Phase II Environmental Investigation

Soo Line Community Garden

2845 Garfield Avenue South, Minneapolis, MN 55408

Prepared for:

Hennepin County Environment and Energy Department and

Hennepin County Regional Railroad Authority

February 2024

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1.0 Introduction and Background

1.1 Introduction

Landmark Environmental, LLC (Landmark) conducted a Phase II Environmental Investigation (Investigation) on behalf of Hennepin County Environment and Energy Department (Hennepin County) and the Hennepin County Regional Railroad Authority (HCRRA) for the planned construction of paved pathways within the existing Soo Line Community Garden located at 2845 Garfield Avenue South, Minneapolis, Hennepin County, Minnesota (Property). The location of the Property is shown on **Figure 1**.

The Investigation was completed as proposed, to observe, field screen, and sample shallow soils in the proximity of proposed path construction area. Landmark collected soil samples from four Geoprobe borings advanced by R&B Environmental Drilling, LLC (RBED) and from two manual slide hammer Geoprobe borings were conducted by Landmark and RBED.

The Investigation was conducted to determine where areas of soil impacts, if any, are present for future soil management purposes during construction of paved pathway features on the Property. Groundwater was not encountered at any of the Geoprobe boring locations. All Investigation activities were conducted in accordance with Landmark Standard Operating Procedures (SOPs), which are included in **Appendix A**, as well as applicable Minnesota Pollution Control Agency (MPCA) guidance documents.

The *Draft Phase I Environmental Site Assessment, 2845 Garfield Avenue South, Minneapolis, Minnesota* (Draft Phase I ESA Report), was prepared by Landmark and dated February 2024. The Draft Phase I ESA focuses on the Property and properties located adjacent to the Property as shown in **Figure 1**.

1.2 Background

As stated in the Draft Phase I ESA Report, the Property is currently owned by the Minneapolis Park and Recreation Board (MPRB) and HCRRA (collectively referred to as the "Property Owner") and used as a community garden and the Midtown greenway bike and walking path, respectively. The Property consists of 1.54 acres of land that is currently zoned as Urban Neighborhood. The general Property vicinity has been developed since at least the 2000s for current residential and commercial use. The current Property uses are not likely to involve the use, treatment, storage, disposal, or generation of significant quantities of hazardous substances or petroleum products.

The northern portion of the Property originally was developed as a grain elevator in 1886. The first portion of the elevator was situated on the west side of the Property and then expanded to

cover most of the northern portion of the Property in the 1910s. Sometime in the mid-1980s the grain elevator structures were razed. By 1991, a community garden was established and has remained gardens until the present. The Midtown Greenway originally was developed as a multi-track railroad prior to 1889 and remained a railroad until sometime between 2002 and 2004, when the railroad was removed and converted into a bike and pedestrian trail.

A regulatory records review for the Property was obtained from Environmental Data Resources, Inc. (EDR) on December 19, 2023. In addition, Landmark reviewed other publicly accessible databases including the MPCA's What's in My Neighborhood (WIMN), Petroleum Remediation Program (PRP) Maps Online, and Minnesota Groundwater Contamination Atlas, as well as the Minnesota Department of Agriculture's (MDA's) WIMN. The Property was identified in regulatory lists searched by EDR, including a Voluntary Investigation & Cleanup (VIC) and MDA Incident Investigation sites.

The Property was identified in regulatory lists searched by EDR and the MDA's WIMN.

- Voluntary Investigation & Cleanup (VIC) (VP13690): Identified as "Soo Line Gardens," the Property enrolled in the VIC program in October 2000 following an investigation that detected elevated levels of diesel range organics (DRO) and low levels of volatile organic compounds (VOCs) in soil. In April 1999, eight soil samples were collected from six hand augers. Samples were collected from a depth of 2 feet in four of the six borings; in the other two borings, soil samples were collected at 6 inches and 3 or 3.5 feet and analyzed for DRO, VOCs, and MDA List 1 pesticides. Groundwater was not encountered. DRO concentrations ranged from 9.8 milligrams per kilogram (mg/kg) to 1,400 mg/kg. Low levels of VOCs related to petroleum were detected in one or more samples. All VOC detections were below regulatory criteria. No List 1 Pesticides were detected in any of the samples.

  An additional investigation was conducted in 2001. Six composite samples and nine grab samples were collected from depths ranging from ground surface to 4 feet below ground surface (bgs). Samples were analyzed for selected metals (aluminum, arsenic, boron, cadmium, lead, magnesium, and mercury), VOCs, semi-volatile organic compounds (SVOCs), DRO, total cyanide, and pesticides including cyfluthrin, methoxychlor, and malathion. Results of VOCs, metals and pesticides reported results less than the Residential/Recreational Soil Reference Values (RSRVs) or non-detect. DRO concentrations ranged from 15 to 140 mg/kg. Polycyclic aromatic hydrocarbons (PAHs) measured as benzo(a)pyrene (BaP) equivalents ranged from less than detection limits up to 16.2 mg/kg. The higher concentrations of DRO and BaP equivalents exceeding the Best Management Practices (BMP) for the Off-Site Reuse of Unregulated Fill criteria (UFC) and the MPCA RSRVs were generally collected from 3 to 4 feet bgs. Based on the

review of the investigation by the MPCA, it was determined that it was unlikely that the gardeners were exposed to any significant health risk from direct exposure and that gardening could continue at the Property based on a preliminary evaluation of the plant-uptake exposure pathway. The MPCA issued closure on November 24, 2001.

- MDA Incident Investigation (CF-4978). Identified on the MDA's WIMN as "Hennepin County Taxpayer Services," this listing is related to potential agricultural contamination from the former use as a grain elevator. Since no pesticides were detected as part of the investigations related to VP13690, the MDA did not require additional pesticide sampling and the listing was closed on November 12, 2004. The VIC listing is known to have impacted soil beneath the Property.

As discussed, adjacent and potentially upgradient sites (sites within ¼ mile west of the Property with respect to anticipated groundwater flow to the east) identified in the regulatory searches are suspected to have the potential for impacting soil vapor or groundwater beneath the Property.

Recognized environmental conditions (RECs) indicate the presence or likely presence of any hazardous substances or petroleum products on the Property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substance or petroleum products into structures on the Property or into ground, groundwater, or surface water of the Property. Historical recognized environmental conditions (HRECs) are defined as past releases that have been addressed to a degree allowing for unrestricted use of the Property. Controlled recognized environmental conditions (CRECs) are defined as past releases that have been addressed but allow contamination to remain in place subject to the implementation of required controls. A *de minimis* condition is related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action from appropriate governmental agencies. A business environmental risk (BER) is a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of the Property. A significant data gap is a data gap or data failure that affects the ability to identify a REC at the Property.

Based upon the records review, Property reconnaissance, previous investigations, and interviews, the following known or suspect environmental conditions were identified for the Property:

Finding: Historic Property uses involving the use of petroleum compounds or hazardous substances, including a grain elevator and railroad.

Finding: Analytical sample results from previous investigations for the VIC listing indicating detected concentrations of DRO and PAHs as BaP equivalents in soil above applicable risk-based screening criteria.

Previous investigations identified DRO and PAHs as BaP equivalents impacted soil above regulatory criteria at the Property. Since the VIC listing was investigated to the satisfaction of the MPCA and issued closure, the VIC listing and historic uses are considered a CREC with respect to soil. Groundwater and soil vapor sampling did not occur at the Property. However, since there are no occupied buildings on the Property and there are no plans to construct a building, the above findings are not considered a RECs, CRECs, or HRECs with respect to groundwater and soil vapor.

Finding: Historical uses of the west, south, and east-adjacent sites involving hazardous substances or petroleum products, including coal yards, lumber yard, manufacturers, and auto repair shops.

Finding: Potential impacts from adjacent and upgradient regulatory listed sites, including VIC and LUST sites.

Soil, groundwater, and soil vapor impacts were detected at the west-adjacent site and therefore, have the potential to impact groundwater and soil vapor at the Property. As stated, there are no occupied buildings on the Property with no plans for building construction, as such, the above findings are not considered RECs, CRECs, or HRECs for the Property.

The Draft Phase I ESA has revealed the following CRECs in connection with the Property for the specified Property use of Hennepin County:

- Historic Property uses involving the use of petroleum compounds or hazardous substances, including a grain elevator and railroad.

- Analytical sample results from previous investigations for the VIC listing indicating detected concentrations of DRO and PAHs as BaP equivalents in soil above applicable risk-based screening criteria.

It should be noted that if the Property use changes to include an occupied building, these findings and conclusions should be reevaluated.

2.0 Investigation Results

The Investigation was conducted to determine where soil impacts are present for future management purposes during construction of proposed bituminous paved trails on the Property. A total of six soil borings were advanced across the Property, including four Geoprobe borings advanced by RBED and two manual slide hammer Geoprobe borings advanced by Landmark and RBED. Landmark collected shallow soil samples from the top 2-feet below ground surface (bgs) at the six boring locations and deeper soil samples from 4-to 6-feet bgs at two boring locations for laboratory analysis. The field work portion of the Investigation was completed on December 21, 2023, at the locations shown on **Figure 2**.

2.1 Field Investigation Summary

Prior to conducting the fieldwork, Landmark prepared a Site Safety Plan. RBED conducted the borings LGP-1 thru LGP-4 using a trailer mounted Geoprobe with macro-core sampling equipment for the collection of soil samples. LGP-5 and LGP-6 were conducted by RBED and Landmark with the manual slide hammer Geoprobe. The Geoprobe borings were advanced to depths ranging from 3-to 8-feet bgs for the collection of soil samples. Borings LGP-1 and LGP-3 were advanced to a depth of 8-feet bgs. Boring LGP-2 met refusal at 3-feet bgs; borings LGP-4 and LGP-5 both met refusal at 3.5-feet bgs; and, boring LGP-6 met refusal at 4-feet bgs. No groundwater was encountered during the Investigation. All borings were sealed in accordance with Minnesota Department of Health (MDH) requirements. A Photo Log documenting the Investigation activities is included in **Appendix B**.

2.1.1 Soil Sampling Summary

Six Geoprobe borings were advanced to investigate soil at the Property. Borings conducted with the Geoprobe are labeled with the prefix Landmark Geoprobe (LGP) and labeled numerically (LGP-1 through LGP-6) as shown in **Figure 2**. The Geoprobe borings (LGP-1 through LGP-6) were advanced to depths ranging from 3-to 8-feet bgs to investigate potential environmental conditions and to provide overall spatial coverage across the portions of the Property where path construction is proposed.

All the Geoprobe borings were located on the Property along the proposed path as shown on **Figure 2**. Boring LGP-1 was located along the northwest portion of the Property within the current mulch landscaped parking area; borings LGP-2 and LGP-3 were located in the central portion of the Property along existing mulch landscape walkways; boring LGP-4 was located in the southeast portion of the Property within greenspace nearest the Midtown Greenway; and, borings LGP-5 and LGP-6 were located near the north Property boundary within existing garden plots. All the borings were located within mulch landscaped areas except for borings LGP-4, LGP-5, and LGP-6 as noted above.

Landmark collected soil samples for field screening indications of contamination at each soil boring LGP-1 through LGP-6 from ground surface to refusal depth, up to 8-feet bgs. All soil samples were screened in the field for organic headspace values with a photoionization detector (PID) as well as visual observation including screening for debris or suspect regulated asbestos containing materials (RACM).

Soil samples submitted for laboratory analysis focused on characterizing shallow soil to depths of 2-feet bgs across the Property because it may be disturbed during proposed construction of paved pathways at the Property. Soil samples are labeled according to location and depth. For instance, sample LGP-1/0-2' was collected at boring LGP-1 from 0-to 2-feet bgs. A total of eight soil samples (at least one sample at each soil boring location) were submitted to Eurofins Cedar Falls (Eurofins) for analysis of Resource Conservation and Recovery Act (RCRA) metals, PAHs, DRO, gasoline range organics (GRO), and VOCs. Because suspect RACM was not observed, samples for RACM were not collected. Field screening results are listed on the boring logs in **Appendix C,** and the detected parameters for soil samples submitted to Eurofins are listed in **Table 1**.

2.2 Field Investigation Results

Figure 2 shows the Property with the Investigation locations. The Property is located in an area of mixed commercial and residential use; most of these uses likely do not involve the use, treatment, storage, disposal or generation of significant quantities of hazardous substances or petroleum products. However, historic use of the Property has involved demolition of an existing building, resulting in an identified release of PAHs that has the potential to impact soil on the Property. As listed on the boring logs in **Appendix C**, non-native fill material was observed across the Property to depths of approximately 8-feet bgs.

The majority of fill material across the Property appeared to be debris-free with the exception of some brick pieces observed at approximately 0-to 1.75-feet bgs at boring LGP-1 and concrete pieces observed at approximately 1-to 3.5-feet bgs at boring LGP-5. Fill material on the Property was mainly comprised of silty sand with varying amounts of gravel.

Landmark collected soil samples for field screening purposes from the ground surface to refusal depth, up to 8-feet bgs at all of the Geoprobe borings. No field screening indications of contamination, including elevated PID readings (greater than 10 parts per million [ppm]), were observed at any of the borings. Groundwater was not encountered during the Investigation.

2.3 Laboratory Analytical Results

Detected analytical parameters for soil samples are listed in **Table 1**. Also included in **Table 1** are the MPCA Tier 1 Soil Leaching Values (SLVs), Background Threshold Values (BTVs), RSRVs, and Commercial/Industrial Soil Reference Values (C/ISRVs) for comparison purposes.

In addition, soil results were also compared to the MPCA BMP for the Off-Site Reuse UFC which defines unregulated fill as excess soil that meets the following field screening criteria:

- free from solid waste, debris, asbestos-containing material, visible staining, and chemical odor
- organic vapors less than 10 ppm, as measured by a PID
- for petroleum-impacted soil, less than 100 milligrams per kilogram (mg/kg) DRO/GRO
- for contaminants detected in soil, less than the MPCA's RSRVs and SLVs (naturally-occurring concentrations of some metals, such as arsenic, selenium, or copper, sometimes exceed the SRV or SLV. Such soils are not considered impacted in the absence of a contaminant source or other field or laboratory indications of contamination.)

Figure 3 presents the soil analytical results for each boring location. The following items summarize the analytical results of **soil** samples listed in **Table 1**:

- All eight soil samples were analyzed for RCRA metals. All detected RCRA metals concentrations were reported below the applicable MPCA SLVs, RSRVs, and BTVs.
- All eight soil samples were analyzed for VOCs. VOCs were not detected above laboratory reporting limits (RLs) in any of the eight soil samples submitted for VOCs analysis, except for sample LGP-5/0-2'. Naphthalene was reported at a concentration of 0.647 mg/kg in sample LGP-5/0-2', which is below the applicable MPCA SLV of 4.5 mg/kg and RSRV of 81 mg/kg.
- All eight soil samples were analyzed for PAHs. Concentrations of PAHs were calculated as the BaP equivalent for comparison with MPCA criteria. PAHs were detected above laboratory RLs in seven soil samples. The BaP equivalent was calculated at concentrations ranging from 0.27 to 15.8 mg/kg for six of the eight soil samples analyzed for PAHs. Four of the six BaP equivalent concentrations exceed the applicable MPCA SLV of 1.4 mg/kg and RSRV of 2 mg/kg, including samples LGP-2/0-2' (3.71 mg/kg), LGP-3/0-2' (15.83 mg/kg), LGP-3/4-6' (5.93 mg/kg), and LGP-5/0-2' (9.19 mg/kg). However, all BaP equivalent concentrations are below the MPCA C/IRSV of 23 mg/kg.
- All eight soil samples submitted were analyzed for DRO and GRO. DRO was detected at concentrations ranging from 5.27 to 242 mg/kg in seven of the eight of the soil samples. GRO was not detected above laboratory RLs in any of the eight soil samples. The MPCA does not list a specific action level for DRO and GRO. Rather, the MPCA uses

the UFC and compares the DRO/GRO concentrations to be less than 100 mg/kg. As listed in **Table 1** and shown on **Figure 3**, DRO concentrations were reported in samples LGP-3/0-2' (242 mg/kg) and LGP-5/0-2' (219 mg/kg) greater than 100 mg/kg.

Figure 4 presents the soil analytical results exceeding MPCA criteria for each boring location from this Investigation and previous investigations. The exceedances found during this Investigation were detected at concentrations similar to the concentrations found during the previous investigations, with the exception of DRO concentrations at borings HA-01 and HA-03. The following items summarize these exceedances:

- The BaP equivalent was calculated at concentrations above the SLV of 1.4 mg/kg and RSRV of 2 mg/kg, but below the C/ISRV of 23 mg/kg in samples B-4/0-1' (2.2 mg/kg), B-4/3-4' (16.2 mg/kg), LGP-2/0-2' (3.71 mg/kg), LGP-3/0-2' (15.83 mg/kg), LGP-3/4-6' (5.93 mg/kg), LGP-5/0-2' (9.19 mg/kg), PSC-B/3-4' (2.0 mg/kg), and MGC-B/3-4' (5.0 mg/kg). Sample PSC-B/3-4' was a composite sample of soil from boring locations B-1, B-2, and B-3; and, sample MGC-B/3-4' was a composite sample of soil from boring locations B-5, B-6, B-7, and B-8.

- DRO was reported at concentrations above the UFC of 100 mg/kg in samples B-4/3-4' (140 mg/kg), HA-01/2' (1,400 mg/kg), HA-02/2' (100 mg/kg), HA-03/3.5' (1,300 mg/kg), HA-04/3' (100 mg/kg), LGP-3/0-2' (242 mg/kg), LGP-5/0-2' (219 mg/kg), PSC-B/3-4' (120 mg/kg), and MGC-B/3-4' (140 mg/kg). As previously stated, sample PSC-B/3-4' was a composite sample of soil from boring locations B-1, B-2, and B-3; and, sample MGC-B/3-4' was a composite sample of soil from boring locations B-5, B-6, B-7, and B-8.

- Debris were observed in borings LGP-1 (0-2' brick pieces) and LGP-5 (1-3' concrete pieces), which exceeds the UFC of soil being free of debris.

3.0 Conclusions and Recommendations

The Investigation was conducted to identify and delineate any areas of soil impacts for future management purposes during planned construction of paved pathways along an existing gravel pathway within the community garden. RBED advanced four Geoprobe borings and Landmark and RBED advanced two manual Geoprobe boring across the Property for environmental purposes. Landmark collected soil samples at each of the six borings. The Geoprobe borings were advanced to depths ranging from 3-to 8-feet bgs for the collection of soil samples. Borings LGP-1 and LGP-3 were advanced to a depth of 8-feet bgs. Boring LGP-2 met refusal at three (3) 3-feet bgs; borings LGP-4 and LGP-5 both met refusal at three and a half (3.5) 3.5-feet bgs; and, boring LGP-6 met refusal at four (4) 4-feet bgs. No groundwater was encountered during the Investigation.

Landmark collected soil samples for field screening purposes from ground surface to refusal depth, up to 8-feet bgs at each Geoprobe boring. No field screening indications of contamination, including elevated PID readings (greater than 10 ppm), were observed at any of the borings, except for some brick pieces observed at approximately 0-to 1.75-feet bgs at boring LGP-1 and concrete pieces observed at approximately 1-to 3.5-feet bgs at boring LGP-5. A total of eight soil samples (at least one sample at each soil boring location) were submitted to Eurofins for analysis of RCRA metals, PAHs, DRO, GRO, and VOCs.

Soil analytical results were compared to MPCA SLVs, BTVs, RSRVs, C/ISRVs and UFC with six exceedances reported:

- PAHs measured as BaP equivalent in surficial soil samples at borings LGP-2, LGP-3, and LGP-5 were calculated at concentrations of 3.71, 15.83, and 9.19 mg/kg, which exceeds the SLV concentration of 1.4 mg/kg and RSRV and BTV concentration of 2 mg/kg. In addition, PAHs measured as BaP equivalent in the soil sample collected at boring LGP-3 from 4-to 6-feet bgs was calculated at a concentration of 5.93 mg/kg, which exceeds the SLV concentration of 1.4 mg/kg and RSRV and BTV concentration of 2 mg/kg. However, PAHs measured as BaP equivalent in all the soil sample submitted were calculated at concentrations below the C/ISRV of 23 mg/kg. If this soil is excavated, this soil cannot remain on site and cannot be reused as unregulated fill on another property, and will require proper management and disposal. In addition, stormwater should not be infiltrated through this soil.

- DRO in surficial samples at borings LGP-3 and LGP-5 were reported at concentrations of 242 and 219 mg/kg, which exceeds the UFC of 100 mg/kg. Since petroleum contamination was not observed, these DRO exceedances are likely due to PAHs existing in the sample matrix and do not represent petroleum contamination. If this soil is

excavated, this soil cannot remain on site and cannot be reused as unregulated fill on another property, and will require proper management and disposal.

Based on the Investigation results and the planned construction of paved pathway areas along an existing gravel pathway within the community garden, Landmark offers the following recommendations:

- The Property owner or authorized representative should report the contaminated soil results to the MPCA Duty Officer.

- A Response Action Plan (RAP) is warranted to properly manage surficial soil with elevated PAHs and DRO. Shallow soil should be excavated and properly disposed at a permitted landfill. Elevated concentrations of PAHs at depth should either be left at depths greater than 2 feet bgs with an impervious surface or disposed if encountered during construction.

- Landmark recommends that a Construction Contingency Plan (CCP) be prepared. The CCP will address any unexpected conditions and issues related to contaminated soil and fill material and/or impacts encountered during reconstruction.

- Enroll in the MPCA VIC Program to acquire a No Association Determination, if possible, and review and approval of a RAP and CCP.

Figures

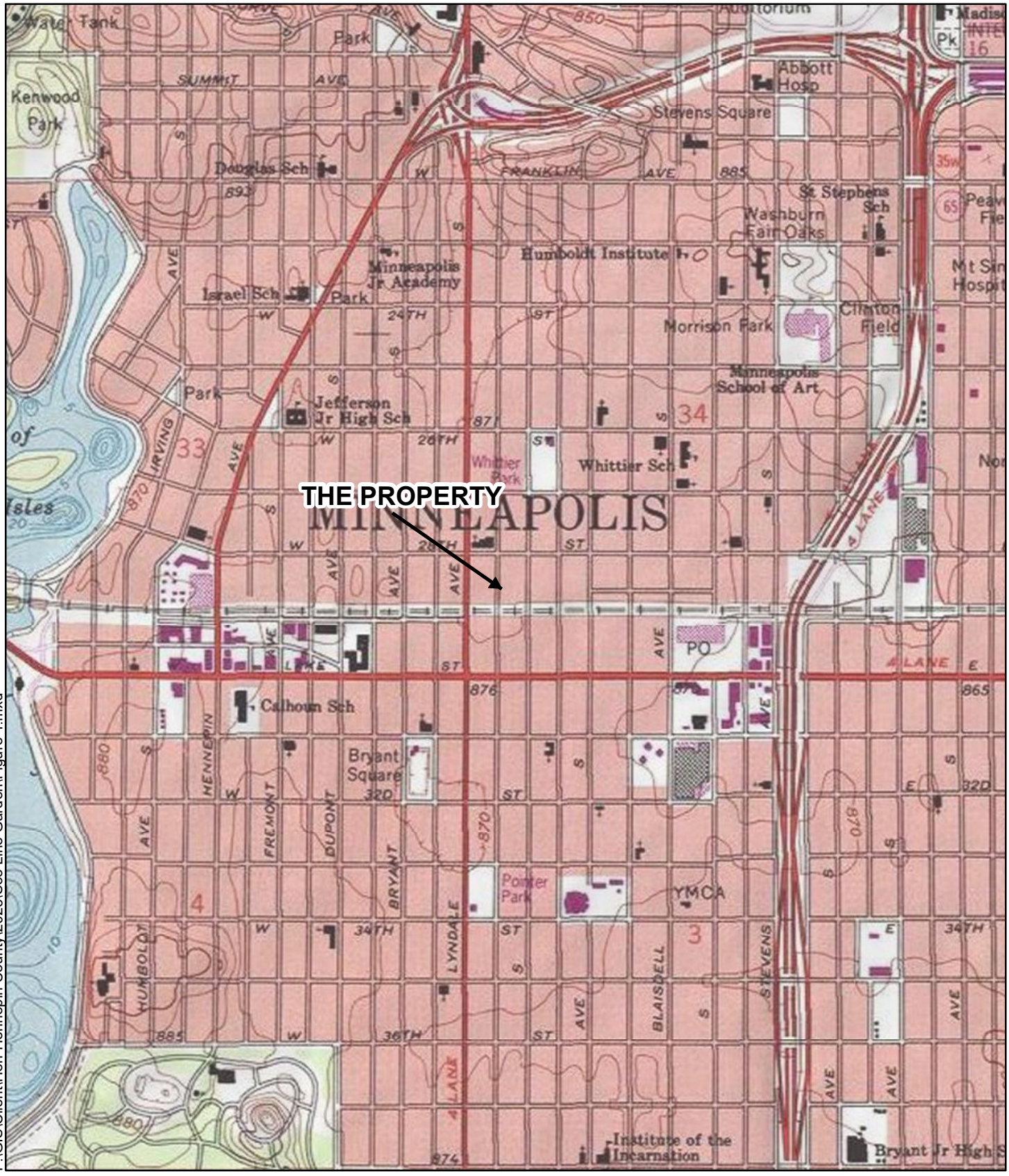

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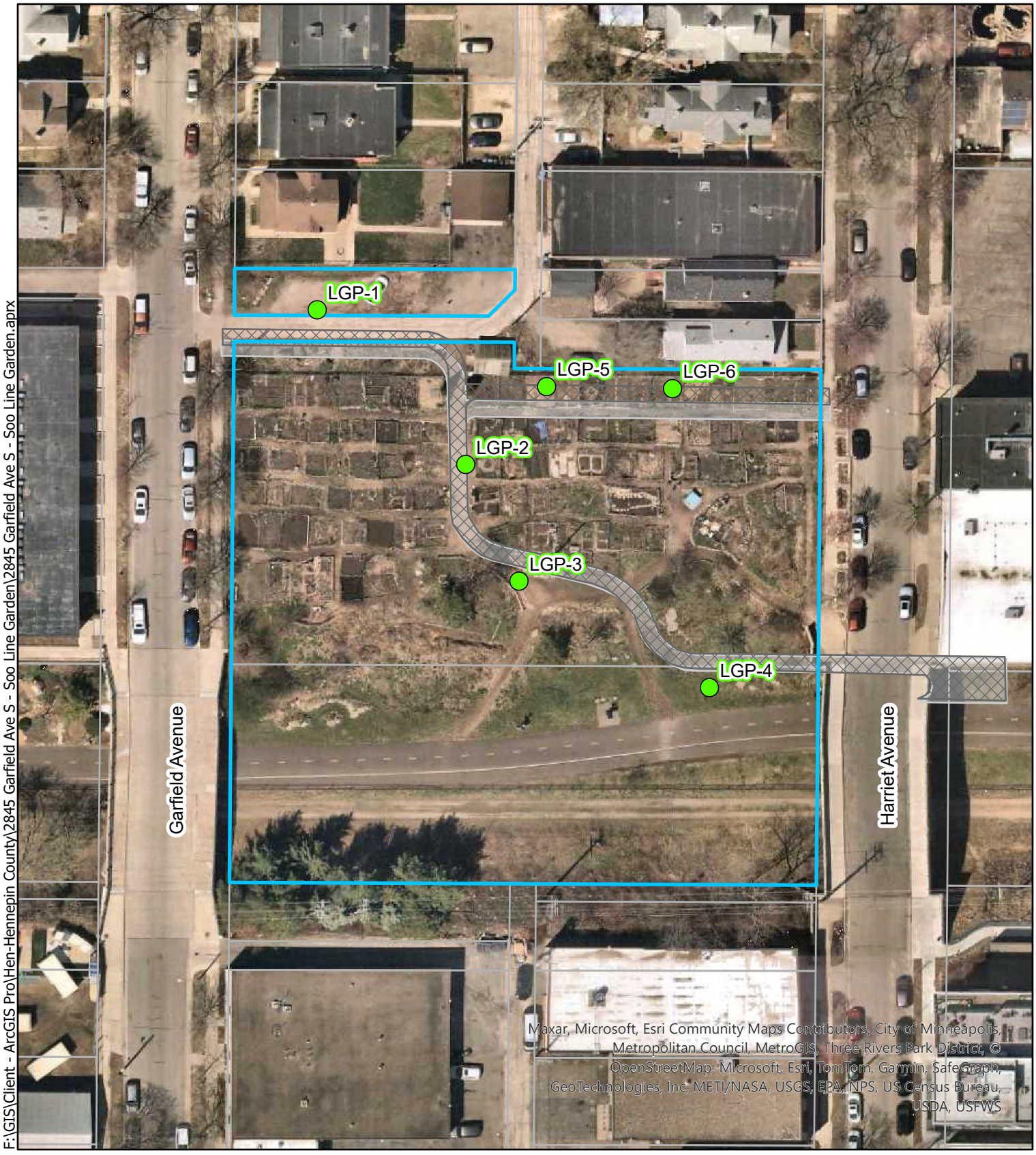
FIGURE 1

PROPERTY LOCATION MAP
2845 Garfield Avenue South
Minneapolis, Minnesota

LANDMARK ENVIRONMENTAL, LLC



Legend

- Property Boundary
- Hennepin County Parcels
- Concept A Path Layout
- Concept B Path Layout
- Landmark Sampling Location (Dec 2023)

N

0 30 60 120 Feet

1 inch = 60 feet

FIGURE 2

PROPERTY LAYOUT MAP WITH INVESTIGATION LOCATIONS
2845 Garfield Avenue South
Minneapolis, Minnesota

LANDMARK ENVIRONMENTAL, LLC

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Legend

- Property Boundary
- Hennepin County Parcels
- Concept A Path Layout
- Concept B Path Layout
- Landmark Sampling Location (Dec 2023)

Notes
bgs - below ground surface
C/I SRV - Commercial/Industrial Soil Reference Value
DRO - Diesel Range Organics
GRO - Gasoline Range Organics
mg/kg - milligrams per kilogram
MPCA - Minnesota Pollution Control Agency
ND - Non-Detect (indicates result is less than Reporting Limit)
PAH - Polycyclic Aromatic Hydrocarbons; calculated as benzo(a)pyrene equivalent
PID - Photoionization Detector (reported in Parts Per Million)
RCRA - Resource Conservation and Recovery Act
RSRV - Residential Soil Reference Value
SLV - Soil Leaching Value
VOC - Volatile Organic Compounds
-Unless noted, no field screening evidence of contamination (e.g. odor, staining, debris)
-Only detections **over** criteria are shown on tables

Soil	Exceeds MPCA Screening SLVs
	Exceeds MPCA RSRVs
	Exceeds MPCA C/I SRVs
	Exceeds MPCA Unregulated Fill Criteria

N

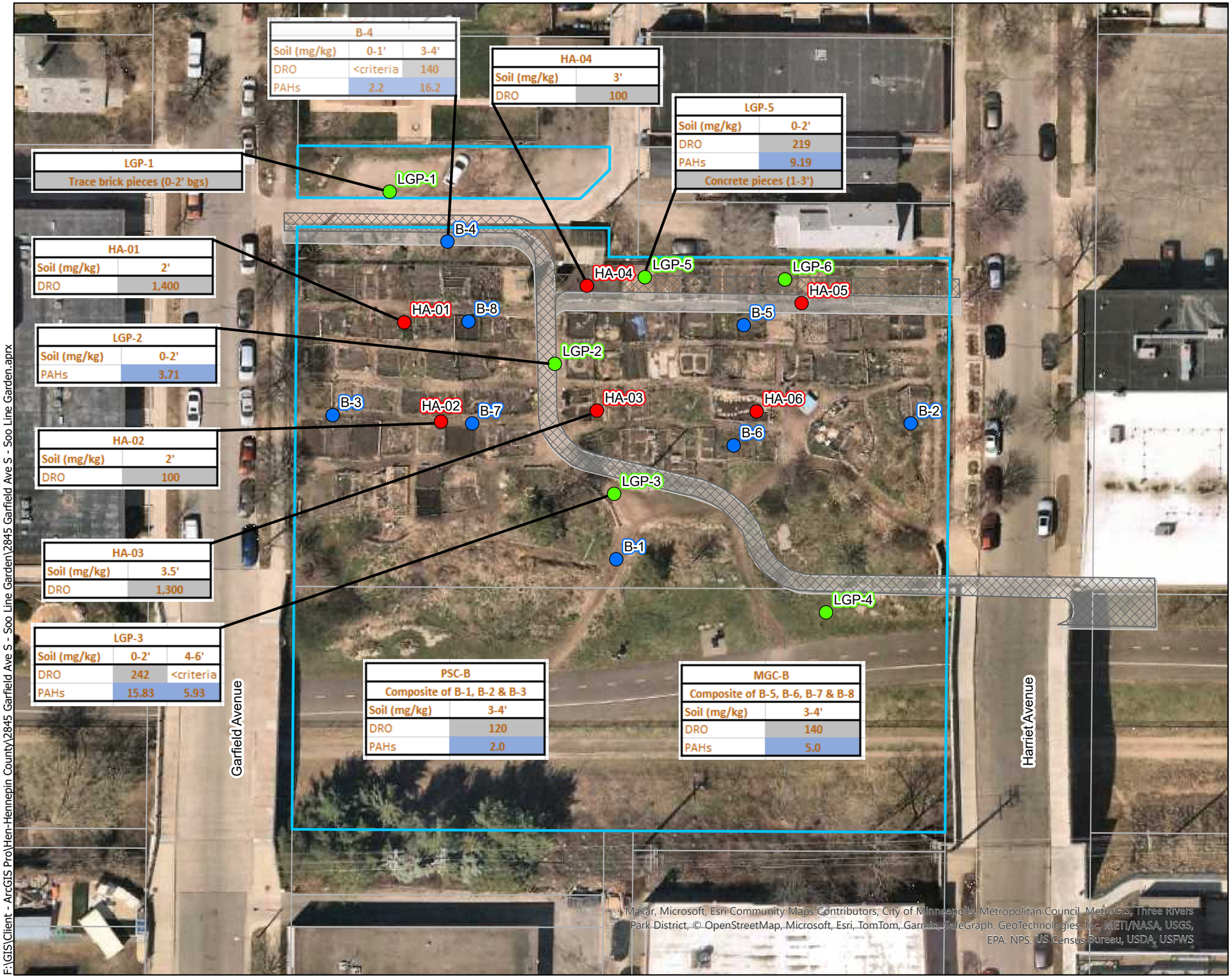
0 30 60 120 Feet

1 inch = 60 feet

FIGURE 3

PROPERTY LAYOUT MAP WITH INVESTIGATION RESULTS
2845 Garfield Avenue South
Minneapolis, Minnesota

LANDMARK ENVIRONMENTAL, LLC



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Legend

- Property Boundary
- Hennepin County Parcels
- Concept A Path Layout
- Concept B Path Layout
- Landmark Sampling Location (Dec 2023)
- Peer Sampling Location (April 2001)
- ThermoRetec Sampling Location (April 1999)

Notes
bgs - below ground surface
C/I SRV - Commercial/Industrial Soil Reference Value
DRO - Diesel Range Organics
GRO - Gasoline Range Organics
mg/kg - milligrams per kilogram
MPCA - Minnesota Pollution Control Agency
ND - Non-Detect (indicates result is less than Reporting Limit)
PAH - Polycyclic Aromatic Hydrocarbons; calculated as benzo(a)pyrene equivalent
PID - Photoionization Detector (reported in Parts Per Million)
RCRA - Resource Conservation and Recovery Act
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SLV - Soil Leaching Value
VOC - Volatile Organic Compounds
-Unless noted, no field screening evidence of contamination (e.g. odor, staining, debris)
-Only detections **over** criteria are shown on tables

Soil	Exceeds MPCA Screening SLVs
	Exceeds MPCA RSRVs
	Exceeds MPCA C/I SRVs
	Exceeds MPCA Unregulated Fill Criteria

N

0 20 40 80 Feet

1 inch = 40 feet

FIGURE 4

PROPERTY LAYOUT MAP WITH INVESTIGATION LOCATIONS AND EXCEEDANCES
2845 Garfield Avenue South
Minneapolis, Minnesota

LANDMARK ENVIRONMENTAL, LLC

Tables

Table 1
Laboratory Soil Data - Detected Parameters
2845 Garfield Avenue South, Minneapolis, Minnesota
(Results in mg/kg)

Sample Location	MPCA	MPCA	MPCA	MPCA	LGP-1	LGP-1	LGP-2	LGP-3	LGP-3	LGP-4	LGP-5	LGP-6
Depth	June 2013	April 2021	March 2023	March 2023	0-2'	4-6'	0-2'	0-2'	4-6'	0-2'	0-2'	0-2'
		Background	Residential/	Commercial/								
Soil Type	Tier 1	Threshold	Recreational	Industrial	Fill	Fill	Fill	Fill	Fill	Fill	Fill	Fill
Date Collected	SLVs	Values	Chronic SRVs	Chronic SRVs	12/21/2023	12/21/2023	12/21/2023	12/21/2023	12/21/2023	12/21/2023	12/21/2023	12/21/2023
Field Screening Observations												
PID Readings (ppm)	10 (1)	10 (1)	10 (1)	10 (1)	**0.2**	**0.1**	**0.3**	**0.3**	**0.3**	**0.3**	**0.5**	**0.1**
Debris, Odor, Staining	Free of debris, odors, staining (1)	Free of debris, odors, staining (1)	Free of debris, odors, staining (1)	Free of debris, odors, staining (1)	**trace brick fragments**	none	none	none	none	none	**concrete pieces**	none
RCRA Metals												
Arsenic	5.8	9	9	9	**5.67**	**2.30**	**5.03**	**3.20**	**2.81**	**4.84**	**4.20**	**3.80**
Barium	1,700	210	3,100	41,000	**126**	**28.5**	**101**	**68.6**	**76.7**	**150**	**115**	**75.1**
Cadmium	8.8	NS	1.6	23	<0.441	<0.415	<0.448	<0.449	<0.438	<0.477	<0.433	<0.428
Chromium (III/VI) (2)	1000000000/36	27/27	23000/2.3	100000/62	**15.7**	**7.55**	**11.1**	**9.45**	**8.91**	**11.4**	**11.8**	**10.7**
Lead	2,700	NS	200	460	**9.18**	**2.36**	**34.6**	**9.92**	**6.77**	**30.0**	**58.6**	**13.5**
Mercury	3.3	NS	2.7	3.1	**0.0294**	<0.0162	**0.0591**	<0.0199	**0.0241**	**0.0256**	**0.0434**	<0.0194
Selenium	2.6	NS	78	1,200	<1.32	<1.25	<1.34	<1.35	<1.32	<1.43	<1.30	<1.28
Silver	7.9	NS	78	1,200	<0.441	<0.415	<0.448	<0.449	<0.438	<0.477	<0.433	<0.428
PAHs												
Acenaphthene	81	NS	460	6,800	<0.0851	<0.0736	<0.873	**1.22**	**1.06**	<0.419	**0.989**	<0.0818
Acenaphthylene	NS	NS	NS	NS	<0.0851	<0.0736	<0.873	<0.817	<0.811	<0.419	<0.876	<0.0818
Anthracene	1,300	NS	2,800	42,000	<0.0851	<0.0736	**1.18**	**3.79**	**2.67**	<0.419	**3.04**	<0.0818
Benzo(a)anthracene	BaP Eq	BaP Eq	BaP Eq	BaP Eq	<0.0851	<0.0147	**3.13**	**13.0**	**5.07**	**0.923**	**7.50**	**0.224**
Benzo(a)pyrene	BaP Eq	BaP Eq	BaP Eq	BaP Eq	<0.0851	<0.0736	**2.72**	**11.9**	**4.39**	**0.940**	**6.86**	**0.216**
Benzo(b)fluoranthene	BaP Eq	BaP Eq	BaP Eq	BaP Eq	<0.0851	<0.0736	**3.01**	**12.7**	**4.82**	**1.02**	**7.41**	**0.248**
Benzo(g,h,i)perylene	NS	NS	NS	NS	<0.0851	<0.0736	**1.37**	**5.36**	**2.06**	**0.504**	**3.02**	**0.103**
Benzo(k)fluoranthene	BaP Eq	BaP Eq	BaP Eq	BaP Eq	<0.0851	<0.0736	**1.23**	**3.86**	**1.80**	**0.376**	**2.69**	**0.0897**
Chrysene	BaP Eq	BaP Eq	BaP Eq	BaP Eq	<0.0851	<0.0147	**3.17**	**12.8**	**4.85**	**1.00**	**7.90**	**0.219**
Dibenz(a,h)anthracene	BaP Eq	BaP Eq	BaP Eq	BaP Eq	<0.0851	<0.0736	**0.386**	**1.51**	**0.582**	**0.129**	**0.879**	<0.0818
Fluoranthene	670	NS	210	2,700	**0.0952**	<0.0736	**8.76**	**29.7**	**12.7**	**1.83**	**15.7**	**0.607**
Fluorene	110	NS	390	5,800	<0.0851	<0.0736	<0.873	**1.08**	**1.08**	<0.419	**0.984**	<0.0818
Indeno(1,2,3-cd)pyrene	BaP Eq	BaP Eq	BaP Eq	BaP Eq	<0.0851	<0.0736	**1.88**	**8.21**	**2.90**	**0.664**	**4.21**	**0.131**
2-Methylnaphthalene	NS	NS	39	580	<0.0851	<0.0736	<0.873	<0.817	<0.811	<0.419	<0.876	<0.0818
Napththalene	4.5	NS	81	280	<0.0851	<0.0736	<0.873	<0.817	<0.811	<0.419	<0.876	<0.0818
Phenanthrene	NS	NS	NS	NS	<0.0851	<0.0736	**5.46**	**13.9**	**10.4**	**1.07**	**11.1**	**0.262**
Pyrene	440	NS	220	3,200	**0.0935**	<0.0736	**7.00**	**25.0**	**10.3**	**1.64**	**12.4**	**0.536**
Total BaP Equivalent	1.4	2	2	23	<0.168	<0.139	**3.71**	**15.83**	**5.93**	**1.25**	**9.19**	**0.27**
Diesel & Gasoline Range Organics												
DRO	100 (1)	100 (1)	100 (1)	100 (1)	**5.27**	<2.66	**69.1**	**242**	**82.1**	**34.1**	**219**	**13.5**
GRO	100 (1)	100 (1)	100 (1)	100 (1)	<11.9	<10.3	<12.5	<11.2	<10.9	<12.2	<11.6	<11.6
VOCs												
Naphthalene	4.5	NS	81	280	<0.345	<0.252	<0.367	<0.312	<0.296	<0.358	**0.647**	<0.321

Footnotes:
(1) MPCA Unregulated Fill Criteria (free of solid waste, debris, ACM, staining & odor; PID < 10 ppm; DRO and GRO < 100 mg/kg; result < SRVs & < SLVs)
(2) Results given as total chromium; results are less than MPCA published background threshold levels (April 2021); results do not indicate a release of chromium VI and are not highlighted as such.
BaP Eq: benzo(a)pyrene equivalent
DRO: diesel range organics
GRO: gasoline range organics
mg/kg: milligrams per kilogram
MPCA: Minnesota Pollution Control Agency
NS: no standard
PAHs: polynuclear aromatic hydrocarbons
PID: photoionization detector
ppm: parts per million
RCRA: Resource Conservation Recovery Act
SLV: Soil Leaching Value
SRV: Soil Reference Value
VOCs: Volatile Organic Compounds

Appendices

Appendix A
Landmark Standard Operating Procedures

1.0 Standard Operating Procedures Soil Vapor and Indoor Air Sample Collection and Analysis
February 6, 2018

Introduction

This document describes technical standard operating procedures (SOPs) prepared by Landmark Environmental, LLC (Landmark). This SOP, which has been submitted to and is on file with the Minnesota Pollution Control Agency (MPCA) and the U.S. Environmental Protection Agency (EPA), is based on the MPCA Remediation Division *Vapor Intrusion Technical* Support Document, (MPCA, 2010) (c-rem3-01) and has been prepared in accordance with Guidance for Preparing Standard Operating Procedures (QA/G-6), (EPA, 2007) EPA/600/B-07/001, and ASTM D7663 -12 Standard Practice for active Soil Gas Sampling in the Vadose Zone for Vapor Intrusion Evaluations. This SOP provides procedures for field methods and procedures for the collection of soil vapor, sub-slab vapor, indoor and outdoor (ambient) air samples that will be submitted for laboratory analysis of volatile organic compounds (VOCs). This SOP also provides procedures for quality assurance/quality control (QA/QC) procedures for field sample collection and laboratory analysis.

While it is understood that different practitioners will employ various methods based on their experience and equipment, due care will be taken to ensure integrity of the samples and data quality. The procedures recommended in this SOP may be varied or changed, with MPCA or EPA approval, depending on site-specific conditions or emerging technologies and methodologies. In all cases, the methodologies used in the field must be thoroughly described and documented in the final report accompanying the sampling results. Field work will be completed using the same methods and procedures at all sampling locations throughout the RI. Equipment required to collect soil vapor from the sampler to the laboratory includes laboratory-supplied sample containers (Summa canisters) fitted with a flow restriction valve, nitrile gloves, and the appropriate personal protective equipment necessary for collection and handling of soil samples as described in the Site Safety Plan (SSP).

Soil Vapor Sample Collection

Soil vapor sampling points, if possible, will be permanent installations. If necessary, a temporary sampling point can be used. The worst case- and up to four radial samples should initially be collected from sampling points. The following procedures should be included in any sampling protocol:

1. Advance the soil vapor sampling point to a planned depth using direct push technology or manual probes if site conditions permit. Depths of the installation vary depending on the application. Soil collection depth will be to 8 –to 10 feet below the surface, a minimum of 2 feet above a water table. If location is placed at a slab on-grade building depth of sample interval will be placed to 6 –to 18 inches below the slab.
2. If possible, the location will be logged using a GPS for potential repeat sampling. GPS eTrex® tracks both GPS and GLONASS satellites simultaneously www.garmin.com/en-us/uson-the - trail/handheld/etrex-20/prod87771.html (see SOP 16.0).

3. Ensure that soil vapor is sufficiently isolated from the surface using a water dam, hydrated clay or similar method.
4. Permanent sampling points will be placed such that the sampling interval is adequately sealed off from both the casing air and external surface air. This is done using a sand pack (or native soil depending on the permeability) adjacent to the screen, with a layer of hydrated bentonite above the sand pack and finished with grout to the surface.
5. Soil vapor sampling points should be fitted with new disposable inert tubing (e.g., polyethylene, stainless steel, or Teflon) of the appropriate size.
6. Prior to collecting the sample the installation should be allowed to sit for at least 30 –to 60 minutes and possibly 24 –hours if possible.
7. The sample train is a simple "T" made of inert materials (Brass, Stainless Steel or Polyethylene). The "T" allows a connection to the sub surface, the summa can and a pre purging side with a Magnehelic Gauge. The "T" is also equipped with toggle switches for isolating the subsurface and the purging mechanism. The summa can is pre-equipped from the laboratory with a toggle switch.
8. Dead air or stagnant air introduced during the installation of the soil vapor sampling point must be purged before a representative soil gas can be sampled. Prior to sampling, a leak check of the sampling train must be completed. Air is withdrawn from the sample train. A negative pressure should be held over a 1 –to 5 minute period (0.5 –to 1.5 inches of water). This negative pressure is monitored on the Magnehelic Gauge. The vacuum held and duration will be recorded. If the train does not hold the vacuum, inspect the train for weak connections, and replace as necessary. At a minimum, two volumes (i.e., total volume of the sampling point and sampling train) must be purged. This is accurately completed using a graduated syringe or using a squeeze bulb with a bead gauge. Purging is to ensure samples collected are representative of sub-surface vapors.

    a. The simple "T" with three toggle switches will be tested as part of the leak check. After the test, all of the toggle switches will be closed. The Simple "T" has three connections. One is for the Summa can, one is for the subsurface sampling point with inert tubing and the third is for withdrawing stagnate air and monitoring vacuum.
    b. On the withdrawal side connect either the graduated syringe or a squeeze bulb with a bead gauge valve
    c. Open the toggle switches to the sampling line and the withdrawal line and remove at least two volumes (i.e., total volume of the sampling point, sampling train including the simple "T")
    d. Record the time and volume of stagnate air that was removed
    e. Close the toggle switch to the sample and withdrawal line
    f. Connect the Magnehelic gauge to measure vacuum during sampling
    g. To begin sampling, open all three toggle switches
    h. Record sampling information

9. If necessary, an in-line moisture trap should be installed to prevent moisture from entering the Summa canister. During duplicate sampling a secondary simple "T" will be added to the sampling train, leak tested and added to the volume stagnate air removal.
10. The sample is collected after the stagnant air is removed by closing off the purge end of the "T" with a toggle and opening the Summa canister.
11. Note the initial vacuum gauge reading and monitor the vacuum gauge to check progress of Summa canister filling (integrated sample should be at least 30 minutes or 200 mL/minute). Specific time intervals should be requested from the laboratory prior to the sampling event. Sampling data to collect should include the time and pressure at the start of sampling.

12. Close the Summa canister valve with a minimal amount of vacuum remaining (approximately 6 psi). Note the time and final pressure. Conduct post sampling field readings.
13. Samples not collected during the winter months may need to be repeated.

Sub-slab Vapor Sample Collection

These samples are collected to characterize the nature and extent of soil vapor contamination immediately beneath a building with a basement foundation or slab-on-grade. These samples are collected after soil vapor characterization and/or other sampling (e.g., soil and groundwater characterization) indicate a need.

1. Sub-slab vapor samples should be collected in a central location away from foundation footings and from the soil or aggregate immediately below the basement slab or slab-on-grade. Prior to installation of the sub-slab probe, the building floor should be inspected and any penetrations (cracks, floor drains, utility perforations, sumps, etc.) should be noted and recorded. Probes should be installed at locations where the potential for ambient air infiltration via floor penetrations is minimal. When practical, sub-slab sampling will be conducted during the heating season for worst-case conditions. Samples not collected in the heating season may need to be repeated.
2. Sub-slab sampling points, when practical, will use Cox Colvin Vapor Pin ™ to assure good quality control and minimize all possible discrepancies. To ensure a proper seal leak tests are conducted involving readings from an oxygen meter and placement of a water dam around the Cox Colvin Vapor Pin ™ as shown in Figure 6 of the attached SOP for the installation and extraction of the Cox Colvin Vapor Pin ™. The following procedures are used in installing all permanent sub-slab monitoring points:

    a. Advance a boring into the sub-slab material using a rotary hammer drill, direct push or other methods. Depths of the installation vary depending on the application. Soil collection depth will be to 8 –to 10 feet below the surface, a minimum of 2 feet above a water table. If location is placed in a slab on-grade building, depth will be placed to 3 –to 5 feet below the ground surface.

    (Note: Soil vapor sampling probes using the Cox Colvin Vapor Pin ™ are constructed of a single piece of metal with inert tubing (e.g., polyethylene).)

    b. The vapor pin is installed using a silicone sleeve to form an airtight seal between the Vapor Pin ™ and the side of the hole. Permanent sampling points will be placed such that the sampling interval is adequately sealed off from both the casing air and external surface air. This is done using a sand pack (or native soil depending on the permeability) adjacent to the screen, with a layer of hydrated bentonite above the sand pack and finished with grout to the surface.
    c. The sample train is a simple sample “T” made of inert materials (Brass, Stainless Steel or Polyethylene). The “T” allows a connection to the sub surface, the summa can and a pre purging side with a Magnehelic Gauge. The “T” is also equipped with toggle switches for isolating the subsurface and the purging mechanism. The summa can is pre-equipped from the laboratory with a toggle switch.
    d. Prior to collecting the sample the installation should be allowed to sit for at least 30 –to 60 minutes and possibly 24 –hours if possible. Before sampling, a minimum of two volumes (the volume of the sample point and tube) must be purged with a graduated syringe or other device.

i. The simple "T" with three toggle switches will be tested as part of the leak check. After the test, all of the toggle switches will be closed. The Simple "T" has three connections. One is for the Summa can, one is for the subsurface sampling point with inert tubing and the third is for withdrawing stagnate air and monitoring vacuum.
ii. On the withdrawal side, connect either the graduated syringe or a squeeze bulb with a bead gauge valve.
iii. Open the toggle switches to the sampling line and the withdrawal line and remove at least two volumes (i.e., total volume of the sampling point, sampling train including the simple "T").
iv. Record the time and volume of stagnate air that was removed.
v. Close the toggle switch to the sample and withdrawal line.
vi. Connect the Magnehelic gauge to measure vacuum during sampling
vii. To begin sampling, open all three toggle switches.
viii. Record sampling information

e. If necessary, an in-line moisture trap should be installed to prevent moisture from entering the Summa canister.

   Note: During duplicate sampling a secondary simple "T" will be added to the sampling train, leak tested and added to the volume stagnate air removal.

f. Prior to collecting the sample, a minimum of two volumes (i.e., total volume of the sampling point and sampling train) must be purged. This can be accurately measured using a graduated syringe or using a squeeze bulb with a bead gauge. This purging is to ensure samples collected are representative of sub-surface vapors.
g. The connection to the subsurface should also be leak checked with laboratory provided deionized (DI) water. A water dam will be placed around the installation (such as a Cox-Colvin Vapor Pin). Approximately 40 ml of water will be placed directly into the connection of the vapor extraction devise and the surrounding media. If it is a flush mount installation a ball of plumber's putty or clay can bused used to form a dam. If the water level drops during purging or sampling then there is a leak. The sample should be discarded and the connection to the sub strait should be checked and re-sealed.
h. Collect a sample by attaching the top end of the tubing to a Summa canister instrumented with a vacuum gauge.
i. Open the Summa canister valve and monitor the vacuum gauge to check progress of canister filling for the same reasons as listed above.
j. Connect the inert tubing that was used to fill the Summa canister to a field instrument and record the measurement onto the chain of custody form (see Attachment 1) and sample log sheet. (When the MPCA provides a chain of custody form it will be adopted for use.)

Indoor Air Sample Collection

The method for indoor air sampling involves the collection and analysis. Indoor air samples are collected after subsurface vapor characterization and other environmental sampling (e.g., soil and groundwater characterization) indicate a need. The resulting air sample should be analyzed for the Minnesota Soil Gas list using EPA method TO-15 (full-scan) for the compounds in the Minnesota Soil Gas List (MPCA Vapor Intrusion Assessments Performed During Site Investigations Guidance

Document 4-01, Appendix A) and total hydrocarbons (THC). At a minimum, the following general guidelines should be followed when selecting buildings to sample for indoor air:

1. Buildings chosen where elevated concentrations of contaminants were measured in sub-slab vapor samples or from adjacent soil vapor probes.
2. Buildings chosen in which positive responses with field equipment (elevated photoionization detector [PID] readings) were obtained suggesting a completed migration pathway.
3. Buildings within, or in close proximity to, known or suspected areas of subsurface VOC releases that are used or occupied by sensitive population groups (e.g., daycare facilities, schools, nursing homes, etc.) should be given special consideration for sampling.

   Prior to collecting indoor samples, a pre-sampling indoor inspection should be performed to evaluate the physical layout and conditions of the building being investigated, to identify conditions that may affect or interfere with the proposed sampling, and to prepare the building for sampling by ensuring temporary mitigation of those conditions. This survey should be completed prior to sample collection so that cooperation can be requested from the building occupants in making alterations to building usage or their behaviors. This is required to provide adequate time for the reduction of potential background sources prior to sampling. All indoor air sampling results should be accompanied by a completed questionnaire as well as details of what modifications the occupants were requested to make and to what extent they complied with the request.
4. Typically, the MPCA guidelines recommend a minimum of two indoor air sampling rounds should be collected during differing seasonal conditions. For example, winter and spring/summer, with a winter round being mandatory. Certain conditions may warrant more frequent sampling and should be discussed with the MPCA or EPA. Samples should be collected over a 24-hour period, which requires the use of a special low-flow precision regulator. There may be sites where a grab sample is appropriate, but the MPCA or EPA should be consulted prior to collecting a grab sample.

Specific instructions for using the Summa canister and regulator and for collecting the sample are listed below. The Summa canister sample port should be placed in the breathing zone, approximately 3-5 feet from the floor. The sample will be collected from the center of the room. Samples will be collected from the lowest level of the structure (e.g., basement) near the suspected source of contamination and from the main floor and/or other commonly used spaces to assess worst-case exposures and the distribution of contaminants within the structure. Samples will be collected under conditions representative of the use of the structure, (i.e., doors open or closed depending on their typical condition and the heating system in use if winter). In summer months, windows should be closed in order to minimize the contribution of outside air. It is also useful to collect a sample directly from a point of suspected vapor entry such as a sump or other enclosed space to better define the potential route of entry and the maximum concentrations. An outdoor, ambient air sample will also be collected during the same time and using the same sampling method as the indoor air sample (see below). In general, 24-hour indoor air samples should be collected in the following manner:

1. Place a Summa canister in the appropriate sampling location.
2. A flow controller must be affixed to the Summa canister prior to sampling. The flow controller must be pre-set by the laboratory to collect the sample over an integrated period (24 hours).
3. An in-line moisture trap if necessary should be installed to prevent moisture from entering the Summa canister.
4. Note the initial vacuum gauge reading and monitor the vacuum gauge to check progress of Summa canister filling.

5. Open the valve on the Summa canister to begin sample collection.
6. After a set integrated time (24 hours) time has passed, close the valve on the canister and record the time on the Air Sampling Form and on the Chain-of-Custody.
7. Close the Summa canister valve with a minimal amount of vacuum remaining (approximately 6 psi). Note the time and final pressure. Conduct post sampling field readings.
8. The Summa canister(s) and flow controller(s) are then to be transported to the laboratory.
9. If the MCPA or EPA requires that a grab sample be collected, the same procedure should be followed without the use of a flow controller.

In addition, site-specific high-risk situations detected during the investigation may warrant collecting indoor air samples prior to characterizing subsurface soil gas clouds with or without concurrent sub-slab sampling due to a need to immediately examine inhalation hazards. Notification to the MPCA or EPA prior to initiating immediate indoor air sampling is required. Examples of such situations may include, but are not limited to, the following:

1. If high readings are obtained in a building when screening with field equipment (e.g., an organic vapor meter, or an explosimeter) and the source is unknown.
2. If soil or groundwater beneath the building is contaminated, the building is prone to groundwater intrusion or flooding (e.g., sump pit overflows), and subsurface vapor sampling is not feasible.
3. Residents complain of being able to frequently smell petroleum vapors but field instruments do not show any detects.

Outdoor (Ambient) Air Sample Collection

Outdoor (ambient) air samples are collected to characterize site-specific background conditions. These samples should be collected simultaneously with indoor air samples and be collected in the same manner as the indoor samples (see above). Samples should be collected over a 24-hour period, which requires the use of a special low-flow precision regulator. Outdoor air sampling results are primarily used when evaluating the extent to which outdoor sources may be influencing indoor air quality to clearly distinguish any vapor intrusion from the subsurface from other sources.

Outdoor air samples will be collected from a representative upwind location, away from wind obstructions (e.g., trees or buildings), and at a height above the ground to represent breathing zones (3 to 5 feet). A representative sample is one that is not biased toward obvious sources of VOCs (e.g., automobiles, lawn mowers, oil storage tanks, gasoline stations, industrial facilities, etc.). The following actions will be taken to document conditions during outdoor air sampling and ultimately to aid in the interpretation of the sampling results:

1. Outdoor plot sketches will be drawn that include the building site, area streets, outdoor air sample locations (if applicable), location of potential interferences (e.g., gasoline stations, factories, lawn movers, etc.), and compass orientation (north).
2. Weather conditions (e.g., precipitation, indoor and outdoor temperature, barometric pressure) and ventilation conditions (e.g., heating system active and windows closed) will be reported.
3. Any pertinent observations such as odors, field instrument readings, and significant activities in the vicinity (e.g., operation of heavy equipment or dry cleaners) will be recorded.

Health and Safety

When working with potentially hazardous materials, follow EPA, MPCA, Occupational Safety & Health Administration (OSHA) and project-specific health and safety procedures. All field sampling staff is required to take the 40-hour health and safety training course and regular refresher courses.

General Field Quality Assurance/Quality Control (QA/QC)

Take extreme care during all aspects of sample collection to ensure sampling error is minimized and high quality data are obtained. Sampling team members should avoid actions (e.g., fueling vehicles, using permanent marking pens, and wearing freshly dry-cleaned clothing or fragrances) which can cause sample interference in the field. Appropriate QA/QC protocols must be followed for sample collection and laboratory analysis, such as use of certified clean sample devices, meeting sample holding times and temperatures, chain of custody, etc. (when the MPCA provides a chain of custody form it will be adopted for use). Samples should be delivered to the analytical laboratory as soon as possible after collection. Laboratory procedures must be followed for field documentation (sample collection information/locations), chain of custody, field blanks, field sample duplicates and laboratory duplicates, as appropriate. The field sampling personnel must maintain a sample log sheet summarizing the following:

- Sample identification,
- Sample location,
- Date and time of sample collection,
- Sampling depth (soil vapor or sub-slab),
- Sampling height (indoor or outdoor),
- Identity of samplers,
- Sampling methods and devices,
- Purge volumes and devices used,
- Vacuum (pressure) of the Summa canister which will be recorded on the chain of custody and sampling forms,
- Apparent moisture content (dry, moist, saturated, etc.) of the sampling zone,
- Type of soil present in the sampling zone (e.g., clay, sand, gravel, etc.), and
- Chain of custody records to track samples from sampling point to analysis (when the MPCA provides a chain of custody form it will be adopted for use).

Laboratory Quality Assurance/Quality Control for Air Sample Analysis

Each laboratory analyzing samples by EPA method TO-15 shall follow the method as defined by the EPA in the EPA/625/R-96/010b dated January 1999 or updates.

1. The laboratory shall supply the following data with each report:

   a) All results from analysis of the method blank should be less than the reporting limits. If concentrations are reported above the reporting limits, the laboratory will document this occurrence within the narrative and flag any concentration reported above the reporting limit for this compound up to five times the level measured in the blank. Method blanks shall be run every 20 samples or once per day, whichever is more frequent.
   b) The laboratory will report the percent recoveries from all analytes spiked into the Laboratory Control Sample (LCS). One LCS will be run within each 24-hour period of EPA method TO-15 samples analyzed.

c) The narrative of the laboratory report will define if the initial calibration curve, continuing calibration check sample (when appropriate), and internal quality assurance (such as internal standards, blanks, etc.) met the method requirements for each report.
d) The chromatogram for each analysis will be submitted with the data and have the detected compounds clearly labeled on the chromatogram.
e) The laboratory shall report all compounds in units of micrograms per cubic meter ($\mu g/m^3$).
f) The laboratory report must contain the following information: Coversheet with signature of a laboratory supervisor or designee, a narrative stating if all method quality control was met, chain of custody form, tables containing the VOCs, CAS number of each reported compound, measured concentration in $\mu g/m^3$, reporting limit, date of analysis, labeled sample chromatograms, method blank data for the batch, and a summary of applicable quality control.
g) The laboratory will report THC as either gasoline or fuel oil when found within a sample. Pattern recognition and quantitation of THC will be done per the professional opinion of the laboratory organic chemist performing the analysis. If random peaks are noted on the chromatograms with no discernable pattern, the laboratory shall state this on the report and subsequently not report THC as either gas or fuel oil. Refer to item nine below for additional details of THC analysis.

2) The laboratory is required to maintain the data for a minimum of ten years with the ability to reconstruct the data either via a computer or paper.
3) Laboratories must verify their reporting limits by running a standard at the reporting limit once every month. The recovery of the reporting limit shall be 40% of the true value.
4) Laboratories shall verify their calibration curve a minimum of every 24 hours. The 24 hour clock will begin at the injection of bromofluorobenzene for tuning the instrument. The calibration verification standard must be at the midpoint (or lower) of the calibration curve. The standard must meet EPA method TO-15 or laboratory generated limits for the compounds of interest target compounds (as identified in Guidance Document c-prp4-01a: April 2005 MPCA Petroleum Remediation Program.

Data Records and Management

All data and information (e.g., sample collection method used) must be documented on field data sheets or within the logbooks with permanent ink.

This SOP was prepared by:

Name: Eric Gabrielson

Signature: 
Title: Field Manager

This SOP was reviewed by:

Name: Jason Skramstad

Signature: 
Title: Project Manager

This SOP was approved by:

Name: Ken Haberman

Signature: 
Title: Quality Assurance Manager

Appendix B
Photo Log

Photo Log – Phase I Environmental Site Assessment – Soo Line Community Garden - 12/21/2023
2845 Garfield Avenue, Minneapolis, MN 55048

Landmark Environmental, LLC

View of LGP-1 investigation location

Soil core from LGP-1 from 0-ft. bgs

Soil core from LGP-1 from 4-8 ft. bgs

View of LGP-4 investigation location

Rock in sampler cutting shoe, refusal at LGP-4

Soil core from LGP-5

Soil core from LGP-6

View of LGP-6 investigation location

Appendix C
Boring Logs and Field Notes

PROJECT NAME: **Soo Line Community Garden**

CLIENT: **Hennepin County**

Boring Log: LGP-1

PROJECT LOCATION: **2845 Garfield Ave, Minneapolis MN**

DATUM: **~877' AMSL (MN DNR - MnTOPO - LiDAR derived 2007-2012)**

DRILLING CONTRACTOR: **R&B Environmental Drilling, LLC.**	DATE STARTED: **12/21/2023**	DATE FINISHED: **12/21/2023**
DRILLING METHOD: **Geoprobe**	TOTAL DEPTH (FT.): **8**	MEASURING POINT: **Ground Surface**
SAMPLING EQUIPMENT: **2" core diameter, 4' foot sample sleeve**	DEPTH GROUNDWATER FIRST ENCOUNTERED (FT.): **NA**	DEPTH TO GROUNDWATER AT WELL COMPLETION (FT.): **NA**
NUMBER OF SAMPLES: **2**	DEPTH TO GROUNDWATER POST-PURGE (FT.): **NA**	DEPTH TO GROUNDWATER POST-SAMPLING (FT.): **NA**
WELL SCREEN LENGTH, MATERIAL, & SLOT SIZE: **NA**	LOGGED BY: **Tristin L. Faust**	NUMBER OF ANALYTICAL SAMPLES: **2**

DEPTH (FT.)	SAMPLE INFORMATION: SAMPLE NUMBER (% RECOVERY)	SAMPLE INFORMATION: SWL(ft.) AND WELL DETAILS	SOIL (USCS) or ROCK (USGS) CLASSIFICATION	USCS SOIL SYMBOL or USGS ROCK SYMBOL	MUNSELL COLOR	MATERIAL DESCRIPTION	FIELD SCREENING: DEPTH (FT.)	FIELD SCREENING: PID (PPM)	LABORATORY TESTS: ANALYTICAL SAMPLE REMARKS
0						Silty Sand (SM), (medium dense), brown (7.5YR 4/2), trace brick fragments, little gravel, mostly dry. (Non-native, Quaternary Fill)	0		
1			SM				1	0.2	-Soil sample LGP-1/0-2' submitted for laboratory analysis of PAHs, RCRA Metals, VOCs, GRO, and DRO (0930).
2	1 (100)					Sand (SP), (medium dense), light brown (7.5YR 6/4), medium subrounded/subangular grains, few gravel, mostly dry. (Non-native, Quaternary Fill)	2		
3							3	0.1	
4						Same as above, but medium-coarse subrounded/subangular grains.	4		
5			SP				5	0.1	-Soil sample LGP-1/4-6' submitted for laboratory analysis of PAHs, RCRA Metals, VOCs, GRO, and DRO (0940).
6	2 (95)						6		
7							7	0	
8						End of Boring 8' bgs	8		

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PROJECT NAME: **Soo Line Community Garden**

CLIENT: **Hennepin County**

Boring Log: LGP-2

PROJECT LOCATION: **2845 Garfield Ave, Minneapolis MN**

DATUM: **~874.5' AMSL (MN DNR - MnTOPO - LiDAR derived 2007-2012)**

DRILLING CONTRACTOR: **R&B Environmental Drilling, LLC.**

DATE STARTED: **12/21/2023**

DATE FINISHED: **12/21/2023**

DRILLING METHOD: **Geoprobe**

TOTAL DEPTH (FT.): **3**

MEASURING POINT: **Ground Surface**

SAMPLING EQUIPMENT: **2" core diameter, 4' foot sample sleeve**

DEPTH GROUNDWATER FIRST ENCOUNTERED (FT.): **NA**

DEPTH TO GROUNDWATER AT WELL COMPLETION (FT.): **NA**

NUMBER OF SAMPLES: **2**

DEPTH TO GROUNDWATER POST-PURGE (FT.): **NA**

DEPTH TO GROUNDWATER POST-SAMPLING (FT.): **NA**

WELL SCREEN LENGTH, MATERIAL, & SLOT SIZE: **NA**

LOGGED BY: **Tristin L. Faust**

NUMBER OF ANALYTICAL SAMPLES: **2**

DEPTH (FT.)	SAMPLE INFORMATION: SAMPLE NUMBER (% RECOVERY)	SAMPLE INFORMATION: SWL(ft.) AND WELL DETAILS	SAMPLE INFORMATION: SOIL (USCS) or ROCK (USGS) CLASSIFICATION	SAMPLE INFORMATION: USCS SOIL SYMBOL or USGS ROCK SYMBOL	SAMPLE INFORMATION: MUNSELL COLOR	MATERIAL DESCRIPTION	FIELD SCREENING: DEPTH (FT.)	FIELD SCREENING: PID (PPM)	LABORATORY TESTS: ANALYTICAL SAMPLE REMARKS
0							0		
1	1 (95)		SM			Silty Sand (SM), (medium dense), dark brown (7.5YR 3/2), few gravel, small grains, trace rock fragments, mostly dry. (Non-native, Quaternary Fill)	1	0.3	-Soil sample LGP-2/0-2' submitted for laboratory analysis of PAHs, RCRA Metals, VOCs, GRO, and DRO (1035).
2			SP			Sand (SP), (medium dense), light brown (7.5YR 6/4), some gravel, small subrounded/subangular grains, silty, mostly dry. (Non-native, Quaternary Fill)	2	0.3	-Soil sample LGP-2/2-3' submitted for laboratory HOLD for PAHs, RCRA Metals, VOCs, GRO, and DRO (1040).
3						End of Boring 3' bgs	3		

PROJECT NAME: **Soo Line Community Garden**

CLIENT: **Hennepin County**

Boring Log: LGP-3

PROJECT LOCATION: **2845 Garfield Ave, Minneapolis MN**

DATUM: **~870' AMSL (MN DNR - MnTOPO - LiDAR derived 2007-2012)**

DRILLING CONTRACTOR: **R&B Environmental Drilling, LLC.**	DATE STARTED: **12/21/2023**	DATE FINISHED: **12/21/2023**
DRILLING METHOD: **Geoprobe**	TOTAL DEPTH (FT.): **8**	MEASURING POINT: **Ground Surface**
SAMPLING EQUIPMENT: **2" core diameter, 4' foot sample sleeve**	DEPTH GROUNDWATER FIRST ENCOUNTERED (FT.): **NA**	DEPTH TO GROUNDWATER AT WELL COMPLETION (FT.): **NA**
NUMBER OF SAMPLES: **2**	DEPTH TO GROUNDWATER POST-PURGE (FT.): **NA**	DEPTH TO GROUNDWATER POST-SAMPLING (FT.): **NA**
WELL SCREEN LENGTH, MATERIAL, & SLOT SIZE: **NA**	LOGGED BY: **Tristin L. Faust**	NUMBER OF ANALYTICAL SAMPLES: **2**

DEPTH (FT.)	SAMPLE INFORMATION: SAMPLE NUMBER (% RECOVERY)	SAMPLE INFORMATION: SWL(ft.) AND WELL DETAILS	SAMPLE INFORMATION: SOIL (USCS) or ROCK (USGS) CLASSIFICATION	SAMPLE INFORMATION: USCS SOIL SYMBOL or USGS ROCK SYMBOL	SAMPLE INFORMATION: MUNSELL COLOR	MATERIAL DESCRIPTION	FIELD SCREENING: DEPTH (FT.)	FIELD SCREENING: PID (PPM)	LABORATORY TESTS: ANALYTICAL SAMPLE REMARKS
0			SM			Silty Sand (SM), (medium dense), dark brown (7.5YR 3/2), medium grained, mostly dry. (Non-native, Quaternary Fill)	0		
1			SW			Sand (SW), (medium dense), light brown (7.5YR 6/4), well graded, little gravel, subangular grains, few rock fragments, mostly dry. (Non-native, Quaternary Fill)	1	0.3	-Soil sample LGP-3/0-2' submitted for laboratory analysis of PAHs, RCRA Metals, VOCs, GRO, and DRO (1100).
2	1 (95)						2	0.2	
3							3		
4							4		
5							5	0.3	-Soil sample LGP-3/4-6' submitted for laboratory analysis of PAHs, RCRA Metals, VOCs, GRO, and DRO (1110).
6	2 (95)		SP			Sand (SP), fine grained, (medium dense), light brown (7.5YR 6/4), few gravel, small subrounded grains, silty, mostly dry. (Non-native, Quaternary Fill)	6		
7							7	0.2	
8						End of Boring 8' bgs	8		

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PROJECT NAME: **Soo Line Community Garden**

CLIENT: **Hennepin County**

Boring Log: LGP-4

PROJECT LOCATION: **2845 Garfield Ave, Minneapolis MN**

DATUM: **~862.5' AMSL (MN DNR - MnTOPO - LiDAR derived 2007-2012)**

DRILLING CONTRACTOR: **R&B Environmental Drilling, LLC.**	DATE STARTED: **12/21/2023**	DATE FINISHED: **12/21/2023**
DRILLING METHOD: **Geoprobe**	TOTAL DEPTH (FT.): **3.5**	MEASURING POINT: **Ground Surface**
SAMPLING EQUIPMENT: **2" core diameter, 4' foot sample sleeve**	DEPTH GROUNDWATER FIRST ENCOUNTERED (FT.): **NA**	DEPTH TO GROUNDWATER AT WELL COMPLETION (FT.): **NA**
NUMBER OF SAMPLES: **2**	DEPTH TO GROUNDWATER POST-PURGE (FT.): **NA**	DEPTH TO GROUNDWATER POST-SAMPLING (FT.): **NA**
WELL SCREEN LENGTH, MATERIAL, & SLOT SIZE: **NA**	LOGGED BY: **Tristin L. Faust**	NUMBER OF ANALYTICAL SAMPLES: **2**

DEPTH (FT.)	SAMPLE INFORMATION: SAMPLE NUMBER (% RECOVERY)	SAMPLE INFORMATION: SWL(ft.) AND WELL DETAILS	SAMPLE INFORMATION: SOIL (USCS) or ROCK (USGS) CLASSIFICATION	SAMPLE INFORMATION: USCS SOIL SYMBOL or USGS ROCK SYMBOL	SAMPLE INFORMATION: MUNSELL COLOR	MATERIAL DESCRIPTION	FIELD SCREENING: DEPTH (FT.)	FIELD SCREENING: PID (PPM)	LABORATORY TESTS: ANALYTICAL SAMPLE REMARKS
0						Silty Sand (SM), (medium dense), dark brown (7.5YR 3/2), medium grained, mostly dry. (Non-native, Quaternary Fill)	0		
1	1 (95)		SP				1	0.3	-Soil sample LGP-4/0-2' submitted for laboratory analysis of PAHs, RCRA Metals, VOCs, GRO, and DRO (1130).
2			SM			Silty Sand (SM), (medium dense), light brownish gray (10YR 6/2), coarse to fine grained sand, silty, damp to wet. (Non-native, Quaternary Fill)	2	0.4	-Soil sample LGP-4/2-3.5' submitted for laboratory HOLD for PAHs, RCRA Metals, VOCs, GRO, and DRO (1135).
3						End of Boring 3.5' bgs	3		

PROJECT NAME: Soo Line Community Garden	**Boring Log: LGP-5**
CLIENT: Hennepin County	
PROJECT LOCATION: 2845 Garfield Ave, Minneapolis MN	DATUM: ~877.5' AMSL (MN DNR - MnTOPO - LiDAR derived 2007-2012)
DRILLING CONTRACTOR: R&B Environmental Drilling, LLC & Landmark	DATE STARTED: 12/21/2023 / DATE FINISHED: 12/21/2023
DRILLING METHOD: Geoprobe	TOTAL DEPTH (FT.): 3.5 / MEASURING POINT: Ground Surface
SAMPLING EQUIPMENT: 1" core diameter, 2' foot sample sleeve	DEPTH GROUNDWATER FIRST ENCOUNTERED (FT.): NA / DEPTH TO GROUNDWATER AT WELL COMPLETION (FT.): NA
NUMBER OF SAMPLES: 2	DEPTH TO GROUNDWATER POST-PURGE (FT.): NA / DEPTH TO GROUNDWATER POST-SAMPLING (FT.): NA
WELL SCREEN LENGTH, MATERIAL, & SLOT SIZE: NA	LOGGED BY: Tristin L. Faust / NUMBER OF ANALYTICAL SAMPLES: 2

DEPTH (FT.)	SAMPLE INFORMATION: SAMPLE NUMBER (% RECOVERY)	SAMPLE INFORMATION: SWL(ft.) AND WELL DETAILS	SAMPLE INFORMATION: SOIL (USCS) or ROCK (USGS) CLASSIFICATION	SAMPLE INFORMATION: USCS SOIL SYMBOL or USGS ROCK SYMBOL	SAMPLE INFORMATION: MUNSELL COLOR	MATERIAL DESCRIPTION	FIELD SCREENING: DEPTH (FT.)	FIELD SCREENING: PID (PPM)	LABORATORY TESTS: ANALYTICAL SAMPLE REMARKS
0			SM			Silty Sand (SM), (medium dense to loose), dark brown (7.5YR 3/2), mostly dry. (Non-native, Quaternary Fill)	0		
1	1 (100)					Sand (SP), medium grained, (medium dense), brown (7.5YR 5/3), few rock and concrete fragments, few gravel, small subrounded grains, mostly dry. (Non-native, Quaternary Fill)	1	0.5	-Soil sample LGP-5/0-2' submitted for laboratory analysis of PAHs, RCRA Metals, VOCs, GRO, and DRO (1240).
2			SP				2		
3	2 (95)					End of Boring 3.5' bgs	3	0.3	

PROJECT NAME: **Soo Line Community Garden**

CLIENT: **Hennepin County**

Boring Log: LGP-6

PROJECT LOCATION: **2845 Garfield Ave, Minneapolis MN**

DATUM: **~878' AMSL (MN DNR - MnTOPO - LiDAR derived 2007-2012)**

DRILLING CONTRACTOR: **R&B Environmental Drilling, LLC & Landmark**

DATE STARTED: **12/21/2023**

DATE FINISHED: **12/21/2023**

DRILLING METHOD: **Geoprobe**

TOTAL DEPTH (FT.): **4**

MEASURING POINT: **Ground Surface**

SAMPLING EQUIPMENT: **1" core diameter, 2' foot sample sleeve**

DEPTH GROUNDWATER FIRST ENCOUNTERED (FT.): **NA**

DEPTH TO GROUNDWATER AT WELL COMPLETION (FT.): **NA**

NUMBER OF SAMPLES: **2**

DEPTH TO GROUNDWATER POST-PURGE (FT.): **NA**

DEPTH TO GROUNDWATER POST-SAMPLING (FT.): **NA**

WELL SCREEN LENGTH, MATERIAL, & SLOT SIZE: **NA**

LOGGED BY: **Tristin L. Faust**

NUMBER OF ANALYTICAL SAMPLES: **2**

DEPTH (FT.)	SAMPLE INFORMATION: SAMPLE NUMBER (% RECOVERY)	SAMPLE INFORMATION: SWL(ft.) AND WELL DETAILS	SAMPLE INFORMATION: SOIL (USCS) or ROCK (USGS) CLASSIFICATION	SAMPLE INFORMATION: USCS SOIL SYMBOL or USGS ROCK SYMBOL	SAMPLE INFORMATION: MUNSELL COLOR	MATERIAL DESCRIPTION	FIELD SCREENING: DEPTH (FT.)	FIELD SCREENING: PID (PPM)	LABORATORY TESTS: ANALYTICAL SAMPLE REMARKS
0						Silty Sand (SM), (medium dense), dark brown (7.5YR 3/2), little gravel, small subrounded grains, mostly dry. (Non-native, Quaternary Fill)	0		-Soil sample LGP-6/0-2' submitted for laboratory analysis of PAHs, RCRA Metals, VOCs, GRO, and DRO (1300).
1	1 (100)		SM				1	0.1	
2						Sand (SP), medium grained, (medium dense), brown (7.5YR 4/4), few gravel, small subrounded grains, mostly dry. (Non-native, Quaternary Fill)	2		
3	2 (95)		SP				3	0.1	
4						End of Boring 4' bgs	4		

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Field Report

Project: Hennepin County - Soo Line Community Garden **Date:** 12/21/2023

Reported by: TLF **Time Onsite:** 7:45 - 14:~~00~~05

Weather Conditions: 29-39°F, 9-15mph SE, 79% hum., 33°F dwpt, 30.20 in Hg ↓, cloudy

Landmark Activity: ☐Excavation Oversight ☒Sampling ☐Dewatering ☐Other _____

Contractor, Activity & Location: R:B Environmental LLC Profiling

Excavation Oversight: Yes ☐ No ☐ Not Applicable ☒

Excavation Area (Purpose): _____

☐Hauled &Disposed	☐Stockpiled	☐Reused On-site	☐Reuse Off-site
Loads:	Loads:	Loads:	Loads:
CY(est):	CY(est):	CY(est):	CY(est):
Location:	Location:	Location:	Location:
GPS ID:	GPS ID:	GPS ID:	GPS ID:

Air Monitoring: Yes ☒ No ☐ If Yes, see attached sampling form ☐

PID: Ambient Outdoor Air = 0.0 - 0.2 ppm

Dewatering: Yes ☐ No ☐ Not Applicable ☐

Groundwater ☐ Stormwater ☐ Other _____

Purpose: _____ Discharge Location: _____

Analytical Samples: Yes ☒ No ☐ By other ☐

Sent to: Pace ☐ Legend ☐ Eurofins TestAmerica ☒ Other _____

Matrix	Sample ID	Rationale	Location	Time	Analysis (Rush ☒)
Soil	L6P-1 thru L6P-6	scheduled	see map	varies	DRO, GRO, VOCs ☐
					RCRA metals, PAHs ☐
					☐
					☐
					☐

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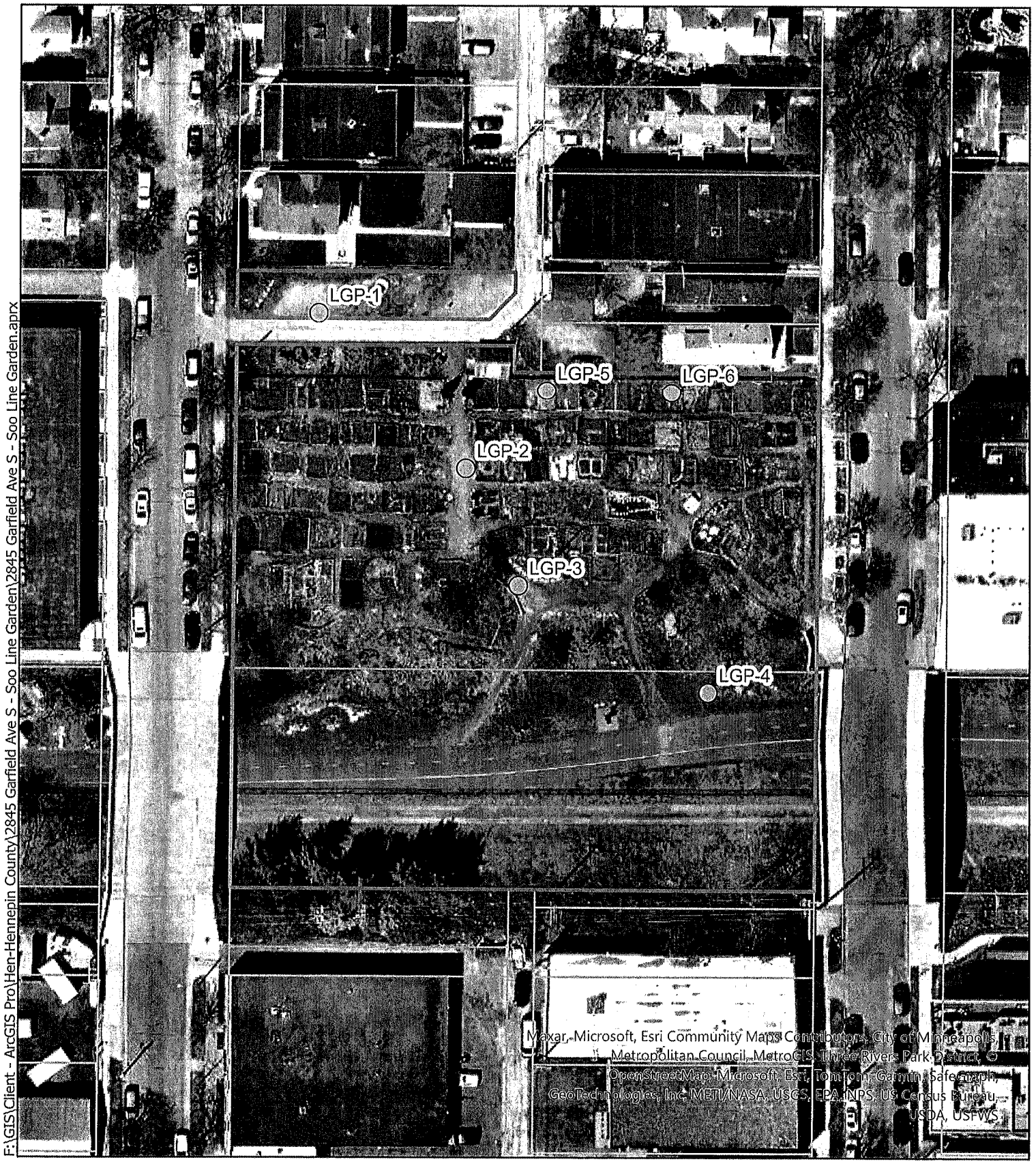
Notes: Load equipment and travel to the site, arrive at 745, meet with Jake (R:B) and Mike Torres (Hen City) and mark locations in real space ahead of Private Underground (Tim) clearing boring locations of utilities (water line). Complete boring locations LBP-1 thru LBP-4 with R:B geoprobe, and LBP-5 : LBP-6 with manual slide hammer geoprobe advanced by Landmark with R:B assistance. Package samples, load up equipment, take phase I site photos and leave site at 1405, fedex with samples to Eurofins (2)

Sketch:

See attached map

Photos: photo logs attached.



Legend

- Property Boundary
- Hennepin County Parcels
- Investigation Locations

N

0 30 60 120 Feet

1 inch = 60 feet

FIGURE 2

PROPERTY LAYOUT MAP WITH INVESTIGATION LOCATIONS
2845 Garfield Avenue South
Minneapolis, Minnesota

Appendix D
Eurofins Analytical Laboratory Report

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Shannen Hahnen
Landmark Environmental, LLC
9555 James Avenue South
Suite 262
Minneapolis, Minnesota 55431

Generated 1/15/2024 3:24:00 PM Revision 1

JOB DESCRIPTION

Soo Line CG

JOB NUMBER

310-272141-1

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization

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Authorized for release by
Zach Bindert, Client Service Manager
Zach.Bindert@et.eurofinsus.com
(319)277-2401

Table of Contents

Job Narrative
310-272141-1

REVISION

The report being provided is a revision of the original report sent on 1/15/2024. The report (revision 1) is being revised due to This report was revised 1/15/2024. Project name updated to “Soo Line CG”.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/22/2023 2:03 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.7°C and 3.5°C

GC/MS VOA
Method 8260D: The method blank for preparation batch 310-410199 contained Hexachlorobutadiene above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 310-410199 and analytical batch 310-410366 recovered outside control limits for the following analytes: 1,2,4-Trichlorobenzene and 1,3-Dichlorobenzene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC/MS Semi VOA
Method 8270E_SIM: Due to the matrix, the initial volume(s) used for the following samples deviated from the standard procedure: LGP-1/0-2' (310-272141-1), LGP-1/4-6' (310-272141-2), LGP-2/0-2' (310-272141-3), LGP-3/0-2' (310-272141-5), LGP-3/4-6' (310-272141-6), LGP-4/0-2' (310-272141-7), LGP-5/0-2' (310-272141-9), LGP-6/0-2' (310-272141-10), (310-272141-B-1 MS) and (310-272141-B-1 MSD). The reporting limits (RLs) have been adjusted proportionately.

Method 8270E_SIM: Due to the matrix, the initial volume(s) used for the following samples deviated from the standard procedure: LGP-1/0-2' (310-272141-1), LGP-1/4-6' (310-272141-2), LGP-2/0-2' (310-272141-3), LGP-3/0-2' (310-272141-5), LGP-3/4-6' (310-272141-6), LGP-4/0-2' (310-272141-7), LGP-5/0-2' (310-272141-9), LGP-6/0-2' (310-272141-10), (310-272141-B-1 MS) and (310-272141-B-1 MSD). The reporting limits (RLs) have been adjusted proportionately.

Method 8270E_SIM: The following samples were re-prepared outside of preparation holding time due to needing to be re-prepared: LGP-1/0-2' (310-272141-1), LGP-1/4-6' (310-272141-2), LGP-2/0-2' (310-272141-3), LGP-3/0-2' (310-272141-5), LGP-3/4-6' (310-272141-6), LGP-4/0-2' (310-272141-7), LGP-5/0-2' (310-272141-9), LGP-6/0-2' (310-272141-10), (310-272141-B-1 MS) and (310-272141-B-1 MSD).

Method 8270E_SIM: Surrogate recovery for the following samples were outside control limits: LGP-2/0-2' (310-272141-3), LGP-3/0-2' (310-272141-5), LGP-3/4-6' (310-272141-6) and LGP-5/0-2' (310-272141-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8270E_SIM: The following samples were diluted due to the nature of the sample matrix: LGP-1/0-2' (310-272141-1), LGP-1/4-6' (310-272141-2), LGP-2/0-2' (310-272141-3), LGP-3/0-2' (310-272141-5), LGP-3/4-6' (310-272141-6), LGP-4/0-2' (310-272141-7), LGP-5/0-2' (310-272141-9), LGP-6/0-2' (310-272141-10), (310-272141-B-1-H MS) and (310-272141-B-1-I MSD).

Job ID: 310-272141-1 (Continued) — Eurofins Cedar Falls

Elevated reporting limits (RLs) are provided.

Method 8270E_SIM: The following samples were diluted due to the nature of the sample matrix: LGP-1/0-2' (310-272141-1), LGP-2/0-2' (310-272141-3), LGP-3/0-2' (310-272141-5), LGP-3/4-6' (310-272141-6), LGP-4/0-2' (310-272141-7), LGP-5/0-2' (310-272141-9), LGP-6/0-2' (310-272141-10), (310-272141-B-1-D MS) and (310-272141-B-1-E MSD). Elevated reporting limits (RLs) are provided.

Method 8270E_SIM: Internal standard (ISTD) response for the following samples were outside of acceptance limits: LGP-1/0-2' (310-272141-1), LGP-6/0-2' (310-272141-10) and (MB 310-410378/1-A). The ISTD failed low causing the data to be biased high. The affected analytes were non-detects therefore the data has been reported.

Method 8270E_SIM: The laboratory control sample (LCS) for preparation batch 310-410378 and analytical batch 310-410711 recovered outside control limits for the following analytes: Multiple analytes. The associated sample(s) was re-prepared and re-analyzed outside holding time.

Method 8270E_SIM: Surrogate recovery for the following samples were outside control limits: LGP-1/4-6' (310-272141-2), LGP-2/0-2' (310-272141-3), LGP-3/0-2' (310-272141-5), LGP-3/4-6' (310-272141-6), LGP-4/0-2' (310-272141-7) and LGP-5/0-2' (310-272141-9). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8270E_SIM: The following samples were diluted due to the nature of the sample matrix: LGP-1/4-6' (310-272141-2), LGP-2/0-2' (310-272141-3), LGP-3/0-2' (310-272141-5), LGP-3/4-6' (310-272141-6), LGP-4/0-2' (310-272141-7) and LGP-5/0-2' (310-272141-9). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Gasoline Range Organics
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Diesel Range Organics
Method WI_DRO: Significant peaks, readily distinguished from background, were detected in the following samples within five minutes after the end of the analytical window defined by the last component eluting in the Diesel Range Organics (DRO) mix (i.e., n-Octacosane): LGP-1/0-2' (310-272141-1), LGP-2/0-2' (310-272141-3) and LGP-6/0-2' (310-272141-10).

Method WI_DRO: Significant peaks, readily distinguished from background, were detected in the following samples within five minutes after the end of the analytical window defined by the last component eluting in the Diesel Range Organics (DRO) mix (i.e., n-Octacosane): LGP-3/0-2' (310-272141-5), LGP-3/4-6' (310-272141-6), LGP-4/0-2' (310-272141-7) and LGP-5/0-2' (310-272141-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-272141-1	LGP-1/0-2'	Solid	12/21/23 09:30	12/22/23 14:03
310-272141-2	LGP-1/4-6'	Solid	12/21/23 09:40	12/22/23 14:03
310-272141-3	LGP-2/0-2'	Solid	12/21/23 10:35	12/22/23 14:03
310-272141-5	LGP-3/0-2'	Solid	12/21/23 11:00	12/22/23 14:03
310-272141-6	LGP-3/4-6'	Solid	12/21/23 11:10	12/22/23 14:03
310-272141-7	LGP-4/0-2'	Solid	12/21/23 11:30	12/22/23 14:03
310-272141-9	LGP-5/0-2'	Solid	12/21/23 12:40	12/22/23 14:03
310-272141-10	LGP-6/0-2'	Solid	12/21/23 13:00	12/22/23 14:03

Detection Summary

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-1/0-2' — Lab Sample ID: 310-272141-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoranthene	0.0952	F1 *+	0.0851		mg/Kg	5	☼	8270E SIM	Total/NA
Pyrene	0.0935	F1	0.0851		mg/Kg	5	☼	8270E SIM	Total/NA
Diesel Range Organics (DRO)	5.27		3.23		mg/Kg	1	☼	WI-DRO	Total/NA
Arsenic	5.67	F1	0.883		mg/Kg	5	☼	6020B	Total/NA
Barium	126	F1	0.883		mg/Kg	5	☼	6020B	Total/NA
Chromium	15.7	F1	1.32		mg/Kg	5	☼	6020B	Total/NA
Lead	9.18	F1	2.21		mg/Kg	5	☼	6020B	Total/NA
Mercury	0.0294		0.0197		mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: LGP-1/4-6' — Lab Sample ID: 310-272141-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.30		0.830		mg/Kg	5	☼	6020B	Total/NA
Barium	28.5		0.830		mg/Kg	5	☼	6020B	Total/NA
Chromium	7.55		1.25		mg/Kg	5	☼	6020B	Total/NA
Lead	2.36		2.08		mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: LGP-2/0-2' — Lab Sample ID: 310-272141-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	1.18		0.873		mg/Kg	50	☼	8270E SIM	Total/NA
Benzo(a)anthracene	3.13		0.0873		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(a)pyrene	2.72	*+	0.0873		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(b)fluoranthene	3.01	*+	0.0873		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(g,h,i)perylene	1.37	*+	0.0873		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(k)fluoranthene	1.23	*+	0.0873		mg/Kg	5	☼	8270E SIM	Total/NA
Chrysene	3.17	*+	0.0873		mg/Kg	5	☼	8270E SIM	Total/NA
Dibenz(a,h)anthracene	0.386	*+	0.0873		mg/Kg	5	☼	8270E SIM	Total/NA
Fluoranthene	8.76	*+	0.873		mg/Kg	50	☼	8270E SIM	Total/NA
Indeno(1,2,3-cd)pyrene	1.88	*+	0.0873		mg/Kg	5	☼	8270E SIM	Total/NA
Phenanthrene	5.46	*+	0.873		mg/Kg	50	☼	8270E SIM	Total/NA
Pyrene	7.00		0.873		mg/Kg	50	☼	8270E SIM	Total/NA
Diesel Range Organics (DRO)	69.1		4.36		mg/Kg	1	☼	WI-DRO	Total/NA
Arsenic	5.03		0.896		mg/Kg	5	☼	6020B	Total/NA
Barium	101		0.896		mg/Kg	5	☼	6020B	Total/NA
Chromium	11.1		1.34		mg/Kg	5	☼	6020B	Total/NA
Lead	34.6		2.24		mg/Kg	5	☼	6020B	Total/NA
Mercury	0.0591		0.0197		mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: LGP-3/0-2' — Lab Sample ID: 310-272141-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	1.22	*+	0.817		mg/Kg	50	☼	8270E SIM	Total/NA
Anthracene	3.79		0.817		mg/Kg	50	☼	8270E SIM	Total/NA
Benzo(a)anthracene	13.0		0.817		mg/Kg	50	☼	8270E SIM	Total/NA
Benzo(a)pyrene	11.9	*+	0.817		mg/Kg	50	☼	8270E SIM	Total/NA
Benzo(b)fluoranthene	12.7	*+	0.817		mg/Kg	50	☼	8270E SIM	Total/NA
Benzo(g,h,i)perylene	5.36	*+	0.0817		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(k)fluoranthene	3.86	*+	0.0817		mg/Kg	5	☼	8270E SIM	Total/NA
Chrysene	12.8	*+	0.817		mg/Kg	50	☼	8270E SIM	Total/NA
Dibenz(a,h)anthracene	1.51	*+	0.0817		mg/Kg	5	☼	8270E SIM	Total/NA
Fluoranthene	29.7	*+	0.817		mg/Kg	50	☼	8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: LGP-3/0-2' (Continued) — Lab Sample ID: 310-272141-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluorene	1.08	*+	0.817		mg/Kg	50	☼	8270E SIM	Total/NA
Indeno(1,2,3-cd)pyrene	8.21	*+	0.817		mg/Kg	50	☼	8270E SIM	Total/NA
Phenanthrene	13.9	*+	0.817		mg/Kg	50	☼	8270E SIM	Total/NA
Pyrene	25.0		0.817		mg/Kg	50	☼	8270E SIM	Total/NA
Diesel Range Organics (DRO)	242		15.4		mg/Kg	5	☼	WI-DRO	Total/NA
Arsenic	3.20		0.897		mg/Kg	5	☼	6020B	Total/NA
Barium	68.6		0.897		mg/Kg	5	☼	6020B	Total/NA
Chromium	9.45		1.35		mg/Kg	5	☼	6020B	Total/NA
Lead	9.92		2.24		mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: LGP-3/4-6' — Lab Sample ID: 310-272141-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	1.06	*+	0.811		mg/Kg	50	☼	8270E SIM	Total/NA
Anthracene	2.67		0.811		mg/Kg	50	☼	8270E SIM	Total/NA
Benzo(a)anthracene	5.07		0.0811		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(a)pyrene	4.39	*+	0.0811		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(b)fluoranthene	4.82	*+	0.0811		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(g,h,i)perylene	2.06	*+	0.0811		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(k)fluoranthene	1.80	*+	0.0811		mg/Kg	5	☼	8270E SIM	Total/NA
Chrysene	4.85	*+	0.0811		mg/Kg	5	☼	8270E SIM	Total/NA
Dibenz(a,h)anthracene	0.582	*+	0.0811		mg/Kg	5	☼	8270E SIM	Total/NA
Fluoranthene	12.7	*+	0.811		mg/Kg	50	☼	8270E SIM	Total/NA
Fluorene	1.08	*+	0.811		mg/Kg	50	☼	8270E SIM	Total/NA
Indeno(1,2,3-cd)pyrene	2.90	*+	0.0811		mg/Kg	5	☼	8270E SIM	Total/NA
Phenanthrene	10.4	*+	0.811		mg/Kg	50	☼	8270E SIM	Total/NA
Pyrene	10.3		0.811		mg/Kg	50	☼	8270E SIM	Total/NA
Diesel Range Organics (DRO)	82.1		6.48		mg/Kg	2	☼	WI-DRO	Total/NA
Arsenic	2.81		0.877		mg/Kg	5	☼	6020B	Total/NA
Barium	76.7		0.877		mg/Kg	5	☼	6020B	Total/NA
Chromium	8.91		1.32		mg/Kg	5	☼	6020B	Total/NA
Lead	6.77		2.19		mg/Kg	5	☼	6020B	Total/NA
Mercury	0.0241		0.0210		mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: LGP-4/0-2' — Lab Sample ID: 310-272141-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo(a)anthracene	0.923		0.0838		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(a)pyrene	0.940	*+	0.0838		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(b)fluoranthene	1.02	*+	0.0838		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(g,h,i)perylene	0.504	*+	0.0838		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(k)fluoranthene	0.376	*+	0.0838		mg/Kg	5	☼	8270E SIM	Total/NA
Chrysene	1.00	*+	0.0838		mg/Kg	5	☼	8270E SIM	Total/NA
Dibenz(a,h)anthracene	0.129	*+	0.0838		mg/Kg	5	☼	8270E SIM	Total/NA
Fluoranthene	1.83	*+	0.419		mg/Kg	25	☼	8270E SIM	Total/NA
Indeno(1,2,3-cd)pyrene	0.664	*+	0.0838		mg/Kg	5	☼	8270E SIM	Total/NA
Phenanthrene	1.07	*+	0.419		mg/Kg	25	☼	8270E SIM	Total/NA
Pyrene	1.64		0.419		mg/Kg	25	☼	8270E SIM	Total/NA
Diesel Range Organics (DRO)	34.1		3.92		mg/Kg	1	☼	WI-DRO	Total/NA
Arsenic	4.84		0.954		mg/Kg	5	☼	6020B	Total/NA
Barium	150		0.954		mg/Kg	5	☼	6020B	Total/NA
Chromium	11.4		1.43		mg/Kg	5	☼	6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: LGP-4/0-2' (Continued) — Lab Sample ID: 310-272141-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	30.0		2.38		mg/Kg	5	☼	6020B	Total/NA
Mercury	0.0256		0.0210		mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: LGP-5/0-2' — Lab Sample ID: 310-272141-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.647		0.335		mg/Kg	1	☼	8260D	Total/NA
Acenaphthene	0.989	*+	0.876		mg/Kg	50	☼	8270E SIM	Total/NA
Anthracene	3.04		0.876		mg/Kg	50	☼	8270E SIM	Total/NA
Benzo(a)anthracene	7.50		0.876		mg/Kg	50	☼	8270E SIM	Total/NA
Benzo(a)pyrene	6.86	*+	0.876		mg/Kg	50	☼	8270E SIM	Total/NA
Benzo(b)fluoranthene	7.41	*+	0.876		mg/Kg	50	☼	8270E SIM	Total/NA
Benzo(g,h,i)perylene	3.02	*+	0.0876		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(k)fluoranthene	2.69	*+	0.0876		mg/Kg	5	☼	8270E SIM	Total/NA
Chrysene	7.90	*+	0.876		mg/Kg	50	☼	8270E SIM	Total/NA
Dibenz(a,h)anthracene	0.879	*+	0.0876		mg/Kg	5	☼	8270E SIM	Total/NA
Fluoranthene	15.7	*+	0.876		mg/Kg	50	☼	8270E SIM	Total/NA
Fluorene	0.984	*+	0.876		mg/Kg	50	☼	8270E SIM	Total/NA
Indeno(1,2,3-cd)pyrene	4.21	*+	0.0876		mg/Kg	5	☼	8270E SIM	Total/NA
Phenanthrene	11.1	*+	0.876		mg/Kg	50	☼	8270E SIM	Total/NA
Pyrene	12.4		0.876		mg/Kg	50	☼	8270E SIM	Total/NA
Diesel Range Organics (DRO)	219		21.2		mg/Kg	5	☼	WI-DRO	Total/NA
Arsenic	4.20		0.865		mg/Kg	5	☼	6020B	Total/NA
Barium	115		0.865		mg/Kg	5	☼	6020B	Total/NA
Chromium	11.8		1.30		mg/Kg	5	☼	6020B	Total/NA
Lead	58.6		2.16		mg/Kg	5	☼	6020B	Total/NA
Mercury	0.0434		0.0204		mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: LGP-6/0-2' — Lab Sample ID: 310-272141-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo(a)anthracene	0.224		0.0818		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(a)pyrene	0.216	*+	0.0818		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(b)fluoranthene	0.248	*+	0.0818		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(g,h,i)perylene	0.103	*+	0.0818		mg/Kg	5	☼	8270E SIM	Total/NA
Benzo(k)fluoranthene	0.0897	*+	0.0818		mg/Kg	5	☼	8270E SIM	Total/NA
Chrysene	0.219	*+	0.0818		mg/Kg	5	☼	8270E SIM	Total/NA
Fluoranthene	0.607	*+	0.0818		mg/Kg	5	☼	8270E SIM	Total/NA
Indeno(1,2,3-cd)pyrene	0.131	*+	0.0818		mg/Kg	5	☼	8270E SIM	Total/NA
Phenanthrene	0.262	*+	0.0818		mg/Kg	5	☼	8270E SIM	Total/NA
Pyrene	0.536		0.0818		mg/Kg	5	☼	8270E SIM	Total/NA
Diesel Range Organics (DRO)	13.5		4.19		mg/Kg	1	☼	WI-DRO	Total/NA
Arsenic	3.80		0.856		mg/Kg	5	☼	6020B	Total/NA
Barium	75.1		0.856		mg/Kg	5	☼	6020B	Total/NA
Chromium	10.7		1.28		mg/Kg	5	☼	6020B	Total/NA
Lead	13.5		2.14		mg/Kg	5	☼	6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-1/0-2'
Date Collected: 12/21/23 09:30
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-1
Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.690		0.690		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Allyl chloride	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Benzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Bromobenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Bromochloromethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Bromodichloromethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Bromoform	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Bromomethane	<0.690		0.690		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
2-Butanone (MEK)	<1.03		1.03		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Carbon tetrachloride	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Chlorobenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Chlorodibromomethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Chloroethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Chloroform	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Chloromethane	<0.345		0.345		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
2-Chlorotoluene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
4-Chlorotoluene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
cis-1,2-Dichloroethene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
cis-1,3-Dichloropropene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,2-Dibromo-3-chloropropane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,2-Dibromoethane (EDB)	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Dibromomethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,2-Dichlorobenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,3-Dichlorobenzene	<0.138	*+	0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,4-Dichlorobenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Dichlorodifluoromethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,1-Dichloroethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,2-Dichloroethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,1-Dichloroethene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Dichlorofluoromethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,2-Dichloropropane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,3-Dichloropropane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
2,2-Dichloropropane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,1-Dichloropropene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Diethyl ether	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Ethylbenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Hexachlorobutadiene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Isopropylbenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Methylene chloride	<0.345		0.345		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
4-Methyl-2-pentanone (MIBK)	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Methyl tert-butyl ether	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Naphthalene	<0.345		0.345		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
n-Butylbenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
n-Propylbenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
p-Isopropyltoluene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
sec-Butylbenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Styrene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
tert-Butylbenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,1,1,2-Tetrachloroethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1

Client Sample ID: LGP-1/0-2'
Date Collected: 12/21/23 09:30
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-1
Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Tetrachloroethene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Tetrahydrofuran	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Toluene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
trans-1,2-Dichloroethene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
trans-1,3-Dichloropropene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,2,3-Trichlorobenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,2,4-Trichlorobenzene	<0.138	*+	0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,1,1-Trichloroethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,1,2-Trichloroethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Trichloroethene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Trichlorofluoromethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,2,3-Trichloropropane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,1,2-Trichlorotrifluoroethane	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,2,4-Trimethylbenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
1,3,5-Trimethylbenzene	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Vinyl chloride	<0.138		0.138		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1
Xylenes, Total	<0.207		0.207		mg/Kg	☼	01/02/24 07:55	01/03/24 09:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*01/02/24 07:55*	*01/03/24 09:01*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*	*01/02/24 07:55*	*01/03/24 09:01*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*01/02/24 07:55*	*01/03/24 09:01*	*1*

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0851	*+	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Acenaphthylene	<0.0851	*+	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Anthracene	<0.0851		0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Benzo(a)anthracene	<0.0851		0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Benzo(a)pyrene	<0.0851	*+	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Benzo(b)fluoranthene	<0.0851	*+	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Benzo(g,h,i)perylene	<0.0851	*+	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Benzo(k)fluoranthene	<0.0851	*+	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Chrysene	<0.0851	*+	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Dibenz(a,h)anthracene	<0.0851	*+	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Fluoranthene	**0.0952**	**F1 *+**	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Fluorene	<0.0851	*+	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Indeno(1,2,3-cd)pyrene	<0.0851	*+	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
2-Methylnaphthalene	<0.0851		0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Naphthalene	<0.0851	*+	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Phenanthrene	<0.0851	*+	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5
Pyrene	**0.0935**	**F1**	0.0851		mg/Kg	☼	01/03/24 12:26	01/09/24 19:05	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*98*		*37 - 131*	*01/03/24 12:26*	*01/09/24 19:05*	*5*
Nitrobenzene-d5 (Surr)	*95*		*30 - 138*	*01/03/24 12:26*	*01/09/24 19:05*	*5*
Terphenyl-d14 (Surr)	*110*		*24 - 145*	*01/03/24 12:26*	*01/09/24 19:05*	*5*

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-1/0-2'

Date Collected: 12/21/23 09:30
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-1

Matrix: Solid

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<11.9		11.9		mg/Kg	☼	01/03/24 09:44	01/05/24 10:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*	*01/03/24 09:44*	*01/05/24 10:44*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**5.27**		3.23		mg/Kg	☼	12/28/23 10:11	01/09/24 12:01	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.67**	**F1**	0.883		mg/Kg	☼	01/02/24 09:00	01/03/24 16:22	5
Barium	**126**	**F1**	0.883		mg/Kg	☼	01/02/24 09:00	01/03/24 16:22	5
Cadmium	<0.441		0.441		mg/Kg	☼	01/02/24 09:00	01/03/24 16:22	5
Chromium	**15.7**	**F1**	1.32		mg/Kg	☼	01/02/24 09:00	01/03/24 16:22	5
Lead	**9.18**	**F1**	2.21		mg/Kg	☼	01/02/24 09:00	01/03/24 16:22	5
Selenium	<1.32		1.32		mg/Kg	☼	01/02/24 09:00	01/03/24 16:22	5
Silver	<0.441		0.441		mg/Kg	☼	01/02/24 09:00	01/03/24 16:22	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0294**		0.0197		mg/Kg	☼	01/08/24 09:43	01/09/24 13:40	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**16.2**		0.1		%			12/27/23 06:46	1
Percent Solids (EPA Moisture)	**83.8**		0.1		%			12/27/23 06:46	1

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-1/4-6'
Date Collected: 12/21/23 09:40
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-2
Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.504		0.504		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Allyl chloride	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Benzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Bromobenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Bromochloromethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Bromodichloromethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Bromoform	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Bromomethane	<0.504		0.504		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
2-Butanone (MEK)	<0.756		0.756		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Carbon tetrachloride	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Chlorobenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Chlorodibromomethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Chloroethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Chloroform	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Chloromethane	<0.252		0.252		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
2-Chlorotoluene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
4-Chlorotoluene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
cis-1,2-Dichloroethene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
cis-1,3-Dichloropropene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,2-Dibromo-3-chloropropane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,2-Dibromoethane (EDB)	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Dibromomethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,2-Dichlorobenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,3-Dichlorobenzene	<0.101	*+	0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,4-Dichlorobenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Dichlorodifluoromethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,1-Dichloroethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,2-Dichloroethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,1-Dichloroethene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Dichlorofluoromethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,2-Dichloropropane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,3-Dichloropropane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
2,2-Dichloropropane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,1-Dichloropropene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Diethyl ether	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Ethylbenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Hexachlorobutadiene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Isopropylbenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Methylene chloride	<0.252		0.252		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
4-Methyl-2-pentanone (MIBK)	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Methyl tert-butyl ether	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Naphthalene	<0.252		0.252		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
n-Butylbenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
n-Propylbenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
p-Isopropyltoluene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
sec-Butylbenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Styrene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
tert-Butylbenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,1,1,2-Tetrachloroethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-1/4-6'

Date Collected: 12/21/23 09:40
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-2

Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Tetrachloroethene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Tetrahydrofuran	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Toluene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
trans-1,2-Dichloroethene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
trans-1,3-Dichloropropene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,2,3-Trichlorobenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,2,4-Trichlorobenzene	<0.101	*+	0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,1,1-Trichloroethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,1,2-Trichloroethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Trichloroethene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Trichlorofluoromethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,2,3-Trichloropropane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,1,2-Trichlorotrifluoroethane	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,2,4-Trimethylbenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
1,3,5-Trimethylbenzene	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Vinyl chloride	<0.101		0.101		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1
Xylenes, Total	<0.151		0.151		mg/Kg	☼	01/02/24 07:55	01/03/24 09:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*	*01/02/24 07:55*	*01/03/24 09:23*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*	*01/02/24 07:55*	*01/03/24 09:23*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*01/02/24 07:55*	*01/03/24 09:23*	*1*

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0736	*+	0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Acenaphthylene	<0.0736	*+	0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Anthracene	<0.0736		0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Benzo(a)anthracene	<0.0147		0.0147		mg/Kg	☼	01/03/24 12:26	01/09/24 19:24	1
Benzo(a)pyrene	<0.0736	*+	0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Benzo(b)fluoranthene	<0.0736	*+	0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Benzo(g,h,i)perylene	<0.0736	*+	0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Benzo(k)fluoranthene	<0.0736	*+	0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Chrysene	<0.0147	*+	0.0147		mg/Kg	☼	01/03/24 12:26	01/09/24 19:24	1
Dibenz(a,h)anthracene	<0.0736	*+	0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Fluoranthene	<0.0736	*+	0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Fluorene	<0.0736	*+	0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Indeno(1,2,3-cd)pyrene	<0.0736	*+	0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
2-Methylnaphthalene	<0.0736		0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Naphthalene	<0.0736	*+	0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Phenanthrene	<0.0736	*+	0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5
Pyrene	<0.0736		0.0736		mg/Kg	☼	01/03/24 12:26	01/10/24 16:17	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*104*	*3	*37 - 131*	*01/03/24 12:26*	*01/09/24 19:24*	*1*
2-Fluorobiphenyl (Surr)	*95*		*37 - 131*	*01/10/24 11:55*	*01/15/24 13:20*	*5*
Nitrobenzene-d5 (Surr)	*96*	*3	*30 - 138*	*01/03/24 12:26*	*01/09/24 19:24*	*1*
Nitrobenzene-d5 (Surr)	*91*		*30 - 138*	*01/10/24 11:55*	*01/15/24 13:20*	*5*
Terphenyl-d14 (Surr)	*182*	*S1+ *3	*24 - 145*	*01/03/24 12:26*	*01/09/24 19:24*	*1*

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-1/4-6'

Date Collected: 12/21/23 09:40
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-2

Matrix: Solid

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*102*		*24 - 145*	*01/10/24 11:55*	*01/15/24 13:20*	*5*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<10.3		10.3		mg/Kg	☼	01/03/24 09:44	01/05/24 11:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*	*01/03/24 09:44*	*01/05/24 11:10*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	<2.66		2.66		mg/Kg	☼	12/28/23 10:11	01/09/24 12:12	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.30**		0.830		mg/Kg	☼	01/02/24 09:00	01/03/24 16:50	5
Barium	**28.5**		0.830		mg/Kg	☼	01/02/24 09:00	01/03/24 16:50	5
Cadmium	<0.415		0.415		mg/Kg	☼	01/02/24 09:00	01/03/24 16:50	5
Chromium	**7.55**		1.25		mg/Kg	☼	01/02/24 09:00	01/03/24 16:50	5
Lead	**2.36**		2.08		mg/Kg	☼	01/02/24 09:00	01/03/24 16:50	5
Selenium	<1.25		1.25		mg/Kg	☼	01/02/24 09:00	01/03/24 16:50	5
Silver	<0.415		0.415		mg/Kg	☼	01/02/24 09:00	01/03/24 16:50	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0162		0.0162		mg/Kg	☼	01/08/24 09:43	01/09/24 13:43	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**4.9**		0.1		%			12/27/23 06:46	1
Percent Solids (EPA Moisture)	**95.1**		0.1		%			12/27/23 06:46	1

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-2/0-2'
Date Collected: 12/21/23 10:35
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-3
Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.733		0.733		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Allyl chloride	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Benzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Bromobenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Bromochloromethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Bromodichloromethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Bromoform	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Bromomethane	<0.733		0.733		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
2-Butanone (MEK)	<1.10		1.10		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Carbon tetrachloride	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Chlorobenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Chlorodibromomethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Chloroethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Chloroform	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Chloromethane	<0.367		0.367		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
2-Chlorotoluene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
4-Chlorotoluene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
cis-1,2-Dichloroethene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
cis-1,3-Dichloropropene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,2-Dibromo-3-chloropropane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,2-Dibromoethane (EDB)	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Dibromomethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,2-Dichlorobenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,3-Dichlorobenzene	<0.147	*+	0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,4-Dichlorobenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Dichlorodifluoromethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,1-Dichloroethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,2-Dichloroethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,1-Dichloroethene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Dichlorofluoromethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,2-Dichloropropane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,3-Dichloropropane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
2,2-Dichloropropane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,1-Dichloropropene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Diethyl ether	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Ethylbenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Hexachlorobutadiene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Isopropylbenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Methylene chloride	<0.367		0.367		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
4-Methyl-2-pentanone (MIBK)	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Methyl tert-butyl ether	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Naphthalene	<0.367		0.367		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
n-Butylbenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
n-Propylbenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
p-Isopropyltoluene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
sec-Butylbenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Styrene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
tert-Butylbenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,1,1,2-Tetrachloroethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1

Client Sample ID: LGP-2/0-2'
Date Collected: 12/21/23 10:35
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-3
Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Tetrachloroethene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Tetrahydrofuran	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Toluene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
trans-1,2-Dichloroethene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
trans-1,3-Dichloropropene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,2,3-Trichlorobenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,2,4-Trichlorobenzene	<0.147	*+	0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,1,1-Trichloroethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,1,2-Trichloroethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Trichloroethene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Trichlorofluoromethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,2,3-Trichloropropane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,1,2-Trichlorotrifluoroethane	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,2,4-Trimethylbenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
1,3,5-Trimethylbenzene	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Vinyl chloride	<0.147		0.147		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1
Xylenes, Total	<0.220		0.220		mg/Kg	☼	01/02/24 07:55	01/03/24 09:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*	*01/02/24 07:55*	*01/03/24 09:46*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*	*01/02/24 07:55*	*01/03/24 09:46*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*01/02/24 07:55*	*01/03/24 09:46*	*1*

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.873	*+	0.873		mg/Kg	☼	01/03/24 12:26	01/15/24 13:40	50
Acenaphthylene	<0.873	*+	0.873		mg/Kg	☼	01/03/24 12:26	01/15/24 13:40	50
Anthracene	**1.18**		0.873		mg/Kg	☼	01/03/24 12:26	01/15/24 13:40	50
Benzo(a)anthracene	**3.13**		0.0873		mg/Kg	☼	01/03/24 12:26	01/09/24 21:39	5
Benzo(a)pyrene	**2.72**	*+	0.0873		mg/Kg	☼	01/03/24 12:26	01/09/24 21:39	5
Benzo(b)fluoranthene	**3.01**	*+	0.0873		mg/Kg	☼	01/03/24 12:26	01/09/24 21:39	5
Benzo(g,h,i)perylene	**1.37**	*+	0.0873		mg/Kg	☼	01/03/24 12:26	01/09/24 21:39	5
Benzo(k)fluoranthene	**1.23**	*+	0.0873		mg/Kg	☼	01/03/24 12:26	01/09/24 21:39	5
Chrysene	**3.17**	*+	0.0873		mg/Kg	☼	01/03/24 12:26	01/09/24 21:39	5
Dibenz(a,h)anthracene	**0.386**	*+	0.0873		mg/Kg	☼	01/03/24 12:26	01/09/24 21:39	5
Fluoranthene	**8.76**	*+	0.873		mg/Kg	☼	01/03/24 12:26	01/15/24 13:40	50
Fluorene	<0.873	*+	0.873		mg/Kg	☼	01/03/24 12:26	01/15/24 13:40	50
Indeno(1,2,3-cd)pyrene	**1.88**	*+	0.0873		mg/Kg	☼	01/03/24 12:26	01/09/24 21:39	5
2-Methylnaphthalene	<0.873		0.873		mg/Kg	☼	01/03/24 12:26	01/15/24 13:40	50
Naphthalene	<0.873	*+	0.873		mg/Kg	☼	01/03/24 12:26	01/15/24 13:40	50
Phenanthrene	**5.46**	*+	0.873		mg/Kg	☼	01/03/24 12:26	01/15/24 13:40	50
Pyrene	**7.00**		0.873		mg/Kg	☼	01/03/24 12:26	01/15/24 13:40	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*104*	*3	*37 - 131*	*01/03/24 12:26*	*01/09/24 21:39*	*5*
Nitrobenzene-d5 (Surr)	*122*	*3	*30 - 138*	*01/03/24 12:26*	*01/09/24 21:39*	*5*
Terphenyl-d14 (Surr)	*176*	*S1+ *3	*24 - 145*	*01/03/24 12:26*	*01/09/24 21:39*	*5*

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-2/0-2'

Date Collected: 12/21/23 10:35
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-3

Matrix: Solid

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<12.5		12.5		mg/Kg	☼	01/03/24 09:44	01/05/24 11:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*	*01/03/24 09:44*	*01/05/24 11:36*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**69.1**		4.36		mg/Kg	☼	12/28/23 10:11	01/09/24 13:20	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**5.03**		0.896		mg/Kg	☼	01/02/24 09:00	01/03/24 16:53	5
Barium	**101**		0.896		mg/Kg	☼	01/02/24 09:00	01/03/24 16:53	5
Cadmium	<0.448		0.448		mg/Kg	☼	01/02/24 09:00	01/03/24 16:53	5
Chromium	**11.1**		1.34		mg/Kg	☼	01/02/24 09:00	01/03/24 16:53	5
Lead	**34.6**		2.24		mg/Kg	☼	01/02/24 09:00	01/03/24 16:53	5
Selenium	<1.34		1.34		mg/Kg	☼	01/02/24 09:00	01/03/24 16:53	5
Silver	<0.448		0.448		mg/Kg	☼	01/02/24 09:00	01/03/24 16:53	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0591**		0.0197		mg/Kg	☼	01/08/24 09:43	01/09/24 13:45	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**17.9**		0.1		%			12/27/23 06:46	1
Percent Solids (EPA Moisture)	**82.1**		0.1		%			12/27/23 06:46	1

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-3/0-2'
Date Collected: 12/21/23 11:00
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-5
Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.623		0.623		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Allyl chloride	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Benzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Bromobenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Bromochloromethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Bromodichloromethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Bromoform	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Bromomethane	<0.623		0.623		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
2-Butanone (MEK)	<0.935		0.935		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Carbon tetrachloride	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Chlorobenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Chlorodibromomethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Chloroethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Chloroform	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Chloromethane	<0.312		0.312		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
2-Chlorotoluene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
4-Chlorotoluene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
cis-1,2-Dichloroethene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
cis-1,3-Dichloropropene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,2-Dibromo-3-chloropropane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,2-Dibromoethane (EDB)	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Dibromomethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,2-Dichlorobenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,3-Dichlorobenzene	<0.125	*+	0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,4-Dichlorobenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Dichlorodifluoromethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,1-Dichloroethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,2-Dichloroethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,1-Dichloroethene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Dichlorofluoromethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,2-Dichloropropane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,3-Dichloropropane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
2,2-Dichloropropane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,1-Dichloropropene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Diethyl ether	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Ethylbenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Hexachlorobutadiene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Isopropylbenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Methylene chloride	<0.312		0.312		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
4-Methyl-2-pentanone (MIBK)	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Methyl tert-butyl ether	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Naphthalene	<0.312		0.312		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
n-Butylbenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
n-Propylbenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
p-Isopropyltoluene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
sec-Butylbenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Styrene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
tert-Butylbenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,1,1,2-Tetrachloroethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-3/0-2'

Date Collected: 12/21/23 11:00
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-5

Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Tetrachloroethene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Tetrahydrofuran	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Toluene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
trans-1,2-Dichloroethene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
trans-1,3-Dichloropropene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,2,3-Trichlorobenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,2,4-Trichlorobenzene	<0.125	*+	0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,1,1-Trichloroethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,1,2-Trichloroethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Trichloroethene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Trichlorofluoromethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,2,3-Trichloropropane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,1,2-Trichlorotrifluoroethane	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,2,4-Trimethylbenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
1,3,5-Trimethylbenzene	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Vinyl chloride	<0.125		0.125		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1
Xylenes, Total	<0.187		0.187		mg/Kg	☼	01/02/24 07:55	01/03/24 10:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*	*01/02/24 07:55*	*01/03/24 10:08*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*	*01/02/24 07:55*	*01/03/24 10:08*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*	*01/02/24 07:55*	*01/03/24 10:08*	*1*

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1.22**	*+	0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
Acenaphthylene	<0.817	*+	0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
Anthracene	**3.79**		0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
Benzo(a)anthracene	**13.0**		0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
Benzo(a)pyrene	**11.9**	*+	0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
Benzo(b)fluoranthene	**12.7**	*+	0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
Benzo(g,h,i)perylene	**5.36**	*+	0.0817		mg/Kg	☼	01/03/24 12:26	01/09/24 21:58	5
Benzo(k)fluoranthene	**3.86**	*+	0.0817		mg/Kg	☼	01/03/24 12:26	01/09/24 21:58	5
Chrysene	**12.8**	*+	0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
Dibenz(a,h)anthracene	**1.51**	*+	0.0817		mg/Kg	☼	01/03/24 12:26	01/09/24 21:58	5
Fluoranthene	**29.7**	*+	0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
Fluorene	**1.08**	*+	0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
Indeno(1,2,3-cd)pyrene	**8.21**	*+	0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
2-Methylnaphthalene	<0.817		0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
Naphthalene	<0.817	*+	0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
Phenanthrene	**13.9**	*+	0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50
Pyrene	**25.0**		0.817		mg/Kg	☼	01/03/24 12:26	01/10/24 16:56	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*88*	*3	*37 - 131*	*01/03/24 12:26*	*01/09/24 21:58*	*5*
Nitrobenzene-d5 (Surr)	*88*	*3	*30 - 138*	*01/03/24 12:26*	*01/09/24 21:58*	*5*
Terphenyl-d14 (Surr)	*248*	*S1+ *3	*24 - 145*	*01/03/24 12:26*	*01/09/24 21:58*	*5*

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-3/0-2'

Date Collected: 12/21/23 11:00
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-5

Matrix: Solid

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<11.2		11.2		mg/Kg	☼	01/03/24 09:44	01/05/24 12:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*	*01/03/24 09:44*	*01/05/24 12:02*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**242**		15.4		mg/Kg	☼	12/28/23 10:11	01/10/24 12:45	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.20**		0.897		mg/Kg	☼	01/02/24 09:00	01/03/24 17:08	5
Barium	**68.6**		0.897		mg/Kg	☼	01/02/24 09:00	01/03/24 17:08	5
Cadmium	<0.449		0.449		mg/Kg	☼	01/02/24 09:00	01/03/24 17:08	5
Chromium	**9.45**		1.35		mg/Kg	☼	01/02/24 09:00	01/03/24 17:08	5
Lead	**9.92**		2.24		mg/Kg	☼	01/02/24 09:00	01/03/24 17:08	5
Selenium	<1.35		1.35		mg/Kg	☼	01/02/24 09:00	01/03/24 17:08	5
Silver	<0.449		0.449		mg/Kg	☼	01/02/24 09:00	01/03/24 17:08	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0199		0.0199		mg/Kg	☼	01/08/24 09:43	01/09/24 13:51	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**11.0**		0.1		%			12/27/23 06:46	1
Percent Solids (EPA Moisture)	**89.0**		0.1		%			12/27/23 06:46	1

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-3/4-6'
Date Collected: 12/21/23 11:10
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-6
Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.592		0.592		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Allyl chloride	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Benzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Bromobenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Bromochloromethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Bromodichloromethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Bromoform	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Bromomethane	<0.592		0.592		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
2-Butanone (MEK)	<0.889		0.889		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Carbon tetrachloride	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Chlorobenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Chlorodibromomethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Chloroethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Chloroform	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Chloromethane	<0.296		0.296		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
2-Chlorotoluene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
4-Chlorotoluene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
cis-1,2-Dichloroethene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
cis-1,3-Dichloropropene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,2-Dibromo-3-chloropropane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,2-Dibromoethane (EDB)	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Dibromomethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,2-Dichlorobenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,3-Dichlorobenzene	<0.118	*+	0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,4-Dichlorobenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Dichlorodifluoromethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,1-Dichloroethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,2-Dichloroethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,1-Dichloroethene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Dichlorofluoromethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,2-Dichloropropane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,3-Dichloropropane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
2,2-Dichloropropane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,1-Dichloropropene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Diethyl ether	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Ethylbenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Hexachlorobutadiene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Isopropylbenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Methylene chloride	<0.296		0.296		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
4-Methyl-2-pentanone (MIBK)	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Methyl tert-butyl ether	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Naphthalene	<0.296		0.296		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
n-Butylbenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
n-Propylbenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
p-Isopropyltoluene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
sec-Butylbenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Styrene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
tert-Butylbenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,1,1,2-Tetrachloroethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-3/4-6'

Date Collected: 12/21/23 11:10
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-6

Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Tetrachloroethene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Tetrahydrofuran	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Toluene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
trans-1,2-Dichloroethene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
trans-1,3-Dichloropropene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,2,3-Trichlorobenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,2,4-Trichlorobenzene	<0.118	*+	0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,1,1-Trichloroethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,1,2-Trichloroethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Trichloroethene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Trichlorofluoromethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,2,3-Trichloropropane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,1,2-Trichlorotrifluoroethane	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,2,4-Trimethylbenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
1,3,5-Trimethylbenzene	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Vinyl chloride	<0.118		0.118		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1
Xylenes, Total	<0.178		0.178		mg/Kg	☼	01/02/24 07:55	01/03/24 10:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*	*01/02/24 07:55*	*01/03/24 10:31*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*	*01/02/24 07:55*	*01/03/24 10:31*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*	*01/02/24 07:55*	*01/03/24 10:31*	*1*

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1.06**	*+	0.811		mg/Kg	☼	01/03/24 12:26	01/10/24 17:16	50
Acenaphthylene	<0.811	*+	0.811		mg/Kg	☼	01/03/24 12:26	01/10/24 17:16	50
Anthracene	**2.67**		0.811		mg/Kg	☼	01/03/24 12:26	01/10/24 17:16	50
Benzo(a)anthracene	**5.07**		0.0811		mg/Kg	☼	01/03/24 12:26	01/09/24 22:17	5
Benzo(a)pyrene	**4.39**	*+	0.0811		mg/Kg	☼	01/03/24 12:26	01/09/24 22:17	5
Benzo(b)fluoranthene	**4.82**	*+	0.0811		mg/Kg	☼	01/03/24 12:26	01/09/24 22:17	5
Benzo(g,h,i)perylene	**2.06**	*+	0.0811		mg/Kg	☼	01/03/24 12:26	01/09/24 22:17	5
Benzo(k)fluoranthene	**1.80**	*+	0.0811		mg/Kg	☼	01/03/24 12:26	01/09/24 22:17	5
Chrysene	**4.85**	*+	0.0811		mg/Kg	☼	01/03/24 12:26	01/09/24 22:17	5
Dibenz(a,h)anthracene	**0.582**	*+	0.0811		mg/Kg	☼	01/03/24 12:26	01/09/24 22:17	5
Fluoranthene	**12.7**	*+	0.811		mg/Kg	☼	01/03/24 12:26	01/10/24 17:16	50
Fluorene	**1.08**	*+	0.811		mg/Kg	☼	01/03/24 12:26	01/10/24 17:16	50
Indeno(1,2,3-cd)pyrene	**2.90**	*+	0.0811		mg/Kg	☼	01/03/24 12:26	01/09/24 22:17	5
2-Methylnaphthalene	<0.811		0.811		mg/Kg	☼	01/03/24 12:26	01/10/24 17:16	50
Naphthalene	<0.811	*+	0.811		mg/Kg	☼	01/03/24 12:26	01/10/24 17:16	50
Phenanthrene	**10.4**	*+	0.811		mg/Kg	☼	01/03/24 12:26	01/10/24 17:16	50
Pyrene	**10.3**		0.811		mg/Kg	☼	01/03/24 12:26	01/10/24 17:16	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*104*	*3	*37 - 131*	*01/03/24 12:26*	*01/09/24 22:17*	*5*
Nitrobenzene-d5 (Surr)	*104*	*3	*30 - 138*	*01/03/24 12:26*	*01/09/24 22:17*	*5*
Terphenyl-d14 (Surr)	*193*	*S1+ *3	*24 - 145*	*01/03/24 12:26*	*01/09/24 22:17*	*5*

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-3/4-6'

Date Collected: 12/21/23 11:10
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-6

Matrix: Solid

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<10.9		10.9		mg/Kg	☼	01/03/24 09:44	01/05/24 12:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*	*01/03/24 09:44*	*01/05/24 12:27*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**82.1**		6.48		mg/Kg	☼	12/28/23 10:11	01/10/24 12:09	2

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.81**		0.877		mg/Kg	☼	01/02/24 09:00	01/03/24 17:11	5
Barium	**76.7**		0.877		mg/Kg	☼	01/02/24 09:00	01/03/24 17:11	5
Cadmium	<0.438		0.438		mg/Kg	☼	01/02/24 09:00	01/03/24 17:11	5
Chromium	**8.91**		1.32		mg/Kg	☼	01/02/24 09:00	01/03/24 17:11	5
Lead	**6.77**		2.19		mg/Kg	☼	01/02/24 09:00	01/03/24 17:11	5
Selenium	<1.32		1.32		mg/Kg	☼	01/02/24 09:00	01/03/24 17:11	5
Silver	<0.438		0.438		mg/Kg	☼	01/02/24 09:00	01/03/24 17:11	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0241**		0.0210		mg/Kg	☼	01/08/24 09:43	01/09/24 13:53	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**8.7**		0.1		%			12/27/23 06:46	1
Percent Solids (EPA Moisture)	**91.3**		0.1		%			12/27/23 06:46	1

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-4/0-2'
Date Collected: 12/21/23 11:30
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-7
Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.716		0.716		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Allyl chloride	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Benzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Bromobenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Bromochloromethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Bromodichloromethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Bromoform	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Bromomethane	<0.716		0.716		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
2-Butanone (MEK)	<1.07		1.07		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Carbon tetrachloride	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Chlorobenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Chlorodibromomethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Chloroethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Chloroform	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Chloromethane	<0.358		0.358		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
2-Chlorotoluene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
4-Chlorotoluene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
cis-1,2-Dichloroethene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
cis-1,3-Dichloropropene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,2-Dibromo-3-chloropropane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,2-Dibromoethane (EDB)	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Dibromomethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,2-Dichlorobenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,3-Dichlorobenzene	<0.143	*+	0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,4-Dichlorobenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Dichlorodifluoromethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,1-Dichloroethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,2-Dichloroethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,1-Dichloroethene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Dichlorofluoromethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,2-Dichloropropane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,3-Dichloropropane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
2,2-Dichloropropane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,1-Dichloropropene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Diethyl ether	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Ethylbenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Hexachlorobutadiene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Isopropylbenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Methylene chloride	<0.358		0.358		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
4-Methyl-2-pentanone (MIBK)	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Methyl tert-butyl ether	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Naphthalene	<0.358		0.358		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
n-Butylbenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
n-Propylbenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
p-Isopropyltoluene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
sec-Butylbenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Styrene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
tert-Butylbenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,1,1,2-Tetrachloroethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1

Client Sample ID: LGP-4/0-2'
Date Collected: 12/21/23 11:30
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-7
Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Tetrachloroethene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Tetrahydrofuran	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Toluene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
trans-1,2-Dichloroethene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
trans-1,3-Dichloropropene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,2,3-Trichlorobenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,2,4-Trichlorobenzene	<0.143	*+	0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,1,1-Trichloroethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,1,2-Trichloroethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Trichloroethene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Trichlorofluoromethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,2,3-Trichloropropane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,1,2-Trichlorotrifluoroethane	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,2,4-Trimethylbenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
1,3,5-Trimethylbenzene	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Vinyl chloride	<0.143		0.143		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1
Xylenes, Total	<0.215		0.215		mg/Kg	☼	01/02/24 07:55	01/03/24 10:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*	*01/02/24 07:55*	*01/03/24 10:53*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*	*01/02/24 07:55*	*01/03/24 10:53*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*01/02/24 07:55*	*01/03/24 10:53*	*1*

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.419	*+	0.419		mg/Kg	☼	01/03/24 12:26	01/10/24 17:35	25
Acenaphthylene	<0.419	*+	0.419		mg/Kg	☼	01/03/24 12:26	01/10/24 17:35	25
Anthracene	<0.419		0.419		mg/Kg	☼	01/03/24 12:26	01/10/24 17:35	25
Benzo(a)anthracene	**0.923**		0.0838		mg/Kg	☼	01/03/24 12:26	01/09/24 22:37	5
Benzo(a)pyrene	**0.940**	*+	0.0838		mg/Kg	☼	01/03/24 12:26	01/09/24 22:37	5
Benzo(b)fluoranthene	**1.02**	*+	0.0838		mg/Kg	☼	01/03/24 12:26	01/09/24 22:37	5
Benzo(g,h,i)perylene	**0.504**	*+	0.0838		mg/Kg	☼	01/03/24 12:26	01/09/24 22:37	5
Benzo(k)fluoranthene	**0.376**	*+	0.0838		mg/Kg	☼	01/03/24 12:26	01/09/24 22:37	5
Chrysene	**1.00**	*+	0.0838		mg/Kg	☼	01/03/24 12:26	01/09/24 22:37	5
Dibenz(a,h)anthracene	**0.129**	*+	0.0838		mg/Kg	☼	01/03/24 12:26	01/09/24 22:37	5
Fluoranthene	**1.83**	*+	0.419		mg/Kg	☼	01/03/24 12:26	01/10/24 17:35	25
Fluorene	<0.419	*+	0.419		mg/Kg	☼	01/03/24 12:26	01/10/24 17:35	25
Indeno(1,2,3-cd)pyrene	**0.664**	*+	0.0838		mg/Kg	☼	01/03/24 12:26	01/09/24 22:37	5
2-Methylnaphthalene	<0.419		0.419		mg/Kg	☼	01/03/24 12:26	01/10/24 17:35	25
Naphthalene	<0.419	*+	0.419		mg/Kg	☼	01/03/24 12:26	01/10/24 17:35	25
Phenanthrene	**1.07**	*+	0.419		mg/Kg	☼	01/03/24 12:26	01/10/24 17:35	25
Pyrene	**1.64**		0.419		mg/Kg	☼	01/03/24 12:26	01/10/24 17:35	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*98*	*3	*37 - 131*	*01/03/24 12:26*	*01/09/24 22:37*	*5*
Nitrobenzene-d5 (Surr)	*108*	*3	*30 - 138*	*01/03/24 12:26*	*01/09/24 22:37*	*5*
Terphenyl-d14 (Surr)	*152*	*S1+ *3	*24 - 145*	*01/03/24 12:26*	*01/09/24 22:37*	*5*

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-4/0-2'

Date Collected: 12/21/23 11:30
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-7

Matrix: Solid

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<12.2		12.2		mg/Kg	☼	01/03/24 09:44	01/05/24 12:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*	*01/03/24 09:44*	*01/05/24 12:53*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**34.1**		3.92		mg/Kg	☼	12/28/23 10:11	01/10/24 13:34	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.84**		0.954		mg/Kg	☼	01/02/24 09:00	01/03/24 17:14	5
Barium	**150**		0.954		mg/Kg	☼	01/02/24 09:00	01/03/24 17:14	5
Cadmium	<0.477		0.477		mg/Kg	☼	01/02/24 09:00	01/03/24 17:14	5
Chromium	**11.4**		1.43		mg/Kg	☼	01/02/24 09:00	01/03/24 17:14	5
Lead	**30.0**		2.38		mg/Kg	☼	01/02/24 09:00	01/03/24 17:14	5
Selenium	<1.43		1.43		mg/Kg	☼	01/02/24 09:00	01/03/24 17:14	5
Silver	<0.477		0.477		mg/Kg	☼	01/02/24 09:00	01/03/24 17:14	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0256**		0.0210		mg/Kg	☼	01/08/24 09:43	01/09/24 13:55	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**17.7**		0.1		%			12/27/23 06:46	1
Percent Solids (EPA Moisture)	**82.3**		0.1		%			12/27/23 06:46	1

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-5/0-2'
Date Collected: 12/21/23 12:40
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-9
Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.669		0.669		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Allyl chloride	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Benzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Bromobenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Bromochloromethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Bromodichloromethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Bromoform	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Bromomethane	<0.669		0.669		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
2-Butanone (MEK)	<1.00		1.00		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Carbon tetrachloride	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Chlorobenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Chlorodibromomethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Chloroethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Chloroform	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Chloromethane	<0.335		0.335		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
2-Chlorotoluene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
4-Chlorotoluene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
cis-1,2-Dichloroethene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
cis-1,3-Dichloropropene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,2-Dibromo-3-chloropropane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,2-Dibromoethane (EDB)	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Dibromomethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,2-Dichlorobenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,3-Dichlorobenzene	<0.134	*+	0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,4-Dichlorobenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Dichlorodifluoromethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,1-Dichloroethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,2-Dichloroethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,1-Dichloroethene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Dichlorofluoromethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,2-Dichloropropane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,3-Dichloropropane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
2,2-Dichloropropane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,1-Dichloropropene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Diethyl ether	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Ethylbenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Hexachlorobutadiene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Isopropylbenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Methylene chloride	<0.335		0.335		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
4-Methyl-2-pentanone (MIBK)	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Methyl tert-butyl ether	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Naphthalene	**0.647**		0.335		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
n-Butylbenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
n-Propylbenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
p-Isopropyltoluene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
sec-Butylbenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Styrene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
tert-Butylbenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,1,1,2-Tetrachloroethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1

Client Sample ID: LGP-5/0-2'
Date Collected: 12/21/23 12:40
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-9
Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Tetrachloroethene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Tetrahydrofuran	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Toluene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
trans-1,2-Dichloroethene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
trans-1,3-Dichloropropene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,2,3-Trichlorobenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,2,4-Trichlorobenzene	<0.134	*+	0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,1,1-Trichloroethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,1,2-Trichloroethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Trichloroethene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Trichlorofluoromethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,2,3-Trichloropropane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,1,2-Trichlorotrifluoroethane	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,2,4-Trimethylbenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
1,3,5-Trimethylbenzene	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Vinyl chloride	<0.134		0.134		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1
Xylenes, Total	<0.201		0.201		mg/Kg	☼	01/02/24 07:55	01/03/24 11:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*	*01/02/24 07:55*	*01/03/24 11:16*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*	*01/02/24 07:55*	*01/03/24 11:16*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*01/02/24 07:55*	*01/03/24 11:16*	*1*

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.989**	*+	0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50
Acenaphthylene	<0.876	*+	0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50
Anthracene	**3.04**		0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50
Benzo(a)anthracene	**7.50**		0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50
Benzo(a)pyrene	**6.86**	*+	0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50
Benzo(b)fluoranthene	**7.41**	*+	0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50
Benzo(g,h,i)perylene	**3.02**	*+	0.0876		mg/Kg	☼	01/03/24 12:26	01/09/24 22:56	5
Benzo(k)fluoranthene	**2.69**	*+	0.0876		mg/Kg	☼	01/03/24 12:26	01/09/24 22:56	5
Chrysene	**7.90**	*+	0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50
Dibenz(a,h)anthracene	**0.879**	*+	0.0876		mg/Kg	☼	01/03/24 12:26	01/09/24 22:56	5
Fluoranthene	**15.7**	*+	0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50
Fluorene	**0.984**	*+	0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50
Indeno(1,2,3-cd)pyrene	**4.21**	*+	0.0876		mg/Kg	☼	01/03/24 12:26	01/09/24 22:56	5
2-Methylnaphthalene	<0.876		0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50
Naphthalene	<0.876	*+	0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50
Phenanthrene	**11.1**	*+	0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50
Pyrene	**12.4**		0.876		mg/Kg	☼	01/03/24 12:26	01/10/24 17:54	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*97*	*3	*37 - 131*	*01/03/24 12:26*	*01/09/24 22:56*	*5*
Nitrobenzene-d5 (Surr)	*130*	*3	*30 - 138*	*01/03/24 12:26*	*01/09/24 22:56*	*5*
Terphenyl-d14 (Surr)	*196*	*S1+ *3	*24 - 145*	*01/03/24 12:26*	*01/09/24 22:56*	*5*

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-5/0-2'

Date Collected: 12/21/23 12:40
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-9

Matrix: Solid

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<11.6		11.6		mg/Kg	☼	01/03/24 09:44	01/05/24 13:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*	*01/03/24 09:44*	*01/05/24 13:19*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**219**		21.2		mg/Kg	☼	12/28/23 10:11	01/10/24 12:57	5

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.20**		0.865		mg/Kg	☼	01/02/24 09:00	01/03/24 17:17	5
Barium	**115**		0.865		mg/Kg	☼	01/02/24 09:00	01/03/24 17:17	5
Cadmium	<0.433		0.433		mg/Kg	☼	01/02/24 09:00	01/03/24 17:17	5
Chromium	**11.8**		1.30		mg/Kg	☼	01/02/24 09:00	01/03/24 17:17	5
Lead	**58.6**		2.16		mg/Kg	☼	01/02/24 09:00	01/03/24 17:17	5
Selenium	<1.30		1.30		mg/Kg	☼	01/02/24 09:00	01/03/24 17:17	5
Silver	<0.433		0.433		mg/Kg	☼	01/02/24 09:00	01/03/24 17:17	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0434**		0.0204		mg/Kg	☼	01/08/24 09:43	01/09/24 13:58	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**15.4**		0.1		%			12/27/23 06:46	1
Percent Solids (EPA Moisture)	**84.6**		0.1		%			12/27/23 06:46	1

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-6/0-2'
Date Collected: 12/21/23 13:00
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-10
Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.642		0.642		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Allyl chloride	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Benzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Bromobenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Bromochloromethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Bromodichloromethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Bromoform	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Bromomethane	<0.642		0.642		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
2-Butanone (MEK)	<0.963		0.963		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Carbon tetrachloride	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Chlorobenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Chlorodibromomethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Chloroethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Chloroform	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Chloromethane	<0.321		0.321		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
2-Chlorotoluene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
4-Chlorotoluene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
cis-1,2-Dichloroethene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
cis-1,3-Dichloropropene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,2-Dibromo-3-chloropropane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,2-Dibromoethane (EDB)	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Dibromomethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,2-Dichlorobenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,3-Dichlorobenzene	<0.128	*+	0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,4-Dichlorobenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Dichlorodifluoromethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,1-Dichloroethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,2-Dichloroethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,1-Dichloroethene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Dichlorofluoromethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,2-Dichloropropane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,3-Dichloropropane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
2,2-Dichloropropane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,1-Dichloropropene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Diethyl ether	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Ethylbenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Hexachlorobutadiene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Isopropylbenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Methylene chloride	<0.321		0.321		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
4-Methyl-2-pentanone (MIBK)	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Methyl tert-butyl ether	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Naphthalene	<0.321		0.321		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
n-Butylbenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
n-Propylbenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
p-Isopropyltoluene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
sec-Butylbenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Styrene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
tert-Butylbenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,1,1,2-Tetrachloroethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-6/0-2'

Date Collected: 12/21/23 13:00
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-10

Matrix: Solid

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Tetrachloroethene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Tetrahydrofuran	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Toluene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
trans-1,2-Dichloroethene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
trans-1,3-Dichloropropene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,2,3-Trichlorobenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,2,4-Trichlorobenzene	<0.128	*+	0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,1,1-Trichloroethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,1,2-Trichloroethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Trichloroethene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Trichlorofluoromethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,2,3-Trichloropropane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,1,2-Trichlorotrifluoroethane	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,2,4-Trimethylbenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
1,3,5-Trimethylbenzene	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Vinyl chloride	<0.128		0.128		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1
Xylenes, Total	<0.193		0.193		mg/Kg	☼	01/02/24 07:55	01/03/24 11:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*	*01/02/24 07:55*	*01/03/24 11:38*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 120*	*01/02/24 07:55*	*01/03/24 11:38*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*01/02/24 07:55*	*01/03/24 11:38*	*1*

Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0818	*+ *3	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Acenaphthylene	<0.0818	*+ *3	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Anthracene	<0.0818		0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Benzo(a)anthracene	**0.224**		0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Benzo(a)pyrene	**0.216**	*+	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Benzo(b)fluoranthene	**0.248**	*+	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Benzo(g,h,i)perylene	**0.103**	*+	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Benzo(k)fluoranthene	**0.0897**	*+	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Chrysene	**0.219**	*+	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Dibenz(a,h)anthracene	<0.0818	*+	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Fluoranthene	**0.607**	*+	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Fluorene	<0.0818	*+ *3	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Indeno(1,2,3-cd)pyrene	**0.131**	*+	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
2-Methylnaphthalene	<0.0818	*3	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Naphthalene	<0.0818	*+ *3	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Phenanthrene	**0.262**	*+	0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5
Pyrene	**0.536**		0.0818		mg/Kg	☼	01/03/24 12:26	01/09/24 23:15	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*87*	*3	*37 - 131*	*01/03/24 12:26*	*01/09/24 23:15*	*5*
Nitrobenzene-d5 (Surr)	*88*	*3	*30 - 138*	*01/03/24 12:26*	*01/09/24 23:15*	*5*
Terphenyl-d14 (Surr)	*116*		*24 - 145*	*01/03/24 12:26*	*01/09/24 23:15*	*5*

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-6/0-2'

Date Collected: 12/21/23 13:00
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-10

Matrix: Solid

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<11.6		11.6		mg/Kg	☼	01/03/24 09:44	01/05/24 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*	*01/03/24 09:44*	*01/05/24 13:44*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**13.5**		4.19		mg/Kg	☼	12/28/23 10:11	01/09/24 12:24	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.80**		0.856		mg/Kg	☼	01/02/24 09:00	01/03/24 17:19	5
Barium	**75.1**		0.856		mg/Kg	☼	01/02/24 09:00	01/03/24 17:19	5
Cadmium	<0.428		0.428		mg/Kg	☼	01/02/24 09:00	01/03/24 17:19	5
Chromium	**10.7**		1.28		mg/Kg	☼	01/02/24 09:00	01/03/24 17:19	5
Lead	**13.5**		2.14		mg/Kg	☼	01/02/24 09:00	01/03/24 17:19	5
Selenium	<1.28		1.28		mg/Kg	☼	01/02/24 09:00	01/03/24 17:19	5
Silver	<0.428		0.428		mg/Kg	☼	01/02/24 09:00	01/03/24 17:19	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0194		0.0194		mg/Kg	☼	01/08/24 09:45	01/09/24 14:04	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	**11.0**		0.1		%			12/27/23 06:46	1
Percent Solids (EPA Moisture)	**89.0**		0.1		%			12/27/23 06:46	1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*3	ISTD response or retention time outside acceptable limits.
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Surrogate Summary

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)
310-272141-1	LGP-1/0-2'	100	101	102
310-272141-2	LGP-1/4-6'	98	102	99
310-272141-3	LGP-2/0-2'	99	98	101
310-272141-5	LGP-3/0-2'	99	100	104
310-272141-6	LGP-3/4-6'	98	98	97
310-272141-7	LGP-4/0-2'	99	99	99
310-272141-9	LGP-5/0-2'	98	99	101
310-272141-10	LGP-6/0-2'	93	98	100
LCS 310-410199/2-A	Lab Control Sample	95	100	99
MB 310-410199/1-A	Method Blank	97	99	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(37-131)	(30-138)	(24-145)
310-272141-1	LGP-1/0-2'	98	95	110
310-272141-1	LGP-1/0-2'	105	101	135
310-272141-1 MS	LGP-1/0-2'	93	93 *3	116
310-272141-1 MS	LGP-1/0-2'	107	104	136
310-272141-1 MSD	LGP-1/0-2'	87 *3	84 *3	107
310-272141-1 MSD	LGP-1/0-2'	90	85	116
310-272141-2	LGP-1/4-6'	104 *3	96 *3	182 S1+ *3
310-272141-2	LGP-1/4-6'	85	83	104
310-272141-2	LGP-1/4-6'	95	91	102
310-272141-3	LGP-2/0-2'	104 *3	122 *3	176 S1+ *3
310-272141-3	LGP-2/0-2'	105	110	154 S1+
310-272141-3	LGP-2/0-2'	116	120	157 S1+
310-272141-5	LGP-3/0-2'	88 *3	88 *3	248 S1+ *3
310-272141-5	LGP-3/0-2'	94	100	215 S1+
310-272141-5	LGP-3/0-2'	128	163 S1+	238 S1+
310-272141-6	LGP-3/4-6'	104 *3	104 *3	193 S1+ *3
310-272141-6	LGP-3/4-6'	100	105	159 S1+
310-272141-6	LGP-3/4-6'	108	119	141
310-272141-7	LGP-4/0-2'	98 *3	108 *3	152 S1+ *3
310-272141-7	LGP-4/0-2'	97	109	132
310-272141-9	LGP-5/0-2'	97 *3	130 *3	196 S1+ *3
310-272141-9	LGP-5/0-2'	100	117	162 S1+
310-272141-9	LGP-5/0-2'	103	114	147 S1+
310-272141-10	LGP-6/0-2'	87 *3	88 *3	116

Surrogate Summary

Client: Landmark Environmental, LLC
Job ID: 310-272141-1
Project/Site: Soo Line CG

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(37-131)	(30-138)	(24-145)
310-272141-10	LGP-6/0-2'	97	99	115
LCS 310-410378/2-A	Lab Control Sample	107 *3	156 S1+ *3	212 S1+ *3
LCS 310-410859/2-A	Lab Control Sample	91	120	101
MB 310-410378/1-A	Method Blank	106 *3	138 *3	158 S1+ *3
MB 310-410859/1-A	Method Blank	76	93	83

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		BFB
Lab Sample ID	Client Sample ID	(80-120)
310-272141-1	LGP-1/0-2'	104
310-272141-2	LGP-1/4-6'	107
310-272141-3	LGP-2/0-2'	103
310-272141-5	LGP-3/0-2'	103
310-272141-6	LGP-3/4-6'	106
310-272141-7	LGP-4/0-2'	107
310-272141-9	LGP-5/0-2'	105
310-272141-10	LGP-6/0-2'	103
LCS 310-410340/2-A	Lab Control Sample	109
LCSD 310-410340/23-A	Lab Control Sample Dup	107
MB 310-410340/1-A	Method Blank	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 310-410199/1-A
Matrix: Solid
Analysis Batch: 410366

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 410199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.494		0.494		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Allyl chloride	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Benzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Bromobenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Bromochloromethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Bromodichloromethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Bromoform	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Bromomethane	<0.494		0.494		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
2-Butanone (MEK)	<0.741		0.741		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Carbon tetrachloride	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Chlorobenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Chlorodibromomethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Chloroethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Chloroform	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Chloromethane	<0.247		0.247		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
2-Chlorotoluene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
4-Chlorotoluene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
cis-1,2-Dichloroethene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
cis-1,3-Dichloropropene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,2-Dibromo-3-chloropropane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,2-Dibromoethane (EDB)	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Dibromomethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,2-Dichlorobenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,3-Dichlorobenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,4-Dichlorobenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Dichlorodifluoromethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,1-Dichloroethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,2-Dichloroethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,1-Dichloroethene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Dichlorofluoromethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,2-Dichloropropane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,3-Dichloropropane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
2,2-Dichloropropane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,1-Dichloropropene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Diethyl ether	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Ethylbenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Hexachlorobutadiene	0.1220		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Isopropylbenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Methylene chloride	<0.247		0.247		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
4-Methyl-2-pentanone (MIBK)	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Methyl tert-butyl ether	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Naphthalene	<0.247		0.247		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
n-Butylbenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
n-Propylbenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
p-Isopropyltoluene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
sec-Butylbenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Styrene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
tert-Butylbenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-410199/1-A
Matrix: Solid
Analysis Batch: 410366

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 410199

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,1,2,2-Tetrachloroethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Tetrachloroethene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Tetrahydrofuran	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Toluene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
trans-1,2-Dichloroethene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
trans-1,3-Dichloropropene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,2,3-Trichlorobenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,2,4-Trichlorobenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,1,1-Trichloroethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,1,2-Trichloroethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Trichloroethene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Trichlorofluoromethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,2,3-Trichloropropane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,1,2-Trichlorotrifluoroethane	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,2,4-Trimethylbenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
1,3,5-Trimethylbenzene	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Vinyl chloride	<0.0988		0.0988		mg/Kg		01/02/24 07:55	01/03/24 07:08	1
Xylenes, Total	<0.148		0.148		mg/Kg		01/02/24 07:55	01/03/24 07:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*	*01/02/24 07:55*	*01/03/24 07:08*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*	*01/02/24 07:55*	*01/03/24 07:08*	*1*
Toluene-d8 (Surr)	*95*		*80 - 120*	*01/02/24 07:55*	*01/03/24 07:08*	*1*

Lab Sample ID: LCS 310-410199/2-A
Matrix: Solid
Analysis Batch: 410366

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	1.92	2.368		mg/Kg		123	50 - 150
Allyl chloride	0.959	1.086		mg/Kg		113	50 - 150
Benzene	0.959	1.139		mg/Kg		119	80 - 127
Bromobenzene	0.959	1.154		mg/Kg		120	80 - 129
Bromochloromethane	0.959	1.229		mg/Kg		128	79 - 141
Bromodichloromethane	0.959	1.133		mg/Kg		118	72 - 126
Bromoform	0.959	1.101		mg/Kg		115	56 - 140
2-Butanone (MEK)	1.92	2.357		mg/Kg		123	50 - 150
Carbon tetrachloride	0.959	1.170		mg/Kg		122	74 - 134
Chlorobenzene	0.959	1.169		mg/Kg		122	80 - 123
Chlorodibromomethane	0.959	1.194		mg/Kg		125	70 - 127
Chloroform	0.959	1.191		mg/Kg		124	78 - 128
2-Chlorotoluene	0.959	1.105		mg/Kg		115	80 - 123
4-Chlorotoluene	0.959	1.133		mg/Kg		118	79 - 122
cis-1,2-Dichloroethene	0.959	1.249		mg/Kg		130	80 - 131
cis-1,3-Dichloropropene	0.959	1.118		mg/Kg		117	77 - 127
1,2-Dibromo-3-chloropropane	0.959	1.333		mg/Kg		139	50 - 150
1,2-Dibromoethane (EDB)	0.959	1.168		mg/Kg		122	80 - 126

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-410199/2-A
Matrix: Solid
Analysis Batch: 410366

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410199

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dibromomethane	0.959	1.193		mg/Kg		124	78 - 133
1,2-Dichlorobenzene	0.959	1.181		mg/Kg		123	80 - 123
1,3-Dichlorobenzene	0.959	1.200	*+	mg/Kg		125	80 - 124
1,4-Dichlorobenzene	0.959	1.132		mg/Kg		118	79 - 122
1,1-Dichloroethane	0.959	1.192		mg/Kg		124	75 - 133
1,2-Dichloroethane	0.959	1.173		mg/Kg		122	74 - 135
1,1-Dichloroethene	0.959	1.209		mg/Kg		126	72 - 136
1,2-Dichloropropane	0.959	1.150		mg/Kg		120	80 - 130
1,3-Dichloropropane	0.959	1.180		mg/Kg		123	79 - 130
2,2-Dichloropropane	0.959	0.9390		mg/Kg		98	50 - 150
1,1-Dichloropropene	0.959	1.164		mg/Kg		121	80 - 131
Diethyl ether	0.959	1.112		mg/Kg		116	71 - 139
Ethylbenzene	0.959	1.183		mg/Kg		123	80 - 123
Hexachlorobutadiene	0.959	1.347		mg/Kg		140	50 - 150
Isopropylbenzene	0.959	1.135		mg/Kg		118	80 - 125
Methylene chloride	0.959	1.166		mg/Kg		122	50 - 150
4-Methyl-2-pentanone (MIBK)	1.92	2.208		mg/Kg		115	67 - 136
Methyl tert-butyl ether	0.959	1.181		mg/Kg		123	72 - 136
Naphthalene	0.959	1.279		mg/Kg		133	50 - 150
n-Butylbenzene	0.959	1.195		mg/Kg		125	71 - 127
n-Propylbenzene	0.959	1.116		mg/Kg		116	79 - 125
p-Isopropyltoluene	0.959	1.175		mg/Kg		122	76 - 125
sec-Butylbenzene	0.959	1.167		mg/Kg		122	76 - 125
Styrene	0.959	1.127		mg/Kg		117	79 - 124
tert-Butylbenzene	0.959	1.164		mg/Kg		121	78 - 124
1,1,1,2-Tetrachloroethane	0.959	1.148		mg/Kg		120	78 - 127
1,1,2,2-Tetrachloroethane	0.959	1.097		mg/Kg		114	74 - 131
Tetrachloroethene	0.959	1.150		mg/Kg		120	80 - 134
Tetrahydrofuran	1.92	2.177		mg/Kg		113	65 - 141
Toluene	0.959	1.169		mg/Kg		122	78 - 126
trans-1,2-Dichloroethene	0.959	1.130		mg/Kg		118	75 - 134
trans-1,3-Dichloropropene	0.959	1.064		mg/Kg		111	74 - 125
1,2,3-Trichlorobenzene	0.959	1.197		mg/Kg		125	50 - 150
1,2,4-Trichlorobenzene	0.959	1.276	*+	mg/Kg		133	74 - 130
1,1,1-Trichloroethane	0.959	1.217		mg/Kg		127	77 - 134
1,1,2-Trichloroethane	0.959	1.131		mg/Kg		118	80 - 127
Trichloroethene	0.959	1.146		mg/Kg		120	80 - 130
1,2,3-Trichloropropane	0.959	1.245		mg/Kg		130	75 - 134
1,1,2-Trichlorotrifluoroethane	0.959	1.277		mg/Kg		133	66 - 150
1,2,4-Trimethylbenzene	0.959	1.160		mg/Kg		121	73 - 130
1,3,5-Trimethylbenzene	0.959	1.193		mg/Kg		124	76 - 124
Xylenes, Total	1.92	2.281		mg/Kg		119	80 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
Toluene-d8 (Surr)	*99*		*80 - 120*

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 310-410378/1-A
Matrix: Solid
Analysis Batch: 410711

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 410378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Acenaphthylene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Anthracene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Benzo(a)anthracene	<0.00972		0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Benzo(a)pyrene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Benzo(b)fluoranthene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Benzo(g,h,i)perylene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Benzo(k)fluoranthene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Chrysene	<0.00972		0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Dibenz(a,h)anthracene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Fluoranthene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Fluorene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Indeno(1,2,3-cd)pyrene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
2-Methylnaphthalene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Naphthalene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Phenanthrene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1
Pyrene	<0.00972	*3	0.00972		mg/Kg		01/03/24 12:26	01/09/24 18:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*106*	**3*	*37 - 131*	*01/03/24 12:26*	*01/09/24 18:26*	*1*
Nitrobenzene-d5 (Surr)	*138*	**3*	*30 - 138*	*01/03/24 12:26*	*01/09/24 18:26*	*1*
Terphenyl-d14 (Surr)	*158*	*S1+ *3*	*24 - 145*	*01/03/24 12:26*	*01/09/24 18:26*	*1*

Lab Sample ID: LCS 310-410378/2-A
Matrix: Solid
Analysis Batch: 410711

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	0.0646	0.1026	*3 *+	mg/Kg		159	50 - 124
Acenaphthylene	0.0646	0.07723	*3 *+	mg/Kg		120	52 - 119
Anthracene	0.0646	0.07268	*3	mg/Kg		113	47 - 124
Benzo(a)anthracene	0.0646	0.07066	*3	mg/Kg		109	54 - 138
Benzo(a)pyrene	0.0646	0.5274	*3 *+	mg/Kg		817	47 - 125
Benzo(b)fluoranthene	0.0646	1.297	E *3 *+	mg/Kg		2009	49 - 138
Benzo(g,h,i)perylene	0.0646	0.7403	E *3 *+	mg/Kg		1146	33 - 143
Benzo(k)fluoranthene	0.0646	0.9026	E *3 *+	mg/Kg		1397	47 - 134
Chrysene	0.0646	0.09278	*3 *+	mg/Kg		144	48 - 127
Dibenz(a,h)anthracene	0.0646	1.420	E *3 *+	mg/Kg		2198	40 - 141
Fluoranthene	0.0646	0.1368	*3 *+	mg/Kg		212	43 - 133
Fluorene	0.0646	0.1991	*3 *+	mg/Kg		308	52 - 126
Indeno(1,2,3-cd)pyrene	0.0646	0.7115	E *3 *+	mg/Kg		1102	40 - 139
2-Methylnaphthalene	0.0646	0.06131	*3	mg/Kg		95	47 - 128
Naphthalene	0.0646	0.07855	*3 *+	mg/Kg		122	46 - 118
Phenanthrene	0.0646	0.1097	*3 *+	mg/Kg		170	47 - 132
Pyrene	0.0646	0.07897	*3	mg/Kg		122	37 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*107*	**3*	*37 - 131*

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 310-410378/2-A
Matrix: Solid
Analysis Batch: 410711

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410378

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5 (Surr)	156	S1+ *3	30 - 138
Terphenyl-d14 (Surr)	212	S1+ *3	24 - 145

Lab Sample ID: 310-272141-1 MS
Matrix: Solid
Analysis Batch: 410711

Client Sample ID: LGP-1/0-2'
Prep Type: Total/NA
Prep Batch: 410378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	<0.0851	*+	0.115	0.09953		mg/Kg	☼	87	33 - 132
Acenaphthylene	<0.0851	*+	0.115	0.09222		mg/Kg	☼	80	30 - 131
Anthracene	<0.0851		0.115	0.1025		mg/Kg	☼	89	21 - 137
Benzo(a)anthracene	<0.0851		0.115	0.1599		mg/Kg	☼	97	27 - 150
Benzo(a)pyrene	<0.0851	*+	0.115	0.1771		mg/Kg	☼	105	16 - 141
Benzo(b)fluoranthene	<0.0851	*+	0.115	0.1966		mg/Kg	☼	117	19 - 148
Benzo(g,h,i)perylene	<0.0851	*+	0.115	0.1460		mg/Kg	☼	93	10 - 150
Benzo(k)fluoranthene	<0.0851	*+	0.115	0.1565		mg/Kg	☼	116	20 - 144
Chrysene	<0.0851	*+	0.115	0.1657		mg/Kg	☼	96	19 - 140
Dibenz(a,h)anthracene	<0.0851	*+	0.115	0.1124		mg/Kg	☼	98	15 - 150
Fluoranthene	0.0952	F1 *+	0.115	0.2543		mg/Kg	☼	139	11 - 147
Fluorene	<0.0851	*+	0.115	0.1101		mg/Kg	☼	96	26 - 141
Indeno(1,2,3-cd)pyrene	<0.0851	*+	0.115	0.1686		mg/Kg	☼	109	14 - 150
2-Methylnaphthalene	<0.0851		0.115	0.09247		mg/Kg	☼	81	25 - 138
Naphthalene	<0.0851	*+	0.115	0.09564		mg/Kg	☼	83	24 - 130
Phenanthrene	<0.0851	*+	0.115	0.1427		mg/Kg	☼	90	19 - 144
Pyrene	0.0935	F1	0.115	0.2362		mg/Kg	☼	125	10 - 146

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl (Surr)	93		37 - 131
Nitrobenzene-d5 (Surr)	93	*3	30 - 138
Terphenyl-d14 (Surr)	116		24 - 145

Lab Sample ID: 310-272141-1 MSD
Matrix: Solid
Analysis Batch: 410711

Client Sample ID: LGP-1/0-2'
Prep Type: Total/NA
Prep Batch: 410378

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthene	<0.0851	*+	0.114	0.1023	*3	mg/Kg	☼	90	33 - 132	3	40
Acenaphthylene	<0.0851	*+	0.114	0.1114	*3	mg/Kg	☼	98	30 - 131	19	40
Anthracene	<0.0851		0.114	0.1158		mg/Kg	☼	102	21 - 137	12	40
Benzo(a)anthracene	<0.0851		0.114	0.2089		mg/Kg	☼	141	27 - 150	27	40
Benzo(a)pyrene	<0.0851	*+	0.114	0.2136		mg/Kg	☼	138	16 - 141	19	40
Benzo(b)fluoranthene	<0.0851	*+	0.114	0.2239		mg/Kg	☼	142	19 - 148	13	40
Benzo(g,h,i)perylene	<0.0851	*+	0.114	0.1548		mg/Kg	☼	102	10 - 150	6	40
Benzo(k)fluoranthene	<0.0851	*+	0.114	0.1546		mg/Kg	☼	115	20 - 144	1	40
Chrysene	<0.0851	*+	0.114	0.2119		mg/Kg	☼	137	19 - 140	24	40
Dibenz(a,h)anthracene	<0.0851	*+	0.114	0.09770		mg/Kg	☼	86	15 - 150	14	40
Fluoranthene	0.0952	F1 *+	0.114	0.3600	F1	mg/Kg	☼	233	11 - 147	34	40
Fluorene	<0.0851	*+	0.114	0.1076	*3	mg/Kg	☼	95	26 - 141	2	40

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 310-272141-1 MSD
Matrix: Solid
Analysis Batch: 410711

Client Sample ID: LGP-1/0-2'
Prep Type: Total/NA
Prep Batch: 410378

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Indeno(1,2,3-cd)pyrene	<0.0851	*+	0.114	0.1768		mg/Kg	☼	117	14 - 150	5	40
2-Methylnaphthalene	<0.0851		0.114	0.09589	*3	mg/Kg	☼	84	25 - 138	4	40
Naphthalene	<0.0851	*+	0.114	0.1061	*3	mg/Kg	☼	93	24 - 130	10	40
Phenanthrene	<0.0851	*+	0.114	0.1815		mg/Kg	☼	125	19 - 144	24	40
Pyrene	0.0935	F1	0.114	0.3489	F1	mg/Kg	☼	225	10 - 146	39	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*87*	**3*	*37 - 131*
Nitrobenzene-d5 (Surr)	*84*	**3*	*30 - 138*
Terphenyl-d14 (Surr)	*107*		*24 - 145*

Lab Sample ID: MB 310-410859/1-A
Matrix: Solid
Analysis Batch: 411034

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 410859

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Acenaphthylene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Anthracene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Benzo(a)anthracene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Benzo(a)pyrene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Benzo(b)fluoranthene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Benzo(g,h,i)perylene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Benzo(k)fluoranthene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Chrysene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Dibenz(a,h)anthracene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Fluoranthene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Fluorene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Indeno(1,2,3-cd)pyrene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
2-Methylnaphthalene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Naphthalene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Phenanthrene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1
Pyrene	<0.00976		0.00976		mg/Kg		01/10/24 11:55	01/12/24 10:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*76*		*37 - 131*	*01/10/24 11:55*	*01/12/24 10:43*	*1*
Nitrobenzene-d5 (Surr)	*93*		*30 - 138*	*01/10/24 11:55*	*01/12/24 10:43*	*1*
Terphenyl-d14 (Surr)	*83*		*24 - 145*	*01/10/24 11:55*	*01/12/24 10:43*	*1*

Lab Sample ID: LCS 310-410859/2-A
Matrix: Solid
Analysis Batch: 411034

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410859

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	0.0632	0.05644		mg/Kg		89	50 - 124
Acenaphthylene	0.0632	0.05987		mg/Kg		95	52 - 119
Anthracene	0.0632	0.05642		mg/Kg		89	47 - 124
Benzo(a)anthracene	0.0632	0.05683		mg/Kg		90	54 - 138

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 310-410859/2-A
Matrix: Solid
Analysis Batch: 411034

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410859

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzo(a)pyrene	0.0632	0.05908		mg/Kg		94	47 - 125
Benzo(b)fluoranthene	0.0632	0.06426		mg/Kg		102	49 - 138
Benzo(g,h,i)perylene	0.0632	0.06018		mg/Kg		95	33 - 143
Benzo(k)fluoranthene	0.0632	0.06236		mg/Kg		99	47 - 134
Chrysene	0.0632	0.05864		mg/Kg		93	48 - 127
Dibenz(a,h)anthracene	0.0632	0.06150		mg/Kg		97	40 - 141
Fluoranthene	0.0632	0.06036		mg/Kg		96	43 - 133
Fluorene	0.0632	0.05941		mg/Kg		94	52 - 126
Indeno(1,2,3-cd)pyrene	0.0632	0.06401		mg/Kg		101	40 - 139
2-Methylnaphthalene	0.0632	0.05289		mg/Kg		84	47 - 128
Naphthalene	0.0632	0.05396		mg/Kg		85	46 - 118
Phenanthrene	0.0632	0.05930		mg/Kg		94	47 - 132
Pyrene	0.0632	0.05942		mg/Kg		94	37 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*91*		*37 - 131*
Nitrobenzene-d5 (Surr)	*120*		*30 - 138*
Terphenyl-d14 (Surr)	*101*		*24 - 145*

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC)

Lab Sample ID: MB 310-410340/1-A
Matrix: Solid
Analysis Batch: 410348

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 410340

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Wisconsin GRO	<9.18		9.18		mg/Kg		01/03/24 09:44	01/05/24 09:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*01/03/24 09:44*	*01/05/24 09:53*	*1*

Lab Sample ID: LCS 310-410340/2-A
Matrix: Solid
Analysis Batch: 410348

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410340

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Wisconsin GRO	18.7	17.44		mg/Kg		93	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*

Lab Sample ID: LCSD 310-410340/23-A
Matrix: Solid
Analysis Batch: 410348

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 410340

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Wisconsin GRO	18.5	17.01		mg/Kg		92	80 - 120	2	20

Method: WI-GRO - Wisconsin - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: LCSD 310-410340/23-A
Matrix: Solid
Analysis Batch: 410348

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 410340

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 310-409967/1-A
Matrix: Solid
Analysis Batch: 410720

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 409967

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	<6.82		6.82		mg/Kg		12/28/23 10:11	01/09/24 10:00	1

Lab Sample ID: LCS 310-409967/2-A
Matrix: Solid
Analysis Batch: 410720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 409967

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel Range Organics (DRO)	97.3	87.43		mg/Kg		90	70 - 120

Lab Sample ID: LCSD 310-409967/3-A
Matrix: Solid
Analysis Batch: 410720

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 409967

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics (DRO)	96.7	85.44		mg/Kg		88	70 - 120	2	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-410152/1-A ^5
Matrix: Solid
Analysis Batch: 410409

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 410152

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.775		0.775		mg/Kg		01/02/24 09:00	01/03/24 16:16	5
Barium	<0.775		0.775		mg/Kg		01/02/24 09:00	01/03/24 16:16	5
Cadmium	<0.388		0.388		mg/Kg		01/02/24 09:00	01/03/24 16:16	5
Chromium	<1.16		1.16		mg/Kg		01/02/24 09:00	01/03/24 16:16	5
Lead	<1.94		1.94		mg/Kg		01/02/24 09:00	01/03/24 16:16	5
Selenium	<1.16		1.16		mg/Kg		01/02/24 09:00	01/03/24 16:16	5
Silver	<0.388		0.388		mg/Kg		01/02/24 09:00	01/03/24 16:16	5

Lab Sample ID: LCS 310-410152/2-A ^20
Matrix: Solid
Analysis Batch: 410409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410152

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	181	186.1		mg/Kg		103	80 - 120
Barium	181	176.2		mg/Kg		97	80 - 120
Cadmium	181	171.7		mg/Kg		95	80 - 120
Chromium	181	184.2		mg/Kg		102	80 - 120
Lead	181	185.1		mg/Kg		102	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 310-410152/2-A ^20
Matrix: Solid
Analysis Batch: 410409

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410152

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Selenium			181	170.5		mg/Kg		94	80 - 120		
Silver			90.7	90.63		mg/Kg		100	80 - 120		

Lab Sample ID: 310-272141-1 MS
Matrix: Solid
Analysis Batch: 410409

Client Sample ID: LGP-1/0-2'
Prep Type: Total/NA
Prep Batch: 410152

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Arsenic	5.67	F1	176	226.5	F1	mg/Kg	☼	126	75 - 125		
Barium	126	F1	176	402.6	F1	mg/Kg	☼	157	75 - 125		
Cadmium	<0.441		176	205.0		mg/Kg	☼	116	75 - 125		
Chromium	15.7	F1	176	243.6	F1	mg/Kg	☼	130	75 - 125		
Lead	9.18	F1	176	230.0	F1	mg/Kg	☼	126	75 - 125		
Selenium	<1.32		176	207.2		mg/Kg	☼	117	75 - 125		
Silver	<0.441		87.9	107.7		mg/Kg	☼	122	75 - 125		

Lab Sample ID: 310-272141-1 MSD
Matrix: Solid
Analysis Batch: 410409

Client Sample ID: LGP-1/0-2'
Prep Type: Total/NA
Prep Batch: 410152

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	5.67	F1	174	222.6		mg/Kg	☼	125	75 - 125	2	20
Barium	126	F1	174	422.7	F1	mg/Kg	☼	171	75 - 125	5	20
Cadmium	<0.441		174	202.8		mg/Kg	☼	116	75 - 125	1	20
Chromium	15.7	F1	174	239.2	F1	mg/Kg	☼	128	75 - 125	2	20
Lead	9.18	F1	174	225.4		mg/Kg	☼	124	75 - 125	2	20
Selenium	<1.32		174	201.6		mg/Kg	☼	115	75 - 125	3	20
Silver	<0.441		87.0	108.0		mg/Kg	☼	124	75 - 125	0	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 310-410658/1-A
Matrix: Solid
Analysis Batch: 410762

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 410658

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0153		0.0153		mg/Kg		01/08/24 09:43	01/09/24 12:56	1

Lab Sample ID: LCS 310-410658/2-A
Matrix: Solid
Analysis Batch: 410762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410658

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			0.149	0.1426		mg/Kg		96	80 - 120		

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: MB 310-410660/1-A
Matrix: Solid
Analysis Batch: 410762

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 410660

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0160		0.0160		mg/Kg		01/08/24 09:45	01/09/24 14:00	1

Lab Sample ID: LCS 310-410660/2-A
Matrix: Solid
Analysis Batch: 410762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 410660

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Mercury			0.130	0.1254		mg/Kg		96	80 - 120		

Method: Moisture - Percent Moisture

Lab Sample ID: 310-272141-9 DU
Matrix: Solid
Analysis Batch: 409814

Client Sample ID: LGP-5/0-2'
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	15.4			12.0		%				25	39
Percent Solids	84.6			88.0		%				4	10

QC Association Summary

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

GC/MS VOA

Prep Batch: 410199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	5035	
310-272141-2	LGP-1/4-6'	Total/NA	Solid	5035	
310-272141-3	LGP-2/0-2'	Total/NA	Solid	5035	
310-272141-5	LGP-3/0-2'	Total/NA	Solid	5035	
310-272141-6	LGP-3/4-6'	Total/NA	Solid	5035	
310-272141-7	LGP-4/0-2'	Total/NA	Solid	5035	
310-272141-9	LGP-5/0-2'	Total/NA	Solid	5035	
310-272141-10	LGP-6/0-2'	Total/NA	Solid	5035	
MB 310-410199/1-A	Method Blank	Total/NA	Solid	5035	
LCS 310-410199/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 410366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	8260D	410199
310-272141-2	LGP-1/4-6'	Total/NA	Solid	8260D	410199
310-272141-3	LGP-2/0-2'	Total/NA	Solid	8260D	410199
310-272141-5	LGP-3/0-2'	Total/NA	Solid	8260D	410199
310-272141-6	LGP-3/4-6'	Total/NA	Solid	8260D	410199
310-272141-7	LGP-4/0-2'	Total/NA	Solid	8260D	410199
310-272141-9	LGP-5/0-2'	Total/NA	Solid	8260D	410199
310-272141-10	LGP-6/0-2'	Total/NA	Solid	8260D	410199
MB 310-410199/1-A	Method Blank	Total/NA	Solid	8260D	410199
LCS 310-410199/2-A	Lab Control Sample	Total/NA	Solid	8260D	410199

GC/MS Semi VOA

Prep Batch: 410378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	3546	
310-272141-2	LGP-1/4-6'	Total/NA	Solid	3546	
310-272141-3	LGP-2/0-2'	Total/NA	Solid	3546	
310-272141-5	LGP-3/0-2'	Total/NA	Solid	3546	
310-272141-6	LGP-3/4-6'	Total/NA	Solid	3546	
310-272141-7	LGP-4/0-2'	Total/NA	Solid	3546	
310-272141-9	LGP-5/0-2'	Total/NA	Solid	3546	
310-272141-10	LGP-6/0-2'	Total/NA	Solid	3546	
MB 310-410378/1-A	Method Blank	Total/NA	Solid	3546	
LCS 310-410378/2-A	Lab Control Sample	Total/NA	Solid	3546	
310-272141-1 MS	LGP-1/0-2'	Total/NA	Solid	3546	
310-272141-1 MSD	LGP-1/0-2'	Total/NA	Solid	3546	

Analysis Batch: 410711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	8270E SIM	410378
310-272141-2	LGP-1/4-6'	Total/NA	Solid	8270E SIM	410378
310-272141-3	LGP-2/0-2'	Total/NA	Solid	8270E SIM	410378
310-272141-5	LGP-3/0-2'	Total/NA	Solid	8270E SIM	410378
310-272141-6	LGP-3/4-6'	Total/NA	Solid	8270E SIM	410378
310-272141-7	LGP-4/0-2'	Total/NA	Solid	8270E SIM	410378
310-272141-9	LGP-5/0-2'	Total/NA	Solid	8270E SIM	410378
310-272141-10	LGP-6/0-2'	Total/NA	Solid	8270E SIM	410378

GC/MS Semi VOA (Continued)

Analysis Batch: 410711 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 310-410378/1-A	Method Blank	Total/NA	Solid	8270E SIM	410378
LCS 310-410378/2-A	Lab Control Sample	Total/NA	Solid	8270E SIM	410378
310-272141-1 MS	LGP-1/0-2'	Total/NA	Solid	8270E SIM	410378
310-272141-1 MSD	LGP-1/0-2'	Total/NA	Solid	8270E SIM	410378

Prep Batch: 410859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	3546	
310-272141-2	LGP-1/4-6'	Total/NA	Solid	3546	
310-272141-3	LGP-2/0-2'	Total/NA	Solid	3546	
310-272141-5	LGP-3/0-2'	Total/NA	Solid	3546	
310-272141-6	LGP-3/4-6'	Total/NA	Solid	3546	
310-272141-7	LGP-4/0-2'	Total/NA	Solid	3546	
310-272141-9	LGP-5/0-2'	Total/NA	Solid	3546	
310-272141-10	LGP-6/0-2'	Total/NA	Solid	3546	
MB 310-410859/1-A	Method Blank	Total/NA	Solid	3546	
LCS 310-410859/2-A	Lab Control Sample	Total/NA	Solid	3546	
310-272141-1 MS	LGP-1/0-2'	Total/NA	Solid	3546	
310-272141-1 MSD	LGP-1/0-2'	Total/NA	Solid	3546	

Analysis Batch: 410872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-2	LGP-1/4-6'	Total/NA	Solid	8270E SIM	410378
310-272141-5	LGP-3/0-2'	Total/NA	Solid	8270E SIM	410378
310-272141-6	LGP-3/4-6'	Total/NA	Solid	8270E SIM	410378
310-272141-7	LGP-4/0-2'	Total/NA	Solid	8270E SIM	410378
310-272141-9	LGP-5/0-2'	Total/NA	Solid	8270E SIM	410378

Analysis Batch: 411034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	8270E SIM	410859
310-272141-2	LGP-1/4-6'	Total/NA	Solid	8270E SIM	410859
310-272141-3	LGP-2/0-2'	Total/NA	Solid	8270E SIM	410859
310-272141-5	LGP-3/0-2'	Total/NA	Solid	8270E SIM	410859
310-272141-6	LGP-3/4-6'	Total/NA	Solid	8270E SIM	410859
310-272141-7	LGP-4/0-2'	Total/NA	Solid	8270E SIM	410859
310-272141-9	LGP-5/0-2'	Total/NA	Solid	8270E SIM	410859
310-272141-10	LGP-6/0-2'	Total/NA	Solid	8270E SIM	410859
MB 310-410859/1-A	Method Blank	Total/NA	Solid	8270E SIM	410859
LCS 310-410859/2-A	Lab Control Sample	Total/NA	Solid	8270E SIM	410859
310-272141-1 MS	LGP-1/0-2'	Total/NA	Solid	8270E SIM	410859
310-272141-1 MSD	LGP-1/0-2'	Total/NA	Solid	8270E SIM	410859

Analysis Batch: 411095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-2	LGP-1/4-6'	Total/NA	Solid	8270E SIM	410859
310-272141-3	LGP-2/0-2'	Total/NA	Solid	8270E SIM	410859
310-272141-3	LGP-2/0-2'	Total/NA	Solid	8270E SIM	410378
310-272141-5	LGP-3/0-2'	Total/NA	Solid	8270E SIM	410859
310-272141-6	LGP-3/4-6'	Total/NA	Solid	8270E SIM	410859
310-272141-9	LGP-5/0-2'	Total/NA	Solid	8270E SIM	410859

QC Association Summary

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

GC VOA

Prep Batch: 410340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	WI GRO	
310-272141-2	LGP-1/4-6'	Total/NA	Solid	WI GRO	
310-272141-3	LGP-2/0-2'	Total/NA	Solid	WI GRO	
310-272141-5	LGP-3/0-2'	Total/NA	Solid	WI GRO	
310-272141-6	LGP-3/4-6'	Total/NA	Solid	WI GRO	
310-272141-7	LGP-4/0-2'	Total/NA	Solid	WI GRO	
310-272141-9	LGP-5/0-2'	Total/NA	Solid	WI GRO	
310-272141-10	LGP-6/0-2'	Total/NA	Solid	WI GRO	
MB 310-410340/1-A	Method Blank	Total/NA	Solid	5035	
LCS 310-410340/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 310-410340/23-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 410348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	WI-GRO	410340
310-272141-2	LGP-1/4-6'	Total/NA	Solid	WI-GRO	410340
310-272141-3	LGP-2/0-2'	Total/NA	Solid	WI-GRO	410340
310-272141-5	LGP-3/0-2'	Total/NA	Solid	WI-GRO	410340
310-272141-6	LGP-3/4-6'	Total/NA	Solid	WI-GRO	410340
310-272141-7	LGP-4/0-2'	Total/NA	Solid	WI-GRO	410340
310-272141-9	LGP-5/0-2'	Total/NA	Solid	WI-GRO	410340
310-272141-10	LGP-6/0-2'	Total/NA	Solid	WI-GRO	410340
MB 310-410340/1-A	Method Blank	Total/NA	Solid	WI-GRO	410340
LCS 310-410340/2-A	Lab Control Sample	Total/NA	Solid	WI-GRO	410340
LCSD 310-410340/23-A	Lab Control Sample Dup	Total/NA	Solid	WI-GRO	410340

GC Semi VOA

Prep Batch: 409967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	WI DRO PREP	
310-272141-2	LGP-1/4-6'	Total/NA	Solid	WI DRO PREP	
310-272141-3	LGP-2/0-2'	Total/NA	Solid	WI DRO PREP	
310-272141-5	LGP-3/0-2'	Total/NA	Solid	WI DRO PREP	
310-272141-6	LGP-3/4-6'	Total/NA	Solid	WI DRO PREP	
310-272141-7	LGP-4/0-2'	Total/NA	Solid	WI DRO PREP	
310-272141-9	LGP-5/0-2'	Total/NA	Solid	WI DRO PREP	
310-272141-10	LGP-6/0-2'	Total/NA	Solid	WI DRO PREP	
MB 310-409967/1-A	Method Blank	Total/NA	Solid	WI DRO PREP	
LCS 310-409967/2-A	Lab Control Sample	Total/NA	Solid	WI DRO PREP	
LCSD 310-409967/3-A	Lab Control Sample Dup	Total/NA	Solid	WI DRO PREP	

Analysis Batch: 410720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	WI-DRO	409967
310-272141-2	LGP-1/4-6'	Total/NA	Solid	WI-DRO	409967
310-272141-3	LGP-2/0-2'	Total/NA	Solid	WI-DRO	409967
310-272141-10	LGP-6/0-2'	Total/NA	Solid	WI-DRO	409967
MB 310-409967/1-A	Method Blank	Total/NA	Solid	WI-DRO	409967
LCS 310-409967/2-A	Lab Control Sample	Total/NA	Solid	WI-DRO	409967
LCSD 310-409967/3-A	Lab Control Sample Dup	Total/NA	Solid	WI-DRO	409967

QC Association Summary

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

GC Semi VOA

Analysis Batch: 410841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-5	LGP-3/0-2'	Total/NA	Solid	WI-DRO	409967
310-272141-6	LGP-3/4-6'	Total/NA	Solid	WI-DRO	409967
310-272141-7	LGP-4/0-2'	Total/NA	Solid	WI-DRO	409967
310-272141-9	LGP-5/0-2'	Total/NA	Solid	WI-DRO	409967

Metals

Prep Batch: 410152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	3050B	
310-272141-2	LGP-1/4-6'	Total/NA	Solid	3050B	
310-272141-3	LGP-2/0-2'	Total/NA	Solid	3050B	
310-272141-5	LGP-3/0-2'	Total/NA	Solid	3050B	
310-272141-6	LGP-3/4-6'	Total/NA	Solid	3050B	
310-272141-7	LGP-4/0-2'	Total/NA	Solid	3050B	
310-272141-9	LGP-5/0-2'	Total/NA	Solid	3050B	
310-272141-10	LGP-6/0-2'	Total/NA	Solid	3050B	
MB 310-410152/1-A ^5	Method Blank	Total/NA	Solid	3050B	
LCS 310-410152/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
310-272141-1 MS	LGP-1/0-2'	Total/NA	Solid	3050B	
310-272141-1 MSD	LGP-1/0-2'	Total/NA	Solid	3050B	

Analysis Batch: 410409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	6020B	410152
310-272141-2	LGP-1/4-6'	Total/NA	Solid	6020B	410152
310-272141-3	LGP-2/0-2'	Total/NA	Solid	6020B	410152
310-272141-5	LGP-3/0-2'	Total/NA	Solid	6020B	410152
310-272141-6	LGP-3/4-6'	Total/NA	Solid	6020B	410152
310-272141-7	LGP-4/0-2'	Total/NA	Solid	6020B	410152
310-272141-9	LGP-5/0-2'	Total/NA	Solid	6020B	410152
310-272141-10	LGP-6/0-2'	Total/NA	Solid	6020B	410152
MB 310-410152/1-A ^5	Method Blank	Total/NA	Solid	6020B	410152
LCS 310-410152/2-A ^20	Lab Control Sample	Total/NA	Solid	6020B	410152
310-272141-1 MS	LGP-1/0-2'	Total/NA	Solid	6020B	410152
310-272141-1 MSD	LGP-1/0-2'	Total/NA	Solid	6020B	410152

Prep Batch: 410658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	7471B	
310-272141-2	LGP-1/4-6'	Total/NA	Solid	7471B	
310-272141-3	LGP-2/0-2'	Total/NA	Solid	7471B	
310-272141-5	LGP-3/0-2'	Total/NA	Solid	7471B	
310-272141-6	LGP-3/4-6'	Total/NA	Solid	7471B	
310-272141-7	LGP-4/0-2'	Total/NA	Solid	7471B	
310-272141-9	LGP-5/0-2'	Total/NA	Solid	7471B	
MB 310-410658/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 310-410658/2-A	Lab Control Sample	Total/NA	Solid	7471B	

QC Association Summary

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Metals

Prep Batch: 410660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-10	LGP-6/0-2'	Total/NA	Solid	7471B	
MB 310-410660/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 310-410660/2-A	Lab Control Sample	Total/NA	Solid	7471B	

Analysis Batch: 410762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	7471B	410658
310-272141-2	LGP-1/4-6'	Total/NA	Solid	7471B	410658
310-272141-3	LGP-2/0-2'	Total/NA	Solid	7471B	410658
310-272141-5	LGP-3/0-2'	Total/NA	Solid	7471B	410658
310-272141-6	LGP-3/4-6'	Total/NA	Solid	7471B	410658
310-272141-7	LGP-4/0-2'	Total/NA	Solid	7471B	410658
310-272141-9	LGP-5/0-2'	Total/NA	Solid	7471B	410658
310-272141-10	LGP-6/0-2'	Total/NA	Solid	7471B	410660
MB 310-410658/1-A	Method Blank	Total/NA	Solid	7471B	410658
MB 310-410660/1-A	Method Blank	Total/NA	Solid	7471B	410660
LCS 310-410658/2-A	Lab Control Sample	Total/NA	Solid	7471B	410658
LCS 310-410660/2-A	Lab Control Sample	Total/NA	Solid	7471B	410660

General Chemistry

Analysis Batch: 409814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-272141-1	LGP-1/0-2'	Total/NA	Solid	Moisture	
310-272141-2	LGP-1/4-6'	Total/NA	Solid	Moisture	
310-272141-3	LGP-2/0-2'	Total/NA	Solid	Moisture	
310-272141-5	LGP-3/0-2'	Total/NA	Solid	Moisture	
310-272141-6	LGP-3/4-6'	Total/NA	Solid	Moisture	
310-272141-7	LGP-4/0-2'	Total/NA	Solid	Moisture	
310-272141-9	LGP-5/0-2'	Total/NA	Solid	Moisture	
310-272141-10	LGP-6/0-2'	Total/NA	Solid	Moisture	
310-272141-9 DU	LGP-5/0-2'	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-1/0-2'

Date Collected: 12/21/23 09:30
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			410199	MZR8	EET CF	01/02/24 07:55
Total/NA	Analysis	8260D		1	410366	MZR8	EET CF	01/03/24 09:01
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		5	410711	V7YZ	EET CF	01/09/24 19:05
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		5	411034	V7YZ	EET CF	01/12/24 13:17
Total/NA	Prep	WI GRO			410340	FK4Z	EET CF	01/03/24 09:44
Total/NA	Analysis	WI-GRO		1	410348	MZR8	EET CF	01/05/24 10:44
Total/NA	Prep	WI DRO PREP			409967	DZK8	EET CF	12/28/23 10:11
Total/NA	Analysis	WI-DRO		1	410720	C3AA	EET CF	01/09/24 12:01
Total/NA	Prep	3050B			410152	QTZ5	EET CF	01/02/24 09:00
Total/NA	Analysis	6020B		5	410409	A6US	EET CF	01/03/24 16:22
Total/NA	Prep	7471B			410658	NFT2	EET CF	01/08/24 09:43
Total/NA	Analysis	7471B		1	410762	DHM5	EET CF	01/09/24 13:40
Total/NA	Analysis	Moisture		1	409814	W9YR	EET CF	12/27/23 06:46

Client Sample ID: LGP-1/4-6'

Date Collected: 12/21/23 09:40
Date Received: 12/22/23 14:03

Lab Sample ID: 310-272141-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			410199	MZR8	EET CF	01/02/24 07:55
Total/NA	Analysis	8260D		1	410366	MZR8	EET CF	01/03/24 09:23
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		1	410711	V7YZ	EET CF	01/09/24 19:24
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		5	410872	V7YZ	EET CF	01/10/24 16:17
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		1	411034	V7YZ	EET CF	01/12/24 12:19
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		5	411095	V7YZ	EET CF	01/15/24 13:20
Total/NA	Prep	WI GRO			410340	FK4Z	EET CF	01/03/24 09:44
Total/NA	Analysis	WI-GRO		1	410348	MZR8	EET CF	01/05/24 11:10
Total/NA	Prep	WI DRO PREP			409967	DZK8	EET CF	12/28/23 10:11
Total/NA	Analysis	WI-DRO		1	410720	C3AA	EET CF	01/09/24 12:12
Total/NA	Prep	3050B			410152	QTZ5	EET CF	01/02/24 09:00
Total/NA	Analysis	6020B		5	410409	A6US	EET CF	01/03/24 16:50
Total/NA	Prep	7471B			410658	NFT2	EET CF	01/08/24 09:43
Total/NA	Analysis	7471B		1	410762	DHM5	EET CF	01/09/24 13:43
Total/NA	Analysis	Moisture		1	409814	W9YR	EET CF	12/27/23 06:46

Lab Chronicle

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-2/0-2'

Lab Sample ID: 310-272141-3

Date Collected: 12/21/23 10:35

Matrix: Solid

Date Received: 12/22/23 14:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			410199	MZR8	EET CF	01/02/24 07:55
Total/NA	Analysis	8260D		1	410366	MZR8	EET CF	01/03/24 09:46
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		5	410711	V7YZ	EET CF	01/09/24 21:39
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		5	411034	V7YZ	EET CF	01/12/24 13:36
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		50	411095	V7YZ	EET CF	01/15/24 10:09
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		50	411095	V7YZ	EET CF	01/15/24 13:40
Total/NA	Prep	WI GRO			410340	FK4Z	EET CF	01/03/24 09:44
Total/NA	Analysis	WI-GRO		1	410348	MZR8	EET CF	01/05/24 11:36
Total/NA	Prep	WI DRO PREP			409967	DZK8	EET CF	12/28/23 10:11
Total/NA	Analysis	WI-DRO		1	410720	C3AA	EET CF	01/09/24 13:20
Total/NA	Prep	3050B			410152	QTZ5	EET CF	01/02/24 09:00
Total/NA	Analysis	6020B		5	410409	A6US	EET CF	01/03/24 16:53
Total/NA	Prep	7471B			410658	NFT2	EET CF	01/08/24 09:43
Total/NA	Analysis	7471B		1	410762	DHM5	EET CF	01/09/24 13:45
Total/NA	Analysis	Moisture		1	409814	W9YR	EET CF	12/27/23 06:46

Client Sample ID: LGP-3/0-2'

Lab Sample ID: 310-272141-5

Date Collected: 12/21/23 11:00

Matrix: Solid

Date Received: 12/22/23 14:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			410199	MZR8	EET CF	01/02/24 07:55
Total/NA	Analysis	8260D		1	410366	MZR8	EET CF	01/03/24 10:08
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		5	410711	V7YZ	EET CF	01/09/24 21:58
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		50	410872	V7YZ	EET CF	01/10/24 16:56
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		5	411034	V7YZ	EET CF	01/12/24 13:55
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		500	411095	V7YZ	EET CF	01/15/24 10:28
Total/NA	Prep	WI GRO			410340	FK4Z	EET CF	01/03/24 09:44
Total/NA	Analysis	WI-GRO		1	410348	MZR8	EET CF	01/05/24 12:02
Total/NA	Prep	WI DRO PREP			409967	DZK8	EET CF	12/28/23 10:11
Total/NA	Analysis	WI-DRO		5	410841	C3AA	EET CF	01/10/24 12:45
Total/NA	Prep	3050B			410152	QTZ5	EET CF	01/02/24 09:00
Total/NA	Analysis	6020B		5	410409	A6US	EET CF	01/03/24 17:08
Total/NA	Prep	7471B			410658	NFT2	EET CF	01/08/24 09:43
Total/NA	Analysis	7471B		1	410762	DHM5	EET CF	01/09/24 13:51
Total/NA	Analysis	Moisture		1	409814	W9YR	EET CF	12/27/23 06:46

Lab Chronicle

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-3/4-6'

Lab Sample ID: 310-272141-6

Date Collected: 12/21/23 11:10

Matrix: Solid

Date Received: 12/22/23 14:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			410199	MZR8	EET CF	01/02/24 07:55
Total/NA	Analysis	8260D		1	410366	MZR8	EET CF	01/03/24 10:31
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		5	410711	V7YZ	EET CF	01/09/24 22:17
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		50	410872	V7YZ	EET CF	01/10/24 17:16
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		5	411034	V7YZ	EET CF	01/12/24 14:15
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		50	411095	V7YZ	EET CF	01/15/24 10:47
Total/NA	Prep	WI GRO			410340	FK4Z	EET CF	01/03/24 09:44
Total/NA	Analysis	WI-GRO		1	410348	MZR8	EET CF	01/05/24 12:27
Total/NA	Prep	WI DRO PREP			409967	DZK8	EET CF	12/28/23 10:11
Total/NA	Analysis	WI-DRO		2	410841	C3AA	EET CF	01/10/24 12:09
Total/NA	Prep	3050B			410152	QTZ5	EET CF	01/02/24 09:00
Total/NA	Analysis	6020B		5	410409	A6US	EET CF	01/03/24 17:11
Total/NA	Prep	7471B			410658	NFT2	EET CF	01/08/24 09:43
Total/NA	Analysis	7471B		1	410762	DHM5	EET CF	01/09/24 13:53
Total/NA	Analysis	Moisture		1	409814	W9YR	EET CF	12/27/23 06:46

Client Sample ID: LGP-4/0-2'

Lab Sample ID: 310-272141-7

Date Collected: 12/21/23 11:30

Matrix: Solid

Date Received: 12/22/23 14:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			410199	MZR8	EET CF	01/02/24 07:55
Total/NA	Analysis	8260D		1	410366	MZR8	EET CF	01/03/24 10:53
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		5	410711	V7YZ	EET CF	01/09/24 22:37
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		25	410872	V7YZ	EET CF	01/10/24 17:35
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		5	411034	V7YZ	EET CF	01/12/24 14:34
Total/NA	Prep	WI GRO			410340	FK4Z	EET CF	01/03/24 09:44
Total/NA	Analysis	WI-GRO		1	410348	MZR8	EET CF	01/05/24 12:53
Total/NA	Prep	WI DRO PREP			409967	DZK8	EET CF	12/28/23 10:11
Total/NA	Analysis	WI-DRO		1	410841	C3AA	EET CF	01/10/24 13:34
Total/NA	Prep	3050B			410152	QTZ5	EET CF	01/02/24 09:00
Total/NA	Analysis	6020B		5	410409	A6US	EET CF	01/03/24 17:14
Total/NA	Prep	7471B			410658	NFT2	EET CF	01/08/24 09:43
Total/NA	Analysis	7471B		1	410762	DHM5	EET CF	01/09/24 13:55
Total/NA	Analysis	Moisture		1	409814	W9YR	EET CF	12/27/23 06:46

Lab Chronicle

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Client Sample ID: LGP-5/0-2'

Lab Sample ID: 310-272141-9

Date Collected: 12/21/23 12:40

Matrix: Solid

Date Received: 12/22/23 14:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			410199	MZR8	EET CF	01/02/24 07:55
Total/NA	Analysis	8260D		1	410366	MZR8	EET CF	01/03/24 11:16
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		5	410711	V7YZ	EET CF	01/09/24 22:56
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		50	410872	V7YZ	EET CF	01/10/24 17:54
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		5	411034	V7YZ	EET CF	01/12/24 14:53
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		50	411095	V7YZ	EET CF	01/15/24 11:06
Total/NA	Prep	WI GRO			410340	FK4Z	EET CF	01/03/24 09:44
Total/NA	Analysis	WI-GRO		1	410348	MZR8	EET CF	01/05/24 13:19
Total/NA	Prep	WI DRO PREP			409967	DZK8	EET CF	12/28/23 10:11
Total/NA	Analysis	WI-DRO		5	410841	C3AA	EET CF	01/10/24 12:57
Total/NA	Prep	3050B			410152	QTZ5	EET CF	01/02/24 09:00
Total/NA	Analysis	6020B		5	410409	A6US	EET CF	01/03/24 17:17
Total/NA	Prep	7471B			410658	NFT2	EET CF	01/08/24 09:43
Total/NA	Analysis	7471B		1	410762	DHM5	EET CF	01/09/24 13:58
Total/NA	Analysis	Moisture		1	409814	W9YR	EET CF	12/27/23 06:46

Client Sample ID: LGP-6/0-2'

Lab Sample ID: 310-272141-10

Date Collected: 12/21/23 13:00

Matrix: Solid

Date Received: 12/22/23 14:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5035			410199	MZR8	EET CF	01/02/24 07:55
Total/NA	Analysis	8260D		1	410366	MZR8	EET CF	01/03/24 11:38
Total/NA	Prep	3546			410378	DZK8	EET CF	01/03/24 12:26
Total/NA	Analysis	8270E SIM		5	410711	V7YZ	EET CF	01/09/24 23:15
Total/NA	Prep	3546			410859	DZK8	EET CF	01/10/24 11:55
Total/NA	Analysis	8270E SIM		5	411034	V7YZ	EET CF	01/12/24 15:12
Total/NA	Prep	WI GRO			410340	FK4Z	EET CF	01/03/24 09:44
Total/NA	Analysis	WI-GRO		1	410348	MZR8	EET CF	01/05/24 13:44
Total/NA	Prep	WI DRO PREP			409967	DZK8	EET CF	12/28/23 10:11
Total/NA	Analysis	WI-DRO		1	410720	C3AA	EET CF	01/09/24 12:24
Total/NA	Prep	3050B			410152	QTZ5	EET CF	01/02/24 09:00
Total/NA	Analysis	6020B		5	410409	A6US	EET CF	01/03/24 17:19
Total/NA	Prep	7471B			410660	NFT2	EET CF	01/08/24 09:45
Total/NA	Analysis	7471B		1	410762	DHM5	EET CF	01/09/24 14:04
Total/NA	Analysis	Moisture		1	409814	W9YR	EET CF	12/27/23 06:46

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

Accreditation/Certification Summary

Client: Landmark Environmental, LLC
Job ID: 310-272141-1
Project/Site: Soo Line CG

Laboratory: Eurofins Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Minnesota	NELAP	019-999-319	12-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D	5035	Solid	Dichlorofluoromethane
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Landmark Environmental, LLC
Project/Site: Soo Line CG

Job ID: 310-272141-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CF
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET CF
WI-GRO	Wisconsin - Gasoline Range Organics (GC)	WI-GRO	EET CF
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	EET CF
6020B	Metals (ICP/MS)	SW846	EET CF
7471B	Mercury (CVAA)	SW846	EET CF
Moisture	Percent Moisture	EPA	EET CF
3050B	Preparation, Metals	SW846	EET CF
3546	Microwave Extraction	SW846	EET CF
5035	Closed System Purge and Trap	SW846	EET CF
7471B	Preparation, Mercury	SW846	EET CF
WI DRO PREP	Wisconsin Extraction (Diesel Range Organics)	WI-DRO	EET CF
WI GRO	Closed System Purge and Trap	WI-GRO	EET CF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

WI-GRO = "Modified GRO: Method For Determining Gasoline Range Organics", Wisconsin DNR, Publ-SW-140, September, 1995.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

eurofins | Environment Testing America

310-272141 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information			
Client: Landmeer IC			
City/State: CITY	STATE	Project:	
Receipt Information			
Date/Time Received: DATE 12/22/23	TIME 1403	Received By: EM	
Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____			
Condition of Cooler/Containers			
Sample(s) received in Cooler? ☒ Yes ☐ No		*If yes:* Cooler ID:	
Multiple Coolers? ☒ Yes ☐ No		*If yes:* Cooler # 1 of 2	
Cooler Custody Seals Present? ☒ Yes ☐ No		*If yes:* Cooler custody seals intact? ☒ Yes ☐ No	
Sample Custody Seals Present? ☐ Yes ☒ No		*If yes:* Sample custody seals intact? ☐ Yes ☐ No	
Trip Blank Present? ☐ Yes ☒ No		*If yes.* Which VOA samples are in cooler? ↓	
Temperature Record			
Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE			
Thermometer ID: X		Correction Factor (°C): 0	
• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature			
Uncorrected Temp (°C): 0.7		Corrected Temp (°C): 0.7	
• **Sample Container Temperature**			
Container(s) used:	CONTAINER 1	CONTAINER 2	
Uncorrected Temp (°C):			
Corrected Temp (°C):			
Exceptions Noted			
1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No			
2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No			
NOTE If yes, contact PM before proceeding If no, proceed with login			
Additional Comments			

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Landmeer K

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 12/22/23 | TIME 1403 | Received By: EM

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 2 of 2
Cooler Custody Seals Present? No	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐
Sample Custody Seals Present? No	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: X | Correction Factor (°C): 0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 3.5 | Corrected Temp (°C): 3.5

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Chain of Custody Record 651 99

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Address _____

Eurofins Minneapolis SC
213

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TAL-8210

Client Contact	Project Manager: Shannon Hahnen	Site Contact:	Date: 12/21/23	COC No
Company Name: Landmark Environmental LLC	Tel/Email: 952-295-9400	Lab Contact: Zach Bindert	Carrier:	1 of 1 COCs
Address: 9555 James Ave S. #262	Analysis Turnaround Time			Sampler: Triston L. Faust
City/State/Zip: Bloomington MN 55431	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone	TAT if different from Below _____			Walk-in Client:
Fax.	☒ 2 weeks / standard			Lab Sampling
Project Name: 800 Line CG	☐ 1 week			
Site	☐ 2 days			Job / SDG No
PO# 23224.01	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	DRO	GRO	VOCs	RCRA Metals	PAHs	HOLD	Sample Specific Notes
L6P-1/0-2'	12/21/23	930	G	SL	5			X	X	X	X	X		
L6P-1/4-6'		940						X	X	X	X	X		
L6P-2/0-2'		1035						X	X	X	X	X		
L6P-2/2-3'		1040						~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	X	HOLD Analysis
L6P-3/0-2'		1100						X	X	X	X	X		
L6P-3/4-6'		1110						X	X	X	X	X		
L6P-4/0-2'		1130						X	X	X	X	X		
L6P-4/2-3.5'		1135											X	HOLD Analysis
L6P-5/0-2'		1240						X	X	X	X	X		
L6P-6/0-2'		1300						X	X	X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No	Cooler Temp (°C) Obs'd _____ Corr'd _____	Therm ID No _____

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
[signature]	Landmark Env.	12/21/23 1445	[signature]	Eurofins	12/21 1400
Relinquished by: [signature]	Company: Eurofins	Date/Time 12/21 1700	Received by:	Company:	Date/Time 12-22-23 1403
Relinquished by:	Company:	Date/Time	Received in Laboratory by: MC	Company	Date/Time

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310-272141 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Landmeer IC

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 12/22/23 | TIME 1403 | Received By: EM

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes ☐ No	*If yes:* Cooler # 1 of 2
Cooler Custody Seals Present? No	☒ Yes ☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐
Sample Custody Seals Present? No	☐ Yes ☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐
Trip Blank Present?	☐ Yes ☒ No	*If yes.* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: X | Correction Factor (°C): 0

• **Temp Blank Temperature** – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.7 | Corrected Temp (°C): 0.7

• **Sample Container Temperature**

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE If yes, contact PM before proceeding If no, proceed with login

Additional Comments

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Place COC scanning label here

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Landmark

City/State: CITY | STATE | Project:

Receipt Information

Date/Time Received: DATE 12/22/23 | TIME 1403 | Received By: EM

Delivery Type: ☐ UPS ☐ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☒ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes	☐ No	*If yes:* Cooler ID:
Multiple Coolers?	☒ Yes	☐ No	*If yes:* Cooler # 2 of 2
Cooler Custody Seals Present? No	☒ Yes	☐ No	*If yes:* Cooler custody seals intact? ☒ Yes ☐ No
Sample Custody Seals Present? No	☐ Yes	☒ No	*If yes:* Sample custody seals intact? ☐ Yes ☐ No
Trip Blank Present?	☐ Yes	☒ No	*If yes:* Which VOA samples are in cooler? ↓

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: X | Correction Factor (°C): 0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 3.5 | Corrected Temp (°C): 3.5

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:		
Uncorrected Temp (°C):		
Corrected Temp (°C):		

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Chain of Custody Record 651 99

eurofins | Environment Testing America

Address _____

Eurofins Minneapolis SC
213

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TAL-8210

Client Contact	Project Manager: Shannon Hahnen	Site Contact:	Date: 12/21/23	COC No
Company Name: Landmark Environmental LLC	Tel/Email: 952-295-9400	Lab Contact: Zach Bindert	Carrier:	1 of 1 COCs
Address: 9555 James Ave S. #262	**Analysis Turnaround Time**			Sampler: Triston L. Faust
City/State/Zip: Bloomington MN 55431	☐ CALENDAR DAYS ☐ WORKING DAYS			**For Lab Use Only:**
Phone	TAT if different from Below _____			Walk-in Client:
Fax.	☒ 2 weeks / standard			Lab Sampling
Project Name: 300 Line C6	☐ 1 week			
Site	☐ 2 days			Job / SDG No
PO# 23224.01	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	DRO	GRO	VOCs	RCRA Metals	PAHs	HOLD	Sample Specific Notes
L6P-1/0-2'	12/21/23	930	G	SL	5			X	X	X	X	X		
L6P-1/4-6'		940						X	X	X	X	X		
L6P-2/0-2'		1035						X	X	X	X	X		
L6P-2/2-3'		1040						~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	X	HOLD Analysis
L6P-3/0-2'		1100						X	X	X	X	X		
L6P-3/4-6'		1110						X	X	X	X	X		
L6P-4/0-2'		1130						X	X	X	X	X		
L6P-4/2-3.5'		1135											X	HOLD Analysis
L6P-5/0-2'		1240						X	X	X	X	X		
L6P-6/0-2'		1300						X	X	X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No	Cooler Temp (°C) Obs'd _____ Corr'd _____	Therm ID No _____

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
[signature]	Landmark Env.	12/21/23 1445	[signature]	Eurofins	12/21 1400
Relinquished by: [signature]	Company: Eurofins	Date/Time 12/21 1700	Received by:	Company:	Date/Time 12-22-23 1403
Relinquished by:	Company:	Date/Time	Received in Laboratory by: MC	Company	Date/Time

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Login Sample Receipt Checklist

Client: Landmark Environmental, LLC

Job Number: 310-272141-1
SDG Number:

Login Number: 272141
List Number: 1
Creator: Homolar, Dana J

List Source: Eurofins Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	