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January 31, 2020

Mr. Jeff Ackerman
DNR – SC Region
3911 Fish Hatchery Road
Fitchburg, WI 53711

SUBJECT: **Site Investigation Report (revised)**
Anderson Property
NW Corner Hwy 80 and Palmer Street
Hub City, Wisconsin
True North Project #T2I8038
DNR BRRTS #: 03-53-000559

Dear Mr. Ackerman:

True North Consultants, Inc. (True North) is pleased to submit for your review the Site Investigation Report for the above-referenced site. The Site Investigation Report presents the site investigation work and results completed to date.

If you have any questions, please contact me at (608) 212-1676.

Regards,
TRUE NORTH CONSULTANTS, INC.

Thomas J. Culp, PG
Senior Project Manager

Enclosure: Site Investigation Report

Site Investigation Report

Anderson Property – Hub City
NW Corner of Hwy 80 and Palmer Street
Hub City, Wisconsin 53581

PREPARED FOR
Wisconsin Department of Natural Resources
Mr. Jeff Ackerman
3911 Fish Hatchery Road
Fitchburg, WI 53711

PREPARED BY
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PROJECT NUMBER
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#03-53-000559

SUBMITTED ON
January 31, 2020

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1.0 EXECUTIVE SUMMARY

This report documents the activities and results of a site investigation conducted by True North Consultants, Inc. (True North) at the former Fred Anderson property (property) located at the intersection of Highway 80 and Palmer Street in Hub City, WI (**Figure 1**). The broader investigation area is bounded by the Anderson property line to the north, residential properties to the east, a community park area to the west, and Mandt Street to the south.

The Wisconsin Department of Natural Resources (DNR) was notified of the release in October 1990 after samples from a Wisconsin Department of Transportation (WDOT) site assessment at the property identified evidence of petroleum contamination. Based on the sampling results, the DNR issued a BRRTS number (BRRTS #03-53-000559) to the property and required further investigation into the extent of the release. Several investigations have been completed at the site (see **Figure 2**).

True North submitted a Site Investigation Workplan to the DNR in September 2018. Site investigation activities began in October 2018, shortly after the initial workplan was submitted to the DNR. The scope of work included collecting soil-gas, soil, and groundwater samples from various locations near the original contamination area, and at locations upgradient and downgradient of the property (**Figure 3**). The results of True North's initial investigation activities confirmed the presence of contamination near and around the former UST and pump island location at the property. Based on the initial results of the soil-gas samplers, a second sampling event took place in November 2018 and included advancing ten soil borings and installing five permanent monitoring wells.

A total of 11 soil borings were advanced throughout the investigation area using direct push technology (DPT) drilling techniques to reach depths ranging between 8 to 24 feet below ground surface (bgs). Five of the soil borings were converted into groundwater monitoring wells for periodic groundwater sampling of the property (**Figure 4**). Soil and groundwater samples collected during the site investigation were sent to Pace Analytical Services (Pace) in Green Bay, WI where they were analyzed for volatile organic compounds (VOCs), petroleum volatile organic compounds (PVOCs), and/or lead.

Subsurface soils at the property generally consisted of fine silts and clays, sand, and sandy gravels. Non-native soils were present above native soils to a depth of one to two feet bgs and generally consisted of gravel fill and asphalt. Water levels encountered during the site investigation were identified between four and seven feet bgs. Water levels measured at the property during the investigation varied depending on the location of the boring, lithology, and the amount of rain fall that collected in the aquifer. Western Wisconsin experienced significant rainfall events during the fall 2018. Subsequent rounds of groundwater sampling were purposely delayed due to high water table elevations.

Multiple PVOCs were detected in soil samples collected at the property, including reported concentrations found to be in exceedance of the DNR NR 720 Residual Contaminant Levels (RCLs). Lead was detected above the background threshold value (BTV) in three soil samples collected from the property. Groundwater samples collected at the site identified benzene at concentrations above the DNR NR 140 Enforcement Standard (ES). Other PVOCs were reported at concentrations in exceedance of the DNR NR 140 Preventive Action Limit (PAL).

2.0 INTRODUCTION AND KEY INFORMATION

2.1 Purpose and Description of Investigation Area

The purpose of True North's investigation around the Anderson property in Hub City, Wisconsin was to evaluate the degree and extent of soil and groundwater contamination originally identified at the property during a Wisconsin Department of Transportation site assessment conducted in Hub City during October 1990. True North's investigation area encompasses a 0.37-acre multi-parcel piece of land owned by Mr. Edward Berry and Ms. Rita Thielman which is the site of the former service station and snowmobile sales and service building, a 0.43-acre parcel owned by Mr. Robert Franz which is currently occupied by the Hub Pub and a residential apartment, and a 0.29-acre parcel owned by the Town of Henrietta which is the location of the town park.

The investigation was focused around the site of the former service station that was constructed around 1953 at the corner of Palmer Street and State Highway 80, and the adjacent properties to the south and southwest which are located downgradient of the focus area. The focus property operated as a service station until the late 1980s when it was purchased by Mr. Anderson who, at the time, owned the adjacent properties to the north and operated a snowmobile sales and service shop. Once purchased, Mr. Anderson expanded his sales and service business into the corner building and discontinued the service station and gasoline retail business. In the early 1990s, the WDOT acquired some of the road-adjacent portions of the property and adjoining lots for future changes to Hwy 80. It was around this time that the initial soil and groundwater samples were taken, and the petroleum contamination was identified.

2.2 Location Key Information

1. Site Name and Address:	Anderson Property – Hub City Tax Parcel #014-3440-2001 Hub City, WI 53581
2. Site Owner and RP:	Ed Berry and Rita Thielmann 15625 State Road 80 Hub City, WI 53581
3. Client Contact:	Mr. Jeff Ackerman Wisconsin Department of Natural Resources 3911 Fish Hatchery Road Fitchburg, WI 53711
4. Site Location:	NW ¼ of the SE ¼, Sec.34, T12N, R1E Richland County

5.	Environmental Consultant:	Thomas J. Culp, P.G. – Senior Project Manager Ben Stencil – Project Scientist True North Consultants, Inc. 525 Junction Road, Suite 1900 Madison, WI 53717
6.	True North Project Number:	T218038
7.	BRRTS Number:	#03-53-000559
8.	DNR Contact:	Mr. Jeff Ackerman (608)-275-3323

2.3 Previous Investigation Results and Case History

Environmental Site Assessment, Aqua-Tech, Inc., July 1990

A Wisconsin Department of Transportation study was conducted in 1990 around the intersection of Palmer Street and Highway 80 for future road expansion in the area along Highway 80. Two borings were advanced in July 1990 by Aqua-Tech, Inc. at the Anderson property near the UST system to the south of the former service building. Soil samples were taken between 5-7 feet bgs at each boring location (B-1 and B-2), and a groundwater sample was taken at B-1 (see **Figure 2**). Elevated concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline and TPH as diesel were identified in the soil, and elevated concentrations of benzene, toluene, ethylbenzene, and xylene (BTEX) were identified in a groundwater sample taken at B-1.

Phase II Environmental Site Assessment, Advent Environmental Services, Inc., December 1991 – January 1992.

Secondary sampling was conducted by Advent Environmental Services, Inc. between December 1991 and January 1992 and included the Anderson property and the McGlynn property (to the southwest). Advent installed a number of borings. Analytical data indicated that contamination was present at the Anderson site to the north of the former pump island at to the south of the tank bed. Three of the borings were converted into monitoring wells and were placed to the north at AGW-3, east at AGW-6, and south at AGW-8 (see **Figure 2**). Only samples from AGW-8 were identified as having elevated concentrations of gasoline range organics (GRO) and naphthalene.

Tank System Site Assessment, Mid-State Associates, Inc., December 1992

In November 1992 a tank system site assessment was conducted by Mid-State Associates during a tank removal at the Anderson property that was performed by Marell, Inc. One 500-gallon regular gasoline underground storage tank (UST), a 1,000-gallon unleaded gasoline UST, and all of the associated piping were removed from the Anderson property. Staining and petroleum odor were identified during the excavation

of the USTs. Samples taken by Mid-State showed elevated GRO contamination within the tank excavation limits; however, no contamination was identified in the samples taken at the pump island or along the pipe run. The excavation was backfilled with the original material and fill material. Mid-State indicated that because of the stained soil, petroleum odors, and the sample results additional investigation into the area would be required.

Phase I & II Environmental Site Assessment, METCO Environmental, September 12, 2006

A Phase 1 and Phase 2 ESA was conducted and completed by METCO between July and September 2006. This work was performed for Richland County and was funded by a DNR Brownfield Site Assessment Grant. The Phase 1 identified various recognized environmental conditions at the property including two former USTs containing gasoline, evidence of an unregistered AST containing waste/used oil, and a listing on the LUST database as a result of contaminated soil and groundwater identified during the UST removal and the DOT study conducted in 1992. In July 2006, METCO completed a limited Phase 2 ESA in order to assess the impacts of the recognized environmental conditions identified in the Phase 1. METCO collected soil and groundwater samples from six sampling points (G-1 through G-6) at the site during its investigation (see **Figure 2**).

The results of METCO's limited Phase 2 ESA showed significant lead and petroleum contamination in soil and groundwater, exceeding the DNR direct contact limit near the former pump island, near the former UST locations, and down-gradient of the former UST location. METCO indicated that the site was not able to be closed by the DNR and requires further investigation and possible remediation of the contaminated soil.

Property ownership and responsibility for investigation

On April 4, 2007, Richland County acquired the source property (and two adjoining parcels) due to back taxes. Based on this method of acquisition, Richland County was eligible for a Local Government Unit Exemption from the Spill Law (Wisconsin Statute 292). Richland County was not obligated to take additional actions at the site.

In or about 2008, Edward Berry and Rita Thielmann purchased the source property (and two adjoining parcels) from Richland County. In 2012, DNR became aware of the change in ownership and sent a "responsible party" letter to Edward Berry and Rita Thielmann (the RPs) on September 14, 2012. In response, the RPs claimed they were informed of continuing obligations on the property, but not the need for investigation or cleanup. The RPs have also consistently claimed financial hardship with respect to their obligations, despite the potential for reimbursement through the Petroleum Environmental Cleanup Fund Act.

This current project has been funded through DNR's state-lead process move the project forward and evaluate the extent of contamination, especially as it relates to potential impacts to the Hub Pub and attached dwelling.

Air Monitoring and Basement Sump Sampling, Wisconsin Department of Natural Resources, July 2017 through February 2018

In July 2017 the DNR collected a sump water sample from the Hub Pub located along Hwy 80 in Hub City (see **Figure 2**). The samples were analyzed for VOCs and PAHs. The results of the analysis identified elevated concentrations of benzene, benzo(a)pyrene, benzo(b)fluoranthene, and chrysene.

The sump pump was sampled again in January 2018. The analysis of the water indicated that petroleum compounds were present, though were at a very low concentrations, indicating the treatment system was effective. One PAH compound, benzo(b)fluoranthene was report with a concentration of 0.23, which is below the LOQ but above the NR 140 ES.

An outdoor air sample and two indoor air samples were taken in January 2018. The indoor air samples were taken in the kitchen, and in the basement. The samples were analyzed for VOCs using the EPA TO-15 method. Results indicated that 1,4-dichlorobenzene was the only contaminant detected in both the kitchen and basement that was over the vapor action level. The contaminant was thought to have come from an indoor source and not from vapor intrusion. In August 2018, an aeration treatment system was added to the sump to reduce the concentrations of contaminants in the sump. A vapor removal system was also added to the sump at the time.

3.0 SITE INVESTIGATION ACTIVITIES

True North Consultants, Inc. (True North) was retained by the Wisconsin Department of Natural Resources to conduct site investigation activities on the Anderson property. True North submitted a Site Investigation Workplan to the DNR in September 2018. True North conducted site investigation and sampling activities at the property between October 2018 and August 2019.

3.1 Field Methods

Site Investigation Activities

On October 04, 2018, True North mobilized to the Anderson property and proceeded to collect groundwater samples from the Franz property sump (Franz Sump) and the Henrietta Well (Henrietta Well). The Franz Sump is in the basement of the Hub Pub, beneath the residential apartment on the west side of the building. The sump has a hose that empties into the lawn which is where the sample was collected. The Henrietta Well (Henrietta Well), which is a potable well that services the Henrietta Township community park, is located to the west of the Anderson property near the shelter of the park. The Henrietta Well sample was collected from a spigot at the well head. True North allowed the pump to operate for approximately 30 minutes prior to sampling in order to assure that the sample was representative of formation water. The samples were collected in laboratory-supplied glassware and immediately labelled and placed on ice in a cooler for transport to Pace Analytical Services in Green Bay, WI. Field methods used were described in the Site Investigation Workplan.

During the mobilization on October 4th, True North installed 16 soil gas samplers which were provided by Amplified Geochemical Imaging, LLC (AGI). The soil-gas samples report mass concentrations of compounds migrating through open pore spaces in the soil. During the migration of the soil-gas, vapors become trapped in the membrane tube. The soil gas samplers were used to determine the placement of the future soil borings and monitoring wells.

The samplers were installed at pre-selected locations based on the results of past sampling events (**Figure 3)**. The samplers were installed by first creating an installation borehole to a depth of 36-inches using an electric hammer drill. Prior to installation, the samplers were each attached to a 36-38-inch string which was connected at the opposite end to a large cork. Once attached to the string and cork, the samplers were attached to a 36-inch-long steel rod and guided down the borehole to the bottom. Once the sampler was set at the bottom, the rod was removed, and the hole was plugged using the attached cork.

The samplers stayed in place for six days collecting soil-gas data. On October 10th, True North remobilized to the site to retrieve the samplers. The samplers were removed from the ground and placed back in their individual laboratory provided containers. All samples were immediately labelled and placed in the requested box for transportation back to AGI for analysis. The soil-gas concentrations reported from the samplers are proportionate to the concentrations in the soil and groundwater where the sampler collected gas concentrations.

On November 8-9, 2018, True North remobilized to Hub City in order to supervise the advancement of ten direct-push technology (DPT) soil borings (B-101 through B-105 and MW-101 through MW-105) at the site by On-Site Environmental, Inc.

On August 6, 2019, additional borings were installed adjacent to MW-103 and MW-104 to log soil to greater depths. An additional boring (B-106) was installed to collect additional soil data. During both events, subsurface utilities were located by calling Digger's Hotline and private subsurface utilities were located by GLS Utility, LLC (GLS) prior to advancing borings at the property.

Borings were completed to depths ranging from eight to twenty-four feet bgs. Drilling refusal was not encountered at any of the boring locations. Field screening was completed every 2.5-feet utilizing a photo-ionization detector (PID) for organic vapors as samples were being collected during drilling operations. Field screening results are indicated on the soil boring logs provided in **Appendix A**. Soil lithology logging and field screening was completed by True North.

Soil samples from each boring location were collected in laboratory-supplied containers by True North personnel. Groundwater samples were collected from each of the five borings (B-101 through B-105) that were not to be converted into monitoring wells. All samples were immediately labelled and placed in a cooler on ice for transport to Pace Analytical Labs (Pace) in Green Bay, Wisconsin for laboratory analysis of PVOCs, and Lead.

Once the samples and the field data were collected at each boring location, borings which were not to be converted into monitoring wells were abandoned per NR 141 requirements (**Appendix B**). Five of the soil borings were converted into NR141 compliant monitoring wells, each was set at a depth of 12 feet bgs. Boring and monitoring well locations are identified on the Site Investigation Plan Map as **Figure 4**.

Monitoring wells were surveyed in the field using a Bosch automatic optical level and level rod. The survey instrument was setup between wells and fore sight and back sight shot were taken to establish well rim elevations. The wells were re-surveyed in August 2019 using a closed level loop. Survey notes are included with **Table 1**.

On November 9th, 2018, monitoring wells MW-101 through MW-105 were developed by purging the wells using an electric pump for roughly an hour. The water table at the site was relatively high due to severe rain fall during the fall months, permitting each well to re-charge quickly and the wells did not purge dry. The DNR Monitoring Well Construction and Development forms are included in **Appendix C.**

True North and DNR agreed to delay the groundwater sampling until later due to the high water table at the time. The first round of groundwater samples were collected on December 5, 2018. Groundwater samples collected from the monitoring wells were analyzed for VOCs. All samples were immediately sealed, labeled, and placed in a cooler with ice for transport to Pace Analytical for laboratory for analysis. Additional groundwater sampling events were conducted on February 6, 2019 and August 6, 2019.

Slug testing was completed to determine the in-situ hydraulic conductivity within the investigation area during the August 2019 sampling event. The monitoring wells were generally screened in geologic materials predominantly identified as silty sand to sand. The exception is MW-104, which is screened in multiple clay layers, with sand and silty sand below.

Rising-head slug testing was performed at all monitoring well locations to estimate the hydraulic conductivity of zones into which the screens and sand packs were installed. A Solinst Level Logger Model 3001 pressure transducer was lowered into the well and set just above the base of the well. The pressure transducer is used to record water levels before, during and after the slug was removed from the well. Following placement of the transducer and initiation of water level recording, a water slug consisting of bailer volume was rapidly removed from the well.

The removal of the water slug caused the static water drop nearly instantaneously and the well then began to recover to static water level. The pressure transducer records the iterative water levels as the level recovers to the static condition over time. The test was terminated when the groundwater level returned to approximate static conditions and sufficient data was collected to analyze the data, which was downloaded using the Solinst computer software. Hydraulic conductivity values were then calculated using this data and AQTESOLV software. The AQTESOLV program estimates aquifer properties such as hydraulic conductivity (K) based upon the raw slug test data.

3.2 Laboratory Analysis

Soil-gas samples were submitted to AGI Laboratory in Newark, DE for analysis. Samplers collected from the site on October 10, 2018 from various locations around the site investigation area were submitted to AGI for various target compounds. The submitted samples help to generate concentration maps of the sampled area showing pre-selected compounds. The concentration maps generated helped to identify areas of concern prior to additional site investigation activities taking place. The analytical report from AGI and the chain-of-custody forms are included in **Appendix D.**

Soil and groundwater samples were submitted to and analyzed by Pace Analytical Services in Green Bay, WI. Soil samples collected from borings B-101 through B-105 and MW-101 through MW-105 were analyzed for PVOCs and lead. Groundwater samples collected from borings B-101 through B-105 were analyzed for PVOCs, and the groundwater collected from MW-101 through MW-105 were analyzed for VOCs. A second and third round of groundwater sampling was conducted on February 6, 2019 and August 6, 2019 from monitoring wells MW-101 through MW-105, which were again analyzed for VOCs. Analytical laboratory reports and chain-of-custody forms for soil and groundwater samples collected during the site investigation are included in **Appendix E**.

3.3 Investigation Derived Waste

Soil from borings that was greater than 2 ppm on a PID was drummed for disposal. Soil below 2 ppm measured with a PID was thin spread near the boring. Development and purge water from MW-101 was containerized for disposal. All other development and purge water was discharged to a paved surface. Waste Management picked up two drums of contaminated soil and groundwater in May 2019 for disposal. Disposal documentation is included as **Appendix F**.

4.0 SITE INVESTIGATION RESULTS

4.1 Geology and Hydrogeology

Subsurface soils in the investigation area generally consist of fine silty clays and silty sands with some small gravels down to a depth of five feet bgs, silty clayey sands were identified between five to nine feet, and well-graded sands that transition into poorly-graded sands with some small gravels were identified between depths of ten to twenty-four feet bgs. Bedrock was not encountered. Copies of boring logs are included in **Appendix A** and a figure showing the cross section of the sub-surface lithology at the property is available as **Figure 5**.

A soil survey of Richland County identified the surficial soil in and around the vicinity of the investigation area as Toddville silt loam, Council fine sandy loam, and Orion silt loam (USDA, 2017). Areas mapped with Toddville, Council, and Orion silt and sandy loams are described as occasionally flooded and moderately eroded, and all have the capability of water retention. The surficial soil in the area is underlain by

unconsolidated deposits likely from the Pine River consisting of clay, silt, sand, and gravel. The uppermost bedrock unit around the site is identified as Cambrian age sandstone and dolomite, consisting of the Tunnel City and Elk Mound Formations. Based on area drinking water well records, depth to bedrock is estimated at approximately 60 feet bgs.

Water level measurements collected during the investigation indicate that the water table beneath the investigation area is present at depths ranging from three to seven feet bgs, approximately 780 feet above mean sea level (amsl). Depth to groundwater data collected from the site indicates that the groundwater flow in the area is toward the southwest. It should be noted that during the fall of 2018, the Hub City area experienced higher than normal rainfall when the monitoring wells were installed. Water table measurements and elevation data are summarized on **Table 1**.

The groundwater flow direction in the shallow aquifer, based on the potentiometric surface contour maps (**Figure 6 & 7**), was to the southwest. The approximate hydraulic gradient of the groundwater at the property ranged from 0.001 ft/ft to 0.003 ft/ft.

The in-situ hydraulic conductivity slug testing was completed on monitoring wells MW-101 through MW-105. The results of the slug test identified hydraulic conductivity values between 2.1 $x10^{-3}$ centimeters/second (cm/sec) to 6.5 $x10^{-4}$ cm/sec for monitoring wells MW-101 through MW-105. AQTESOLV data is presented in **Appendix G**.

Groundwater flow velocity is calculated at approximately 0.1 cm/day, using a K value of 10^{-3}, a gradient of 3 x 10^{-3}, and an assumed porosity of 0.3. Actual flow rates within the sand units may be significantly higher.

4.2 Soil Sample Analytical Results

Soil samples were collected from ten of the eleven borings advanced at the site (**Figure 4**). A minimum of one soil sample was collected from each boring. The soil samples were collected between depths of three to five feet bgs. Deeper samples were not able to be collected because of the high water table levels. Analytical results from soil samples collected during the site investigation identified PVOCs and lead concentrations above and below NR 720 RCLs.

PVOCs were identified above laboratory detection limits and above the NR 720 RCLs in samples from B-102, B-103, B-104, and MW-104. The analytical results for PVOCs found in the soil samples are summarized in **Table 2.** Soil contamination appears to be higher in the areas with fine grained deposits and lower in the sandy deposits.

Lead was reported in all soil samples collected from the investigation area. Samples collected from B-103, B-104, and MW-104 were identified above the Background Threshold Value. Due to the location of the exceedances in proximity to the Anderson property, it appears the lead is likely source related. Every other sample was found to be below the NR 720 Protection of Groundwater Pathway RCL. The analytical results for lead found in the soil samples collected from the property are summarized in **Table**

3.

The estimated extent of NR 720 RCL exceedances for soil PVOCs is presented in **Figure 8**. Laboratory reports and chain-of-custody documentation for the soil samples are included in **Appendix E**.

4.3 Groundwater Sample Analytical Results

True North collected a water sample from the Town of Henrietta potable well (**Figure 4**) in October 2018. The sample was analyzed for Wisconsin Drinking Water VOCs. The Henrietta well sample showed a low detection of 1,4-Dichlorobenzene. No other VOCs were detected. A second sample was collected from the Town of Henrietta well in August 2019. All parameters were below detection limits in the second sampling event. Sampling of other nearby potable wells was attempted numerous times but True North was unable to gain permission from the well owners. Potable well locations are shown on **Figure 4**.

True North collected a water sample from the Franz Sump discharge line in October 2018. The sump sample was analyzed for standard VOC analysis. Several VOCs were detected in the sample with Naphthalene being detected above the NR 140 PAL and Benzene being detected above the NR 140 ES.

In November 2018, groundwater samples were collected from boring locations B-101 through B-105 and were analyzed for PVOCs. Analytical results in groundwater samples collected from each boring location (B-101 through B-105) contained PVOCs exceeding the NR 140 PAL, and in some samples collected, contained PVOCs exceeding the NR 140 ES. Borings B-103 and B-104 exhibited the highest concentrations of PVOCs.

Groundwater samples were collected from the monitoring wells (MW-101 through MW-105) in December 2018, February 2019, and August 2019. The samples collected from the monitoring wells during the three sampling events were analyzed for VOCs. Samples from MW-101 contained the highest concentrations of VOCs, with the NR 140 ES for benzene being exceeded in all three events.

The analytical results for VOCs found in groundwater samples are summarized in **Table 4.** Groundwater PVOC plus naphthalene results are shown in **Table 4a** for clarity. The estimated extent of PAL and ES exceedances in groundwater for February 2019 event is presented on **Figure 9**. The estimated extent of PAL and ES exceedances in groundwater for August 2019 is presented on **Figure 10**. Laboratory reports and chain-of-custody documentation for the groundwater samples are included in **Appendix E**.

4.4 Soil Gas Analytical Results

Sixteen soil-gas field samples were collected from the property and surrounding area on October 10, 2018 after being placed in the soil at a depth of 36-inches bgs for a total of six days. The soil-gas sample results reported detectable concentrations of total

petroleum hydrocarbons above the average reporting limit in all the soil-gas samples collected. The highest TPH readings came from samples 0718, 0719, 0725, and 0731, all of which are located along Highway 80. Various other compounds were also identified in the samples from the site and are listed in the AGI report located in **Appendix D**.

Soil-gas concentration maps for contaminants were generated using the data from the samplers. The concentration maps were generated for TPH, benzene, and naphthalene. The concentration map for benzene identifies the area at and around the former service station as having the highest readings. There are also readings identified to the west and south of the former station area. The concentration areas for naphthalene were limited to only two samples, and the two points appear to be low concentrations. The concentration map for TPH shows the entire sample area as being affected. The highest concentrations of TPH are located near the former service station and further south near the Hub Pub parking area. The concentration maps are located in **Appendix D** with the analytical report provided by AGI.

5.0 EVALUATION OF COMPOUNDS OF CONCERN IN SOIL AND GROUNDWATER

True North evaluated the potential exposure risk associated with the detected constituents in the soil and groundwater at the site. In order for a compound to pose a risk to receptors (humans or the environment), two components must be present: there must be exposure of the receptors to the compounds, and there must be sufficient concentrations present in the media to which the receptor is exposed. Potential pathways for human exposure to various contaminants present at the site include:

- Direct Contact (including ingestion, dermal contact, and inhalation for residential, commercial/industrial worker, and construction workers)
- Ingestion of Groundwater (including residential, commercial/industrial worker, and construction worker)
- Vapor Intrusion

The following sections evaluate the potential for human exposure and the potential risk associated with the concentrations of the compounds of concern.

5.1 Soil: Direct Contact – Ingestion, Dermal Contact, Inhalation

Direct contact with impacted soil can occur if soil is disturbed. Potential exposure pathways include inhalation in the breathing zone, ingestion of soil particles, and or from dermal contact with soil that contains harmful constituents. Human exposure could occur during construction or maintenance activities where the area of soil containing contamination is disturbed. This exposure pathway could be minimized by either covering the soil with an impervious surface or removing and disposing the soil at a designated disposal site. Removing and disposing the soil would temporarily increase the potential for exposure while excavating, loading, and hauling the soil to a landfill, but would limit exposure in the long term.

Soil contamination at the site exceeded the DNR NR 720 Direct Contact RCL for

multiple PVOC constituents at B-103. Lead was also present at concentrations above the Background Threshold Value (BTV) level in samples collected from B-103, B-104, and MW-104 but below the DNR NR 720 Direct Contact RCL.

Based on the data, there is a direct contact exposure potential in the area of B-103. However, the direct contact exposure potential is minimized due to the existence of pavement /gravel surfaces over the contaminated soil. Further protection from the direct contact exposures can be minimized by requiring listing on the GIS registry and a cap maintenance requirement as a continuing obligation.

5.2 Ingestion of Groundwater

Ingestion of contaminants of concern in groundwater may occur if constituents found in soil leach into the groundwater, or is already present in groundwater, and is later transported from the groundwater to a potable drinking water supply. This pathway can be eliminated by providing sources of potable water that are known to be free of contaminants.

Potable drinking water wells were identified within 100 feet of the Anderson Property and include multiple private wells located to the south, west, and east of the site. These wells are located up gradient and cross/down gradient from the site.

The Town of Henrietta well was sampled and was found to have no contaminants above the detection limits in the August 2019 sampling event. Multiple attempts were made to sample residential wells downgradient of the Anderson property. In all cases, residents declined the offer to sample their wells.

Groundwater samples collected from monitoring well MW-103 has identified very low concentrations of VOCs below RCLs. This well is near a potable well (Franz well). It does not appear that groundwater contamination would be impacting the potable Franz well. Other potable wells identified upgradient (northeast) are not expected to be impacted by this release.

Based on the available data, it does not appear that the potable wells near the release source have been impacted.

5.3 Vapor Intrusion

Vapor intrusion from PVOCs most often occurs when petroleum non-aqueous phase liquid (NAPL) is located near a building foundation, when petroleum contaminated groundwater is in contact with a building foundation, or when the discharge of a petroleum substance recently occurred.

The vapor intrusion risk at the Anderson property site was evaluated using the criteria outlined in the January 2018 DNR Vapor Intrusion guidance for PVOC contaminated sites. The site met several of the criteria described below to trigger a vapor investigation at the building on the property adjacent to the Anderson property.

Parameter	Criteria to trigger Vapor Investigation	Actual Site Conditions
NAPL	Building has less than 15-feet vertical separation(a) or 30-feet horizontal separation from NAPL indicated soil	The Hub Pub building is more than 30 feet horizontally from NAPL indicated soil
Groundwater (below foundation)	Building has less than 5-feet of vertical separation from groundwater with benzene > 1 mg/L	**There is contaminated groundwater below the foundation**
Groundwater (contacts foundation)	Groundwater with concentrations above NR 140 PAL has entered the building or is in contact with the building's foundation.	**There is contaminated groundwater in contact with the foundation**
Soil	Building has less than 5-foot (vertical and horizontal) separation distance from petroleum contaminated soil with the potential for off-gassing(c).	There is no soil contamination within 5-feet vertically or horizontally of the building
Preferential Pathway	Petroleum vapors are present in utilities that transect a petroleum source area.	There are no building utilities that transect the petroleum source area
Odors	Petroleum odors are present in building near petroleum source area.	**There have been odors reported in the building in the past in the building**

Based on the above data, the vapor intrusion pathway is a concern for this project.

As discussed in Section 2.3 Previous Investigation Results, the indoor air sampling results for the Hub Pub building were below applicable concentrations.

6.0 SITE INVESTIGATION CONCLUSIONS

Based on the data collected during the site investigation, the following conclusions have been determined:

- Subsurface soils at the property generally consist of a layer of non-native fill material to a depth of one to two feet bgs, tan sandy silt between two and four feet bgs, a fine tan/gray silty clay with small gravels at a depth of three to seven feet bgs, a gray clayey sand between seven and nine feet bgs, and a brown well-graded sand with some small to medium gravels between nine and twenty-four feet bgs.

    - PVOCs were identified in subsurface soils in exceedance of DNR NR 720 RCLs at B-103, B-104, and MW-104.
    - Direct Contact RCL exceedances of 1,2,4- and 1,3,5-trimethylbenzene, ethylbenzene, benzene, and xylene were identified in the sample collected from B-103. No other Non-Industrial Direct Contact RCL exceedances were identified in soil samples collected during the investigation.

  - Lead was identified in each soil sample taken at the site. Samples collected at B-103, B-104, and MW-104 had concentrations exceeding the DNR Background Threshold Value.

- Groundwater was found to be at a depth ranging between four to seven feet bgs. The groundwater flow direction measured during the investigation was to the southwest.

  - PVOCs and VOCs were identified in groundwater at the site in exceedance of DNR PAL and ES.
  - Benzene was identified above the PAL in MW-104, B-101 and B-105. Benzene was found above the NR-140 ES in samples collected from MW-101, B-102, B-103, B-104, and the Franz Sump.
  - Xylene, 1,2,4-trimethybenzene, and naphthalene were identified above the ES in B-103.
  - Naphthalene was identified above the ES in a sample collected from MW-101.
  - Naphthalene was identified above the PAL in samples collected from B-101 and B-104.

4.0 CERTIFICATIONS

Professional Engineer

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

02/03/2020 Ryan M. LaDieu

Signature, date, printed name

WISCONSIN RYAN M. LaDIEU E-35143-006 NAPERVILLE IL PROFESSIONAL ENGINEER

P.E. stamp and number

Hydrogeologist

"I, Thomas J. Culp, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

02/03/2020 Thomas J. Culp

Signature, date, printed name

WISCONSIN THOMAS J. CULP G-477 MIDDLETON WI PROFESSIONAL GEOLOGIST

P.G. stamp and number

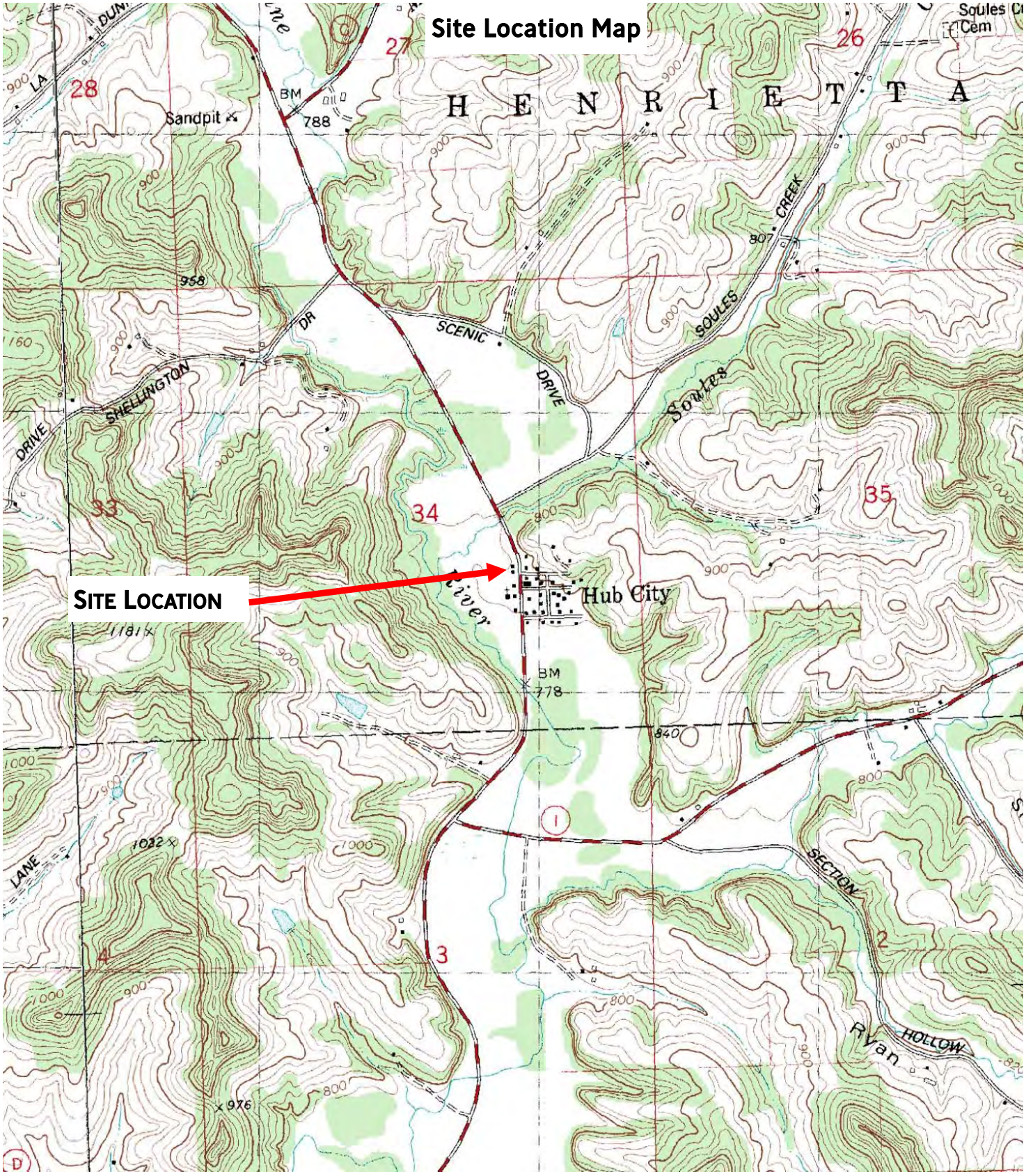
8.0 REFERENCES

Wisconsin Geological and Natural History Survey, Bedrock Geologic Map of Wisconsin, 1982.

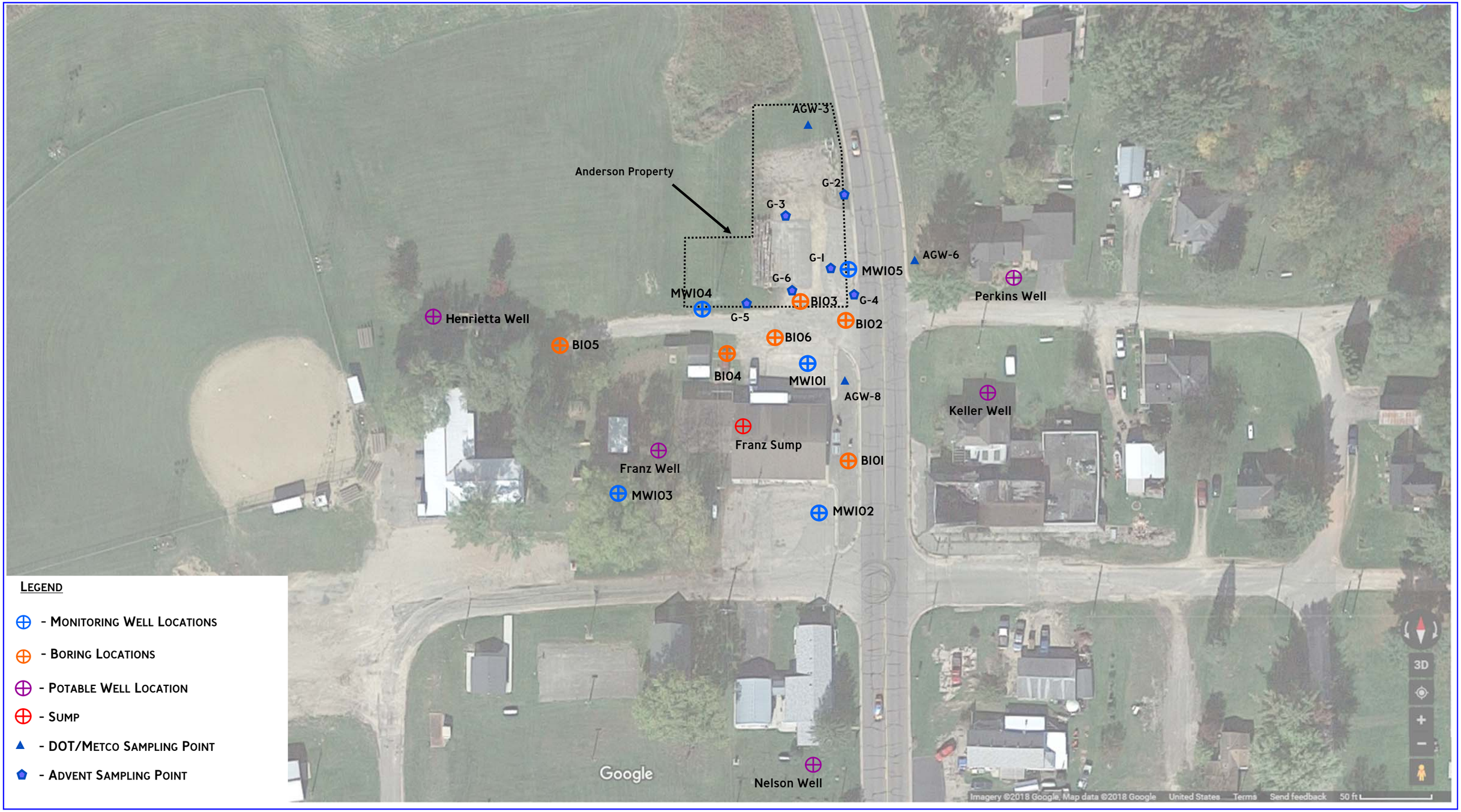
United States Department of Agriculture, Natural Resource Conversation Service, Soil Survey of Richland County, Wisconsin, September 2017.

METCO, "Phase I & II Environmental Site Assessment", Fred Anderson Property, Hub City, Wisconsin, September 12, 2006.

FIGURES



TRUENORTH CONSULTANTS 525 JUNCTON ROAD SUITE 1900 MADISON, WISCONSIN 53717	SITE LOCATION	ANDERSON PROPERTY COUNTY HWY 80 HUB CITY, WI 53581	BRRTS#03-53-000559
	CLIENT	WISCONSIN DEPARTMENT OF NATURAL RESOURCES 3911 FISH HATCHERY ROAD FITCHBURG, WI 53711	
	NOT TO SCALE		FIGURE 1 PROJECT NUMBER T218038 DATE 09/14/2018



LEGEND

- ⊕ - MONITORING WELL LOCATIONS
- ⊕ - BORING LOCATIONS
- ⊕ - POTABLE WELL LOCATION
- ⊕ - SUMP
- ▲ - DOT/METCO SAMPLING POINT
- ⬟ - ADVENT SAMPLING POINT

TRUENORTH CONSULTANTS

525 JUNCTON ROAD
SUITE 1900
MADISON, WISCONSIN 53717

CLIENT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711

SITE LOCATION

ANDERSON PROPERTY
COUNTY HWY 80
HUB CITY, WI 53581

BRRTS#03-53-000559

FIGURE 2

HISTORICAL SAMPLING PLAN MAP

FIGURE 2
PROJECT NUMBER T218038
DATE 01/20/2020

N

Scale: As Shown

LEGEND

Approximate Soil Boring Location

Figure 3
Soil-Gas Sample Locations

Base Map Adapted from 2016 RR Sites Map.

TITLE: *Investigation Area Plan*

DATE: *10/09/18*

REVISION:

PROJECT NAME:
Anderson Property
County Highway 80
Hub City, WI 53581

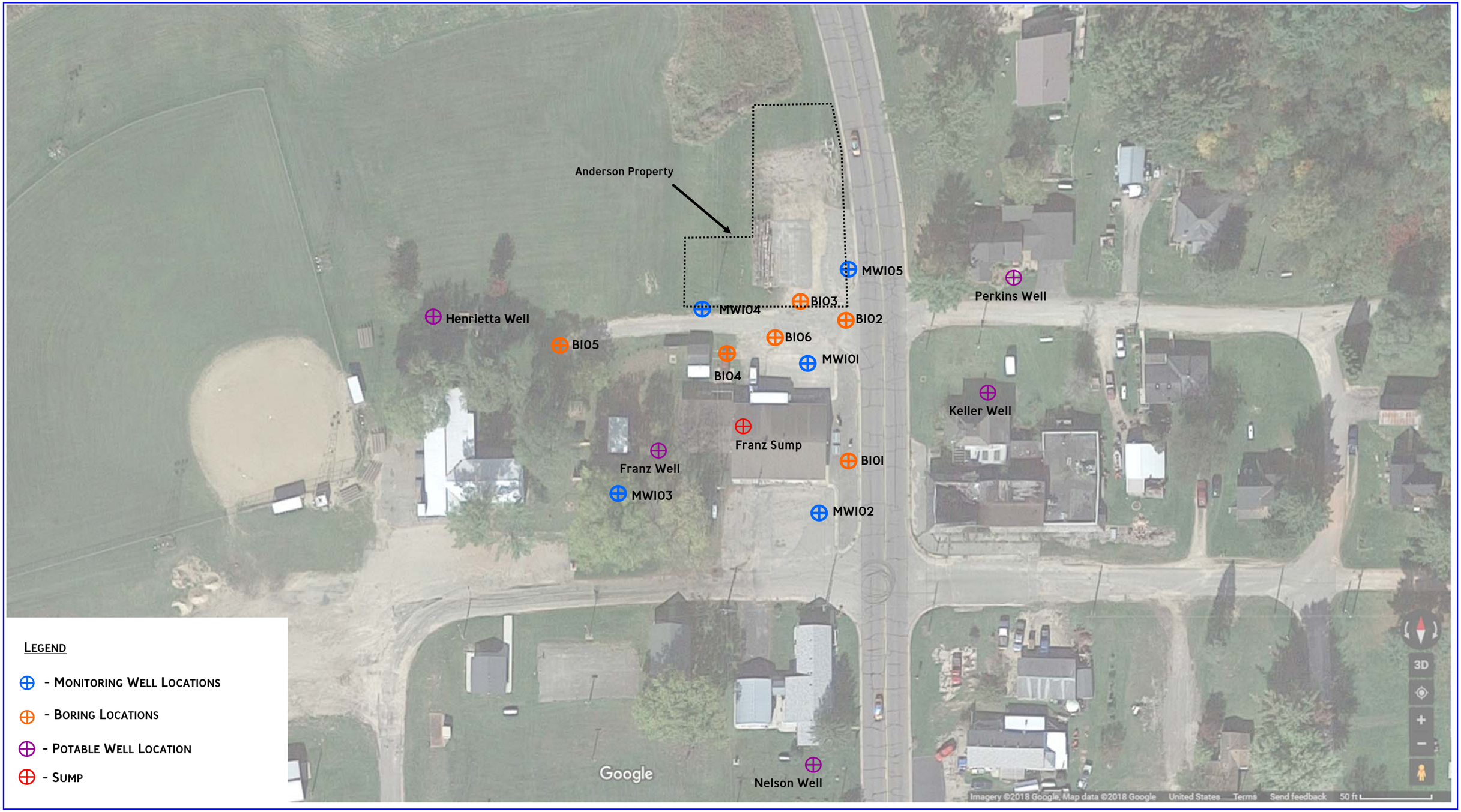
CLIENT:
WI Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

TRUE NORTH CONSULTANTS
525 Junction Road, Suite 1900
Madison, Wisconsin 53717
ENVIRONMENT : INFRASTRUCTURE : DEVELOPMENT

DRAWN BY: *SMA*

TNC PROJECT NO: *T218038*

FIGURE 3



Legend

- ⊕ - Monitoring Well Locations
- ⊕ - Boring Locations
- ⊕ - Potable Well Location
- ⊕ - Sump

TRUENORTH CONSULTANTS

525 Juncton Road
Suite 1900
Madison, Wisconsin 53717

Client

Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

Site Location

Anderson Property
County Hwy 80
Hub City, WI 53581

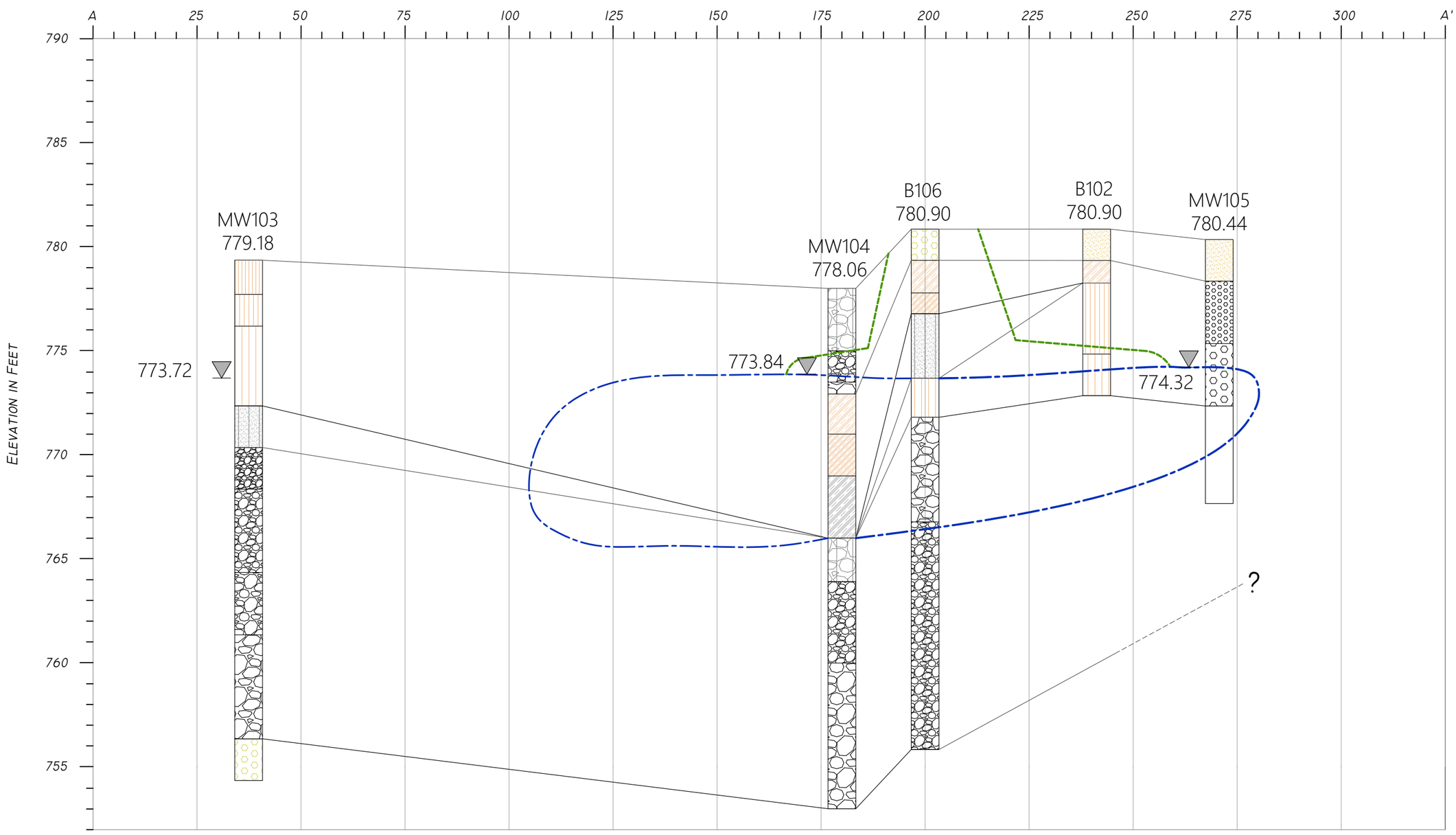
BRRTS#03-53-000559

Figure 4

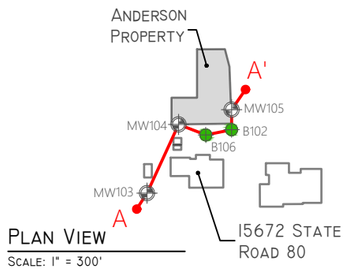
Site Investigation Plan Map

N

Figure 4
Project Number T218038
Date 12/20/18



Note: Water elevation data from August 2019 sampling event



Plan View

Scale: 1" = 300'

15672 State Road 80

Vertical Scale: 1" = 5'-0"

Horizontal Scale: 1" = Proportional'

LEGEND

- Ground Surface
- GW - Well-graded gravels, gravel-sand mixtures, little or no fines
- GP - Poorly-graded gravels, gravel-sand mixtures, little or no fines
- GM - Silty gravels, gravel-sand-silt mixtures
- SW - Well-graded sands, gravelly sands, little or no fines
- SM - Silty sands, sand-silt mixtures
- ML - Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
- CL - Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
- CH - Inorganic clays of high plasticity, fat clays
- Fill - Asphalt, Gravel, Sand
- Est. Extent of Soil Contamination
- Est. Extent of Groundwater Contamination

TITLE: Geotechnical Cross Section

DATE: 1.27.2020

REVISION:

PROJECT NAME:
Anderson Property
County Highway 80
Hub City, WI 53581

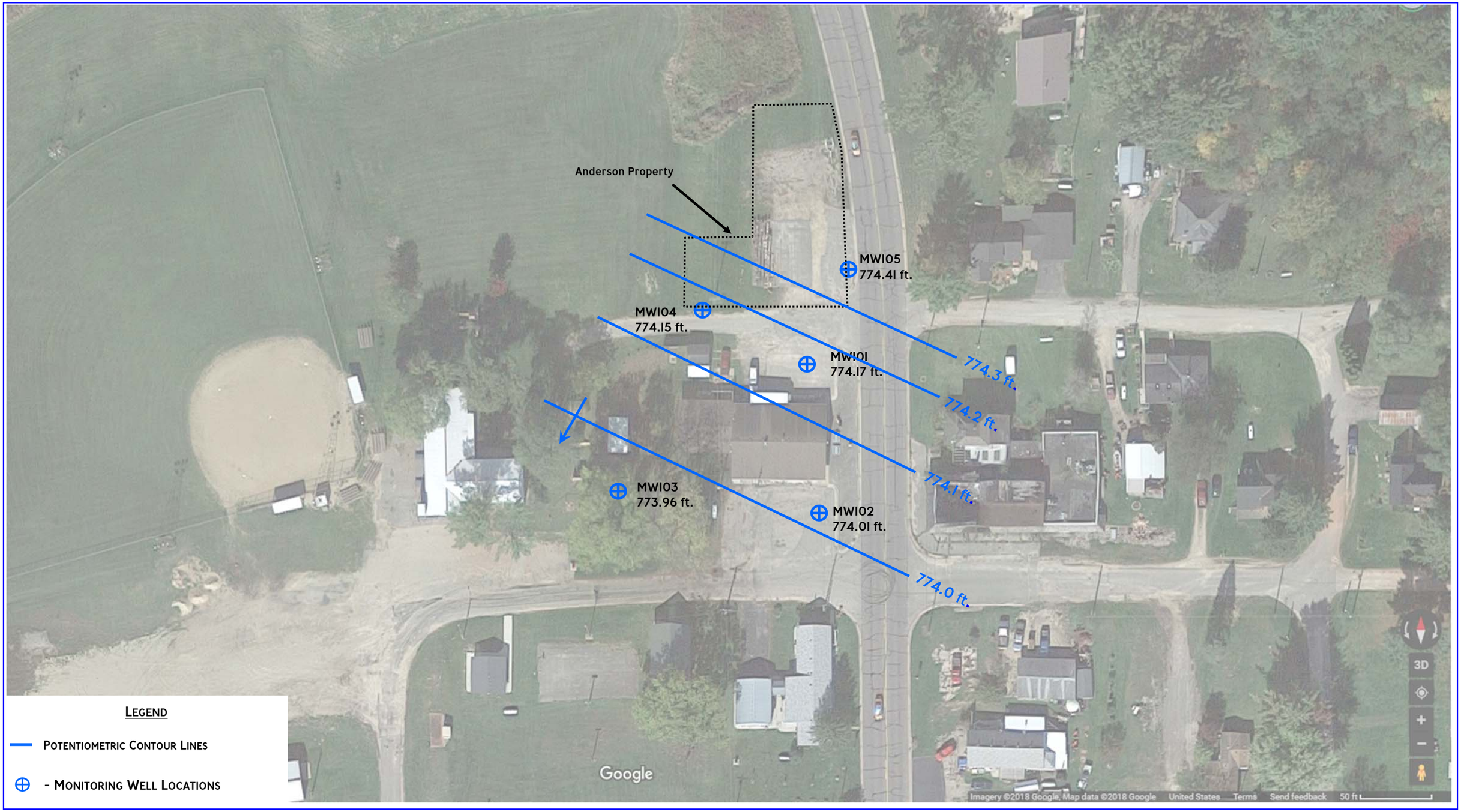
CLIENT:
Wisconsin Dept. of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

TRUE NORTH CONSULTANTS
525 Junction Road Suite 1900
Madison, WI 53717
ENVIRONMENT : INFRASTRUCTURE : DEVELOPMENT

DRAWN BY: SClark

TNC PROJECT NO: T218038

FIGURE 5



LEGEND

— POTENTIOMETRIC CONTOUR LINES

⊕ - MONITORING WELL LOCATIONS

TRUE NORTH CONSULTANTS

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SUITE 1900
MADISON, WISCONSIN 53717

CLIENT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711

SITE LOCATION

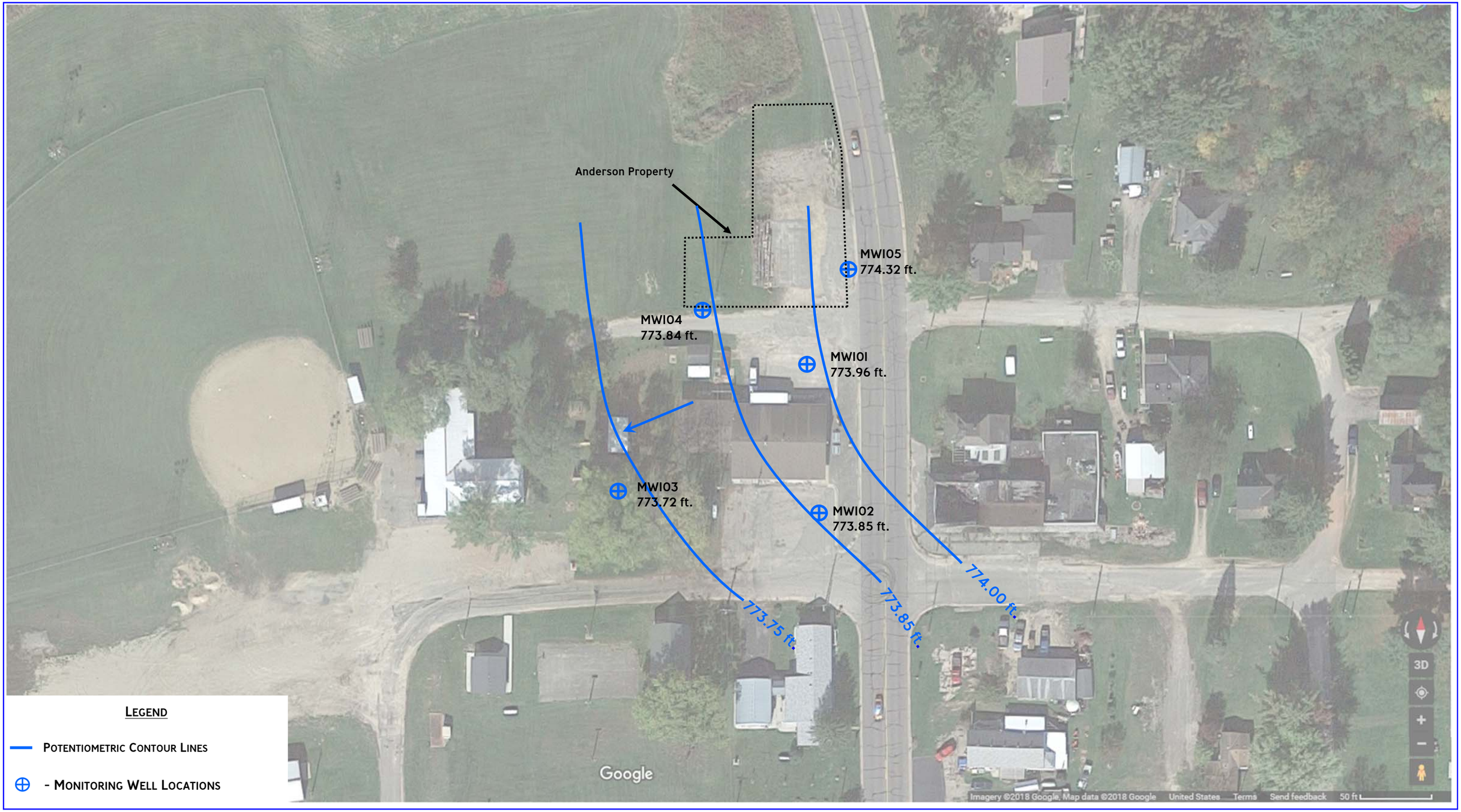
ANDERSON PROPERTY
COUNTY HWY 80
HUB CITY, WI 53581

BRRTS#03-53-000559

FIGURE 6

INVESTIGATION AREA
DECEMBER 2018
POTENTIOMETRIC CONTOUR MAP

FIGURE 6
PROJECT NUMBER T218038
DATE 08/29/19



LEGEND

- POTENTIOMETRIC CONTOUR LINES
- ⊕ - MONITORING WELL LOCATIONS

TRUE NORTH CONSULTANTS

525 JUNCTON ROAD
SUITE 1900
MADISON, WISCONSIN 53717

CLIENT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711

SITE LOCATION

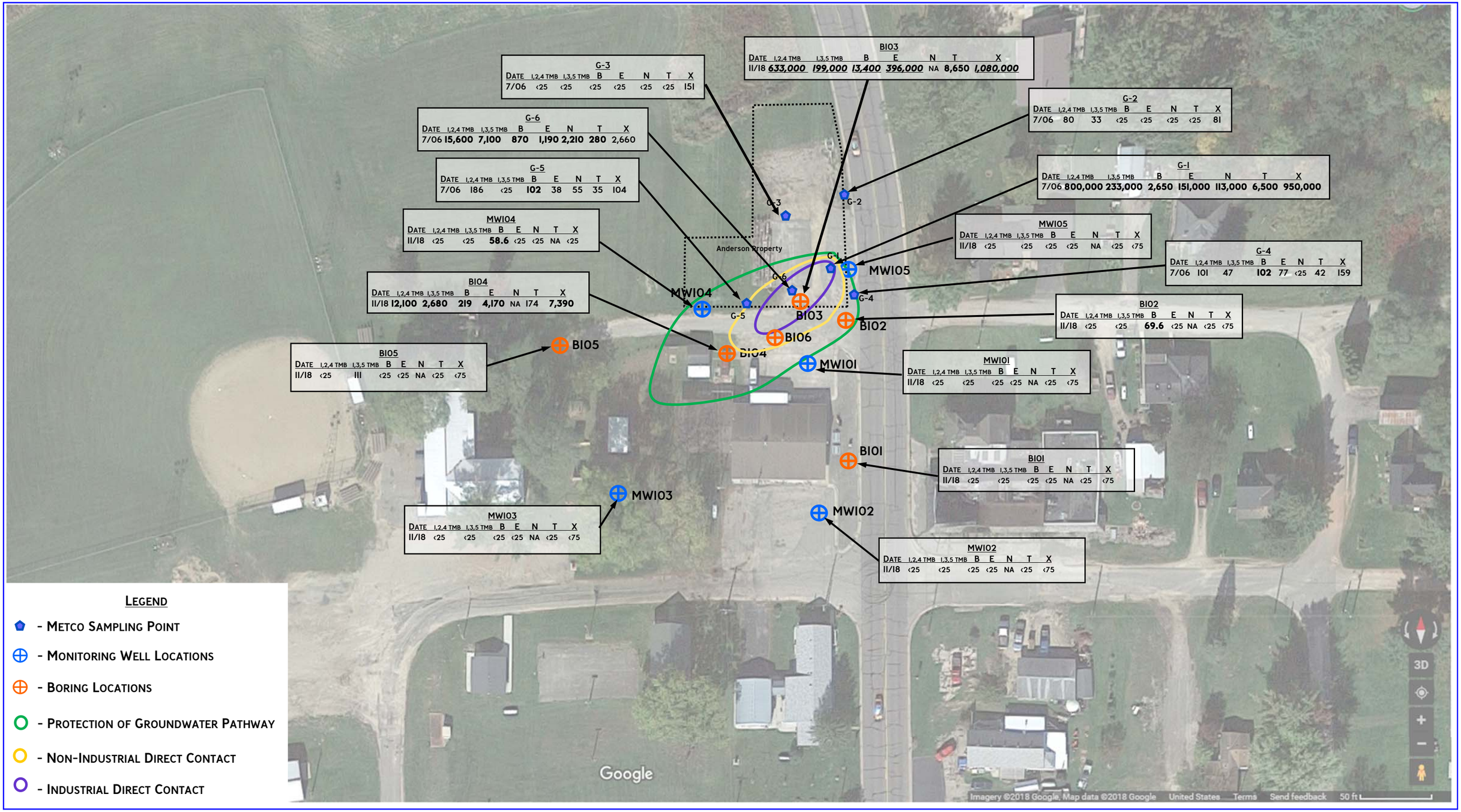
ANDERSON PROPERTY
COUNTY HWY 80
HUB CITY, WI 53581

BRRTS#03-53-000559

FIGURE 7

INVESTIGATION AREA
AUGUST 2019
POTENTIOMETRIC CONTOUR MAP

FIGURE 7
PROJECT NUMBER T218038
DATE 08/29/19



Legend

- Metco Sampling Point
- Monitoring Well Locations
- Boring Locations
- Protection of Groundwater Pathway
- Non-Industrial Direct Contact
- Industrial Direct Contact

TRUE NORTH CONSULTANTS

525 Juncton Road
Suite 1900
Madison, Wisconsin 53717

Client

Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

Site Location

Anderson Property
County Hwy 80
Hub City, WI 53581

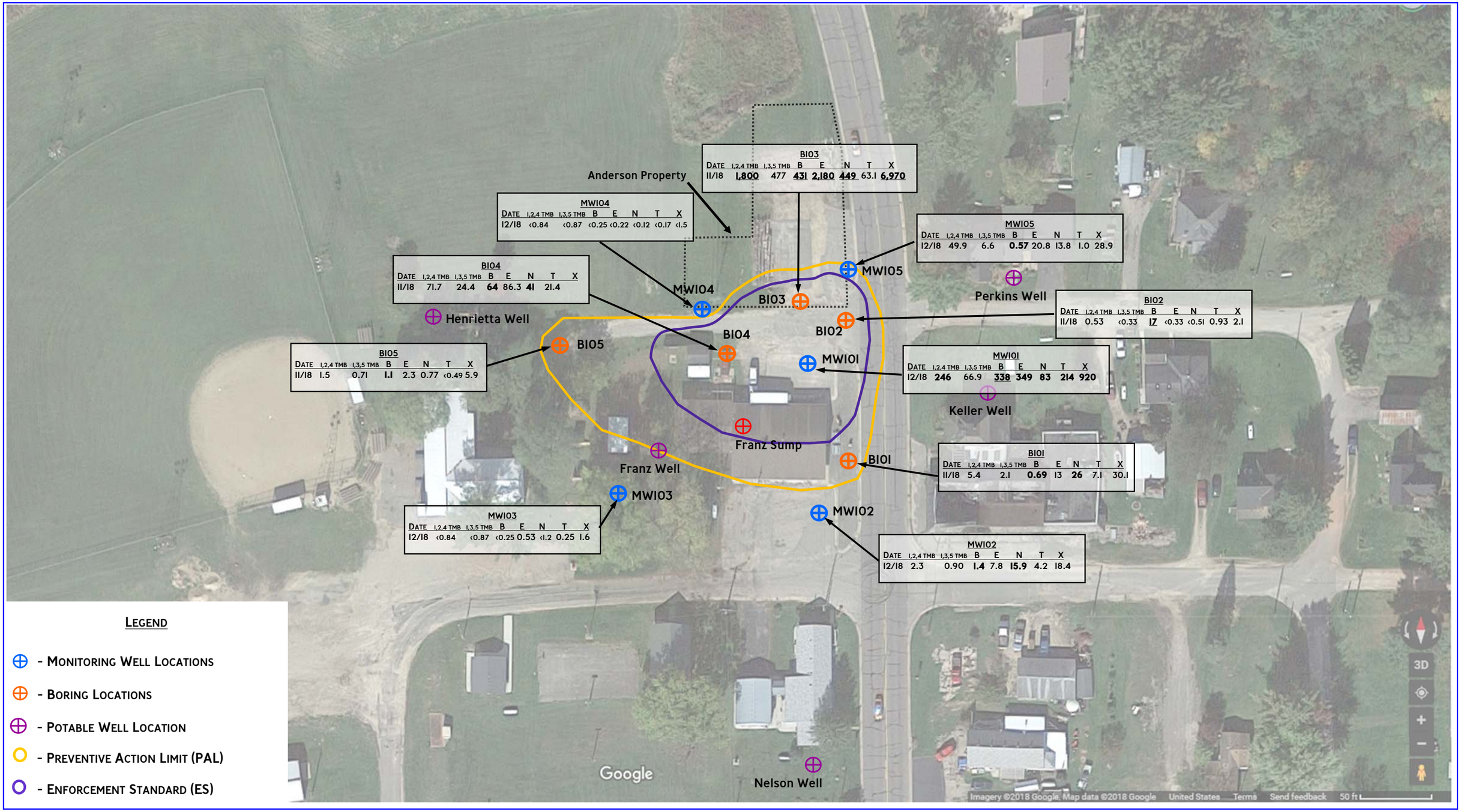
BRRTS#03-53-000559

Figure 8

Investigation Area
November 2018
Soil PVOC Exceedance Map

N

Figure 8
Project Number T218038
Date 12/20/18



Legend

- ⊕ - Monitoring Well Locations
- ⊕ - Boring Locations
- ⊕ - Potable Well Location
- ○ - Preventive Action Limit (PAL)
- ○ - Enforcement Standard (ES)

TRUENORTH CONSULTANTS

525 Juncton Road
Suite 1900
Madison, Wisconsin 53717

Client

Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

Site Location

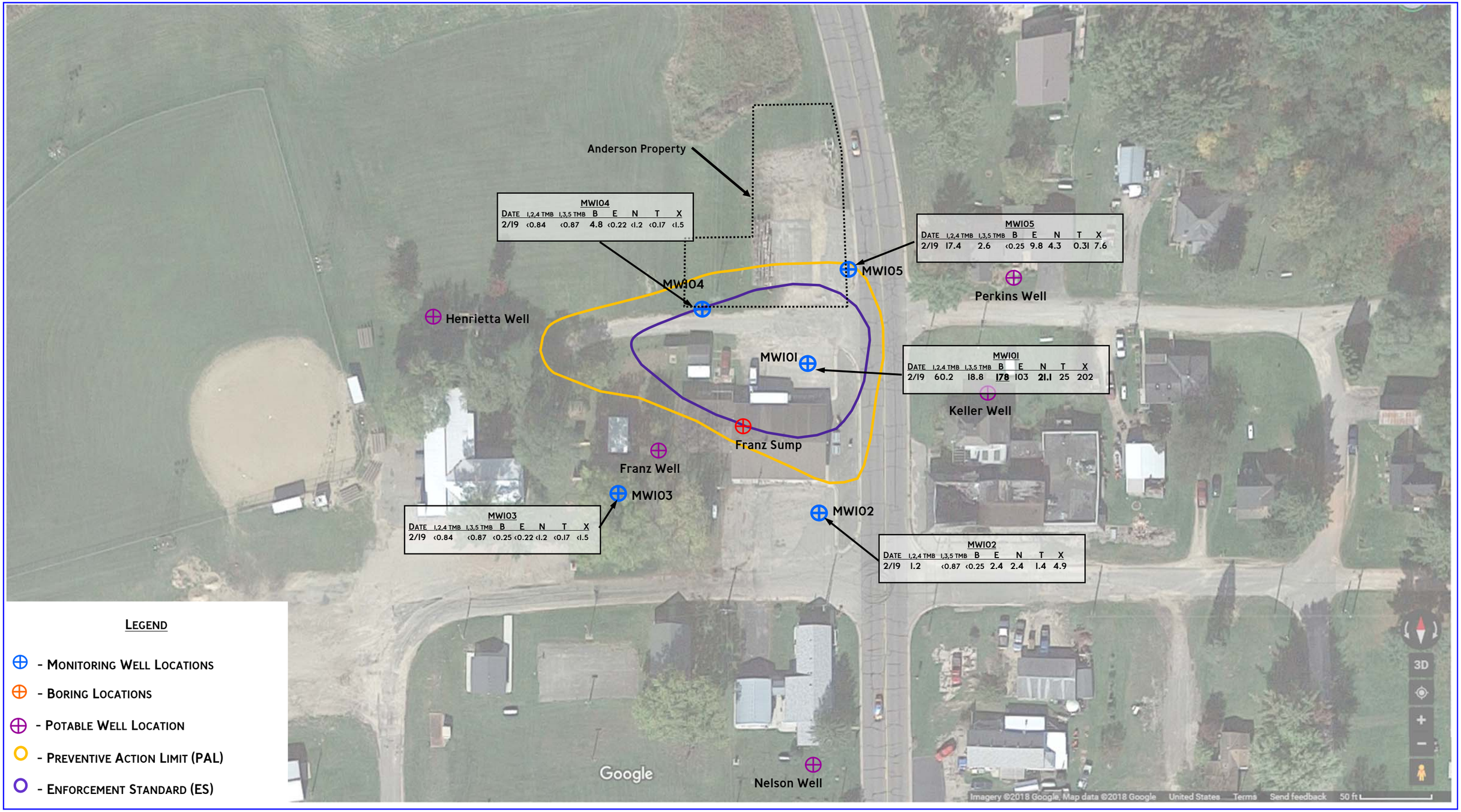
Anderson Property
County Hwy 80
Hub City, WI 53581

BRRTS#03-53-000559

Figure 9

Investigation Area
October/December 2018
Groundwater PVOC Exceedance Map

Figure 9
Project Number T218038
Date 12/20/18



LEGEND

- ⊕ - MONITORING WELL LOCATIONS
- ⊕ - BORING LOCATIONS
- ⊕ - POTABLE WELL LOCATION
- ○ - PREVENTIVE ACTION LIMIT (PAL)
- ○ - ENFORCEMENT STANDARD (ES)

TRUENORTH CONSULTANTS

525 JUNCTON ROAD
SUITE 1900
MADISON, WISCONSIN 53717

CLIENT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711

SITE LOCATION

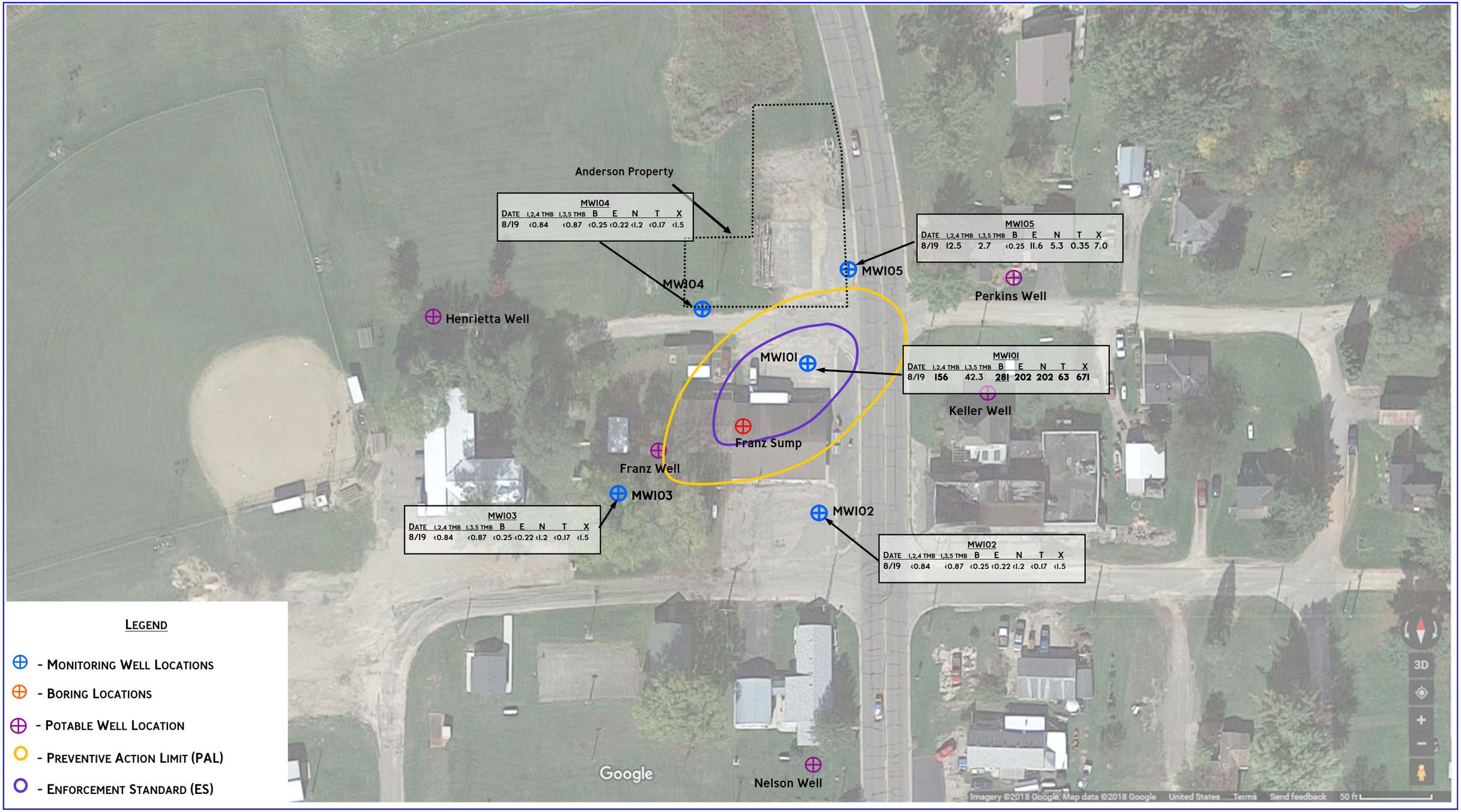
ANDERSON PROPERTY
COUNTY HWY 80
HUB CITY, WI 53581

BRRTS#03-53-000559

FIGURE 10

INVESTIGATION AREA
FEBRUARY 2019
GROUNDWATER VOC EXCEEDANCE MAP

FIGURE 10
PROJECT NUMBER T218038
DATE 05/20/19



LEGEND

- ⊕ - MONITORING WELL LOCATIONS
- ⊕ - BORING LOCATIONS
- ⊕ - POTABLE WELL LOCATION
- ○ - PREVENTIVE ACTION LIMIT (PAL)
- ○ - ENFORCEMENT STANDARD (ES)

TRUENORTH CONSULTANTS

525 JUNCTON ROAD
SUITE 1900
MADISON, WISCONSIN 53717

CLIENT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711

SITE LOCATION

ANDERSON PROPERTY
COUNTY HWY 80
HUB CITY, WI 53581

BRRTS#03-53-000559

FIGURE 10

INVESTIGATION AREA
AUGUST 2020
GROUNDWATER VOC EXCEEDANCE MAP

FIGURE
10

PROJECT NUMBER
T218038

DATE
08/20/19

TABLES

Table I
Water Level Summary

Client: WDNR
Site: Anderson Property
Project Number: T2I8038

Raw Data	Depth to Water in feet below top of well casing				
Well Number	MW-101	MW-102	MW-103	MW-104	MW-105
Measurement Date					
11/8/2018	6.49	6.51	4.54	4.61	5.88
12/6/2018	6.73	6.85	5.22	3.91	6.03
2/6/2019	6.88	7.02	5.25	4.44	6.12
8/6/2019	6.94	7.01	5.46	4.22	6.12

Ground Water Elevation in feet above mean sea level (amsl)					
Well Number	MW-101	MW-102	MW-103	MW-104	MW-105
Top of Casing Elevation (feet amsl) from 8/6/2019	780.90	780.86	779.18	778.06	780.44
Measurement Date					
11/8/2018	774.41	774.35	774.64	773.45	774.56
12/6/2018	774.17	774.01	773.96	774.15	774.41
2/6/2019	774.02	773.84	773.93	773.62	774.32
8/6/2019	773.96	773.85	773.72	773.84	774.32

Abbreviations:
NM = not measured

Revised by: TJC Date: 8/7/2019
Checked by: TJC Date: 8/7/2019

ANDERSON PROPERTY – T218038

LEVEL SURVEY

STATION	+	HI	–	ELEV.
MW101	6.38	787.28		780.90
MW102	4.90	785.76	6.42	780.86
MW103	3.73	782.91	6.58	779.18
MW104	7.16	785.22	4.85	778.06
MW105	5.29	785.73	4.78	780.44
MW101	×	×	4.82	780.91
	27.46		27.45	Δ0.01

WELL ID	DTW	GW ELEV.
MW101	6.94	773.96
MW102	7.01	773.85
MW103	5.46	773.72
MW104	4.22	773.84
MW105	6.12	774.32

8-6-19

TOMC ↑

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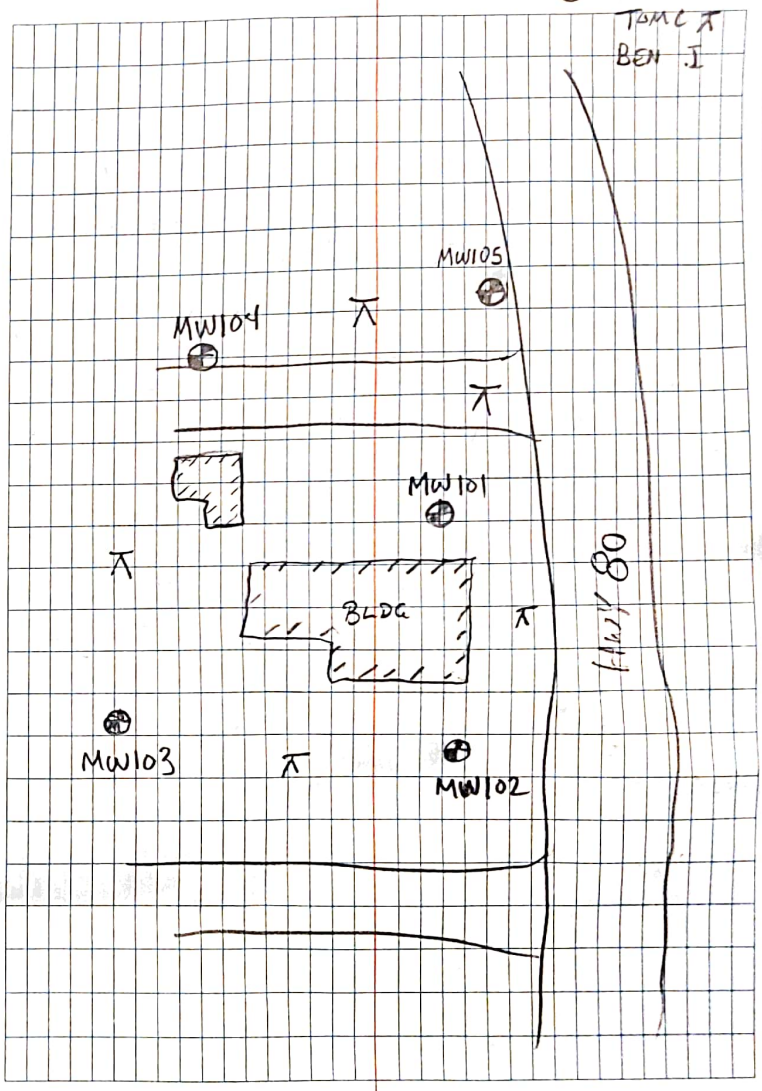

Table 2
Summary of Soil Sample Analytical Results
Petroleum Volatile Organic Compounds (PVOCs)

Client: WDNR
Site: Anderson Property
Project Number: T2I8038

Laboratory: Pace Analytical
Matrix: Soil
Analytical Method: EPA 5035/5030B/8260

Contaminant of Concern	NR 720 RCL (ug/kg)			Sample ID	G-1-I	G-2-I	G-3-I	G-4-I	G-5-I	G-6-I	B-101	B-102	B-103	B-104	B-105	MW-101	MW-102	MW-103	MW-104	MW-105
				Sample Date	7/25/2006	7/25/2006	7/25/2006	7/25/2006	7/25/2006	7/25/2006	II/8/2018	II/9/2018	II/9/2018	II/9/2018	II/9/2018	II/8/2018	II/8/2018	II/8/2018	II/8/2018	II/8/2018
				PID (ppm)	--	--	--	--	--	--	1096.10	74.90	996.30	0.00	0.60	43.70	0.00	0.00	0.00	16.90
				Depth (ft bgs)	2-4'	2-4'	2-4'	2-4'	2-4'	2-4'	4 ft.	4 ft.	4 ft.	4 ft.	4 ft.	3 ft.	4 ft.	3 ft.	4 ft.	4 ft.
	Non-Industrial Direct Contact	Industrial Direct Contact	Protection of Groundwater Pathway	Soil Type	Clayey Sand	Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clay	Sandy Silt	Silty Sand	Silt	Silty Sand	Clayey Sand	Silt	Sand	Silty Sand	Sand
I,2,4-Trimethylbenzene	219,000	219,000	1,382.1*		***800,000***	80	<25	101	186	15,600	<25	<25	***633,000***	12,100	<25	<25	<25	<25	<25	<25
I,3,5-Trimethylbenzene	182,000	182,000	1,382.1*		***233,000***	33	<25	47	<25	7,100	<25	<25	***199,000***	2,680	111	<25	<25	<25	<25	<25
Benzene	1,600	7,070	5.1		***2,560***	<25	<25	102	71	870	<25	69.6 J	***13,400***	219	<25	<25	<25	<25	56.8 J	<25
Ethylbenzene	8,020	35,400	1,570		***151,000***	<25	<25	77	38	1,190	<25	<25	***396,000***	4,170	<25	<25	<25	<25	<25	<25
Methyl-tert-butyl Ether (MTBE)	63,800	282,000	27.0		<2,500	<25	<25	<25	<25	<25	<25	<25	***8,980***	191	<25	<25	<25	<25	<25	<25
Naphthalene	5,250	24,100	658.2		***113,000***	<25	<25	<25	55J	2,210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	818,000	818,000	1,107.2		6,500	<25	<25	42	35	280	<25	<25	8,650	174	<25	<25	<25	<25	<25	<25
Xylene (Total)	260,000	260,000	3,960		***950,000***	81	151	159	104	2,660	<75	<75	***1,080,000***	7,390	<75	<75	<75	<75	<75	<75

Notes:
All data reported in micrograms per kilogram (ug/kg) unless otherwise noted.
NR720 RCLs taken from the WDNR Soil RCL Worksheets
Protection of Groundwater Pathway based on DF=2.
* - combined I,2,4- and I,3,5-trimethylbenzenes
< = Analyte not detected (i.e. less than RL or MDL)
NA = This constituent was not analyzed.
NE = No remediation objective established by the WDNR for this constituent.
J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ).

RCL = Residual Contaminant Level
Italicized results exceed the WDNR NR 720 Non-Industrial Direct Contact RCL.
Italicized and underlined results exceed the WDNR NR 720 Industrial Direct Contact RCL.
Bolded results exceed the Protection of Groundwater Pathway RCL.

Updated I2/I5/2015 from WDNR RCLs updated I2/2015

TRUE NORTH CONSULTANTS

Table 3
Summary of Soil Sample Analytical Results
RCRA Metals

Client: WDNR
Site: Anderson Property
Project Number: T2I8038

Laboratory: Pace Analytical
Matrix: Soil
Analytical Method: EPA 3050/6010 and 7471/7471

Contaminant of Concern	NR 720 RCL (mg/kg)			Background Threshold Value	Sample ID	G-1-I	G-2-I	G-3-I	G-4-I	G-5-I	G-6-I	B-101	B-102	B-103	B-104	B-105	MW-101	MW-102	MW-103	MW-104	MW-105
					Sample Date	7/25/2006	7/25/206	7/25/2006	7/25/2006	7/25/2006	7/25/2006	11/8/2018	11/9/2018	11/9/2018	11/9/2018	11/9/2018	11/8/2018	11/8/2018	11/8/2018	11/8/2018	11/8/2018
					PID (ppm)	--	--	--	--	--	--	1096.10	74.90	996.30	0.00	0.60	43.70	0.00	0.00	0.00	16.90
					Depth (ft bgs)	2-4 feet	2-4 feet	2-4 feet	2-4 feet	2-4 feet	2-4 feet	4 ft.	4 ft.	4 ft.	4 ft.	4 ft.	3 ft.	4 ft.	3 ft.	4 ft.	4 ft.
	Non-Industrial Direct Contact	Industrial Direct Contact	Protection of Groundwater Pathway		Soil Type	Clayey Sand	Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clayey Sand	Clay	Sandy Silt	Silty Sand	Silt	Silty Sand	Clay Sand	Silt	Sand	Silty Sand	Sand
Lead	400	800	27	52		110	6.2	NA	19	*550*	64	16.6	12.8	117	176	12	1.2 J	13.6	5.5	110	13.8

Notes:
All data reported in milligrams per kilogram (mg/kg) unless otherwise noted.
NR720 RCLs taken from the WDNR Soil RCL Worksheets
Protection of Groundwater Pathway based on DF=2.
* - Chromium VI only, NE for total Chromium.
** - If No Chromium VI, reassess if Chromium VI
< = Analyte not detected (i.e. less than RL or MDL)
NA = This constituent was not analyzed.
NE = No remediation objective established by the WDNR for this constituent.
J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ).

RCL = Residual Contaminant Level
Italicized results exceed the WDNR NR 720 Non-Industrial Direct Contact RCL.
Italicized and underlined results exceed the WDNR NR 720 Industrial Direct Contact RCL.
Bolded results exceed the Protection of Groundwater Pathway RCL.

Updated 02/14/2018 from WDNR RCLs updated 12/2017

TRUE NORTH CONSULTANTS

Table 4
Summary of Groundwater Sample Analytical Results
Volatile Organic Compounds (VOCs)

Client: WDNR
Site: Anderson Property
Project Number: T218038

Laboratory: Pace Analytical
Matrix: Groundwater
Analytical Method: EPA 8260 and EPA 524.2

Contaminants of Concern

Sample ID	Sample Date	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Chlorotoluene	4-Chlorotoluene	Benzene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroethane (Ethyl Chloride)	Chloroform	Chloromethane	Dibromochloromethane	Dibromomethane (Methylene Bromide)	Dichlorodifluoromethane	Diisopropyl Ether	Ethylbenzene	Hexachloro-1,3-butadiene	Isopropylbenzene (Cumene)	Methyl-tert-butyl Ether (MTBE)	Methylene Chloride	Naphthalene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Trichlorofluoromethane	Vinyl Chloride	Xylene (Total)	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene
AGW-3	12/9/1991	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AGW-6	12/9/1991	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AGW-8	12/9/1991	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metco G-1-W	7/25/2006	--	--	--	--	--	--	--	--	--	--	***3,300***	--	--	--	--	--	***920***	--	--	--	--	--	--	***179***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	***1,280***	--	--	<26	NA	--	--	--	80J	--	--	--	***5,860***	--	--	--	--	--	--	--	--	--
Metco G-2-W	7/25/2006	--	--	--	--	--	--	--	--	--	--	<42.5	--	--	--	--	--	<55	--	--	--	--	--	--	<8.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<50	--	--	<26	NA	--	--	--	<39	--	--	--	<142	--	--	--	--	--	--	--	--	--
Metco G-3-W	7/25/2006	--	--	--	--	--	--	--	--	--	--	<0.85	--	--	--	--	--	<1.1	--	--	--	--	--	--	<0.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.0	--	--	9.2	NA	--	--	--	<0.78	--	--	--	<2.84	--	--	--	--	--	--	--	--	--
Metco G-4-W	7/25/2006	--	--	--	--	--	--	--	--	--	--	3.7	--	--	--	--	--	2.16J	--	--	--	--	--	--	***137***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12.4	--	--	<0.52	NA	--	--	--	4.1	--	--	--	12.67J	--	--	--	--	--	--	--	--	--
Metco G-5-W	7/25/2006	--	--	--	--	--	--	--	--	--	--	***700***	--	--	--	--	--	***233J***	--	--	--	--	--	--	***320***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	***470***	--	--	<52	NA	--	--	--	219J	--	--	--	***1,158J***	--	--	--	--	--	--	--	--	--
Metco G-6-W	7/25/2006	--	--	--	--	--	--	--	--	--	--	***2,260***	--	--	--	--	--	***620***	--	--	--	--	--	--	***410***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	***3,500***	--	--	<52	NA	--	--	--	***4,100***	--	--	--	***13,300***	--	--	--	--	--	--	--	--	--
Henrietta Well	10/4/2018	--	<0.19	--	<0.19	--	<0.19	--	--	--	<0.19	--	--	--	<0.18	<0.13	<0.19	--	--	--	0.4	--	--	--	<0.12	--	--	--	--	--	<0.20	<0.12	--	--	--	--	--	--	--	<0.11	--	--	--	<0.97	--	<0.18	<0.17	<0.078	<0.12	--	<0.086	<0.30	<0.14	--	--	--	--	--	--	<0.18	--
	8/6/2019	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	<0.84	<1.8	<0.83	<0.71	<0.28	<0.28	<0.87	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	<0.25	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	<0.22	<1.2	<0.39	<1.2	<0.58	<1.2	<0.47	<0.33	<0.17	<0.26	<0.21	<0.17	<1.5	<0.27	<3.6	<0.71	<0.81	<0.80	<0.85	<0.30	<1.1	<4.4
B-101	11/8/2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.4	NA	NA	NA	NA	NA	2.1	NA	NA	NA	NA	NA	NA	**0.69J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13	NA	NA	1.8	NA	**25.6**	NA	NA	7.1	NA	NA	NA	30.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-102	11/8/2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.53J	NA	NA	NA	NA	NA	<0.33	NA	NA	NA	NA	NA	NA	***16.6***	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.33	NA	NA	0.63J	NA	<0.51	NA	NA	0.93J	NA	NA	NA	2.1J	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-103	11/8/2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	***1,800***	NA	NA	NA	NA	NA	477	NA	NA	NA	NA	NA	NA	***431***	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	***2,180***	NA	NA	<16	NA	***449***	NA	NA	63.1J	NA	NA	NA	***6,970***	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-104	11/8/2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	71.7	NA	NA	NA	NA	NA	24.4	NA	NA	NA	NA	NA	NA	***63.6***	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	86.4	NA	NA	3.8J	NA	**41**	NA	NA	21.4	NA	NA	NA	205	NA	NA	NA	NA	NA	NA	NA	NA	NA
B-105	11/8/2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9	NA	NA	NA	NA	NA	0.71J	NA	NA	NA	NA	NA	NA	**1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3	NA	NA	1.3	NA	0.77J	NA	NA	<0.49	NA	NA	NA	5.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hub Pub/Franz Sump	7/5/2017	<5.0	<5.0	<5.0	<5.0	<3.0	<5.0	<5.0	<5.0	<10	<5.0	47	<10	<5.0	<2.5	<5.0	<5.0	<2.0	<2.5	<3.0	<2.5	<5.0	<3.0	<3.0	***330***	<5.0	<5.0	<5.0	<10	<5.0	<3.0	<2.5	<5.0	<2.5	<10	<5.0	<5.0	<5.0	<2.5	35	<5.0	14	<3.0	<5.0	**62**	<2.5	<5.0	11.0	<5.0	<5.0	<2.0	260	<3.0	>3.0	5.2	38	<2.0	2.9	<5.0	<5.0	<5.0
	1/24/2018	<0.37	<0.20	<0.36	<0.48	<0.30	<0.22	<0.19	<0.33	<0.36	<0.47	<0.20	<0.40	<0.39	<0.12	<0.16	<0.30	<0.26	<0.11	<0.29	<0.11	<1.0	<0.29	<0.29	<0.10	<0.29	<0.30	<0.17	**1.3**	<0.31	<0.21	<0.27	<0.30	<0.10	<0.89	<0.26	<0.23	<0.50	<0.21	<0.30	<0.30	<0.31	<0.24	<0.15	<0.32	<0.27	<0.29	<0.29	<0.16	<0.24	<0.17	<0.33	<0.16	<0.14	<0.58	<0.26	<0.20	0.9	<0.42	<0.22	<0.30
	10/4/2018	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	22.3	<1.8	<0.83	<0.71	<0.28	<0.28	4.6	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	***24.6***	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	9.5	<1.2	3.3 J	<1.2	<0.58	**19.8**	<0.47	<0.33	1.7 J	<0.26	<0.21	<0.17	27.2	<0.27	<3.6	2.0 J	10	<0.80	0.88 J	<0.30	<1.1	<4.4
MW101	12/5/2018	<1.3	<1.2	<1.4	<2.8	<1.4	<1.2	<2.7	<3.1	<3.0	<4.8	**246**	<8.8	<4.1	<3.5	<1.4	<1.4	66.9	<3.1	<4.1	<4.7	<11.3	<4.6	<3.8	***338***	<1.2	<1.8	<1.8	<19.9	<4.9	<0.83	<3.6	<6.7	<6.4	<10.9	<13.0	<4.7	<2.5	<9.4	**349**	<5.9	12.8 J	<6.2	<2.9	**83.0**	<2.3	<1.6	**214**	<1.3	<1.1	<0.87	**920**	<1.4	<18.1	13.3	48.4	<4.0	<4.2	<1.5	<5.5	<21.9
	2/6/2019	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	60.2	<1.8	<0.83	<0.71	<0.28	<0.28	18.8	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	***178***	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	103	<1.2	5.3	<1.2	<0.58	**21.1**	<0.47	<0.33	25.0	<0.26	<0.21	<0.17	202	<0.27	<3.6	<0.71	18.9	<0.80	1.6 J	<0.30	<1.1	<4.4
	8/6/2016	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	**156**	<1.8	<0.83	<0.71	<0.28	<0.28	42.3	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	***281***	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	**202**	<1.2	12.1	<1.2	<0.58	**62.8**	<0.47	<0.33	149	<0.26	<0.21	<0.17	**671**	<0.27	<3.6	<0.71	29	<0.80	2.2 J	<0.30	<1.1	<4.4
MW102	12/5/2018	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	2.3 J	<1.8	<0.83	<0.71	<0.28	<0.28	0.90 J	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	**1.4**	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	7.8	<1.2	9.6	<1.2	<0.58	**15.9**	<0.47	<0.33	4.2 J	<0.26	<0.21	<0.17	18.4	<0.27	<3.6	3.1	7.9	<0.80	3.0 J	0.57 J	<1.1	<4.4
	2/6/2019	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	1.2 J	<1.8	<0.83	<0.71	<0.28	<0.28	<0.87	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	<0.25	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	2.4	<1.2	2.0 J	<1.2	<0.58	2.4 J	<0.47	<0.33	1.4 J	<0.26	<0.21	<0.17	4.9	<0.27	<3.6	<0.71	1.8 J	<0.80	<0.85	<0.30	<1.1	<4.4
	8/6/2019	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	<0.84	<1.8	<0.83	<0.71	<0.28	<0.28	<0.87	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	<0.25	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	<0.22	<1.2	<0.39	<1.2	<0.58	<1.2	<0.47	<0.33	<0.17	<0.26	<0.21	<0.17	<1.5	<0.27	<3.6	<0.71	<0.81	<0.80	<0.85	<0.30	<1.1	<4.4
MW103	12/5/2018	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	<0.84	<1.8	<0.83	<0.71	<0.28	<0.28	<0.87	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	<0.25	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	0.53 J	<1.2	<0.39	<1.2	<0.58	<1.2	<0.47	<0.33	0.25 J	<0.26	<0.21	<0.17	1.6 J	<0.27	<3.6	<0.71	<0.81	<0.80	<0.85	<0.30	<1.1	<4.4
	2/6/2019	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	<0.84	<1.8	<0.83	<0.71	<0.28	<0.28	<0.87	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	<0.25	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	<0.22	<1.2	<0.39	<1.2	<0.58	<1.2	<0.47	<0.33	<0.17	<0.26	<0.21	<0.17	<1.5	<0.27	<3.6	<0.71	<0.81	<0.80	<0.85	<0.30	<1.1	<4.4
	8/6/2019	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	<0.84	<1.8	<0.83	<0.71	<0.28	<0.28	<0.87	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	<0.25	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	0.43 J	<1.2	<0.39	<1.2	<0.58	<1.2	<0.47	<0.33	0.52 J	<0.26	<0.21	<0.17	1.6 J	<0.27	<3.6	<0.71	<0.81	<0.80	<0.85	<0.30	<1.1	<4.4
MW104	12/5/2018	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	<0.84	<1.8	<0.83	<0.71	<0.28	<0.28	<0.87	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	<0.25	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	<0.22	<1.2	<0.39	<1.2	<0.58	<1.2	<0.47	<0.33	<0.17	<0.26	<0.21	<0.17	<1.5	<0.27	<3.6	<0.71	<0.81	<0.80	<0.85	<0.30	<1.1	<4.4
	2/6/2019	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	<0.84	<1.8	<0.83	<0.71	<0.28	<0.28	<0.87	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	**4.8**	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	<0.22	<1.2	<0.39	<1.2	<0.58	<1.2	<0.47	<0.33	<0.17	<0.26	<0.21	<0.17	<1.5	<0.27	<3.6	<0.71	<0.81	<0.80	<0.85	<0.30	<1.1	<4.4
	8/6/2019	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	<0.84	<1.8	<0.83	<0.71	<0.28	<0.28	<0.87	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	<0.25	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	<0.22	<1.2	<0.39	<1.2	<0.58	<1.2	<0.47	<0.33	<0.17	<0.26	<0.21	<0.17	<1.5	<0.27	<3.6	<0.71	<0.81	<0.80	<0.85	<0.30	<1.1	<4.4
MW105	12/5/2018	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	49.9	<1.8	<0.83	<0.71	<0.28	<0.28	6.6	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	**0.57J**	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	20.8	<1.2	2.6 J	<1.2	<0.58	**13.8**	<0.47	<0.33	1.0 J	<0.26	<0.21	<0.17	28.9	<0.27	<3.6	4.6	8.1	1.1 J	3.2 J	<0.30	<1.1	<4.4
	2/6/2019	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	17.4	<1.8	<0.83	<0.71	<0.28	<0.28	2.6 J	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	<0.25	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	9.8	<1.2	1.1 J	<1.2	<0.58	4.3 J	<0.47	<0.33	0.31 J	<0.26	<0.21	<0.17	7.6	<0.27	<3.6	3.0	4.6 J	<0.80	2.1 J	<0.30	<1.1	<4.4
	8/6/2016	<0.27	<0.24	<0.28	<0.55	<0.27	<0.24	<0.54	<0.63	<0.59	<0.95	12.5	<1.8	<0.83	<0.71	<0.28	<0.28	2.7 J	<0.63	<0.83	<0.94	<2.3	<0.93	<0.76	<0.25	<0.24	<0.36	<0.36	<4.0	<0.97	<0.17	<0.71	<1.3	<1.3	<2.2	<2.6	<0.94	<0.50	<1.9	11.6	<1.2	1.8 J	<1.2	<0.58	5.3	<0.47	<0.33	0.35 J	<0.26	<0.21	<0.17	7.0	<0.27	<3.6	<0.71	5.7	<0.80	3.6 J	<0.30	<1.1	<4.4
NR 140 PAL		**7**	**40**	**0.02**	**0.5**	**85**	**0.7**	**NE**	**NE**	**12**	**14**	**96***	**0.02**	**0.005**	**60**	**0.5**	**0.5**	**96***	**120**	**NE**	**15**	**NE**	**NE**	**NE**	**0.5**	**NE**	**NE**	**0.06**	**0.44**	**1**	**0.5**	**NE**	**80**	**0.6**	**3**	**6**	**NE**	**200**	**NE**	**140**	**NE**	**NE**	**12**	**0.5**	**10**	**10**	**0.5**	**160**	**0.5**	**698**	**0.02**	**400**	**7**	**0.04**	**NE**	**NE**	**NE**	**NE**	**NE**	**20**	**0.04**
NR 140 ES		**70**	**200**	**0.2**	**5**	**850**	**7**	**NE**	**NE**	**60**	**70**	**480***	**0.2**	**0.05**	**600**	**5**	**5**	**480***	**600**	**NE**	**75**	**NE**	**NE**	**NE**	**5**	**NE**	**NE**	**0.6**	**4.4**	**10**	**5**	**NE**	**400**	**6**	**30**	**60**	**NE**	**1,000**	**NE**	**700**	**NE**	**NE**	**60**	**5**	**100**	**100**	**5**	**800**	**5**	**3,490**	**0.2**	**2,000**	**70**	**0.4**	**NE**	**NE**	**NE**	**NE**	**NE**	**100**	**0.4**

Notes:
All data reported in micrograms per liter (ug/L) unless otherwise noted.
* - combined 1,2,4- and 1,3,5-trimethylbenzenes
< = Analyte not detected (i.e. less than RL or MDL)
ND - This constituent was not detected. Original lab reports are not available to show detection limits.
-- = This constituent was not analyzed.
NE = No remediation objective established by the WDNR for this constituent.
J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ).

Bold, italicized and underlined results exceed the WDNR NR 140 ES limits.
Bolded results exceed the WDNR NR 140 PAL limits.

Table 4a
Summary of Groundwater Sample Analytical Results
Petroleum Volatile Organic Compounds (PVOCs)

Client: WDNR
Site: Anderson Property
Project Number: T2I8038

Sample ID	Sample Date	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene	Ethylbenzene	Naphthalene	Toluene	Xylene (Total)
AGW-3	12/9/1991	ND	ND	ND	ND	ND	ND	ND
AGW-6	12/9/1991	ND	ND	ND	ND	ND	ND	ND
AGW-8	12/9/1991	ND	ND	ND	ND	3.48	ND	ND
Metco G-1-W	7/25/2006	***3,300***	***920***	***179***	***1,280***	--	80J	***5,860***
Metco G-2-W	7/25/2006	<42.5	<55	<8.5	<50	--	<39	<142
Metco G-3-W	7/25/2006	<0.85	<1.1	<0.17	<1.0	--	<0.78	<2.84
Metco G-4-W	7/25/2006	3.7	2.16J	***137***	12.4	--	4.1	12.67J
Metco G-5-W	7/25/2006	***700***	***233J***	***320***	***470***	--	**219J**	***1,158J***
Metco G-6-W	7/25/2006	***2,260***	***620***	***410***	***3,500***	--	***4,100***	***13,300***
Henrietta Well	10/4/2018	--	--	<0.12	<0.11	--	<0.078	<0.30
	8/6/2019	<0.84	<0.87	<0.25	<0.22	<1.2	<0.17	<1.5
B-101	11/8/2018	5.4	2.1	**0.69J**	13	**25.6**	7.1	30.1
B-102	11/8/2018	0.53J	<0.33	***16.6***	<0.33	<0.51	0.93J	2.1J
B-103	11/8/2018	***1,800***	477	***431***	***2,180***	***449***	63.1J	***6,970***
B-104	11/8/2018	71.7	24.4	***63.6***	86.4	**41**	21.4	205
B-105	11/8/2018	1.9	0.71J	**1.1**	2.3	0.77J	<0.49	5.9
	7/5/2017	47	<2.0	***330***	35	**62**	11.0	260
Hub Pub/Franz	1/24/2018	<0.20	<0.26	<0.10	<0.30	<0.32	<0.29	<0.33
Sump	10/4/2018	22.3	4.6	***24.6***	9.5	**19.8**	1.7 J	27.2
	12/5/2018	**246**	66.9	***338***	**349**	**83.0**	**214**	**920**
MW101	2/6/2019	60.2	18.8	***178***	103	**21.1**	25.0	202
	8/6/2016	**156**	42.3	***281***	**202**	**62.8**	149	**671**
	12/5/2018	2.3 J	0.90 J	**1.4**	7.8	**15.9**	4.2 J	18.4
MW102	2/6/2019	1.2 J	<0.87	<0.25	2.4	2.4 J	1.4 J	4.9
	8/6/2019	<0.84	<0.87	<0.25	<0.22	<1.2	<0.17	<1.5
	12/5/2018	<0.84	<0.87	<0.25	0.53 J	<1.2	0.25 J	1.6 J
MW103	2/6/2019	<0.84	<0.87	<0.25	<0.22	<1.2	<0.17	<1.5
	8/6/2019	<0.84	<0.87	<0.25	0.43 J	<1.2	0.52 J	1.6 J
	12/5/2018	<0.84	<0.87	<0.25	<0.22	<1.2	<0.17	<1.5
MW104	2/6/2019	<0.84	<0.87	**4.8**	<0.22	<1.2	<0.17	<1.5
	8/6/2019	<0.84	<0.87	<0.25	<0.22	<1.2	<0.17	<1.5
	12/5/2018	49.9	6.6	**0.57J**	20.8	13.8	1.0 J	28.9
MW105	2/6/2019	17.4	2.6 J	<0.25	9.8	4.3 J	0.31 J	7.6
	8/6/2016	12.5	2.7 J	<0.25	11.6	5.3	0.35 J	7.0
NR 140 PAL		**96***	**96***	**0.5**	**140**	**10**	**160**	**400**
NR 140 ES		**480***	**480***	**5**	**700**	**100**	**800**	**2,000**

Notes:
All data reported in micrograms per liter (ug/L) unless otherwise noted.
* - combined 1,2,4- and 1,3,5-trimethylbenzenes
< = Analyte not detected (i.e. less than RL or MDL)
ND - This constituent was not detected. Original lab reports are not available to show detection limits.
-- = This constituent was not analyzed.
NE = No remediation objective established by the WDNR for this constituent.
J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ).

Bold, italicized and underlined results exceed the WDNR NR 140 ES limits.
Bolded results exceed the WDNR NR 140 PAL limits.

Table 5
Summary of Groundwater Sample Analytical Results
Polynuclear Aromatic Hydrocarbons (PAHs)

Client: WDNR
Site: Anderson Property
Project Number: T2I8038

Laboratory: Wisconsin State Laboratory
Matrix: Groundwater
Analytical Method: EPA 3510/8270

Contaminant of Concern	NR 140 Contaminant Levels (ug/L)		Sample ID	AGW-3	AGW-6	AGW-8	Hub Pub Sump	
	Enforcement Standard (ES)	Preventive Action Limit (PAL)	Sample Date	12/9-11/1991	12/9-11/1991	12/9-11/1991	7/5/2017	1/24/2018
Acenaphthene	NE	NE		ND	ND	ND	0.11	<0.039
Acenaphthylene	NE	NE		ND	ND	ND	<0.11	<0.13
Anthracene	3,000	600		ND	ND	ND	0.26	<0.11
Benzo(a)anthracene	NE	NE		ND	ND	ND	0.75	<0.18
Benzo(a)pyrene	0.2	0.02		ND	ND	ND	***0.47***	<0.053
Benzo(b)fluoranthene	0.2	0.02		ND	ND	ND	***0.51***	<0.23
Benzo(g,h,i)perylene	NE	NE		ND	ND	ND	0.15	<0.057
Benzo(k)fluoranthene	NE	NE		ND	ND	ND	0.46	<0.14
Chrysene	0.2	0.02		ND	ND	ND	***0.62***	<0.080
Dibenz(a,h)anthracene	NE	NE		ND	ND	ND	<0.25	<0.036
Fluoranthene	400	80		ND	ND	ND	1.3	0.24
Fluorene	400	80		ND	ND	ND	0.2	<0.060
Indeno(1,2,3-cd)pyrene	NE	NE		ND	ND	ND	0.56	<0.23
1-Methylnaphthalene	NE	NE		ND	ND	ND	5.4	<0.039
2-Methylnaphthalene	NE	NE		ND	ND	ND	6.6	<0.047
Naphthalene	100	10		ND	ND	3.48	**25**	<0.038
Phenanthrene	NE	NE		ND	ND	ND	0.64	<0.17
Pyrene	250	50		ND	ND	ND	0.94	<0.12

Notes:
All data reported in micrograms per liter (ug/L) unless otherwise noted.
< = Analyte not detected (i.e. less than RL or MDL)
NA = This constituent was not analyzed.
NE = No remediation objective established by the WDNR for this constituent.
J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ).

Bold, italicized and underlined results exceed the WDNR NR 140 ES limits.
Bolded results exceed the WDNR NR 140 PAL limits.

Updated 02/14/2018 from NR140 updated 12/2017

TRUE NORTH CONSULTANTS

Table 6
Summary of Air Sample Analytical Results
Indoor and Outdoor Air Vapor Short List

Client: WDNR
Site: Anderson Property
Project Number: T2I8038

Laboratory: Wisconsin State Laboratory
Matrix: Indoor/Outdoor Air
Analytical Method: TO-I5

Contaminant of Concern*	EPA Vapor Risk Screening Level (VRSL) for Air Samples			Sample ID	ESS-6055 - Kitchen	DH-002 - Outdoor	ESS-60II - Basement
	Residential**	Small Commericial**	Large Commercial/Industrial**	Sample Date	I/25/2018	I/24/2018	I/25/2018
Chloromethane	45	I90	I90		0.33	0.45	‹0.0I8
I,2-Dichlorotetrafluoroethane	3,300	I5,000	44,000		‹0.095	‹0.038	‹0..038
Vinyl Chloride	22	370	I,I00		‹0.040	‹0.0I6	‹0.0I6
Trichlorofluoromethane	NE	NE	NE		0.66	0.I6	0.4I
I,I-Dichloroethylene	52	220	220		‹0.048	‹0.0I9	‹0.0I9
Methylene Chloride	I80	740	740		I.I	0.038	0.I5
trans-I,2-Dichloroethylene	NE	NE	NE		‹0.053	‹0.02I	‹0.02I
I,I-Dichloroethane	4.4	I9	I9		‹0.040	‹0.0I6	‹0.0I6
Methyl tert-Butyl ether (MTBE)	30	I30	I30		‹0.043	‹0.0I7	‹0.0I7
cis-I,2-Dichloroethylene	NE	NE	NE		‹0.035	‹0.0I4	‹0.0I4
Chloroform	0.24	I.I	I.I		‹0.058	‹0.023	‹0.023
I,2-Dichloroethane	0.27	I.I	I.I		‹0.048	‹0.0I9	‹0.0I9
I,I,I-Trichloroethane	940	4,000	4,000		0.37	‹0.0I2	0.049
Benzene	I.I0	4.9	4.9		0.I3	0.086	0.I4
Carbon tetrachloride	0.73	3.I	3.I		0.035	0.047	0.05
Trichloroethene	0.39	I.6	I.6		‹0.038	‹0.0I5	‹0.0I5
Toluene	I,400.0	5,700	5,700		0.46	0.039	0.099
Tetrachloroethene	6.2	27	27		‹0.085	‹0.034	‹0.034
Ethylbenzene	2.5	II	II		‹0.055	‹0.022	‹0.022
m/p-Xylene	23	I00	I00		‹0.II	‹0.042	‹0.042
O-Xylene	23	I00	I00		‹0.058	‹0.023	‹0.023
I,3,5-Trimethylbenzene	I3	52	52		‹0.080	‹0.032	‹0.032
I,2,4-Trimethylbenzene	I3	52	52		‹0.I0	‹0.04I	‹0.04I

Notes:
* Contaminents listed reflect typical TO-I5 contaminents used for vapor risk screening.
**All data reported in parts per billion by Volume (ppbV) unless otherwise noted.
Attenuation Factor (AF) for Residential and Small Commercial is 0.03. AF for Large Commercial/Industrial is 0.0I.
SS = Sub-slab vapor samples.
SG = Soil gas samples. Collected from just above the field identified groundwater table.
‹ = Analyte not detected (i.e. less than RL or MDL)
NA = This constituent was not analyzed.
NE = No VRSL established by the EPA for this constituent.
J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ).

Italicized and underlined results exceed the Residential EPA VRSL limit.
Bold ed results exceed the Small Commercial EPA VRSL limit.
Blue shaded results exceed the Large Commercial/Industrial EPA VRSL limit.

Updated I2/04/2017 from WDNR Quick Look-Up Table updated II/2017

TRUE NORTH CONSULTANTS

APPENDIX A

Soil Boring Logs

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218-038

Log of Boring

Sheet 1 of 1

BOREHOLE LOCATION: B101		
DATE BEGAN: 11-8-18	**DATE FINISHED:** 11-8-18	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 8ft	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:** 6ft BGS	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
	0						Fill	(0-1.5) Asphalt, gravel, sand, clay fill	0.0 @ 2ft.		
							SC	(1.5-3) Clay with gravel, dense, possible structural material, strong odor			
							SC	(3-5) Sandy Clay, well graded, fine to medium grained, brown, no odor, moist	1096.37 @ 4ft 214.3 @ 4ft		Sample taken @ 4ft.
▼	5						SW	(5-8) Sand, gravel, fine to medium grained, brown/gray, organic odor, groundwater @ 6ft.	0.0 @ 6ft		
									0.0 @ 8ft.		
	10							EOB @ 8ft. BGS			
	15										
	20										

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218-038

Log of Boring

Sheet 1 of 1

BOREHOLE LOCATION: B102		
DATE BEGAN: 11-9-18	**DATE FINISHED:** 11-9-18	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 8 ft.	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:** 6.5 ft. BGS	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
0	0						Fill	(0-1.5) Asphalt, gravel, sand			
							CL	(1.5-2.5) Clay, dense, probable road material	27.7	@ 2ft	
							ML	(2.5-6) Sandy silt, semi-dense, fine to very fine grained, dark gray, odor	74.9	@ 4ft	Sample @ 4ft.
-5	5								24.9	@ 6ft.	
							ML	(6-8) Silty sand, well sorted, gray, wet, odor	37.2	@ 8ft	
-10	10							EOB @ 8ft. BGS			
-15	15										
-20	20										

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218-038

Log of Boring

Sheet 1 of 1

BOREHOLE LOCATION: B103		
DATE BEGAN: 11-9-18	**DATE FINISHED:** 11-9-18	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 8ft	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:** 6 ft BGS	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
0	0						TOP	(0-2) Top soil, gravel, sand, some clay	15.1 @ 2ft		
							SM	(2-4) Silty Sand, with small gravels, spongy, fine grained, strong odor, grey	996.3@3ft		Sample @ 4ft.
							SM	(4-5) Silt, small gravels, black/grey, strong odor	263.7@5ft.		
-5	5						ML	(5-8) Silt, very fine grained, spongy, grey, wet @ 6ft.	1558.4@6ft		
									1256.5@7ft		
									854.1@8ft.		
-10	10							EOB @ 8ft. BGS			
-15	15										
-20	20										

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218-038

Log of Boring

Sheet 1 of 1

BOREHOLE LOCATION: B104		
DATE BEGAN: 11-9-18	**DATE FINISHED:** 11-9-18	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 8 ft	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:** 6 ft BGS	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
0	0						GP	(0-2) Sand, medium to fine grained, medium gravels, red/orange in color, silt @ 2ft.	0.0 @ 2ft		
							SM	(2-4) Sandy silt, fine grained, odor, dry, gray/brown	0.0 @ 3ft.		Sample @ 4 ft.
-5	5						ML	(4-6) Silt, fine grained, black, moist, odor, water @ 6ft.	89.7 @ 5ft		
							ML	(6-8) Silty sand, spongy, fine grained, saturated,	137.4 @ 7ft		
									28.5 @ 8ft		
-10	10							EOB @ 8ft BGS			
-15	15										
-20	20										

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218-038

Log of Boring

BOREHOLE LOCATION: B105		
DATE BEGAN: 11-9-18	**DATE FINISHED:** 11-9-18	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 8 ft.	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:**	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
0	0						GP	(0-2) Gravel, Sand	0.0@2ft		
							ML	(2-4) Sandy Silt, Gravel, Gray/tan	0.0@4ft		Sample @ 4ft.
-5	5						ML	(4-6) Silt, very fine, spongy, wet, black	0.0@5ft		
							ML	(6-8) Silt, very fine, spongy, saturated, black	0.0@7ft		
								EOB @ 8ft BGS.	0.0@8ft.		
-10	10										
-15	15										
-20	20										

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218038

Log of Boring

Sheet 1 of 2

BOREHOLE LOCATION: B106		
DATE BEGAN: 8-6-19	**DATE FINISHED:** 8-6-19	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 25 ft.	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:**	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
	0						GP	(0-1.5) Surface gravel fill, poorly graded, fine grained, medium gravels, not native	1.7 @	1.5 ft	
							CL	(1.5-3) silty clay, very fine to fine, dense, black/gray, odor, not native	142.12 @	3 ft	
							CL	(3-4) silty clay, fine grained, glass, metal, not native			
▼	5						SM	(4-7) Silty sand, poorly graded sand, fine, wet @ 6ft.	1932 @	5 ft.	
							ML	(7-9) Silt, fine grained, soft, brown/gray, odor	1919 @	7 ft.	
									1291 @	8 ft.	
									69.7 @	9 ft	
	10						GW	(9-14) Sandy gravel, well graded fine to medium grained sand, medium to large gravels, brown/orange, saturated	81.6 @	10 ft	
	15						GW	(14-25) Sandy gravel, well graded fine to small grained sand, small to medium gravels, saturated, brown/tan	51 @	15 ft	
									43 @	17 ft	
	20								31.6 @	20 ft	

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218038

Log of Boring

Sheet 2 of 2

BOREHOLE LOCATION: B106		
DATE BEGAN: 8-6-19	**DATE FINISHED:** 8-6-19	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 25 ft	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:**	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
20	0						GW	(4-25) Sandy gravel, well-graded fine to small grained sand, small to medium gravels, brown/tan, saturated	0.0 @ 22ft 0.0 @ 24ft		
-25								EOB @ 25 feet BGS			
-30											
-35											
-40											

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218-038

Log of Boring

Sheet 1 of 1

BOREHOLE LOCATION: MW101		
DATE BEGAN: 11-8-18	**DATE FINISHED:** 11-8-18	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 24 ft	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:** 7 Ft bgs.	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
0	0						GW	(0-1.5) Asphalt, gravel, Sand, Fill			
							SM	(1.5-3) Sandy silt, poorly sorted, medium to Fine grained, brown, dry; slight odor	0.0	@ 2 ft.	
									43.7	@ 3 ft.	Sample taken @ 3 ft.
							CL	(3-4) Silty clay, very fine, soft, brown, moist, odor	1134.6	@ 4 ft	
-5	5						CL	(4-7) Clay, semi-dense, very fine, grey, Strong odor, wet @ ~6.5 ft bgs., gravel sand from 6-6.5 ft bgs.	1192.3	4 @ 6 ft	
							CL	(7-9) Clayey Sand, well graded, fine to very fine, wet, grey	659.7	@ 8 ft	
-10	10						SW	(9-13) Sand, well-graded sand, medium to fine grained, dark brown, some large gravels	789.7	@ 10 ft.	
									614.72	@ 12 ft.	
									187.4	@ 13 ft.	
-15	15						SW	(13-15) Sand, well-graded, medium to small grained, some medium gravels, brown	0.0	@ 15 -	Sample was saturated
							GW	(15-24) Sandy gravels, small to medium gravels, Well-graded sand, wet, brown			
-20	20								0.0	@ 20	Sample was saturated

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUENORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218-038

Log of Boring

Sheet 1 of 1

BOREHOLE LOCATION: MW101		
DATE BEGAN: 11-8-18	**DATE FINISHED:** 11-8-18	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 24 ft.	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:** 7ft. BGS	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
	20						GW	(15-24) Sandy gravels, small to medium grained, well-graded sand, wet, brown			
	25							EOB @ 24 feet BGS			
	30										
	35										
	-40										

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218-038

Log of Boring

Sheet 1 of 1

BOREHOLE LOCATION: MW102		
DATE BEGAN: 11-8-18	**DATE FINISHED:** 11-8-18	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 12.5 ft.	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:** 6 ft.	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
	0						Fill	(0-1) Asphalt, gravel, sand, fill material			
							CL	(1-3) Silty Clay, fine to very fine, spongy, some small gravels, red sand(?), no odor, upper clay may be structural, brown	0.0@2ft		
							CL	(3-5) Clayey Silt, fine grained, some small gravels, moist	0.0@4ft		Sample @ 4ft
▼	5						SM	(5-8) Sandy Silt. Fine to medium grained, wet to saturated, poorly graded sand, tan/grey mild odor	0.0@6ft		
									39.7@8ft.		
	10							(8-12.5) Blind drilled to depth of monitoring well base.			
								EOBC 12.5 feet BGS			
	15										
	20										

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218038

Log of Boring

Sheet 1 of 1

BOREHOLE LOCATION: MW-103 A		
DATE BEGAN: 8-6-19	**DATE FINISHED:** 8-6-19	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 25 ft	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:**	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
0	0						ML	(0-1.5) Silty loam top soil, very fine, spongy, brown			
							ML	(1.5-3) Silt, very fine, mildly cohesive, brown, organics present, dry	0.5	@ 2 ft	
-5	5						ML	(3-7) Sandy silt, poorly graded fine sand, brown/tan, moist	0.0	@ 5 ft	
									0.0	@ 7 ft	
							SM	(7-9) Silty Sandy gravel, poorly graded fine grained sand, small gravels, cohesive, wet @ 7	0.0	@ 9 ft	
-10	10						GW	(9-11) Sandy gravel, well-graded fine to medium grained sand, small gravels, wet, brown			
							GW	(11-15) Sandy gravel, well-graded small to large grained sands, small to medium gravels, brown, saturated	0.0	@ 12 ft	
-15	15						GW	(15-18) Sandy gravel, well graded medium to large grained sands, medium gravels brown, saturated			
							GW	(18-23) Sandy gravels, well-graded fine to medium grained sands, medium to large gravels, brown, saturated			
-20	20										

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218038

Log of Boring

Sheet 1 of 1

BOREHOLE LOCATION: MW-103A		
DATE BEGAN: 8-6-19	**DATE FINISHED:** 8-6-19	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 25 ft	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:**	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
20	0						GW	(18-23) Sandy gravels			
							GP	(23-25) Sandy gravels, poorly graded fine grained sand, small gravels, brown, wet			
-25	5							EOB @ 25 ft. BGS			
-30	10										
-35	15										
-40	20										

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218038

Log of Boring

Sheet 1 of 1

BOREHOLE LOCATION: MW-104A B107		
DATE BEGAN: 8-6-19	**DATE FINISHED:** 8-6-19	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 25ft	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:**	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
0	0						GM	(0-3) Clayey silty gravel, very fine to fine grained, brown, not native, medium gravels	0.2	@2ft	
							GW	(3-4.5) Gravel, crushed sandstone, glass, black cinders, not native	0.2	@4ft	
							GW	(4.5-5) Sandy gravel, well-graded sand, large gravels	61.3	@5ft	
-5	5						CL	(5-7) Silty clay, very fine to fine grained, brittle, little cohesion, brown/dark brown, wet @6	6.6	@6ft	
							CL	(7-9) Clay, very fine, soft, gray, dry	0.0	@7ft	
							CH	(9-12) Fat clay, orange/brown mottling, very dense, dry	0.0	@9ft	
-10	10						GM	(12-14) Silty gravel, fine grained, medium gravels, gray, saturated	1.6	@11ft	
-15	15						GW	(14-18) Sandy gravel, well-graded medium to small grained sand, medium gravels, brown, saturated	0.0	@15ft	
							GW	(18-25) Sandy gravels, well graded small to medium grained sand, medium to large gravels, tan, saturated	0.0	@18ft	
-20	20										

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218038

Log of Boring

Sheet 1 of 1

BOREHOLE LOCATION: MW104 A		
DATE BEGAN: 8-6-19	**DATE FINISHED:** 8-6-19	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 25 feet	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:**	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
20	0										
							GW	(18-25) Sandy gravels, well graded small to medium gravel, sand, medium to large gravels, tan, saturated	0.0 @ 22 ft		
									0.0 @ 24 ft		
-25	5							EOB @ 25 Feet BGS			
-30	10										
-35	15										
-40	20										

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

TRUE NORTH CONSULTANTS

Project Name: Anderson Property
Project Location: Hub City, WI
Project Number: T218-038

Log of Boring

Sheet 1 of 1

BOREHOLE LOCATION: MW105		
DATE BEGAN: 11-8-18	**DATE FINISHED:** 11-8-18	**FIELD GEOLOGIST:** BTS
GROUND SURFACE ELEVATION:	**TOTAL DEPTH OF BOREHOLE:** 12.5 ft	**CHECKED BY:**
GWL DATE :	**GWL DEPTH:** 6 ft.	
DRILLING METHOD: DPT	**CONTRACTOR:** On-Site Environmental	

Water Level Elevation, feet	Depth, feet	Sample No.	Sample Method	Sample Type	Graphic	REC (in.)	USCS	DESCRIPTION	PID	Sample Location	REMARKS
0	0						Fill	(0-2) Asphalt, gravel, Sand	0.0 @ 2ft		
							SW	(2-5) Sand, gravels, fine grained, well-sorted, gray, petroleum odor, medium gravels	16.9 @ 4ft		Sample @ 4ft.
-5	5						SW	(5-8) Sand, well graded, medium to fine grained, gray, odor, moist.	3.78 @ 6ft		
									57.45 @ 8ft.		
-10	10							(8-12.5) Blind drilled to depth of monitoring well base.			
-15	15							EOB @ 12.5 Feet BGS			
-20	20										

Sp = Split Spoon Sample Pp = Push Probe Sample Ha = Hand Auger D = Discrete St = Shelby Tube C = Composite

APPENDIX B

Borehole Abandonment Forms

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☒ Other: Site Investigation

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Richland	B101	

Latitude / Longitude (see instructions): 43.47175 N / 90.35545 W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
NW	SE	34	12 N	01 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Hub City	53581

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary Boring	

2. Facility / Owner Information

Facility Name: Anderson Property
Facility ID (FID or PWS): NA
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner: South Hwy. 80

City of Present Owner	State	ZIP Code
Hub City	WI	53581

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/9/218

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct Push Technology

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2 inches	

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	6 feet

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	8ft.		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Tony Kapugi		11/9/2018

Street or Route	Telephone Number
PO Box 280	(608) 206-1697

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☒ Other: Site Investigation

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Richland	B102	

Latitude / Longitude (see instructions): 43.47203 N / 90.35546 W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NW	¼ SE	Section	Township	Range
or Gov't Lot #		34	12 N	01 ☒ E ☐ W

Well Street Address:

Well City, Village or Town	Well ZIP Code
Hub City	53581

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary Boring	

2. Facility / Owner Information

Facility Name: Anderson Property
Facility ID (FID or PWS): NA
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: South Hwy 80
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code
Hub City	WI	53581

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/9/218
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct Push Technology

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2 inches	

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	6.5 feet

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	8ft.		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Tony Kapugi		11/9/2018

Street or Route	Telephone Number
PO Box 280	(608) 206-1697

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☒ Other: Site Investigation

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Richland	B103	

Latitude / Longitude (see instructions): 43.47206 N / 90.35559 W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
NW	SE	34	12 N	01 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Hub City	53581

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary Boring	

2. Facility / Owner Information

Facility Name: Anderson Property
Facility ID (FID or PWS): NA
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner: South Hwy. 80
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code
Hub City	WI	53581

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/9/218

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct Push Technology

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2 inches	

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	6 feet

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	8ft.		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Tony Kapugi		11/9/2018

Street or Route	Telephone Number
PO Box 280	(608) 206-1697

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☒ Other: Site Investigation

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Richland	B104	

Latitude / Longitude (see instructions): 43.47195 N / 90.35578 W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
NW	SE	34	12 N	01 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Hub City	53581

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary Boring	

2. Facility / Owner Information

Facility Name: Anderson Property
Facility ID (FID or PWS): NA
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner: South Hwy. 80

City of Present Owner	State	ZIP Code
Hub City	WI	53581

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/9/218

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct Push Technology

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2 inches	

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	6 feet

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	8ft.		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Tony Kapugi		11/9/2018

Street or Route	Telephone Number
PO Box 280	(608) 206-1697

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

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☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☒ Other: Site Investigation

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Richland	B105	

Latitude / Longitude (see instructions): 43.47198 N / 90.35622 W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
NW	SE	34	12 N	01 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Hub City	53581

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary Boring	

2. Facility / Owner Information

Facility Name: Anderson Property
Facility ID (FID or PWS): NA
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner: South Hwy 80

City of Present Owner	State	ZIP Code
Hub City	WI	53581

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/9/218

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct Push Technology

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2 inches	

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	6 feet

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	8ft.		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Tony Kapugi		11/9/2018

Street or Route	Telephone Number
PO Box 280	(608) 206-1697

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

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☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☒ Other: Site Investigation

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Richland	B106	

Latitude / Longitude (see instructions): 43.47200 N / 90.35560 W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NW	¼ SE	Section	Township	Range
or Gov't Lot #		34	12 N	01 ☒ E ☐ W

Well Street Address:

Well City, Village or Town	Well ZIP Code
Hub City	53581

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary Boring	

2. Facility / Owner Information

Facility Name: Anderson Property
Facility ID (FID or PWS): NA
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner: South Hwy 80

City of Present Owner	State	ZIP Code
Hub City	WI	53581

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 8/6/2019
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct Push Technology

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
25 feet	

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2 inches	

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	6 feet

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	25ft.		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Gage Kapugi		8/6/2019

Street or Route	Telephone Number
PO Box 280	(608) 206-1697

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

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☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☒ Other: Site Investigation

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Richland	MW-103A	

Latitude / Longitude (see instructions): 43.47207 N / 90.35584 W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
NW	SE	34	12 N	01 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Hub City	53581

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary Boring	

2. Facility / Owner Information

Facility Name: Anderson Property
Facility ID (FID or PWS): NA
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner: South Hwy 80

City of Present Owner	State	ZIP Code
Hub City	WI	53581

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 8/6/2019

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct Push Technology

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
25 feet	

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2 inches	

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	6 feet

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	25ft.		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Gage Kapugi		8/6/2019

Street or Route	Telephone Number
PO Box 280	(608) 206-1697

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

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☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☐ Remediation/Redevelopment
☐ Waste Management ☒ Other: Site Investigation

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Richland	MW-104A	

Latitude / Longitude (see instructions): 43.47174 N / 90.35606 W
Format Code: ☒ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼	¼	Section	Township	Range
NW	SE	34	12 N	01 ☒ E ☐ W

or Gov't Lot #

Well Street Address:

Well City, Village or Town	Well ZIP Code
Hub City	53581

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Temporary Boring	

2. Facility / Owner Information

Facility Name: Anderson Property
Facility ID (FID or PWS): NA
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner: South Hwy 80

City of Present Owner	State	ZIP Code
Hub City	WI	53581

3. Filled & Sealed Well / Drillhole / Borehole Information

☐ Monitoring Well
☐ Water Well
☒ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 8/6/2019

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☒ Other (specify): Direct Push Technology

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
25 feet	

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2 inches	

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	6 feet

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	☒ N/A
Liner(s) removed?	☐ Yes	☐ No	☒ N/A
Liner(s) perforated?	☐ Yes	☐ No	☒ N/A
Screen removed?	☐ Yes	☐ No	☒ N/A
Casing left in place?	☐ Yes	☐ No	☒ N/A
Was casing cut off below surface?	☐ Yes	☐ No	☒ N/A
Did sealing material rise to surface?	☒ Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	☒ No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	☐ N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	☒ Yes	☐ No	☐ N/A

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	25ft.		

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Gage Kapugi		8/6/2019

Street or Route	Telephone Number
PO Box 280	(608) 206-1697

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		

DNR Use Only

Date Received	Noted By

Comments:

APPENDIX C

Monitoring Well Construction and Development Forms

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ Monitoring

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Anderson Property	Local Grid Location of Well: ☐N. ☐S. ft. ☐E. ☐W. ft.	Well Name: MW101
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID: NA	St. Plane 491237.909 ft. N, 333287.5251 ft. E. S/C/N	Date Well Installed: 11 / 8 / 2018 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: NW 1/4 of SE 1/4 of Sec. 34, T. 12 N, R. 01 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Tony Kapugi / On-Site Environmental
Distance from Waste/Source: NA ft. Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number

A. Protective pipe, top elevation 780.62 ft. MSL

B. Well casing, top elevation 780.09 ft. MSL

C. Land surface elevation 780 ft. MSL

D. Surface seal, bottom ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☒ 50
Hollow Stem Auger ☒ 41
Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☒ 01
Drilling Mud ☐ 03 None ☐ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe

17. Source of water (attach analysis, if required):

E. Bentonite seal, top ft. MSL or 1.0 ft.

F. Fine sand, top ft. MSL or ft.

G. Filter pack, top ft. MSL or 2.5 ft.

H. Screen joint, top ft. MSL or 3 ft.

I. Well bottom ft. MSL or 12 ft.

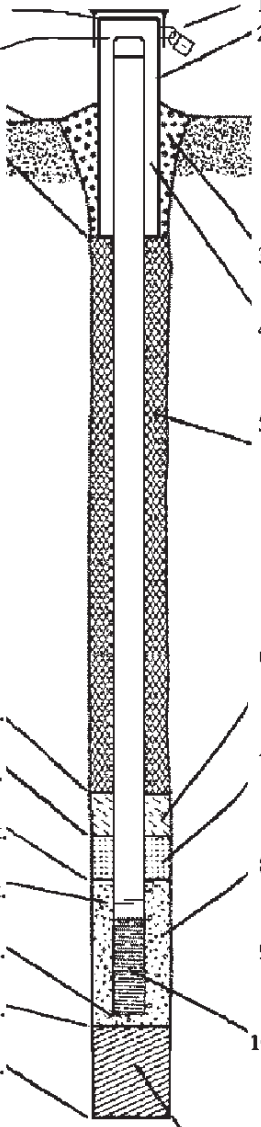
J. Filter pack, bottom ft. MSL or 12.5 ft.

K. Borehole, bottom ft. MSL or 12.5 ft.

L. Borehole, diameter 8.5 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe:
3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 30 Other ☒
Filter Sand
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☐ 08
6. Bentonite seal: a. Bentonite granules ☒ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. none Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Badger Mining 40-60 ☒
b. Volume added ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Badger Mining 20-40 ☒
b. Volume added ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
Other ☐
10. Screen material: 10Slot PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐
b. Manufacturer Timco
c. Slot size: 0.010 in.
d. Slotted length: 9.6 ft.
11. Backfill material (below filter pack): None ☒ 14 Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	True North Consultants

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ Site Investigation

Facility/Project Name	County Name	Well Name
Anderson Property	Richland	MW101

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	40		

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☒ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 45 min.

4. Depth of well (from top of well casisng) 12 ft.

5. Inside diameter of well 2.07 in.

6. Volume of water in filter pack and well casing ____ gal.

7. Volume of water removed from well 55.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☒ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 6.36 ft.	6.49 ft.
Date	b. 11/09/2018 (m m d d y y y y)	11/09/2018
Time	c. 8:45 ☒ a.m. ☐ p.m.	9:30 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	1.3 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe) Water was gray odor was present	Clear ☐ 20 Turbid ☒ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Ben Last Name: Stencil
Firm: True North Consultants

17. Additional comments on development:
Rapid recovery, well never purged dry, gray silt in the water for first 10-15 gallons.

Name and Address of Facility Contact /Owner/Responsible Party
First Name: _____ Last Name: _____
Facility/Firm: Anderson Property
Street: Sth Hwy 80.
City/State/Zip: Hub City, WI

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Ben Stencil
Print Name: Ben Stencil
Firm: True North Consultants

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ Investigation

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Anderson Property	Local Grid Location of Well: ☐ N. ☐ S. ft. ☐ E. ☐ W. ft.	Well Name: MW102
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID: NA	St. Plane 491242.8575 ft. N, 333257.8396 ft. E. S/C/N	Date Well Installed: 11 / 8 / 2018 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: NW 1/4 of SE 1/4 of Sec. 34, T. 12 N, R. 01 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm: Tony Kapugi / On-Site Environmental
Distance from Waste/Source NA ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number

A. Protective pipe, top elevation 780.59 ft. MSL

B. Well casing, top elevation 780.97 ft. MSL

C. Land surface elevation 780.00 ft. MSL

D. Surface seal, bottom ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☒ 50 / Hollow Stem Auger ☒ 41 / Other ☐

15. Drilling fluid used: Water ☐ 02 / Air ☒ 01 / Drilling Mud ☐ 03 / None ☐ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe

17. Source of water (attach analysis, if required):

E. Bentonite seal, top ft. MSL or 1.0 ft.

F. Fine sand, top ft. MSL or ft.

G. Filter pack, top ft. MSL or 2.5 ft.

H. Screen joint, top ft. MSL or 3 ft.

I. Well bottom ft. MSL or 12 ft.

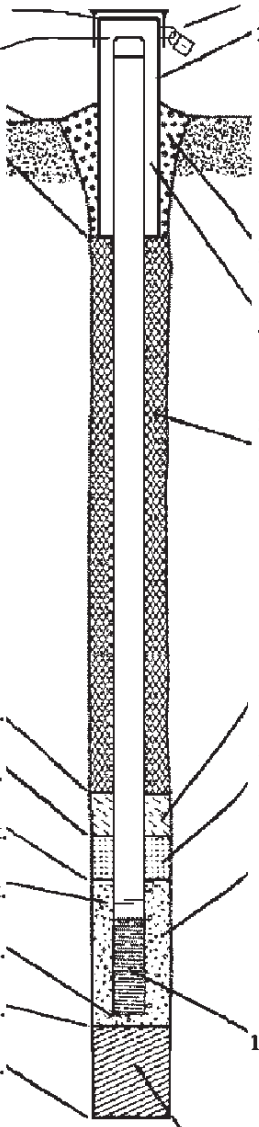
J. Filter pack, bottom ft. MSL or 12.5 ft.

K. Borehole, bottom ft. MSL or 12.5 ft.

L. Borehole, diameter 8.5 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 / Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe:

3. Surface seal: Bentonite ☐ 30 / Concrete ☒ 01 / Other ☐

4. Material between well casing and protective pipe: Bentonite ☐ 30 / Filter Sand / Other ☒

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☐ 08

6. Bentonite seal: a. Bentonite granules ☒ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. none Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. Badger Mining 40-60 ☒
b. Volume added ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Badger Mining 20-40 ☒
b. Volume added ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐

10. Screen material: 10Slot PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐
b. Manufacturer Timco
c. Slot size: 0.010 in.
d. Slotted length: 9.6 ft.

11. Backfill material (below filter pack): None ☒ 14 / Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	True North Consultants

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ Site Investigation

Facility/Project Name	County Name	Well Name
Anderson Property	Richland	MW102

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	40		

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☒ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 45 min.

4. Depth of well (from top of well casisng) 12. ft.

5. Inside diameter of well 2.07 in.

6. Volume of water in filter pack and well casing ____ gal.

7. Volume of water removed from well 45.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☒ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 6.42 ft.	6.51 ft.
Date	b. 11/09/2018 (m m d d y y y y)	11/09/2018
Time	c. 9:35 ☒ a.m. ☐ p.m.	10:15 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	0.9 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe) Water was tan and silty; cleared quick	Clear ☐ 20 Turbid ☒ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Ben Last Name: Stencil
Firm: True North Consultants

17. Additional comments on development:
Quick recovery, well never purged dry, tan silt in the water for first 10 gallons.

Name and Address of Facility Contact /Owner/Responsible Party
First Name: _____ Last Name: _____
Facility/Firm: Anderson Property
Street: Sth Hwy 80.
City/State/Zip: Hub City, WI

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Ben Stencil
Print Name: Ben Stencil
Firm: True North Consultants

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ Investigation

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Anderson Property	Local Grid Location of Well: ☐ N. ☐ S. ____ ft. ☐ E. ☐ W. ____ ft.	Well Name: MW103
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.	DNR Well ID No.
Facility ID: NA	St. Plane 491200.5100 ft. N, 333261.7687 ft. E. S/C/N	Date Well Installed: 11 / 8 / 2018 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: NW 1/4 of SE 1/4 of Sec. 34, T. 12 N, R. 01 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm: Tony Kapugi — On-Site Environmental
Distance from Waste/Source: NA ft.	Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number

A. Protective pipe, top elevation 782.19 ft. MSL

B. Well casing, top elevation 782.39 ft. MSL

C. Land surface elevation 780.00 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☒ 50 Hollow Stem Auger ☒ 41 Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☒ 01 Drilling Mud ☐ 03 None ☐ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top ____ ft. MSL or 1.0 ft.

F. Fine sand, top ____ ft. MSL or ____ ft.

G. Filter pack, top ____ ft. MSL or 2.5 ft.

H. Screen joint, top ____ ft. MSL or 3 ft.

I. Well bottom ____ ft. MSL or 12 ft.

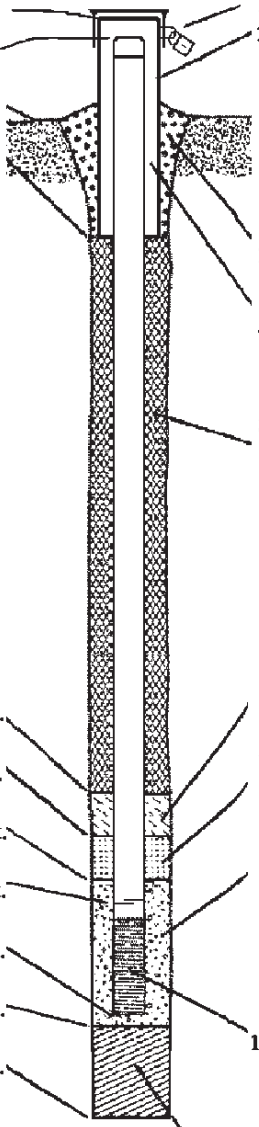
J. Filter pack, bottom ____ ft. MSL or 12.5 ft.

K. Borehole, bottom ____ ft. MSL or 12.5 ft.

L. Borehole, diameter 8.5 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: ____

3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐

4. Material between well casing and protective pipe: Bentonite ☐ 30 Other ☒ Filter Sand

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☐ 08

6. Bentonite seal: a. Bentonite granules ☒ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. none Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. Badger Mining 40-60 ☒
b. Volume added ____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Badger Mining 20-40 ☒
b. Volume added ____ ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐

10. Screen material: 10Slot PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐
b. Manufacturer Timco
c. Slot size: 0.010 in.
d. Slotted length: 9.6 ft.

11. Backfill material (below filter pack): None ☒ 14 Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	True North Consultants

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ Site Investigation

Facility/Project Name	County Name	Well Name
Anderson Property	Richland	MW103

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	40		

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☒ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 30 min.

4. Depth of well (from top of well casisng) 12. ft.

5. Inside diameter of well 2.07 in.

6. Volume of water in filter pack and well casing ____ gal.

7. Volume of water removed from well 50.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☒ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 4.45 ft.	4.54 ft.
Date	b. 11/09/2018	11/09/2018
Time	c. 10:25 ☒ a.m. ☐ p.m.	10:55 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	0.9 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe) Water was tan and silty; cleared quick no odor	Clear ☐ 20 Turbid ☒ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Ben Last Name: Stencil
Firm: True North Consultants

17. Additional comments on development:
Rapid recovery, well never purged dry, tan silt in the water for first 10-15 gallons.

Name and Address of Facility Contact /Owner/Responsible Party
First Name: _____ Last Name: _____
Facility/Firm: Anderson Property
Street: Sth Hwy 80.
City/State/Zip: Hub City, WI

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Ben Stencil
Print Name: Ben Stencil
Firm: True North Consultants

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ Investigation

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Anderson Property	Local Grid Location of Well: ☐ N. ☐ S. ____ ft. ☐ E. ☐ W. ____ ft.	Well Name: MW104
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID: NA	St. Plane 491252.02410 ft. N, 333301.3502 ft. E. S/C/N	Date Well Installed: 11 / 8 / 2018 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: NW 1/4 of SE 1/4 of Sec. 34, T. 12 N, R. 01 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm: Tony Kapugi / On-Site Environmental
Distance from Waste/Source: NA ft. Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number

A. Protective pipe, top elevation 783.39 ft. MSL

B. Well casing, top elevation 783.78 ft. MSL

C. Land surface elevation 780.00 ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☒ 50 Hollow Stem Auger ☒ 41 Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☒ 01 Drilling Mud ☐ 03 None ☐ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top ____ ft. MSL or 1.0 ft.

F. Fine sand, top ____ ft. MSL or ____ ft.

G. Filter pack, top ____ ft. MSL or 2.5 ft.

H. Screen joint, top ____ ft. MSL or 3 ft.

I. Well bottom ____ ft. MSL or 12 ft.

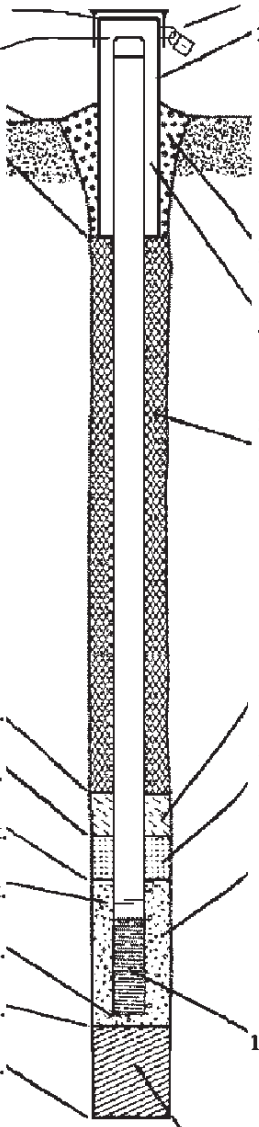
J. Filter pack, bottom ____ ft. MSL or 12.5 ft.

K. Borehole, bottom ____ ft. MSL or 12.5 ft.

L. Borehole, diameter 8.5 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: ____

3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐

4. Material between well casing and protective pipe: Bentonite ☐ 30 Other ☒
Filter Sand

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☐ 08

6. Bentonite seal: a. Bentonite granules ☒ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. none Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. Badger Mining 40-60 ☒
b. Volume added ____ ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Badger Mining 20-40 ☒
b. Volume added ____ ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐

10. Screen material: 10Slot PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐
b. Manufacturer Timco
c. Slot size: 0.010 in.
d. Slotted length: 9.6 ft.

11. Backfill material (below filter pack): None ☒ 14 Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	True North Consultants

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ Site Investigation

Facility/Project Name	County Name	Well Name
Anderson Property	Richland	MW104
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number** / **DNR Well ID Number**
	40	

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☒ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 30 min.

4. Depth of well (from top of well casisng) 12. ft.

5. Inside diameter of well 2.07 in.

6. Volume of water in filter pack and well casing ____.__ gal.

7. Volume of water removed from well 40.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☒ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 2.51 ft.	4.61 ft.
Date	b. 11/09/2018 (m m d d y y y y)	11/09/2018
Time	c. 11 : 00 ☒ a.m. ☐ p.m.	11 : 30 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	2.1 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15	Clear ☒ 20 Turbid ☐ 25
(Describe)	Water was gray, silty; cleared quick no odor	
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Well developed by: Name (first, last) and Firm
First Name: Ben Last Name: Stencil
Firm: True North Consultants

17. Additional comments on development:
Rapid recovery, well never purged dry, gray silt in the water for first 10-15 gallons.

Name and Address of Facility Contact /Owner/Responsible Party
First Name: _____ Last Name: _____
Facility/Firm: Anderson Property
Street: Sth Hwy 80.
City/State/Zip: Hub City, WI

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Ben Stencil
Print Name: Ben Stencil
Firm: True North Consultants

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ Investigation

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Anderson Property	Local Grid Location of Well: ☐ N. ☐ S. ft. ☐ E. ☐ W. ft.	Well Name: MW105
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID: NA	St. Plane 491251.0051 ft. N, 333307.4625 ft. E. S/C/N	Date Well Installed: 11 / 8 / 2018 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: NW 1/4 of SE 1/4 of Sec. 34, T. 12 N, R. 01 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm: Tony Kapugi / On-Site Environmental
Distance from Waste/Source: NA ft. Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number

A. Protective pipe, top elevation 781.00 ft. MSL

B. Well casing, top elevation 781.24 ft. MSL

C. Land surface elevation 780.00 ft. MSL

D. Surface seal, bottom ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☒ 50 Hollow Stem Auger ☒ 41 Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☒ 01 Drilling Mud ☐ 03 None ☐ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe

17. Source of water (attach analysis, if required):

E. Bentonite seal, top ft. MSL or 1.0 ft.

F. Fine sand, top ft. MSL or ft.

G. Filter pack, top ft. MSL or 2.5 ft.

H. Screen joint, top ft. MSL or 3 ft.

I. Well bottom ft. MSL or 12 ft.

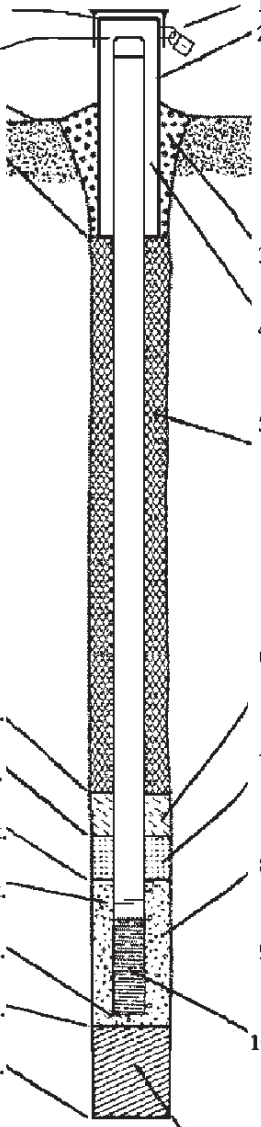
J. Filter pack, bottom ft. MSL or 12.5 ft.

K. Borehole, bottom ft. MSL or 12.5 ft.

L. Borehole, diameter 8.5 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe:

3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐

4. Material between well casing and protective pipe: Bentonite ☐ 30 Other ☒
Filter Sand

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☐ 08

6. Bentonite seal: a. Bentonite granules ☒ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. none Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. Badger Mining 40-60 ☒
b. Volume added ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Badger Mining 20-40 ☒
b. Volume added ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐

10. Screen material: 10Slot PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐
b. Manufacturer Timco
c. Slot size: 0.010 in.
d. Slotted length: 9.6 ft.

11. Backfill material (below filter pack): None ☒ 14 Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	True North Consultants

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ Site Investigation

Facility/Project Name	County Name	Well Name
Anderson Property	Richland	MW105

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	40		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☒ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 40 min.

4. Depth of well (from top of well casisng) 12. ft.

5. Inside diameter of well 2.07 in.

6. Volume of water in filter pack and well casing ____.__ gal.

7. Volume of water removed from well 50.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☒ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 5.82 ft.	5.88 ft.
Date	b. 11/09/2018 (mm/dd/yyyy)	11/09/2018 (mm/dd/yyyy)
Time	c. 11:40 ☒ a.m. ☐ p.m.	12:20 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	0.6 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15	Clear ☒ 20 Turbid ☐ 25
(Describe)	Water was gray, silty; cleared quick no odor	
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Well developed by: Name (first, last) and Firm
First Name: Ben Last Name: Stencil
Firm: True North Consultants

17. Additional comments on development:
Rapid recovery, well never purged dry, tan silt in the water for first 10-15 gallons.

Name and Address of Facility Contact /Owner/Responsible Party
First Name: _____ Last Name: _____
Facility/Firm: Anderson Property
Street: Sth Hwy 80.
City/State/Zip: Hub City, WI

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Ben Stencil
Print Name: Ben Stencil
Firm: True North Consultants

NOTE: See instructions for more information including a list of county codes and well type codes.

APPENDIX D

Amplified Geochemical Imaging Laboratory Report

AMPLIFIED GEOCHEMICAL IMAGING, LLC

Laboratory Report

Site: T218038 WDMR Anderson Property

Prepared for:

True North Consultants
525 Junction Road, Suite 1900
Madison, WI 53717
USA

Prepared on:
October 18, 2018

Project Summary and Objective

Amplified Geochemical Imaging, LLC (AGI) provided the AGI Environmental Survey used at:

T218038 - WDMR Anderson Property

The service provided by AGI included delivery of the required quantity of AGI Universal Samplers, analysis by the method described below for the requested organic compounds, reporting of the data, and contour mapping (as needed).

This report includes results for only the samples noted under the Laboratory Sample Report section. If contour maps are part of the project deliverable, the maps will be prepared and issued under a separate report cover, upon receipt of a usable sitemap (electronic) and compound choices for contouring.

Written/submitted by:

Ray Fenstermacher, P.G.
Project Manager

Reviewed/approved by:

Ian McMullen
Chemist

Analytical data approved by:

Ian McMullen
Chemist

Quality Assurance Statement

The AGI Laboratory, at Amplified Geochemical Imaging's facility in Newark, DE USA, operates under the guidelines of its ISO Standard 17025 DoD ELAP accreditation, and its Quality Assurance Manual, Operating Procedures, and Methods (SOP-QA-0462).

For this project, the analytical method, results, and observations reported do [ ] do not [√] fall within the scope of AGI's ISO 17025 accreditation.

Screening/Concentration Method

The AGI Universal Samplers are analyzed at AGI's fixed laboratory using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following modified U.S. EPA Method 8260 (SPG-WI-0292) which includes the following:

- **BFB Tuning Frequency:** A BFB tune is analyzed at the start of each analytical run and after every 30 samples.
- **Initial Calibration:** A minimum of a five point calibration curve is analyzed prior to the analysis of samples.
- **Initial Calibration Verification (ICV):** Following the calibration a second-source reference standard is analyzed to verify the accuracy of the calibration. Acceptance criteria for the ICV is +/- 30%.
- **Linearity of Target Compounds:** If the RSD of any target analyte is less than or equal to 25% then average response factor can be used for quantitation. If the RSD exceeds 25% for a target compound a regression equation can be used for quantitation.
- **Continuing Calibration Verification:** After every 10 samples, and at the end of each analytical batch, a mid-level second-source Reference Standard is analyzed. The acceptance criteria for all target analytes in the reference standards are +/- 50% of the true value.
- **Method Blank:** Analyzed prior to the analysis of field samples and every 30 samples.

Note: Analyte levels reported for the field-deployed AGI Universal Samplers that exceed trip and method blank levels, and/or the reporting limit, are more likely to have originated from on-site sources.

Media Sampled:	SOIL GAS
Chemist - sample analysis:	Jasmine Smith
Chemist - data processor:	Jasmine Smith
Chemist - data review:	Ian McMullen

Method deviations: None

Please note that data file names ending with R are rerun samples using the second pair of sorbers, in which the original results were not reported. Data file names ending in D are duplicate analysis results for the second set of sorbers from the same sampler, and are reported.

Additional Report Information

- Comments
- Laboratory Sample Report
- Chain of Custody
- Installation and Retrieval Log
- Data Table(s) and Key
- Concentration Calculation Method Summary
- Total Ion Chromatograms

Project Specific Comments

All samplers were returned and analyzed including trip blanks 00800733 and 00800734.

Survey period [1]	Samplers were installed on October 4, 2018 and retrieved on October 10, 2018 for an exposure period of six (6) days.	
Tamper seal intact:	Yes	
Date received:	10/11/18 10:30 am	By: Darlene Yellowdy
COC returned:	Yes	
Comments:	None	

1 - Installation start to end of retrieval, as reported. See installation and retrieval log for individual deployment and retrieval dates and times (i.e., sampler exposure time).

General Comments

Analytical QA/QC

Laboratory instrumentation consists of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation involves cutting the tip off the bottom of the AGI Universal Sampler, and transferring one or more "sorbers" to a thermal desorption tube for analysis. The insertion/retrieval cord prevents soil, water and other interferences from coming in contact with the adsorbent. No further sample preparation is required. Any replicate sorbers not consumed in the initial analysis will be discarded fifteen (15) days from the date of the laboratory report.

Data are archived and stored in a secure manner as per AGI's Quality Assurance program (SOP-QA-0462).

Total petroleum hydrocarbons (TPH), gasoline-range petroleum hydrocarbons (GRPH), and/or diesel range petroleum hydrocarbons (DRPH), when reported, are calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass values was performed using the response factor for a specific alkane (present in the calibration standards). TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20. GRPH and DRPH include only the relevant regions of the chromatograms and provide estimates for C4 to C10 and C10 to C20 aliphatic hydrocarbons, respectively.

Trip blanks were provided to document potential exposures that were not part of the signal of interest (e.g., impact during sampler shipment, installation and/or retrieval, and storage). The trip blanks are identically manufactured and packaged AGI Universal Samplers to those samplers deployed in the field . The trip blanks remain unopened during all phases of the project. Levels reported on the trip blanks may indicate potential impact to the samplers other than the contaminant source of interest.

Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. UPEs may be indicative of complex fluid mixtures. UPEs observed early in the chromatograms are considered to indicate presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Total ion chromatograms (TICs) are included in the Attachments. The eight-digit serial number of each sampler is incorporated in the TIC identification (e.g., 12345678.D represents AGI Universal Sampler 12345678).

General Comments

Soil Gas Sampling

For soil gas sampling, the AGI Environmental Survey reports mass levels migrating through the open pore spaces of the soil and diffusing through the sampler membrane for sorption by the engineered, hydrophobic adsorbents, housed within the membrane tube. During the migration of the soil gas away from the source to the AGI Universal Sampler, the vapors are subject to a variety of attenuation factors. The soil gas masses reported on the samplers compare favorably with the concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels to other sampled locations on the site, the matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.

Soil gas concentrations (µg/m3) are calculated following the method described in the Additional Report Information section.

Soil gas signals reported by this method cannot be correlated specifically to soil adsorbed, groundwater, and /or free-phase contamination. The soil gas signal reported from each AGI Universal Sampler can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).

Air Sampling

For indoor, outdoor, and crawlspace air sampling, the AGI Environmental Survey reports mass levels present in the air and diffusing through the sampler membrane for sorption by the engineered adsorbents housed within the membrane tube.

Air concentrations (µg/m3) are calculated following the method described in the Additional Report Information section.

Groundwater and Sediment Porewater Sampling

For groundwater and sediment porewater sampling, the AGI Environmental Survey reports the mass levels of compounds present in the water which, when coming in contact with the sampler membrane, partitions out of solution, and diffuses through the sampler membrane for sorption by the engineered adsorbents.

Water concentrations (µg/L) are calculated using the quantified mass, exposure period and the compound specific uptake rate. The rates were measured under controlled experimental conditions. The uptake rates are corrected for water pressure (depth of the AGI Universal Sampler below the water table), water temperature and the aquifer flow rate. For sediment porewater, the uptake rate is corrected for the reduced volume of water in the sediment, by multiplying the uptake rate by the pore water fraction.

Laboratory Sample Report

AGI Sample ID	Field ID	Sample Type
00800717	0717	FIELD SAMPLE
00800718	0718	FIELD SAMPLE
00800719	0719	FIELD SAMPLE
00800720	0720	FIELD SAMPLE
00800721	0721	FIELD SAMPLE
00800722	0722	FIELD SAMPLE
00800723	0723	FIELD SAMPLE
00800724	0724	FIELD SAMPLE
00800725	0725	FIELD SAMPLE
00800726	0726	FIELD SAMPLE
00800727	0727	FIELD SAMPLE
00800728	0728	FIELD SAMPLE
00800729	0729	FIELD SAMPLE
00800730	0730	FIELD SAMPLE
00800731	0731	FIELD SAMPLE
00800732	0732	FIELD SAMPLE
00800733	Trip Blank	TRIP BLANK
00800734	Trip Blank	TRIP BLANK

Total # Field Samples: 16
Total # Trip Blanks: 2

AMPLIFIED GEOCHEMICAL IMAGING LLC

210 Executive Drive
Newark, Delaware 19702 USA
ph: +1-302-266-2428
www.agisurveys.net

AGI Universal Passive Sampler Chain of Custody
Soil gas and/or Air Sampling

Production Order #: ENV 02053

Customer Name: True North Consultants

Address: 525 Junction Road
Suite 1900
Madison, WI 53717
USA

Site Name: T218038 - WDMR Anderson Property

Site Address:

Project Manager:

Serial # of Samplers Shipped
00800717 - 00800734

# of Samplers for Installation 16
Total Samplers Shipped 18
Total Samplers Received 18
Total Samplers Installed 16

# of Trip Blanks 2
Pieces
Pieces
Pieces

Serial # of Trip Blanks (Client Decides)

00800733	00800734	

Insertion Rods

Tips Shipped: 1

Rod Bodies Shipped 4

Prepared By: [signature]

Verified By: [signature]

Installation Method: (Circle those that apply)
Slide Hammer (Hammer Drill) Auger
Other Hammer & Steel Rod

Installation Performed By:
Name: Ben Stenell
Company: True North Consultants

Retrieval Performed By:
Name: Ben Stenell
Company: True North Consultants

Installation Start Date / Time: 10/4/18 @ 0915
Installation Complete Date / Time: 10/4/18 @ 1320

Retrieval Start Date / Time: 10/10/18 @ 09:05
Retrieval Complete Date / Time: 10/10/18 @ 10:40

Total Samplers Retrieved: 16
Total Samplers Lost In Field: 0
Total Unused Samplers Returned: 2

Insertion Rod Sections Returned: 5 (including tip)

Relinquished By: [signature] Date/Time 9/25/18
Company: AGI 11:00 AM

Received By: Date/Time
Company:

Relinquished By: [signature] Date/Time 10/10/18
Company: True North Consultants 4:30 PM

Received By: Darlene Gilmoredy Date/Time 10/11/18
Company: AGI 10:30 Am

AMPLIFIED GEOCHEMICAL IMAGING, LLC

210 Executive Drive, Suite 1
Newark, DE USA 19702-3335
ph: 302-266-2428

AGI Project No. ENV 02053
Site Name: T218038 - WDMR Anderson Property
Site Location: Hub City, WI

Company Name: True North Consultants
Location: Hub City, WI
Samples collected by: Ben Stencil - True North Consultants

AGI Soil Gas Sampling
Installation & Retrieval Log

*** Optional or as needed**

SAMPLER SERIAL NO.	FIELD ID* (e.g., arbitrary, US EPA)	SAMPLE TYPE (Field Sample, Trip Blank, Field Blank, etc.)	INSTALLATION DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/27/2000 13:00	RETRIEVAL DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/30/2000 13:00	OBSERVATIONS/COMMENTS* (e.g., sample depth, location description, missing, pulled from hole, etc. - as needed)
00800717	0717	FIELD_SAMPLE	10/4/2018 - 0915	10/10/18 @ 9:05	
00800718	0718	FIELD_SAMPLE	10/4/2018 - 940	10/10/18 @ 9:10	
00800719	0719	FIELD_SAMPLE	10/4/2018 - 1010	10/10/18 9:15	
00800720	0720	FIELD_SAMPLE	10/4/2018 - 1020	10/10/18 9:20	
00800721	0721	FIELD_SAMPLE	10/4/2018 - 1030	10/10/18 9:25	
00800722	0722	FIELD_SAMPLE	10/4/18 - 1045	10/10/18 9:30	end of perk gravel driveway / odor nearby close to sump
00800723	0723	FIELD_SAMPLE	10/4/18 - 1110	10/10/18 9:40	
00800724	0724	FIELD_SAMPLE	10/4/18 - 1130	10/10/18 9:45	
00800725	0725	FIELD_SAMPLE	10/4/18 - 1145	10/10/18 9:50	
00800726	0726	FIELD_SAMPLE	10/4/18 - 1205	10/10/18 9:55	
00800727	0727	FIELD_SAMPLE	10/4/18 - 1215	10/10/18 10:05	Odor near sump location
00800728	0728	FIELD_SAMPLE	10/4/18 - 1230	10/10/18 10:10	
00800729	0729	FIELD_SAMPLE	10/4/18 - 1240	10/10/18 10:15	
00800730	0730	FIELD_SAMPLE	10/4/18 - 1250	10/10/18 10:20	
00800731	0731	FIELD_SAMPLE	10/4/18 - 1310	10/10/18 10:35	
00800732	0732	FIELD_SAMPLE	10/4/18-1320	10/10/18 10:40	
00800733		TRIP_BLANK			
00800734		TRIP_BLANK			

Serial # = ID

AMPLI
GEOCH
I MAGI

AGI Soil Gas Sampling
Installation & Retrieval Log

* Optional or as needed

WTM Coordinate

SAMPLER SERIAL NO.	SAMPLE ENVIRONMENT* (e.g., grass, bare soil, through slab)	YES / NO			AT MINIMUM PROVIDE SOIL TYPE			PROJECTED COORDINATES X (EASTING)	PROJECTED COORDINATES Y (NORTHING)	COORDINATE SYSTEM* (e.g., UTM Zone, Stateplane, etc.)	COORDINATE DATUM* (e.g., WGS 84)
		EVIDENCE OF LIQUID PETROLEUM HYDROCARBONS?	ODOR ?	WATER IN INSTALLATION HOLE?	SOIL TYPE AT MODULE DEPTH (clay, loamy sand etc.)	TOTAL SOIL POROSITY AT MODULE DEPTH* (total volume of pores/total volume)	WATER FILLED SOIL POROSITY AT MODULE DEPTH* (volume of water/volume of pores)				
00800717	Grass/gravel	N		N	silty loam/gravel			491245.91949	333337.01636		
00800718	gravel/asphalt	N		N	silty			491248.14596	333321.30007		
00800719	asphalt - slab	N		N	silty			491248.80081	333302.17860		
00800720	grass	N		Y	silty loam, clay			491223.65976	333301.71666		
00800721	grass	N		Y	silty loam, clay			491224.04766	33321.82395		
00800722	grass	N		Y	silty loam, clay			491225.22688	333335.18279		
00800723	grass	N		N	silty loam			491185.28083	333274.84430		
00800724	Asphalt, parking area	N		N	gravel, clay			491249.84856	333279.25902		
00800725	Asphalt, parking area	N		N	gravel, clay			491250.37243	333258.30398		
00800726	Asphalt, parking area	N		N	gravel, clay			491240.68073	333288.55782		
00800727	grass	N		Y	silty loamy clay			491212.39142	333274.28220		
00800728	grass	N		Y	silty loamy clay			491219.33278	333252.27941		
00800729	grass	N		Y	silty loam, clay			491240.69073	333235.25343		
00800730	grass	N		N	silty loam, clay			491266.61259	333229.09789		
00800731	grass	N		N	silty loamy clay			491269.51709	333281.22356		
00800732	grass	N		N	silty loamy clay			491263.60080	333306.50058		
00800733											
00800734											

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE
TRUE NORTH CONSULTANTS, MADISON, WI
AGI TARGET COMPOUNDS
T218038-WDMR ANDERSON PROPERTY
ORDER #02053

DATAFILE NAME	FIELD ID	DATE/ TIME ANALYZED	DF	TPH, ug	MTBE, ug	t12DCE, ug	11DCA, ug	c12DCE, ug	CHCl3, ug	111TCA, ug
RL=				0.50	0.02	0.02	0.02	0.02	0.02	0.02
00800717	0717	10/12/18 7:03 PM	1	1.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800718	0718	10/13/18 1:20 AM	1	200	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800719	0719	10/12/18 8:01 PM	1	469	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800720	0720	10/12/18 10:26 PM	1	0.93	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800721	0721	10/12/18 5:36 PM	1	0.99	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800722	0722	10/13/18 12:22 PM	1	0.56	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800723	0723	10/12/18 6:34 PM	1	1.48	0.18	<0.02	<0.02	<0.02	<0.02	<0.02
00800724	0724	10/13/18 12:51 PM	1	1.29	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800725	0725	10/12/18 8:59 PM	1	8.83	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800726	0726	10/12/18 6:05 PM	1	2.26	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800727	0727	10/12/18 10:55 PM	1	1.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800728	0728	10/13/18 1:49 AM	1	1.91	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800729	0729	10/12/18 8:30 PM	1	2.19	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800730	0730	10/12/18 7:32 PM	1	0.63	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800731	0731	10/12/18 4:38 PM	1	3.51	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800732	0732	10/12/18 11:24 PM	1	2.59	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800733	Trip Blank	10/12/18 11:53 PM	1	<0.50	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800734	Trip Blank	10/12/18 5:07 PM	1	<0.50	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK-1	Method Blank	10/12/18 4:09 PM	1	<0.50	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE
TRUE NORTH CONSULTANTS, MADISON, WI
AGI TARGET COMPOUNDS
T218038-WDMR ANDERSON PROPERTY
ORDER #02053

DATAFILE											
NAME	12DCA, ug	BENZ, ug	CCl4, ug	TCE, ug	112TCA, ug	TOL, ug	OCT, ug	PCE, ug	ClBENZ, ug	1112TetCA, ug	ETBENZ, ug
RL=	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
00800717	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800718	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	0.67	<0.02	<0.02	<0.02	0.07
00800719	<0.02	0.21	<0.02	<0.02	<0.02	<0.02	2.69	<0.02	<0.02	<0.02	0.84
00800720	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800721	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800722	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800723	<0.02	0.03	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
00800724	<0.02	0.04	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	<0.02	<0.02
00800725	<0.02	0.04	<0.02	<0.02	<0.02	0.11	0.02	<0.02	<0.02	<0.02	0.05
00800726	<0.02	0.03	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
00800727	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
00800728	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
00800729	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800730	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800731	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800732	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800733	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
00800734	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
BLK-1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE
TRUE NORTH CONSULTANTS, MADISON, WI
AGI TARGET COMPOUNDS
T218038-WDMR ANDERSON PROPERTY
ORDER #02053

DATAFILE										
NAME	mpXYL, ug	oXYL, ug	1122TetCA, ug	135TMB, ug	124TMB, ug	13DCB, ug	14DCB, ug	12DCB, ug	UNDEC, ug	NAPH, ug
RL=	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.05
00800717	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
00800718	1.63	0.75	<0.02	0.87	1.03	<0.02	<0.02	<0.02	0.45	0.13
00800719	6.04	0.57	<0.02	4.27	6.18	<0.02	<0.02	<0.02	0.37	0.29
00800720	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
00800721	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
00800722	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
00800723	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
00800724	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
00800725	0.06	0.03	<0.02	<0.02	0.05	<0.02	<0.02	<0.02	0.08	0.10
00800726	0.04	0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.05	<0.05
00800727	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.23	<0.05
00800728	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
00800729	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
00800730	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
00800731	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
00800732	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
00800733	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
00800734	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05
BLK-1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE
TRUE NORTH CONSULTANTS, MADISON, WI
AGI TARGET COMPOUNDS
T218038-WDMR ANDERSON PROPERTY
ORDER #02053

DATAFILE						
NAME	TRIDEC, ug	2MeNAPH, ug	Acenaphthylene, ug	PENTADEC, ug	Acenaphthene, ug	Fluorene, ug
RL=	0.05	0.05	0.05	0.05	0.05	0.05
00800717	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00800718	0.07	0.09	<0.05	<0.05	<0.05	<0.05
00800719	0.06	0.20	<0.05	<0.05	<0.05	<0.05
00800720	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00800721	<0.05	0.12	<0.05	<0.05	0.09	<0.05
00800722	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00800723	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00800724	<0.05	<0.05	<0.05	<0.05	0.08	0.05
00800725	0.11	0.48	0.06	<0.05	0.65	0.21
00800726	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00800727	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00800728	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00800729	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00800730	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00800731	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00800732	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00800733	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
00800734	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BLK-1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE
TRUE NORTH CONSULTANTS, MADISON, WI
AGI TARGET COMPOUNDS
ESTIMATED SOIL-GAS CONCENTRATIONS
T218038-WDMR ANDERSON PROPERTY
ORDER #02053

DATAFILE	FIELD	DATE/ TIME		DATE/ TIME		DATE/ TIME		DATE/ TIME			estimated	
NAME	ID	INSTALLED		RETRIEVED		RECEIVED		ANALYZED		DF	TPH, ug/m^3	MTBE, ug/m^3
Average RL=											23.6	174
00800717	0717	10/4/18 9:15 AM	CDT	10/10/18 9:05 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 7:03 PM	EDT	1	45.9	<171
00800718	0718	10/4/18 9:40 AM	CDT	10/10/18 9:10 AM	CDT	10/11/18 10:30 AM	EDT	10/13/18 1:20 AM	EDT	1	4420 E	<103
00800719	0719	10/4/18 10:10 AM	CDT	10/10/18 9:15 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 8:01 PM	EDT	1	10100 E	<103
00800720	0720	10/4/18 10:20 AM	CDT	10/10/18 9:20 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 10:26 PM	EDT	1	44.7	<181
00800721	0721	10/4/18 10:30 AM	CDT	10/10/18 9:25 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 5:36 PM	EDT	1	47.2	<181
00800722	0722	10/4/18 10:45 AM	CDT	10/10/18 9:30 AM	CDT	10/11/18 10:30 AM	EDT	10/13/18 12:22 PM	EDT	1	27.2	<181
00800723	0723	10/4/18 11:10 AM	CDT	10/10/18 9:40 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 6:34 PM	EDT	1	66.3	832
00800724	0724	10/4/18 11:30 AM	CDT	10/10/18 9:45 AM	CDT	10/11/18 10:30 AM	EDT	10/13/18 12:51 PM	EDT	1	77.2	<228
00800725	0725	10/4/18 11:45 AM	CDT	10/10/18 9:50 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 8:59 PM	EDT	1	492	<228
00800726	0726	10/4/18 12:05 PM	CDT	10/10/18 9:55 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 6:05 PM	EDT	1	132	<228
00800727	0727	10/4/18 12:15 PM	CDT	10/10/18 10:05 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 10:55 PM	EDT	1	57.2	<181
00800728	0728	10/4/18 12:30 PM	CDT	10/10/18 10:10 AM	CDT	10/11/18 10:30 AM	EDT	10/13/18 1:49 AM	EDT	1	89.9	<181
00800729	0729	10/4/18 12:40 PM	CDT	10/10/18 10:15 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 8:30 PM	EDT	1	102	<181
00800730	0730	10/4/18 12:50 PM	CDT	10/10/18 10:20 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 7:32 PM	EDT	1	30.7	<181
00800731	0731	10/4/18 1:10 PM	CDT	10/10/18 10:35 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 4:38 PM	EDT	1	161	<182
00800732	0732	10/4/18 1:20 PM	CDT	10/10/18 10:40 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 11:24 PM	EDT	1	121	<182
00800733	Trip Blank	10/4/18 11:29 AM	CDT	10/10/18 9:48 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 11:53 PM	EDT	1	<23.6	<174
00800734	Trip Blank	10/4/18 11:29 AM	CDT	10/10/18 9:48 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 5:07 PM	EDT	1	<23.6	<174
BLK-1	Method Blank	10/4/18 11:29 AM	CDT	10/10/18 9:48 AM	CDT	10/11/18 10:30 AM	EDT	10/12/18 4:09 PM	EDT	1	<23.6	<174

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE
TRUE NORTH CONSULTANTS, MADISON, WI
AGI TARGET COMPOUNDS
ESTIMATED SOIL-GAS CONCENTRATIONS
T218038-WDMR ANDERSON PROPERTY
ORDER #02053

DATAFILE									
NAME	t12DCE, ug/m^3	11DCA, ug/m^3	c12DCE, ug/m^3	CHCl3, ug/m^3	111TCA, ug/m^3	12DCA, ug/m^3	BENZ, ug/m^3	CCl4, ug/m^3	TCE, ug/m^3
Average RL=	376	126	119	63.5	36.4	29.9	29.4	32.6	12.2
00800717	<370	<124	<117	<62.4	<35.7	<29.4	<28.9	<32.0	<11.9
00800718	<223	<74.7	<70.5	<37.6	<21.5	<17.7	<17.4	<19.3	<7.19
00800719	<223	<74.7	<70.6	<37.6	<21.5	<17.7	115	<19.3	<7.20
00800720	<391	<131	<124	<66.0	<37.8	<31.1	<30.6	<33.9	<12.6
00800721	<391	<131	<124	<66.1	<37.8	<31.1	<30.6	<33.9	<12.7
00800722	<391	<131	<124	<66.1	<37.9	<31.1	<30.6	<33.9	<12.7
00800723	<370	<124	<117	<62.6	<35.9	<29.5	34.7	<32.1	<12.0
00800724	<493	<165	<156	<83.3	<47.7	<39.3	71.2	<42.8	<16.0
00800725	<493	<165	<156	<83.3	<47.8	<39.3	71.3	<42.8	<16.0
00800726	<493	<166	<156	<83.4	<47.8	<39.3	49.2	<42.8	<16.0
00800727	<392	<132	<124	<66.2	<38.0	<31.2	<30.7	<34.0	<12.7
00800728	<392	<132	<124	<66.3	<38.0	<31.2	<30.7	<34.0	<12.7
00800729	<392	<132	<124	<66.3	<38.0	<31.2	<30.8	<34.1	<12.7
00800730	<392	<132	<124	<66.3	<38.0	<31.3	<30.8	<34.1	<12.7
00800731	<392	<132	<124	<66.3	<38.0	<31.3	<30.8	<34.1	<12.7
00800732	<392	<132	<124	<66.3	<38.1	<31.3	33.2	<34.1	<12.7
00800733	<376	<126	<119	<63.5	<36.4	<29.9	<29.4	<32.6	<12.2
00800734	<376	<126	<119	<63.5	<36.4	<29.9	<29.4	<32.6	<12.2
BLK-1	<376	<126	<119	<63.5	<36.4	<29.9	<29.4	<32.6	<12.2

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE
TRUE NORTH CONSULTANTS, MADISON, WI
AGI TARGET COMPOUNDS
ESTIMATED SOIL-GAS CONCENTRATIONS
T218038-WDMR ANDERSON PROPERTY
ORDER #02053

DATAFILE			estimated			estimated			
NAME	112TCA, ug/m^3	TOL, ug/m^3	OCT, ug/m^3	PCE, ug/m^3	ClBENZ, ug/m^3	1112TetCA, ug/m^3	ETBENZ, ug/m^3	mpXYL, ug/m^3	oXYL, ug/m^3
Average RL=	1.98	2.92	3.01	2.21	1.41	1.05	1.35	1.23	1.72
00800717	<1.94	<2.86	<2.94	<2.16	<1.38	<1.02	<1.32	<1.20	<1.68
00800718	<1.17	3.95	49.6	<1.30	<0.83	<0.62	2.64	56.0	31.7
00800719	<1.17	<1.73	187	<1.30	<0.84	<0.62	29.7	205	24.2
00800720	<2.06	<3.04	<3.12	<2.29	<1.47	<1.09	<1.40	<1.27	<1.78
00800721	<2.06	<3.04	<3.12	<2.29	<1.47	<1.09	<1.40	<1.27	<1.78
00800722	<2.06	<3.04	<3.13	<2.29	<1.47	<1.09	<1.40	<1.27	<1.78
00800723	<1.95	3.69	<2.96	<2.17	<1.39	<1.03	<1.33	<1.21	<1.69
00800724	<2.60	8.61	<3.95	<2.90	<1.86	<1.38	<1.77	2.09	<2.25
00800725	<2.60	18.6	4.32	<2.90	<1.86	<1.38	3.97	4.61	2.79
00800726	<2.61	5.29	<3.95	<2.90	<1.86	<1.38	<1.77	2.88	2.47
00800727	<2.07	3.77	<3.14	<2.31	<1.48	<1.10	<1.41	<1.28	<1.79
00800728	<2.07	3.92	<3.14	<2.31	<1.48	<1.10	<1.41	<1.28	<1.80
00800729	<2.07	<3.06	<3.15	<2.31	<1.48	<1.10	<1.41	<1.28	<1.80
00800730	<2.08	<3.06	<3.15	<2.31	<1.48	<1.10	<1.41	<1.28	<1.80
00800731	<2.08	3.06	<3.15	<2.31	<1.48	<1.10	<1.41	<1.29	<1.80
00800732	<2.08	<3.07	<3.15	<2.31	<1.48	<1.10	<1.41	<1.29	<1.80
00800733	<1.98	<2.92	<3.01	<2.21	<1.41	<1.05	<1.35	<1.23	<1.72
00800734	<1.98	<2.92	<3.01	<2.21	<1.41	<1.05	<1.35	<1.23	<1.72
BLK-1	<1.98	<2.92	<3.01	<2.21	<1.41	<1.05	<1.35	<1.23	<1.72

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE
TRUE NORTH CONSULTANTS, MADISON, WI
AGI TARGET COMPOUNDS
ESTIMATED SOIL-GAS CONCENTRATIONS
T218038-WDMR ANDERSON PROPERTY
ORDER #02053

DATAFILE							estimated	estimated
NAME	1122TetCA, ug/m^3	135TMB, ug/m^3	124TMB, ug/m^3	13DCB, ug/m^3	14DCB, ug/m^3	12DCB, ug/m^3	UNDEC, ug/m^3	NAPH, ug/m^3
Average RL=	1.05	1.86	1.39	1.12	1.13	1.07	2.58	2.58
00800717	<1.02	<1.81	<1.36	<1.09	<1.11	<1.04	<2.52	<2.52
00800718	<0.62	37.4	36.0	<0.66	<0.67	<0.63	12.5	3.92
00800719	<0.62	167	201	<0.66	<0.67	<0.63	10.6	8.29
00800720	<1.09	<1.93	<1.44	<1.16	<1.18	<1.11	<2.68	<2.68
00800721	<1.09	<1.93	<1.45	<1.16	<1.18	<1.11	<2.68	<2.68
00800722	<1.09	<1.93	<1.45	<1.16	<1.18	<1.11	<2.68	<2.68
00800723	<1.03	<1.83	<1.37	<1.10	<1.12	<1.05	<2.54	<2.54
00800724	<1.38	<2.44	<1.83	<1.47	<1.49	<1.40	<3.38	<3.38
00800725	<1.38	<2.44	4.32	<1.47	<1.49	<1.40	5.26	6.28
00800726	<1.38	<2.44	2.53	<1.47	<1.49	<1.41	<3.39	<3.39
00800727	<1.10	<1.94	<1.45	<1.17	<1.18	<1.12	11.7	<2.70
00800728	<1.10	<1.94	<1.46	<1.17	<1.18	<1.12	<2.70	<2.70
00800729	<1.10	<1.94	<1.46	<1.17	<1.19	<1.12	<2.70	<2.70
00800730	<1.10	<1.94	<1.46	<1.17	<1.19	<1.12	<2.70	<2.70
00800731	<1.10	<1.95	<1.46	<1.17	<1.19	<1.12	<2.70	<2.70
00800732	<1.10	<1.95	<1.46	<1.17	<1.19	<1.12	<2.70	<2.70
00800733	<1.05	<1.86	<1.39	<1.12	<1.13	<1.07	<2.58	<2.58
00800734	<1.05	<1.86	<1.39	<1.12	<1.13	<1.07	<2.58	<2.58
BLK-1	<1.05	<1.86	<1.39	<1.12	<1.13	<1.07	<2.58	<2.58

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE
TRUE NORTH CONSULTANTS, MADISON, WI
AGI TARGET COMPOUNDS
ESTIMATED SOIL-GAS CONCENTRATIONS
T218038-WDMR ANDERSON PROPERTY
ORDER #02053

DATAFILE	estimated	estimated	estimated	estimated	estimated	estimated
NAME	TRIDEC, ug/m^3	2MeNAPH, ug/m^3	Acenaphthylene, ug/m^3	PENTADEC, ug/m^3	Acenaphthene, ug/m^3	Fluorene, ug/m^3
Average RL=	2.58	2.58	2.58	2.58	2.58	2.58
00800717	<2.52	<2.52	<2.52	<2.52	<2.52	<2.52
00800718	2.16	2.62	<1.52	<1.52	<1.52	<1.52
00800719	1.79	5.64	<1.52	<1.52	<1.52	<1.52
00800720	<2.68	<2.68	<2.68	<2.68	<2.68	<2.68
00800721	<2.68	6.31	<2.68	<2.68	4.61	<2.68
00800722	<2.68	<2.68	<2.68	<2.68	<2.68	<2.68
00800723	<2.54	<2.54	<2.54	<2.54	<2.54	<2.54
00800724	<3.38	<3.38	<3.38	<3.38	5.13	3.58
00800725	6.92	29.6	4.30	<3.39	40.2	13.6
00800726	<3.39	<3.39	<3.39	<3.39	<3.39	<3.39
00800727	<2.70	<2.70	<2.70	<2.70	<2.70	<2.70
00800728	<2.70	<2.70	<2.70	<2.70	<2.70	<2.70
00800729	<2.70	<2.70	<2.70	<2.70	<2.70	<2.70
00800730	<2.70	<2.70	<2.70	<2.70	<2.70	<2.70
00800731	<2.70	<2.70	<2.70	<2.70	<2.70	<2.70
00800732	<2.70	<2.70	<2.70	<2.70	<2.70	<2.70
00800733	<2.58	<2.58	<2.58	<2.58	<2.58	<2.58
00800734	<2.58	<2.58	<2.58	<2.58	<2.58	<2.58
BLK-1	<2.58	<2.58	<2.58	<2.58	<2.58	<2.58

KEY TO DATA TABLE

UNITS

µg	micrograms, relative mass value
µg/m^3	micrograms per cubic meter; estimated soil gas concentration
µg/L	micrograms per Liter; calculated water concentration

DATA QUALIFIERS

>	greater than; value exceeds calibration range, estimated value
<	less than; compound value is below the LOD and RL
J	mass value below LOQ or RL, but above LOD, estimated mass value
E	mass value exceeds upper calibration level, estimated mass value
Q	one or more quality control parameters failed for the compound

ABBREVIATIONS

AVG RL	average reporting limit; calculated based on individual field sample RLs
LOD	limit of detection
LOQ	limit of quantification
MDL	method detection limit
RL	reporting limit

1112TetCA	1,1,1,2-tetrachloroethane
111TCA	1,1,1-trichloroethane
1122TetCA	1,1,2,2-tetrachloroethane
112TCA	1,1,2-trichloroethane
11DCA	1,1-dichloroethane
11DCE	1,1-dichloroethene
124TMB	1,2,4-trimethylbenzene
12DCA	1,2-dichloroethane
12DCB	1,2-dichlorobenzene
135TMB	1,3,5-trimethylbenzene
13DCB	1,3-dichlorobenzene
14DCB	1,4-dichlorobenzene
2MeNAPH	2-methyl naphthalene
BENZ	benzene
BTEX	combined masses of benzene, toluene, ethylbenzene, and total xylenes (Gasoline Range Aromatics)
C11,C13&C15	combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)
c12DCE	cis-1,2-dichloroethene
CCl4	carbon tetrachloride
CHC13	chloroform
ClBENZ	chlorobenzene
ct12DCE	cis- & trans-1,2-dichloroethene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
MTBE	methyl t-butyl ether
NAPH	naphthalene
OCT	octane
oXYL	o-xylene
PCE	tetrachloroethene
PENTADEC	pentadecane
PHEN	phenanthrene
t12DCE	trans-1,2-dichloroethene
TCE	trichloroethene
TMBs	combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene
TOL	toluene
TPH	total petroleum hydrocarbons
TRIDEC	tridecane
UNDEC	undecane
VC	vinyl chloride

SUMMARY OF SAMPLING RATE CALIBRATION FOR AGI SPG-0008 SAMPLER IN A GAS PHASE

PURPOSE:

The purpose of this document is to:

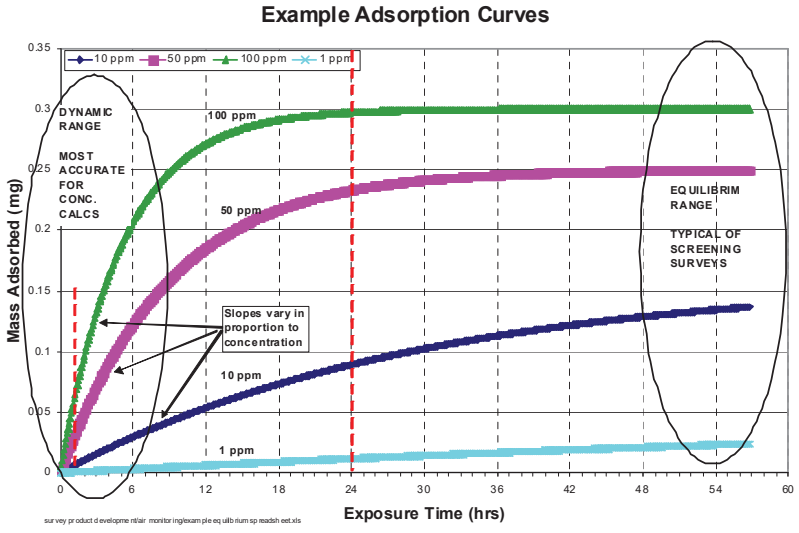
1. Summarize the test protocol,
2. Summarize the methodology for analysis of data,
3. Present general results for generating concentration calibration

of the AGI Sampler, SPG-0008, in a gas phase (air or soil gas) following AGI's "Standard practice for determining the sampling rate of passive diffusion samplers in various environmental media," SPG-SOP-0493. The work will be summarized in two parts: Part 1: air, Part 2: soil gas.

Principle of Operation of the AGI Sampler

The AGI Sampler is designed with solid adsorbents enclosed inside a tubular microporous PTFE membrane. When placed in soil or saturated soil, the pores and hydrophobic nature of the PTFE keep liquid water from entering the membrane. The membrane will not keep water vapor from entering but the adsorbents are very hydrophobic and testing of the SPG-0008 sampler has validated it to be unaffected by this moisture vapor. Compounds in air with vapor pressures above about 1 millionth of a mm of Hg will diffuse through the microporous membrane and be immediately captured on the solid adsorbent housed inside. The membrane porosity and dimensions are well controlled as is the mass of the adsorbent contained inside the sampler. The average pore diameter of the membrane is 1000 times larger that of the compounds of interest, meaning the membrane offers a minimal resistance. On the other hand, the membrane pore size is small enough that colloidal particles and microbes can not pass through the membrane. This keeps the adsorbent from getting contaminated and eliminates any need to add preservative or chill during storage or transportation.

When a sampler is exposed to compounds in air, mass from the volatile compound are collected on the solid adsorbent inside the microporous PTFE membrane. To the right is a generalized example of mass uptake with time for this sampler.



Notice the initial slope and ultimate equilibrium mass both increase with increasing concentrations. For shorter time the increase is virtually

linear but as the mass increases toward the steady state, mass uptake slows and mass eventually reaches an asymptote. The initial range is referred to as the dynamic linear range while the later stage is referred to as the equilibrium range.

The sampling rate calibration for this passive sampler will apply to the linear and near-linear dynamic range, where accuracy and precision are best.

Temperature can affect both the diffusivity in air, which is part of the sampling rate but also the binding energy of the compound to the adsorbent. In general passive sampling devices are not highly affected by temperature although the effect will be more important for lower MW compounds. It is not uncommon to have an Arrhenius factor, -Ea/R of <1000, which means a 5°C temperature change will make less than a 5% change in sampling rate.

In soil, the matrix of particles and water creates a resistance to soil gas diffusion. Millington (Millington 1959) has modeled this resistance and developed a model to correct the diffusion for this added resistance based upon the porosity of the soil and the fraction of pores filled with water. This "Soil Effectiveness Factor" can lower the sampling rate in soil to 40% to 10% of that in free air. This will discussed further in Part 2.

PART 1: Calibration in Air

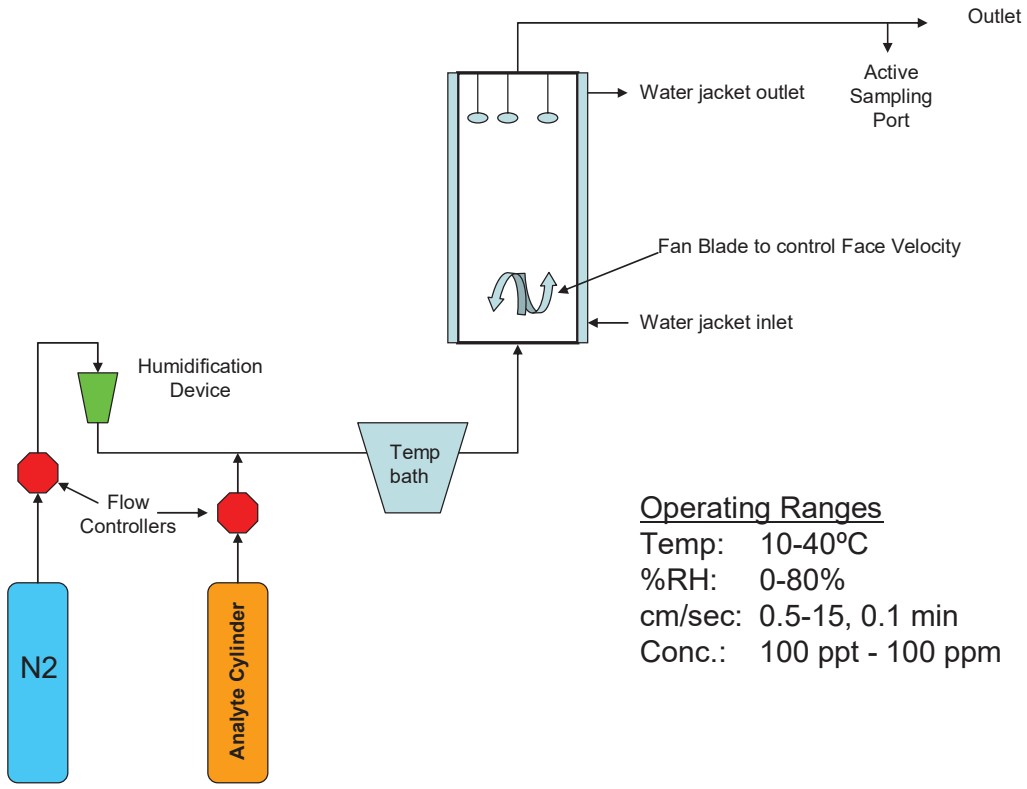
Part 1 summarizes the work in free air generating calibration data, evaluating the physical and chemical factors affecting the sampling rate, and measurement of the actual sampling rates or regression calibration equations needed to determine concentrations.

Sample Generation in Air

In this calibration work, gaseous mixtures of analytes at known concentrations were generated inside a 3 liter glass vessel by mixing flow from gaseous standard cylinders with nitrogen using electronic flow controllers. A diagram of the set up is shown below. Total flow through the vessel ranged from 2 to 50 liters/min with an aim, where possible, of using a flow 20 or more times the combined sampling rate of AGI® Sampler being tested.

This gas mixture was temperature controlled by running it through a coil in a temperature controlled chiller. Similarly, the glass vessel was also temperature controlled by circulating the chiller fluid through the vessel jacket. A mercury thermometer in the vessel was used to determine the experiment temperature. The humidity level of the mixed gas was modified by passing the nitrogen portion of the gas mixture through a bubbler. Different humidity levels could be achieved by using water or saturated salt solutions in the bubbler that generate different relative humidities.

Passive Diffusion Sampling Rate Measurement Apparatus



Internal wind velocity was controlled using a propeller blade attached to a shaft and motor. RPM was measured to calculate air velocity based on propeller pitch and rpm.

Before each experiment, the system was run for minutes to hours to allow temperature, humidity, and compound density on the vessel walls to stabilize. When changing concentrations, a stabilization time, typically, 2-10 hours, was provided to allow the vessel walls to reach a new equilibrium with the analyte concentrations and wall temperature.

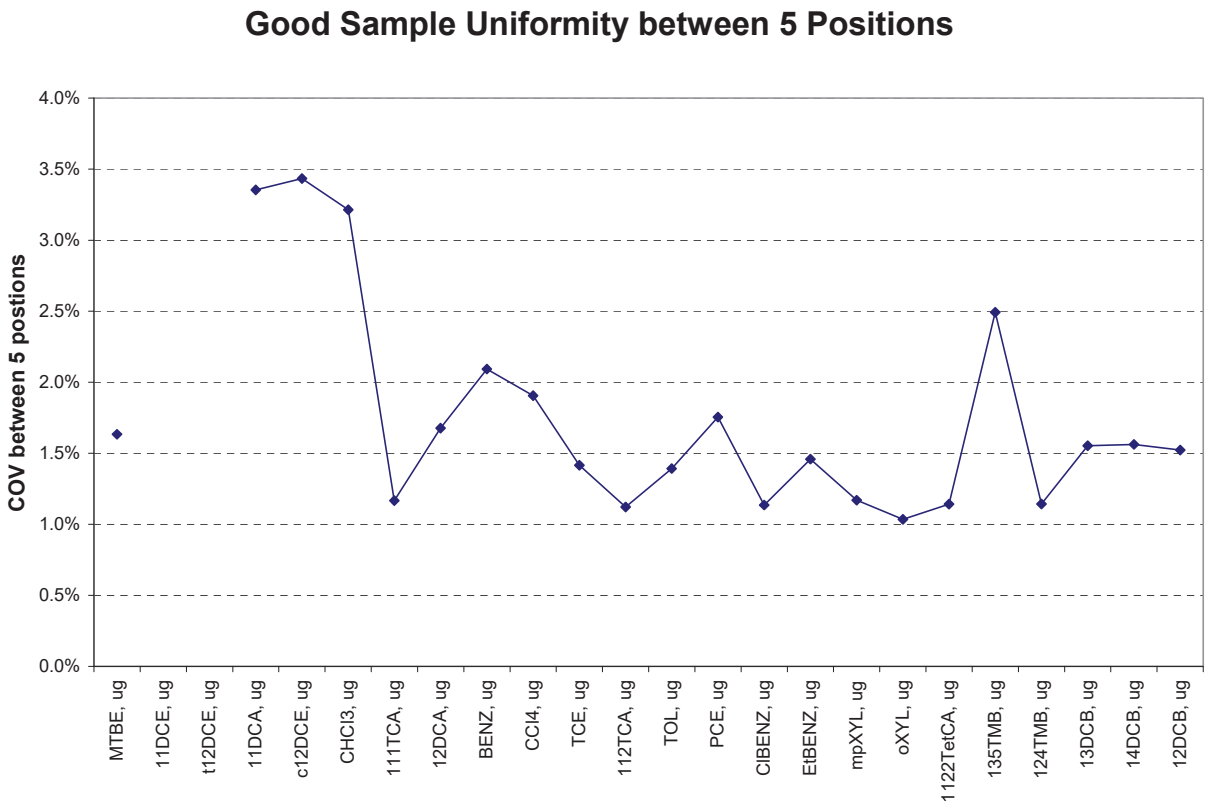
AGI sampler were hung inside the vessel at time zero. They were removed at various intervals to generate samples along with duplicates that showed mass increasing with exposure time. The sampler exposure time was selected to span minutes to hours and was generally reduced for high concentration tests to maintain uptake with time, in roughly the linear dynamic range. Sampler were removed and placed back into their original jars for analysis. They were analyzed by AGI's 8260C method (SPG-WI-0318 or SPG-WI-10028) in duplicate, which is based on EPA SW846 Method 8260C.

Vessel concentration was also measured during the tests using a TO-17 type of method. A MSA pump pulled about 1.5 L/hr of atmosphere from the chamber through two thermal desorption tubes in series, the first packed with Tenax-TA, and the second packed with a strong adsorbent carbon molecular sieve. Flow rate through the series of tubes was measured at the start and end of the pumping. Analysis of the thermal desorption tubes were performed by appropriate

analytical methods. Each Tenax-TA tube was analyzed by AGI's 8260C method (SPG-WI-0319 or SPG-WI-10028) and each carbonaceous tube by AGI's screening method (SPG-WI-0292). Typically only a small portion of the lower molecular weight compounds, such as DCA & DCE passed through the Tenax-TA tube to be captured on the carbon tube. Concentration was determined by

(sum of mass on both tubes)/(avg flow rate x hours) = ug/L

Up to five sampler can be placed simultaneously in the chamber. Testing confirmed good sample uniformity among the locations as shown by coefficients of variation generally below 3% in the chart below.



Most of the runs were performed using a TO-15 mix of compounds in a cylinder made up at nominally 1 ppm. Using nitrogen dilution, sampling rate measurements were done at concentrations from about 1 ppb to 50 ppb. Higher concentration cylinders can be used to generate concentrations in the ppm range if desired.

Sampling rate calibrations were run using multiple concentrations, typically 5-50 ppb and temperatures, typically 5°C to 35°C. Samples were run in duplicate. A total of 94 data points were generated using 23 compounds from AGI's standard compounds list. In addition, another 23 compounds were tested from those in the TO-15 mix. This is a living calibration and as additional data are generated, they may be qualified and added to this data set to improve the precision of the sampling rate calibration and broaden the compound list.

Key Variable Effects

Based on theory, at short to moderate exposure times mass will increase roughly linearly proportional to exposure time, as well as, proportional to concentration. For passive samplers in air, temperature generally does not have a major effect on sampling rate. Even so, this work examined the impact of temperature because it could have a small effect on diffusivity in air and potentially adsorption strength for low MW compounds.

Except in indoor environments, air velocity is expected to be low and of inconsequential importance. The passive adsorbent is protected by wind stopping AGI membrane. Even so, we looked at velocity effects. Based on the hydrophobic nature of the adsorbents in SPG-0008 sampler, humidity is not expected to impact sampling rate.

Sampling rate has been found to be generally independent of concentration and time at mass values significantly below saturation. In the following sections we have characterized the sampling rate for each compound as affected by temperature and also developed calibrations using regression which account for the minor impact of time, and mass.

Concentration using Simple Sampling Rate Determination

A simple way to determine concentration is to measure mass on the AGI sampler, divide by exposure time, and divide by sampling rate, SR.

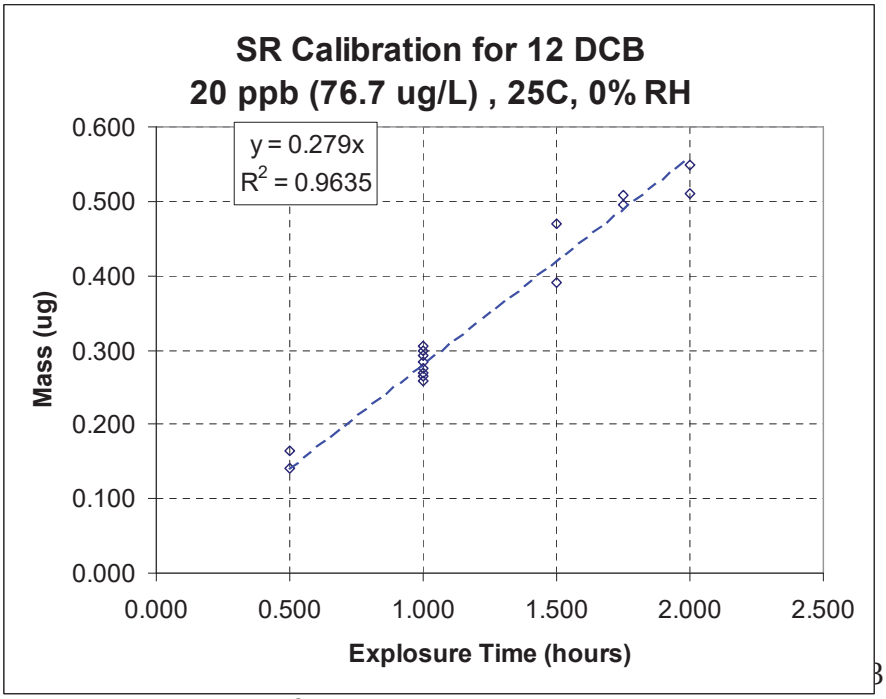
Conc [ug/L] = mass/time/SR (1)

The sampling rate can be determined via measurements of mass versus time at a known concentration and temperature according to the following modification of equation (1).

SR = mass/time/concentration (2)

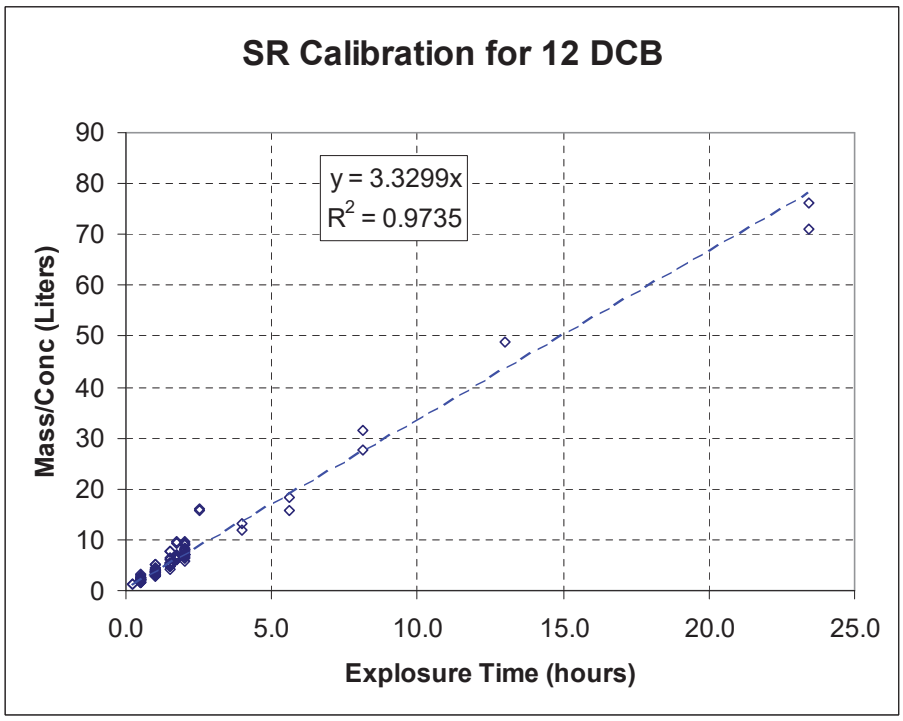
Sampling rates in L/hr were determined by measuring the trend or regression mass uptake versus time and dividing by the concentration. Such a sampling rate can be measured at any concentration and temperature.

The chart to the right shows a plot of mass versus time at 12DCB in nitrogen at nominally 20 ppb or 76.7 ug/cu m and



297K. This is actual data for one test run. The slope of 0.279 ug/hr divided by the concentration of 0.0767 ug/L yields a sampling rate, SR, of 3.64 L/hr.

The data could also be plotted as mass/Conc vs. time in which case the slope is the sampling rate directly as shown in the chart below. This allows the use of a larger data set incorporating multiple concentration tests.



Rigorous Concentration using Regression

A preferred method for determining concentration that will yield improved accuracy over a wide range of concentrations, exposure times, and temperatures is to use all data in a regression analysis. This allows adjustments for the minor non-linear influences of mass and time as well as the effects of temperature. This is done by regressing equation (1) or a universal version of equation (1)

$$Conc = (mass)^{b} / (time)^{-d} / [SRo*exp(-Ea/R/T)] \quad (3)$$

The subtle non-linear effects of mass and time will be evident in the deviation of coefficients b and d from 1.0. This regression generates four constants b, d, SRo, and –Ea/R by regressing ln(conc) versus ln(mass), ln(time), 1/temp. These four constants can be used to determine concentration via the equation:

$$Conc = (mass)^{b} / (time)^{-d} / [SRo \times exp(-Ea/R(1/T))] \quad (4)$$

Where conc is in ug/L, mass is in ug, time in hours, T in degrees Kelvin.

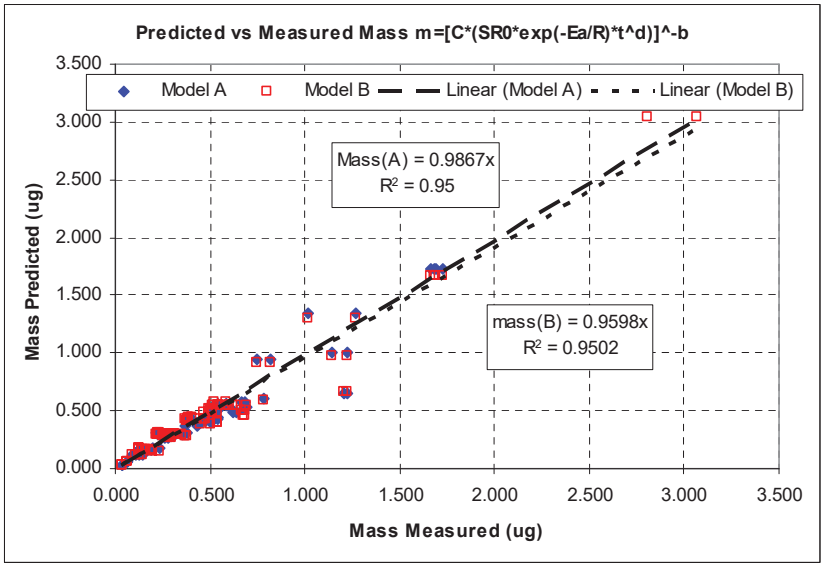
Equation (4) can also be expressed at a reference temperature, Tr, such as 15°C by

$$Conc = (mass)^{b} / (time)^{-d} / [SRr \times \exp(-Ea/R(1/Tr-1/T))] \quad (5)$$

This allows sampling rates, SRr, at any reference temperature, Tr, and for any analyte to easily be compared. These values of SRr at 25°C 298.14°K can be found in Table A.

The chart to the right is a plot of the 12DCB predicted mass from the 4 constant regression compared to the measured mass. Agreement is excellent for the 95 data points.

Model A or the blue points are the 4 constant model, while Model B or the red squares are a 3 constant model ignoring temperature. Error for 12DCB is slightly lower for Model A and for lower MW compounds it is much better.



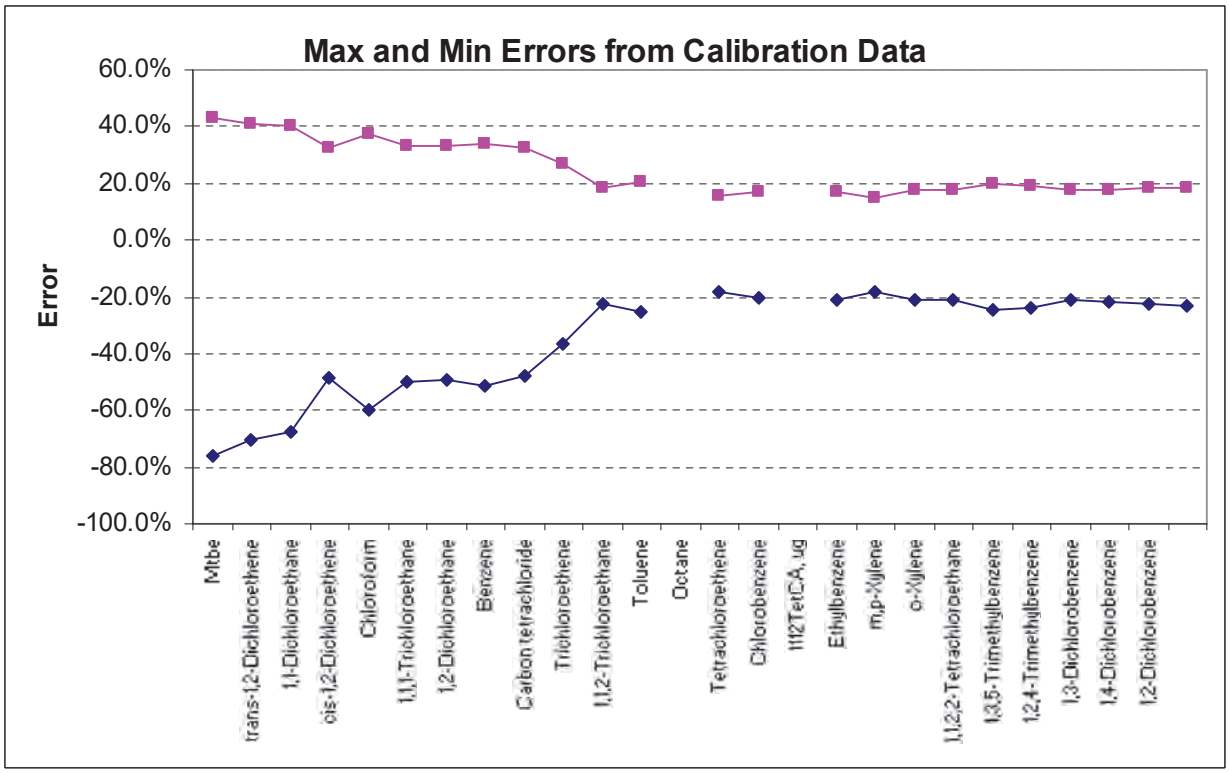
The 4 constant equation has been adopted for determining concentration in the gas phase.

Table B shows the tabulated summary of the 4 constants regression with Rsq values and error estimates for the 4 constants for each analyte. With the exception of MTBE and t12DCE the regression Rsq values are 0.9 or greater for each analyte. In general, temperature is more important for early eluting compounds where -Ea/R ranges from 2000 to 4000 while later eluting compounds (112TCA and above) are in the range of 500 to 1000 meaning they are less affected by temperature. Similarly, early eluting compounds have mass and time coefficients, b and d respectively, that deviate from 1.0.

Error Estimates

Table C shows the error in the mass values from the 8260C low sensitivity method (SPG-WI-318), which at a 95% confidence level is typically 10% - 15%. The error between the primary sample and the duplicate in the sampler is generally about 5% and shown in table D.

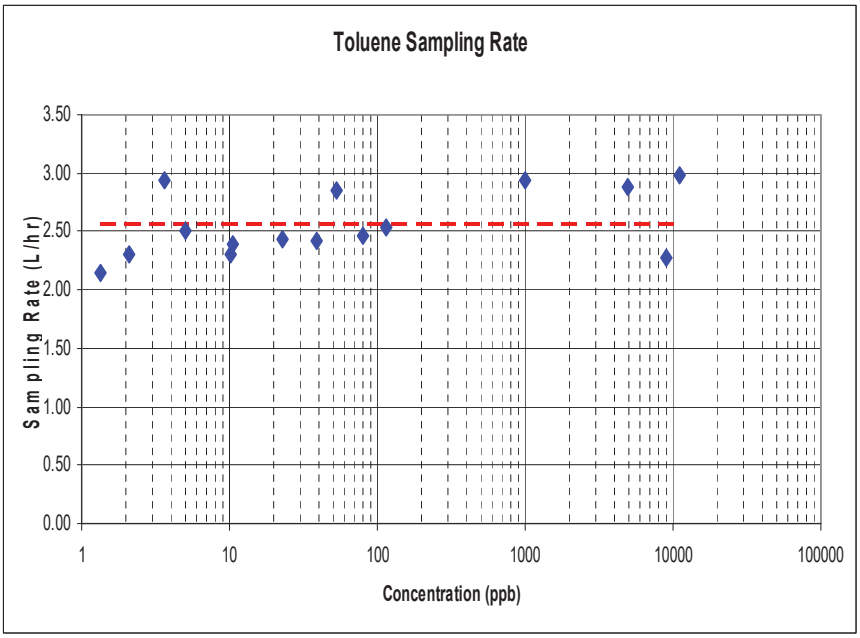
The standard error of the regression and standard errors of the constants can be found in table B. For each compound we have measured the error between the derived concentration and the actual concentration. This is tabulated in table D and shown below by compounds.



The maximum total error range is +/-20% for 112TCA and later eluting compounds. The maximum error range increases for compounds that elute earlier than 112TCA.

Effect of Concentration

The measurement of sampling rate, SR, is effectively independent of concentration. The chart below shows statistically consistent sampling rate over four decades of concentration change for toluene. This has also been observed for other tested compounds.



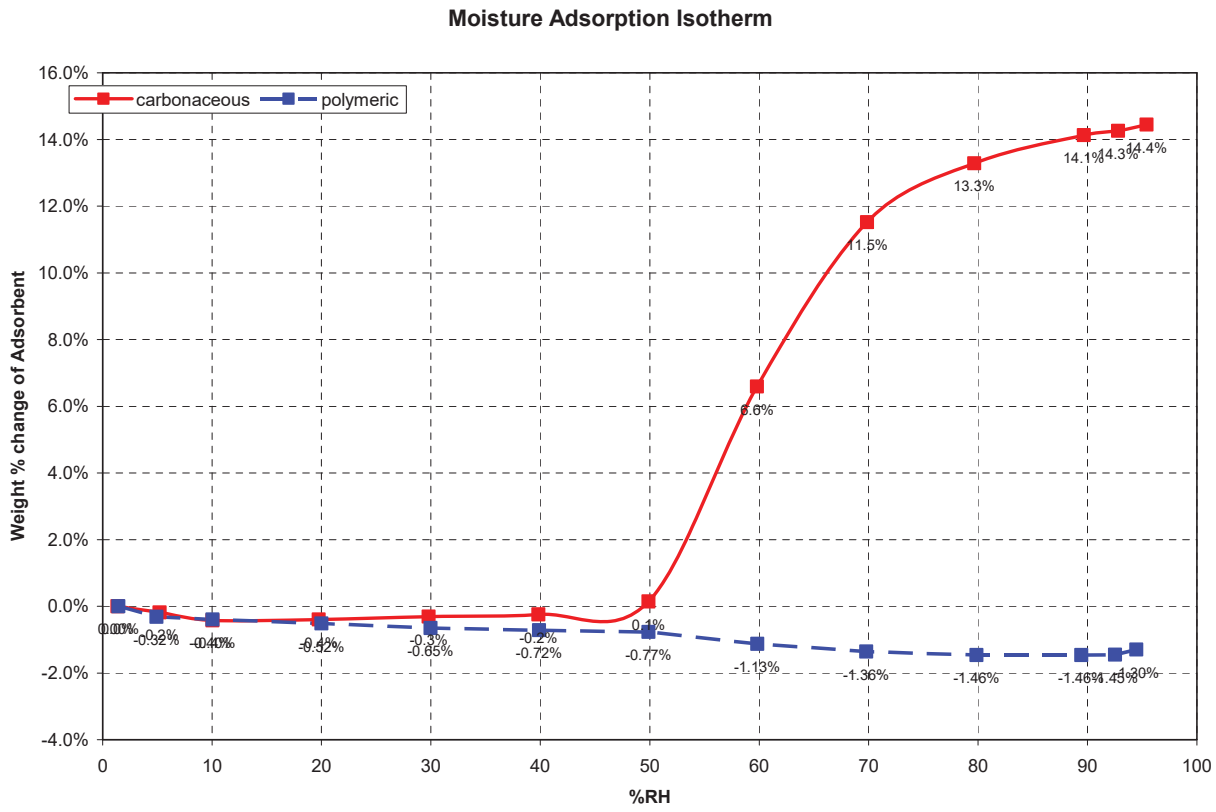
Sorbent Saturation

As mass increases on a solid sorbent and approaches saturation, reverse diffusion can occur causing the sampling rate to drop. Eventually the mass level will reach a maximum steady state value at any concentration. A rate of mass uptake with time that deviates significantly from linear, indicates that sorbent saturation could be an issue. When using equation (1), staying in the linear range to avoid the effects of adsorbent saturation is important. We recommend keeping the total mass on the sampler below 50 ug or flagging when this is exceeded.

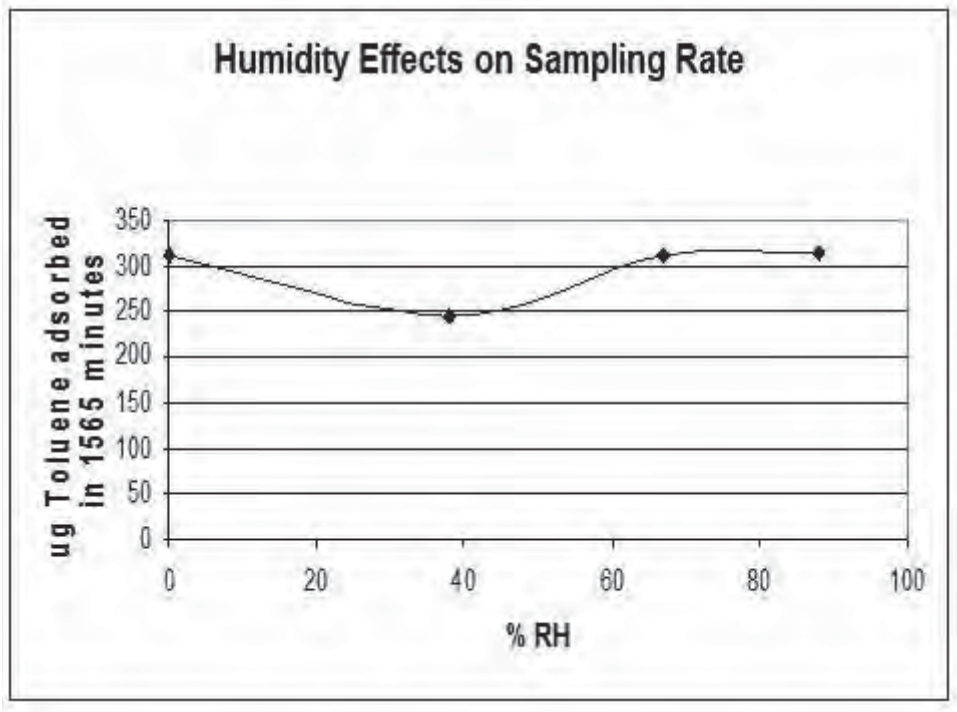
The 4 constant regression accounts for some of the non linearity allowing good accuracy at higher mass levels. From the experimental data we have found this safe range can be extended potentially up to 100 ug.

Effect of Relative Humidity

The adsorbent system used in the SPG-0008 sampler is a proprietary multi-polymer system. It was tested compared to a carbon adsorbent in a RH chamber for weight gain and found to be effectively unaffected by moisture.



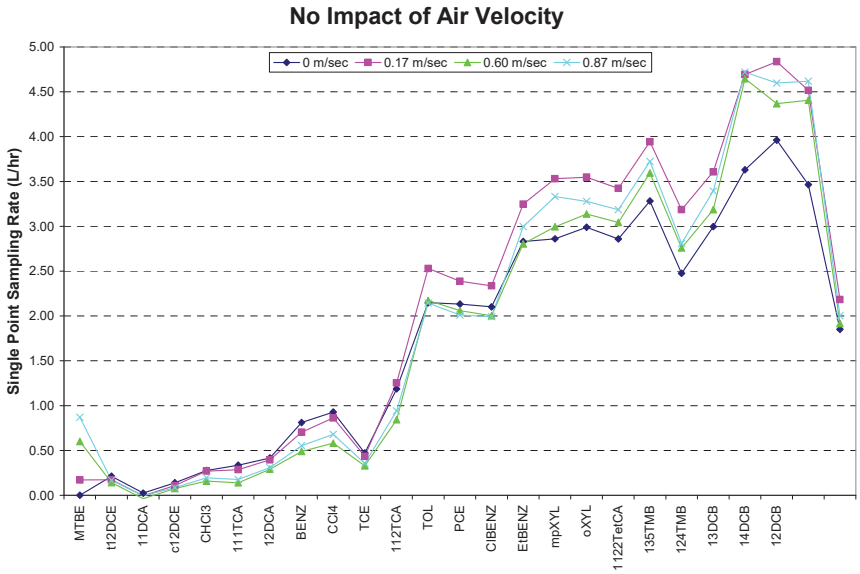
Additionally, mass adsorption was relatively constant at relative humidity ranging from 0% to 95%.



Impact of Air Velocity

To examine the potential impact of air velocity on sampling rate, five samplers were exposed for varying times up to 2 hours at 20 ppb of TO-15 mixture.

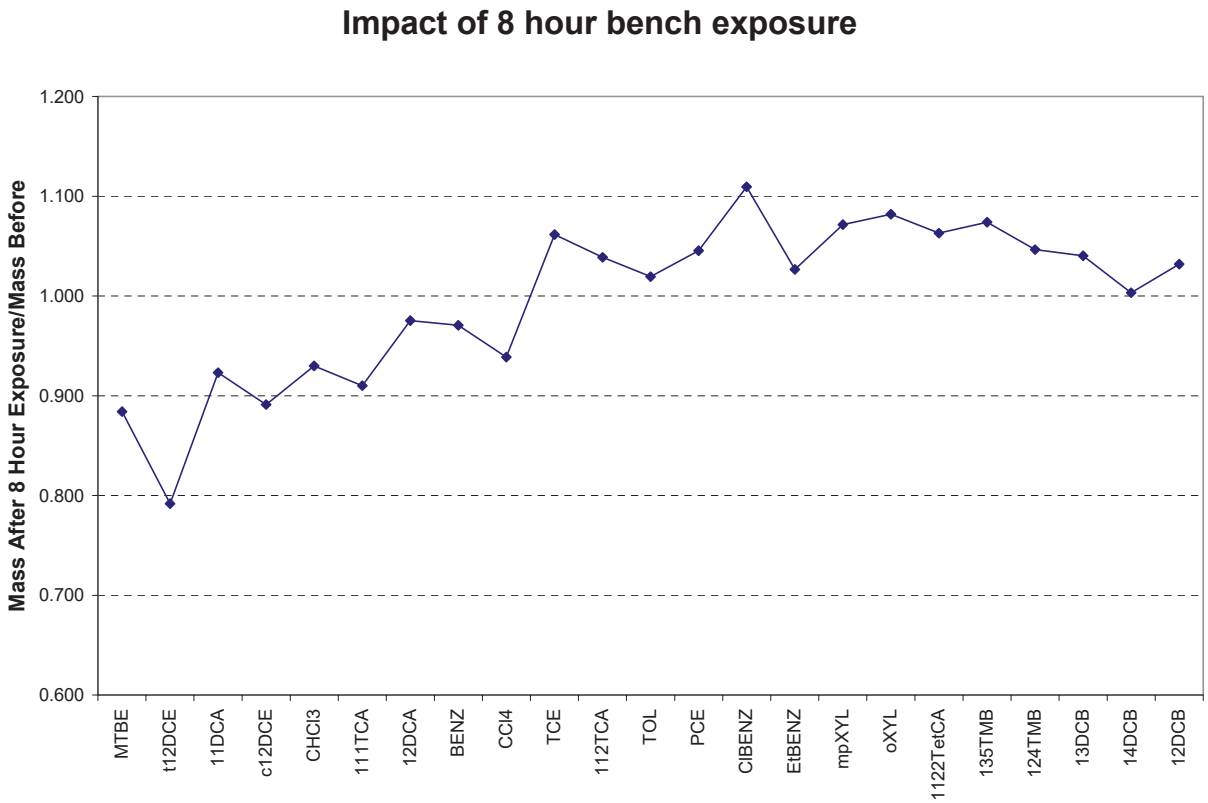
The chart to the right shows the calculated sampling rates from zero to 0.87 m/sec velocity. There is no structured impact of velocity on sampling rate.



Impact of Open Sampler Jar

Typically returning the exposed sampler to its jar and tightening the lid will maintain the mass. A test was run to look at the unexpected consequence of leaving the sampler in fresh air for 7.5 hours after exposure to 20 ppm of TO-15 mixture for 1 hour. Three sampler were tested without ambient air exposure and two with exposure and their mass levels measured. The chart below shows most compounds masses after the 7.5 hour exposure to fresh air are within 10%. One compound, t12DCE, is more affected losing 20% in this time.

Ambient air exposure post sampling would typically be expected to be < 5 minutes, so based on this we do not expect this will cause significant errors in reported mass or concentration. Care should be taken not to pinch the sampler between the jar and lid, which could allow contamination into the sample or loss of lower molecular weight compounds.



Part 2: Calibration in Soil

Part 2 describes the effect of soil on the sampling rate and concentration measurement.

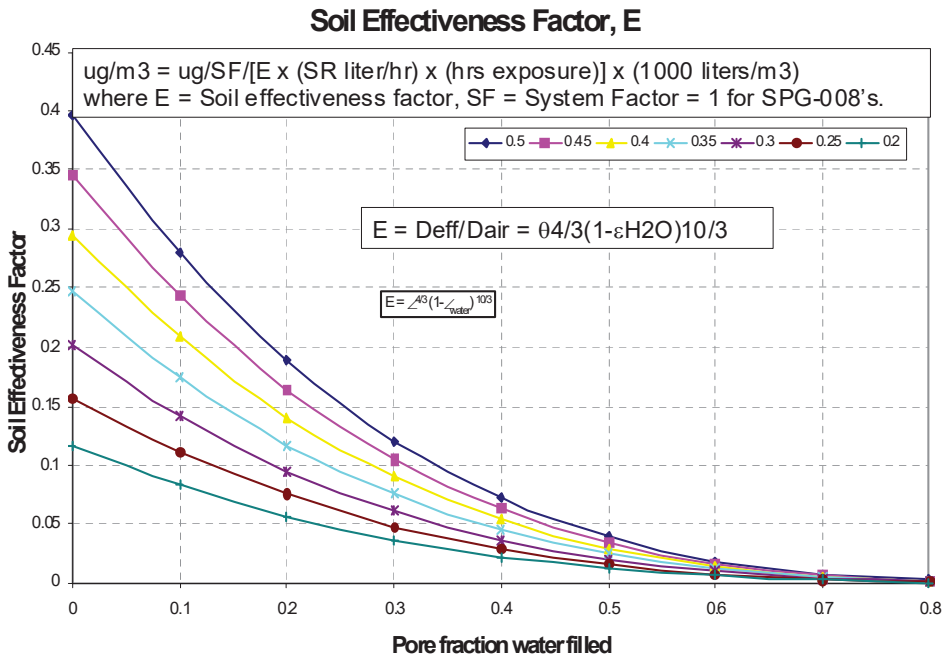
In a porous media, such as soil, diffusion of the analyte in the soil gas to the sampler is restricted. More porous soils have less restriction. This restriction has been experimentally modeled by Millington (Millington, R, J., "Gas Diffusion in Porous Media", Science, (1959), Vol. 130, 100-102) and found to be represented by the equation below:

$$SR_{soil} = E(SR_{air}) \quad (6)$$

where E is the "Soil Effectiveness Factor" expressed a function of total soil porosity (θ) and water filled porosity (ε, volume of water/volume of pores) as:

$$E = \theta^{(4/3)}(1-\varepsilon)^{(10/3)} \quad (7)$$

The chart to the right shows how E varies with soil porosity and fraction of pores filled with water.



Summary

The AGI Sampler can be used to determine the concentration of volatile and semi-volatile compounds in a gas phase. This requires knowing the exposure time and temperature and if in soil also requires values or estimates for soil porosity and the fraction of pores filled with water. Regressions of large amounts of data were used to generate a four constant equation to generate concentration values in air. Potential error in the concentration values is excellent typically less than 20% when used in gas phase sampling within the following conditions:

Condition	**Acceptable Range**
Temperature	0°C to 35°C
Velocity	0 to 0.9 m/sec
Relative Humidity	0 – 95%
Mass Level	0.01 – 50 ug

TABLE A
AIR SAMPLING RATES STANDARD LIST

	SR @ 298.94
MTBE	1.10
t12DCE	1.08
11DCA	0.96
c12DCE	1.51
CHCl3	1.18
111TCA	0.75
12DCA	1.87
BENZ	1.91
CCl4	0.93
TCE	1.83
112TCA	2.40
TOL	2.54
OCT	
PCE	2.33
ClBENZ	3.05
1112TetCA	
EtBENZ	3.02
mpXYL	3.02
oXYL	3.10
1122TetCA	3.35
135TMB	3.19
124TMB	3.35
13DCB	3.97
14DCB	4.09
12DCB	3.93
Total mass	1.80

Values in L/hr, Total mass does not include Oct, 1112TetCA (23 compounds)

TABLE B

4 CONSTANT REGRESSION OUTPUT

	Adjusted Rsq	Standard Error	ln(SR0)	b	-Ea/R	d	Std Error ln(SR0)	Std Error b	Std Error -Ea/R	Std Error d
MTBE	0.77	0.2684	6.1531	0.7137	-1862	-0.2973	1.1215	0.0421	309	0.0346
t12DCE	0.80	0.2498	14.2118	0.6315	-4261	-0.1411	1.2463	0.0358	343	0.0323
11DCA	0.91	0.2016	13.7734	0.8038	-4094	-0.2544	0.8973	0.0294	251	0.0258
c12DCE	0.89	0.2092	9.4567	0.7241	-2941	-0.2710	0.8774	0.0286	248	0.0267
CHCl3	0.91	0.2048	12.2405	0.8364	-3699	-0.3365	0.8737	0.0294	246	0.0261
111TCA	0.94	0.1701	8.3160	0.9176	-2393	-0.5136	0.6652	0.0257	189	0.0222
12DCA	0.92	0.1921	9.0559	0.8093	-2886	-0.4404	0.7728	0.0275	220	0.0248
BENZ	0.89	0.2178	7.6871	0.7990	-2485	-0.4583	0.8687	0.0326	247	0.0286
CCl4	0.91	0.2219	7.0239	0.8972	-2071	-0.5182	0.8597	0.0324	246	0.0289
TCE	0.94	0.1680	7.0333	0.8809	-2276	-0.5871	0.6541	0.0244	188	0.0224
112TCA	0.97	0.1401	3.0297	0.9933	-1165	-0.8405	0.5251	0.0205	153	0.0202
TOL	0.96	0.1468	2.9135	0.9448	-1147	-0.7896	0.5506	0.0220	160	0.0213
OCT										
PCE	0.97	0.1229	2.2557	0.9912	-925	-0.8337	0.4611	0.0183	134	0.0178
ClBENZ	0.97	0.1410	1.2078	0.9832	-693	-0.8819	0.5267	0.0210	153	0.0211
1112TetCA										
EtBENZ	0.96	0.1521	0.4685	0.9696	-469	-0.9107	0.5663	0.0226	165	0.0231
mpXYL	0.96	0.1505	0.7733	0.9883	-560	-0.9123	0.5594	0.0227	163	0.0229
oXYL	0.96	0.1554	0.5660	0.9495	-506	-0.8713	0.5776	0.0233	169	0.0234
1122TetCA	0.95	0.1715	0.5319	0.9793	-519	-0.9313	0.6375	0.0252	186	0.0262
135TMB	0.94	0.1783	1.1480	0.9370	-688	-0.8545	0.6646	0.0266	194	0.0266
124TMB	0.95	0.1702	1.4973	0.9590	-807	-0.8819	0.6368	0.0255	185	0.0257
13DCB	0.95	0.1641	0.9194	0.9644	-685	-0.8908	0.6115	0.0245	178	0.0250
14DCB	0.95	0.1619	1.4086	0.9556	-840	-0.8854	0.6030	0.0242	176	0.0246
12DCB	0.95	0.1713	0.9920	0.9620	-704	-0.9037	0.6388	0.0254	186	0.0261
Total mass	0.966	0.1302	3.4894	0.9213	-1215	-0.7716	0.4835	0.0195	142	0.0190

TABLE C
8260C MASS UNCERTAINTY

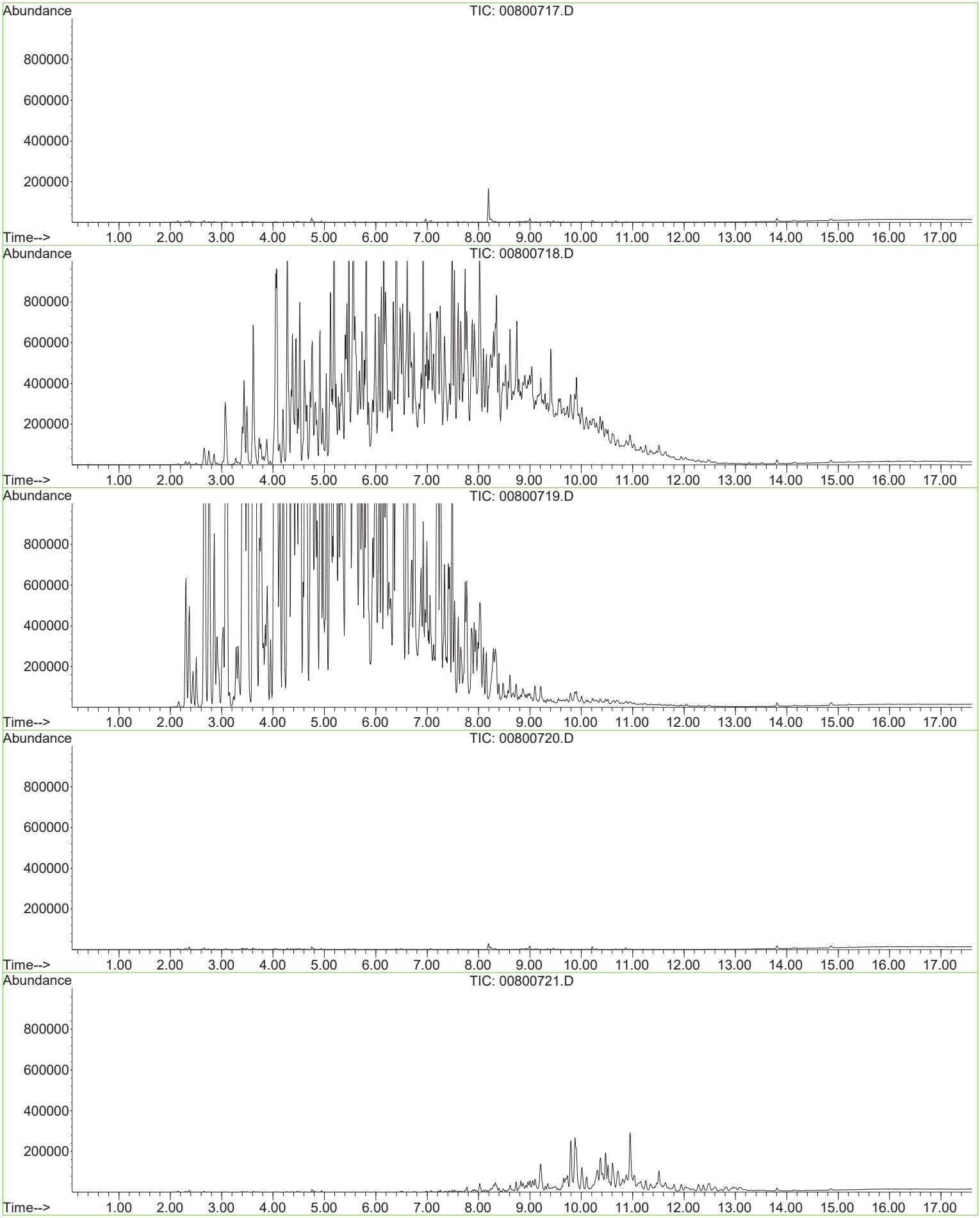
AGI 8260C Method for Mass using SPG-0008 Sampler

	99% Uncertainty Range +/-	95% Uncertainty Range +/-
MTBE	20%	14%
t12DCE	22%	15%
11DCA	18%	12%
c12DCE	18%	12%
CHCl3	16%	11%
111TCA	18%	12%
12DCA	20%	13%
BENZ	16%	10%
CCl4	19%	12%
TCE	15%	10%
112TCA	18%	12%
TOL	15%	10%
OCT	20%	13%
PCE	16%	11%
ClBENZ	18%	12%
1112TetCA	19%	13%
EtBENZ	18%	12%
mpXYL	18%	12%
oXYL	18%	12%
1122TetCA	23%	15%
135TMB	21%	14%
124TMB	20%	14%
13DCB	19%	13%
14DCB	19%	13%
12DCB	20%	14%
NAPH	21%	14%
2MeNAPH	25%	17%

TABLE D
4 CONSTANT AIR CONCENTRATION UNCERTAINTY

ERROR IN CONCENTRATION REPORTING (1)

	Primary-Duplicate Error	Minimum Error	Maximum Error
MTBE	4.3%	-76%	43%
t12DCE	10.4%	-70%	41%
11DCA	5.2%	-68%	40%
c12DCE	6.0%	-49%	33%
CHCl3	4.8%	-60%	37%
111TCA	5.4%	-50%	33%
12DCA	5.4%	-49%	33%
BENZ	4.4%	-52%	34%
CCl4	5.3%	-48%	32%
TCE	5.7%	-37%	27%
112TCA	5.9%	-23%	18%
TOL	5.3%	-26%	20%
OCT			
PCE	5.7%	-18%	15%
ClBENZ	3.9%	-20%	17%
1112TetCA			
EtBENZ	5.1%	-21%	17%
mpXYL	4.5%	-18%	15%
oXYL	4.7%	-21%	17%
1122TetCA	5.2%	-21%	18%
135TMB	8.0%	-25%	20%
124TMB	7.0%	-24%	19%
13DCB	6.7%	-21%	18%
14DCB	6.1%	-22%	18%
12DCB	7.4%	-22%	18%
Total Mass	4.3%	-23%	18%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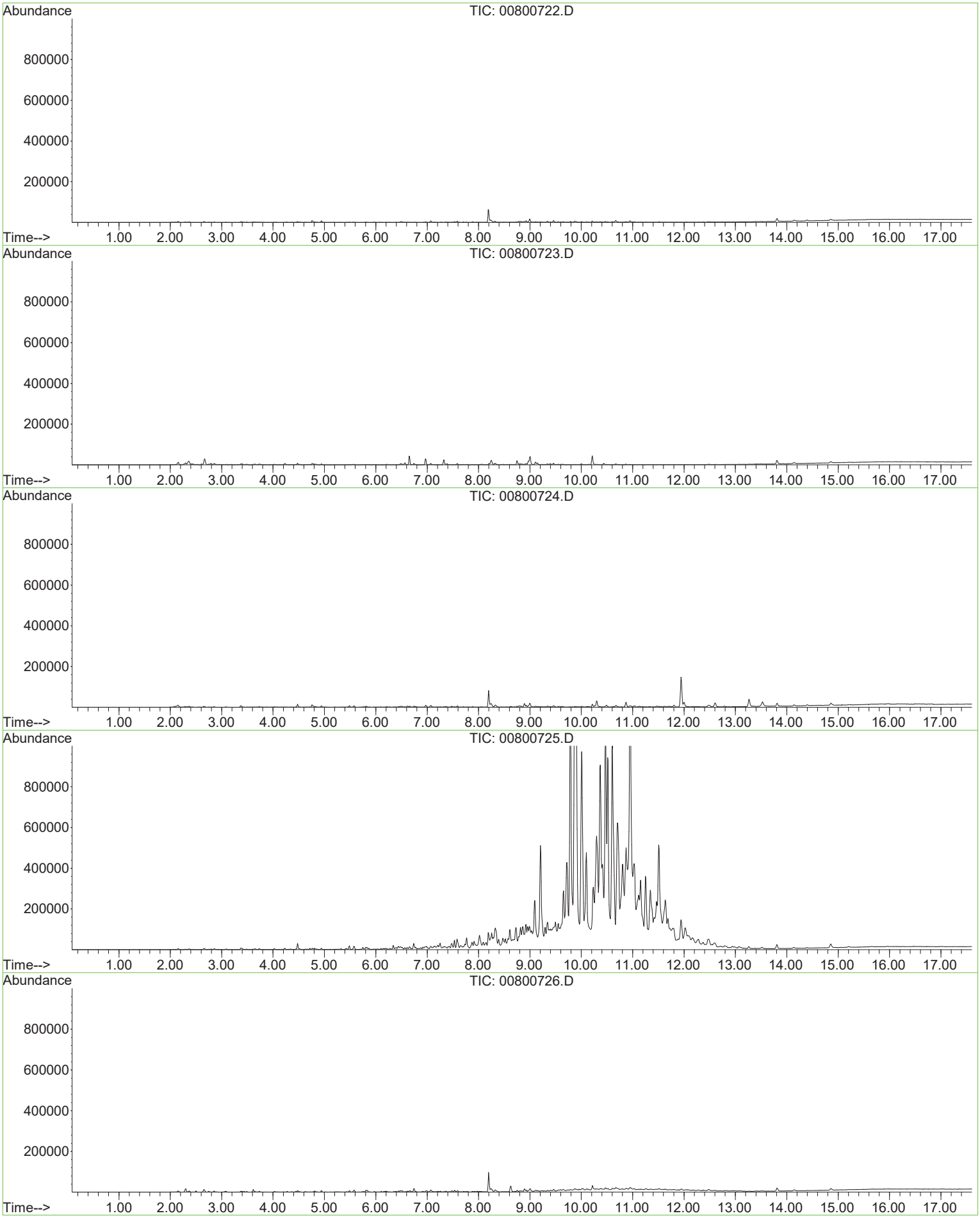
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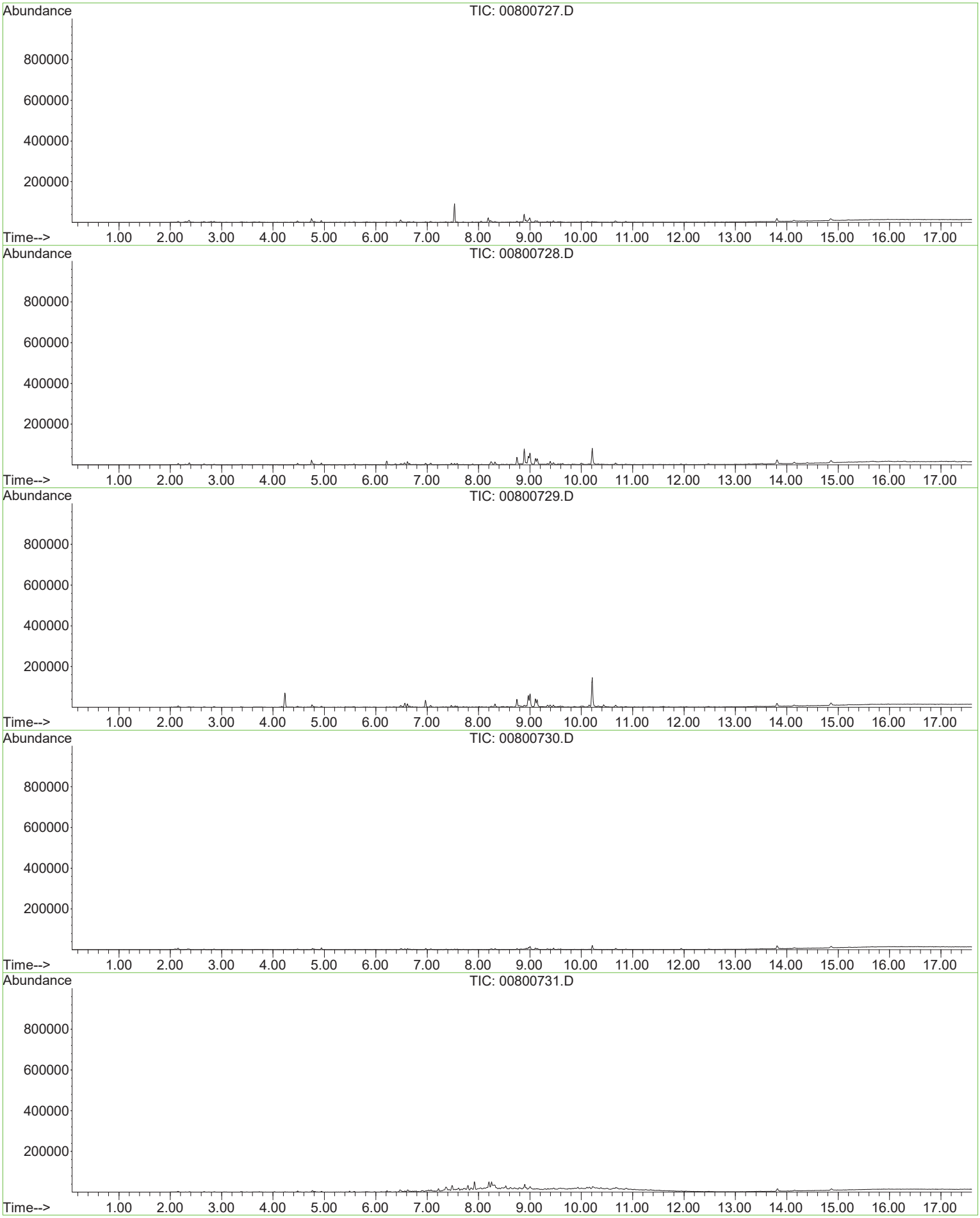
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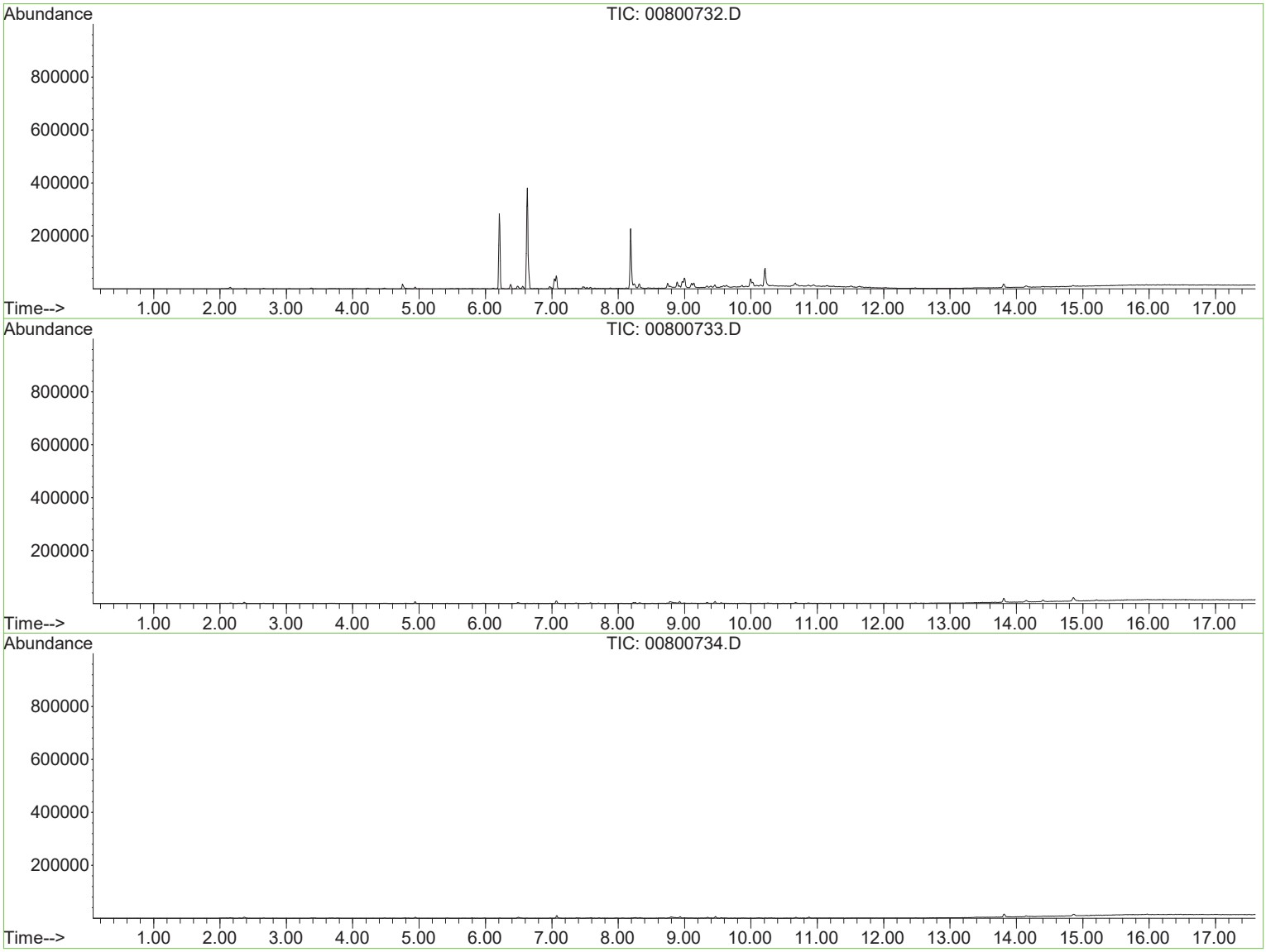
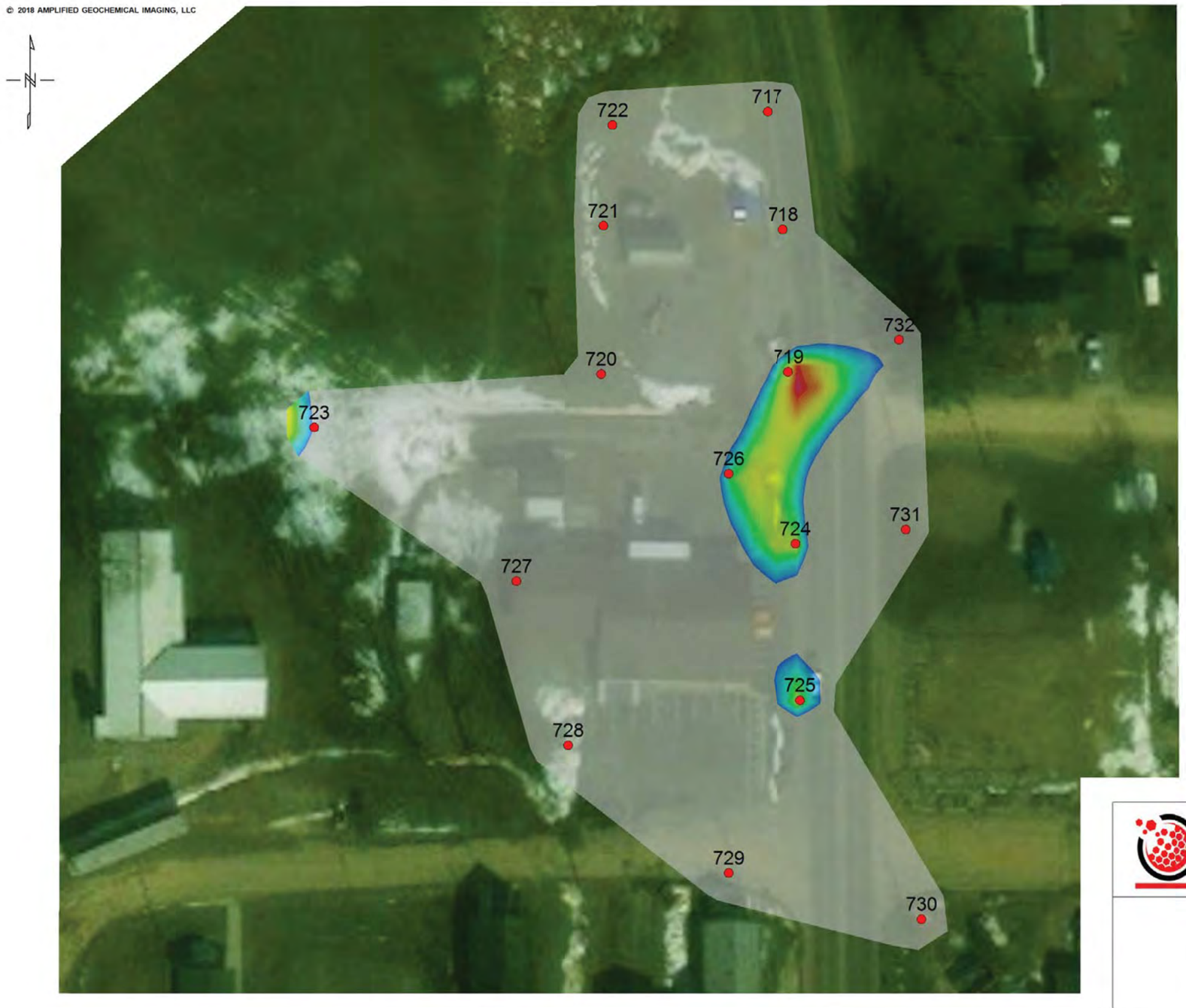
TICS - 02053
In Numerical Order





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31.475
29.400

Benzene
Estimated Soil Gas Concentrations (ug/m^3)

Scale 1:600

10 0 10 20 30
(meters)
WGS 84 / Wisconsin Transverse Mercator 83

AMPLIFIED GEOCHEMICAL IMAGING, LLC
210 EXECUTIVE DRIVE, SUITE 1
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WWW.AGISURVEYS.NET

True North Consultants
T218038 WDMR Anderson Property
Benzene
Estimated Soil Gas Concentrations (ug/m^3)

DATE DRAWN: Oct 25, 2018	DRAWN BY: RF	ORIG. CAD: T218038 - Hub City (1).dwg
REV. DATE:	REV. #:	PROJECT NUMBER: 02053

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2.580

Naphthalene
Estimated Soil Gas Concentrations (ug/m^3)

Scale 1:600

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(meters)
WGS 84 / Wisconsin Transverse Mercator 83

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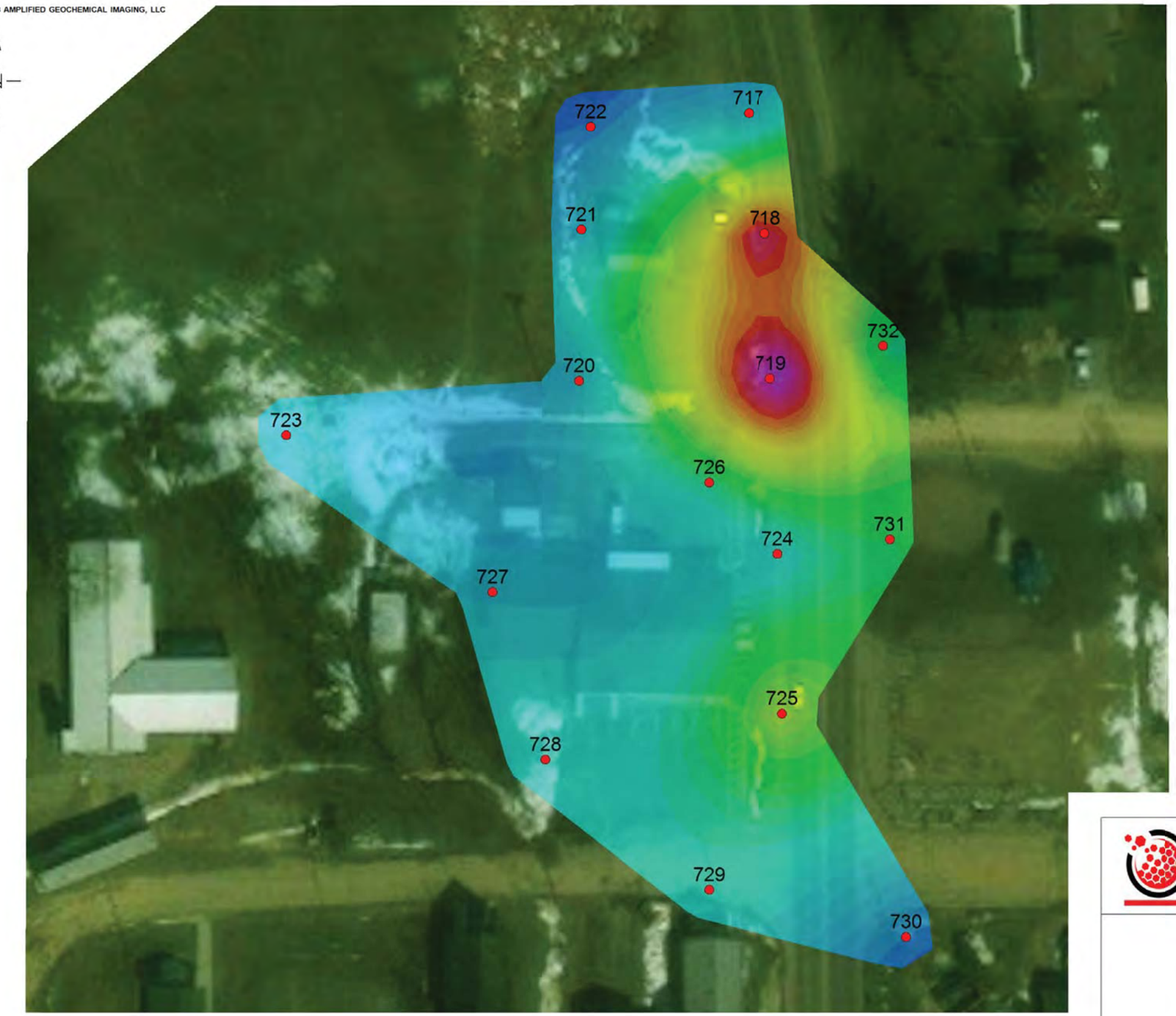
True North Consultants
T218038 WDMR Anderson Property
Naphthalene
Estimated Soil Gas Concentrations (ug/m^3)

DATE DRAWN: Oct 25, 2018	DRAWN BY: RF	ORIG. CAD: T218038 - Hub City (1).dwg
REV. DATE:	REV. #:	PROJECT NUMBER: 02053



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TPH
Estimated Soil Gas Concentrations (ug/m^3)

Scale 1:600

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(meters)
WGS 84 / Wisconsin Transverse Mercator 83

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True North Consultants
T218038 WDMR Anderson Property
Total Petroleum Hydrocarbons
Estimated Soil Gas Concentrations (ug/m^3)

DATE DRAWN: Oct 25, 2018	DRAWN BY: RF	ORIG. CAD: T218038 - Hub City (1).dwg
REV. DATE:	REV. #:	PROJECT NUMBER: 02053

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210 Executive Drive, Suite 1
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APPENDIX E

Analytical Laboratory Reports and Chain-of-Custody Forms

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

October 17, 2018

Thomas Culp
True North Consultants, Inc.
525 Junction Road
Suite 1900
Madison, WI 53717

RE: Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

Dear Thomas Culp:
Enclosed are the analytical results for sample(s) received by the laboratory on October 06, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Ben Stencil, True North Consultants, Inc.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
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
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
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 NwTPH 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
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40177215001	**HENRIETTA WELL**	Water	10/04/18 12:00	10/06/18 08:45
40177215002	**FRANZ SUMP**	Water	10/04/18 13:00	10/06/18 08:45

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40177215001	**HENRIETTA WELL**	EPA 524.2	AEZ	24	PASI-M
40177215002	**FRANZ SUMP**	EPA 8260	MDS	63	PASI-G

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40177215001	**HENRIETTA WELL**					
EPA 524.2	1,4-Dichlorobenzene	0.39	ug/L	0.29	10/15/18 04:30	
40177215002	**FRANZ SUMP**					
EPA 8260	1,2,4-Trimethylbenzene	22.3	ug/L	2.8	10/10/18 10:41	
EPA 8260	1,3,5-Trimethylbenzene	4.6	ug/L	2.9	10/10/18 10:41	
EPA 8260	Benzene	24.6	ug/L	1.0	10/10/18 10:41	
EPA 8260	Ethylbenzene	9.5	ug/L	1.0	10/10/18 10:41	
EPA 8260	Isopropylbenzene (Cumene)	3.3J	ug/L	5.0	10/10/18 10:41	
EPA 8260	Naphthalene	19.8	ug/L	5.0	10/10/18 10:41	
EPA 8260	Toluene	1.7J	ug/L	5.0	10/10/18 10:41	
EPA 8260	Xylene (Total)	27.2	ug/L	3.0	10/10/18 10:41	
EPA 8260	n-Butylbenzene	2.0J	ug/L	2.4	10/10/18 10:41	
EPA 8260	n-Propylbenzene	10.2	ug/L	5.0	10/10/18 10:41	
EPA 8260	sec-Butylbenzene	0.88J	ug/L	5.0	10/10/18 10:41	

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ANALYTICAL RESULTS

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

Sample: HENRIETTA WELL **Lab ID: 40177215001** Collected: 10/04/18 12:00 Received: 10/06/18 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV	Analytical Method: EPA 524.2								
Benzene	**<0.12**	ug/L	0.41	0.12	1		10/15/18 04:30	71-43-2	
Carbon tetrachloride	**<0.20**	ug/L	0.67	0.20	1		10/15/18 04:30	56-23-5	
Chlorobenzene	**<0.12**	ug/L	0.40	0.12	1		10/15/18 04:30	108-90-7	
1,2-Dichlorobenzene	**<0.18**	ug/L	0.58	0.18	1		10/15/18 04:30	95-50-1	
1,4-Dichlorobenzene	**0.39**	ug/L	0.29	0.086	1		10/15/18 04:30	106-46-7	
1,2-Dichloroethane	**<0.13**	ug/L	0.45	0.13	1		10/15/18 04:30	107-06-2	
1,1-Dichloroethene	**<0.19**	ug/L	0.62	0.19	1		10/15/18 04:30	75-35-4	
cis-1,2-Dichloroethene	**<0.14**	ug/L	0.46	0.14	1		10/15/18 04:30	156-59-2	
trans-1,2-Dichloroethene	**<0.18**	ug/L	0.59	0.18	1		10/15/18 04:30	156-60-5	
1,2-Dichloropropane	**<0.19**	ug/L	0.64	0.19	1		10/15/18 04:30	78-87-5	
Ethylbenzene	**<0.11**	ug/L	0.36	0.11	1		10/15/18 04:30	100-41-4	
Methylene Chloride	**<0.97**	ug/L	3.2	0.97	1		10/15/18 04:30	75-09-2	
Styrene	**<0.18**	ug/L	0.59	0.18	1		10/15/18 04:30	100-42-5	
Tetrachloroethene	**<0.17**	ug/L	0.56	0.17	1		10/15/18 04:30	127-18-4	
Toluene	**<0.078**	ug/L	0.26	0.078	1		10/15/18 04:30	108-88-3	
1,2,4-Trichlorobenzene	**<0.19**	ug/L	0.64	0.19	1		10/15/18 04:30	120-82-1	
1,1,1-Trichloroethane	**<0.19**	ug/L	0.62	0.19	1		10/15/18 04:30	71-55-6	
1,1,2-Trichloroethane	**<0.19**	ug/L	0.62	0.19	1		10/15/18 04:30	79-00-5	
Trichloroethene	**<0.12**	ug/L	0.39	0.12	1		10/15/18 04:30	79-01-6	
Vinyl chloride	**<0.086**	ug/L	0.29	0.086	1		10/15/18 04:30	75-01-4	
Xylene (Total)	**<0.30**	ug/L	1.0	0.30	1		10/15/18 04:30	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%.	75-125		1		10/15/18 04:30	460-00-4	
Toluene-d8 (S)	107	%.	75-125		1		10/15/18 04:30	2037-26-5	
1,2-Dichloroethane-d4 (S)	107	%.	75-125		1		10/15/18 04:30	17060-07-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

Sample: FRANZ SUMP **Lab ID: 40177215002** Collected: 10/04/18 13:00 Received: 10/06/18 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		10/10/18 10:41	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		10/10/18 10:41	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		10/10/18 10:41	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		10/10/18 10:41	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		10/10/18 10:41	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		10/10/18 10:41	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		10/10/18 10:41	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		10/10/18 10:41	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		10/10/18 10:41	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		10/10/18 10:41	120-82-1	
1,2,4-Trimethylbenzene	**22.3**	ug/L	2.8	0.84	1		10/10/18 10:41	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		10/10/18 10:41	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		10/10/18 10:41	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/10/18 10:41	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		10/10/18 10:41	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		10/10/18 10:41	78-87-5	
1,3,5-Trimethylbenzene	**4.6**	ug/L	2.9	0.87	1		10/10/18 10:41	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		10/10/18 10:41	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		10/10/18 10:41	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		10/10/18 10:41	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		10/10/18 10:41	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		10/10/18 10:41	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		10/10/18 10:41	106-43-4	
Benzene	**24.6**	ug/L	1.0	0.25	1		10/10/18 10:41	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		10/10/18 10:41	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		10/10/18 10:41	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		10/10/18 10:41	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		10/10/18 10:41	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		10/10/18 10:41	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		10/10/18 10:41	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		10/10/18 10:41	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		10/10/18 10:41	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		10/10/18 10:41	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		10/10/18 10:41	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		10/10/18 10:41	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		10/10/18 10:41	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		10/10/18 10:41	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		10/10/18 10:41	108-20-3	
Ethylbenzene	**9.5**	ug/L	1.0	0.22	1		10/10/18 10:41	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		10/10/18 10:41	87-68-3	
Isopropylbenzene (Cumene)	**3.3J**	ug/L	5.0	0.39	1		10/10/18 10:41	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		10/10/18 10:41	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		10/10/18 10:41	75-09-2	
Naphthalene	**19.8**	ug/L	5.0	1.2	1		10/10/18 10:41	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		10/10/18 10:41	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		10/10/18 10:41	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

Sample: FRANZ SUMP **Lab ID: 40177215002** Collected: 10/04/18 13:00 Received: 10/06/18 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**1.7J**	ug/L	5.0	0.17	1		10/10/18 10:41	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		10/10/18 10:41	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		10/10/18 10:41	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		10/10/18 10:41	75-01-4	
Xylene (Total)	**27.2**	ug/L	3.0	1.5	1		10/10/18 10:41	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		10/10/18 10:41	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		10/10/18 10:41	10061-01-5	
n-Butylbenzene	**2.0J**	ug/L	2.4	0.71	1		10/10/18 10:41	104-51-8	
n-Propylbenzene	**10.2**	ug/L	5.0	0.81	1		10/10/18 10:41	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		10/10/18 10:41	99-87-6	
sec-Butylbenzene	**0.88J**	ug/L	5.0	0.85	1		10/10/18 10:41	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		10/10/18 10:41	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		10/10/18 10:41	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		10/10/18 10:41	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		10/10/18 10:41	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		1		10/10/18 10:41	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		10/10/18 10:41	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

QC Batch: 569101
QC Batch Method: EPA 524.2
Associated Lab Samples: 40177215001

Analysis Method: EPA 524.2
Analysis Description: 524.2 MSV

METHOD BLANK: 3088508 Matrix: Water
Associated Lab Samples: 40177215001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<0.19	0.62	10/15/18 02:30	
1,1,2-Trichloroethane	ug/L	<0.19	0.62	10/15/18 02:30	
1,1-Dichloroethene	ug/L	<0.19	0.62	10/15/18 02:30	
1,2,4-Trichlorobenzene	ug/L	<0.19	0.64	10/15/18 02:30	
1,2-Dichlorobenzene	ug/L	<0.18	0.58	10/15/18 02:30	
1,2-Dichloroethane	ug/L	<0.13	0.45	10/15/18 02:30	
1,2-Dichloropropane	ug/L	<0.19	0.64	10/15/18 02:30	
1,4-Dichlorobenzene	ug/L	<0.086	0.29	10/15/18 02:30	
Benzene	ug/L	<0.12	0.41	10/15/18 02:30	
Carbon tetrachloride	ug/L	<0.20	0.67	10/15/18 02:30	
Chlorobenzene	ug/L	<0.12	0.40	10/15/18 02:30	
cis-1,2-Dichloroethene	ug/L	<0.14	0.46	10/15/18 02:30	
Ethylbenzene	ug/L	<0.11	0.36	10/15/18 02:30	
Methylene Chloride	ug/L	<0.97	3.2	10/15/18 02:30	
Styrene	ug/L	<0.18	0.59	10/15/18 02:30	
Tetrachloroethene	ug/L	<0.17	0.56	10/15/18 02:30	
Toluene	ug/L	<0.078	0.26	10/15/18 02:30	
trans-1,2-Dichloroethene	ug/L	<0.18	0.59	10/15/18 02:30	
Trichloroethene	ug/L	<0.12	0.39	10/15/18 02:30	
Vinyl chloride	ug/L	<0.086	0.29	10/15/18 02:30	
Xylene (Total)	ug/L	<0.30	1.0	10/15/18 02:30	
1,2-Dichloroethane-d4 (S)	%.	105	75-125	10/15/18 02:30	
4-Bromofluorobenzene (S)	%.	104	75-125	10/15/18 02:30	
Toluene-d8 (S)	%.	105	75-125	10/15/18 02:30	

LABORATORY CONTROL SAMPLE: 3088509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	10	9.6	96	70-130	
1,1,2-Trichloroethane	ug/L	10	10	100	70-130	
1,1-Dichloroethene	ug/L	10	9.8	98	70-130	
1,2,4-Trichlorobenzene	ug/L	10	11.0	110	70-130	
1,2-Dichlorobenzene	ug/L	10	10	100	70-130	
1,2-Dichloroethane	ug/L	10	9.0	90	70-130	
1,2-Dichloropropane	ug/L	10	10.3	103	70-130	
1,4-Dichlorobenzene	ug/L	10	9.8	98	70-130	
Benzene	ug/L	10	9.8	98	70-130	
Carbon tetrachloride	ug/L	10	9.5	95	70-130	
Chlorobenzene	ug/L	10	9.7	97	70-130	
cis-1,2-Dichloroethene	ug/L	10	9.3	93	70-130	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

LABORATORY CONTROL SAMPLE: 3088509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	10	10.0	100	70-130	
Methylene Chloride	ug/L	10	9.1	91	70-130	
Styrene	ug/L	10	10.0	100	70-130	
Tetrachloroethene	ug/L	10	9.9	99	70-130	
Toluene	ug/L	10	9.7	97	70-130	
trans-1,2-Dichloroethene	ug/L	10	9.3	93	70-130	
Trichloroethene	ug/L	10	9.9	99	70-130	
Vinyl chloride	ug/L	10	9.6	96	70-130	
Xylene (Total)	ug/L	30	29.9	100	70-130	
1,2-Dichloroethane-d4 (S)	%.			106	75-125	
4-Bromofluorobenzene (S)	%.			99	75-125	
Toluene-d8 (S)	%.			104	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3089445 3089446

Parameter	Units	10451735001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	500	500	496	470	99	94	70-130	5	20	
1,1,2-Trichloroethane	ug/L	ND	500	500	<9.4	<9.4	0	0	70-130		20	M1
1,1-Dichloroethene	ug/L	ND	500	500	896	856	179	171	70-130	5	20	M1
1,2,4-Trichlorobenzene	ug/L	ND	500	500	593	569	119	114	70-130	4	20	
1,2-Dichlorobenzene	ug/L	ND	500	500	567	560	113	112	70-130	1	20	
1,2-Dichloroethane	ug/L	ND	500	500	475	447	95	89	70-130	6	20	
1,2-Dichloropropane	ug/L	ND	500	500	475	447	95	89	70-130	6	20	
1,4-Dichlorobenzene	ug/L	ND	500	500	550	515	110	103	70-130	7	20	
Benzene	ug/L	ND	500	500	489	454	97	91	70-130	7	20	
Carbon tetrachloride	ug/L	ND	500	500	444	413	89	83	70-130	7	20	
Chlorobenzene	ug/L	ND	500	500	504	485	101	97	70-130	4	20	
cis-1,2-Dichloroethene	ug/L	ND	500	500	518	472	104	94	70-130	9	20	
Ethylbenzene	ug/L	ND	500	500	506	500	101	100	70-130	1	20	
Methylene Chloride	ug/L	ND	500	500	455	428	88	83	70-130	6	20	
Styrene	ug/L	ND	500	500	504	481	101	96	70-130	5	20	
Tetrachloroethene	ug/L	ND	500	500	513	492	103	98	70-130	4	20	
Toluene	ug/L	ND	500	500	513	488	102	97	70-130	5	20	
trans-1,2-Dichloroethene	ug/L	ND	500	500	461	429	92	86	70-130	7	20	
Trichloroethene	ug/L	ND	500	500	1170	1110	235	222	70-130	6	20	M1
Vinyl chloride	ug/L	ND	500	500	493	465	99	93	70-130	6	20	
Xylene (Total)	ug/L	ND	1500	1500	1560	1500	104	100	70-130	4	20	
1,2-Dichloroethane-d4 (S)	%.						110	110	75-125			
4-Bromofluorobenzene (S)	%.						102	103	75-125			HS
Toluene-d8 (S)	%.						107	107	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

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

QC Batch: 302560 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40177215002

METHOD BLANK: 1767317 Matrix: Water
Associated Lab Samples: 40177215002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	10/09/18 09:44	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	10/09/18 09:44	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	10/09/18 09:44	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	10/09/18 09:44	
1,1-Dichloroethane	ug/L	<0.27	1.0	10/09/18 09:44	
1,1-Dichloroethene	ug/L	<0.24	1.0	10/09/18 09:44	
1,1-Dichloropropene	ug/L	<0.54	1.8	10/09/18 09:44	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	10/09/18 09:44	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	10/09/18 09:44	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	10/09/18 09:44	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	10/09/18 09:44	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	10/09/18 09:44	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	10/09/18 09:44	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	10/09/18 09:44	
1,2-Dichloroethane	ug/L	<0.28	1.0	10/09/18 09:44	
1,2-Dichloropropane	ug/L	<0.28	1.0	10/09/18 09:44	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	10/09/18 09:44	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	10/09/18 09:44	
1,3-Dichloropropane	ug/L	<0.83	2.8	10/09/18 09:44	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	10/09/18 09:44	
2,2-Dichloropropane	ug/L	<2.3	7.6	10/09/18 09:44	
2-Chlorotoluene	ug/L	<0.93	5.0	10/09/18 09:44	
4-Chlorotoluene	ug/L	<0.76	2.5	10/09/18 09:44	
Benzene	ug/L	<0.25	1.0	10/09/18 09:44	
Bromobenzene	ug/L	<0.24	1.0	10/09/18 09:44	
Bromochloromethane	ug/L	<0.36	5.0	10/09/18 09:44	
Bromodichloromethane	ug/L	<0.36	1.2	10/09/18 09:44	
Bromoform	ug/L	<4.0	13.2	10/09/18 09:44	
Bromomethane	ug/L	<0.97	5.0	10/09/18 09:44	
Carbon tetrachloride	ug/L	<0.17	1.0	10/09/18 09:44	
Chlorobenzene	ug/L	<0.71	2.4	10/09/18 09:44	
Chloroethane	ug/L	<1.3	5.0	10/09/18 09:44	
Chloroform	ug/L	<1.3	5.0	10/09/18 09:44	
Chloromethane	ug/L	<2.2	7.3	10/09/18 09:44	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	10/09/18 09:44	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	10/09/18 09:44	
Dibromochloromethane	ug/L	<2.6	8.7	10/09/18 09:44	
Dibromomethane	ug/L	<0.94	3.1	10/09/18 09:44	
Dichlorodifluoromethane	ug/L	<0.50	5.0	10/09/18 09:44	
Diisopropyl ether	ug/L	<1.9	6.3	10/09/18 09:44	
Ethylbenzene	ug/L	<0.22	1.0	10/09/18 09:44	

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

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

METHOD BLANK: 1767317 Matrix: Water
Associated Lab Samples: 40177215002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	10/09/18 09:44	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	10/09/18 09:44	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	10/09/18 09:44	
Methylene Chloride	ug/L	<0.58	5.0	10/09/18 09:44	
n-Butylbenzene	ug/L	<0.71	2.4	10/09/18 09:44	
n-Propylbenzene	ug/L	<0.81	5.0	10/09/18 09:44	
Naphthalene	ug/L	<1.2	5.0	10/09/18 09:44	
p-Isopropyltoluene	ug/L	<0.80	2.7	10/09/18 09:44	
sec-Butylbenzene	ug/L	<0.85	5.0	10/09/18 09:44	
Styrene	ug/L	<0.47	1.6	10/09/18 09:44	
tert-Butylbenzene	ug/L	<0.30	1.0	10/09/18 09:44	
Tetrachloroethene	ug/L	<0.33	1.1	10/09/18 09:44	
Toluene	ug/L	<0.17	5.0	10/09/18 09:44	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	10/09/18 09:44	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	10/09/18 09:44	
Trichloroethene	ug/L	<0.26	1.0	10/09/18 09:44	
Trichlorofluoromethane	ug/L	<0.21	1.0	10/09/18 09:44	
Vinyl chloride	ug/L	<0.17	1.0	10/09/18 09:44	
Xylene (Total)	ug/L	<1.5	3.0	10/09/18 09:44	
4-Bromofluorobenzene (S)	%	87	70-130	10/09/18 09:44	
Dibromofluoromethane (S)	%	104	70-130	10/09/18 09:44	
Toluene-d8 (S)	%	91	70-130	10/09/18 09:44	

LABORATORY CONTROL SAMPLE: 1767318

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	55.2	110	70-133	
1,1,2,2-Tetrachloroethane	ug/L	50	48.1	96	67-130	
1,1,2-Trichloroethane	ug/L	50	53.0	106	70-130	
1,1-Dichloroethane	ug/L	50	53.9	108	70-134	
1,1-Dichloroethene	ug/L	50	48.6	97	75-132	
1,2,4-Trichlorobenzene	ug/L	50	46.3	93	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	49.8	100	60-126	
1,2-Dibromoethane (EDB)	ug/L	50	52.8	106	70-130	
1,2-Dichlorobenzene	ug/L	50	51.9	104	70-130	
1,2-Dichloroethane	ug/L	50	51.7	103	73-134	
1,2-Dichloropropane	ug/L	50	51.6	103	79-128	
1,3-Dichlorobenzene	ug/L	50	50.6	101	70-130	
1,4-Dichlorobenzene	ug/L	50	53.3	107	70-130	
Benzene	ug/L	50	44.8	90	69-137	
Bromodichloromethane	ug/L	50	54.2	108	70-130	
Bromoform	ug/L	50	60.2	120	64-133	
Bromomethane	ug/L	50	17.6	35	29-123	
Carbon tetrachloride	ug/L	50	56.9	114	73-142	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

LABORATORY CONTROL SAMPLE: 1767318

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	53.4	107	70-130	
Chloroethane	ug/L	50	39.4	79	59-133	
Chloroform	ug/L	50	50.8	102	80-129	
Chloromethane	ug/L	50	17.1	34	27-125	
cis-1,2-Dichloroethene	ug/L	50	46.9	94	70-134	
cis-1,3-Dichloropropene	ug/L	50	47.6	95	70-130	
Dibromochloromethane	ug/L	50	56.8	114	70-130	
Dichlorodifluoromethane	ug/L	50	14.6	29	12-127	
Ethylbenzene	ug/L	50	54.6	109	86-127	
Isopropylbenzene (Cumene)	ug/L	50	58.3	117	70-130	
Methyl-tert-butyl ether	ug/L	50	47.2	94	65-136	
Methylene Chloride	ug/L	50	46.3	93	72-133	
Styrene	ug/L	50	60.2	120	70-130	
Tetrachloroethene	ug/L	50	54.7	109	70-130	
Toluene	ug/L	50	51.6	103	84-124	
trans-1,2-Dichloroethene	ug/L	50	50.0	100	70-133	
trans-1,3-Dichloropropene	ug/L	50	49.9	100	67-130	
Trichloroethene	ug/L	50	53.8	108	70-130	
Trichlorofluoromethane	ug/L	50	51.9	104	69-147	
Vinyl chloride	ug/L	50	32.8	66	48-134	
Xylene (Total)	ug/L	150	171	114	70-130	
4-Bromofluorobenzene (S)	%			105	70-130	
Dibromofluoromethane (S)	%			97	70-130	
Toluene-d8 (S)	%			95	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1767675 1767676

Parameter	Units	40176929034 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	1.0 U	50	50	51.9	53.6	104	107	70-136	3	20	
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	50	50	45.8	49.4	92	99	67-133	8	20	
1,1,2-Trichloroethane	ug/L	5.0 U	50	50	53.3	54.1	107	108	70-130	2	20	
1,1-Dichloroethane	ug/L	1.0 U	50	50	51.7	56.7	103	113	70-139	9	20	
1,1-Dichloroethene	ug/L	1.0 U	50	50	49.7	51.5	99	103	72-137	3	20	
1,2,4-Trichlorobenzene	ug/L	5.0 U	50	50	51.0	54.3	102	109	68-130	6	20	
1,2-Dibromo-3-chloropropane	ug/L	5.9 U	50	50	49.6	52.8	99	106	60-130	6	21	
1,2-Dibromoethane (EDB)	ug/L	2.8 U	50	50	51.2	54.5	102	109	70-130	6	20	
1,2-Dichlorobenzene	ug/L	2.4 U	50	50	51.1	54.7	102	109	70-130	7	20	
1,2-Dichloroethane	ug/L	1.0 U	50	50	51.0	54.0	102	108	71-137	6	20	
1,2-Dichloropropane	ug/L	1.0 U	50	50	51.0	54.6	102	109	78-130	7	20	
1,3-Dichlorobenzene	ug/L	2.1 U	50	50	50.0	53.0	100	106	70-130	6	20	
1,4-Dichlorobenzene	ug/L	3.1 U	50	50	51.1	54.2	102	108	70-130	6	20	
Benzene	ug/L	1.0 U	50	50	42.8	44.5	85	89	66-143	4	20	
Bromodichloromethane	ug/L	1.2 U	50	50	55.8	58.1	112	116	70-130	4	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1767675 1767676

Parameter	Units	40176929034 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromoform	ug/L	13.2 U	50	50	58.1	61.2	116	122	64-134	5	20	
Bromomethane	ug/L	5.0 U	50	50	15.5	22.8	31	46	29-136	38	25	R1
Carbon tetrachloride	ug/L	1.0 U	50	50	55.7	57.0	111	114	73-142	2	20	
Chlorobenzene	ug/L	2.4 U	50	50	51.8	52.9	104	106	70-130	2	20	
Chloroethane	ug/L	5.0 U	50	50	38.4	39.0	77	78	58-138	1	20	
Chloroform	ug/L	5.0 U	50	50	48.1	51.1	96	102	80-131	6	20	
Chloromethane	ug/L	7.3 U	50	50	15.0	18.1	30	36	24-125	19	20	
cis-1,2-Dichloroethene	ug/L	0.39J	50	50	43.5	49.0	86	97	68-137	12	22	
cis-1,3-Dichloropropene	ug/L	12.1 U	50	50	48.6	49.9	97	100	70-130	3	20	
Dibromochloromethane	ug/L	8.7 U	50	50	56.3	57.6	113	115	70-131	2	20	
Dichlorodifluoromethane	ug/L	5.0 U	50	50	12.9	12.8	26	26	10-127	1	20	
Ethylbenzene	ug/L	0.74J	50	50	54.5	56.3	107	111	81-136	3	20	
Isopropylbenzene (Cumene)	ug/L	5.0 U	50	50	56.9	59.1	114	118	70-132	4	20	
Methyl-tert-butyl ether	ug/L	4.2 U	50	50	47.9	51.0	96	102	58-142	6	23	
Methylene Chloride	ug/L	5.0 U	50	50	48.0	49.6	96	99	69-137	3	20	
Styrene	ug/L	1.6 U	50	50	58.1	58.1	116	116	70-130	0	20	
Tetrachloroethene	ug/L	1.1 U	50	50	53.5	55.5	107	111	70-132	4	20	
Toluene	ug/L	2.3J	50	50	52.5	54.6	101	105	81-130	4	20	
trans-1,2-Dichloroethene	ug/L	3.6 U	50	50	50.3	53.1	101	106	70-136	5	20	
trans-1,3-Dichloropropene	ug/L	14.6 U	50	50	48.4	50.3	97	101	67-130	4	20	
Trichloroethene	ug/L	0.59J	50	50	55.0	56.7	109	112	70-131	3	20	
Trichlorofluoromethane	ug/L	1.0 U	50	50	52.7	54.5	105	109	66-150	3	20	
Vinyl chloride	ug/L	1.0 U	50	50	32.2	34.5	64	69	46-134	7	20	
Xylene (Total)	ug/L	2.4J	150	150	170	174	112	115	70-134	2	20	
4-Bromofluorobenzene (S)	%						106	104	70-130			
Dibromofluoromethane (S)	%						99	97	70-130			
Toluene-d8 (S)	%						95	95	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

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

WORKORDER QUALIFIERS

WO: 40177215

[1]	This data is not intended for compliance use.

ANALYTE QUALIFIERS

HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: T218038 WDNR ANDERSON
Pace Project No.: 40177215

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40177215001	**HENRIETTA WELL**	EPA 524.2	569101		
40177215002	**FRANZ SUMP**	EPA 8260	302560		

Pace Analytical®
www.pacelabs.com

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Page 1 of

4017215

CHAIN OF CUSTODY

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

(Please Print Clearly)	
Company Name:	TRUE NORTH CONSULT
Branch/Location:	MADISON
Project Contact:	TOM CULP
Phone:	608-212-1676
Project Number:	T218038
Project Name:	WDNR ANDERSON
Project State:	WI
Sampled By (Print):	Tom Culp
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Tom Culp
Mail To Company:	TRUE NORTH CONSULT
Mail To Address:	525 JUNCTION RD MADISON, WI 53717
Invoice To Contact:	AS
Invoice To Company:	ABOVE
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

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

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: WISC. DRINKING WATER VOC	VOC	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	HENRIETTA WELL	10-4-18	12:00	GW			X				
~~002~~	~~BARBER WELL~~						X				
003	FRANZ SUMP	10/4/18	13:00	GW				X			

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

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

Email #1:	
Email #2:	
Telephone:	
Fax:	

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

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	10/5/18 @ 8:00AM		
CS COURIER	10/6/18 0845	[signature] PACE	10/6/18 0845

PACE Project No.
4017215

Receipt Temp = °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

C019a(27Jun2006)

Version 6.0 06/14/06

ORIGINAL

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

Sample Preservation Receipt Form

Client Name: TRUE NORTH Project # 40177245

All containers needing preservation have been checked and noted below: ☐Yes ☐No ☐N/A

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted): Initial when completed: Date/ Time:

	Glass							Plastic							Vials						Jars			General							
Pace Lab #	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																		3															2.5 / 5 / 10
002																		3															2.5 / 5 / 10
003																																	2.5 / 5 / 10
004																																	2.5 / 5 / 10
005																																	2.5 / 5 / 10
006																																	2.5 / 5 / 10
007																																	2.5 / 5 / 10
008																																	2.5 / 5 / 10
009																																	2.5 / 5 / 10
010																																	2.5 / 5 / 10
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016																																	2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☐N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

Pace Analytical 1241 Bellevue Street, Green Bay, WI 54302	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: 25Apr2018
	Document No.: **F-GB-C-031-Rev.07**	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #: **WO#: 40177215**

40177215

Client Name: TRUE NORTH CONSULTANTS

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other:

Tracking #: 956 . 100518

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

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

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

Thermometer Used SR - N/A **Type of Ice:** Wet Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 0.1 /Corr:

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Person examining contents:
Date: 10/06/18
Initials: JM

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. NO PO #, PROJ. JM 10/06/18
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume:		8.
For Analysis: ☒Yes ☐No MS/MSD:	☐Yes ☒No ☐N/A	
Correct Containers Used:	☒Yes ☐No	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☐Yes ☒No ☐N/A	12. COC - Initial no date/time
-Includes date/time/ID/Analysis Matrix: W		JM 10/06/18
Trip Blank Present:	☐Yes ☒No ☐N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

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

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: AL for JM **Date:** 10/6/18

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

November 28, 2018

Thomas Culp
True North Consultants, Inc.
525 Junction Road
Suite 1900
Madison, WI 53717

RE: Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Dear Thomas Culp:
Enclosed are the analytical results for sample(s) received by the laboratory on November 10, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Ben Stencil, True North Consultants, Inc.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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(920)469-2436

CERTIFICATIONS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40179446001	**B102 (4FT)**	Solid	11/09/18 07:45	11/10/18 09:00
40179446002	**B102**	Water	11/09/18 07:45	11/10/18 09:00
40179446003	**B103 (4FT)**	Solid	11/09/18 08:10	11/10/18 09:00
40179446004	**B103**	Water	11/09/18 08:15	11/10/18 09:00
40179446005	**B104 (4FT)**	Solid	11/09/18 08:30	11/10/18 09:00
40179446006	**B104**	Water	11/09/18 08:35	11/10/18 09:00
40179446007	**B105 (4FT)**	Solid	11/09/18 08:50	11/10/18 09:00
40179446008	**B105**	Water	11/09/18 08:55	11/10/18 09:00
40179446009	**INVEST. WASTE**	Solid	11/09/18 12:00	11/10/18 09:00
40179446010	**MW101 (3FT)**	Solid	11/08/18 09:00	11/10/18 09:00
40179446011	**B101 (4FT)**	Solid	11/08/18 10:30	11/10/18 09:00
40179446012	**B101**	Water	11/08/18 10:30	11/10/18 09:00
40179446013	**MW102 (4FT)**	Solid	11/08/18 10:45	11/10/18 09:00
40179446014	**MW103 (3FT)**	Solid	11/08/18 11:50	11/10/18 09:00
40179446015	**MW104 (4FT)**	Solid	11/08/18 13:00	11/10/18 09:00
40179446016	**MW105 (4FT)**	Solid	11/08/18 14:10	11/10/18 09:00
40179446017	**TRIP BLANK**	Water	11/08/18 14:10	11/10/18 09:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40179446001	**B102 (4FT)**	WI MOD GRO	ALD	8
		EPA 6010	TXW	1
		ASTM D2974-87	SKW	1
40179446002	**B102**	WI MOD GRO	ALD	8
40179446003	**B103 (4FT)**	WI MOD GRO	ALD	8
		EPA 6010	TXW	1
		ASTM D2974-87	SKW	1
40179446004	**B103**	WI MOD GRO	ALD	8
40179446005	**B104 (4FT)**	WI MOD GRO	ALD	8
		EPA 6010	TXW	1
		ASTM D2974-87	SKW	1
40179446006	**B104**	WI MOD GRO	ALD	8
40179446007	**B105 (4FT)**	WI MOD GRO	ALD	8
		EPA 6010	TXW	1
		ASTM D2974-87	SKW	1
40179446008	**B105**	WI MOD GRO	PMS	8
40179446009	**INVEST. WASTE**	WI MOD GRO	ALD	8
		EPA 6010	TXW	1
		ASTM D2974-87	SKW	1
40179446010	**MW101 (3FT)**	WI MOD GRO	ALD	8
		EPA 6010	TXW	1
		ASTM D2974-87	SKW	1
40179446011	**B101 (4FT)**	WI MOD GRO	ALD	8
		EPA 6010	TXW	1
		ASTM D2974-87	SKW	1
40179446012	**B101**	WI MOD GRO	PMS	8
40179446013	**MW102 (4FT)**	WI MOD GRO	ALD	8
		EPA 6010	TXW	1
		ASTM D2974-87	SKW	1
40179446014	**MW103 (3FT)**	WI MOD GRO	ALD	8
		EPA 6010	TXW	1
		ASTM D2974-87	SKW	1
40179446015	**MW104 (4FT)**	WI MOD GRO	ALD	8
		EPA 6010	TXW	1
		ASTM D2974-87	SKW	1
40179446016	**MW105 (4FT)**	WI MOD GRO	ALD	8
		EPA 6010	TXW	1

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SAMPLE ANALYTE COUNT

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		ASTM D2974-87	SKW	1
40179446017	**TRIP BLANK**	WI MOD GRO	PMS	8

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SUMMARY OF DETECTION

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40179446001	**B102 (4FT)**					
WI MOD GRO	Benzene	69.6J	ug/kg	73.7	11/14/18 09:46	
EPA 6010	Lead	12.8	mg/kg	2.4	11/27/18 14:30	
ASTM D2974-87	Percent Moisture	18.5	%	0.10	11/15/18 08:37	
40179446002	**B102**					
WI MOD GRO	Benzene	16.6	ug/L	1.0	11/14/18 14:16	
WI MOD GRO	Methyl-tert-butyl ether	0.63J	ug/L	1.1	11/14/18 14:16	
WI MOD GRO	Toluene	0.93J	ug/L	1.6	11/14/18 14:16	
WI MOD GRO	1,2,4-Trimethylbenzene	0.53J	ug/L	1.1	11/14/18 14:16	
WI MOD GRO	Xylene (Total)	2.1J	ug/L	3.2	11/14/18 14:16	
40179446003	**B103 (4FT)**					
WI MOD GRO	Benzene	13400	ug/kg	5980	11/14/18 15:18	
WI MOD GRO	Ethylbenzene	396000	ug/kg	5980	11/14/18 15:18	
WI MOD GRO	Methyl-tert-butyl ether	8980	ug/kg	5980	11/14/18 15:18	
WI MOD GRO	Toluene	8650	ug/kg	5980	11/14/18 15:18	
WI MOD GRO	1,2,4-Trimethylbenzene	633000	ug/kg	5980	11/14/18 15:18	
WI MOD GRO	1,3,5-Trimethylbenzene	199000	ug/kg	5980	11/14/18 15:18	
WI MOD GRO	Xylene (Total)	1080000	ug/kg	17900	11/14/18 15:18	
EPA 6010	Lead	117	mg/kg	2.3	11/27/18 14:34	
ASTM D2974-87	Percent Moisture	19.8	%	0.10	11/15/18 08:38	
40179446004	**B103**					
WI MOD GRO	Benzene	431	ug/L	51.0	11/14/18 19:48	
WI MOD GRO	Ethylbenzene	2180	ug/L	55.0	11/14/18 19:48	
WI MOD GRO	Toluene	63.1J	ug/L	81.5	11/14/18 19:48	
WI MOD GRO	1,2,4-Trimethylbenzene	1800	ug/L	57.0	11/14/18 19:48	
WI MOD GRO	1,3,5-Trimethylbenzene	477	ug/L	54.5	11/14/18 19:48	
WI MOD GRO	Xylene (Total)	6970	ug/L	162	11/14/18 19:48	
40179446005	**B104 (4FT)**					
WI MOD GRO	Benzene	219	ug/kg	172	11/14/18 14:52	
WI MOD GRO	Ethylbenzene	4170	ug/kg	172	11/14/18 14:52	
WI MOD GRO	Methyl-tert-butyl ether	191	ug/kg	172	11/14/18 14:52	
WI MOD GRO	Toluene	174	ug/kg	172	11/14/18 14:52	
WI MOD GRO	1,2,4-Trimethylbenzene	12100	ug/kg	172	11/14/18 14:52	
WI MOD GRO	1,3,5-Trimethylbenzene	2680	ug/kg	172	11/14/18 14:52	
WI MOD GRO	Xylene (Total)	7390	ug/kg	515	11/14/18 14:52	
EPA 6010	Lead	176	mg/kg	2.8	11/27/18 14:37	
ASTM D2974-87	Percent Moisture	30.1	%	0.10	11/15/18 08:38	
40179446006	**B104**					
WI MOD GRO	Benzene	63.6	ug/L	4.1	11/14/18 22:47	
WI MOD GRO	Ethylbenzene	86.4	ug/L	4.4	11/14/18 22:47	
WI MOD GRO	Methyl-tert-butyl ether	3.8J	ug/L	4.3	11/14/18 22:47	
WI MOD GRO	Toluene	21.4	ug/L	6.5	11/14/18 22:47	
WI MOD GRO	1,2,4-Trimethylbenzene	71.7	ug/L	4.6	11/14/18 22:47	
WI MOD GRO	1,3,5-Trimethylbenzene	24.4	ug/L	4.4	11/14/18 22:47	
WI MOD GRO	Xylene (Total)	205	ug/L	12.9	11/14/18 22:47	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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(920)469-2436

SUMMARY OF DETECTION

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40179446007	**B105 (4FT)**					
WI MOD GRO	1,3,5-Trimethylbenzene	111	ug/kg	75.2	11/14/18 10:11	
EPA 6010	Lead	12.0	mg/kg	2.3	11/27/18 14:44	
ASTM D2974-87	Percent Moisture	20.2	%	0.10	11/15/18 08:38	
40179446008	**B105**					
WI MOD GRO	Benzene	1.1	ug/L	1.0	11/14/18 17:24	
WI MOD GRO	Ethylbenzene	2.3	ug/L	1.1	11/14/18 17:24	
WI MOD GRO	Methyl-tert-butyl ether	1.3	ug/L	1.1	11/14/18 17:24	
WI MOD GRO	1,2,4-Trimethylbenzene	1.9	ug/L	1.1	11/14/18 17:24	
WI MOD GRO	1,3,5-Trimethylbenzene	0.71J	ug/L	1.1	11/14/18 17:24	
WI MOD GRO	Xylene (Total)	5.9	ug/L	3.2	11/14/18 17:24	
40179446009	**INVEST. WASTE**					
WI MOD GRO	Benzene	102J	ug/kg	135	11/14/18 14:27	
WI MOD GRO	Ethylbenzene	2020	ug/kg	135	11/14/18 14:27	
WI MOD GRO	Toluene	540	ug/kg	135	11/14/18 14:27	
WI MOD GRO	1,2,4-Trimethylbenzene	4980	ug/kg	135	11/14/18 14:27	
WI MOD GRO	1,3,5-Trimethylbenzene	1750	ug/kg	135	11/14/18 14:27	
WI MOD GRO	Xylene (Total)	6780	ug/kg	404	11/14/18 14:27	
EPA 6010	Lead	7.5	mg/kg	2.1	11/27/18 14:46	
ASTM D2974-87	Percent Moisture	10.9	%	0.10	11/15/18 08:38	
40179446010	**MW101 (3FT)**					
EPA 6010	Lead	1.2J	mg/kg	2.0	11/27/18 14:49	
ASTM D2974-87	Percent Moisture	5.5	%	0.10	11/15/18 08:38	
40179446011	**B101 (4FT)**					
EPA 6010	Lead	16.6	mg/kg	1.9	11/27/18 14:51	
ASTM D2974-87	Percent Moisture	4.6	%	0.10	11/15/18 08:38	
40179446012	**B101**					
WI MOD GRO	Benzene	0.69J	ug/L	1.0	11/15/18 09:11	
WI MOD GRO	Ethylbenzene	13.0	ug/L	1.1	11/15/18 09:11	
WI MOD GRO	Methyl-tert-butyl ether	1.8	ug/L	1.1	11/15/18 09:11	
WI MOD GRO	Toluene	7.1	ug/L	1.6	11/15/18 09:11	
WI MOD GRO	1,2,4-Trimethylbenzene	5.4	ug/L	1.1	11/15/18 09:11	
WI MOD GRO	1,3,5-Trimethylbenzene	2.1	ug/L	1.1	11/15/18 09:11	
WI MOD GRO	Xylene (Total)	30.1	ug/L	3.2	11/15/18 09:11	
40179446013	**MW102 (4FT)**					
EPA 6010	Lead	13.6	mg/kg	2.4	11/27/18 14:54	
ASTM D2974-87	Percent Moisture	20.7	%	0.10	11/15/18 08:38	
40179446014	**MW103 (3FT)**					
EPA 6010	Lead	5.5	mg/kg	2.2	11/27/18 14:56	
ASTM D2974-87	Percent Moisture	11.0	%	0.10	11/15/18 08:38	
40179446015	**MW104 (4FT)**					
WI MOD GRO	Benzene	56.8J	ug/kg	82.4	11/14/18 11:54	
EPA 6010	Lead	110	mg/kg	2.7	11/27/18 14:58	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40179446015	**MW104 (4FT)**					
ASTM D2974-87	Percent Moisture	27.2	%	0.10	11/15/18 08:38	
40179446016	**MW105 (4FT)**					
EPA 6010	Lead	13.8	mg/kg	2.4	11/27/18 15:01	
ASTM D2974-87	Percent Moisture	18.2	%	0.10	11/15/18 08:38	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: B102 (4FT) **Lab ID: 40179446001** Collected: 11/09/18 07:45 Received: 11/10/18 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**69.6J**	ug/kg	73.7	30.7	1	11/14/18 07:00	11/14/18 09:46	71-43-2	
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 09:46	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 09:46	1634-04-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 09:46	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 09:46	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 09:46	108-67-8	W
Xylene (Total)	**<75.0**	ug/kg	180	75.0	1	11/14/18 07:00	11/14/18 09:46	1330-20-7	W
Surrogates									
a,a,a-Trifluorotoluene (S)	109	%	80-120		1	11/14/18 07:00	11/14/18 09:46	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**12.8**	mg/kg	2.4	0.73	1	11/23/18 07:03	11/27/18 14:30	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**18.5**	%	0.10	0.10	1		11/15/18 08:37		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: B102 **Lab ID: 40179446002** Collected: 11/09/18 07:45 Received: 11/10/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**16.6**	ug/L	1.0	0.31	1		11/14/18 14:16	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.1	0.33	1		11/14/18 14:16	100-41-4	
Methyl-tert-butyl ether	**0.63J**	ug/L	1.1	0.32	1		11/14/18 14:16	1634-04-4	
Toluene	**0.93J**	ug/L	1.6	0.49	1		11/14/18 14:16	108-88-3	
1,2,4-Trimethylbenzene	**0.53J**	ug/L	1.1	0.34	1		11/14/18 14:16	95-63-6	
1,3,5-Trimethylbenzene	**<0.33**	ug/L	1.1	0.33	1		11/14/18 14:16	108-67-8	
Xylene (Total)	**2.1J**	ug/L	3.2	0.97	1		11/14/18 14:16	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		1		11/14/18 14:16	98-08-8	HS

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: B103 (4FT) **Lab ID: 40179446003** Collected: 11/09/18 08:10 Received: 11/10/18 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**13400**	ug/kg	5980	2490	80	11/14/18 07:00	11/14/18 15:18	71-43-2	
Ethylbenzene	**396000**	ug/kg	5980	2490	80	11/14/18 07:00	11/14/18 15:18	100-41-4	
Methyl-tert-butyl ether	**8980**	ug/kg	5980	2490	80	11/14/18 07:00	11/14/18 15:18	1634-04-4	
Toluene	**8650**	ug/kg	5980	2490	80	11/14/18 07:00	11/14/18 15:18	108-88-3	
1,2,4-Trimethylbenzene	**633000**	ug/kg	5980	2490	80	11/14/18 07:00	11/14/18 15:18	95-63-6	
1,3,5-Trimethylbenzene	**199000**	ug/kg	5980	2490	80	11/14/18 07:00	11/14/18 15:18	108-67-8	
Xylene (Total)	**1080000**	ug/kg	17900	7480	80	11/14/18 07:00	11/14/18 15:18	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	110	%	80-120		80	11/14/18 07:00	11/14/18 15:18	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**117**	mg/kg	2.3	0.70	1	11/23/18 07:03	11/27/18 14:34	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**19.8**	%	0.10	0.10	1		11/15/18 08:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: B103 **Lab ID: 40179446004** Collected: 11/09/18 08:15 Received: 11/10/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**431**	ug/L	51.0	15.3	50		11/14/18 19:48	71-43-2	
Ethylbenzene	**2180**	ug/L	55.0	16.4	50		11/14/18 19:48	100-41-4	
Methyl-tert-butyl ether	**<16.0**	ug/L	53.5	16.0	50		11/14/18 19:48	1634-04-4	
Toluene	**63.1J**	ug/L	81.5	24.4	50		11/14/18 19:48	108-88-3	
1,2,4-Trimethylbenzene	**1800**	ug/L	57.0	17.1	50		11/14/18 19:48	95-63-6	
1,3,5-Trimethylbenzene	**477**	ug/L	54.5	16.4	50		11/14/18 19:48	108-67-8	
Xylene (Total)	**6970**	ug/L	162	48.5	50		11/14/18 19:48	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	102	%	80-120		50		11/14/18 19:48	98-08-8	HS, pH

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: B104 (4FT) **Lab ID: 40179446005** Collected: 11/09/18 08:30 Received: 11/10/18 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**219**	ug/kg	172	71.6	2	11/14/18 07:00	11/14/18 14:52	71-43-2	
Ethylbenzene	**4170**	ug/kg	172	71.6	2	11/14/18 07:00	11/14/18 14:52	100-41-4	
Methyl-tert-butyl ether	**191**	ug/kg	172	71.6	2	11/14/18 07:00	11/14/18 14:52	1634-04-4	
Toluene	**174**	ug/kg	172	71.6	2	11/14/18 07:00	11/14/18 14:52	108-88-3	
1,2,4-Trimethylbenzene	**12100**	ug/kg	172	71.6	2	11/14/18 07:00	11/14/18 14:52	95-63-6	
1,3,5-Trimethylbenzene	**2680**	ug/kg	172	71.6	2	11/14/18 07:00	11/14/18 14:52	108-67-8	
Xylene (Total)	**7390**	ug/kg	515	215	2	11/14/18 07:00	11/14/18 14:52	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	112	%	80-120		2	11/14/18 07:00	11/14/18 14:52	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**176**	mg/kg	2.8	0.86	1	11/23/18 07:03	11/27/18 14:37	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**30.1**	%	0.10	0.10	1		11/15/18 08:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: B104 **Lab ID: 40179446006** Collected: 11/09/18 08:35 Received: 11/10/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**63.6**	ug/L	4.1	1.2	4		11/14/18 22:47	71-43-2	
Ethylbenzene	**86.4**	ug/L	4.4	1.3	4		11/14/18 22:47	100-41-4	
Methyl-tert-butyl ether	**3.8J**	ug/L	4.3	1.3	4		11/14/18 22:47	1634-04-4	
Toluene	**21.4**	ug/L	6.5	2.0	4		11/14/18 22:47	108-88-3	
1,2,4-Trimethylbenzene	**71.7**	ug/L	4.6	1.4	4		11/14/18 22:47	95-63-6	
1,3,5-Trimethylbenzene	**24.4**	ug/L	4.4	1.3	4		11/14/18 22:47	108-67-8	
Xylene (Total)	**205**	ug/L	12.9	3.9	4		11/14/18 22:47	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	99	%	80-120		4		11/14/18 22:47	98-08-8	HS,pH

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: B105 (4FT) **Lab ID: 40179446007** Collected: 11/09/18 08:50 Received: 11/10/18 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 10:11	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 10:11	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 10:11	1634-04-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 10:11	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 10:11	95-63-6	W
1,3,5-Trimethylbenzene	**111**	ug/kg	75.2	31.3	1	11/14/18 07:00	11/14/18 10:11	108-67-8	
Xylene (Total)	**<75.0**	ug/kg	180	75.0	1	11/14/18 07:00	11/14/18 10:11	1330-20-7	W
Surrogates									
a,a,a-Trifluorotoluene (S)	104	%	80-120		1	11/14/18 07:00	11/14/18 10:11	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**12.0**	mg/kg	2.3	0.70	1	11/23/18 07:03	11/27/18 14:44	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**20.2**	%	0.10	0.10	1		11/15/18 08:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: B105 **Lab ID: 40179446008** Collected: 11/09/18 08:55 Received: 11/10/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**1.1**	ug/L	1.0	0.31	1		11/14/18 17:24	71-43-2	
Ethylbenzene	**2.3**	ug/L	1.1	0.33	1		11/14/18 17:24	100-41-4	
Methyl-tert-butyl ether	**1.3**	ug/L	1.1	0.32	1		11/14/18 17:24	1634-04-4	
Toluene	**<0.49**	ug/L	1.6	0.49	1		11/14/18 17:24	108-88-3	
1,2,4-Trimethylbenzene	**1.9**	ug/L	1.1	0.34	1		11/14/18 17:24	95-63-6	
1,3,5-Trimethylbenzene	**0.71J**	ug/L	1.1	0.33	1		11/14/18 17:24	108-67-8	
Xylene (Total)	**5.9**	ug/L	3.2	0.97	1		11/14/18 17:24	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	110	%	80-120		1		11/14/18 17:24	98-08-8	HS,pH

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: INVEST. WASTE **Lab ID: 40179446009** Collected: 11/09/18 12:00 Received: 11/10/18 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**102J**	ug/kg	135	56.1	2	11/14/18 07:00	11/14/18 14:27	71-43-2	
Ethylbenzene	**2020**	ug/kg	135	56.1	2	11/14/18 07:00	11/14/18 14:27	100-41-4	
Methyl-tert-butyl ether	**<50.0**	ug/kg	120	50.0	2	11/14/18 07:00	11/14/18 14:27	1634-04-4	W
Toluene	**540**	ug/kg	135	56.1	2	11/14/18 07:00	11/14/18 14:27	108-88-3	
1,2,4-Trimethylbenzene	**4980**	ug/kg	135	56.1	2	11/14/18 07:00	11/14/18 14:27	95-63-6	
1,3,5-Trimethylbenzene	**1750**	ug/kg	135	56.1	2	11/14/18 07:00	11/14/18 14:27	108-67-8	
Xylene (Total)	**6780**	ug/kg	404	168	2	11/14/18 07:00	11/14/18 14:27	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	117	%	80-120		2	11/14/18 07:00	11/14/18 14:27	98-08-8	D3
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**7.5**	mg/kg	2.1	0.63	1	11/23/18 07:03	11/27/18 14:46	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**10.9**	%	0.10	0.10	1		11/15/18 08:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: MW101 (3FT) **Lab ID: 40179446010** Collected: 11/08/18 09:00 Received: 11/10/18 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 10:37	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 10:37	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 10:37	1634-04-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 10:37	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 10:37	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 10:37	108-67-8	W
Xylene (Total)	**<75.0**	ug/kg	180	75.0	1	11/14/18 07:00	11/14/18 10:37	1330-20-7	W
Surrogates									
a,a,a-Trifluorotoluene (S)	104	%	80-120		1	11/14/18 07:00	11/14/18 10:37	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**1.2J**	mg/kg	2.0	0.61	1	11/23/18 07:03	11/27/18 14:49	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.5**	%	0.10	0.10	1		11/15/18 08:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: B101 (4FT) **Lab ID: 40179446011** Collected: 11/08/18 10:30 Received: 11/10/18 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 14:01	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 14:01	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 14:01	1634-04-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 14:01	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 14:01	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 14:01	108-67-8	W
Xylene (Total)	**<75.0**	ug/kg	180	75.0	1	11/14/18 07:00	11/14/18 14:01	1330-20-7	W
Surrogates									
a,a,a-Trifluorotoluene (S)	105	%	80-120		1	11/14/18 07:00	11/14/18 14:01	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**16.6**	mg/kg	1.9	0.58	1	11/23/18 07:03	11/27/18 14:51	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**4.6**	%	0.10	0.10	1		11/15/18 08:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: B101 **Lab ID: 40179446012** Collected: 11/08/18 10:30 Received: 11/10/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**0.69J**	ug/L	1.0	0.31	1		11/15/18 09:11	71-43-2	
Ethylbenzene	**13.0**	ug/L	1.1	0.33	1		11/15/18 09:11	100-41-4	
Methyl-tert-butyl ether	**1.8**	ug/L	1.1	0.32	1		11/15/18 09:11	1634-04-4	
Toluene	**7.1**	ug/L	1.6	0.49	1		11/15/18 09:11	108-88-3	
1,2,4-Trimethylbenzene	**5.4**	ug/L	1.1	0.34	1		11/15/18 09:11	95-63-6	
1,3,5-Trimethylbenzene	**2.1**	ug/L	1.1	0.33	1		11/15/18 09:11	108-67-8	
Xylene (Total)	**30.1**	ug/L	3.2	0.97	1		11/15/18 09:11	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	118	%	80-120		1		11/15/18 09:11	98-08-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: MW102 (4FT) **Lab ID: 40179446013** Collected: 11/08/18 10:45 Received: 11/10/18 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:02	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:02	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:02	1634-04-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:02	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:02	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:02	108-67-8	W
Xylene (Total)	**<75.0**	ug/kg	180	75.0	1	11/14/18 07:00	11/14/18 11:02	1330-20-7	W
Surrogates									
a,a,a-Trifluorotoluene (S)	104	%	80-120		1	11/14/18 07:00	11/14/18 11:02	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**13.6**	mg/kg	2.4	0.71	1	11/23/18 07:03	11/27/18 14:54	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**20.7**	%	0.10	0.10	1		11/15/18 08:38		

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: MW103 (3FT) **Lab ID: 40179446014** Collected: 11/08/18 11:50 Received: 11/10/18 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:28	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:28	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:28	1634-04-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:28	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:28	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:28	108-67-8	W
Xylene (Total)	**<75.0**	ug/kg	180	75.0	1	11/14/18 07:00	11/14/18 11:28	1330-20-7	W
Surrogates									
a,a,a-Trifluorotoluene (S)	105	%	80-120		1	11/14/18 07:00	11/14/18 11:28	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**5.5**	mg/kg	2.2	0.66	1	11/23/18 07:03	11/27/18 14:56	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**11.0**	%	0.10	0.10	1		11/15/18 08:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: MW104 (4FT) **Lab ID: 40179446015** Collected: 11/08/18 13:00 Received: 11/10/18 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**56.8J**	ug/kg	82.4	34.3	1	11/14/18 07:00	11/14/18 11:54	71-43-2	
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:54	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:54	1634-04-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:54	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:54	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 11:54	108-67-8	W
Xylene (Total)	**<75.0**	ug/kg	180	75.0	1	11/14/18 07:00	11/14/18 11:54	1330-20-7	W
Surrogates									
a,a,a-Trifluorotoluene (S)	103	%	80-120		1	11/14/18 07:00	11/14/18 11:54	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**110**	mg/kg	2.7	0.82	1	11/23/18 07:03	11/27/18 14:58	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**27.2**	%	0.10	0.10	1		11/15/18 08:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: MW105 (4FT) **Lab ID: 40179446016** Collected: 11/08/18 14:10 Received: 11/10/18 09:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Benzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 12:19	71-43-2	W
Ethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 12:19	100-41-4	W
Methyl-tert-butyl ether	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 12:19	1634-04-4	W
Toluene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 12:19	108-88-3	W
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 12:19	95-63-6	W
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	60.0	25.0	1	11/14/18 07:00	11/14/18 12:19	108-67-8	W
Xylene (Total)	**<75.0**	ug/kg	180	75.0	1	11/14/18 07:00	11/14/18 12:19	1330-20-7	W
Surrogates									
a,a,a-Trifluorotoluene (S)	106	%	80-120		1	11/14/18 07:00	11/14/18 12:19	98-08-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Lead	**13.8**	mg/kg	2.4	0.72	1	11/23/18 07:03	11/27/18 15:01	7439-92-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**18.2**	%	0.10	0.10	1		11/15/18 08:38		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Sample: TRIP BLANK **Lab ID: 40179446017** Collected: 11/08/18 14:10 Received: 11/10/18 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<0.31**	ug/L	1.0	0.31	1		11/14/18 19:07	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.1	0.33	1		11/14/18 19:07	100-41-4	
Methyl-tert-butyl ether	**<0.32**	ug/L	1.1	0.32	1		11/14/18 19:07	1634-04-4	
Toluene	**<0.49**	ug/L	1.6	0.49	1		11/14/18 19:07	108-88-3	
1,2,4-Trimethylbenzene	**<0.34**	ug/L	1.1	0.34	1		11/14/18 19:07	95-63-6	
1,3,5-Trimethylbenzene	**<0.33**	ug/L	1.1	0.33	1		11/14/18 19:07	108-67-8	
Xylene (Total)	**<0.97**	ug/L	3.2	0.97	1		11/14/18 19:07	1330-20-7	
Surrogates									
a,a,a-Trifluorotoluene (S)	109	%	80-120		1		11/14/18 19:07	98-08-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

QC Batch: 306481 Analysis Method: WI MOD GRO
QC Batch Method: TPH GRO/PVOC WI ext. Analysis Description: WIGRO Solid GCV
Associated Lab Samples: 40179446001, 40179446003, 40179446005, 40179446007, 40179446009, 40179446010, 40179446011, 40179446013, 40179446014, 40179446015, 40179446016

METHOD BLANK: 1792471 Matrix: Solid
Associated Lab Samples: 40179446001, 40179446003, 40179446005, 40179446007, 40179446009, 40179446010, 40179446011, 40179446013, 40179446014, 40179446015, 40179446016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	<25.0	50.0	11/14/18 08:29	
1,3,5-Trimethylbenzene	ug/kg	<25.0	50.0	11/14/18 08:29	
Benzene	ug/kg	<25.0	50.0	11/14/18 08:29	
Ethylbenzene	ug/kg	<25.0	50.0	11/14/18 08:29	
Methyl-tert-butyl ether	ug/kg	<25.0	50.0	11/14/18 08:29	
Toluene	ug/kg	<25.0	50.0	11/14/18 08:29	
Xylene (Total)	ug/kg	<75.0	150	11/14/18 08:29	
a,a,a-Trifluorotoluene (S)	%	104	80-120	11/14/18 08:29	

LABORATORY CONTROL SAMPLE & LCSD: 1792472 1792473

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	1000	1160	1120	116	112	80-120	4	20	
1,3,5-Trimethylbenzene	ug/kg	1000	1120	1090	112	109	80-120	3	20	
Benzene	ug/kg	1000	1080	1070	108	107	80-120	1	20	
Ethylbenzene	ug/kg	1000	1130	1110	113	111	80-120	2	20	
Methyl-tert-butyl ether	ug/kg	1000	1050	987	105	99	80-120	7	20	
Toluene	ug/kg	1000	1120	1120	112	112	80-120	0	20	
Xylene (Total)	ug/kg	3000	3350	3280	112	109	80-120	2	20	
a,a,a-Trifluorotoluene (S)	%				104	104	80-120			

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

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

QC Batch: 306478 Analysis Method: WI MOD GRO
QC Batch Method: WI MOD GRO Analysis Description: WIGRO GCV Water
Associated Lab Samples: 40179446002, 40179446004, 40179446006

METHOD BLANK: 1792465 Matrix: Water
Associated Lab Samples: 40179446002, 40179446004, 40179446006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.34	1.1	11/14/18 10:51	
1,3,5-Trimethylbenzene	ug/L	<0.33	1.1	11/14/18 10:51	
Benzene	ug/L	<0.31	1.0	11/14/18 10:51	
Ethylbenzene	ug/L	<0.33	1.1	11/14/18 10:51	
Methyl-tert-butyl ether	ug/L	<0.32	1.1	11/14/18 10:51	
Toluene	ug/L	<0.49	1.6	11/14/18 10:51	
Xylene (Total)	ug/L	<0.97	3.2	11/14/18 10:51	
a,a,a-Trifluorotoluene (S)	%	100	80-120	11/14/18 10:51	

LABORATORY CONTROL SAMPLE & LCSD: 1792466 1792467

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.4	21.3	102	106	80-120	4	20	
1,3,5-Trimethylbenzene	ug/L	20	20.0	20.8	100	104	80-120	4	20	
Benzene	ug/L	20	20.0	20.7	100	103	80-120	3	20	
Ethylbenzene	ug/L	20	20.5	21.1	102	106	80-120	3	20	
Methyl-tert-butyl ether	ug/L	20	18.8	19.4	94	97	80-120	3	20	
Toluene	ug/L	20	20.2	20.9	101	104	80-120	3	20	
Xylene (Total)	ug/L	60	60.2	62.4	100	104	80-120	3	20	
a,a,a-Trifluorotoluene (S)	%				102	101	80-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1792727 1792728

Parameter	Units	40179447022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trimethylbenzene	ug/L	1720	400	400	2190	2140	116	103	51-160	3	20	
1,3,5-Trimethylbenzene	ug/L	358	400	400	741	722	96	91	56-146	3	20	
Benzene	ug/L	267	400	400	648	634	95	92	71-137	2	20	
Ethylbenzene	ug/L	2080	400	400	2440	2450	92	92	71-141	0	20	
Methyl-tert-butyl ether	ug/L	<6.4	400	400	388	369	97	92	80-120	5	20	
Toluene	ug/L	2980	400	400	3330	3340	89	91	76-134	0	20	
Xylene (Total)	ug/L	6920	1200	1200	8110	8060	98	95	69-138	1	20	
a,a,a-Trifluorotoluene (S)	%						102	102	80-120			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

QC Batch: 306479 Analysis Method: WI MOD GRO
QC Batch Method: WI MOD GRO Analysis Description: WIGRO GCV Water
Associated Lab Samples: 40179446008, 40179446012, 40179446017

METHOD BLANK: 1792468 Matrix: Water
Associated Lab Samples: 40179446008, 40179446012, 40179446017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.34	1.1	11/14/18 08:25	
1,3,5-Trimethylbenzene	ug/L	<0.33	1.1	11/14/18 08:25	
Benzene	ug/L	<0.31	1.0	11/14/18 08:25	
Ethylbenzene	ug/L	<0.33	1.1	11/14/18 08:25	
Methyl-tert-butyl ether	ug/L	<0.32	1.1	11/14/18 08:25	
Toluene	ug/L	<0.49	1.6	11/14/18 08:25	
Xylene (Total)	ug/L	<0.97	3.2	11/14/18 08:25	
a,a,a-Trifluorotoluene (S)	%	108	80-120	11/14/18 08:25	

LABORATORY CONTROL SAMPLE & LCSD: 1792469 1792470

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.7	21.2	104	106	80-120	2	20	
1,3,5-Trimethylbenzene	ug/L	20	20.6	21.2	103	106	80-120	3	20	
Benzene	ug/L	20	20.8	20.9	104	104	80-120	0	20	
Ethylbenzene	ug/L	20	21.6	21.7	108	109	80-120	1	20	
Methyl-tert-butyl ether	ug/L	20	19.3	19.8	96	99	80-120	3	20	
Toluene	ug/L	20	21.2	21.6	106	108	80-120	2	20	
Xylene (Total)	ug/L	60	63.0	63.3	105	106	80-120	1	20	
a,a,a-Trifluorotoluene (S)	%				106	108	80-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1792749 1792750

Parameter	Units	40179560004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trimethylbenzene	ug/L	<0.34	20	20	21.3	19.8	107	99	51-160	7	20	
1,3,5-Trimethylbenzene	ug/L	<0.33	20	20	21.0	18.9	105	95	56-146	11	20	
Benzene	ug/L	<0.31	20	20	22.4	22.7	112	113	71-137	1	20	
Ethylbenzene	ug/L	<0.33	20	20	23.1	23.2	116	116	71-141	1	20	
Methyl-tert-butyl ether	ug/L	<0.32	20	20	20.3	20.6	101	103	80-120	2	20	
Toluene	ug/L	<0.49	20	20	22.8	22.9	114	115	76-134	1	20	
Xylene (Total)	ug/L	<0.97	60	60	66.3	65.1	110	109	69-138	2	20	
a,a,a-Trifluorotoluene (S)	%						106	106	80-120			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

QC Batch: 307324 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 40179446001, 40179446003, 40179446005, 40179446007, 40179446009, 40179446010, 40179446011, 40179446013, 40179446014, 40179446015, 40179446016

METHOD BLANK: 1796815 Matrix: Solid
Associated Lab Samples: 40179446001, 40179446003, 40179446005, 40179446007, 40179446009, 40179446010, 40179446011, 40179446013, 40179446014, 40179446015, 40179446016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	mg/kg	<0.60	2.0	11/27/18 14:01	

LABORATORY CONTROL SAMPLE: 1796816

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	mg/kg	50	50.6	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1796817 1796818

Parameter	Units	40179269003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	mg/kg	11.1	97.9	97.9	103	100	94	91	75-125	3	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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

QC Batch: 306690 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 40179446001, 40179446003, 40179446005, 40179446007, 40179446009, 40179446010, 40179446011, 40179446013, 40179446014, 40179446015, 40179446016

SAMPLE DUPLICATE: 1793512

Parameter	Units	40179446013 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.7	20.2	3	10	

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

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
W	Non-detect results are reported on a wet weight basis.
pH	Post-analysis pH measurement indicates insufficient VOA sample preservation.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: T218-038 ANDERSON PROPERTY HUB
Pace Project No.: 40179446

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40179446001	**B102 (4FT)**	TPH GRO/PVOC WI ext.	306481	WI MOD GRO	306512
40179446003	**B103 (4FT)**	TPH GRO/PVOC WI ext.	306481	WI MOD GRO	306512
40179446005	**B104 (4FT)**	TPH GRO/PVOC WI ext.	306481	WI MOD GRO	306512
40179446007	**B105 (4FT)**	TPH GRO/PVOC WI ext.	306481	WI MOD GRO	306512
40179446009	**INVEST. WASTE**	TPH GRO/PVOC WI ext.	306481	WI MOD GRO	306512
40179446010	**MW101 (3FT)**	TPH GRO/PVOC WI ext.	306481	WI MOD GRO	306512
40179446011	**B101 (4FT)**	TPH GRO/PVOC WI ext.	306481	WI MOD GRO	306512
40179446013	**MW102 (4FT)**	TPH GRO/PVOC WI ext.	306481	WI MOD GRO	306512
40179446014	**MW103 (3FT)**	TPH GRO/PVOC WI ext.	306481	WI MOD GRO	306512
40179446015	**MW104 (4FT)**	TPH GRO/PVOC WI ext.	306481	WI MOD GRO	306512
40179446016	**MW105 (4FT)**	TPH GRO/PVOC WI ext.	306481	WI MOD GRO	306512
40179446002	**B102**	WI MOD GRO	306478		
40179446004	**B103**	WI MOD GRO	306478		
40179446006	**B104**	WI MOD GRO	306478		
40179446008	**B105**	WI MOD GRO	306479		
40179446012	**B101**	WI MOD GRO	306479		
40179446017	**TRIP BLANK**	WI MOD GRO	306479		
40179446001	**B102 (4FT)**	EPA 3050	307324	EPA 6010	307659
40179446003	**B103 (4FT)**	EPA 3050	307324	EPA 6010	307659
40179446005	**B104 (4FT)**	EPA 3050	307324	EPA 6010	307659
40179446007	**B105 (4FT)**	EPA 3050	307324	EPA 6010	307659
40179446009	**INVEST. WASTE**	EPA 3050	307324	EPA 6010	307659
40179446010	**MW101 (3FT)**	EPA 3050	307324	EPA 6010	307659
40179446011	**B101 (4FT)**	EPA 3050	307324	EPA 6010	307659
40179446013	**MW102 (4FT)**	EPA 3050	307324	EPA 6010	307659
40179446014	**MW103 (3FT)**	EPA 3050	307324	EPA 6010	307659
40179446015	**MW104 (4FT)**	EPA 3050	307324	EPA 6010	307659
40179446016	**MW105 (4FT)**	EPA 3050	307324	EPA 6010	307659
40179446001	**B102 (4FT)**	ASTM D2974-87	306690		
40179446003	**B103 (4FT)**	ASTM D2974-87	306690		
40179446005	**B104 (4FT)**	ASTM D2974-87	306690		
40179446007	**B105 (4FT)**	ASTM D2974-87	306690		
40179446009	**INVEST. WASTE**	ASTM D2974-87	306690		
40179446010	**MW101 (3FT)**	ASTM D2974-87	306690		
40179446011	**B101 (4FT)**	ASTM D2974-87	306690		
40179446013	**MW102 (4FT)**	ASTM D2974-87	306690		
40179446014	**MW103 (3FT)**	ASTM D2974-87	306690		
40179446015	**MW104 (4FT)**	ASTM D2974-87	306690		
40179446016	**MW105 (4FT)**	ASTM D2974-87	306690		

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UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Page 1 of 2

40179446

CHAIN OF CUSTODY

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

(Please Print Clearly)	
Company Name:	True North Consultants
Branch/Location:	Madison WI
Project Contact:	Tom Culp
Phone:	608-212-1676
Project Number:	T218-038
Project Name:	Anderson Property Hub City
Project State:	WI
Sampled By (Print):	Benjy Stewart
Sampled By (Sign):	
PO #:	T218-038
Regulatory Program:	

Quote #:	
Mail To Contact:	Tom Culp
Mail To Company:	True North Consultants
Mail To Address:	525 Junction Road Madison WI 53717
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

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

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	Y/N	FILTERED? (YES/NO)	PRESERVATION (CODE)*	Analyses Requested: (Groundwater) PVOC	PVOC	(200	Drinking Water VOC	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N	N	N	N			N			
					Pick Letter	B	F	A			B			
001	B102 (4A)	11/9/18	745	S					X	X				
002	B102		750	GW			X							
003	B103 (4A)		810	S					X	X				
004	B103		815	GW			X							
005	B104 (4A)		830	S					X	X				
006	B104		835	GW			X							
007	B105 (4A)		850	S					X	X				
008	B105		855	GW			X							
	~~Blank Well~~	~~11/9/18~~	~~1250~~	~~GW~~							X			
009	Invest. waste	11/9/18	1200	S					X	X				

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

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

Email #1:	
Email #2:	
Telephone:	
Fax:	

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

Relinquished By:	Date/Time:	Received By:	Date/Time:
	11-9-18 @ 1343		11-09-18 1343
	11-09-18 1600		
	11/10/18 0900		11/10/18 0900

PACE Project No. 40179446

Receipt Temp = R01 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present

Intact / Not Intact

C019a(27Jun2006)

Version 6.0 06/14/06

ORIGINAL

(Please Print Clearly)	
Company Name:	True North Consultants
Branch/Location:	Madison WI
Project Contact:	Tom Culp
Phone:	608-212-1676
Project Number:	T218-038
Project Name:	Anderson Property Hub City
Project State:	WI
Sampled By (Print):	Ben Stencil
Sampled By (Sign):	
PO #:	T218-038
Regulatory Program:	

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UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Page 1 of

CHAIN OF CUSTODY

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

Quote #:	
Mail To Contact:	Tom Culp
Mail To Company:	True North Consultants
Mail To Address:	525 Junction Road Madison WI 53717
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

40179446

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

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

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: (GW) PVOC	Analyses Requested: PVOC	Analyses Requested: Lead	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					N	B						
					N	F						
					N	A						
010	MW101 (3 ft)	11/8/18	9:00	S				X	X			
011	B101 (4 ft)		1030	S				X	X			
012	B101		1030	GW		X						
013	MW102 (4 ft)		1045	S				X	X			
014	MW103 (3 ft)		1150	S				X	X			
015	MW104 (4 ft)		1300	S				X	X			
016	MW105 (4 ft)	↓	1410	S				X	X			
017	① TB											

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

Transmit Prelim Rush Results by (complete what you want):
Email #1:
Email #2:
Telephone:
Fax:

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

Relinquished By:	Date/Time:	Received By:	Date/Time:
	11-9-18 @ 1345		11-09-18 1343
	11-09-18 1600		
CS Logistics	11/10/18 0900		11/10/18 0900

PACE Project No. 40179446

Receipt Temp = 0.1 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present

Intact / Not Intact

C019a(27Jun2006) ① TB added to COC by Lab 11/10/18

Version 6.0 06/14/06

ORIGINAL

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

Sample Preservation Receipt Form

Client Name: True North Project # 40179446

All containers needing preservation have been checked and noted below: □Yes □No ☑N/A Initial when completed: Date/ Time:

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass							Plastic							Vials						Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN							
001																			1				1										2.5 / 5 / 10
002																		3									3						2.5 / 5 / 10
003																			1				1										2.5 / 5 / 10
004																		3									3						2.5 / 5 / 10
005																			1				1										2.5 / 5 / 10
006																		3									3						2.5 / 5 / 10
007																			1				1										2.5 / 5 / 10
008																		3									3						2.5 / 5 / 10
009																			1				1										2.5 / 5 / 10
010																			1				1										2.5 / 5 / 10
011																			1				1										2.5 / 5 / 10
012																		3															2.5 / 5 / 10
013																			1				1										2.5 / 5 / 10
014																			1				1										2.5 / 5 / 10
015																			1				1										2.5 / 5 / 10
016																			1				1										2.5 / 5 / 10
017																		2		2													2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : □Yes □No □N/A ***If yes look in headspace column**

AG1U	1 liter amber glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP2N	500 mL plastic HNO3
BP2Z	500 mL plastic NaOH, Znact
BP3U	250 mL plastic unpres
BP3C	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

DG9A	40 mL amber ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres

SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN:	

Pace Analytical 1241 Bellevue Street, Green Bay, WI 54302	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: 25Apr2018
	Document No.: **F-GB-C-031-Rev.07**	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #: **WO#: 40179446**

PM: DFM Due Date: 11/28/18
CLIENT: TRUENORTH

Client Name: True North

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other: _____

Tracking #: _____

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

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

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

Thermometer Used SR - NA **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: /Corr: RO

Temp Blank Present: ☐ yes ☑ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 11/10/18
Initials: CMS

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☑No ☐N/A	2. Invoice TO, page # on second page 11/10/18
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume:		8. HCl vials heavy sediment
For Analysis: ☑Yes ☐No MS/MSD:	☐Yes ☑No ☐N/A	JM 11/10/18
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☐Yes ☑No ☐N/A	12. 016 no depth
-Includes date/time/ID/Analysis Matrix: WS		CMS 11/10/18
Trip Blank Present:	☑Yes ☐No ☐N/A	13.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 410		

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: 002, 004, 006, 008 all vials have heavy sediment

Cautions

Project Manager Review: AL for DM **Date:** 11/10/18

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

December 11, 2018

Thomas Culp
True North Consultants, Inc.
525 Junction Road
Suite 1900
Madison, WI 53717

RE: Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Dear Thomas Culp:
Enclosed are the analytical results for sample(s) received by the laboratory on December 07, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Ben Stencil, True North Consultants, Inc.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40180666001	**MW-01**	Water	12/05/18 11:20	12/07/18 10:20
40180666002	**MW-02**	Water	12/05/18 11:30	12/07/18 10:20
40180666003	**MW-03**	Water	12/05/18 11:40	12/07/18 10:20
40180666004	**MW-04**	Water	12/05/18 11:50	12/07/18 10:20
40180666005	**MW-05**	Water	12/05/18 12:00	12/07/18 10:20

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40180666001	**MW-01**	EPA 8260	HNW	63
40180666002	**MW-02**	EPA 8260	HNW	63
40180666003	**MW-03**	EPA 8260	HNW	63
40180666004	**MW-04**	EPA 8260	HNW	63
40180666005	**MW-05**	EPA 8260	HNW	63

Pace Analytical Services, LLC
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Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40180666001	**MW-01**					
EPA 8260	1,2,4-Trimethylbenzene	246	ug/L	14.0	12/11/18 08:17	
EPA 8260	1,3,5-Trimethylbenzene	66.9	ug/L	14.6	12/11/18 08:17	
EPA 8260	Benzene	338	ug/L	5.0	12/11/18 08:17	
EPA 8260	Ethylbenzene	349	ug/L	5.0	12/11/18 08:17	
EPA 8260	Isopropylbenzene (Cumene)	12.8J	ug/L	25.0	12/11/18 08:17	
EPA 8260	Naphthalene	83.0	ug/L	25.0	12/11/18 08:17	
EPA 8260	Toluene	214	ug/L	25.0	12/11/18 08:17	
EPA 8260	Xylene (Total)	920	ug/L	15.0	12/11/18 08:17	
EPA 8260	n-Butylbenzene	13.3	ug/L	11.8	12/11/18 08:17	
EPA 8260	n-Propylbenzene	48.4	ug/L	25.0	12/11/18 08:17	
40180666002	**MW-02**					
EPA 8260	1,2,4-Trimethylbenzene	2.3J	ug/L	2.8	12/10/18 13:02	
EPA 8260	1,3,5-Trimethylbenzene	0.90J	ug/L	2.9	12/10/18 13:02	
EPA 8260	Benzene	1.4	ug/L	1.0	12/10/18 13:02	
EPA 8260	Ethylbenzene	7.8	ug/L	1.0	12/10/18 13:02	
EPA 8260	Isopropylbenzene (Cumene)	9.6	ug/L	5.0	12/10/18 13:02	
EPA 8260	Naphthalene	15.9	ug/L	5.0	12/11/18 01:55	
EPA 8260	Toluene	4.2J	ug/L	5.0	12/10/18 13:02	
EPA 8260	Xylene (Total)	18.4	ug/L	3.0	12/10/18 13:02	
EPA 8260	n-Butylbenzene	3.1	ug/L	2.4	12/10/18 13:02	
EPA 8260	n-Propylbenzene	7.9	ug/L	5.0	12/10/18 13:02	
EPA 8260	sec-Butylbenzene	3.0J	ug/L	5.0	12/10/18 13:02	
EPA 8260	tert-Butylbenzene	0.57J	ug/L	1.0	12/10/18 13:02	
40180666003	**MW-03**					
EPA 8260	Ethylbenzene	0.53J	ug/L	1.0	12/10/18 13:24	
EPA 8260	Toluene	0.25J	ug/L	5.0	12/10/18 13:24	
EPA 8260	Xylene (Total)	1.6J	ug/L	3.0	12/10/18 13:24	
40180666005	**MW-05**					
EPA 8260	1,2,4-Trimethylbenzene	49.9	ug/L	2.8	12/10/18 14:09	
EPA 8260	1,3,5-Trimethylbenzene	6.6	ug/L	2.9	12/10/18 14:09	
EPA 8260	Benzene	0.57J	ug/L	1.0	12/10/18 14:09	
EPA 8260	Ethylbenzene	20.8	ug/L	1.0	12/10/18 14:09	
EPA 8260	Isopropylbenzene (Cumene)	2.6J	ug/L	5.0	12/10/18 14:09	
EPA 8260	Naphthalene	13.8	ug/L	5.0	12/10/18 14:09	
EPA 8260	Toluene	1.0J	ug/L	5.0	12/10/18 14:09	
EPA 8260	Xylene (Total)	28.9	ug/L	3.0	12/10/18 14:09	
EPA 8260	n-Butylbenzene	4.6	ug/L	2.4	12/10/18 14:09	
EPA 8260	n-Propylbenzene	8.1	ug/L	5.0	12/10/18 14:09	
EPA 8260	p-Isopropyltoluene	1.1J	ug/L	2.7	12/10/18 14:09	
EPA 8260	sec-Butylbenzene	3.2J	ug/L	5.0	12/10/18 14:09	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Sample: MW-01 **Lab ID: 40180666001** Collected: 12/05/18 11:20 Received: 12/07/18 10:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<1.3**	ug/L	5.0	1.3	5		12/11/18 08:17	630-20-6	
1,1,1-Trichloroethane	**<1.2**	ug/L	5.0	1.2	5		12/11/18 08:17	71-55-6	
1,1,2,2-Tetrachloroethane	**<1.4**	ug/L	5.0	1.4	5		12/11/18 08:17	79-34-5	
1,1,2-Trichloroethane	**<2.8**	ug/L	25.0	2.8	5		12/11/18 08:17	79-00-5	
1,1-Dichloroethane	**<1.4**	ug/L	5.0	1.4	5		12/11/18 08:17	75-34-3	
1,1-Dichloroethene	**<1.2**	ug/L	5.0	1.2	5		12/11/18 08:17	75-35-4	
1,1-Dichloropropene	**<2.7**	ug/L	9.0	2.7	5		12/11/18 08:17	563-58-6	
1,2,3-Trichlorobenzene	**<3.1**	ug/L	25.0	3.1	5		12/11/18 08:17	87-61-6	
1,2,3-Trichloropropane	**<3.0**	ug/L	25.0	3.0	5		12/11/18 08:17	96-18-4	
1,2,4-Trichlorobenzene	**<4.8**	ug/L	25.0	4.8	5		12/11/18 08:17	120-82-1	
1,2,4-Trimethylbenzene	**246**	ug/L	14.0	4.2	5		12/11/18 08:17	95-63-6	
1,2-Dibromo-3-chloropropane	**<8.8**	ug/L	29.4	8.8	5		12/11/18 08:17	96-12-8	
1,2-Dibromoethane (EDB)	**<4.1**	ug/L	13.8	4.1	5		12/11/18 08:17	106-93-4	
1,2-Dichlorobenzene	**<3.5**	ug/L	11.8	3.5	5		12/11/18 08:17	95-50-1	
1,2-Dichloroethane	**<1.4**	ug/L	5.0	1.4	5		12/11/18 08:17	107-06-2	
1,2-Dichloropropane	**<1.4**	ug/L	5.0	1.4	5		12/11/18 08:17	78-87-5	
1,3,5-Trimethylbenzene	**66.9**	ug/L	14.6	4.4	5		12/11/18 08:17	108-67-8	
1,3-Dichlorobenzene	**<3.1**	ug/L	10.5	3.1	5		12/11/18 08:17	541-73-1	
1,3-Dichloropropane	**<4.1**	ug/L	13.8	4.1	5		12/11/18 08:17	142-28-9	
1,4-Dichlorobenzene	**<4.7**	ug/L	15.7	4.7	5		12/11/18 08:17	106-46-7	
2,2-Dichloropropane	**<11.3**	ug/L	37.8	11.3	5		12/11/18 08:17	594-20-7	
2-Chlorotoluene	**<4.6**	ug/L	25.0	4.6	5		12/11/18 08:17	95-49-8	
4-Chlorotoluene	**<3.8**	ug/L	12.6	3.8	5		12/11/18 08:17	106-43-4	
Benzene	**338**	ug/L	5.0	1.2	5		12/11/18 08:17	71-43-2	
Bromobenzene	**<1.2**	ug/L	5.0	1.2	5		12/11/18 08:17	108-86-1	
Bromochloromethane	**<1.8**	ug/L	25.0	1.8	5		12/11/18 08:17	74-97-5	
Bromodichloromethane	**<1.8**	ug/L	6.1	1.8	5		12/11/18 08:17	75-27-4	
Bromoform	**<19.9**	ug/L	66.2	19.9	5		12/11/18 08:17	75-25-2	
Bromomethane	**<4.9**	ug/L	25.0	4.9	5		12/11/18 08:17	74-83-9	
Carbon tetrachloride	**<0.83**	ug/L	5.0	0.83	5		12/11/18 08:17	56-23-5	
Chlorobenzene	**<3.6**	ug/L	11.8	3.6	5		12/11/18 08:17	108-90-7	
Chloroethane	**<6.7**	ug/L	25.0	6.7	5		12/11/18 08:17	75-00-3	
Chloroform	**<6.4**	ug/L	25.0	6.4	5		12/11/18 08:17	67-66-3	
Chloromethane	**<10.9**	ug/L	36.5	10.9	5		12/11/18 08:17	74-87-3	
Dibromochloromethane	**<13.0**	ug/L	43.4	13.0	5		12/11/18 08:17	124-48-1	
Dibromomethane	**<4.7**	ug/L	15.6	4.7	5		12/11/18 08:17	74-95-3	
Dichlorodifluoromethane	**<2.5**	ug/L	25.0	2.5	5		12/11/18 08:17	75-71-8	
Diisopropyl ether	**<9.4**	ug/L	31.5	9.4	5		12/11/18 08:17	108-20-3	
Ethylbenzene	**349**	ug/L	5.0	1.1	5		12/11/18 08:17	100-41-4	
Hexachloro-1,3-butadiene	**<5.9**	ug/L	25.0	5.9	5		12/11/18 08:17	87-68-3	
Isopropylbenzene (Cumene)	**12.8J**	ug/L	25.0	2.0	5		12/11/18 08:17	98-82-8	
Methyl-tert-butyl ether	**<6.2**	ug/L	20.8	6.2	5		12/11/18 08:17	1634-04-4	
Methylene Chloride	**<2.9**	ug/L	25.0	2.9	5		12/11/18 08:17	75-09-2	
Naphthalene	**83.0**	ug/L	25.0	5.9	5		12/11/18 08:17	91-20-3	
Styrene	**<2.3**	ug/L	7.8	2.3	5		12/11/18 08:17	100-42-5	
Tetrachloroethene	**<1.6**	ug/L	5.4	1.6	5		12/11/18 08:17	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Sample: MW-01 **Lab ID: 40180666001** Collected: 12/05/18 11:20 Received: 12/07/18 10:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**214**	ug/L	25.0	0.86	5		12/11/18 08:17	108-88-3	
Trichloroethene	**<1.3**	ug/L	5.0	1.3	5		12/11/18 08:17	79-01-6	
Trichlorofluoromethane	**<1.1**	ug/L	5.0	1.1	5		12/11/18 08:17	75-69-4	
Vinyl chloride	**<0.87**	ug/L	5.0	0.87	5		12/11/18 08:17	75-01-4	
Xylene (Total)	**920**	ug/L	15.0	7.5	5		12/11/18 08:17	1330-20-7	
cis-1,2-Dichloroethene	**<1.4**	ug/L	5.0	1.4	5		12/11/18 08:17	156-59-2	
cis-1,3-Dichloropropene	**<18.1**	ug/L	60.5	18.1	5		12/11/18 08:17	10061-01-5	
n-Butylbenzene	**13.3**	ug/L	11.8	3.5	5		12/11/18 08:17	104-51-8	
n-Propylbenzene	**48.4**	ug/L	25.0	4.1	5		12/11/18 08:17	103-65-1	
p-Isopropyltoluene	**<4.0**	ug/L	13.3	4.0	5		12/11/18 08:17	99-87-6	
sec-Butylbenzene	**<4.2**	ug/L	25.0	4.2	5		12/11/18 08:17	135-98-8	
tert-Butylbenzene	**<1.5**	ug/L	5.1	1.5	5		12/11/18 08:17	98-06-6	
trans-1,2-Dichloroethene	**<5.5**	ug/L	18.2	5.5	5		12/11/18 08:17	156-60-5	
trans-1,3-Dichloropropene	**<21.9**	ug/L	72.8	21.9	5		12/11/18 08:17	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	113	%	70-130		5		12/11/18 08:17	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		5		12/11/18 08:17	1868-53-7	
Toluene-d8 (S)	109	%	70-130		5		12/11/18 08:17	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Sample: MW-02 **Lab ID: 40180666002** Collected: 12/05/18 11:30 Received: 12/07/18 10:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		12/10/18 13:02	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		12/10/18 13:02	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/10/18 13:02	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/10/18 13:02	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		12/10/18 13:02	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		12/10/18 13:02	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		12/10/18 13:02	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		12/10/18 13:02	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		12/10/18 13:02	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		12/10/18 13:02	120-82-1	
1,2,4-Trimethylbenzene	**2.3J**	ug/L	2.8	0.84	1		12/10/18 13:02	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		12/10/18 13:02	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		12/10/18 13:02	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/10/18 13:02	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/10/18 13:02	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/10/18 13:02	78-87-5	
1,3,5-Trimethylbenzene	**0.90J**	ug/L	2.9	0.87	1		12/10/18 13:02	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		12/10/18 13:02	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		12/10/18 13:02	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		12/10/18 13:02	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		12/10/18 13:02	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		12/10/18 13:02	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		12/10/18 13:02	106-43-4	
Benzene	**1.4**	ug/L	1.0	0.25	1		12/10/18 13:02	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		12/10/18 13:02	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		12/10/18 13:02	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/10/18 13:02	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/10/18 13:02	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/10/18 13:02	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/10/18 13:02	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/10/18 13:02	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/10/18 13:02	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/10/18 13:02	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		12/10/18 13:02	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/10/18 13:02	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		12/10/18 13:02	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		12/10/18 13:02	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		12/10/18 13:02	108-20-3	
Ethylbenzene	**7.8**	ug/L	1.0	0.22	1		12/10/18 13:02	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		12/10/18 13:02	87-68-3	
Isopropylbenzene (Cumene)	**9.6**	ug/L	5.0	0.39	1		12/10/18 13:02	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		12/10/18 13:02	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/10/18 13:02	75-09-2	
Naphthalene	**15.9**	ug/L	5.0	1.2	1		12/11/18 01:55	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/10/18 13:02	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/10/18 13:02	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Sample: MW-02 **Lab ID: 40180666002** Collected: 12/05/18 11:30 Received: 12/07/18 10:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**4.2J**	ug/L	5.0	0.17	1		12/10/18 13:02	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/10/18 13:02	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		12/10/18 13:02	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/10/18 13:02	75-01-4	
Xylene (Total)	**18.4**	ug/L	3.0	1.5	1		12/10/18 13:02	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		12/10/18 13:02	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/10/18 13:02	10061-01-5	
n-Butylbenzene	**3.1**	ug/L	2.4	0.71	1		12/10/18 13:02	104-51-8	
n-Propylbenzene	**7.9**	ug/L	5.0	0.81	1		12/10/18 13:02	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		12/10/18 13:02	99-87-6	
sec-Butylbenzene	**3.0J**	ug/L	5.0	0.85	1		12/10/18 13:02	135-98-8	
tert-Butylbenzene	**0.57J**	ug/L	1.0	0.30	1		12/10/18 13:02	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/10/18 13:02	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/10/18 13:02	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	112	%	70-130		1		12/11/18 01:55	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		1		12/11/18 01:55	1868-53-7	
Toluene-d8 (S)	109	%	70-130		1		12/11/18 01:55	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Sample: MW-03 **Lab ID: 40180666003** Collected: 12/05/18 11:40 Received: 12/07/18 10:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		12/10/18 13:24	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		12/10/18 13:24	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/10/18 13:24	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/10/18 13:24	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		12/10/18 13:24	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		12/10/18 13:24	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		12/10/18 13:24	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		12/10/18 13:24	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		12/10/18 13:24	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		12/10/18 13:24	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		12/10/18 13:24	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		12/10/18 13:24	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		12/10/18 13:24	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/10/18 13:24	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/10/18 13:24	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/10/18 13:24	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		12/10/18 13:24	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		12/10/18 13:24	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		12/10/18 13:24	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		12/10/18 13:24	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		12/10/18 13:24	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		12/10/18 13:24	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		12/10/18 13:24	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		12/10/18 13:24	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		12/10/18 13:24	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		12/10/18 13:24	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/10/18 13:24	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/10/18 13:24	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/10/18 13:24	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/10/18 13:24	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/10/18 13:24	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/10/18 13:24	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/10/18 13:24	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		12/10/18 13:24	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/10/18 13:24	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		12/10/18 13:24	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		12/10/18 13:24	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		12/10/18 13:24	108-20-3	
Ethylbenzene	**0.53J**	ug/L	1.0	0.22	1		12/10/18 13:24	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		12/10/18 13:24	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		12/10/18 13:24	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		12/10/18 13:24	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/10/18 13:24	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		12/10/18 13:24	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/10/18 13:24	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/10/18 13:24	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Sample: MW-03 **Lab ID: 40180666003** Collected: 12/05/18 11:40 Received: 12/07/18 10:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**0.25J**	ug/L	5.0	0.17	1		12/10/18 13:24	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/10/18 13:24	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		12/10/18 13:24	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/10/18 13:24	75-01-4	
Xylene (Total)	**1.6J**	ug/L	3.0	1.5	1		12/10/18 13:24	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		12/10/18 13:24	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/10/18 13:24	10061-01-5	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		12/10/18 13:24	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		12/10/18 13:24	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		12/10/18 13:24	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		12/10/18 13:24	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		12/10/18 13:24	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/10/18 13:24	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/10/18 13:24	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	108	%	70-130		1		12/10/18 13:24	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		1		12/10/18 13:24	1868-53-7	
Toluene-d8 (S)	107	%	70-130		1		12/10/18 13:24	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Sample: MW-04 **Lab ID: 40180666004** Collected: 12/05/18 11:50 Received: 12/07/18 10:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		12/10/18 13:46	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		12/10/18 13:46	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/10/18 13:46	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/10/18 13:46	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		12/10/18 13:46	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		12/10/18 13:46	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		12/10/18 13:46	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		12/10/18 13:46	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		12/10/18 13:46	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		12/10/18 13:46	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		12/10/18 13:46	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		12/10/18 13:46	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		12/10/18 13:46	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/10/18 13:46	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/10/18 13:46	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/10/18 13:46	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		12/10/18 13:46	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		12/10/18 13:46	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		12/10/18 13:46	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		12/10/18 13:46	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		12/10/18 13:46	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		12/10/18 13:46	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		12/10/18 13:46	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		12/10/18 13:46	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		12/10/18 13:46	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		12/10/18 13:46	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/10/18 13:46	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/10/18 13:46	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/10/18 13:46	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/10/18 13:46	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/10/18 13:46	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/10/18 13:46	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/10/18 13:46	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		12/10/18 13:46	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/10/18 13:46	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		12/10/18 13:46	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		12/10/18 13:46	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		12/10/18 13:46	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		12/10/18 13:46	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		12/10/18 13:46	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		12/10/18 13:46	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		12/10/18 13:46	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/10/18 13:46	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		12/10/18 13:46	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/10/18 13:46	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/10/18 13:46	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Sample: MW-04 **Lab ID: 40180666004** Collected: 12/05/18 11:50 Received: 12/07/18 10:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**<0.17**	ug/L	5.0	0.17	1		12/10/18 13:46	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/10/18 13:46	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		12/10/18 13:46	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/10/18 13:46	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		12/10/18 13:46	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		12/10/18 13:46	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/10/18 13:46	10061-01-5	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		12/10/18 13:46	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		12/10/18 13:46	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		12/10/18 13:46	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		12/10/18 13:46	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		12/10/18 13:46	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/10/18 13:46	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/10/18 13:46	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		12/10/18 13:46	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		1		12/10/18 13:46	1868-53-7	
Toluene-d8 (S)	108	%	70-130		1		12/10/18 13:46	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Sample: MW-05 **Lab ID: 40180666005** Collected: 12/05/18 12:00 Received: 12/07/18 10:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		12/10/18 14:09	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		12/10/18 14:09	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		12/10/18 14:09	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		12/10/18 14:09	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		12/10/18 14:09	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		12/10/18 14:09	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		12/10/18 14:09	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		12/10/18 14:09	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		12/10/18 14:09	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		12/10/18 14:09	120-82-1	
1,2,4-Trimethylbenzene	**49.9**	ug/L	2.8	0.84	1		12/10/18 14:09	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		12/10/18 14:09	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		12/10/18 14:09	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/10/18 14:09	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		12/10/18 14:09	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		12/10/18 14:09	78-87-5	
1,3,5-Trimethylbenzene	**6.6**	ug/L	2.9	0.87	1		12/10/18 14:09	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		12/10/18 14:09	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		12/10/18 14:09	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		12/10/18 14:09	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		12/10/18 14:09	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		12/10/18 14:09	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		12/10/18 14:09	106-43-4	
Benzene	**0.57J**	ug/L	1.0	0.25	1		12/10/18 14:09	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		12/10/18 14:09	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		12/10/18 14:09	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		12/10/18 14:09	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		12/10/18 14:09	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		12/10/18 14:09	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		12/10/18 14:09	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		12/10/18 14:09	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		12/10/18 14:09	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		12/10/18 14:09	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		12/10/18 14:09	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		12/10/18 14:09	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		12/10/18 14:09	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		12/10/18 14:09	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		12/10/18 14:09	108-20-3	
Ethylbenzene	**20.8**	ug/L	1.0	0.22	1		12/10/18 14:09	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		12/10/18 14:09	87-68-3	
Isopropylbenzene (Cumene)	**2.6J**	ug/L	5.0	0.39	1		12/10/18 14:09	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		12/10/18 14:09	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		12/10/18 14:09	75-09-2	
Naphthalene	**13.8**	ug/L	5.0	1.2	1		12/10/18 14:09	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		12/10/18 14:09	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		12/10/18 14:09	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Sample: MW-05 **Lab ID: 40180666005** Collected: 12/05/18 12:00 Received: 12/07/18 10:20 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**1.0J**	ug/L	5.0	0.17	1		12/10/18 14:09	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		12/10/18 14:09	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		12/10/18 14:09	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		12/10/18 14:09	75-01-4	
Xylene (Total)	**28.9**	ug/L	3.0	1.5	1		12/10/18 14:09	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		12/10/18 14:09	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		12/10/18 14:09	10061-01-5	
n-Butylbenzene	**4.6**	ug/L	2.4	0.71	1		12/10/18 14:09	104-51-8	
n-Propylbenzene	**8.1**	ug/L	5.0	0.81	1		12/10/18 14:09	103-65-1	
p-Isopropyltoluene	**1.1J**	ug/L	2.7	0.80	1		12/10/18 14:09	99-87-6	
sec-Butylbenzene	**3.2J**	ug/L	5.0	0.85	1		12/10/18 14:09	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		12/10/18 14:09	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		12/10/18 14:09	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		12/10/18 14:09	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	109	%	70-130		1		12/10/18 14:09	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		1		12/10/18 14:09	1868-53-7	
Toluene-d8 (S)	109	%	70-130		1		12/10/18 14:09	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

QC Batch: 308726 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40180666001, 40180666002, 40180666003, 40180666004, 40180666005

METHOD BLANK: 1803903 Matrix: Water
Associated Lab Samples: 40180666001, 40180666002, 40180666003, 40180666004, 40180666005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	12/10/18 07:04	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	12/10/18 07:04	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	12/10/18 07:04	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	12/10/18 07:04	
1,1-Dichloroethane	ug/L	<0.27	1.0	12/10/18 07:04	
1,1-Dichloroethene	ug/L	<0.24	1.0	12/10/18 07:04	
1,1-Dichloropropene	ug/L	<0.54	1.8	12/10/18 07:04	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	12/10/18 07:04	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	12/10/18 07:04	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	12/10/18 07:04	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	12/10/18 07:04	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	12/10/18 07:04	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	12/10/18 07:04	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	12/10/18 07:04	
1,2-Dichloroethane	ug/L	<0.28	1.0	12/10/18 07:04	
1,2-Dichloropropane	ug/L	<0.28	1.0	12/10/18 07:04	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	12/10/18 07:04	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	12/10/18 07:04	
1,3-Dichloropropane	ug/L	<0.83	2.8	12/10/18 07:04	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	12/10/18 07:04	
2,2-Dichloropropane	ug/L	<2.3	7.6	12/10/18 07:04	
2-Chlorotoluene	ug/L	<0.93	5.0	12/10/18 07:04	
4-Chlorotoluene	ug/L	<0.76	2.5	12/10/18 07:04	
Benzene	ug/L	<0.25	1.0	12/10/18 07:04	
Bromobenzene	ug/L	<0.24	1.0	12/10/18 07:04	
Bromochloromethane	ug/L	<0.36	5.0	12/10/18 07:04	
Bromodichloromethane	ug/L	<0.36	1.2	12/10/18 07:04	
Bromoform	ug/L	<4.0	13.2	12/10/18 07:04	
Bromomethane	ug/L	<0.97	5.0	12/10/18 07:04	
Carbon tetrachloride	ug/L	<0.17	1.0	12/10/18 07:04	
Chlorobenzene	ug/L	<0.71	2.4	12/10/18 07:04	
Chloroethane	ug/L	<1.3	5.0	12/10/18 07:04	
Chloroform	ug/L	<1.3	5.0	12/10/18 07:04	
Chloromethane	ug/L	<2.2	7.3	12/10/18 07:04	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	12/10/18 07:04	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	12/10/18 07:04	
Dibromochloromethane	ug/L	<2.6	8.7	12/10/18 07:04	
Dibromomethane	ug/L	<0.94	3.1	12/10/18 07:04	
Dichlorodifluoromethane	ug/L	<0.50	5.0	12/10/18 07:04	
Diisopropyl ether	ug/L	<1.9	6.3	12/10/18 07:04	
Ethylbenzene	ug/L	<0.22	1.0	12/10/18 07:04	

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

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

METHOD BLANK: 1803903 Matrix: Water
Associated Lab Samples: 40180666001, 40180666002, 40180666003, 40180666004, 40180666005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	12/10/18 07:04	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	12/10/18 07:04	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	12/10/18 07:04	
Methylene Chloride	ug/L	<0.58	5.0	12/10/18 07:04	
n-Butylbenzene	ug/L	<0.71	2.4	12/10/18 07:04	
n-Propylbenzene	ug/L	<0.81	5.0	12/10/18 07:04	
Naphthalene	ug/L	<1.2	5.0	12/10/18 07:04	
p-Isopropyltoluene	ug/L	<0.80	2.7	12/10/18 07:04	
sec-Butylbenzene	ug/L	<0.85	5.0	12/10/18 07:04	
Styrene	ug/L	<0.47	1.6	12/10/18 07:04	
tert-Butylbenzene	ug/L	<0.30	1.0	12/10/18 07:04	
Tetrachloroethene	ug/L	<0.33	1.1	12/10/18 07:04	
Toluene	ug/L	<0.17	5.0	12/10/18 07:04	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	12/10/18 07:04	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	12/10/18 07:04	
Trichloroethene	ug/L	<0.26	1.0	12/10/18 07:04	
Trichlorofluoromethane	ug/L	<0.21	1.0	12/10/18 07:04	
Vinyl chloride	ug/L	<0.17	1.0	12/10/18 07:04	
Xylene (Total)	ug/L	<1.5	3.0	12/10/18 07:04	
4-Bromofluorobenzene (S)	%	106	70-130	12/10/18 07:04	
Dibromofluoromethane (S)	%	99	70-130	12/10/18 07:04	
Toluene-d8 (S)	%	106	70-130	12/10/18 07:04	

LABORATORY CONTROL SAMPLE: 1803904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	49.6	99	70-133	
1,1,2,2-Tetrachloroethane	ug/L	50	57.5	115	67-130	
1,1,2-Trichloroethane	ug/L	50	60.8	122	70-130	
1,1-Dichloroethane	ug/L	50	52.8	106	70-134	
1,1-Dichloroethene	ug/L	50	47.3	95	75-132	
1,2,4-Trichlorobenzene	ug/L	50	53.5	107	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	53.9	108	60-126	
1,2-Dibromoethane (EDB)	ug/L	50	52.8	106	70-130	
1,2-Dichlorobenzene	ug/L	50	50.2	100	70-130	
1,2-Dichloroethane	ug/L	50	56.8	114	73-134	
1,2-Dichloropropane	ug/L	50	61.9	124	79-128	
1,3-Dichlorobenzene	ug/L	50	49.3	99	70-130	
1,4-Dichlorobenzene	ug/L	50	50.5	101	70-130	
Benzene	ug/L	50	57.8	116	69-137	
Bromodichloromethane	ug/L	50	57.8	116	70-130	
Bromoform	ug/L	50	63.3	127	64-133	
Bromomethane	ug/L	50	26.4	53	29-123	
Carbon tetrachloride	ug/L	50	50.2	100	73-142	

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

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

LABORATORY CONTROL SAMPLE: 1803904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	51.2	102	70-130	
Chloroethane	ug/L	50	48.2	96	59-133	
Chloroform	ug/L	50	50.7	101	80-129	
Chloromethane	ug/L	50	32.4	65	27-125	
cis-1,2-Dichloroethene	ug/L	50	48.0	96	70-134	
cis-1,3-Dichloropropene	ug/L	50	53.9	108	70-130	
Dibromochloromethane	ug/L	50	50.4	101	70-130	
Dichlorodifluoromethane	ug/L	50	30.7	61	12-127	
Ethylbenzene	ug/L	50	57.1	114	86-127	
Isopropylbenzene (Cumene)	ug/L	50	52.8	106	70-130	
Methyl-tert-butyl ether	ug/L	50	43.8	88	65-136	
Methylene Chloride	ug/L	50	47.6	95	72-133	
Styrene	ug/L	50	54.2	108	70-130	
Tetrachloroethene	ug/L	50	54.8	110	70-130	
Toluene	ug/L	50	55.4	111	84-124	
trans-1,2-Dichloroethene	ug/L	50	47.7	95	70-133	
trans-1,3-Dichloropropene	ug/L	50	52.3	105	67-130	
Trichloroethene	ug/L	50	56.3	113	70-130	
Trichlorofluoromethane	ug/L	50	54.4	109	69-147	
Vinyl chloride	ug/L	50	43.1	86	48-134	
Xylene (Total)	ug/L	150	157	105	70-130	
4-Bromofluorobenzene (S)	%			112	70-130	
Dibromofluoromethane (S)	%			101	70-130	
Toluene-d8 (S)	%			105	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1803930 1803931

Parameter	Units	40180604002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.24	50	50	49.9	50.8	100	102	70-136	2	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	62.9	63.1	126	126	67-133	0	20	
1,1,2-Trichloroethane	ug/L	<0.55	50	50	62.3	62.5	125	125	70-130	0	20	
1,1-Dichloroethane	ug/L	<0.27	50	50	52.5	53.2	105	106	70-139	1	20	
1,1-Dichloroethene	ug/L	<0.24	50	50	47.9	48.5	96	97	72-137	1	20	
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	53.8	54.4	108	109	68-130	1	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	58.9	61.2	118	122	60-130	4	21	
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	54.6	55.4	109	111	70-130	1	20	
1,2-Dichlorobenzene	ug/L	<0.71	50	50	50.6	51.1	101	102	70-130	1	20	
1,2-Dichloroethane	ug/L	<0.28	50	50	57.4	58.2	115	116	71-137	1	20	
1,2-Dichloropropane	ug/L	<0.28	50	50	61.0	61.2	122	122	78-130	0	20	
1,3-Dichlorobenzene	ug/L	<0.63	50	50	49.6	50.1	99	100	70-130	1	20	
1,4-Dichlorobenzene	ug/L	<0.94	50	50	50.4	50.7	101	101	70-130	1	20	
Benzene	ug/L	<0.25	50	50	57.7	58.3	115	117	66-143	1	20	
Bromodichloromethane	ug/L	<0.36	50	50	57.3	57.7	115	115	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1803930 1803931

Parameter	Units	40180604002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromoform	ug/L	<4.0	50	50	64.7	66.4	129	133	64-134	3	20	
Bromomethane	ug/L	<0.97	50	50	28.6	30.3	57	61	29-136	6	25	
Carbon tetrachloride	ug/L	<0.17	50	50	50.3	50.8	101	102	73-142	1	20	
Chlorobenzene	ug/L	<0.71	50	50	50.7	51.4	101	103	70-130	1	20	
Chloroethane	ug/L	<1.3	50	50	46.7	47.8	93	96	58-138	2	20	
Chloroform	ug/L	<1.3	50	50	55.2	55.9	110	112	80-131	1	20	
Chloromethane	ug/L	<2.2	50	50	30.9	32.2	62	64	24-125	4	20	
cis-1,2-Dichloroethene	ug/L	2.2	50	50	50.4	50.9	96	97	68-137	1	22	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	54.2	55.1	108	110	70-130	2	20	
Dibromochloromethane	ug/L	<2.6	50	50	51.6	51.9	103	104	70-131	1	20	
Dichlorodifluoromethane	ug/L	<0.50	50	50	30.0	30.8	60	62	10-127	3	20	
Ethylbenzene	ug/L	<0.22	50	50	56.1	57.2	112	114	81-136	2	20	
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	51.5	52.7	103	105	70-132	2	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	45.8	46.1	92	92	58-142	1	23	
Methylene Chloride	ug/L	<0.58	50	50	46.8	48.1	94	96	69-137	3	20	
Styrene	ug/L	<0.47	50	50	52.6	53.7	105	107	70-130	2	20	
Tetrachloroethene	ug/L	23.6	50	50	80.0	79.8	113	112	70-132	0	20	
Toluene	ug/L	<0.17	50	50	55.0	55.8	110	112	81-130	1	20	
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	48.4	48.9	97	98	70-136	1	20	
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	54.8	55.2	110	110	67-130	1	20	
Trichloroethene	ug/L	4.7	50	50	61.0	61.4	113	113	70-131	1	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	54.4	55.1	109	110	66-150	1	20	
Vinyl chloride	ug/L	<0.17	50	50	42.5	43.7	85	87	46-134	3	20	
Xylene (Total)	ug/L	<1.5	150	150	153	156	102	104	70-134	2	20	
4-Bromofluorobenzene (S)	%						110	111	70-130			
Dibromofluoromethane (S)	%						101	101	70-130			
Toluene-d8 (S)	%						106	106	70-130			

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: T218-038 ANDERSON PROPERTY
Pace Project No.: 40180666

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40180666001	**MW-01**	EPA 8260	308726		
40180666002	**MW-02**	EPA 8260	308726		
40180666003	**MW-03**	EPA 8260	308726		
40180666004	**MW-04**	EPA 8260	308726		
40180666005	**MW-05**	EPA 8260	308726		

Pace Analytical®
www.pacelabs.com

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Page 1 of

PG

401806666

CHAIN OF CUSTODY

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

(Please Print Clearly)	
Company Name:	True North Consultants
Branch/Location:	Madison, WI
Project Contact:	Tom Culp
Phone:	608-212-1676
Project Number:	T218-038
Project Name:	Anderson Property
Project State:	WI
Sampled By (Print):	Ben Stewart
Sampled By (Sign):	Ben Stewart
PO #:	T218-038
Regulatory Program:	

Quote #:	
Mail To Contact:	Tom Culp
Mail To Company:	True North Consultants
Mail To Address:	525 Junction Road Madison, WI 53717
Invoice To Contact:	
Invoice To Company:	Same As Above
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

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

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: VOCs	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	MW-01	12/5/18	1120	GW			X			
002	MW-02		1130	GW			X			
003	MW-03		1140	GW			X			
004	MW-04		1150	GW			X			
005	MW-05	↓	1200	GW			X			

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

Transmit Prelim Rush Results by (complete what you want):
Email #1:
Email #2:
Telephone:
Fax:

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

Relinquished By:	Date/Time:	Received By:	Date/Time:
Ben Stewart	12/6/18 @ 900am		
CS Logistics	12/7/18 1020	[signature]	12/7/18 1020

PACE Project No.: 401806666

Receipt Temp = R01 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal: Present / Not Present; Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

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

Sample Preservation Receipt Form

Client Name: True North Project # L01806666

All containers needing preservation have been checked and noted below: □Yes □No ☒N/A Initial when completed: Date/ Time:

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass							Plastic							Vials						Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN							
001																		3															2.5 / 5 / 10
002																		3															2.5 / 5 / 10
003																		3															2.5 / 5 / 10
004																		3															2.5 / 5 / 10
005																		3															2.5 / 5 / 10
006																																	2.5 / 5 / 10
007																																	2.5 / 5 / 10
008																																	2.5 / 5 / 10
009																																	2.5 / 5 / 10
010																																	2.5 / 5 / 10
011																																	2.5 / 5 / 10
012																																	2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																																	2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : □Yes □No □N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

Pace Analytical 1241 Bellevue Street, Green Bay, WI 54302	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: 25Apr2018
	Document No.: **F-GB-C-031-Rev.07**	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO#: 40180666

40180666

Client Name: True North

Courier: ☒ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other:

Tracking #: 479 120d 8

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

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

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

Thermometer Used SR - NA **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: /Corr: RDI

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Person examining contents:
Date: 12/7/18
Initials: TL

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. no pg # 12/7/18 TL
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume:		8.
For Analysis: ☒Yes ☐No MS/MSD:	☐Yes ☒No ☐N/A	
Correct Containers Used:	☒Yes ☐No	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
Trip Blank Present:	☐Yes ☒No ☐N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

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

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: AR for DM **Date:** 12/7/18

Page 2 of 2

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

February 11, 2019

Thomas Culp
True North Consultants, Inc.
525 Junction Road
Suite 1900
Madison, WI 53717

RE: Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Dear Thomas Culp:
Enclosed are the analytical results for sample(s) received by the laboratory on February 07, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Ben Stencil, True North Consultants, Inc.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40182876001	**MW101**	Water	02/06/19 09:00	02/07/19 09:15
40182876002	**MW104**	Water	02/06/19 09:30	02/07/19 09:15
40182876003	**MW105**	Water	02/06/19 10:00	02/07/19 09:15
40182876004	**MW102**	Water	02/06/19 10:45	02/07/19 09:15
40182876005	**MW103**	Water	02/06/19 10:45	02/07/19 09:15

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SAMPLE ANALYTE COUNT

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40182876001	**MW101**	EPA 8260	HNW	63
40182876002	**MW104**	EPA 8260	HNW	63
40182876003	**MW105**	EPA 8260	HNW	63
40182876004	**MW102**	EPA 8260	HNW	63
40182876005	**MW103**	EPA 8260	HNW	63

Pace Analytical Services, LLC
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(920)469-2436

SUMMARY OF DETECTION

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40182876001	**MW101**					
EPA 8260	1,2,4-Trimethylbenzene	60.2	ug/L	2.8	02/11/19 08:29	
EPA 8260	1,3,5-Trimethylbenzene	18.8	ug/L	2.9	02/11/19 08:29	
EPA 8260	Benzene	178	ug/L	1.0	02/11/19 08:29	
EPA 8260	Ethylbenzene	103	ug/L	1.0	02/11/19 08:29	
EPA 8260	Isopropylbenzene (Cumene)	5.3	ug/L	5.0	02/11/19 08:29	
EPA 8260	Naphthalene	21.1	ug/L	5.0	02/11/19 08:29	
EPA 8260	Toluene	25.0	ug/L	5.0	02/11/19 08:29	
EPA 8260	Xylene (Total)	202	ug/L	3.0	02/11/19 08:29	
EPA 8260	n-Propylbenzene	18.9	ug/L	5.0	02/11/19 08:29	
EPA 8260	sec-Butylbenzene	1.6J	ug/L	5.0	02/11/19 08:29	
40182876002	**MW104**					
EPA 8260	Benzene	4.8	ug/L	1.0	02/08/19 12:28	
40182876003	**MW105**					
EPA 8260	1,2,4-Trimethylbenzene	17.4	ug/L	2.8	02/08/19 12:49	
EPA 8260	1,3,5-Trimethylbenzene	2.6J	ug/L	2.9	02/08/19 12:49	
EPA 8260	Ethylbenzene	9.8	ug/L	1.0	02/08/19 12:49	
EPA 8260	Isopropylbenzene (Cumene)	1.1J	ug/L	5.0	02/08/19 12:49	
EPA 8260	Naphthalene	4.3J	ug/L	5.0	02/08/19 12:49	
EPA 8260	Toluene	0.31J	ug/L	5.0	02/08/19 12:49	
EPA 8260	Xylene (Total)	7.6	ug/L	3.0	02/08/19 12:49	
EPA 8260	n-Butylbenzene	3.0	ug/L	2.4	02/08/19 12:49	
EPA 8260	n-Propylbenzene	4.6J	ug/L	5.0	02/08/19 12:49	
EPA 8260	sec-Butylbenzene	2.1J	ug/L	5.0	02/08/19 12:49	
40182876004	**MW102**					
EPA 8260	1,2,4-Trimethylbenzene	1.2J	ug/L	2.8	02/08/19 13:11	
EPA 8260	Ethylbenzene	2.4	ug/L	1.0	02/08/19 13:11	
EPA 8260	Isopropylbenzene (Cumene)	2.0J	ug/L	5.0	02/08/19 13:11	
EPA 8260	Naphthalene	2.4J	ug/L	5.0	02/08/19 13:11	
EPA 8260	Toluene	1.4J	ug/L	5.0	02/08/19 13:11	
EPA 8260	Xylene (Total)	4.9	ug/L	3.0	02/08/19 13:11	
EPA 8260	n-Propylbenzene	1.8J	ug/L	5.0	02/08/19 13:11	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Sample: MW101 **Lab ID: 40182876001** Collected: 02/06/19 09:00 Received: 02/07/19 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		02/11/19 08:29	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		02/11/19 08:29	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		02/11/19 08:29	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		02/11/19 08:29	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		02/11/19 08:29	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		02/11/19 08:29	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		02/11/19 08:29	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		02/11/19 08:29	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		02/11/19 08:29	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		02/11/19 08:29	120-82-1	
1,2,4-Trimethylbenzene	**60.2**	ug/L	2.8	0.84	1		02/11/19 08:29	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		02/11/19 08:29	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		02/11/19 08:29	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		02/11/19 08:29	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		02/11/19 08:29	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		02/11/19 08:29	78-87-5	
1,3,5-Trimethylbenzene	**18.8**	ug/L	2.9	0.87	1		02/11/19 08:29	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		02/11/19 08:29	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		02/11/19 08:29	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		02/11/19 08:29	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		02/11/19 08:29	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		02/11/19 08:29	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		02/11/19 08:29	106-43-4	
Benzene	**178**	ug/L	1.0	0.25	1		02/11/19 08:29	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		02/11/19 08:29	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		02/11/19 08:29	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		02/11/19 08:29	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		02/11/19 08:29	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		02/11/19 08:29	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		02/11/19 08:29	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		02/11/19 08:29	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		02/11/19 08:29	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/11/19 08:29	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		02/11/19 08:29	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		02/11/19 08:29	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		02/11/19 08:29	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		02/11/19 08:29	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		02/11/19 08:29	108-20-3	
Ethylbenzene	**103**	ug/L	1.0	0.22	1		02/11/19 08:29	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		02/11/19 08:29	87-68-3	
Isopropylbenzene (Cumene)	**5.3**	ug/L	5.0	0.39	1		02/11/19 08:29	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		02/11/19 08:29	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		02/11/19 08:29	75-09-2	
Naphthalene	**21.1**	ug/L	5.0	1.2	1		02/11/19 08:29	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		02/11/19 08:29	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		02/11/19 08:29	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Sample: MW101 **Lab ID: 40182876001** Collected: 02/06/19 09:00 Received: 02/07/19 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**25.0**	ug/L	5.0	0.17	1		02/11/19 08:29	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		02/11/19 08:29	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		02/11/19 08:29	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		02/11/19 08:29	75-01-4	
Xylene (Total)	**202**	ug/L	3.0	1.5	1		02/11/19 08:29	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		02/11/19 08:29	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		02/11/19 08:29	10061-01-5	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		02/11/19 08:29	104-51-8	
n-Propylbenzene	**18.9**	ug/L	5.0	0.81	1		02/11/19 08:29	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		02/11/19 08:29	99-87-6	
sec-Butylbenzene	**1.6J**	ug/L	5.0	0.85	1		02/11/19 08:29	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		02/11/19 08:29	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		02/11/19 08:29	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		02/11/19 08:29	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		02/11/19 08:29	460-00-4	
Dibromofluoromethane (S)	95	%	70-130		1		02/11/19 08:29	1868-53-7	
Toluene-d8 (S)	106	%	70-130		1		02/11/19 08:29	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Sample: MW104 **Lab ID: 40182876002** Collected: 02/06/19 09:30 Received: 02/07/19 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		02/08/19 12:28	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		02/08/19 12:28	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		02/08/19 12:28	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		02/08/19 12:28	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		02/08/19 12:28	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		02/08/19 12:28	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		02/08/19 12:28	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		02/08/19 12:28	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		02/08/19 12:28	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		02/08/19 12:28	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		02/08/19 12:28	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		02/08/19 12:28	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		02/08/19 12:28	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		02/08/19 12:28	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		02/08/19 12:28	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		02/08/19 12:28	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		02/08/19 12:28	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		02/08/19 12:28	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		02/08/19 12:28	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		02/08/19 12:28	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		02/08/19 12:28	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		02/08/19 12:28	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		02/08/19 12:28	106-43-4	
Benzene	**4.8**	ug/L	1.0	0.25	1		02/08/19 12:28	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		02/08/19 12:28	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		02/08/19 12:28	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		02/08/19 12:28	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		02/08/19 12:28	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		02/08/19 12:28	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		02/08/19 12:28	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		02/08/19 12:28	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		02/08/19 12:28	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/08/19 12:28	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		02/08/19 12:28	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		02/08/19 12:28	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		02/08/19 12:28	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		02/08/19 12:28	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		02/08/19 12:28	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		02/08/19 12:28	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		02/08/19 12:28	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		02/08/19 12:28	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		02/08/19 12:28	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		02/08/19 12:28	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		02/08/19 12:28	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		02/08/19 12:28	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		02/08/19 12:28	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Sample: MW104 **Lab ID: 40182876002** Collected: 02/06/19 09:30 Received: 02/07/19 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**<0.17**	ug/L	5.0	0.17	1		02/08/19 12:28	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		02/08/19 12:28	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		02/08/19 12:28	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		02/08/19 12:28	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		02/08/19 12:28	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		02/08/19 12:28	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		02/08/19 12:28	10061-01-5	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		02/08/19 12:28	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		02/08/19 12:28	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		02/08/19 12:28	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		02/08/19 12:28	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		02/08/19 12:28	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		02/08/19 12:28	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		02/08/19 12:28	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		02/08/19 12:28	460-00-4	
Dibromofluoromethane (S)	115	%	70-130		1		02/08/19 12:28	1868-53-7	
Toluene-d8 (S)	104	%	70-130		1		02/08/19 12:28	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Sample: MW105 **Lab ID: 40182876003** Collected: 02/06/19 10:00 Received: 02/07/19 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		02/08/19 12:49	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		02/08/19 12:49	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		02/08/19 12:49	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		02/08/19 12:49	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		02/08/19 12:49	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		02/08/19 12:49	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		02/08/19 12:49	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		02/08/19 12:49	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		02/08/19 12:49	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		02/08/19 12:49	120-82-1	
1,2,4-Trimethylbenzene	**17.4**	ug/L	2.8	0.84	1		02/08/19 12:49	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		02/08/19 12:49	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		02/08/19 12:49	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		02/08/19 12:49	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		02/08/19 12:49	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		02/08/19 12:49	78-87-5	
1,3,5-Trimethylbenzene	**2.6J**	ug/L	2.9	0.87	1		02/08/19 12:49	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		02/08/19 12:49	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		02/08/19 12:49	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		02/08/19 12:49	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		02/08/19 12:49	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		02/08/19 12:49	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		02/08/19 12:49	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		02/08/19 12:49	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		02/08/19 12:49	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		02/08/19 12:49	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		02/08/19 12:49	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		02/08/19 12:49	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		02/08/19 12:49	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		02/08/19 12:49	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		02/08/19 12:49	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		02/08/19 12:49	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/08/19 12:49	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		02/08/19 12:49	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		02/08/19 12:49	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		02/08/19 12:49	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		02/08/19 12:49	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		02/08/19 12:49	108-20-3	
Ethylbenzene	**9.8**	ug/L	1.0	0.22	1		02/08/19 12:49	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		02/08/19 12:49	87-68-3	
Isopropylbenzene (Cumene)	**1.1J**	ug/L	5.0	0.39	1		02/08/19 12:49	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		02/08/19 12:49	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		02/08/19 12:49	75-09-2	
Naphthalene	**4.3J**	ug/L	5.0	1.2	1		02/08/19 12:49	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		02/08/19 12:49	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		02/08/19 12:49	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Sample: MW105 **Lab ID: 40182876003** Collected: 02/06/19 10:00 Received: 02/07/19 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**0.31J**	ug/L	5.0	0.17	1		02/08/19 12:49	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		02/08/19 12:49	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		02/08/19 12:49	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		02/08/19 12:49	75-01-4	
Xylene (Total)	**7.6**	ug/L	3.0	1.5	1		02/08/19 12:49	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		02/08/19 12:49	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		02/08/19 12:49	10061-01-5	
n-Butylbenzene	**3.0**	ug/L	2.4	0.71	1		02/08/19 12:49	104-51-8	
n-Propylbenzene	**4.6J**	ug/L	5.0	0.81	1		02/08/19 12:49	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		02/08/19 12:49	99-87-6	
sec-Butylbenzene	**2.1J**	ug/L	5.0	0.85	1		02/08/19 12:49	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		02/08/19 12:49	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		02/08/19 12:49	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		02/08/19 12:49	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/08/19 12:49	460-00-4	
Dibromofluoromethane (S)	107	%	70-130		1		02/08/19 12:49	1868-53-7	
Toluene-d8 (S)	108	%	70-130		1		02/08/19 12:49	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Sample: MW102 **Lab ID: 40182876004** Collected: 02/06/19 10:45 Received: 02/07/19 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		02/08/19 13:11	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		02/08/19 13:11	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		02/08/19 13:11	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		02/08/19 13:11	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		02/08/19 13:11	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		02/08/19 13:11	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		02/08/19 13:11	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		02/08/19 13:11	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		02/08/19 13:11	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		02/08/19 13:11	120-82-1	
1,2,4-Trimethylbenzene	**1.2J**	ug/L	2.8	0.84	1		02/08/19 13:11	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		02/08/19 13:11	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		02/08/19 13:11	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		02/08/19 13:11	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		02/08/19 13:11	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		02/08/19 13:11	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		02/08/19 13:11	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		02/08/19 13:11	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		02/08/19 13:11	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		02/08/19 13:11	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		02/08/19 13:11	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		02/08/19 13:11	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		02/08/19 13:11	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		02/08/19 13:11	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		02/08/19 13:11	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		02/08/19 13:11	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		02/08/19 13:11	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		02/08/19 13:11	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		02/08/19 13:11	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		02/08/19 13:11	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		02/08/19 13:11	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		02/08/19 13:11	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/08/19 13:11	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		02/08/19 13:11	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		02/08/19 13:11	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		02/08/19 13:11	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		02/08/19 13:11	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		02/08/19 13:11	108-20-3	
Ethylbenzene	**2.4**	ug/L	1.0	0.22	1		02/08/19 13:11	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		02/08/19 13:11	87-68-3	
Isopropylbenzene (Cumene)	**2.0J**	ug/L	5.0	0.39	1		02/08/19 13:11	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		02/08/19 13:11	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		02/08/19 13:11	75-09-2	
Naphthalene	**2.4J**	ug/L	5.0	1.2	1		02/08/19 13:11	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		02/08/19 13:11	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		02/08/19 13:11	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Sample: MW102 **Lab ID: 40182876004** Collected: 02/06/19 10:45 Received: 02/07/19 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**1.4J**	ug/L	5.0	0.17	1		02/08/19 13:11	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		02/08/19 13:11	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		02/08/19 13:11	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		02/08/19 13:11	75-01-4	
Xylene (Total)	**4.9**	ug/L	3.0	1.5	1		02/08/19 13:11	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		02/08/19 13:11	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		02/08/19 13:11	10061-01-5	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		02/08/19 13:11	104-51-8	
n-Propylbenzene	**1.8J**	ug/L	5.0	0.81	1		02/08/19 13:11	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		02/08/19 13:11	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		02/08/19 13:11	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		02/08/19 13:11	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		02/08/19 13:11	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		02/08/19 13:11	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		02/08/19 13:11	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		1		02/08/19 13:11	1868-53-7	
Toluene-d8 (S)	109	%	70-130		1		02/08/19 13:11	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Sample: MW103 **Lab ID: 40182876005** Collected: 02/06/19 10:45 Received: 02/07/19 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		02/08/19 13:32	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		02/08/19 13:32	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		02/08/19 13:32	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		02/08/19 13:32	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		02/08/19 13:32	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		02/08/19 13:32	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		02/08/19 13:32	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		02/08/19 13:32	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		02/08/19 13:32	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		02/08/19 13:32	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		02/08/19 13:32	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		02/08/19 13:32	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		02/08/19 13:32	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		02/08/19 13:32	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		02/08/19 13:32	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		02/08/19 13:32	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		02/08/19 13:32	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		02/08/19 13:32	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		02/08/19 13:32	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		02/08/19 13:32	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		02/08/19 13:32	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		02/08/19 13:32	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		02/08/19 13:32	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		02/08/19 13:32	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		02/08/19 13:32	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		02/08/19 13:32	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		02/08/19 13:32	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		02/08/19 13:32	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		02/08/19 13:32	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		02/08/19 13:32	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		02/08/19 13:32	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		02/08/19 13:32	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/08/19 13:32	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		02/08/19 13:32	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		02/08/19 13:32	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		02/08/19 13:32	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		02/08/19 13:32	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		02/08/19 13:32	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		02/08/19 13:32	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		02/08/19 13:32	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		02/08/19 13:32	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		02/08/19 13:32	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		02/08/19 13:32	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		02/08/19 13:32	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		02/08/19 13:32	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		02/08/19 13:32	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Sample: MW103 **Lab ID: 40182876005** Collected: 02/06/19 10:45 Received: 02/07/19 09:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**<0.17**	ug/L	5.0	0.17	1		02/08/19 13:32	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		02/08/19 13:32	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		02/08/19 13:32	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		02/08/19 13:32	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		02/08/19 13:32	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		02/08/19 13:32	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		02/08/19 13:32	10061-01-5	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		02/08/19 13:32	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		02/08/19 13:32	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		02/08/19 13:32	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		02/08/19 13:32	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		02/08/19 13:32	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		02/08/19 13:32	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		02/08/19 13:32	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		1		02/08/19 13:32	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		02/08/19 13:32	1868-53-7	
Toluene-d8 (S)	105	%	70-130		1		02/08/19 13:32	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

QC Batch: 313108 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40182876001, 40182876002, 40182876003, 40182876004, 40182876005

METHOD BLANK: 1824047 Matrix: Water
Associated Lab Samples: 40182876001, 40182876002, 40182876003, 40182876004, 40182876005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	02/08/19 08:33	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	02/08/19 08:33	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	02/08/19 08:33	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	02/08/19 08:33	
1,1-Dichloroethane	ug/L	<0.27	1.0	02/08/19 08:33	
1,1-Dichloroethene	ug/L	<0.24	1.0	02/08/19 08:33	
1,1-Dichloropropene	ug/L	<0.54	1.8	02/08/19 08:33	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	02/08/19 08:33	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	02/08/19 08:33	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	02/08/19 08:33	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	02/08/19 08:33	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	02/08/19 08:33	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	02/08/19 08:33	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	02/08/19 08:33	
1,2-Dichloroethane	ug/L	<0.28	1.0	02/08/19 08:33	
1,2-Dichloropropane	ug/L	<0.28	1.0	02/08/19 08:33	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	02/08/19 08:33	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	02/08/19 08:33	
1,3-Dichloropropane	ug/L	<0.83	2.8	02/08/19 08:33	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	02/08/19 08:33	
2,2-Dichloropropane	ug/L	<2.3	7.6	02/08/19 08:33	
2-Chlorotoluene	ug/L	<0.93	5.0	02/08/19 08:33	
4-Chlorotoluene	ug/L	<0.76	2.5	02/08/19 08:33	
Benzene	ug/L	<0.25	1.0	02/08/19 08:33	
Bromobenzene	ug/L	<0.24	1.0	02/08/19 08:33	
Bromochloromethane	ug/L	<0.36	5.0	02/08/19 08:33	
Bromodichloromethane	ug/L	<0.36	1.2	02/08/19 08:33	
Bromoform	ug/L	<4.0	13.2	02/08/19 08:33	
Bromomethane	ug/L	<0.97	5.0	02/08/19 08:33	
Carbon tetrachloride	ug/L	<0.17	1.0	02/08/19 08:33	
Chlorobenzene	ug/L	<0.71	2.4	02/08/19 08:33	
Chloroethane	ug/L	<1.3	5.0	02/08/19 08:33	
Chloroform	ug/L	<1.3	5.0	02/08/19 08:33	
Chloromethane	ug/L	<2.2	7.3	02/08/19 08:33	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	02/08/19 08:33	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	02/08/19 08:33	
Dibromochloromethane	ug/L	<2.6	8.7	02/08/19 08:33	
Dibromomethane	ug/L	<0.94	3.1	02/08/19 08:33	
Dichlorodifluoromethane	ug/L	<0.50	5.0	02/08/19 08:33	
Diisopropyl ether	ug/L	<1.9	6.3	02/08/19 08:33	
Ethylbenzene	ug/L	<0.22	1.0	02/08/19 08:33	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

METHOD BLANK: 1824047 Matrix: Water
Associated Lab Samples: 40182876001, 40182876002, 40182876003, 40182876004, 40182876005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	02/08/19 08:33	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	02/08/19 08:33	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	02/08/19 08:33	
Methylene Chloride	ug/L	<0.58	5.0	02/08/19 08:33	
n-Butylbenzene	ug/L	<0.71	2.4	02/08/19 08:33	
n-Propylbenzene	ug/L	<0.81	5.0	02/08/19 08:33	
Naphthalene	ug/L	<1.2	5.0	02/08/19 08:33	
p-Isopropyltoluene	ug/L	<0.80	2.7	02/08/19 08:33	
sec-Butylbenzene	ug/L	<0.85	5.0	02/08/19 08:33	
Styrene	ug/L	<0.47	1.6	02/08/19 08:33	
tert-Butylbenzene	ug/L	<0.30	1.0	02/08/19 08:33	
Tetrachloroethene	ug/L	<0.33	1.1	02/08/19 08:33	
Toluene	ug/L	<0.17	5.0	02/08/19 08:33	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	02/08/19 08:33	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	02/08/19 08:33	
Trichloroethene	ug/L	<0.26	1.0	02/08/19 08:33	
Trichlorofluoromethane	ug/L	<0.21	1.0	02/08/19 08:33	
Vinyl chloride	ug/L	<0.17	1.0	02/08/19 08:33	
Xylene (Total)	ug/L	<1.5	3.0	02/08/19 08:33	
4-Bromofluorobenzene (S)	%	94	70-130	02/08/19 08:33	
Dibromofluoromethane (S)	%	106	70-130	02/08/19 08:33	
Toluene-d8 (S)	%	105	70-130	02/08/19 08:33	

LABORATORY CONTROL SAMPLE: 1824048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	50.7	101	70-133	
1,1,2,2-Tetrachloroethane	ug/L	50	48.1	96	67-130	
1,1,2-Trichloroethane	ug/L	50	57.3	115	70-130	
1,1-Dichloroethane	ug/L	50	60.6	121	70-134	
1,1-Dichloroethene	ug/L	50	43.9	88	75-132	
1,2,4-Trichlorobenzene	ug/L	50	47.6	95	68-130	
1,2-Dibromo-3-chloropropane	ug/L	50	40.4	81	60-126	
1,2-Dibromoethane (EDB)	ug/L	50	48.1	96	70-130	
1,2-Dichlorobenzene	ug/L	50	49.7	99	70-130	
1,2-Dichloroethane	ug/L	50	55.4	111	73-134	
1,2-Dichloropropane	ug/L	50	63.4	127	79-128	
1,3-Dichlorobenzene	ug/L	50	48.4	97	70-130	
1,4-Dichlorobenzene	ug/L	50	52.2	104	70-130	
Benzene	ug/L	50	54.5	109	69-137	
Bromodichloromethane	ug/L	50	58.3	117	70-130	
Bromoform	ug/L	50	53.8	108	64-133	
Bromomethane	ug/L	50	28.5	57	29-123	
Carbon tetrachloride	ug/L	50	52.3	105	73-142	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

LABORATORY CONTROL SAMPLE: 1824048

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	55.8	112	70-130	
Chloroethane	ug/L	50	43.9	88	59-133	
Chloroform	ug/L	50	54.7	109	80-129	
Chloromethane	ug/L	50	28.0	56	27-125	
cis-1,2-Dichloroethene	ug/L	50	55.6	111	70-134	
cis-1,3-Dichloropropene	ug/L	50	51.2	102	70-130	
Dibromochloromethane	ug/L	50	50.2	100	70-130	
Dichlorodifluoromethane	ug/L	50	19.6	39	12-127	
Ethylbenzene	ug/L	50	59.8	120	86-127	
Isopropylbenzene (Cumene)	ug/L	50	56.5	113	70-130	
Methyl-tert-butyl ether	ug/L	50	40.6	81	65-136	
Methylene Chloride	ug/L	50	55.7	111	72-133	
Styrene	ug/L	50	56.4	113	70-130	
Tetrachloroethene	ug/L	50	57.8	116	70-130	
Toluene	ug/L	50	59.2	118	84-124	
trans-1,2-Dichloroethene	ug/L	50	57.4	115	70-133	
trans-1,3-Dichloropropene	ug/L	50	50.3	101	67-130	
Trichloroethene	ug/L	50	58.2	116	70-130	
Trichlorofluoromethane	ug/L	50	49.9	100	69-147	
Vinyl chloride	ug/L	50	36.5	73	48-134	
Xylene (Total)	ug/L	150	173	116	70-130	
4-Bromofluorobenzene (S)	%			112	70-130	
Dibromofluoromethane (S)	%			98	70-130	
Toluene-d8 (S)	%			107	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824098 1824099

Parameter	Units	40182870002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.24	50	50	49.1	49.9	98	100	70-136	2	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	48.3	50.0	97	100	67-133	3	20	
1,1,2-Trichloroethane	ug/L	<0.55	50	50	55.4	57.7	111	115	70-130	4	20	
1,1-Dichloroethane	ug/L	0.94J	50	50	58.7	60.1	116	118	70-139	2	20	
1,1-Dichloroethene	ug/L	<0.24	50	50	46.7	43.7	93	87	72-137	7	20	
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	45.5	46.9	91	94	68-130	3	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	42.6	44.3	85	89	60-130	4	21	
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	47.6	49.3	95	99	70-130	3	20	
1,2-Dichlorobenzene	ug/L	<0.71	50	50	47.8	48.6	96	97	70-130	2	20	
1,2-Dichloroethane	ug/L	<0.28	50	50	54.1	53.6	108	107	71-137	1	20	
1,2-Dichloropropane	ug/L	<0.28	50	50	60.1	62.0	120	124	78-130	3	20	
1,3-Dichlorobenzene	ug/L	<0.63	50	50	46.8	47.4	94	95	70-130	1	20	
1,4-Dichlorobenzene	ug/L	<0.94	50	50	50.0	50.9	100	102	70-130	2	20	
Benzene	ug/L	<0.25	50	50	52.7	54.1	105	108	66-143	3	20	
Bromodichloromethane	ug/L	<0.36	50	50	56.2	57.4	112	115	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1824098 1824099

Parameter	Units	40182870002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromoform	ug/L	<4.0	50	50	53.5	55.0	107	110	64-134	3	20	
Bromomethane	ug/L	<0.97	50	50	32.5	30.4	65	61	29-136	7	25	
Carbon tetrachloride	ug/L	<0.17	50	50	50.7	51.6	101	103	73-142	2	20	
Chlorobenzene	ug/L	<0.71	50	50	53.6	54.8	107	110	70-130	2	20	
Chloroethane	ug/L	<1.3	50	50	45.3	43.7	91	87	58-138	4	20	
Chloroform	ug/L	<1.3	50	50	53.1	53.7	106	107	80-131	1	20	
Chloromethane	ug/L	<2.2	50	50	27.9	27.7	56	55	24-125	1	20	
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	54.1	55.3	108	111	68-137	2	22	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	49.3	50.9	99	102	70-130	3	20	
Dibromochloromethane	ug/L	<2.6	50	50	48.7	50.3	97	101	70-131	3	20	
Dichlorodifluoromethane	ug/L	<0.50	50	50	18.9	18.8	38	38	10-127	1	20	
Ethylbenzene	ug/L	<0.22	50	50	57.4	58.7	115	117	81-136	2	20	
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	53.4	54.6	107	109	70-132	2	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	39.9	42.0	80	84	58-142	5	23	
Methylene Chloride	ug/L	<0.58	50	50	55.9	58.2	112	116	69-137	4	20	
Styrene	ug/L	<0.47	50	50	53.8	54.9	108	110	70-130	2	20	
Tetrachloroethene	ug/L	<0.33	50	50	55.0	55.5	110	111	70-132	1	20	
Toluene	ug/L	<0.17	50	50	57.2	57.8	114	116	81-130	1	20	
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	55.1	57.1	110	114	70-136	4	20	
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	49.5	51.1	99	102	67-130	3	20	
Trichloroethene	ug/L	<0.26	50	50	56.3	57.9	113	116	70-131	3	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	52.1	49.0	104	98	66-150	6	20	
Vinyl chloride	ug/L	<0.17	50	50	38.6	36.6	77	73	46-134	6	20	
Xylene (Total)	ug/L	<1.5	150	150	167	169	111	113	70-134	2	20	
4-Bromofluorobenzene (S)	%						112	111	70-130			
Dibromofluoromethane (S)	%						100	100	70-130			
Toluene-d8 (S)	%						107	108	70-130			

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: T218-038 ANDERSON PROP-HUB CTY
Pace Project No.: 40182876

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40182876001	**MW101**	EPA 8260	313108		
40182876002	**MW104**	EPA 8260	313108		
40182876003	**MW105**	EPA 8260	313108		
40182876004	**MW102**	EPA 8260	313108		
40182876005	**MW103**	EPA 8260	313108		

Pace Analytical®
www.pacelabs.com

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Page 1 of

CHAIN OF CUSTODY

401828 76

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

(Please Print Clearly)	
Company Name:	True North Consultants
Branch/Location:	Madison WI
Project Contact:	Tom Culp
Phone:	608-712-1676
Project Number:	T218-038
Project Name:	Anderson Property - Hub City
Project State:	WI
Sampled By (Print):	Ben Steucl
Sampled By (Sign):	
PO #:	T218-038
Regulatory Program:	

Quote #:	
Mail To Contact:	Tom Culp
Mail To Company:	True North Consultants
Mail To Address:	525 Junction Road Madison WI 53717
Invoice To Contact:	
Invoice To Company:	Same As Above
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

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

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	MW101	2-6-19	900	GW	N	B	VOC			
002	MW104		930							
003	MW105		1000							
004	MW105		1045							
005	MW103		1045							

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

Transmit Prelim Rush Results by (complete what you want):
Email #1:
Email #2:
Telephone:
Fax:

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

Relinquished By:	Date/Time:	Received By:	Date/Time:
	2-6-19 @ 1225		02-06-19 12:35
	02-06-19 12:25		
CS Logistics	2/7/19 0915		2/7/19 0915

PACE Project No. 401828 76
Receipt Temp = K01 °C
Sample Receipt pH OK / Adjusted
Cooler Custody Seal Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical Services, LL
1241 Bellevue Street, Suite
Green Bay, WI 5430

Sample Preservation Receipt Form

Client Name: True North Project # 40182876

All containers needing preservation have been checked and noted below: □Yes □No ☒N/A

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted): Initial when completed: Date/ Time:

	Glass							Plastic							Vials						Jars			General							
Pace Lab #	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																		3															2.5 / 5 / 10
002																		3															2.5 / 5 / 10
003																		3															2.5 / 5 / 10
004																		3															2.5 / 5 / 10
005																		3															2.5 / 5 / 10
006																																	2.5 / 5 / 10
007																																	2.5 / 5 / 10
008																																	2.5 / 5 / 10
009																																	2.5 / 5 / 10
010																																	2.5 / 5 / 10
011																																	2.5 / 5 / 10
012																																	2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																																	2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : □Yes ☒No □N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

Pace Analytical 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
	Document No.: F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: True North

Project #:

WO#: 40182876

40182876

Courier: ☒ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other:

Tracking #: 2835.0206 19

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

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

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

Thermometer Used SR - NA **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: /Corr: R01

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 2/7/19
Initials: R

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. no pg # 2/7/19 R
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD: ☐Yes ☒No ☐N/A		8.
Correct Containers Used:	☒Yes ☐No	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☐Yes ☒No ☐N/A	12. 004 ID MW102 placed by time; as time 1125; 004 no date 2/7/19 R
-Includes date/time/ID/Analysis Matrix: W		
Trip Blank Present:	☐Yes ☒No ☐N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

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

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: KMR for DM Date: ~~02/07/19~~ KMR 02/07/19 1125

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

August 13, 2019

Thomas Culp
True North Consultants, Inc.
525 Junction Road
Suite 1900
Madison, WI 53717

RE: Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Dear Thomas Culp:
Enclosed are the analytical results for sample(s) received by the laboratory on August 08, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Ben Stencil, True North Consultants, Inc.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40192642001	**HENRIETTA WELL**	Water	08/06/19 09:40	08/08/19 09:00
40192642002	**MW105**	Water	08/06/19 14:00	08/08/19 09:00
40192642003	**MW104**	Water	08/06/19 14:15	08/08/19 09:00
40192642004	**MW101**	Water	08/06/19 14:30	08/08/19 09:00
40192642005	**MW102**	Water	08/06/19 14:45	08/08/19 09:00
40192642006	**MW103**	Water	08/06/19 15:00	08/08/19 09:00

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SAMPLE ANALYTE COUNT

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40192642001	**HENRIETTA WELL**	EPA 8260	LAP	63
40192642002	**MW105**	EPA 8260	LAP	63
40192642003	**MW104**	EPA 8260	LAP	63
40192642004	**MW101**	EPA 8260	LAP	63
40192642005	**MW102**	EPA 8260	LAP	63
40192642006	**MW103**	EPA 8260	LAP	63

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SUMMARY OF DETECTION

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40192642002	**MW105**					
EPA 8260	1,2,4-Trimethylbenzene	12.5	ug/L	2.8	08/12/19 15:17	
EPA 8260	1,3,5-Trimethylbenzene	2.7J	ug/L	2.9	08/12/19 15:17	
EPA 8260	Ethylbenzene	11.6	ug/L	1.0	08/12/19 15:17	
EPA 8260	Isopropylbenzene (Cumene)	1.8J	ug/L	5.0	08/12/19 15:17	
EPA 8260	Naphthalene	5.3	ug/L	5.0	08/12/19 15:17	
EPA 8260	Toluene	0.35J	ug/L	5.0	08/12/19 15:17	
EPA 8260	Xylene (Total)	7.0	ug/L	3.0	08/12/19 15:17	
EPA 8260	n-Propylbenzene	5.7	ug/L	5.0	08/12/19 15:17	
EPA 8260	sec-Butylbenzene	3.6J	ug/L	5.0	08/12/19 15:17	
40192642004	**MW101**					
EPA 8260	1,2,4-Trimethylbenzene	156	ug/L	2.8	08/12/19 17:31	
EPA 8260	1,3,5-Trimethylbenzene	42.3	ug/L	2.9	08/12/19 17:31	
EPA 8260	Benzene	281	ug/L	4.0	08/13/19 08:03	
EPA 8260	Ethylbenzene	202	ug/L	1.0	08/12/19 17:31	
EPA 8260	Isopropylbenzene (Cumene)	12.1	ug/L	5.0	08/12/19 17:31	
EPA 8260	Naphthalene	62.8	ug/L	5.0	08/12/19 17:31	
EPA 8260	Toluene	149	ug/L	5.0	08/12/19 17:31	
EPA 8260	Xylene (Total)	671	ug/L	3.0	08/12/19 17:31	
EPA 8260	n-Propylbenzene	28.7	ug/L	5.0	08/12/19 17:31	
EPA 8260	sec-Butylbenzene	2.2J	ug/L	5.0	08/12/19 17:31	
40192642006	**MW103**					
EPA 8260	Ethylbenzene	0.43J	ug/L	1.0	08/12/19 12:38	
EPA 8260	Toluene	0.52J	ug/L	5.0	08/12/19 12:38	
EPA 8260	Xylene (Total)	1.6J	ug/L	3.0	08/12/19 12:38	

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ANALYTICAL RESULTS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Sample: HENRIETTA WELL **Lab ID: 40192642001** Collected: 08/06/19 09:40 Received: 08/08/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		08/12/19 12:16	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		08/12/19 12:16	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 12:16	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		08/12/19 12:16	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		08/12/19 12:16	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		08/12/19 12:16	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		08/12/19 12:16	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		08/12/19 12:16	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		08/12/19 12:16	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		08/12/19 12:16	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		08/12/19 12:16	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		08/12/19 12:16	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		08/12/19 12:16	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 12:16	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 12:16	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 12:16	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		08/12/19 12:16	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		08/12/19 12:16	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		08/12/19 12:16	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		08/12/19 12:16	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		08/12/19 12:16	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		08/12/19 12:16	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		08/12/19 12:16	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		08/12/19 12:16	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		08/12/19 12:16	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		08/12/19 12:16	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		08/12/19 12:16	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		08/12/19 12:16	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		08/12/19 12:16	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		08/12/19 12:16	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 12:16	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		08/12/19 12:16	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		08/12/19 12:16	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		08/12/19 12:16	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		08/12/19 12:16	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		08/12/19 12:16	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		08/12/19 12:16	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		08/12/19 12:16	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		08/12/19 12:16	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		08/12/19 12:16	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		08/12/19 12:16	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		08/12/19 12:16	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		08/12/19 12:16	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		08/12/19 12:16	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		08/12/19 12:16	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		08/12/19 12:16	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Sample: HENRIETTA WELL **Lab ID: 40192642001** Collected: 08/06/19 09:40 Received: 08/08/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**<0.17**	ug/L	5.0	0.17	1		08/12/19 12:16	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		08/12/19 12:16	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		08/12/19 12:16	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		08/12/19 12:16	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		08/12/19 12:16	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		08/12/19 12:16	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		08/12/19 12:16	10061-01-5	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 12:16	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		08/12/19 12:16	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		08/12/19 12:16	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		08/12/19 12:16	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		08/12/19 12:16	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		08/12/19 12:16	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		08/12/19 12:16	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		1		08/12/19 12:16	460-00-4	
Dibromofluoromethane (S)	89	%	70-130		1		08/12/19 12:16	1868-53-7	
Toluene-d8 (S)	91	%	70-130		1		08/12/19 12:16	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Sample: MW105 **Lab ID: 40192642002** Collected: 08/06/19 14:00 Received: 08/08/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		08/12/19 15:17	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		08/12/19 15:17	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 15:17	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		08/12/19 15:17	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		08/12/19 15:17	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		08/12/19 15:17	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		08/12/19 15:17	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		08/12/19 15:17	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		08/12/19 15:17	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		08/12/19 15:17	120-82-1	
1,2,4-Trimethylbenzene	**12.5**	ug/L	2.8	0.84	1		08/12/19 15:17	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		08/12/19 15:17	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		08/12/19 15:17	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 15:17	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 15:17	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 15:17	78-87-5	
1,3,5-Trimethylbenzene	**2.7J**	ug/L	2.9	0.87	1		08/12/19 15:17	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		08/12/19 15:17	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		08/12/19 15:17	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		08/12/19 15:17	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		08/12/19 15:17	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		08/12/19 15:17	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		08/12/19 15:17	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		08/12/19 15:17	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		08/12/19 15:17	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		08/12/19 15:17	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		08/12/19 15:17	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		08/12/19 15:17	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		08/12/19 15:17	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		08/12/19 15:17	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 15:17	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		08/12/19 15:17	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		08/12/19 15:17	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		08/12/19 15:17	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		08/12/19 15:17	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		08/12/19 15:17	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		08/12/19 15:17	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		08/12/19 15:17	108-20-3	
Ethylbenzene	**11.6**	ug/L	1.0	0.22	1		08/12/19 15:17	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		08/12/19 15:17	87-68-3	
Isopropylbenzene (Cumene)	**1.8J**	ug/L	5.0	0.39	1		08/12/19 15:17	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		08/12/19 15:17	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		08/12/19 15:17	75-09-2	
Naphthalene	**5.3**	ug/L	5.0	1.2	1		08/12/19 15:17	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		08/12/19 15:17	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		08/12/19 15:17	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Sample: MW105 **Lab ID: 40192642002** Collected: 08/06/19 14:00 Received: 08/08/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**0.35J**	ug/L	5.0	0.17	1		08/12/19 15:17	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		08/12/19 15:17	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		08/12/19 15:17	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		08/12/19 15:17	75-01-4	
Xylene (Total)	**7.0**	ug/L	3.0	1.5	1		08/12/19 15:17	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		08/12/19 15:17	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		08/12/19 15:17	10061-01-5	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 15:17	104-51-8	
n-Propylbenzene	**5.7**	ug/L	5.0	0.81	1		08/12/19 15:17	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		08/12/19 15:17	99-87-6	
sec-Butylbenzene	**3.6J**	ug/L	5.0	0.85	1		08/12/19 15:17	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		08/12/19 15:17	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		08/12/19 15:17	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		08/12/19 15:17	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		08/12/19 15:17	460-00-4	
Dibromofluoromethane (S)	91	%	70-130		1		08/12/19 15:17	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		08/12/19 15:17	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Sample: MW104 **Lab ID: 40192642003** Collected: 08/06/19 14:15 Received: 08/08/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		08/12/19 15:39	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		08/12/19 15:39	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 15:39	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		08/12/19 15:39	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		08/12/19 15:39	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		08/12/19 15:39	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		08/12/19 15:39	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		08/12/19 15:39	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		08/12/19 15:39	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		08/12/19 15:39	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		08/12/19 15:39	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		08/12/19 15:39	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		08/12/19 15:39	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 15:39	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 15:39	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 15:39	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		08/12/19 15:39	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		08/12/19 15:39	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		08/12/19 15:39	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		08/12/19 15:39	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		08/12/19 15:39	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		08/12/19 15:39	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		08/12/19 15:39	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		08/12/19 15:39	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		08/12/19 15:39	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		08/12/19 15:39	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		08/12/19 15:39	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		08/12/19 15:39	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		08/12/19 15:39	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		08/12/19 15:39	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 15:39	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		08/12/19 15:39	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		08/12/19 15:39	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		08/12/19 15:39	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		08/12/19 15:39	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		08/12/19 15:39	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		08/12/19 15:39	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		08/12/19 15:39	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		08/12/19 15:39	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		08/12/19 15:39	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		08/12/19 15:39	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		08/12/19 15:39	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		08/12/19 15:39	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		08/12/19 15:39	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		08/12/19 15:39	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		08/12/19 15:39	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Sample: MW104 **Lab ID: 40192642003** Collected: 08/06/19 14:15 Received: 08/08/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**<0.17**	ug/L	5.0	0.17	1		08/12/19 15:39	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		08/12/19 15:39	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		08/12/19 15:39	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		08/12/19 15:39	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		08/12/19 15:39	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		08/12/19 15:39	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		08/12/19 15:39	10061-01-5	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 15:39	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		08/12/19 15:39	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		08/12/19 15:39	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		08/12/19 15:39	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		08/12/19 15:39	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		08/12/19 15:39	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		08/12/19 15:39	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	70-130		1		08/12/19 15:39	460-00-4	
Dibromofluoromethane (S)	97	%	70-130		1		08/12/19 15:39	1868-53-7	
Toluene-d8 (S)	90	%	70-130		1		08/12/19 15:39	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Sample: MW101 **Lab ID: 40192642004** Collected: 08/06/19 14:30 Received: 08/08/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		08/12/19 17:31	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		08/12/19 17:31	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 17:31	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		08/12/19 17:31	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		08/12/19 17:31	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		08/12/19 17:31	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		08/12/19 17:31	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		08/12/19 17:31	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		08/12/19 17:31	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		08/12/19 17:31	120-82-1	
1,2,4-Trimethylbenzene	**156**	ug/L	2.8	0.84	1		08/12/19 17:31	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		08/12/19 17:31	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		08/12/19 17:31	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 17:31	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 17:31	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 17:31	78-87-5	
1,3,5-Trimethylbenzene	**42.3**	ug/L	2.9	0.87	1		08/12/19 17:31	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		08/12/19 17:31	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		08/12/19 17:31	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		08/12/19 17:31	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		08/12/19 17:31	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		08/12/19 17:31	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		08/12/19 17:31	106-43-4	
Benzene	**281**	ug/L	4.0	0.99	4		08/13/19 08:03	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		08/12/19 17:31	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		08/12/19 17:31	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		08/12/19 17:31	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		08/12/19 17:31	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		08/12/19 17:31	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		08/12/19 17:31	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 17:31	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		08/12/19 17:31	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		08/12/19 17:31	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		08/12/19 17:31	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		08/12/19 17:31	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		08/12/19 17:31	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		08/12/19 17:31	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		08/12/19 17:31	108-20-3	
Ethylbenzene	**202**	ug/L	1.0	0.22	1		08/12/19 17:31	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		08/12/19 17:31	87-68-3	
Isopropylbenzene (Cumene)	**12.1**	ug/L	5.0	0.39	1		08/12/19 17:31	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		08/12/19 17:31	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		08/12/19 17:31	75-09-2	
Naphthalene	**62.8**	ug/L	5.0	1.2	1		08/12/19 17:31	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		08/12/19 17:31	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		08/12/19 17:31	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Sample: MW101 **Lab ID: 40192642004** Collected: 08/06/19 14:30 Received: 08/08/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**149**	ug/L	5.0	0.17	1		08/12/19 17:31	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		08/12/19 17:31	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		08/12/19 17:31	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		08/12/19 17:31	75-01-4	
Xylene (Total)	**671**	ug/L	3.0	1.5	1		08/12/19 17:31	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		08/12/19 17:31	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		08/12/19 17:31	10061-01-5	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 17:31	104-51-8	
n-Propylbenzene	**28.7**	ug/L	5.0	0.81	1		08/12/19 17:31	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		08/12/19 17:31	99-87-6	
sec-Butylbenzene	**2.2J**	ug/L	5.0	0.85	1		08/12/19 17:31	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		08/12/19 17:31	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		08/12/19 17:31	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		08/12/19 17:31	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	109	%	70-130		1		08/12/19 17:31	460-00-4	
Dibromofluoromethane (S)	96	%	70-130		1		08/12/19 17:31	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		08/12/19 17:31	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Sample: MW102 **Lab ID: 40192642005** Collected: 08/06/19 14:45 Received: 08/08/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		08/12/19 16:02	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		08/12/19 16:02	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 16:02	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		08/12/19 16:02	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		08/12/19 16:02	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		08/12/19 16:02	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		08/12/19 16:02	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		08/12/19 16:02	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		08/12/19 16:02	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		08/12/19 16:02	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		08/12/19 16:02	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		08/12/19 16:02	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		08/12/19 16:02	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 16:02	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 16:02	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 16:02	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		08/12/19 16:02	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		08/12/19 16:02	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		08/12/19 16:02	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		08/12/19 16:02	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		08/12/19 16:02	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		08/12/19 16:02	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		08/12/19 16:02	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		08/12/19 16:02	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		08/12/19 16:02	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		08/12/19 16:02	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		08/12/19 16:02	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		08/12/19 16:02	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		08/12/19 16:02	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		08/12/19 16:02	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 16:02	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		08/12/19 16:02	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		08/12/19 16:02	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		08/12/19 16:02	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		08/12/19 16:02	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		08/12/19 16:02	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		08/12/19 16:02	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		08/12/19 16:02	108-20-3	
Ethylbenzene	**<0.22**	ug/L	1.0	0.22	1		08/12/19 16:02	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		08/12/19 16:02	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		08/12/19 16:02	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		08/12/19 16:02	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		08/12/19 16:02	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		08/12/19 16:02	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		08/12/19 16:02	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		08/12/19 16:02	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Sample: MW102 **Lab ID: 40192642005** Collected: 08/06/19 14:45 Received: 08/08/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**<0.17**	ug/L	5.0	0.17	1		08/12/19 16:02	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		08/12/19 16:02	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		08/12/19 16:02	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		08/12/19 16:02	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		08/12/19 16:02	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		08/12/19 16:02	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		08/12/19 16:02	10061-01-5	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 16:02	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		08/12/19 16:02	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		08/12/19 16:02	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		08/12/19 16:02	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		08/12/19 16:02	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		08/12/19 16:02	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		08/12/19 16:02	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	70-130		1		08/12/19 16:02	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		1		08/12/19 16:02	1868-53-7	
Toluene-d8 (S)	90	%	70-130		1		08/12/19 16:02	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Sample: MW103 **Lab ID: 40192642006** Collected: 08/06/19 15:00 Received: 08/08/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		08/12/19 12:38	630-20-6	
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		08/12/19 12:38	71-55-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 12:38	79-34-5	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		08/12/19 12:38	79-00-5	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		08/12/19 12:38	75-34-3	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		08/12/19 12:38	75-35-4	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		08/12/19 12:38	563-58-6	
1,2,3-Trichlorobenzene	**<0.63**	ug/L	5.0	0.63	1		08/12/19 12:38	87-61-6	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		08/12/19 12:38	96-18-4	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		08/12/19 12:38	120-82-1	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		08/12/19 12:38	95-63-6	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		08/12/19 12:38	96-12-8	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		08/12/19 12:38	106-93-4	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 12:38	95-50-1	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 12:38	107-06-2	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		08/12/19 12:38	78-87-5	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		08/12/19 12:38	108-67-8	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		08/12/19 12:38	541-73-1	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		08/12/19 12:38	142-28-9	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		08/12/19 12:38	106-46-7	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		08/12/19 12:38	594-20-7	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		08/12/19 12:38	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		08/12/19 12:38	106-43-4	
Benzene	**<0.25**	ug/L	1.0	0.25	1		08/12/19 12:38	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		08/12/19 12:38	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		08/12/19 12:38	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		08/12/19 12:38	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		08/12/19 12:38	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		08/12/19 12:38	74-83-9	
Carbon tetrachloride	**<0.17**	ug/L	1.0	0.17	1		08/12/19 12:38	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 12:38	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		08/12/19 12:38	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		08/12/19 12:38	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		08/12/19 12:38	74-87-3	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		08/12/19 12:38	124-48-1	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		08/12/19 12:38	74-95-3	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		08/12/19 12:38	75-71-8	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		08/12/19 12:38	108-20-3	
Ethylbenzene	**0.43J**	ug/L	1.0	0.22	1		08/12/19 12:38	100-41-4	
Hexachloro-1,3-butadiene	**<1.2**	ug/L	5.0	1.2	1		08/12/19 12:38	87-68-3	
Isopropylbenzene (Cumene)	**<0.39**	ug/L	5.0	0.39	1		08/12/19 12:38	98-82-8	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		08/12/19 12:38	1634-04-4	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		08/12/19 12:38	75-09-2	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		08/12/19 12:38	91-20-3	
Styrene	**<0.47**	ug/L	1.6	0.47	1		08/12/19 12:38	100-42-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		08/12/19 12:38	127-18-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Sample: MW103 **Lab ID: 40192642006** Collected: 08/06/19 15:00 Received: 08/08/19 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	**0.52J**	ug/L	5.0	0.17	1		08/12/19 12:38	108-88-3	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		08/12/19 12:38	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		08/12/19 12:38	75-69-4	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		08/12/19 12:38	75-01-4	
Xylene (Total)	**1.6J**	ug/L	3.0	1.5	1		08/12/19 12:38	1330-20-7	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		08/12/19 12:38	156-59-2	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		08/12/19 12:38	10061-01-5	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		08/12/19 12:38	104-51-8	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		08/12/19 12:38	103-65-1	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		08/12/19 12:38	99-87-6	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		08/12/19 12:38	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		08/12/19 12:38	98-06-6	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		08/12/19 12:38	156-60-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		08/12/19 12:38	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		08/12/19 12:38	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		08/12/19 12:38	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		08/12/19 12:38	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

QC Batch: 330097 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40192642001, 40192642002, 40192642003, 40192642004, 40192642005, 40192642006

METHOD BLANK: 1915592 Matrix: Water
Associated Lab Samples: 40192642001, 40192642002, 40192642003, 40192642004, 40192642005, 40192642006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	08/12/19 07:02	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	08/12/19 07:02	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	08/12/19 07:02	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	08/12/19 07:02	
1,1-Dichloroethane	ug/L	<0.27	1.0	08/12/19 07:02	
1,1-Dichloroethene	ug/L	<0.24	1.0	08/12/19 07:02	
1,1-Dichloropropene	ug/L	<0.54	1.8	08/12/19 07:02	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	08/12/19 07:02	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	08/12/19 07:02	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	08/12/19 07:02	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	08/12/19 07:02	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	08/12/19 07:02	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	08/12/19 07:02	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	08/12/19 07:02	
1,2-Dichloroethane	ug/L	<0.28	1.0	08/12/19 07:02	
1,2-Dichloropropane	ug/L	<0.28	1.0	08/12/19 07:02	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	08/12/19 07:02	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	08/12/19 07:02	
1,3-Dichloropropane	ug/L	<0.83	2.8	08/12/19 07:02	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	08/12/19 07:02	
2,2-Dichloropropane	ug/L	<2.3	7.6	08/12/19 07:02	
2-Chlorotoluene	ug/L	<0.93	5.0	08/12/19 07:02	
4-Chlorotoluene	ug/L	<0.76	2.5	08/12/19 07:02	
Benzene	ug/L	<0.25	1.0	08/12/19 07:02	
Bromobenzene	ug/L	<0.24	1.0	08/12/19 07:02	
Bromochloromethane	ug/L	<0.36	5.0	08/12/19 07:02	
Bromodichloromethane	ug/L	<0.36	1.2	08/12/19 07:02	
Bromoform	ug/L	<4.0	13.2	08/12/19 07:02	
Bromomethane	ug/L	<0.97	5.0	08/12/19 07:02	
Carbon tetrachloride	ug/L	<0.17	1.0	08/12/19 07:02	
Chlorobenzene	ug/L	<0.71	2.4	08/12/19 07:02	
Chloroethane	ug/L	<1.3	5.0	08/12/19 07:02	
Chloroform	ug/L	<1.3	5.0	08/12/19 07:02	
Chloromethane	ug/L	<2.2	7.3	08/12/19 07:02	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	08/12/19 07:02	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	08/12/19 07:02	
Dibromochloromethane	ug/L	<2.6	8.7	08/12/19 07:02	
Dibromomethane	ug/L	<0.94	3.1	08/12/19 07:02	
Dichlorodifluoromethane	ug/L	<0.50	5.0	08/12/19 07:02	
Diisopropyl ether	ug/L	<1.9	6.3	08/12/19 07:02	
Ethylbenzene	ug/L	<0.22	1.0	08/12/19 07:02	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

METHOD BLANK: 1915592 Matrix: Water
Associated Lab Samples: 40192642001, 40192642002, 40192642003, 40192642004, 40192642005, 40192642006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	08/12/19 07:02	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	08/12/19 07:02	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	08/12/19 07:02	
Methylene Chloride	ug/L	<0.58	5.0	08/12/19 07:02	
n-Butylbenzene	ug/L	<0.71	2.4	08/12/19 07:02	
n-Propylbenzene	ug/L	<0.81	5.0	08/12/19 07:02	
Naphthalene	ug/L	<1.2	5.0	08/12/19 07:02	
p-Isopropyltoluene	ug/L	<0.80	2.7	08/12/19 07:02	
sec-Butylbenzene	ug/L	<0.85	5.0	08/12/19 07:02	
Styrene	ug/L	<0.47	1.6	08/12/19 07:02	
tert-Butylbenzene	ug/L	<0.30	1.0	08/12/19 07:02	
Tetrachloroethene	ug/L	<0.33	1.1	08/12/19 07:02	
Toluene	ug/L	<0.17	5.0	08/12/19 07:02	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	08/12/19 07:02	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	08/12/19 07:02	
Trichloroethene	ug/L	<0.26	1.0	08/12/19 07:02	
Trichlorofluoromethane	ug/L	<0.21	1.0	08/12/19 07:02	
Vinyl chloride	ug/L	<0.17	1.0	08/12/19 07:02	
Xylene (Total)	ug/L	<1.5	3.0	08/12/19 07:02	
4-Bromofluorobenzene (S)	%	94	70-130	08/12/19 07:02	
Dibromofluoromethane (S)	%	102	70-130	08/12/19 07:02	
Toluene-d8 (S)	%	92	70-130	08/12/19 07:02	

LABORATORY CONTROL SAMPLE: 1915593

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	51.9	104	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	54.0	108	70-130	
1,1,2-Trichloroethane	ug/L	50	44.6	89	70-130	
1,1-Dichloroethane	ug/L	50	39.3	79	73-150	
1,1-Dichloroethene	ug/L	50	45.0	90	73-138	
1,2,4-Trichlorobenzene	ug/L	50	57.9	116	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	57.4	115	64-129	
1,2-Dibromoethane (EDB)	ug/L	50	47.6	95	70-130	
1,2-Dichlorobenzene	ug/L	50	50.8	102	70-130	
1,2-Dichloroethane	ug/L	50	48.4	97	75-140	
1,2-Dichloropropane	ug/L	50	41.0	82	73-135	
1,3-Dichlorobenzene	ug/L	50	49.9	100	70-130	
1,4-Dichlorobenzene	ug/L	50	54.1	108	70-130	
Benzene	ug/L	50	44.7	89	70-130	
Bromodichloromethane	ug/L	50	54.5	109	70-130	
Bromoform	ug/L	50	53.3	107	68-129	
Bromomethane	ug/L	50	47.4	95	18-159	
Carbon tetrachloride	ug/L	50	55.7	111	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

LABORATORY CONTROL SAMPLE: 1915593

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	51.9	104	70-130	
Chloroethane	ug/L	50	37.5	75	53-147	
Chloroform	ug/L	50	49.1	98	74-136	
Chloromethane	ug/L	50	30.9	62	29-115	
cis-1,2-Dichloroethene	ug/L	50	42.9	86	70-130	
cis-1,3-Dichloropropene	ug/L	50	51.3	103	70-130	
Dibromochloromethane	ug/L	50	47.3	95	70-130	
Dichlorodifluoromethane	ug/L	50	42.2	84	10-130	
Ethylbenzene	ug/L	50	51.6	103	80-124	
Isopropylbenzene (Cumene)	ug/L	50	56.3	113	70-130	
Methyl-tert-butyl ether	ug/L	50	46.3	93	54-137	
Methylene Chloride	ug/L	50	43.2	86	73-138	
Styrene	ug/L	50	55.7	111	70-130	
Tetrachloroethene	ug/L	50	53.3	107	70-130	
Toluene	ug/L	50	50.7	101	80-126	
trans-1,2-Dichloroethene	ug/L	50	46.5	93	73-145	
trans-1,3-Dichloropropene	ug/L	50	43.5	87	70-130	
Trichloroethene	ug/L	50	52.4	105	70-130	
Trichlorofluoromethane	ug/L	50	50.4	101	76-147	
Vinyl chloride	ug/L	50	37.8	76	51-120	
Xylene (Total)	ug/L	150	164	110	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			94	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1915773 1915774

Parameter	Units	40192642001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.24	50	50	50.2	51.2	100	102	70-130	2	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	52.2	48.5	104	97	70-130	7	20	
1,1,2-Trichloroethane	ug/L	<0.55	50	50	42.6	45.4	85	91	70-137	6	20	
1,1-Dichloroethane	ug/L	<0.27	50	50	44.0	38.4	88	77	73-153	14	20	
1,1-Dichloroethene	ug/L	<0.24	50	50	44.5	43.8	89	88	73-138	1	20	
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	50.7	52.8	101	106	70-130	4	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	50.5	44.8	101	90	58-129	12	20	
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	42.7	47.8	85	96	70-130	11	20	
1,2-Dichlorobenzene	ug/L	<0.71	50	50	48.7	48.3	97	97	70-130	1	20	
1,2-Dichloroethane	ug/L	<0.28	50	50	49.9	45.3	100	91	75-140	10	20	
1,2-Dichloropropane	ug/L	<0.28	50	50	45.1	39.2	90	78	71-138	14	20	
1,3-Dichlorobenzene	ug/L	<0.63	50	50	47.8	47.4	96	95	70-130	1	20	
1,4-Dichlorobenzene	ug/L	<0.94	50	50	48.9	48.0	98	96	70-130	2	20	
Benzene	ug/L	<0.25	50	50	47.4	43.4	95	87	70-130	9	20	
Bromodichloromethane	ug/L	<0.36	50	50	55.8	50.9	112	102	70-130	9	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1915773 1915774

Parameter	Units	40192642001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Bromoform	ug/L	<4.0	50	50	45.1	51.6	90	103	68-129	13	20	
Bromomethane	ug/L	<0.97	50	50	46.3	49.1	93	98	15-170	6	20	
Carbon tetrachloride	ug/L	<0.17	50	50	56.7	54.6	113	109	70-130	4	20	
Chlorobenzene	ug/L	<0.71	50	50	49.9	48.7	100	97	70-130	2	20	
Chloroethane	ug/L	<1.3	50	50	39.4	37.3	79	75	51-148	5	20	
Chloroform	ug/L	<1.3	50	50	51.6	46.9	103	94	74-136	10	20	
Chloromethane	ug/L	<2.2	50	50	29.9	31.7	60	63	23-115	6	20	
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	45.1	42.9	90	86	70-131	5	20	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	54.3	49.4	109	99	70-130	9	20	
Dibromochloromethane	ug/L	<2.6	50	50	44.6	47.1	89	94	70-130	6	20	
Dichlorodifluoromethane	ug/L	<0.50	50	50	40.6	42.0	81	84	10-132	3	20	
Ethylbenzene	ug/L	<0.22	50	50	52.7	48.8	105	98	80-125	8	20	
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	55.1	51.5	110	103	70-130	7	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	49.6	44.8	99	90	51-145	10	20	
Methylene Chloride	ug/L	<0.58	50	50	41.6	41.1	83	82	73-140	1	20	
Styrene	ug/L	<0.47	50	50	53.4	51.1	107	102	70-130	5	20	
Tetrachloroethene	ug/L	<0.33	50	50	48.5	54.7	97	109	70-130	12	20	
Toluene	ug/L	<0.17	50	50	48.9	50.8	98	102	80-131	4	20	
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	49.3	45.7	99	91	73-148	8	20	
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	43.2	43.2	86	86	70-130	0	20	
Trichloroethene	ug/L	<0.26	50	50	54.3	49.7	109	99	70-130	9	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	50.2	50.5	100	101	74-147	1	20	
Vinyl chloride	ug/L	<0.17	50	50	36.9	39.6	74	79	41-129	7	20	
Xylene (Total)	ug/L	<1.5	150	150	159	150	106	100	70-130	6	20	
4-Bromofluorobenzene (S)	%						101	99	70-130			
Dibromofluoromethane (S)	%						93	87	70-130			
Toluene-d8 (S)	%						95	98	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: T218038 ANDERSON PROPERTY
Pace Project No.: 40192642

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40192642001	**HENRIETTA WELL**	EPA 8260	330097		
40192642002	**MW105**	EPA 8260	330097		
40192642003	**MW104**	EPA 8260	330097		
40192642004	**MW101**	EPA 8260	330097		
40192642005	**MW102**	EPA 8260	330097		
40192642006	**MW103**	EPA 8260	330097		

UPPER MIDWEST REGION
MN: 612-607-1700 **WI:** 920-469-2436

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

4019264 2

(Please Print Clearly)	
Company Name:	True North Consultants
Branch/Location:	Madison
Project Contact:	Tom Culp
Phone:	608-212-1678
Project Number:	TZ18038
Project Name:	Anderson Property
Project State:	WI
Sampled By (Print):	Tom Steiner
Sampled By (Sign):	
PO #:	TZ18038
Regulatory Program:	

Quote #:	
Mail To Contact:	Tom Culp
Mail To Company:	True North Consultants
Mail To Address:	525 Junction Road Madison WI 53717
Invoice To Contact:	
Invoice To Company:	Same As Above
Invoice To Address:	
Invoice To Phone:	

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

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

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

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO)	PRESERVATION (CODE)*	Analyses Requested: VOC	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N	Pick Letter				
001	Henrietta Well	8-6-19	940	GW			X			
002	MW105	8-6-19	200	GW			X			
003	MW104	8-6-19	215	GW			X			
004	MW101	8-6-19	230	GW			X			
005	MW102	8-6-19	245	GW			X			
006	MW103	8-6-19	300	GW			X			

TCN

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

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

Email #1:	
Email #2:	
Telephone:	
Fax:	

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

Relinquished By:	Date/Time:	Received By:	Date/Time:
CA Logistics	8/8/19 0900	Pace	8/8/19 0900
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No. 4019264 2
Receipt Temp: 20.1 °C
Sample Receipt pH OK / Adjusted
Cooler Custody Seal Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Client Name: True North

Sample Preservation Receipt Form

Project # 40192642

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

All containers needing preservation have been checked and noted below: □Yes □No □N/A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:

Date/ Time:

	Glass							Plastic							Vials						Jars			General			VOA Vials (>6mm) *						
Pace Lab #	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3B	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN		H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																		3															2.5 / 5 / 10
002																		3															2.5 / 5 / 10
003																		3															2.5 / 5 / 10
004																		3															2.5 / 5 / 10
005																		3															2.5 / 5 / 10
006																		3															2.5 / 5 / 10
007																																	2.5 / 5 / 10
008																																	2.5 / 5 / 10
009																																	2.5 / 5 / 10
010																																	2.5 / 5 / 10
011																																	2.5 / 5 / 10
012																																	2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																																	2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																									8/8/15								2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : □Yes □No □N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3B	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

Pace Analytical 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
	Document No.: F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: True North

Project #: **WO# : 40192642**

40192642

Courier: ☒ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other:

Tracking #: 591080719

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

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

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

Thermometer Used SR - N/A **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROT /Corr:

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 8-8-19
Initials: SW

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	☑Yes ☐No ☐N/A	1. CC 8-8-19 SW
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD:	☐Yes ☑No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
Trip Blank Present:	☐Yes ☑No ☐N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

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

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Rvw for Dm **Date:** 08/08/19

APPENDIX F

Investigative Waste Disposal Documentation

WASTE MANAGEMENT

INVOICE

Customer ID: 20-38153-63000
Customer Name: TRUE NORTH CONSULTANTS
Service Period: 06/01/19 - 06/15/19
Invoice Date: 06/17/2019
Invoice Number: 0015201-1704-3

How To Contact Us	Your Payment Is Due	Your Total Due
Visit **wm.com** To setup your online profile, sign up for paperless statements, manage your account, view holiday schedules, pay your invoice or schedule a pickup Customer Service: **(800) 963-4776**	**07/16/2019** If full payment of the invoiced amount is not received within your contractual terms, you may be charged a monthly late charge of 2.5% of the unpaid amount, with a minimum monthly charge of $5, or such late charge allowed under applicable law, regulation or contract.	**$274.13** See Reverse for Important Messages

Previous Balance	+	Payments	+	Adjustments	+	Current Charges	=	Total Due
100.00		0.00		0.00		174.13		274.13

Details for Service Location: **Customer ID: 20-38153-63000**
True North Consultants, 525 Junction Rd 1900, Madison WI 53717-2154

Description	Date	Ticket	Quantity	Unit of Measure	Rate	Amount
Vehicle#: 71	06/07/19	551357				0.00
Po#:t218 038						0.00
Unspecified material, bioremediated, daily cover,			2.00	ECH	65.00	130.00
Standard environmental fee taxable - large (landfi			1.00	LOD	24.00	24.00
Fuel surcharge - landfill			1.00	PCT	6.57	10.12
Waste water management - percent (landfill)			1.00	PCT	6.50	10.01
Profile # bio130729wi						0.00
Generator anderson property						0.00
Manifest#: 01						0.00
Ticket Total						**174.13**
Total Current Charges						**174.13**

Please detach and send the lower portion with payment --- (no cash or staples)

WASTE MANAGEMENT

WASTE MANAGEMENT OF WI-MN DEERTRACK PARK
PO BOX 42390
PHOENIX, AZ 85080

(800) 963-4776
(866) 800-2591 FAX
TSCMIDWEST@WM.COM

Invoice Date	Invoice Number	Customer ID *(Include with your payment)*
06/17/2019	0015201-1704-3	**20-38153-63000**
Payment Terms	**Total Due**	**Amount**
Total Due by 07/16/2019	$274.13	

1704000203815363000000152010000001741300000027413 0

0070686 01 AB 0.409 **AUTO T8 0 7168 53717-215475 -C01-P70756-I1 I0401L22

TRUE NORTH CONSULTANTS
525 JUNCTION RD 1900
MADISON WI 53717-2154

WASTE MANAGEMENT OF WI-MN
PO BOX 4648
CAROL STREAM, IL 60197-4648

THINK GREEN.®

Printed on recycled paper.

Industrial Waste & Disposal Services Agreement

Exhibit A

Profile number: BIO130729WI TSR: Zach Neumann Sales person: 442

A. GENERATOR

1. Name: Anderson Property
2. Address: Highway 80
   City: Hub City County: Richland
   State: WI ZIP code: 53581

B. CUSTOMER BILLING INFORMATION

1. Name: True North Consultants, Inc
2. Address: 525 Junction Road
   City: Madison
   State: WI ZIP code: 53717
3. Contact name: Ben Stencil
4. Email: bstencil@consulttruenorth.com
5. Phone: (608) 206-1697 6. Fax:
7. P.O. number: T218-038

C. FACILITY

❑ See Attached

1. Name(s): Deer Track Park Landfill

D. MATERIAL

1. Name: Petroleum Impacted Soil
2. Anticipated volume: 2 Drums

E. CHARGES

❑ See Attached

DESCRIPTION	RATE	MINIMUM
Deer Track Park Landfill		
Treatment Method Bioremediation	$65.00 / Drum	
Waste Approvals Standard	$100.00	
Fuel Standard Disposal Fuel - Fluctuates on weekly basis		
Environmental Standard	$24.00 / Load	
WWM Waste Water Management	6.5 %	

Other services not listed above will incur additional charges that vary by location and are subject to change without notice. Payment of invoice represents agreement of such charges.

PLEASE REVIEW SECTION F WHICH CONTAINS IMPORTANT COMMENTS REGARDING YOUR WASTE STREAM.

Industrial Waste & Disposal Services Agreement

Exhibit A

F. COMMENTS ❑ See Attached

• Waste Management reserves the right to refuse any load or discontinue any waste stream should such waste pose a threat to human health or safety, prove to be operationally challenging, or is in violation of any WM permit.

• All loads must be accompanied by proper shipping paper.

• If Waste Management (WM) received authorization to make changes to your waste profile during the approval process, your acceptance and execution of this Exhibit A confirms the accuracy of the changes.

• If WM (or a WM contracted hauler) is not providing the transportation services, you must ensure that the transporter is licensed and approved to haul the Special Waste and/or Hazardous Waste. All Third Party Transporters must comply with WM Safety requirements and procedures (hard hat, safety glasses, steel-toe boots, and safety vest). If transporting to a CWM facility, a Tyvek suit and respirator are also required.

• Prices quoted herein are valid for 30 days. Unless Waste Management is hired for this project prior to the expiration of this 30 day period in which case pricing remains valid in accordance with the terms of the Service Agreement.

• Pricing is based on the information provided on your profile and the representative data previously submitted. Charges incurred for additional services not listed above will be subject to standard rates and payment of the invoice represents mutual agreement of those charges.

• The fuel surcharge percentage can fluctuate on a weekly basis; www.wm.com/fec.jsp provides the current Fuel Surcharge and DOE average. The actual percentage rate applied to the total project invoice will be determined on the date the load was received.

• Please see profile approval form for special handling instructions. Additional special terms and conditions may be defined on your original quotation.

The work contemplated by this Exhibit A is to be done in accordance with the terms and conditions of the Industrial Waste & Disposal Services Agreement or other contractual agreement between the parties dated: 05/16/2019

YOUR ACCEPTANCE OF THESE TERMS CREATES A BINDING AGREEMENT AS FOLLOWS: (I) TYPE OR SIGN YOUR NAME AND TITLE WHERE INDICATED BELOW OR (II) YOUR TENDER OR DELIVERY TO COMPANY OF THE INDUSTRIAL WASTE DESCRIBED IN THE COMPANY APPROVED PROFILE SHEET AND (IF APPLICABLE) CONFIRMATION LETTER SHALL CONSTITUTE YOUR ACCEPTANCE OF THESE TERMS WITHOUT YOUR SIGNATURE.

COMPANY

By: _____ Date: _____

Name: _____

Title: _____

CUSTOMER

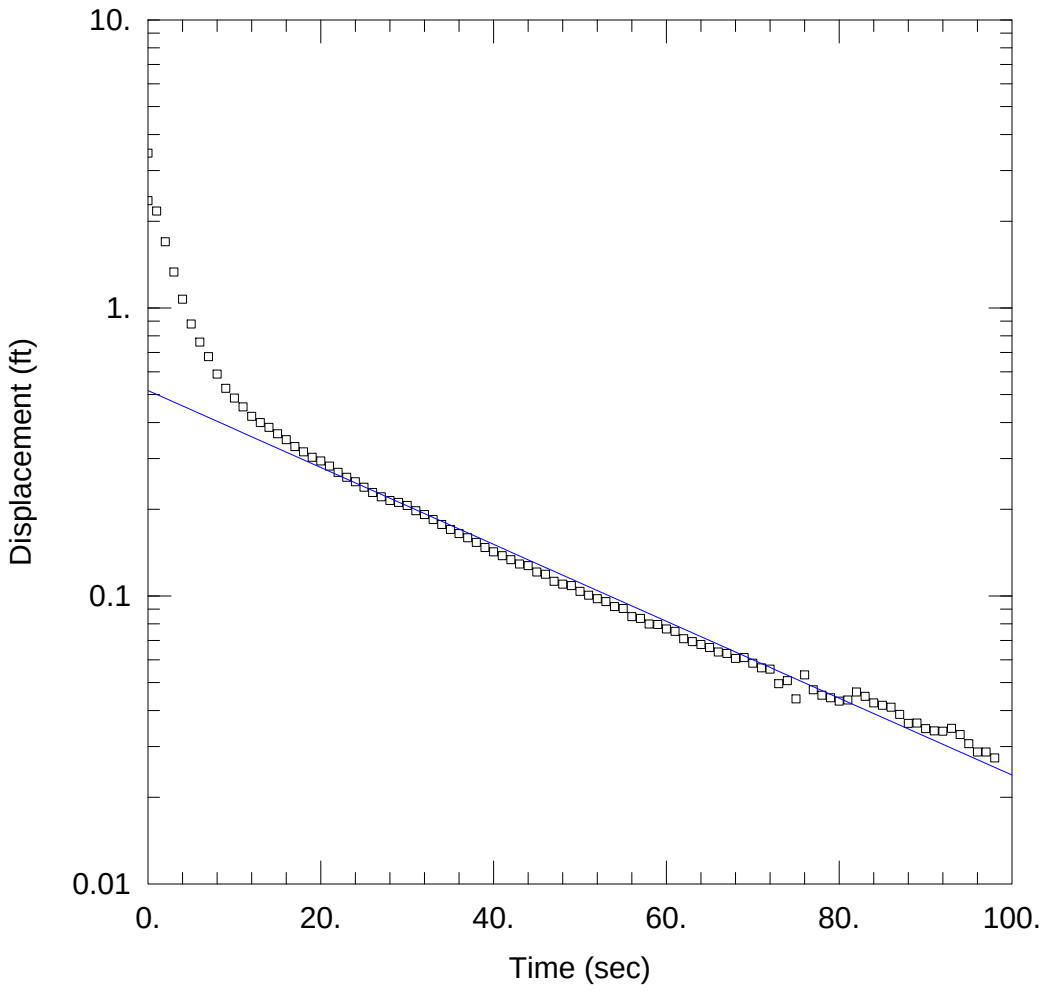
Signature: Ben Stencil Date: 05/16/2019

Name: Ben Stencil

Title: Project Scientist

APPENDIX G

Slug-Testing Data and Graphs



WELL TEST ANALYSIS

Data Set: \...\MW101 aug18.aqt
Date: 12/26/19 Time: 12:48:34

PROJECT INFORMATION

Company: True North Consultants
Client: DNR
Project: T218038
Location: Hub Citty
Test Well: MW101
Test Date: 8/6/19

AQUIFER DATA

Saturated Thickness: 20. ft Anisotropy Ratio (Kz/Kr): 0.5

WELL DATA (MW101)

Initial Displacement: 2.358 ft
Total Well Penetration Depth: 7. ft
Casing Radius: 0.084 ft
Static Water Column Height: 7. ft
Screen Length: 7. ft
Well Radius: 0.354 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.006054 cm/sec y0 = 0.5164 ft

Data Set: \\truenorthconsultantsinc.sharepoint.com@SSL\DavWWWRoot\Wisconsin\Projects\2018\T218038 - WDN
Date: 12/26/19
Time: 12:46:32

PROJECT INFORMATION

Company: True North Consultants
Client: DNR
Project: T218038
Location: Hub Citty
Test Date: 8/6/19
Test Well: MW101

AQUIFER DATA

Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 0.5

SLUG TEST WELL DATA

Test Well: MW101

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

Initial Displacement: 2.358 ft
Static Water Column Height: 7. ft
Casing Radius: 0.084 ft
Well Radius: 0.354 ft
Well Skin Radius: 1. ft
Screen Length: 7. ft
Total Well Penetration Depth: 7. ft
Corrected Casing Radius (Bouwer-Rice Method): 0.2062 ft
Gravel Pack Porosity: 0.3

No. of Observations: 99

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	3.446	50.	0.1037
1.	2.171	51.	0.1006
2.	1.698	52.	0.0978
3.	1.333	53.	0.0955
4.	1.073	54.	0.0919
5.	0.8796	55.	0.0904
6.	0.7613	56.	0.0847
7.	0.6778	57.	0.0835
8.	0.589	58.	0.0799
9.	0.5258	59.	0.0796
10.	0.4866	60.	0.0768
11.	0.4531	61.	0.0753
12.	0.4203	62.	0.071
13.	0.4001	63.	0.0694
14.	0.3848	64.	0.0678
15.	0.3655	65.	0.0662
16.	0.3488	66.	0.0639
17.	0.3301	67.	0.0631
18.	0.3164	68.	0.0607
19.	0.3028	69.	0.0611
20.	0.2942	70.	0.0584
21.	0.2824	71.	0.0563
22.	0.2686	72.	0.0557
23.	0.2582	73.	0.0496
24.	0.2491	74.	0.0508
25.	0.2385	75.	0.0439
26.	0.2287	76.	0.0532
27.	0.2209	77.	0.0472

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
28.	0.2146	78.	0.0452
29.	0.2113	79.	0.0443
30.	0.2061	80.	0.0431
31.	0.1977	81.	0.0435
32.	0.1917	82.	0.0464
33.	0.1841	83.	0.0448
34.	0.177	84.	0.0425
35.	0.1701	85.	0.0417
36.	0.1645	86.	0.0411
37.	0.1591	87.	0.0388
38.	0.1534	88.	0.0361
39.	0.1472	89.	0.0362
40.	0.1422	90.	0.0346
41.	0.138	91.	0.034
42.	0.1336	92.	0.0339
43.	0.1291	93.	0.0347
44.	0.1274	94.	0.033
45.	0.121	95.	0.0307
46.	0.119	96.	0.0287
47.	0.1124	97.	0.0287
48.	0.1099	98.	0.0274
49.	0.1086		

SOLUTION

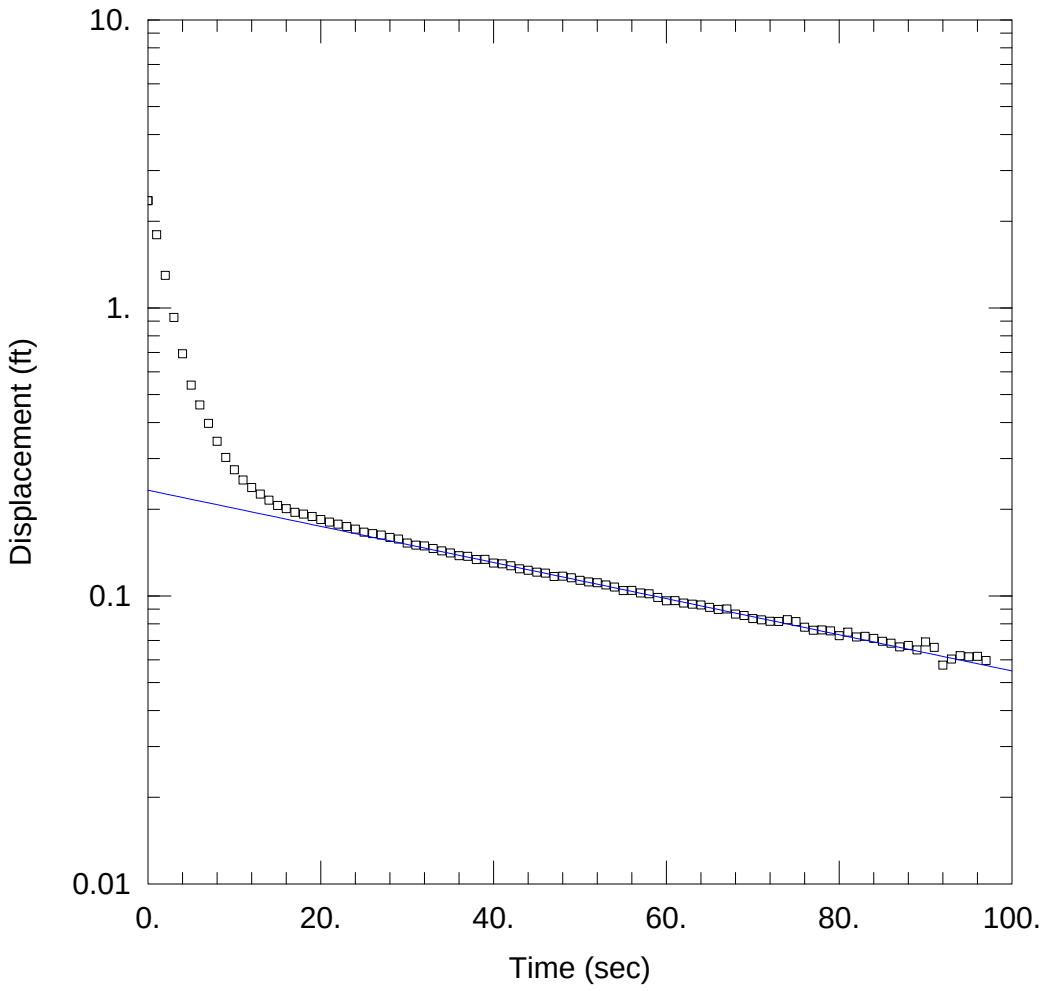
Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.128

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.006054	cm/sec
y0	0.5164	ft

$T = K*b = 3.691$ cm²/sec



WELL TEST ANALYSIS

Data Set: C:\Users\tculp\Downloads\Slug Test Data TC\mw102 aug 2019.aqt
Date: 12/26/19 Time: 13:22:17

PROJECT INFORMATION

Company: True North Consultants
Client: DNR
Project: T218038
Location: Hub Citty
Test Well: MW-102
Test Date: 8/6/19

AQUIFER DATA

Saturated Thickness: 20. ft Anisotropy Ratio (Kz/Kr): 0.5

WELL DATA (MW102)

Initial Displacement: 2.358 ft
Total Well Penetration Depth: 7. ft
Casing Radius: 0.084 ft
Static Water Column Height: 7. ft
Screen Length: 7. ft
Well Radius: 0.354 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.002844 cm/sec y0 = 0.2328 ft

Data Set: C:\Users\tculp\Downloads\Slug Test Data TC\mw102 aug 2019.aqt
Date: 12/26/19
Time: 13:23:12

PROJECT INFORMATION

Company: True North Consultants
Client: DNR
Project: T218038
Location: Hub Citty
Test Date: 8/6/19
Test Well: MW-102

AQUIFER DATA

Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 0.5

SLUG TEST WELL DATA

Test Well: MW102

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

Initial Displacement: 2.358 ft
Static Water Column Height: 7. ft
Casing Radius: 0.084 ft
Well Radius: 0.354 ft
Well Skin Radius: 1. ft
Screen Length: 7. ft
Total Well Penetration Depth: 7. ft
Corrected Casing Radius (Bouwer-Rice Method): 0.2062 ft
Gravel Pack Porosity: 0.3

No. of Observations: 98

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	2.358	49.	0.1156
1.	1.796	50.	0.1133
2.	1.298	51.	0.1118
3.	0.927	52.	0.1111
4.	0.6935	53.	0.1092
5.	0.5395	54.	0.1074
6.	0.4605	55.	0.1044
7.	0.3973	56.	0.1045
8.	0.3444	57.	0.1024
9.	0.3027	58.	0.1018
10.	0.2743	59.	0.0988
11.	0.2527	60.	0.0962
12.	0.2378	61.	0.0963
13.	0.2258	62.	0.0945
14.	0.2151	63.	0.0936
15.	0.2062	64.	0.093
16.	0.2009	65.	0.0913
17.	0.1951	66.	0.0897
18.	0.1925	67.	0.0901
19.	0.1888	68.	0.0865
20.	0.1843	69.	0.0855
21.	0.1805	70.	0.0834
22.	0.1775	71.	0.0826
23.	0.1742	72.	0.0816
24.	0.1705	73.	0.0815
25.	0.1664	74.	0.0827
26.	0.1646	75.	0.0814
27.	0.1628	76.	0.0779

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
28.	0.1597	77.	0.076
29.	0.1576	78.	0.0762
30.	0.1526	79.	0.0756
31.	0.1501	80.	0.0728
32.	0.1491	81.	0.0748
33.	0.1461	82.	0.072
34.	0.1433	83.	0.0724
35.	0.141	84.	0.0712
36.	0.1379	85.	0.0696
37.	0.1372	86.	0.0685
38.	0.1337	87.	0.0665
39.	0.134	88.	0.0673
40.	0.13	89.	0.0649
41.	0.1293	90.	0.0692
42.	0.1272	91.	0.0663
43.	0.1242	92.	0.0575
44.	0.1228	93.	0.0604
45.	0.1209	94.	0.062
46.	0.12	95.	0.0615
47.	0.1168	96.	0.0617
48.	0.1171	97.	0.0597

SOLUTION

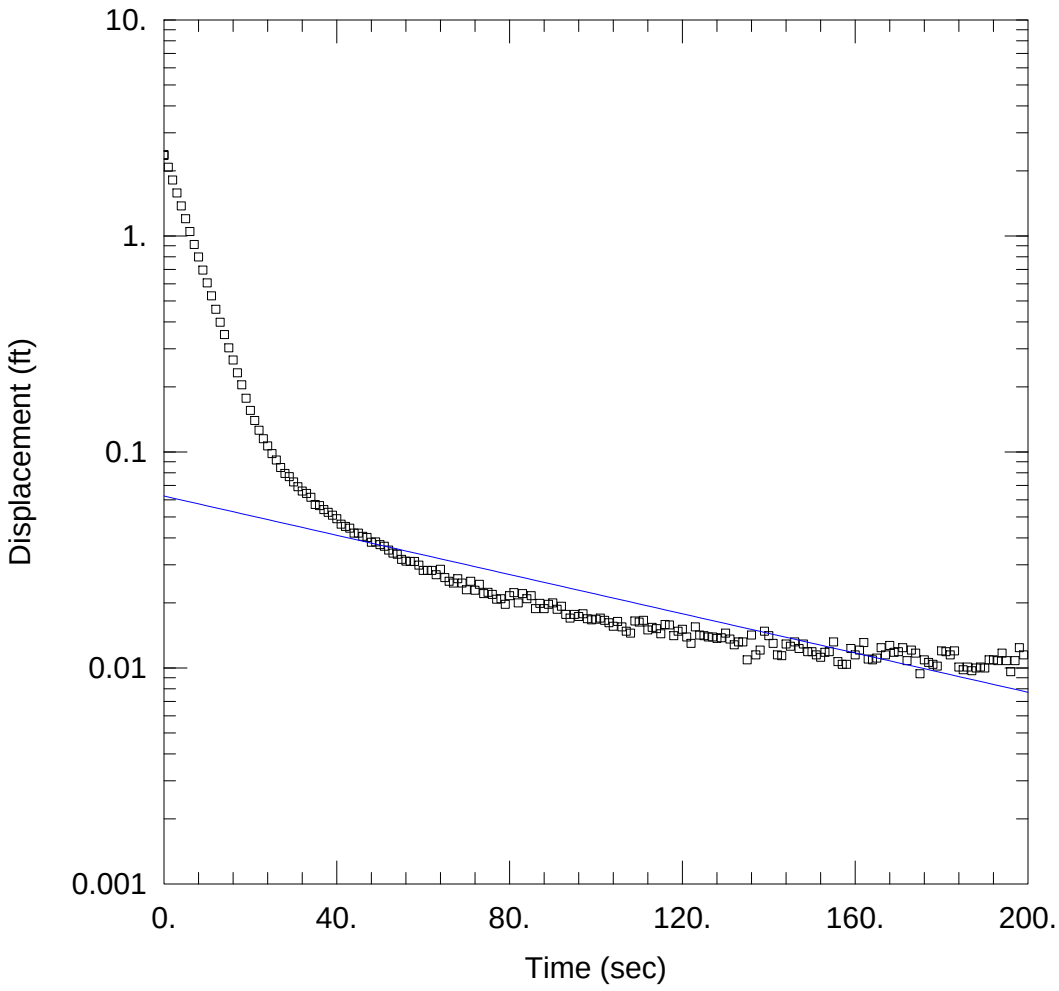
Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.128

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.002844	cm/sec
y0	0.2328	ft

$T = K*b = 1.734$ cm²/sec



WELL TEST ANALYSIS

Data Set: C:\Users\tculp\Downloads\Slug Test Data TC\MW103 aug 2019.aqt
Date: 12/26/19 Time: 16:11:07

PROJECT INFORMATION

Company: True North Consultants
Client: DNR
Project: T218038
Location: Hub Citty
Test Well: MW103
Test Date: 8/6/19

AQUIFER DATA

Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 0.5

WELL DATA (MW103)

Initial Displacement: 2.358 ft
Total Well Penetration Depth: 7. ft
Casing Radius: 0.084 ft
Static Water Column Height: 7. ft
Screen Length: 7. ft
Well Radius: 0.354 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.00206 cm/sec
y0 = 0.06248 ft

Data Set: C:\Users\tculp\Downloads\Slug Test Data TC\MW103 aug 2019.aqt
Date: 12/26/19
Time: 16:12:59

PROJECT INFORMATION

Company: True North Consultants
Client: DNR
Project: T218038
Location: Hub Citty
Test Date: 8/6/19
Test Well: MW103

AQUIFER DATA

Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 0.5

SLUG TEST WELL DATA

Test Well: MW103

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

Initial Displacement: 2.358 ft
Static Water Column Height: 7. ft
Casing Radius: 0.084 ft
Well Radius: 0.354 ft
Well Skin Radius: 1. ft
Screen Length: 7. ft
Total Well Penetration Depth: 7. ft
Corrected Casing Radius (Bouwer-Rice Method): 0.2062 ft
Gravel Pack Porosity: 0.3

No. of Observations: 200

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	2.381	100.	0.0168
1.	2.082	101.	0.017
2.	1.816	102.	0.0166
3.	1.581	103.	0.0162
4.	1.377	104.	0.0156
5.	1.202	105.	0.0164
6.	1.047	106.	0.0155
7.	0.9134	107.	0.0148
8.	0.7987	108.	0.0145
9.	0.6944	109.	0.0165
10.	0.6057	110.	0.0163
11.	0.5281	111.	0.0166
12.	0.4574	112.	0.015
13.	0.3985	113.	0.0154
14.	0.3495	114.	0.0152
15.	0.3034	115.	0.0144
16.	0.2665	116.	0.0159
17.	0.2325	117.	0.0158
18.	0.2045	118.	0.0141
19.	0.1773	119.	0.0148
20.	0.1557	120.	0.0151
21.	0.1398	121.	0.0139
22.	0.1259	122.	0.013
23.	0.1151	123.	0.0155
24.	0.1066	124.	0.0142
25.	0.0982	125.	0.0141
26.	0.0918	126.	0.0139
27.	0.0847	127.	0.0139

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
28.	0.0795	128.	0.0137
29.	0.0768	129.	0.0138
30.	0.0726	130.	0.0145
31.	0.069	131.	0.0136
32.	0.0659	132.	0.0128
33.	0.0642	133.	0.0132
34.	0.0617	134.	0.0132
35.	0.0571	135.	0.0109
36.	0.0564	136.	0.0142
37.	0.0541	137.	0.0115
38.	0.0525	138.	0.0121
39.	0.0509	139.	0.0148
40.	0.0491	140.	0.0141
41.	0.0463	141.	0.013
42.	0.0452	142.	0.0115
43.	0.0444	143.	0.0114
44.	0.0421	144.	0.0129
45.	0.0421	145.	0.0126
46.	0.0407	146.	0.0132
47.	0.0402	147.	0.0123
48.	0.0382	148.	0.0129
49.	0.0383	149.	0.0119
50.	0.0372	150.	0.0119
51.	0.0366	151.	0.0115
52.	0.0351	152.	0.0112
53.	0.034	153.	0.0118
54.	0.0336	154.	0.0119
55.	0.0318	155.	0.0132
56.	0.0312	156.	0.0107
57.	0.0311	157.	0.0104
58.	0.0311	158.	0.0104
59.	0.0299	159.	0.0123
60.	0.0283	160.	0.0115
61.	0.0283	161.	0.0121
62.	0.0283	162.	0.0131
63.	0.027	163.	0.011
64.	0.0286	164.	0.0109
65.	0.0262	165.	0.0111
66.	0.0252	166.	0.0124
67.	0.0247	167.	0.0115
68.	0.0259	168.	0.0127
69.	0.0247	169.	0.0118
70.	0.023	170.	0.0119
71.	0.0252	171.	0.0124
72.	0.0229	172.	0.0108
73.	0.0244	173.	0.0121
74.	0.0221	174.	0.0117
75.	0.0224	175.	0.0094
76.	0.0219	176.	0.0109
77.	0.0208	177.	0.0106
78.	0.0209	178.	0.0104
79.	0.0197	179.	0.0102
80.	0.0216	180.	0.012
81.	0.0223	181.	0.0119
82.	0.02	182.	0.0115
83.	0.0221	183.	0.012
84.	0.0209	184.	0.0101
85.	0.0216	185.	0.0098
86.	0.0188	186.	0.0101
87.	0.0199	187.	0.0097
88.	0.0188	188.	0.01
89.	0.0197	189.	0.0101
90.	0.02	190.	0.01
91.	0.0187	191.	0.0109
92.	0.0193	192.	0.0109
93.	0.0177	193.	0.0108

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
94.	0.017	194.	0.0117
95.	0.0177	195.	0.0108
96.	0.0173	196.	0.0096
97.	0.0178	197.	0.0108
98.	0.0169	198.	0.0124
99.	0.0167	199.	0.0115

SOLUTION

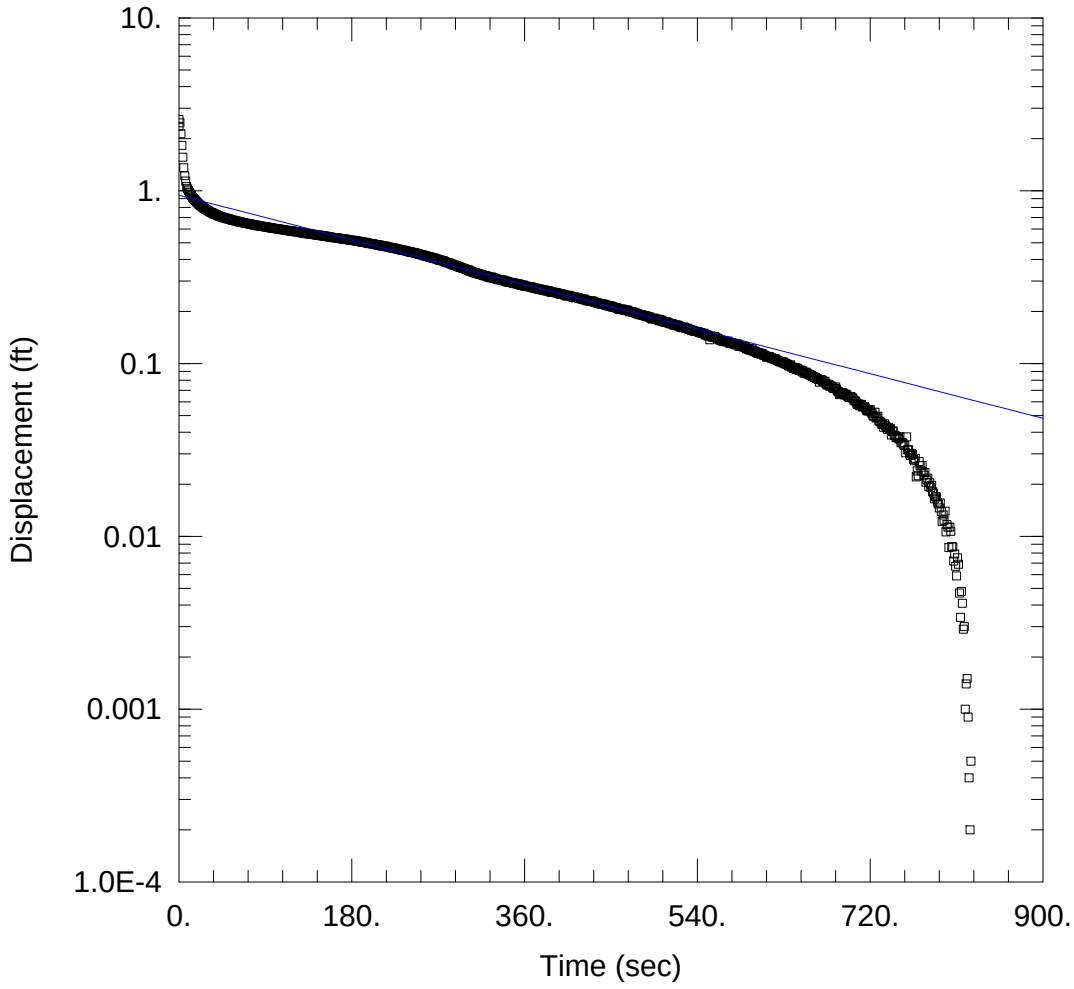
Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.128

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.002547	cm/sec
y0	0.08514	ft

$T = K*b = 1.553$ cm²/sec



WELL TEST ANALYSIS

Data Set: C:\Users\tculp\Downloads\Slug Test Data TC\mw104 aug 2019.aqt
Date: 12/26/19 Time: 16:15:22

PROJECT INFORMATION

Company: True North Consultants
Client: DNR
Project: T218038
Location: Hub Citty
Test Well: MW104
Test Date: 8/6/19

AQUIFER DATA

Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 0.5

WELL DATA (MW104)

Initial Displacement: 2.358 ft
Total Well Penetration Depth: 7. ft
Casing Radius: 0.084 ft
Static Water Column Height: 7. ft
Screen Length: 7. ft
Well Radius: 0.354 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0006505 cm/sec
y0 = 0.9414 ft

Data Set: C:\Users\tculp\Downloads\Slug Test Data TC\mw104 aug 2019.aqt
Date: 12/26/19
Time: 16:17:27

PROJECT INFORMATION

Company: True North Consultants
Client: DNR
Project: T218038
Location: Hub Citty
Test Date: 8/6/19
Test Well: MW104

AQUIFER DATA

Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 0.5

SLUG TEST WELL DATA

Test Well: MW104

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

Initial Displacement: 2.358 ft
Static Water Column Height: 7. ft
Casing Radius: 0.084 ft
Well Radius: 0.354 ft
Well Skin Radius: 1. ft
Screen Length: 7. ft
Total Well Penetration Depth: 7. ft
Corrected Casing Radius (Bouwer-Rice Method): 0.2062 ft
Gravel Pack Porosity: 0.3

No. of Observations: 827

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	2.577	414.	0.2415
1.	2.471	415.	0.2411
2.	2.136	416.	0.2392
3.	1.829	417.	0.2382
4.	1.565	418.	0.2376
5.	1.358	419.	0.237
6.	1.22	420.	0.2365
7.	1.137	421.	0.2344
8.	1.057	422.	0.2363
9.	1.025	423.	0.234
10.	0.9997	424.	0.2323
11.	0.9774	425.	0.2308
12.	0.9581	426.	0.2316
13.	0.941	427.	0.2308
14.	0.9179	428.	0.2294
15.	0.9037	429.	0.2307
16.	0.8908	430.	0.2283
17.	0.8777	431.	0.2299
18.	0.8665	432.	0.2282
19.	0.855	433.	0.2254
20.	0.8425	434.	0.2259
21.	0.831	435.	0.2253
22.	0.8238	436.	0.224
23.	0.8137	437.	0.2231
24.	0.8081	438.	0.2215
25.	0.8001	439.	0.2224
26.	0.7919	440.	0.2214
27.	0.7853	441.	0.2201

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
28.	0.7782	442.	0.2207
29.	0.7745	443.	0.2197
30.	0.7683	444.	0.2182
31.	0.7617	445.	0.2184
32.	0.755	446.	0.2165
33.	0.7513	447.	0.2157
34.	0.7467	448.	0.2162
35.	0.7429	449.	0.2149
36.	0.7362	450.	0.215
37.	0.7323	451.	0.2123
38.	0.7296	452.	0.2128
39.	0.7257	453.	0.2113
40.	0.7217	454.	0.2109
41.	0.7155	455.	0.2101
42.	0.7135	456.	0.2103
43.	0.7105	457.	0.2084
44.	0.7072	458.	0.2064
45.	0.7044	459.	0.2064
46.	0.7001	460.	0.2058
47.	0.6981	461.	0.2062
48.	0.6955	462.	0.2066
49.	0.6929	463.	0.2053
50.	0.6896	464.	0.203
51.	0.6872	465.	0.2032
52.	0.6857	466.	0.2038
53.	0.6833	467.	0.204
54.	0.6814	468.	0.202
55.	0.6768	469.	0.1995
56.	0.6754	470.	0.1999
57.	0.6732	471.	0.1997
58.	0.6734	472.	0.1987
59.	0.6681	473.	0.198
60.	0.6673	474.	0.1981
61.	0.6642	475.	0.1964
62.	0.6623	476.	0.1958
63.	0.6612	477.	0.1951
64.	0.6592	478.	0.1938
65.	0.6564	479.	0.1928
66.	0.6544	480.	0.1919
67.	0.6534	481.	0.1915
68.	0.6517	482.	0.1923
69.	0.65	483.	0.1899
70.	0.6468	484.	0.1899
71.	0.6463	485.	0.189
72.	0.6453	486.	0.1881
73.	0.6419	487.	0.1884
74.	0.6421	488.	0.1869
75.	0.6383	489.	0.1862
76.	0.6388	490.	0.1862
77.	0.6363	491.	0.1839
78.	0.6343	492.	0.1825
79.	0.6334	493.	0.1807
80.	0.6318	494.	0.1828
81.	0.6305	495.	0.1831
82.	0.6277	496.	0.1816
83.	0.6267	497.	0.1797
84.	0.6261	498.	0.1809
85.	0.6255	499.	0.1794
86.	0.6228	500.	0.1768
87.	0.621	501.	0.1796
88.	0.6207	502.	0.1764
89.	0.618	503.	0.1781
90.	0.6189	504.	0.1751
91.	0.6173	505.	0.174
92.	0.6152	506.	0.175
93.	0.6133	507.	0.173

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
94.	0.6128	508.	0.1742
95.	0.6117	509.	0.1723
96.	0.6076	510.	0.1718
97.	0.6097	511.	0.1706
98.	0.6072	512.	0.1696
99.	0.605	513.	0.1707
100.	0.6045	514.	0.1697
101.	0.6043	515.	0.1673
102.	0.603	516.	0.1669
103.	0.6004	517.	0.167
104.	0.6007	518.	0.1675
105.	0.5983	519.	0.1651
106.	0.5979	520.	0.1668
107.	0.5944	521.	0.1646
108.	0.5959	522.	0.1628
109.	0.5937	523.	0.1628
110.	0.5919	524.	0.1616
111.	0.5891	525.	0.1609
112.	0.5916	526.	0.1627
113.	0.5875	527.	0.161
114.	0.5877	528.	0.1601
115.	0.5881	529.	0.16
116.	0.5847	530.	0.1596
117.	0.584	531.	0.1578
118.	0.5841	532.	0.1578
119.	0.5837	533.	0.1566
120.	0.5806	534.	0.1552
121.	0.5805	535.	0.1558
122.	0.5784	536.	0.1548
123.	0.5764	537.	0.1534
124.	0.5759	538.	0.1533
125.	0.5741	539.	0.1532
126.	0.5744	540.	0.1534
127.	0.5727	541.	0.1525
128.	0.572	542.	0.1514
129.	0.5699	543.	0.1506
130.	0.5693	544.	0.1503
131.	0.5663	545.	0.1488
132.	0.5683	546.	0.149
133.	0.5654	547.	0.1498
134.	0.5621	548.	0.1466
135.	0.566	549.	0.1459
136.	0.5631	550.	0.1466
137.	0.5618	551.	0.1449
138.	0.5615	552.	0.144
139.	0.5596	553.	0.1371
140.	0.5587	554.	0.1444
141.	0.5575	555.	0.1424
142.	0.5569	556.	0.1424
143.	0.5543	557.	0.1415
144.	0.554	558.	0.1432
145.	0.5541	559.	0.1415
146.	0.5531	560.	0.1403
147.	0.5503	561.	0.1399
148.	0.5506	562.	0.1387
149.	0.5487	563.	0.1373
150.	0.5476	564.	0.1364
151.	0.5476	565.	0.1366
152.	0.5457	566.	0.1346
153.	0.5457	567.	0.1356
154.	0.5436	568.	0.1355
155.	0.5427	569.	0.1345
156.	0.5403	570.	0.1334
157.	0.5393	571.	0.1336
158.	0.5394	572.	0.1349
159.	0.5374	573.	0.1319

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
160.	0.5364	574.	0.1308
161.	0.5362	575.	0.1307
162.	0.5351	576.	0.1311
163.	0.5333	577.	0.1312
164.	0.5338	578.	0.1293
165.	0.5326	579.	0.1295
166.	0.5319	580.	0.1283
167.	0.5308	581.	0.1292
168.	0.5292	582.	0.1298
169.	0.5281	583.	0.1261
170.	0.5271	584.	0.1265
171.	0.5259	585.	0.1258
172.	0.5259	586.	0.1259
173.	0.5233	587.	0.1257
174.	0.5225	588.	0.1243
175.	0.5231	589.	0.1258
176.	0.5208	590.	0.1241
177.	0.519	591.	0.1218
178.	0.5184	592.	0.1223
179.	0.5177	593.	0.1208
180.	0.5164	594.	0.1215
181.	0.5173	595.	0.1196
182.	0.5147	596.	0.1198
183.	0.5144	597.	0.1217
184.	0.5123	598.	0.118
185.	0.5115	599.	0.1181
186.	0.5107	600.	0.1176
187.	0.5092	601.	0.1162
188.	0.5097	602.	0.1161
189.	0.5064	603.	0.1146
190.	0.5056	604.	0.1152
191.	0.5045	605.	0.115
192.	0.5031	606.	0.1133
193.	0.5024	607.	0.1142
194.	0.5023	608.	0.1135
195.	0.4995	609.	0.1119
196.	0.4988	610.	0.1113
197.	0.4973	611.	0.1108
198.	0.4945	612.	0.109
199.	0.4953	613.	0.1093
200.	0.4938	614.	0.1092
201.	0.493	615.	0.1098
202.	0.4925	616.	0.1081
203.	0.4903	617.	0.1076
204.	0.4895	618.	0.1077
205.	0.4883	619.	0.1069
206.	0.4862	620.	0.1057
207.	0.4855	621.	0.1068
208.	0.484	622.	0.1054
209.	0.4846	623.	0.1045
210.	0.4822	624.	0.1038
211.	0.4798	625.	0.103
212.	0.4796	626.	0.1022
213.	0.4782	627.	0.102
214.	0.4783	628.	0.1028
215.	0.4781	629.	0.1007
216.	0.4751	630.	0.1021
217.	0.4739	631.	0.0997
218.	0.4722	632.	0.1002
219.	0.4706	633.	0.0989
220.	0.4701	634.	0.099
221.	0.4674	635.	0.0967
222.	0.467	636.	0.0971
223.	0.4668	637.	0.0982
224.	0.4648	638.	0.0956
225.	0.4638	639.	0.0953

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
226.	0.4627	640.	0.0938
227.	0.4606	641.	0.0944
228.	0.4608	642.	0.0949
229.	0.4565	643.	0.0926
230.	0.4569	644.	0.094
231.	0.4547	645.	0.0927
232.	0.4534	646.	0.0911
233.	0.4513	647.	0.0914
234.	0.4517	648.	0.0916
235.	0.4516	649.	0.0896
236.	0.4496	650.	0.0906
237.	0.4481	651.	0.0881
238.	0.4449	652.	0.088
239.	0.4439	653.	0.0892
240.	0.4446	654.	0.0882
241.	0.4409	655.	0.0869
242.	0.4415	656.	0.0868
243.	0.4388	657.	0.0865
244.	0.4392	658.	0.0849
245.	0.4369	659.	0.0855
246.	0.4367	660.	0.0839
247.	0.4339	661.	0.0838
248.	0.434	662.	0.0829
249.	0.4319	663.	0.0831
250.	0.4297	664.	0.0819
251.	0.428	665.	0.0815
252.	0.4271	666.	0.0808
253.	0.4259	667.	0.078
254.	0.4245	668.	0.0807
255.	0.4213	669.	0.0808
256.	0.4204	670.	0.079
257.	0.4197	671.	0.0796
258.	0.4177	672.	0.0782
259.	0.4153	673.	0.0789
260.	0.4161	674.	0.0764
261.	0.4132	675.	0.0752
262.	0.4124	676.	0.0751
263.	0.4119	677.	0.0758
264.	0.4088	678.	0.0739
265.	0.4062	679.	0.0743
266.	0.4076	680.	0.0735
267.	0.4046	681.	0.0724
268.	0.404	682.	0.0716
269.	0.4008	683.	0.0718
270.	0.3989	684.	0.0732
271.	0.3976	685.	0.0711
272.	0.3958	686.	0.0693
273.	0.3958	687.	0.0686
274.	0.3932	688.	0.066
275.	0.3932	689.	0.067
276.	0.3915	690.	0.0678
277.	0.388	691.	0.0676
278.	0.3857	692.	0.0674
279.	0.3835	693.	0.0659
280.	0.3833	694.	0.0659
281.	0.3825	695.	0.0665
282.	0.3803	696.	0.0651
283.	0.3788	697.	0.0642
284.	0.3754	698.	0.0636
285.	0.3745	699.	0.0635
286.	0.3717	700.	0.0644
287.	0.3714	701.	0.0635
288.	0.3698	702.	0.063
289.	0.3693	703.	0.0613
290.	0.3655	704.	0.0612
291.	0.365	705.	0.0604

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
292.	0.3612	706.	0.0589
293.	0.3608	707.	0.0579
294.	0.3594	708.	0.0584
295.	0.3568	709.	0.057
296.	0.3553	710.	0.0575
297.	0.3544	711.	0.058
298.	0.3527	712.	0.056
299.	0.3497	713.	0.0565
300.	0.3497	714.	0.0564
301.	0.346	715.	0.0552
302.	0.3476	716.	0.0538
303.	0.3425	717.	0.0533
304.	0.343	718.	0.0532
305.	0.3407	719.	0.0536
306.	0.339	720.	0.0542
307.	0.3361	721.	0.0524
308.	0.335	722.	0.0513
309.	0.3344	723.	0.0498
310.	0.3328	724.	0.0495
311.	0.3328	725.	0.0523
312.	0.33	726.	0.0485
313.	0.3283	727.	0.0485
314.	0.3278	728.	0.0495
315.	0.3284	729.	0.0466
316.	0.325	730.	0.0462
317.	0.3235	731.	0.0458
318.	0.3222	732.	0.0445
319.	0.3228	733.	0.0445
320.	0.3212	734.	0.0428
321.	0.3202	735.	0.0447
322.	0.3172	736.	0.0436
323.	0.3158	737.	0.0425
324.	0.3168	738.	0.0416
325.	0.3132	739.	0.0428
326.	0.3163	740.	0.0417
327.	0.3123	741.	0.042
328.	0.3123	742.	0.0386
329.	0.3119	743.	0.0404
330.	0.3101	744.	0.0407
331.	0.3087	745.	0.0385
332.	0.3063	746.	0.0383
333.	0.305	747.	0.0372
334.	0.3064	748.	0.0377
335.	0.3044	749.	0.037
336.	0.3037	750.	0.0366
337.	0.3044	751.	0.0376
338.	0.303	752.	0.0348
339.	0.3002	753.	0.0349
340.	0.3009	754.	0.0346
341.	0.2988	755.	0.0336
342.	0.2963	756.	0.0337
343.	0.2969	757.	0.0304
344.	0.2942	758.	0.0376
345.	0.2951	759.	0.0316
346.	0.2945	760.	0.0317
347.	0.2936	761.	0.03
348.	0.2915	762.	0.0294
349.	0.2923	763.	0.0302
350.	0.2899	764.	0.0298
351.	0.2896	765.	0.0279
352.	0.2898	766.	0.0274
353.	0.2878	767.	0.0283
354.	0.289	768.	0.0221
355.	0.2849	769.	0.0239
356.	0.2844	770.	0.0224
357.	0.2844	771.	0.0271

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
358.	0.2835	772.	0.0257
359.	0.2848	773.	0.024
360.	0.28	774.	0.0257
361.	0.2803	775.	0.0237
362.	0.2806	776.	0.0226
363.	0.2789	777.	0.0234
364.	0.2781	778.	0.0206
365.	0.2786	779.	0.0212
366.	0.2784	780.	0.0217
367.	0.2771	781.	0.0194
368.	0.2751	782.	0.0204
369.	0.2752	783.	0.0192
370.	0.274	784.	0.0197
371.	0.2716	785.	0.0181
372.	0.2727	786.	0.0178
373.	0.2711	787.	0.0165
374.	0.27	788.	0.0169
375.	0.2699	789.	0.0169
376.	0.2694	790.	0.0158
377.	0.2684	791.	0.0154
378.	0.2669	792.	0.0146
379.	0.2665	793.	0.0156
380.	0.2657	794.	0.0139
381.	0.2665	795.	0.0122
382.	0.2643	796.	0.0133
383.	0.2629	797.	0.0124
384.	0.2638	798.	0.014
385.	0.2632	799.	0.0106
386.	0.2618	800.	0.0117
387.	0.2593	801.	0.0113
388.	0.2586	802.	0.0086
389.	0.2591	803.	0.0113
390.	0.2577	804.	0.0107
391.	0.2579	805.	0.0087
392.	0.2578	806.	0.0087
393.	0.2565	807.	0.0072
394.	0.2563	808.	0.0079
395.	0.2545	809.	0.0067
396.	0.2539	810.	0.0059
397.	0.2513	811.	0.0075
398.	0.2523	812.	0.0069
399.	0.2519	813.	0.0047
400.	0.2512	814.	0.0034
401.	0.2499	815.	0.0048
402.	0.2496	816.	0.0041
403.	0.2473	817.	0.0029
404.	0.2455	818.	0.003
405.	0.2472	819.	0.001
406.	0.2485	820.	0.0014
407.	0.246	821.	0.0015
408.	0.2449	822.	0.0009
409.	0.2445	823.	0.0004
410.	0.2426	824.	0.0002
411.	0.2409	825.	0.0005
412.	0.243	826.	0.
413.	0.2399		

SOLUTION

Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.128

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.0007559	cm/sec
y0	0.8925	ft

T = K*b = 0.4608 cm²/sec

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
K	0.0007167	1.372E-5	+/- 2.693E-5	52.24	cm/sec
y0	0.9809	0.01277	+/- 0.02507	76.81	ft

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

T = K*b = 0.4369 cm²/sec

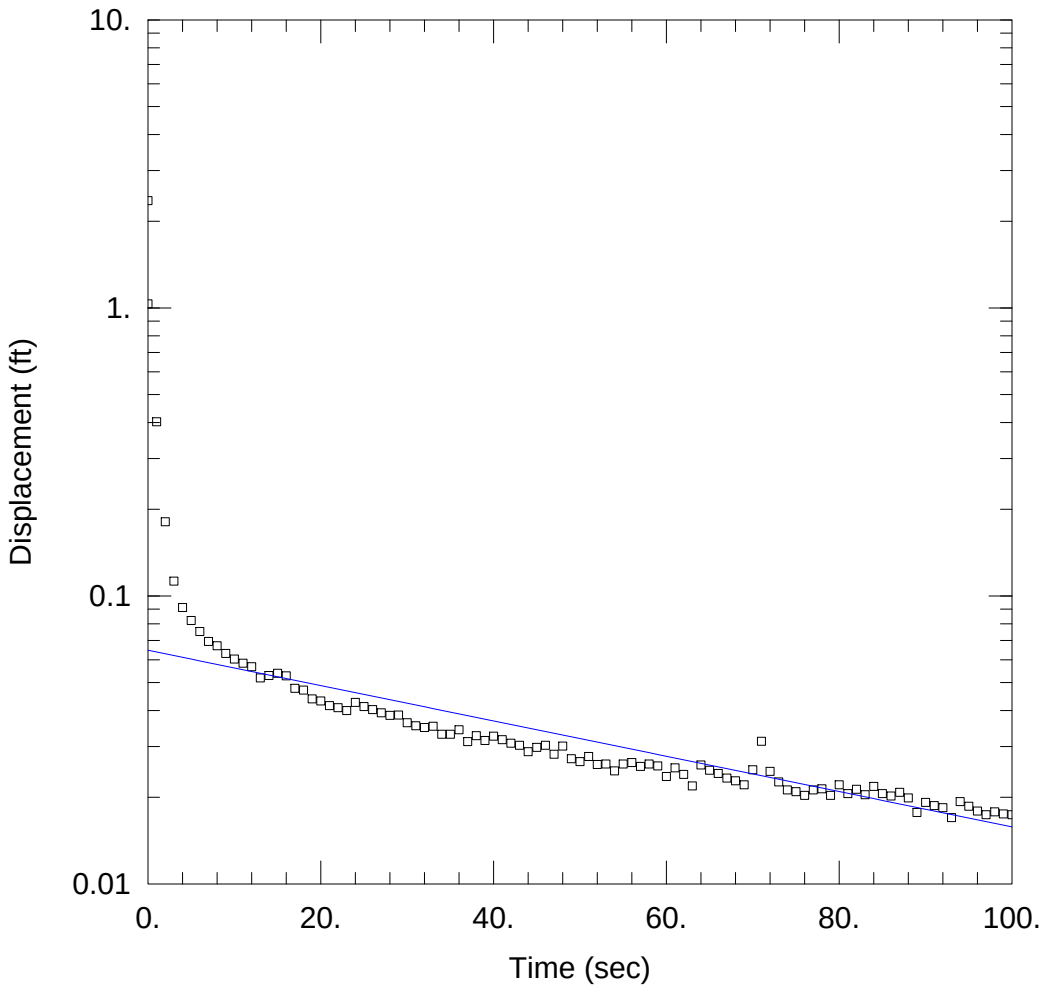
Parameter Correlations

	K	y0
K	1.00	0.72
y0	0.72	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . . 8.958 ft^2
Variance . . . . . 0.01086 ft^2
Std. Deviation . . . . . 0.1042 ft
Mean . . . . . -0.0005084 ft
No. of Residuals 827
No. of Estimates 2



WELL TEST ANALYSIS

Data Set: C:\Users\tculp\Downloads\Slug Test Data TC\mw105 aug 2019.aqt
Date: 12/26/19 Time: 16:19:16

PROJECT INFORMATION

Company: True North Consultants
Client: DNR
Project: T218038
Location: Hub Citty
Test Well: MW105
Test Date: 8/6/19

AQUIFER DATA

Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 0.5

WELL DATA (MW105)

Initial Displacement: 2.358 ft
Total Well Penetration Depth: 7. ft
Casing Radius: 0.084 ft
Static Water Column Height: 7. ft
Screen Length: 7. ft
Well Radius: 0.354 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.002781 cm/sec
y0 = 0.06475 ft

Data Set: C:\Users\tculp\Downloads\Slug Test Data TC\mw105 aug 2019.aqt
Date: 12/26/19
Time: 16:20:11

PROJECT INFORMATION

Company: True North Consultants
Client: DNR
Project: T218038
Location: Hub Citty
Test Date: 8/6/19
Test Well: MW105

AQUIFER DATA

Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 0.5

SLUG TEST WELL DATA

Test Well: MW105

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

Initial Displacement: 2.358 ft
Static Water Column Height: 7. ft
Casing Radius: 0.084 ft
Well Radius: 0.354 ft
Well Skin Radius: 1. ft
Screen Length: 7. ft
Total Well Penetration Depth: 7. ft
Corrected Casing Radius (Bouwer-Rice Method): 0.2062 ft
Gravel Pack Porosity: 0.3

No. of Observations: 101

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.033	51.	0.0277
1.	0.4027	52.	0.026
2.	0.1809	53.	0.0261
3.	0.1125	54.	0.0247
4.	0.0912	55.	0.0261
5.	0.0822	56.	0.0264
6.	0.0752	57.	0.0256
7.	0.0695	58.	0.0261
8.	0.0671	59.	0.0257
9.	0.0631	60.	0.0236
10.	0.0604	61.	0.0253
11.	0.0584	62.	0.024
12.	0.0568	63.	0.0219
13.	0.0519	64.	0.0259
14.	0.0529	65.	0.0248
15.	0.0539	66.	0.0242
16.	0.0528	67.	0.0233
17.	0.0478	68.	0.0228
18.	0.0471	69.	0.0221
19.	0.0439	70.	0.0249
20.	0.0432	71.	0.0313
21.	0.0416	72.	0.0246
22.	0.0409	73.	0.0226
23.	0.04	74.	0.0212
24.	0.0427	75.	0.0209
25.	0.0413	76.	0.0203
26.	0.0403	77.	0.0212
27.	0.0393	78.	0.0214

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
28.	0.0385	79.	0.0203
29.	0.0386	80.	0.0221
30.	0.0363	81.	0.0206
31.	0.0354	82.	0.0213
32.	0.0349	83.	0.0204
33.	0.0353	84.	0.0218
34.	0.0331	85.	0.0206
35.	0.0331	86.	0.0202
36.	0.0343	87.	0.0208
37.	0.0312	88.	0.0199
38.	0.0327	89.	0.0177
39.	0.0315	90.	0.0192
40.	0.0326	91.	0.0187
41.	0.0317	92.	0.0184
42.	0.0308	93.	0.017
43.	0.0303	94.	0.0193
44.	0.0288	95.	0.0186
45.	0.0298	96.	0.0179
46.	0.0303	97.	0.0174
47.	0.0282	98.	0.0178
48.	0.0301	99.	0.0175
49.	0.0272	100.	0.0174
50.	0.0266		

SOLUTION

Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 2.128

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.002781	cm/sec
y0	0.06475	ft

$T = K*b = 1.695$ cm²/sec