

# SITE INVESTIGATION REPORT

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**Former Chippewa Quick Mart**  
**WDNR BRRTS # 03-02-580226**  
**WDNR FID # 802025180**  
**112 East Broadway, Glidden, WI**

**November 2022**

Prepared by:

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# Site Investigation Report

**Former Chippewa Quick Mart  
122 East Broadway  
Glidden, WI  
BRRTS# 03-02-580226**

**October 2022  
MSA Project No. 21891000**

Prepared for:

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**EXECUTIVE SUMMARY**

The Former Chippewa Quick Mart property (the Site) is located at 122 East Broadway in Glidden, Ashland County, Wisconsin at the northeast corner of the intersection of Wisconsin State Trunk Highway (STH) 13 and North Grant Street. The site is currently occupied by an approximately 2,240-square foot, slab-on-grade, single story retail building located on the northwest portion of the property and a dispenser canopy located on the southeast portion of the property. The remaining portion of the site consists of paved or gravel parking and drive areas.

From at least 1939 and the mid- to late-1990's, a two-story building with commercial space on the ground floor and residential units on the second floor was located on the Site. The gas station currently occupying the Site was constructed in 1998 and contained a convenience store, dispenser islands and the associated petroleum underground storage tanks (USTs) that were subsequently removed in September 2017. Area land use in the vicinity of the Site is mixed commercial and residential. Adjoining properties consist of an alley to the southeast with residential properties beyond, STH 13 (East Broadway) to the southwest with a vacant lot and commercial properties beyond, North Grant Street to the northwest with a restaurant and residential properties beyond, and a bar and restaurant property to the north with additional commercial properties beyond. The location of the Site is shown on **Attachment B.1.a** and prominent site features are shown on **Attachment B.1.b**.

Surficial geology is described as Pleistocene deposits of hummocky stream sediment overlain by silty materials. Surficial deposits are expected to range in thickness from 100 to 300 feet bgs in the area of the Site. Bedrock geology consists of gneiss and amphibolite of late Archean age. Groundwater at the Site has historically been identified between approximately five feet bgs in temporary well TW-2 located to the southwest of the Site and eighteen feet bgs in TW-6 to the northeast of the Site indicating groundwater may be residing in a perched condition. Groundwater flow direction has been historically calculated to the northeast towards the East Branch of the Chippewa River.

The Site has two listings in the Wisconsin Department of Natural Resources (WDNR) Bureau for Remediation and Redevelopment's Tracking System (BRRTS). Glidden Amoco (BRRTS# 03-02-552129) is listed as a closed leaking underground storage tank site with the site address of 288 Grant Street but is further described as at the northeast corner of the intersection of STH 13 and CTH N (Grant Street). The Glidden Amoco investigation was associated with the petroleum release from the tank basin and dispenser islands located near the southern corner of the property and was identified in 2008 during a Phase II Environmental Site Assessment (ESA) conducted by Northern Environmental. A subsequent Site Investigation confirmed that polyaromatic hydrocarbon (PAH) contamination was present on the Site and was confined to the southern portion of the property near the southern end of the tank basin and extending to the south. Additional site investigation conducted by Northern Environmental delineated the soil contamination within the WDOT right-of-way on STH13, determined groundwater flow direction to be generally north towards the East Branch of the Chippewa River, and verified limited impact to the groundwater associated with this tank system. The case was closed under the jurisdiction of the Wisconsin Department of Commerce in 2009 with continuing obligations to maintain an impervious cap to prevent direct contact with concentrations of benzo(a)pyrene that exceeded NR720 non-industrial direct contact standards.

The current site investigation of the Chippewa Quick Mart (BRRS# 03-02-580226) was opened in September 2017 after soil contamination was identified during the Tank System Site Assessment (TSSA) sampling completed during the removal of the four USTs and associated piping and dispensers from the Site. Previous sampling identified petroleum soil contamination located near the southern side of the 1,000-gallon diesel UST and the northern gasoline dispenser. On September 9, 2022, MSA conducted additional site investigation sampling activities outlined in the workplan submitted by Condition Services LLC to WDNR in July 2022. Six direct push borings were advanced at locations shown on **Attachment B.1.b**. Soil and groundwater samples were collected from each boring and analyzed for PVOCs. Two soil gas vapor sample points were advanced to the east of the former dispenser area and tank basin to determine if vapor intrusion was a potential threat to neighboring residential properties to the east. Two sub-slab soil vapor points were also installed within the onsite building and sub-slab soil gas samples were collected and analyzed for VOCs to assess the potential for vapor intrusion.

Tetrachloroethene (PCE) was detected in the soil gas vapor samples SV-1 and SV-2 at concentrations exceeding WDNR Residential VRSLs. Additional laboratory analysis was then completed on groundwater samples collected from soil borings MSA-GP-1, MSA-GP-2, MSA-GP-4 and MSA-GP-6 for VOCs following the detection to determine if PCE was present in the groundwater at the Site. Groundwater samples collected from soil borings MSA-GP-1 and MSA-GP-2 detected PCE at concentrations exceeding WDNR PALs. PCE was not detected in either of the sub-slab soil vapor samples collected inside the building or in the groundwater samples collected from borings advanced further west and near the building (MSA-GP-4 and MSA-GP-6). Considering there were no previous detections of PCE in historical site sampling data and historical site activities do not appear to indicate the use of PCE, it appears that these detections are related to an offsite source or the adjacent sewer line and are not related to the current petroleum release.

Based on the results of this additional site investigation, it appears that the vertical and horizontal extent of petroleum-related constituents has been defined. No significant petroleum soil contamination was encountered in the area where soil contamination was encountered during TSSA sampling activities. Based on the limited extent of residual petroleum soil contamination, MSA recommends that a case closure request be prepared for the Site.

**SITE INFORMATION**

**Responsible Party:** Dunlavy Pro LLC  
Mike Dunlavy  
77794 Hill Road  
Glidden, Wisconsin 54527

**Property Owner:** Dunlavy Pro LLC  
Mike Dunlavy  
77794 Hill Road  
Glidden, Wisconsin 54527

**Consultant:** MSA Professional Services, Inc.  
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**Site Location:** Former Chippewa Quick Mart  
122 East Broadway  
Glidden, Wisconsin 54527  
Parcel #012-00292-0000  
SW ¼ of the NE ¼ of Sec. 11, T42N, R02W  
Ashland County, Town of Jacobs  
WTM91: 475501.1, 629215.9

The Site location and layout are illustrated on **Attachments B.1.a** and **B.1.b**, respectively.

**Surrounding Land Use:** Surrounding property use is primarily commercial and residential. Ashland County and personnel with the Glidden Area Development Corporation were contacted to obtain a zoning map for the area, but both parties indicated that no such resources are available. Glidden/Town of Jacobs do not currently have zoning ordinances or a zoning map.

**SITE CHARACTERISTICS**

The Site is located at 122 East Broadway in Glidden, Ashland County, Wisconsin at the northeast corner of the intersection of Wisconsin State Trunk Highway (STH) 13 and North Grant Street. The Site is identified as Ashland County parcel 012-00292-0000 and consists of 0.344 acres of commercial land. The Site is currently occupied by an approximately 2,240-square foot, slab-on-grade, single story retail building on the northwest portion of the property and a dispenser canopy on the southeast portion of the property. The remaining portion of the Site consists of paved or gravel parking and drive areas. All former tanks, dispensers and associated piping were removed from the site in September 2017.



Surficial geology is described as Pleistocene deposits of hummocky stream sediment overlain by silty materials (Clayton, 1985). Surficial deposits are expected to range in thickness from 100 to 300 feet bgs in the area of the Site. Bedrock geology consists of gneiss and amphibolite of late Archean age (Mudrey et al, 1982).

Lithology at the Site encountered during investigatory boring activities included six inches to one foot of gravelly sand underlain by layers of brown sand and silty sand to the boring terminus at approximately 16 feet below ground surface (bgs). Groundwater at the Site has been historically identified between approximately five and sixteen feet bgs indicating groundwater may be residing in a perched condition. Based on topography and surface water flow, groundwater flow on the Site is interpreted to be to the north/northeast towards the East Branch of the Chippewa River.

#### **ACTIVE BRRTS ACTIVITIES ADJACENT TO THE SITE**

##### **Glidden Food Mart (BRRTS #03-02-000979)**

The Glidden Food Mart site is located at 137 East Broadway, Glidden, Ashland County, Wisconsin to the south of the subject Site. The site was opened on December 20, 1995, for a release of gasoline and diesel fuel associated with fueling operations at the property. Based on the BRRTS website, the site status is open and it does not appear that site investigation activities have taken place at this property since a site investigation work plan was submitted for WDNR review in March 1996.

#### **CLOSED BRRTS ACTIVITIES ADJACENT TO THE SITE**

##### **Dan's Mobil (BRRTS #03-02-170209)**

The Dan's Mobil site is listed at 173 East Broadway, Glidden, Wisconsin to the southwest of the subject Site. The site was opened on August 19, 1997 after a release of unleaded gasoline associated with fueling operations at the property was identified. A site investigation was conducted and the site was granted closure on December 12, 2007, with continuing obligations for residual soil contamination, groundwater contamination above Chapter NR 140 enforcement standards, and residual contamination in the right of way.

#### **SITE HISTORICAL SUMMARY**

The Site was historically occupied by a mixed use commercial and residential building between at least 1939 to the late 1990's, with commercial storefront on the ground floor and residential units on the second floor. The current commercial retail/convenience store building was constructed in 1998.

One 1,000-gallon off-road diesel UST, one 2,000-gallon on-road diesel UST, one 4,000-gallon gasoline UST and one 8,000-gallon gasoline UST were previously located on the Site from at least 1998 to 2017. All four USTs were closed and removed from the Site in 2017. The Site currently has two listings in the

WDNR BRRTS database - one closed LUST listing (BRRTS #03-02-552129), and one open LUST listing (BRRTS #03-02-580226).

**GLIDDEN AMOCO (BRRTS #03-02-552129)**

Northern Environmental conducted a site investigation of the leaking tank system while under BRRTS# 03-02-552129. Investigation activities performed by Northern Environmental began were initiated by a Phase II Environmental Site Assessment (ESA) report dated November 3, 2008. This Phase II ESA was performed as part of pre-acquisition due diligence. Six initial soil samples were collected from soil borings B100 through B600 and fourteen subsequent soil samples were collected from soil borings B700 through B2000 advanced by Northern Environmental. Soil analytical results indicated concentrations of petroleum compounds above WDNR groundwater pathway residual contaminant levels (RCLs) in soil borings B300, B900, B1000 and B1100. Soil sample B900 also contained elevated concentrations of PAHs including benzo(a)pyrene at a concentration of 5,700 µg/kg. Northern Environmental also collected groundwater samples from five temporary wells at the site as part of Phase II ESA sampling activities. Benzene was detected above the preventive action limit (PAL) in the off-site, upgradient temporary well sample TW-1. There were no PAL or enforcement standard (ES) exceedances in any of the groundwater samples collected from the other temporary wells. Northern Environmental concluded that based on the location of the contaminated soils within the saturated zone between 6 and 10 feet bgs, contamination was likely from an off-site source and recommended site closure.

In December 2008, WDNR issued a letter in response to the Northern Environmental conclusion that site closure should be granted. The WDNR indicated that closure was not recommended considering the area downgradient of the tank basin required additional assessment and that the extent of shallow PAH contamination had not been delineated.

Northern Environmental prepared an Additional Site Investigation Results Report in March 2009. Additional site work included the advancement of soil borings B2100 through B2500 in February 2009 to assess the extent of identified PAH contamination around soil borings B700 and B1900 and potential contamination downgradient of the tank basin. Laboratory analytical results detected benzo(a)pyrene at a concentration above the non-industrial groundwater pathway RCL but below the direct contact RCL in soil samples collected from soil borings B2100, B2200 and B2400. Northern Environmental indicated that benzo(a)pyrene was not a component of diesel or gasoline and suggested that the source may have been leaching from asphalt surfacing of the lot. Laboratory analytical results from a groundwater sample collected from soil boring B2500-TW-6 did not detect any PVOC or naphthalene concentrations above laboratory reported detection limits.

Northern Environmental determined that the shallow PAH contamination concentrations were relatively low and capped by impervious surface. In addition, soil and groundwater samples collected downgradient of the tank basin in soil boring B2500 did not detect any significant contaminant concentrations, leading Northern Environmental to the conclusion that the tank system was not leaking. In April 2009, the site was transferred to the Department of Commerce for closure. Closure documentation was submitted to Department of Commerce by Northern Environmental and the site was closed in June 2009 with the condition that an impervious cap be maintained at the site by current and subsequent property owners to limit potential direct contact with shallow soils contaminated with benzo(a)pyrene on the southern portion of the Site. In 2009, the Non-Industrial Direct Contact RCL for

benzo(a)pyrene was 8.8 ug/kg. The current 2022 Non-Industrial Direct Contact RCL for benzo(a)pyrene is 115 ug/kg and the groundwater RCL is 470 ug/kg which would indicate only the benzo(a)pyrene detection at soil boring B900 at a concentration of 5,700 ug/kg would exceed either current RCL.

### **CHIPPEWA QUICK MART (BRRTS #03-02-580226)**

Following the closure of the gas station in September 2015 and the death of the property owner in January 2016, a lien was recorded against the property by WDNR in an amount intended to cover the cost of the removal of the USTs, dispensers and piping. In September 2017, one 1,000-gallon off-road diesel UST, one 2,000-gallon on-road diesel UST, one 4,000-gallon gasoline UST and one 8,000-gallon gasoline UST and the associated dispensers and piping were removed by T&D Enterprises, Inc. with MSA Professional Services, Inc. (MSA) performing Tank System Site Assessment (TSSA) sampling and reporting. Nine tank basin bottom samples, fourteen tank basin sidewall samples, four dispenser samples and one piping sample were collected and submitted for laboratory analysis of PVOCs. Analytical testing indicated concentrations of PVOCs in bottom sample B-5, dispenser sample D-2 and sidewall sample S-5. These soil samples were collected from the southeastern corner of the UST basin near the south end of the 1,000-gallon diesel UST and the north dispenser used for gasoline dispensing. Because this contamination was not identified during the previous Glidden Amoco investigation, a new BRRTS site, Chippewa Quick Mart, was opened (BRRTS #03-02-580226).

Condition Services, LLC (Condition Services) prepared a Site Investigation Work Plan dated July 14, 2022 outlining additional work proposed to delineate the full horizontal and vertical extent of PVOc soil contamination identified during the 2017 tank removal and evaluate the potential for groundwater impacts and vapor intrusion. The work plan proposed the advancement of six soil borings and three soil gas vapor probes around the area of contamination identified during the TSSA. In addition, two sub-slab soil vapor samples were proposed inside the onsite building to determine if a vapor intrusion threat was present. While no fee was submitted with the work plan for formal review, WDNR discussion with Mr. Murdock of Condition Services indicated that the site investigation approach was acceptable.

### **CURRENT SITE INVESTIGATION STATUS**

On September 9, 2022, MSA personnel oversaw the advancement of soil borings MSA-GP-1 through MSA-GP-6 to delineate the extent and magnitude of contamination detected in soil samples collected during the TSSA. Soil gas vapor samples SV-1 and SV-2 were also advanced near the area of the petroleum contamination detected during TSSA sampling activities and sub-slab soil vapor samples SSVS-1 and SSVS-2 were also collected inside the onsite building to evaluate whether vapor intrusion to the building was a concern.

### **Soil Sampling Results**

A total of twelve soil samples were collected from the direct contact zone identified as between zero and four feet bgs and at the location of the highest PID reading within the unsaturated zone to evaluate potential residual soil contamination above the water table. Soil samples were submitted for laboratory analysis of PVOcs. Soil screening samples were collected and field screened every two feet within each boring with a Mini-RAE photoionization detector (PID) equipped with a 10.6 eV lamp.

Field soil screening did not indicate any elevated PID readings in any of the soil screening samples collected from the six soil borings advanced on site. The highest PID reading was 2.3 parts per million (ppm) detected between eight and ten feet bgs in soil boring MSA-GP-1 advanced at the northeast corner of the dispenser canopy. A slight odor was noted between two and six feet bgs in soil boring MSA-GP-6 advanced to the west of the dispenser canopy and the south of the tank basin, however, no elevated PID readings were associated with this observation. No staining or odors were identified in any of the other soil screening samples collected at the Site. Field notes from site investigation activities are included in **Appendix C**.

Laboratory analytical results from soil samples collected from soil borings MSA-GP-1 through MSA-GP-6 did not indicate the presence of contaminants of concern over their respective laboratory reported detection limits. Soil sampling analytical results are summarized in **Attachment A.2**.

### **Soil Sampling Discussion**

Based on field observations and laboratory analytical results from the soil samples collected from the six soil borings advanced at the site as part of this investigation, there does not appear to be significant residual petroleum contamination associated with the potential release identified during TSSA sampling activities. Minor soil contamination above groundwater pathway RCLs may remain in the area of TSSA samples B-5, S-5 and D-2 as shown on the Soil Contamination figure included as **Attachment B.2.a**. Historical soil sampling analytical results from the Northern Environmental SIR provided in **Appendix A** and recent soil sampling analytical results are summarized in **Attachment A.2**.

### **Soil Gas Vapor Sampling Results**

Soil gas vapor sample SV-1 was collected to the east of the dispenser area adjacent to the alley on the eastern property boundary and soil gas vapor sample SV-2 was collected to the east of the former tank basin to determine if vapor intrusion was a potential threat to the residential properties east of the Site. A third vapor sample was planned to be collected from the tank basin, but due to a sampling equipment malfunction, the sample was not able to be collected. Soil gas samples were collected from approximately eight feet bgs using one-liter batch certified Summa canisters equipped with 200 milliliter per minute regulators. The collected vapor samples were analyzed for VOCs using EPA Method TO-15.

Tetrachloroethene (PCE) was detected above the WDNR Residential Vapor Risk Screening Level (VRSL) in soil gas sample SV-1 at a concentration of 1,960  $\mu\text{g}/\text{m}^3$  and in soil gas sample SV-2 at a concentration of 2,190  $\mu\text{g}/\text{m}^3$ . 1,3-Butadiene was also detected above the WDNR Residential VRSL in soil gas sample SV-2 at a concentration of 33.2  $\mu\text{g}/\text{m}^3$ . Benzene, 1,3-butadiene and ethylbenzene were detected above the WDNR Residential Vapor Action Level (VAL) but below the Residential VRSL in soil gas vapor sample SV-1. Benzene was detected above the WDNR Residential VAL but below the VRSL in soil gas vapor sample SV-2. Several contaminant constituents were detected above laboratory detection limits but below WDNR VALs and VRSLs in each of the soil gas vapor samples.

### Soil Gas Vapor Sampling Discussion

Based on the analytical results from the soil gas vapor samples collected at the Site, there does not appear to be a significant risk of petroleum vapor migration or intrusion to nearby residences or the onsite building. None of the petroleum-related contaminant concentrations detected in the soil gas vapor samples exceeded their respective Residential VRSLs. In addition, none of the criteria for vapor intrusion screening were met according to WDNR Guidance Document RR-800, "Addressing Vapor Intrusion at Remediation and Redevelopment Sites in Wisconsin".

Tetrachloroethene (PCE) was detected above the WDNR Residential VRSL in both soil gas vapor samples, at concentrations of 1,960 ug/m<sup>3</sup> and 2,190 ug/m<sup>3</sup> in soil gas vapor samples SV-1 and SV-2, respectively. After analyzing groundwater samples for VOCs, it was found that PCE was only detected in the groundwater samples collected from soil borings MSA-GP-1 and MSA-GP-2 on the eastern portion of the Site adjacent to the alley and sanitary sewer corridor and not in soil borings MSA-GP-4 and MSA-GP-6 advanced further west on the Site. Based on available site history information, the property has only been used as a fueling station, commercial retail and residential uses since at least 1939. The Site is not known to have been historically used for any purposes which would have used or released chlorinated solvent compounds. PCE was also detected at significantly lower concentrations in the sub-slab soil gas vapor samples collected inside the building than in those samples collected outside near the alleyway indicating that significant PCE contamination is not present under the building. Based on this evidence, it appears that the source of the PCE contamination is related to an offsite source or the sanitary sewer system and is not related to the petroleum release or historical activities on the Site.

1,3-Butadiene exceeded the WDNR Residential VRSL in soil gas vapor sample SV-2, however, this detection is not believed to be related to petroleum contamination at the site. Possible laboratory interferences with other compounds and a number of potential sources may explain the detection of 1,3-butadiene reported above the Residential VRSL in soil gas vapor sample SV-2. 1,3-Butadiene is primarily used in the manufacture of synthetic rubber and is found in rubber tires. In addition, a styrene-butadiene copolymer is a common ingredient in asphalt paving, patch and seal coat. 1,3-Butadiene also forms during combustion and is found in wood and cigarette smoke, oil burner emissions and exhaust from internal combustion engines. 1,3-Butadiene degrades readily in the atmosphere, with a half-life of a few hours to days, and as a result is rarely present at levels of concern in ambient air or soil vapor. Considering the limited concentrations of other contaminants in soil vapor samples SV-1 and SV-2 and potential alternate sources of the detection of 1,3-butadiene; it appears that the detection of 1,3-butadiene in soil vapor samples SV-1 and SV-2 are either naturally occurring, a product of misidentification, laboratory interference or related to preexisting compounds or conditions present on the site.

### Sub-slab Vapor Intrusion Sampling Results

All vapor intrusion sampling activities conducted on September 9, 2022, comply with the guidance provided in WDNR Publication RR-800, "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin". Two sub-slab sample points were installed in the 2,240-square-foot former Chippewa Quick Mart building to assess potential indoor vapor intrusion. Sample point SSVS-1 was installed in the utility room on the east side of the retail store and is the closest to the former tank system. Sample point SSVS-2 was installed on the west end of the building in the former office space. A

vapor pin/water dam method was used to collect samples through a 5/8-inch hole drilled through the concrete slab. A single-use, disposable purge/sample manifold was used to collect samples through a vapor pin which was secured into the hole with a silicone sleeve. A water dam method was used to test for leaks. Upon passing the leak test, the manifold was purged and connected to a one-liter batch certified Summa canister equipped with a 200 milliliter per minute regulator to collect the vapor sample. Vapor samples were analyzed for VOCs using EPA Method TO-15.

There were several detections of petroleum compounds above laboratory detection limits but below WDNR Small Commercial VALs in the two sub-slab soil gas vapor samples collected at the Site. Chloroform was detected above the WDNR Small Commercial VAL but below the VRSL. Chloroform is not a petroleum-related contaminant and this detection is not considered to be related to the petroleum contamination at the property. There were no contaminant detections greater than WDNR Small Commercial VRSLs. Laboratory analytical results for vapor intrusion sample points are tabulated in **Attachment A.4**.

#### **Sub-Slab Vapor Intrusion Sampling Discussion**

There does not appear to be a significant risk of vapor intrusion to the onsite building. There were no detections of petroleum-related compounds at levels greater than WDNR VALs in either of the sub-slab soil vapor samples collected inside the onsite building. While chloroform was detected above the WDNR Small Commercial VAL, it was below the Small Commercial VRSL which is used for evaluating sub-slab vapor concentrations. In addition, chloroform is not a petroleum-related compound and this detection is not considered to be related to the petroleum contamination at the Site.

#### **Groundwater Sampling Results**

Groundwater grab samples were collected from each of the six borings to document potential petroleum impacts to groundwater. Depth to groundwater was measured in soil borings MSA-GP-1 through MSA-GP-3, after which point the meter malfunctioned and depth to groundwater measurements were not able to be collected. Depth to groundwater measurements ranged from 14.05 feet bgs in soil boring MSA-GP-1 and 14.69 feet bgs in MSA-GP-2. Temporary PVC wells were installed in each boring with a screen intersecting the water table. Polyethylene tubing was placed in each temporary well and a peristaltic pump was used to draw water from the well for sample collection.

There were no concentrations of PVOCs detected above laboratory reported detection limits in any of the six groundwater samples collected from the six soil borings advanced at the Site. After laboratory results indicated that PCE was present above the WDNR Residential VRSL in the two soil gas vapor samples collected at the Site, a select number of groundwater samples were rerun for the full list of VOC compounds to determine whether PCE was present in groundwater across the Site. PCE was detected in groundwater samples collected from boring MSA-GP-1 and MSA-GP-2 advanced on the eastern portion of the property near the locations of soil vapor samples SV-1 and SV-2 at concentrations exceeding the WDNR PAL. No other VOCs were detected in samples collected from MSA-GP-1 or MSA-GP-2. These borings are located along the east property boundary and are adjacent to the alley and sanitary sewer corridor. No VOCs were detected in groundwater samples collected from MSA-GP-4 or MSA-GP-6, which were advanced through the former tank basin and to the south of the former tank basin, respectively.

### **Groundwater Sampling Discussion**

Based on laboratory analytical results from grab groundwater samples collected from borings MSA-GP-1 through MSA-GP-6 it does not appear that there is significant residual groundwater contamination from the suspected release location discovered during tank removal sampling activities. No petroleum-related groundwater constituents were detected in any of the groundwater samples collected from soil borings MSA-GP-1 through MSA-GP-6 during the September 2022 sampling event. Laboratory analytical results for the groundwater grab samples are provided in Table 1.A.

### **CONCLUSIONS AND RECOMMENDATIONS**

Site investigation activities performed by MSA in September 2022 appear to have adequately documented the extent and magnitude of the suspected petroleum release discovered during TSSA sampling completed during tank removal activities in September 2017. Based on field observations and analytical results, it does not appear that significant petroleum soil, groundwater or vapor impacts exist in the area of the suspected release.

There were no detections of PVOCs in the soil samples collected from the six soil borings advanced at the site. No surface soil contamination or deeper soil contamination were encountered based on field screening, observations, or laboratory analytical results. There were no detections of PVOCs in the groundwater samples collected from the soil borings advanced at the Site. No petroleum-related compounds were detected above WDNR VRSLs in any of the vapor samples collected at the site, indicating that the threat of vapor intrusion to nearby buildings is low.

The detection of PCE in soil gas vapor samples SV-1 and SV-2 and in the groundwater samples collected from soil borings MSA-GP-1 and MSA-GP-2 appear to be related to an offsite source. It is currently unclear what this potential source may be but it does not appear to be related to any current or historical use of the Site.

Based on the results of this site investigation, MSA recommends that a case closure request be prepared for the Site.

### **ASSESSMENT LIMITATIONS**

MSA Professional Services, Inc. (MSA) has conducted Site Investigation for the exclusive use of the Client and his designated agents and assignees. The services performed by MSA for this project have been conducted in a manner consistent with the level of skill and care ordinarily exercised by other members of the profession currently practicing in the field under similar cost and time constraints. This report was prepared in accordance with generally accepted practices and principles of this time and location. No other warranty expressed or implied is made.

Please feel free to contact MSA at (218) 499-3184 with any questions or concerns regarding this project.

Sincerely,  
MSA Professional Services, Inc.

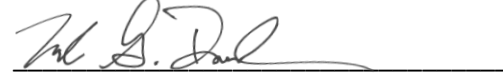
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Erica Klingfus  
Environmental Scientist



**CITATIONS**

- Clayton, L. (1985). Plate 1: Pleistocene Geology of the Superior Region, Wisconsin [Map]. In Pleistocene Geology of the Superior Region, Wisconsin (Vol. Plate 1). University of Wisconsin Extension. Retrieved October 19, 2022, from <https://wgnhs.wisc.edu/catalog/publication/000296/resource/ic46plate01>
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## **ATTACHMENTS**

Table A.1  
Groundwater Analytical Results  
Former Chippewa Quick Mart  
Glidden, Wisconsin  
BRRTS# 03-02-580226

Sample Location		MSA-GP-1	MSA-GP-2	MSA-GP-3	MSA-GP-4	MSA-GP-5	MSA-GP-6	WDNR NR 140 PAL	WDNR NR 140 ES
Date:		9/9/2022	9/9/2022	9/9/2022	9/9/2022	9/9/2022	9/9/2022		
<i>GRO, PVOCs &amp; Detected VOCs</i>									
Benzene	µg/L	<1.0	<1.0	<0.50	<0.50	<1.0	<0.50	0.5	5
Ethylbenzene	µg/L	<0.55	<0.55	<0.50	<0.50	<0.55	<0.55	140	700
Methyl-tert-butyl-ether	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	12	60
Tetrachloroethene (PCE)	µg/L	<i>2.09</i>	<i>1.65</i>	NA	<1.0	NA	<1.0	0.5	5
Toluene	µg/L	<1.0	<1.0	<0.69	<1.0	<0.69	<1.0	160	800
1,2,4-Trimethylbenzene	µg/L	<1.0	<1.0	<2.2	<1.0	<2.2	<1.0	96*	480*
1,3,5-Trimethylbenzene	µg/L	<1.0	<1.0	<1.4	<1.0	<1.4	<1.0	96*	480*
Xylenes, Total	µg/L	<3.0	<3.0	<0.69	<3.0	<0.69	<3.0	400	2000
Naphthalene	µg/L	<3.0	<3.0	<0.69	<3.0	<0.69	<5.0	10	100

Notes:

NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard  
 NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit  
 NS = no standard  
 µg/L = micrograms per liter (equivalent to parts per billion, ppb)  
 NA = Not Analyzed

*Italics* indicate a WDNR NR 140 PAL exceedance

**Boldface** indicates a WDNR NR 140 ES exceedance

Attachment A.2  
SOIL ANALYTICAL RESULTS  
Additional Site Investigation  
Chippewa Quick Mart  
Glidden, Wisconsin

SAMPLE/BORING #	GP-1	GP-1	GP-2	GP-2	GP-3	GP-3	GP-4	GP-4	GP-5	GP-5	GP-6	GP-6	Soil RCLs (mg/kg)			
DEPTH to Water Table (ft BGS)	14.05	14.05	14.69	14.69	14.50	14.50	14.00	14.00	14.50	14.50	14.50	14.50	Calculated 12/2018			
Date Collected	20-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22	20-Sep-22	Background			
DEPTH (ft BGS)	0-4	8-10	0-4	8-10	0-4	8-10	0-4	8-10	0-4	12-14	0-4	10-12				
SOIL TYPE	Sand	Silty Sand	Sand	Sand	Sand	Silty Sand	Sand	Silty Sand	Sand	Silty Sand	Sand	Silty Sand				
Soil Concentrations in mg/kg (or ppm)													Non-Industrial Direct Contact	Industrial Direct Contact	Soil to GW	Surficial BTV
<b>PVOCs+Naphthalene</b>																
Benzene	<0.0291	<0.031	<0.0258	<0.0307	<0.0261	<0.0293	<0.0274	<0.0305	<0.0300	<0.0268	<0.0278	<0.0295	1.6	7.07	0.0051	
Ethylbenzene	<0.0291	<0.031	<0.0258	<0.0307	<0.0261	<0.0293	<0.0274	<0.0305	<0.0300	<0.0268	<0.0278	<0.0295	8.02	35.4	1.57	
Toluene	<0.291	<0.310	<0.258	<0.307	<0.261	<0.293	<0.274	<0.305	<0.300	<0.268	<0.278	<0.295	818	818	1.1072	
M&P Xylene	<0.0582	<0.0619	<0.0516	<0.0614	<0.0520	<0.586	<0.0548	<0.0609	<0.0599	<0.0537	<0.0556	<0.0589	260*	260*	3.96*	
O-Xylene	<0.0291	<0.031	<0.0258	<0.0307	<0.0261	<0.0293	<0.0274	<0.305	<0.0268	<0.0268	<0.0278	<0.0289	260*	260*	3.96*	
1,2,4-Trimethylbenzene	<0.0582	<0.0619	<0.0516	<0.0614	<0.0520	<0.0586	<0.0548	<0.0609	<0.0599	<0.0537	<0.0556	<0.0589	219	219	1.3787*	
1,3,5-Trimethylbenzene	<0.0582	<0.0619	<0.0516	<0.0614	<0.0520	<0.0586	<0.0548	<0.0609	<0.0599	<0.0537	<0.0556	<0.0589	182	182	1.3787*	
Naphthalene	<0.291	<0.310	<0.258	<0.307	<0.261	<0.293	<0.274	<0.305	<0.300	<0.268	<0.278	<0.295	5.52	24.1	0.6582	
Methyl tert-butyl ether	<0.0582	<0.0619	<0.0516	<0.0614	<0.0520	<0.0586	<0.0548	<0.0609	<0.0599	<0.0537	<0.0556	<0.0589	63.8	282	0.027	
GRO	<5.02	<6.19	<5.16	<6.14	<5.20	<5.86	<5.48	<5.99	<5.99	<5.37	<5.56	<5.89				
No. of Individual Exceedances (DC)																
Cumulative Hazard Index (DC)																
Cumulative Cancer Risk (DC)																

**Exceedance Highlights:**

**BOLD** value indicates parameter detected.

**LARGER BOLD** font indicates DC RCL exceedance, and BTV exceedance for metals.

**Italic red font** indicates GW RCL Exceedance. Groundwater quality (> NR 140 ES) may be affected when GW RCLs are exceeded.

Blanks indicate parameter was not analyzed. Only compounds detected in at least one sample are included in table. See laboratory report for all results.

\* = standard is for total analytes of compound.

ND = parameter not detected above respective laboratory limit of detection (LOD).

**Table 4**  
**Vapor Analytical Results**  
**Former Chippewa Quick Mart**  
**Glidden, Wisconsin**  
**BRRTS #03-02-580226**

Compound/Parameter	CAS Number	Residential VAL	Residential VRSL	Small Commercial VAL	Small Commercial VRSL	Sample Identifier and Date Collected			
						L1535547-01	L1535547-02	L1535547-03	L1535547-04
						SV-1	SV-2	SSVS-1	SSVS-2
						9/9/2022	9/9/2022	9/9/2022	9/9/2022
<b>Volatile Organic Compounds (VOCs) reported in µg/m3</b>									
Acetone	67-64-1	NS	NS	NS	NS	<b>109</b>	<b>179</b>	<b>85.3</b>	<b>166</b>
Allyl Chloride	107-05-01	1.0	35	4.4	150	<0.626	<0.626	<0.626	<0.626
Benzene	71-43-2	3.6	120	16	530	<b>6.45</b>	<b>8.11</b>	<0.639	<b>1.53</b>
Benzyl chloride	100-44-7	0.57	19	2.5	83	<1.04	<1.04	<1.04	<1.04
Bromodichloromethane	75-27-4	0.76	25	3.3	110	<1.34	<1.34	<1.34	<1.34
Bromoform	75-25-2	26	850	110	3,700	<6.21	<6.21	<6.21	<6.21
Bromomethane	74-83-9	5.2	170	22	730	<0.776	<0.776	<0.776	<0.776
1,3-Butadiene	106-99-0	0.94	31	4.1	140	<b>19</b>	<b>33.2</b>	<4.43	<4.43
Carbon disulfide	75-15-0	730	24,000	3,070	102,000	<b>2.47</b>	<b>3.33</b>	<0.622	<b>1.29</b>
Carbon tetrachloride	56-23-5	4.7	160	20	670	<1.26	<1.26	<1.26	<1.26
Chlorobenzene	108-90-7	52	1700	220	7,300	<0.924	<0.924	<0.924	<0.924
Chloroethane (ethyl chloride)	75-00-3	4,200	140,000	18,000	580,000	<0.528	<0.528	<0.528	<0.528
Chloroform	67-66-3	1.2	41	5.3	180	<0.973	<0.973	<b>28.8</b>	<0.973
Chloromethane (methyl chloride)	74-87-3	94	3100	390	13,000	<b>0.814</b>	<b>1.35</b>	<0.413	<0.413
2-Chlorotoluene	95-49-8	NS	NS	NS	NS	<1.03	<1.03	<1.03	<1.03
Cyclohexane	110-82-7	6,300	210,000	26,000	870,000	<0.689	<0.689	<0.689	<b>31.8</b>
Chlorodibromomethane	124-48-1	NS	NS	NS	NS	<1.70	<1.70	<1.70	<1.70
1,2-Dibromoethane (ethylene dibromide or EDB)	106-93-4	0.047	1.6	0.20	6.7	<1.54	<1.54	<1.54	<1.54
1,2-Dichlorobenzene	95-50-1	210	7,000	880	29,000	<1.20	<1.20	<1.20	<1.20
1,3-Dichlorobenzene	541-73-1	NS	NS	NS	NS	<1.20	<1.20	<1.20	<1.20
1,4-Dichlorobenzene	106-46-7	2.6	85	11	370	<1.20	<1.20	<1.20	<1.20
1,2-Dichloroethane	107-06-2	1.1	36	4.7	160	<0.810	<0.810	<0.810	<0.810
1,1-Dichloroethane	75-34-3	18	590	77	2,600	<0.802	<0.802	<0.802	<0.802
1,1-Dichloroethene (DCE)	75-35-4	210	7,000	880	29,000	<0.793	<0.793	<0.793	<0.793
cis-1,2-Dichloroethene	156-59-2	NS	NS	NS	NS	<0.793	<0.793	<0.793	<0.793
trans-1,2-Dichloroethene	156-60-5	42	1,400	180	5,800	<0.793	<0.793	<0.793	<0.793
1,2-Dichloropropane	78-87-5	4.2	140	18	580	<0.924	<0.924	<0.924	<0.924
cis-1,3-Dichloropropene <sup>2</sup>	10061-01-5	NS	NS	NS	NS	<0.908	<0.908	<0.908	<0.908
trans-1,3-Dichloropropene <sup>2</sup>	10061-02-6	NS	NS	NS	NS	<0.908	<0.908	<0.908	<0.908
1,4-Dioxane	123-91-1	5.6	190	25	820	<0.721	<0.721	<0.721	<0.721
Ethanol	64-17-5	NS	NS	NS	NS	<b>28.8</b>	<b>35.8</b>	<b>107</b>	<b>106</b>
Ethylbenzene	100-41-4	11	370	49	1,600	<b>11.9</b>	<b>9.02</b>	<0.867	<b>7.89</b>
4-Ethyltoluene	622-96-8	NS	NS	NS	NS	9.33	<b>6.28</b>	<0.982	<b>3.23</b>
Trichlorofluoromethane (Freon 11) <sup>1</sup>	75-69-4	NS	NS	NS	NS	<1.12	<b>1.76</b>	<b>1.45</b>	<b>1.7</b>
Dichlorodifluoromethane (Freon 12)	75-71-8	100	3,500	440	15,000	<b>6.13</b>	<b>2.64</b>	<b>2.57</b>	<b>3</b>
1,1,2-Trichlorotrifluoroethane (CFC-113)	76-13-1	5,200	170,000	22,000	730,000	<1.53	<1.53	<1.53	<1.53
1,2-Dichlorotetrafluoroethane	76-14-2	NS	NS	NS	NS	<1.40	<1.40	<1.40	<1.40
n-Heptane	142-82-5	420	14,000	1800	58,000	<b>6.05</b>	<b>6.18</b>	<0.818	<b>45.4</b>
Hexachloro-1,3-butadiene	87-68-3	1.3	43	5.6	190	<6.73	<6.73	<6.73	<6.73
n-Hexane	110-54-3	730	24,000	3,100	100,000	<b>7.69</b>	<b>9.2</b>	<2.22	<b>36.3</b>
Isopropylbenzene (Cumene)	98-82-8	420	14,000	NS	NS	<0.983	<0.983	<0.983	<b>8.36</b>
Methylene chloride (Dichloromethane)	75-09-2	630	21,000	2,600	87,000	<b>0.91</b>	<b>1.51</b>	<0.694	<b>1.57</b>
Methyl butyl ketone (2-Hexanone)	591-78-6	31	1,000	130	4,300	<5.11	<5.11	<5.11	<5.11
Methyl ethyl ketone (MEK, 2-Butanone) <sup>3</sup>	78-93-3	5,200	170,000	22,000	730,000	<b>27.8</b>	<b>35.7</b>	<b>5.19</b>	<b>17.6</b>
4-Methyl-2-pentanone (MIBK)	108-10-1	3,100	100,000	13,000	430,000	<5.12	<5.12	<b>85.6</b>	<5.12
Methyl Methacrylate	80-62-6	730	24,000	3,100	100,000	<0.819	<0.819	<0.819	<0.819
Methyl-tert-butyl ether (Isopropyl ether)	1634-04-4	110	3,600	470	16,000	<0.721	<0.721	<0.721	<0.721
Naphthalene	91-20-3	0.83	28	3.6	120	<3.30	<3.30	<3.30	<3.30
2-Propanol (Isopropyl alcohol)	67-63-0	210	7,000	880	29,000	<b>4.57</b>	<b>10.1</b>	<b>49.9</b>	<b>20.2</b>
Propene (Propylene or Methylene)	115-07-1	3,100	100,000	13,000	430,000	<b>112</b>	<b>133</b>	<2.15	<b>3.05</b>
Styrene	100-42-5	1,000	35,000	4,400	147,000	<0.851	<0.851	<0.851	<0.851
1,1,1,2-Tetrachloroethane	79-34-5	0.48	16	2.1	70	<1.37	<1.37	<1.37	<1.37
Tetrachloroethene (PCE)	127-18-4	42	1,400	180	6,000	<b>1.960</b>	<b>2.190</b>	<b>4.21</b>	<b>2.19</b>
Tetrahydrofuran	109-99-9	2,100	70,000	8,800	290,000	<0.590	<0.590	<0.590	<0.590
Toluene (Methylbenzene)	108-88-3	5,200	170,000	22,000	730,000	<b>25.1</b>	<b>22.3</b>	<1.88	<b>3.6</b>
1,2,4-Trichlorobenzene	120-82-1	2.1	70	8.8	290	<4.66	<4.66	<4.66	<4.66
1,1,1-Trichloroethane (Methyl chloroform)	71-55-6	5,200	170,000	22,000	730,000	<1.09	<1.09	<1.09	<1.09
1,1,2-Trichloroethane	79-00-5	0.21	7.0	0.88	29	<1.09	<1.09	<1.09	<1.09
Trichloroethylene (TCE) <sup>4</sup>	79-01-6	2.1	70	8.8	290	<1.07	<1.07	<1.07	<1.07
1,2,4-Trimethylbenzene	95-63-6	63	2,100	260	8,700	<b>42.80</b>	<b>26.40</b>	<0.982	<b>2.12</b>
1,3,5-Trimethylbenzene	108-67-8	63	2,100	260	8,700	<b>10.7</b>	<b>7.51</b>	<0.982	<0.982
2,2,4-Trimethylpentane	540-84-1	NS	NS	NS	NS	<b>4.2</b>	<b>4.44</b>	<b>1.21</b>	<0.934
Vinyl chloride <sup>5</sup>	75-01-4	1.7	56	28	930	<0.511	<0.511	<0.511	<0.511
Vinyl bromide	593-60-2	1.9	62	8.2	280	<0.875	<0.875	<0.875	<0.875
Vinyl acetate	108-05-4	210	7,000	880	29,000	<0.704	<0.704	<0.704	<0.704
m&p-Xylene <sup>6</sup>	179601-23-1	100	3,500	440	15,000	<b>24.9</b>	<b>17.7</b>	<1.73	<b>5.38</b>
o-Xylene <sup>6</sup>	95-47-6	100	3,500	440	15,000	<b>14.2</b>	<b>10.2</b>	<0.867	<b>1.9</b>
1,1-Difluoroethane	75-37-6	42,000	1,400,000	180,000	5,800,000	<2.70	<b>19.2</b>	<2.70	<b>26</b>
1,2,3-Trimethylbenzene	526-73-8	63	2,100	260	8,800	<b>12.6</b>	<b>7.42</b>	<0.982	<b>1.88</b>
Chlorodifluoromethane	75-45-6	52,000	1,700,000	220,000	7,300,000	<b>1.04</b>	<b>4.92</b>	0.948	<b>5.91</b>
Ethyl acetate	141-78-6	73	2,400	310	10,000	<0.720	<0.720	<0.720	<0.720
Methyl cyclohexane	108-87-2	NS	NS	NS	NS	<b>3</b>	<b>3.43</b>	<0.803	<b>79.5</b>
Tert-amyl ethyl ether	919-94-8	NS	NS	NS	NS	<0.951	<0.951	<0.951	<0.951

**Notes:**

**Bold = Detected Concentration**

**Exceedance**

EPA = Environmental Protection Agency

MPCA = Minnesota Pollution Control Agency

ISV = Intrusion Screening Value

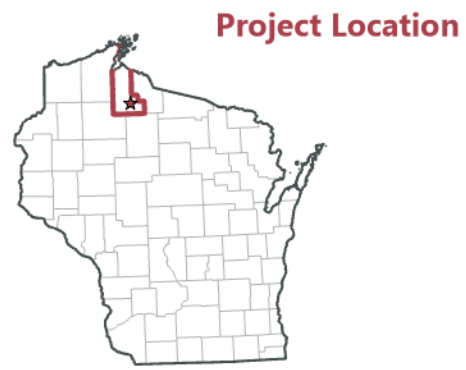
VOCs = Volatile Organic Compounds

NE = Not Established

All VAL/VRSL values from USEPA Vapor Intrusion Screening Levels (VISL) calculator



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Data Sources: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June, 2022.

# ATTACHMENT B.1.a

## SITE LOCATION MAP

FORMER CHIPPEWA QUICK MART  
122 EAST BROADWAY  
GLIDDEN, ASHLAND COUNTY, WISCONSIN












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# ATTACHMENT B.1.b

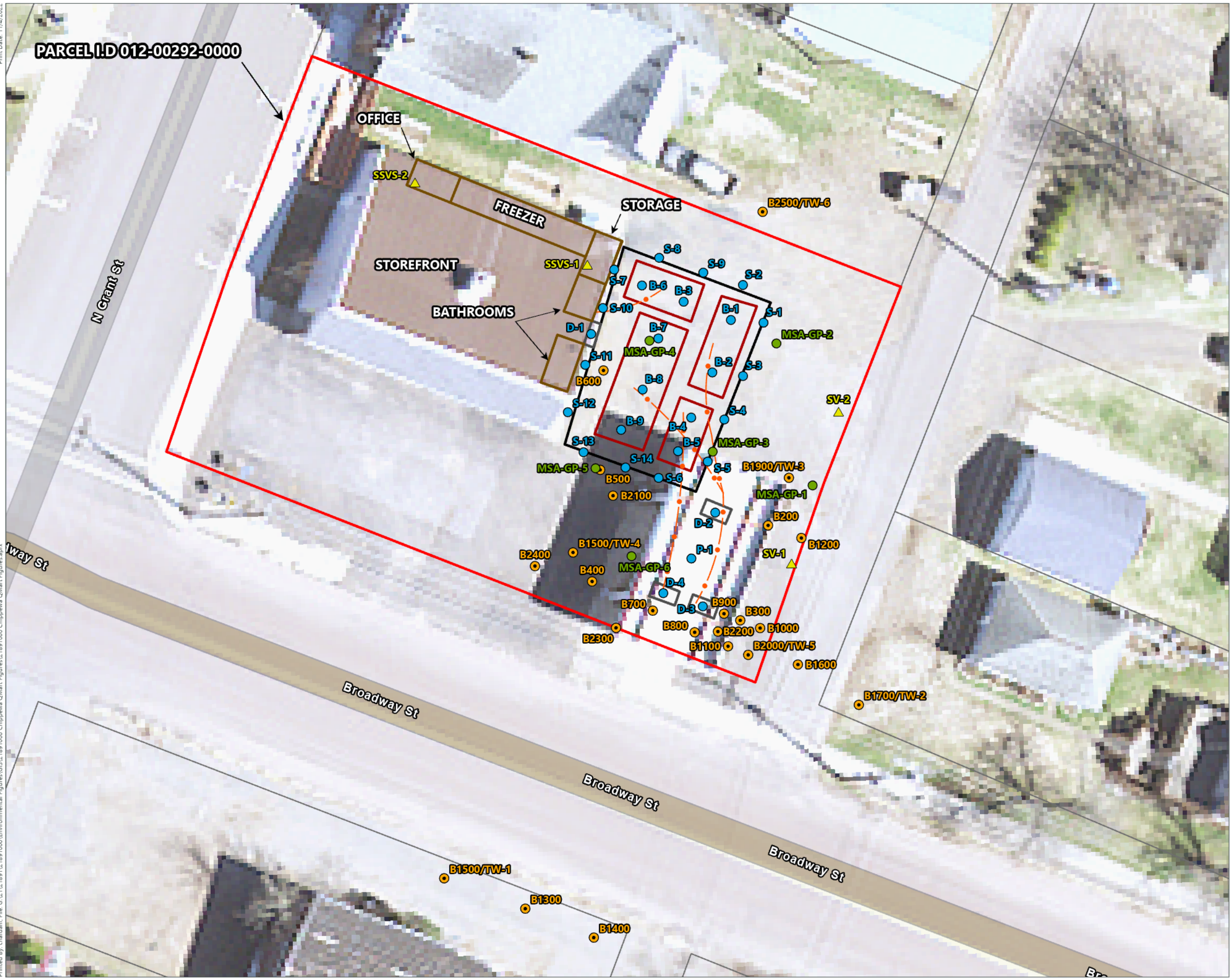
## DETAILED SITE MAP

FORMER CHIPPEWA QUICK MART  
122 EAST BROADWAY  
GLIDDEN, ASHLAND COUNTY,  
WISCONSIN

-  Site Boundary
-  Parcel Boundary
-  Former Store Layout
-  Former Dispenser Island
-  Former Underground Storage Tank
-  Former Tank Basin Excavation Area
-  Former Piping
-  2008-2009 Glidden Amoco Sampling Locations - Northern Environmental
-  2017 Post UST Removal (TSSA) Sample Locations - MSA Professional Services
-  2022 Soil Vapor or Sub-Slab Vapor Sample Location - MSA Professional Services
-  2022 Boring Location - MSA Professional Services

All data shown in this exhibit is approximate for display purposes only and does not reflect actual survey data.

Data Sources:  
Ashland County, Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

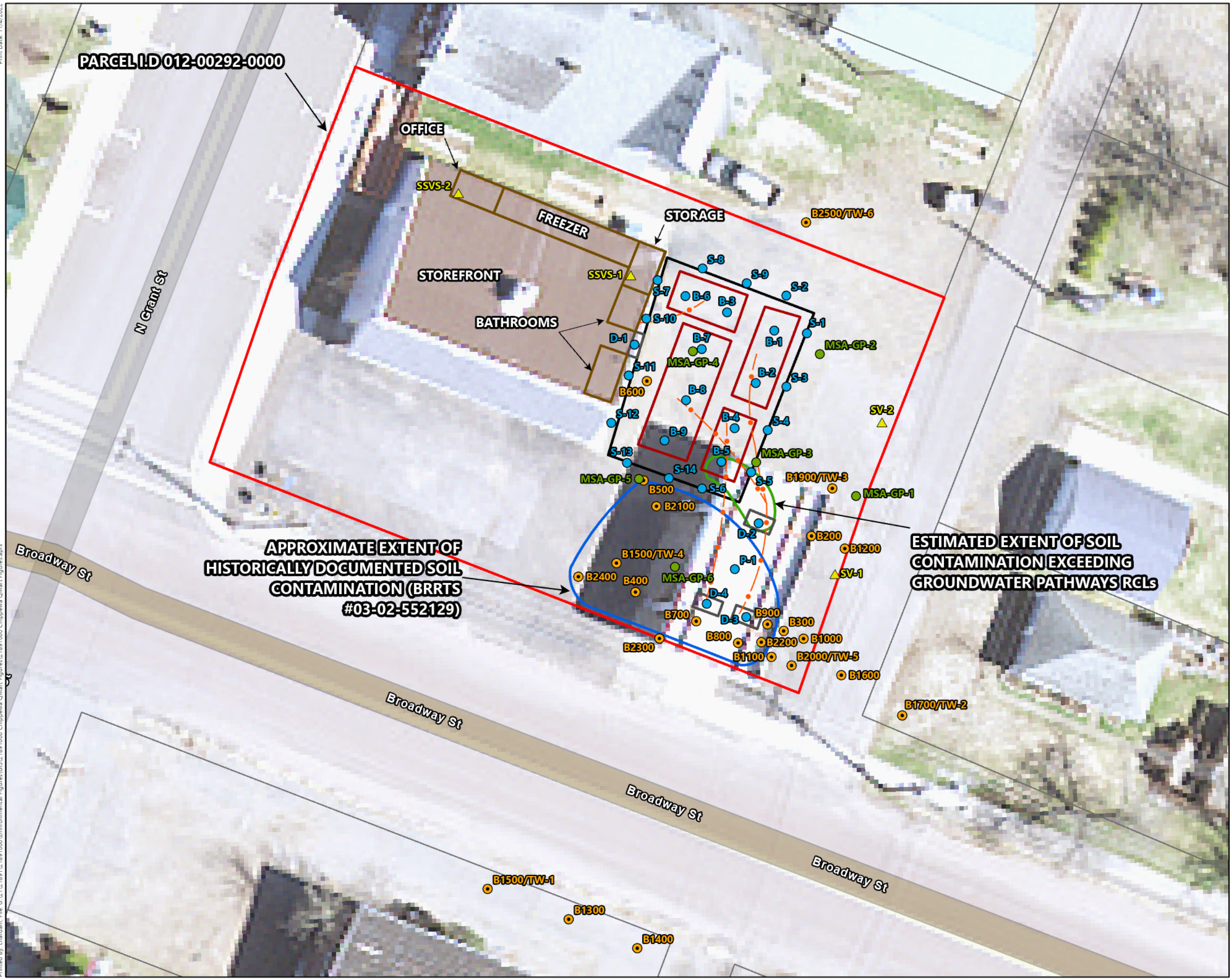


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# ATTACHMENT B.2.a

## SOIL CONTAMINATION

**FORMER CHIPPEWA QUICK MART  
122 EAST BROADWAY  
GLIDDEN, ASHLAND COUNTY,  
WISCONSIN**



- Site Boundary
- Parcel Boundary
- Former Store Layout
- Former Dispenser Island
- Former Underground Storage Tank
- Former Tank Basin Excavation Area
- Soil Contamination Exceeding Groundwater Pathway RCLs
- Historically Documented Soil Contamination
- Former Piping
- 2008-2009 Glidden Amoco Sampling Locations - Northern Environmental
- 2017 Post UST Removal (TSSA) Sample Locations - MSA Professional Services
- ▲ 2022 Soil Vapor or Sub-Slab Vapor Sample Location - MSA Professional Services
- 2022 Boring Location - MSA Professional Services

All data shown in this exhibit is approximate for display purposes only and does not reflect actual survey data.

Data Sources:  
Ashland County, Esri Community Maps Contributors, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

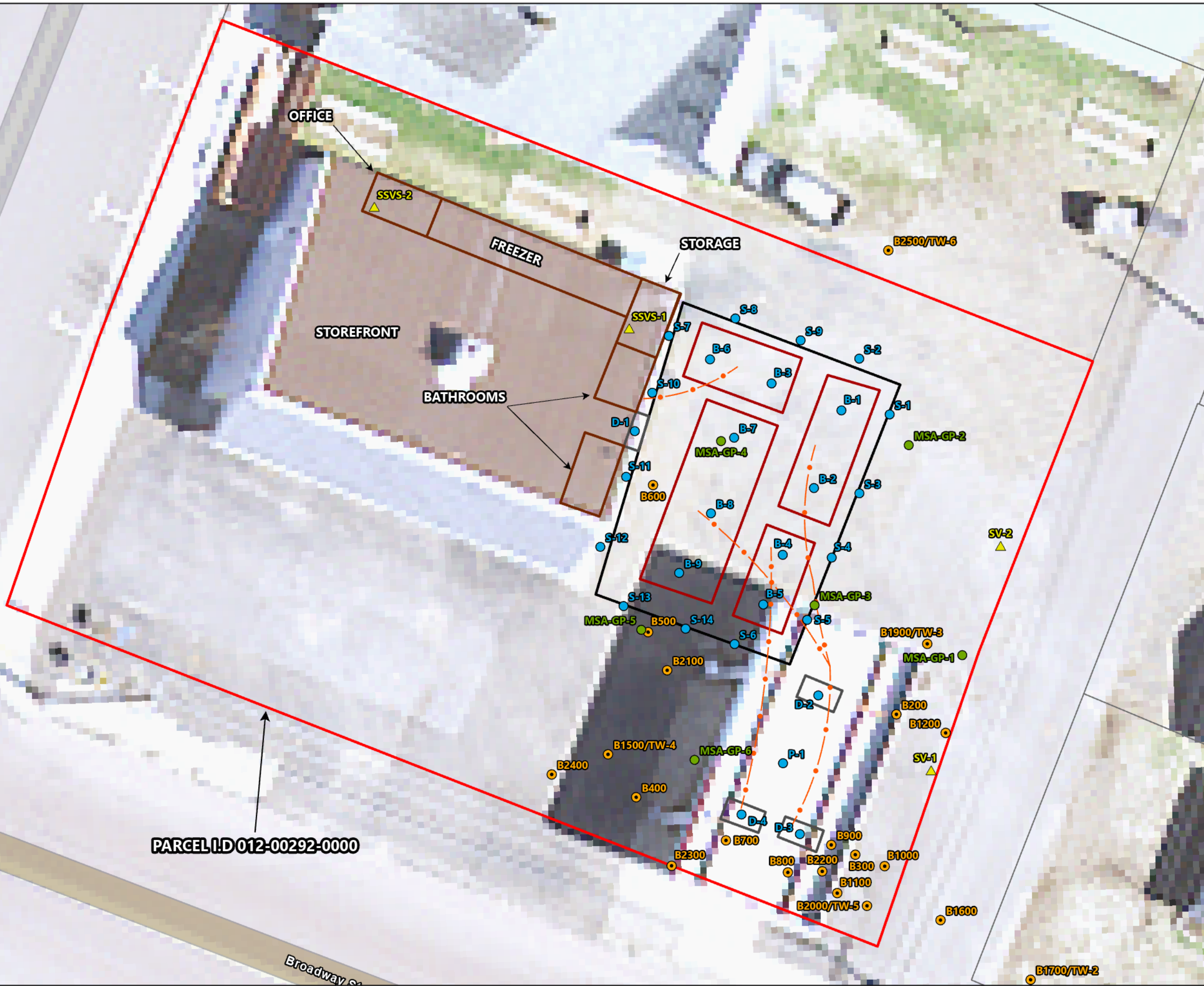


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# ATTACHMENT B.4.a

## VAPOR INTRUSION MAP

**FORMER CHIPPEWA QUICK MART  
122 EAST BROADWAY  
GLIDDEN, ASHLAND COUNTY,  
WISCONSIN**



- Site Boundary
- Parcel Boundary
- Former Store Layout
- Former Dispenser Island
- Former Underground Storage Tank
- Former Tank Basin Excavation Area
- Former Piping
- 2008-2009 Glidden Amoco Sampling Locations - Northern Environmental
- 2017 Post UST Removal (TSSA) Sample Locations - MSA Professional Services
- 2022 Soil Vapor or Sub-Slab Vapor Sample Location - MSA Professional Services
- 2022 Boring Location - MSA Professional Services

*All data shown in this exhibit is approximate for display purposes only and does not reflect actual survey data.*

Data Sources:  
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**APPENDIX A**  
**PREVIOUS CONSULTANTS SOIL ANALYTICAL RESULTS**

**Table 2, Soil VOC Laboratory Analytical Results, Glidden Amoco, 288 Grant Street, Glidden, Wisconsin**

Soil Boring	Sample Number	Sample Depth (feet)	PID Response (iui)	Date Sampled	GRO (mg/kg)	Relevant and Significant VOC Analytical Results (µg/kg)							
						Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylenes
NR720.09 Residual Contaminant Level					100	5.5	2,900	NE	NE	1,500	NE	NE	4,100
NR746.06 Table 1 Value					NE	8,500	4,600	NE	2,700	38,000	83,000	11,000	42,000
NR746.06 Table 2 Value					NE	1,100	NE	NE	NE	NE	NE	NE	NE
B100	S106	10-12	0	07/17/08	---	<25	<25	<25	<25	<25	<25	<25	<75
B200	S204	6-8	0	07/17/08	---	<25	<25	<25	<25	<25	<25	<25	<75
B300*	S304	6-8	34	07/17/08	---	<250	2880	<250	---	1260	23400	15200	12010
B400	S404	6-8	0	07/17/08	---	<25	<25	<25	<25	<25	<25	<25	<75
B500	S504	6-8	0	07/17/08	---	<25	<25	<25	<25	<25	<25	<25	<75
B600	S606	10-12	0	07/17/08	---	<25	<25	<25	<25	<25	<25	<25	<75
B700	S702	2-4	0	09/02/08	---	<25	<25	<25	---	<25	<25	<25	<75
	S705	8-10	0	09/02/08	---	<25	<25	<25	---	<25	<25	<25	<75
B800	S804	6-8	1	09/02/08	---	<25	<25	<25	---	28.6	<25	<25	<75
B900*	S904	6-8	2	09/02/08	---	29.5	57	<25	---	74	<25	30.6	<75
B1000*	S1005	8-10	186	09/02/08	138	41	5100	<25	---	1090	12500	6600	11610
B1100*	S1104	6-8	12	09/02/08	---	257	3300	<25	---	1620	11200	4600	16600
B1200	S1205	8-10	8	09/02/08	---	<25	<25	<25	---	<25	<25	<25	<75
B1300	S1304	6-8	0	09/02/08	---	<25	<25	<25	---	<25	<25	<25	282
B1400*	S1404	6-8	0	09/02/08	---	<25	108	<25	---	117	<25	96	255
B1500	S1503	4-6	1	10/01/08	---	<25	<25	<25	---	26.4	<25	<25	<75
B1600*	S1605	8-10	9	10/01/08	---	<25	<25	<25	---	<25	<25	<25	<75
B1700	S1702	2-4	77	10/01/08	---	<25	<25	<25	---	<25	<25	<25	<75
B1900	S1902	2-4	0	10/01/08	---	<25	<25	<25	---	<25	<25	<25	<75
B2000	S2002	2-4	78	10/01/08	---	<25	<25	<25	---	<25	<25	<25	<75
B2500	S2506	10-12	0	02/11/09	---	<25	<25	<25	<25	<25	<25	<25	<75

- Key:**
- GRO = Gasoline Range Organics
  - MTBE = Methyl-tertiary-butyl-ether
  - < X = Not detected above Laboratory Limit of Detection (LOD) of X.
  - fbg = Feet Below Grade
  - mg/kg = milligrams per kilogram
  - µg/kg = micrograms per kilogram
  - = Not Analyzed
  - J = Analyte detected between the Limit of Detection and the Limit of Quantitation
  - VOC = Volatile Organic Compound
  - PAH = Polynuclear Aromatic Hydrocarbons
  - NE = Not Established by Wisconsin Administrative Code (Wis. Adm. Code)
  - 100 = Exceeds Chapter NR 720.09 Wis. Adm. Code Residual Contaminant Level
  - XXX = Exceeds Chapter NR 746.06 Wis. Adm. Code Table 1 Values
  - XXX = Exceeds Chapter NR 746.06 Wis. Adm. Code Table 2 Values
  - \* = Soil sample taken at or below historic measured high water table

Table 3, Soil PAH Laboratory Analytical Results, Glidden Amoco, 288 Grant Street, Glidden, Wisconsin

Soil Borlag	Sample Number	Sample Depth (feet)	PID Response (in)	Date Sampled	Relevant and Significant PAH Analytical Results (µg/kg)																	
					Acenaphthene	Acenaphthylene	Anthracene	Benzo(A)Anthracene	Benzo(A)Pyrene	Benzo(B)Fluoranthene	Benzo(G,H,I)Perylene	Benzo(K)Fluoranthene	Chrysenes	Dibenz(A,H)Anthracene	Fluoranthene	Fluorene	Indene(1,2,3-CD)Pyrene	1-Methyl Naphthalene	2-Methyl Naphthalene	Naphthalene	Phenanthrene	Pyrene
Residual Contaminant Level Groundwater Pathway					38,000	700	3,000,000	17,000	48,000	360,000	6,800,000	870,000	37,000	38,000	500,000	100,000	680,000	23,000	20,000	400	1,800	8,700,000
Residual Contaminant Level Direct Contact Pathway-Non-Industrial					900,000	18,000	5,000,000	88	8.8	88	1,800	880	8,800	8.8	600,000	600,000	88	1,100,000	600,000	20,000	18,000	50,000
B100	S106	10-12	0	07/17/08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
B200	S204	6-8	0	07/17/08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
B300*	S304	6-8	34	07/17/08	<13	<14	<8.8	18.6**	10.4**	14.7**	<12	<11	14.5**	<9.7	26.6**	<12	<9.9	1470	2930	1660	23.2**	24.9**
B400	S404	6-8	0	07/17/08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B500	S504	6-8	0	07/17/08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B600	S606	10-12	0	07/17/08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B700	S702	2-4	0	09/02/08	<13	29**	21.6**	75	86	119	72	41	104	13.8**	180	<12	70	<12	<9.4	<12	126	185
	S705	8-10	0	09/02/08	<13	<14	<8.8	<10	<7.7	<11	<12	<11	<6.8	<9.7	<11	<12	<9.9	<12	<9.4	<12	<9.4	<9.9
B800	S804	6-8	1	09/02/08	<13	<14	<8.8	<10	<7.7	<11	<12	<11	<6.8	<9.7	<11	<12	<9.9	<12	<9.4	<12	<9.4	<9.9
B900*	S904	6-8	2	09/02/08	2390	<70	4100	7200	5700	7300	3030	2620	7200	920	16800	1950	3500	254	410	820	13600	13800
B1000*	S1005	8-10	186	09/02/08	<13	<14	<8.8	24.9**	13.6**	21.3**	<12	<11	15.5**	<9.7	21.2**	<12	13.8**	234	460	1160	22**	25.9**
B1100*	S1104	6-8	12	09/02/08	<13	35**	<8.8	42	<7.7	16.2**	<12	<11	9.4**	<9.7	123	99	10.4**	68	146	1130	10.8**	10.2**
B1200	S1205	8-10	8	09/02/08	<13	<14	<8.8	<10	<7.7	<11	<12	<11	<6.8	<9.7	<11	<12	<9.9	<12	<9.4	<12	<9.4	<9.9
B1300	S1304	6-8	0	09/02/08	<13	<14	<8.8	30.1**	<7.7	<11	<12	<11	<6.8	<9.7	<11	13.3**	11.3**	<12	<9.4	15.9**	11.4**	<9.9
B1400*	S1404	6-8	0	09/02/08	13.7**	<14	<8.8	19**	13.3**	15.8**	12.5**	<11	9.1**	<9.7	<11	14.6**	<9.9	<12	<9.4	21.5**	9.7**	18.2**
B1900	S1902	2-4	0	10/01/08	<13	<14	<8.8	32**	27	35**	19.9**	12.1**	27.7	<9.7	49	<12	20.1**	<12	<9.4	<12	22.6**	52
B2100	S2102	2-4	0	02/11/09	<13	25.7**	23.3**	56	60	80	46	37	67	<9.7	150	<12	38	<12	9.7**	<12	78	124
B2200	S2202	2-4	0	02/11/09	13.5**	23.7**	<8.8	24.3**	27.2	49	32**	21.3**	31.1	<9.7	37	<12	23.3**	<12	<9.4	<12	15.3**	37
B2300	S2302	2-4	0	02/11/09	<13	<14	<8.8	<15	<7.7	<11	<12	<11	<6.8	<9.7	<11	<12	<9.9	<12	<9.4	<12	<9.4	<9.9
B2400	S2402	2-4	0	02/11/09	<13	<14	23.1**	48**	44	62	33**	26.9**	55	<9.7	131	<12	27.6**	<12	<9.4	<12	75	111

Key:  
 PAH = Polycyclic Aromatic Hydrocarbons  
 < X = Not detected above Laboratory Limit of Detection (LOD) of X.  
 µg/kg = micrograms per kilogram  
 \* = Soil sample taken at or below historic measured high water table

\*\* = Analyte detected between the Limit of Detection and the Limit of Quantitation  
 NE = Not Established by Wisconsin Administrative Code (Wis. Adm. Code)  
 XXX = Exceeds Residual Contaminant Level Groundwater Pathway  
 XXXX = Exceeds Residual Contaminant Level Direct Contact Pathway-Non-Industrial

## **APPENDIX B**

# **PREVIOUS CONSULTANTS GROUNDWATER ANALYTICAL RESULTS**

Table 4 Groundwater Analytical Results, Glidden Amoco, 288 Grant Street, Glidden, Wisconsin

Well ID	Screened Interval (fbg)	Date Sampled	Water Table Elevation (msl)	Relevant and Significant VOC Analytical Results (µg/l)							
				Benzene	1,4-Dichlorobenzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Trimethylbenzene	Xylenes
NR 140 Preventive Action Limit (µg/l)				0.5	15	140	12	8	200	96	1,000
NR 140 Enforcement Standard (µg/l)				5	75	700	60	40	1,000	480	10,000
TW-1	3-13	10/01/08	1528.63	1.38	<0.74	0.49"J"	<0.7	<1.8	<0.39	2.62"J"	4.93"J"
TW-2	3-13	10/01/08	1529.45	<0.24	<0.74	<0.35	<0.7	<1.8	<0.39	<0.74	<1.67
TW-3	6-16	10/01/08	1522.92	<0.24	<0.74	<0.35	<0.7	<1.8	<0.39	<0.74	<1.67
TW-4	3-13	10/01/08	1525.03	<0.24	<0.74	<0.35	<0.7	<1.8	<0.39	<0.74	<1.67
TW-5	3-13	10/01/08	1526.34	<0.24	1.17"J"	<0.35	<0.7	<1.8	<0.39	<0.74	<1.67
TW-6	8-18	02/20/09	--	<0.45	--	<0.76	<0.42	<1.4	<0.53	<1.13	<1.58

Key:

- VOC = Volatile Organic Compound
- µg/l = micrograms per liter
- NE = Not Established by Wis. Adm. Code
- MTBE = Methyl-Tertiary-Burty-Ether
- < X = Not detected above Laboratory Limit of Detection (LOD) of X.
- J = Analyte detected between Limit of Detection and Limit of Quantitation
- = Not Analyzed
- 32 = NR 140 Preventive Action Limit Exceeded
- 32 = NR 140 Enforcement Standard Exceeded
- msl = Mean sea level
- fbg = Feet below grade

**APPENDIX C**  
**MSA FIELD NOTES/BORING LOGS**

Chippewa Quick Mart  
Leave office @ 745 am

9/19/22

Geiss onsite, arrive 10 AM - private locator on site.

Exterior soil gas, borings (soil / @w sampling) - see boring logs.

Indoor Sub Slab Vapor Sampling:

\* no elec. in bldg, used generator provided by owner. Placed gen. unit outside.

SSVS - 1 Utility Room, near footing for shelf to L of door.

Leak test - water dam

Can: 21910 Reg: 20821

PID: 1.1

Start: 1452 end: 1456 init: 28 final: 5

SSVS - 2 Manager office, on hinge side of door under

Leak test - water dam carpet

Can: 5315 reg: 12308

PID: 0.2

Start: 1519 end: 1524 init: 27 final: 5

Remove points, pack up equip, fill holes w/ cement.

1630 Leave site

1730 Return to office, unload

Ship samples 9/12.

LA



Date: 9/19/22 Time: 1005  
 Project: Chippewa Quick Mart  
 Project #: 21891000

 Boring #: MSA-6P-1  
 Boring Location Description: NE corner dispenser canopy

 Driller: Beiss  
 Rig Type: Push Probe (truck mount)

 MSA Personnel: Erica Klingler  
 Weather: Rain, 65°F

Sample Collected? (*)	Start Depth (ft)	Sample Length (in)	Recovery (in)	Odor (Y/Sl./N)	Staining (Y/N)	Sheen Test (+/-)	Moisture (D/M/W/S)	PID (ppm)	Description
1010 ⊗	0	2.5	12	N	N	/	D	0.0	3" Asphalt 9" Gravelly sand
2.2	2.5	4.5	12	N	N	/	D	0.0	8" SAA 4" sand, brn, some pebbles
4.5	7.5	7.5	15	N	N	/	D/M	0.1	8" SAA <del>10" sand, brn</del>
6	7.5	10	15	N	N	/	M	0.0	8" SAA 7" silty sand, brn tan
1020 ⊗	10	12.5	20	N	N	/	M	2.3	10" sand, brn 3" grey silty sand / rocks
10	12.5	15	20	N	N	/	M	0.2	Silty sand, brn
12	14	15		N	N	/	Mw	0.5	6" Silty sand 9" sand
14	16	15		N	N	/	Wx	0.1	8" SAA 7" silt, wet / saturated
									EOB @ 16' bgs

\* If there are signs of contamination (incl. odor or staining)/PID readings greater than 10, perform a sheen test on the soil sample by adding a small amount of water to the soil and observing whether a sheen forms on the water surface.

 Water Level (ft): 14.05  
 Time<sup>2</sup>: 1035

<sup>2</sup>Amount of time boring left open before collecting WL measurement

Comments: SKIP SV near bldg.  
First can malfunctioned - 12485 21214  
SV-1 (to S) can: 9607 reg: 11776  
PID: 2.0 start: 1057 end: 1101  
init: 25 final: 5  
SV-2 (to N) can: 7272 reg: 11781  
PID: 1.1 start: 1109 end: 1114  
init: 27 final: 5



# Soil Boring Field Log

Date: 9/19/22 Time: 1110  
 Project: Chippewa Quick Mart  
 Project #: 21891000

Boring #: MSA-6P-2  
 Boring Location Description: Pkg lot E of  
fuel tank basin

Driller: Geiss  
 Rig Type: Push Probe (truck mount)

MSA Personnel: Erica Klingler  
 Weather: Rain, 65°F

Sample Collected? (*)	Start Depth (ft)	Sample Length (in)	Recovery (in)	Odor (Y/Sl./N)	Staining (Y/N)	Sheen Test (+/-)¹	Moisture (D/M/W/S)	PID (ppm)	Description
1115 ⊗	0	2	4	N	N	/	D	0.2	2" gravelly sand 2" sand, brown, med
	2	4	4	N	N	/	D	0.2	SAA
	4	6	10	N	N	/	D/M	0.1	SAA
	6	8	10	N	N	/	D/M	0.2	SAA, some crushed rock
1130 ⊗	8	10	14	N	N	/	M	0.3	SAA
	10	12	14	N	N	/	M	0.2	10" SAA, coarser sand @ end 4" silty sand
	12	14	12	N	N	/	M/W	0.2	SAA
	14	16	12	N	N	/	W	0.2	SAA
									EOB @ 16' bgs

¹ If there are signs of contamination (incl. odor or staining)/PID readings greater than 10, perform a sheen test on the soil sample by adding a small amount of water to the soil and observing whether a sheen forms on the water surface.

Water Level (ft): 14.69

Comments: \_\_\_\_\_

Time²: 1130

\_\_\_\_\_

² Amount of time boring left open before collecting WL measurement

\_\_\_\_\_



# Soil Boring Field Log

Date: 9/9/22 Time: 1135  
 Project: Chippewa Quick Mart  
 Project #: 21891000

Boring #: MSA-6P-3  
 Boring Location Description: Not canopy (source area)

Driller: Geiss  
 Rig Type: Push Probe (truck mount)

MSA Personnel: Erica Klingler  
 Weather: Rain, 65°F

Sample Collected? (*)	Start Depth (ft)	Sample Length (in)	Recovery (in)	Odor (Y/Sl./N)	Staining (Y/N)	Sheen Test (+/-)¹	Moisture (D/M/W/S)	PID (ppm)	Description
<input checked="" type="checkbox"/>	0	2	12	N	N	/	D	0.2	4" gravelly sand 8" sand
<input checked="" type="checkbox"/>	2	4	12	N	N	/	D	0.2	SAA
	4	6	10	N	N	/	D/M	0.2	SAA <sup>2</sup>
	6	8	10	N	N	/	M	0.2	SAA, 2" crushed rock @ end
<input checked="" type="checkbox"/>	8	10	22	N	N	/	M	0.2	Silty sand. brn
	10	12	22	N	N	/	M	0.1	SAA
	12	14	18	N	N	/	M	0.2	SAA
	14	16	18	N	N	/	W	0.2	Sand w/ some silt
									EOB @ 16' bgs

¹ If there are signs of contamination (incl. odor or staining)/PID readings greater than 10, perform a sheen test on the soil sample by adding a small amount of water to the soil and observing whether a sheen forms on the water surface.

Water Level (ft): 14.5  
 Time²: 1155

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

² Amount of time boring left open before collecting WL measurement



# Soil Boring Field Log

Date: 9/19/22 Time: 1145  
 Project: Chippewa Quick Mart  
 Project #: 21891000

Boring #: MSA-6P-4  
 Boring Location Description: Fmr tank basin E of bldg

Driller: Geiss  
 Rig Type: Push probe (truck mount)

MSA Personnel: Erica Klingler  
 Weather: Rain, 65°F

Sample Collected? (*)	Start Depth (ft)	Sample Length (in)	Recovery (in)	Odor (Y/Sl./N)	Staining (Y/N)	Sheen Test (+/-) <sup>1</sup>	Moisture (D/M/W/S)	PID (ppm)	Description
<input checked="" type="checkbox"/>	0	2	8	N	N	/	D	0.2	4" gravelly sand 4" sand
<input checked="" type="checkbox"/>	2	4	8	N	N	/	D	0.1	SAA
<input checked="" type="checkbox"/>	4	6	6	N	N	/	M	0.2	SAA, some pebbles
<input checked="" type="checkbox"/>	6	8	6	N	N	/	M	0.2	SAA
<input checked="" type="checkbox"/>	8	10	18	N	N	/	M	0.3	SAA, finer than above
<input checked="" type="checkbox"/>	10	12	18	N	N	/	M/W	0.2	Silty sand, v. fine grained
<input checked="" type="checkbox"/>	12	14	20	N	N	/	M/W	0.3	Silty sand
<input checked="" type="checkbox"/>	14	16	20	N	N	/	W	0.2	Sand w some silt
									EOB @ 16' bgs

<sup>1</sup> If there are signs of contamination (incl. odor or staining)/PID readings greater than 10, perform a sheen test on the soil sample by adding a small amount of water to the soil and observing whether a sheen forms on the water surface.

Water Level (ft): \_\_\_\_\_ Comments: \_\_\_\_\_  
 Time<sup>2</sup>: 1210

<sup>2</sup> Amount of time boring left open before collecting measurement

Date: 9/19/22 Time: 1210  
 Project: Chippewa Quick Mart  
 Project #: 21891000

 Boring #: MSA-6P-5  
 Boring Location Description: SW of source area lotisp. canopy

 Driller: Geiss  
 Rig Type: Rush Probe (truck mount)

 MSA Personnel: Erica Klingler  
 Weather: Rain, 65°F

Sample Collected? (*)	Start Depth (ft)	Sample Length (in)	Recovery (in)	Odor (Y/Sl./N)	Staining (Y/N)	Sheen Test (+/-)¹	Moisture (D/M/W/S)	PID (ppm)	Description
									Soil Type (Clay, Silt, Sand, Gravel, Silty Clay, Sandy Clay, Etc.) Color (Brown, Light Brown, Grey, Red, Etc.) Grain Size (Coarse, Med., Fine, V. Fine) Pebbles (Small, Large; Round, Angular, Etc.) Grading (well graded - wide range of GS; poorly graded - uniform GS) Texture: Silt/Clay: V. soft, Soft, Med., Stiff, Hard, Etc. Sand/Gravel: V. loose, Loose, Med., Dense, Etc.
<u>12:00</u> *	0	2	14	N	N	/	D	0.2	4" Asphalt 10" dk brn sand, wood pieces
	2	4	14	N	N	/	D/M	0.3	7" SAA 7" red sand, fine-med
	4	6	14	N	N	/	M	0.2	4" SAA 10" silty sand, v. fine
	6	8	14	N	N	/	M	0.2	7" crushed red/white rock 7" sand, brn
	8	10	12	N	N	/	M	0.3	sand, some pebbles
	10	12	12	N	N	/	M	0.3	SAA
<u>12:30</u> *	12	14	10	N	N	-	M/W	0.4	SAA
	14	14	10	N	N	/	W	0.3	4" silty sand 14" sand, more coarse at depth EOB @ 16' bgs

¹ If there are signs of contamination (incl. odor or staining)/PID readings greater than 10, perform a sheen test on the soil sample by adding a small amount of water to the soil and observing whether a sheen forms on the water surface.

 Water Level (ft): \_\_\_\_\_  
 Time²: 1240  
 Comments: WLM Malfunction - ~14.5'

² Amount of time boring left open before collecting WL measurement

Date: 9/19/22 Time: 1235  
 Project: Chippewa Quick Mart  
 Project #: 21891000

 Boring #: MSA-GP-6  
 Boring Location Description: W of disp canopy, S of some area.

 Driller: Geiss  
 Rig Type: Push Probe (truck mount)

 MSA Personnel: Erica Klingler  
 Weather: Rain, 65°F

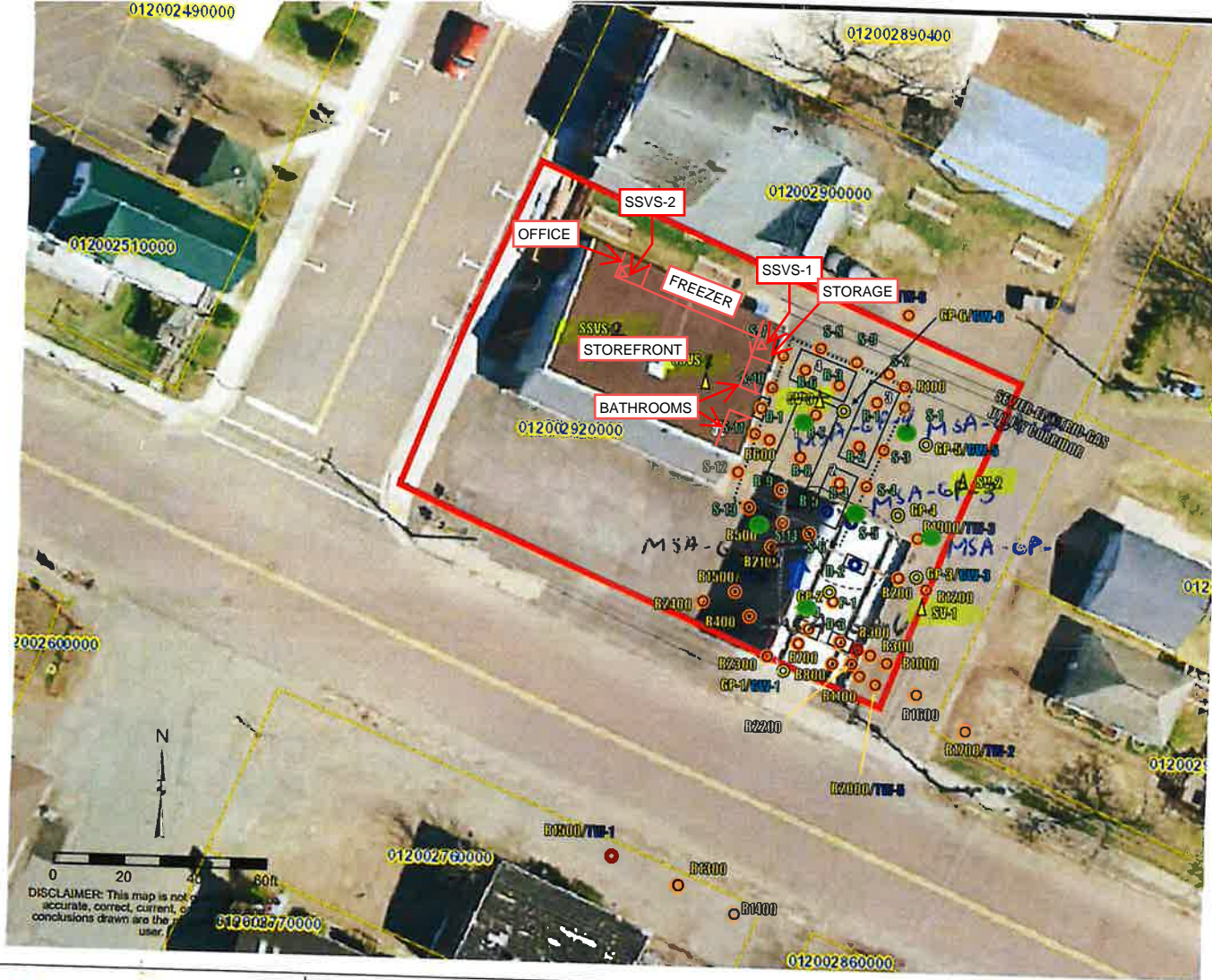
Sample Collected? (*)	Start Depth (ft)	Sample Length (in)	Recovery (in)	Odor (Y/Sl./N)	Staining (Y/N)	Sheen Test (+/-)¹	Moisture (D/M/W/S)	PID (ppm)	Description
1230 *	0	2	12	N	N	/	D	0.5	3" Asphalt 9" gravelly sand
	2	4	12	Sl	N	/	D/M	0.5	sand, gray/brn, some silt
	4	6	16	Sl	N	/	M	0.3	12" SAA 4" red sand, fine
	6	8	16	N	N	/	M	0.3	red sandy silt
	8	10	12	N	N	/	M/W	0.3	4" SAA 8" gravelly sand, med
1250 *	10	12	12	N	N	/	M/W	0.3	SAA, coarser
	12	14	20	N	N	/	S	0.2	SAA, some silt
	14	16	20	N	N	/	S	0.2	SAA, less silt
									EOB @ 16' bgs

¹ If there are signs of contamination (incl. odor or staining)/PID readings greater than 10, perform a sheen test on the soil sample by adding a small amount of water to the soil and observing whether a sheen forms on the water surface.

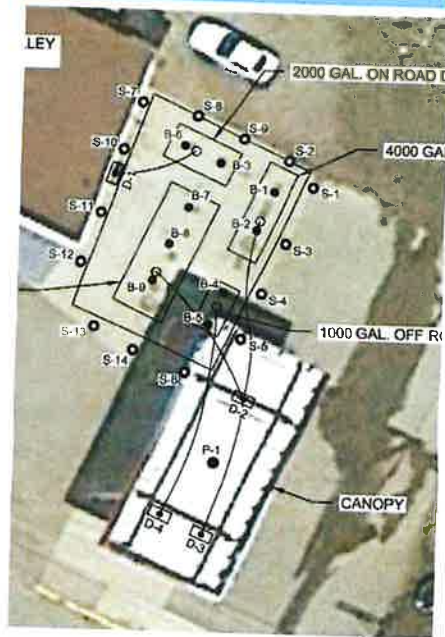
 Water Level (ft): WLM max function - ~14.5'      Comments: \_\_\_\_\_

 Time²: 12:55

² Amount of time boring left open before collecting WL measurement



- 1 = REMOVED 8,000 GAL. GAS UST
- 2 = REMOVED 1,000 GAL. OFF-ROAD DIESEL UST
- 3 = REMOVED 4,000 GAL. GAS UST
- 4 = REMOVED 2,000 GAL. ON-ROAD DIESEL UST



2017 TANK SYSTEM SITE ASSESSMENT MAP BY MSA PROFESSIONAL SERVICES

● Proposed Soil Boring Location



Wyoming, Minnesota  
 Phone 651-303-1124 \* www.conditionservices.com

- 2008-2009 GLIDDEN AMOCO SAMPLING LOCATIONS- NORTHERN ENVIRONMENTAL
- S-12 2017 POST UST REMOVAL (TSSA) SAMPLE LOCATIONS - MSA PROFESSIONAL SERVICES
- SAMPLE/BORING LOCATION
- SOIL SAMPLE EXCEEDS 2022 DIRECT CONTACT and GW RCL FOR BENZO(A)PYRENE
- SOIL SAMPLE EXCEEDS 2022 GW RCL FOR P.VOC
- ▲ PROPOSED SOIL VAPOR OR SUB-SLAB VAPOR SAMPLE LOCATION
- ◎ PROPOSED BORING LOCATION
- ↑ 2008/2009 GROUNDWATER FLOW DIRECTION - NNE
- - - EXTENT OF P.VOC CONTAMINATION - DASHED LINE INDICATES ESTIMATED EXTENT



FIGURE 2- SAMPLING LOCATIONS  
 FORMER CHIPPEWA MART  
 122 EAST BROADWAY  
 GLIDDEN, WI  
 PROJECT NO. 2022-026  
 DNR BRRTS ACTIVITY # 03-02-580226

## **APPENDIX D**

# **MSA SOIL, GROUNDWATER AND VAPOR ANALYTICAL REPORTS**



**MSA Professional Services**

Sample Delivery Group: L1535709  
Samples Received: 09/14/2022  
Project Number: 21891000  
Description: Chippewa Quick Mart

Report To: Erica Klingfus  
332 W. Superior Street, Suite 600  
Duluth, MN 55802

Entire Report Reviewed By:



John Hawkins  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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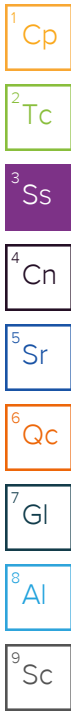
<sup>1</sup> Cp
<sup>2</sup> Tc
<sup>3</sup> Ss
<sup>4</sup> Cn
<sup>5</sup> Sr
<sup>6</sup> Qc
<sup>7</sup> Gl
<sup>8</sup> Al
<sup>9</sup> Sc

# SAMPLE SUMMARY

## MSA-GP-1 (0-4) L1535709-01 Solid

Collected by Erica Klingfus  
 Collected date/time 09/09/22 10:10  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1926837	1	09/16/22 11:42	09/16/22 12:12	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO	WG1928276	1	09/09/22 10:10	09/20/22 08:45	BAM	Mt. Juliet, TN



## MSA-GP-1 (8-10) L1535709-02 Solid

Collected by Erica Klingfus  
 Collected date/time 09/09/22 10:20  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1926837	1	09/16/22 11:42	09/16/22 12:12	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO	WG1928276	1.11	09/09/22 10:20	09/20/22 09:11	BAM	Mt. Juliet, TN

## MSA-GP-2 (0-4) L1535709-03 Solid

Collected by Erica Klingfus  
 Collected date/time 09/09/22 11:15  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1926837	1	09/16/22 11:42	09/16/22 12:12	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO	WG1928276	1	09/09/22 11:15	09/20/22 09:38	BAM	Mt. Juliet, TN

## MSA-GP-2 (8-10) L1535709-04 Solid

Collected by Erica Klingfus  
 Collected date/time 09/09/22 11:30  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1926837	1	09/16/22 11:42	09/16/22 12:12	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO	WG1928276	1.09	09/09/22 11:30	09/20/22 10:04	BAM	Mt. Juliet, TN

## MSA-GP-3 (0-4) L1535709-05 Solid

Collected by Erica Klingfus  
 Collected date/time 09/09/22 11:35  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1926837	1	09/16/22 11:42	09/16/22 12:12	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO	WG1928276	1.01	09/09/22 11:35	09/20/22 10:31	BAM	Mt. Juliet, TN

## MSA-GP-3 (8-10) L1535709-06 Solid

Collected by Erica Klingfus  
 Collected date/time 09/09/22 11:40  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1926837	1	09/16/22 11:42	09/16/22 12:12	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO	WG1928276	1	09/09/22 11:40	09/20/22 10:57	BAM	Mt. Juliet, TN

## MSA-GP-4 (0-4) L1535709-07 Solid

Collected by Erica Klingfus  
 Collected date/time 09/09/22 11:45  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1926837	1	09/16/22 11:42	09/16/22 12:12	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO	WG1928276	1.05	09/09/22 11:45	09/20/22 11:53	BAM	Mt. Juliet, TN

# SAMPLE SUMMARY

## MSA-GP-4 (8-10) L1535709-08 Solid

Collected by Erica Klingfus  
 Collected date/time 09/09/22 12:00  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1926837	1	09/16/22 11:42	09/16/22 12:12	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO	WG1928276	1.15	09/09/22 12:00	09/20/22 12:19	BAM	Mt. Juliet, TN

## MSA-GP-5 (0-4) L1535709-09 Solid

Collected by Erica Klingfus  
 Collected date/time 09/09/22 12:10  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1926837	1	09/16/22 11:42	09/16/22 12:12	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO	WG1928276	1.01	09/09/22 12:10	09/20/22 12:46	BAM	Mt. Juliet, TN

## MSA-GP-5 (12-14) L1535709-10 Solid

Collected by Erica Klingfus  
 Collected date/time 09/09/22 12:30  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1926837	1	09/16/22 11:42	09/16/22 12:12	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO	WG1928276	1	09/09/22 12:30	09/20/22 13:12	BAM	Mt. Juliet, TN

## MSA-GP-6 (0-4) L1535709-11 Solid

Collected by Erica Klingfus  
 Collected date/time 09/09/22 12:35  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1926839	1	09/16/22 11:19	09/16/22 11:37	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO	WG1928276	1	09/09/22 12:35	09/20/22 13:39	BAM	Mt. Juliet, TN

## MSA-GP-6 (10-12) L1535709-12 Solid

Collected by Erica Klingfus  
 Collected date/time 09/09/22 12:50  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1926839	1	09/16/22 11:19	09/16/22 11:37	KDW	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO	WG1928276	1	09/09/22 12:50	09/20/22 14:05	BAM	Mt. Juliet, TN

## MSA-GP-1 L1535709-13 GW

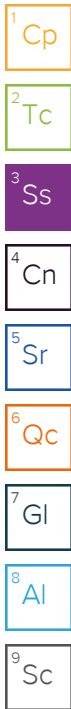
Collected by Erica Klingfus  
 Collected date/time 09/09/22 10:35  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method WI(95) GRO/8021B	WG1927947	1	09/17/22 17:20	09/17/22 17:20	BAM	Mt. Juliet, TN

## MSA-GP-2 L1535709-14 GW

Collected by Erica Klingfus  
 Collected date/time 09/09/22 11:30  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method WI(95) GRO/8021B	WG1927947	1	09/17/22 17:47	09/17/22 17:47	BAM	Mt. Juliet, TN



# SAMPLE SUMMARY

## MSA-GP-3 L1535709-15 GW

Collected by Erica Klingfus  
 Collected date/time 09/09/22 11:55  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method WI(95) GRO/8021B	WG1927947	1	09/17/22 18:36	09/17/22 18:36	BAM	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

## MSA-GP-4 L1535709-16 GW

Collected by Erica Klingfus  
 Collected date/time 09/09/22 12:10  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method WI(95) GRO/8021B	WG1927947	1	09/17/22 19:03	09/17/22 19:03	BAM	Mt. Juliet, TN

4 Cn

5 Sr

## MSA-GP-5 L1535709-17 GW

Collected by Erica Klingfus  
 Collected date/time 09/09/22 12:40  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method WI(95) GRO/8021B	WG1927947	1	09/17/22 19:29	09/17/22 19:29	BAM	Mt. Juliet, TN

6 Qc

7 Gl

8 Al

## MSA-GP-6 L1535709-18 GW

Collected by Erica Klingfus  
 Collected date/time 09/09/22 12:55  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method WI(95) GRO/8021B	WG1927947	1	09/17/22 19:56	09/17/22 19:56	BAM	Mt. Juliet, TN

9 Sc

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



John Hawkins  
Project Manager

## Sample Delivery Group (SDG) Narrative

---

pH outside of method requirement.

**Lab Sample ID**

[L1535709-18](#)

**Project Sample ID**

[MSA-GP-6](#)

**Method**

WI(95) GRO/8021B

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	85.9		1	09/16/2022 12:12	<a href="#">WG1926837</a>

## Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.0291	1	09/20/2022 08:45	<a href="#">WG1928276</a>
Toluene	ND		0.291	1	09/20/2022 08:45	<a href="#">WG1928276</a>
Ethylbenzene	ND		0.0291	1	09/20/2022 08:45	<a href="#">WG1928276</a>
m&p-Xylene	ND		0.0582	1	09/20/2022 08:45	<a href="#">WG1928276</a>
o-Xylene	ND		0.0291	1	09/20/2022 08:45	<a href="#">WG1928276</a>
Methyl tert-butyl ether	ND		0.0582	1	09/20/2022 08:45	<a href="#">WG1928276</a>
Naphthalene	ND		0.291	1	09/20/2022 08:45	<a href="#">WG1928276</a>
1,3,5-Trimethylbenzene	ND		0.0582	1	09/20/2022 08:45	<a href="#">WG1928276</a>
1,2,4-Trimethylbenzene	ND		0.0582	1	09/20/2022 08:45	<a href="#">WG1928276</a>
TPH (GC/FID) Low Fraction	ND		5.82	1	09/20/2022 08:45	<a href="#">WG1928276</a>
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	98.4		80.0-200		09/20/2022 08:45	<a href="#">WG1928276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.6		1	09/16/2022 12:12	<a href="#">WG1926837</a>

## Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.0310	1.11	09/20/2022 09:11	<a href="#">WG1928276</a>
Toluene	ND		0.310	1.11	09/20/2022 09:11	<a href="#">WG1928276</a>
Ethylbenzene	ND		0.0310	1.11	09/20/2022 09:11	<a href="#">WG1928276</a>
m&p-Xylene	ND		0.0619	1.11	09/20/2022 09:11	<a href="#">WG1928276</a>
o-Xylene	ND		0.0310	1.11	09/20/2022 09:11	<a href="#">WG1928276</a>
Methyl tert-butyl ether	ND		0.0619	1.11	09/20/2022 09:11	<a href="#">WG1928276</a>
Naphthalene	ND		0.310	1.11	09/20/2022 09:11	<a href="#">WG1928276</a>
1,3,5-Trimethylbenzene	ND		0.0619	1.11	09/20/2022 09:11	<a href="#">WG1928276</a>
1,2,4-Trimethylbenzene	ND		0.0619	1.11	09/20/2022 09:11	<a href="#">WG1928276</a>
TPH (GC/FID) Low Fraction	ND		6.19	1.11	09/20/2022 09:11	<a href="#">WG1928276</a>
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	100		80.0-200		09/20/2022 09:11	<a href="#">WG1928276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.0		1	09/16/2022 12:12	<a href="#">WG1926837</a>

## Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.0258	1	09/20/2022 09:38	<a href="#">WG1928276</a>
Toluene	ND		0.258	1	09/20/2022 09:38	<a href="#">WG1928276</a>
Ethylbenzene	ND		0.0258	1	09/20/2022 09:38	<a href="#">WG1928276</a>
m&p-Xylene	ND		0.0516	1	09/20/2022 09:38	<a href="#">WG1928276</a>
o-Xylene	ND		0.0258	1	09/20/2022 09:38	<a href="#">WG1928276</a>
Methyl tert-butyl ether	ND		0.0516	1	09/20/2022 09:38	<a href="#">WG1928276</a>
Naphthalene	ND		0.258	1	09/20/2022 09:38	<a href="#">WG1928276</a>
1,3,5-Trimethylbenzene	ND		0.0516	1	09/20/2022 09:38	<a href="#">WG1928276</a>
1,2,4-Trimethylbenzene	ND		0.0516	1	09/20/2022 09:38	<a href="#">WG1928276</a>
TPH (GC/FID) Low Fraction	ND		5.16	1	09/20/2022 09:38	<a href="#">WG1928276</a>
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	161		80.0-200		09/20/2022 09:38	<a href="#">WG1928276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	88.8		1	09/16/2022 12:12	<a href="#">WG1926837</a>

## Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.0307	1.09	09/20/2022 10:04	<a href="#">WG1928276</a>
Toluene	ND		0.307	1.09	09/20/2022 10:04	<a href="#">WG1928276</a>
Ethylbenzene	ND		0.0307	1.09	09/20/2022 10:04	<a href="#">WG1928276</a>
m&p-Xylene	ND		0.0614	1.09	09/20/2022 10:04	<a href="#">WG1928276</a>
o-Xylene	ND		0.0307	1.09	09/20/2022 10:04	<a href="#">WG1928276</a>
Methyl tert-butyl ether	ND		0.0614	1.09	09/20/2022 10:04	<a href="#">WG1928276</a>
Naphthalene	ND		0.307	1.09	09/20/2022 10:04	<a href="#">WG1928276</a>
1,3,5-Trimethylbenzene	ND		0.0614	1.09	09/20/2022 10:04	<a href="#">WG1928276</a>
1,2,4-Trimethylbenzene	ND		0.0614	1.09	09/20/2022 10:04	<a href="#">WG1928276</a>
TPH (GC/FID) Low Fraction	ND		6.14	1.09	09/20/2022 10:04	<a href="#">WG1928276</a>
(S) <i>a, a, a</i> -Trifluorotoluene(PID)	165		80.0-200		09/20/2022 10:04	<a href="#">WG1928276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.1		1	09/16/2022 12:12	<a href="#">WG1926837</a>

## Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.0261	1.01	09/20/2022 10:31	<a href="#">WG1928276</a>
Toluene	ND		0.261	1.01	09/20/2022 10:31	<a href="#">WG1928276</a>
Ethylbenzene	ND		0.0261	1.01	09/20/2022 10:31	<a href="#">WG1928276</a>
m&p-Xylene	ND		0.0520	1.01	09/20/2022 10:31	<a href="#">WG1928276</a>
o-Xylene	ND		0.0261	1.01	09/20/2022 10:31	<a href="#">WG1928276</a>
Methyl tert-butyl ether	ND		0.0520	1.01	09/20/2022 10:31	<a href="#">WG1928276</a>
Naphthalene	ND		0.261	1.01	09/20/2022 10:31	<a href="#">WG1928276</a>
1,3,5-Trimethylbenzene	ND		0.0520	1.01	09/20/2022 10:31	<a href="#">WG1928276</a>
1,2,4-Trimethylbenzene	ND		0.0520	1.01	09/20/2022 10:31	<a href="#">WG1928276</a>
TPH (GC/FID) Low Fraction	ND		5.20	1.01	09/20/2022 10:31	<a href="#">WG1928276</a>
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	173		80.0-200		09/20/2022 10:31	<a href="#">WG1928276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	85.3		1	09/16/2022 12:12	<a href="#">WG1926837</a>

## Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.0293	1	09/20/2022 10:57	<a href="#">WG1928276</a>
Toluene	ND		0.293	1	09/20/2022 10:57	<a href="#">WG1928276</a>
Ethylbenzene	ND		0.0293	1	09/20/2022 10:57	<a href="#">WG1928276</a>
m&p-Xylene	ND		0.0586	1	09/20/2022 10:57	<a href="#">WG1928276</a>
o-Xylene	ND		0.0293	1	09/20/2022 10:57	<a href="#">WG1928276</a>
Methyl tert-butyl ether	ND		0.0586	1	09/20/2022 10:57	<a href="#">WG1928276</a>
Naphthalene	ND		0.293	1	09/20/2022 10:57	<a href="#">WG1928276</a>
1,3,5-Trimethylbenzene	ND		0.0586	1	09/20/2022 10:57	<a href="#">WG1928276</a>
1,2,4-Trimethylbenzene	ND		0.0586	1	09/20/2022 10:57	<a href="#">WG1928276</a>
TPH (GC/FID) Low Fraction	ND		5.86	1	09/20/2022 10:57	<a href="#">WG1928276</a>
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	161		80.0-200		09/20/2022 10:57	<a href="#">WG1928276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.8		1	09/16/2022 12:12	<a href="#">WG1926837</a>

## Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.0274	1.05	09/20/2022 11:53	<a href="#">WG1928276</a>
Toluene	ND		0.274	1.05	09/20/2022 11:53	<a href="#">WG1928276</a>
Ethylbenzene	ND		0.0274	1.05	09/20/2022 11:53	<a href="#">WG1928276</a>
m&p-Xylene	ND		0.0548	1.05	09/20/2022 11:53	<a href="#">WG1928276</a>
o-Xylene	ND		0.0274	1.05	09/20/2022 11:53	<a href="#">WG1928276</a>
Methyl tert-butyl ether	ND		0.0548	1.05	09/20/2022 11:53	<a href="#">WG1928276</a>
Naphthalene	ND		0.274	1.05	09/20/2022 11:53	<a href="#">WG1928276</a>
1,3,5-Trimethylbenzene	ND		0.0548	1.05	09/20/2022 11:53	<a href="#">WG1928276</a>
1,2,4-Trimethylbenzene	ND		0.0548	1.05	09/20/2022 11:53	<a href="#">WG1928276</a>
TPH (GC/FID) Low Fraction	ND		5.48	1.05	09/20/2022 11:53	<a href="#">WG1928276</a>
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	100		80.0-200		09/20/2022 11:53	<a href="#">WG1928276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.4		1	09/16/2022 12:12	<a href="#">WG1926837</a>

## Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.0305	1.15	09/20/2022 12:19	<a href="#">WG1928276</a>
Toluene	ND		0.305	1.15	09/20/2022 12:19	<a href="#">WG1928276</a>
Ethylbenzene	ND		0.0305	1.15	09/20/2022 12:19	<a href="#">WG1928276</a>
m&p-Xylene	ND		0.0609	1.15	09/20/2022 12:19	<a href="#">WG1928276</a>
o-Xylene	ND		0.0305	1.15	09/20/2022 12:19	<a href="#">WG1928276</a>
Methyl tert-butyl ether	ND		0.0609	1.15	09/20/2022 12:19	<a href="#">WG1928276</a>
Naphthalene	ND		0.305	1.15	09/20/2022 12:19	<a href="#">WG1928276</a>
1,3,5-Trimethylbenzene	ND		0.0609	1.15	09/20/2022 12:19	<a href="#">WG1928276</a>
1,2,4-Trimethylbenzene	ND		0.0609	1.15	09/20/2022 12:19	<a href="#">WG1928276</a>
TPH (GC/FID) Low Fraction	ND		6.09	1.15	09/20/2022 12:19	<a href="#">WG1928276</a>
(S) a,a,a-Trifluorotoluene(PID)	101		80.0-200		09/20/2022 12:19	<a href="#">WG1928276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	84.3		1	09/16/2022 12:12	<a href="#">WG1926837</a>

## Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.0300	1.01	09/20/2022 12:46	<a href="#">WG1928276</a>
Toluene	ND		0.300	1.01	09/20/2022 12:46	<a href="#">WG1928276</a>
Ethylbenzene	ND		0.0300	1.01	09/20/2022 12:46	<a href="#">WG1928276</a>
m&p-Xylene	ND		0.0599	1.01	09/20/2022 12:46	<a href="#">WG1928276</a>
o-Xylene	ND		0.0300	1.01	09/20/2022 12:46	<a href="#">WG1928276</a>
Methyl tert-butyl ether	ND		0.0599	1.01	09/20/2022 12:46	<a href="#">WG1928276</a>
Naphthalene	ND		0.300	1.01	09/20/2022 12:46	<a href="#">WG1928276</a>
1,3,5-Trimethylbenzene	ND		0.0599	1.01	09/20/2022 12:46	<a href="#">WG1928276</a>
1,2,4-Trimethylbenzene	ND		0.0599	1.01	09/20/2022 12:46	<a href="#">WG1928276</a>
TPH (GC/FID) Low Fraction	ND		5.99	1.01	09/20/2022 12:46	<a href="#">WG1928276</a>
(S) a,a,a-Trifluorotoluene(PID)	154		80.0-200		09/20/2022 12:46	<a href="#">WG1928276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.2		1	09/16/2022 12:12	<a href="#">WG1926837</a>

## Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.0268	1	09/20/2022 13:12	<a href="#">WG1928276</a>
Toluene	ND		0.268	1	09/20/2022 13:12	<a href="#">WG1928276</a>
Ethylbenzene	ND		0.0268	1	09/20/2022 13:12	<a href="#">WG1928276</a>
m&p-Xylene	ND		0.0537	1	09/20/2022 13:12	<a href="#">WG1928276</a>
o-Xylene	ND		0.0268	1	09/20/2022 13:12	<a href="#">WG1928276</a>
Methyl tert-butyl ether	ND		0.0537	1	09/20/2022 13:12	<a href="#">WG1928276</a>
Naphthalene	ND		0.268	1	09/20/2022 13:12	<a href="#">WG1928276</a>
1,3,5-Trimethylbenzene	ND		0.0537	1	09/20/2022 13:12	<a href="#">WG1928276</a>
1,2,4-Trimethylbenzene	ND		0.0537	1	09/20/2022 13:12	<a href="#">WG1928276</a>
TPH (GC/FID) Low Fraction	ND		5.37	1	09/20/2022 13:12	<a href="#">WG1928276</a>
(S) a,a,a-Trifluorotoluene(PID)	152		80.0-200		09/20/2022 13:12	<a href="#">WG1928276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.9		1	09/16/2022 11:37	<a href="#">WG1926839</a>

## Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.0278	1	09/20/2022 13:39	<a href="#">WG1928276</a>
Toluene	ND		0.278	1	09/20/2022 13:39	<a href="#">WG1928276</a>
Ethylbenzene	ND		0.0278	1	09/20/2022 13:39	<a href="#">WG1928276</a>
m&p-Xylene	ND		0.0556	1	09/20/2022 13:39	<a href="#">WG1928276</a>
o-Xylene	ND		0.0278	1	09/20/2022 13:39	<a href="#">WG1928276</a>
Methyl tert-butyl ether	ND		0.0556	1	09/20/2022 13:39	<a href="#">WG1928276</a>
Naphthalene	ND		0.278	1	09/20/2022 13:39	<a href="#">WG1928276</a>
1,3,5-Trimethylbenzene	ND		0.0556	1	09/20/2022 13:39	<a href="#">WG1928276</a>
1,2,4-Trimethylbenzene	ND		0.0556	1	09/20/2022 13:39	<a href="#">WG1928276</a>
TPH (GC/FID) Low Fraction	ND		5.56	1	09/20/2022 13:39	<a href="#">WG1928276</a>
(S) <i>a,a,a</i> -Trifluorotoluene(PID)	100		80.0-200		09/20/2022 13:39	<a href="#">WG1928276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	84.8		1	09/16/2022 11:37	<a href="#">WG1926839</a>

## Volatile Organic Compounds (GC) by Method 8021B/WI(95) GRO

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.0295	1	09/20/2022 14:05	<a href="#">WG1928276</a>
Toluene	ND		0.295	1	09/20/2022 14:05	<a href="#">WG1928276</a>
Ethylbenzene	ND		0.0295	1	09/20/2022 14:05	<a href="#">WG1928276</a>
m&p-Xylene	ND		0.0589	1	09/20/2022 14:05	<a href="#">WG1928276</a>
o-Xylene	ND		0.0295	1	09/20/2022 14:05	<a href="#">WG1928276</a>
Methyl tert-butyl ether	ND		0.0589	1	09/20/2022 14:05	<a href="#">WG1928276</a>
Naphthalene	ND		0.295	1	09/20/2022 14:05	<a href="#">WG1928276</a>
1,3,5-Trimethylbenzene	ND		0.0589	1	09/20/2022 14:05	<a href="#">WG1928276</a>
1,2,4-Trimethylbenzene	ND		0.0589	1	09/20/2022 14:05	<a href="#">WG1928276</a>
TPH (GC/FID) Low Fraction	ND		5.89	1	09/20/2022 14:05	<a href="#">WG1928276</a>
(S) a,a,a-Trifluorotoluene(PID)	171		80.0-200		09/20/2022 14:05	<a href="#">WG1928276</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC) by Method WI(95) GRO/8021B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.500	1	09/17/2022 17:20	<a href="#">WG1927947</a>
Toluene	ND		1.00	1	09/17/2022 17:20	<a href="#">WG1927947</a>
Ethylbenzene	ND		0.500	1	09/17/2022 17:20	<a href="#">WG1927947</a>
m&p-Xylene	ND		1.00	1	09/17/2022 17:20	<a href="#">WG1927947</a>
o-Xylene	ND		0.500	1	09/17/2022 17:20	<a href="#">WG1927947</a>
Methyl tert-butyl ether	ND		1.00	1	09/17/2022 17:20	<a href="#">WG1927947</a>
Naphthalene	ND		5.00	1	09/17/2022 17:20	<a href="#">WG1927947</a>
1,3,5-Trimethylbenzene	ND		1.00	1	09/17/2022 17:20	<a href="#">WG1927947</a>
1,2,4-Trimethylbenzene	ND		1.00	1	09/17/2022 17:20	<a href="#">WG1927947</a>
TPH (GC/FID) Low Fraction	ND		100	1	09/17/2022 17:20	<a href="#">WG1927947</a>
(S) a, a, a-Trifluorotoluene(PID)	102		80.0-200		09/17/2022 17:20	<a href="#">WG1927947</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC) by Method WI(95) GRO/8021B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.500	1	09/17/2022 17:47	<a href="#">WG1927947</a>
Toluene	ND		1.00	1	09/17/2022 17:47	<a href="#">WG1927947</a>
Ethylbenzene	ND		0.500	1	09/17/2022 17:47	<a href="#">WG1927947</a>
m&p-Xylene	ND		1.00	1	09/17/2022 17:47	<a href="#">WG1927947</a>
o-Xylene	ND		0.500	1	09/17/2022 17:47	<a href="#">WG1927947</a>
Methyl tert-butyl ether	ND		1.00	1	09/17/2022 17:47	<a href="#">WG1927947</a>
Naphthalene	ND		5.00	1	09/17/2022 17:47	<a href="#">WG1927947</a>
1,3,5-Trimethylbenzene	ND		1.00	1	09/17/2022 17:47	<a href="#">WG1927947</a>
1,2,4-Trimethylbenzene	ND		1.00	1	09/17/2022 17:47	<a href="#">WG1927947</a>
TPH (GC/FID) Low Fraction	ND		100	1	09/17/2022 17:47	<a href="#">WG1927947</a>
(S) a, a, a-Trifluorotoluene(PID)	103		80.0-200		09/17/2022 17:47	<a href="#">WG1927947</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC) by Method WI(95) GRO/8021B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.500	1	09/17/2022 18:36	<a href="#">WG1927947</a>
Toluene	ND		1.00	1	09/17/2022 18:36	<a href="#">WG1927947</a>
Ethylbenzene	ND		0.500	1	09/17/2022 18:36	<a href="#">WG1927947</a>
m&p-Xylene	ND		1.00	1	09/17/2022 18:36	<a href="#">WG1927947</a>
o-Xylene	ND		0.500	1	09/17/2022 18:36	<a href="#">WG1927947</a>
Methyl tert-butyl ether	ND		1.00	1	09/17/2022 18:36	<a href="#">WG1927947</a>
Naphthalene	ND		5.00	1	09/17/2022 18:36	<a href="#">WG1927947</a>
1,3,5-Trimethylbenzene	ND		1.00	1	09/17/2022 18:36	<a href="#">WG1927947</a>
1,2,4-Trimethylbenzene	ND		1.00	1	09/17/2022 18:36	<a href="#">WG1927947</a>
TPH (GC/FID) Low Fraction	ND		100	1	09/17/2022 18:36	<a href="#">WG1927947</a>
(S) a, a, a-Trifluorotoluene(PID)	103		80.0-200		09/17/2022 18:36	<a href="#">WG1927947</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC) by Method WI(95) GRO/8021B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.500	1	09/17/2022 19:03	<a href="#">WG1927947</a>
Toluene	ND		1.00	1	09/17/2022 19:03	<a href="#">WG1927947</a>
Ethylbenzene	ND		0.500	1	09/17/2022 19:03	<a href="#">WG1927947</a>
m&p-Xylene	ND		1.00	1	09/17/2022 19:03	<a href="#">WG1927947</a>
o-Xylene	ND		0.500	1	09/17/2022 19:03	<a href="#">WG1927947</a>
Methyl tert-butyl ether	ND		1.00	1	09/17/2022 19:03	<a href="#">WG1927947</a>
Naphthalene	ND		5.00	1	09/17/2022 19:03	<a href="#">WG1927947</a>
1,3,5-Trimethylbenzene	ND		1.00	1	09/17/2022 19:03	<a href="#">WG1927947</a>
1,2,4-Trimethylbenzene	ND		1.00	1	09/17/2022 19:03	<a href="#">WG1927947</a>
TPH (GC/FID) Low Fraction	ND		100	1	09/17/2022 19:03	<a href="#">WG1927947</a>
(S) a, a, a-Trifluorotoluene(PID)	102		80.0-200		09/17/2022 19:03	<a href="#">WG1927947</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC) by Method WI(95) GRO/8021B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.500	1	09/17/2022 19:29	<a href="#">WG1927947</a>
Toluene	ND		1.00	1	09/17/2022 19:29	<a href="#">WG1927947</a>
Ethylbenzene	ND		0.500	1	09/17/2022 19:29	<a href="#">WG1927947</a>
m&p-Xylene	ND		1.00	1	09/17/2022 19:29	<a href="#">WG1927947</a>
o-Xylene	ND		0.500	1	09/17/2022 19:29	<a href="#">WG1927947</a>
Methyl tert-butyl ether	ND		1.00	1	09/17/2022 19:29	<a href="#">WG1927947</a>
Naphthalene	ND		5.00	1	09/17/2022 19:29	<a href="#">WG1927947</a>
1,3,5-Trimethylbenzene	ND		1.00	1	09/17/2022 19:29	<a href="#">WG1927947</a>
1,2,4-Trimethylbenzene	ND		1.00	1	09/17/2022 19:29	<a href="#">WG1927947</a>
TPH (GC/FID) Low Fraction	ND		100	1	09/17/2022 19:29	<a href="#">WG1927947</a>
(S) a, a, a-Trifluorotoluene(PID)	102		80.0-200		09/17/2022 19:29	<a href="#">WG1927947</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC) by Method WI(95) GRO/8021B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.500	1	09/17/2022 19:56	<a href="#">WG1927947</a>
Toluene	ND		1.00	1	09/17/2022 19:56	<a href="#">WG1927947</a>
Ethylbenzene	ND		0.500	1	09/17/2022 19:56	<a href="#">WG1927947</a>
m&p-Xylene	ND		1.00	1	09/17/2022 19:56	<a href="#">WG1927947</a>
o-Xylene	ND		0.500	1	09/17/2022 19:56	<a href="#">WG1927947</a>
Methyl tert-butyl ether	ND		1.00	1	09/17/2022 19:56	<a href="#">WG1927947</a>
Naphthalene	ND		5.00	1	09/17/2022 19:56	<a href="#">WG1927947</a>
1,3,5-Trimethylbenzene	ND		1.00	1	09/17/2022 19:56	<a href="#">WG1927947</a>
1,2,4-Trimethylbenzene	ND		1.00	1	09/17/2022 19:56	<a href="#">WG1927947</a>
TPH (GC/FID) Low Fraction	ND		100	1	09/17/2022 19:56	<a href="#">WG1927947</a>
(S) a, a, a-Trifluorotoluene(PID)	102		80.0-200		09/17/2022 19:56	<a href="#">WG1927947</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3838296-1 09/16/22 12:12

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	%		%	%
Total Solids	0.00100			

1 Cp

2 Tc

3 Ss

L1535709-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1535709-03 09/16/22 12:12 • (DUP) R3838296-3 09/16/22 12:12

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	%	%		%		%
Total Solids	97.0	97.1	1	0.116		10

4 Cn

5 Sr

Laboratory Control Sample (LCS)

(LCS) R3838296-2 09/16/22 12:12

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3838295-1 09/16/22 11:37

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	%		%	%
Total Solids	0.000			

1 Cp

2 Tc

3 Ss

L1535722-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1535722-04 09/16/22 11:37 • (DUP) R3838295-3 09/16/22 11:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	%	%		%		%
Total Solids	87.5	89.9	1	2.65		10

4 Cn

5 Sr

Laboratory Control Sample (LCS)

(LCS) R3838295-2 09/16/22 11:37

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3839901-3 09/20/22 08:18

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
Benzene	U		0.00440	0.0250
Toluene	U		0.00805	0.250
Ethylbenzene	U		0.00455	0.0250
m&p-Xylene	U		0.00770	0.0500
o-Xylene	U		0.00480	0.0250
Methyl tert-butyl ether	U		0.00800	0.0500
Naphthalene	U		0.0520	0.250
1,3,5-Trimethylbenzene	0.00431	U	0.00410	0.0500
1,2,4-Trimethylbenzene	U		0.00535	0.0500
TPH (GC/FID) Low Fraction	U		0.550	5.00
(S) a,a,a-Trifluorotoluene(PID)	99.5			80.0-200

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3839901-1 09/20/22 06:49 • (LCSD) R3839901-4 09/20/22 15:51

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
TPH (GC/FID) Low Fraction	13.8	14.0	14.2	101	103	80.0-120			1.42	20
(S) a,a,a-Trifluorotoluene(PID)				101	102	80.0-200				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3839901-2 09/20/22 06:49 • (LCSD) R3839901-5 09/20/22 15:51

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Benzene	1.25	1.23	1.25	98.4	100	80.0-120			1.61	20
Toluene	1.25	1.25	1.27	100	102	80.0-120			1.59	20
Ethylbenzene	1.25	1.35	1.37	108	110	80.0-120			1.47	20
m&p-Xylene	2.50	2.61	2.65	104	106	80.0-120			1.52	20
o-Xylene	1.25	1.32	1.34	106	107	80.0-120			1.50	20
Methyl tert-butyl ether	1.25	1.37	1.38	110	110	80.0-120			0.727	20
Naphthalene	1.25	1.43	1.48	114	118	80.0-120			3.44	20
1,3,5-Trimethylbenzene	1.25	1.35	1.37	108	110	80.0-120			1.47	20
1,2,4-Trimethylbenzene	1.25	1.36	1.39	109	111	80.0-120			2.18	20
(S) a,a,a-Trifluorotoluene(PID)				101	102	80.0-200				

Method Blank (MB)

(MB) R3840288-3 09/17/22 15:44

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.0700	0.500
Toluene	U		0.412	1.00
Ethylbenzene	U		0.120	0.500
m&p-Xylene	U		0.121	1.00
o-Xylene	U		0.104	0.500
Methyl tert-butyl ether	U		0.252	1.00
Naphthalene	U		0.221	5.00
1,3,5-Trimethylbenzene	0.173	U	0.0790	1.00
1,2,4-Trimethylbenzene	0.153	U	0.0930	1.00
TPH (GC/FID) Low Fraction	U		15.0	100
<sup>(S)</sup> a,a,a-Trifluorotoluene(PID)	104			80.0-200

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3840288-1 09/17/22 14:22 • (LCSD) R3840288-4 09/17/22 21:11

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
TPH (GC/FID) Low Fraction	550	539	527	98.0	95.8	80.0-120			2.25	20
<sup>(S)</sup> a,a,a-Trifluorotoluene(PID)				103	102	80.0-200				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3840288-2 09/17/22 14:22 • (LCSD) R3840288-5 09/17/22 21:11

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	50.0	46.7	50.1	93.4	100	80.0-120			7.02	20
Toluene	50.0	46.9	50.2	93.8	100	80.0-120			6.80	20
Ethylbenzene	50.0	48.6	51.6	97.2	103	80.0-120			5.99	20
m&p-Xylene	100	96.0	101	96.0	101	80.0-120			5.08	20
o-Xylene	50.0	48.2	50.7	96.4	101	80.0-120			5.06	20
Methyl tert-butyl ether	50.0	48.5	51.6	97.0	103	80.0-120			6.19	20
Naphthalene	50.0	52.4	54.3	105	109	80.0-120			3.56	20
1,3,5-Trimethylbenzene	50.0	47.4	50.1	94.8	100	80.0-120			5.54	20
1,2,4-Trimethylbenzene	50.0	49.4	51.8	98.8	104	80.0-120			4.74	20
<sup>(S)</sup> a,a,a-Trifluorotoluene(PID)				103	102	80.0-200				

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

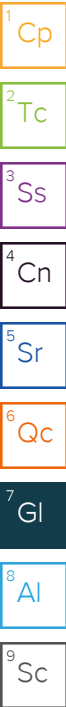
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

### Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
---	---



# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Company Name/Address:  
**MSA Professional Services**  
 332 W. Superior Street, Suite 600  
 Duluth, MN 55802

Billing Information:  
**MSA Professionals**  
 332 W. Superior St, Ste. 600  
 Duluth, MN 55802

Report to:  
**Erica Klingfus**

Email To: **eklingfus@msa-ps.com**

Project Description:  
**Chippewa Quick Mart**

City/State  
 Collected: **Glidden, WI**

Please Circle:  
 PT MT **CT** ET

Phone: **218-722-3915**

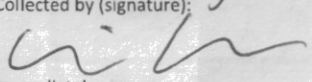
Client Project #  
**21891000**

Lab Project #  
**MSAPRODMN-21891000**

Collected by (print):  
**Erica Klingfus**

Site/Facility ID #

P.O. #

Collected by (signature):  
  
 Immediately  
 Packed on Ice N \_\_\_ Y **X**

**Rush?** (Lab MUST Be Notified)  
 \_\_\_ Same Day \_\_\_ Five Day  
 \_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
 \_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
 \_\_\_ Three Day

Quote #  
 Date Results Needed

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MSA-GP-1 (0-4)	G	SS	0-4	9/9/22	1010	2
MSA-GP-1 (8-10)		SS	8-10		1020	2
MSA-GP-2 (0-4)		SS	0-4		1115	2
MSA-GP-2 (8-10)		SS	8-10		1130	2
MSA-GP-3 (0-4)		SS	0-4		1135	2
MSA-GP-3 (8-10)		SS	8-10		1140	2
MSA-GP-4 (0-4)		SS	0-4		1145	2
MSA-GP-4 (8-10)		SS	8-10		1200	2
MSA-GP-5 (0-4)		SS	0-4		1210	2
MSA-GP-5 (12-14)	↓	SS	12-14	↓	1230	2

Analysis / Container / Preservative									
Pres Ch:									
	PVOCGRO 40mlAmb HCl	PVOCGRO 60mlAmb/MeOH/Syr	TS 4ozClr-NoPres						

Chain of Custody Page 1 of 2

**Pace**  
 PEOPLE ADVANCING SCIENCE

**MT JULIET, TN**  
 12065 Lebanon Rd Mount Juliet, TN 37122  
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>

SDG # **L1535709**  
**G155**

Accnum: **MSAPRODMN**  
 Template: **T215065**  
 Prelogin: **P945456**  
 PM: **341 - John Hawkins**  
 PB: **BW 8/24**  
 Shipped Via: **FedEX Ground**

\* Matrix:  
 SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other

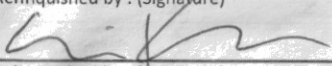
Remarks: **2 coolers, 2 coc pages**

pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_

Sample Receipt Checklist	
COC Seal Present/Intact: ___ NP	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
If Applicable	
VOA Zero Headspace:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
RAD Screen <0.5 mR/hr:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N

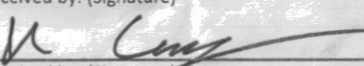
Samples returned via:  
 \_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier

Tracking # **5433 8379 4060**

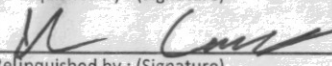
Relinquished by: (Signature)  


Date: **9/12/22**

Time: **1300**

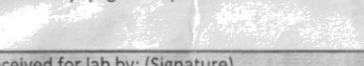
Received by: (Signature)  


Trip Blank Received:  Yes /  No  
 HCl / MeOH  
 TBR

Relinquished by: (Signature)  



Date: **9/12/22**

Time: **1300**

Received by: (Signature)  



Temp: **MSA7 16.2 ± 0.2 = 62 3C**

If preservation required by Login: Date/Time

Relinquished by: (Signature)  


Date: **9/14/22**

Time: **0900**

Received for lab by: (Signature)  


Date: **9/14/22** Time: **0900**

Hold: Condition: **NCF / OK**

Company Name/Address:

**MSA Professional Services**

332 W. Superior Street, Suite 600  
Duluth, MN 55802

Billing Information:

**MSA Professionals**  
332 W. Superior St, Ste. 600  
Duluth, MN 55802

Pres  
Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 2



**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122  
Submitting a sample via this chain of custody  
constitutes acknowledgment and acceptance of the  
Pace Terms and Conditions found at:  
<https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

SDG # **U1535709**

Table #

Accnum: **MSAPRODMN**

Template: **T215065**

Prelogin: **P945456**

PM: **341 - John Hawkins**

PB: **BW 8/24**

Shipped Via: **FedEX Ground**

Remarks | Sample # (lab only)

Report to:  
**Erica Klingfus**

Email To: **eklingfus@msa-ps.com**

Project Description:  
**Chippewa Quick Mart**

City/State  
Collected: **Glidden, WI**

Please Circle:  
PT MT **CT** ET

Phone: **218-722-3915**

Client Project #  
**21891000**

Lab Project #  
**MSAPRODMN-21891000**

Collected by (print):  
**Erica Klingfus**

Site/Facility ID #

P.O. #

Collected by (signature):

**Rush?** (Lab MUST Be Notified)

Quote #

Immediately

Packed on Ice **N**

Same Day Five Day  
Next Day 5 Day (Rad Only)  
Two Day 10 Day (Rad Only)  
Three Day

Date Results Needed

No.  
of  
Cnts

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

**MSA-GP-6 (0-4)**

**G**

**SS**

**0-4**

**9/9/22**

**1235**

**2**

PVOCGRO 40mlAmb HCl

PVOCGRO 60mlAmb/MeOH/Syr

TS 4ozCl-NoPres

**X**

**X**

**MSA-GP-6 (10-12)**

**G**

**SS**

**10-12**

**↓**

**1250**

**2**

**X**

**X**

**-11**

**MSA-GP-1**

**G**

**GW**

**9/9/22**

**1035**

**2**

**X**

**-13**

**MSA-GP-2**

**↓**

**GW**

**1130**

**2**

**X**

**-14**

**MSA-GP-3**

**↓**

**GW**

**1155**

**2**

**X**

**-15**

**MSA-GP-4**

**↓**

**GW**

**1210**

**2**

**X**

**-16**

**MSA-GP-5**

**↓**

**GW**

**1240**

**2**

**X**

**-17**

**MSA-GP-6**

**↓**

**GW**

**1255**

**2**

**X**

**-18**

\* Matrix:  
SS - Soil AIR - Air F - Filter  
GW - Groundwater B - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks: **2 coolers, 2 coc pages**

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via:  
\_ UPS \_ FedEx \_ Courier

Tracking # **5433 8379 4060**

Sample Receipt Checklist

COC Seal Present/Intact: **X**  Y  N  
COC Signed/Accurate: **X**  Y  N  
Bottles arrive intact: **X**  Y  N  
Correct bottles used: **X**  Y  N  
Sufficient volume sent: **X**  Y  N  
If Applicable  
VOA Zero Headspace: **X**  Y  N  
Preservation Correct/Checked: **X**  Y  N  
RAD Screen <0.5 mR/hr: **X**  Y  N

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: **2**  Yes  No

**HC** / MeOH  
TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: **MSA-7** °C  
**102+0=102** Bottles Received: **36**

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: **9/14/22** Time: **0900**

Hold:

Condition:  
NCF / **OK**



**MSA Professional Services**

Sample Delivery Group: L1538813  
Samples Received: 09/14/2022  
Project Number: 21891000  
Description: Chippewa Quick Mart

Report To: Erica Klingfus  
332 W. Superior Street, Suite 600  
Duluth, MN 55802

Entire Report Reviewed By:



John Hawkins  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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# SAMPLE SUMMARY

## MSA-GP-1 L1538813-01 GW

Collected by Erica Klingfus  
 Collected date/time 09/09/22 10:35  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1931282	1	09/23/22 22:43	09/23/22 22:43	ACG	Mt. Juliet, TN

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

## MSA-GP-2 L1538813-02 GW

Collected by Erica Klingfus  
 Collected date/time 09/09/22 11:30  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1931282	1	09/23/22 23:02	09/23/22 23:02	ACG	Mt. Juliet, TN

<sup>4</sup> Cn

<sup>5</sup> Sr

## MSA-GP-4 L1538813-03 GW

Collected by Erica Klingfus  
 Collected date/time 09/09/22 12:10  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1931282	1	09/23/22 23:21	09/23/22 23:21	ACG	Mt. Juliet, TN

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

## MSA-GP-6 L1538813-04 GW

Collected by Erica Klingfus  
 Collected date/time 09/09/22 12:55  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1931282	1	09/23/22 23:40	09/23/22 23:40	ACG	Mt. Juliet, TN

<sup>9</sup> Sc

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



John Hawkins  
Project Manager

## Sample Delivery Group (SDG) Narrative

---

pH outside of method requirement.

<u>Lab Sample ID</u>	<u>Project Sample ID</u>	<u>Method</u>
<a href="#">L1538813-04</a>	<a href="#">MSA-GP-6</a>	8260D

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		50.0	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Acrolein	ND		50.0	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Acrylonitrile	ND		10.0	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Allyl chloride	ND		5.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Benzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Bromobenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Bromodichloromethane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Bromoform	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Bromomethane	ND		5.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
n-Butylbenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
sec-Butylbenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
tert-Butylbenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Carbon tetrachloride	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Chlorobenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Chlorodibromomethane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Chloroethane	ND		5.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
2-Chloroethyl vinyl ether	ND		50.0	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Chloroform	ND		5.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Chloromethane	ND		2.50	1	09/23/2022 22:43	<a href="#">WG1931282</a>
2-Chlorotoluene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
4-Chlorotoluene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,2-Dibromo-3-Chloropropane	ND		5.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,2-Dibromoethane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Dibromomethane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,2-Dichlorobenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,3-Dichlorobenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,4-Dichlorobenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Dichlorodifluoromethane	ND		5.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Dichlorofluoromethane	ND		5.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,1-Dichloroethane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,2-Dichloroethane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,1-Dichloroethene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
cis-1,2-Dichloroethene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
trans-1,2-Dichloroethene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,2-Dichloropropane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,1-Dichloropropene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,3-Dichloropropane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
cis-1,3-Dichloropropene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
trans-1,3-Dichloropropene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
2,2-Dichloropropane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Di-isopropyl ether	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Ethylbenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Ethyl ether	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Hexachloro-1,3-butadiene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Isopropylbenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
p-Isopropyltoluene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
2-Butanone (MEK)	ND		10.0	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Methylene Chloride	ND		5.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
2-Hexanone	ND		10.0	1	09/23/2022 22:43	<a href="#">WG1931282</a>
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Methyl tert-butyl ether	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Naphthalene	ND	<u>C3</u>	5.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
n-Propylbenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Styrene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,1,1,2-Tetrachloroethane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,1,2,2-Tetrachloroethane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Tetrachloroethene	2.09		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Tetrahydrofuran	ND		5.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Toluene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,2,3-Trichlorobenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,2,4-Trichlorobenzene	ND	<a href="#">C3</a>	1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,1,1-Trichloroethane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,1,2-Trichloroethane	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Trichloroethene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Trichlorofluoromethane	ND		5.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,2,3-Trichloropropane	ND		2.50	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,2,4-Trimethylbenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,2,3-Trimethylbenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
1,3,5-Trimethylbenzene	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Vinyl chloride	ND		1.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
Xylenes, Total	ND		3.00	1	09/23/2022 22:43	<a href="#">WG1931282</a>
(S) Toluene-d8	115		80.0-120		09/23/2022 22:43	<a href="#">WG1931282</a>
(S) 4-Bromofluorobenzene	107		77.0-126		09/23/2022 22:43	<a href="#">WG1931282</a>
(S) 1,2-Dichloroethane-d4	116		70.0-130		09/23/2022 22:43	<a href="#">WG1931282</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		50.0	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Acrolein	ND		50.0	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Acrylonitrile	ND		10.0	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Allyl chloride	ND		5.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Benzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Bromobenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Bromodichloromethane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Bromoform	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Bromomethane	ND		5.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
n-Butylbenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
sec-Butylbenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
tert-Butylbenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Carbon tetrachloride	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Chlorobenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Chlorodibromomethane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Chloroethane	ND		5.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
2-Chloroethyl vinyl ether	ND		50.0	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Chloroform	ND		5.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Chloromethane	ND		2.50	1	09/23/2022 23:02	<a href="#">WG1931282</a>
2-Chlorotoluene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
4-Chlorotoluene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,2-Dibromo-3-Chloropropane	ND		5.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,2-Dibromoethane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Dibromomethane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,2-Dichlorobenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,3-Dichlorobenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,4-Dichlorobenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Dichlorodifluoromethane	ND		5.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Dichlorofluoromethane	ND		5.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,1-Dichloroethane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,2-Dichloroethane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,1-Dichloroethene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
cis-1,2-Dichloroethene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
trans-1,2-Dichloroethene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,2-Dichloropropane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,1-Dichloropropene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,3-Dichloropropane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
cis-1,3-Dichloropropene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
trans-1,3-Dichloropropene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
2,2-Dichloropropane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Di-isopropyl ether	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Ethylbenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Ethyl ether	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Hexachloro-1,3-butadiene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Isopropylbenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
p-Isopropyltoluene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
2-Butanone (MEK)	ND		10.0	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Methylene Chloride	ND		5.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
2-Hexanone	ND		10.0	1	09/23/2022 23:02	<a href="#">WG1931282</a>
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Methyl tert-butyl ether	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Naphthalene	ND	<u>C3</u>	5.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
n-Propylbenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Styrene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,1,1,2-Tetrachloroethane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,1,2,2-Tetrachloroethane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Tetrachloroethene	1.67		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Tetrahydrofuran	ND		5.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Toluene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,2,3-Trichlorobenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,2,4-Trichlorobenzene	ND	<a href="#">C3</a>	1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,1,1-Trichloroethane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,1,2-Trichloroethane	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Trichloroethene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Trichlorofluoromethane	ND		5.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,2,3-Trichloropropane	ND		2.50	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,2,4-Trimethylbenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,2,3-Trimethylbenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
1,3,5-Trimethylbenzene	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Vinyl chloride	ND		1.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
Xylenes, Total	ND		3.00	1	09/23/2022 23:02	<a href="#">WG1931282</a>
(S) Toluene-d8	114		80.0-120		09/23/2022 23:02	<a href="#">WG1931282</a>
(S) 4-Bromofluorobenzene	106		77.0-126		09/23/2022 23:02	<a href="#">WG1931282</a>
(S) 1,2-Dichloroethane-d4	113		70.0-130		09/23/2022 23:02	<a href="#">WG1931282</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		50.0	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Acrolein	ND		50.0	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Acrylonitrile	ND		10.0	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Allyl chloride	ND		5.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Benzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Bromobenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Bromodichloromethane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Bromoform	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Bromomethane	ND		5.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
n-Butylbenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
sec-Butylbenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
tert-Butylbenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Carbon tetrachloride	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Chlorobenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Chlorodibromomethane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Chloroethane	ND		5.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
2-Chloroethyl vinyl ether	ND		50.0	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Chloroform	ND		5.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Chloromethane	ND		2.50	1	09/23/2022 23:21	<a href="#">WG1931282</a>
2-Chlorotoluene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
4-Chlorotoluene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,2-Dibromo-3-Chloropropane	ND		5.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,2-Dibromoethane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Dibromomethane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,2-Dichlorobenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,3-Dichlorobenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,4-Dichlorobenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Dichlorodifluoromethane	ND		5.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Dichlorofluoromethane	ND		5.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,1-Dichloroethane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,2-Dichloroethane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,1-Dichloroethene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
cis-1,2-Dichloroethene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
trans-1,2-Dichloroethene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,2-Dichloropropane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,1-Dichloropropene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,3-Dichloropropane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
cis-1,3-Dichloropropene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
trans-1,3-Dichloropropene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
2,2-Dichloropropane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Di-isopropyl ether	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Ethylbenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Ethyl ether	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Hexachloro-1,3-butadiene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Isopropylbenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
p-Isopropyltoluene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
2-Butanone (MEK)	ND		10.0	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Methylene Chloride	ND		5.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
2-Hexanone	ND		10.0	1	09/23/2022 23:21	<a href="#">WG1931282</a>
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Methyl tert-butyl ether	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Naphthalene	ND	<u>C3</u>	5.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
n-Propylbenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Styrene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,1,1,2-Tetrachloroethane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,1,2,2-Tetrachloroethane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Tetrachloroethene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Tetrahydrofuran	ND		5.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Toluene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,2,3-Trichlorobenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,2,4-Trichlorobenzene	ND	<a href="#">C3</a>	1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,1,1-Trichloroethane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,1,2-Trichloroethane	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Trichloroethene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Trichlorofluoromethane	ND		5.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,2,3-Trichloropropane	ND		2.50	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,2,4-Trimethylbenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,2,3-Trimethylbenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
1,3,5-Trimethylbenzene	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Vinyl chloride	ND		1.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
Xylenes, Total	ND		3.00	1	09/23/2022 23:21	<a href="#">WG1931282</a>
(S) Toluene-d8	114		80.0-120		09/23/2022 23:21	<a href="#">WG1931282</a>
(S) 4-Bromofluorobenzene	107		77.0-126		09/23/2022 23:21	<a href="#">WG1931282</a>
(S) 1,2-Dichloroethane-d4	115		70.0-130		09/23/2022 23:21	<a href="#">WG1931282</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		50.0	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Acrolein	ND		50.0	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Acrylonitrile	ND		10.0	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Allyl chloride	ND		5.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Benzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Bromobenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Bromodichloromethane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Bromoform	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Bromomethane	ND		5.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
n-Butylbenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
sec-Butylbenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
tert-Butylbenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Carbon tetrachloride	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Chlorobenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Chlorodibromomethane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Chloroethane	ND		5.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
2-Chloroethyl vinyl ether	ND		50.0	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Chloroform	ND		5.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Chloromethane	ND		2.50	1	09/23/2022 23:40	<a href="#">WG1931282</a>
2-Chlorotoluene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
4-Chlorotoluene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,2-Dibromo-3-Chloropropane	ND		5.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,2-Dibromoethane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Dibromomethane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,2-Dichlorobenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,3-Dichlorobenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,4-Dichlorobenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Dichlorodifluoromethane	ND		5.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Dichlorofluoromethane	ND		5.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,1-Dichloroethane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,2-Dichloroethane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,1-Dichloroethene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
cis-1,2-Dichloroethene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
trans-1,2-Dichloroethene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,2-Dichloropropane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,1-Dichloropropene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,3-Dichloropropane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
cis-1,3-Dichloropropene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
trans-1,3-Dichloropropene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
2,2-Dichloropropane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Di-isopropyl ether	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Ethylbenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Ethyl ether	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Hexachloro-1,3-butadiene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Isopropylbenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
p-Isopropyltoluene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
2-Butanone (MEK)	ND		10.0	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Methylene Chloride	ND		5.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
2-Hexanone	ND		10.0	1	09/23/2022 23:40	<a href="#">WG1931282</a>
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Methyl tert-butyl ether	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Naphthalene	ND	<u>C3</u>	5.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
n-Propylbenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Styrene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,1,1,2-Tetrachloroethane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,1,2,2-Tetrachloroethane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Tetrachloroethene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Tetrahydrofuran	ND		5.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Toluene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,2,3-Trichlorobenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,2,4-Trichlorobenzene	ND	<a href="#">C3</a>	1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,1,1-Trichloroethane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,1,2-Trichloroethane	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Trichloroethene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Trichlorofluoromethane	ND		5.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,2,3-Trichloropropane	ND		2.50	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,2,4-Trimethylbenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,2,3-Trimethylbenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
1,3,5-Trimethylbenzene	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Vinyl chloride	ND		1.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
Xylenes, Total	ND		3.00	1	09/23/2022 23:40	<a href="#">WG1931282</a>
(S) Toluene-d8	112		80.0-120		09/23/2022 23:40	<a href="#">WG1931282</a>
(S) 4-Bromofluorobenzene	107		77.0-126		09/23/2022 23:40	<a href="#">WG1931282</a>
(S) 1,2-Dichloroethane-d4	115		70.0-130		09/23/2022 23:40	<a href="#">WG1931282</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3842522-3 09/23/22 21:46

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	10.0
Allyl Chloride	U		0.500	5.00
Benzene	U		0.0941	1.00
Bromobenzene	U		0.118	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
n-Butylbenzene	U		0.157	1.00
sec-Butylbenzene	U		0.125	1.00
tert-Butylbenzene	U		0.127	1.00
Carbon tetrachloride	U		0.128	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
2-Chloroethyl vinyl ether	U		0.575	50.0
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
2-Chlorotoluene	U		0.106	1.00
4-Chlorotoluene	U		0.114	1.00
1,2-Dibromo-3-Chloropropane	U		0.276	5.00
1,2-Dibromoethane	U		0.126	1.00
Dibromomethane	U		0.122	1.00
1,2-Dichlorobenzene	U		0.107	1.00
1,3-Dichlorobenzene	U		0.110	1.00
1,4-Dichlorobenzene	U		0.120	1.00
Dichlorodifluoromethane	U		0.374	5.00
Dichlorofluoromethane	U		0.130	5.00
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
1,1-Dichloropropene	U		0.142	1.00
1,3-Dichloropropane	U		0.110	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
2,2-Dichloropropane	U		0.161	1.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3842522-3 09/23/22 21:46

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Di-isopropyl ether	U		0.105	1.00
Ethylbenzene	U		0.137	1.00
Ethyl ether	U		0.115	1.00
Hexachloro-1,3-butadiene	U		0.337	1.00
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	U		0.120	1.00
2-Butanone (MEK)	U		1.19	10.0
Methylene Chloride	U		0.430	5.00
2-Hexanone	U		0.787	10.0
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Methyl tert-butyl ether	U		0.101	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.0993	1.00
Styrene	U		0.118	1.00
1,1,1,2-Tetrachloroethane	U		0.147	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00
Tetrachloroethene	U		0.300	1.00
Tetrahydrofuran	U		0.929	5.00
Toluene	U		0.278	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Trichlorofluoromethane	U		0.160	5.00
1,2,3-Trichloropropane	U		0.237	2.50
1,2,4-Trimethylbenzene	U		0.322	1.00
1,2,3-Trimethylbenzene	U		0.104	1.00
1,3,5-Trimethylbenzene	U		0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	113			80.0-120
(S) 4-Bromofluorobenzene	105			77.0-126
(S) 1,2-Dichloroethane-d4	115			70.0-130

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3842522-1 09/23/22 20:49 • (LCSD) R3842522-2 09/23/22 21:08

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Acetone	25.0	33.5	29.7	134	119	19.0-160			12.0	27
Acrolein	25.0	20.1	17.1	80.4	68.4	30.0-160			16.1	26
Acrylonitrile	25.0	25.5	21.4	102	85.6	55.0-149			17.5	20
Allyl chloride	25.0	25.8	26.6	103	106	72.0-128			3.05	20
Benzene	5.00	5.12	5.14	102	103	70.0-123			0.390	20
Bromobenzene	5.00	4.97	5.04	99.4	101	73.0-121			1.40	20
Bromodichloromethane	5.00	5.00	5.03	100	101	75.0-120			0.598	20
Bromoform	5.00	4.89	4.68	97.8	93.6	68.0-132			4.39	20
Bromomethane	5.00	4.88	4.96	97.6	99.2	30.0-160			1.63	25
n-Butylbenzene	5.00	4.86	4.89	97.2	97.8	73.0-125			0.615	20
sec-Butylbenzene	5.00	5.08	5.01	102	100	75.0-125			1.39	20
tert-Butylbenzene	5.00	5.06	5.08	101	102	76.0-124			0.394	20
Carbon tetrachloride	5.00	5.38	5.55	108	111	68.0-126			3.11	20
Chlorobenzene	5.00	5.09	4.92	102	98.4	80.0-121			3.40	20
Chlorodibromomethane	5.00	4.92	4.85	98.4	97.0	77.0-125			1.43	20
Chloroethane	5.00	4.96	4.96	99.2	99.2	47.0-150			0.000	20
2-Chloroethyl vinyl ether	25.0	24.4	24.4	97.6	97.6	51.0-160			0.000	20
Chloroform	5.00	5.26	5.19	105	104	73.0-120			1.34	20
Chloromethane	5.00	4.95	4.99	99.0	99.8	41.0-142			0.805	20
2-Chlorotoluene	5.00	5.05	4.95	101	99.0	76.0-123			2.00	20
4-Chlorotoluene	5.00	5.13	4.98	103	99.6	75.0-122			2.97	20
1,2-Dibromo-3-Chloropropane	5.00	5.11	4.40	102	88.0	58.0-134			14.9	20
1,2-Dibromoethane	5.00	4.97	4.85	99.4	97.0	80.0-122			2.44	20
Dibromomethane	5.00	5.29	5.09	106	102	80.0-120			3.85	20
1,2-Dichlorobenzene	5.00	4.90	4.92	98.0	98.4	79.0-121			0.407	20
1,3-Dichlorobenzene	5.00	5.17	4.70	103	94.0	79.0-120			9.52	20
1,4-Dichlorobenzene	5.00	5.11	4.86	102	97.2	79.0-120			5.02	20
Dichlorodifluoromethane	5.00	5.15	5.34	103	107	51.0-149			3.62	20
Dichlorofluoromethane	5.00	5.18	5.15	104	103	65.0-133			0.581	20
1,1-Dichloroethane	5.00	5.34	5.28	107	106	70.0-126			1.13	20
1,2-Dichloroethane	5.00	5.27	5.08	105	102	70.0-128			3.67	20
1,1-Dichloroethene	5.00	5.48	5.40	110	108	71.0-124			1.47	20
cis-1,2-Dichloroethene	5.00	5.16	5.40	103	108	73.0-120			4.55	20
trans-1,2-Dichloroethene	5.00	5.03	5.28	101	106	73.0-120			4.85	20
1,2-Dichloropropane	5.00	5.07	4.96	101	99.2	77.0-125			2.19	20
1,1-Dichloropropene	5.00	5.14	5.20	103	104	74.0-126			1.16	20
1,3-Dichloropropane	5.00	5.18	4.86	104	97.2	80.0-120			6.37	20
cis-1,3-Dichloropropene	5.00	4.79	4.82	95.8	96.4	80.0-123			0.624	20
trans-1,3-Dichloropropene	5.00	4.67	4.70	93.4	94.0	78.0-124			0.640	20
2,2-Dichloropropane	5.00	5.47	5.56	109	111	58.0-130			1.63	20

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3842522-1 09/23/22 20:49 • (LCSD) R3842522-2 09/23/22 21:08

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Di-isopropyl ether	5.00	5.37	5.26	107	105	58.0-138			2.07	20
Ethylbenzene	5.00	5.14	4.96	103	99.2	79.0-123			3.56	20
Ethyl ether	5.00	5.12	5.13	102	103	66.0-130			0.195	20
Hexachloro-1,3-butadiene	5.00	4.61	4.74	92.2	94.8	54.0-138			2.78	20
Isopropylbenzene	5.00	5.26	5.14	105	103	76.0-127			2.31	20
p-Isopropyltoluene	5.00	5.03	5.07	101	101	76.0-125			0.792	20
2-Butanone (MEK)	25.0	28.4	25.2	114	101	44.0-160			11.9	20
Methylene Chloride	5.00	5.42	5.32	108	106	67.0-120			1.86	20
2-Hexanone	25.0	25.7	23.7	103	94.8	67.0-149			8.10	20
4-Methyl-2-pentanone (MIBK)	25.0	27.7	25.2	111	101	68.0-142			9.45	20
Methyl tert-butyl ether	5.00	5.41	5.29	108	106	68.0-125			2.24	20
Naphthalene	5.00	3.78	3.54	75.6	70.8	54.0-135			6.56	20
n-Propylbenzene	5.00	5.19	4.99	104	99.8	77.0-124			3.93	20
Styrene	5.00	4.99	4.81	99.8	96.2	73.0-130			3.67	20
1,1,1,2-Tetrachloroethane	5.00	5.13	5.08	103	102	75.0-125			0.979	20
1,1,2,2-Tetrachloroethane	5.00	5.37	4.77	107	95.4	65.0-130			11.8	20
1,1,2-Trichlorotrifluoroethane	5.00	5.27	5.32	105	106	69.0-132			0.944	20
Tetrachloroethene	5.00	5.06	4.95	101	99.0	72.0-132			2.20	20
Tetrahydrofuran	5.00	5.39	5.25	108	105	41.0-146			2.63	20
Toluene	5.00	4.88	4.80	97.6	96.0	79.0-120			1.65	20
1,2,3-Trichlorobenzene	5.00	4.23	4.05	84.6	81.0	50.0-138			4.35	20
1,2,4-Trichlorobenzene	5.00	3.46	3.44	69.2	68.8	57.0-137			0.580	20
1,1,1-Trichloroethane	5.00	5.43	5.52	109	110	73.0-124			1.64	20
1,1,2-Trichloroethane	5.00	5.09	5.09	102	102	80.0-120			0.000	20
Trichloroethene	5.00	5.16	5.05	103	101	78.0-124			2.15	20
Trichlorofluoromethane	5.00	5.09	5.26	102	105	59.0-147			3.29	20
1,2,3-Trichloropropane	5.00	5.38	4.65	108	93.0	73.0-130			14.6	20
1,2,4-Trimethylbenzene	5.00	5.09	4.90	102	98.0	76.0-121			3.80	20
1,2,3-Trimethylbenzene	5.00	5.06	4.77	101	95.4	77.0-120			5.90	20
1,3,5-Trimethylbenzene	5.00	5.14	5.01	103	100	76.0-122			2.56	20
Vinyl chloride	5.00	5.15	4.98	103	99.6	67.0-131			3.36	20
Xylenes, Total	15.0	15.2	14.6	101	97.3	79.0-123			4.03	20
(S) Toluene-d8				112	110	80.0-120				
(S) 4-Bromofluorobenzene				108	103	77.0-126				
(S) 1,2-Dichloroethane-d4				119	115	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

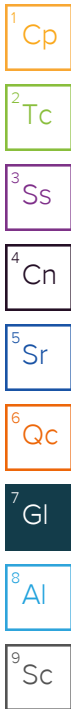
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.



# ACCREDITATIONS & LOCATIONS

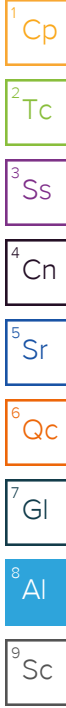
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address:

**MSA Professional Services**

332 W. Superior Street, Suite 600  
Duluth, MN 55802

Billing Information:

**MSA Professionals**  
332 W. Superior St, Ste. 600  
Duluth, MN 55802

Pres  
Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 2



**MT JULIET, TN**

12065 Lebanon Rd Mount Juliet, TN 37122  
Submitting a sample via this chain of custody  
constitutes acknowledgment and acceptance of the  
Pace Terms and Conditions found at:  
<https://info.paceah.com/hubfs/2021-standards-terms.pdf>

SDG # UT535709

Table # L1538813

Acctnum: **MSAPRODMN**

Template: **T215065**

Prelogin: **P945456**

PM: **341 - John Hawkins**

PB: BW 8/24

Shipped Via: **FedEX Ground**

Remarks | Sample # (lab only)

Report to:

**Erica Klingfus**

Email To: eklingfus@msa-ps.com

Project Description:  
**Chippewa Quick Mart**

City/State  
Collected: Glidden WI

Please Circle:  
PT MT CT ET

Phone: **218-722-3915**

Client Project #  
**21891000**

Lab Project #  
**MSAPRODMN-21891000**

Collected by (print):  
Erica Klingfus

Site/Facility ID #

P.O. #

Collected by (signature):  
[Signature]

**Rush?** (Lab MUST Be Notified)

Same Day  Five Day  
 Next Day  5 Day (Rad Only)  
 Two Day  10 Day (Rad Only)  
 Three Day

Quote #

Date Results Needed

Immediately

Packed on Ice  N  Y

PVOCGRO 40mlAmb HCl  
 PVOCGRO 60mlAmb/MeOH/Syr  
 TS 4ozClr-NoPres

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs													
MSA-GP-6 (0-4)	G	SS	0-4	9/9/22	1235	2		X	X										
MSA-GP-6 (10-12)	G	SS	10-12	↓	1250	2		X	X										
-		SS				2		X	X										
-		SS				2		X	X										
MSA-GP-1	G	GW		9/9/22	1035	2	X												
MSA-GP-2		GW			1130	2	X												
MSA-GP-3		GW			1155	2	X												
MSA-GP-4		GW			1210	2	X												
MSA-GP-5		GW			1240	2	X												
MSA-GP-6	↓	GW		↓	1255	2	X												

Naps/br  
 -01  
 -02  
 -03  
 -04

\* Matrix:

SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other

Remarks:

2 coolers, 2 coc pages

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via:

UPS  FedEx  Courier

Tracking #

5433 8379 4060

Sample Receipt Checklist

OOC Seal Present/Intact:  N  N  
 OOC Signed/Accurate:  N  N  
 Bottles arrive intact:  N  N  
 Correct bottles used:  N  N  
 Sufficient volume sent:  N  N  
 If Applicable  
 VOA Zero Headspace:  N  N  
 Preservation Correct/Checked:  N  N  
 RAD Screen <0.5 mR/hr:  N  N

Relinquished by: (Signature)

[Signature]

Date:

9/12/22

Time:

1300

Received by: (Signature)

[Signature]

Trip Blank Received: 0 / No

/ MeOH  
TBR

Relinquished by: (Signature)

[Signature]

Date:

9/12/22

Time:

1300

Received by: (Signature)

[Signature]

Temp: \_\_\_\_\_ °C Bottles Received:

MSA-7  
1+2+0=1+2 36

If preservation required by Login: Date/Time

Relinquished by: (Signature)

[Signature]

Date:

9/14/22

Time:

0900

Received for lab by: (Signature)

[Signature]

Date:

9/14/22

Time:

0900

Hold:

Condition:

NCF / OK

### L1535709 MSAPRODMN

R5

Please log to new SDG for V8260/465

- L1535709-13 GP-1
- L1535709-14 GP-2
- L1535709-16 GP-4
- L1535709-18 GP-6

**Time estimate:** oh

**Time spent:** oh

#### Members

 JWH John V Hawkins (responsible)

**MSA Professional Services**

Sample Delivery Group: L1535547  
Samples Received: 09/14/2022  
Project Number: 21891000  
Description: Chippewa Quick Mart

Report To: Erica Klingfus  
332 W. Superior Street, Suite 600  
Duluth, MN 55802

Entire Report Reviewed By:



John Hawkins  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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<b>Sc: Sample Chain of Custody</b>	<b>22</b>	<b><sup>9</sup>Sc</b>

# SAMPLE SUMMARY

## SV-1 L1535547-01 Air

Collected by Erica Klingfus  
 Collected date/time 09/09/22 11:01  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1927905	1	09/17/22 11:29	09/17/22 11:29	FKG	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1929077	10	09/20/22 16:43	09/20/22 16:43	SDS	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

## SV-2 L1535547-02 Air

Collected by Erica Klingfus  
 Collected date/time 09/09/22 11:14  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1927905	1	09/17/22 12:10	09/17/22 12:10	FKG	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1929077	10	09/20/22 17:09	09/20/22 17:09	SDS	Mt. Juliet, TN

4 Cn

5 Sr

6 Qc

## SSVS-1 L1535547-03 Air

Collected by Erica Klingfus  
 Collected date/time 09/09/22 14:56  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1927905	1	09/17/22 12:52	09/17/22 12:52	FKG	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1928493	1	09/19/22 20:47	09/19/22 20:47	CEP	Mt. Juliet, TN

7 Gl

8 Al

9 Sc

## SSVS-2 L1535547-04 Air

Collected by Erica Klingfus  
 Collected date/time 09/09/22 15:24  
 Received date/time 09/14/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1927905	1	09/17/22 13:34	09/17/22 13:34	FKG	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1928493	1	09/19/22 21:30	09/19/22 21:30	CEP	Mt. Juliet, TN

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



John Hawkins  
Project Manager

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	46.0	109		1	WG1927905
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1927905
Benzene	71-43-2	78.10	0.200	0.639	2.02	6.45		1	WG1927905
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1927905
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1927905
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1927905
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1927905
1,3-Butadiene	106-99-0	54.10	2.00	4.43	8.57	19.0		1	WG1927905
Carbon disulfide	75-15-0	76.10	0.200	0.622	0.794	2.47		1	WG1927905
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1927905
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1927905
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1927905
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1927905
Chloromethane	74-87-3	50.50	0.200	0.413	0.394	0.814		1	WG1927905
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1927905
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1927905
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1927905
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1927905
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1927905
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1927905
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1927905
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1927905
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1927905
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1927905
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1927905
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1927905
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1927905
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1927905
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1927905
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1927905
Ethanol	64-17-5	46.10	1.25	2.36	15.3	28.8		1	WG1927905
Ethylbenzene	100-41-4	106	0.200	0.867	2.74	11.9		1	WG1927905
4-Ethyltoluene	622-96-8	120	0.200	0.982	1.90	9.33		1	WG1927905
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	ND	ND		1	WG1927905
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	1.24	6.13		1	WG1927905
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1927905
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1927905
Heptane	142-82-5	100	0.200	0.818	1.48	6.05		1	WG1927905
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1927905
n-Hexane	110-54-3	86.20	0.630	2.22	2.18	7.69		1	WG1927905
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1927905
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.262	0.910		1	WG1927905
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1927905
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	9.43	27.8		1	WG1927905
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1927905
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1927905
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1927905
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1927905
2-Propanol	67-63-0	60.10	1.25	3.07	1.86	4.57		1	WG1927905
Propene	115-07-1	42.10	1.25	2.15	65.0	112		1	WG1927905
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1927905
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1927905
Tetrachloroethylene	127-18-4	166	2.00	13.6	289	1960		10	WG1929077
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1927905
Toluene	108-88-3	92.10	0.500	1.88	6.67	25.1		1	WG1927905
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1927905

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	<a href="#">WG1927905</a>
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	<a href="#">WG1927905</a>
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	<a href="#">WG1927905</a>
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	8.72	42.8		1	<a href="#">WG1927905</a>
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	2.17	10.7		1	<a href="#">WG1927905</a>
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.900	4.20		1	<a href="#">WG1927905</a>
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	<a href="#">WG1927905</a>
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	<a href="#">WG1927905</a>
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	<a href="#">WG1927905</a>
m&p-Xylene	1330-20-7	106	0.400	1.73	5.74	24.9		1	<a href="#">WG1927905</a>
o-Xylene	95-47-6	106	0.200	0.867	3.27	14.2		1	<a href="#">WG1927905</a>
1,1-Difluoroethane	75-37-6	66.05	1.00	2.70	ND	ND		1	<a href="#">WG1927905</a>
1,2,3-Trimethylbenzene	526-73-8	120.10	0.200	0.982	2.56	12.6		1	<a href="#">WG1927905</a>
Chlorodifluoromethane	75-45-6	86.50	0.200	0.708	0.293	1.04		1	<a href="#">WG1927905</a>
Ethyl Acetate	141-78-6	88	0.200	0.720	ND	ND		1	<a href="#">WG1927905</a>
Methyl Cyclohexane	108-87-2	98.1860	0.200	0.803	0.746	3.00		1	<a href="#">WG1927905</a>
Tert-Amyl Ethyl Ether	919-94-8	116.20	0.200	0.951	ND	ND		1	<a href="#">WG1927905</a>
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	1030	4250		1	<a href="#">WG1927905</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		106				<a href="#">WG1927905</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		99.3				<a href="#">WG1929077</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (MS) by Method TO-15 - TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch	RT
Unknown-01	000075-68-3	100	0.000	0.000	39.5	162	JN	1	<a href="#">WG1927905</a>	4.33

Tentatively Identified compounds (TIC) refers to substances not present in the list of target compounds. Therefore, not all TICs are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search routine of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist. Quantitation is accomplished by relative peak area of the TIC compared to that of the nearest internal standard from the total ion chromatogram. TICs are identified and quantitated only if the peak area is 10% or more of that of the nearest internal standard.

## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	75.2	179		1	WG1927905
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1927905
Benzene	71-43-2	78.10	0.200	0.639	2.54	8.11		1	WG1927905
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1927905
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1927905
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1927905
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1927905
1,3-Butadiene	106-99-0	54.10	2.00	4.43	15.0	33.2		1	WG1927905
Carbon disulfide	75-15-0	76.10	0.200	0.622	1.07	3.33		1	WG1927905
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1927905
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1927905
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1927905
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1927905
Chloromethane	74-87-3	50.50	0.200	0.413	0.652	1.35		1	WG1927905
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1927905
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1927905
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1927905
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1927905
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1927905
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1927905
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1927905
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1927905
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1927905
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1927905
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1927905
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1927905
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1927905
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1927905
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1927905
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1927905
Ethanol	64-17-5	46.10	1.25	2.36	19.0	35.8		1	WG1927905
Ethylbenzene	100-41-4	106	0.200	0.867	2.08	9.02		1	WG1927905
4-Ethyltoluene	622-96-8	120	0.200	0.982	1.28	6.28		1	WG1927905
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.314	1.76		1	WG1927905
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.533	2.64		1	WG1927905
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1927905
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1927905
Heptane	142-82-5	100	0.200	0.818	1.51	6.18		1	WG1927905
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1927905
n-Hexane	110-54-3	86.20	0.630	2.22	2.61	9.20		1	WG1927905
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1927905
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.435	1.51		1	WG1927905
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1927905
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	12.1	35.7		1	WG1927905
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1927905
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1927905
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1927905
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1927905
2-Propanol	67-63-0	60.10	1.25	3.07	4.10	10.1		1	WG1927905
Propene	115-07-1	42.10	1.25	2.15	77.4	133		1	WG1927905
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1927905
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1927905
Tetrachloroethylene	127-18-4	166	2.00	13.6	323	2190		10	WG1929077
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1927905
Toluene	108-88-3	92.10	0.500	1.88	5.93	22.3		1	WG1927905
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1927905

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	<a href="#">WG1927905</a>
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	<a href="#">WG1927905</a>
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	<a href="#">WG1927905</a>
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	5.38	26.4		1	<a href="#">WG1927905</a>
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	1.53	7.51		1	<a href="#">WG1927905</a>
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.951	4.44		1	<a href="#">WG1927905</a>
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	<a href="#">WG1927905</a>
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	<a href="#">WG1927905</a>
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	<a href="#">WG1927905</a>
m&p-Xylene	1330-20-7	106	0.400	1.73	4.08	17.7		1	<a href="#">WG1927905</a>
o-Xylene	95-47-6	106	0.200	0.867	2.35	10.2		1	<a href="#">WG1927905</a>
1,1-Difluoroethane	75-37-6	66.05	1.00	2.70	7.12	19.2		1	<a href="#">WG1927905</a>
1,2,3-Trimethylbenzene	526-73-8	120.10	0.200	0.982	1.51	7.42		1	<a href="#">WG1927905</a>
Chlorodifluoromethane	75-45-6	86.50	0.200	0.708	1.39	4.92		1	<a href="#">WG1927905</a>
Ethyl Acetate	141-78-6	88	0.200	0.720	ND	ND		1	<a href="#">WG1927905</a>
Methyl Cyclohexane	108-87-2	98.1860	0.200	0.803	0.855	3.43		1	<a href="#">WG1927905</a>
Tert-Amyl Ethyl Ether	919-94-8	116.20	0.200	0.951	ND	ND		1	<a href="#">WG1927905</a>
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	1040	4300		1	<a href="#">WG1927905</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		105				<a href="#">WG1927905</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		94.6				<a href="#">WG1929077</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (MS) by Method TO-15 - TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch	RT
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Number of TICs found: 0

Tentatively Identified compounds (TIC) refers to substances not present in the list of target compounds. Therefore, not all TICs are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search routine of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist. Quantitation is accomplished by relative peak area of the TIC compared to that of the nearest internal standard from the total ion chromatogram. TICs are identified and quantitated only if the peak area is 10% or more of that of the nearest internal standard.

## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	35.9	85.3		1	WG1927905
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1927905
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1927905
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1927905
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1927905
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1927905
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1927905
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1927905
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1927905
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1927905
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1927905
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1927905
Chloroform	67-66-3	119	0.200	0.973	5.91	28.8		1	WG1927905
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG1927905
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1927905
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1927905
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1927905
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1927905
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1927905
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1927905
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1927905
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1927905
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1927905
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1927905
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1927905
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1927905
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1927905
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1927905
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1927905
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1927905
Ethanol	64-17-5	46.10	1.25	2.36	57.0	107		1	WG1927905
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1927905
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1927905
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.258	1.45		1	WG1927905
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.520	2.57		1	WG1927905
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1927905
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1927905
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG1927905
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1927905
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG1927905
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1927905
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1927905
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1927905
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	1.76	5.19		1	WG1927905
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	20.9	85.6		1	WG1927905
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1927905
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1927905
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1927905
2-Propanol	67-63-0	60.10	1.25	3.07	20.3	49.9		1	WG1927905
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG1927905
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1927905
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1927905
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.620	4.21		1	WG1928493
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1927905
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG1927905
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1927905

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

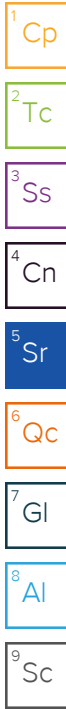
7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	<a href="#">WG1927905</a>
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	<a href="#">WG1927905</a>
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	<a href="#">WG1927905</a>
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	<a href="#">WG1927905</a>
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	<a href="#">WG1927905</a>
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.259	1.21		1	<a href="#">WG1927905</a>
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	<a href="#">WG1927905</a>
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	<a href="#">WG1927905</a>
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	<a href="#">WG1927905</a>
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	<a href="#">WG1927905</a>
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	<a href="#">WG1927905</a>
1,1-Difluoroethane	75-37-6	66.05	1.00	2.70	ND	ND		1	<a href="#">WG1927905</a>
1,2,3-Trimethylbenzene	526-73-8	120.10	0.200	0.982	ND	ND		1	<a href="#">WG1927905</a>
Chlorodifluoromethane	75-45-6	86.50	0.200	0.708	0.268	0.948		1	<a href="#">WG1927905</a>
Ethyl Acetate	141-78-6	88	0.200	0.720	ND	ND		1	<a href="#">WG1927905</a>
Methyl Cyclohexane	108-87-2	98.1860	0.200	0.803	ND	ND		1	<a href="#">WG1927905</a>
Tert-Amyl Ethyl Ether	919-94-8	116.20	0.200	0.951	ND	ND		1	<a href="#">WG1927905</a>
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	<a href="#">WG1927905</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		106				<a href="#">WG1927905</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		97.4				<a href="#">WG1928493</a>



## Volatile Organic Compounds (MS) by Method TO-15 - TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch	RT
Unknown-01	000075-68-3	100	0.000	0.000	154	630	JN	1	<a href="#">WG1927905</a>	4.35

Tentatively Identified compounds (TIC) refers to substances not present in the list of target compounds. Therefore, not all TICs are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search routine of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist. Quantitation is accomplished by relative peak area of the TIC compared to that of the nearest internal standard from the total ion chromatogram. TICs are identified and quantitated only if the peak area is 10% or more of that of the nearest internal standard.

## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	69.8	166		1	WG1927905
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1927905
Benzene	71-43-2	78.10	0.200	0.639	0.478	1.53		1	WG1927905
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1927905
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1927905
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1927905
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1927905
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1927905
Carbon disulfide	75-15-0	76.10	0.200	0.622	0.416	1.29		1	WG1927905
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1927905
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1927905
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1927905
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1927905
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG1927905
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1927905
Cyclohexane	110-82-7	84.20	0.200	0.689	9.23	31.8		1	WG1927905
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1927905
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1927905
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1927905
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1927905
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1927905
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1927905
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1927905
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1927905
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1927905
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1927905
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1927905
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1927905
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1927905
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1927905
Ethanol	64-17-5	46.10	1.25	2.36	56.2	106		1	WG1927905
Ethylbenzene	100-41-4	106	0.200	0.867	1.82	7.89		1	WG1927905
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.659	3.23		1	WG1927905
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.302	1.70		1	WG1927905
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.606	3.00		1	WG1927905
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1927905
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1927905
Heptane	142-82-5	100	0.200	0.818	11.1	45.4		1	WG1927905
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1927905
n-Hexane	110-54-3	86.20	0.630	2.22	10.3	36.3		1	WG1927905
Isopropylbenzene	98-82-8	120.20	0.200	0.983	1.70	8.36		1	WG1927905
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.452	1.57		1	WG1927905
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1927905
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	5.98	17.6		1	WG1927905
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1927905
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1927905
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1927905
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1927905
2-Propanol	67-63-0	60.10	1.25	3.07	8.20	20.2		1	WG1927905
Propene	115-07-1	42.10	1.25	2.15	1.77	3.05	B	1	WG1927905
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1927905
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1927905
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.323	2.19		1	WG1928493
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1927905
Toluene	108-88-3	92.10	0.500	1.88	0.956	3.60		1	WG1927905
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1927905

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	<a href="#">WG1927905</a>
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	<a href="#">WG1927905</a>
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	<a href="#">WG1927905</a>
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.431	2.12		1	<a href="#">WG1927905</a>
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	<a href="#">WG1927905</a>
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	<a href="#">WG1927905</a>
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	<a href="#">WG1927905</a>
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	<a href="#">WG1927905</a>
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	<a href="#">WG1927905</a>
m&p-Xylene	1330-20-7	106	0.400	1.73	1.24	5.38		1	<a href="#">WG1927905</a>
o-Xylene	95-47-6	106	0.200	0.867	0.438	1.90		1	<a href="#">WG1927905</a>
1,1-Difluoroethane	75-37-6	66.05	1.00	2.70	9.63	26.0		1	<a href="#">WG1927905</a>
1,2,3-Trimethylbenzene	526-73-8	120.10	0.200	0.982	0.382	1.88		1	<a href="#">WG1927905</a>
Chlorodifluoromethane	75-45-6	86.50	0.200	0.708	1.67	5.91		1	<a href="#">WG1927905</a>
Ethyl Acetate	141-78-6	88	0.200	0.720	ND	ND		1	<a href="#">WG1927905</a>
Methyl Cyclohexane	108-87-2	98.1860	0.200	0.803	19.8	79.5		1	<a href="#">WG1927905</a>
Tert-Amyl Ethyl Ether	919-94-8	116.20	0.200	0.951	ND	ND		1	<a href="#">WG1927905</a>
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	472	1950		1	<a href="#">WG1927905</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		107				<a href="#">WG1927905</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		98.8				<a href="#">WG1928493</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Volatile Organic Compounds (MS) by Method TO-15 - TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch	RT
Unknown-01	000075-68-3	100	0.000	0.000	89.2	365	JN	1	<a href="#">WG1927905</a>	4.35

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Method Blank (MB)

(MB) R3838433-3 09/17/22 09:05

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.584	1.25
Allyl Chloride	U		0.114	0.200
Benzene	U		0.0715	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0702	0.200
Bromoform	U		0.0732	0.600
Bromomethane	U		0.0982	0.200
1,3-Butadiene	U		0.104	2.00
Carbon disulfide	U		0.102	0.200
Carbon tetrachloride	U		0.0732	0.200
Chlorobenzene	U		0.0832	0.200
Chloroethane	U		0.0996	0.200
Chloroform	U		0.0717	0.200
Chloromethane	U		0.103	0.200
2-Chlorotoluene	U		0.0828	0.200
Cyclohexane	U		0.0753	0.200
Dibromochloromethane	U		0.0727	0.200
1,2-Dibromoethane	U		0.0721	0.200
1,2-Dichlorobenzene	U		0.128	0.200
1,3-Dichlorobenzene	U		0.182	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0700	0.200
1,1-Dichloroethane	U		0.0723	0.200
1,1-Dichloroethene	U		0.0762	0.200
cis-1,2-Dichloroethene	U		0.0784	0.200
trans-1,2-Dichloroethene	U		0.0673	0.200
1,2-Dichloropropane	U		0.0760	0.200
cis-1,3-Dichloropropene	U		0.0689	0.200
trans-1,3-Dichloropropene	U		0.0728	0.200
1,4-Dioxane	U		0.0833	0.200
Ethanol	U		0.265	1.25
Ethylbenzene	U		0.0835	0.200
4-Ethyltoluene	U		0.0783	0.200
Trichlorofluoromethane	U		0.0819	0.200
Dichlorodifluoromethane	U		0.137	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0793	0.200
1,2-Dichlorotetrafluoroethane	U		0.0890	0.200
Heptane	U		0.104	0.200
Hexachloro-1,3-butadiene	U		0.105	0.630
n-Hexane	U		0.206	0.630

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3838433-3 09/17/22 09:05

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Isopropylbenzene	U		0.0777	0.200
Methylene Chloride	U		0.0979	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.0814	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0765	1.25
Methyl Methacrylate	U		0.0876	0.200
MTBE	U		0.0647	0.200
Naphthalene	U		0.350	0.630
2-Propanol	U		0.264	1.25
Propene	0.266	U	0.0932	1.25
Styrene	U		0.0788	0.200
1,1,2,2-Tetrachloroethane	U		0.0743	0.200
Tetrahydrofuran	U		0.0734	0.200
Toluene	U		0.0870	0.500
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0736	0.200
1,1,2-Trichloroethane	U		0.0775	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0764	0.200
1,3,5-Trimethylbenzene	U		0.0779	0.200
2,2,4-Trimethylpentane	U		0.133	0.200
Vinyl chloride	U		0.0949	0.200
Vinyl Bromide	U		0.0852	0.200
Vinyl acetate	U		0.116	0.200
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
1,1-Difluoroethane	0.238	U	0.129	1.00
1,2,3-Trimethylbenzene	U		0.0805	0.200
Chlorodifluoromethane	U		0.131	0.200
Ethyl acetate	U		0.100	0.200
Methyl Cyclohexane	U		0.0813	0.200
Tert-Amyl Ethyl Ether	U		0.0778	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	103			60.0-140

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB) - TENTATIVELY IDENTIFIED COMPOUNDS

(MB) R3838433-3 09/17/22 09:05

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv	CAS #
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Number of TICs found: 0

Tentatively Identified compounds (TIC) refers to substances not present in the list of target compounds. Therefore, not all TICs are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search routine of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist. Quantitation is accomplished by relative peak area of the TIC compared to that of the nearest internal standard from the total ion chromatogram. TICs are identified and quantitated only if the peak area is 10% or more of that of the nearest internal standard.

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3838433-1 09/17/22 07:44 • (LCSD) R3838433-2 09/17/22 08:25

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	3.75	4.06	4.13	108	110	70.0-130			1.71	25
Allyl Chloride	3.75	4.30	4.30	115	115	70.0-130			0.000	25
Benzene	3.75	3.73	3.79	99.5	101	70.0-130			1.60	25
Benzyl Chloride	3.75	3.84	3.91	102	104	70.0-152			1.81	25
Bromodichloromethane	3.75	3.99	4.08	106	109	70.0-130			2.23	25
Bromoform	3.75	3.73	3.80	99.5	101	70.0-130			1.86	25
Bromomethane	3.75	3.20	3.39	85.3	90.4	70.0-130			5.77	25
1,3-Butadiene	3.75	4.70	4.73	125	126	70.0-130			0.636	25
Carbon disulfide	3.75	4.17	4.26	111	114	70.0-130			2.14	25
Carbon tetrachloride	3.75	4.05	4.12	108	110	70.0-130			1.71	25
Chlorobenzene	3.75	3.68	3.75	98.1	100	70.0-130			1.88	25
Chloroethane	3.75	4.11	4.22	110	113	70.0-130			2.64	25
Chloroform	3.75	3.97	4.04	106	108	70.0-130			1.75	25
Chloromethane	3.75	4.29	4.32	114	115	70.0-130			0.697	25
2-Chlorotoluene	3.75	3.97	4.04	106	108	70.0-130			1.75	25
Cyclohexane	3.75	3.99	4.07	106	109	70.0-130			1.99	25
Dibromochloromethane	3.75	3.80	3.88	101	103	70.0-130			2.08	25
1,2-Dibromoethane	3.75	3.82	3.93	102	105	70.0-130			2.84	25
1,2-Dichlorobenzene	3.75	3.55	3.66	94.7	97.6	70.0-130			3.05	25
1,3-Dichlorobenzene	3.75	3.59	3.68	95.7	98.1	70.0-130			2.48	25
1,4-Dichlorobenzene	3.75	3.65	3.75	97.3	100	70.0-130			2.70	25
1,2-Dichloroethane	3.75	3.89	4.01	104	107	70.0-130			3.04	25
1,1-Dichloroethane	3.75	4.26	4.34	114	116	70.0-130			1.86	25
1,1-Dichloroethene	3.75	4.25	4.31	113	115	70.0-130			1.40	25
cis-1,2-Dichloroethene	3.75	4.34	4.38	116	117	70.0-130			0.917	25
trans-1,2-Dichloroethene	3.75	4.33	4.39	115	117	70.0-130			1.38	25
1,2-Dichloropropane	3.75	3.93	4.00	105	107	70.0-130			1.77	25
cis-1,3-Dichloropropene	3.75	4.02	4.11	107	110	70.0-130			2.21	25
trans-1,3-Dichloropropene	3.75	4.05	4.21	108	112	70.0-130			3.87	25
1,4-Dioxane	3.75	3.22	3.30	85.9	88.0	70.0-140			2.45	25

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3838433-1 09/17/22 07:44 • (LCSD) R3838433-2 09/17/22 08:25

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Ethanol	3.75	4.01	4.10	107	109	55.0-148			2.22	25
Ethylbenzene	3.75	3.88	3.96	103	106	70.0-130			2.04	25
4-Ethyltoluene	3.75	3.87	3.97	103	106	70.0-130			2.55	25
Trichlorofluoromethane	3.75	4.00	4.07	107	109	70.0-130			1.73	25
Dichlorodifluoromethane	3.75	4.21	4.29	112	114	64.0-139			1.88	25
1,1,2-Trichlorotrifluoroethane	3.75	3.97	4.03	106	107	70.0-130			1.50	25
1,2-Dichlorotetrafluoroethane	3.75	4.11	4.17	110	111	70.0-130			1.45	25
Heptane	3.75	4.09	4.17	109	111	70.0-130			1.94	25
Hexachloro-1,3-butadiene	3.75	3.43	3.56	91.5	94.9	70.0-151			3.72	25
n-Hexane	3.75	4.23	4.30	113	115	70.0-130			1.64	25
Isopropylbenzene	3.75	3.75	3.83	100	102	70.0-130			2.11	25
Methylene Chloride	3.75	4.13	4.20	110	112	70.0-130			1.68	25
Methyl Butyl Ketone	3.75	4.03	4.10	107	109	70.0-149			1.72	25
Methyl Ethyl Ketone	3.75	4.25	4.28	113	114	70.0-130			0.703	25
4-Methyl-2-pentanone (MIBK)	3.75	4.20	4.27	112	114	70.0-139			1.65	25
Methyl Methacrylate	3.75	4.04	4.06	108	108	70.0-130			0.494	25
MTBE	3.75	4.12	4.18	110	111	70.0-130			1.45	25
Naphthalene	3.75	3.49	3.57	93.1	95.2	70.0-159			2.27	25
2-Propanol	3.75	4.20	4.29	112	114	70.0-139			2.12	25
Propene	3.75	4.41	4.44	118	118	64.0-144			0.678	25
Styrene	3.75	3.90	3.99	104	106	70.0-130			2.28	25
1,1,2,2-Tetrachloroethane	3.75	3.90	3.95	104	105	70.0-130			1.27	25
Tetrahydrofuran	3.75	4.17	4.26	111	114	70.0-137			2.14	25
Toluene	3.75	3.83	3.92	102	105	70.0-130			2.32	25
1,2,4-Trichlorobenzene	3.75	3.14	3.20	83.7	85.3	70.0-160			1.89	25
1,1,1-Trichloroethane	3.75	4.12	4.14	110	110	70.0-130			0.484	25
1,1,2-Trichloroethane	3.75	3.80	3.94	101	105	70.0-130			3.62	25
Trichloroethylene	3.75	3.76	3.85	100	103	70.0-130			2.37	25
1,2,4-Trimethylbenzene	3.75	3.97	4.06	106	108	70.0-130			2.24	25
1,3,5-Trimethylbenzene	3.75	4.02	4.09	107	109	70.0-130			1.73	25
2,2,4-Trimethylpentane	3.75	4.19	4.28	112	114	70.0-130			2.13	25
Vinyl chloride	3.75	4.27	4.28	114	114	70.0-130			0.234	25
Vinyl Bromide	3.75	3.90	3.95	104	105	70.0-130			1.27	25
Vinyl acetate	3.75	4.28	4.26	114	114	70.0-130			0.468	25
m&p-Xylene	7.50	7.81	7.96	104	106	70.0-130			1.90	25
o-Xylene	3.75	3.88	3.94	103	105	70.0-130			1.53	25
1,1-Difluoroethane	3.75	4.26	4.33	114	115	70.0-130			1.63	25
1,2,3-Trimethylbenzene	3.75	3.95	4.02	105	107	70.0-130			1.76	25
Chlorodifluoromethane	3.75	4.24	4.28	113	114	70.0-130			0.939	25
Ethyl acetate	3.75	4.71	4.69	126	125	70.0-130			0.426	25

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3838433-1 09/17/22 07:44 • (LCSD) R3838433-2 09/17/22 08:25

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Methyl Cyclohexane	3.75	3.96	4.06	106	108	70.0-130			2.49	25
Tert-Amyl Ethyl Ether	3.75	3.98	4.01	106	107	70.0-130			0.751	25
TPH (GC/MS) Low Fraction	203	216	220	106	108	70.0-130			1.83	25
<i>(S) 1,4-Bromofluorobenzene</i>				105	105	60.0-140				

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R3838952-3 09/19/22 20:02

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Tetrachloroethylene	U		0.0814	0.200
<i>(S) 1,4-Bromofluorobenzene</i>	96.4			60.0-140

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3838952-1 09/19/22 18:44 • (LCSD) R3838952-2 09/19/22 19:24

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Tetrachloroethylene	3.75	3.74	3.84	99.7	102	70.0-130			2.64	25
<i>(S) 1,4-Bromofluorobenzene</i>				100	99.7	60.0-140				

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Method Blank (MB)

(MB) R3839083-3 09/20/22 09:38

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Tetrachloroethylene	U		0.0814	0.200
<i>(S) 1,4-Bromofluorobenzene</i>	96.0			60.0-140

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3839083-1 09/20/22 08:39 • (LCSD) R3839083-2 09/20/22 09:09

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Tetrachloroethylene	3.75	4.09	4.10	109	109	70.0-130			0.244	25
<i>(S) 1,4-Bromofluorobenzene</i>				102	101	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

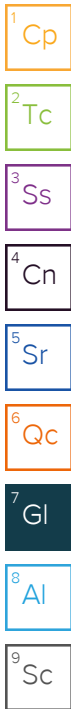
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RT	Retention Time.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
N	The analyte is tentatively identified and the associated numerical value may not be consistent with the actual concentration present in the sample.





# ACCREDITATIONS & LOCATIONS

## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Company Name/Address:  
**MSA Professional Services**  
 332 W. Superior Street, Suite 600  
 Duluth, MN 55802

Billing Information:  
**MSA Professionals**  
 332 W. Superior St, Ste. 600  
 Duluth, MN 55802

Analysis

Chain of Custody Page \_\_\_ of \_\_\_



12065 Lebanon Road Mt Juliet, TN 37122  
 Phone: 615-758-5858 Alt: 800-767-5859  
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

Report To:  
**Erica Klingfus**

Email To:  
 eklingfus@msa-ps.com

Project Description:  
**Chippewa Quick Mart**

City/State Collected:  
**Glidden, WI**

Please Circle:  
 PT MT **CT** ET

Phone:  
**218-722-3915**

Client Project #  
**21891000**

Lab Project #  
**MSAPRODMN-21891000**

Collected by (print):  
**Erica Klingfus**

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)  
 Same Day  Three Day  
 Next Day  Five Day  
 Two Day

Date Results Needed

Sample ID	Can #	Flow Cont. #	Date	Time	Collection		TO-15TIC Summa							
					Initial	Final								
SV-1	12485	21214	9/9/22	1057-1101	25	5	X							
SV-2	7272	11781	9/9/22	1109-1114	27	5	X							-01
<del>SV-3</del>							X							-02
SSVS-1	21910	20821	9/9/22	1452-1456	28	5	X							-03
SSVS-2	5315	12388	9/9/22	1519-1524	27	5	X							-04

Sample Receipt Checklist  
 COC Seal Present/Intact:  Y  N If Applicable  
 COC Signed/Accurate:  Y  N VOA Zero Headspace:  Y  N  
 Bottles arrive intact:  Y  N Pres. Correct/Check:  Y  N  
 Correct bottles used:  Y  N  
 Sufficient volume sent:  Y  N  
 PAD Screen <0.5 mR/hr:  Y  N  
**1-EMPTY**

Remarks: Malfunction w/ can 9627, not used for sample. (Reg 11776 also not used for sampling)  
 (one box w/ 4, one box w/ 1)

Relinquished by: (Signature) 		Date: 9/12/22	Time: 1300	Received by: (Signature) 	Date: 9/12/22	Time: 1300	Hold #
Relinquished by: (Signature) 		Date: 9/12/22	Time: 1300	Received by: (Signature)	Date:	Time:	Condition: (lab use only)
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature) 	Date: 9/14/22	Time: 0900	COC Seal Intact: <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA NCF:

SDG # **L1535347**  
**1200**  
 Acctnum: **MSAPRODMN**  
 Template: **T215070**  
 Prelogin: **P945461**  
 PM: **341 - John Hawkins**  
 PB: **CR08/25/22**  
 Shipped Via: **FedEX Ground**  
 Rem./Contaminant Sample # (lab only)