/20 18:58	
Trichloroethene	ug/L	<0.050	0.050	10/28/20 18:58	
Trichlorofluoromethane	ug/L	<0.40	0.40	10/28/20 08:03	
Vinyl chloride	ug/L	<0.050	0.050	10/28/20 18:58	
Xylene (Total)	ug/L	<1.2	1.2	10/28/20 08:03	
1,2-Dichloroethane-d4 (S)	%.	98	75-128	10/28/20 08:03	
1,2-Dichloroethane-d4 (S)	%.	102	75-128	10/28/20 18:58	
4-Bromofluorobenzene (S)	%.	90	75-125	10/28/20 08:03	
Toluene-d8 (S)	%.	101	75-125	10/28/20 18:58	
Toluene-d8 (S)	%.	99	75-125	10/28/20 08:03	

LABORATORY CONTROL SAMPLE: 3777623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	10	10.5	105	75-125	
1,1,1-Trichloroethane	ug/L	10	9.7	97	68-131	
1,1,2,2-Tetrachloroethane	ug/L	10	9.1	91	71-125	
1,1,2-Trichloroethane	ug/L	10	10.0	100	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	10	9.3	93	71-125	
1,1-Dichloroethane	ug/L	10	8.7	87	71-125	

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

LABORATORY CONTROL SAMPLE: 3777623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	10	9.2	92	66-126	
1,1-Dichloropropene	ug/L	10	8.8	88	58-134	
1,2,3-Trichlorobenzene	ug/L	10	9.3	93	71-125	
1,2,3-Trichloropropane	ug/L	1	0.88	88	75-125	
1,2,4-Trichlorobenzene	ug/L	10	9.2	92	72-125	
1,2,4-Trimethylbenzene	ug/L	10	8.5	85	75-125	
1,2-Dibromo-3-chloropropane	ug/L	2.5	2.2	89	71-125	
1,2-Dibromoethane (EDB)	ug/L	1	0.87	87	71-125	
1,2-Dichlorobenzene	ug/L	10	9.5	95	75-125	
1,2-Dichloroethane	ug/L	1	0.94	94	75-131	
1,2-Dichloropropane	ug/L	10	9.1	91	73-125	
1,3,5-Trimethylbenzene	ug/L	10	8.2	82	75-125	
1,3-Dichlorobenzene	ug/L	10	9.7	97	75-125	
1,3-Dichloropropane	ug/L	10	9.3	93	75-125	
1,4-Dichlorobenzene	ug/L	10	9.4	94	75-125	
2,2-Dichloropropane	ug/L	10	8.5	85	57-144	
2-Butanone (MEK)	ug/L	50	34.3	69	51-144	v3
2-Chlorotoluene	ug/L	10	8.7	87	75-125	
4-Chlorotoluene	ug/L	10	8.1	81	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	50	40.6	81	72-125	
Acetone	ug/L	50	38.6	77	34-150	v3
Allyl chloride	ug/L	10	7.2	72	58-132	v3
Benzene	ug/L	10	8.9	89	70-125	
Bromobenzene	ug/L	10	9.0	90	75-125	
Bromochloromethane	ug/L	10	10.3	103	72-126	
Bromodichloromethane	ug/L	10	9.3	93	73-128	
Bromoform	ug/L	10	10.3	103	70-125	
Bromomethane	ug/L	10	13.6	136	31-150	1M,v1
Carbon tetrachloride	ug/L	1	0.91	91	68-136	
Chlorobenzene	ug/L	10	9.3	93	75-125	
Chloroethane	ug/L	10	8.4	84	70-128	
Chloroform	ug/L	10	9.4	94	72-125	
Chloromethane	ug/L	10	8.9	89	63-129	
cis-1,2-Dichloroethene	ug/L	10	8.6	86	69-128	
cis-1,3-Dichloropropene	ug/L	1	0.83	83	71-125	
Dibromochloromethane	ug/L	1	0.91	91	71-125	
Dibromomethane	ug/L	10	10.4	104	74-130	
Dichlorodifluoromethane	ug/L	10	7.9	79	65-134	v3
Dichlorofluoromethane	ug/L	10	9.1	91	74-125	
Diethyl ether (Ethyl ether)	ug/L	10	8.0	80	64-126	v3
Ethylbenzene	ug/L	10	8.6	86	75-125	
Hexachloro-1,3-butadiene	ug/L	1	0.80	80	65-133	
Isopropylbenzene (Cumene)	ug/L	10	8.6	86	75-125	
m&p-Xylene	ug/L	20	18.2	91	75-125	
Methyl-tert-butyl ether	ug/L	10	8.9	89	68-125	
Methylene Chloride	ug/L	10	8.9	89	69-125	
n-Butylbenzene	ug/L	10	8.4	84	75-125	

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

LABORATORY CONTROL SAMPLE: 3777623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
n-Propylbenzene	ug/L	10	8.3	83	74-125	
Naphthalene	ug/L	10	8.8	88	66-125	
o-Xylene	ug/L	10	8.7	87	75-125	
p-Isopropyltoluene	ug/L	10	8.6	86	75-125	
sec-Butylbenzene	ug/L	10	8.5	85	75-125	
Styrene	ug/L	10	9.2	92	75-125	
tert-Butylbenzene	ug/L	10	8.1	81	75-125	
Tetrachloroethene	ug/L	10	10.2	102	75-125	
Tetrahydrofuran	ug/L	100	82.6	83	55-139	
Toluene	ug/L	10	9.0	90	75-125	
trans-1,2-Dichloroethene	ug/L	10	8.7	87	67-127	
trans-1,3-Dichloropropene	ug/L	1	0.84	84	70-125	
Trichloroethene	ug/L	1	0.88	88	69-125	
Trichlorofluoromethane	ug/L	10	9.8	98	70-131	
Vinyl chloride	ug/L	1	0.94	94	68-132	
Xylene (Total)	ug/L	30	26.9	90	75-125	
1,2-Dichloroethane-d4 (S)	%.			94	75-128	
1,2-Dichloroethane-d4 (S)	%.			101	75-128	
4-Bromofluorobenzene (S)	%.			87	75-125	
Toluene-d8 (S)	%.			101	75-125	
Toluene-d8 (S)	%.			97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3777624 3777625

Parameter	Units	10536951005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	10	10	10.7	10.3	107	103	75-125	4	30	
1,1,1-Trichloroethane	ug/L	ND	10	10	10.4	10.2	104	102	65-148	2	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	10	10	9.5	9.3	95	93	72-125	2	30	
1,1,2-Trichloroethane	ug/L	ND	10	10	10.1	9.7	101	97	75-125	4	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	10	10	10.2	9.5	102	95	75-145	7	30	
1,1-Dichloroethane	ug/L	ND	10	10	9.1	9.0	91	90	73-136	1	30	
1,1-Dichloroethene	ug/L	ND	10	10	10.0	9.7	100	97	69-138	4	30	
1,1-Dichloropropene	ug/L	ND	10	10	9.3	9.0	93	90	60-150	3	30	
1,2,3-Trichlorobenzene	ug/L	ND	10	10	9.2	8.9	92	89	67-135	3	30	
1,2,3-Trichloropropane	ug/L	ND	1	1	0.94	0.92	94	92	49-150	2	30	
1,2,4-Trichlorobenzene	ug/L	ND	10	10	8.9	8.9	89	89	68-133	0	30	
1,2,4-Trimethylbenzene	ug/L	ND	10	10	8.8	8.6	88	86	75-135	2	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.5	2.5	2.3	2.3	93	92	53-150	0	30	
1,2-Dibromoethane (EDB)	ug/L	ND	1	1	0.92	0.90	92	90	49-150	2	30	
1,2-Dichlorobenzene	ug/L	ND	10	10	9.6	9.6	96	96	75-125	0	30	
1,2-Dichloroethane	ug/L	ND	1	1	1.0	0.99	102	99	42-150	3	30	
1,2-Dichloropropane	ug/L	ND	10	10	9.7	9.5	97	95	71-125	1	30	
1,3,5-Trimethylbenzene	ug/L	ND	10	10	8.6	8.4	86	84	75-129	2	30	

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3777624 3777625

Parameter	Units	10536951005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,3-Dichlorobenzene	ug/L	ND	10	10	9.7	9.7	97	97	75-125	1	30	
1,3-Dichloropropane	ug/L	ND	10	10	9.5	9.0	95	90	75-125	6	30	
1,4-Dichlorobenzene	ug/L	ND	10	10	9.6	9.6	96	96	75-125	0	30	
2,2-Dichloropropane	ug/L	ND	10	10	9.1	8.7	91	87	67-150	5	30	
2-Butanone (MEK)	ug/L	ND	50	50	33.0	33.1	66	66	49-138	0	30	v3
2-Chlorotoluene	ug/L	ND	10	10	8.9	8.8	89	88	75-130	1	30	
4-Chlorotoluene	ug/L	ND	10	10	8.2	8.1	82	81	75-133	2	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	50	41.2	39.4	82	79	75-126	5	30	
Acetone	ug/L	ND	50	50	39.8	37.7	80	75	51-125	5	30	v3
Allyl chloride	ug/L	ND	10	10	7.5	7.2	75	72	50-150	3	30	v3
Benzene	ug/L	ND	10	10	9.3	9.2	93	92	68-129	1	30	
Bromobenzene	ug/L	ND	10	10	9.2	9.0	92	90	75-125	2	30	
Bromochloromethane	ug/L	ND	10	10	10.7	10.5	107	105	73-132	2	30	
Bromodichloromethane	ug/L	ND	10	10	9.7	9.2	97	92	75-127	6	30	
Bromoform	ug/L	ND	10	10	10.5	9.7	105	97	71-125	7	30	
Bromomethane	ug/L	ND	10	10	13.7	14.4	137	144	30-150	5	30	1M,v1
Carbon tetrachloride	ug/L	ND	1	1	1.1	1.1	114	107	30-150	6	30	
Chlorobenzene	ug/L	ND	10	10	9.8	9.4	98	94	75-125	4	30	
Chloroethane	ug/L	ND	10	10	8.1	8.6	81	86	68-141	6	30	
Chloroform	ug/L	ND	10	10	9.4	9.3	94	93	61-129	1	30	
Chloromethane	ug/L	ND	10	10	9.0	9.8	90	98	46-150	9	30	
cis-1,2-Dichloroethene	ug/L	ND	10	10	8.8	8.7	88	87	68-142	2	30	
cis-1,3-Dichloropropene	ug/L	ND	1	1	0.85	0.83	85	83	48-150	3	30	
Dibromochloromethane	ug/L	ND	1	1	0.98	0.95	98	95	50-150	3	30	
Dibromomethane	ug/L	ND	10	10	10.3	10.1	103	101	69-137	3	30	
Dichlorodifluoromethane	ug/L	ND	10	10	8.2	8.5	82	85	68-150	4	30	v3
Dichlorofluoromethane	ug/L	ND	10	10	9.1	9.4	90	92	73-135	3	30	
Diethyl ether (Ethyl ether)	ug/L	ND	10	10	8.1	8.1	79	80	61-128	1	30	v3
Ethylbenzene	ug/L	ND	10	10	9.1	8.8	91	88	75-131	4	30	
Hexachloro-1,3-butadiene	ug/L	ND	1	1	1.0	1.0	102	104	40-150	3	30	
Isopropylbenzene (Cumene)	ug/L	ND	10	10	9.2	8.8	92	88	75-133	4	30	
m&p-Xylene	ug/L	ND	20	20	19.6	18.4	98	92	75-135	6	30	
Methyl-tert-butyl ether	ug/L	ND	10	10	8.7	8.8	87	88	67-126	1	30	
Methylene Chloride	ug/L	ND	10	10	8.8	8.7	86	84	61-137	2	30	
n-Butylbenzene	ug/L	ND	10	10	8.8	8.7	88	87	75-136	1	30	
n-Propylbenzene	ug/L	ND	10	10	8.5	8.4	85	84	75-139	1	30	
Naphthalene	ug/L	ND	10	10	8.7	8.6	87	86	64-127	1	30	
o-Xylene	ug/L	ND	10	10	8.9	8.8	89	88	75-127	1	30	
p-Isopropyltoluene	ug/L	ND	10	10	8.8	8.8	88	88	75-135	0	30	
sec-Butylbenzene	ug/L	ND	10	10	8.9	8.9	89	89	75-141	0	30	
Styrene	ug/L	ND	10	10	9.4	8.8	94	88	75-125	7	30	
tert-Butylbenzene	ug/L	ND	10	10	8.6	8.5	86	85	75-141	1	30	
Tetrachloroethene	ug/L	ND	10	10	10.8	10.2	108	102	75-135	6	30	
Tetrahydrofuran	ug/L	ND	100	100	88.0	89.6	88	90	45-145	2	30	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3777624 3777625

Parameter	Units	10536951005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene	ug/L	ND	10	10	9.9	9.5	97	94	74-125	4	30	
trans-1,2-Dichloroethene	ug/L	ND	10	10	9.0	9.1	90	91	68-137	1	30	
trans-1,3-Dichloropropene	ug/L	ND	1	1	0.89	0.87	89	87	50-150	2	30	
Trichloroethene	ug/L	0.20	1	1	1.2	1.1	96	93	41-150	2	30	
Trichlorofluoromethane	ug/L	ND	10	10	10.0	10.5	100	105	72-150	5	30	
Vinyl chloride	ug/L	ND	1	1	0.89	0.88	89	88	30-150	2	30	
Xylene (Total)	ug/L	ND	30	30	28.4	27.2	95	91	75-131	4	30	
1,2-Dichloroethane-d4 (S)	%.						94	107	75-128			
1,2-Dichloroethane-d4 (S)	%.						94	92	75-128			
1,2-Dichloroethane-d4 (S)	%.						106	107	75-128			
1,2-Dichloroethane-d4 (S)	%.						106	92	75-128			
4-Bromofluorobenzene (S)	%.						87	88	75-125			
Toluene-d8 (S)	%.						103	95	75-125			
Toluene-d8 (S)	%.						103	103	75-125			
Toluene-d8 (S)	%.						97	103	75-125			
Toluene-d8 (S)	%.						97	95	75-125			

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

QC Batch: 707313 | Analysis Method: EPA 8260D
QC Batch Method: EPA 8260D | Analysis Description: 8260D MSV LLW by SIMSCAN
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10536477002, 10536477003, 10536477004, 10536477005, 10536477006, 10536477007, 10536477008, 10536477009, 10536477010, 10536477011

METHOD BLANK: 3778921 Matrix: Water
Associated Lab Samples: 10536477002, 10536477003, 10536477004, 10536477005, 10536477006, 10536477007, 10536477008, 10536477009, 10536477010, 10536477011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.40	0.40	10/29/20 13:42	
1,1,1-Trichloroethane	ug/L	<1.0	1.0	10/29/20 13:42	MN
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	10/29/20 13:42	
1,1,2-Trichloroethane	ug/L	<0.40	0.40	10/29/20 13:42	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	1.0	10/29/20 13:42	
1,1-Dichloroethane	ug/L	<0.40	0.40	10/29/20 13:42	
1,1-Dichloroethene	ug/L	<1.0	1.0	10/29/20 13:42	MN
1,1-Dichloropropene	ug/L	<0.40	0.40	10/29/20 13:42	
1,2,3-Trichlorobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
1,2,3-Trichloropropane	ug/L	<0.010	0.010	10/28/20 18:58	
1,2,4-Trichlorobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
1,2,4-Trimethylbenzene	ug/L	<1.0	1.0	10/29/20 13:42	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	0.12	10/28/20 18:58	
1,2-Dibromoethane (EDB)	ug/L	<0.050	0.050	10/28/20 18:58	
1,2-Dichlorobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
1,2-Dichloroethane	ug/L	<0.20	0.20	10/28/20 18:58	
1,2-Dichloropropane	ug/L	<0.40	0.40	10/29/20 13:42	
1,3,5-Trimethylbenzene	ug/L	<0.40	0.40	10/29/20 13:42	
1,3-Dichlorobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
1,3-Dichloropropane	ug/L	<0.40	0.40	10/29/20 13:42	
1,4-Dichlorobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
2,2-Dichloropropane	ug/L	<1.0	1.0	10/29/20 13:42	v1
2-Butanone (MEK)	ug/L	<5.0	5.0	10/29/20 13:42	v2
2-Chlorotoluene	ug/L	<0.40	0.40	10/29/20 13:42	
4-Chlorotoluene	ug/L	<0.40	0.40	10/29/20 13:42	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	10/29/20 13:42	
Acetone	ug/L	<20.0	20.0	10/29/20 13:42	
Allyl chloride	ug/L	<4.0	4.0	10/29/20 13:42	
Benzene	ug/L	<0.20	0.20	10/29/20 13:42	
Bromobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
Bromochloromethane	ug/L	<1.0	1.0	10/29/20 13:42	
Bromodichloromethane	ug/L	<0.40	0.40	10/29/20 13:42	
Bromoform	ug/L	<1.0	1.0	10/29/20 13:42	
Bromomethane	ug/L	<1.0	1.0	10/29/20 13:42	1M,v2
Carbon tetrachloride	ug/L	<0.050	0.050	10/28/20 18:58	
Chlorobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
Chloroethane	ug/L	<1.0	1.0	10/29/20 13:42	
Chloroform	ug/L	<1.0	1.0	10/29/20 13:42	
Chloromethane	ug/L	<1.0	1.0	10/29/20 13:42	v2

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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

METHOD BLANK: 3778921 Matrix: Water

Associated Lab Samples: 10536477002, 10536477003, 10536477004, 10536477005, 10536477006, 10536477007, 10536477008, 10536477009, 10536477010, 10536477011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/L	<0.40	0.40	10/29/20 13:42	
cis-1,3-Dichloropropene	ug/L	<0.40	0.40	10/28/20 18:58	
Dibromochloromethane	ug/L	<0.40	0.40	10/28/20 18:58	
Dibromomethane	ug/L	<1.0	1.0	10/29/20 13:42	
Dichlorodifluoromethane	ug/L	<1.0	1.0	10/29/20 13:42	
Dichlorofluoromethane	ug/L	<1.0	1.0	10/29/20 13:42	
Diethyl ether (Ethyl ether)	ug/L	<4.0	4.0	10/29/20 13:42	
Ethylbenzene	ug/L	<0.40	0.40	10/29/20 13:42	
Hexachloro-1,3-butadiene	ug/L	<0.10	0.10	10/28/20 18:58	
Isopropylbenzene (Cumene)	ug/L	<0.40	0.40	10/29/20 13:42	
m&p-Xylene	ug/L	<0.80	0.80	10/29/20 13:42	
Methyl-tert-butyl ether	ug/L	<0.40	0.40	10/29/20 13:42	
Methylene Chloride	ug/L	<1.0	1.0	10/29/20 13:42	
n-Butylbenzene	ug/L	<0.40	0.40	10/29/20 13:42	
n-Propylbenzene	ug/L	<0.40	0.40	10/29/20 13:42	
Naphthalene	ug/L	<1.0	1.0	10/29/20 13:42	
o-Xylene	ug/L	<0.40	0.40	10/29/20 13:42	
p-Isopropyltoluene	ug/L	<0.40	0.40	10/29/20 13:42	
sec-Butylbenzene	ug/L	<0.40	0.40	10/29/20 13:42	
Styrene	ug/L	<0.40	0.40	10/29/20 13:42	
tert-Butylbenzene	ug/L	<0.40	0.40	10/29/20 13:42	
Tetrachloroethene	ug/L	<0.40	0.40	10/29/20 13:42	
Tetrahydrofuran	ug/L	<10.0	10.0	10/29/20 13:42	
Toluene	ug/L	<0.40	0.40	10/29/20 13:42	
trans-1,2-Dichloroethene	ug/L	<0.40	0.40	10/29/20 13:42	
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	10/28/20 18:58	
Trichloroethene	ug/L	<0.050	0.050	10/28/20 18:58	
Trichlorofluoromethane	ug/L	<0.40	0.40	10/29/20 13:42	v1
Vinyl chloride	ug/L	<0.050	0.050	10/28/20 18:58	
Xylene (Total)	ug/L	<1.2	1.2	10/29/20 13:42	
1,2-Dichloroethane-d4 (S)	%.	102	75-128	10/28/20 18:58	
1,2-Dichloroethane-d4 (S)	%.	121	75-128	10/29/20 13:42	
4-Bromofluorobenzene (S)	%.	93	75-125	10/29/20 13:42	
Toluene-d8 (S)	%.	101	75-125	10/28/20 18:58	
Toluene-d8 (S)	%.	104	75-125	10/29/20 13:42	

LABORATORY CONTROL SAMPLE: 3778922

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	10	11.5	115	75-125	
1,1,1-Trichloroethane	ug/L	10	10.5	105	68-131	
1,1,2,2-Tetrachloroethane	ug/L	10	10.1	101	71-125	
1,1,2-Trichloroethane	ug/L	10	10.8	108	75-125	

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

LABORATORY CONTROL SAMPLE: 3778922

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,2-Trichlorotrifluoroethane	ug/L	10	10.1	101	71-125	
1,1-Dichloroethane	ug/L	10	9.8	98	71-125	
1,1-Dichloroethene	ug/L	10	9.0	90	66-126	
1,1-Dichloropropene	ug/L	10	8.5	85	58-134	
1,2,3-Trichlorobenzene	ug/L	10	9.7	97	71-125	
1,2,3-Trichloropropane	ug/L	1	0.88	88	75-125	
1,2,4-Trichlorobenzene	ug/L	10	9.8	98	72-125	
1,2,4-Trimethylbenzene	ug/L	10	8.9	89	75-125	
1,2-Dibromo-3-chloropropane	ug/L	2.5	2.2	89	71-125	
1,2-Dibromoethane (EDB)	ug/L	1	0.87	87	71-125	
1,2-Dichlorobenzene	ug/L	10	10	100	75-125	
1,2-Dichloroethane	ug/L	1	0.94	94	75-131	
1,2-Dichloropropane	ug/L	10	9.1	91	73-125	
1,3,5-Trimethylbenzene	ug/L	10	8.8	88	75-125	
1,3-Dichlorobenzene	ug/L	10	10.5	105	75-125	
1,3-Dichloropropane	ug/L	10	10.0	100	75-125	
1,4-Dichlorobenzene	ug/L	10	10.5	105	75-125	
2,2-Dichloropropane	ug/L	10	12.3	123	57-144	v1
2-Butanone (MEK)	ug/L	50	31.2	62	51-144	v3
2-Chlorotoluene	ug/L	10	9.4	94	75-125	
4-Chlorotoluene	ug/L	10	8.7	87	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	50	43.1	86	72-125	
Acetone	ug/L	50	41.3	83	34-150	
Allyl chloride	ug/L	10	8.2	82	58-132	
Benzene	ug/L	10	8.7	87	70-125	
Bromobenzene	ug/L	10	9.7	97	75-125	
Bromochloromethane	ug/L	10	11.2	112	72-126	
Bromodichloromethane	ug/L	10	10.3	103	73-128	
Bromoform	ug/L	10	11.6	116	70-125	
Bromomethane	ug/L	10	6.1	61	31-150	1M,v3
Carbon tetrachloride	ug/L	1	0.91	91	68-136	
Chlorobenzene	ug/L	10	9.9	99	75-125	
Chloroethane	ug/L	10	9.2	92	70-128	
Chloroform	ug/L	10	11.2	112	72-125	
Chloromethane	ug/L	10	6.7	67	63-129	v3
cis-1,2-Dichloroethene	ug/L	10	9.0	90	69-128	
cis-1,3-Dichloropropene	ug/L	1	0.83	83	71-125	
Dibromochloromethane	ug/L	1	0.91	91	71-125	
Dibromomethane	ug/L	10	10.8	108	74-130	
Dichlorodifluoromethane	ug/L	10	9.1	91	65-134	
Dichlorofluoromethane	ug/L	10	10.7	107	74-125	
Diethyl ether (Ethyl ether)	ug/L	10	8.3	83	64-126	
Ethylbenzene	ug/L	10	9.3	93	75-125	
Hexachloro-1,3-butadiene	ug/L	1	0.80	80	65-133	
Isopropylbenzene (Cumene)	ug/L	10	8.9	89	75-125	
m&p-Xylene	ug/L	20	19.1	96	75-125	
Methyl-tert-butyl ether	ug/L	10	10	100	68-125	

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1700 Elm Street - Suite 200
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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

LABORATORY CONTROL SAMPLE: 3778922

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methylene Chloride	ug/L	10	9.3	93	69-125	
n-Butylbenzene	ug/L	10	9.0	90	75-125	
n-Propylbenzene	ug/L	10	8.6	86	74-125	
Naphthalene	ug/L	10	8.8	88	66-125	
o-Xylene	ug/L	10	8.6	86	75-125	
p-Isopropyltoluene	ug/L	10	9.0	90	75-125	
sec-Butylbenzene	ug/L	10	8.7	87	75-125	
Styrene	ug/L	10	9.7	97	75-125	
tert-Butylbenzene	ug/L	10	8.2	82	75-125	
Tetrachloroethene	ug/L	10	10.6	106	75-125	
Tetrahydrofuran	ug/L	100	85.0	85	55-139	
Toluene	ug/L	10	9.8	98	75-125	
trans-1,2-Dichloroethene	ug/L	10	9.2	92	67-127	
trans-1,3-Dichloropropene	ug/L	1	0.84	84	70-125	
Trichloroethene	ug/L	1	0.88	88	69-125	
Trichlorofluoromethane	ug/L	10	12.3	123	70-131	v1
Vinyl chloride	ug/L	1	0.94	94	68-132	
Xylene (Total)	ug/L	30	27.7	92	75-125	
1,2-Dichloroethane-d4 (S)	%.			101	75-128	
1,2-Dichloroethane-d4 (S)	%.			111	75-128	
4-Bromofluorobenzene (S)	%.			86	75-125	
Toluene-d8 (S)	%.			101	75-125	
Toluene-d8 (S)	%.			103	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3778923 3778924

Parameter	Units	10536951006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	10	10	10.7	11.2	107	112	75-125	5	30	
1,1,1-Trichloroethane	ug/L	ND	10	10	10.7	10.4	107	104	65-148	3	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	10	10	9.0	9.0	90	90	72-125	0	30	
1,1,2-Trichloroethane	ug/L	ND	10	10	9.6	9.5	96	95	75-125	0	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	10	10	10.3	10.1	103	101	75-145	2	30	
1,1-Dichloroethane	ug/L	ND	10	10	9.8	9.6	98	96	73-136	3	30	
1,1-Dichloroethene	ug/L	ND	10	10	9.1	9.3	91	93	69-138	2	30	
1,1-Dichloropropene	ug/L	ND	10	10	8.3	8.6	83	86	60-150	4	30	
1,2,3-Trichlorobenzene	ug/L	ND	10	10	9.2	9.0	92	90	67-135	2	30	
1,2,3-Trichloropropane	ug/L	ND	1	1	0.94	0.92	94	92	49-150	2	30	
1,2,4-Trichlorobenzene	ug/L	ND	10	10	9.0	9.1	90	91	68-133	1	30	
1,2,4-Trimethylbenzene	ug/L	ND	10	10	8.2	8.5	82	85	75-135	4	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.5	2.5	2.3	2.3	93	92	53-150	0	30	
1,2-Dibromoethane (EDB)	ug/L	ND	1	1	0.92	0.90	92	90	49-150	2	30	
1,2-Dichlorobenzene	ug/L	ND	10	10	9.4	9.5	94	95	75-125	1	30	
1,2-Dichloroethane	ug/L	ND	1	1	1.0	0.99	102	99	42-150	3	30	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3778923 3778924

Parameter	Units	10536951006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloropropane	ug/L	ND	10	10	8.2	8.5	82	85	71-125	3	30	
1,3,5-Trimethylbenzene	ug/L	ND	10	10	8.1	8.5	81	85	75-129	5	30	
1,3-Dichlorobenzene	ug/L	ND	10	10	9.8	9.9	98	99	75-125	1	30	
1,3-Dichloropropane	ug/L	ND	10	10	9.0	9.2	90	92	75-125	3	30	
1,4-Dichlorobenzene	ug/L	ND	10	10	9.5	9.4	95	94	75-125	1	30	
2,2-Dichloropropane	ug/L	ND	10	10	11.9	11.9	119	119	67-150	0	30	v1
2-Butanone (MEK)	ug/L	ND	50	50	24.2	24.9	48	50	49-138	3	30	M1,v3
2-Chlorotoluene	ug/L	ND	10	10	9.1	9.3	91	93	75-130	2	30	
4-Chlorotoluene	ug/L	ND	10	10	8.0	8.4	80	84	75-133	4	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	50	36.4	36.4	73	73	75-126	0	30	M1
Acetone	ug/L	ND	50	50	35.1	34.7	70	69	51-125	1	30	
Allyl chloride	ug/L	ND	10	10	7.6	7.7	76	77	50-150	1	30	
Benzene	ug/L	ND	10	10	8.0	8.0	80	80	68-129	1	30	
Bromobenzene	ug/L	ND	10	10	8.9	9.1	89	91	75-125	2	30	
Bromochloromethane	ug/L	ND	10	10	10.7	10.8	107	108	73-132	1	30	
Bromodichloromethane	ug/L	ND	10	10	9.6	9.5	96	95	75-127	1	30	
Bromoform	ug/L	ND	10	10	10.5	10.7	105	107	71-125	2	30	
Bromomethane	ug/L	ND	10	10	4.9	6.1	49	61	30-150	22	30	1M,v3
Carbon tetrachloride	ug/L	ND	1	1	1.1	1.1	114	107	30-150	6	30	
Chlorobenzene	ug/L	ND	10	10	9.1	9.5	91	95	75-125	4	30	
Chloroethane	ug/L	ND	10	10	9.0	8.2	90	82	68-141	9	30	
Chloroform	ug/L	ND	10	10	10.1	10.3	101	103	61-129	2	30	
Chloromethane	ug/L	ND	10	10	6.1	6.0	61	60	46-150	1	30	v3
cis-1,2-Dichloroethene	ug/L	ND	10	10	9.0	8.9	90	89	68-142	1	30	
cis-1,3-Dichloropropene	ug/L	ND	1	1	0.85	0.83	85	83	48-150	3	30	
Dibromochloromethane	ug/L	ND	1	1	0.98	0.95	98	95	50-150	3	30	
Dibromomethane	ug/L	ND	10	10	9.9	9.3	99	93	69-137	6	30	
Dichlorodifluoromethane	ug/L	ND	10	10	8.4	8.7	82	86	68-150	4	30	
Dichlorofluoromethane	ug/L	ND	10	10	10.1	10.1	96	96	73-135	0	30	
Diethyl ether (Ethyl ether)	ug/L	ND	10	10	8.3	8.2	73	72	61-128	1	30	
Ethylbenzene	ug/L	ND	10	10	8.9	9.0	89	90	75-131	1	30	
Hexachloro-1,3-butadiene	ug/L	ND	1	1	1.0	1.0	102	104	40-150	3	30	
Isopropylbenzene (Cumene)	ug/L	ND	10	10	8.5	8.9	85	89	75-133	5	30	
m&p-Xylene	ug/L	ND	20	20	18.0	18.4	90	92	75-135	2	30	
Methyl-tert-butyl ether	ug/L	ND	10	10	9.3	9.4	93	94	67-126	1	30	
Methylene Chloride	ug/L	ND	10	10	8.3	8.5	83	85	61-137	2	30	
n-Butylbenzene	ug/L	ND	10	10	8.7	8.9	87	89	75-136	2	30	
n-Propylbenzene	ug/L	ND	10	10	8.5	8.5	85	85	75-139	0	30	
Naphthalene	ug/L	ND	10	10	8.0	8.1	80	81	64-127	1	30	
o-Xylene	ug/L	ND	10	10	8.1	8.4	81	84	75-127	3	30	
p-Isopropyltoluene	ug/L	ND	10	10	8.7	8.8	87	88	75-135	0	30	
sec-Butylbenzene	ug/L	ND	10	10	8.7	8.9	87	89	75-141	2	30	
Styrene	ug/L	ND	10	10	8.5	8.7	85	87	75-125	3	30	
tert-Butylbenzene	ug/L	ND	10	10	8.4	8.2	84	82	75-141	2	30	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3778923 3778924

Parameter	Units	10536951006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Tetrachloroethene	ug/L	ND	10	10	10.6	10.9	106	109	75-135	3	30	
Tetrahydrofuran	ug/L	ND	100	100	73.8	76.1	74	76	45-145	3	30	
Toluene	ug/L	ND	10	10	9.0	9.2	90	92	74-125	2	30	
trans-1,2-Dichloroethene	ug/L	ND	10	10	8.9	8.7	89	87	68-137	1	30	
trans-1,3-Dichloropropene	ug/L	ND	1	1	0.89	0.87	89	87	50-150	2	30	
Trichloroethene	ug/L	0.20	1	1	1.2	1.1	96	93	41-150	2	30	
Trichlorofluoromethane	ug/L	ND	10	10	11.7	11.6	117	116	72-150	0	30	v1
Vinyl chloride	ug/L	ND	1	1	0.89	0.88	89	88	30-150	2	30	
Xylene (Total)	ug/L	ND	30	30	26.1	26.8	87	89	75-131	3	30	
1,2-Dichloroethane-d4 (S)	%.						106	112	75-128			
1,2-Dichloroethane-d4 (S)	%.						106	107	75-128			
1,2-Dichloroethane-d4 (S)	%.						115	112	75-128			
1,2-Dichloroethane-d4 (S)	%.						115	107	75-128			
4-Bromofluorobenzene (S)	%.						86	88	75-125			
Toluene-d8 (S)	%.						103	103	75-125			
Toluene-d8 (S)	%.						101	103	75-125			
Toluene-d8 (S)	%.						101	103	75-125			
Toluene-d8 (S)	%.						103	103	75-125			

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

QC Batch: 707883
QC Batch Method: EPA 8260D
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV LLW by SIMSCAN
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10536477012

METHOD BLANK: 3782131 Matrix: Water
Associated Lab Samples: 10536477012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.40	0.40	10/29/20 13:42	
1,1,1-Trichloroethane	ug/L	<1.0	1.0	10/29/20 13:42	MN
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	10/29/20 13:42	
1,1,2-Trichloroethane	ug/L	<0.40	0.40	10/29/20 13:42	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	1.0	10/29/20 13:42	
1,1-Dichloroethane	ug/L	<0.40	0.40	10/29/20 13:42	
1,1-Dichloroethene	ug/L	<1.0	1.0	10/29/20 13:42	MN
1,1-Dichloropropene	ug/L	<0.40	0.40	10/29/20 13:42	
1,2,3-Trichlorobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
1,2,3-Trichloropropane	ug/L	<0.010	0.010	10/29/20 07:10	
1,2,4-Trichlorobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
1,2,4-Trimethylbenzene	ug/L	<1.0	1.0	10/29/20 13:42	
1,2-Dibromo-3-chloropropane	ug/L	<0.12	0.12	10/29/20 07:10	
1,2-Dibromoethane (EDB)	ug/L	<0.050	0.050	10/29/20 07:10	
1,2-Dichlorobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
1,2-Dichloroethane	ug/L	<0.20	0.20	10/29/20 07:10	
1,2-Dichloropropane	ug/L	<0.40	0.40	10/29/20 13:42	
1,3,5-Trimethylbenzene	ug/L	<0.40	0.40	10/29/20 13:42	
1,3-Dichlorobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
1,3-Dichloropropane	ug/L	<0.40	0.40	10/29/20 13:42	
1,4-Dichlorobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
2,2-Dichloropropane	ug/L	<1.0	1.0	10/29/20 13:42	v1
2-Butanone (MEK)	ug/L	<5.0	5.0	10/29/20 13:42	v2
2-Chlorotoluene	ug/L	<0.40	0.40	10/29/20 13:42	
4-Chlorotoluene	ug/L	<0.40	0.40	10/29/20 13:42	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	10/29/20 13:42	
Acetone	ug/L	<20.0	20.0	10/29/20 13:42	
Allyl chloride	ug/L	<4.0	4.0	10/29/20 13:42	
Benzene	ug/L	<0.20	0.20	10/29/20 13:42	
Bromobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
Bromochloromethane	ug/L	<1.0	1.0	10/29/20 13:42	
Bromodichloromethane	ug/L	<0.40	0.40	10/29/20 13:42	
Bromoform	ug/L	<1.0	1.0	10/29/20 13:42	
Bromomethane	ug/L	<1.0	1.0	10/29/20 13:42	1M,v2
Carbon tetrachloride	ug/L	<0.050	0.050	10/29/20 07:10	
Chlorobenzene	ug/L	<0.40	0.40	10/29/20 13:42	
Chloroethane	ug/L	<1.0	1.0	10/29/20 13:42	
Chloroform	ug/L	<1.0	1.0	10/29/20 13:42	
Chloromethane	ug/L	<1.0	1.0	10/29/20 13:42	v2
cis-1,2-Dichloroethene	ug/L	<0.40	0.40	10/29/20 13:42	

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

METHOD BLANK: 3782131 Matrix: Water
Associated Lab Samples: 10536477012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	ug/L	<0.40	0.40	10/29/20 07:10	v2
Dibromochloromethane	ug/L	<0.40	0.40	10/29/20 07:10	
Dibromomethane	ug/L	<1.0	1.0	10/29/20 13:42	
Dichlorodifluoromethane	ug/L	<1.0	1.0	10/29/20 13:42	
Dichlorofluoromethane	ug/L	<1.0	1.0	10/29/20 13:42	
Diethyl ether (Ethyl ether)	ug/L	<4.0	4.0	10/29/20 13:42	
Ethylbenzene	ug/L	<0.40	0.40	10/29/20 13:42	
Hexachloro-1,3-butadiene	ug/L	<0.10	0.10	10/29/20 07:10	
Isopropylbenzene (Cumene)	ug/L	<0.40	0.40	10/29/20 13:42	
m&p-Xylene	ug/L	<0.80	0.80	10/29/20 13:42	
Methyl-tert-butyl ether	ug/L	<0.40	0.40	10/29/20 13:42	
Methylene Chloride	ug/L	<1.0	1.0	10/29/20 13:42	
n-Butylbenzene	ug/L	<0.40	0.40	10/29/20 13:42	
n-Propylbenzene	ug/L	<0.40	0.40	10/29/20 13:42	
Naphthalene	ug/L	<1.0	1.0	10/29/20 13:42	
o-Xylene	ug/L	<0.40	0.40	10/29/20 13:42	
p-Isopropyltoluene	ug/L	<0.40	0.40	10/29/20 13:42	
sec-Butylbenzene	ug/L	<0.40	0.40	10/29/20 13:42	
Styrene	ug/L	<0.40	0.40	10/29/20 13:42	
tert-Butylbenzene	ug/L	<0.40	0.40	10/29/20 13:42	
Tetrachloroethene	ug/L	<0.40	0.40	10/29/20 13:42	
Tetrahydrofuran	ug/L	<10.0	10.0	10/29/20 13:42	
Toluene	ug/L	<0.40	0.40	10/29/20 13:42	
trans-1,2-Dichloroethene	ug/L	<0.40	0.40	10/29/20 13:42	
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	10/29/20 07:10	
Trichloroethene	ug/L	<0.050	0.050	10/29/20 07:10	
Trichlorofluoromethane	ug/L	<0.40	0.40	10/29/20 13:42	v1
Vinyl chloride	ug/L	<0.050	0.050	10/29/20 07:10	
Xylene (Total)	ug/L	<1.2	1.2	10/29/20 13:42	
1,2-Dichloroethane-d4 (S)	%.	121	75-128	10/29/20 13:42	
1,2-Dichloroethane-d4 (S)	%.	113	75-128	10/29/20 07:10	
4-Bromofluorobenzene (S)	%.	93	75-125	10/29/20 13:42	
Toluene-d8 (S)	%.	107	75-125	10/29/20 07:10	
Toluene-d8 (S)	%.	104	75-125	10/29/20 13:42	

LABORATORY CONTROL SAMPLE: 3782132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	10	11.5	115	75-125	
1,1,1-Trichloroethane	ug/L	10	10.5	105	68-131	
1,1,2,2-Tetrachloroethane	ug/L	10	10.1	101	71-125	
1,1,2-Trichloroethane	ug/L	10	10.8	108	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	10	10.1	101	71-125	
1,1-Dichloroethane	ug/L	10	9.8	98	71-125	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

LABORATORY CONTROL SAMPLE: 3782132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	10	9.0	90	66-126	
1,1-Dichloropropene	ug/L	10	8.5	85	58-134	
1,2,3-Trichlorobenzene	ug/L	10	9.7	97	71-125	
1,2,3-Trichloropropane	ug/L	1	0.88	88	75-125	
1,2,4-Trichlorobenzene	ug/L	10	9.8	98	72-125	
1,2,4-Trimethylbenzene	ug/L	10	8.9	89	75-125	
1,2-Dibromo-3-chloropropane	ug/L	2.5	2.1	86	71-125	
1,2-Dibromoethane (EDB)	ug/L	1	0.85	85	71-125	
1,2-Dichlorobenzene	ug/L	10	10	100	75-125	
1,2-Dichloroethane	ug/L	1	0.94	94	75-131	
1,2-Dichloropropane	ug/L	10	9.1	91	73-125	
1,3,5-Trimethylbenzene	ug/L	10	8.8	88	75-125	
1,3-Dichlorobenzene	ug/L	10	10.5	105	75-125	
1,3-Dichloropropane	ug/L	10	10.0	100	75-125	
1,4-Dichlorobenzene	ug/L	10	10.5	105	75-125	
2,2-Dichloropropane	ug/L	10	12.3	123	57-144	v1
2-Butanone (MEK)	ug/L	50	31.2	62	51-144	v3
2-Chlorotoluene	ug/L	10	9.4	94	75-125	
4-Chlorotoluene	ug/L	10	8.7	87	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	50	43.1	86	72-125	
Acetone	ug/L	50	41.3	83	34-150	
Allyl chloride	ug/L	10	8.2	82	58-132	
Benzene	ug/L	10	8.7	87	70-125	
Bromobenzene	ug/L	10	9.7	97	75-125	
Bromochloromethane	ug/L	10	11.2	112	72-126	
Bromodichloromethane	ug/L	10	10.3	103	73-128	
Bromoform	ug/L	10	11.6	116	70-125	
Bromomethane	ug/L	10	6.1	61	31-150	1M,v3
Carbon tetrachloride	ug/L	1	0.91	91	68-136	
Chlorobenzene	ug/L	10	9.9	99	75-125	
Chloroethane	ug/L	10	9.2	92	70-128	
Chloroform	ug/L	10	11.2	112	72-125	
Chloromethane	ug/L	10	6.7	67	63-129	v3
cis-1,2-Dichloroethene	ug/L	10	9.0	90	69-128	
cis-1,3-Dichloropropene	ug/L	1	0.76	76	71-125	v3
Dibromochloromethane	ug/L	1	0.91	91	71-125	
Dibromomethane	ug/L	10	10.8	108	74-130	
Dichlorodifluoromethane	ug/L	10	9.1	91	65-134	
Dichlorofluoromethane	ug/L	10	10.7	107	74-125	
Diethyl ether (Ethyl ether)	ug/L	10	8.3	83	64-126	
Ethylbenzene	ug/L	10	9.3	93	75-125	
Hexachloro-1,3-butadiene	ug/L	1	0.84	84	65-133	
Isopropylbenzene (Cumene)	ug/L	10	8.9	89	75-125	
m&p-Xylene	ug/L	20	19.1	96	75-125	
Methyl-tert-butyl ether	ug/L	10	10	100	68-125	
Methylene Chloride	ug/L	10	9.3	93	69-125	
n-Butylbenzene	ug/L	10	9.0	90	75-125	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

LABORATORY CONTROL SAMPLE: 3782132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
n-Propylbenzene	ug/L	10	8.6	86	74-125	
Naphthalene	ug/L	10	8.8	88	66-125	
o-Xylene	ug/L	10	8.6	86	75-125	
p-Isopropyltoluene	ug/L	10	9.0	90	75-125	
sec-Butylbenzene	ug/L	10	8.7	87	75-125	
Styrene	ug/L	10	9.7	97	75-125	
tert-Butylbenzene	ug/L	10	8.2	82	75-125	
Tetrachloroethene	ug/L	10	10.6	106	75-125	
Tetrahydrofuran	ug/L	100	85.0	85	55-139	
Toluene	ug/L	10	9.8	98	75-125	
trans-1,2-Dichloroethene	ug/L	10	9.2	92	67-127	
trans-1,3-Dichloropropene	ug/L	1	0.81	81	70-125	
Trichloroethene	ug/L	1	0.83	83	69-125	
Trichlorofluoromethane	ug/L	10	12.3	123	70-131	v1
Vinyl chloride	ug/L	1	0.89	89	68-132	
Xylene (Total)	ug/L	30	27.7	92	75-125	
1,2-Dichloroethane-d4 (S)	%.			111	75-128	
1,2-Dichloroethane-d4 (S)	%.			111	75-128	
4-Bromofluorobenzene (S)	%.			86	75-125	
Toluene-d8 (S)	%.			106	75-125	
Toluene-d8 (S)	%.			103	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3782133 3782134

Parameter	Units	10537346001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	10	10	10.7	11.2	107	112	75-125	5	30	
1,1,1-Trichloroethane	ug/L	ND	10	10	10.7	10.4	107	104	65-148	3	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	10	10	9.0	9.0	90	90	72-125	0	30	
1,1,2-Trichloroethane	ug/L	ND	10	10	9.6	9.5	96	95	75-125	0	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	10	10	10.3	10.1	103	101	75-145	2	30	
1,1-Dichloroethane	ug/L	ND	10	10	9.8	9.6	98	96	73-136	3	30	
1,1-Dichloroethene	ug/L	ND	10	10	9.1	9.3	91	93	69-138	2	30	
1,1-Dichloropropene	ug/L	ND	10	10	8.3	8.6	83	86	60-150	4	30	
1,2,3-Trichlorobenzene	ug/L	ND	10	10	9.2	9.0	92	90	67-135	2	30	
1,2,3-Trichloropropane	ug/L	ND	1	1	0.93	0.92	93	92	49-150	1	30	
1,2,4-Trichlorobenzene	ug/L	ND	10	10	9.0	9.1	90	91	68-133	1	30	
1,2,4-Trimethylbenzene	ug/L	ND	10	10	8.2	8.5	82	85	75-135	4	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.5	2.5	2.3	2.3	94	92	53-150	1	30	
1,2-Dibromoethane (EDB)	ug/L	ND	1	1	0.89	0.89	89	89	49-150	0	30	
1,2-Dichlorobenzene	ug/L	ND	10	10	9.4	9.5	94	95	75-125	1	30	
1,2-Dichloroethane	ug/L	ND	1	1	1.2	1.2	99	98	42-150	1	30	
1,2-Dichloropropane	ug/L	ND	10	10	8.2	8.5	82	85	71-125	3	30	
1,3,5-Trimethylbenzene	ug/L	ND	10	10	8.1	8.5	81	85	75-129	5	30	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3782133 3782134

Parameter	Units	10537346001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,3-Dichlorobenzene	ug/L	ND	10	10	9.8	9.9	98	99	75-125	1	30	
1,3-Dichloropropane	ug/L	ND	10	10	9.0	9.2	90	92	75-125	3	30	
1,4-Dichlorobenzene	ug/L	ND	10	10	9.5	9.4	95	94	75-125	1	30	
2,2-Dichloropropane	ug/L	ND	10	10	11.9	11.9	119	119	67-150	0	30	v1
2-Butanone (MEK)	ug/L	ND	50	50	24.2	24.9	48	50	49-138	3	30	M1,v3
2-Chlorotoluene	ug/L	ND	10	10	9.1	9.3	91	93	75-130	2	30	
4-Chlorotoluene	ug/L	ND	10	10	8.0	8.4	80	84	75-133	4	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	50	36.4	36.4	73	73	75-126	0	30	M1
Acetone	ug/L	ND	50	50	35.1	34.7	70	69	51-125	1	30	
Allyl chloride	ug/L	ND	10	10	7.6	7.7	76	77	50-150	1	30	
Benzene	ug/L	ND	10	10	8.0	8.0	80	80	68-129	1	30	
Bromobenzene	ug/L	ND	10	10	8.9	9.1	89	91	75-125	2	30	
Bromochloromethane	ug/L	ND	10	10	10.7	10.8	107	108	73-132	1	30	
Bromodichloromethane	ug/L	ND	10	10	9.6	9.5	96	95	75-127	1	30	
Bromoform	ug/L	ND	10	10	10.5	10.7	105	107	71-125	2	30	
Bromomethane	ug/L	ND	10	10	4.9	6.1	49	61	30-150	22	30	1M,v3
Carbon tetrachloride	ug/L	ND	1	1	1.1	1.0	107	104	30-150	2	30	
Chlorobenzene	ug/L	ND	10	10	9.1	9.5	91	95	75-125	4	30	
Chloroethane	ug/L	ND	10	10	9.0	8.2	90	82	68-141	9	30	
Chloroform	ug/L	ND	10	10	10.1	10.3	101	103	61-129	2	30	
Chloromethane	ug/L	ND	10	10	6.1	6.0	61	60	46-150	1	30	v3
cis-1,2-Dichloroethene	ug/L	ND	10	10	9.0	8.9	90	89	68-142	1	30	
cis-1,3-Dichloropropene	ug/L	ND	1	1	0.81	0.78	81	78	48-150	3	30	v3
Dibromochloromethane	ug/L	ND	1	1	0.98	0.96	98	96	50-150	2	30	
Dibromomethane	ug/L	ND	10	10	9.9	9.3	99	93	69-137	6	30	
Dichlorodifluoromethane	ug/L	ND	10	10	8.4	8.7	82	86	68-150	4	30	
Dichlorofluoromethane	ug/L	ND	10	10	10.1	10.1	96	96	73-135	0	30	
Diethyl ether (Ethyl ether)	ug/L	ND	10	10	8.3	8.2	73	72	61-128	1	30	
Ethylbenzene	ug/L	ND	10	10	8.9	9.0	89	90	75-131	1	30	
Hexachloro-1,3-butadiene	ug/L	ND	1	1	1.1	1.0	108	100	40-150	8	30	
Isopropylbenzene (Cumene)	ug/L	ND	10	10	8.5	8.9	85	89	75-133	5	30	
m&p-Xylene	ug/L	ND	20	20	18.0	18.4	90	92	75-135	2	30	
Methyl-tert-butyl ether	ug/L	ND	10	10	9.3	9.4	93	94	67-126	1	30	
Methylene Chloride	ug/L	ND	10	10	8.3	8.5	83	85	61-137	2	30	
n-Butylbenzene	ug/L	ND	10	10	8.7	8.9	87	89	75-136	2	30	
n-Propylbenzene	ug/L	ND	10	10	8.5	8.5	85	85	75-139	0	30	
Naphthalene	ug/L	ND	10	10	8.0	8.1	80	81	64-127	1	30	
o-Xylene	ug/L	ND	10	10	8.1	8.4	81	84	75-127	3	30	
p-Isopropyltoluene	ug/L	ND	10	10	8.7	8.8	87	88	75-135	0	30	
sec-Butylbenzene	ug/L	ND	10	10	8.7	8.9	87	89	75-141	2	30	
Styrene	ug/L	ND	10	10	8.5	8.7	85	87	75-125	3	30	
tert-Butylbenzene	ug/L	ND	10	10	8.4	8.2	84	82	75-141	2	30	
Tetrachloroethene	ug/L	ND	10	10	10.6	10.9	106	109	75-135	3	30	
Tetrahydrofuran	ug/L	ND	100	100	73.8	76.1	74	76	45-145	3	30	

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QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3782133 3782134

Parameter	Units	10537346001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene	ug/L	ND	10	10	9.0	9.2	90	92	74-125	2	30	
trans-1,2-Dichloroethene	ug/L	ND	10	10	8.9	8.7	89	87	68-137	1	30	
trans-1,3-Dichloropropene	ug/L	ND	1	1	0.91	0.89	91	89	50-150	2	30	
Trichloroethene	ug/L	ND	1	1	0.96	0.95	92	91	41-150	1	30	
Trichlorofluoromethane	ug/L	ND	10	10	11.7	11.6	117	116	72-150	0	30	v1
Vinyl chloride	ug/L	0.15	1	1	0.97	0.97	83	83	30-150	0	30	
Xylene (Total)	ug/L	ND	30	30	26.1	26.8	87	89	75-131	3	30	
1,2-Dichloroethane-d4 (S)	%.						111	112	75-128			
1,2-Dichloroethane-d4 (S)	%.						115	112	75-128			
1,2-Dichloroethane-d4 (S)	%.						111	112	75-128			
1,2-Dichloroethane-d4 (S)	%.						115	112	75-128			
4-Bromofluorobenzene (S)	%.						86	88	75-125			
Toluene-d8 (S)	%.						101	104	75-125			
Toluene-d8 (S)	%.						105	104	75-125			
Toluene-d8 (S)	%.						105	103	75-125			
Toluene-d8 (S)	%.						101	103	75-125			

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

QC Batch: 707946
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10536477001, 10536477002, 10536477003, 10536477004, 10536477005, 10536477006, 10536477007, 10536477008, 10536477009, 10536477010, 10536477011, 10536477012

LABORATORY CONTROL SAMPLE: 3782526

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	101	98-102	H6

SAMPLE DUPLICATE: 3782527

Parameter	Units	10536292002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	7.8	0	3	H6

SAMPLE DUPLICATE: 3782528

Parameter	Units	10536377001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	7.9	0	3	H6

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

QC Batch: 707948
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10536477013, 10536477014

LABORATORY CONTROL SAMPLE: 3782532

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	101	98-102	H6

SAMPLE DUPLICATE: 3782533

Parameter	Units	10536369001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.0	0	3	H6

SAMPLE DUPLICATE: 3782534

Parameter	Units	10536369002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.0	0	3	H6

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

QC Batch: 706527 | Analysis Method: SM 2510
QC Batch Method: SM 2510 | Analysis Description: SM2510 Specific Conductance
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10536477001, 10536477002, 10536477003, 10536477004, 10536477005, 10536477006

METHOD BLANK: 3774643 Matrix: Water
Associated Lab Samples: 10536477001, 10536477002, 10536477003, 10536477004, 10536477005, 10536477006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	<1.0	1.0	10/26/20 14:45	

LABORATORY CONTROL SAMPLE: 3774644

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	984	98	90-110	

SAMPLE DUPLICATE: 3774645

Parameter	Units	10536194001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	2480	2480	0	20	

SAMPLE DUPLICATE: 3774646

Parameter	Units	10536194002 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	2880	2860	1	20	

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(612)607-1700

QUALITY CONTROL DATA

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

QC Batch: 706915 | Analysis Method: SM 2510
QC Batch Method: SM 2510 | Analysis Description: SM2510 Specific Conductance
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10536477007, 10536477008, 10536477009, 10536477010, 10536477011, 10536477012, 10536477013, 10536477014

METHOD BLANK: 3776783 Matrix: Water
Associated Lab Samples: 10536477007, 10536477008, 10536477009, 10536477010, 10536477011, 10536477012, 10536477013, 10536477014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	<1.0	1.0	10/27/20 16:29	

LABORATORY CONTROL SAMPLE: 3776784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	1000	100	90-110	

SAMPLE DUPLICATE: 3776785

Parameter	Units	10536685001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	2870	2760	4	20	

SAMPLE DUPLICATE: 3776786

Parameter	Units	10536477007 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	564	567	1	20	

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Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1M	This analyte did not meet the secondary source verification criteria for the initial calibration. Analyte recovery exceeded the 130% upper control limit at 131%. Results may be biased high.
H5	Reanalysis conducted in excess of EPA method holding time. Results confirm original analysis performed in hold time.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MN	The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.
v1	The continuing calibration verification was above the method acceptance limit. Any detection for the analyte in the associated samples may have a high bias.
v2	The continuing calibration verification was below the method acceptance limit. The analyte was not detected in the associated samples and the sensitivity of the instrument was verified with a reporting limit check standard.
v3	The continuing calibration verification was below the method acceptance limit. Any detection for the analyte in the associated samples may have a low bias.

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PRJ07913 Clay County Sanitary
Pace Project No.: 10536477

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10536477013	**Duplicate 1**	EPA 8260D	708886		
10536477014	**LYS-DUP**	EPA 8260D	708886		
10536477015	**Trip Blank**	EPA 8260D	708886		
10536477016	**Trip Blank 2**	EPA 8260D	708886		
10536477001	**W-301A**	EPA 8260D	707085		
10536477002	**W-106A**	EPA 8260D	707313		
10536477003	**W-5**	EPA 8260D	707313		
10536477004	**S-3**	EPA 8260D	707313		
10536477005	**W-202A**	EPA 8260D	707313		
10536477006	**W-201A**	EPA 8260D	707313		
10536477007	**W-2**	EPA 8260D	707313		
10536477008	**W-6**	EPA 8260D	707313		
10536477009	**W-302A**	EPA 8260D	707313		
10536477010	**W-104A**	EPA 8260D	707313		
10536477011	**MH-LYS-III-P1**	EPA 8260D	707313		
10536477012	**MH-LYS-III-P2**	EPA 8260D	707883		
10536477001	**W-301A**	SM 4500-H+B	707946		
10536477002	**W-106A**	SM 4500-H+B	707946		
10536477003	**W-5**	SM 4500-H+B	707946		
10536477004	**S-3**	SM 4500-H+B	707946		
10536477005	**W-202A**	SM 4500-H+B	707946		
10536477006	**W-201A**	SM 4500-H+B	707946		
10536477007	**W-2**	SM 4500-H+B	707946		
10536477008	**W-6**	SM 4500-H+B	707946		
10536477009	**W-302A**	SM 4500-H+B	707946		
10536477010	**W-104A**	SM 4500-H+B	707946		
10536477011	**MH-LYS-III-P1**	SM 4500-H+B	707946		
10536477012	**MH-LYS-III-P2**	SM 4500-H+B	707946		
10536477013	**Duplicate 1**	SM 4500-H+B	707948		
10536477014	**LYS-DUP**	SM 4500-H+B	707948		
10536477001	**W-301A**	SM 2510	706527		
10536477002	**W-106A**	SM 2510	706527		
10536477003	**W-5**	SM 2510	706527		
10536477004	**S-3**	SM 2510	706527		
10536477005	**W-202A**	SM 2510	706527		
10536477006	**W-201A**	SM 2510	706527		
10536477007	**W-2**	SM 2510	706915		
10536477008	**W-6**	SM 2510	706915		
10536477009	**W-302A**	SM 2510	706915		
10536477010	**W-104A**	SM 2510	706915		
10536477011	**MH-LYS-III-P1**	SM 2510	706915		
10536477012	**MH-LYS-III-P2**	SM 2510	706915		
10536477013	**Duplicate 1**	SM 2510	706915		
10536477014	**LYS-DUP**	SM 2510	706915		

REPORT OF LABORATORY ANALYSIS

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WO#: 10536477

10536477

Minnesota Pollution Control Agency

MPCA Chain-of-Custody Form revision 2017.0328

* indicates a required field

Work Order Number: | COC Type: Standard | Page:

Turnaround Time: Standard | COC ID: 33549 line8

PROJECT/CLIENT INFO

Facility Code:* SW-34 | Program Code (MDH Lab Only):

Project Name:* Clay County Sanitary Landfill - Fall 2020 | Project Task Code:* PRJ07913

Project Manager: Andrew Feia

Potential Hazard? No | If yes, add information to **Sampler Comments** field

LABORATORY

Lab Name: Pace Analytical Services, LLC

Address: 1700 Elm Street SE

Minneapolis, MN 55414

EPA Lab ID:*

SAMPLE DETAILS

SAMPLE TYPES
Sample=Routine Sample
QC-FB=Field Blank Sample
QC-FR=Field Replicate Sample
QC-TB=Trip Blank Sample
QC-EB=Equipment Blank
Treated-Mid=Treatment system sample
Treated-Post=Treatment system sample

SAMPLING METHODS
G=Grab sample
CT=Composite, time-paced w/AS
CF=Composite w/AS
D-T=Discrete,time-paced w/AS
D-F=Discrete,flow-paced w/AS
SW-GAS=Gas Sampling
Unknown=Unknown

LAB MATRICES
DW=Drinking Water
NW=Nonpotable Water
SD=Soil/Solid
AR=Air
BL=Biological Material
OT=Other
TS=Tissue

FIELD MATRICES
Wtr-Ground=Groundwater
Wtr-Surf=Surface Water
Wtr-Drink=Drinking Water
QC-BLANK=Artificial Blank Water
Leachate=Leachate Sample
Air-Indoor=Indoor Air
Gas-Soil=Soil Gas

MN Location Identifier*	Field Name	Sample Type*	Start Date* (mm/dd/yyyy)	Start Time* 24 hr (hh:mm)	Depth Start	Depth End	Depth Units (m or ft.)	Sampling Method*	Complete ONLY if Method is CT, CF, D-T, or D-F: End Date (mm/dd/yyyy)	Complete ONLY if Method is CT, CF, D-T, or D-F: End Time 24 hr (hh:mm)	Lab Matrix*	Field Matrix*	AIS	Sampler Comments (filter volume, special handling, etc.)	# of Cont	ANALYSIS*	PRESERV.	FF	List 1-VOCs (Attached)	List 4-pH, Specific Conductance				Lab Sample No.	#
																	HCL	None							
																	N	N							
778496	W-301A	Sample	10/15/2020	0931				G			NW	WTR-Ground			7				x	x				001	1
763239	W-106A	Sample	10/15/2020	1018				G			NW	WTR-Ground			7				x	x				002	2
222010	W-5	Sample	10/15/2020	1059				G			NW	WTR-Ground			7				x	x				003	3
SP00051	S-3	Sample	10/15/2020	1134				G			NW	WTR-Surf			7				x	x				004	4
763244	W-202A	Sample	10/15/2020	1228				G			NW	WTR-Ground			7				x	x				005	5
763243	W-201A	Sample	10/15/2020	1256				G			NW	WTR-Ground			7				x	x				006	6
117051	W-2	Sample	10/15/2020	1327				G			NW	WTR-Ground			7				x	x				007	7
222012	W-6	Sample	10/15/2020	1410				G			NW	WTR-Ground			7				x	x				008	8
778498	W-302A	Sample	10/15/2020	1445				G			NW	WTR-Ground			7				x	x				009	9
763237	W-104A	Sample	10/15/2020	1539				G			NW	WTR-Ground			7				x	x				010	10

Sampler's Name:* Christina Lammers | **Phone#:** 701-893-2327

Sampler's Signature:* Christina Lammers

Sampler's Organization: Wenck Associates, Inc.

Billing Organization: Clay County - Kirk Rosenberger | **Acct#:** 10-115155

Address: 807 11th Street North, Moorhead, MN 56560

Courier Name: Speedee | **Tracking#:**

Receiving Comments:

Relinquished By/Affiliation	Date/Time	Accepted By/Affiliation	Date/Time
(Sampler) Christina Lammers /Wenck	10/19/20 1200	PACE	10/21/20 1220

4.3

Minnesota Pollution Control Agency

MPCA Chain-of-Custody Form revision 2017.0328

* indicates a required field

Work Order Number: | COC Type: Standard | Page: 2 of 2

Turnaround Time: Standard | COC ID: 33549 line8

FOR LAB USE ONLY

PROJECT/CLIENT INFO

Facility Code:* SW-34 | Program Code (MDH Lab Only):

Project Name:* Clay County Sanitary Landfill - Fall 2020 | Project Task Code:* PRJ07913

Project Manager: Andrew Feia

Potential Hazard? No | If yes, add information to **Sampler Comments** field

LABORATORY

Lab Name: Pace Analytical Services, LLC

Address: 1700 Elm Street SE

Minneapolis, MN 55414

EPA Lab ID:*

Lab Work Order Sticker

SAMPLE DETAILS

SAMPLE TYPES
Sample=Routine Sample
QC-FB=Field Blank Sample
QC-FR=Field Replicate Sample
QC-TB=Trip Blank Sample
QC-EB=Equipment Blank
Treated-Mid=Treatment system sample
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LAB MATRICES
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NW=Nonpotable Water
SD=Soil/Solid
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BL=Biological Material
OT=Other
TS=Tissue

FIELD MATRICES
Wtr-Ground=Groundwater
Wtr-Surf=Surface Water
Wtr-Drink=Drinking Water
QC-BLANK=Artificial Blank Water
Leachate=Leachate Sample
Air-Indoor=Indoor Air
Gas-Soil=Soil Gas

ANALYSIS REQUESTED

MN Location Identifier*	Field Name	Sample Type*	Start Date* (mm/dd/yyyy)	Start Time* 24 hr (hh:mm)	Depth Start	Depth End	Depth Units (m or ft.)	Sampling Method*	Complete ONLY if Method is CT, CF, D-T, or D-F: End Date (mm/dd/yyyy)	Complete ONLY if Method is CT, CF, D-T, or D-F: End Time 24 hr (hh:mm)	Lab Matrix*	Field Matrix*	AIS	Sampler Comments (filter volume, special handling, etc.)	# of Cont	PRESERV.	HCL	None					Lab Sample No.	#
																FF	N	N						
																ANALYSIS*	List 1-SimScan VOCs (Attached)	List 4-pH, Specific Conductance						
LS00124	MH-LYS-III-P1	Sample	10/15/2020	1618				G			NW	WTR-Ground			7		x	x					012	1
LS00125	MH-LYS-III-P2	Sample	10/15/2020	1710				G			NW	WTR-Ground			7		x	x					012	2
QC-BLANK	Duplicate 1	QC-FR	10/15/2020	-				G			NW	QC-Blank			7		x	x					013	3
QC-BLANK	LYS-DUP	QC-FR	10/15/2020	-				G			NW	WTR-Ground			7		x	x					014	4
QC-BLANK	Trip Blank	QC-TB	10/15/2020	1200				G			NW	WTR-Ground			4		x						015	5
QC-BLANK	Trip Blank 2	QC-TB	10/15/2020	1205				G			NW	QC-Blank			4		x						016	6
QC-BLANK	Trip Blank 3	QC-TB	10/15/2020	1210				G			NW	QC-Blank			2		x						017	7
																								8
																								9
																								10

Sampler's Name:* Christina Lammers | **Phone#:** 701-893-2327

Sampler's Signature:* Christina Lammers

Sampler's Organization: Wenck Associates, Inc.

Billing Organization: Clay County - Kirk Rosenberger | **Acct#:** 10-115155

Address: 807 11th Street North, Moorhead, MN 56560

Courier Name: Speedee | **Tracking#:**

Receiving Comments:

Relinquished By/Affiliation	Date/Time	Accepted By/Affiliation	Date/Time
(Sampler) Christina Lammers /Wenck	10/19/20 1200	RKE	10/20/20 1220

4.3°

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) - MN**	Document Revised: 12Aug2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0150 Rev.01**	Pace Analytical Services - **Minneapolis**

Sample Condition Upon Receipt

Client Name: Wenck

Project #: **WO#: 10536477**

PM: AKA Due Date: 11/04/20

CLIENT: WENCK-ND

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☑ Commercial

Tracking Number: _____ See Exceptions ☐ ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

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

Thermometer: ☑ T1(0461) ☐ T2(1336) ☐ T3(0459) ☐ T4(0254) ☐ T5(0489) **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☑ No **Were All Container Temps Taken?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 2.9, 5.1, 4.3 °C

Correction Factor: true **Cooler Temp Corrected w/temp blank:** 2.9 5.1, 4.3 °C

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☑ N/A, water sample/Other: _____)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Date/Initials of Person Examining Contents: 10-21-20 AA

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

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

				COMMENTS:
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other _____
Rush Turn Around Time Requested?	☐ Yes	☑ No		6.
Sufficient Volume?	☑ Yes	☐ No		7.
Correct Containers Used? -Pace Containers Used?	☑ Yes ☑ Yes	☐ No ☐ No		8.
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☑ Water ☐ Soil ☐ Oil ☐ Other _____	☑ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐ ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☑ Yes	☐ No	☐ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐ ENV-FRM-MIN4-0142
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	13. 26mm x 1 TB v.21 **See Exception** ☐ ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)?	☑ Yes	☐ No	☐ N/A	
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	14.
Trip Blank Custody Seals Present?	☑ Yes	☐ No	☐ N/A	Pace Trip Blank Lot # (if purchased): 272968

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Anna Osp **Date:** 10/23/2020

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

Labeled by: TN

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